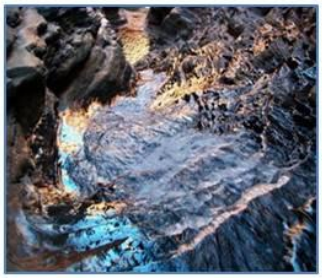

# Tanami Gold NL

# Coyote Gold Project

Annual Compliance Assessment Report for Ministerial Statement 749

2 March 2013 – 1 March 2014.

**FINAL REPORT**

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# Compliance Audit Report 2013 -2014

# Ministerial Statement 749

**Distribution:**

| Company | Copies | Contact Name |
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| Tanami Gold | 1x electronic, Ix hard copy | Brett Montgomery |
| General Manager – OEPA | | |
| | | |

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| Draft Report | Claire McGuire | Melissa Younger | MY | 21 April 2014 |
| | | | | |
| Final Report | Claire McGuire | | | 22/4/2014 |

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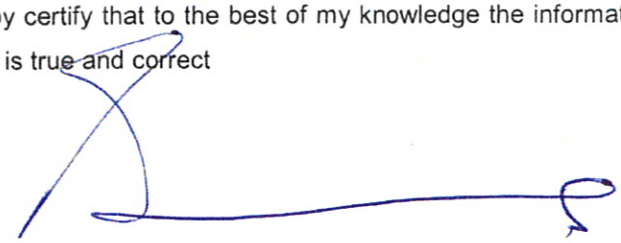
## Corporate Endorsement

Tanami Gold NL (TGNL) submits this Compliance Assessment Report in accordance with section 4-1 of Ministerial Statement No 749 (the Statement) issued on 20 September 2007 under Part IV of the *Environmental Protection Act 1986.*

I hereby certify that to the best of my knowledge the information within this Compliance Assessment Report is true and correct



BRETT MONTGOMERY 29/4/14

DIRECTOR

Name and Position Date

## Executive Summary

Outback Ecology, a division of MWH Australia Pty Ltd ('Outback Ecology') was engaged by Tanami Gold NL (Tanami) to prepare a Ministerial Statement Compliance Assessment Report (CAR) for the Stage 2 Coyote Gold Mine Project (Coyote) Project to comply with condition 4, of Ministerial Statement No. 749 (the Statement).

Ministerial Statement No. 749 was issued on 20 September 2007 subject to a number of environmental management conditions and commitments. Failure to comply with these conditions is an offence under the *Environmental Protection Act 1986* (EP Act).

A representative from Outback Ecology visited the Perth Tanami Corporate office on 25 March 2014, for the purpose of gathering information and data from Tanami to assess compliance with environmental conditions set in the Statement. A site visit was not completed as part of the compliance audit.

Conformance with environmental commitments set out in the Coyote Project Stage 2 Wildlife Management Plan and Decommissioning and Closure Plan was also assessed, in accordance with requirements detailed in the Office of Environmental Protection Authority (OEPA) Post Assessment Guidelines No. 3 Preparing a Compliance Assessment Report (OEPA, August 2012).

A summary of compliance and conformance with conditions and commitments is as follows:

- compliant with conditions relating to the proponent implementation M1.1, M2.1, M2.2, M3.1, M3.2;
- compliant with conditions relating to 'compliance reporting' (M4.1, M4.2, M4.3.1, M4.3.2, M4.3.3, M4.3.4, M4.3.5, M4.3.6, M4.3.7 and M4.3.8);
- non-compliant with conditions relating to monitoring requirements within the referred management plans, M5.2, M5.3 and M7.2;
- compliant with conditions relating to Decommissioning Management Plan (MS6.2 and MS6.3); and
- non-conformance with several components of monitoring in the Wildlife Management Plan and Decommissioning and Closure Plan.

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## TABLES



## APPENDICES

# 1. INTRODUCTION

The Coyote Gold Project (CGP) is owned and operated by Tanami Gold NL (TGNL); it is located in the Tanami Desert, approximately 20 kilometres (km) west of the Western Australian (WA) and Northern Territory (NT) border, and 280 km southeast of Halls Creek.

The CGP consists of the Coyote and Bald Hill Project areas. The CGP was developed in two stages; Stage 1 was the development of the open pits at Coyote, and subsequent underground operation, while Stage 2 was the development of Bald Hill, (previously referred to as the Larranganni Gold Project). No processing is carried out at Bald Hill, all the ore generated from mining at Bald Hill is hauled approximately 35 km south to Coyote.

Mining commenced at Coyote on M80/559 following approval of a Notice of Intent (NOI) in February 2006, however, was suspended in October 2006 following problems with the gold recovery process. The original processing operation incorporated lined Leach Vats; complications with commissioning the leaching process resulted in the Leach Vats being decommissioned in December 2006. The Coyote treatment plant was subsequently redesigned to utilise conventional carbon in pulp (CIP) processing.

Following a period of continuous rain, the Coyote Open Pit flooded on the 17th of January 2007 (after the bund wall was breached by accumulated surface water runoff). Approval to dewater 600,000 cubic metres (m3) of water out of the pit by discharging directly to the environment was sought from the Department of Environment and Conservation (DEC); and approved on the 21st February 2007 (TGNL 2007a, 2008b). Mining was not able to recommence until March 2007, when dewatering was complete. Mining of Coyote Open Pit was completed in late 2007.

A Mining Proposal for Stage 2 of the Coyote Project was lodged with Department of Industry and Resources (DoIR) in August 2006. The proposal was referred to the Environmental Protection Authority (EPA), and deemed to require preparation of an Environmental Protection Statement (EPS). Notification of this requirement was received in early January 2007. A Draft EPS was lodged with the EPA Service Unit in February 2007 and comments were received in March, with the final EPS lodged in June 2007 and approved in July 2007.

Bald Hill is located on M80/563 approximately 35 km north of Coyote; the haul road linking the two sites is located on L80/45 and was constructed in 2009. Mining of Bald Hill commenced in March 2008 with development of open pits at the Kookaburra and Sandpiper deposits. The operation was suspended in May 2008 as re-modelling of the orebody was required. In September 2009 an optimisation study of the ore body at Bald Hill commenced; in 2010 a variation to the original proposal was sought via a Section 45C and an amended Mining Proposal; operations recommenced in late 2010. Further amendments to the Mining Proposal were obtained in 2011, which allowed for an increased footprint to accommodate an additional ruin of mine (ROM) Pad and waste rock landform (WRL) expansion. Open cut mining ceased at Kookaburra and Sandpiper in 2011.

In November 2012 approval was obtained to develop the Osprey Satellite Pit. Mining was carried out in November and December 2012 forming a shallow pit to a total depth of approximately 5 m. Operations were suspended in December 2012 due to the wet season and rehabilitation work was subsequently conducted with the open pit backfilled with lateritic waste to leave a gentle depression.

Haulage operations will re-commence when Coyote re-opens as there remains 400,000 t of low grade ore stockpiled on the eastern side of the Bald Hill WRL. Current open pit resources have been mined out, although there is still a resource of approximately 600,000 t of ore at approximately 6 g/t remaining under the pits that has underground potential. Modifications to the mill at Coyote are required to process this resource, as there are metallurgical recovery issues related to grind of the slightly refractory ore.

This Compliance Assessment Report (CAR) has been prepared to satisfy condition 4 of Ministerial Statement No. 749 for the Stage 2 Coyote Gold Mine Project, in accordance with the Office of Environmental Protection's (OEPA's) *Post Assessment Guideline No. 3 Preparing a Compliance Assessment Report* (August 2012).

The review period for this CAR is 2 March 2013 – 1 March 2014. A representative from Outback Ecology visited the Perth Tanami Corporate office on 25 March 2014 for the purpose of gathering information and data from Tanami to assess compliance with environmental conditions set in the Statement as well as conformance with commitments made in the Coyote Project – Stage 2 Wildlife Management Plan, revised May 2007 and the Decommissioning and Closure Plan 2010

Information reviewed for compilation of the CAR was provided by the following persons

- Michael Thomson – Principal Geologist, Tanami Gold Operations
- Gillian McBain – Land Manager, Tanami Gold Operations

## 2. IMPLEMENTATION STATUS

The Coyote Project has been in care and maintenance since 23rd April 2013.

## 3. STATEMENT OF COMPLIANCE

Compliance has been assessed based on a desktop review of information supplied by Tanami as well interviews with various Tanami personnel and contractors. Compliance status terminology of the report follows the Post Assessment Guidelines for Preparing an Audit Table (OEPA, 2012).

Non-compliance is where implementation of the proposal has not been carried out in accordance with the requirements of the audit element. A non-conformance is considered to be any deviation from the procedures, programmes and/or management actions detailed in the EMP.

# 4. DETAILS OF DECLARED COMPLIANCE STATUS

## 4.1. Compliance with Ministerial Statement 749

The audit table for Ministerial Statement No. 749 was provided to Outback Ecology by the OEPA on 21 March 2014. The table has been completed following a desktop review of information provided by Tanami Perth Corporate office.

Compliance during the assessment period has been assessed against the key characteristics table detailed in Attachment 2 and the now superseded Attachment 1 of schedule 1 of the Ministerial Statement.

Schedule 1 Attachment 1 was valid until 1 November 2012, after this time the EPA approved changes to the proposal under section 45C of the EP Act and issued an updated key characteristics table (Attachment 2), replacing Attachment 1. Compliance from 2 March 2013 – 1 March 2014 has been assessed against key characteristics detailed in Attachment 2. The assessment period for compliance with Attachment 2 is from 2 March 2013 – 1 March 2014.

Based on information provided by Tanami, this compliance assessment found that the Project is:

- compliant with conditions relating to the proponent implementation M1.1, M2.1, M2.2, M3.1,M3.2;
- compliant with conditions relating to 'compliance reporting' (M4.1, M4.2, M4.3.2, M4.3.3, M4.3.4, M4.3.5, M4.3.6, M4.3.7 and M4.3.8, M4.4, M7.2);
- compliant with condition M5.1 relating to the implementation of the Wildlife Management Plan;
- non-compliant with conditions relating to monitoring requirements within the referred management plans, M5.2, M5.3 (**Table 1**);
- conditions relating to M5.4, M6.1, M6.2 are not applicable during care and maintenance activities as no haulage is occurring;
- compliant with conditions relating to Decommissioning Management Plan (M7.1, M7.2, M7.3); and
- non-conformance with several commitments in the Wildlife Management Plan and Decommissioning and Closure Plan.

Partial compliance with condition M4.3.1 relating to proponent compliance reporting was given as the General Manager had signed the Annual Compliance Report instead of the stated Executive Chairman. It is assumed as part of the General Managers responsibilities that the person would have authority to sign on behalf of the Executive Chairman for site reporting requirements. No letter of authority stating this approval was sighted or available at the time of the audit.

**Table 1 Non Compliance with Ministerial Statement 749**

| Reference | Commitment | Further Information |
|---|---|---|
| M5.2 | The proponent shall review and revise the Wildlife Management Plan during the life of the project as required by the CEO | No annual review of the Wildlife Management Plan occurred during the audit period. |
| M5.3 | The proponent shall report monthly from the commencement of ground-disturbing activities to the CEO, any road deaths or injuries of priority fauna along the haul road and around the mine site. The report shall include:<br>1. The number and species of priority fauna killed; 2. The number and species of priority fauna injured;<br>3. The speed of the vehicle at the time of the incident;<br>4. The Time and date of incidents; and 5. Management actions taken to mitigate/reduce the death and injury of fauna.<br>Reporting shall conclude when the requirements of condition 7-2 have been fulfilled. | No monthly reporting of activities was undertaken from October 2013 – February 2014.<br>No haulage was undertaken however, the proponent is still required to lodge nil monthly reports under the conditions stipulated in the Ministerial Statement. |

### 4.2. Conformance with Decommissioning and Closure Plan

The Ministerial Statement refers to the implementation of a Decommissioning and Closure Plan. A list of management commitments are contained within the Decommissioning and Closure Plan. Assessment of conformance against each commitment indicates that

Monitoring of vegetation was undertaken during audit period in November 2013 (Table 2). Ecosystem Function Analysis (EFA) was undertaken during the reporting period in November 2013, where erosion is monitored as part of the criteria to measure rehabilitation success.

**Table 2 Conformance with Decommissioning and Closure Plan (Table 7.1)**

| Reference | Commitment | Frequency of Monitoring Required | Further Information |
|---|---|---|---|
| Rehabilitation | Photographic monitoring sites will be established in rehabilitated areas to monitor the success and diversity of revegetation | Abundance and diversity of flora.<br>Vegetative cover.<br>Soil stability.<br>*Annually* | EFA monitoring was undertaken during reporting period. November 2013 |
| Erosion | Rehabilitated areas will be monitored for signs of erosion as a result of rainfall runoff or wind | Soil stability.<br>*Annually* | Erosion criteria is covered within EFA monitoring |

### 4.3. Non Conformance with Decommissioning and Closure Plan

The Ministerial Statement refers to the implementation and monitoring required as per the Decommissioning and Closure Plan.

Within the 2010 Decommissioning and Closure Plan a list of commitments and monitoring requirements are stipulated, due to the site being on Care and Maintenance a number of these activities were not completed during the reporting period (**Table 2** and **3**)

**Table 3 Non Conformance with Decommissioning and Closure Plan (Table 7.1)**

| Reference | Commitment | Further Information |
|---|---|---|
| Vegetation monitoring. | Establish photographic monitoring sites and collect data periodically. | Photographic monitoring and data were not collected during audit period on a six monthly basis, photos were taken in February 2013 – which is outside audit period and November 2013. |
| Undisturbed vegetation | Photographic monitoring sites will be established in undisturbed areas around the mine site and along the haul road to determine whether there is detriment to native vegetation as a result of the mining operation. 6 monthly requirement | Photographic monitoring and data were not collected during audit period on a six monthly basis, photos were taken in February 2013 – which is outside audit period and November 2013. |
| Weeds. | Regular inspections of the rehabilitated areas of the haul road and mining area.<br><br>Weed spraying conducted if required. | Inspections of rehabilitation areas were not undertaken during reporting period.<br><br>Weed spraying was not undertaken during reporting period. |
| Contamination | Monitoring of groundwater and areas of suspected contamination will be undertaken as specified. | Some groundwater monitoring was not undertaken as part of the sites DER operating licence, in December 2013 .<br>The 2013-2014 AER reported that *A small amount of hydrocarbon contaminated soil (6 $m^3$) was added to bioremediation facility. Soil analysis was not undertaken to determine concentration of hydrocarbons in soil.* |

**Table 4 Non Conformance with Decommissioning and Closure Plan Monitoring Commitments (Table 8.1)**

| Reference | Commitment | Frequency of Monitoring Required | Further Information |
|---|---|---|---|
| Weeds | Road verges, drains and other selected areas will be periodically monitored for the presence of weeds. | Presence of weeds. Success of weed eradication programmes.<br>*3 monthly* | No weed monitoring or management was undertaken during audit period |
| Fauna | Rehabilitated areas will be | Presence and | No fauna monitoring was |

| Reference | Commitment | Frequency of Monitoring Required | Further Information |
|---|---|---|---|
| | monitored for the presence of fauna and indications of recolonisation.<br>• Site personnel will be requested to report sightings of threatened fauna.<br>• The Project area will be monitored for the presence of feral species with all personnel asked to report sightings of cats, camels or other introduced species | diversity of fauna species.<br>*Annually*<br>*Daily*<br>*Daily* | undertaken during audit period. No feral species were monitored during audit period |
| Groundwater | Groundwater will be monitored for the presence of contaminants resulting from mining activity.<br>• Remedial action will be taken if required. | pH, electrical conductivity (EC), total dissolved solids (TDS), total petroleum hydrocarbons (TPH), arsenic (As).<br>*3 monthly* | Quarterly monitoring of groundwater was not conducted for December due to a lack of suitably trained site personnel.<br>Annual monitoring of groundwater was not conducted due to a lack of suitably trained site personnel.<br>Monitoring bore, CYTSF03 was not tested in September 2013 quarter because the bore was not accessible.<br>Standing water level (SWL) was not conducted in September or December 2013 quarter.<br>Total arsenic was not tested in June quarter because a clerical error occurred and dissolved arsenic was analysed instead. |
| Soil | Areas of potential or suspected soil contamination will be monitored to determine effectiveness of treatment methods. | | Reported within the 2013-2014 AER. *A small amount of hydrocarbon contaminated soil (6 $m^3$) was added to bioremediation facility. Soil analysis was not undertaken to determine concentration of hydrocarbons in soil.* |

### 4.4. Conformance with Wildlife Management Plan

The Ministerial Statement refers to the implementation and monitoring required as per the Wildlife Management Plan. Conformance with commitments outlined within the Wildlife Management Plan is shown in **Table 5**.

**Table 5 Conformance within the Wildlife Management Plan**

| Reference | Commitment | Further Information |
|---|---|---|
| Awareness of environmental issues | Environmental induction for all personnel<br>Environmental handbook provided to all personnel | Induction completed onsite by Outback Ecology personnel when visited site in November 2013. *(Benjamin Leonard pers comms)* |
| Vegetation monitoring. | Establish photographic monitoring sites and collect data periodically. | November 2013 |

### 4.5. Non Conformance with Wildlife Management Plan

Within the 2007 Wildlife Management Plan a list of commitments and monitoring requirements, due to the site being on Care and Maintenance a number of these activities were not completed during the reporting period (**Table 6**).

**Table 6 Non Conformance within the Wildlife Management Plan**

| Reference | Commitment | Further Information |
|---|---|---|
| Fauna monitoring. | Sightings of threatened or unusual animals to be reported and recorded.<br>Road kills to be reported and recorded.<br>Daily inspection of haul road for presence of threatened fauna activity during haulage operations.<br>Pitfall trapping in sand dune habitat.<br>Periodic fauna surveys of the surrounding area. | No fauna monitoring was undertaken during audit period |
| Water sampling and analysis | Water samples collected at 3 monthly intervals.<br>Analysis results interpreted and corrective action implemented if necessary. | Quarterly monitoring of groundwater was not conducted for December due to a lack of suitably trained site personnel. |
| Weeds. | Regular inspections of the haul road verges and disturbance within the mining area.<br>Weed spraying conducted if required. | No weed monitoring or management was undertaken during audit period. |
| Feral animal species | Site personnel will be required to report sightings of feral animals along the haul road route and within the mining area.<br>Sightings will be recorded in a register.<br>Trapping of cats will be undertaken | No feral species were monitored during audit period. |

| Reference | Commitment | Further Information |
|---|---|---|
| | periodically. | |

### 4.6. Not applicable Wildlife Management Plan

In December 2012, haulage of ore ceased due to the wet season and never recommenced. Several commitments stated within the Wildlife Management Plan were therefore not applicable as part of the Compliance Audit (**Table 7**).

**Table 7 Not applicable commitments in the Wildlife Management Plan during audit period.**

| Reference | Commitment | Further Information |
|---|---|---|
| Vehicle speed limits. | Vehicle drivers will be required to observe a speed limit of 40km/hr while passing through sand dune habitat.<br>Signage will be placed at either end of this point to alert drivers. | Haulage did not occur during audit period. Haulage ceased in December 2012 |
| Dust suppression. | The haul road will be watered twice daily while ore haulage is in progress and as required at other times. | Haulage did not occur during audit period. Haulage ceased in December 2012 |

## 5. SUPPORTING / VERIFYING DOCUMENTATION

Documentation provided by Tanami reviewed as part of this compliance assessment includes:

- monthly monitoring reports for some rehabilitation monitoring - November 2013;
- monitoring data – groundwater;
- monthly fauna reports March 2013- June 2013;
- Annual Environmental Report 2013;
- Annual Audit Compliance Report 2013;
- Wildlife Management Plan 2007;
- Decommissioning and Closure Plan 2010; and
- letter to the OEPA stating documentation is available publicly (2012).

# AUDIT TABLE

**Statement Compliance Section**

**PROJECT: Coyote Gold Mine Stage 2 Approximately 280 Kilometres south-east of Hall's Creek Tanami Desert, Shire of Hall's Creek Statement 749**

**Note:**

- Phases that apply in this table = Pre-Construction, Construction, Operation, Decommissioning, Overall (several phases).
- This audit table is a summary and timetable of conditions and commitments applying to this project. Refer to the Minister's Statement for full detail/precise wording of individual elements.
- Any elements with status = "Audited by proponent only" are legally binding but are not required to be addressed specifically in compliance reports, if complied with.
- Code prefixes: M = Minister's condition, P = Proponent's commitment, A = Audit specification; N = Procedure.
- Compliance Status: C = Compliant, CLD = Completed, NA = Not Audited, NC = Non – compliant, NR = Not Required at this stage. Please note the terms VR = Verification Required and IP = In Process are only for OEPA use.
- Acronyms list: BFB = Bush Fires Board (now Fire and Emergency Services Authority of Western Australia), CALM = Department of Conservation and Land Management (now DEC), CEO = Chief Executive Officer; DEC = Department of Environment and Conservation; DIA = Department of Indigenous Affairs; DME = Department of Minerals and Energy (now DMP), DMP = Department of Mining and Petroleum; DoE = Department of Environment (now DEC), DoH = Department of Health; DoW = Department of Water, EPA = Environmental Protection Authority; Part IV = Evaluation Division (now Assessment and Compliance Division, OEPA), HDWA = Health Department of WA (now DoH), Minister for Env = Minister for the Environment; OEPA = Office of the Environmental Protection Authority, Part V = Pollution Prevention Division (now Environmental Regulation Division, DEC), WMD = Waste Management Division (now Waste Management Branch, DEC), WRC = Water and Rivers Commission (now DoW).

| Audit Code | Subject | Requirement | How | Evidence | Phase | Timeframe | Status | Further Information |
|---|---|---|---|---|---|---|---|---|
| 749:M1.1 | Implementation | The proponent shall implement the proposal as documented and described in schedule 1 of the statement subject to the conditions and procedures of the statement | Schedule 1 of the Ministerial Statement and the Environmental Protection Statement (EPS) for Stage 2 of the Coyote Gold Project provide direction for the methods of implementation of the proposal. | AER. TGNL Quarterly Reports. | Overall | Commenced March 2008 | Completed | |
| 749:M2.1 | Nominated proponent | The proponent for the time being nominated by the Minister for the Environment under sections 38(6) or 38(7) of the Environmental Protection Act 1986 is responsible for the implementation of the proposal | TGNL is the company responsible for implementation of the proposal. | AER. TGNL Quarterly Reports. | Overall | | Completed | |
| 749:M2.2 | Contact details | The proponent shall notify the Chief Executive Officer of the Department of Environment and Conservation (CEO) of any change of the name and address of the proponent for the serving of notices or other correspondence within | Notification will be provided in writing if required. | AER. TGNL Quarterly Reports. | Overall | Within 30 days of change of contact details | Completed | |

# AUDIT TABLE

**Statement Compliance Section**

**PROJECT: Coyote Gold Mine Stage 2 Approximately 280 Kilometres south-east of Hall's Creek Tanami Desert, Shire of Hall's Creek Statement 749**

| Audit Code | Subject | Requirement | How | Evidence | Phase | Timeframe | Status | Further Information |
|---|---|---|---|---|---|---|---|---|
| | | 30 days of such change | | | | | | |
| 749:M3.1 | Time limit of Approval | The proposal must be substantially commenced within 5 years of the date of publication of the Ministerial Statement | Implementation will be as stated in the EPS. | AER, TGNL Quarterly Reports | Overall | | Completed | |
| 749:M3.2 | Evidence of commencement | The proponent shall provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of the statement | The Coyote Gold Project Annual Environmental Report will provide details of commencement of the proposal. | AER. TGNL Quarterly Reports. | Overall | Prior to 20 September 2012. | Completed | |
| 749:M4.1 | Compliance reporting | The proponent shall submit to the CEO an annual environmental compliance report relating to the previous twelve-month period, the first report to be submitted within 15 months after the commencement of ground disturbing activities and thereafter annually, unless required by the CEO to report more frequently | Two documents are prepared annually by TGNL: 1) Annual Environmental Report 2) Environmental Compliance Audit. | AER. TGNL Quarterly Reports. | Overall | By end April each year. | Compliant | 2013-2014 AER submitted in April 2014. |
| 749:M4.2 | Compliance reporting format | The environmental compliance reports shall address each element of an audit program approved by the CEO and shall be prepared and submitted in a format acceptable to the CEO | This audit program forms the basis of the compliance report and lists the elements of required compliance. | Annual Environmental Compliance Audit, | Overall | By end April each year. | Compliant | Compliance Audit Report 2013-2014 submitted in April 2014 |
| 749:M4.3:1 | Compliance reporting content - endorsement | The environmental compliance reports shall be endorsed by signature of the proponents Executive Chairman or a person, approved in writing by the CEO, delegated to sign on behalf of the | Signed by TGNL Chairman and Managing Director. | AER | Overall | | Compliant | Signature on document, Annual Compliance Report 2013-2014 |

# AUDIT TABLE

**Statement Compliance Section**

**PROJECT: Coyote Gold Mine Stage 2 Approximately 280 Kilometres south-east of Hall's Creek Tanami Desert, Shire of Hall's Creek Statement 749**

| Audit Code | Subject | Requirement | How | Evidence | Phase | Timeframe | Status | Further Information |
|---|---|---|---|---|---|---|---|---|
| | | proponents Executive Chairman. | | | | | | |
| 749:M4.3:2 | Compliance reporting content - statement of compliance | The annual environmental compliance reports shall state whether the proponent has complied with each condition and procedure stated in the Ministerial Statement. | The introduction to this audit program provides an overview of the level of compliance. The audit table provides details of implementation to achieve compliance. | AER | Overall | By end April each year. | Compliant | Annual Report 2013-2014 and the Corporate Endorsement attached to this CAR. |
| 749:M4.3:3 | Compliance reporting content - verifiable evidence | The annual environmental compliance reports shall provide verifiable evidence of compliance with each condition and procedure contained in the Ministerial Statement | This audit program aims to provide the evidence required to verify compliance. Evidence can include photographs, procedures, memos, training manuals. | Photographs, analytical information, monitoring results etc contained in various documents referenced in the AER. | Overall | By end April each year. | Compliant | Annual Report 2013-2014 |
| 749:M4.3:4 | Compliance reporting content - compliance with key actions of management plans | The annual environmental compliance reports shall state whether the proponent has complied with each key action contained in any environmental management plan or program required by the Ministerial Statement | The degree of compliance with requirements of: 1) Wildlife Management Plan. 2) Decommissioning and Closure Plan is included in the audit program. | Photographs, analytical information, monitoring results etc contained in various documents referenced in the AER. | Overall | By end April each year. | Compliant | Annual Compliance Report 2013-2014 |
| 749:M4.3:5 | Compliance reporting content - verifiable evidence of compliance with management | The annual environmental compliance reports shall provide verifiable evidence of conformance with each key action contained in any environmental management plan or program required by the Ministerial Statement | Evidence of conformance with the key actions of the management plans will be included in the audits. | Photographs, analytical information, monitoring results etc contained in various documents referenced in the AER. | Overall | By end April each year. | Compliant | Annual Report 2013-2014 |
| 749:M4.3:6 | Compliance reporting content - identification | The annual environmental compliance reports shall identify all non-compliances and non-conformances | Any non-compliance with the required conditions will be identified in the audit and discussed in detail in the | Photographs, analytical information, monitoring results etc | Overall | By end April each year. | Compliant | Annual Report 2013-2014 |

# AUDIT TABLE

**Statement Compliance Section**

**PROJECT: Coyote Gold Mine Stage 2 Approximately 280 Kilometres south-east of Hall's Creek Tanami Desert, Shire of Hall's Creek Statement 749**

| Audit Code | Subject | Requirement | How | Evidence | Phase | Timeframe | Status | Further Information |
|---|---|---|---|---|---|---|---|---|
| | of non-compliances | and describe the corrective and preventative actions taken in relation to each non-compliance or non-conformance. | compliance report. | contained in various documents referenced in the AER. | | | | |
| 749:M4.3:7 | Compliance reporting content - review of effectiveness of corrective actions | The annual environmental compliance reports shall review the effectiveness of all corrective and preventative actions taken. | Monitoring will be undertaken to determine the effectiveness of all corrective or preventative actions implemented. The success of any such actions will be discussed in the compliance audit report. | Photographs, analytical information, monitoring results etc contained in various documents referenced in the AER. | Overall | By end April each year. | Compliant | Annual Report 2013-2014 |
| 749:M4.3:8 | Compliance reporting content - implementation of the proposal | The annual environmental compliance reports shall describe the state of implementation of the proposal | Details of the state of implementation of the proposal will be provided in the compliance report and AER. | Progress is discussed in the AER and quarterly reports. | Overall | By end April each year. | Compliant | Annual Report 2013-2014 |
| 749:M4.4 | Public availability of compliance reports | The environmental compliance reports are to be made publicly available in a manner approved by the CEO. | Carry out the following: 1. Make the documents available on the proponents website for the life of the project unless otherwise approved by the Department of Environment and Conservation, and ensure it is easily accessible from the home page. Documents will be made available to the public upon request, including any previous annual documents; 2. All documents required to be made publicly available must be made publicly available as previously stated within 2 weeks from submission of the documents to DEC. 3. 14 days from the date of making documents publicly available proponents shall | Letter to DEC advising that report has been made publicly available. | Overall | Following advice from DEC | Compliant | Letter from Tanami Gold stating reports are available publicly. |

# AUDIT TABLE

**Statement Compliance Section**

**PROJECT: Coyote Gold Mine Stage 2 Approximately 280 Kilometres south-east of Hall's Creek Tanami Desert, Shire of Hall's Creek Statement 749**

| Audit Code | Subject | Requirement | How | Evidence | Phase | Timeframe | Status | Further Information |
|---|---|---|---|---|---|---|---|---|
| | | | provide evidence to the Proposal Implementation Monitoring Section to confirm lodgement on website has been completed. | | | | | |
| 749:M5.1 | Implementation of Wildlife Management Plan | | Ground disturbing activities cannot commence until the proponent implements the WMP contained within the proponents Environmental Protection Statement submitted for the proposal and released on 30 July 2007 | Provide evidence of implementation of the WMP. | Monitoring data and other information reported in the AER and other reports referenced in the Compliance Audit Report. | Operation | Compliant | Wildlife Management Plan 2007 |
| 749:M5.2 | Revision of Wildlife Management Plan | The proponent shall review and revise the Wildlife Management Plan during the life of the project as required by the CEO | Conduct regular review and update the document as necessary | Progress will be discussed in the AER. | Overall | As required. | Not Compliant | Wildlife Management Plan states that this report will be reviewed annually (Section 1.11) this did not occur during audit period. |
| 749:M5.3 | Road deaths reports | The proponent shall report monthly from the commencement of ground-disturbing activities to the CEO, any road deaths or injuries of priority fauna along the haul road and around the mine site. The report shall include: 1. The number and species of priority fauna killed; 2. The number and species of priority fauna injured; 3. The speed of the vehicle at the time of the incident; 4. The Time and date of incidents; and 5. Management actions taken to mitigate/reduce the death and | Conduct daily inspections of the haul road during ore haulage and all staff to report any road deaths of injuries of fauna along the haul road and around the mine site to the Mine Superintendent. | Monitoring data and other information reported in the AER and other reports referenced in the Compliance Audit Report. | Operation | Monthly, until the requirements of condition 7-2 have been fulfilled. | Not Compliant | Monthly reports not submitted. Reports submitted between March – September 2013 |

# AUDIT TABLE

**Statement Compliance Section**

**PROJECT: Coyote Gold Mine Stage 2 Approximately 280 Kilometres south-east of Hall's Creek Tanami Desert, Shire of Hall's Creek Statement 749**

| Audit Code | Subject | Requirement | How | Evidence | Phase | Timeframe | Status | Further Information |
|---|---|---|---|---|---|---|---|---|
| | | injury of fauna. Reporting shall conclude when the requirements of condition 7-2 have been fulfilled. | | | | | | |
| 749:M5.4 | Haul road speed limits | The proponent shall impose speed limits of 40 kilometres per hour for all vehicles in Mulgara (Dasycercus cristicauda) habitat areas, which shall be appropriately signed. | Control vehicle speed. Install speed limit signage on roads within Mulgara habitat areas. | Annual Haul Road Monitoring Report. References in the AER. | Operation | By end April each year. | Not applicable | No haulage was undertaken during audit period |
| 749:M6.1 | Haul truck GPS monitoring | The proponent shall only permit haul trucks which are fitted with and use Global Positioning System (GPS) devices along the haul road specified in schedule 1. The GPS tracking devices are to provide the following information in a form which is auditable: 1.A continuous update on the location and speed of each haul truck during ore transporting activities; and 2.Demonstrate that each haul truck is adhering to the specified speed limits for the haul road. The objective of the use of GPS tracking devices is to manage vehicle speeds at levels which minimise fauna road kills or injuries on haul roads. These objectives are reinforced by conditions 5-2 and 5-3. | Install GPS devices on all haul trucks. | Annual Haul Road Monitoring Report. References in the AER. | Operation | By end April each year. | Not applicable | No haulage was undertaken during reporting period |
| 749:M6.2 | GPS log | | The proponent shall maintain a log of data recorded by the GPS devices of each haul truck in a manner approved by the CEO. GPS monitoring will | GPS monitoring and recording. | Annual Haul Road Monitoring Report. References in the AER. | By end April each year, until the proponent advises the CEO that | Not applicable | No haulage was undertaken during reporting period |

# AUDIT TABLE

**Statement Compliance Section**

**PROJECT: Coyote Gold Mine Stage 2 Approximately 280 Kilometres south-east of Hall's Creek Tanami Desert, Shire of Hall's Creek Statement 749**

| Audit Code | Subject | Requirement | How | Evidence | Phase | Timeframe | Status | Further Information |
|---|---|---|---|---|---|---|---|---|
| | | | conclude when the proponent informs the CEO that hauling activities have ceased. | | | hauling activities have ceased. | | |
| 749:M7.1 | Implementation of Decommissioning and Closure Plan | The proponent shall implement the DCP contained within the proponents Environmental Protection Statement submitted for the proposal and released on 30 July 2007. The DCP shall contain provision for update and review. | Provide evidence of implementation of the DCP. | Monitoring data and photographs included with the AER. | Overall | On completion of operations. | Compliant | Updated Mine Closure and Decommissioning plan submitted in March 2014 (outside reporting period of this audit) |
| 749:M7.2 | Post closure responsibilities | The proponent shall implement the Decommissioning and Closure Plan referred to in condition 7-1 until such time as the Minister for the Environment determines, on advice of the CEO, that the proponents decommissioning responsibilities have been fulfilled. | Implementation of the DCP. | Monitoring data and photographs included with the AER. | Decommissioning | On completion of operations. | Compliant | Rehabilitation monitoring and vegetation photos taken during audit period. |
| 749:M7.3 | Availability of Decommissioning and Closure Plan | The proponent shall make the DCP referred to in condition 7-1 publicly available in a manner approved by the CEO | Carry out the following: 1. Make the documents available on the proponents website for the life of the project unless otherwise approved by the Department of Environment and Conservation, and ensure it is easily accessible from the home page. Documents will be made available to the public upon request, including any previous annual documents; 2. All documents required to be made publicly available must be made publicly available as previously stated within 2 weeks from submission of the documents to DEC. 3. 14 days from the date of making documents | Letter to DEC advising that report has been made publicly available. | Overall | As required. | Compliant | Email/letter sighted to EPA saying documentation is publicly available. |

# AUDIT TABLE

**Statement Compliance Section**

**PROJECT: Coyote Gold Mine Stage 2 Approximately 280 Kilometres south-east of Hall's Creek Tanami Desert, Shire of Hall's Creek Statement 749**

| Audit Code | Subject | Requirement | How | Evidence | Phase | Timeframe | Status | Further Information |
|---|---|---|---|---|---|---|---|---|
| | | | publicly available proponents shall provide evidence to the Proposal Implementation Monitoring Section to confirm lodgement on website has been completed. | | | | | |

**APPENDIX A**

**Decommissioning And Closure Plan Coyote Project Stage 2**

# Decommissioning and Closure Plan

# Coyote Project Stage 2


## October 2010

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# 1 INTRODUCTION

## 1.1 Purpose of the Decommissioning and Closure Plan

This Decommissioning and Closure Plan (Plan) has been prepared to demonstrate that Tanami Gold NL (TGNL) has made provision for final closure of Stage 2 of the Coyote Project.

The objective of this plan is to provide a preliminary framework for closure planning of the mining operation and to identify issues that need to be addressed as the closure planning process continues. TGNL aims to achieve a standard that prevents adverse long-term environmental impacts and restores a land use that is acceptable to regulators, post-mining land users and other stakeholders.

This management plan must be considered as a final (review) document. Amendments are expected and may reflect variations to the project, regulatory conditions, new scientific discoveries, modification of accepted practices or changes to legislation.

## 1.2 Definitions

In accordance with the Environmental Protection Authority's Guidance for the Assessment of Environmental Factors No. 6 - Rehabilitation of Terrestrial Ecosystems, decommissioning and closure are defined as follows:

**Closure** - A whole of life process which includes rehabilitation and decommissioning and culminates in tenement relinquishment.

**Decommissioning** - Occurs near or at the end of a project involving removal of unwanted infrastructure, construction of final landforms and rehabilitation.

## 1.3 Background

TGNL owns and operates the Coyote Project, located approximately 250 km southeast of Halls Creek on the Tanami Highway. Balgo Hills community is the nearest settlement, located approximately 100 km by road to the west of the site.

The Coyote Project commenced in March 2006 with development of the Coyote mine site and an upgrade of the existing exploration camp. The Project currently consists of an open pit mining operation supported by a processing plant and associated infrastructure.

TGNL has developed Stage 2 of the Coyote Project located 35km north of the existing site. Stage 2 comprises two small open pits and basic mining support infrastructure linked to the Coyote site by a haul road. The Stage 2 mining operation is located on M80/563 and the haul road will be within L80/45. These

tenements are held by Tanami Exploration, a 100% subsidiary of TGNL. Figure 1.1 shows an overview of these tenements in relation to the existing mining operation.

## 1.4 TGNL Policy and Standards

TGNL is committed to ensuring accountability and adequate resources for the implementation of this Plan and responsibilities for managing the technical and financial implementation have been allocated.

The requirements of the Plan will be integrated into the general operation of the Project to ensure rehabilitation is carried out progressively and that final closure of the site is achieved within the expected timeframe and budget.

TGNL is committed to achieving environmentally and socially acceptable closure of its operations. Closure objectives include prevention of adverse long-term environmental impact and re-creation of self-sustaining natural ecosystems acceptable to the local community and other stakeholders.

From the initial planning to final closure phases of Stage 2 Bald Hill, TGNL will aim to:

- Consult with all stakeholders during decision making processes;
- Plan effectively so that closure occurs in a sequenced manner, within the estimated timeframes and allocated budget;
- Ensure there is accountability, responsibility and adequate resourcing to enable implementation of the closure plan;
- Establish and/or utilise set criteria and indicators, agreed with the responsible authority, to demonstrate the successful completion of each closure project; and
- Reach a point where agreed completion criteria are met to the satisfaction of the responsible authority, local community and other stakeholders, so that the area may be relinquished.

## 1.5 Legislation and Industry Standards

Key environmental legislation with relevance to mine closure in Western Australia includes:

- Environmental Protection Act 1986.
- Mining Act 1978.
- Mines Safety and Inspection Act 1994.

Other legislation relevant to mine closure includes:

- Aboriginal Heritage Act 1972.
- Agriculture and Related Resources Protection Act 1976.

- Bushfires Act 1954.
- Conservation and Land Management Act 1984.
- Contaminated Sites Act 2003.
- Dangerous Goods (Transport) Act 1998.
- Explosives and Dangerous Goods Act 1961.
- Land Administration Act 1997.
- Occupational Safety and Health Act 1984.
- Rights in Water and Irrigation Act 1914.
- Soil and Land Conservation Act 1945.
- Town Planning & Development Act 1928.
- Waterways Conservation Act 1976.
- Wildlife Conservation Act 1950.

### 1.6 Regulatory Authorities

The Department of Mining and Petroleum (DMP) and Department of Environment and Conservation are likely to be the primary regulatory authority responsible for overseeing the closure of Stage 2 Bald Hill site.

Other authorities with an interest in the Project may include:

- Environmental Protection Authority (EPA);
- Department of Water, Kununurra (DoW);
- Environs Kimberly; and
- Shire of Halls Creek.

## 1.7 Regulation

Environmentally-related licences and permits required for the Coyote Project have been summarised in Table 6.1.

| Agency | Licence, Permit, Approval |
|---|---|
| EPA | Acceptance of Environmental Protection Statement |
| DMP | Mining Proposal approval |
| DoW | 5C License to Take Groundwater |

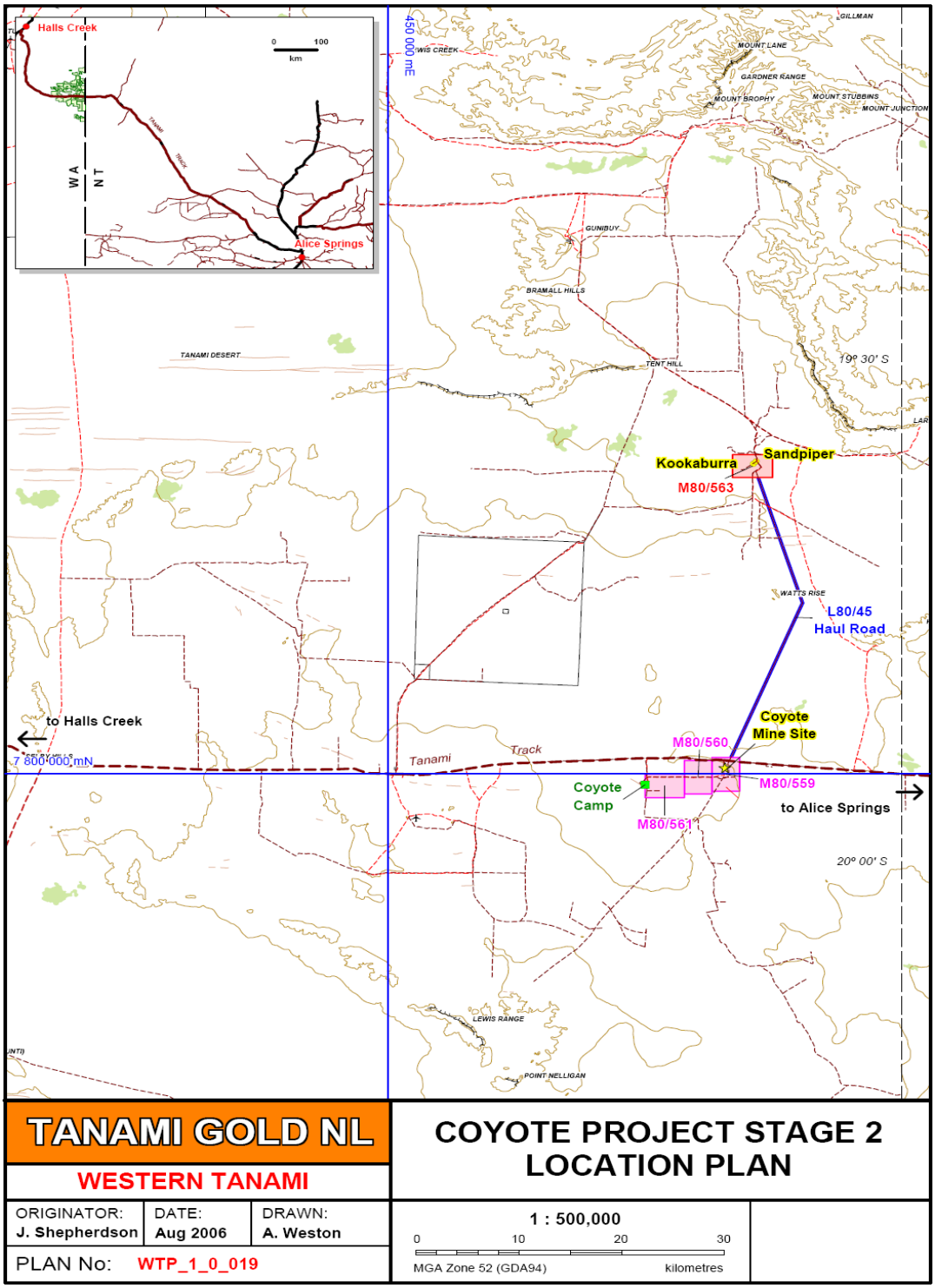
**Table 1.1 Approvals and Permits Required for the Stage 2 Bald Hill**

Numerous Government and Industry Guidelines for mine closure exist. Those pertinent to Stage 2 of the Coyote Project include:

| Guideline | Purpose |
|---|---|
| Australian Minerals Industry (AMI) Code for Environmental Management (MCA, 2000). | Framework including consultation, progressive rehabilitation and reporting. |
| Strategic Framework for Mine Closure (ANZMEC/MCA, 2000) (a joint government and industry guideline). | Framework including upfront planning for closure, consultation, progressive rehabilitation and reporting. |
| Guideline Safety Bund Walls Around Abandoned Open Pit Mines. Department of Minerals and Energy of Western Australia (1997). | Design of abandonment bunds around open pits to prevent vehicular access. |
| Mine Closure Guideline for Mineral Operations in Western Australia (Chamber of Minerals and Energy WA Inc. 2000). | Framework including consultation, progressive rehabilitation and reporting. |
| Assessment Levels for Soil, Sediment and Water (DoE, V3 Nov 2003). | Threshold levels for contaminated soils. |
| The Commonwealth Environmental Protection Agency series 'Best Practice Environmental Management in Mining'. | Industry examples of mining practices. |
| Guidance for the Assessment of Environmental Factors: Rehabilitation of Terrestrial Ecosystems. Draft No. 6 (EPA 2006) | Closure strategy and description of objectives, targets and review during mine operation. |

**Table 1.2 Guidance documents applicable to decommissioning and closure of Stage 2 of the Coyote Project.**

**Figure 1.1 Stage 2 Bald Hill site location**




2

.

# 2 Project Description

Stage 2 of the Coyote Project is a small-scale open pit mining operation intended to provide ore for blending with ore from underground mining at the existing operation

The Sandpiper pit has produced 89,000 tonnes of ore at an average grade of 3.6 g/t. The Kookaburra pit has produced 328,000 tonnes of ore at an average grade of 3.0 g/t.

Site infrastructure is minimal with ore being periodically transported to the Coyote mine site for processing. No crushing or processing will be conducted on site.

The infrastructure for this operation is such that the facilities of the existing Coyote mine site will be utilised for processing of the ore and accommodation of the workforce. Stage 2 site infrastructure will comprise:

- two small open pits;
- a single waste dump for disposal of waste rock;
- a ROM pad for ore stockpiling;
- a hardstand area for laydown, workshop and site office;
- an evaporation pond for storage and disposal of groundwater;
- site access roads; and
- a haul route from Stage 2 to the Coyote processing plant.

The site layout is intended to produce the minimum disturbance possible and allows direct access to the haul road. Tables 2.1 and 2.2 provide a breakdown of the proposed areas of disturbance. Figure 2.1 shows the proposed site layout.

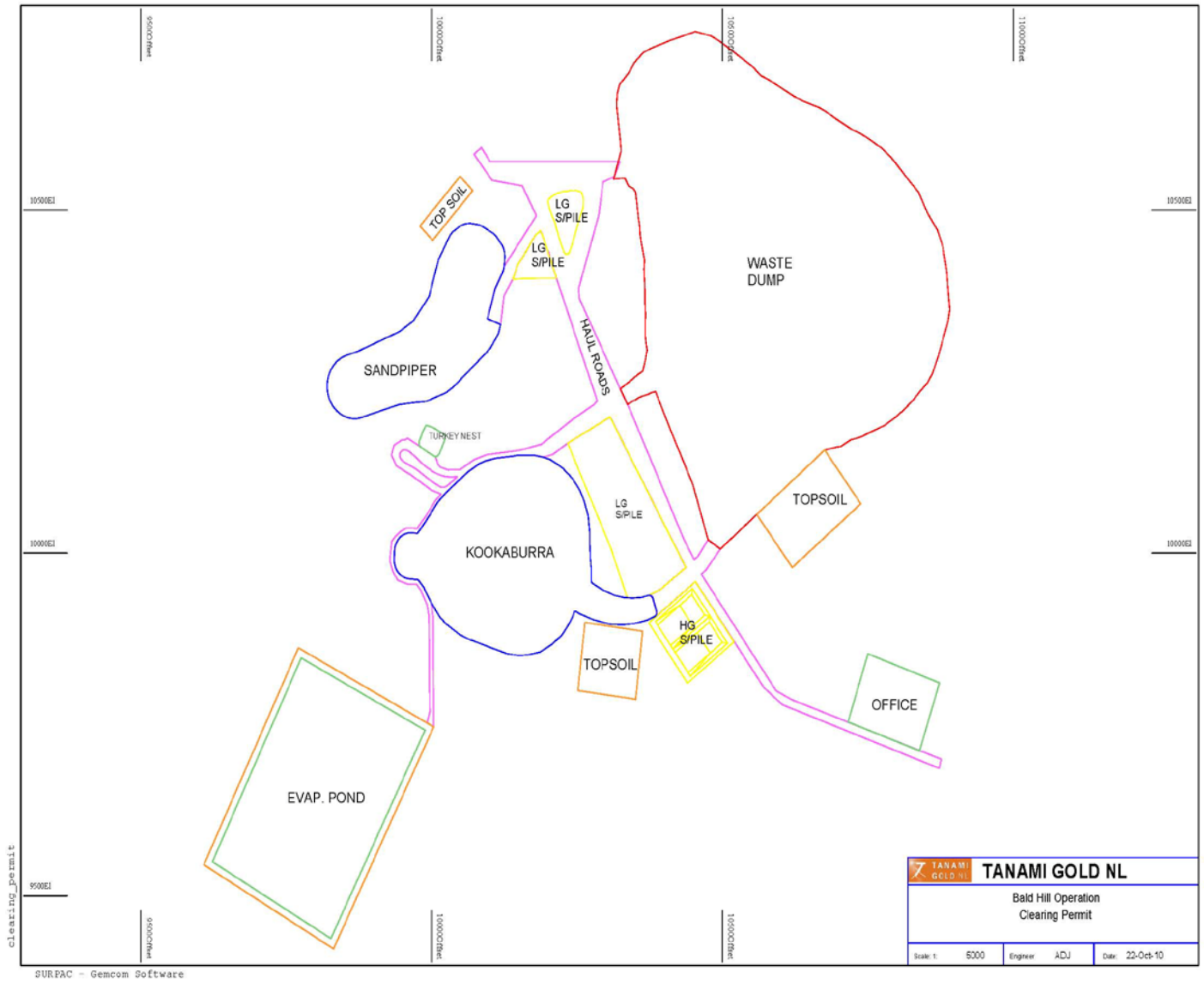
| Tenement Number: M80/563 | |
|---|---|
| **Description of Mining Disturbance** | **Area (ha)** |
| Sandpiper open pit and surrounds | 4.1 |
| Kookaburra open pit and surrounds | 7.6 |
| Waste dump | 27.7 |
| ROM pad | 4.2 |
| Evaporation pond | 8 |
| Haul and access roads | 5.4 |
| Office, workshop, laydown area | 1.5 |
| Gravel pit | 1 |
| Topsoil storage | 4.1 |
| Existing exploration disturbance | 2 |
| **Total Disturbance** | **65.6** |
| Undisturbed Land | 909.4 |
| Disturbed + Undisturbed | 975 |
| M80/563 Tenement Area | 975 |

**Table 2.1 Disturbance areas for M80/563.**

| Tenement Number: L80/45 | |
|---|---|
| **Description of Mining Disturbance** | **Area (ha)** |
| Haul road<br>*(includes existing exploration disturbance of 22.5 ha)** | 45.5 |
| **Total Disturbance** | **45.5** |
| Undisturbed Land | 609.5 |
| Disturbed + Undisturbed | 655 |
| L80/45 Tenement Area | 655 |
| ** This disturbance will be utilised in construction of the haul road.* | |

**Table 2.2 Disturbance area for L80/45.**

**Fig 2.1 Stage 2 Bald Hill Site plan**




# 3 Existing Environment

## 3.1 Climate

The Project area is semi arid and has an average rainfall of 336 mm (Balgo Hills). Most of the rain falls from December to March but the amount varies greatly, both seasonally and annually. The area is occasionally subject to extreme rainfall events as a result cyclonic activity.

Mean annual maximum temperature is 34$^{o}$C and mean annual minimum 20$^{o}$C. Daily maxima above 40$^{o}$C are usual from October to March. Evaporation is high with an average daily rate of 8.9 mm. The annual evaporation rate is 3,250 mm. The climatic conditions are recognised as challenging, particularly with respect to rehabilitation.

## 3.2 Landform and Vegetation Associations

The Stage 2 project area comprises a number of distinct landforms and vegetation associations. The mining area comprises sandplains and occasional rocky outcrops, while the haul road route traverses laterite rise, palaeo-drainage channel and sand dune landforms. Vegetation types are predominately Acacia Shrubland and Hummock Grassland. Thickets of *Grevillea wickhamii* are also located along the haul road route. Photographs 3.1 to 3.6 show the main landforms and vegetation types. Photograph 3.7 shows a typical hill in the region.

**Photograph 3.1 Acacia Shrubland vegetation over sandplain landform at Sandpiper.**

**Photograph 3.2 Hummock Grassland surrounding a rocky outcrop at Kookaburra.**

**Photograph 3.3 Sand dune landform with Acacia Shrubland vegetation.**

**Photograph 3.4 Laterite rise landform with Hummock Grassland vegetation.**

**Photograph 3.5 The palaeo-drainage landform with Hummock Grassland vegetation.**

**Photograph 3.6 A Grevillea thicket along the haul road route**

**Photograph 3.7 Hills in the region are typically rocky with sparse spinifex cover.**

### 3.3 Hydrology

The Sandpiper and Kookaburra deposits are located on a slight lateritic rise with runoff generally moving in a south-easterly direction. A fall of less than 2m is apparent from the northern to the southern extent of the Stage 2 project area.

Aquifers in the project area predominantly occur in zones of fractured or structurally deformed and largely unweathered bedrock. These features primarily control local groundwater occurrence and flow. The aquifers are typically inhomogeneous, anisotropic and irregular in their dimensions and form. The static groundwater level is approximately 20m below ground surface.

The groundwater in the project area is saline. TDS (gravimetric) ranges from 23,000 to 26,000 mg/L with EC ranging from 36,000 to 41,000 µS/cm.

### 3.4 Vegetation and Flora

Vegetation and flora studies were undertaken of the proposed mine sites and surrounding areas prior to commencement of mining activity and further incidental collection of flora species has been carried out since that time.

A total of 145 flora species from 41 families have been recorded during surveys of the Project area and surrounding region. The most common families are Poaceae (26 species) Mimosaceae (12 species) and Myrtaceae (11 species). The most commonly recorded genus is *Acacia* (12 species).

There has been no Declared Rare Flora (DRF) or Priority flora species recorded in the Project area. No Threatened Ecological Communities (TEC) occur in the region, however Proposed Nature Reserves exist to the north and south of the site.

A number of weed species are known to exist in the Project area. Gallon's Curse (*Cenchrus biflorus*) and Buffel Grass (*Cenchrus ciliaris*) have been found in the camp, along the Tanami Road and in isolated patches throughout the surrounding area. To date neither of these weeds has been recorded within the proposed mine area.

### 3.5 Fauna

Survey work around the project area has recorded 132 vertebrate species of an expected 229 in the Tanami Region. Observations so far include 65 species of bird, 18 native mammals, 3 introduced mammals, 43 reptiles and 4 species of frog.

Twelve fauna species with conservation significance are known to inhabit, or are potential inhabitants of the Tanami Region. Six of these have been recorded in the project area since commencement of activity.

Although mining activity on a relatively small scale is considered unlikely to have a significant impact on the status of any of these species TGNL recognises the importance of conserving the habitats on which they depend. Rehabilitation will include habitat reconstruction where appropriate and closure of the site will include ongoing monitoring to assess the success of faunal recolonisation.

# 4 Potential Impacts

## 4.1 Rehabilitation limitations

Trials currently being conducted at the Coyote mine site have not identified issues associated with rehabilitation of disturbed areas at this stage. There has been extensive rehabilitation works carried out on the Coyote mine site waste dumps and TGNL will apply these successful techniques at the Stage 2 operations.

Grazing animals can be detrimental to rehabilitation (i.e. goats in the Goldfields). Camels are the only large grazing animal thought likely to be a threat to rehabilitation. Information from other mining operations in the Tanami Region indicates no evidence of camels having caused problems.

Topsoil management is one of the key factors in successful rehabilitation. At Stage 2 Ball Hill, topsoil has been stripped and stockpiled as described in Section 8. Topsoil is not watered for dust suppression.

## 4.2 Landform stability and erosion

The waste material generated from the Kookaburra and Sandpiper pits is not erosive material. Water management features such as bunding, back-sloped berms and contour ripping have been employed on sloped areas. Vegetation has been observed to re-establish very quickly in disturbed areas, therefore minimising erosion and promoting further plant growth.

## 4.3 Weeds

Several weed species are known to exist in the area. There is potential for weeds to become established in disturbed areas, particularly along road verges where water accumulates. Seeds are spread by vehicles as well as by many of the native animals. Regular inspections of disturbed areas will be undertaken and weed control implemented as appropriate.

## 4.4 Contamination of soil or groundwater

A number of substances being used at the Stage 2 mining area have potential to cause contamination if not managed correctly. TGNL will ensure that appropriate containment measures are installed and that handling techniques are such that the potential for soil or water contamination is minimised. Prior to leaving the site any identified soil contamination will be removed for onsite treatment, or shipped off site for appropriate treatment elsewhere. Groundwater monitoring will be conducted on a regular basis for the duration of the project to enable identification of contamination. Should contamination be identified, appropriate measures will be implemented to treat the groundwater to achieve accepted levels.

### 4.4.1 Hydrocarbons

| | |
|---|---|
| **Potential Locations:** | Fuel farm, workshop, generators. |

Relatively small hydrocarbon spills are expected as a result of refuelling and servicing of vehicles and machinery. Over the life of the mining operation this could result in localised areas of soil contamination at the locations listed above.

Contaminated soil is to be periodically removed for treatment in a purpose-built bioremediation area at the Coyote mine site. The facility is a clay-lined area surrounded by a bund to prevent runoff of contaminants. Treatment of hydrocarbon contaminated soil will involve addition of an organic absorbent (Global Peat) and a hydrocarbon utilising bacterial solution.

Treatment will continue until hydrocarbon levels meeting acceptance criteria for Class 1 landfill facilities are achieved (DEP, 2002). Average levels to be achieved are:

- $C_6$-$C_{15}$ petroleum hydrocarbons – 2800mg/kg;
- $C_{16}$-$C_{35}$ petroleum hydrocarbons (aromatics) - 450mg/kg; and
- $C_{16}$->$C_{35}$ petroleum hydrocarbons (aliphatics) – 28,000mg/kg.

### 4.4.2 Naturally occurring contaminants

| | |
|---|---|
| **Potential Locations:** | Ore body, ROM, waste dump. |

Arsenic (As) is present in the Kookaburra and Sandpiper ore bodies at trace levels and will not pose a threat towards any related soil contamination problems during the rehabilitation and mine closure process.

Sulphides are present in trace amounts as pyrite and arsenopyrite. The levels are too low for acid rock drainage to be considered an issue. Should quantities of high concentration sulphide material be produced from either of the pits as waste it will be encapsulated within inert material in the waste dump. Small volumes of sulphide ore will be treated at the Coyote processing plant. The volume of tailings generated from the treatment of this material is not expected to be significant and will be combined with the much larger volume of tailings generated from the treatment of oxide material which has slightly alkaline pH, thereby neutralising acidic material.

### 4.4.3 Salt

| | |
|---|---|
| **Potential Locations:** | Evaporation dam, haul road. |

Saline water will be discharged to the evaporation dam where it is likely to result in deposition of saline sediment. This material will be removed prior to rehabilitation of the dam and deposited in the pit.

Saline water will be used for dust suppression, however is not anticipated to result in contamination of the soils due to the short term nature of the operation and the diluting effect of rains during the wet season. Site procedures ensure that groundwater is managed to minimise the potential for adverse impacts on vegetation.

# 5 Closure Objectives and Targets

TGNL's closure objectives have been developed specifically for the Stage 2 Bald Hill Project area. The following table outlines these objectives.

| Aspect | Objective | Target |
|---|---|---|
| Final land use | Return the site, as near as possible, to the pre-mining condition to allow safe and unimpeded use of the surrounding area by the Traditional Owners. | TO's satisfied with work carried out. |
| Public safety | Leave the site in a condition where the risk of adverse effects to people, fauna and the environment in general, has been reduced to a level acceptable to all stakeholders. | Site meets accepted standards for public safety. |
| Final landform | Develop final landforms that are compatible with the natural surroundings. | Final landforms have a natural appearance. |
| Stability | Achieve soil stability in all post-mining landforms and disturbed areas. | Disturbed areas remain stable with minimal erosion. |
| Vegetation | Revegetate disturbed areas and post-mining landforms to achieve self-sustaining populations of endemic vegetation that resembles that already present. | Vegetation present in rehabilitated areas displays diversity similar to the surrounding area. |
| Fauna | Rehabilitate post-mining landforms and disturbed areas to re-establish the former habitats (where possible) and promote recolonisation by native fauna. | Fauna recolonise the mine site area over time. |
| Groundwater and Soil Contamination | Ensure any contaminants remaining in the soil or groundwater are below agreed criteria.<br>Minimise the potential for movement of contaminants away from the Project area. | No soil or groundwater contamination caused by the mining operation remains after site closure. |
| Socioeconomic | Enable all stakeholders to have their interests considered during the mine closure process. | Stakeholder requirements are considered and achieved where cost effective and practical. |
| Cost and timing | Ensure that the closure process occurs in an orderly, cost-effective and timely manner. | Provision of funding is adequate.<br>Closure completed within an agreed time frame. |

**Table 5.1 Closure objectives for Stage 2 of the Coyote Project**

# 6 Closure Criteria

The proposed completion criteria described below are based on regulatory requirements, TGNL's corporate objective for closure, industry standards and stakeholder requirements. The completion criteria will be periodically reviewed and modified to reflect improved scientific knowledge or technological advances, future commercial opportunities and changes to regulatory requirements or legislation.

| Closure aspect | Completion criteria |
|---|---|
| Infrastructure. | All mining related infrastructure removed from site.<br>Bores capped. |
| Post-mining landforms. | As close as possible to pre-mining condition or resembling similar natural landforms.<br>Safe, stable and suitable for agreed use. |
| Vegetation and flora. | Self-sustaining and resilient.<br>Diversity retained.<br>Weeds controlled. |
| Fauna. | Diversity similar to pre-mining condition.<br>Habitat recovery. |
| Hydrology. | Surface water flows re-established.<br>No pollution. |
| Soils. | No contamination.<br>Minimal erosion/long term stability achieved. |

**Table 6.1 Closure criteria for Stage 2 of the Coyote Project.**

# 7 Implementation Programme

## 7.1 Rehabilitation Methods

### 7.1.1 Vegetation and Topsoil Stockpiling

Cleared vegetation and topsoil have been stockpiled at strategic locations around the mine site. Topsoil has been stripped to a depth of approximately 200mm. Long-term stockpiles are approximately 2m in height and will be deep ripped to enable vegetation growth and continued biological activity (Photograph 7.1). Short-term topsoil stockpiles will be trucked dumped adjacent to the areas in which they will be used (Photograph 7.2).

The positioning of stockpiles enables access for machinery and short haul distances during rehabilitation work. Long term stockpiles are located away from active areas to avoid disturbance.

**Photograph 7.1 A long term topsoil stockpile at the Coyote mine site.**

**Photograph 7.2 A short term topsoil stockpile on the Coyote waste dump.**

### 7.1.2 Rehabilitation of flat areas

Rehabilitation of site disturbance will be progressive where possible. Rehabilitation of flat areas will involve replacement of topsoil using a grader or bulldozer and scarification of the area along the contour where possible. There has been no seeding undertaken in any of the areas rehabilitated at Coyote so far and observations have shown good plant diversity. As an example Photograph 7.3 and 7.4 show the airstrip gravel pit in May 2006 and April 2007 respectively. The techniques employed for rehabilitation of flat areas appear successful and will therefore continue.

### 7.1.3 Rehabilitation of slopes

At the Coyote mine site the southern face of the waste dump have been battered to $15^0$ and topsoil has been applied.

Rehabilitation techniques for sloped areas will include:

- battering of material to a maximum angle of $15^0$;
- transfer and spreading of topsoil to achieve even coverage of approximately 150mm;
- contour ripping of slopes (guide line to be surveyed and pegged); and
- installation of water management features including bund around top surface and back-sloped berms.

**Photograph 7.3 Airstrip gravel pit following completion of rehabilitation work.**

**Photograph 7.4 Airstrip gravel pit.**

### 7.1.4 Pits

It is not planned to backfill the pits. On completion of mining each pit will be bunded in accordance with DMP criteria for abandonment bunds. The bunds will also be utilised to prevent excessive surface water inflow. It

is anticipated that water levels in the pits will return to the natural groundwater level within three years of completion of mining. The addition of rainfall and surface runoff is likely to result in an increase in the water level. However the relatively low rainfall and extremely high evaporation rate (+3m annually) will maintain the final water level at between 10 and 20 metres below surface level. Water quality will be variable but is expected to consist of a fresh to brackish surface layer over saline subsurface water. The pit ramps will be left in place to enable fauna access and egress.

### 7.1.5 Contamination

Should monitoring or inspection programmes discover contamination of soil or groundwater, appropriate treatment methods will be developed and implemented to remediate the area to an agreed standard.

Hydrocarbon contaminated soil will be removed from site and transferred to Coyote mine site where a purpose-built bioremediation area is in operation. Biological treatment of the material will be undertaken to achieve hydrocarbon levels equal to or less than those acceptable for Class 1 landfill.

### 7.1.6 Monitoring

Vegetation monitoring sites are established and provide baseline information that is used in determining the success of ongoing mining activities leading to mine closure and rehabilitation. Monitoring sites will also be established in rehabilitated areas to enable comparison with baseline sites.

Monitoring of groundwater will be undertaken to test for the presence of contaminants resulting from mining.

Areas of known or suspected soil contamination will also be monitored to determine the success of remedial action.

## 7.2 Site Decommissioning

Decommissioning of Stage 2 of the Coyote Project will commence when mining is complete. At this stage the expected life of mining from the submission date of this Plan is approximately 12 months, however it is possible that this will be extended if the results of further exploration are favourable.

Final site decommissioning is expected to take approximately 3 months and will include:

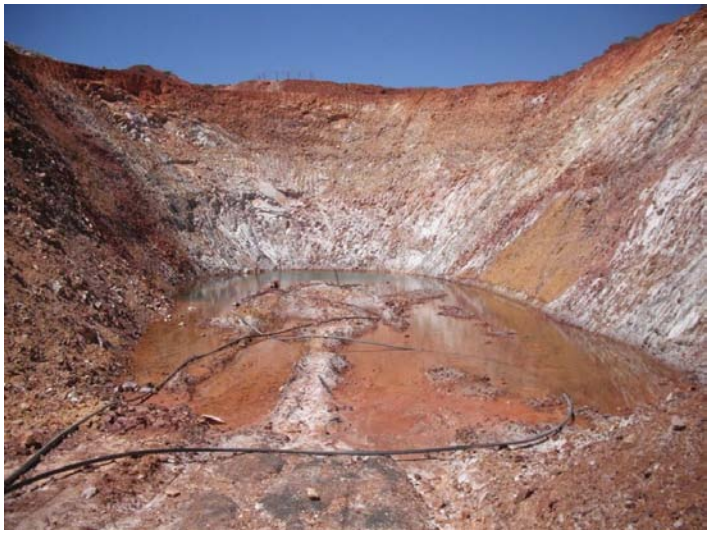
- closure of abandonment bunds;
- removal of infrastructure and any underground services;
- rehabilitation of hardstand areas;
- rehabilitation of the evaporation pond; and
- rehabilitation of roads, tracks and other disturbance.

## 7.3 Specific Rehabilitation Requirements

The following section details the requirements for rehabilitation of each of the major components of the Stage 2 mining operation.

Much of the work required for rehabilitation and final closure will be undertaken progressively as part of the mining operation. Estimates of time are therefore based on what may be required at completion of mining and does not take into account work already expected to have been carried out.

### 7.3.1 Pits

| | Work Required | Estimated Time | Indicative funding |
|---|---|---|---|
|  | • Close safety bund around pit crest (loader);<br>• Close abandonment bund (bulldozer); | Safety bund - 2hrs<br>Abandonment bund - 12 hours | $1,000 |

### 7.3.2 Waste Dump

| | Work Required | Estimated Time | Indicative funding |
|---|---|---|---|
|  | • Batter to max $15^0$ (dozer);<br>• Back slope berms (dozer/grader);<br>• Install bund around upper level (dozer)<br>• Transport topsoil (dump trucks and excavator);<br>• Spread topsoil (dozer);<br>Contour rip (dozer). | (27.7ha)<br>Battering - 125hrs<br>Back slope berms - 12hrs<br>Install bund - 24hrs<br>Transport topsoil - 60hrs<br>Spread topsoil - 50hrs<br>Contour ripping - 25hrs | $50,000<br>(note that much of this work will be completed during mining) |

### 7.3.3 ROM

| Work Required | Estimated Time | Indicative funding |
|---|---|---|
| • Batter to max $15^0$ (dozer);<br>• Install bund around upper level (dozer)<br>• Transport topsoil (dump trucks and excavator);<br>• Spread topsoil (dozer);<br>• Contour rip (dozer). | (4.2ha)<br>Battering - 25hrs<br>Install bund - 12hrs<br>Transport topsoil - 12hrs<br>Spread topsoil - 10hrs<br>Contour ripping - 5hrs | $10,000<br>(note that much of this work will be completed during mining) |

### 7.3.4 Fuel Farm

| Work Required | Estimated Time | Indicative funding |
|---|---|---|
| • Drain tanks to suitable storage;<br>• Remove pipework and other infrastructure (crane);<br>• Remove tanks (crane);<br>• Remove contaminated material for treatment (loader);<br>• Remove and bury liner (dozer/loader);<br>• Spread topsoil, deep rip area (included in 7.4.13) | Remove pipework etc - 12hrs<br>Remove tanks - 12hrs<br>Remove contaminated material - TBA<br>Remove and bury liner - 3hrs | $2,500 |

### 7.3.5 Workshop

| | Work Required | Estimated Time | Indicative funding |
|---|---|---|---|
|  | • Remove shed and other infrastructure (crane);<br>• Remove underground services if applicable (dozer);<br>• Spread topsoil, deep rip area (included in 7.4.13) | Remove shed and other infrastructure - 36hrs<br>Remove underground services - 1hr | $5,000 |

### 7.3.6 Site Offices and Ablutions

| | Work Required | Estimated Time | Indicative funding |
|---|---|---|---|
|  | • Remove approx dongas (crane and trucks);<br>• Remove other infrastructure i.e. antennas, satellite dishes, concrete footings (crane, loader);<br>• Remove underground services i.e. septics, electrical (loader, grader);<br>• Spread topsoil, deep rip area (included in 7.4.13). | Dongas - 24hrs<br>Remove other infrastructure - 24hrs<br>Remove underground services - 2hrs | $5,000 |

### 7.3.7 Evaporation Dam

| | | | |
|---|---|---|---|
|  | **Work Require**<br>• Remove accumulated sediment and dispose in pit;<br>• Remove liner from clean water dam;<br>• Push walls in to centre;<br>• Apply topsoil;<br>Scarify. | **Estimated Time**<br>(8ha)<br>Remove sediment - 12hrs<br>Push walls - 20hrs<br>Cart topsoil - 24hrs<br>Spread topsoil and scarify - 24hrs | **Indicative funding**<br>$10,000 |

### 7.3.8 Hardstand areas and internal roads

| Work Required | Estimated Time | Indicative funding |
|---|---|---|
| • Remove infrastructure and materials;<br>• Apply top soil (side tipper);<br>• Push out bunds and windrows (grader/dozer);<br>• Spread topsoil (grader);<br>• Deep rip (dozer). | (5.4ha)<br>Transport topsoil - 4hrs<br>Spread bunds, windrows and topsoil - 2hrs<br>Ripping - 2hrs | $2,000 |

### 7.3.9 Gravel pit

| Work Required | Estimated Time | Indicative funding |
|---|---|---|
| • Return overburden to gravel pit (dozer);<br>• Push out bunds and windrows (grader/dozer);<br>• Spread topsoil (grader);<br>• Scarify (grader). | (1ha)<br>Push overburden - 4hrs<br>Spread topsoil - 2hrs<br>Scarify - 2hrs | $2,000 |

### 7.3.10 Haul road

| Work Required | Estimated Time | Indicative funding |
|---|---|---|
| ***A single vehicle track will remain.***<br>• Pull windrows onto road (grader);<br>• Spread topsoil (grader);<br>• Deep rip (grader/dozer). | (23ha)<br>Spread windrows - 20hrs<br>Ripping - 20 hrs | $6,000 |

## 7.4 Responsibility for implementation

TGNL will ensure responsibilities for achieving decommissioning and closure objectives are assigned and clearly communicated. An indication of the likely responsibilities for the various aspects of mine closure

| Factor | Strategies to be implemented | Responsibility |
|---|---|---|
| Vegetation monitoring. | Establish photographic monitoring sites and collect data periodically. | Environmental Advisor. |
| Weeds. | Regular inspections of the rehabilitated areas of the haul road and mining area.<br>Weed spraying conducted if required. | Environmental Advisor. |
| Decommissioning. | Mining area to be made safe.<br>Infrastructure to be removed from site. | Mine Manager. |
| Rehabilitation. | To be undertaken progressively where practical.<br>To be completed in a timely fashion on completion of mining activity | Mine Manager |
| | To be conducted in a manner that meets or exceeds accepted standards. | Mine Manager<br>Environmental Advisor. |
| Contamination. | Contaminated soil will be removed from site for appropriate treatment.<br>Monitoring of groundwater and areas of suspected contamination will be undertaken as specified. | Mine Manager<br>Environmental Advisor. |

**Table 7.1 Responsibilities for implementation of key components of decommissioning and closure.**

# 8 Monitoring Programme

A range of monitoring activities will be undertaken to assist in achieving site closure objectives. Table 8.1 summarises the planned monitoring programme for the Stage 2 operation and that planned for implementation as rehabilitation work progresses. Results of monitoring will be reported in the Coyote Project Annual Environmental Report.

| Type of Monitoring | Objective | Monitoring Parameters / *Frequency* | Planned Commencement |
|---|---|---|---|
| Undisturbed vegetation | • Photographic monitoring sites will be established in undisturbed areas around the mine site and along the haul road to determine whether there is detriment to native vegetation as a result of the mining operation. | Abundance and diversity of flora.<br>Health of vegetation.<br>*6 monthly* | Prior to disturbance. |
| Rehabilitation | • Photographic monitoring sites will be established in rehabilitated areas to monitor the success and diversity of revegetation. | Abundance and diversity of flora.<br>Vegetative cover.<br>Soil stability.<br>*Annually* | On completion of rehab. |
| Weeds | • Road verges, drains and other selected areas will be periodically monitored for the presence of weeds. | Presence of weeds.<br>Success of weed eradication programmes.<br>*3 monthly* | Following start up. |
| Erosion | • Rehabilitated areas will be monitored for signs of erosion as a result of rainfall runoff or wind. | Soil stability.<br>*Annually* | On completion of rehab. |
| Fauna | • Rehabilitated areas will be monitored for the presence of fauna and indications of recolonisation.<br>• Site personnel will be requested to report sightings of threatened fauna.<br>• The Project area will be monitored for the presence of feral species with all personnel asked to report sightings of cats, camels or other introduced species. | Presence and diversity of fauna species.<br>*Annually*<br>*Daily*<br>*Daily* | On completion of rehab.<br>Following start up.<br>Following start up. |
| Groundwater | • Groundwater will be monitored for the presence of contaminants resulting from mining activity.<br>• Remedial action will be taken if required. | pH, EC, TDS, TPH, As.<br>*3 monthly* | On completion of bores. |
| Soil | • Areas of potential or suspected soil contamination will be monitored to determine effectiveness of treatment methods. | | |

**Table 8.1 Summary of monitoring to be undertaken.**

# 9 Stakeholder Consultation

## 9.1 Key Stakeholders

Stakeholders are defined as individuals, government agencies, community groups or others who have the potential to be affected by or have an interest in mine closure. TGNL recognises that stakeholder consultation is a critical component of the closure planning process as the interests held by stakeholders in an area often precede an operation and remain long after its closure. TGNL will undertake regular consultation with the various stakeholders of Stage 2 of the Coyote Project and meetings will be held periodically.

| Stakeholder | Interest |
|---|---|
| TNTLAC/Balgo Community. | Traditional landowners and Native Title holders. |
| Environs Kimberly<br>Conservation Council of WA. | Conservation of the natural environment. |
| Department of Mining and Petroleum. | Regulation of the mining operation. |
| Department of Environment and Conservation. | Flora and fauna of the region. |
| Environmental Protection Authority. | Protection of the natural environment. |

**Table 10.1 Stakeholders of Stage 2 of the Coyote Project.**

Stakeholder comments to date have related to the potential for post mining pits to have detrimental effects on the surrounding environment. Table 10.2 summarises the comments and responses.

| Stakeholder | Date | Actions/Comments |
|---|---|---|
| Environs Kimberley<br>Conservation Council of WA | 1st March 2007 | Site visit. |
| | 14th March 2007 | Comments received from CCWA. Concerns raised regarding closure and completion criteria. |
| | 28th March 2007 | Comments received from EK. Concerns raised regarding post-mining pits and funding for mine closure. |
| | 30th March 2007 | TGNL response to concerns raised sent via emailed letter. |
| DEC - EPA Service Unit | 19th February 2007 | TGNL submitted the Draft Environmental Protection Statement (EPS) including Draft Decommissioning and Closure Plan (DCP). |
| | 15th March 2007 | Concerns raised regarding post mining pits and the potential for impact on the natural ecosystem. |
| | 4th April 2007 | TGNL submitted a revised EPS. |
| | 1st May 2007 | Comments received - extensive changes to the format of the DCP required. Further concerns regarding post mining pit voids. |

**Table 10.2 Stakeholder comments and responses relating to decommissioning and closure of Stage 2.**

# 10 Review and Revision

This documented is intended as a final document. As such the Decommissioning and Closure Plan will be reviewed subject to changes in mining forecasts, new technologies in mine rehabilitation techniques and other criteria to ensure relevance is maintained and that the objectives and targets set are being achieved.

The review will be undertaken by TGNL management with the purpose of determining if targets have been met, and therefore whether or not the management strategies implemented have been effective.

Any changes to the document or the management strategies will be communicated to all concerned.

# 11 Reporting

Progress of decommissioning and closure activities, including progressive rehabilitation and monitoring, will be reported annually in the Coyote Project Annual Environmental Report, prepared in February each year. On completion of site closure a Closure Report will be prepared and submitted to the various stakeholders of the project.

# 12 Key Management Actions

| Decommissioning and closure management action | Documentation to be provided | Reporting method | Status |
|---|---|---|---|
| Maintain photographic monitoring sites and collect baseline data for ongoing rehabilitation and re-vegetation. | Monitoring site data sheets. | Included in AER. | Commenced. |
| Establish photographic monitoring sites in rehabilitated areas to monitor the success and diversity of revegetation. | Monitoring site data sheets. | Included in AER. | Not commenced. |
| Regular inspection of disturbed areas for weeds. | Eradication plan to be developed if weeds found. | Details included in AER. | Commenced. |
| Monitor rehabilitated areas for signs of erosion. | Monitoring site data sheets. | Included in AER. | Commenced. |
| Fauna diversity and indications of recolonisation to be monitored periodically. | Monitoring reports. | Details included in AER. | Not commenced. |
| Groundwater will be monitored for the presence of contaminants resulting from mining activity. | Analysis reports. | Included in AER. | Not commenced. |
| Remediation of contaminated areas to be undertaken if required. | Completion report. | Details in AER.<br>Reports available on request. | Not commenced. |

**Table 13.1 Key actions for ensuring effective decommissioning and closure of Stage 2 of the Coyote Project.**

**APPENDIX B**

**Stage 2 Annual Environmental Compliance Report (AECR)**

TANAMI GOLD NL

# Coyote Gold Project,

## Stage 2 Annual Environmental Compliance Report

Assessment number 1688, Ministerial Statement number 749

2 March 2012 to 1 March 2013

# April 2013

## Management Endorsement

The information provided in this report is a true and accurate account of the status of Tanami Gold's Compliance with the conditions and procedures as specified by the Ministerial Statement 749

| | |
|---|---|
| **NAME** | **Peter Cordin** |
| **POSITION** | **Chief Executive Officer** |
| **SIGNATURE** |  |
| **DATE** | 29 APRIL 2013 |

# 1 Introduction

Tanami Gold NL (Tanami) operates the Coyote Gold Project, approximately 280 kms south-east of Halls Creek in the Tanami Desert of Western Australia. Stage 1 of the Project commenced in early 2006, initially comprising open pit mining. Underground mining operations commenced in 2008. Ore is processed on site at a 250,000 tonne per annum processing plant.

Stage 2 of the Project commenced late in 2007 following preparation of an Environmental Protection Statement (EPS) and subsequent assessment by the Environmental Protection Authority (EPA). The Stage 2 site consists of the Kookaburra and Sandpiper pits, basic site infrastructure and a haul road connecting to the Coyote mine site.

The Stage 2 site has largely been in Care and Maintenance since the last reporting period when the mining of the Kookaburra and Sandpiper Pits was completed. Over the current period approval was gained to enable the mining of the small Osprey Deposit. This was approved via a Section 45C amendment to MS749 in November 2012. Only 15,800 tonnes were removed from the Osprey site. The Osprey site was only in operation during November and early December before it was suspended due to the wet season.

The haulage contractor onsite for the Osprey mining activity removed 16,077 tonnes of low grade ore which was stockpiled at the Kookaburra ROM. This was transported to the Stage 1 site for processing during October. There is approximately 250,000 tonnes of low grade ore stockpiled at the Kookaburra ROM, Stage 2 site.

The Coyote Gold Project is subject to numerous environmental conditions, primarily as a result of the presence of threatened fauna. In addition to the conditions, Tanami has committed to a variety of environmental management objectives to ensure effective management of identified potential issues. These conditions and commitments form the basis of Tanami's environmental management program.

To demonstrate compliance with the various conditions of the Stage 2 operations, Tanami is required to submit an annual Environmental Compliance Report to the Chief Executive Officer (CEO) of the Department of Environment and Conservation (DEC). The compliance report addresses the conditions of operation as specified in The Minister for the Environment's *Statement That a Proposal May be Implemented* (Statement number 749). The Statement is included as Attachment 1.

# 2 Audit Program

To enable demonstration of compliance with the project conditions, Tanami has developed an Audit Program in accordance with the DEC's *Compliance Monitoring and Reporting Guidelines for Proponents - Preparing an Audit Program* and in consultation with the EPA's Proposal Implementation Monitoring Branch. As required, the Draft Audit Program was submitted to the Compliance Monitoring Section of the

DEC for review.

The following Audit Program Table lists the Ministerial Statement implementation conditions, Tanami's commitments, the actions and methods required to achieve compliance, and provide a timetable for meeting the requirements of each condition. This table forms the basis of Tanami's performance and compliance reporting. The table provides a summary of the level of compliance as at 2 March 2013. Where applicable TGNL has supplied verifiable evidence of implementation of the conditions is included in the relevant Appendices.

TGNL will provide the OEPA, DEC and DMP with the Copy of the Annual Environmental Report which details all environmental management activities that had taken place over the period. Further verifiable evidence is found in Section 3 where links to the Company's Quarterly and Annual Reports published on the Australian Stock Exchange are provided.

Over the period the Compliance Branch of the OEPA also undertook a desktop audit and of the MS749 and 869. The audit, conducted in August 2012 by Rowan Inglis of the OEPA, is file number OEPA2010/001182.

| Audit code | Subject | Action | How | Evidence | Requirements of | Phase | When /Where | Status |
|---|---|---|---|---|---|---|---|---|
| 749M 1.1 :1 | Implementation | The proponent shall implement the proposal as documented and described in schedule 1 of the statement subject to the conditions and procedures of the statement | Schedule 1 of the Ministerial Statement and the Environmental Protection Statement (EPS) for Stage 2 of the Coyote Gold Project provide direction for the methods of implementation of the proposal. | Annual Environmental Report (AER). TGNL Quarterly Reports and Annual Report | Minister for Environment | Overall | Commenced March 2008 | Compliant - Project implemented |
| 749M 2.1 :1 | Nominated proponent | The proponent for the time being nominated by the Minister for the Environment under sections 38(6) or 38(7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal | TGNL is the company responsible for implementation of the proposal. | AER. TGNL Quarterly Reports and Annual Report | Minister for Environment | Overall | n/a | Compliant during this period |
| 749M 2.2 :1 | Contact details | The proponent shall notify the Chief Executive Officer of the Department of Environment and Conservation (CEO) of any change of the name and address of the proponent for the serving of notices or other correspondence within 30 days of such change | Notification will be provided in writing if required. | AER. TGNL Quarterly Reports and Annual Report | DEC | Overall | n/a | Compliant during this period. Same postal address and name |
| 749M 3.1 :1 | Time limit of approval | The proposal must be substantially commenced within 5 years of the date of publication of the Ministerial Statement | Implementation will be as stated in the EPS. | AER. TGNL Quarterly Reports and Annual Report. | Minister for Environment | Overall | N/A | Compliant during this period with substantial progress made i.e. Kookaburra, Sandpiper and Osprey mined, |
| 749M 3.2 :1 | Evidence of commencement | The proponent shall provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of the statement | The Coyote Gold Project Annual Environmental Report provides details of the status of the proposal. | AER. TGNL Quarterly Reports. 2011 &12 - 45C Amendment, Mining Proposals | DEC / OEPA / DMP | Overall | Commenced March 2008 | Compliant during this period. Quarterly Reports released throughout 2009. See AER i.e. Osprey mining in 2012 |

| Audit code | Subject | Action | How | Evidence | Requirements of | Phase | When /Where | Status |
|---|---|---|---|---|---|---|---|---|
| 749M 4.1 :1 | Compliance reporting | The proponent shall submit to the CEO an annual environmental compliance report relating to the previous twelve-month period, the first report to be submitted within 15 months after the commencement of ground disturbing activities and thereafter annually, unless required by the CEO to report more frequently | Two documents are prepared annually by TGNL: 1) Annual Environmental Report 2) Environmental Compliance Audit. | AER. Annual Environmental Compliance Audit. | DEC / OEPA | Overall | By end April each year. | Compliant during this period. AER & the Compliance audit submitted (this document). |
| 749M 4.2 :1 | Compliance reporting format | The environmental compliance reports shall address each element of an audit program approved by the CEO and shall be prepared and submitted in a format acceptable to the CEO | This audit program forms the basis of the compliance report and lists the elements of required compliance. | Annual Environmental Compliance Audit. | DEC / OEPA | Overall | By 30 April each year. | Compliant during this period. |
| 749M 4.3 :1 | Compliance reporting content - endorsement | The environmental compliance reports shall be endorsed by signature of the proponent's Executive Chairman or a person, approved in writing by the CEO, delegated to sign on behalf of the proponent's Executive Chairman. | Signed by TGNL General Manager or Chief Executive Officer). | AER. AACR | DEC / OEPA | Overall | 29/30 April in Perth | Complaint during this period. |
| 749M 4.3 :2 | Compliance reporting content - statement of compliance | The annual environmental compliance reports shall state whether the proponent has complied with each condition and procedure stated in the Ministerial Statement. | This report provides an overview of the level of compliance. The audit table provides details of implementation to achieve compliance. | This Document, AACR and AER. | DEC / OEPA | Overall. | By 30 April each year. | Compliant during this period. |
| 749M 4.3 :3 | Compliance reporting content - verifiable evidence | The annual environmental compliance reports shall provide verifiable evidence of compliance with each condition and procedure contained in the Ministerial Statement | This audit program aims to provide the evidence required to verify compliance. Evidence can include photographs, procedures, memos, training manuals. | Photos, analytical information, monitoring results etc contained in various documents & the AER. | DEC / OEPA | Overall. | By 30 April each year. | Compliant during this period. |

| Audit code | Subject | Action | How | Evidence | Require ments of | Phase | When /Where | Status |
|---|---|---|---|---|---|---|---|---|
| 749M 4.3 :4 | Compliance reporting content - compliance with key actions of management plans | The annual environmental compliance reports shall state whether the proponent has complied with each key action contained in any environmental management plan or program required by the Ministerial Statement | The degree of compliance with requirements of: 1) Wildlife Management Plan 2) Decommissioning and Closure Plan is included in the audit program. | 1) Photograph, analytical information, monitoring results etc contained in the AER and the Wildlife Mortality Report. 2) Significant rehabilitation undertaken as per the closure plan evidence in AER. | DEC / DMP / OEPA | Overall. | AER By 30th April each year. Closure Plan was Submitted to the OEPA /DMP /DEC May 2012 | Compliant during this period. |
| 749M 4.3 :5 | Compliance reporting content - verifiable evidence of compliance with management plans | The annual environmental compliance reports shall provide verifiable evidence of conformance with each key action contained in any environmental management plan or program required by the Ministerial Statement | Evidence of conformance with the key actions of the management plans will be included in the audits. | Photograph, analytical information, monitoring results contained in AER & wildlife sighting and reporting plan submitted to OEPA, June 2012 | DEC / OEPA /DMP | Overall. | By 30th April each year. | Compliant during this period. |
| 749M 4.3 :6 | Compliance reporting content - identification of non-compliances | The annual environmental compliance reports shall identify all non-compliances and non-conformances and describe the corrective and preventative actions taken in relation to each non-compliance or non-conformance. | Any non-compliance with the required conditions will be identified in the audit and discussed in detail in this compliance report. | See Section 3 for non-compliance discussion | DEC / OEPA | Overall. | By 30th April each year. In this report | Compliant during this period. |
| 749M 4.3 :7 | Compliance reporting content - review of effectiveness of corrective actions | The annual environmental compliance reports shall review the effectiveness of all corrective and preventative actions taken. | Monitoring will be undertaken to determine the effectiveness of all corrective or preventative actions implemented. The success of any such actions will be discussed in the compliance audit report. | AER, Section 3 and non-compliances from previous year were addressed i.e. every monthly wildlife report submitted and all GPS truck data collected | DEC / OEPA | Overall. | By 30th April each year. | Compliant during this period. |
| 749M 4.3 :8 | Compliance reporting content - implementation of the proposal | The annual environmental compliance reports shall describe the state of implementation of the proposal | Details of the state of implementation of the proposal will be provided in the compliance report and AER. | Discussed in the AER and quarterly reports. Project near completion | DEC / OEPA | Overall. | By 30th April each year. | Compliant during this period. |

| Audit code | Subject | Action | How | Evidence | Require ments of | Phase | When /Where | Status |
|---|---|---|---|---|---|---|---|---|
| 749M 4.4 :1 | Public availability of compliance reports | The environmental compliance reports are to be made publicly available in a manner approved by the CEO. | Carry out the following: 1. Make the documents available on the proponent's website for the life of the project unless otherwise approved by the Department of Environment and Conservation, and ensure it is easily accessible from the home page. Documents will be made available to the public upon request, including any previous annual documents; 2. All documents required to be made publicly available must be made publicly available as previously stated within 2 weeks from submission of the documents to DEC. 3. 14 days from the date of making documents publicly available proponents shall provide evidence to the Proposal Implementation Monitoring Section to confirm lodgement on website has been completed. | 2012/2013 Report has been placed on the company's website on the 30 April 2013 for the public viewing. OEPA informed before 14 May 2013. For the previous reporting year OEPA requested it be placed on the website and it was in June 2012. http://www.tanami.com.au/investors/environment.html | OEPA | Overall. | Following advice from OEPA | Compliant during this period. |
| 749M 5.1 :1 | Implementation of Wildlife Management Plan | Ground disturbing activities cannot commence until the proponent implements the Wildlife Management Plan contained within the proponent's Environmental Protection Statement submitted for the proposal and released on 30 July 2007 | Provide evidence of implementation of the Wildlife Management Plan. | Monitoring data and other information reported in the AER, the Wildlife Mortality Report and other reports referenced in the Compliance Audit Report. | Minister for Environment | Operation. | By end April each year. | Compliant during this period. |
| 749M 5.2 :1 | Revision of Wildlife Management Plan | The proponent shall review and revise the Wildlife Management Plan during the life of the project as required by the CEO | Conduct regular review and update the document as necessary | Progress will be discussed in the AER. Plan was revised in June 2012. | DEC / OEPA | Overall. | As required. | Compliant during this period. |

| Audit code | Subject | Action | How | Evidence | Requirements of | Phase | When /Where | Status |
|---|---|---|---|---|---|---|---|---|
| 749M 5.3 :1 | Road deaths reports | The proponent shall report monthly from the commencement of ground-disturbing activities to the CEO, any road deaths or injuries of priority fauna along the haul road and around the mine site.. The report shall include: 1. The number and species of priority fauna killed; 2. The number and species of priority fauna injured; 3. The speed of the vehicle at the time of the incident; 4. The time and date of incidents; and 5. Management actions taken to mitigate/reduce the death and injury of fauna. Reporting shall conclude when the requirements of condition 7-2 have been fulfilled. | Conduct daily inspections of the haul road during ore haulage and all staff to report any road deaths of injuries of fauna along the haul road and around the mine site to the Mine Superintendent. | Monitoring data and other information reported in the AER and other reports referenced in the Compliance Audit Report. Also as per the monthly reports submitted to the OEPA compliance branch. Also found in the Annual Wildlife Mortality Report. | DEC / OEPA | Operation. | Monthly, until the requirements of condition 7-2 have been fulfilled. | Monthly reports missed March to May 2012. Reported monthly June 2012 to February 2013 and annually in April 2013. No Priority Species mortality. See Attachment two. 2012 Wildlife Mortality Report. |
| 749M 5.4 :1 | Haul road speed limits | The proponent shall impose speed limits of 80 kilometres per hour for all vehicles on the haul road, or at lesser speeds as required to ensure effective project safety. | Control vehicle speed. Install speed limit signage on roads and GPS tracking devices. Limit increased from 40km/hr via Section 46 amendment in June 2011. | Annual Haul Road Monitoring Report. Attached to this document. | Minister for Environment | Operation. | By 30th April each year. | Some minor infringement on speeds due to odometers. Monitoring data information included as Attachment 2. |
| 749M 6.1 :1 | Haul truck GPS monitoring | The proponent shall only permit haul trucks which are fitted with and use Global Positioning System (GPS) devices along the haul road specified in schedule 1. The GPS tracking devices are to provide the following information in a form which is auditable: 1.A continuous update on the location and speed of each haul truck during ore transporting activities; and 2.Demonstrate that each haul truck is adhering to the specified speed limits for the haul road. The objective of the use of GPS tracking devices is to manage vehicle speeds at levels which minimise fauna road kills or injuries on haul roads. These objectives are reinforced by conditions 5-2 and 5-3. | Install GPS devices on all haul trucks. | Annual Haul Road Monitoring Report. References in the AER. | Minister for Environment | Operation. | By 30th April each year. | Compliant during this period. All Haul trucks fitted with GPS tracking and speed monitoring data included as Attachment 3. |

| Audit code | Subject | Action | How | Evidence | Require ments of | Phase | When /Where | Status |
|---|---|---|---|---|---|---|---|---|
| 749M 6.2 :1 | GPS log | The proponent shall maintain a log of data recorded by the GPS devices of each haul truck in a manner approved by the CEO. GPS monitoring will conclude when the proponent informs the CEO that hauling activities have ceased. | GPS monitoring and recording. | Annual Haul Road Monitoring Report. References in the AER. Also GPS data files submitted | DEC | Operati on. | By 30th April each year, until the proponent advises the CEO that hauling activities have ceased. | Compliant during this period. Monitoring data and other information included as Attachment C. |
| 749M 7.1 :1 | Implementation of Decommissioning and Closure Plan | The proponent shall implement the DCP contained within the proponent's Environmental Protection Statement submitted for the proposal and released on 30 July 2007. The DCP shall contain provision for update and review. | Provide evidence of implementation of the DCP. Will be submitted May 2012 to OEPA / DEC / DMP. It was a revision of the 2010 version. | Closure Plan submitted to department in May 2012 also on company's website. Evidence of DCP being followed in the AER | Minister for Environm ent | Overall. | On completion of operations. | In process. |
| 749M 7.2 :1 | Post closure responsibilities | The proponent shall implement the Decommissioning and Closure Plan referred to in condition 7-1 until such time as the Minister for the Environment determines, on advice of the CEO, that the proponent's decommissioning responsibilities have been fulfilled. | Implementation of the DCP. | Monitoring data and photographs included with the AER's. Evidence of DCP being followed in the AER | Minister for Environm ent | Decom mission ing and Closure . | On completion of operations. | In process. |

| Audit code | Subject | Action | How | Evidence | Requirements of | Phase | When /Where | Status |
|---|---|---|---|---|---|---|---|---|
| 749M 7.3 1 | Availability of Decommissioning and Closure Plan | The proponent shall make the DCP referred to in condition 7-1 publicly available in a manner approved by the CEO | Carry out the following: 1. Make the documents available on the proponent's website for the life of the project unless otherwise approved by the Department of Environment and Conservation, and ensure it is easily accessible from the home page. Documents will be made available to the public upon request, including any previous annual documents; 2. All documents required to be made publicly available must be made publicly available as previously stated within 2 weeks from submission of the documents to DEC. 3. 14 days from the date of making documents publicly available proponents shall provide evidence to the Proposal Implementation Monitoring Section to confirm lodgement on website has been completed. | http://www.tanami.com.au/investors/environment.html<br><br>May 2012 Closure and Decommissioning Plan | DEC | Overall. | As required. | Satisfactory during this period. DCP was included with the EPS document which was made available for public review. Any revisions to the DCP will be made publicly available. No revisions have been required to date. |

TGNL = Tanami Gold NL

TGNL = Tanami Gold NL

The Minister = Minister for the Environment

CEO = Chief Executive Officer of the Department of Environment and Conservation

Ministerial Statement = Ministerial Statement Number 749 issued by the Minister for the Environment and published on 20 September 2007

MP = Coyote Project Stage 2 Mining Proposal

EPS = Coyote Project Stage 2 Environmental Protection Statement

AER = Annual Environmental Report

WMP = Wildlife Management Plan

DCP = Decommissioning and Closure Plan

# 4 Non - Compliance

## 4.1 Condition 5.3:1

Unfortunately TGNL has had an issue with the Ministerial Condition 5.3:1:
*"The proponent shall report monthly from the commencement of ground-disturbing activities to the CEO, any road deaths or injuries of priority fauna along the haul road and around the mine site. The report shall include: 1. The number and species of priority fauna killed; 2. The number and species of priority fauna injured; 3. The speed of the vehicle at the time of the incident; 4. The time and date of incidents; and 5. Management actions taken to mitigate/reduce the death and injury of fauna. Reporting shall conclude when the requirements of condition 7-2 have been fulfilled. "*

### Description of non-compliance

Over the period three monthly priority wildlife mortality reports were not submitted i.e. March, April and May. This was identified by the review of the previous compliance report in June 2012.

This was outlined in official correspondence from the OEPA following the review of the previous periods Annual Compliance Report, ref A499240:OEPA2010/001182.

### Environmental Impact

There was no haul truck activity over the period that the monthly reports were missed so there was no risk of priority fauna being killed on the haul road during that time.

### Cause

The reason reports were not submitted was due to a misinterpretation of Condition 5.3:1. During the previous reporting period it was understood that reports would be submitted when and if priority fauna were killed. Since it has been made clear that reports are required on a monthly basis there has not been any non-compliance.

### Proposed

TGNL develop an SOP for reporting requirements in accordance to Ministerial Statement 749, this was provided to the OEPA in June 2012 and officially resolved as per ref A518169:OEPAA2010/001182.

### Actioned

Since the matter was raised and resolved TGNL have provided a monthly priority fauna mortality report to compliance@epa.wa.gov.au . This has been provided by the 5$^{th}$ day of the following month for the month prior.

### 4.2 Condition 6.2:1

Unfortunately TGNL has had a minor issue with the Ministerial Condition 5.4:1:
*The proponent shall impose speed limits of 80 kilometres per hour for all vehicles on the haul road, or at lesser speeds as required to ensure effective project safety..*

### Description of non-compliance

During October when haulage first recommenced there was an issue with isolated instances of speeding with one truck reaching 90 km/hr and the other 87 km/hr. After the data was interpreted by the environmental officer and road train drivers spoken to there were only instances of the 80km speed limit being marginally exceeded; the majority of over speeding was only by 1 km/hr (1.2%) with the highest recorded and single instance of 4 km/hr (4.7%).

The speeding records can be found in the Haulage Truck Monitoring Report, Appendix C.

### Cause

The speeding on the first day occurred following commencement of new truck drivers, who were told of the importance of the speed limit during the Pre-start meeting (Appendix D) but initially exceeded the limit. This was not consistent speeding but rather accidental isolated instances.

The later minor speeding infringements were caused by discrepancies with the odometers within the track and GPS satellite tracking system. Also the truck drivers were trying to abide by the speed limit by using the cruise control. On the trip from Stage 1 to Stage 2 the haul trucks are empty and journey is downhill thereby gaining slightly more speed through momentum and not purposeful acceleration.

### Environmental Impact

No priority fauna were injured or killed over the reporting period. The number of other fauna that were killed was also significantly decreased.

### Current Status

Haulage and mining operations have been suspended for the wet season (since 8 December 2012). It is unclear when these operations will recommence. Only low grade ore and mineralised waste remain at site, it is assumed that the haulage operations are to recommence when the stockpiles at the Stage 1 operation have been depleted and the gold price makes the venture feasible. A decision on the haulage and future mining operations needs to be made and will then be communicated to the relevant regulatory bodies.

### Proposed

Truck drivers were told to use their cruise control initially to avoid over speeding in October.

The later instance in November and December was a technical non-compliance due to the accuracy of the new GPS system employed over the period that does not measure point to point but is an instant snapshot of speed. These infringements were not intentional and speed limits were followed. When the infringements were noticed haul truck drivers were told to lower their cruise control settings. In the future Haulage Trucks will lower their speed even further to ensure full compliance.

### Actioned

No further haulage activities are planned for the upcoming reporting period as there is a large stockpile of low grade ore available at Stage 1 site and the operations are moving into care and maintenance.

Monitoring systems will remain in place for future haulage activities.

## 4 Verifiable Evidence

**2012 Stage 2 Compliance Report**
http://www.tanami.com.au/images/files/Environment/2012_OEPA_Compliance_Report(1).pdf

**2012 Stage 2 Closure and Decommissioning Plan**
http://www.tanami.com.au/images/files/Environment/Bald_Hill_Public_Rehab_Plan_Stage_2_May_2012_Web_copy.pdf

**2008 to 2012 Annual Reports**
http://www.tanami.com.au/investors/annual-reports.html

**2011 to 2012 Quarterly Reports**
http://www.tanami.com.au/investors/quarterly-reports.html?start=5

**2012 Annual Environmental Report hard copy submitted to the OEPA / DEC / DMP on the 30 April 2013.**

**Appendix B Monthly Wildlife Management Plan**

**Appendix C GPS Haul Truck monitoring reports (downloads)**

**Official Correspondence from OEPA: Notice of Desktop Audit of Statement 749 (ref OEPA2010/001182 A536886)**

# Appendix A

# Ministerial Statement 749

Published on 20 September 2007 Statement No. 749

# STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (PURSUANT TO THE PROVISIONS OF THE *ENVIRONMENTAL PROTECTION ACT 1986*)

COYOTE GOLD MINE, STAGE 2
APPROXIMATELY 280 KILOMETRES SOUTH-EAST OF HALL'S CREEK
TANAMI DESERT, SHIRE OF HALL'S CREEK

**Proposal:** To produce approximately 400,000 tonnes of ore for gold production from the two open pits Sandpiper and Kookaburra (Stage 2). A 35 kilometre haul road will be constructed between the Stage 2 site and the existing Coyote Stage 1 operation.

**Proponent:** Tanami Gold NL

**Proponent Address:** Level 4, 50 Colin Street, WEST PERTH WA 6005

**Assessment number:** 1688

**Report of the Environmental Protection Authority**: Bulletin 1261

The proposal referred to in the above report of the Environmental Protection Authority may be implemented. The implementation of that proposal is subject to the following conditions and procedures:

## 1 Proposal Implementation

1-1 The proponent shall implement the proposal as documented and described in schedule 1 of this statement subject to the conditions and procedures of this statement.

## 2 Proponent Nomination and Contact Details

2-1 The proponent for the time being nominated by the Minister for the Environment under sections 38(6) or 38(7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal.

2-2 The proponent shall notify the Chief Executive Officer of the Department of Environment and Conservation (CEO) of any change of the name and address of the proponent for the serving of notices or other correspondence within 30 days of such change.

## 3 Time Limit of Authorisation

3-1 The proposal must be substantially commenced within 5 years of the date of publication of this statement.

3-2 The proponent shall provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of this statement.

## 4 Compliance Reporting

4-1 The proponent shall submit to the CEO an annual environmental compliance report relating to the previous twelve-month period, the first report to be submitted within 15 months after the commencement of ground disturbing activities and thereafter annually, unless required by the CEO to report more frequently.

4-2 The environmental compliance reports shall address each element of an audit program approved by the CEO and shall be prepared and submitted in a format acceptable to the CEO.

4-3 The environmental compliance reports shall:

1. Be endorsed by signature of the proponent's Executive Chairman or a person, approved in writing by the CEO, delegated to sign on behalf of the proponent's Executive Chairman;

2. State whether the proponent has complied with each condition and procedure contained in this statement;

3. Provide verifiable evidence of compliance with each condition and procedure contained in this statement;

4. State whether the proponent has complied with each key action contained in any environmental management plan or program required by this statement;

5. Provide verifiable evidence of conformance with each key action contained in any environmental management plan or program required by this statement;

6. Identify all non-compliances and non-conformances and describe the corrective and preventative actions taken in relation to each non-compliance or non-conformance;

7. Review the effectiveness of all corrective and preventative actions taken; and

8. Describe the state of implementation of the proposal.

4-4 The proponent shall make the environmental compliance reports required by condition 4-1 publicly available in a manner approved by the CEO.

## 5 Fauna Management

5-1 Ground disturbing activities cannot commence until the proponent implements the Wildlife Management Plan, contained within the proponent's Environmental Protection Statement submitted for the proposal and released on 30 July 2007.

5-2 The proponent shall review and revise the Wildlife Management Plan during the life of the project as required by the CEO.

5-3 The proponent shall report monthly from the commencement of ground-disturbing activities to the CEO, any road deaths or injuries of priority fauna along the haul road and around the mine site.

This report shall include:
1. The number and species of priority fauna killed;
2. The number and species of priority fauna injured;
3. The speed of the vehicle at the time of the incident;
4. The Time and date of incidents; and
5. Management actions taken to mitigate/reduce the death and injury of fauna.

Reporting shall conclude when the requirements of condition 7-2 have been fulfilled.

5-4 The proponent shall impose speed limits of 40 kilometres per hour for all vehicles in Mulgara (*Dasycercus cristicauda)* habitat areas, which shall be appropriately signed.

## 6 Monitoring the Speed of Haul Trucks

6-1 The proponent shall only permit haul trucks which are fitted with and use Global Positioning System (GPS) devices along the haul road specified in schedule 1.

The GPS tracking devices are to provide the following information in a form which is auditable:

1. A continuous update on the location and speed of each haul truck during ore transporting activities; and
2. Demonstrate that each haul truck is adhering to the specified speed limits for the haul road.

The objective of the use of GPS tracking devices is to manage vehicle speeds at levels which minimise fauna road kills or injuries on haul roads. These objectives are reinforced by conditions 5-2 and 5-3.

6-2 The proponent shall maintain a log of data recorded by the GPS devices of each haul truck in a manner approved by the CEO. GPS monitoring will conclude when the proponent informs the CEO that hauling activities have ceased.

## 7 Decommissioning and Closure

7-1 The proponent shall implement the Decommissioning and Closure Plan contained within the proponent's Environmental Protection Statement submitted for the proposal and released on 30 July 2007.

The Decommissioning and Closure Plan shall contain provision for update and review.

7-2 The proponent shall implement the Decommissioning and Closure Plan referred to in condition 7-1 until such time as the Minister for the Environment determines, on advice of the CEO, that the proponent's decommissioning responsibilities have been fulfilled.

7-3 The proponent shall make the Decommissioning and Closure Plan referred to in condition 7-1 publicly available in a manner approved by the CEO.

**Notes**

1. The Minister for the Environment will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environment and Conservation over the fulfilment of the requirements of the conditions.

David Templeman MLA
MINISTER FOR THE ENVIRONMENT; CLIMATE CHANGE; PEEL

## Schedule 1

**The Proposal (Assessment No. 1688)**

**General Description**

The proposal is to produce approximately 400,000 tonnes of ore for gold production from the two open pits Sandpiper and Kookaburra (Stage 2). The ore will be provided for blending with ore from underground mining at the existing operation (Coyote Stage 1). No crushing or processing will be conducted on site and infrastructure will be minimal. Both pits will be mined below the watertable and will not be backfilled. A 35 kilometre haul road will be constructed between the Stage 2 site and the existing Coyote Stage 1 operation.

The proposal is described in the following document – Stage 2 of the Coyote Project Tanami Desert, Western Australia - Environmental Protection Statement (released July 2007).

**Summary Description**
A summary of the key proposal characteristics is presented in Table 1.

**Table 1 – Summary of Key Proposal Characteristics**

| Element | Description |
|---|---|
| Life of Project | 12 months |
| Pit Area | Sandpiper – approximately 5 hectares<br>Kookaburra – approximately 5 hectares |
| Final Depth | Sandpiper – approximately 50 metres<br>Kookaburra – approximately 75 metres |
| Depth to Water Table | 19 – 20 metres |
| Pit Dewatering | 1600 kilolitres per day |
| Total Area of Disturbance | Not more than 120 hectares |
| Total Area Rehabilitated | Total area of disturbance less the pit area for Sandpiper and Kookaburra |
| Solid Waste Rock Materials | 2.4 million cubic metres |
| Water Supply | Groundwater bores |
| Power Generation | Mobile generators |
| Sewerage | Biological treatment units |

**Figures (attached)**

Figure 1 – Coyote Stage 1 and 2 General Layout
Figure 2 - Coyote Stage 2 Detailed Mine Layout

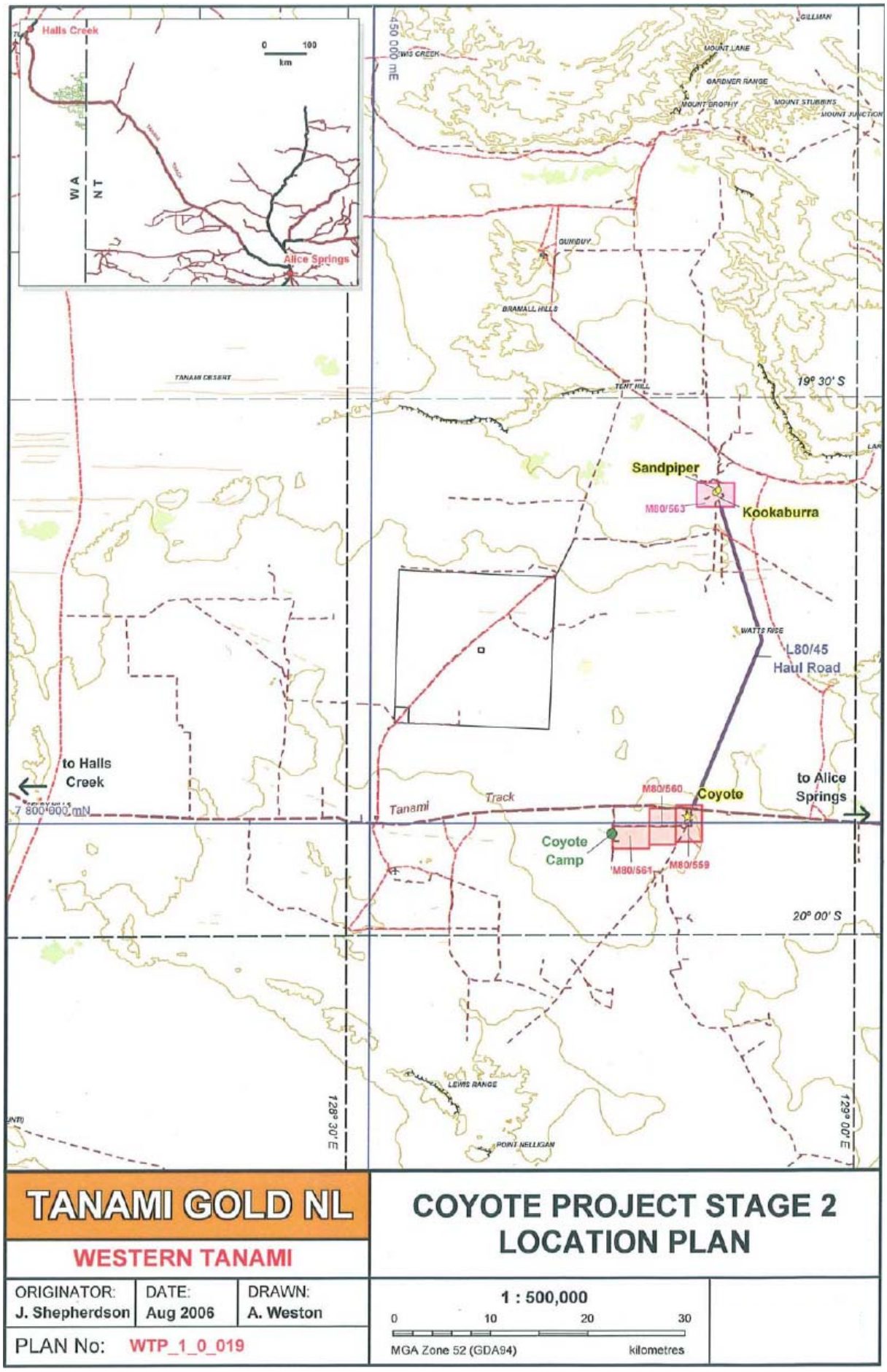



***Figure 1: Coyote Stage 1 and 2 General Layout***

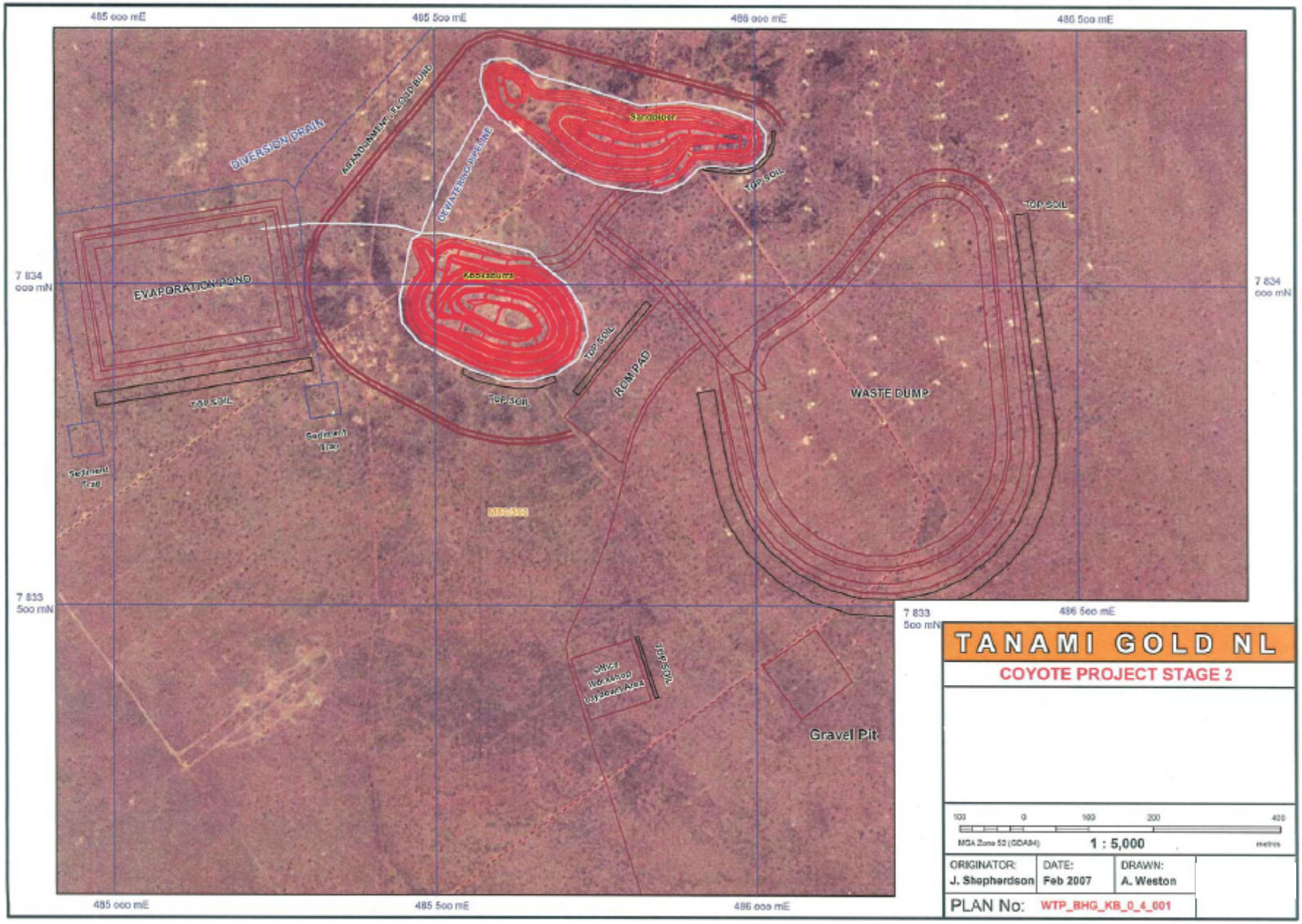



***Figure 2: Coyote Stage 2 Detailed Mine Layout***

Attachment 1 to Ministerial Statement 749

Change to Proposal

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**Proposal:** Coyote Gold Mine, Stage 2

**Proponent:** Tanami Gold NL

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**Change:** Increase to mine life, ore mined and waste rock volumes, deepening of the Kookaburra pit, and an increase to pit and land disturbance areas.

**Key Characteristics Table:**

| Element | Description of proposal | Description of approved change to proposal |
|---|---|---|
| Life of Project | 12 months | **24 months** |
| **Total amount of ore mined** | | **Approximately 495,000 tonnes** |
| Pit Area | Sandpiper – approximately 5 hectares<br>Kookaburra – approximately 5 hectares | **Sandpiper – approximately 6.1 hectares**<br>**Kookaburra – approximately 7.3 hectares** |
| Final Depth | Sandpiper – approximately 50 metres<br>Kookaburra – approximately 75 metres | Sandpiper – approximately 50 metres<br>**Kookaburra – approximately 95 metres** |
| Depth to Water Table | 19-20 metres | 19-20 metres |
| Pit Dewatering | 1600 kilolitres per day | 1600 kilolitres per day |
| Total Area of Disturbance | Not more than 120 hectares | Not more than 120 hectares |
| Total Area Rehabilitated | Total area of disturbance less the pit area for Sandpiper and Kookaburra | Total area of disturbance less the pit area for Sandpiper and Kookaburra |
| Solid Waste Rock Materials | 2.4 million cubic metres | **4.35 million cubic metres** |
| Water Supply | Groundwater bores | Groundwater bores |
| Power Generation | Mobile generators | Mobile generators |
| Sewerage | Biological treatment units | Biological treatment units |

Note: Text in bold in the key characteristics table, indicates change/s to the proposal.

**List of Figures:**
Figure 3: Coyote Stage 2 Updated Mine Layout

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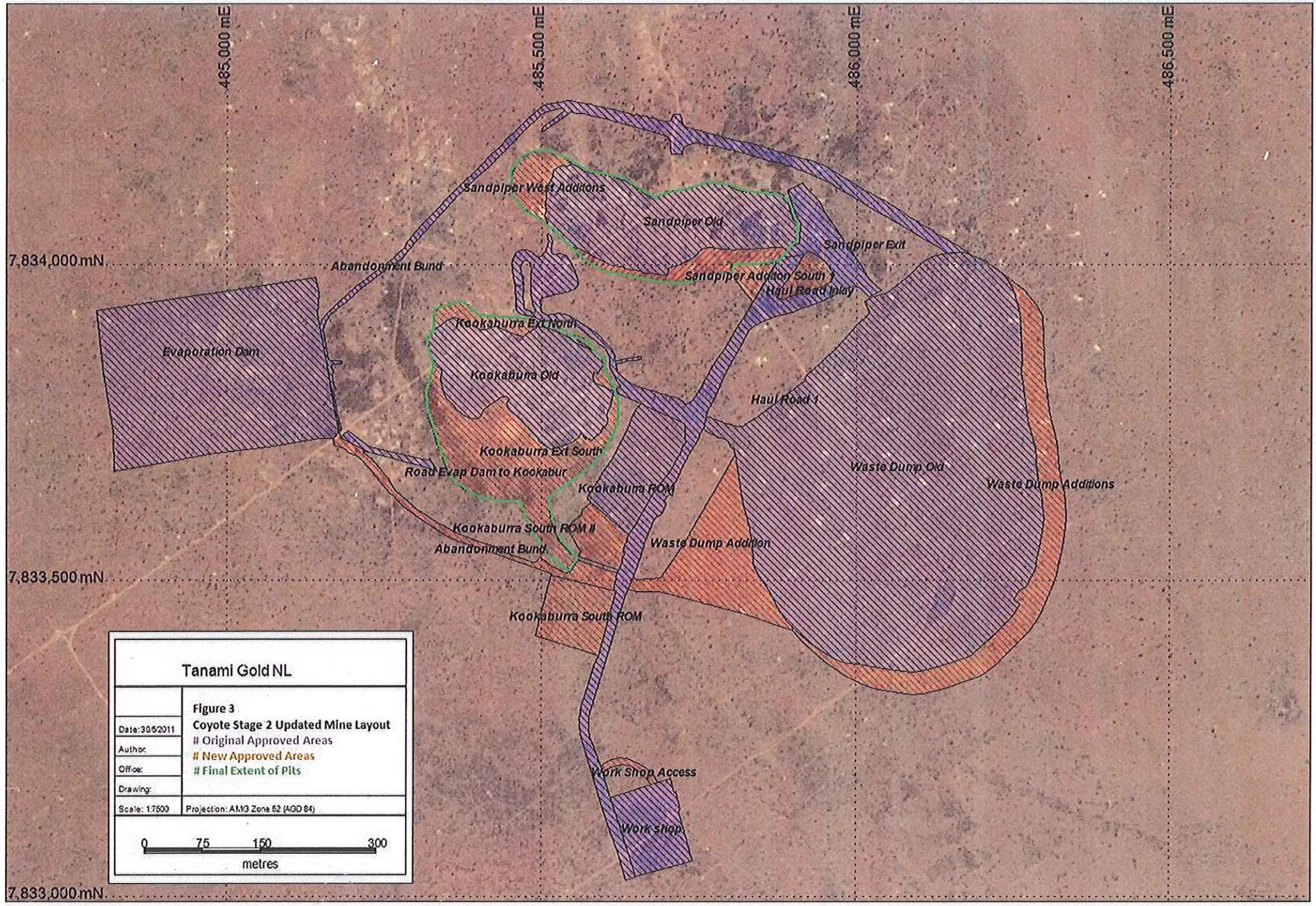
**Dr Paul Vogel**
CHAIRMAN
Environmental Protection Authority
under delegated authority
Approval date: 28 September 2011


485,000 mE
485,500 mE
486,000 mE
486,500 mE
7,834,000 mN
7,833,500 mN
7,833,000 mN
Sandpiper West Additions
Sandpiper Old
Sandpiper Exit
Abandonment Bund
Sandpiper Addition South 1
Haul Road Inlay
Kookaburra Ext North
Evaporation Dam
Kookaburra Old
Haul Road 1
Kookaburra Ext South
Waste Dump Old
Road Evap Dam to Kookabur
Waste Dump Additions
Kookaburra ROM
Kookaburra South ROM II
Abandonment Bund
Waste Dump Addition
Kookaburra South ROM
Work Shop Access
Work Shop
Tanami Gold NL
Figure 3
Coyote Stage 2 Updated Mine Layout
# Original Approved Areas
# New Approved Areas
# Final Extent of Pits
Date: 30/5/2011
Author:
Office:
Drawing:
Scale: 1:7500
Projection: AMG Zone 52 (AGD 84)
0
75
150
300
metres

Published on: 11 July 2011 Statement No. 869

# STATEMENT TO AMEND CONDITIONS APPLYING TO A PROPOSAL (PURSUANT TO THE PROVISIONS OF SECTION 46 OF THE *ENVIRONMENTAL PROTECTION ACT 1986*)

COYOTE GOLD MINE, STAGE 2
APPROXIMATELY 280 KILOMETRES SOUTH-EAST OF HALLS CREEK, TANAMI DESERT, SHIRE OF HALLS CREEK

**Proposal:** Refer to Ministerial Statement 749

**Proponent:** Tanami Gold NL

**Proponent Address:** Level 4, 50 Colin Street WEST PERTH WA 6005

**Previous Statement Number:** Statement No. 749

**Report of the Environmental Protection Authority:** Report 1397

The implementation of the proposal to which the above reports of the Environmental Protection Authority relate is subject to the conditions and procedures contained in Ministerial Statement No. 749, as amended by the following:

## 1. Condition 5-4 replaced

Condition 5-4 of Ministerial Statement 749 is deleted and replaced with:

"5-4 The proponent shall impose speed limits of 80 kilometres per hour for all vehicles on the haul road, or at lesser speeds as required to ensure effective project safety."

[signed 6 July 2011]

**HON BILL MARMION MLA**
**MINISTER FOR ENVIRONMENT; WATER**

GOVERNMENT OF WESTERN AUSTRALIA

# Environmental Protection Authority

The Atrium,
Level 8, 168 St Georges Terrace,
Perth, Western Australia 6000.
Telephone: (08) 6467 5000.
Facsimile: (08) 6467 5557.

Postal Address: Locked Bag 33,
Cloisters Square, Perth, Western Australia 6850.
Website: www.epa.wa.gov.au

Mr Andrew Czerw
General Manager
Tanami Gold NL
Level 4, 50 Colin Street
**WEST PERTH WA 6005**

*Our Ref:* AA549722/OEPA2012/000626
*Enquiries:* Euan Sutherland (6467 5511)
*Email:* euan.sutherland@epa.wa.gov.au

**Attention: Ms Alicia Graham**

Dear Mr Czerw

**COYOTE GOLD MINE – STAGE 2 PROJECT (MINISTERIAL STATEMENT 749) – SECTION 45C APPLICATION**

Thank you for your letter of 24 September requesting approval of a change to the above proposal under section 45C of the *Environmental Protection Act 1986*.

Under section 45C of the *Environmental Protection Act 1986* I am able to approve a change or changes to a proposal without a revised proposal being submitted to the Environmental Protection Authority.

I consider that the changes described in Attachment 2 to Ministerial Statement 749 will not result in a significant, detrimental, environmental effect in addition to, or different from, the effect of the original proposal.

Approval of the changes to the proposal is therefore granted under section 45C of the *Environmental Protection Act 1986*. You are reminded that this approval shall be implemented in accordance with the implementation conditions in Ministerial Statement 749, and also that this approval does not replace any responsibilities you may have for seeking approvals from other government agencies to implement the change.

Yours sincerely

**Dr Paul Vogel**
CHAIRMAN

1 November 2012

Encl.

Attachment 2 to Ministerial Statement 749

Change to Proposal under section 45C of the
*Environmental Protection Act 1986*

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**Proposal:** Coyote Gold Mine – Stage 2 Project

**Proponent:** Tanami Gold NL

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**Change:** Development of Osprey Satellite Pit

**Key Characteristics Table:**

| Element | Description of proposal | Description of approved change to proposal |
|---|---|---|
| Life of Project | 24 months | **25 months** |
| Total amount of ore mined | Approximately 495,000 tonnes | **Approximately 515,000 tonnes** |
| Pit Area | Sandpiper – approximately 6.1 hectares<br>Kookaburra – approximately 7.3 hectares | Sandpiper – approximately 6.1 hectares<br>Kookaburra – approximately 7.3 hectares<br>**Osprey - approximately 0.43 hectares** |
| Final Depth | Sandpiper – approximately 50 metres<br>Kookaburra – approximately 95 metres | Sandpiper – approximately 50 metres<br>Kookaburra – approximately 95 metres<br>**Osprey – Approximately 9 metres** |
| Depth to Water Table | 19-20 metres | 19-20 metres |
| Pit Dewatering | 1600 kilolitres per day | 1600 kilolitres per day |
| Total Area of Disturbance | Not more than 120 hectares | Not more than 120 hectares |
| Total Area Rehabilitated | Total area of disturbance less the pit area for Sandpiper and Kookaburra | Total area of disturbance less the pit area for Sandpiper and Kookaburra |
| Solid Waste Rock Materials | 4.35 million cubic metres | 4.35 million cubic metres |
| Water Supply | Groundwater bores | **Existing Open Pits** |
| Power Generation | Mobile generators | Mobile generators |
| Sewerage | Biological treatment units | Biological treatment units |

Note: Text in **bold** in the Key Characteristics Table, indicates change/s to the proposal.

**List of Figures:** Figure 4: Layout of Osprey Satellite Pit

**Dr Paul Vogel**
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 1.11.12

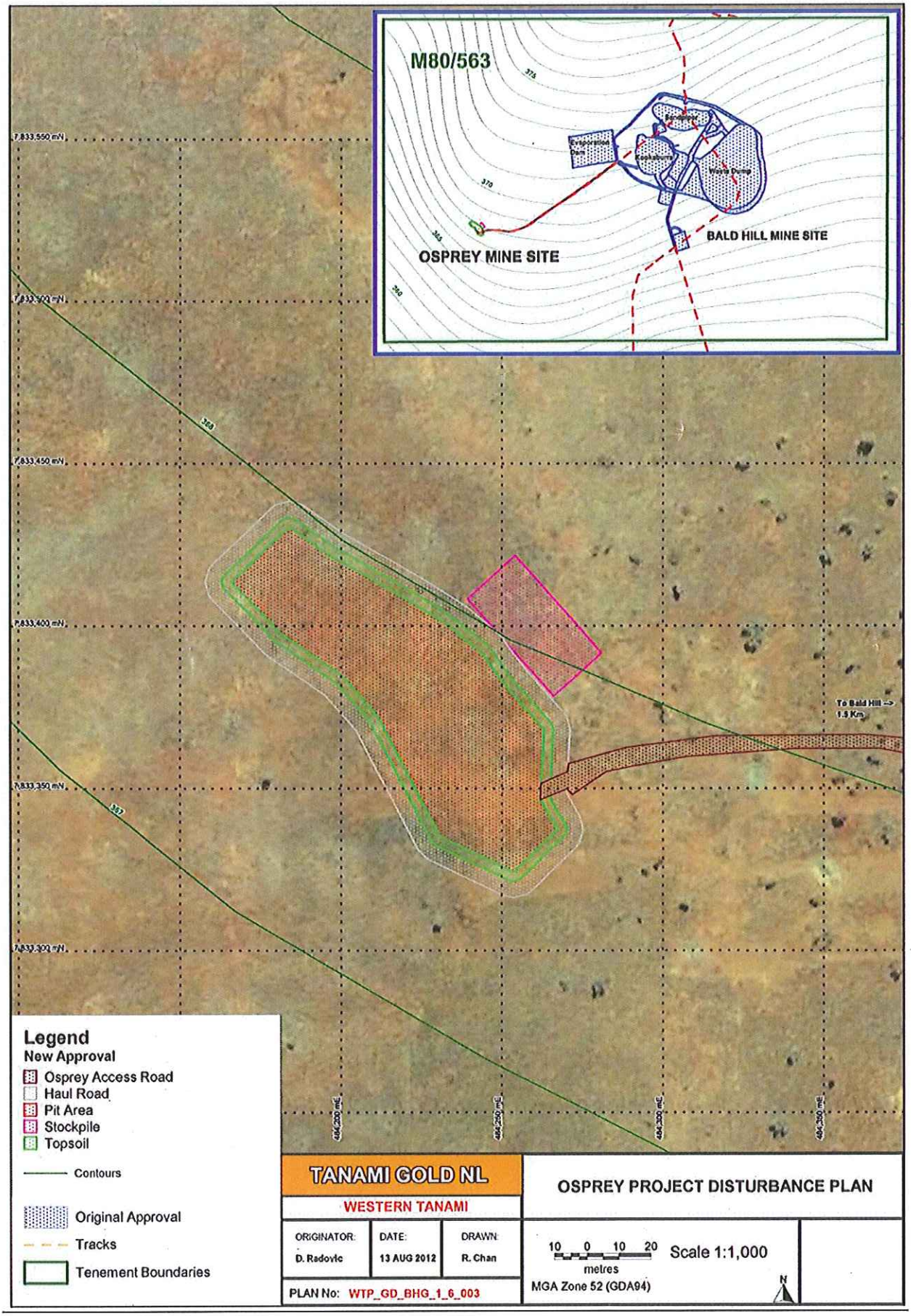



**Figure 4 – Proposed layout for Osprey Pit**

# Appendix B

# 2012 Wildlife Mortality Report

TANAMI GOLD NL

# Annual Wildlife Mortality Report

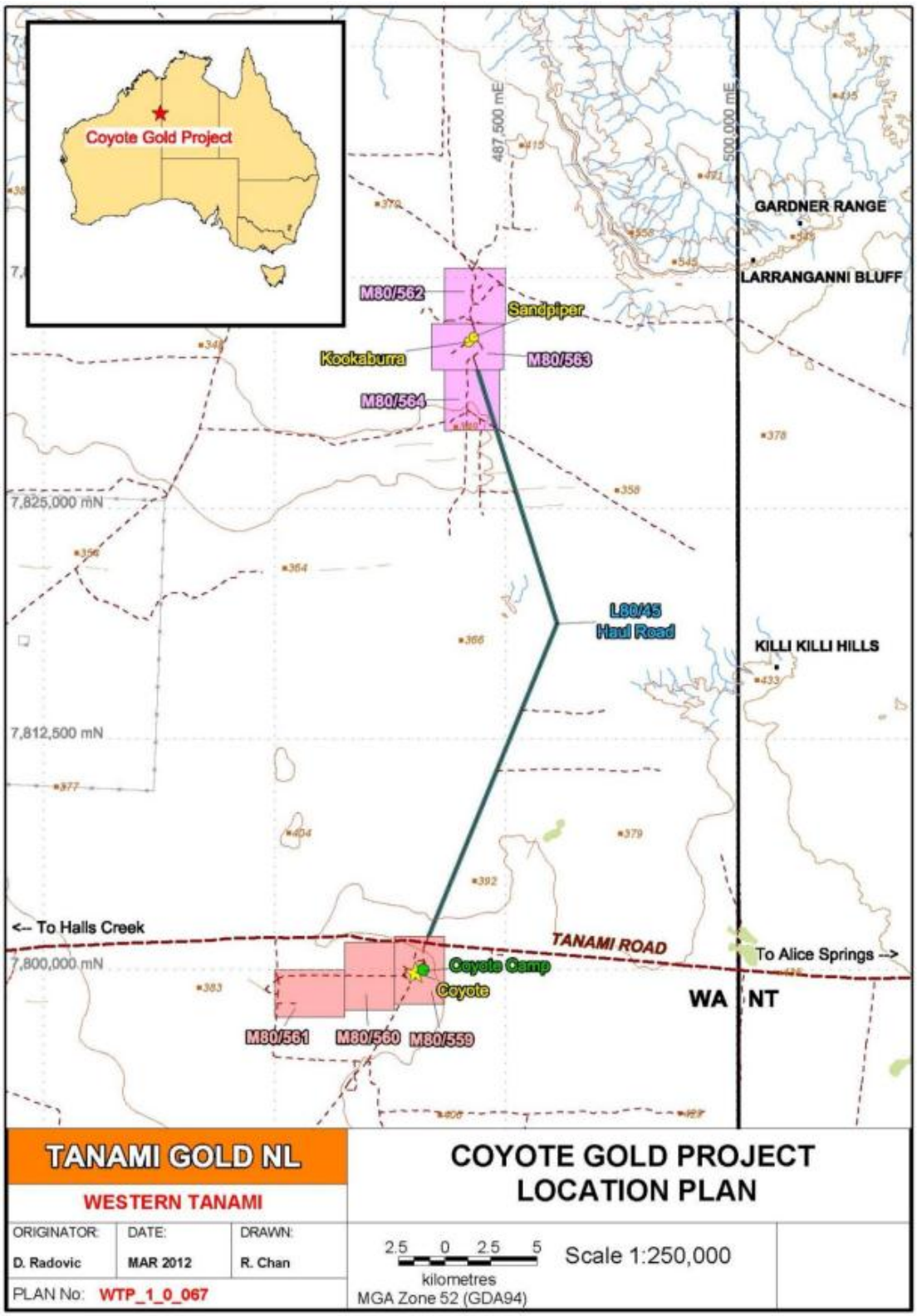
## *Western Tanami Operations:*
## *2 March 2012 to 1 March 2013*

## April 2013

# Introduction

Tanami Gold NL (TGNL) is committed to reporting wildlife mortalities under Ministerial Statement No. 749, for its Stage 2 satellite operations in the Tanami Desert. The conditions relate to tenements M80/563, M80/564 and L80/45. **Figure 1** provides the location of these tenements. The scope of this report covers a 12 month period from 2nd March 2012 to the 1st March 2013 that corresponds to the Annual Environmental Report (distributed to; OEPA, DEC, DMP and KLC).

**Figure 1 Location Map**

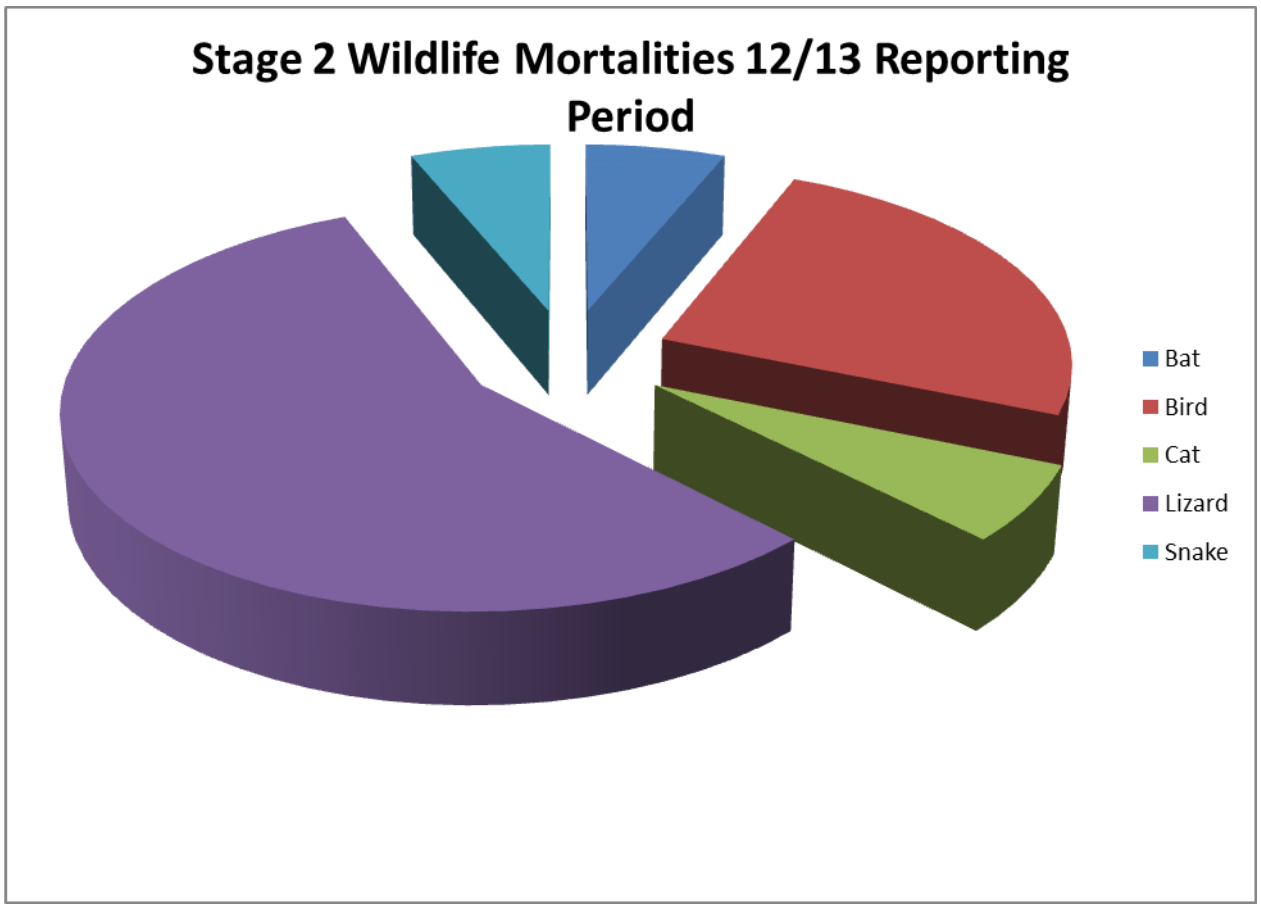


## Discussion

A total of 16 deaths were reported across the Stage 2 related to the Ministerial Statement 749. 12 occurred on the haul road connecting the Stage 1 and Stage 2 operations, the remaining 4 were observed at the Bald Hill mine site. The previous reporting period there was 81 wildlife mortalities reported. There was no mortalities of significant species (CALM Classification) recorded over the period. The breakdown of the wildlife mortalities is provided in the **Figure 2**.

The mortality numbers reported from the previous period have declined significantly due to the suspension of operations at the Kookaburra and Sandpiper deposits in December 2011. Throughout the current period the only operations at the site was rehabilitation works in May 2012 and Mining of the Osprey satellite deposit in November 2012.

**Figure 2 Break-down of Mortalities by Species**




The pie graph above indicates that the majority of mortalities from the operation are lizards. Birds represent the next largest group of mortalities. The species which recorded the highest mortality rate was sand monitors. This was the same trend as the previous period however on a much smaller scale.

TGNL undertook daily surveys in addition to the data compiled from employees mortality reporting. When mortality was reported the environmental staff would travel to the location, take a GPS reading and a photo. This has greatly increased the volume and quality of data collected. To remove the risk of follow up injury to scavengers the carcasses were removed from the road.

The majority of mortalities occurred in November 2012 and can be attributed to a fire in the area with populations on the move at the time that interacted with vehicle traffic that was present. In the future it would be beneficial to limit vehicle traffic when there are fires in close proximity to the haul road.

As per the Ministerial Condition 5-3 a monthly fauna mortality report was submitted to the compliance branch of the OEPA. A copy of these reports can be found in **Appendix A**. In the past period there was a non-compliance with the submittal of monthly report which was resolved with the department in June 2012, a standardise format and reporting timeframe was mutually agreed upon. Reports were to be on a template and issued to the compliance branch of the OEPA by the 5 day of the following month. TGNL have supplied all monthly fauna mortality reports since the issue was resolved. There were no prior fauna deaths recorded throughout the period.

Since June 2011 under a Section 46 amendment the speed limit for the entire road is now 80km/h. The previous 40km zones through significant mulgara areas were abolished. The pre operational baseline surveys conducted in 2004 and 2005 map is provided in Figure 4. The MGA easting lines between 7,825,000N and 7,830,000N are the areas of known Mulgara occurrences. The same area of interest in Figure 3 shows that no mortalities were observed in this significant area. Due to the small low number of mortalities it is not possible to disseminate any further trends.

It is TGNL policy to record wildlife sightings and information such as forms and a wildlife handbook is distributed to employees during the induction process, this includes pictures and description of significant species in the region. The reporting obligations of all employees and contractors are also made clear during the site induction. This has proved successful in collection of data and general awareness of wildlife and their significance. It is further reinforced that the conservation of wildlife on TGNL's tenements is of paramount importance and the death of any species must be reported. 106 wildlife sighting forms were filled out during the period for the Stage 1 and Stage 2 operations; this was a large increase on the previous reporting year in which only 60 sightings were formally reported.

The majority of sightings across all operational (not all subject to Ministerial Statement 749) were bird and dog sightings. The most significant species sighted was one Bilby a (Schedule 1) species south of Coyote, a Peregrine Falcon (Schedule 4), 3 Major Mitchell Cockatoo (Schedule 4) sightings and 7 sightings of Australian Bustard (Priority 4). There was a single sighting of a Bush Stone Curlew (Priority 4).

Over the period over the Western Tanami Project area there was 52 animal mortalities recorded on the Stage 1 and Stage 2 sites combined, please note that Stage 1 mortalities are exempt for this report but displayed to demonstrate the effectiveness of the wildlife reporting program across the site. On the Stage 1 site the majority of mortalities were bird species whereas mentioned above on the Stage 2 site and haul road the most common mortality was that of was lizards.

Three animals were relocated during the period including; 1 King Brown Snake, 1 Black Shoulder Kite and 2 Black Swans. The birds were nursed back to help after being found exhausted in the pit at Coyote.

**Figure 3: Locations of Mortalities**

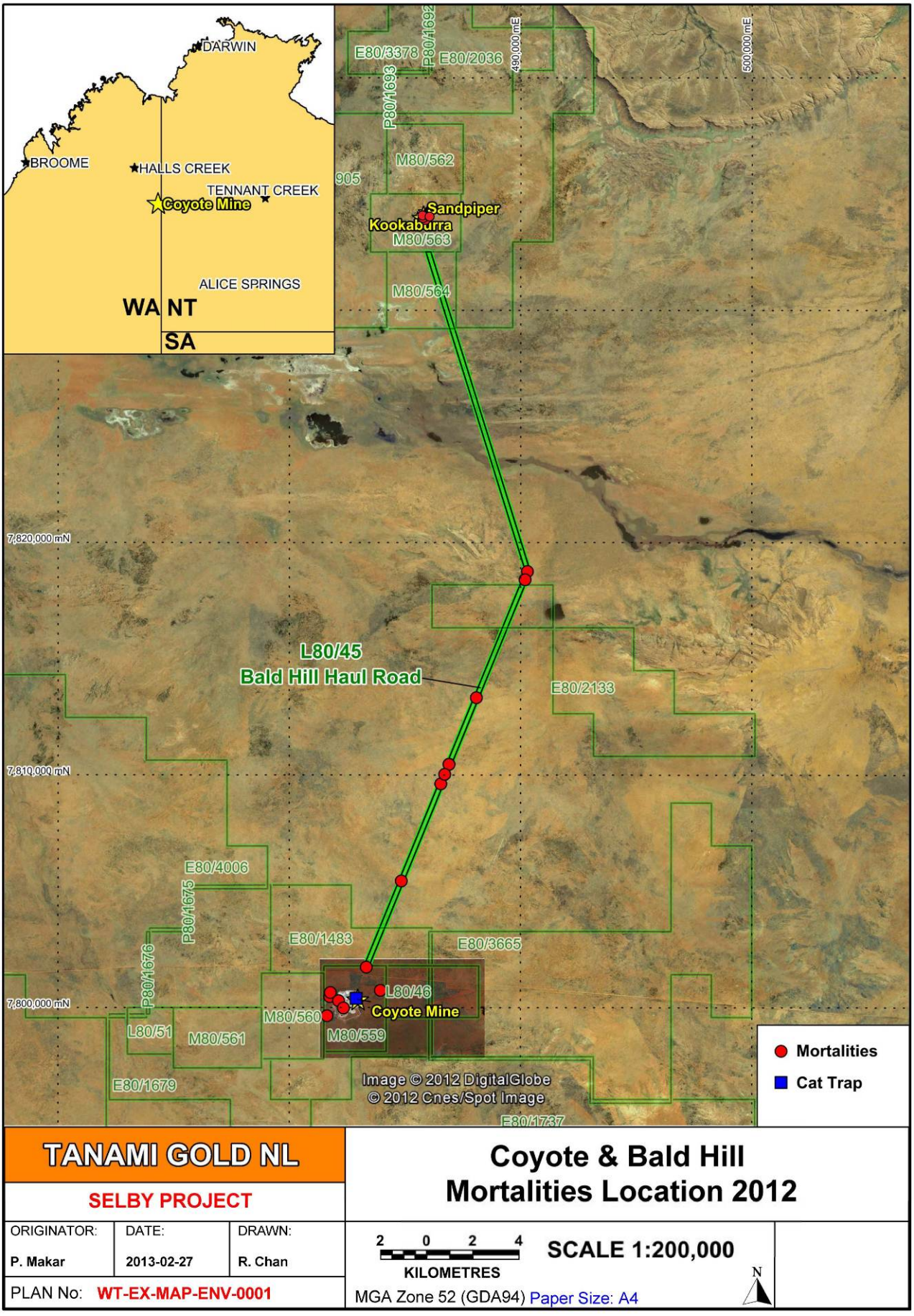
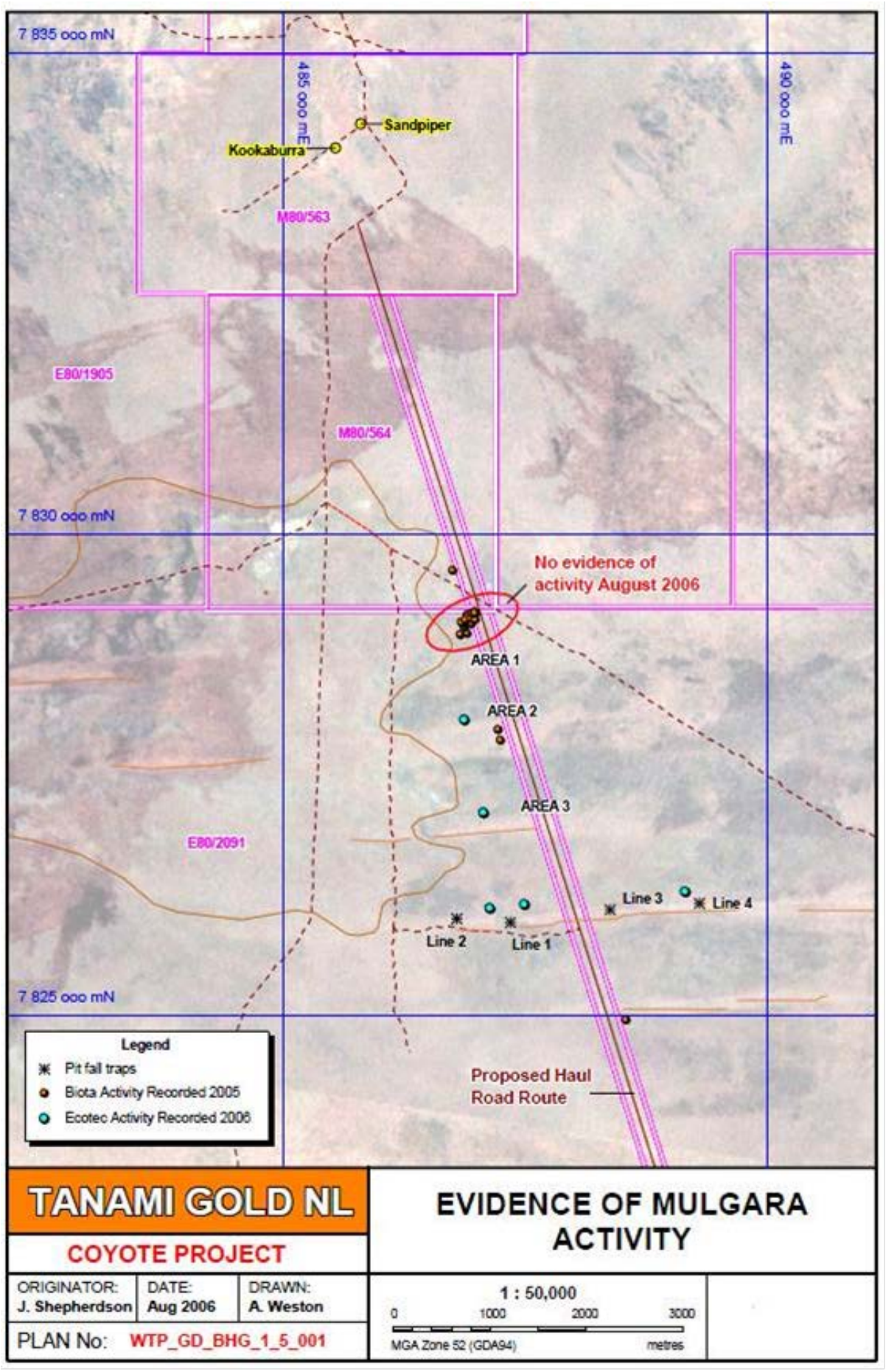


**Figure 4: Mulgara Baseline Surveys**



## Table 1: Mortality Information

| Date | Time | Class | CALM Conserv. Level | Speed Km/hr | Species | Number | Location | Aus Geo 84 | GDA Easting | GDA Northing | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/05/2012 | | Snake | n/a | | Baby Western Brown | | Site | | | | Found in the fuel bund at bald hill. |
| 5/05/2012 | | Bird | n/a | | Female Diamond Dove | | Site | | | | Found in the fuel bund at bald hill. |
| 20/05/2012 | 13.00 | Lizard | n/a | | Ridge-tailed Monitor | | Site | | 485323 | 7833462 | While rehabing green bags Monitor was squashed ATRC0008 |
| 27/05/2012 | | Bird | n/a | | Yellow Throated Minor | | Haul Road | | 483820 | 7802960 | |
| 28/05/2012 | 8.00 | Cat | n/a | | Cat | | Haul Road | | 490053 | 7818126 | (GPS point347) Found dead on the side of the road approx. 10km from Coyote |
| 1/08/2012 | 10.00 | Bat | n/a | | Finlaysons Cave Bat- *Vespadelus finlaysoni* | 1 | Bald hill office | | | | Possible- It was found dead in the bald hill offices |
| 17/10/2012 | 15.29 | Lizard | n/a | | Centralian Sand Monitor | 1 | Haul Road | 52K | 490289 | 7818762 | found on daily inspection |
| 3/11/2012 | 10.00 | Lizard | n/a | | Sand Monitor | 1 | Haul Road | 52K | 486905 | 7810471 | Run over by truck- fire in area |
| 3/11/2012 | 10.00 | Lizard | n/a | | Burtons Legless Lizard | 1 | Haul Road | 52K | 486902 | 7810464 | Run over by truck- fire in area |
| 3/11/2012 | 10.10 | Lizard | n/a | | Unidentified | 1 | Haul Road | 52K | 486901 | 7810457 | Run over by truck- fire in area |
| 3/11/2012 | 10.26 | Lizard | n/a | | Skink | 1 | Haul Road | 52K | 488088 | 7813334 | Run over by truck- fire in area |
| 4/11/2012 | 6.45 | Lizard | n/a | | Skink | 1 | Haul Road | 52K | 486554 | 7809617 | Run over by truck- fire in area |
| 4/11/2012 | 7.15 | Bird | n/a | | Red Bird- possible mistletoe | 1 | Haul Road | 52K | 490190 | 7818405 | hit by vehicle/ truck |
| 8/11/2012 | 14.30 | Lizard | n/a | | Sand Monitor | 1 | Haul Road | 52K | 484842 | 7805445 | Run over by truck |
| 8/11/2012 | 14.50 | Lizard | n/a | | Sand Monitor | 1 | Haul Road | 52K | 486720 | 7810033 | Run over by truck |
| 18/11/2012 | 9.00 | Bird | n/a | | Brown Falcon | 1 | Haul Road | 52K | 483330 | 7801747 | Run over by truck |

## Photographs

Mistletoe 04/11/2012

Legless Lizard 3/11/2013

Unidentified Lizard 03/11/2013

Sand Monitor 8/11/2012

Skink 03/11/2012

Skink 03/11/2012

Brown Falcon 18/11/2012

## Conclusion

The biggest contribution to wildlife mortalities from the TGNL Stage 2 mining operation was observed from the use of the haul road connecting the Bald Hill (Stage 2) satellite operations. The wildlife impacted upon most was lizards, with sand monitors being the most prominent species. Avian fauna also recorded several mortalities from vehicular traffic. The number of mortalities has reduced significantly since the previous reporting period due to the reduction of operational activity.

The significant findings from this annual report are no CALM listed Priority species suffered mortality on the Stage 2 tenements over the period. To reinforce the reporting requirements across the workforce, all staff are educated and information is distributed to employees on significant species. Environmental staff have conducted daily haul road surveys when the haulage trucks are operational, this measure is to ensure impacts are being recorded and minimised.

Over the period the were three monthly wildlife reports missed (March, April, May) at the beginning of the period due to resolving non-compliances with the previous period, these matters were resolved between TGNL and the OEPA in June when the compliance report from the previous quarter was reviewed.

No Mulgara were sighted or observed to suffered mortality due to the mining and haulage operations related to the Coyote Stage 2 satellite operation. The increase in the 40km speed limit to 80km through known Mulgara habitat has not resulted in observed mortalities to those populations.

# Appendix A

# Monthly Priority Fauna Reports

# March 2012 to February 2013

| | |
|---|---|
| **From:** | Alicia Graham |
| **To:** | hugh.lance@epa.wa.gov.au |
| **Cc:** | Daniel Radovic |
| **Subject:** | Monthly Fauna Injury and Mortality Report for Coyote Stage 2 - June 2012 |
| **Date:** | Friday, 6 July 2012 3:23:00 PM |
| **Attachments:** | image002.gif |

Dear Hugh

As required by Condition 5-3 of the Ministerial Statement 749 for Coyote Stage 2, I confirm that there were **NIL** fauna injuries or mortalities for the month of June 2012.

Further to our telephone discussion this afternoon, I advise that the Tanami Environmental Department is currently developing a standard Monthly Reporting Form for Fauna Injury and Mortality to meet with the requirements of Condition 5-3.

This form will report to the 30/31st of each month and will be submitted to the EPA within 5 days of the beginning of each month.

The form will also be included in our Standard Operating Procedures.

Regards
Alicia

**Alicia Graham**

Land Manager WA

**Tanami Gold NL**

Level 4, 50 Colin Street West Perth, Western Australia 6005
PO Box 1892, West Perth, Western Australia 6872

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**M** +61 0417 092 447 | **E** alicia.graham@tanami.com.au

**W** www.tanami.com.au

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **August** | **Date submitted:** | **29-08-12** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Track Sticks on haul trucks to track speeds.
- Speed limit set at a maximum of 80Km/hr.
- Digital Radios fitted to some light vehicles, which will enable the GPS tracking of light vehicles speed and location. In time TGNL will fit this technology to its entire fleet.

**Comments:**

- No haulage or mining was conducted over the period.
- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **September 2012** | **Date submitted:** | **1 October 2012** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | | | |

**Management actions to mitigate deaths and injuries:**

- Track Sticks on haul trucks to track speeds.
- Speed limit set at a maximum of 80Km/hr.

**Comments:**

- No haulage or mining was conducted over the period.
- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- TGNL plan to commence haulage activities in October

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **October** | **Date submitted:** | **1/11/12** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Track Sticks on haul trucks to track speeds.
- Speed limit set at a maximum of 80Km/hr.
- Digital Radios fitted to some light vehicles, which will enable the GPS tracking of light vehicles speed and location. In time TGNL will fit this technology to its entire fleet.

**Comments:**

- Haulage Commenced this month.
- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **November** | **Date submitted:** | **4/12/12** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Digital Radios fitted to Haul trucks to ensure continues data monitoring

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **December** | **Date submitted:** | **2/01/13** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- Haulage stopped on 11th Dec 2012.

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **January** | **Date submitted:** | **1/02/2013** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- No Hauling took place in the month of January.

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **February** | **Date submitted:** | **1/03/2013** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- No Hauling took place in the month of February.

# Appendix C

# GPS Logging Data Report

**Haul Truck Monitoring Report.**

The days on which the haulage operation was undertaken is provided in Table 1. Please note that operations were only conducted between October and December. Speeding infringements are displayed in Table 2, the gps location information in the track stick system can be recovered from the track stick file format. The entire data set that includes readings that were not incidents of speeding has also been provided in electronic copy as the data set is too large for this document.

**Table 1: Dates of ore haulage data during the current reporting period.**

| Coyote Gold Project Stage 2 ore haulage 2010/2011 | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mar-12 | | Apr-12 | | May-12 | | Jun-12 | | Jul-12 | | Aug-12 | | Sep-12 | | Oct-12 | | Nov-12 | | Dec-12 | | Jan-13 | | Feb-13 | |
| Day | Trucking (Y/N) | Day | Trucking (Y/N) | Day | Trucking (Y/N) | Day | Trucking Y/N | Day | Trucking (Y/N) | Day | Trucking (Y/N) | Day | Trucking Y/N | Day | Trucking (Y/N) | Day | Trucking (Y/N) | Day | Trucking Y/N | Day | Trucking (Y/N) | Day | Trucking (Y/N) |
| 1 | N | 1 | N | 1 | N | 1 | N | 1 | N | 1 | N | 1 | N | 1 | N | 1 | Y | 1 | Y | 1 | N | 1 | N |
| 2 | N | 2 | N | 2 | N | 2 | N | 2 | N | 2 | N | 2 | N | 2 | N | 2 | Y | 2 | Y | 2 | N | 2 | N |
| 3 | N | 3 | N | 3 | N | 3 | N | 3 | N | 3 | N | 3 | N | 3 | N | 3 | Y | 3 | Y | 3 | N | 3 | N |
| 4 | N | 4 | N | 4 | N | 4 | N | 4 | N | 4 | N | 4 | N | 4 | N | 4 | Y | 4 | Y | 4 | N | 4 | N |
| 5 | N | 5 | N | 5 | N | 5 | N | 5 | N | 5 | N | 5 | N | 5 | N | 5 | Y | 5 | Y | 5 | N | 5 | N |
| 6 | N | 6 | N | 6 | N | 6 | N | 6 | N | 6 | N | 6 | N | 6 | N | 6 | N | 6 | Y | 6 | N | 6 | N |
| 7 | N | 7 | N | 7 | N | 7 | N | 7 | N | 7 | N | 7 | N | 7 | N | 7 | Y | 7 | Y | 7 | N | 7 | N |
| 8 | N | 8 | N | 8 | N | 8 | N | 8 | N | 8 | N | 8 | N | 8 | N | 8 | Y | 8 | Y | 8 | N | 8 | N |
| 9 | N | 9 | N | 9 | N | 9 | N | 9 | N | 9 | N | 9 | N | 9 | Y | 9 | Y | 9 | Y | 9 | N | 9 | N |
| 10 | N | 10 | N | 10 | N | 10 | N | 10 | N | 10 | N | 10 | N | 10 | Y | 10 | Y | 10 | Y | 10 | N | 10 | N |
| 11 | N | 11 | N | 11 | N | 11 | N | 11 | N | 11 | N | 11 | N | 11 | Y | 11 | N | 11 | Y | 11 | N | 11 | N |
| 12 | N | 12 | N | 12 | N | 12 | N | 12 | N | 12 | N | 12 | N | 12 | Y | 12 | Y | 12 | Y | 12 | N | 12 | N |
| 13 | N | 13 | N | 13 | N | 13 | N | 13 | N | 13 | N | 13 | N | 13 | Y | 13 | Y | 13 | Y | 13 | N | 13 | N |
| 14 | N | 14 | N | 14 | N | 14 | N | 14 | N | 14 | N | 14 | N | 14 | N | 14 | Y | 14 | Y | 14 | N | 14 | N |
| 15 | N | 15 | N | 15 | N | 15 | N | 15 | N | 15 | N | 15 | N | 15 | Y | 15 | Y | 15 | Y | 15 | N | 15 | N |
| 16 | N | 16 | N | 16 | N | 16 | N | 16 | N | 16 | N | 16 | N | 16 | Y | 16 | Y | 16 | Y | 16 | N | 16 | N |
| 17 | N | 17 | N | 17 | N | 17 | N | 17 | N | 17 | N | 17 | N | 17 | Y | 17 | Y | 17 | Y | 17 | N | 17 | N |
| 18 | N | 18 | N | 18 | N | 18 | N | 18 | N | 18 | N | 18 | N | 18 | Y | 18 | Y | 18 | N | 18 | N | 18 | N |
| 19 | N | 19 | N | 19 | N | 19 | N | 19 | N | 19 | N | 19 | N | 19 | Y | 19 | Y | 19 | N | 19 | N | 19 | N |
| 20 | N | 20 | N | 20 | N | 20 | N | 20 | N | 20 | N | 20 | N | 20 | Y | 20 | Y | 20 | N | 20 | N | 20 | N |
| 21 | N | 21 | N | 21 | N | 21 | N | 21 | N | 21 | N | 21 | N | 21 | Y | 21 | Y | 21 | N | 21 | N | 21 | N |
| 22 | N | 22 | N | 22 | N | 22 | N | 22 | N | 22 | N | 22 | N | 22 | Y | 22 | Y | 22 | N | 22 | N | 22 | N |
| 23 | N | 23 | N | 23 | N | 23 | N | 23 | N | 23 | N | 23 | N | 23 | Y | 23 | Y | 23 | N | 23 | N | 23 | N |
| 24 | N | 24 | N | 24 | N | 24 | N | 24 | N | 24 | N | 24 | N | 24 | N | 24 | Y | 24 | N | 24 | N | 24 | N |
| 25 | N | 25 | N | 25 | N | 25 | N | 25 | N | 25 | N | 25 | N | 25 | N | 25 | Y | 25 | N | 25 | N | 25 | N |
| 26 | N | 26 | N | 26 | N | 26 | N | 26 | N | 26 | N | 26 | N | 26 | Y | 26 | Y | 26 | N | 26 | N | 26 | N |
| 27 | N | 27 | N | 27 | N | 27 | N | 27 | N | 27 | N | 27 | N | 27 | Y | 27 | Y | 27 | N | 27 | N | 27 | N |
| 28 | N | 28 | N | 28 | N | 28 | N | 28 | N | 28 | N | 28 | N | 28 | N | 28 | Y | 28 | N | 28 | N | 28 | N |
| 29 | N | 29 | N | 29 | N | 29 | N | 29 | N | 29 | N | 29 | N | 29 | Y | 29 | Y | 29 | N | 29 | N | M 1 | N |
| 30 | N | 30 | N | 30 | N | 30 | N | 30 | N | 30 | N | 30 | N | 30 | Y | 30 | Y | 30 | N | 30 | N | | |
| 31 | N | | | 31 | N | | | 31 | N | 31 | N | | | 31 | Y | | | 31 | | 31 | N | | |

**Table 2: Speed Infringements of Haul Trucks during the Reporting Period**

| TRACK STICK MONITORING SYSTEM | | | | | |
|---|---|---|---|---|---|
| **Track stick 1- Date** | **Time commenced (24hr)** | **Time ended (24hr)** | **Median (km/h)** | **Average (km/h)** | **High (km/h)** |
| 11/10/12 | 12.26 | 12.26 | 82 | 82.67 | 84 |
| 17/10/12 | 7.31 | 7.31 | 81 | 81 | 81 |
| 17/10/12 | 8.17 | 8.17 | 82 | 81.67 | 82 |
| 20/10/12 | 14.06 | 14.06 | 81.5 | 81.5 | 82 |
| 21/10/12 | 9.04 | 9.04 | 81 | 81 | 81 |
| 23/10/12 | 11.58 | 11.58 | 81 | 81 | 81 |
| 23/10/12 | 13.13 | 13.13 | 81 | 81 | 81 |
| 23/10/12 | 13.24 | 13.27 | 81 | 81 | 81 |
| 23/10/12 | 15.07 | 15.14 | 81 | 81.3 | 82 |
| 23/10/12 | 15.18 | 15.18 | 81 | 81 | 81 |
| 26/10/12 | 6.22 | 6.26 | 82 | 81.9 | 83 |
| 26/10/12 | 10.05 | 10.26 | 81 | 81.02 | 82 |
| 26/10/12 | 10.54 | 11.18 | 81 | 81.12 | 87 |
| 26/10/12 | 11.41 | 12.04 | 81 | 81.03 | 82 |
| 30/10/12 | 12.56 | 12.56 | 81 | 81 | 81 |
| 1/11/12 | 11.15 | 11.15 | 81 | 81 | 81 |
| **Track stick 2- Date** | **Time commenced (24hr)** | **Time ended (24hr)** | **Median (km/h)** | **Average (km/h)** | **High (km/h)** |
| 10/10/12 | 5.48 | 6.11 | 86 | 85.48 | 90 |
| 10/10/12 | 6.38 | 6.30 | 81 | 81 | 81 |
| 10/10/12 | 6.44 | 6.44 | 81 | 81 | 81 |
| 10/10/12 | 7.00 | 7.01 | 81 | 81 | 81 |
| 10/10/12 | 7.15 | 7.26 | 85 | 84.88 | 89 |
| 10/10/12 | 7.31 | 7.39 | 86 | 85.30 | 89 |
| 10/10/12 | 8.09 | 8.16 | 81 | 81.2 | 83 |
| 10/10/12 | 8.25 | 8.25 | 81 | 81 | 81 |
| 10/10/12 | 8.28 | 8.31 | 81 | 81.09 | 82 |
| 10/10/12 | 8.46 | 9.08 | 81 | 81.42 | 83 |
| 10/10/12 | 11.01 | 11.01 | 81 | 81 | 81 |
| 10/10/12 | 13.46 | 13.52 | 81 | 81.09 | 82 |
| 10/10/12 | 14.08 | 14.09 | 81 | 81 | 81 |
| 10/10/12 | 15.06 | 15.06 | 81 | 81 | 81 |
| 10/10/12 | 15.08 | 15.08 | 81 | 81 | 81 |
| 10/10/12 | 15.19 | 15.19 | 81 | 81 | 81 |
| 10/10/12 | 15.25 | 15.27 | 81 | 81.25 | 82 |
| 10/10/12 | 15.40 | 16.04 | 81 | 81.05 | 83 |
| 10/10/12 | 17.20 | 17.24 | 81 | 81.17 | 82 |
| 11/10/12 | 6.31 | 6.43 | 81 | 81.16 | 83 |
| 11/10/12 | 7.31 | 7.31 | 81 | 81 | 81 |
| 11/10/12 | 7.43 | 7.50 | 81 | 81.45 | 83 |
| 11/10/12 | 8.06 | 8.27 | 81 | 81.09 | 82 |
| 11/10/12 | 9.09 | 9.13 | 81 | 81 | 81 |
| 11/10/12 | 9.28 | 9.46 | 81 | 81.04 | 82 |
| 11/10/12 | 11.20 | 11.24 | 81 | 81.18 | 82 |
| 11/10/12 | 11.39 | 12.00 | 82 | 81.63 | 83 |
| 11/10/12 | 12.45 | 12.51 | 81 | 81 | 81 |
| 11/10/12 | 13.08 | 13.30 | 81 | 80.25 | 83 |
| 11/10/12 | 14.00 | 14.00 | 81 | 81 | 81 |
| 11/10/12 | 15.00 | 15.00 | 81 | 81 | 81 |
| 11/10/12 | 17.53 | 17.53 | 81 | 81 | 81 |
| 26/10/12 | 15.11 | 15.11 | 81.5 | 81.5 | 82 |
| 26/10/12 | 16.39 | 16.39 | 83 | 83 | 84 |
| 31/10/12 | 13.12 | 13.12 | 81 | 81 | 81 |
| 3/11/12 | 11.02 | 11.02 | 81 | 81 | 81 |
| 3/11/12 | 11.19 | 11.19 | 81 | 81 | 81 |

| 3/11/12 | 13.10 | 13.10 | 81 | 81 | 81 |
|---|---|---|---|---|---|
| 21/11/2012 07:11:46 AM | | | | | 80 |
| 22/11/2012 06:53:15 PM | | | | | 80 |
| **TURBO TRACK MONITORING SYSTEM** | | | | | |
| DATE/TIME | LAT | LONG | ELEVATION | TEMP | SPEED |
| 10/11/2012 6:31 | -19.739073 | 128.902155 | 391.7 m | 29.9°C | 81 |
| 10/11/2012 6:31 | -19.737747 | 128.90274 | 390.2 m | 29.9°C | 81 |
| 10/11/2012 6:31 | -19.736425 | 128.90332 | 388.1 m | 29.9°C | 81 |
| 10/11/2012 6:31 | -19.735115 | 128.903887 | 387.0 m | 30.0°C | 81 |
| 10/11/2012 6:31 | -19.732513 | 128.905053 | 386.2 m | 30.1°C | 81 |
| 10/11/2012 6:32 | -19.729915 | 128.906198 | 387.0 m | 30.1°C | 81 |
| 10/11/2012 6:32 | -19.728573 | 128.906755 | 384.1 m | 30.2°C | 81 |
| 10/11/2012 6:32 | -19.72724 | 128.907253 | 381.6 m | 30.3°C | 81 |
| 10/11/2012 6:32 | -19.725847 | 128.907208 | 380.7 m | 30.3°C | 81 |
| 10/11/2012 6:32 | -19.721995 | 128.90591 | 380.7 m | 30.2°C | 81 |
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| 10/11/2012 6:33 | -19.715995 | 128.903942 | 380.7 m | 30.0°C | 81 |
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| 10/11/2012 6:34 | -19.702317 | 128.899333 | 380.7 m | 29.7°C | 81 |
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| 10/11/2012 6:34 | -19.698253 | 128.898002 | 380.7 m | 29.6°C | 81 |
| 10/11/2012 6:35 | -19.6969 | 128.89754 | 380.7 m | 29.5°C | 81 |
| 10/11/2012 6:35 | -19.695547 | 128.89709 | 380.7 m | 29.4°C | 81 |
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| 10/11/2012 6:35 | -19.690158 | 128.895365 | 380.7 m | 29.2°C | 81 |
| 10/11/2012 6:35 | -19.686092 | 128.893992 | 380.7 m | 29.2°C | 81 |
| 10/11/2012 6:36 | -19.684715 | 128.893547 | 380.7 m | 29.1°C | 81 |
| 10/11/2012 6:36 | -19.680647 | 128.892252 | 379.7 m | 28.9°C | 81 |
| 10/11/2012 6:36 | -19.679288 | 128.891802 | 374.6 m | 28.9°C | 81 |
| 10/11/2012 6:36 | -19.677947 | 128.891335 | 370.0 m | 28.8°C | 81 |
| 10/11/2012 6:36 | -19.675217 | 128.890402 | 360.6 m | 28.7°C | 81 |
| 10/11/2012 6:37 | -19.673857 | 128.889942 | 356.5 m | 28.6°C | 81 |
| 10/11/2012 6:37 | -19.672497 | 128.889485 | 353.8 m | 28.6°C | 81 |
| 10/11/2012 6:37 | -19.671143 | 128.889025 | 352.4 m | 28.6°C | 81 |
| 10/11/2012 6:37 | -19.66845 | 128.888153 | 357.6 m | 28.5°C | 81 |
| 10/11/2012 6:37 | -19.667088 | 128.887717 | 358.2 m | 28.5°C | 81 |
| 10/11/2012 6:37 | -19.665715 | 128.88726 | 357.3 m | 28.4°C | 81 |
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| 10/11/2012 6:38 | -19.661692 | 128.885957 | 362.2 m | 28.3°C | 81 |
| 10/11/2012 6:38 | -19.656245 | 128.884148 | 356.9 m | 28.1°C | 81 |
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| 10/11/2012 6:38 | -19.653517 | 128.883252 | 355.8 m | 28.1°C | 81 |
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| 10/11/2012 6:39 | -19.645365 | 128.880567 | 350.2 m | 27.8°C | 81 |
| 10/11/2012 6:39 | -19.644013 | 128.88012 | 350.2 m | 27.8°C | 81 |
| 10/11/2012 6:39 | -19.642652 | 128.87967 | 350.2 m | 27.8°C | 81 |
| 10/11/2012 6:39 | -19.641292 | 128.879222 | 350.2 m | 27.7°C | 81 |

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| 10/11/2012 6:39 | -19.639932 | 128.878787 | 350.2 m | 27.7°C | 81 |
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| 10/11/2012 6:41 | -19.624773 | 128.873785 | 350.2 m | 27.3°C | 81 |
| 10/11/2012 6:41 | -19.623417 | 128.873338 | 350.2 m | 27.3°C | 81 |
| 10/11/2012 6:41 | -19.622055 | 128.872885 | 350.2 m | 27.2°C | 81 |
| 10/11/2012 6:41 | -19.620693 | 128.872437 | 350.2 m | 27.2°C | 81 |
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| 10/11/2012 6:43 | -19.603062 | 128.866618 | 350.2 m | 27.1°C | 81 |
| 10/11/2012 7:31 | -19.626595 | 128.874388 | 355.6 m | 27.6°C | 81 |
| 10/11/2012 7:31 | -19.627953 | 128.874862 | 357.3 m | 27.6°C | 81 |
| 10/11/2012 7:43 | -19.761708 | 128.892302 | 380.3 m | 28.3°C | 81 |
| 10/11/2012 7:44 | -19.763062 | 128.891755 | 380.4 m | 28.3°C | 81 |
| 10/11/2012 7:47 | -19.79832 | 128.876528 | 411.7 m | 27.6°C | 81 |
| 10/11/2012 7:47 | -19.802282 | 128.874777 | 405.7 m | 27.5°C | 81 |
| 10/11/2012 7:49 | -19.820385 | 128.866912 | 404.3 m | 27.1°C | 81 |
| 10/11/2012 7:50 | -19.830932 | 128.862333 | 414.7 m | 27.0°C | 81 |
| 10/11/2012 7:50 | -19.834927 | 128.8606 | 412.7 m | 27.0°C | 81 |
| 10/11/2012 8:06 | -19.870742 | 128.844875 | 418.6 m | 29.6°C | 81 |
| 10/11/2012 8:18 | -19.738317 | 128.902493 | 398.1 m | 37.1°C | 81 |
| 10/11/2012 8:19 | -19.7331 | 128.904737 | 391.9 m | 37.1°C | 81 |
| 10/11/2012 8:24 | -19.67705 | 128.891102 | 370.6 m | 34.4°C | 81 |
| 10/11/2012 8:24 | -19.667712 | 128.887933 | 366.4 m | 33.8°C | 81 |
| 10/11/2012 8:25 | -19.65626 | 128.884183 | 368.3 m | 33.1°C | 81 |
| 10/11/2012 8:26 | -19.650892 | 128.882377 | 364.8 m | 32.9°C | 81 |
| 10/11/2012 8:26 | -19.648215 | 128.881452 | 357.3 m | 32.8°C | 81 |
| 10/11/2012 8:27 | -19.642833 | 128.879707 | 358.9 m | 32.5°C | 81 |
| 10/11/2012 8:27 | -19.641478 | 128.879263 | 359.2 m | 32.5°C | 81 |
| 10/11/2012 9:09 | -19.799145 | 128.875987 | 378.3 m | 29.0°C | 81 |
| 10/11/2012 9:09 | -19.80045 | 128.875408 | 378.3 m | 29.0°C | 81 |
| 10/11/2012 9:09 | -19.801743 | 128.87483 | 379.6 m | 29.0°C | 81 |
| 10/11/2012 9:10 | -19.806965 | 128.872563 | 382.6 m | 28.8°C | 81 |
| 10/11/2012 9:11 | -19.821163 | 128.86645 | 395.1 m | 28.6°C | 81 |
| 10/11/2012 9:12 | -19.832797 | 128.861408 | 402.5 m | 28.4°C | 81 |
| 10/11/2012 9:12 | -19.834137 | 128.860838 | 402.1 m | 28.2°C | 81 |
| 10/11/2012 9:12 | -19.835482 | 128.860265 | 397.8 m | 28.3°C | 81 |
| 10/11/2012 9:13 | -19.836782 | 128.859687 | 396.4 m | 28.3°C | 81 |
| 10/11/2012 9:13 | -19.838085 | 128.85911 | 396.4 m | 28.2°C | 81 |
| 10/11/2012 9:28 | -19.872322 | 128.844215 | 414.8 m | 30.5°C | 81 |
| 10/11/2012 9:28 | -19.869667 | 128.845373 | 414.4 m | 30.7°C | 81 |
| 10/11/2012 9:28 | -19.868345 | 128.845947 | 413.4 m | 30.9°C | 81 |
| 10/11/2012 9:28 | -19.86702 | 128.846535 | 411.4 m | 31.0°C | 81 |
| 10/11/2012 9:28 | -19.865703 | 128.847107 | 409.7 m | 31.0°C | 81 |
| 10/11/2012 9:28 | -19.864375 | 128.847705 | 407.0 m | 31.1°C | 81 |
| 10/11/2012 9:28 | -19.86306 | 128.848285 | 404.3 m | 31.3°C | 81 |
| 10/11/2012 9:29 | -19.861747 | 128.848858 | 402.2 m | 31.4°C | 81 |

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| 10/11/2012 9:29 | -19.860435 | 128.849435 | 400.6 m | 31.6°C | 81 |
| 10/11/2012 9:29 | -19.85912 | 128.850013 | 398.1 m | 31.6°C | 81 |
| 10/11/2012 9:29 | -19.857803 | 128.85058 | 394.7 m | 31.6°C | 81 |
| 10/11/2012 9:29 | -19.856482 | 128.851138 | 392.7 m | 31.7°C | 81 |
| 10/11/2012 9:29 | -19.85516 | 128.851702 | 390.7 m | 31.8°C | 81 |
| 10/11/2012 9:29 | -19.853838 | 128.852268 | 388.7 m | 31.8°C | 81 |
| 10/11/2012 9:29 | -19.852528 | 128.852833 | 387.8 m | 32.1°C | 81 |
| 10/11/2012 9:29 | -19.851222 | 128.853417 | 387.0 m | 32.2°C | 81 |
| 10/11/2012 9:30 | -19.848612 | 128.85449 | 381.6 m | 32.3°C | 81 |
| 10/11/2012 9:30 | -19.846005 | 128.855632 | 380.2 m | 32.5°C | 81 |
| 10/11/2012 9:30 | -19.844695 | 128.856205 | 380.0 m | 32.6°C | 81 |
| 10/11/2012 9:30 | -19.843377 | 128.856733 | 379.1 m | 32.7°C | 81 |
| 10/11/2012 9:30 | -19.842057 | 128.857288 | 375.2 m | 32.7°C | 81 |
| 10/11/2012 9:30 | -19.840743 | 128.857845 | 373.5 m | 32.9°C | 81 |
| 10/11/2012 9:31 | -19.839435 | 128.85843 | 373.7 m | 32.7°C | 81 |
| 10/11/2012 9:31 | -19.838117 | 128.858973 | 373.3 m | 33.1°C | 81 |
| 10/11/2012 9:31 | -19.836802 | 128.859553 | 371.6 m | 33.0°C | 81 |
| 10/11/2012 9:31 | -19.835493 | 128.860137 | 370.3 m | 33.1°C | 81 |
| 10/11/2012 9:31 | -19.834182 | 128.860707 | 370.0 m | 33.1°C | 81 |
| 10/11/2012 9:31 | -19.832865 | 128.861277 | 370.1 m | 33.2°C | 81 |
| 10/11/2012 9:31 | -19.831557 | 128.861847 | 370.7 m | 33.3°C | 81 |
| 10/11/2012 9:31 | -19.830247 | 128.862415 | 371.0 m | 33.3°C | 81 |
| 10/11/2012 9:31 | -19.828932 | 128.862997 | 371.6 m | 33.5°C | 81 |
| 10/11/2012 9:32 | -19.827623 | 128.863595 | 377.9 m | 33.6°C | 81 |
| 10/11/2012 9:32 | -19.826308 | 128.864168 | 380.7 m | 33.6°C | 81 |
| 10/11/2012 9:32 | -19.824997 | 128.864732 | 381.2 m | 33.7°C | 81 |
| 10/11/2012 9:32 | -19.823693 | 128.865302 | 380.6 m | 33.7°C | 81 |
| 10/11/2012 9:32 | -19.822385 | 128.86587 | 380.2 m | 33.7°C | 81 |
| 10/11/2012 9:32 | -19.821075 | 128.866435 | 380.3 m | 33.9°C | 81 |
| 10/11/2012 9:32 | -19.819767 | 128.867012 | 380.7 m | 34.0°C | 81 |
| 10/11/2012 9:32 | -19.818443 | 128.867572 | 380.2 m | 34.0°C | 81 |
| 10/11/2012 9:33 | -19.817122 | 128.868142 | 379.4 m | 34.1°C | 81 |
| 10/11/2012 9:33 | -19.815805 | 128.868715 | 378.7 m | 34.1°C | 81 |
| 10/11/2012 9:33 | -19.81449 | 128.869282 | 377.8 m | 34.1°C | 81 |
| 10/11/2012 9:33 | -19.81318 | 128.869853 | 377.0 m | 34.3°C | 81 |
| 10/11/2012 9:36 | -19.780612 | 128.884068 | 389.2 m | 35.5°C | 81 |
| 10/11/2012 9:38 | -19.759827 | 128.893132 | 382.1 m | 36.4°C | 81 |
| 10/11/2012 9:38 | -19.758517 | 128.893683 | 385.0 m | 36.4°C | 81 |
| 10/11/2012 9:40 | -19.744202 | 128.899885 | 397.8 m | 36.7°C | 81 |
| 10/11/2012 9:41 | -19.728635 | 128.90672 | 389.5 m | 36.8°C | 81 |
| 10/11/2012 9:41 | -19.724575 | 128.906833 | 386.3 m | 36.8°C | 81 |
| 10/11/2012 9:42 | -19.713818 | 128.903278 | 370.8 m | 36.4°C | 81 |
| 10/11/2012 9:42 | -19.71247 | 128.902833 | 369.8 m | 36.1°C | 81 |
| 10/11/2012 9:44 | -19.699032 | 128.898383 | 366.3 m | 35.3°C | 81 |
| 10/11/2012 9:45 | -19.681532 | 128.89267 | 357.7 m | 34.2°C | 81 |
| 10/11/2012 9:45 | -19.680158 | 128.892242 | 358.1 m | 34.3°C | 81 |
| 10/11/2012 9:46 | -19.66812 | 128.88814 | 361.2 m | 33.7°C | 81 |
| 10/11/2012 11:20 | -19.796135 | 128.877383 | 384.2 m | 27.9°C | 81 |
| 10/11/2012 11:20 | -19.797467 | 128.876793 | 388.6 m | 27.9°C | 81 |
| 10/11/2012 11:20 | -19.79878 | 128.876227 | 390.3 m | 27.9°C | 81 |
| 10/11/2012 11:21 | -19.800088 | 128.875658 | 390.3 m | 27.8°C | 81 |
| 10/11/2012 11:21 | -19.804045 | 128.873937 | 390.3 m | 27.8°C | 81 |
| 10/11/2012 11:21 | -19.80535 | 128.873363 | 390.3 m | 27.8°C | 81 |
| 10/11/2012 11:23 | -19.827162 | 128.863892 | 401.6 m | 28.0°C | 81 |
| 10/11/2012 11:23 | -19.828455 | 128.86334 | 399.8 m | 28.0°C | 81 |
| 10/11/2012 11:23 | -19.829765 | 128.862767 | 398.4 m | 28.1°C | 81 |
| 10/11/2012 11:23 | -19.832442 | 128.861585 | 404.0 m | 28.1°C | 81 |
| 10/11/2012 11:39 | -19.874068 | 128.843562 | 414.3 m | 28.9°C | 81 |
| 10/11/2012 11:41 | -19.846563 | 128.855442 | 404.0 m | 29.1°C | 81 |
| 10/11/2012 11:42 | -19.837418 | 128.859357 | 401.9 m | 29.1°C | 81 |
| 10/11/2012 11:43 | -19.833477 | 128.861038 | 410.4 m | 29.1°C | 81 |

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| 10/11/2012 11:44 | -19.821765 | 128.866147 | 418.8 m | 29.1°C | 81 |
| 10/11/2012 11:44 | -19.813878 | 128.869503 | 415.7 m | 29.2°C | 81 |
| 10/11/2012 11:45 | -19.807487 | 128.872397 | 411.3 m | 29.2°C | 81 |
| 10/11/2012 11:45 | -19.806193 | 128.872977 | 410.0 m | 29.2°C | 81 |
| 10/11/2012 11:46 | -19.79832 | 128.876353 | 403.8 m | 29.2°C | 81 |
| 10/11/2012 11:46 | -19.793123 | 128.878625 | 398.2 m | 29.2°C | 81 |
| 10/11/2012 11:48 | -19.778562 | 128.884997 | 390.4 m | 29.2°C | 81 |
| 10/11/2012 11:48 | -19.773137 | 128.887437 | 384.8 m | 29.2°C | 81 |
| 10/11/2012 11:49 | -19.771778 | 128.887975 | 382.6 m | 29.2°C | 81 |
| 10/11/2012 11:49 | -19.770418 | 128.888512 | 384.7 m | 29.2°C | 81 |
| 10/11/2012 11:49 | -19.767763 | 128.889665 | 388.7 m | 29.2°C | 81 |
| 10/11/2012 11:49 | -19.76645 | 128.89025 | 389.3 m | 29.2°C | 81 |
| 10/11/2012 11:49 | -19.763807 | 128.8914 | 389.5 m | 29.2°C | 81 |
| 10/11/2012 11:50 | -19.761195 | 128.89256 | 391.6 m | 29.2°C | 81 |
| 10/11/2012 11:50 | -19.756982 | 128.894327 | 395.4 m | 29.2°C | 81 |
| 10/11/2012 11:51 | -19.745122 | 128.899532 | 398.1 m | 29.2°C | 81 |
| 10/11/2012 11:52 | -19.731898 | 128.90536 | 399.0 m | 29.2°C | 81 |
| 10/11/2012 11:52 | -19.730573 | 128.905942 | 396.8 m | 29.2°C | 81 |
| 10/11/2012 11:52 | -19.727863 | 128.907037 | 395.5 m | 29.2°C | 81 |
| 10/11/2012 11:53 | -19.726462 | 128.907338 | 392.2 m | 29.2°C | 81 |
| 10/11/2012 11:55 | -19.692117 | 128.89599 | 366.6 m | 29.2°C | 81 |
| 10/11/2012 11:56 | -19.690763 | 128.895502 | 363.4 m | 29.3°C | 81 |
| 10/11/2012 11:56 | -19.689407 | 128.89505 | 360.6 m | 29.3°C | 81 |
| 10/11/2012 11:56 | -19.688048 | 128.894602 | 356.9 m | 29.3°C | 81 |
| 10/11/2012 11:57 | -19.678453 | 128.891465 | 351.8 m | 29.4°C | 81 |
| 10/11/2012 11:57 | -19.670252 | 128.888722 | 355.7 m | 29.4°C | 81 |
| 10/11/2012 11:58 | -19.666137 | 128.887385 | 350.6 m | 29.4°C | 81 |
| 10/11/2012 11:58 | -19.658745 | 128.88495 | 348.0 m | 29.4°C | 81 |
| 10/11/2012 11:59 | -19.650715 | 128.882332 | 343.2 m | 29.3°C | 81 |
| 10/11/2012 11:59 | -19.648017 | 128.881465 | 342.9 m | 29.3°C | 81 |
| 10/11/2012 12:00 | -19.637322 | 128.87791 | 345.6 m | 29.2°C | 81 |
| 10/11/2012 12:00 | -19.635967 | 128.877472 | 347.0 m | 29.2°C | 81 |
| 10/11/2012 12:45 | -19.76158 | 128.89237 | 371.7 m | 26.0°C | 81 |
| 10/11/2012 12:45 | -19.762897 | 128.891798 | 371.7 m | 26.0°C | 81 |
| 10/11/2012 12:45 | -19.764208 | 128.89122 | 371.7 m | 26.1°C | 81 |
| 10/11/2012 12:48 | -19.79503 | 128.877908 | 392.5 m | 26.1°C | 81 |
| 10/11/2012 12:48 | -19.798955 | 128.8762 | 390.8 m | 26.1°C | 81 |
| 10/11/2012 12:48 | -19.800263 | 128.875625 | 392.5 m | 26.1°C | 81 |
| 10/11/2012 12:48 | -19.801568 | 128.875048 | 395.2 m | 26.1°C | 81 |
| 10/11/2012 12:51 | -19.829718 | 128.862785 | 410.3 m | 26.2°C | 81 |
| 10/11/2012 12:51 | -19.831003 | 128.862237 | 410.3 m | 26.1°C | 81 |
| 10/11/2012 12:51 | -19.832337 | 128.861647 | 409.8 m | 26.2°C | 81 |
| 10/11/2012 13:08 | -19.870823 | 128.844862 | 416.3 m | 26.5°C | 81 |
| 10/11/2012 13:08 | -19.869517 | 128.845472 | 417.8 m | 26.5°C | 81 |
| 10/11/2012 13:08 | -19.8682 | 128.846045 | 419.1 m | 26.5°C | 81 |
| 10/11/2012 13:08 | -19.866892 | 128.846583 | 415.7 m | 26.5°C | 81 |
| 10/11/2012 13:08 | -19.865577 | 128.847142 | 412.3 m | 26.4°C | 81 |
| 10/11/2012 13:08 | -19.864268 | 128.84773 | 408.2 m | 26.4°C | 81 |
| 10/11/2012 13:08 | -19.862932 | 128.84827 | 407.3 m | 26.4°C | 81 |
| 10/11/2012 13:09 | -19.861615 | 128.84882 | 412.4 m | 26.4°C | 81 |
| 10/11/2012 13:09 | -19.86032 | 128.849412 | 412.8 m | 26.4°C | 81 |
| 10/11/2012 13:09 | -19.858998 | 128.850005 | 411.1 m | 26.3°C | 81 |
| 10/11/2012 13:09 | -19.857677 | 128.850565 | 410.1 m | 26.3°C | 81 |
| 10/11/2012 13:09 | -19.856378 | 128.85115 | 407.1 m | 26.3°C | 81 |
| 10/11/2012 13:09 | -19.85507 | 128.851715 | 403.9 m | 26.3°C | 81 |
| 10/11/2012 13:09 | -19.853748 | 128.852278 | 402.9 m | 26.3°C | 81 |
| 10/11/2012 13:09 | -19.852433 | 128.85286 | 402.9 m | 26.3°C | 81 |
| 10/11/2012 13:10 | -19.849822 | 128.854012 | 401.8 m | 26.2°C | 81 |
| 10/11/2012 13:10 | -19.848508 | 128.854578 | 401.8 m | 26.2°C | 81 |
| 10/11/2012 13:10 | -19.847197 | 128.855153 | 401.8 m | 26.2°C | 81 |
| 10/11/2012 13:10 | -19.844573 | 128.856293 | 401.1 m | 26.2°C | 81 |

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| 10/11/2012 13:10 | -19.843257 | 128.856858 | 401.5 m | 26.1°C | 81 |
| 10/11/2012 13:10 | -19.84194 | 128.857428 | 402.7 m | 26.1°C | 81 |
| 10/11/2012 13:10 | -19.840633 | 128.857997 | 404.2 m | 26.1°C | 81 |
| 10/11/2012 13:11 | -19.839318 | 128.858567 | 404.8 m | 26.1°C | 81 |
| 10/11/2012 13:11 | -19.838018 | 128.859152 | 402.8 m | 26.1°C | 81 |
| 10/11/2012 13:11 | -19.83669 | 128.859715 | 401.4 m | 26.1°C | 81 |
| 10/11/2012 13:11 | -19.835398 | 128.860295 | 400.6 m | 26.1°C | 81 |
| 10/11/2012 13:11 | -19.834087 | 128.860865 | 399.7 m | 26.1°C | 81 |
| 10/11/2012 13:11 | -19.83278 | 128.861447 | 398.5 m | 26.1°C | 81 |
| 10/11/2012 13:11 | -19.830155 | 128.862572 | 399.3 m | 26.1°C | 81 |
| 10/11/2012 13:12 | -19.828838 | 128.86314 | 401.5 m | 26.1°C | 81 |
| 10/11/2012 13:12 | -19.827523 | 128.863717 | 402.8 m | 26.0°C | 81 |
| 10/11/2012 13:12 | -19.82621 | 128.86429 | 402.8 m | 26.0°C | 81 |
| 10/11/2012 13:12 | -19.824907 | 128.864875 | 402.4 m | 26.0°C | 81 |
| 10/11/2012 13:12 | -19.823568 | 128.8654 | 405.8 m | 25.9°C | 81 |
| 10/11/2012 13:12 | -19.822273 | 128.865995 | 406.9 m | 26.0°C | 81 |
| 10/11/2012 13:12 | -19.820958 | 128.86657 | 405.1 m | 25.9°C | 81 |
| 10/11/2012 13:12 | -19.819653 | 128.867125 | 405.7 m | 25.9°C | 81 |
| 10/11/2012 13:12 | -19.818338 | 128.867693 | 406.8 m | 25.9°C | 81 |
| 10/11/2012 13:13 | -19.817027 | 128.868267 | 406.7 m | 25.9°C | 81 |
| 10/11/2012 13:13 | -19.815718 | 128.868848 | 404.6 m | 25.9°C | 81 |
| 10/11/2012 13:13 | -19.814415 | 128.869422 | 401.5 m | 25.9°C | 81 |
| 10/11/2012 13:13 | -19.813103 | 128.86999 | 399.4 m | 25.8°C | 81 |
| 10/11/2012 13:13 | -19.811785 | 128.87056 | 398.3 m | 25.8°C | 81 |
| 10/11/2012 13:13 | -19.80917 | 128.871683 | 397.4 m | 25.8°C | 81 |
| 10/11/2012 13:13 | -19.807847 | 128.872255 | 396.3 m | 25.7°C | 81 |
| 10/11/2012 13:13 | -19.806527 | 128.872818 | 395.9 m | 25.7°C | 81 |
| 10/11/2012 13:14 | -19.805222 | 128.873392 | 396.7 m | 25.7°C | 81 |
| 10/11/2012 13:14 | -19.803918 | 128.873967 | 397.2 m | 25.7°C | 81 |
| 10/11/2012 13:14 | -19.802612 | 128.874537 | 397.1 m | 25.7°C | 81 |
| 10/11/2012 13:14 | -19.799988 | 128.875673 | 397.1 m | 25.7°C | 81 |
| 10/11/2012 13:14 | -19.798675 | 128.876245 | 397.1 m | 25.7°C | 81 |
| 10/11/2012 13:14 | -19.797368 | 128.876817 | 397.4 m | 25.7°C | 81 |
| 10/11/2012 13:14 | -19.79605 | 128.87739 | 397.8 m | 25.7°C | 81 |
| 10/11/2012 13:15 | -19.794737 | 128.877967 | 397.9 m | 25.7°C | 81 |
| 10/11/2012 13:15 | -19.793408 | 128.878533 | 396.7 m | 25.7°C | 81 |
| 10/11/2012 13:15 | -19.792098 | 128.879107 | 396.2 m | 25.7°C | 81 |
| 10/11/2012 13:15 | -19.790793 | 128.879678 | 396.6 m | 25.7°C | 81 |
| 10/11/2012 13:15 | -19.78948 | 128.880243 | 397.2 m | 25.7°C | 81 |
| 10/11/2012 13:15 | -19.788165 | 128.880802 | 399.3 m | 25.6°C | 81 |
| 10/11/2012 13:15 | -19.786855 | 128.881375 | 400.4 m | 25.6°C | 81 |
| 10/11/2012 13:15 | -19.785538 | 128.881955 | 399.8 m | 25.6°C | 81 |
| 10/11/2012 13:15 | -19.78422 | 128.882522 | 398.5 m | 25.6°C | 81 |
| 10/11/2012 13:16 | -19.781598 | 128.883642 | 399.3 m | 25.6°C | 81 |
| 10/11/2012 13:16 | -19.780277 | 128.884215 | 398.2 m | 25.6°C | 81 |
| 10/11/2012 13:16 | -19.778963 | 128.8848 | 397.2 m | 25.6°C | 81 |
| 10/11/2012 13:16 | -19.777643 | 128.885378 | 396.1 m | 25.6°C | 81 |
| 10/11/2012 13:16 | -19.776332 | 128.885958 | 395.3 m | 25.6°C | 81 |
| 10/11/2012 13:20 | -19.73706 | 128.902998 | 391.8 m | 25.2°C | 81 |
| 10/11/2012 13:21 | -19.731782 | 128.90535 | 389.8 m | 25.2°C | 81 |
| 10/11/2012 13:21 | -19.730468 | 128.905923 | 389.1 m | 25.2°C | 81 |
| 10/11/2012 13:21 | -19.726405 | 128.90729 | 385.0 m | 25.2°C | 81 |
| 10/11/2012 13:22 | -19.716845 | 128.904298 | 378.5 m | 25.2°C | 81 |
| 10/11/2012 13:24 | -19.700232 | 128.898787 | 371.1 m | 26.1°C | 81 |
| 10/11/2012 13:26 | -19.677262 | 128.89115 | 364.0 m | 27.7°C | 81 |
| 10/11/2012 13:26 | -19.674498 | 128.890185 | 367.5 m | 27.9°C | 81 |
| 10/11/2012 13:26 | -19.67041 | 128.888815 | 369.3 m | 28.1°C | 81 |
| 10/11/2012 13:27 | -19.666313 | 128.887492 | 366.0 m | 28.4°C | 81 |
| 10/11/2012 13:28 | -19.648125 | 128.88152 | 369.9 m | 29.4°C | 81 |
| 10/11/2012 13:28 | -19.646782 | 128.881072 | 369.7 m | 29.5°C | 81 |
| 10/11/2012 13:29 | -19.636183 | 128.877558 | 367.2 m | 30.0°C | 81 |

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| 10/11/2012 13:30 | -19.633467 | 128.87666 | 367.1 m | 30.0°C | 81 |
| 10/11/2012 14:00 | -19.644652 | 128.880382 | 363.2 m | 24.0°C | 81 |
| 10/11/2012 15:00 | -19.660135 | 128.885412 | 368.2 m | 27.2°C | 81 |
| 10/11/2012 17:53 | -19.831432 | 128.862045 | 395.0 m | 24.6°C | 81 |
| 3/11/2012 11:02 | | | | | 81 |
| 3/11/2012 11:19 | | | | | 81 |
| 3/11/2012 13:10 | | | | | 81 |
| 3/11/2012 11:02:26 AM | | | | | 81 |
| 3/11/2012 11:19:41 AM | | | | | 81 |
| 3/11/2012 01:10:55 PM | | | | | 81 |
| 17/11/2012 07:26:05 AM | | | | | 81 |
| 17/11/2012 09:37:15 AM | | | | | 81 |
| 17/11/2012 09:39:05 AM | | | | | 81 |
| 17/11/2012 10:09:16 AM | | | | | 81 |
| 17/11/2012 10:54:05 AM | | | | | 81 |
| 17/11/2012 12:08:56 PM | | | | | 81 |
| 17/11/2012 12:24:05 PM | | | | | 81 |
| 17/11/2012 12:39:15 PM | | | | | 81 |
| 17/11/2012 12:54:15 PM | | | | | 81 |
| 17/11/2012 01:39:05 PM | | | | | 81 |
| 17/11/2012 02:08:55 PM | | | | | 81 |
| 17/11/2012 02:54:06 PM | | | | | 81 |
| 17/11/2012 03:08:43 PM | | | | | 81 |
| 17/11/2012 03:53:55 PM | | | | | 81 |
| 21/11/2012 09:42:06 AM | | | | | 81 |
| 22/11/2012 05:23:26 PM | | | | | 81 |
| 23/11/2012 07:10:15 PM | | | | | 81 |
| 10/11/2012 6:31 | -19.7404 | 128.901578 | 393.1 m | 29.8°C | **82** |
| 10/11/2012 6:31 | -19.733812 | 128.904468 | 386.4 m | 30.0°C | **82** |
| 10/11/2012 6:32 | -19.72448 | 128.906765 | 380.7 m | 30.3°C | **82** |
| 10/11/2012 6:33 | -19.718895 | 128.904948 | 380.7 m | 30.1°C | **82** |
| 10/11/2012 6:36 | -19.68201 | 128.892695 | 380.7 m | 29.0°C | **82** |
| 10/11/2012 6:36 | -19.676578 | 128.890872 | 365.3 m | 28.9°C | **82** |
| 10/11/2012 6:38 | -19.66031 | 128.885497 | 360.6 m | 28.3°C | **82** |
| 10/11/2012 6:39 | -19.65078 | 128.882355 | 351.8 m | 28.1°C | **82** |
| 10/11/2012 6:39 | -19.64807 | 128.881467 | 350.2 m | 27.9°C | **82** |
| 10/11/2012 6:40 | -19.635837 | 128.877437 | 350.2 m | 27.6°C | **82** |
| 10/11/2012 6:41 | -19.617973 | 128.871533 | 350.2 m | 27.2°C | **82** |
| 10/11/2012 7:47 | -19.79963 | 128.875945 | 410.0 m | 27.6°C | **82** |
| 10/11/2012 7:50 | -19.832248 | 128.861753 | 413.6 m | 27.0°C | **82** |
| 10/11/2012 7:50 | -19.833583 | 128.861177 | 412.7 m | 27.0°C | **82** |
| 10/11/2012 8:25 | -19.658952 | 128.885047 | 366.4 m | 33.2°C | **82** |
| 10/11/2012 9:28 | -19.870998 | 128.844792 | 415.0 m | 30.6°C | **82** |
| 10/11/2012 9:35 | -19.796253 | 128.8773 | 405.1 m | 35.1°C | **82** |
| 10/11/2012 11:21 | -19.801403 | 128.875082 | 390.3 m | 27.8°C | **82** |
| 10/11/2012 11:21 | -19.802732 | 128.874505 | 390.3 m | 27.8°C | **82** |
| 10/11/2012 11:23 | -19.831105 | 128.86217 | 399.0 m | 28.1°C | **82** |
| 10/11/2012 11:24 | -19.833958 | 128.860918 | 408.6 m | 28.1°C | **82** |
| 10/11/2012 11:24 | -19.835288 | 128.860338 | 410.1 m | 28.1°C | **82** |
| 10/11/2012 11:24 | -19.837965 | 128.859178 | 407.5 m | 28.1°C | **82** |
| 10/11/2012 11:48 | -19.775878 | 128.886123 | 392.5 m | 29.2°C | **82** |
| 10/11/2012 11:48 | -19.774403 | 128.886817 | 390.6 m | 29.2°C | **82** |
| 10/11/2012 11:49 | -19.769083 | 128.889078 | 387.4 m | 29.2°C | **82** |
| 10/11/2012 11:49 | -19.765127 | 128.890827 | 389.3 m | 29.2°C | **82** |
| 10/11/2012 11:49 | -19.762488 | 128.891967 | 391.2 m | 29.2°C | **82** |
| 10/11/2012 11:50 | -19.759692 | 128.893213 | 393.3 m | 29.2°C | **82** |
| 10/11/2012 11:50 | -19.758332 | 128.89377 | 395.3 m | 29.2°C | **82** |
| 10/11/2012 11:50 | -19.75564 | 128.894873 | 395.4 m | 29.2°C | **82** |
| 10/11/2012 11:50 | -19.754293 | 128.895425 | 395.4 m | 29.2°C | **82** |
| 10/11/2012 11:50 | -19.752977 | 128.896002 | 395.4 m | 29.2°C | **82** |
| 10/11/2012 11:50 | -19.751657 | 128.89658 | 395.4 m | 29.2°C | **82** |

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| 10/11/2012 11:50 | -19.750335 | 128.897167 | 395.4 m | 29.2°C | 82 |
| 10/11/2012 11:51 | -19.749023 | 128.897752 | 395.4 m | 29.3°C | 82 |
| 10/11/2012 11:51 | -19.747717 | 128.898342 | 396.0 m | 29.2°C | 82 |
| 10/11/2012 11:51 | -19.746425 | 128.898942 | 397.1 m | 29.2°C | 82 |
| 10/11/2012 11:51 | -19.741325 | 128.901193 | 400.0 m | 29.2°C | 82 |
| 10/11/2012 11:51 | -19.739953 | 128.901792 | 400.4 m | 29.2°C | 82 |
| 10/11/2012 11:52 | -19.738612 | 128.902373 | 400.4 m | 29.2°C | 82 |
| 10/11/2012 11:52 | -19.73767 | 128.902787 | 400.4 m | 29.2°C | 82 |
| 10/11/2012 11:52 | -19.736065 | 128.90347 | 400.4 m | 29.2°C | 82 |
| 10/11/2012 11:52 | -19.734613 | 128.904103 | 400.4 m | 29.2°C | 82 |
| 10/11/2012 11:52 | -19.733237 | 128.904725 | 400.4 m | 29.2°C | 82 |
| 10/11/2012 11:52 | -19.729228 | 128.906487 | 396.7 m | 29.2°C | 82 |
| 10/11/2012 11:53 | -19.725038 | 128.906992 | 387.7 m | 29.2°C | 82 |
| 10/11/2012 11:53 | -19.723642 | 128.90648 | 386.8 m | 29.2°C | 82 |
| 10/11/2012 11:53 | -19.722267 | 128.906017 | 386.3 m | 29.2°C | 82 |
| 10/11/2012 11:53 | -19.720897 | 128.905553 | 385.4 m | 29.2°C | 82 |
| 10/11/2012 11:53 | -19.719527 | 128.9051 | 384.8 m | 29.2°C | 82 |
| 10/11/2012 11:53 | -19.718157 | 128.90464 | 384.7 m | 29.2°C | 82 |
| 10/11/2012 11:53 | -19.716793 | 128.904185 | 384.6 m | 29.2°C | 82 |
| 10/11/2012 11:54 | -19.715425 | 128.903745 | 383.8 m | 29.3°C | 82 |
| 10/11/2012 11:54 | -19.714053 | 128.903287 | 383.6 m | 29.2°C | 82 |
| 10/11/2012 11:54 | -19.712687 | 128.902825 | 383.2 m | 29.2°C | 82 |
| 10/11/2012 11:54 | -19.711318 | 128.90237 | 382.9 m | 29.2°C | 82 |
| 10/11/2012 11:54 | -19.709948 | 128.901923 | 381.6 m | 29.3°C | 82 |
| 10/11/2012 11:54 | -19.70858 | 128.90147 | 380.2 m | 29.3°C | 82 |
| 10/11/2012 11:54 | -19.707213 | 128.901022 | 378.8 m | 29.3°C | 82 |
| 10/11/2012 11:54 | -19.705842 | 128.90056 | 378.2 m | 29.3°C | 82 |
| 10/11/2012 11:54 | -19.704473 | 128.900108 | 377.7 m | 29.3°C | 82 |
| 10/11/2012 11:55 | -19.703102 | 128.899658 | 376.9 m | 29.3°C | 82 |
| 10/11/2012 11:55 | -19.701732 | 128.8992 | 376.4 m | 29.3°C | 82 |
| 10/11/2012 11:55 | -19.70036 | 128.898748 | 376.8 m | 29.3°C | 82 |
| 10/11/2012 11:55 | -19.698978 | 128.898275 | 377.5 m | 29.3°C | 82 |
| 10/11/2012 11:55 | -19.697603 | 128.897825 | 378.4 m | 29.4°C | 82 |
| 10/11/2012 11:55 | -19.696238 | 128.897378 | 379.1 m | 29.3°C | 82 |
| 10/11/2012 11:55 | -19.694863 | 128.896923 | 375.5 m | 29.4°C | 82 |
| 10/11/2012 11:55 | -19.69349 | 128.896462 | 371.5 m | 29.3°C | 82 |
| 10/11/2012 11:56 | -19.686688 | 128.894155 | 354.3 m | 29.3°C | 82 |
| 10/11/2012 11:56 | -19.68531 | 128.893725 | 354.0 m | 29.3°C | 82 |
| 10/11/2012 11:56 | -19.683923 | 128.893297 | 355.6 m | 29.3°C | 82 |
| 10/11/2012 11:56 | -19.682568 | 128.892835 | 354.0 m | 29.4°C | 82 |
| 10/11/2012 11:56 | -19.681192 | 128.892395 | 352.1 m | 29.4°C | 82 |
| 10/11/2012 11:57 | -19.679817 | 128.891925 | 351.6 m | 29.4°C | 82 |
| 10/11/2012 11:57 | -19.67708 | 128.89102 | 352.1 m | 29.3°C | 82 |
| 10/11/2012 11:57 | -19.675708 | 128.890553 | 352.2 m | 29.4°C | 82 |
| 10/11/2012 11:57 | -19.67435 | 128.89009 | 354.2 m | 29.4°C | 82 |
| 10/11/2012 11:57 | -19.672978 | 128.889625 | 356.8 m | 29.3°C | 82 |
| 10/11/2012 11:57 | -19.67161 | 128.889167 | 358.5 m | 29.4°C | 82 |
| 10/11/2012 11:57 | -19.668887 | 128.888272 | 354.0 m | 29.3°C | 82 |
| 10/11/2012 11:58 | -19.66751 | 128.88783 | 352.1 m | 29.3°C | 82 |
| 10/11/2012 13:08 | -19.872125 | 128.84429 | 415.7 m | 26.5°C | 82 |
| 10/11/2012 13:19 | -19.751645 | 128.896617 | 387.6 m | 25.2°C | 82 |
| 10/11/2012 13:19 | -19.750317 | 128.897198 | 388.3 m | 25.2°C | 82 |
| 10/11/2012 13:19 | -19.748992 | 128.897768 | 388.6 m | 25.2°C | 82 |
| 10/11/2012 13:19 | -19.747663 | 128.898342 | 390.3 m | 25.2°C | 82 |
| 10/11/2012 13:20 | -19.746337 | 128.89893 | 391.0 m | 25.2°C | 82 |
| 10/11/2012 13:20 | -19.745007 | 128.899523 | 390.9 m | 25.2°C | 82 |
| 10/11/2012 13:20 | -19.743678 | 128.90011 | 391.6 m | 25.2°C | 82 |
| 10/11/2012 13:20 | -19.742355 | 128.9007 | 392.3 m | 25.2°C | 82 |
| 10/11/2012 13:20 | -19.741027 | 128.901282 | 392.0 m | 25.2°C | 82 |
| 10/11/2012 13:20 | -19.7397 | 128.901848 | 391.8 m | 25.2°C | 82 |
| 10/11/2012 13:20 | -19.738377 | 128.902423 | 392.1 m | 25.2°C | 82 |

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| 10/11/2012 13:20 | -19.735735 | 128.903577 | 391.3 m | 25.2°C | **82** |
| 10/11/2012 13:21 | -19.73442 | 128.904163 | 390.8 m | 25.2°C | **82** |
| 10/11/2012 13:21 | -19.733095 | 128.904757 | 390.2 m | 25.2°C | **82** |
| 10/11/2012 13:21 | -19.729137 | 128.906475 | 388.1 m | 25.2°C | **82** |
| 10/11/2012 13:21 | -19.727795 | 128.907032 | 386.2 m | 25.2°C | **82** |
| 10/11/2012 13:21 | -19.725008 | 128.90699 | 385.9 m | 25.2°C | **82** |
| 10/11/2012 13:22 | -19.72366 | 128.906512 | 384.5 m | 25.2°C | **82** |
| 10/11/2012 13:22 | -19.7223 | 128.906075 | 382.7 m | 25.2°C | **82** |
| 10/11/2012 13:22 | -19.720938 | 128.905633 | 381.1 m | 25.2°C | **82** |
| 10/11/2012 13:22 | -19.71958 | 128.905182 | 378.9 m | 25.2°C | **82** |
| 10/11/2012 13:22 | -19.718208 | 128.904748 | 378.3 m | 25.2°C | **82** |
| 10/11/2012 13:22 | -19.715285 | 128.903778 | 378.8 m | 25.3°C | **82** |
| 10/11/2012 13:22 | -19.713917 | 128.903318 | 378.5 m | 25.3°C | **82** |
| 10/11/2012 13:22 | -19.712552 | 128.902858 | 377.7 m | 25.4°C | **82** |
| 10/11/2012 13:23 | -19.71119 | 128.902412 | 376.7 m | 25.5°C | **82** |
| 10/11/2012 13:23 | -19.70982 | 128.901962 | 376.2 m | 25.5°C | **82** |
| 10/11/2012 13:23 | -19.708453 | 128.901505 | 375.8 m | 25.6°C | **82** |
| 10/11/2012 13:23 | -19.707085 | 128.901047 | 375.2 m | 25.7°C | **82** |
| 10/11/2012 13:23 | -19.705715 | 128.900583 | 374.8 m | 25.7°C | **82** |
| 10/11/2012 13:23 | -19.704343 | 128.900135 | 374.6 m | 25.8°C | **82** |
| 10/11/2012 13:23 | -19.702975 | 128.899685 | 373.5 m | 25.9°C | **82** |
| 10/11/2012 13:23 | -19.701602 | 128.899247 | 372.3 m | 26.0°C | **82** |
| 10/11/2012 13:26 | -19.673138 | 128.889727 | 368.7 m | 28.0°C | **82** |
| 10/11/2012 13:26 | -19.671773 | 128.889268 | 369.3 m | 28.1°C | **82** |
| 10/11/2012 13:26 | -19.669043 | 128.888363 | 368.8 m | 28.2°C | **82** |
| 10/11/2012 13:27 | -19.667675 | 128.887915 | 368.1 m | 28.3°C | **82** |
| 10/11/2012 13:29 | -19.634823 | 128.877098 | 367.4 m | 30.0°C | **82** |
| 17/11/2012 11:23:55 AM | | | | | 82 |
| 17/11/2012 01:53:55 PM | | | | | 82 |
| 17/11/2012 02:24:15 PM | | | | | 82 |
| 21/11/2012 10:11:45 AM | | | | | 82 |
| 21/11/2012 11:42:06 AM | | | | | 82 |
| 10/11/2012 6:32 | -19.72312 | 128.906308 | 380.7 m | 30.2°C | **83** |
| 10/11/2012 6:32 | -19.72312 | 128.906308 | 380.7 m | 30.2°C | **83** |
| 10/11/2012 7:47 | -19.800958 | 128.875357 | 407.7 m | 27.6°C | **83** |
| 10/11/2012 11:24 | -19.836617 | 128.859767 | 408.9 m | 28.1°C | **83** |
| 10/11/2012 11:48 | -19.777148 | 128.885513 | 392.0 m | 29.2°C | **83** |
| 10/11/2012 13:19 | -19.752983 | 128.896045 | 386.5 m | 25.2°C | **83** |
| 10/11/2012 13:26 | -19.675865 | 128.890648 | 365.7 m | 27.8°C | **83** |
| 21/11/2012 09:42:06 AM | | | | | 81 |
| 22/11/2012 05:23:26 PM | | | | | 81 |
| 23/11/2012 07:10:15 PM | | | | | 81 |
| 6/12/2012 12:13:35 PM | | | | | 81 |
| 7/12/2012 07:25:35 AM | | | | | 81 |
| 7/12/2012 03:05:05 PM | | | | | 81 |
| 7/12/2012 04:34:56 PM | | | | | 81 |
| 7/12/2012 06:04:55 PM | | | | | 81 |
| 8/12/2012 10:31:56 AM | | | | | 81 |
| 8/12/2012 12:46:35 PM | | | | | 81 |
| 21/11/2012 10:11:45 AM | | | | | 82 |
| 21/11/2012 11:42:06 AM | | | | | 82 |
| 3/11/2012 11:02:26 AM | | | | | 81 |
| 3/11/2012 11:19:41 AM | | | | | 81 |
| 3/11/2012 01:10:55 PM | | | | | 81 |
| 17/11/2012 07:26:05 AM | | | | | 81 |
| 17/11/2012 09:37:15 AM | | | | | 81 |
| 17/11/2012 09:39:05 AM | | | | | 81 |
| 17/11/2012 10:09:16 AM | | | | | 81 |
| 17/11/2012 10:54:05 AM | | | | | 81 |
| 17/11/2012 12:08:56 PM | | | | | 81 |
| 17/11/2012 12:24:05 PM | | | | | 81 |
| 17/11/2012 12:39:15 PM | | | | | 81 |

| | | | | | |
|---|---|---|---|---|---|
| 17/11/2012 12:54:15 PM | | | | | 81 |
| 17/11/2012 01:39:05 PM | | | | | 81 |
| 17/11/2012 02:08:55 PM | | | | | 81 |
| 17/11/2012 02:54:06 PM | | | | | 81 |
| 17/11/2012 03:08:43 PM | | | | | 81 |
| 17/11/2012 03:53:55 PM | | | | | 81 |
| 17/11/2012 07:01:35 PM | | | | | 81 |
| 18/11/2012 09:22:36 AM | | | | | 81 |
| 18/11/2012 11:52:56 AM | | | | | 81 |
| 18/11/2012 01:37:45 PM | | | | | 81 |
| 18/11/2012 01:52:45 PM | | | | | 81 |
| 19/11/2012 05:25:05 PM | | | | | 81 |
| 19/11/2012 05:39:55 PM | | | | | 81 |
| 19/11/2012 06:40:15 PM | | | | | 81 |
| 19/11/2012 06:57:37 PM | | | | | 81 |
| 20/11/2012 07:33:45 AM | | | | | 81 |
| 20/11/2012 08:18:25 AM | | | | | 81 |
| 20/11/2012 09:03:36 AM | | | | | 81 |
| 20/11/2012 09:48:26 AM | | | | | 81 |
| 20/11/2012 10:05:48 AM | | | | | 81 |
| 20/11/2012 12:03:26 PM | | | | | 81 |
| 20/11/2012 12:18:35 PM | | | | | 81 |
| 20/11/2012 12:33:45 PM | | | | | 81 |
| 17/11/2012 11:23:55 AM | | | | | 82 |
| 17/11/2012 01:53:55 PM | | | | | 82 |
| 17/11/2012 02:24:15 PM | | | | | 82 |
| 18/11/2012 10:37:55 AM | | | | | 82 |
| 18/11/2012 10:55:47 AM | | | | | 82 |
| 19/11/2012 06:25:15 PM | | | | | 82 |
| 20/11/2012 08:48:25 AM | | | | | 82 |
| 20/11/2012 10:18:45 AM | | | | | 82 |
| 20/11/2012 10:33:26 AM | | | | | 82 |

# Appendix D

# Haulage Contractor Prestart Form

# Pre Start - Safety / Environmental Minutes & Daily Checklist

| | | | | |
|---|---|---|---|---|
| **Date:** | / /2012 | | **Shift:** | Day |
| **Supervisor:** | Rowdy Machin | | **Crew:** | Brads Haulage |

**Fitness For Work Testing Completed Today : Yes / No**

**Safety Incidents** *(from previous shift) Note: If an incident has occurred please make it the safety focus for the day*

**Hazards / Hazobs** *(identified during previous shift)*

**Positive Safety Activities** *(from previous shift)*

**Environmental Incidents / Road Kills** *(from previous shift - Road measurements = km from Coyote)*

**Key Issues / Change Management** *(ie: Traffic Control, ROM, Road Changes etc)*

**Maintenance** *(include Machinery and Haul Road – Road measurements = km from Coyote)*

**General Information / Requests** (Camp, Flight Changes etc)

## Personnel Attendance

| Name | Signature | | Name | Signature |
|---|---|---|---|---|
| Brad Philips | | | Ashley Harris | |
| Rowdy Machin | | | Andrew MacPherson | |
| | | | | |
| | | | | |

## Daily Checklist

| Item | Checked | Comment |
|---|---|---|
| **Pre Start meeting** | | |
| **Machinery Prestart completed** | | |
| **Safety signs in place (Workshop & Haul road)** | | |
| **Workshop houskeeping** | | |
| **Fuel, Drum storage** | | |
| **Waste Oil, Rags, tyres, rubbish disposal - correct** | | |
| **Haul road surface. I.e. require grading, sheeting** | | |
| **Haul road drainage** | | |
| **Haul road dust** | | |
| **Safety windrow on loading stockpile** | | |
| **No undermining on loading face** | | |
| **Spillage cleaned up** | | |
| **Two way radio's working** | | |
| **Floor conditions clean on Coyote ROM** | | |
| **Tonnage, Water Loads & GPS information collected** | | |
| **Other** | | |
| | | |
| | | |
| | | |

**APPENDIX C**

**Tanami Gold Monthly Fauna Mortality Report**

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **March** | **Date submitted:** | **1/04/2013** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- **No Hauling took place in the month of March.**

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **April** | **Date submitted:** | **03/05/2013** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- **No Hauling took place in the month of April.**

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **May** | **Date submitted:** | **31/05/2013** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- **No Hauling took place in the month of May.**

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **June** | **Date submitted:** | **27/06/2013** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- No Hauling took place in the month of June

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **July** | **Date submitted:** | **24/07/2013** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- No Hauling took place in the month of July
- All site activities have been reduced to “Care and Maintenance” levels.

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **August** | **Date submitted:** | **02/09/2013** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- No hauling took place in this month of August
- All site activities have been reduced to “Care and Maintenance” levels.

# Coyote Gold Project Stage 2 (M80/563 & L80/45)

## Priority Fauna- Mortalities and injuries- licence L8111/2005/1

| | | | |
|---|---|---|---|
| Ministerial Statement 749 Condition 5-3 | | **Proposal:** Coyote Gold Mine, Stage 2 | |
| Attention: compliance@epa.wa.gov.au . | | **Proponent:** Tanami Gold NL | |
| **Month of reporting:** *(5 days leeway to submit this form)* | **September** | **Date submitted:** | **25/09/2013** |

| Date | Time (24hr) | Speed (km/h) | Species | Number | Injury | Death | Location |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | **Total** | **0** | **0** | |

**Management actions to mitigate deaths and injuries:**

- Speed limit set at a maximum of 80Km/hr.
- Satellite tracking system placed on haul trucks to ensure continues data monitoring.

**Comments:**

- No priority fauna mortalities/ injuries recorded on tenements related to ministerial 749.
- No hauling took place in this month of September
- All site activities have been reduced to “Care and Maintenance” levels.

**APPENDIX D**

**Letter From OEPA Confirming AECR Made Publically Available**

TANAMI GOLD NL

13 May 2013

Office of Environmental Protection Authority
Compliance Branch
Level 4, The Atrium
168 St Georges Terrace
PERTH WA 6000

**compliance@epa.wa.gov.au**

Dear Sir / Madam

**COYOTE GOLD MINE STAGE 2 – MINISTERIAL STATEMENT 749**
**COMPLIANCE REPORT PUBLICALLY AVAILABLE**

Please be advised that as required by Condition 4-4 of Ministerial Statement 749, the Coyote Stage Two Annual Environmental Compliance Report for the year 2 March 2012 to 1 March 2013 has been made publically available on the Tanami Gold NL website: www.tanami.com.au

If you have any queries please contact Alicia Graham, Land Manager on 9212 5999 or email alicia.graham@tanami.com.au

Yours sincerely

TANAMI GOLD NL

**Alicia Graham**
Land Manager

**APPENDIX E**

**Laboratory Certificate Of Analysis (141079)**

Part of the Envirolab Group

16 - 18 Hayden Court, Myaree, Western Australia 6154
PO Box 4023 Myaree BC, Western Australia 6960
Tel: +61 8 9317 2505 / Fax: +61 8 9317 4163
email: laboratory@mpl.com.au
www.envirolabservices.com.au
Envirolab Services (WA) Pty Ltd ABN 53 140 099 207

# CERTIFICATE OF ANALYSIS 141079

**Client:**
**Tanami Gold NL**
Coyote Gold Mine
PO Box 1892
West Perth
WA 6872

**Attention:** Priscilla Fleming

**Sample log in details:**

| | |
|---|---|
| Your Reference: | **Coyote Project** |
| No. of samples: | 12 Water |
| Date samples received: | 26/9/13 |
| Date completed instructions received: | 26/9/13 |
| Location: | |

**Analysis Details:**
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
***Please refer to the last page of this report for any comments relating to the results.***

**Report Details:**

| | |
|---|---|
| Date results requested by: | 4/10/13 |
| Date of Preliminary Report: | Not Issued |
| Issue Date: | 4/10/13 |

NATA accreditation number 2901. This document shall not be reproduced except in full.
Accredited for compliance with ISO/IEC 17025.
**Tests not covered by NATA are denoted with *.**

**Results Approved By:**

Todd Lee
Laboratory Manager

| Miscellaneous Inorganics | | | | | | |
|---|---|---|---|---|---|---|
| Our Reference: | UNITS | 141079-1 | 141079-2 | 141079-3 | 141079-4 | 141079-5 |
| Your Reference | ---------- | CYTSF01 | CYTSF02 | CYTSF04 | CYTSF05 | TSF-02 |
| Date Sampled | ---------- | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 |
| Type of sample | | Water | Water | Water | Water | Water |
| Time Sampled | | 15:15 | 14:20 | 16:05 | 16:55 | 06:35 |
| Date prepared | - | 27/9/13 | 27/9/13 | 27/9/13 | 27/9/13 | 27/9/13 |
| Date analysed | - | 27/9/13 | 27/9/13 | 27/9/13 | 27/9/13 | 27/9/13 |
| pH in water | pH Units | 7.0 | 7.3 | 7.3 | 7.2 | 8.4 |
| Electrical Conductivity water | µS/cm | 20,000 | 25,000 | 20,000 | 21,000 | 36,000 |
| Total Dissolved Solids (grav) | mg/L | 15,000 | 19,000 | 15,000 | 16,000 | 30,000 |
| Total Cyanide | mg/L | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| WAD Cyanide | mg/L | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |

| Miscellaneous Inorganics | | | | | | |
|---|---|---|---|---|---|---|
| Our Reference: | UNITS | 141079-6 | 141079-7 | 141079-8 | 141079-9 | 141079-10 |
| Your Reference | ---------- | WEP | KBB1-B | U/G Backs | U/G Discharge | RAW |
| Date Sampled | ---------- | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 |
| Type of sample | | Water | Water | Water | Water | Water |
| Time Sampled | | 17:33 | 12:45 | 09:00 | 06:15 | 17:20 |
| Date prepared | - | 27/9/13 | 27/9/13 | 27/9/13 | 27/9/13 | 27/9/13 |
| Date analysed | - | 27/9/13 | 27/9/13 | 27/9/13 | 27/9/13 | 27/9/13 |
| pH in water | pH Units | 9.0 | 7.2 | 7.4 | 8.3 | 8.8 |
| Electrical Conductivity water | µS/cm | 23,000 | 27,000 | 16,000 | 14,000 | 20,000 |
| Total Dissolved Solids (grav) | mg/L | 18,000 | 20,000 | 11,000 | 9,800 | 14,000 |
| Total Cyanide | mg/L | [NA] | [NA] | [NA] | <0.004 | <0.004 |
| WAD Cyanide | mg/L | [NA] | [NA] | [NA] | <0.004 | <0.004 |

| Miscellaneous Inorganics | | | |
|---|---|---|---|
| Our Reference: | UNITS | 141079-11 | 141079-12 |
| Your Reference | ---------- | BLANK | DUPLICATE |
| Date Sampled | ---------- | 24/09/2013 | 24/09/2013 |
| Type of sample | | Water | Water |
| Time Sampled | | 14:20 | 12:45 |
| Date prepared | - | 27/9/13 | 27/9/13 |
| Date analysed | - | 27/9/13 | 27/9/13 |
| pH in water | pH Units | 6.2 | 7.1 |
| Electrical Conductivity water | µS/cm | 2 | 26,000 |
| Total Dissolved Solids (grav) | mg/L | <5 | 21,000 |
| Total Cyanide | mg/L | <0.004 | [NA] |
| WAD Cyanide | mg/L | <0.004 | [NA] |

**Client Reference: Coyote Project**

| Dissolved Metals in Water | | | | | | |
|---|---|---|---|---|---|---|
| Our Reference: | UNITS | 141079-1 | 141079-2 | 141079-3 | 141079-4 | 141079-5 |
| Your Reference | ---------- | CYTSF01 | CYTSF02 | CYTSF04 | CYTSF05 | TSF-02 |
| Date Sampled | ---------- | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 |
| Type of sample | | Water | Water | Water | Water | Water |
| Time Sampled | | 15:15 | 14:20 | 16:05 | 16:55 | 06:35 |
| Date prepared | - | 01/10/13 | 01/10/13 | 01/10/13 | 01/10/13 | 01/10/13 |
| Date analysed | - | 01/10/13 | 01/10/13 | 01/10/13 | 01/10/13 | 01/10/13 |
| Arsenic-Dissolved | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | 1.8 |

| Dissolved Metals in Water | | | | | | |
|---|---|---|---|---|---|---|
| Our Reference: | UNITS | 141079-6 | 141079-7 | 141079-8 | 141079-9 | 141079-10 |
| Your Reference | ---------- | WEP | KBB1-B | U/G Backs | U/G Discharge | RAW |
| Date Sampled | ---------- | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 |
| Type of sample | | Water | Water | Water | Water | Water |
| Time Sampled | | 17:33 | 12:45 | 09:00 | 06:15 | 17:20 |
| Date prepared | - | 01/10/13 | 01/10/13 | 01/10/13 | 01/10/13 | 01/10/13 |
| Date analysed | - | 01/10/13 | 01/10/13 | 01/10/13 | 01/10/13 | 01/10/13 |
| Arsenic-Dissolved | mg/L | 2.1 | 0.013 | 1.6 | 1.3 | 1.8 |

| Dissolved Metals in Water | | | |
|---|---|---|---|
| Our Reference: | UNITS | 141079-11 | 141079-12 |
| Your Reference | ---------- | BLANK | DUPLICATE |
| Date Sampled | ---------- | 24/09/2013 | 24/09/2013 |
| Type of sample | | Water | Water |
| Time Sampled | | 14:20 | 12:45 |
| Date prepared | - | 01/10/13 | 01/10/13 |
| Date analysed | - | 01/10/13 | 01/10/13 |
| Arsenic-Dissolved | mg/L | <0.001 | 0.013 |

| Total Metals in water | | | | | | |
|---|---|---|---|---|---|---|
| Our Reference: | UNITS | 141079-1 | 141079-2 | 141079-3 | 141079-4 | 141079-5 |
| Your Reference | ---------- | CYTSF01 | CYTSF02 | CYTSF04 | CYTSF05 | TSF-02 |
| Date Sampled | ---------- | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 |
| Type of sample | | Water | Water | Water | Water | Water |
| Time Sampled | | 15:15 | 14:20 | 16:05 | 16:55 | 06:35 |
| Date prepared | - | 2/10/13 | 2/10/13 | 2/10/13 | 2/10/13 | 2/10/13 |
| Date analysed | - | 2/10/13 | 2/10/13 | 2/10/13 | 2/10/13 | 2/10/13 |
| Arsenic-Total | mg/L | 0.003 | 0.003 | 0.002 | 0.002 | 2.0 |

| Total Metals in water | | | | | | |
|---|---|---|---|---|---|---|
| Our Reference: | UNITS | 141079-6 | 141079-7 | 141079-8 | 141079-9 | 141079-10 |
| Your Reference | ---------- | WEP | KBB1-B | U/G Backs | U/G Discharge | RAW |
| Date Sampled | ---------- | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 | 24/09/2013 |
| Type of sample | | Water | Water | Water | Water | Water |
| Time Sampled | | 17:33 | 12:45 | 09:00 | 06:15 | 17:20 |
| Date prepared | - | 2/10/13 | 2/10/13 | 2/10/13 | 2/10/13 | 2/10/13 |
| Date analysed | - | 2/10/13 | 2/10/13 | 2/10/13 | 2/10/13 | 2/10/13 |
| Arsenic-Total | mg/L | 2.4 | 0.029 | 1.9 | 1.5 | 2.1 |

| Total Metals in water | | | |
|---|---|---|---|
| Our Reference: | UNITS | 141079-11 | 141079-12 |
| Your Reference | ---------- | BLANK | DUPLICATE |
| Date Sampled | ---------- | 24/09/2013 | 24/09/2013 |
| Type of sample | | Water | Water |
| Time Sampled | | 14:20 | 12:45 |
| Date prepared | - | 2/10/13 | 2/10/13 |
| Date analysed | - | 2/10/13 | 2/10/13 |
| Arsenic-Total | mg/L | <0.001 | 0.028 |

| vTRH(C6-C10)/MBTEXN in water | | |
|---|---|---|
| Our Reference: | UNITS | 141079-10 |
| Your Reference | ---------- | RAW |
| Date Sampled | ---------- | 24/09/2013 |
| Type of sample | | Water |
| Time Sampled | | 17:20 |
| Date analysed | - | 28/9/13 |
| TRHC$_6$ - C$_9$ | µg/L | <10 |
| TRHC$_6$ - C$_{10}$ | µg/L | <10 |
| TRHC$_6$-C$_{10}$ less BTEX (F1) | µg/L | <10 |
| MTBE | µg/L | <1 |
| Benzene | µg/L | <1 |
| Toluene | µg/L | <1 |
| Ethylbenzene | µg/L | <1 |
| m+p-xylene | µg/L | <2 |
| o-xylene | µg/L | <1 |
| Naphthalene | µg/L | <1 |
| *Surrogate* Dibromofluoromethane | % | 117 |
| *Surrogate* toluene-d8 | % | 105 |
| *Surrogate* 4-BFB | % | 90 |

| svTRH(C10-C40) in water | | |
|---|---|---|
| Our Reference: | UNITS | 141079-10 |
| Your Reference | ---------- | RAW |
| Date Sampled | ---------- | 24/09/2013 |
| Type of sample | | Water |
| Time Sampled | | 17:20 |
| Date extracted | - | 1/10/13 |
| Date analysed | - | 1/10/13 |
| $TRHC_{10}$ - $C_{14}$ | µg/L | <50 |
| $TRHC_{15}$ - $C_{28}$ | µg/L | <100 |
| $TRHC_{29}$ - $C_{36}$ | µg/L | <100 |
| $TRH>C_{10}$ - $C_{16}$ | µg/L | <50 |
| $TRH>C_{10}$-$C_{16}$ less N (F2) | µg/L | <50 |
| $TRH>C_{16}$ - $C_{34}$ | µg/L | <100 |
| $TRH>C_{34}$ - $C_{40}$ | µg/L | <100 |
| *Surrogate* o-Terphenyl | % | 80 |

| Method ID | Methodology Summary |
|---|---|
| **INORG-001** | pH - Measured using pH meter and electrode in accordance with APHA 22nd ED, 4500-H+. |
| **INORG-002** | Conductivity and Salinity - measured using a conductivity cell and dedicated meter, in accordance with APHA 22nd ED 2510 and Rayment & Higginson. |
| **INORG-018** | Total Dissolved Solids - determined gravimetrically. The solids are dried at 180±5°C |
| **INORG-014** | Cyanide - free, total, weak acid dissociable by segmented flow analyser (in line dialysis with colourimetric finish) |
| **Metals-022 ICP-MS** | Determination of various metals by ICP-MS. |
| **ORG-016** | Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. |
| **ORG-013** | Water samples are analysed directly by purge and trap GC-MS. |
| **ORG-003** | Soil samples are extracted with Dichloromethane/Acetone, and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater |

| QUALITY CONTROL<br><br>Miscellaneous Inorganics | UNITS | PQL | METHOD | Blank | Duplicate Sm# | Duplicate results<br><br>Base II Duplicate II %RPD | Spike Sm# | Spike % Recovery |
|---|---|---|---|---|---|---|---|---|
| Date prepared | - | | | 27/9/13 | 141079-8 | 27/9/13 \|\| 27/9/13 | LCS | 27/9/13 |
| Date analysed | - | | | 27/9/13 | 141079-8 | 27/9/13 \|\| 27/9/13 | LCS | 27/9/13 |
| pH in water | pH Units | | INORG-001 | [NT] | 141079-8 | 7.4 \|\| 7.4 \|\| RPD: 0 | LCS | 101% |
| Electrical Conductivity water | µS/cm | 1 | INORG-002 | <1 | 141079-8 | 16000 \|\| 16000 \|\| RPD: 0 | LCS | 87% |
| Total Dissolved Solids (grav) | mg/L | 5 | INORG-018 | <5 | 141079-8 | 11000 \|\| [N/T] | LCS | 96% |
| Total Cyanide | mg/L | 0.004 | INORG-014 | <0.004 | [NT] | [NT] | LCS | 101% |
| WAD Cyanide | mg/L | 0.004 | INORG-014 | <0.004 | [NT] | [NT] | LCS | 110% |
| QUALITY CONTROL<br><br>Dissolved Metals in Water | UNITS | PQL | METHOD | Blank | Duplicate Sm# | Duplicate results<br><br>Base II Duplicate II %RPD | Spike Sm# | Spike % Recovery |
| Date prepared | - | | | 01/10/13 | 141079-1 | 01/10/13 \|\| 01/10/13 | LCS | 01/10/13 |
| Date analysed | - | | | 01/10/13 | 141079-1 | 01/10/13 \|\| 01/10/13 | LCS | 01/10/13 |
| Arsenic-Dissolved | mg/L | 0.001 | Metals-022 ICP-MS | <0.001 | 141079-1 | <0.001 \|\| <0.001 | LCS | 96% |
| QUALITY CONTROL<br><br>Total Metals in water | UNITS | PQL | METHOD | Blank | Duplicate Sm# | Duplicate results<br><br>Base II Duplicate II %RPD | Spike Sm# | Spike % Recovery |
| Date prepared | - | | | 2/10/13 | 141079-1 | 2/10/13 \|\| 2/10/13 | LCS | 2/10/13 |
| Date analysed | - | | | 2/10/13 | 141079-1 | 2/10/13 \|\| 2/10/13 | LCS | 2/10/13 |
| Arsenic-Total | mg/L | 0.001 | Metals-022 ICP-MS | <0.001 | 141079-1 | 0.003 \|\| 0.003 \|\| RPD: 0 | LCS | 107% |
| QUALITY CONTROL<br><br>vTRH(C6-C10)/MBTEXN in water | UNITS | PQL | METHOD | Blank | Duplicate Sm# | Duplicate results<br><br>Base II Duplicate II %RPD | Spike Sm# | Spike % Recovery |
| Date analysed | - | | | 28/9/13 | [NT] | [NT] | LCS | 28/9/13 |
| TRHC$_6$ - C$_9$ | µg/L | 10 | ORG-016 | <10 | [NT] | [NT] | LCS | 94% |
| TRHC$_6$ - C$_{10}$ | µg/L | 10 | ORG-016 | <10 | [NT] | [NT] | LCS | 94% |
| TRHC$_6$-C$_{10}$ less BTEX (F1) | µg/L | 10 | ORG-016 | <10 | [NT] | [NT] | [NR] | [NR] |
| MTBE | µg/L | 1 | ORG-013 | <1 | [NT] | [NT] | [NR] | [NR] |
| Benzene | µg/L | 1 | ORG-016 | <1 | [NT] | [NT] | LCS | 98% |
| Toluene | µg/L | 1 | ORG-016 | <1 | [NT] | [NT] | LCS | 103% |
| Ethylbenzene | µg/L | 1 | ORG-016 | <1 | [NT] | [NT] | LCS | 90% |
| m+p-xylene | µg/L | 2 | ORG-016 | <2 | [NT] | [NT] | LCS | 90% |
| o-xylene | µg/L | 1 | ORG-016 | <1 | [NT] | [NT] | LCS | 91% |
| Naphthalene | µg/L | 1 | ORG-013 | <1 | [NT] | [NT] | [NR] | [NR] |
| *Surrogate* Dibromofluoromethane | % | | ORG-016 | 105 | [NT] | [NT] | LCS | 100% |
| *Surrogate* toluene-d8 | % | | ORG-016 | 109 | [NT] | [NT] | LCS | 106% |
| *Surrogate* 4-BFB | % | | ORG-016 | 95 | [NT] | [NT] | LCS | 105% |

**Client Reference: Coyote Project**

| QUALITY CONTROL<br>svTRH(C10-C40) in water | UNITS | PQL | METHOD | Blank | Duplicate Sm# | Duplicate results<br>Base II Duplicate II %RPD | Spike Sm# | Spike % Recovery |
|---|---|---|---|---|---|---|---|---|
| Date extracted | - | | | 1/10/13 | [NT] | [NT] | LCS | 1/10/13 |
| Date analysed | - | | | 1/10/13 | [NT] | [NT] | LCS | 1/10/13 |
| TRHC$_{10}$ - C$_{14}$ | µg/L | 50 | ORG-003 | <50 | [NT] | [NT] | LCS | 97% |
| TRHC$_{15}$ - C$_{28}$ | µg/L | 100 | ORG-003 | <100 | [NT] | [NT] | LCS | 103% |
| TRHC$_{29}$ - C$_{36}$ | µg/L | 100 | ORG-003 | <100 | [NT] | [NT] | LCS | 99% |
| TRH>C$_{10}$ - C$_{16}$ | µg/L | 50 | ORG-003 | <50 | [NT] | [NT] | LCS | 98% |
| TRH>C$_{10}$-C$_{16}$ less N (F2) | µg/L | 50 | ORG-003 | <50 | [NT] | [NT] | [NR] | [NR] |
| TRH>C$_{16}$ - C$_{34}$ | µg/L | 100 | ORG-003 | <100 | [NT] | [NT] | LCS | 103% |
| TRH>C$_{34}$ - C$_{40}$ | µg/L | 100 | ORG-003 | <100 | [NT] | [NT] | LCS | 99% |
| *Surrogate* o-Terphenyl | % | | ORG-003 | 76 | [NT] | [NT] | LCS | 101% |

| QUALITY CONTROL<br>Miscellaneous Inorganics | UNITS | Dup. Sm# | Duplicate<br>Base + Duplicate + %RPD |
|---|---|---|---|
| Date prepared | - | 141079-4 | 27/9/13 \|\| 27/9/13 |
| Date analysed | - | 141079-4 | 27/9/13 \|\| 27/9/13 |
| Total Cyanide | mg/L | 141079-4 | <0.004 \|\| <0.004 |
| WAD Cyanide | mg/L | 141079-4 | <0.004 \|\| <0.004 |

| QUALITY CONTROL<br>Dissolved Metals in Water | UNITS | Dup. Sm# | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Spike % Recovery |
|---|---|---|---|---|---|
| Date prepared | - | 141079-11 | 01/10/13 \|\| 01/10/13 | 141079-2 | 01/10/13 |
| Date analysed | - | 141079-11 | 01/10/13 \|\| 01/10/13 | 141079-2 | 01/10/13 |
| Arsenic-Dissolved | mg/L | 141079-11 | <0.001 \|\| <0.001 | 141079-2 | 96% |

| QUALITY CONTROL<br>Total Metals in water | UNITS | Dup. Sm# | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Spike % Recovery |
|---|---|---|---|---|---|
| Date prepared | - | 141079-11 | 2/10/13 \|\| 2/10/13 | 141079-2 | 2/10/13 |
| Date analysed | - | 141079-11 | 2/10/13 \|\| 2/10/13 | 141079-2 | 2/10/13 |
| Arsenic-Total | mg/L | 141079-11 | <0.001 \|\| <0.001 | 141079-2 | 114% |

**APPENDIX F**

**Wildlife Management Plan. Coyote Project – Stage 2.**

# Coyote Project - Stage 2

# Wildlife Management Plan


## Revised May 2007

| | |
|---|---|
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| **Date:** | September 2006 |
| **Location:** | Coyote Gold Project, Tanami Desert, Western Australia. |

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**Appendix 1** DEC Endorsement of the Wildlife Management Plan

**Appendix 2** Fauna Habitats and Fauna Assemblage Survey of the Western Tanami Project

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**Appendix 4** Vegetation and Fauna Assessment - Ranges of the Western Desert Proposed Nature Reserve

**Appendix 5** Fauna Collected During 2006 Baseline Fauna Surveys

# 1 Executive Summary

## 1.1 Introduction

Tanami Gold NL proposes to develop Stage 2 of the Coyote Project in the Tanami Desert, Western Australia. Stage 2 will comprise a haul road running 35kms north from the existing Coyote mine site to the Sandpiper and Kookaburra prospects. The mining operation will involve development of two small open pits, a waste dump, ROM, evaporation dam and hardstand area. The entire operation will result in the disturbance of 112 ha, which includes the haul road.

A number of recognised environmental issues are associated with the development of this project, primarily relating to the presence of threatened fauna. This document discusses these issues and describes the methods to be employed to ensure any threats to wildlife are minimised.

## 1.2 Document Endorsement

This Wildlife Management Plan was submitted to the Department of Environment and Conservation in September 2006 for review and comment. A number of recommendations were made and the document was revised. In October 2006 it was re-submitted and received approval. Confirmation of approval of the document is included as Appendix 1.

## 1.3 Threats to Wildlife

An impact assessment for construction and operation of the haul road and Stage 2 mining operation has been carried out and a variety of environmental issues have been identified. These issues relate primarily to the potential for impact on fauna, in particular numerous threatened fauna species known to inhabit the area, and their habitats. Following is discussion of the recognised environmental threats that relate specifically to wildlife in the Stage 2 area.

### 1.3.1 Vegetation clearing

Stage 2 will result in total disturbance of 112 ha of native vegetation, which has potential to adversely impact on the flora and fauna of the area. The mining operation will require clearing of approximately 66.5 ha while the haul road will require clearing of approximately 23 ha.

Vegetation to be cleared is typical of the region, comprising predominately Acacia Shrubland and Hummock Grassland. No threatened flora or threatened ecological communities have been recorded in the area.

### 1.3.2 Habitat disturbance

The haul road passes through habitat known to support the Mulgara (*Dasycercus cristicauda*) and with potential to support the Bilby (*Macrotis lagotis*).

Approximately 2.8 ha of this habitat will be disturbed as the route passes through a series of small sand dunes approximately 25 km north of Coyote mine site. The largest of the sand dunes supports at least one population of Mulgaras.

The haul road will also pass through a small area of laterite rise, habitat potentially suitable for the Bilby. Less than 1 ha of this area will be disturbed and there have been no previous records of Bilby activity.

A number of Eucalypt trees will be removed to widen the existing track. There is some potential for nesting sites of the Major Mitchell's Cockatoo (*Cacatua leadbeateri*) to be lost as a result of this.

The mining area does not support vegetation or habitat specifically suited to any of the known threatened fauna, although several species may occupy the area on occasion.

### 1.3.3 Predators

Predators such as the dingo and cat are regularly observed along tracks in the area, including the existing access track to the Stage 2 area. It is believed that these animals use the roads as an easier means of movement, possibly resulting in expanded hunting areas and an increased threat to species such as the Bilby or Spectacled Hare-wallaby. Camels regularly use tracks in the area, which may also result in an expanded range.

With a track already in place and frequent sightings of dingoes, camels and cat tracks along the route, construction of the haul road is unlikely to result in any change to the current situation.

### 1.3.4 Increased motor vehicle activity

When the haul road is in operation the number of vehicles and frequency of vehicle activity in the area will increase. As a result, there is potential for an increase in fauna mortality.

### 1.3.5 Dust and noise

Dust and noise created by construction and use of the haul road may impact fringing vegetation or have a direct effect on wildlife inhabiting the immediate vicinity.

### 1.3.6 Use of saline water for dust suppression

The use of saline water for road construction and dust suppression has potential to result in adverse impact on vegetation and dependent fauna.

### 1.3.7 Dams, bunds and trenches

During construction and operation of the haul road and mine site there is potential for fauna to become trapped and die in dams, lined bunded areas or trenches.

### 1.3.8 Hydrocarbon and chemical spills

Fuel will be transported to the Stage 2 mine site and stored in a 50,000 litre tank. There is potential for spills to occur during construction and operation of the haul road and mine site and soil, surface or ground water contamination to occur as a result.

### 1.3.9 Fire

Frequent fires can alter the vegetation and subsequently affect the dependent fauna.

### 1.3.10 Surface and ground water disturbance

Drawdown of groundwater as a result of dewatering is not considered likely to impact vegetation in the area. Groundwater is saline and not suitable for plant use.

Disturbance of natural surface drainage by placement of infrastructure has potential for adverse downstream effects.

## 1.4 Receiving Environment

### 1.4.1 Landscape

The landscape traversed by the haul road is flat or gently sloping with a few hills apparent in the surrounding area. The mining area is gently sloping to the south with some exposed rocky outcrops. Hills and rocky outcrops become more frequent to the north.

Soils are sandy with underlying gravel that is exposed on higher ground.

Surface water movements are generally undefined and occur as broad sheet flows. Surface water movement for much of the area is directed toward a palaeo-drainage system that flows in a westerly direction.

### 1.4.2 Flora and vegetation

Vegetation in the area is generally low shrub or grassland. Over 140 species have been identified in the area as a result of flora surveys and monitoring.

There are three main vegetation types found along the haul road route and in the mine site area. Vegetation has been classified using the National Vegetation Information System framework, sourced from the Australian Natural Resources Atlas (http://audit.deh.gov.au/ANRA/atlas_home.cfm).

The main vegetation types present are:

**Acacia Shrubland** – found in the proposed mining area and at various locations along the haul road route. This typically consists of various Acacia species with scattered emergent Eucalypts (predominately *E. brevifolia* and *E. odontocarpa*) and occasional Grevilleas and Hakeas. The understorey is predominately *Triodia* (Spinifex) species.

**Hummock Grassland** – found in the proposed mining area and extensively along the haul road route. This vegetation type is dominated by *Triodia* species (predominately *T. pungens*). On laterite rises the Spinifex is interspersed with (predominately) *Acacia hilliana*. According to the Australian Natural Resource Atlas, Hummock Grassland accounts for 89% of vegetation in the Tanami region.

**"Sand Dune"** – found at several points along the haul road route. This vegetation type is essentially Acacia Shrubland growing on a sandy ridge with dominant understorey species including various Triodia species, *Chamaecrista symonii*, and *Jacksonia aculeta*. Typically these areas do not support Eucalypts.

In addition dense stands of *Grevillea wickhamii* can be found throughout the Acacia Shrubland vegetation.

Section 3 provides more detail of the vegetation present.

### 1.4.3 Fauna

229 species of vertebrate fauna are expected to occur in the Tanami Region. Over 130 species have been identified as a result of survey and monitoring work conducted to date. Twelve species of conservation significance are known to inhabit, or potentially inhabit the region. Surveys have confirmed the presence of seven of the twelve identified species. Table 1.1 lists these species. Section 4 provides more detail.

| Species | WA Conservation Level | IUCN Conservation Ranking | EPBC Ranking | Recorded in the Project Area |
|---|---|---|---|---|
| Mulgara *Dasycercus cristicauda* | Schedule 1 | VU | VU | **Yes** |
| Bilby *Macrotis lagotis* | Schedule 1 | VU | VU | **Yes** |
| Southern and Northern Marsupial Mole *Notoryctes typhlops* and *N. caurinus* | Schedule 1 | EN | EN | No |
| Giant Desert Skink *Egernia kintorei* | Schedule 1 | VU | VU | No |
| Peregrine Falcon *Falco peregrinus* | Schedule 4 | - | - | No |
| Major Mitchell's Cockatoo *Cacatua leadbeateri* | Schedule 4 | - | - | **Yes** |
| Woma *Aspidites ramsayi* | Schedule 4 | EN | - | **Yes** |
| Gravel Dragon *Cryptagama aurita* | Priority 1 | - | - | No |
| *Ctenotus uber johnstonei* | Priority 2 | - | - | No |
| Spectacled Hare-wallaby *Lagorchestes conspicillatus leichardti* | Priority 3 | LR | - | No |
| Bush Stone-curlew *Burhinus grallarius* | Priority 4 | NT | - | **Yes** |

| | | | | |
|---|---|---|---|---|
| Australian Bustard *Ardeotis australis* | Priority 4 | NT | - | **Yes** |

**Table 1.1 Threatened fauna known to inhabit, or potentially inhabiting the Tanami Region.**

## 1.5 Potential Impacts

### 1.5.1 Vegetation clearing and habitat disturbance

Clearing of vegetation has potential to impact on several of the threatened species known to inhabit the area.

Removal of trees along the route could impact on nesting sites for the Major Mitchell's Cockatoo that favour hollow limbs in Eucalypt trees. None of the trees to be removed are particularly large and no nesting activity has been observed over the previous 12 months. The number of trees to be removed will amount to a very small proportion of suitable nesting sites for bird species in the area. It is not expected to have an impact on local populations of any bird species.

No Bilby activity has been observed along the haul road route prior to or since commencement of mining activity at Coyote, although the species is likely to be present in the area on occasion. Minor disturbance of an area of laterite rise will occur at the southern end of the haul road, however is not considered likely to have any impact on the species.

Mulgara are known to be present in an area of sand dune habitat approximately 25km from Coyote mine site. This habitat extends for several kilometres in an east-west direction in the four locations where it is found along the route. Investigation of these areas has found that animal activity generally increases with distance from the existing track. Mulgara activity has been recorded in a number of locations within this habitat. There is potential for the species to be impacted by construction of the haul road, however all activity recorded to date is some distance either side of the proposed route.

Due to the relatively small scale of impact resulting from widening the existing track is not expected to significantly affect food or habitat availability for fauna species present in the area.

### 1.5.2 Dust and noise

Uncontrolled dust is likely to impact on vegetation immediately adjacent to the road, which in turn has potential to result in habitat loss.

Short duration vehicle noise is not anticipated to be detrimental to wildlife. The noise generated by the mining operation may result in fauna movement away from the area, however observations at the existing Coyote mine indicate that many species become accustomed and adapt to the increased noise levels.

### 1.5.3 Predators

The haul road will utilise existing disturbance and, although continuing to provide a suitable passage for the movement of these predators, will not extend the range currently available.

### 1.5.4 Increased motor vehicle activity

Increased motor vehicle activity along the haul road route is expected to be associated with an increase in animal road deaths, in particular the Bush Turkey (*Ardeotis australis*), which is commonly seen on roads and tracks in the later part of the year.

The potential for Mulgara to be affected by road traffic is recognised, particularly during the mating season when the range of males increases as they search for females.

Woma and Black-headed pythons have been observed sunning themselves on roads in the existing mining area, particularly in the cooler months of the year (May-August) and are active at night during the wet season (December-March). There is potential for an increase in road mortality of these and other snakes.

Opportunistic feeding on animal carcasses resulting from road kills may increase the potential for further road deaths. Species most at risk as a result of this will be birds of prey.

### 1.5.5 Use of saline water

The use of saline water has potential for adverse impact on roadside vegetation, which may in turn affect wildlife. Ground water to be used has a TDS of between 1600 mg/L (Coyote) and 26,000 mg/L (Sandpiper/Kookaburra). Over time, there is potential for the accumulation of salts along the road verge, which could then be transferred to the surrounding environment via rainfall runoff. Any accumulated salt will be considerably diluted following rainfall.

### 1.5.6 Fire

Altered fire regimes are thought to impact on a number of species in the Tanami Region, including the Bilby. Frequent fires can result in changes to the composition and diversity of vegetation and therefore impact species that are dependent on particular plant species.

## 1.6 Wildlife management objectives and targets

To enable effective monitoring of the impacts of the mining and haulage operation objectives and targets must be set as a basis for measurement. Table 1.2 provides the wildlife management objectives and targets for Stage 2 of the operation.

| Objective | Target |
|---|---|
| Minimise the impact on fauna. | No threatened fauna deaths.<br>Maintain diversity of species present. |
| Minimise disturbance to vegetation and habitat. | Clear only what is required for the operation.<br>Leave large trees where possible and safe to do so. |
| Hydrocarbon contaminated soils are to be treated to achieve a level acceptable for Class 1 landfill. | Remediate hydrocarbon-contaminated soils to achieve:<br>$C_6$-$C_{15}$ petroleum hydrocarbons - 2800mg/kg.<br>$C_{16}$-$C_{35}$ petroleum hydrocarbons (aromatics) - 450mg/kg.<br>$C_{16}$->$C_{35}$ petroleum hydrocarbons (aliphatics) - 28,000mg/kg. |
| Minimise fire risk. | Fire prevention mechanisms in place i.e. fire breaks.<br>Fire fighting equipment available and appropriate.<br>Prevent fires resulting from mining or haulage activities. |
| Avoid significant alteration of surface water drainage. | Surface water runoff diverted around the mine site will continue in the natural flow direction. |
| Avoid contamination of surface and ground water. | Groundwater quality to be equivalent to baseline analysis. TPH to be 0mg/L<br>Surface waters to be free of contaminants. |
| Avoid spills of hydrocarbon products and other chemicals.<br>Hydrocarbon and chemical stored in bunded areas.<br>Remove hydrocarbon waste from site regularly for appropriate disposal via Coyote mine site. | Minimise the frequency and size of hydrocarbon spills.<br>All hydrocarbons and other chemicals appropriately stored.<br>Hydrocarbon waste removed from site at least weekly. |
| Rapid cleanup and impact minimisation following spills of hydrocarbons and other chemicals. | Hydrocarbon spills are reported.<br>Clean up is rapid and effective. |
| Prevent introduction of new weeds and feral animals.<br>Minimise the opportunities for proliferation of feral animals.<br>Prevent the spread of weeds. | No new species of introduced flora or fauna resulting from Stage 2 activities.<br>Populations of cats, camels and mice do not increase.<br>Existing weeds are controlled to prevent spread. |
| Appropriate waste handling and disposal. | Waste is appropriately contained on site.<br>Only domestic and inert waste is disposed of in the landfill.<br>The landfill is covered weekly as a minimum.<br>Hydrocarbon and other potentially toxic waste is transported to Coyote mine site regularly for appropriate disposal. |
| Rehabilitate disturbed areas as soon as possible. | Achieve soil stability.<br>Disturbed areas to be revegetated to achieve similar species diversity and assemblage to what naturally exists in the area. |

**Table 1.2 Coyote Project Stage 2 wildlife management objectives and targets.**

## 1.7 Performance indicators

To enable monitoring of progress of wildlife management objectives and targets, performance indicators have been developed for the key environmental aspects of Stage 2 of the Coyote Project.

| Environmental aspect | Performance indicators |
|---|---|
| Groundwater | Groundwater quality on completion of the project will be of similar quality to baseline analysis results.<br>Groundwater will be analysed for the presence of hydrocarbons on a 3 monthly basis. Total petroleum hydrocarbons (TPH) will be 0mg/L. |
| Surface water | Visual assessments will be conducted following rainfall events to determine the impact of the mining operation on natural surface water movements in the area.<br>Monitoring will be conducted at fixed points to assess the health of vegetation prior to, during and following the operation. |
| Threatened fauna | Inspections of the sand dune habitat will be conducted daily during ore haulage campaigns to record Mulgara activity. The location and frequency of activity will be used in comparison to previously collected information to assess the impact of haul road activity.<br>Sightings of threatened fauna will be recorded and inspections of the haul road will be conducted periodically for signs of threatened fauna activity. Frequency of sightings over time will be used in assessing the impact of the haul road. |
| Fauna diversity | Fauna monitoring will continue using the pitfall traps installed in 2006. Data collected will be used as a comparison to the information collected prior to construction and operation of the haul road to assess the impact on small fauna in the area.<br>Road kills will be recorded to provide an indication of the impact of haul road operations.<br>Periodic surveys of the area will be undertaken to determine the fauna present. The data collected can be compared to that collected prior to the operation to assist in determining impacts. |
| Flora diversity and vegetation health | Photographic vegetation monitoring sites will be established in undisturbed vegetation along the haul road route and around the mine site. Data will be collected prior to commencement of operations and then at 6 monthly intervals. An assessment of the health of the vegetation will be made at these times and compared to the data originally collected.<br>Monitoring sites will be established in selected rehabilitated areas on completion of the operation. Data collected from the original sites will be used as a method of assessing the success of rehabilitation. |
| Weeds | The haul road and mine site will be inspected regularly for the presence of weeds with the location of any being recorded. Weed eradication will be carried out as required and follow up inspections will be conducted to determine success. |

**Table 1.3 Coyote Project Stage 2 Performance indicators for wildlife management.**

## 1.8 Implementation programme

To ensure success of the Wildlife Management Plan the following strategies will be implemented. Key responsibilities are also indicated.

| Factor | Strategies to be implemented | Responsibility |
|---|---|---|
| Awareness of environmental issues. | Environmental induction for all personnel.<br>Environmental handbook provided to all personnel. | Mine Manager. |
| Fauna monitoring. | Sightings of threatened or unusual animals to be reported and recorded.<br>Road kills to be reported and recorded. | All personnel / Environmental Advisor. |
| | Daily inspection of haul road for presence of threatened fauna activity during haulage operations.<br>Pitfall trapping in sand dune habitat.<br>Periodic fauna surveys of the surrounding area. | Environmental Consultant. |
| Vegetation monitoring. | Establish photographic monitoring sites and collect data periodically. | Environmental Consultant. |
| Water sampling and analysis. | Water samples collected at 3 monthly intervals. | Pit Technician / Environmental Consultant. |
| | Analysis results interpreted and corrective action implemented if necessary. | Environmental Advisor. |
| Weeds. | Regular inspections of the haul road verges and disturbance within the mining area.<br>Weed spraying conducted if required. | Environmental Consultant. |
| Feral animal species. | Site personnel will be required to report sightings of feral animals along the haul road route and within the mining area. Sightings will be recorded in a register. | All personnel.<br>Environmental Advisor. |
| | Trapping of cats will be undertaken periodically. | Environmental Consultant / Pest Control Contractor(?). |
| Vehicle speed limits. | Vehicle drivers will be required to observe a speed limit of 40km/hr while passing through sand dune habitat.<br>Signage will be placed at either end of this point to alert drivers. | Mine Manager / All personnel. |
| Dust suppression. | The haul road will be watered twice daily while ore haulage is in progress and as required at other times. | Mine Manager. |

**Table 1.4 Wildlife management strategies and responsibilities.**

## 1.9 Monitoring

### 1.9.1 Fauna

**Sand dune fauna**

Baseline monitoring of small-medium sized vertebrate fauna has been conducted in sand dune habitat on the proposed haul road route since July 2006. Results to May 2006 are included as Appendix 4. This information will form the baseline for comparison of future monitoring that will be conducted during and after the haulage operation.

**Mulgara activity**

Several locations of Mulgara activity have been identified near the proposed haul road route. Inspection of these areas will be conducted during and after the haulage operation to determine the effects on Mulgara activity.

Inspections of the haul road intersection with the known Mulgara habitat will be conducted on a daily basis (early morning) during haulage periods. The nature, location and extent of Mulgara activity will be recorded.

### 1.9.2 Vegetation and flora

Photographic monitoring sites will be established in undisturbed vegetation at points along the haul road and around the mining area prior to commencement of operations. The information collected will provide baseline information to assess the impacts of the operation on fringing or surrounding vegetation. Data will be collected from the monitoring sites in March and September during the operation.

Photographic monitoring sites will be established in selected rehabilitated areas to enable monitoring of revegetation. Baseline information will be used as a comparison for assessment of success of rehabilitation techniques.

### 1.9.3 Groundwater

Groundwater monitoring will be conducted at 3-monthly intervals during the operation. Two bores at the Sandpiper and Kookaburra pits will be used for this purpose. Parameters to be monitored will include pH, TDS (total dissolved solids), EC (electrical conductivity) and TPH (total petroleum hydrocarbons).

## 1.10 Stakeholder consultation

Consultation with various stakeholders has been undertaken in preparation of this document.

| Stakeholder | Date | Comments |
|---|---|---|
| DEC - Species and Communities Branch | 5th September 2006 | The first draft of the Wildlife Management Plan (WMP) was submitted for review. |
| | 18th September 2006 | Comments received and amendment of the WMP commenced. |
| | 16th October 2006 | Revised WMP submitted for review. |
| | 18th October 2006 | WMP deemed satisfactory. |
| DEC - EPA Service Unit | 19th February 2007 | WMP submitted as appendix with Environmental Protection Statement (EPS) |
| | 15th March 2007 | Comments received - remove reference to fauna fencing. |
| | 4th April 2007 | Revised WMP submitted as appendix with EPS |
| | 1st May 2007 | Comments received - extensive changes to the format of the WMP required. |

**Table 1.5 Stakeholder consultation.**

## 1.11 Review and revision

The Wildlife Management Plan will be reviewed on at least an annual basis to ensure relevance is maintained and that the objectives and targets set are being achieved.

The review will be undertaken by Tanami management with the purpose of determining if targets have been met, and therefore whether or not the management strategies implemented have been effective.

Any changes to the document or the management strategies will be communicated to all concerned.

## 1.12 Reporting

Details of monitoring results will be reported to the DEC and DoIR in the Annual Environmental Report (AER), which is prepared in February each year. This report includes details of environmental compliance and performance.

## 1.13 Key management actions

| Wildlife management action | Documentation to be provided | Reporting method | Status |
|---|---|---|---|
| Conduct baseline fauna surveys. | Survey reports. | Survey reports available on request. | Completed 2004 and 2005. |
| Establish sand dune habitat fauna monitoring programme and collect baseline results. | Monitoring reports. | Included in AER. | Commenced July 2006. |
| Establish photographic monitoring sites and collect baseline data prior to commencement of operations. | Monitoring site data sheets. | Included in AER. | Not commenced. |
| Construct bores and obtain baseline analysis. | Laboratory report. | Included in AER. | Not commenced. |
| Conduct groundwater sampling at 3-monthly intervals. | Laboratory report. | Included in AER. | Not commenced. |
| Haul road users and site personnel to report sightings of threatened fauna. | Email to Environmental Advisor.<br>Register of sightings. | Included in AER. | Incidental sightings recorded since July 2006. |
| During haulage operations daily inspections of haul road to be undertaken in areas of known Mulgara activity. | Records of inspections. | Report to DEC as required.<br>Included in AER. | Not commenced. |

**Table 1.6 Key actions for ensuring effective wildlife management during Stage 2 of the Coyote Project.**

# 2 Introduction

## 2.1 Coyote Project

In 2006 Tanami Gold NL (Tanami) commenced development of Stage 1 of the Coyote Gold Project, an open pit and underground mining operation. The Coyote mine site now consists of two open pits, a processing plant and supporting infrastructure.

Tanami proposes to commence Stage 2 of the Project by developing the Sandpiper and Kookaburra open pits located approximately 35km north of the existing mine site. The construction of a haul road will be required for transportation of the ore from the Stage 2 mining area to the processing plant. Tanami proposes to upgrade an existing track for this purpose. The finished haul road will be used during the dry season only.

Potential environmental issues associated with development of Stage 2 of the Coyote Project are related primarily to the construction of the haul road, which will pass through habitat potentially supporting Mulgara (*Dasycercus cristicauda*), Bilby (*Macrotis lagotis*) and other fauna species of conservation significance.

## 2.2 Wildlife Management Plan

The Wildlife Management Plan (WMP) for Stage 2 of the Coyote Project details the following information:

- Details of threatened, priority and other fauna of significance known or potentially inhabiting the area;
- Perceived risks to wildlife associated with operation of the haul road; and
- Programs and strategies in place or planned by Tanami to manage and minimise the risks to wildlife associated with this development.

# 3 Flora and Vegetation

## 3.1 Vegetation

There are three main vegetation types found along the haul road route. Vegetation has been classified using the National Vegetation Information System framework, sourced from the Australian Natural Resources Atlas (http://audit.deh.gov.au/ANRA/atlas_home.cfm).

The vegetation types along the length of the proposed haul road comprise:

- Acacia Shrubland – found in the proposed mining area and at various locations along the haul road route. This typically consists of various Acacia species with scattered emergent Eucalypts (predominately *E. brevifolia* and *E. odontocarpa*) and occasional Grevilleas and Hakeas. The understorey is predominately *Triodia* species (Photograph 3.1).
- Hummock Grassland – found in the proposed mining area and extensively along the haul road route. This vegetation type is dominated by *Triodia* (Spinifex) species (predominately *T. pungens*). On laterite rises the Spinifex is interspersed with (predominately) *Acacia hilliana* (Photograph 3.2 and 3.3).
- "Sand Dune" – found at several points along the haul road route. This vegetation type is essentially Acacia and Grevillea Shrubland growing on a sandy ridge with understorey species including *Chamaecrista symonii*, *Jacksonia aculeta* and various *Triodia* species. Typically these areas do not support Eucalypts (Photograph 3.4).

**Photograph 3.1 Typical Acacia Shrubland vegetation.**

**Photograph 3.2 Typical Hummock Grassland vegetation along the proposed haul road route.**

**Photograph 3.3 Typical Hummock Grassland vegetation on a laterite rise with interspersing *Acacia hilliana*.**

**Photograph 3.3 Typical Sand Dune vegetation and Mulgara habitat.**

## 3.2 Flora

A combined total of 145 flora species from 41 families have been recorded during surveys in the Stage 2 area and surrounding region. The most common families are Poaceae (26 species), Mimosaceae (12 species) and Myrtaceae (11 species). The most commonly recorded genera are *Acacia* (12 species).

The Bilby is reported to have a preference for laterite rises and feeding habits of the animal may be associated with certain Acacia species that grow in these areas (i.e. *Acacia hilliana*).

With the exception of the Major Mitchell's Cockatoo with a preference for nesting in Eucalypts, there are no other recognised associations between threatened fauna present in the area and any particular species of flora.

# 4 Fauna of Conservation Significance

## 4.1 Fauna Surveys

In 2004 Tanami commissioned Biota Environmental Services (Biota) to conduct fauna habitat and assemblage surveys of the Coyote Project, including the northern deposits and the area proposed for the haul road (Appendix 1). Ecotec (WA) Pty Ltd (Ecotec) now provides on site environmental management for the Coyote Project, which includes ongoing flora and fauna surveys of the surrounding region. The combined survey work of Biota and Ecotec has recorded the presence of seven of the twelve species of conservation significance known to inhabit, or potentially inhabiting the region (Table 4.1).

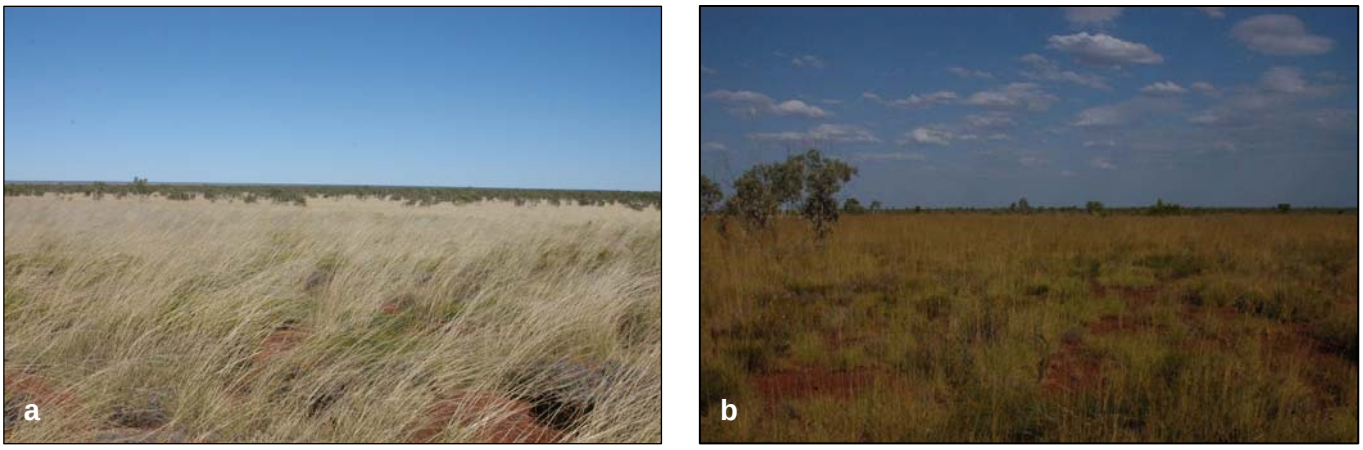
| Species | WA Conservation Level | IUCN Conservation Ranking | Recorded During Surveys |
|---|---|---|---|
| Mulgara<br>*Dasycercus cristicauda* | Schedule 1 | VU | **Yes** |
| Bilby<br>*Macrotis lagotis* | Schedule 1 | VU | **Yes** |
| Southern and Northern Marsupial Mole<br>*Notoryctes typhlops* and *N. caurinus* | Schedule 1 | EN | No |
| Giant Desert Skink<br>*Egernia kintorei* | Schedule 1 | VU | No |
| Peregrine Falcon<br>*Falco peregrinus* | Schedule 4 | LC | No |
| Major Mitchell's Cockatoo<br>*Cacatua leadbeateri* | Schedule 4 | LC | **Yes** |
| Woma<br>*Aspidites ramsayi* | Schedule 4 | EN | **Yes** |
| Gravel Dragon<br>*Cryptagama aurita* | Priority 1 | - | No |
| *Ctenotus uber johnstonei* | Priority 2 | - | No |
| Spectacled Hare-wallaby<br>*Lagorchestes conspicillatus leichardti* | Priority 3 | LR | **Yes** |
| Bush Stone-curlew<br>*Burhinus grallarius* | Priority 4 | NT | **Yes** |
| Australian Bustard<br>*Ardeotis australis* | Priority 4 | NT | **Yes** |

**Table 4.1 Fauna species with conservation significance recorded or potentially inhabiting the Coyote Project area.**

## 4.2 Bilby (*Macrotis lagotis*)

Fauna surveys carried out by Ecotec (2006) and Southgate (2005) have indicated *Macrotis lagotis* preferentially select for sandy habitats that border laterite areas, including areas that have been previously disturbed by fire or clearance (Appendix 2 & 3).

An area of habitat potentially suitable for the Bilby is located approximately 2km to the west of the Kookaburra deposit (Photo 4.1 a). Another area of potential habitat is located at the southern end of the proposed haul road, approximately 3km north of the Coyote mine site (Photograph 4.1, b). There has been no evidence of Bilby activity found in either of these areas to date. The probability of Bilby activity is expected to increase if the area is burnt (Southgate 2005, Ecotec 2006).




**Photograph 4.1 Potential Bilby habitat: a) west of the proposed Kookaburra deposit; b) at the southern end of the proposed haul road.**

The area near the Kookaburra deposit will not be affected by mining activity. The area at the southern end of the haul road (near the existing mine site) will have minor disturbance as a result of widening the existing track to construct the haul road. The impact on the total area of potentially suitable habitat caused by this disturbance will be insignificant. Figure 4.1 shows the areas of potential Bilby habitat in the region surrounding the Coyote Project. The distribution is based on the geology of the area, specifically the presence of laterite soils.

### 4.3 Mulgara (*Dasycercus cristicauda*)

Recent findings have indicated the Mulgara in the Tanami Desert is widespread (Masters *et al*. 2003, Cole and Woinarski 2002). Reports have indicated the species preferably occupies areas of laterite, sandplain and sand dunes that occur along palaeodrainage systems where spinifex (*Triodia* spp.) grows in distinct hummocks. In the Tanami Desert, Masters *et al*. (1993) estimated that Mulgara occupied an area of 18,000 $km^2$ and were more wide-spread than previously thought.

Fauna assemblage and habitat surveys carried out by Biota (in 2004) recorded potential Mulgara activity (predominately burrows) on sand dunes and sandy rises located between the Coyote mine site and the Stage 2 deposits. A Mulgara tracking survey was conducted by Ecotec within three sand dune habitats along the haul road of the Tanami Project during August 2006. Each survey consisted of a foot traverse within each area documenting signs of Mulgara activity including tracks, scats, diggings and burrows.

Biota captured one live animal in 2004. Ecotec used Elliot trapping to successfully capture two male Mulgara in December 2006. Trapping was conducted after a fire had passed through the area and targeted an area of unburnt vegetation where considerable activity had been observed (Photograph 4.2). The two male Mulgara were captured in two days (11$^{th}$ and 12$^{th}$ December) using standard peanut butter and rolled oats bait. Trapping was conducted in the area again in April and May 2007, however no Mulgara were caught. Mulgara tracks and potential burrows have been continually observed on both sides of the proposed route. It is believed that two populations of Mulgara exist on the largest sand dune, both being located some distance from the existing track.

Figure 4.2 shows the location of observed Mulgara activity in the sand dune habitat to December 2006.

**Photograph 4.2 Mulgara refuge following bush fire, December 2006.**

### 4.4 Southern and Northern Marsupial Mole (*Notoryctes typhlops and N. caurinus*)

Suitable habitat is believed to be large sand dunes and dry sandy river beds, neither of which is found within the proposed area for development. The Marsupial Mole has not been recorded in the area and the series of small sand dunes along the proposed haul road route are considered unlikely to support this species. The potential for the proposed mining activity and the construction of the haul road to impact on the Marsupial Mole is very low.

### 4.5 Giant Desert Skink (*Egernia kintorei*)

The Giant Desert Skink is known to inhabit sandplains vegetated with Spinifex (*Triodia*) species and, as such, has potential to exist in the area. This species has not been recorded during fauna surveys of the Coyote Project area is considered unlikely to be adversely impacted by mining or construction and operation of the haul road.

### 4.6 Peregrine Falcon (*Falco peregrinus*)

The Peregrine Falcon occurs in a wide range of habitats including forest, woodlands, wetlands and open country. Although not recorded during any fauna assemblage surveys within the region it is possible that the species would be found in the area. Given the high mobility of this species and the limited number of potential nesting sites that will be impacted, the proposed development is not considered likely to adversely impact the species.

### 4.7 Major Mitchell's Cockatoo (*Cacatua leadbeateri*)

Major Mitchell's Cockatoo inhabits lightly or sparsely wooded country near water and is dependent on large trees, particularly Eucalypts, for nesting. The species is commonly sighted in the Coyote Project area. Construction of the haul road will require removal of some trees to enable the existing road to be widened. These trees represent a very small proportion of large trees in the area and little or no impact on the Major Mitchell's Cockatoo population is expected.

### 4.8 Woma (*Aspidites ramsayi*)

The Woma or Ramsay's Python occurs in the arid zones of Western Australia, favouring open myrtaceous heath on sandplains, and dune fields dominated by Spinifex (*Triodia* spp.). There are very few recent records of the Woma within the southern parts of its range. Loss of habitat is one of the key threats to this species. Cats and foxes may also have a significant impact.

One large individual has been sighted along the route of the proposed haul road during a fauna survey carried out by Ecotec in July 2006. There have been no sightings by mine site or exploration personnel since that time. As these reptiles are so rarely encountered, development of the haul road is considered unlikely to impact on the local population.

### 4.9 Gravel Dragon (*Cryptagama aurita*)

Little is known of the ecology of the Gravel Dragon other than that it occurs on lateritic soils supporting *Triodia* (Spinifex) species, which are found throughout the region. It is possible that this reptile is present however it has never been recorded in the area. The haul road will not disturb significant areas of lateritic soil and is considered unlikely to impact on the conservation status of this species.

### *4.10 Ctenotus uber johnstonei*

*Ctenotus uber johnstonei* is a skink known only from the Balgo Hills area of Western Australia. Preferred habitat appears to be areas of Chenopod shrub land, which is not found in the Project area. Stage 2 of the Coyote Project is considered very unlikely to impact on the species.

### 4.11 Spectacled Hare-wallaby (*Lagorchestes conspicillatus leichardti*)

The Spectacled Hare-wallaby is known in the region from a road kill near Balgo many years ago. Preferred habitat is believed to be sand plain with Spinifex and other grasses, which is common throughout the region. Tracks potentially belonging to this species have been found during survey work to the north of the Stage 2 area by Biota in 2004. There are also reports from Tanami Exploration employees of sightings of animals fitting this description, again to the north of the Project area. Medium sized tracks potentially belonging to this animal were also found by Ecotec during a survey to the south of the mine site.

Should the species be present in the area surrounding the haul road route, the potential for road-related deaths will increase, however there have been no sightings in this area. Increased vehicle activity is expected to result in avoidance of the area, however the potential for road mortalities is recognised. However given the small scale and short duration of the operation impact on the conservation status of the species is not expected. Survey work, including spot lighting, will continue throughout the life of mining.

### 4.12 Bush Stone-curlew (*Burhinus grallarius*)

The Bush Stone-curlew has been sighted at the Coyote mine site since commencement of the mining operation where they have been observed feeding on insects attracted to the lights around the site. There have been no sightings of this species during fauna assemblage surveys within the Stage 2 area although it is likely to be present. Although operation of the haul road has potential to result in road deaths, adverse impact on the local population of this species is considered unlikely.

### 4.13 Australian Bustard (*Ardeotis australis*)

The Australian Bustard (or Bush Turkey) is commonly sighted in the area, particularly alongside the existing tracks. The species may utilise these areas for mating displays (personal observation, J Shepherdson 2006). Increased road traffic may result in an increased mortality rate, however the relatively small scale of the operation, the large population and the mobility of the bird make the likelihood of adversely impacting the species very low.

# 5 Threatening Processes

## 5.1 Vegetation clearing

Stage 2 will result in total disturbance of 112 ha of native vegetation, which has potential to adversely impact on the flora and fauna of the area. The mining operation will require clearing of approximately 66.5 ha, which includes 12 ha of existing exploration disturbance. The haul road will require clearing of approximately 23 ha of vegetation to upgrade an existing track. The existing track was cleared several years ago and occupies an area of 22.5 ha.

To construct the haul road the existing track will be widened by approximately 8m. A number of Eucalypt trees will require removal along the route to allow the road to be widened. None of the trees are particularly large and no nesting activity has been observed. Removal of trees along the route will amount to a reduction of a very small proportion of suitable nesting sites for bird species in the area, and is not expected to have an impact on local populations.

Less than 1 hectare of potentially suitable Bilby habitat will require clearing. No Bilby activity has been observed along the haul road route prior to or since commencement of mining activity.

Less than 1 hectare of sand dune habitat will also require clearing. Sand dune habitat extends for several kilometres in an east-west direction in the four locations where it is found along the route. Investigation of these areas has found that animal activity, including that likely to belong to the Mulgara, increases with distance from the existing track.

Due to the relatively small scale of impact resulting from widening the existing track is not expected to significantly affect food or habitat availability for fauna species present in the area.

## 5.2 Predator movement

Predators such as the dingo and cat are regularly observed along tracks in the Project area, including the existing access route to the Stage 2 area. It is believed that these animals use the roads as an easier means of movement, possibly resulting in expanded hunting areas and an increased threat to threatened species such as the Bilby or Spectacled Hare-wallaby. The haul road will continue to provide a suitable passage for the movement of these predators, but is not expected to result in any change to the current predator-prey relationships.

## 5.3 Increased motor vehicle activity

The increased motor vehicle activity along the haul road route is expected to be associated with an increase in animal road deaths, in particular the Bush Turkey (*Ardeotis australis*), which is commonly seen on roads and tracks. It is also likely that an increase in road kills by motor vehicles will be associated with wildlife opportunistically feeding on animal carcasses. Species most at risk include the variety of birds of prey found within the region. Management strategies have been proposed to assist in minimising the risk.

### 5.4 Dust and noise

Disturbances such as dust and noise created by construction and use of the haul road may have an effect on wildlife in the immediate vicinity. Uncontrolled dust is likely to impact on vegetation immediately adjacent to the road, which in turn has potential to result in habitat loss. Increased noise may deter some animals from original home ranges close to the haul road.

### 5.5 Use of saline water for dust suppression

The use of saline water for road construction and dust suppression has potential to result in adverse impact on vegetation and dependent fauna.

Water will be sourced from groundwater bores at the existing Coyote mine site and at the Stage 2 site. Groundwater in the Coyote area has a very low salinity and is not detrimental to vegetation or fauna, however groundwater in the Stage 2 area is generally moderately saline and may be detrimental to vegetation.

### 5.6 Dams, bunds and trenches

Lined structures such as bunded areas as well as dams and trenches can become traps for animals that enter them. Such structures will include the bunded area for the fuel tank, the evaporation dam, trenches for installation of underground services and the landfill.

# 6 Management Strategies

To ensure minimisation of impact on wildlife during construction and operation of the proposed haul road, Tanami will incorporate the following management strategies into the development of Stage 2 of the Coyote Project.

## 6.1 Environmental induction

The environmental induction of all mine personnel will be continued throughout the life of mining to educate employees and contractors with regard to the native fauna and flora species of the area, with particular focus on threatened species. An environmental handbook accompanies the induction to assist personnel in identification of significant species and provide basic environmental procedures for the operation. Information in the handbook includes:

- Photographs and descriptions of threatened fauna;
- Reporting requirements for sightings of threatened fauna;
- Information relating to common snakes of the area;
- Information relating to introduced animals;
- Details of significant vegetation; and
- Basic spill procedures.

## 6.2 Vegetation clearing

Areas to be cleared will be clearly marked using survey pegs and high visibility flagging tape. Machinery operators are to be made aware of the boundaries of the area to be cleared. A Clearing Permit system and procedure is in place at the existing Coyote mine site and will be extended to include the Stage 2 area. Under the existing system an inspection of each area to be cleared is to be undertaken for the presence of threatened fauna. The Environmental Advisor holds a licence to relocate any threatened fauna found in areas approved for clearing.

Rehabilitation work will commence as soon as practical after completion of activity in an area to re-establish vegetation. Rehabilitation work will include restoration of habitat suitable for threatened fauna where appropriate.

## 6.3 Cat control

Trapping of feral cats within the region is planned to commence in late 2006. Once captured cats will be humanely euthanized using carbon dioxide. This program will aid in reducing the population of cats and assist in the conservation of threatened species in the region.

### 6.4 Fauna road toll survey

Mine personnel will be required to record and report the occurrence of road kills along the haul road. Reporting forms will be available to all personnel. Information including the name of the species or its distinguishing features (*i.e*. colour, shape, size etc.), time and date of the accident and the location of where the accident occurred will be reported. This will aid in monitoring the presence and distribution of different species within the region and highlight further management areas.

In addition, the road will be inspected daily by the environmental consultant during haulage operations. Road kills will be recorded and carcasses removed from the road.

### 6.5 Management of injured wildlife

All mine personnel are made aware of the potential for injured wildlife as a result of collisions with vehicles. The following information is extracted from a Tanami Gold Guideline and is displayed in poster format around the Coyote mine site and camp, as well as being reinforced during the induction.

***If you hit an animal please follow this procedure:***

1. ***Always check to see if the animal is still alive. Don't assume it will be dead.***
2. ***If the animal is dead remove it from the road so that the carcass doesn't attract other animals onto the road.***
3. ***If the animal is alive it may be possible to rehabilitate it. Contact Kiely Sullivan or Jeremy Shepherdson on Ch 21 or 9168 8305.***
4. ***If you need to move the animal, wrap it firmly in a towel, jacket or something similar and cover its head. Keep it in a warm and quiet place. If you're not sure what to do, get some help.***
5. ***If help is not available, or the animal is obviously beyond help, you may need to put it down. A hard blow to the back of the neck with an axe, shovel, tire iron or something similar should be enough. If you can't do it, get someone who can.***

***Never leave an animal to die slowly!***

Tanami has established contact with wildlife carer groups in Alice Springs and Darwin. Animals that can potentially be rehabilitated will be transported to these centres via regular charter flights. Jeremy Shepherdson (regularly on site) has considerable experience in wildlife rescue and rehabilitation. In addition, there are a number of other personnel on site with similar experience. Tanami will ensure adequate resources exist on site at all times to enable effective and humane care to be given to injured wildlife.

### 6.6 Speed limits

A speed limit of 40km/h will be required through the sand dune areas, with appropriate signage positioned accordingly. This may assist in minimising road kills and will reinforce the requirement to report native fauna species.

The speed limit for the remainder of the road will be 80km/hr.

Signage will be posted at each end of the haul road alerting drivers to the presence of wildlife of conservation significance.

### 6.7 Dust suppression

The haul road will be watered regularly in order to suppress the level of atmospheric dust and reduce the impact on surrounding vegetation and habitat types.

### 6.8 Saline water management

Water used for dust suppression will be treated as detrimental to vegetation regardless of where it is obtained from. Water cart operators are required to keep water spray within the road way and to avoid overspray of the surrounding vegetation.

Refilling areas will be constructed with a method of capturing spilled water, such as a drain directing spillage to a sump.

### 6.9 Dams, bunds and trenches

A lined earthen bund will be constructed for the bulk fuel storage tank. The walls of this bund will be less than 1 metre high and sloped, so most fauna will be capable of escaping. An evaporation dam will be required for disposal of excess water produced during dewatering. The main structure will not be lined however a corner of the dam will be constructed as a clean water dam and will be lined with HDPE. Any trenches required for installation of services will be temporary and backfilled immediately on completion of work. The rubbish tip will have a slope at one end to enable animals egress.

### 6.10 Hydrocarbon and chemical spills

Tanami has procedures for dealing with hydrocarbon and chemical spills in place at the Coyote mine site. These will also apply to the Stage 2 operations.

Appropriate spill containment and cleanup equipment will be available on site and personnel will be trained in its use.

### 6.11 Fire management

To prevent the spread of fire caused by mining activities fire fighting equipment will be available on site and personnel will be trained in its use. A fire break will be installed around the laydown area to prevent spread of fire to the surrounding vegetation, and also to prevent bush fires entering the mine operation.

### 6.12 Surface and groundwater management

Surface water diversion will be required to prevent flooding of the pits and erosion of roads and hardstand areas. Diverted surface water flows will be directed to settlement ponds to allow settling of sediment. Water will then continue on its natural course.

Groundwater will be abstracted for dewatering of the pits and used for dust suppression and construction. The remainder will be disposed of in an evaporation dam. The groundwater is saline and the natural water table is at approximately 20m below surface level. The aquifer from which water will be drawn is isolated so no impact on surrounding groundwater systems is expected. There has been no stygofauna found in the area and vegetation is unlikely to be affected by drawdown of the water.

# 7 Wildlife Monitoring

## 7.1 Baseline Monitoring

Sixteen pit fall traps have been permanently installed on the largest of the sand dunes intersected by the proposed haul road. The pitfalls have been placed in groups of four arranged in a zig-zag pattern to maximise coverage of the habitat. Drift fencing and shade shelters are installed when the traps are open (Photograph 6.1). Traps are left open for a 5-7 day period and checked at sunrise and mid-afternoon each day. When not in use each pit fall trap is capped with a plastic lid.

“Elliot” traps baited with rolled oats and peanut butter are placed with each group of pit fall traps when they are opened.

Baseline monitoring commenced in July 2006 and has been conducted at approximately monthly intervals to provide an indication of the species present in the area prior to construction of the haul road. A list of species captured to date is included as Appendix 4.

## 7.2 Mulgara

Inspection of suitable habitat adjacent to the proposed haul road route has been conducted for Mulgara activity. The surveys commenced in June 2006 and will continue at regular intervals throughout construction and operation of the haul road. These surveys intend to determine the presence and distribution of Mulgara in proximity to the haul road.

Elliot trapping is conducted on a regular basis and generally targets areas of high potential Mulgara activity. The original intention of trapping Mulgara had been to establish population size. The two animals captured in December were considerably stressed by the ordeal of having been trapped and, given the low success rate of the trapping, it was decided not to permanently mark the animals. The trapping programme will instead be used to confirm Mulgara presence.

Over a period of time it may be possible to determine whether there have been adverse effects on the distribution of the population and whether or not haul road activity has affected the distribution of the population(s). Data collected will also help to assess management options for the conservation of D. cristicauda.

Distribution of activity observed to December 2006 is illustrated in Figure 4.2 and details of survey findings will be reported to DEC on an annual basis.

## 7.3 Bilby

Bilbies are known to inhabit the Coyote Project area and several sightings have been recorded since commencement of mining. An area of high activity was located south of the mine site during survey work conducted in July 2006 (Figure 3.1). This area will be periodically monitored for continued activity throughout the life of the mining project.

Surveys of a number of areas of suitable habitat will be conducted on a quarterly basis, including around the site airstrip, at the southern end of the proposed haul road, west of the Kookaburra deposit and a recently burnt area northwest of the mine site. The surveys will be conducted primarily to locate evidence of Bilby activity (tracks, scats and burrows). The location of any activity will be recorded and reported to the DEC on an annual basis.

### 7.4 Incidental Sightings

A broadly based wildlife monitoring program has been established to monitor wildlife species of conservation significance outlined in Table 3.1. Animals opportunistically sighted along the haul road will be reported by mine site personnel and during regular visual surveys (day and night) to be conducted by Ecotec. Reported sightings are recorded in a spreadsheet that details location, date and time. This information can be used to determine variations in species abundance throughout operation of the haul road. Details of significant findings will be reported to DEC on an annual basis.

# 8 References

**Biota Environmental Sciences Pty Ltd (2005).** Fauna Habitats and Fauna Assemblage Survey of the Western Tanami Project. Report prepared for Tanami Gold NL, September 2005.

**Brendan DT, Goldingay R. (2003).** Cutting the carnage: Wildlife usage of road culverts in north-eastern New South Wales. *Wildlife Research* **30**(5) 529 - 537

**Ecotec (WA) Pty Ltd (2006a).** Vegetation and Fauna Assessment - Ranges of the Western Desert Proposed Nature Reserve. Report prepared for Tanami Exploration, June 2006.

**Lettink M, Armstrong DP. (2002).** An introduction to using mark-recapture analysis for monitoring threatened species. *Department of Conservation Technical Series* **28A**: 5-32.

**Masters, P. (1993).** The effects of fire-driven succession and rainfall on small mammals in spinifex grasslands at Uluru National Park, Northern Territory. *Wildlife Research* **20**, 803-813.

**Masters P. (2003)**. Movement patterns and spatial organisation of the Mulgara, *Dasycercus cristicauda* (Marsupialia: Dasyuridae), in Central Australia. *Wildlife Research* **30**, 339-334.

**Menkhorst, P., Knight, F. (2001).** A field guide to the mammals of Australia. Oxford University Press. South Melbourne, Australia.

**Southgate R. (2005).** The results from animal track sampling in the Western Desert Tanami Project (Coyote and Larranganni Deposits). Sub consultancy report for Biota Environmental Services October 2005.

# Appendix 1
# DEC Endorsement of the Wildlife Management Plan

# Appendix 2

# Fauna Habitats and Fauna Assemblage Survey of the Western Tanami Project

**From:** Chapman, Tamra [mailto:Tamra.Chapman@dec.wa.gov.au]
**Sent:** Wednesday, 18 October 2006 3:37 PM
**To:** Jeremy Shepherdson
**Subject:** Tanami Gold Wildlife Management Plan
**Importance:** High

Hello Jeremy,

Thank you for forwarding the Wildlife Management Plan for Stage 2 of the Coyote Project (September 2006).

The plan is now satisfactory from DEC's point of view because it details the threatened fauna in the area, identifies the risks associated with the haul road and sets out strategies to minimise the risks.

I would hope that in the future, you can incorporate more of the recommendations outlined by Southgate (2005), particularly in regard to predator control.

I look forward to reading the outcomes of your monitoring programs.

Regards,

Dr Tamra Chapman, Zoologist
Species and Communities Branch
Department of Environment and Conservation
Locked Bag 104, Bentley Delivery Centre WA 6983
☎08 9334 0455 🖷08 9334 0278 Tamra.Chapman@dec.wa.gov.au

-----Original Message-----
**From:** Jeremy Shepherdson [mailto:jeremys@ecotecwa.com.au]
**Sent:** Monday, 16 October 2006 10:51 AM
**To:** Chapman, Tamra
**Subject:** Tanami Gold Wildlife Management Plan

Tamra,

Please find attached the revised Wildlife Management Plan for the proposed haul road for Stage 2 of Tanami Gold's Coyote Project. The revisions have been made in accordance with your previous feedback received via email 18th Sept and during our phone conversation. Due to the size of the document I will send Appendices 1 and 3 as separate emails.

I look forward to receiving your feedback.

Regards,

Jeremy Shepherdson

# Appendix 3

## The results from animal track sampling in the Western Desert Tanami Project

# Appendix 4

# Vegetation and Fauna Assessment - Ranges of the Western Desert Proposed Nature Reserve

# Appendix 5
# Fauna Collected During 2006 Baseline Fauna Surveys