

# Reptile Uranium Namibia (Pty) Ltd

Reg. No. 2004/511

# ENVIRONMENTAL MANAGEMENT PLAN ANNUAL REVIEW & UPDATE

August 2015

Peter Christians Country Manager

# **DEEP YELLOW LIMITED - ENVIRONMENTAL POLICY**



# **ENVIRONMENTAL POLICY**

The Company plans to become a leader in environmental awareness in the uranium exploration and mining industry. The Company recognises that through the nature and scale of its activities there is a fundamental requirement to conduct its operations in an environmentally responsible manner.

In order to achieve our environmental objectives, an Environmental Management System is intended to be implemented and performance will be monitored through site inspection and formal project audit protocols.

Management makes the commitment to:

- Foster the prevention of pollution and comply with statutory environmental legislation.
- Establish environmental improvement programs based upon risk assessments that set and review environmental targets and objectives
- Put in place sound management systems that meet or exceed Commonwealth, State, Territory and off-shore jurisdictions, Mine Department's specified environmental targets and objectives for each project.
- Ensure that the views of all stakeholders are considered when developing project systems.
- Integrate environmental issues into site inductions, training and ongoing workplace communication procedures.
- Evaluate and regularly review subcontractor and supplier environmental performance.
- Encourage continual improvement in environmental performance through the establishment of planning, training, monitoring, inspection and reporting systems through the Company's Environmental Officer.

Employees have the shared responsibility to:

- Work in compliance with the project environmental conditions as communicated through the site induction and ongoing communications from the Company's management.
- Support their respective managers and supervisors in the continual improvement of project environmental performance.
- Communicate any environmental incidents to management.

Through realisation of these commitments and responsibilities the impact of our operations upon the environment will be minimised for the benefit of future generations.

#### **GLOBAL ENVIRONMENTAL PRINCIPLES: ELEMENTS AND ACTIVITIES**

#### 1. Accept Environmental Responsibility for all our Actions

Driving environmentally responsible behaviour throughout the organisation by:

- Demonstrating management commitment.
- Allocating clear roles, responsibilities, accountabilities and resources.
- Providing necessary information, performance targets, training, resources and management support.

#### 2. Strengthen our Relationships with the Community

Engaging the community about the environmental performance of our operations by:

- Fostering openness and dialogue with employees and the community.
- Respecting cultural and heritage values and facilitating cross-cultural awareness and understanding.
- Consulting with the community on the environmental consequences of our activities.
- Anticipating and responding to community concerns, aspirations and values regarding our activities.

### 3. Integrate Environmental Management into the Way We Work

Ensuring environmental management and related social issues are high priorities by:

- Establishing environmental management systems consistent with current standards.
- Incorporating environmental and related social considerations into the business planning process along with conventional economic factors.
- Applying risk management techniques on a site-specific basis to achieve sound environmental outcomes over the life of the project.
- Developing contingency plans to address any residual risk.
- Ensuring resources are adequate to implement the environmental plans during operations and closure.

### 4. Minimise the Environmental Impacts of our Activities

Responsibly managing immediate and longer-term impacts by:

- Assessing environmental and related community effects before and during exploration and project development.
- Evaluating risks and alternative exploration and mining project concepts, taking into account community views and subsequent land use options.
- Adopting a proactive and cautious approach to environmental risks throughout the life of each operation.
- Applying ecological principles that recognise the importance of biodiversity conservation.
- Planning for closure in the feasibility and design phases of a project and regularly reviewing plans to consider changes in site conditions, technology and community expectations.

# 5. Encourage Responsible Production and Use of our Products

Pursue cost-effective cleaner production and product stewardship by:

- Employing production processes that are efficient in their consumption of energy, materials and natural resources.
- Minimising wastes through recycling, and by reusing process residues.
- Safely disposing of any residual wastes and process residues.

• Promoting the safe use, handling, recycling and disposal of our products through an understanding of their life cycle.

#### 6. Continually Improve our Environmental Performance

Continue to seek ways to improve our environmental performance by:

- Setting and regularly reviewing environmental performance objectives and targets that build upon regulatory requirements and reinforce policy commitments.
- Monitoring and verifying environmental performance against established criteria so that progress can be measured.
- Benchmarking against industry performance and addressing changing external expectations.
- Researching the environmental aspects of our processes and products and developing better practices and innovative technologies.

#### 7. Communicate our Environmental Performance

Be open and transparent in the effective disclosure of our environmental performance by:

- Identifying interested parties and their information needs.
- Providing timely and relevant information including publication of annual public environment reports on our activities and environmental performance.
- Encouraging external involvement in monitoring, reviewing and verifying our environmental performance.
- Continually reviewing and evaluating the effectiveness of our communications.

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# **OVERVIEW OF THE EMP**

This Environmental Management Plan [EMP] is intended to give effect to the recommendations of the Environmental Impact Assessment [EIA]. For this to be achieved, it is essential that all personnel who will be involved on site are fully aware of the environmental issues and the means to avoid or minimise the potential impacts of activities on site.

This EIA and EMP Update is for the exploration projects granted to and operated by Reptile Uranium Namibia (Pty) Ltd [RUN]. RUN also operates additional projects in joint ventures and on behalf of Namibian Empowerment Partners. The following Exclusive Prospecting Licences are covered by this EIA and EMP: (See Figure for locations of EPLs)

- EPLs 3496 (Tubas), 3497 (Tumas), 3498 (Aussinanis) & 3499 (Ripnes) granted to RUN
- 2. EPLs 3668 (Gawib West), 3669 (Tumas North) & 3670 (Chunguchoab) RUN joint venture with Nova Energy (Africa) (Pty) Ltd [Nova]
- 3. EPLs 4604 (Dome) & 4605 (Rhomgab) Granted to Oponona Investments (Pty) Ltd [Oponona], operated by RUN on behalf of the licence owner Oponona

EPL3499 was relinquished in July 2015 and EPL3668 was transferred to Sixzone Investments (Pty) Ltd [Sixzone] in June 2015.

This update of the EIA and EMP for RUN's exploration projects is based on the several assessments completed since 2006 for both exploration and proposed development projects and contained in the following documents:

- Environmental Impact Assessment & Environmental Management Plan for EPL's 3496, 3497 & 3499 – August 2006
- Environmental Overview & Environmental Management Plan for Starting Right Investments Eighty (Pty) Ltd (now called Nova Energy (Africa) (Pty) Ltd). Exclusive Prospecting Licences [EPL] 3668, 3669 and 3670 – January 2007
- Environmental Impact Assessment and Draft Environmental Management Plan for the Tubas Project – October 2011
- Environmental Impact Assessment and Draft Environmental Management Plan for the INCA Project – October 2011
- Environmental Impact Assessment and Draft Environmental Management Plan for the Shiyela Iron Project – October 2011

That this EMP forms the basis for an agreement between RUN and Ministry of Environment & Tourism [MET]. By virtue of that agreement, this EMP becomes binding on RUN.

Environmental Management requires a joint effort on the part of all people involved. Certain individuals need to be assigned certain roles to ensure that all players fulfil their responsibilities in this regard.

This EMP complies and lives up the "Environmental Policy" of RUN's Australian-based parent company, Deep Yellow Limited [DYL]. DYL and RUN ascribes to the fundamental principles of ISO 14000 Environmental Management Standards. The basic requirement of ISO 14001 is a Continual Improvement Management System as indicated below in Figure .

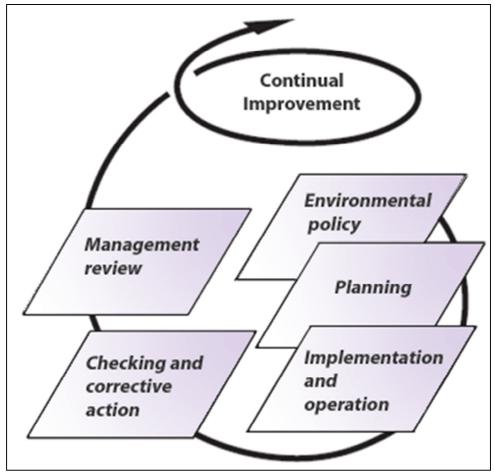


Figure - Continual Improvement Management System

The international standard is based on the methodology known as plan-do-check-act (PDCA) which can be briefly described as follows:

Plan: establish the objectives and processes necessary to deliver results in

accordance with the company's environmental policy.

**Do:** implement the processes.

Check: monitor and measure processes against environmental policy, objectives,

targets, legal and other requirements, and report the results.

Act: take actions to continually improve performance of the environmental

management system.

# 1 INTRODUCTION

# 1.1 Purpose of the EMP

This EMP developed by and for RUN serves as a detailed policy and procedural document for conducting field exploration throughout RUN's and RUN-controlled exploration licences in the Erongo Region and specifically the Namib Naukluft National Park [NNNP]. The EMP provides background information on the existing environment of project areas and details the likely impacts of the company's exploration activities and the subsequent environmental practices designed at avoiding or minimising harm to the environment. This is achieved through employing best practice in both exploration activities and by completing environmental rehabilitation programmes.

This EMP is intended to give effect to the recommendations of the EIA. For this to be achieved, it is essential that all personnel who will be involved on site are fully aware of the environmental issues and the means to avoid or minimise the potential impacts of activities on site.

# 1.2 Background

RUN has been conducting exploration programmes since 2006. The Company is currently operating Exclusive Prospecting Licenses [EPLs] granted by the Ministry of Mines and Energy [MME] in the Namib Naukluft National Park. In addition, RUN operates and manages exploration licences held by other parties through joint ventures or option agreements.

The landholdings under RUN's control and management constantly changes as the company acquires additional licences and relinquish previously explored and un-prospective ground. Figure below shows the extent and locations of the EPLs under the company's control and management.

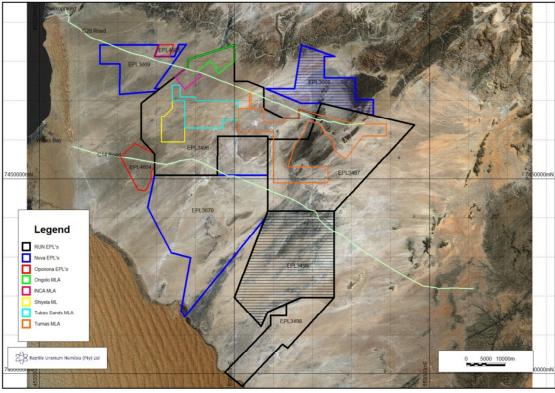


Figure - Locations of RUN-Controlled EPLs

# 1.3 Key Personnel & Contacts

The following key personnel are charged with the responsibilities of implementation and execution of the EMP.

- Mr Greg Cochran, DYL Managing Director (Perth)
- Mr Peter Christians, RUN Country Manager (Swakopmund)
- Mr Martin Hirsch, RUN Exploration Manager (Swakopmund)
- Mr John Kandjungu, RUN Environmental Control Officer (Swakopmund)
- Mr Pieter van Niekerk, RUN Radiation Safety Officer (Swakopmund)

The company's Namibian permanent office is located in Swakopmund with the holding company, DYL, located in Perth, Western Australia. The addresses and contact details for the RUN and DYL are listed below.

**Swakopmund Office** Address: 48 Hidipo Hamutenya Street

P O Box 2538 Swakopmund Namibia

Telephone: +264 64 415 200
Facsimile: +264 64 405 384
Email: info@reptile.com.na

**Perth Office** Address: Level 4, 502 Hay Street

Subiaco, Perth

Western Australia, 6008

Telephone: +61 (0)8 9286 6999 Facsimile: +61 (0)8 9286 6969

Email: <a href="mailto:admin@deepyellow.com.au">admin@deepyellow.com.au</a>

# **2 EXISTING ENVIRONMENT**

Environmental information presented below is derived principally from observations made by RUN personnel and RUN appointed independent environmental consultants.

RUN has appointed Colin Christian & Associates as an advisor with respect to fauna and flora surveys within its designated project areas. Colin Christian & Associates provided information on threatened flora and fauna as well as information on dangerous fauna and toxic flora in the work environment.

# 2.1 Climate of Swakopmund Desert Study Area

The exploration area is wholly located within the NNNP between the towns of Swakopmund to the north and Walvis Bay to the south. The climate of the area is briefly described below.

### 2.1.1 Temperature

The Namib Desert near the coast has a temperature range that is moderated by proximity to the sea. As distance increases from the coast the temperature range rapidly becomes more extreme. The hottest month is February, when maximum air temperatures can reach 40°C but the average maximum is 25°C to 30°C (Mendelsohn et al, 2002). The coldest month is August, when the average minimum temperatures are between 8°C and 12°C depending on distance from the coast.

#### 2.1.2 Precipitation

The average annual rainfall ranges from about 15mm at the coast, to about 35mm. However rainfall is extremely variable, patchy, and unreliable. A given location can go for years without any rain falling.

Good rains however fell during the late summer of 2006 and much of the study area was fairly well covered by grass, while bushes were still green in July. The area receives significant amounts of moisture from fog or dew, particularly near the coast. At Gobabeb precipitation that was produced from fog averaged 31mm per year for the period 1964-1967.

Precipitation resulting from fog occurred on 60 days per year (cited by Smuts, 1988). Thus the area receives, on average, as much or more precipitation from fog than from rainfall. This fog is sufficient to support at least two species of lichens in the area, and many other plants also survive because of this fog.

#### 2.1.3 Winds

Near the coast, strong southerly winds prevail, but westerly to south westerly winds are also frequent. With increasing distance from the coast the wind speed generally decreases and direction becomes more variable.

Warm easterly winds from the interior blow for typically between 7 and 14 days per year. These "berg winds" are hot, dry winds caused by air descending from the interior. As the air descends it is compressed, causing a rapid increase in temperature. These winds can cause significant sandstorms, particularly in winter and spring.

# 2.2 Environmentally Sensitive Areas

The sensitivity of the central Namib area is mostly associated with low precipitation and the consequent slow natural rehabilitation rate. Recovery rate of desert soil-structures appear to be dependent on many factors: for example studies of ghost towns and dated disturbances in the Mojave Desert indicate that recovery from soil compaction, in terms of soil strength and infiltration,

may require 70 to 680 years (Belnap & Warren, 2002). Desert areas disturbed by human activities may take centuries to recover without active intervention.

Furthermore, the desert soils are poorly developed and environmental factors such as frequent strong winds contribute to the amplification of impacts associated with exploration activities, such as vehicle tracks (SKEP, 2001). Given the aridity condition in the area, there is little potential for agricultural activities. However, the main land uses are conservation, tourism and mining. The main ecosystems within the area include sand dunes in the south, gravel plains, drainage lines, and rocky out-crops: these form special habitats for desert adapted animal- and plant species.

# 2.3 Hydrology

There are five known uranium deposits in the project area and are contained in sediments of ephemeral drainage courses and palaeochannels. Tubas, Oryx, Oryx Extension and Tumas deposits lie within the westward draining Tumas system. Other deposits may be found in similar depositional environments of the Ripnes drainage system which flows toward the Kuiseb River.

The source of uranium was a wide variety of granitic rocks that occur in the mountainous areas to the east. A combination of fluvial and chemical processes over geological time spans resulted in the concentration of uranium minerals in the sediments along these watercourses.

Erosion cycles, leading to shifts in the horizontal and vertical alignments of watercourses, resulted in the formation of old river terraces that now stand at elevations of several metres higher than the present watercourses. As evidence that these were once riverbeds, these terraces are often covered with rounded pebbles. It is these terraces which are the main target of exploration, but viable concentrations may also be found in modern watercourses.

The deposits that comprise the target areas occur in low-lying gravel plains that are generally fairly flat, except where they have been incised by rivers as described above, leaving the terraces as remnants of an earlier land surface.

The larger river courses are wide braided courses where longitudinal gradients are low, and where deposition is the dominant fluvial process. The alluvial material in the dry river beds varies from coarse sand to fine powdery material which is covered by a hard crust of coarser sand. The crust is weakly consolidated by carbonates and gypsum due wetting and drying in this high evaporation environment. The crust is easily broken by vehicles and the softer underlying material is easily churned up. The depth of sand decreases in the case of smaller watercourses. The smallest and shortest, first order drainage lines that dissect the terraces are relatively steep and erosion rather than deposition is the dominant fluvial process here.

### 2.4 Flora

Ekotrust CC was appointed by Softchem CC as an independent botanical consultant to survey the vegetation and flora of the proposed RUN exploration areas near Swakopmund in Namibia. The Central Namib along the west coast of Namibia is contained in the Desert Biome and geographically covers the area between the Kuiseb River in the south and the Huab River in the north. The area was surveyed for rare flora.

A preliminary checklist of the plant species of the area was compiled. Ten plant communities have been described and mapped for the RUN sites. A number of rare, protected and endemic plant species have been identified at the projects area, such as welwitschia mirabilis, hoodia currorii.

acacia erioloba, acanthosicyos horridus, aloe asperifolia, arthraerua leubnitziae, capparis hereroensis, commiphora saxicola and euphorbia lignosa.

No Red Data plant species were recorded on site. However, six species are protected according to the Namibia Forest Act, three species under the Namibia Nature Conservation Ordinance and six species are listed under CITES. Two restricted-endemic, seven endemic and twelve near-endemic plant species were recorded on site.

The vegetation types were evaluated in terms of sensitivity and sensitivity maps were compiled of the area The parameters that were used to delineate the five different categories of sensitivity (low, low–medium, medium-high and high) include:

- the threatened status of the ecosystem (% area intact, or degree of transformation);
- presence of rare and protected plant species;
- protected trees;
- presence of endemic plant species;
- terrain type (topography);
- plant community species richness;
- constraints to ecological processes;
- degree of connectivity and/or fragmentation of the ecosystem;
- and the presence of biodiversity offset areas.

The sensitivity rating is interpreted as follows:

'Low and low-medium sensitivity' means that the sensitivity is not significant enough to influence the decision about the exploration activities. Nevertheless, no protected trees or other scheduled rare species may be removed and/or destroyed without a permit. 'Medium' sensitivity indicates a sensitivity rating that is tangible and sufficiently important to require mitigation, such as management or protection of the rare/threatened fauna and flora or protection of the sensitive habitats.

Rare species may not be removed/destroyed without a permit. 'Medium high' refers to a sensitivity rating, which could warrant that specific habitats should be excluded from any development. 'High sensitivity' means a sensitivity rating that should influence the decision whether or not to proceed with the project. The potential impact of mine activities on the vegetation on the three RUN sites was evaluated. The sensitivity of the 10 plant communities is as follows.

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Community 1 - medium-high
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Community 2 - medium-high

Community 3 - medium

Community 4 - medium-high

Community 5 - Community 5.1 - low

Community 5.2 - low

Community 5.3 - low-medium

Community 6 - medium

Community 7 - low

Community 8 - low

Community 9 - medium

Community 10 – low

The significance of the impacts on a number of issues is as follows:

- Indigenous vegetation/plant communities low
- Impact of vegetation removal on fauna medium
- Ephemeral drainage lines/water courses low
- Vehicles, off-road travel, trampling and compaction medium
- Alien plants low
- Loss of topsoil low
- Dust levels low

#### Welwitschia mirabilis

The seeds germinate only if fairly heavy rain occurs over a number of days. These conditions rarely occur in the desert and therefore recruitment is episodic with some colonies being of the same age. Seedlings are dependent on fog to survive the dry times. However, the plants are dependent on rainfall also. This plant is able to absorb fog water, which condenses on the leaf surface and is channelled to the base of the stem.

The primary root is strong and wedge-shaped and up to 3 m long. Most thin secondary roots are found just below the surface where they collect dew in the early mornings. Driving close to plants may therefore damage these roots and compromise the survival of the plant. The plant is fairly easy to cultivate by simulating its native environment, although regular watering and fungal control is a prerequisite. It was found that transplanting of seedlings under cultivation can be done without much mortality.

#### 2.5 Fauna

Peter L Cunningham from Environment & Wildlife Consulting Namibia conducted the study and impacts on Fauna. A field survey of the area was conducted to determine the vertebrate fauna (e.g. reptiles, amphibians, mammals & birds). The survey was preceded by a comprehensive literature research (i.e. desktop study/scoping report) of vertebrate fauna expected to occur in the general area.

The general Swakopmund area is regarded as "low" in overall (all terrestrial species) diversity while the overall terrestrial endemism on the other hand is "moderate to high" (Mendelsohn et al. 2002). According to the literature survey an estimated (i.e. at least) 56 reptile, 5 amphibian, 31 mammal and 124 bird species (breeding residents) are known to or expected to occur in the general Swakopmund area of which a high proportion are endemics.

#### 2.5.1 Field Survey

The fieldwork conducted by the consultants to determine the actual faunal diversity included the following:

- Small mammal transects to determine small mammal diversity in the area.
- Larger mammal observations direct sightings, faeces, tracks, etc. in the area.
- Reptile & amphibian transects (diurnal & nocturnal) to determine reptile & amphibian diversity in the area.
- Bird transects to determine avian diversity in the area.

#### 2.5.2 Mammals:

 Fieldwork was not only conducted at the INCA & TRS prospecting sites only, but included the greater area – i.e. EPL 3496. • Fieldwork consisted of 1) small mammal trapping, and 2) transects throughout the general area to determine the presence of larger mammals.

#### 2.5.3 Small mammal trapping:

- Transects for small mammal trapping were conducted along ephemeral drainage lines (part
  of the Tumas River drainage system) and rocky outcrops and ridges.
- Collapsible aluminium Sherman small mammal traps baited with peanut butter and oats were set just prior to sunset.
- The traps were placed between 30 and 50m apart depending on the habitats.
- Small mammals caught were identified in situ, photographed, measured (when applicable to facilitate identification) and released unharmed at the point of capture.
- Transect lengths and directions varied depending on terrain and perceived habitats.
- 20 Sherman traps were set each evening over a period of 4 nights (25 to 28 June 2010) with a potential maximum of 80 captures.

#### 2.5.4 Larger mammal transects:

- Transects to determine the presence of larger mammals was conducted throughout the general area, including, but not limited to INCA and TRS prospecting sites.
- Transect lengths and directions varied depending on terrain and perceived habitats.
- Direct observations of mammals encountered along these transects were made using 10 x 40 binoculars.
- All other signs of mammals were noted and identified to species level where possible. This included such signs as tracks, scats, carcasses & sculls and other signs e.g. quills, hair/skins, dens/burrows, etc.
- All signs were photographed as evidence and/or to confirm by second opinions from other experts if required.
- Sightings included diurnal and nocturnal observations.

#### 2.5.5 Reptiles & Amphibians:

- Transects to determine the presence of reptiles and amphibians was conducted throughout the general area, including, but not limited to INCA and TRS prospecting sites.
- Transects crisscrossed the entire area i.e. not only the specific prospecting sites, but all adjacent habitat and were not conducted in rigid straight lines, but focused on the habitat viewed as most suitable for reptiles and amphibians.
- Reptiles observed were either caught by hand or by using an active capture technique called 'reptile noosing' where an extendable fishing rod was fitted with a soft thread noose, positioned over the unsuspecting head of an individual and pulled tight. This technique does not result in the death or injury of the caught specimen. Reptiles caught were identified in situ, photographed and released unharmed at the point of capture.
- Sightings included diurnal and nocturnal observations. Nocturnal observations were conducted from just after sunset until 21h00 using a gas lantern.

# 2.5.6 Birds:

- Transects to determine the presence of birds was conducted throughout the general area, including, but not limited to INCA and TRS prospecting sites.
- Transect lengths and directions varied depending on terrain and perceived habitats.
- Direct observations of birds encountered along these transects were made using 10 x 40 binoculars.

- Bird calls were identified throughout and confirmed with direct observations.
- All other signs of birds were noted and identified to species level where possible. This
  included such signs as nests and scrapes, tracks, carcasses and other signs e.g.
  feathers.
- All signs were photographed as evidence and/or to confirm by second opinions from other experts if required.
- Sightings were limited to diurnal observations only.

# 2.5.7 Fauna Diversity

The reptile diversity known and/or expected to occur in the general Swakopmund area according to the literature study, including species actually observed ( $\sqrt{}$ ) and confirmed (#Andrew Cunningham) during the fieldwork conducted between 25 and 29 June 2010, is presented in Table below:

**Table - Reptile Diversity Survey Results** 

0	•	One size		I 4 4! I
Species: Scientific name	Species: Common name	Species observed	Namibian conservation & legal status	International status
TURTLES & TERRAPIN	S		logui status	
Stigmochelys	Leopard Tortoise		Vulnerable;	
(Geochelone) pardalis			Peripheral; Protected Game	
Pelomedusa subrufa	Marsh/Helmeted Terrapin		Secure	
SNAKES				
Thread Snakes				
Leptotyphlops	Western Thread		Endemic;	SARDB
occidentalis	Snake		Secure	Peripheral
Leptotyphlops labialis	Damara Thread		Endemic;	
	Snake		Secure	
Quill Snouted Snakes				
Xenocalamus bicolour	Bicoloured Quill-		Secure	
bicolor	snouted Snake			
Typical Snakes				
Lamprophis fuliginosus	Brown House Snake		Secure	
Lycophidion capense	Cape Wolf Snake		Secure	
Lycophidion	Namibian Wolf		Endemic;	
namibianum	Snake		Secure	
Pseudaspis cana	Mole Snake		Secure	
Pythonodipsas carinata	Western Keeled		Endemic;	
	Snake		Secure	
Dipsina multimaculata	Dwarf Beaked		Endemic;	
	Snake		Secure	
Psammophis	Western Sand		Endemic;	
trigrammus	Snake		Secure	
Psammophis notostictus	Karoo Sand Snake		Secure	
Psammophis leightoni namibensis	Namib Sand Snake	<b>√</b>	Secure	
Dasypeltis scabra	Common/Rhombic Egg Eater		Secure	
Aspidelaps lubricus infuscatus	Coral Snake		Secure	
Aspidelaps scutatus	Shield-nose Snake		Endemic; Secure	
Naya nigricollis	Black-necked	#	Endemic;	SARDB Rare

Species: Scientific name	Species: Common name	Species observed	Namibian conservation & legal status	International status
nigricincta	Spitting Cobra		Secure	
Bitis arietans	Puff Adder		Secure	
Bitis caudalis	Horned Adder	V	Secure	
Bitis peringueyi	Péringuey's Adder		Endemic; Secure	
LIZARDS		1		1
Skinks				
Typhlacontias brevipes	FitzSimon's		Endemic;	
. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Burrowing Skink		Secure	
Trachylepis (Mabuya) acutilabris	Wedge-snouted Skink	<b>√</b>	Secure	
Trachylepis (Mabuya)	Western Three-		Secure	
occidentalis	striped Skink		Coodio	
Trachylepis (Mabuya) striata wahlbergi	Striped Skink		Secure	
Trachylepis (Mabuya) sulcata	Western Rock Skink		Secure	
Trachylepis (Mabuya) variegata variegata	Variegated Skink		Secure	
Old World Lizards				
Heliobolus lugubris	Bushveld Lizard		Secure	
Meroles anchietae	Shovel-snouted Lizard		Secure	
Meroles reticulatus	Reticulated Desert		Endemic; Secure	
Meroles suborbitalis	Spotted Desert Lizard	V	Endemic; Secure	
Pedioplanis breviceps	Short-headed Sand Lizard		Endemic;	
Pedioplanis	Namaqua Sand		Secure Secure	
namaquensis	Lizard		Secure	
Pedioplanis inornata	Plain Sand Lizard	#	Endemic; Secure	
Pedioplanis husabensis	Husab Sand Lizard		Endemic; Secure	
Plated Lizards			Occure	
Cordylosaurus subtessellatus	Dwarf Plated Lizard		Endemic; Secure	
Monitors	1			
Varanus albigularis	Rock or White- throated Monitor		Vulnerable; Peripheral; Protected Game	
Agama	1			
Agama planiceps	Namibian Rock Agama		Endemic; Secure	
Chameleons				
Chamaeleo	Namaqua	#	Secure	
namaquensis	Chameleon			
Geckos				
Afroedura africana africana	African Flat Gecko		Endemic; Insufficiently known; Rare?	
Chondrodactylus angulifer namibensis	Giant Ground Gecko	<b>√</b>	Endemic; Secure	
Narudasia festiva	Festive Gecko		Endemic;	

Species: Scientific name	Species: Common name	Species observed	Namibian conservation & legal status	International status
Doch doct due bissley	Valuati Thiak tood		Secure	
Pachydactylus bicolor	Velvety Thick-toed Gecko	√	Endemic; Secure	
Pachydactylus kochii	Kock's Thick-toed	1	Endemic:	
Pachydactylus Kochii	Gecko	<b>'</b>	Secure	
Pachydactylus turneri	Turner's Thick-toed Gecko		Secure	
Pachydactylus punctatus	Speckled Thick- toed Gecko	V	Secure	
Pachydactylus rugosus	Rough Thick-toed		Endemic;	
rugosus	Gecko		Secure	
Pachydactylus weberi	Weber's Thick-toed		Endemic;	
werneri	Gecko		Secure	
Palmatogecko rangei	Web-footed Gecko		Endemic;	SARDB
			Secure	Peripheral
Ptenopus carpi	Carp's Barking	V	Endemic;	
	Gecko		Secure	
Ptenopus garrulus	Common Barking	V	Endemic;	
maculatus	Gecko		Secure	
Ptenopus kochi	Koch's Barking		Endemic;	
•	Gecko		Secure	
Rhoptropus afer	Common Namib	V	Endemic;	
•	Day Gecko		Secure	
Rhoptropus boultoni	Boulton's Namib		Endemic;	
•	Day Gecko		Secure	
Rhoptropus bradfieldi	Bradfield's Namib		Endemic;	
	Day Gecko		Secure	

Pans and intermittent canals of denser patches of vegetation can serve as (temporary) island habitats for apterous arthropods, small mammals and micro-organisms. Island habitats are known for their unique species composition, and usually support higher species diversities than its immediate surrounding environment. A number of these pans, although currently dry, as well as some islands of vegetation were noted in the dry washes.

According to Dr. Joh Henschel (Pers. Com.), the Aussinanis EPL3498 drainage area with its shallow groundwater and the vegetation in and around the drainage is an important passage corridor for springbok, ostrich and gemsbok (oryx). When they migrate from between Ganab in the northeast to Naravalley, across the Kuiseb River, to the southwest, the animals often linger around the lower Aussinanis plains.

Although the Namib plains support a highly endemic and diverse compliment of invertebrates, most of them and other small mammals and reptiles in the area are nocturnal burrowers.

Most of the species of birds that frequent the Namib Desert are highly nomadic. Of those which are resident, they are mostly widespread. The only species that was considered to be of concern was the Lappet-faced vulture, which occurs and breeds in the Namib Naukluft Park. These birds are known to be very sensitive to disturbance of their nest sites, in trees, which they use year after year. However, the uranium deposits of interest are almost entirely devoid of trees. Therefore the risk of disturbing their nest sites is ruled out.

### 2.6 Namib Naukluft National Park

All RUN-operated EPLs are located in the NNNP. As with all national parks in Namibia, there are strict rules to be adhered to by all visitors and operators in the NNNP. The NNNP rules which are most significantly affecting RUN's activities in the park are:

- No driving in the park before sun rise and not after sun set.
- All RUN employees and their contractors must be familiar with NNNP rules and be in possession of entry permits before entering the park.
- Maximum speed limit on the official park roads is 60 km/h and on access tracks to exploration areas it is 40 km/h.
- Strictly no off-road driving is allowed.
- Pets and weapons such as firearms and crossbows are strictly not permitted allowed in the park.

RUN, through its Environmental Department, communicates any violations of NNNP rules to the park authorities.

# 2.7 Heritage & Archaeological Sites

Archaeological sites are scattered throughout the Namib Desert, and may occur in the study area. These may be associated with places that provide shelter, or water, but stone circles used as hunting blinds by the San people may also be found.

There are no sites that would have provided shelter on or near the uranium deposits. Fossils are rare but have been found, less commonly than archaeological artefacts.

# 3 ENVIRONMENTAL MANAGEMENT PLAN

# 3.1 Environment Policy and Responsibilities

RUN acknowledges its responsibilities to conduct its business in harmony with the wider community's desire to protect the natural environment. RUN carries the ultimate responsibility for all stages of the project and the resulting environmental impacts.

The responsible person will be the RUN Country Manager. The Country Manager must ensure that:

- A properly qualified Environmental Control Officer (ECO) is appointed;
- The EMP and its Environmental Management Act are included in contractual documents with all contractors, subcontractors, consultants etc. and that to adhere to rules, requirements and standard practices of EMP;
- RUN and all its employees, contractors, subcontractors, consultants etc. comply with all legislation and policies of the Namibian Government and any relevant International Conventions;
- Compliance with the Environmental Management Act is enforced on a day-to-day basis, environmental audits are conducted periodically by a suitably qualified ECO to confirm that the environmental requirements are being properly understood and effectively implemented;
- A sufficient budget is provided for the Contractor to implement those measures that have cost implications;
- Arrangements are made with the Ministry of Environment and Tourism [MET] in the event that any plant rescue operations are required; and,
- Open and effective communication is maintained between all parties who can influence the Environmental Management on the project area.

# 3.2 Environmental Management Principles

The following broad objectives are expected to be upheld by all parties involved in the project.

- A. RUN will be required to conduct all its activities in a manner that is environmentally and socially responsible. This includes all its employees, consultants, contractors, subcontractors, transport drivers, guests and anyone who enters the EPL area in connection with the project.
- B. Health, Safety and Social Well Being
  - Safeguard the health and safety of project personnel and the public against potential impacts of the project. This includes issues of road safety, precautions against natural dangers on site, and radiation hazards; and,
  - Promote good relationships with the Parks Authorities and their staff.

### C. Biophysical Environment

- Wise use and conservation of environmental resources, giving due consideration to the use of resources by present and future generations;
- Prevention or minimisation of environmental impacts;
- Prevention of pollution of air, water, and soil;
- Conservation of biodiversity; and,
- Due respect for the purpose and sanctity of a National Park.

To achieve these objectives, the following principles need to be upheld:

### 1. Commitment and Accountability

Senior executives and line managers shall be held responsible and accountable for:

- Health and safety of site personnel while on duty, including while traveling to and from site in company vehicles.
- Environmental impacts caused by exploration activities, or by personnel engaged in the
  exploration activities, including any recreational activities carried out by personnel in the
  Namib Naukluft National Park.

#### 2. Competence

The competence of the work force shall be ensured through selection, training, and awareness in all safety, health and environmental matters.

#### 3. Risk Assessment. Prevention and Control

Identify, assess and prioritise potential environmental risks. Prevent or minimise priority risks through careful planning and design, allocation of financial resources, management and workplace procedures. Intervene promptly in the event of adverse impacts arising.

#### 4. Performance and Evaluation

Set appropriate objectives and performance indicators. Comply with all laws, regulations, policies and the Environmental Management Act Implement regular monitoring and report on compliance with these requirements.

#### Stakeholder Consultation

Create and maintain opportunities for constructive consultations with employees, authorities and other interested or affected parties. Seek to achieve open exchange of information and mutual understanding in matters of common concern.

#### 6. Continual Improvement

Through continual evaluation, feedback and innovation, seek to improve performance with regard to social health and wellbeing and environmental management throughout the lifespan of the project.

# 7. Financial Provisions for Exploration

In line with the internationally recognised "polluter pays" principle, the Company will make the necessary financial provision for compliance with the Environmental Management Plan.

#### 3.3 Environmental Control Officer

The Company shall assign the day-to-day responsibility for environmental management to a competent and suitably qualified ECO, for the duration of all exploration activities. The ECO shall:

- Be familiar with the contents of the EMP and communicate it to all personnel;
- Monitor compliance with the EMP on a daily basis and enforce the EMP's standard procedures and practices on site;
- In the event of any infringements leading to environmental damage, consult with the Country Manager and take remedial measures to limit or rectify the damage;
- Maintain a record (photographic and written) of "before-and-after" conditions on site;
- Facilitate communication between all role-players in the interests of effective environmental management;
- Plan and mark out access routes in advance;

- Undertake environmental audits of overall compliance with the Environmental;
   Management Act.
- Submit regular site inspection reports to the Country Manager;
- Advise the Exploration Manager/Manager Field Operations on any matters of interpretation and implementation of the Environmental Management Act as required;
- Make recommendations for remedial action in cases of non-compliance with the Environmental Management Act

# 3.4 Drilling/Exploration Contractor

The Drilling Contractor shall have the responsibility to:

- Be familiar with the contents of the EMP;
- Comply with the Environmental Management Act
- Notify the ECO and/or Country Manager in advance of any actions he has reason to believe
  will have significant negative impacts, so that mitigatory measures can be discussed and
  implemented before negative impacts arise;
- Conduct environmental training amongst his employees and subcontractors so that they
  are fully aware of the Environmental Management Act and the reasons for them;
- Undertake rehabilitation measures where required by the Country Manager. As far as
  possible, rehabilitation measures must be carried out progressively and not left till the end
  of the project and/or drilling campaign.

# 3.5 Communication between parties

The importance of open communication between all parties is emphasised, as the attainment of environmental quality requires a joint effort. Only with open communication can a proactive approach be achieved. This approach should ensure that environmental impacts are anticipated and prevented or minimised.

# 3.6 Induction and Training

All new employees and contractors to RUN sites or properties are required to undergo an induction that details the environmental issues and requirements of the area with an annual refresher commencing during the first quarter of each New Year. See appendix Section 5.3, Environmental Management Induction for the 2015 version of the Environmental, Health & Safety Induction Manual.

Toolbox meetings may be called at any time by any employee to discuss any environmental concerns.

#### 3.7 Consultation

At the start of the exploration projects in 2006, it was not normal practice to undertake public participation at the exploration stage. However, because the study area lies within a National Park, consultations were held with the authorities and people with good knowledge of the area. A Plan of Study was also submitted to MET (DEA) and a short meeting was held with Dr F. Sikabongo. No particular concerns were expressed.

Two meetings were held with Mr Manie le Roux, the then incumbent Park Warden, to obtain a permit and establish whether there were any particular concerns. The main concern raised was the creation of new vehicle tracks. It was agreed that the study team would look for existing tracks and confine access to particular tracks as far as possible.

Mr Achim Lensin, a former Warden, was visited in Swakopmund to find out where the old tracks were before going into the area off road. A telephonic conversation was also held with Mr Joe Henschel at Gobabeb Desert Research Centre to establish whether there were any other matters of conservation concern that could arise due to mineral exploration. The Ministry of Mines and Energy [MME] was also notified of the EIA.

The promulgation of the Environmental Management Act of 2007 and Environmental Impact Assessment Regulations of 2012 require mining- and exploration companies to conduct a formal and prescribed Public Participation Process [PPP]. Several extensive PPPs were conducted in 2011 for the Tubas, INCA and Shiyela Projects and again for RUN's Ongolo and Tumas Projects in 2013. (The Ongolo and Tumas projects are temporarily suspended and the EMP's are not yet finalised). These PPPs also covered RUN's exploration activities. The numerous registered interested and affected parties are listed in the various EIAs and EMPs already lodged with the Department of Environmental Assessment with the MET. The relevant issues raised by the Interested and Affected Parties (IAPs) are included in this update of the EMP for RUN's exploration activities.

# 3.8 Incident Reporting

Exploration employees and contractors are required to report all environmental incidents. These include, but are not limited to:

- Spills of hydrocarbons, chemicals and any other potentially damaging substance greater than one litre;
- Injury to, or deaths of, native fauna caused by exploration activity (including light vehicles).

Environmental Incident Reporting Forms are available on site for recording and documentation of any incidents or issues that may arise. See RF-001 - Incident Report appendix Section 5.1.5.

# 3.9 Monitoring Programmes

Exploration environmental performance will be monitored through assessment of drill sites and following completion of rehabilitation. After rehabilitation of an area and/or drill sites, the NNNP Warden is informed for inspection and sign off.

# 3.10 Environmental Audits and Inspections

Drill sites and any other rehabilitated areas will be inspected upon completion of drilling and at 6 monthly intervals until the rehabilitation programme is complete. A written report is compiled as per document SOP-07 - Drill Programme Rehabilitation Report, appendix Section 5.2.2 and in accordance with EMS-03 - Drill Hole Rehabilitation, appendix Section 5.1.3. Documents are accompanied by photographic records if available.

Form EF-01 – RC Drilling Environmental Monitoring Form, appendix Section 5.1.1 is also be filled out as sites are monitored and checks are made for rubbish, hydrocarbon spills, leaks and weeds.

# 3.11 Roads, Campsites and Drill holes

- The location of each site camp shall be selected with environmental considerations in mind, and must be discussed in advance with the ECO who will recommend the most suitable location with the NNNP authorities;
- The camp and surrounds should be maintained in a clean orderly and presentable condition at all times;

- Pit latrines should be made in the camp and should be maintained in a hygienic condition at all times;
- Waste water from showers and the kitchen should be led to an underground soak-away;
- All water installations should be sealed and free of leaks. They should not be accessible to animals;
- After completion of the works, the camp must be restored to a clean and tidy condition. All
  waste should be removed from site to an approved waste disposal facility. The ECO will
  approve closure and NNNPark authories must sign off on the closure.
- Prior to the setting up of the camp or constructing new road RUN will consult MET and/or NNNP authorities for approval. However RUN is not planning to setup temporary living quarters, camp or new road as all personnel are residing in Swakopmund and Walvis Bay.
- Already existing tracks, will be utilised as far as possible
- When making new tracks, RUN will ensure the extent and duration of disturbance to the land and vegetation are minimised.

General exploration activities will always endeavour that the area and duration of the disturbance will be minimised and seasonal influences on the success of rehabilitation such as rainfall will be taken into account. Drill holes will be back-filled with the mineralised samples to be back filled-first. Drill holes that are to be retained/kept open for future mineral resource evaluation purposes will be cased and capped and appropriately identified and recorded.

# 3.12 Records and Reporting

RUN keep digital and hard copies of all exploration applications and subsequent approvals. Digital copies of completed environmental audits, reporting and incident forms once (completed the investigation) are be kept for future reference.

# 4 EXPLORATION PROGRAME ENVIRONMENTAL PROCEDURES

#### 4.1 Access

Wherever possible RUN will utilises existing roads, tracks, fence lines or open cross country routes to gain access into a tenement or prospect area. Any creating of tracks is kept to a minimum. This is both environmentally and financially best practice for the company.

# 4.2 Driving, parking and general protocol when visiting drill sites

In accordance with Section 4.1 above, the following protocol applies for vehicles visiting drill sites and other explorations sites everywhere on RUN's licenced areas:

- New/different tracks will only be staked by the ECO. Any new tracks required should be discussed with and agreed to by the ECO and /or Country Manager;
- When turning, make use of 3-point turns rather than circular turns, and only turn in specific places to be marked out for this purpose;
- · Where necessary, four wheel drive should be engaged early;
- Avoid rapid acceleration, wheel spinning, hard braking and sharp turning;

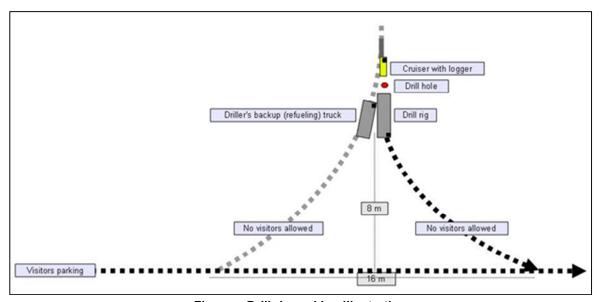


Figure - Drill rig parking illustration

- The drill rig reverses in to demarcated drill site and drives out. The backup truck drives in
  and reverses out, as does the logging vehicle. No vehicles are allowed to turn at the drill
  site, and visitors are to park well behind the drill site to give right of way to the heavy
  vehicles and the geologist to move on to the next site. See Figure for illustration.
- Rehabilitation of tracks only take place after completion of exploration, or of tracks that are no longer in use:
- Large trucks have right of way. When a truck approaches, slow down and leave the road at
  an appropriate place by pulling off and stopping on the shoulder of the road. Allow the truck
  to pass. To minimise the amount of new tracks, reverse back onto the road (if practical) and
  proceed.

### 4.3 Water

RUN recognises that water is a valuable and precious resource within the Namib Desert and conducts all operations in such a way as to maximise conservation of water supplies and protection from pollution.

Any groundwater intersected will be recorded by the drill contractor and geologist. In the unlikely event of encountering significant volumes of potable water, all relevant stakeholders will be notified. RUN embarked on a water quality monitoring and sampling project that formed part of its combined EIA, the EMP and Prefeasibility Study (PFS) for the Omahola Project's. This project falls within the boundaries of RUN's EPL3496 which includes the:

- INCA Prospect
- Ongolo & MS7 Alaskite Prospects
- Tubas Red Sand (TRS) Prospect
- Shiyela Iron Project

The first two Prospects make up the Omahola Project. The scope of this study focused on two main issues namely the existing water quality for the EIA/EMP and the water quantity available for desalination for the Omahola PFS. The water quality testing was conducted by the Australian Nuclear Science and Technology Organisation (ANSTO) in Australia and MNL Laboratories in South Africa.

The following radionuclide analyses are done at ANSTO:

- Uranium U<sub>238</sub>, U<sub>234</sub> and U<sub>235</sub>
- Thorium Th<sub>227</sub> Th<sub>228</sub>, Th<sub>230</sub>, and Th<sub>232</sub>
- Radium Ra<sub>223</sub>, Ra<sub>224</sub> and Ra<sub>226</sub>
- Polonium Po<sub>210</sub>
- Lead Pb<sub>210</sub>

MNL Laboratories was responsible for the bacteriological water analysis to determine the following:

- Total Suspended Solids (TSS)
- Total Dissolved Solids (TDS)
- Calcium (Ca)
- Magnesium (Mg)
- Chloride (CI)
- Fluoride (F)
- Sulphate (SO<sub>42</sub>)
- Nitrate (NO<sub>3</sub>)
- Sodium (Na)
- Potassium (K)
- Metals Mn, U, Fe, Si, As, Al by ICP-OES method (Inductively Coupled Plasma Optical Emission Spectrometry)
- Total Alkalinity (TA)

The water quantity (pump) testing and all water sampling is conducted by Mark Stanton of EcoAqua, a Swakopmund-based water consultancy.

### 4.4 Area and Duration of Disturbance

Since most of RUN's target exploration areas are located where extensive exploration took place in the 1970's and 80's, old tracks still visible across the area are used for access as far as possible. This serves as an indication of the extent of impact that vehicle tracks have in this sensitive area. In this light:

- Already existing tracks, are utilised as far as possible;
- Tracks are marked with 50 cm tall wooden stakes painted brightly pink for easily visible in the field (drill stakes are marked yellow), and driving only allowed where indicated by these stakes;
- Specific and dedicated turning points are allocated and clearly demarcated;
- When a drill hole is not directly on the track, only the drill rig, the driller's support truck (occasionally) and the RUN geophysical logging vehicle will be allowed to leave the track (Figure), with approaches demarcated in advance by the ECO. Visitors park in such a way as to not cause obstruction for the drill rig, support truck or logging vehicle to exit from drill points or to proceed to the next drill site.

# 4.5 Fire prevention

After unusually good rains, there can be enough grass to pose a risk of veld fires in dry grasslands. To mitigate against the risk of veld fires, the following rules apply:

- No fire should be made except in a camp, and contained in a drum. Fires should be made for cooking only. However, cooking on gas equipment is preferred;
- A suitable site should be selected where there is no risk of fire spreading to the veld especially in the case of the onset of sudden strong wind gusts;
- Fires should be extinguished when not in use. No fire should be left unattended at any time;
- Collecting of fire wood in the National Park is prohibited.

#### 4.6 Fuel, oils and other hazardous substances

All employees are made aware that it is important to deal with hydrocarbon spills as soon as they occur. Emphasis is placed on the need to contain spills and prevent entry to watercourses or drainage lines. Any contaminated soil is bagged or isolated and removed from site for disposal at an authorised site.

Oil and fuel spills are not tolerated in the NNNP. In order to prevent spills, the following practices are observed:

- Oil pans or plastic sheeting/ground covering are used by placed beneath vehicles/equipment that is bound to leak oil;
- Special care is taken when these substances are transferred in the field to avoid spillage.
   Should an accidental leak/spill occur, urgent action should be taken to clean it up by removing the affected soil and disposing of it outside the NNNP in a proper manner in consultation with the ECO;
- All containers of fuel, oil and any other hazardous substances should be kept sealed and clearly labelled for identification;
- No toxic substances are permitted to soak into the ground.

Where above mentioned impacts can't be avoided, consult with the ECO or Country Manager before causing any untoward damage.

# 4.7 Dust Generation and Air Quality

Through its induction programmes and tool box talks, RUN educates employees and contractors on the importance of the correct use of the appropriate personal protective equipment [PPE].

All personnel at the rig are required to wear "full" PPE which includes: long sleeve shirts, safety goggles, long trouser/overall, cricket hat, hard hat, safety boots and dust mask.

Geotechs are required to remain upwind from the cyclone, not to sit on the sample bags, minimise exposing time and maximise distance to high radioactive samples and avoid eating or smoking with dusty hands. Pregnant field workers must inform supervisors as early as possible for possible reallocation.

RUN use the SKC Air Lite Sample Pump (dust pump) to monitor for airborne radionuclide/alpha concentration in air (radioactive dust monitoring)

# 4.8 Topsoil and Erosion

RUN recognises the importance of ensuring that adequate controls are in place where necessary to prevent the erosion of disturbed areas. Where possible, topsoil is to be removed and stockpiled prior to carrying out any trenching or extensive drill pad development. Topsoil is to be replaced as soon as practically possible to ensure maximum rehabilitation success. The mixing of topsoil and overburden materials are minimized or prevented where possible.

#### 4.9 Contaminants

RUN conducts all onsite activities with the aim of preventing any release of hazardous contaminants. Any spills of hazardous contaminants that may occur to be cleaned up as quickly as practical to prevent any further contamination. Cleaning up of such a spill will not include any hosing, sweeping or otherwise releasing of any contaminants into any watercourse, waterway, or groundwater. RUN ensure that at no time will any fuels, oils, lubricants or other contaminants be let into waterways.

#### 4.10 Weed Management

RUN recognises the importance of preventing the spread of declared weed species and ensures that all vehicles and machinery are adequately cleaned before taking a vehicle into a new area. RUN's policy requires employees to wash down vehicles prior to mobilising to a new district. Wherever possible, vehicles are also washed before travelling between different sites.

Due to the sensitivity of the natural environment of the NNNP and the fact that decomposition in this arid area takes place at a very slow rate:

- No rubbish dumped or buried in the Park. "What you take in, you must take out again";
- No natural waste such as fruit/vegetable peels or pips should be discarded in the NNNP;
- No cigarette ends should be dropped on site or in the field;
- No toilet paper should be left/buried in the field;
- No samples bags or other plastic bags must be allowed to blow away;
- All of the above also strictly apply for the road between Swakopmund and Walvis Bay and the exploration areas.

Where above mentioned impacts cannot be avoided, consult with the ECO or Country Manager before causing any untoward damage

# 4.11 Roads, Campsites and Drill holes

Currently RUN have no camps or temporary accommodation structures on the exploration areas as all employees and contractors are based in Swakopmund and Walvis Bay. Existing tracks are utilised as far as possible.

The area and duration of the disturbance is minimised and seasonal influences on the success of rehabilitation such as rainfall are taken into account. Drill holes are back filled mineralised sample back filled first. Drill holes that are to be retained for future mineral resource evaluation purposes are cased, capped and appropriately identified.

#### 4.12 Flora

All RUN employees and contractors are informed through regular inductions and tool box talk to minimise negative impact on flora by avoiding:

- Driving, walking over or unnecessarily close to plants;
- Removing plants or parts of plants;
- Drilling near protected plants.

Any rare flora species identified by RUN's field staff will be recorded and reported to relevant NNNP authorities.

#### 4.13 Fauna

For safety reasons, RUN employees are prohibited from killing or attempting to handle snakes or any other dangerous animals.

RUN employees and contractors are not permitted to bring any domesticated animals to the project areas. Personnel are also prohibited from interacting or interfering with any native fauna.

No injuries to fauna as a result of exploration activity have been recorded to date. However incidents of injury to fauna may occur on roads in the region where vehicles travel at greater speed. These incidents mainly involve daytime species such as birds. All injuries and deaths of animals are to be reported. Injured animals are to be humanely dispatched, or where practicable, transferred to a wildlife rehabilitation organisation. Given the distance from major centres, in most cases this option is not advised as further stress to the animal is likely to occur.

Any rare fauna species identified by RUN's field staff must be recorded and reported to relevant NNNP authorities.

#### 4.14 Soil and Ground water Pollution

All RUN contractors (e.g. drilling company) is required to provide RUN with Material Safety Data sheets (MSDSs) of all chemicals, oils, fuels, onsite before drilling. Drill chemicals are discussed with ECO before using it to avoid unnecessary pollution to underground water.

# **4.15 Noise**

Noise emissions are difficult to control in the exploration drilling environment. Personnel working near drill rigs are required to wear earplugs. Fauna is expected to temporarily move away from the noisy area and have been observed in other case studies to return once drilling is complete and the source of the noise removed.

# 4.16 Low Impact Exploration Programmes

Low impact exploration is defined as reconnaissance, mapping and geochemical sampling. Reconnaissance and mapping has effectively zero environmental impact, allowing a 'leave only footprints, take only photographs' approach with the only samples being collected comprising rock specimens from outcrops.

Geochemical sampling comprises raking or shovelling a few kilograms of soil or rock into a sieve to extract 0.5-1.0 kg of a particular size fraction for chemical assay in a laboratory. Any holes dug during this process are backfilled, and the advent of high accuracy/precision GPS now precludes the use of gridding or term/tag markers being used.

# 4.17 Drilling Programmes

The environmental impact of drilling depends on the type and depth of drilling, the type and amount of drill spoil returned to surface, the size of the drill rig and whether or not ground water is encountered. The types of drilling undertaken by RUN are reverse circulation []RC] and diamond core [DC].

RC percussion and DC drilling is utilised when detailed drilling to depth is required to assess a mineral prospect or deposit. Drilling operations may have intensive environmental impact but are generally confined to a relatively small area of approximately 1 to 10 hectares (1,000 to 10,000 m<sup>2</sup>). This type of environmental impact requires more intensive rehabilitation procedures.

During drilling, RC samples are placed in plastic retention bags and laid in rows adjacent to the drill hole. Diamond core is generally removed from the site and stored at a core handling facility at Rocky Point, RUN's semi-permanent core and sample storage facility approved by NNNP authorities. Sample retention bags are left in place whilst the project is active due to the likelihood that further sample collection may be necessary.

The drill-hole collars are inspected to ensure integrity of the plug at 1-2 months and again approximately 6-12 months after drilling as part of the inspection procedure.

# 4.18 Rehabilitation of Drill Sites

All drill holes are back-filled or capped after end of the drilling campaign, latest after a decision to close or abandon the project has been taken. All rubbish and other wastes are removed. Progressive rehabilitation of drill sites is normal practice and done daily as drilling progresses. Daily audits are carried out and captured on form EMS-02 - Environmental Rehabilitation Audit appendix Section 5.1.2.

A summary report SOP-06 - Exploration Rehabilitation Phase, appendix Section 5.2.1.is completed in accordance with rehabilitation procedure for drill holes as per EMS-010 - Preliminary Rehabilitation Plan appendix Section 5.1.4

It is possible that drill pads, access tracks may become compacted due to certain soil types and therefore remedial action are undertaken in these areas. RUN has included within its rehabilitation procedures a check for non-rehabilitation compacted areas and steps to undertake any such necessary rehabilitation following a 6-12 month audit of the drilling programme.

#### 4.19 Waste Management

At every drill rig on site is required to have rubbish bin for waste disposal and emergency cleaning equipment such as drip trays, spade, pick, plastic bags and absorbent material.

At RUN's head office, seven rubbish bins are hired from the Swakopmund Municipality and are emptied once a week. These bins have been classified into paper, plastic, glass and metals to be segregated into the different waste types. RUN is actively supporting the recycling of waste material, which is collected by West Coast Recycling Services.

Vehicles used in the field are also washed regularly to avoid alien invasive (foreign plant) in the desert. All foreign plant material such as vegetables, fruit pips and peels consumed/used in the field, are placed in the bags and taken back to the office for proper disposal.

After refilling the drilled holes empty plastic bags are cleaned (dusted off) and taken to the office for radiation contamination check-up using the RS-125 Super Spectrometer before sending it to the West Coast Recycling Services for recycling purpose. Radioactive waste is disposed of at the Langer Heinrich Mine in the licenced hazardous waste site as per RUN's Radiation Management Plan [RMP]

# 4.20 Hazardous Materials/Fuel Storage

No fuel storage of more than 200 litre drums will be allowed on site for vehicle, drill rigs and genset oils. All fuel drums will be stored within a bunded area located away from camp accommodation sites and drainage lines. Storage is generally short term and drums are regularly checked for leaks. Following camp demobilisation all drums will be removed from the site for disposal or recycling/reuse.

# 4.21 Radioactive Materials

RUN recognises that as it is conducting exploration for radioactive materials. Therefore extra precautions must be taken to ensure that radiations hazards are minimised. Some procedures outlined in the EMP may not be suitable when applied to radioactive material and alternate procedures is be applied as outlined in the Radiation Management Plan [RMP]. In applying the RMP, RUN will adopt appropriate systems and procedures to effectively manage these additional risks and prevent harm to personnel, the public or the environment.

# **5 APPENDICIES**

# **5.1 Environmental Management**

The following five (5) Environmental Management control documents are included in this section of the Appendix.

• EF-01 RC Drilling Environmental Monitoring Form

• EMS-02 Environmental Rehabilitation Audit

• EMS-03 Drill Hole Rehabilitation

• EM-010 Preliminary Rehabilitation Plan

• RF-001 Incident Report

# 5.1.1 EF-01 – RC Drilling Environmental Monitoring Form

Appendices\Appendix 5.1.1. Form EF-01 - RC DRILLING ENVIRONMENTAL MONITORING FORM.doc

# 5.1.2 EMS-02 - Environmental Rehabilitation Audit

Appendices\Appendix 5.1.2. Form EMS-02 Environmental Rehabilitation Audit.doc

# 5.1.3 EMS-03 - Drill Hole Rehabilitation

Appendices\Appendix 5.1.3. Form EMS-03 - Drill Hole Rehabilitation Procedure.doc

# 5.1.4 EMS-010 - Preliminary Rehabilitation Plan

Appendices\Appendix 5.1.4. Form EM-010 Preliminary Rehabilitation Plan.docx

# 5.1.5 RF-001 - Incident Report

Appendices\Appendix 5.1.5. Form RF-001- INCIDENT REPORT.doc

# **5.2 Standard Operating Procedures**

The following two (2) Environmental Standard Operating Procedure control documents are included in this section of the Appendix.

- SOP-06 Exploration Rehabilitation Phase
- SOP-07 Drill Programme Rehabilitation Report

# 5.2.1 SOP-06 - Exploration Rehabilitation Phase

Appendices\Appendix 5.2.1. Form SOP-06 - Exploration Rehabilitation Phase.doc

# 5.2.2 SOP-07 - Drill Programme Rehabilitation Report

Appendices\Appendix 5.2.2. Form SOP-07 - Drill Programme Rehabilitation Report.doc

# 5.3 Environmental Management Induction

This section of the Appendix includes the 2015 update of the Environmental Induction Manual manual for new and current employees.

• EHS Employee Induction Manual

# 5.3.1 EHS - Employee Induction Manual

Appendices\Appendix 5.3.1 RUN EHS Induction.pdf