

Rio Tinto Exploration Pty. Limited

ABN 76 000 057 125 / ACN 000 057 125

A member of the Rio Tinto Group

Mine Management Plan
Cato Plateau Project
For the 2016 Field Season
SD5304 Gove Special
Northern Territory

Exploration Report No. 30319

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Date:	2016
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AMENDMENTS

As per Section 41(3) of the *Mining Management Act*, an MMP reviewed and amended under Section 41(1)(a) must clearly identify amendments made. Any changes to this document are outlined in the table below:

Section	Amendment

1.0 OPERATOR DETAILS

Operator Name: **Rio Tinto Exploration Pty Limited**

The key contacts for the project:

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1.1 Organisational Structure

A copy of the Project organisational structure is shown in Figure 1.

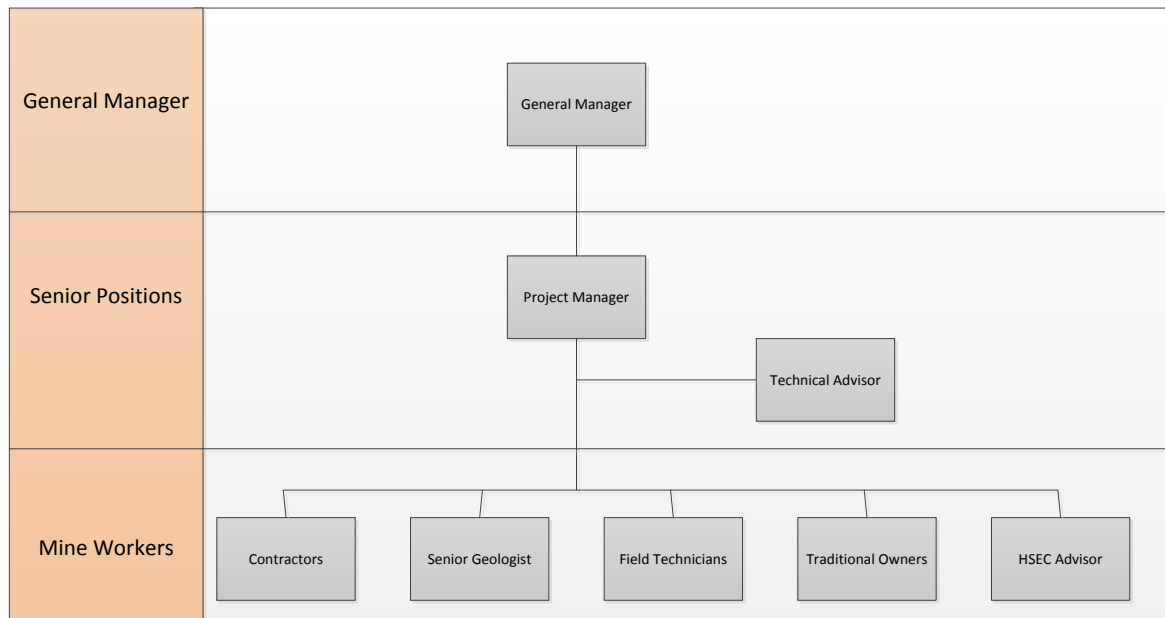
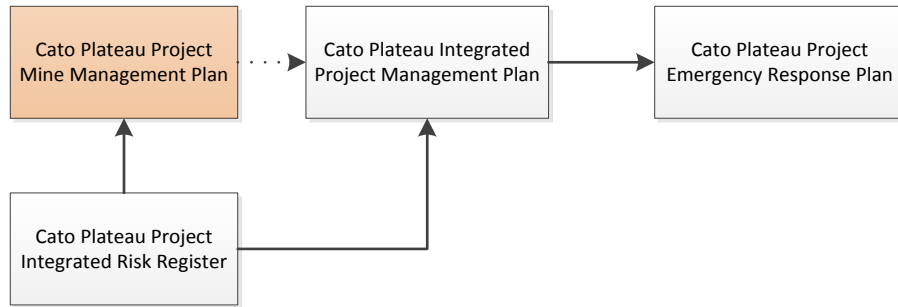


Figure 1: Project organisational chart

This Mine Management Plan forms part of the overall project planning approach by Rio Tinto Exploration (RTX). For all projects, RTX prepare an overarching Integrated Project Management Plan (IPMP), the basis of which is an Integrated Risk Register (IRR). A critical output of the IPMP is a project-specific emergency response plan.



1.2 Workforce

The workforce may include RTX staff and contractors / consultants. Typically there will be 3 - 8 people working in the field on the Project during the planned activities, including at least one RTX field supervisor.

Representatives of the Traditional Owners may be onsite to monitor the operations where required.

The number and ratio of RTX staff and contractors will vary from time to time depending on the exploration activity. Contractors are planned to be sourced locally where possible. A HSEC specialist and Exploration Manager may visit the work during the activities.

2.0 IDENTIFIED STAKEHOLDERS AND CONSULTATION

The key stakeholders related to the Project include:

- *The Traditional Landowners*
- *The Northern Land Council* as the representatives of the Landowners
- *GEMCO* as the joint venture party undertaking exploration for manganese within the licenses

The table below lists the contacts of the various stakeholders related to the project

Table 1: List of relevant project stakeholders and contact details

STAKEHOLDER	COMPANY/AGENCY	ADDRESS	TELEPHONE
Land Council	The Northern Land Council	45 Mitchell Street, DARWIN, NT 0801 Endeavour square Nhulunbuy NT 0880	Tel: (08) 8920 5100 Fax: (08) 8945 2633 T: 08 89872602
Aboriginal Sacred Site information	Aboriginal Areas Protection Authority	Mitchell Centre – 4 th Floor 47 Mitchell Street, DARWIN, NT 0800	Tel: (08) 8999 5511
Community <i>Dhalinbuy</i>	Contact via Laynhapuy Homelands Association	Lot 86 Galpu Road, Yirrkala, NT 0880	08 8939 1800
Mining Operations and Rehabilitation Information	Dept. of Mines and Energy Titles and Performance	Centrepoint Building – 5 th Floor The Mall, DARWIN, NT 0800	Tel: (08) 8999 5322 Tel: (08) 8999 6528 Fax: (08) 8999 6527
Indigenous Protection Area	Dhimurru IPA Dhimurru Rangers	Lot 1620 Arnhem Road, Nhulunbuy, NT	Tel: (08) 8939 2700
Indigenous Protection Area	Laynhapuy Homelands Aboriginal Corporation – Yirrkala Rangers	86 Galpu Rd Yirrkala	Tel: 08 8939 1850
Workplace Safety	NT WorkSafe	First Floor, Darwin Plaza 41 Smith Street, The Mall http://www.worksafe.nt.gov.au/	Tel: 1800 019 115
Bushfires NT	Dept. of Land Resource Management	Lot 1718 Albatross Street, WINNELLIE, NT 0821	Tel: (08) 8922 0844 Fax: (08) 8922 0833
Heritage Information	Dept. of Lands Planning and the Environment	Level 1AXA Building 9-11 Cavenagh St, DARWIN, NT 0800	Tel: (08) 8999 5036 Fax: (08) 8999 8949
	The National Trust	2 Kahlin Ave, DARWIN, NT 0801	Tel: (08) 8981 2848 Fax: (08) 8981 2379
Parks	Parks and Wildlife Commission of the NT	Goyder Centre 25 Chung Wah Terrace, PALMERSTON, NT 0830	Tel: (08) 8999 4555 Fax: (08) 8999 4558
Water Management	Dept. of Land Resource Management.	Goyder Centre – 3 rd Floor 25 Chung Wah Tce, PALMERSTON, NT 0830	Tel: (08) 8999 4613 (Water Resource Planner) Tel: (08) 8999 3632 (Licensing and Regulation)
Weed Management	Dept. of Land Resource Management	Goyder Centre – 3 rd Floor 25 Chung Wah Tce, PALMERSTON, NT 0830	Tel: (08) 8999 4567 Fax: (08) 8999 4445
Wildlife & Biodiversity	Parks and Wildlife Commission of the NT	564 Vanderlin Drive BERRIMAH, NT 0828	Tel: (08) 8995 5008 Fax: (08) 8995 5099
Commercial agreement with joint venture party	Groote Eylandt Mining Company Pty Ltd (GEMCO)	108 St Georges Tce Perth Western Australia 6000	T +61 8 93249593

RTX land owner consultation procedures are based on the principles detailed in Rio Tinto's The way we work standard.

For the Cato Plateau Project, RTX consults with the NT Department of Resources and the communities via the Northern Land Council.

Consultation with the regulators is a legislative requirement under the Mine Management Act. Over and above title grant, management and reporting requirements, RTX consults with the Department of Mines and Energy when seeking detailed advice.

Formal consultation related to the proposed work programme is a requirement of the Exploration Deed signed by the company and the NLC on behalf of the Traditional Owners. This consultation process included a formal Work Programme Meeting where all aspects of the proposed work were discussed and approval was sort. This meeting occurred on the 21 of April 2016.

Consultation and regular contact with the NLC and subsequent contact with the relevant community stakeholders is essential and maintained throughout the life of a project.

3.0 PROJECT DETAILS

3.1 Project name and Location

This Mine Management Plan application is to cover a new project which is to be called **Cato Plateau**. The exploration licences to be included in this project are EL 4170 (Cato Plateau), EL 4171 (Cato River), and EL 24389 (Cato Plateau 2). These tenements are subject to a joint venture agreement with GEMCO.

The project area is located near the community of Dhalinybuy and approximately 50 km west of Nhulunbuy, East Arnhem Land. Vehicle access (largely restricted to the dry season) is via the Central Arnhem Highway from Nhulunbuy. There are two existing tracks within the area of operations: Dhalinbuy road and Mata Mata road. These roads and other existing tracks will be utilised as much as possible to gain access to any proposed drill sites.

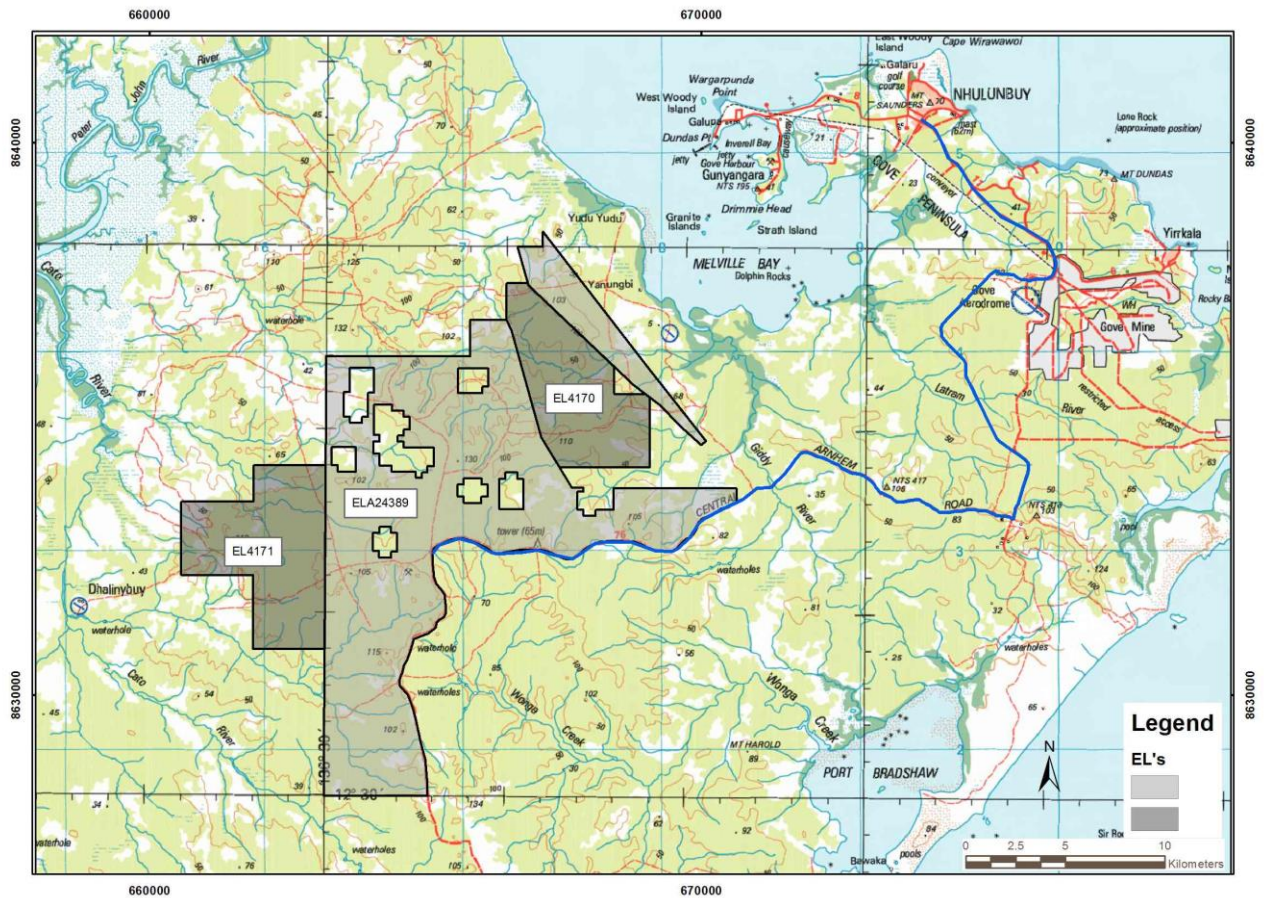


Figure 2: Location of Project

3.2 Titles

Rio Tinto Exploration has a commercial agreement with GEMCO which allows the potential for the two companies to explore the tenements for separate commodities simultaneously. Rio Tinto Exploration is focussed on exploring the area for bauxite. RTX understands that GEMCO is exploring the area for manganese under a separate authorisation.

Table 2: Exploration titles included in this MMP application

Title no	Owner	Operator	Grant date	Expiry date	Sub blocks / area km ²
EL 24389	GEMCO	RTX	23/06/2016	22/06/2022	92 / 191.4
EL4170	Rio Tinto Exploration Pty Limited	RTX	14/10/2004	13/10/2016	16 / 38.7
EL4171	Rio Tinto Exploration Pty Limited	RTX	12/09/2005	11/09/2017	14 / 46.8

3.3 Previous activities and Current Status

The activities proposed in this MMP will be conducted under a new authorisation. RTX previously held an authorisation (Cato Project 0326-02) which included ELs 4170 and 4171. This project was closed on the 1 August 2013. No on-ground work by RTX has since taken place.

The agreement between RTX and GEMCO contemplates the possibility that each party would explore for different minerals and have the ability to conduct simultaneous operations within the licenses. GEMCO hold an authorisation (0671-01) that covers its activities. All of GEMCO’s activities are independent to and separate from RTX and its activities.

A summary of previous exploration is detailed in table 3. All activities have been reported on under the relevant authorisations and all rehabilitation has been completed.

Table 3: Summary of previous exploration

Year	Company	Tenement	Exploration Completed
1966	BHP Ltd	PA 1138	Bauxite exploration including the Cato Plateau area where 89 auger holes were drilled. Several tracks still visible for use.
2004	RTX	EL 4170	Toyota mounted auger drill holes 13 holes
2007	RTX	EL 4171	Aircore drilling – 62 holes (0326-01)
2008	RTX	EL 4170	Vacuum drilling – 52 holes
2009	GEMCO	EL 4171	RC Drilling for Mn – 21 holes (reported by BHP under authorisation 0671-01)
2013	GEMCO	EL4171	RC Drilling for Mn – 4 holes (reported by BHP under authorisation 0671-01)

3.4 Proposed Activities

RTX plans to conduct a drill program using a small light weight vacuum or aircore drill to explore for bauxite. The initial phase of work is planned on 800m line spacing with a total of approximately 50 line kilometres of new access being required. Additional follow-up drilling may be carried out at 400m line spacing in selected areas following this initial phase of work. Any follow-up will depend on the initial results, time available prior to wet season and budgets.

Reconnaissance mapping and ground-truthing of the proposed drill traverses will be conducted prior to the ground disturbing activities and drilling.

Table 4: Summary of planned activities

Description	Licence and stage of work		
	<i>EL24389 initial programme</i>	<i>EL4170</i>	<i>EL24389 follow-up infill</i>
Commodity target	bauxite	bauxite	bauxite
Type of drilling	Vacuum or aircore	Vacuum or aircore	Vacuum or aircore
Number of drill holes	301	8	71
Predicted average depth of holes	4m	4m	4m
Maximum depth of holes	10m	10m	10m
Approximate drill line spacing	800m	800m	400m
Approximate hole spacing	200 / 400m	400m	200m
Length of new drill access	50.0km	0.5km	14.0km
Length of drill access on old pre disturbed tracks	11.2km	2.3km	
Area of new disturbance	20.0 Ha	0.2 Ha	5.6 Ha
Approximate timing	August till October	August till October	October

The exploration program is planned to make use of existing tracks wherever possible as marked on the 1:100,000 scale topographic sheet and visible on the high resolution satellite imagery.

The work program is planned during the dry season and should take approximately 2-3 months.

Ground Disturbance, access tracks and drill pads

A minimal disturbance approach will be used when establishing access along the grid lines for the purpose of completing the drilling. Where possible, 'blade-up' clearing will be practised, leaving root-stock in place to assist in soil stability and flora regeneration. The access may be established

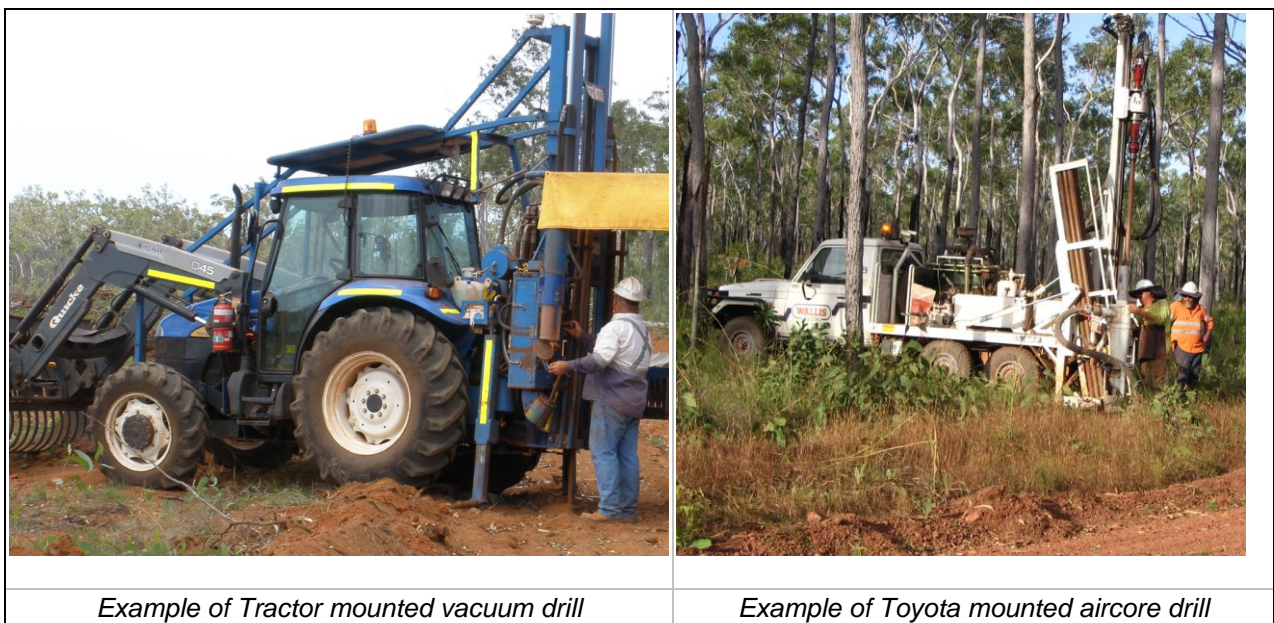
using either a wheel backhoe, wheel loader, small bulldozer (D6), or possibly only using the bucket on the tractor mounted vacuum drill. Wherever possible, access along the drill lines will avoid larger trees by deviating around them.

This style of drilling does not require individual drill pads or sumps. The drill rig will stop in the centre of the line (new lines) or off to the side (existing roads) to complete the hole.

Prior to any ground disturbing activities, additional surveys may be completed to identify any areas of cultural and/or environmental significance. The protocols for cultural heritage surveys were discussed and agreed at the work programme meeting that was facilitated by the NLC in April 2016.

Drilling

Drilling will be carried out using a tractor or Toyota mounted vacuum or aircore drill along the planned drill lines (see plan pA116_001). The drill machine has the same footprint as a standard exploration field Toyota vehicle and hence the access can be narrow and manoeuvre around trees.



Drilling along the drill lines is planned at 200m or 400m spacing and may vary according to the geology. Approximately 300 drill holes are planned along the 800m spaced lines for the initial work. It is anticipated that approximately 20 holes per day can be completed with this form of drilling. The drilling contractor will therefore be onsite for approximately 2 weeks.

If results are positive based on initial logging, in-fill lines at 400m spacing may be conducted if time and budget allows.

The drilled material will be collected in sample bags, logged for geology and recovered for chemical analyses. These techniques are designed to assess if there is bauxite present in the area. The drill holes less than 5m deep will be fully backfilled with soil or if deeper, plugged and back filled as the programme progresses. A camp is not required on the project. The team will commute to and from Nhulunbuy each day to the project area using 4WDs.

4.0 CURRENT PROJECT SITE CONDITIONS

4.1 Geology and Geomorphology

The project area comprises undifferentiated Cainozoic sand and residual soil, as well as lateritic ferruginous cemented detritus and areas of possible bauxite.

The project is centred on the well-defined “Cato Plateau” which is at an elevation of approx. 100m. The plateau margins vary from sharp escarpments, particularly in the east, to areas of more gently sloping terrain. The plateau has been interpreted from both high resolution satellite imagery (Worldview 2) and the updated SRTM terrain model.

This interpreted edge of the plateau has been used to design the drill programme and to avoid activities on areas of steep slopes. Field assessments of the drill lines prior to clearing will be done to minimise or exclude activities on steep slopes. All lines will stop at least 25m from the plateau margin.

4.2 Hydrology

No significant waterways or coastal estuaries within the area where activities are planned have been discovered.

The drainage from the area feeds into the Wonga creek in the south, the Cato River in the west and numerous small unnamed creeks in the east.

Eight known water bores exist within or near the margin of the EL 24389. There are no plans to establish a water supply within the project area. RTX is not in possession of detailed regional/area water quality and flow data other than from the Natural Resource Maps interactive tool on the Department of Land Resource Management website.

Due to the shallow depths of drilling, ground water is not expected to be intersected or affected. There is no requirement for water to be used in the programme for the purposes of drilling.

4.3 Flora and Fauna

The Cato Plateau Project is located within the Arnhem Coast bioregion. This bioregion comprises a coastal strip extending from just east of Cobourg Peninsula to just north of the mouth of the Rose River in south eastern Arnhem Land. Coastal vegetation includes well-developed heathlands, mangroves and saline flats, with some floodplain and wetland areas.

Inland from the coast and on the plateau which is the focus of exploration interest, the dominant vegetation type is tall open eucalypt woodland of *E. tetradonta*, *E. miniata*, *C. bleeseri*, *Erythrophleum chlorostachys* and *E. tectifera* over a sparse to mid-dense grass cover (*Heteropogon triticeus*, *Chrysopogon fallax*, *Sorghum* spp).

In the southwest and east of the Project Area the landforms are dissected where a community of mid-high open woodland of *E. tetradonta*, *E. miniata*, *C. foelscheana*, *E. tectifera*, *C. ferruginea* over *Heteropogon* spp, *Chrysopogon fallax*, *Sehima nervosum* exist.

The Environmental Protection and Biodiversity Conservation (EPBC) Referral Assessment Report for the area did not identify any of the following conservation risk areas:

- *World Heritage Properties*
- *National Heritage Properties*
- *Wetlands of International Importance*
- *Great Barrier Reef Marine Park*
- *Commonwealth Marine Areas*
- *Commonwealth Heritage Places*

- *Critical Habitats*
- *Commonwealth Reserves*

The EPBC report casts a wide net and captures a broad range of species such as an extensive listing of marine creatures. More detailed investigation of the Project Area itself using the Species Atlas Spatial Datasets from the Department of Land Resource Management (DLRM) was carried out.

The DLRM dataset includes the EPBC data and ‘Threatened’ species (Critically Endangered, Endangered, and Vulnerable) according to Commonwealth and Territory legislation. According to the DLRM data, the ‘Threatened’ species that occur within the Project Area are listed in Table 5.

Table 5: Classified endangered and vulnerable species in the area of the Cato Plateau Project

Common name	Scientific name	status
Gouldian Finch	<i>Erythrura gouldiae</i>	Endangered
Red Goshawk	<i>Erythrorchis radiatus</i>	Vulnerable
Gove Crow Butterfly	<i>Euploea alcatheae enastri</i>	Endangered
Brush-tailed Rabbit (or Tree-rat)	<i>Conilurus penicillatus</i>	Vulnerable
Northern Quoll Endangered	<i>Dasyurus hallucatus</i>	Endangered

The emus (*Dromaius novaehollandiae*) existence in the area is also recognised as threatened according to spatial GIS datasets obtained from the Department of Land Resource Management.

In addition, the Species Atlas Spatial Datasets from the Department of Land Resource Management (DLRM) lists a number of significant species within the Project Area (Table 6). The definition of “Significant” in this context means the species are *near threatened or insufficient data is available to determine the biodiversity value*.

Table 6: Listed ‘Significant’ fauna species (DLRM Species Atlas Spatial Dataset)

Common name	Scientific name
Arctic Jaeger*	<i>Stercorarius parasiticus</i>
Black Whip Snake	<i>Demansia vestigiata</i>
Blue-winged Kookaburra	<i>Dacelo leachii</i>
Dark-Tailed Skink*	<i>Glaphyromorphus nigricaudis</i>
Hooded Parrot	<i>Psephotus dissimilis</i>
Indo-Pacific Humpbacked Dolphin*	<i>Sousa chinensis</i>
Northern Dwarf Tree-frog	<i>Litoria bicolor</i>
Rainbow Bee-eater	<i>Merops ornatus</i>
Saltwater Crocodile	<i>Crocodylus porosus</i>
Water Frog	<i>Sylvirana daemeli</i>
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>
*Data Deficient	

There are two threatened species of flora that are listed as ‘vulnerable’ by the NT Parks and Wildlife Conservation Act 2012 (TPWCA):

- *Pternandra coerulescens* (medium sized tree)
- *Sticherus flabellatus* var. *compactus*. (terrestrial fern)

Two further significant flora species with a TPWCA conservation status of ‘Near threatened’ are located within the area of proposed work activity.

- *Ditperacanthus bracteatus* (small flowering shrub)
- *Lindsaea media* (small terrestrial fern)

The approach for exploration activities is to avoid all known occurrences of threatened or significant species. One hundred metre buffers are set around all recorded sites containing flora and fauna of environmental and cultural significance and no activities are planned or will be carried out within these buffers.

Two desktop environmental assessments were completed by external consultants engaged by RTX to review the risk of proposed operations interacting with all listed threatened flora and fauna species. The findings of both of these reports (the first one focussing only on the threatened medium sized tree *Ptemandra coeruleascens*) confirmed that the project should have no impact on vulnerable species in the Cato Plateau project area should all detailed mitigation measures be properly implemented.

Selected ground-based surveys are planned to validate the findings and species identification from the desktop study prior to the commencement of any earthmoving activities.

4.4 Invasive species (weeds)

The main environmental risk posed by RTX's proposed activities is the potential for weed contamination. Weed management procedures are covered in section 5.4.2 of this document.

Invasive weeds and animals in the bioregion are listed in table 7 and 8.

Table 7: Invasive weeds in the Arnhem Coast bioregion

Common name	Scientific name
Bellyache bush	<i>Jatropha gossypifolia</i>
Creeping lantana	<i>Lantana montevidensis</i>
Grader grass	<i>Themeda quadrivalvis</i>
Hymenachne	<i>Hymenachne amplexicaulus</i>
Hyptis	<i>Hyptis suaveolens</i>
Lantana	<i>Lantana camara</i>
Mesquite	<i>Prosopis</i> spp.
Mimosa	<i>Mimosa pigra</i>
Mission grass	<i>Pennisetum polystachion</i>
Pond apple	<i>Annona glabra</i>
Salvinia molesta	<i>Salvinia molesta</i>
Sicklepod	<i>Senna obtusifolia</i> and <i>S. tora</i>
Sida	<i>Sida</i> spp.
Snake weed	<i>Stachylarpheta</i> spp.

Table 8: Invasive animals in the Arnhem Coast bioregion

Common name	Scientific name
Feral pig	<i>Sus scrofa</i>
Deer	<i>Cervidae</i> sp.
Wild dog	<i>Canis</i> sp.
Feral cat	<i>Felis catus</i>
Cane toad	<i>Bufo marinus</i>
Water buffalo	<i>Bubalus bubalis</i>
Horse	<i>Equus caballus</i>

The Yellow Crazy Ant (*Anoplolepis gracilipes*) is known to occur on the north east Arnhem peninsula. It is one of the most invasive and potentially destructive introduced species. There has been a management plan in place to assess and control the spread of this species (*Dhimurru*

Yellow Crazy Ant Management Plan). RTX will liaise with the Dhimurru Rangers regarding the onsite management protocols in the event of any Yellow Crazy Ants being identified.

4.5 Current Land Use

The area sits wholly within the Arnhem Land Aboriginal Land Trust and is administered by the NLC. RTX understands that the land is not used for any commercial purposes.

4.6 Historical, Aboriginal, Heritage Sites

An anthropological survey was facilitated by the NLC over the full area as part of the consent process prior to granting of the licences. The main area of activity (EL 24389) was subject to a survey in September 2015 which highlighted areas of significance that have been excluded from the licence grant.

An abstract of records covering EL 24389 from the Aboriginal Areas Protection Authority (**AAPA**) shows three “Recorded Sacred Sites”. These have been taken into account during the planning.

The Cato Plateau Project area is covered by both the Dhimurru Indigenous Protected Area (**IPA**) and Laynhapuy IPA, in a co-managed land area. Together these areas cover approximately 800,000 hectares of Yolgnu land and sea country in the Gove Peninsula region of north-east Arnhem Land. RTX will work closely with the Dhimurru Rangers and the Yirralka Ranger (who administer the Laynhapuy IPA) to ensure the values of the IPAs and principles of managing country and protecting heritage are aligned with their respective management plans.

RTX will provide, wherever practical, opportunities for the Dhimurru and Yirralka Rangers to be involved in the programme.

The International Union for the Conservation of Nature (**IUCN**) provides a framework for the classification of protected areas that led to the listing, in 2012, of the Dhimurru IPA as a Category V protected area and certain areas within the Laynhapuy IPA as category VI protected areas. RTX has developed internal procedures and risk assessment tools for work that may be planned in IUCN listed protected areas which have been communicated to both the Dhimurru and Yirralka Ranger groups.

Detailed plans of the proposed work programme were presented to the Traditional Owners at a formal meeting facilitated by the NLC in April 2016. The protocols for assessing the heritage clearance were discussed at the work programme meeting. The protocols may vary depending on the landscape and sensitivity of land across the planned areas of disturbance.

If any sites of significance are identified, either during a heritage survey or whilst conducting the work, RTX will address the site(s) in accordance with the Traditional Owners’ requests.

5.0 ENVIRONMENTAL MANAGEMENT SYSTEM AND PLAN

The RTX Health, Safety, Environmental and Communities Management System is integrated as a component of the global Rio Tinto Health, Safety, Environmental and Communities (HSEC) system. The RTX system includes a requirement for a structured risk register that assess all specific risks for the project and develops site specific controls.

5.1 Environmental Policy and Responsibilities

RTX pledges in the *Rio Tinto Exploration Health, Safety, Environment & Community Policy*, to (excerpts):

- Identify, understand and manage all our HSEC risks;
- Ensure employees and contractors fulfil their HSEC responsibilities;

- Comply with Rio Tinto's *The way we work* including legal obligations, external agreements and the Group's HSEC Standards;
- Seek and respect affected communities' concerns and protect cultural heritage;

Responsibility for environmental management of the Cato Plateau Project rests with the RTX Project Manager.

5.2 Statutory and Non Statutory Requirements

Statutory requirements

RTX maintains, and regularly updates, a legal register of all relevant legislation, both Territory and Commonwealth, that are relevant to the operations of any exploration programme. This register was last updated in 2015.

A summary of the key legislative requirements related to this work programme are given below:

Mining Titles Act To comply with the terms and conditions of the grant of exploration licence, including minimum expenditure and reporting commitments.

Mining Management Act Ensure that the environmental impact of mining activities is limited to what is necessary for the establishment, operation and closure of the site and to establish, implement and maintain an appropriate environment protection management system for the site.

Workplace Health & Safety Act This covers issues such as (i) employer's general statutory duty of care; (ii) duties in regard to workplace; (iii) duties in regard to workplace infrastructure, equipment and materials; (iv) risk management plans and (v) worker health surveillance.

Aboriginal Land Rights (Northern Territory) Act and amendment **Aboriginal Land Act 1978** The project is located within the Arnhem Land Aboriginal Reserve and as such exploration companies are required to enter into an Exploration Agreement with the respective land council under the *Aboriginal Land Rights (Northern Territory) Act*. The Exploration Agreement provides a detailed framework for undertaking exploration activities which includes conditions of land access, sacred sites, work programmes, environmental protection and rehabilitation among others. This agreement has been finalised prior to grant and both RTX and GEMCO have agreed to its terms.

NT Aboriginal Sacred Sites Act No person shall (a) carry out work of any sort on, or damage, demolish, destroy, desecrate or alter, a heritage place or heritage object; (b) remove from a heritage place a heritage object or an object associated with the place; or (c) remove a heritage object from the Territory.

Heritage Conservation Act To protect natural and cultural heritage, including archaeological materials.

Environment Protection and Biodiversity Conservation Act To protect important flora, fauna, ecological communities and heritage places.

Bushfires Act Among other things include (i) not to set fire to any bush or other flammable material on land within a fire protection zone, (ii) not to light or use a fire in the open for the purpose of camping, cooking etc within a distance of less than 4 metres from the nearest flammable matter to the fire and (iii) not to leave a fire in the open.

Weeds Management Act To prevent introduction of new plant species with weed potential and to reduce spread of weeds into new areas.

Non- Statutory requirements

An Exploration Agreement under the *Aboriginal Land Rights (Northern Territory) Act 1976*, between the Northern Land Council, GEMCO and RTX has been entered into for the three licences that comprise the Project area.

There are no other formal agreements in place.

5.3 Induction and Training

All personnel working on the Project are subject to mandatory induction and will be familiar with the Integrated Project Management Plan (IPMP) and Mine Management Plan (MMP). All RTX staff in Australia complete the following induction training: *Cultural Awareness training; Integrity and Compliance; Electrical Hazard Awareness; 4WD Training; Defensive Driver Training; Remote first aid, Rio Tinto The Way We Work; What You need to know about HSEC.*

Additional project induction materials, delivered to all on-site personnel, will cover project specific cultural heritage and environmental topics such as, heritage sites, ground disturbance procedures, fire hazards, weed management procedures, contaminant fluid spills, identified endangered flora/fauna and invasive species, weeds and rehabilitation.

All site personnel, including contractors, are subject to specific conduct and behaviour standards addressed in the Rio Tinto '*The way we work*' induction.

During field operations there will be mandatory daily toolbox meetings and weekly HSEC meetings. In these forums all manners of operational concerns are discussed.

The primary induction tool is the IPMP which is developed for the operations. The IPMP describes program activities and has as its centre piece hazard identification and management of significant risk, which include significant environmental risks. The MMP forms part of the IPMP.

The Risk Management Plan which is specifically formatted to satisfy the requirements of NT Worksafe, in many ways mirrors the in-house RTX IPMP and can be used as an adjunct to available induction material.

5.4 Identification of Environmental Aspects and Impacts

A risk register that includes environmental, safety, health and community related issues specific to the proposed work programme is developed for each project RTX works on. This register is prepared with input from subject matter experts and updated if new information comes to light as the project progresses.

RTX seeks to use a minimum ground disturbance approach to exploration activity wherever safe to do so. The use of small drilling equipment and a clearing approach that reduces interaction with trees and having a "blade-up" methodology minimises any impact. The drill lines are wide spaced resulting in a relatively very low density ground disturbance.

RTX implements environmental procedures in accordance with the stated objectives of the RTX HSEC Policy; procedures for ground disturbance and rehabilitation are described in *Guidance note – Ground disturbance.*

Photographic records will be captured as a standard control for documenting and monitoring the ground disturbing activities.

5.4.1 Water Management

Due to the shallow depths of the planned drilling, (mostly 2-5m and not deeper than 10m), it is considered highly unlikely that ground water will be intersected or affected. The drilling technique will use an air system with no fluids or water injection required.

The staff working on this programme will travel each day from Nhulunbuy and will not require a camp site or camping facilities.

5.4.2 Invasive Species Management

Weed Management and decontamination procedures are discussed during inductions and personnel are shown pictures of Declared Weeds in the NT. Personnel are aware of procedures and available wash down equipment. All vehicles and contractor equipment, especially earth moving and drilling equipment will be washed down and inspected prior to commencing operations within the project area. The wash down facilities at Nhulunbuy will be used for this purpose.

The *NT Weed Management Handbook* gives advice on *Legislative Responsibilities, Weed Prevention, Spread Prevention, Weed Disposal*

Yellow Crazy Ants are an introduced ant species to Arnhem Land, in particular around Gove. The Dhimurru rangers will be contacted prior to working to assess the recent knowledge of infestations and seek advice on protocols if any ants are located during the programme.

5.4.3 Flora and Fauna Management

Flora

The EPBC Referral Assessment and NT Government Environment sites identified two vulnerable flora species (a medium sized tree and a small fern) and the NT Mines Department STRIKE web mapping tool shows another two species of significance. RTX staff will be made aware of the possible presence and description of the plant to aid in identification in the field.

The clearing to provide access for the small mobile drill rig will be conducted in a way that minimises the effect on vegetation. The access will go around larger trees and will be done with the “blade-up” wherever possible. In addition to these measures, an environmental ground-truthing assessment will be conducted prior to ground disturbing activities.

Fauna

The EPBC Referral Assessment and NT Government identified five conservation significant vulnerable or endangered species that may occur on the project area. The proposed programme is restricted to the flat top of the Cato Plateau and will not affect any steep or riverine areas. Large trees that may provide nesting sites for birds will not be removed or pushed over during the programme. Any trees or shrubs found to contain nests or provide habitat for wildlife during the activities will be avoided.

RTX staff will be made aware of the possible presence and description of these species to aid in identification in the field.

5.4.4 Waste Management including hydrocarbons

There will not be any camp sites established within the project and therefore the amount of waste will be minimal. All waste from the daily operation will be removed and disposed of at the Nhulunbuy waste management facility.

RTX has implemented specific procedures for handling of hazardous materials. Hydrocarbon management is covered during induction.

There will not be any hydrocarbons stored within the project site. All fuels and oils will be transported in approved containers to site for daily re-fuelling of drilling and earth moving machinery.

All field teams and contractors will carry an appropriate amount of spill kit material in case of a leak. Spill kit material will be put on the ground to catch any excess hydrocarbons that may spill during the re-fuelling operation.

5.4.5 Noise and Air Quality Management

Noise and dust does not pose a significant hazard as a result of the shallow drilling and low volumes of air used in the process. All people involved in the programme will be issued with hearing protection for use when required.

5.4.6 Culture and Heritage Management

The NLC in consultation with the Traditional Landowners conducted anthropological surveys to determine Consent / Non-consent Land prior to the grant of the licences. Heritage surveys may also be conducted if requested by the NLC to inspect any sites of ground disturbance that may be of high risk.

Consultation and regular contacts with the NLC and subsequent contact with the Dhalinbuy Community will be maintained throughout the life of the project. Landowners may be involved in the programme as monitors to ensure that no areas of significance are disturbed.

The NLC monitors the progress of exploration sites according to the Exploration Agreement. This may occur at any time during or after the exploration activities.

5.4.7 Erosion and sediment control

The proposed exploration is planned to be conducted on the Cato Plateau. The margin of the plateau has been interpreted from high resolution imagery and digital terrain models. This interpreted plateau margin (see plan pAI16_001 and Figure 3) has been used to restrict the length of drill lines and hence there are no lines planned on steep slopes that may be of high risk of erosion. Ground checking of the lines will occur before clearing. If any steep slopes are identified these will be excluded from the programme or in the unlikely event that it is absolutely necessary to traverse a steep area, specific measures will be put in place based on a risk assessment, to minimise and control erosion. These controls may include rehabilitation work on access lines that will ensure adequate drainage on any areas where there is significant slope to minimise erosion.

5.5 Environmental Audits Inspections and Monitoring

This is a new MMP and hence there have been no audits related to this plan. Under a previous MMP, the exploration activities within EL4170 and EL4171 (Cato Project 0326-02) were audited on several occasions. The audits were conducted in conjunction with the NLC and an environmental consultant.

RTX will plan on-ground inspections and audits of the work programme with the NLC. These audits and inspections are undertaken to ensure compliance with all project requirements as outlined in this MMP and the project IPMP and IRR.

Photographic evidence of the ground disturbance will be collected in alignment with RTX's procedures.

5.6 Environmental Performance

This is the first MMP and Authorisation for this Project and hence there are no performance measures yet implemented.

5.6.1 Objectives and Targets

During this programme the performance objectives will be:

1. To avoid all recorded cultural sites and flora and fauna sites of environmental significance.
2. Use a minimum ground disturbance approach to exploration activity wherever safe to do so. The use of small drilling equipment and a clearing approach that avoids trees and having a "blade-up" methodology, wherever possible.

3. To work with Traditional Owners to ensure any ecological, biological, cultural, spiritual and scenic values are preserved and protected.
4. Pre and post-access track clearing photographs will be taken and registered in the projects document records.
5. All drill holes to be either filled completely or plugged and filled immediately after drilling.
6. All drill access cleared lines to be rehabilitated, where necessary, following the drilling.
7. An audit of the disturbance to be conducted with the NLC after the completion of the work and prior to the wet season.

5.6.2 Performance Reporting

This is a new MMP and hence there are no performance reports to include in this section. Post completion of the proposed work programme, a thorough reporting process will be undertaken.

5.7 Emergency Procedures and Incident Reporting

The Cato Plateau Project has a Project Emergency Response Plan which includes environmental scenarios. Environmental emergency procedures are developed on a project specific basis using standard Rio Tinto procedures under the HSEQ system.

Environmental incidents will be reported to the Department as soon as practicable as per section 29 of the Mining Management Act.

RTX has a formal incident reporting system which includes environmental incidents. The incident reporting includes, both actual incidents with consequences and potential (near misses) with each incident being rated on a severity level. Incidents with an actual outcome or maximum reasonable outcome of high or greater consequence are investigated immediately.

6.0 EXPLORATION REHABILITATION

Table 9 details the proposed activities and rehabilitation planned.

Photographic evidence of the ground disturbance (before and after photos) will be collected during the programme.

Rehabilitation of the drill access lines (tracks) will be conducted at the completion of the drilling program. The access will be the minimum to allow safe movement along the drill grid. This will involve going around larger trees and leaving the root stock still in place. There is unlikely to be any windrows formed with the minimum impact technique being implemented.

The Traditional Owners of the land will be involved in both the formation of the access tracks and the rehabilitation at the end of the programme. The lines will be blocked where possible to minimise third parties using them.

Similar access tracks within the Cato area was conducted in 2007 and the environmental audit report shows that after one wet season the natural re-growth has been successful with the track difficult to identify on the ground.

Erosion control measures will be used where needed, however the planning and supervision will minimise the possibility of any steep slopes being traversed.

Table 9 Description of ground disturbance and rehabilitation activities

Disturbance	Rehabilitation Activities	Schedule (Timing)	Closure Objectives / Targets	Monitoring and Remediation
Drill holes	Fully backfilling drill holes if shallow (<5m) OR capping and back filling if deeper (10m)	At the completion of each hole.	All holes stable/safe prior to end of program.	Inspection of a selected sample of holes to be undertaken at the start of the next field season

				(within 12 months) to ensure no failures.
Drill pads	NA (drilling occurs on tracks)	NA	NA	NA
Sumps	NA	NA	NA	NA
Costeans	NA	NA	NA	NA
Bulk sample pits	NA	NA	NA	NA
Tracks Gridlines	Where necessary scarify the surface. Ensure adequate drainage on any areas where there is significant slope. Block off access to the tracks to minimise use by third parties.	At end of program or as soon as possible in the dry season	All tracks rehabilitated and erosion control measures in place, where necessary.	Inspect tracks at end of rehabilitation
Sample bags	Removed from site	At end of program	All sample bags removed from site at end of program	Inspection of all tracks
Camp	NA	NA	NA	NA

6.1 Exploration Rehabilitation Register

This is a new application and hence there is no rehabilitation to report or register of rehabilitation activities. The closed authorisation in the area (0326-02) was reported on in 2012. Last instance of ground disturbing work was in 2008.

6.2 Costing and Closure Activities

RTX is implementing a phased exploration program with the results of the first phase critical to further work plans. The rehabilitation of each phase of work will be undertaken at the end of each programme.

REFERENCES

Arnhem Coast Bioregional Description

<http://lrm.nt.gov.au/plants-and-animals/herbarium/nature/bioregional/arnhemcoast>

<https://www.environment.gov.au/system/files/resources/a8015c25-4aa2-4833-ad9c-e98d09e2ab52/files/bioregion-arnhem-coast.pdf>