

**PROJECT:**  
**REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT**  
**EIA PROCESS**

Venue: Swakopmund Hotel

Date: 20 February 2023

EIA Feedback Session: open day



Name and Surname	Organisation	Contact numbers	E-mail	Signature
Mike + Ann Scott	ACS	0812845130	ecoserve@iway.na	
Kai Kutzner	Wesbank Transport	081276482	shega@wesbanktransport.com	
Alexi Smit	Private	0817527207	audoring@gmail.com	
Fabianus Gamadub	Litho Projects	081 816 3475	fabianus.gamadub@litho.com	
Juliana Schlegel	Private	0818093166	juju@gmail.com	
Sveija Cairaud	Privertree Consulting	081 3375943	sveija@privertreeconsulting.com	







**PROJECT:**  
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EIA Feedback Session: Uranium Mines of



Name and Surname	Organisation	Contact numbers	E-mail	Signature
Kasfirik Nkundilo	CGPNO	0811275703	kasfirik.nkundilo@cgpn.org.na	
Richard Kangumba	Swakop Uranium	0872590345	Richard.Kangumba@cgpn.com.na	
Jabi Silwende	NWA/NUI	08-2949950	dsilwende@namibianuranium.org	
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Werner Enabd	"	0811224470	wenabd@banneronenergy.com.na	

**PROJECT:**  
**REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT**  
**EIA PROCESS**

Venue: Swakopmund Hotel

Date: 20 February 2023

EIA Feedback Session: MEFT & CTAN + Uranium mines



Name and Surname	Organisation	Contact numbers	E-mail	Signature
Lini G.	MEFT	08 136 9006	Tjakilipo@qum.com	
Riaan Solomon	MEFT	064-404576 081 252 7474	Riaan.Solomon@meft.gov.na	
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<del>Uranium mines</del> Ann-August Shikongo	RUL	0811228653	Ann-August.Shikongo@ruling.com.na	
Marlon Izaks	Swakop Uranium	08166 29 300	Marlon.Izaks@cgpc.com.na	
Sandra Müller	Orana	0817783736	smuller140@gmail.com	



















**From:** Jonas David Masen [mailto:jdmasen@gmail.com]  
**Sent:** Monday, 13 February 2023 15:20  
**To:** Werner Petrick <wpetrick@namisun.com>  
**Subject:** Re:EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Good afternoon Mr. Petrick

Your email received in good order. Thank you.

Kind regards

David Masen

Sent from my Huawei phone

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**From:** Pieter van Ginkel [mailto:paintball@iway.na]  
**Sent:** Monday, 13 February 2023 17:21  
**To:** 'Werner Petrick' <wpetrick@namisun.com>  
**Subject:** RE: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE  
**Importance:** High

*Dear Werner*

*I will attend.*

*Kind Regards  
Peter*



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**From:** andra.heyman@kahlgroup.net [mailto:andra.heyman@kahlgroup.net]  
**Sent:** Tuesday, 14 February 2023 07:30  
**To:** 'Werner Petrick' <wpetrick@namisun.com>

**Subject:** RE: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Good day Werner

Thank you very much for the feed-back.

Myself and Kallie Esterhuizen, our Mine Contractor will attend the 21 February information session at Pelican Bay Hotel from 12.

Kind regards

**Andra Heyman**  
Management Accountant  
Walvis Bay  
+264 64 206 500  
Cell: 0812491364



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**From:** Ephraim Nambahu [mailto:enambahu@walvisbaycc.org.na]  
**Sent:** Tuesday, 14 February 2023 07:44  
**To:** Werner Petrick <wpetrick@namisun.com>  
**Cc:** John Esterhuizen <jesterhuizen@walvisbaycc.org.na>; Town Planning <townplanning@walvisbaycc.org.na>  
**Subject:** RE: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Good day Mr Petrick,

On behalf of the Municipality of Walvis Bay, Town Planning Section, I am hereby confirming attendance to the feedback session to be held on the 21<sup>st</sup> of February 2023 at Protea Pelican Bay Hotel, Walvis Bay at 15h30 to 18h30.

Kind Regards 

**Ephraim L Nambahu**

Town Planning Officer, Roads and Building Control, Municipality of Walvis Bay

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Civic Centre, Nangolo Mbumba Drive, Walvis Bay, Namibia

T: +264 64 201 3229

F: +264 64 206135

E: [enambahu@walvisbaycc.org.na](mailto:enambahu@walvisbaycc.org.na)

W: [www.walvisbaycc.org.na](http://www.walvisbaycc.org.na)

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**From:** David Uushona [mailto:[duushona@walvisbaycc.org.na](mailto:duushona@walvisbaycc.org.na)]  
**Sent:** Tuesday, 14 February 2023 08:04  
**To:** Managers <[managers@walvisbaycc.org.na](mailto:managers@walvisbaycc.org.na)>; Durith Tjarokua <[dtjarokua@walvisbaycc.org.na](mailto:dtjarokua@walvisbaycc.org.na)>; Jamie-Lee Lawrence <[jlawrence@walvisbaycc.org.na](mailto:jlawrence@walvisbaycc.org.na)>; Ephraim Nambahu <[enambahu@walvisbaycc.org.na](mailto:enambahu@walvisbaycc.org.na)>; General Managers <[gms@walvisbaycc.org.na](mailto:gms@walvisbaycc.org.na)>; Shirley Tjaveondja <[stjaveondja@walvisbaycc.org.na](mailto:stjaveondja@walvisbaycc.org.na)>  
**Cc:** Nangula Amutenya <[namutenya@walvisbaycc.org.na](mailto:namutenya@walvisbaycc.org.na)>; Lovisa Hailaula <[lhailaula@walvisbaycc.org.na](mailto:lhailaula@walvisbaycc.org.na)>; [wpetrick@namisun.com](mailto:wpetrick@namisun.com)  
**Subject:** FW: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Good Morning Colleagues

Note attachment and email below for your information and possible attendance to the feedback session.

Kindest regards & God's blessings,



**David DH Uushona (CMP)**

Manager: Solid Waste & Environmental Management

Civic Centre, Nangolo Mbumba Drive, Walvis Bay, Namibia

T: +264 64 214 304

F: +264 64 214 310

M: +264 81 122 0814

E: [duushona@walvisbaycc.org.na](mailto:duushona@walvisbaycc.org.na)

W: [www.walvisbaycc.org.na](http://www.walvisbaycc.org.na)



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**From:** Nadine Kohlstaedt [mailto:[info@sciswk.com](mailto:info@sciswk.com)]  
**Sent:** Tuesday, 14 February 2023 08:51  
**To:** 'Werner Petrick' <[wpetrick@namisun.com](mailto:wpetrick@namisun.com)>  
**Subject:** RE: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Dear Werner,

I hope this email finds you well. Thank you for the information about the Tumas Project.

As interested and in some ways affected party (as regular local tourist to the region), I have some grave concerns about the project.

Many environmental issues are rated as high or even very high. They can be mitigated, but since enforcement is low from government (mainly due to financial constraints) I am very worried, that the mitigation proposed might often not happen/ not be effective enough. Thus I am strongly opposed to mining in a national park. I appreciate the Namibian state trying to find ways of job creation, but looking at the economy, tourism is very important for jobs. The sense of space and the quietness in the desert, its unspoiled nature is what makes Namibia unique and what draws tourists. Even a small mine with some mitigated impact, can destroy that image completely. If we lose that special feature, we lose tourists and thus income and jobs for many more than what we gain from mining ventures.

Wishing you a wonderful day,  
Nadine  
Kohlstaedt

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**From:** donald doeseb [mailto:donald.doeseb@mefi.gov.na]  
**Sent:** Tuesday, 14 February 2023 10:13  
**To:** Timoteus Mufeti <Timoteus.Mufeti@mefi.gov.na>  
**Cc:** Caroline Garus-Oas <Caroline.Garus-Oas@mefi.gov.na>; Werner Petrick <wpetrick@namisun.com>  
**Subject:** FW: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Good morning Mr. Mufeti,

Please see below email from Mr. Werner. For your information.

I have also copied him in.

Kind regards

Mr. Donald Doëseb  
**TECHNICAL ASSISTANT TO THE EXECUTIVE DIRECTOR**

Office of the Executive Director  
Ministry of Environment, Forestry and Tourism  
T: +264 61 284 2720 | M: +264 81 234 7879|  
E: [donald.doeseb@mefi.gov.na](mailto:donald.doeseb@mefi.gov.na)/ [deseb@yahoo.com](mailto:deseb@yahoo.com)

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**From:** Brent Johnson [mailto:brent.johnson2@gmail.com]  
**Sent:** Tuesday, 14 February 2023 13:03  
**To:** Werner Petrick <wpetrick@namisun.com>  
**Subject:** Re: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Look forward to reading this one Werner...

Sent from my iPhone

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**From:** Gotty Gaoseb [mailto:ggaoseb@gmail.com]  
**Sent:** Wednesday, 15 February 2023 18:37  
**To:** wpetrick@namisun.com  
**Subject:** Interested Affected Party

I WANT TO BE REGISTERED AS INTERESTED AFFECTED PARTY.

THANK YOU  
GOTTY

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**From:** Marlon I [mailto:Marlon.Izaks@cgnpc.com.cn]  
**Sent:** Friday, 17 February 2023 12:12  
**To:** 'Werner Petrick' <wpetrick@namisun.com>  
**Subject:** RE: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Hi Werner,

Myself and Richard will attend the session on Monday.

*Regards*

*Marlon Izaks  
Environmental Superintendent*



Husab Mine | Swakopmund | Namibia  
PO Box 8667 | Swakopmund | Namibia  
Tel: 064 411 1266

E-mail: [Marlon.Izaks@cgnpc.com.cn](mailto:Marlon.Izaks@cgnpc.com.cn)  
Website: [www.swakopuranium.com](http://www.swakopuranium.com)

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**From:** ecoserve@iway.na [mailto:ecoserve@iway.na]  
**Sent:** Monday, 20 February 2023 08:18  
**To:** 'Werner Petrick' <wpetrick@namisun.com>  
**Subject:** Tumas Project

Hi Werner

Just to confirm that your Tumas presentation is today (Monday) at 15h30 at the Swakopmund Hotel (the old railway station)? We hope to be there.

You are probably very busy at this stage!

Thanks & regards

Ann & Mike

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**From:** Nadine Kohlstaedt [mailto:info@sciswk.com]  
**Sent:** Monday, 20 February 2023 09:10  
**To:** 'Werner Petrick' <wpetrick@namisun.com>  
**Subject:** RE: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Hi Werner,

Unfortunately I will not be able to come to the feedback session this afternoon.

I hope you have a productive session.

Regards

Nadine

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**From:** Frances [mailto:frances@andersonnam.com]  
**Sent:** Monday, 20 February 2023 09:28  
**To:** wpetrick@namisun.com  
**Subject:** REQUEST: RUN Electronic EIA report and EMP

Dear Werner,

I trust you are well. Thank you for contacting me last week Friday. It was good hearing from you.

Werner is it possible to send through both the EIA report and EMP of RUN? If it is kindly send me the documents.

Thanks, and Kind Regards.

Frances F. Anderson  
+264 811 22 51 71

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**From:** SHEQ [mailto:sheq@wesbanktransport.com]  
**Sent:** Monday, 20 February 2023 12:51  
**To:** wpetrick@namisun.com  
**Cc:** pa2ceo <pa2ceo@wesbanktransport.com>



**From:** ecoserve@iway.na [mailto:ecoserve@iway.na]  
**Sent:** Tuesday, 21 February 2023 09:36  
**To:** 'Werner Petrick' <wpetrick@namisun.com>  
**Subject:** RE: Tumas Project

Dear Werner

Just to say well done to you and your team. We enjoyed your presentation and the posters – it must be very satisfying to see all your hard work coming together into a cohesive, interactive whole that works both for the environment and the client.

Keep up the good work!  
Best regards  
Ann & Mike

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**From:** Bennett Kahuure [mailto:Bennett.Kahuure@mefl.gov.na]  
**Sent:** Wednesday, 22 February 2023 15:33  
**To:** Werner Petrick <wpetrick@namisun.com>  
**Cc:** 'Rika Stroh' <rika.stroh@reptile.com.na>; manie leroux <manie.leroux@mefl.gov.na>  
**Subject:** RE: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Dear Mr Petrick,

Thank you for the invitation. My colleague Manie Le Roux will represent us.

Regards,

Bennett

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**From:** Bertram Swartz [mailto:Bertram.Swartz@mawlr.gov.na]  
**Sent:** Thursday, 23 February 2023 12:22  
**To:** Werner Petrick <wpetrick@namisun.com>; martin.hirsch@reptile.com.na;  
darryl.butcher@deepyellow.com.na  
**Cc:** Maria Amakali <Maria.Amakali@mawlr.gov.na>; Cynthia Ortmann  
<Cynthia.Ortmann@mawlr.gov.na>; Laurica Afrikaner <Laurica.Afrikaner@mawlr.gov.na>; Mikael  
Ndongo <Mikael.Ndongo@mawlr.gov.na>  
**Subject:** Re: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Good day Werner, Martin and Darryl,  
Thank you for including the Department of Water Affairs and the Division of Geohydrology in the discussions and for today's engagement regarding the Tumas Project.  
The information shared will be reviewed and should there be further inputs we will revert back to you.

Colleagues I have in my possession electronic versions of the reports, I will distribute it on the shared drive (Y:\EIA).

Kind Regards

-----  
Bertram Swartz (S.Geo.Sci.Nam.)  
Deputy Director: Geohydrology  
Directorate of Water Resource Management  
Department of Water Affairs  
Ministry of Agriculture, Water and Land Reform  
Private Bag 13193  
Windhoek  
NAMIBIA  
Tel: +264 61 208 7089  
Mob: +264 81 202 0710

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**From:** Frances [mailto:frances@andersonnam.com]  
**Sent:** Wednesday, 01 March 2023 13:32  
**To:** 'Werner Petrick' <wpetrick@namisun.com>  
**Subject:** RE: REQUEST: RUN Electronic EIA report and EMP

Dear Werner,

Thank you for the information. I will have a look and provide my comments on or before 17 March.

Take care, and kind regards  
Frances F. Anderson  
+264 811 22 51 71

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**From:** Bennett Kahuure [mailto:Bennett.Kahuure@mef.gov.na]  
**Sent:** Wednesday, 08 March 2023 08:06  
**To:** Werner Petrick <wpetrick@namisun.com>  
**Cc:** manie leroux <manie.leroux@mef.gov.na>; 'Cathy Paxton' <cathy.paxton@deepyellow.com.au>; kenneth uiseb <kenneth.uisieb@mef.gov.na>  
**Subject:** RE: EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Dear Mr Petrick,

Thank you very much for the information and for sharing the full report. We will study it and revert noting the deadline.

Regards,

Bennett





# Tumas Granite CC

Reg. No. CC/2004/0308

P. O. Box 20244  
Windhoek  
Namibia

Tel: +264 81 1283520

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BY EMAIL

Windhoek, 17 March 2023

Mr. Werner Petrick  
NAMISUN  
P.O. Box 8127  
Swakopmund  
Namibia

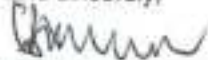
Email: [wpetrick@namisun.com](mailto:wpetrick@namisun.com)

Dear Werner,

## DRAFT EIA REPORT AND EMP REPORT: ML 237 REPTILE URANIUM

1. We refer to the application for an Environmental Clearance Certificate (ECC) lodged by Reptile Uranium Namibia (PTY) Ltd. in respect of Mining Licence No. 237.
2. We also refer to your presentation in Windhoek on 23 February 2023, which we attended, and thank you for the USB-stick provided to us.
3. According to your reports, the proposed mining operations and accessory works will have an extensive environmental impact and will also directly impact areas of land covered by our existing exclusive rights with respect of dimension stone held under Reconnaissance Licence No.13, and also affect areas applied for under EPL 7913 and EPL 7914.
4. Our rights and interests were completely ignored.
5. The Proponents, namely Reptile Uranium Namibia (Pty) Ltd., are aware that the matter is subject to a review application in the High Court of Namibia under Case Number HC-MD-CIV-MOT-REV-2018/00246.
6. We regret that currently we cannot support or comment on the application for the ECC until the matter is adjudicated upon and finalized in court.

Yours sincerely,



(J. Hoffmann)  
Member

CC: The Environmental Commissioner  
CC: The Mining Commissioner

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Member: J. Hoffmann

**EXAMPLE OF EMAIL sent to IAPS: (Note: various similar email were sent out to specific Focus Groups to invite them to specific feedback sessions as well as the open feedback sessions to other I&APs):**

**From:** Werner Petrick [mailto:wpetrick@namisun.com]

**Sent:** Monday, 13 February 2023 21:40

**Subject:** EIA REPORT - REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE

Dear Sir / Madam

**NOTICE OF AVAILABILITY OF EIA REPORT AND EMPS FOR REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE IN THE ERONGO REGION OF NAMIBIA**

After the completion of the Environmental Impact Assessment (EIA) scoping phase for the above-mentioned Project, extensive studies were undertaken by the team of Environmental and Social Experts to assess the potential impacts of all project activities. The Draft EIA Report, its appendices and Environmental Management Plans (EMPs) are available for review and comment.

**Applicant:** Reptile Uranium Namibia (Pty) Ltd (RUN).

**Nature and location of the proposed activity:**

RUN submitted an application to the MME to convert, in part, its Exclusive Prospecting Licences (EPLs) 3496 and 3497 to a Mining Licence (ML). The Tumas Project area is located in the Namib Naukluft National Park in the Erongo Region of Namibia, approximately 40 km east from Walvis Bay and can be reached via the C28 or the C14 roads.

Open Pit mining; Ore transported with haul trucks to the onsite plant for processing; Mineral and non-mineral waste from the mining and processing activities to be disposed of at onsite facilities; Use of reagents for processing; Water supply and storage as well as power supply to the mining and processing activities. Final product, uranium oxide and by-product, vanadium pent-oxide exported for further processing. Two separate (i.e. addendum) reports for the proposed water supply pipeline and the overhead powerline to the proposed Tumas Project are also available for review.

**Independent Environmental Assessment Practitioner:**

Namisun Environmental Projects & Development (Namisun) has been appointed as the independent Environmental Assessment Practitioner to undertake the EIA process for the proposed Project (please find contact details below).

**Comment on Draft EIA Report and EMPS:** The Draft EIA Report, its appendices and EMPS have been made available for a review & comment period ending on the **17<sup>th</sup> of March 2023**. Please find the Tumas Project EIA Report – Executive Summary attached. An electronic copy of the full report is available on request to Namisun. Copies of the report are available for review at the following locations:

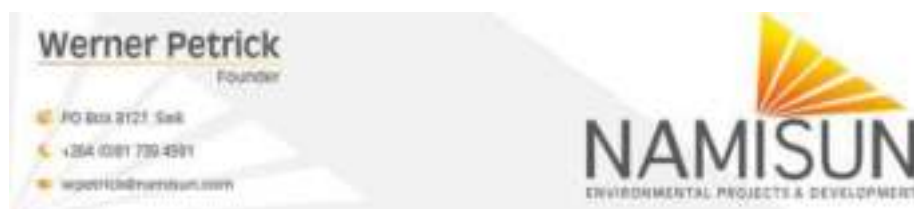
Location	Name of facility	Physical address	Details
Swakopmund	Swakopmund Public Library	Bismarck Street Woerman house	Hard copy of the Executive Summary and electronic copy of the full report (including Appendices) for downloading.  The full report will be available for review on a dedicated computer at each of the libraries.
Walvis Bay	Walvis Bay Library	163 Nangolo Mbumba Drive, Civic Centre	
Windhoek	National Library in Windhoek	Marais Street	

You are hereby invited to attend an open day feedback session as per the table below. The EIA study findings will be displayed on posters for discussion. Please confirm your attendance.

Date	Location	Venue	Any time between:
20 February 2023	Swakopmund	Swakopmund Hotel and Entertainment Centre, Spitzkoppe boardroom.	15:30 to 18:30
21 February 2023	Walvis Bay	Protea Pelican Bay Hotel, Nautilus Boardroom.	15:30 to 18:30
23 February 2023	Windhoek	Scientific Society of Namibia.	15:30 to 18:30

For comments to be included in the Final EIA Report and EMPS they should be forwarded to Namisun by **no later than 17 March 2023**.

Regards,



**ENVIRONMENTAL IMPACT ASSESSMENT FOR RUN's TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE**

**ISSUES AND RESPONSE REPORT**

**TABLE 1: COMMENTS RECEIVED BY IAPS DURING THE EIA REPORT REVIEW PERIOD**

NO.	COMMENT / QUESTIONS / ISSUE RAISED	ORGANISATION	METHOD	RESPONSE
<b>General / Technical</b>				
G1	Why did the Deep Yellow people move over to Deep Yellow from Paladin?	Earthlife Namibia	Focus Group meetings 23 Feb 2023	To keep the team with extensive experience together.
G2	How was the involvement from the public in Swakopmund during the feedback sessions?	Earthlife Namibia	Focus Group meetings 23 Feb 2023	Various Focus Group meetings / feedback session were conducted in Swakopmund on the 20 <sup>th</sup> of February 2023. These sessions were will attended / represented by the relevant stakeholders. Constructive discussions were held.  The open day feedback session was not very well attended even though it was advertised in the newspapers and various emails sent out to I&APs. The few people that did attend provided constructive feedback.
G3	What is average grade?	Earthlife Namibia	Focus Group meetings 23 Feb 2023	The maiden ore reserve, from the Tumas Definitive Feasibility Study (DFS) metallurgical test work completed to date, is estimated to be 68.4Mlb U <sub>3</sub> O <sub>8</sub> at an average grade of 345 ppm U <sub>3</sub> O <sub>8</sub> ,
G4	How deep is the resource under the surface?	Earthlife Namibia	Focus Group meetings 23 Feb 2023	Minerals Occurs from surface and will be mined to a maximum depth of ~53 m.
G5	Do you use Sulphuric Acid for leaching?	Earthlife Namibia	Focus Group meetings 23 Feb 2023	No, alkaline leaching will be used as part of the processing (i.e. Sodium Carbonite)
G6	Will you have contactors or construction workers during construction?	Earthlife Namibia	Focus Group meetings 23 Feb 2023	A Contracting company will be appointed.
G7	Where gypsum is found at surface will this be used by the mine?	Elspe Minerals	Focus Group meetings 21 Feb 2023	Topsoil (and some subsoil) will be stockpiled for future rehabilitation purposes.
G8	Noted that someone is busy with testing of the C28 road, likely for the road strength and condition.	Elspe Minerals	Focus Group meetings 21 Feb 2023	Noted.
G9	How can there be a Mining Licence (ML) within an ML?	MAWLR & RPA	Focus Group meetings 23 Feb 2023	MLs can overlap when different commodities are mined. This relates to Elspe Minerals, which has two ML within the proposed Tumas Project ML area, mining for gypsum.
G10	What about the impact of dust on workers?	RPA	Focus Group meetings 23 Feb 2023	The EIA assessed potential environmental and social impacts, including impacts on third parties. The EIA did not assess health and safety impacts on workers because the assumption was made that these aspects are separately regulated by labour acts, health and safety legislation, policies and standards, which RUN will adhere to. See section 9.1 of the EIA Report.
G11	Which areas will be fenced?	MEFT (DWNP)	Focus Group meetings 20 Feb 2023	The process plant area will be fenced with restricted access.
G12	Need more details on the fencing of areas.	MEFT (DWNP)	Focus Group meetings 20 Feb 2023	

NO.	COMMENT / QUESTIONS / ISSUE RAISED	ORGANISATION	METHOD	RESPONSE
G13	Will the RUN Environmental Department fully understand all the environmental issues and how to implement the EMP?	Swakopmund municipality	Focus Group meetings 20 Feb 2023	A suitably qualified Environmental Manager will be appointed. The relevant roles and responsibilities of the Environmental Manager are provided in the EMP. RUN will consider further specific training for the Environmental Manager / Team, as required.
G14	Did they cater for a starter pit for tailings disposal or temporary tailings storage?	Frances Anderson	Open public session meetings 20 Feb 2023	All tailings will be backfilled in the mined out areas in Tumas 3. With reference to section 4.3.2 of the EIA Report, mining is planned to commence at the eastern end of the Tumas 3 area and progress through all of this deposit in a majority west to east advance. Pits T3_A and T3_B will be the first starter pits, which will be used as a disposal pit upon closure and temporary sodium sulphate storage in a lined pond, respectively. Thereafter, T3_5 will provide further ore feed, which is to be stockpiled close to the processing facility.
G15	As interested and in some ways affected party (as regular local tourist to the region), I have some grave concerns about the project. Many environmental issues are rated as high or even very high. They can be mitigated, but since enforcement is low from government (mainly due to financial constraints) I am very worried, that the mitigation proposed might often not happen/ not be effective enough. Thus I am strongly opposed to mining in a national park. I appreciate the Namibian state trying to find ways of job creation, but looking at the economy, tourism is very important for jobs. The sense of space and the quietness in the desert, its unspoiled nature is what makes Namibia unique and what draws tourists. Even a small mine with some mitigated impact, can destroy that image completely. If we lose that special feature, we lose tourists and thus income and jobs for many more than what we gain from mining ventures.	Nadine Kohlstaedt Swakopmund Scientific society	Email, 14 February 2023	The receiving environment was studied as part of the EIA process for the proposed Tumas Project, (section 6 of the EIA Report) and environmental aspects and potential impacts associated with the activities and facilities were identified as part of the Scoping Phase, for further consideration and assessment during the assessment phase of the EIA. Potential environmental impacts were identified by Namisun in consultation with I&APs, regulatory authorities, specialist consultants, RUN and Deep Yellow. The impacts were assessed under the identified issue headings in section 7 of the EIA Report. The negative impacts will require proper management and mitigation to minimise impacts as far as possible. The environmental aspects and potential impacts relating to the proposed Tumas Project have been successfully identified and assessed as part of this EIA process. Relevant management and mitigation measures as well as monitoring and further research requirements have been proposed to avoid / minimise key environmental and social impacts and enhance positive social impacts, where relevant. These measures are included in the EMP (Appendix 16 of the EIA Report) and will become legally binding if MEFT provides a positive decision on the Application for the proposed Project.
G16	According to your reports, the proposed mining operations and accessory works will have an extensive environmental impact and will also directly impact areas of land covered by our existing exclusive rights with respect of dimension stone held under Reconnaissance Licence No. 13, and also affect areas applied for under EPL 7913 and EPL 7914. Our rights and interests were completely ignored. The Proponents, namely Reptile Uranium Namibia (Pty) Ltd., are aware that the matter is subject to a review application in the High Court of Namibia under Case Number HC-MD-CIV-MOT-REV-2018/00246. We regret that currently we cannot support or comments on the application for the ECC until the matter is adjudicated upon and finalised in court.	Tumas Granite CC (J Hoffmann)	Email and letter attached, 17 March 2023	No comments.
G17	Requests for further information and copies of the report / executive summary of the report and details about the feedback sessions.	Various	Emails (various)	Namisun responded to these emails and provided the required information as far as possible.
<b>Water use</b>				
W1	Are we sure there is enough water for the project?	MAWLR	Focus Group meetings 23 Feb 2023	RUN won't start with implementation / construction of the Project until it is confirmed with the relevant parties (i.e. Ministries and NamWater) that there is available water supply.
W2	What volumes of water will be used during the construction phase?	Elspe Minerals	Focus Group meetings 21 Feb 2023	With reference to section 4.2.5 of the EIA Report, the peak water demand during construction will be 1,500 KL per day. The early works program will consist of installing temporary water storage tanks as part of the camp temporary facilities, which will be supplied by water sourced from either on-site bore water, supplied by the NamWater LHU pipeline, and/or trucked to the site. These tanks will have sufficient capacity to meet the requirements of the early works program whilst the permanent storage tanks and the Tumas water pipeline are being constructed.  During construction, water will be stored in the permanent water storage tanks to serve as the main water supply for construction activities, including a feed to the construction camp raw water storage tanks.  Water for dust suppression will be sourced from bore fields located west of the mining area, which will be pumped to a permanent water truck loading facility.



NO.	COMMENT / QUESTIONS / ISSUE RAISED	ORGANISATION	METHOD	RESPONSE
W3	Why not a combined water pipeline for the mines (i.e. Tumas and Bannerman Projects)?	Swakopmund municipality	Focus Group meetings 20 Feb 2023	This option is being considered and RUN and Bannerman are in discussion. However, it will depend on the timing of implementation commencement of both mines, which makes this option currently highly unlikely.
<b>Groundwater and tailings</b>				
GW1	Is there any risk of groundwater pollution reaching the coastal area?	Walvis Bay Municipality	Focus Group meetings 21 Feb 2023	No. With reference to the Groundwater impact assessment (section 7.2.3 of the EIA Report and Appendix 7), the non-reactive transport model produced concludes that a potential pollution plume will not migrate outside the ML area, even after 100 years after mining commenced. The geochemical study further concludes that when tailings liquor react with natural groundwater on a 1:1 ratio which is the most conservative scenario, it is expected that the uranium, vanadium, arsenic, lead and manganese concentrations will reduce to background concentrations over a short distance.
GW2	Is lining of tailings required?	Earthlife Namibia	Focus Group meetings 23 Feb 2023	No. Refer to GW1.
GW3	Why not install a liner in the tailings?	Frances Anderson	Focus Group meetings 23 Feb 2023	The process developed for the Tumas Project results in a 'benign tailing', any seepage from which will be indistinguishable (save for slightly elevated arsenic) from groundwater once diluted by a factor of 10. This has been confirmed by independent expert, third-party review.
GW4	There are no users for groundwater – does it therefore make it okay to pollute the groundwater?  Why not line the tailings then?	RPA	Focus Group meetings 23 Feb 2023	Deep Yellow / RUN indicated it is far better to have a tailing that does not require lining, than one that does. Deep Yellow / RUN therefore indicated that they will not line the TSF, because it is not necessary and would represent an unnecessary use of resources.
GW5	Detail required on the tailings that will not be lined – how will pollution be limited?	MEFT (DWNP)	Focus Group meetings 20 Feb 2023	
GW6	Will groundwater be used for dust suppression on the access road?	Elspe Minerals	Focus Group meetings 21 Feb 2023	No, the access road will be a tarmac or similar road.
GW7	What do you mean by geological stable tailings?	MAWLR	Focus Group meetings 23 Feb 2023	No mobility reagent – precipitate with Ground water.
GW8	Will the tailings be barren or will Vanadium and Uranium be present?	MAWLR	Focus Group meetings 23 Feb 2023	Vanadium and uranium will be present, but at very low levels.
GW9	Will groundwater monitoring be conducted downstream of the tailings facilities?	MAWLR	Focus Group meetings 23 Feb 2023	Yes. A draft groundwater monitoring plan has been developed for the project by SLR (refer to Appendix 7 of the Tumas Project EIA Report) which encompass water level measurement and the analysis of the relevant groundwater chemistry parameters, as well as a monitoring schedule. The monitoring programme will be reviewed to include new monitoring bores and to revise parameters as appropriate. Refer to section 8.5 of the EMP for further details.
GW10	Which Basin Management Committee will work with this project – Swakop River or the Kuiseb River	MAWLR	Focus Group meetings 23 Feb 2023	RUN will further consult with the MAWLR and the Uranium Institute to confirm the committee. Most likely the Upper Swakop River Management Committee.
GW11	Where does heavy metals end up in terms of tailings deposition?	Sandra Muller	Focus Group meetings 20 Feb 2023	Heavy metals, including uranium and vanadium are precipitated as existing mineral species when seepage interacts with the groundwater in just the way that they have over millions of years to form the existing deposits.
<b>Radiological</b>				
	Was radionuclide analysis in groundwater undertaken?	RPA	Focus Group meetings 23 Feb 2023	Yes.
	Will this be continued to further develop the baseline conditions?			Refer to section 6.6.2 of the EIA Report and the Groundwater Specialist Study in Appendix 7 of the EIA Report. RUN will continue with groundwater monitoring, including radionuclide analysis.

NO.	COMMENT / QUESTIONS / ISSUE RAISED	ORGANISATION	METHOD	RESPONSE
<b>Biodiversity and Sensitive Areas A and B</b>				
B1	Is there a "bedrock high" where the sensitive biodiversity areas are?	MAWLR	Focus Group meetings 23 Feb 2023	With reference to section 6.7.6 of the EIA Report, the TDS of the alluvium, paleochannel and basement suggest that groundwater is feeding from the basement aquifer into the paleochannel and possibly directly into the shallow alluvium. The spring concept is supported when studying the water levels: the basement aquifer has a water level of 446.53 m amsl, while the paleochannel was measured at 446.70 m amsl, and the alluvium aquifer was measured at 445.38 m amsl, which supports the hypothesis that in Area A groundwater in the paleochannel is directly recharged from the underlying basement rocks, as well as the shallow alluvium is directly recharged from underlying basement rocks.
B2	Worried about poaching related to the construction camp.	MEFT (DWNP)	Focus Group meetings 20 Feb 2023	The potential impacts associated with poaching was assessed (see section 7.3.1 of the EIA Report). RUN to further engage with MEFT prior to the construction phase of the project to consider various options in support of anti-poaching measures. It is noted that poaching is already a significant problem in the NNNP. Various options to consider could a reward system; tracking on vehicles; cameras on the roads, using drones. – RUN to also work in close collaboration with the Uranium Institute in this regard.
B3	Consider supporting MEFT with a drone to contribute to the park management and fight poaching.	MEFT (DWNP)	Focus Group meetings 20 Feb 2023	Noted. See B2.
B4	Will sensitive areas A & B be fenced off or how will they be protected?	Swakopmund municipality	Focus Group meetings 20 Feb 2023	RUN will take special precaution and management of the identified sensitive ecological areas to ensure its protection, while further investigation studies are being carried out in these areas, as per the EIA Report and EMP.
B5	Will the sensitive ecological areas (specifically area A) not be impacted by the mining activities? Once it's impacted it will be lost.	Svenja Garrard	Open public session meetings 20 Feb 2023	
B6	Protect the sensitive ecological areas (A and B)	MEFT (DWNP)	Focus Group meetings 20 Feb 2023	
<b>Non-mineralised waste management</b>				
NM1	How will non-mineralised sold waste be dealt with?	Swakopmund municipality	Focus Group meetings 20 Feb 2023	The management of non-mineralised waste was considered and various management and mitigation measures included in the EMP. Refer to section 8.11 of the EMP.
NM2	Did you consider the management of non-mineralized waste?	Sandra Muller	Focus Group meetings 20 Feb 2023	
<b>Monitoring</b>				
MON1	Concerned about MEFT not monitoring and confirming that the site will be protected.  Will monitoring be done by RUN?	Earthlife Namibia	Focus Group meetings 23 Feb 2023	Comment noted.  Various internal monitoring requirements are included in the EMP. Monitoring results will be reported to MEFT as part of the Environmental Performance Reporting requirements, also stipulated in the EMP.  Also, the Uranium Institute were established to also provide assistance where required.
<b>Social</b>				
S1	Inward migration to the towns of Swakopmund and Walvis Bay will be an issue. Consider housing schemes. Provide housing allowance to staff in collaboration with the Municipalities.	Walvis Bay Municipality	Focus Group meetings 21 Feb 2023	RUN has, and will continue to, consult the Municipalities of Swakopmund and Walvis Bay in this regard.

NO.	COMMENT / QUESTIONS / ISSUE RAISED	ORGANISATION	METHOD	RESPONSE
	Busy with the development of Farm 37. Please consider this area and discuss with the Municipality further.			
S2	What social projects are currently being done for community by RUN?	RPA	Focus Group meetings 23 Feb 2023	Reptile supports many community programs and projects in Namibia. These are outlined in the Deep Yellow Annual Sustainability Reports that can be found on the Deep Yellow website ( <a href="http://www.deeptyellow.com.au">www.deeptyellow.com.au</a> ).
S3	Will preference to be given to locals – Swakopmund and Walvis Bay for jobs?	Swakopmund municipality	Focus Group meetings 20 Feb 2023	Yes, this commitment is included in the EMP. See section 7.10 of the EMP.
S4	Consideration of the tourist camping site at the Ganab area close to Tumas.	MEFT (DWNP)	Focus Group meetings 20 Feb 2023	Noted. RUN will liaise with the MEFT DWNP through the LOM The Ganab Camp site was considered in terms of potential impacts in the EIA.

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#Ganamsen ao-i lons: TotalEnergies E tsī P. Namibia B.V (TEEPNA)

!Gaub tsī !khaib nē aollguisa !laxasib dīb: TEEPNAs ge a danalkhōlgara-ao hīa Block 2912s dī ū!khuni mā-ams #khanisa !khōdana hāsa, hīa !gam hurib !lgammi Orange B dī-i hīa dī !khwagas !kharigu !nā hōhe-e. TEEPNAs ge #ganamsensa ra dī !s turaxasiba ūhā !nāb !nā 10s kōse hā ōa!nā#ans tamas ka io !gāilgaub Block 2912s !nā dī. !Aromas nēs nē dīxūn dis āāge sao ran ai a !gaolgaosa.: !lgami sourcena !anus, !āis, !āb tsī hurib !naga !anus tsī !urixasiba dorol!kharu!nās !āis. Nē dorol!kharu!nā #haris ge 5206 km ga ūhā tsīs !laupexa 550 kilometerga !khwagas huris !Nami#nūs dis tsī 340 kilometerga huris !khwagas huris !Garibams !gūse 2940 meterga 3700 !lgami !gamsib !nā !lgoe. ECCs ga mā-amhe o i ge dorol!kharus dī !laxasiba !uniga !nona !lkhāgu !laeb ai 2023-2024 kurikha dī !laegub !lkhāgu !nā nī tsoatsoa. Nēs ge 3-4 !lkhāga nī ū dītoas tsī mā tsaus hoasa !āisa.

#Namipeb !hara!āis māisab: SLR #namipeb !apelhaos (Namibia) (Pty) Ltd (SLR) ge ge !lgaumāihe TEEPNAs xa nē ESIA projekts !aroma !ereamsa ūsa.

!lkhamihe !lkha khoe-i: Stephanie Strauss

Xoal!nā!khais 86386 !Aellgams

!Allawa !gōas: +26461231287

S!lgōas/Whatsapp: +264813472109

Emails:teepna-2912@slrconsulting.com



**Besikbaarheid van Konsep OSIS Verslag vir Kommentaar:** Die Konsep OSIS Verslag is beskikbaar vir 'n 21-dae oorsig- en kommentaarperiode vanaf **14 Februarie tot 07 Maart 2023** (in lyn met wetlike vereistes). Die volle verslag is vanaf die SLR webblad beskikbaar (<http://www.slrconsulting.com/en/public-documents/teepna-2912>), sowel as by die Walvisbaai Munisipale Biblioteek, Lüderitz Stadsraad en die Lüderitz Inligtingsentrum, of vanaf SLR op aanvraag. Vir kwessies en/of kommentaar om ingesluit te word by die Finale OSIS Verslag moet dit SLR teen 07 Maart 2023 bereik.

**Publieke Vergaderings:** Publieke inligtingsvergaderings word binne die kommentaarperiode beplan. Vergaderings sal as volg gehou word: **Lüderitz – 20 Februarie**, 10:00-12:00, Nest Hotel; **Walvisbaai – 22 Februarie**, 10:00-12:00, Protea Hotel Pelican Bay. 'n Aanlyn vergadering sal ook op **24 Februarie** (10:00) gehou word. Registreer asseblief met SLR by die bostaande besonderhede sou u van die vergaderings wou bywoon.



### NOTICE OF ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) PROCESS

ESIA FOR AN APPLICATION TO UNDERTAKE EXPLORATION AND APPRAISAL WELL DRILLING IN BLOCK 2912 OFF THE COAST OF SOUTHERN NAMIBIA

Notice is hereby given in terms of the Environmental Management Act (No. 7 of 2007) and Regulation 21 of the Environmental Impact Assessment (EIA) Regulations that the draft ESIA Report prepared for the above-mentioned project is available for review and comment. In addition, stakeholders are invited to attend public meetings.

Name of applicant: TotalEnergies E and P Namibia B.V ("TEEPNA").

MEFT Reference: APP-221108000279

**Nature and Location of the proposed activity:** TEEPNA is proposing to drill up to 10 exploration and/or appraisal wells within an area of interest in Block 2912. Associated proposed activities include vertical seismic profiling of wells, well testing, abandonment of wellheads, sonar bathymetry surveys and seafloor sediment sampling and coring. The drill area of interest is 5 206 km<sup>2</sup> in extent and is located approximately 350 km southwest of Lüderitz and 340 km west-southwest of Oranjemund at its closest point and in water depths between 2 940 m and 3 700 m. If an ECC is granted, the earliest anticipated date for commencement of drilling would be between the second quarter of 2023 and the second quarter of 2024. It would take between three and four months to complete drilling and testing of each well.

**Environmental Assessment Practitioner:** SLR Environmental Consulting (Namibia) (Pty) Ltd ("SLR") has been appointed by TEEPNA to undertake the ESIA process for the proposed project.

Contact Person: Stephanie Strauss

PO Box 86386, Windhoek

Tel: +264 61 231 287; SMS/Whatsapp: +264 81 357 2109; E-mail: teepna-2912@slrconsulting.com



**Availability of Draft ESIA Report for Comment:** The Draft ESIA Report has been made available for a 21-day review and comment period from 14 February to 07 March 2023 (as per legislative requirements). A copy of the full report is available for download from the SLR website (<http://www.slrconsulting.com/en/public-documents/teepna-2912>), as well as at the Walvis Bay Municipal Library, Lüderitz Town Council and Lüderitz Information Centre, or on request from SLR. For issues and/or comments to be included in the Final ESIA Report they should be forwarded to SLR at the above contact details by 07 March 2023.

**Public Meetings:** Public information-sharing meetings are scheduled during the comment period. Meetings will be held as follows: **Lüderitz – 20 February**, 10:00-12:00, Nest Hotel; **Walvis Bay – 22 February**, 10:00-12:00, Protea Hotel Pelican Bay. A virtual online meeting will also be held on **24 February** (10:00). Please register with SLR at the above contact details should you wish to attend any of these meetings.



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Reptile Uranium Namibia (Pty) Ltd



### NOTICE OF AVAILABILITY OF EIA REPORT AND EMPS FOR REPTILE URANIUM NAMIBIA'S PROPOSED TUMAS PROJECT AND ASSOCIATED INFRASTRUCTURE IN THE ERONGO REGION OF NAMIBIA

After the completion of the Environmental Impact Assessment (EIA) scoping phase for the above-mentioned Project, extensive studies were undertaken by the team of Environmental and Social Experts to assess the potential impacts of all project activities. The Draft EIA Report, its appendices and Environmental Management Plans (EMPs) are available for review and comment.

**Applicant:** Reptile Uranium Namibia (Pty) Ltd (RUN).

#### Nature and location of the proposed activity:

RUN plans to apply to the Ministry of Mines and Energy to convert, in part, their Exclusive Prospecting Licences 3496 and 3497 to a Mining Licence. The Tumas Project area is located in the Namib Naukluft National Park in the Erongo Region of Namibia, approximately 40 km east from Walvis Bay and can be reached via the C28 or the C14 roads. The various Project activities and infrastructure proposed for the Tumas Project can broadly be summarised as follows:

Open Pit mining; Ore transported with haul trucks to the onsite plant for processing; Mineral and non-mineral waste from the mining and processing activities to be disposed of at onsite facilities; Use of reagents for processing; Water supply and storage as well as power supply to the mining and processing activities; and Final product; uranium oxide and by-product, vanadium pent-oxide exported for further processing. Two separate (i.e. addendum) reports for the proposed water supply pipeline and the overhead powerline to the proposed Tumas Project are also available for review.

#### Independent Environmental Assessment Practitioner:

Namisun Environmental Projects & Development (Namisun) has been appointed as the independent Environmental Assessment Practitioner to undertake the EIA process for the proposed Project.

Contact Person: Werner Petrick

Tel: +264 (0)81 739 4591

E-mail: wpetrick@namisun.com

**Comment on Draft EIA Report and EMPS:** The Draft EIA Report, its appendices and EMPS have been made available for a review & comment period ending on the **17<sup>th</sup> of March 2023**. An electronic copy of the reports are available on request to Namisun. Copies of the report are available for review at the following locations:

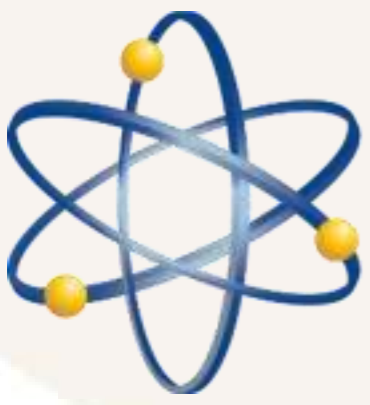
Location	Name of facility	Physical address	Details
Swakopmund	Swakopmund Public Library	Bismarck Street Woerman house	Hard copy of the Executive Summary and electronic copy of the full report (including Appendices) for downloading. The full report will be available for review on a dedicated computer at each of the libraries.
Walvis Bay	Walvis Bay Library	163 Nangolo Mbumba Drive, Civic Centre	
Windhoek	National Library in Windhoek	1 Eugene Marais Street	

Interested and / or Affected Parties are invited to attend one of the open days to comment on the findings. The EIA study findings will be displayed on posters for discussion at the following venues.

Date	Location	Venue	Time
20 February 2023	Swakopmund	Swakopmund Hotel and Entertainment Centre, Spitzkoppe boardroom.	15:30 to 18:30
21 February 2023	Walvis Bay	Protea Pelican Bay Hotel, Nautilus Boardroom.	15:30 to 18:30
23 February 2023	Windhoek	Scientific Society of Namibia.	15:30 to 18:30

For comments to be included in the Final EIA Report and EMPS they should be forwarded to Namisun by **no later than 17 March 2023**.





# Reptile Uranium Namibia (Pty) Ltd

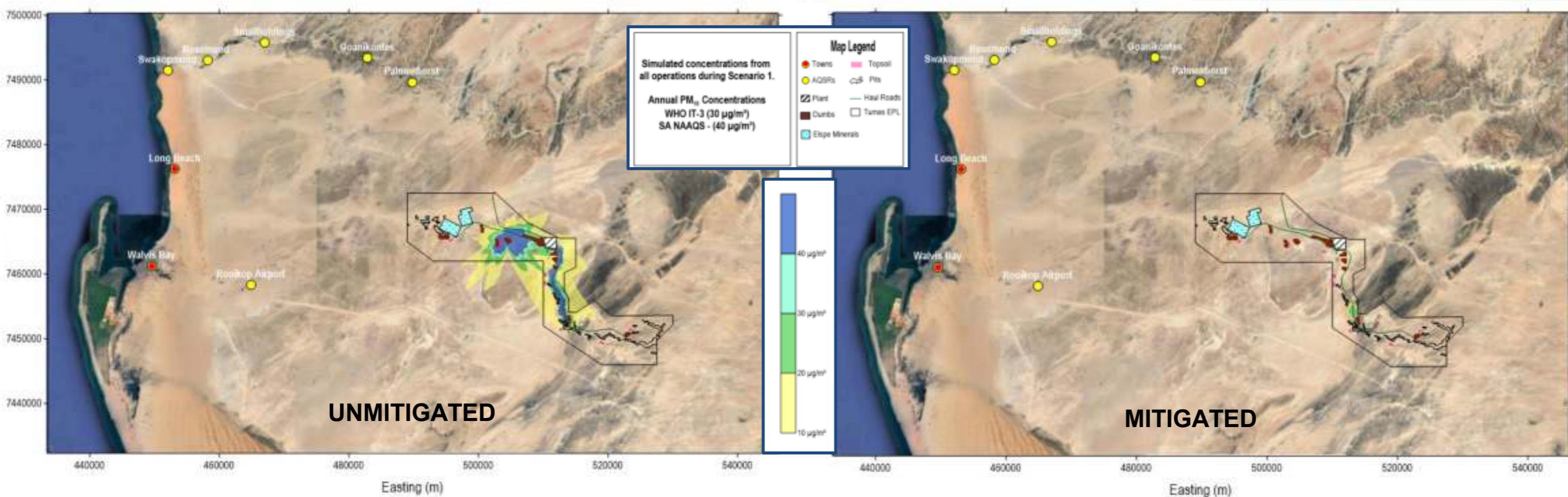
Member of Deep Yellow Ltd Group of Companies

## Air Quality

Ambient air pollutant levels at and around the Tumas Project are generally low (baseline monitoring since March 2021). The closest sensitive receptors (CSR) are Palmenhorst, ~17 km north, and Goanikontes, ~23 km northwest of the Project boundary.

### Potential Impacts

- Several activities (i.e. hauling, materials handling, using generators etc.) in all Project phases have the potential to pollute the air in the form of: Particulate matter (PM<sub>2.5</sub>, PM<sub>10</sub>), total suspended particulates (TSP), and gaseous emissions (CO, NO<sub>x</sub>, SO<sub>2</sub> and VOC).
- Construction and decommissioning phases - activities are temporary and the impacts generally low and within the respective standards.
- Operational phase - two mining scenarios (for mining rates and hauling distances) were modelled /assessed.



- For both scenarios, the daily PM<sub>2.5</sub> ground level concentrations, (unmitigated and mitigated), comply with the Air Quality Objectives (AQO) at all CSRs for both short- and long-term criteria. No exceedances outside the site boundary or at any of the CSRs.
- With mitigation, the areas over which daily PM<sub>10</sub> ground level concentrations may exceed the AQOs, but fall within the site boundaries and do not exceed the AQO at any of the CSRs.
- For both scenarios, the simulated concentrations of gaseous emissions (CO, NO<sub>2</sub>, SO<sub>2</sub> and Volatile Organic Compounds) are low and do not result in off-site exceedances.
- Daily dustfall rates extend beyond the site boundaries, but do not exceed the AQOs at any of the CSRs. With mitigation, compliance to the residential limits outside of the boundaries and at all CSRs are ensured.

### Mitigation measures

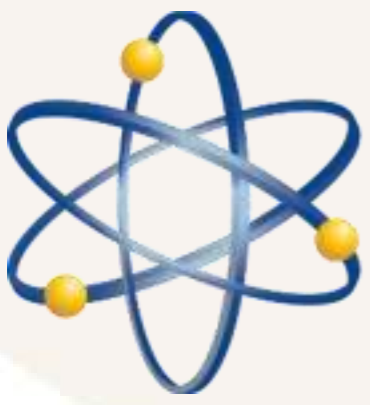
#### Key dust mitigation measures include the following:

- The access road will be an all-weather tarmac covered (or similar) road.
- Suppress dust of haul roads through chemical binding agents and / or water sprays.
- Clean as necessary vehicles leaving site that may have mud or contaminated material on them.
- The access road to the Project site needs to be kept clean to minimise carry-through of mud on to public roads.
- Control dust at milling, sizing and screening operations and material transfer points by using suitable design and operational measures.
- Clean-up of materials at loading points regularly.
- Maintain air quality monitoring.

Environmental component	Environmental issues (i.e. aspects / potential impacts)	Assessment Significance Rating	
		Unmitigated	Mitigated
Air Quality	Air pollution - Scenario 1:		
	• PM <sub>2.5</sub>	L	L
	• PM <sub>10</sub>	M	L
	• Dustfall	M	L
	• NO <sub>2</sub> , CO, SO <sub>2</sub> , VOC	L	L
	Air pollution - Scenario 2:		
	• PM <sub>2.5</sub>	L	L
	• PM <sub>10</sub>	L	L
• Dustfall	L	L	
• NO <sub>2</sub> , CO, SO <sub>2</sub> , VOC	L	L	







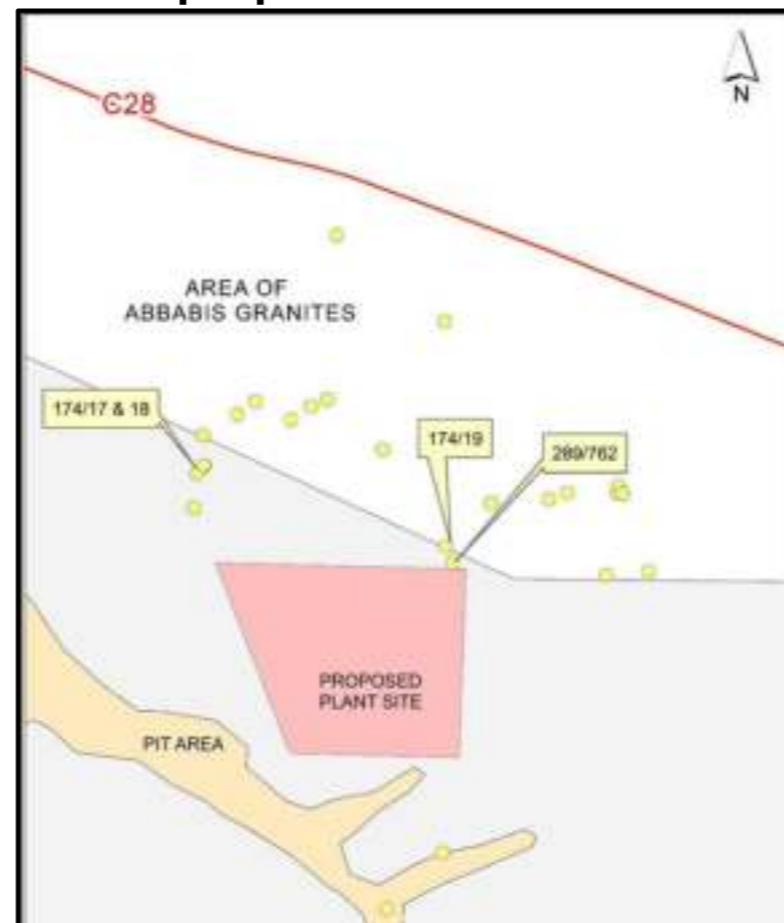
## Archaeology

The archaeological field survey documented a total of 48 sites, estimated as dating to within the last two thousand years. The sites represent an integrated archaeological landscape in which mobile hunter-gatherers used a range of specialized desert subsistence practices while relying on small, scattered water sources.

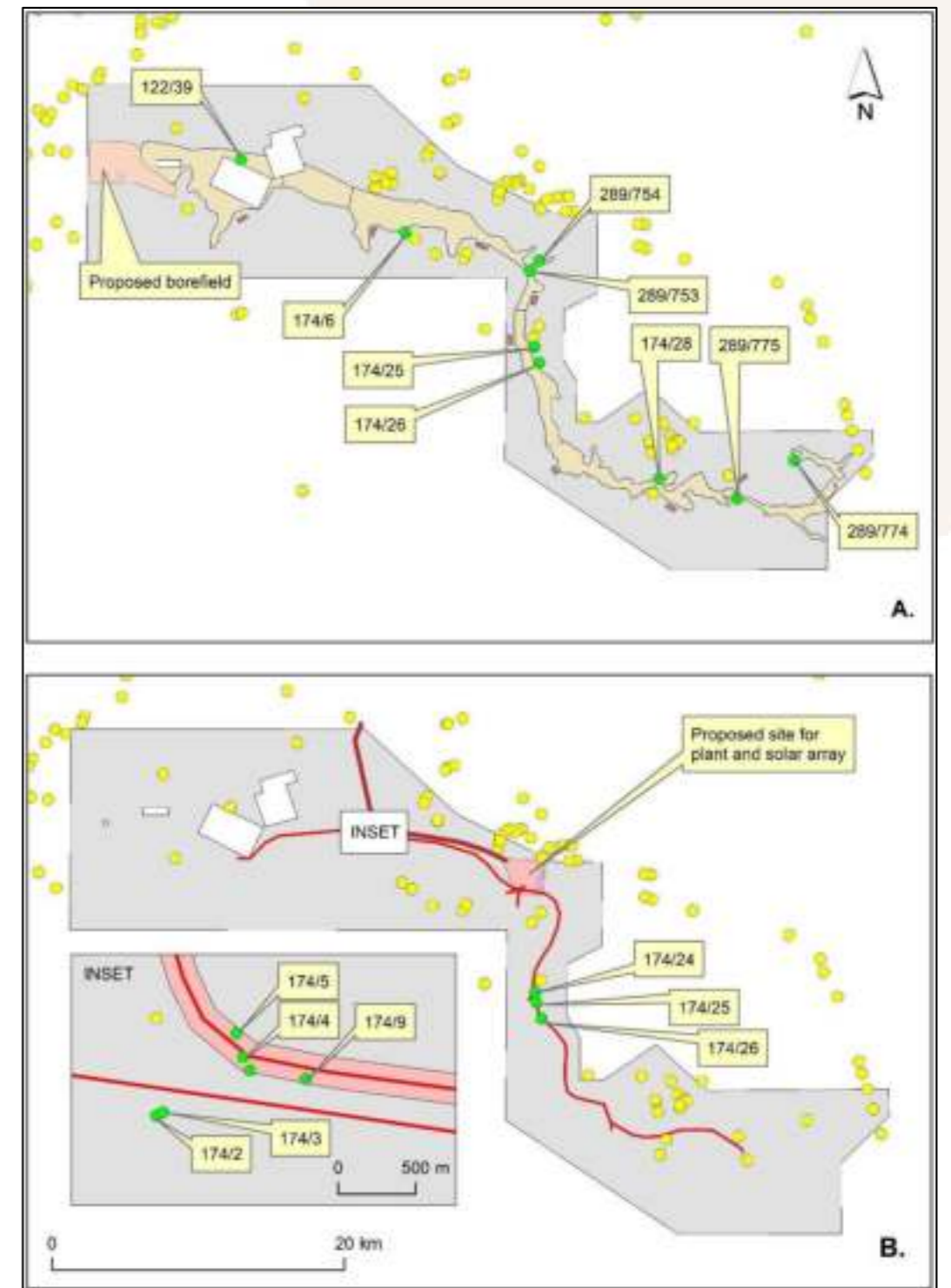
### Potential Impacts

- The main issue concerning the heritage resources is the disturbance or destruction of the archaeological sites and their landscape setting.
- Of the 48 archaeological sites associated with the proposed Project area, 16 are located either within or adjacent to components of the proposed mine and surface works and are therefore likely to be either disturbed or destroyed by mining and related activity. However, nine of these sites are seed diggings and considered to be of low archaeological significance.
- In all, the sites associated with designated components of the Project do not include any of a Significance ranking above 3 (out of 5). However, these sites form part of an identifiable local distribution or group which represents a particular land use practice based on hunting and grass seed harvesting, centres on the basecamp site. The implementation of the proposed Project will affect the landscape and archaeological setting of the site QRS 174/36.
- The potential impact of the position for the plant site is not limited to archaeological sites QRS 174/17, 18, 19 and QRS 289/762. The plant location could encroach on a unique landscape feature of relatively high visibility and an intrusive feature.
- Archaeological sites description:
  - ✓ QRS 174/36 – basecamp site
  - ✓ QRS 174/17 – hunting post
  - ✓ QRS 174/18 – hunting post
  - ✓ QRS 174/19 – seed digging
  - ✓ QRS 289/762 – seed digging

**The archaeological setting of the proposed Plant Site**



**Position of archaeological sites**

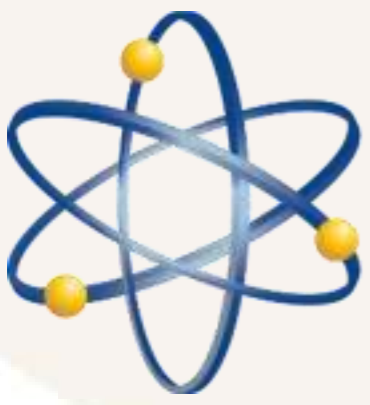


### Mitigation measures

- In the case of six sites associated with the access road and service corridor some re-routing of these features would prevent direct impacts.
- Some modification of the Project layout might also prevent destruction or disturbance of two sites located on the margins of the processing plant.
- In the case of the sites associated with outcropping Abbabis granites impacts associated with the Project could be mitigated by avoiding the granites so as not to encroach on any archaeological sites. It would be best to position the plant on unconsolidated sediments rather than bedrock.
- No archaeological site to be disturbed without relevant permit. Where archaeological sites will be disturbed and/or destroyed, the information in the specialist report must be used to apply for the necessary permits that are required in terms of the National Heritage Act 2004.
- To mitigate the more general impact on the archaeological landscape of the proposed Project area further investigations may be undertaken, such as:
  - Area excavation at QRS 174/17 & 18 to map and recover a representative sample of stone artefact production evidence with the possible recovery of samples suitable for dating the occupation of the site.
  - Excavation on QRS 174/36 to recover evidence associated with the occupation of the site.

Environmental component	Environmental issues (i.e. aspects / potential impacts)	Assessment Significance Rating	
		Unmitigated	Mitigated
Archaeology	Disturbance or destruction of the archaeological sites and their landscape setting	H	M





# Reptile Uranium Namibia (Pty) Ltd

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## Biodiversity

Compared to high rainfall areas, the overall biodiversity in the Namib Desert is low but with a high level of endemic species that have restricted distribution ranges. The Tumas Project area falls in the hotspot areas of both reptiles and invertebrates and is situated just south of a centre of plant endemism. In the Project area a large proportion of expected plant species are endemic or near-endemic. Preserving the biodiversity in the Tumas Project area is therefore important and more so because it is in the NNNP.

### Vegetation and flora

Seven plant species deserve particular attention in the Project area: the nara plant (*Acanthosicyos horridus*), elephants' foot (*Adenia pechuelii*), the bulb *Ammocharis deserticola*, the stone plants (*Lithops gracilidelineata* and possibly *L. ruschiorum*), the hummock-forming *Salsola nollothensis* and *Welwitschia mirabilis*.

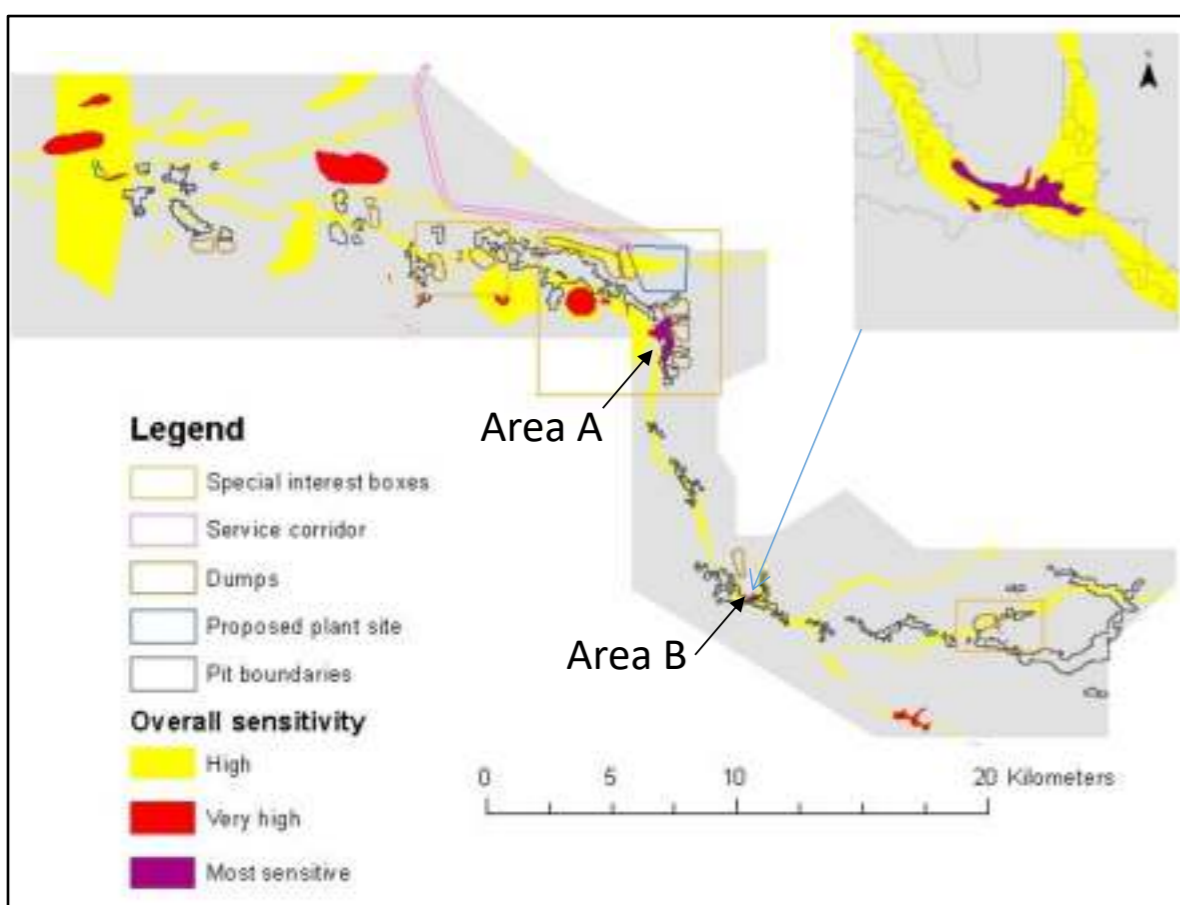
### Vertebrate Fauna

An estimated (i.e. at least) 54 reptile, 5 amphibian, 49 mammal and 130 bird species (breeding residents) are known / expected to occur in the general Project area of which a high proportion are endemics.

### Invertebrates

The highest potential invertebrate endemism occurs in the northcentral parts of the NNNP, which overlaps with the central, eastern and most western parts of the Project area. While no species of conservation concern were observed during the field visits, a few habitat types were identified that may be important habitats for rare and endemic invertebrate species.

### Integrated biodiversity aspects and habitat sensitivity



- From an ecological perspective, high biomass patches identified in the Project area (i.e. Areas A and B) were deemed most sensitive due to the complex habitat structure, high persistent productivity and subsequently high level of ecological services (food and shelter) they offer to a range of animals, including species of conservation status and as key resource areas during critical times.
- These isolated patches are situated strategically (10 km apart) in the Tumas River system and must be preserved to allow connectivity along the river for animal movement and migration and the survival of isolated populations.
- The remainder of the Tumas River and its major tributaries are also considered sensitive due to the relative high perennial vegetation cover and well-developed structure of the vegetation in the drainage system.
- All trees and large shrubs should be regarded as very sensitive, provide nesting, perching, forage, shade and hiding places for a range of invertebrate, bird, reptile and mammal species and nutrient-rich micro-habitats and nursing conditions for specialized plants.
- Isolated rocky outcrops and boulders are also important habitat features, providing shelter and shade for several rupicolous reptile, small mammal species and invertebrates.

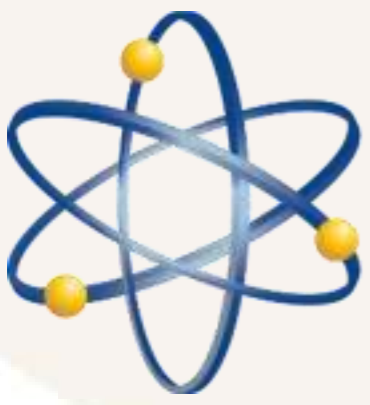
### Potential Impacts

Environmental component	Environmental issues (i.e. aspects / potential impacts)	Assessment Significance Rating	
		Unmitigated	Mitigated
Biodiversity	• Loss of vegetation and associated biota due to mine development and associated infrastructure within the Project area	H	M
	• Loss of individuals of species with special conservation status (protected, red-listed, Cites or endemic)	H	M
	• Loss of vegetation and associated biota due to the construction work force	M	L
	• Effect of dust on vegetation	M	L-M
	• Loss of <i>Salsola nollothensis</i> hummocks in Project area	H	M
	• Change of habitat due to impact on water resources	H	M
	• Loss of environmentally sensitive areas	H	M
	Impacts on vertebrate fauna	M	L-M
	Impacts on invertebrates and ecological impacts:		
	• Loss of key resource area, key-stone species and high-value habitat	VH	M
	• Disruption of animal movement, gene flow and migratory patterns, fragmentation of populations using the Tumas valley	H	M
	• Backfilling mined pits with unsuitable and polluted substrates affects riparian ecosystems	H	L
	• Light pollution affecting especially invertebrates	M	L
	• Loss of soil resources	M-H	L

### Key mitigation measures

- No mining in the resource areas overlapping with Areas A and B until further research and monitoring has been undertaken and a reassessment of the sensitivity status and spatial boundaries of Areas A and B has been determined in consultation with key stakeholders.
- Progressively restore the natural drainage system to its former stream bed and river bank morphology after mining in a specific area has been completed (i.e. progressive rehabilitation), as far as practicable.
- High biomass areas in the Tumas River system to be treated as very sensitive and hydrological processes managed to maintain flood water supplies and groundwater availability in these areas.
- Maintain surface flow in drainage lines as far as is practicable.
- Minimize the footprint of disturbed areas as far as possible.
- Limit destruction or damage to trees and large shrubs.





# Reptile Uranium Namibia (Pty) Ltd

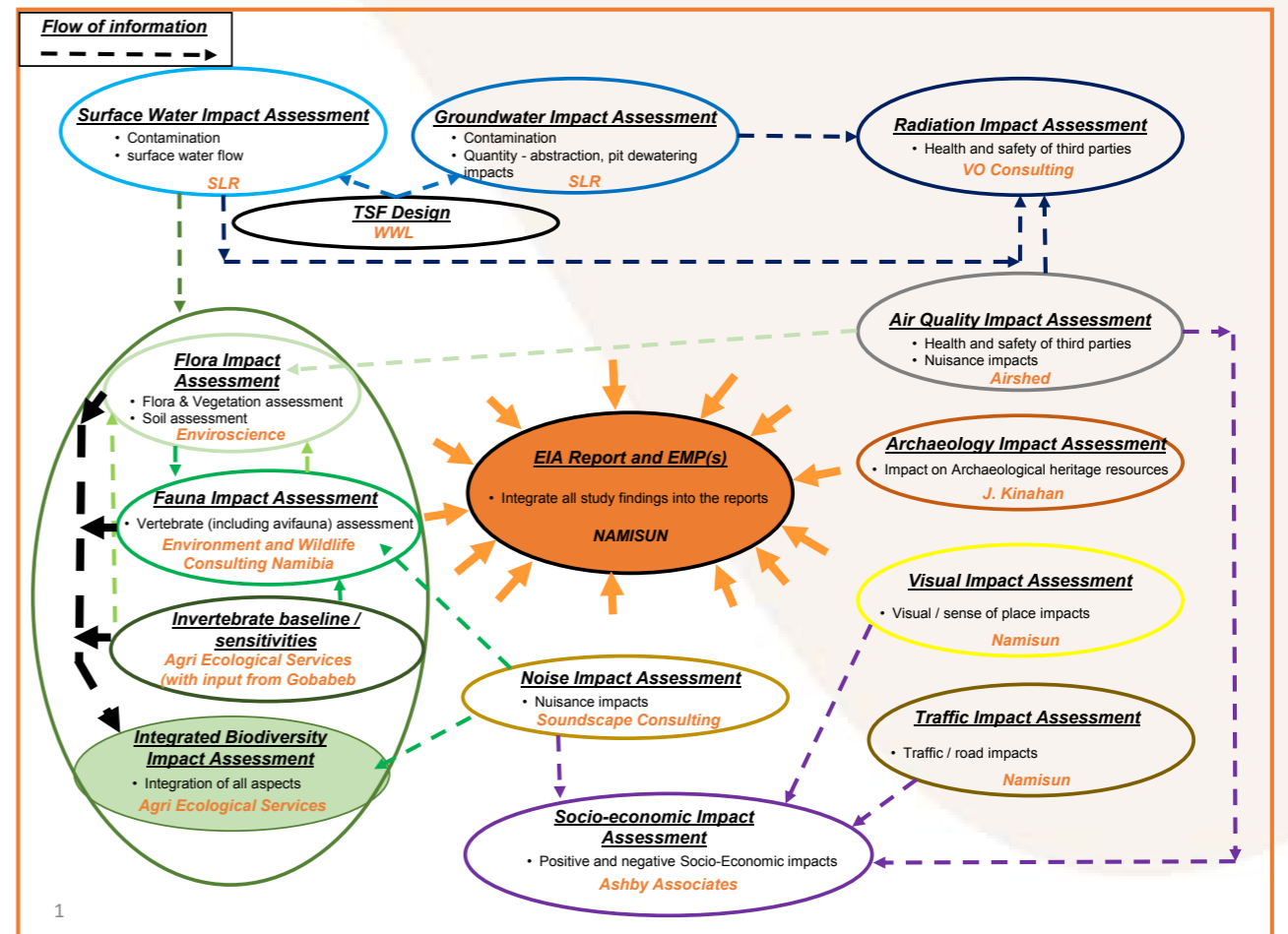
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## EIA Process

Prior to commencing with the development of the proposed mining, processing and associated activities, RUN must obtain a Mining Licence from MME. Before a ML can be granted by MME, an EIA needs to be undertaken and an Environmental Clearance Certificate issued by the MEFT: DEA.

### EIA Team and studies undertaken

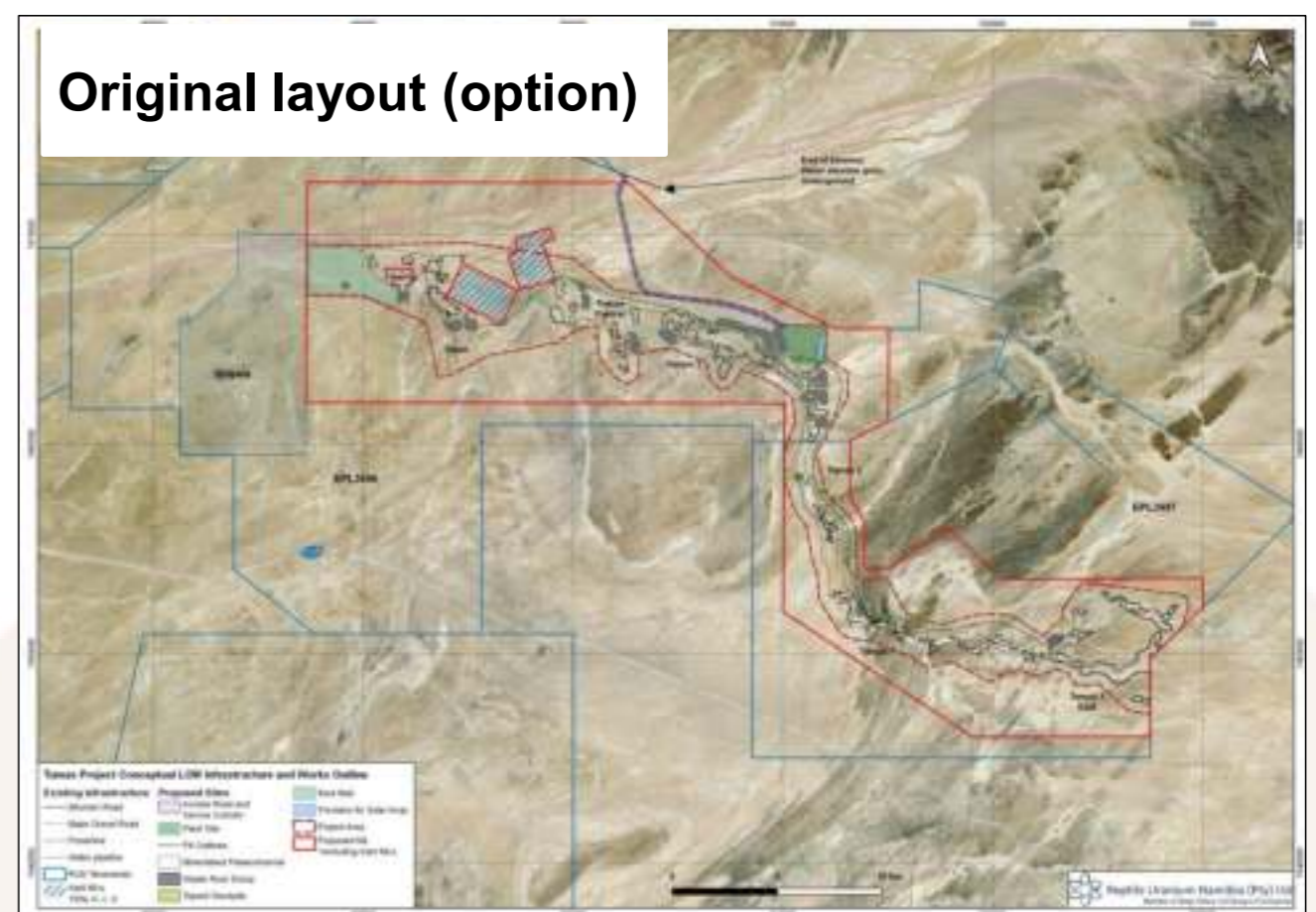
Team	Designation	Task and Roles	Company
Lead EIA Practitioner	EIA Project Manager	Management of the EIA process, public participation and compilation of EIA Report.	Namisun Environmental Projects and Development
	EIA Project Assistance	Report and process review and author of some sections of the report.	
Specialists Investigation	Groundwater specialist	Groundwater assessment	SLR Consulting
	Surface water specialist	Surface water assessment	
	Air quality specialist	Air quality assessments	Airshed Planning Professionals
	Radiation specialist	Radiation impact assessment	VO Consulting
	Noise specialist	Noise assessment	Soundscape Consulting
	Biodiversity Specialist Team	Vertebrate fauna assessment	Environment and Wildlife Consulting Namibia
		Floral and vegetation assessment	Enviroscience
		Invertebrate baseline study and integration of all biodiversity aspects	Agri Ecological services (with input from Gobabeb Training & Research Centre)
	Archaeologist	Heritage resource assessment	J. Kinahan Archaeologist
	Social specialist	Socio-economic assessment	Ashby Associates



### Environmental study findings influencing the

### Project layout, mine plan and schedule of mining:

- Various sensitive areas relating to priority flora, ecological sensitive vegetation and fauna habitats and archaeological sites have been identified.
- One such ecologically sensitive area that could be impacted by mining is the large *Salsola* hummock habitat in the eastern margin of the Tumas 3 mining area.
- A considerable part of the *Salsola* hummock area overlaps with the mining pits where RUN originally (i.e. prior to the EIA studies) planned to start mining operations.
- The Project layout, mine plan and schedule was modified to avoid or minimise impacts on the various sites and sensitive areas.



### Environmental & Social studies and EIA process

(January – November 2020)  
Project initiation & Screening phase

- Understanding of the environmental and social baseline relating to the proposed Project.
- Notify the decision-making authority of the proposed Project.
- Initiate the environmental impact assessment process.
- Site visits and identify environmental issues.
- Identify key stakeholders and early identification of other I&APs.
- Notify other regulatory authorities and I&APs of the proposed Project.
- Conduct Key Stakeholder and Focus Group meetings.

(November 2020 – July 2021)  
Scoping Phase

- Carry out specialist investigations and further establish baseline environmental conditions.
- Determine the terms of reference for additional assessment work.
- Compile Scoping Report and Issues and Response Report.
- Distribute the Scoping Report for review and comment by relevant authorities and I&APs.
- Consider comments received and compile the final report.
- Submit the final reports to relevant Ministries for their review and recommendation.

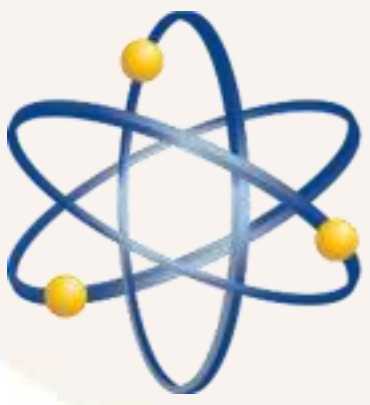
(April 2021 – March 2023)  
Impact Assessment Phase

- Detailed description of the potentially affected environment.
- Finalise specialist investigations and assess the potential impacts.
- Design requirements and management and mitigation measures and develop EMP.
- Distribute the EIA Report and EMP for review and comment by relevant authorities and I&APs.
- Consider comments received and compile the final report.
- Submit the final reports to relevant Ministries for their review and final decision on the Applications for environmental clearance.

Information flow  
Information flow  
Information flow

Project Development (Deep Yellow & RUN)





# Reptile Uranium Namibia (Pty) Ltd

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## Groundwater

A numerical groundwater flow and mass transport model was developed to assess potential impacts. A geochemical study was completed to predict the prevalent metals' source term and their interaction with rain and groundwater.

Modelling concluded that the reaction of uranium leachate from tailings and waste rock with rain and groundwater will revert to background values of 0.05-0.2 mg/L.

### Hydrogeology

Three aquifer systems have been identified:

- *Shallow alluvium* - thickness of 2 – 3 m. Usually dry but can temporarily be wetted during and after irregular runoff events. Two distinct seepage areas where the alluvium is fed by seepage from bedrock and paleochannel aquifers are identified.
- *Paleochannel aquifer* – follows similar flow path as the Tumas and Tubas Rivers. Thickness in Tumas 1 area varies between 6 - 21 m, in Tumas 3 area up to 45 m and in the Tubas area up to 110 m.
- *Fractured basement aquifer* - outcropping or locally overlain by the paleochannel and or river alluvium.

### Groundwater levels

Boreholes drilled in the alluvium were mostly dry on drilling. Boreholes in the paleochannel and basement aquifers have groundwater levels ranging up to 30 m bgl with outliers that reach 50 m bgl. The vegetation in the seepage areas (Areas A and B) is associated with shallow water tables between 2 to 3 m bgl. The total dissolved solids (TDS) of groundwater in the alluvium suggests that it is feeding from the basement and/or paleochannel aquifer into the shallow alluvium.

### Hydrochemistry

Groundwater in the Tumas and Tubas Rivers is moderately to highly saline and not suitable for human consumption. Uranium concentrations in groundwater range between 0.05 to 0.2 mg/L. Radionuclide analysis of groundwater shows:

- Radionuclides are in the same range as for other natural occurring groundwaters at Langer Heinrich Mine, Husab Mine and in the ephemeral Swakop- and Khan rivers.
- Thorium, lead and polonium concentrations are very low or usually below detection limit.
- Radionuclides analysed are generally below WHO guidance levels for drinking water.

### Impacts to groundwater levels

- There is a risk of lowering groundwater levels of other groundwater users in the area, including ELSPE Minerals and the two seepage areas that are ecologically sensitive.

### Key groundwater quality impacts

*Seepage from the TSFs and WRDs in to underlying aquifers:*

- Modelling shows that potential leachate does not migrate outside the ML area, even after 100 years. When tailings liquor reacts with groundwater (1:1 ratio - most conservative), uranium, vanadium, arsenic, lead and manganese concentrations reduce to background concentrations over a short distance.
- The waste rock is non-acid forming with generally very high neutralising capacity. When waste rock leachate reacts incrementally with groundwater, the concentrations of uranium approach levels close to background ie 0.2 mg/L.
- Tailings have a uranium source term of up to ~ 8 mg/L. Geochemical modelling shows that any tailings leachate reverts to background levels on contact with groundwater. TSF design does not include a liner. Groundwater flow gradient is towards the TSFs.
- The initial mine plan has been revised to ensure the ecologically sensitive areas (A and B) are not negatively affected as they depend on groundwater seeping from the underlying paleochannel and basement aquifers into the shallow alluvium.

*Seepage from TSFs due to rising phreatic levels and over-deposition result in contamination of the shallow alluvium:*

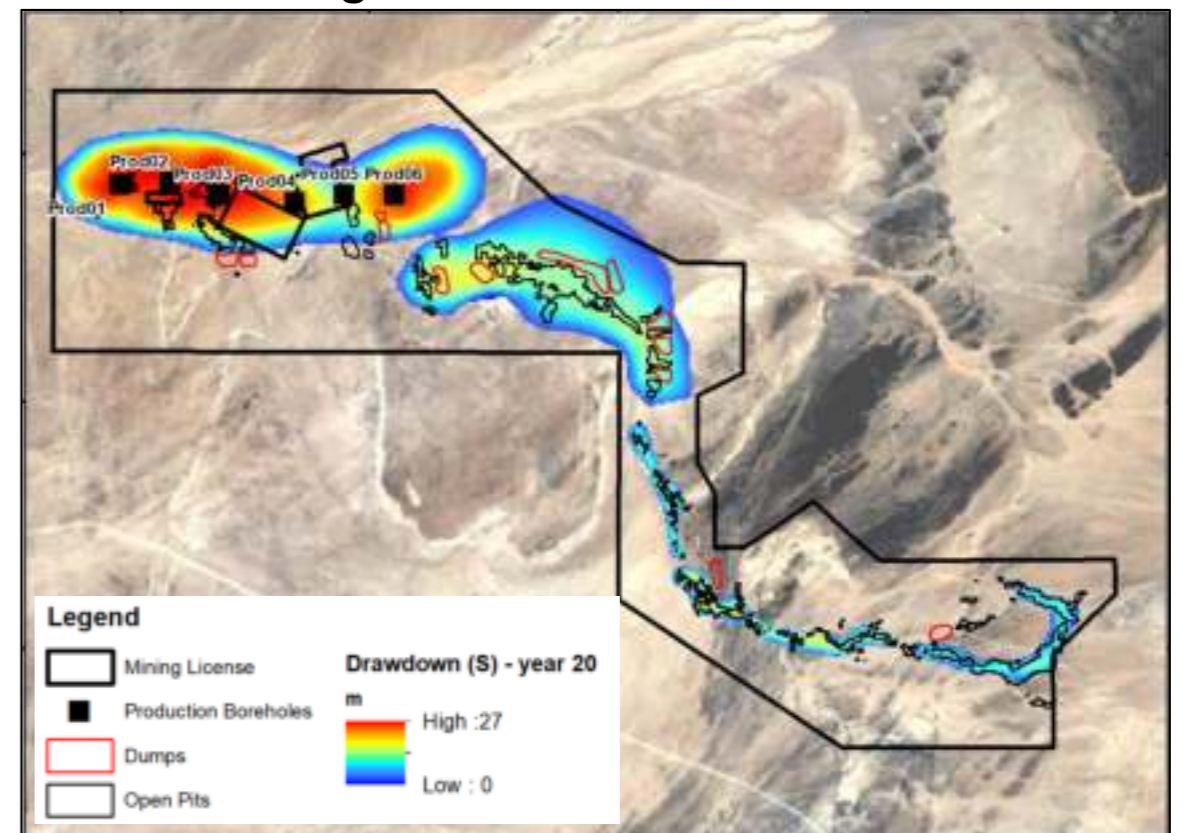
- High phreatic levels in the backfilled TSFs may allow tailings liquor to seep (overflow) into the highly permeable shallow alluvium and then flow to downgradient areas, possibly beyond the mining licence area boundary.

*TSFs and WRDs have a negative impact on the groundwater quality of the shallow alluvium and in particular on the ecologically sensitive areas:*

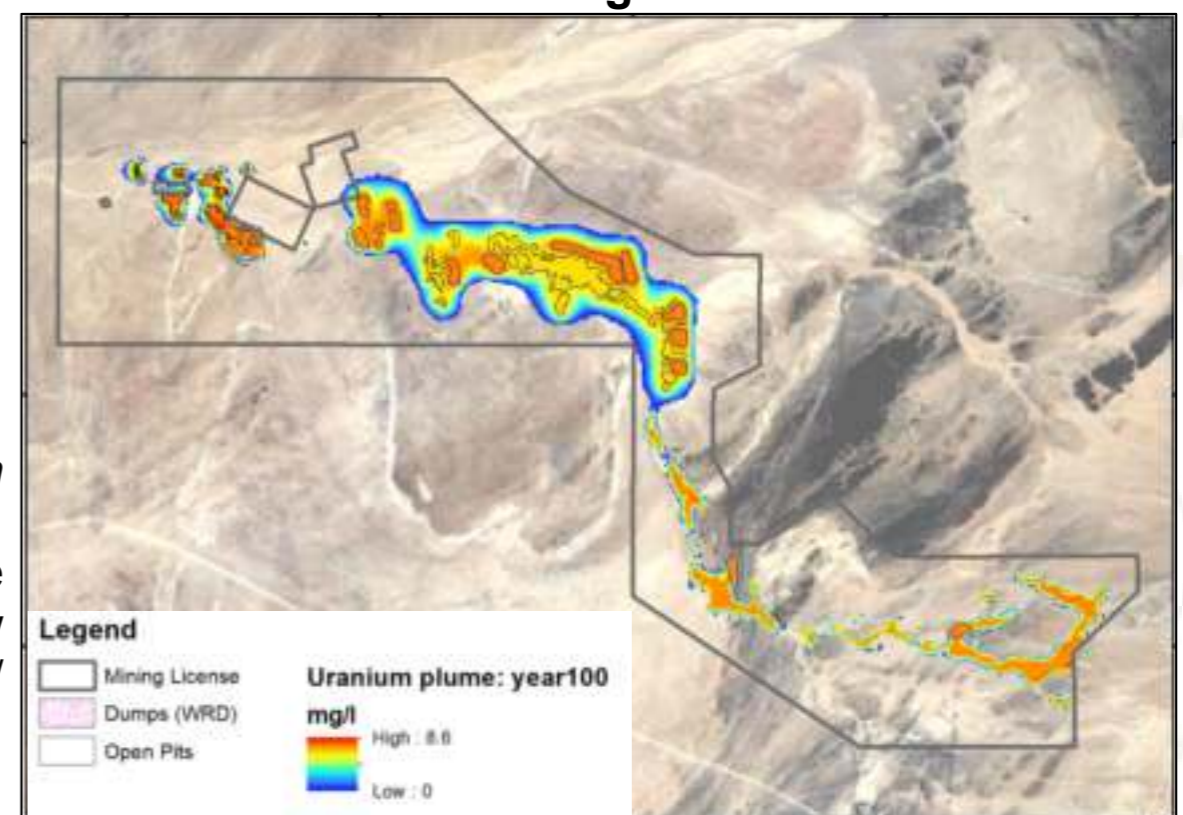
- The two ecologically sensitive areas where basement highs are inferred and where groundwater levels are shallowest, salt tolerant vegetation taps into this shallow groundwater. These areas are potentially at risk of contamination from either tailings and / or waste rock.

## Potential Impacts

### Predicted groundwater drawdown – Year 20



### Predicted uranium in groundwater - Year 100

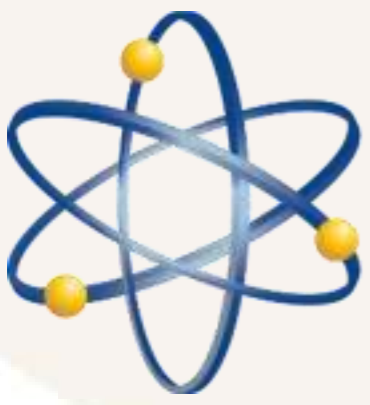


## Key mitigation measures

- No groundwater will be used in the process plant. The process plant will be designed to maximise the recovery and recycling of process liquor.
- Monitoring data to be used to determine changes in groundwater levels, and where required, additional mitigation to be implemented.
- Mining (and subsequent tailings deposition) to adopt the revised mine plan to allow further studies to be undertaken to ensure future mining does not impact ecologically sensitive areas.
- Phreatic levels in the tailings to be kept at minimum.
- Backfilling of tailings to avoid impact to shallow alluvial aquifer.
- Tailings uranium and vanadium concentrations to be maintained within the range of the geochemically modelled source term and controlled and adjusted on a regular basis.
- Strategic groundwater monitoring programme to be implemented.

Environmental component	Environmental issues (i.e. aspects / potential impacts)	Assessment Significance Rating	
		Unmitigated	Mitigated
Groundwater	Groundwater over-abstraction has a negative impact on the groundwater levels:		
	• Construction phase	M	L
	• Operational phase	H	L
	Groundwater quality impacts:		
	• Seepage from the tailings and WRDs into underlying paleochannel and basement aquifers have an impact on the groundwater quality	H	M
	• Seepage from TSFs and WRDs due to rising phreatic levels and over-deposition result in pollution plume in the shallow alluvium	H	L
	• Mineralised Storage facilities (TSF, WRD) have a negative impact on the groundwater quality at the at the ecological sensitive areas A and B	H	L
	• Non-mineral wastes have a negative impact on groundwater quality	M	L
	• Chemical reagents used in the processing plant have a negative impact on groundwater quality	M	L
• Domestic effluent waste has a negative impact of groundwater quality	M	L	

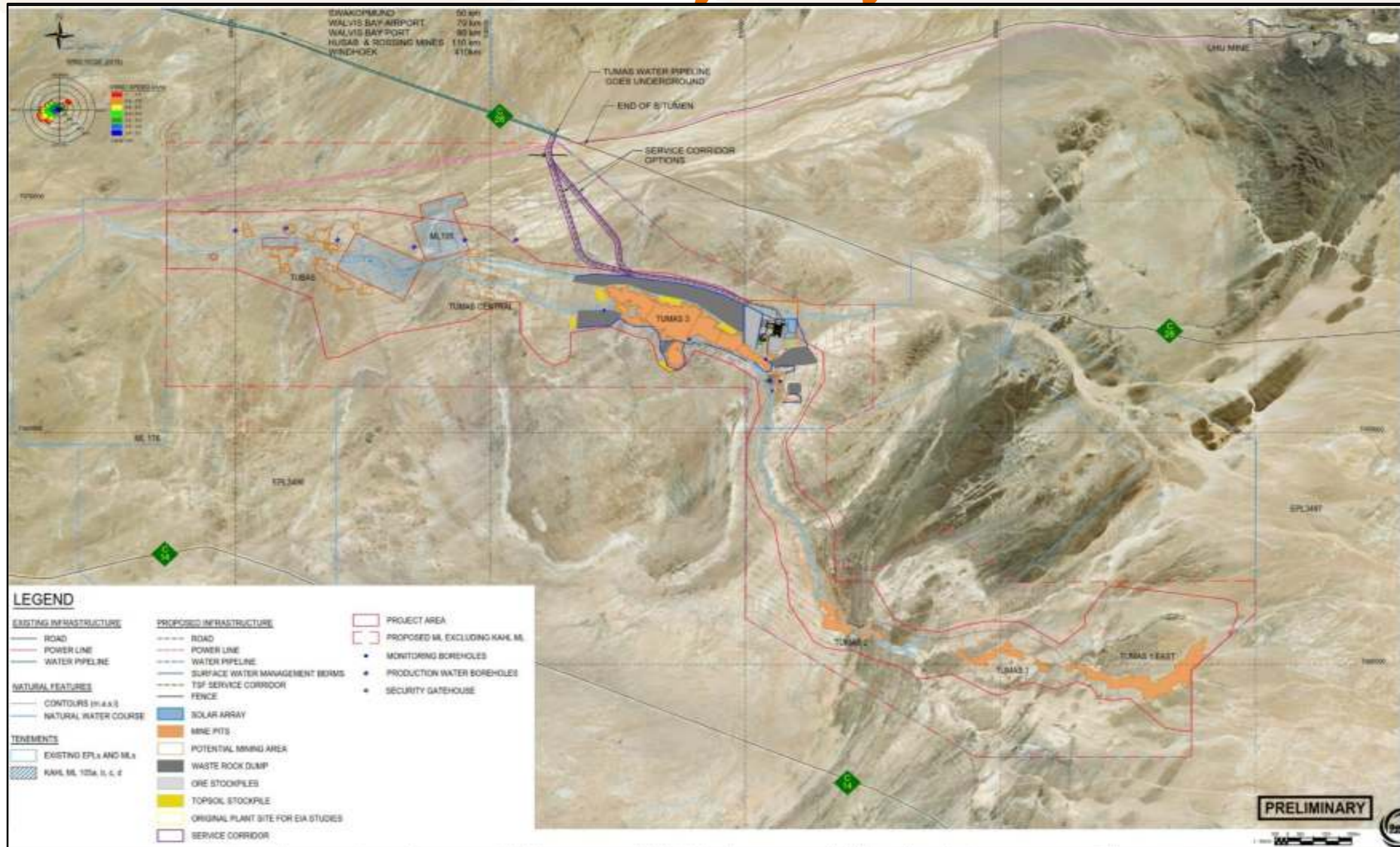




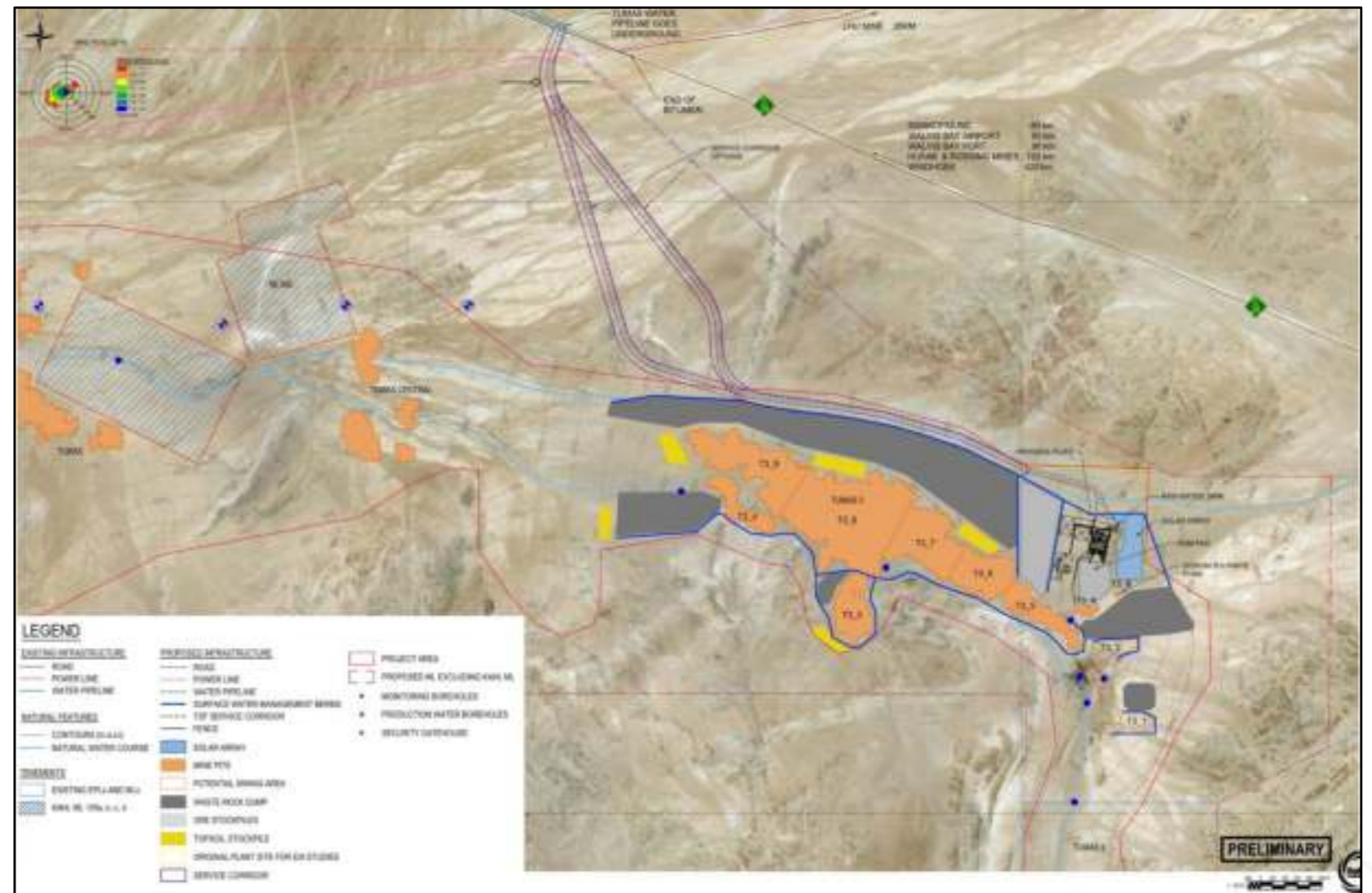
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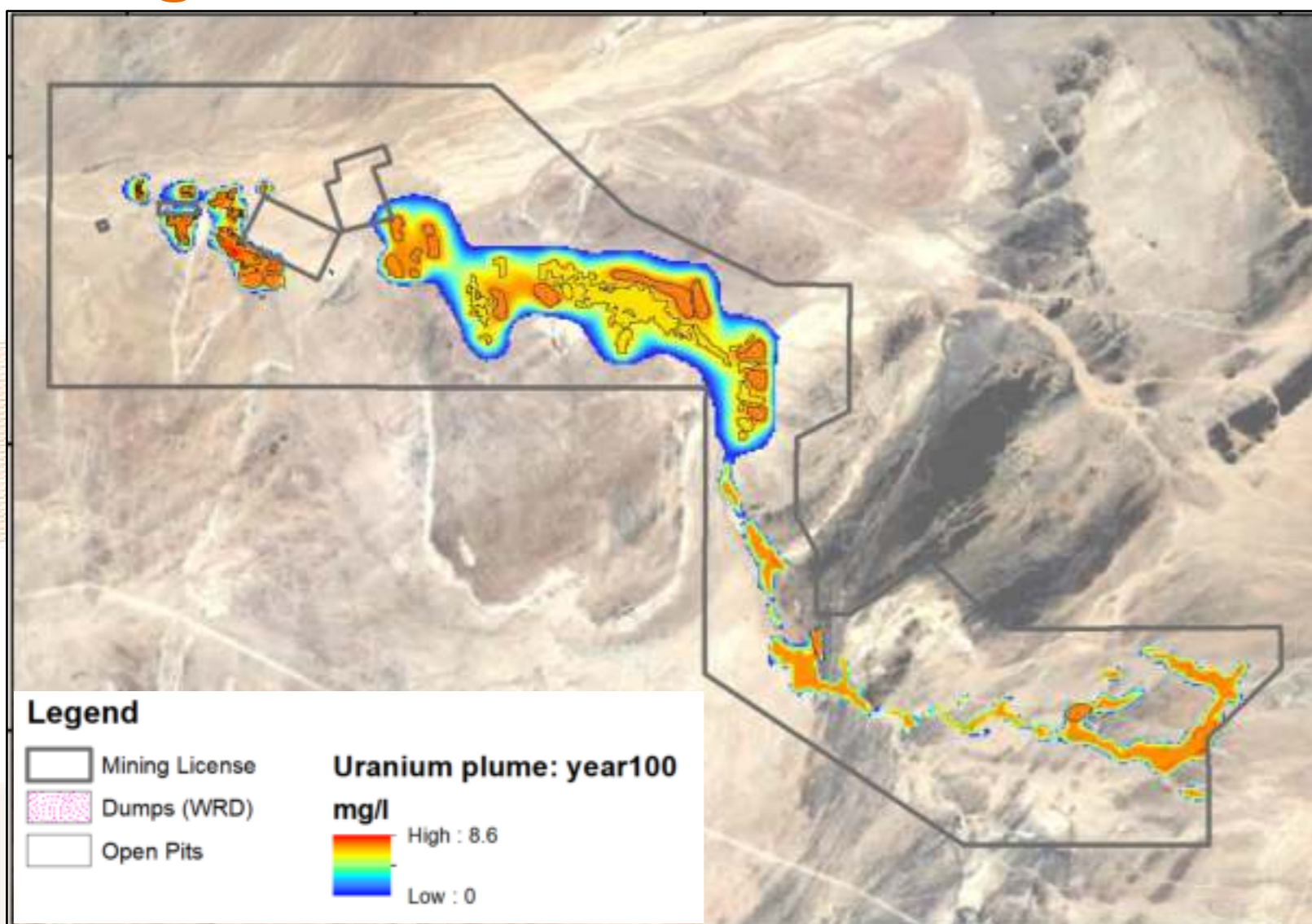
## Tumas Project layout



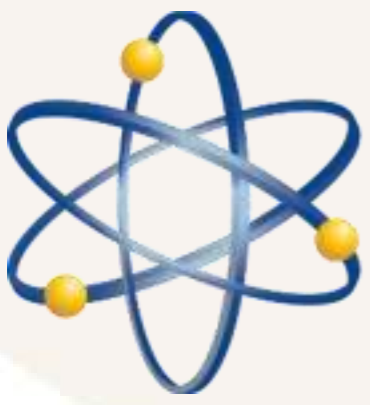
## Tumas 3 outline



## Predicted uranium in groundwater - Year 100







# Reptile Uranium Namibia (Pty) Ltd

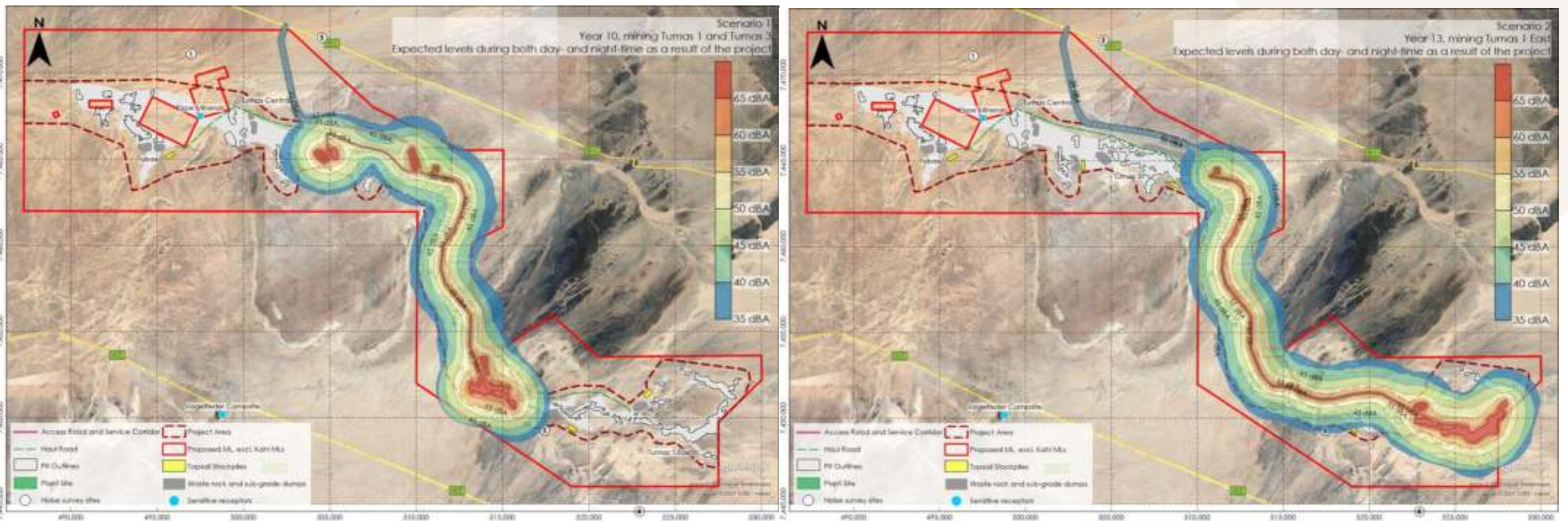
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## Noise

The present acoustic climate of the study area is affected by the vehicle traffic along the C14 (M36) and C28 roads, mining and exploration activities and natural sources such as wind, birds, and insects. The closest receptors are the Vogelfederberg Campsite and Elspe Minerals. Wildlife may also be impacted by the Project.

### Potential Impacts

- During the construction phase noise generated will vary greatly in intensity, location, duration and time of day but not expected to exceed the levels comparable to those found in rural areas within 600 m from the source during the day, and within 2 km at night.
- For the operational phase - two worst-case scenarios were selected (based on the changes in the LOM and mining and processing rates, as well as maximum hauling distances) for assessment.



- Noise is expected to be below levels typical of rural areas (45 dBA daytime, 35 dBA night-time), within approximately 1.5 km to 2 km from active operational areas during both worst-case scenarios.
- Tourist receptors at Vogelfederberg Campsite will not be exposed to levels above 35 dBA .
- As mining progresses towards Tumas Central, employees of Elspe Minerals may be affected but noise levels are likely to be below the IFC noise level guideline for industrial receptors (70 dBA).

With referenced to the 3 dBA increase guideline by the IFC for human receptors, the following was modelled:

- The 3 dBA impact area will mostly be limited to the boundaries of the proposed ML area. This will hold true for the entire LOM of the Project.
- During the day, a 3 dBA increase above existing noise levels might be expected up to approximately 50 m from the access road, 500 m from the processing plant, 850 m from haul roads, and 1.3 km from mining areas.
- At night, the 3 dBA impact area extends up to approximately 130 m from the access road, 1.4 km from the processing plant, 1.8 km from haul roads, and 2 km from mining areas.
- Campers at Vogelfederberg Campsite will not be able to detect noise generated by the Tumas Project during its LoM.

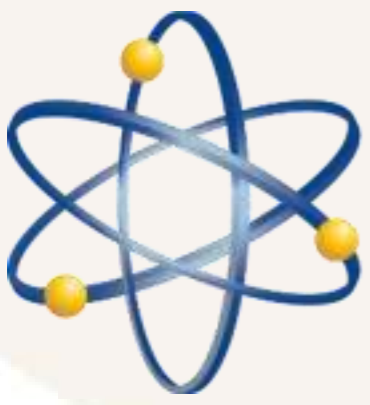
### Mitigation measures

Key noise mitigation measures include the following:

- Maintain a complaints register.
- Monitor noise.
- Communicate blast schedules to relevant I&APs.
- Any change to the LOM plan will require a reassessment of the noise impacts.

Environmental component	Environmental issues (i.e. aspects / potential impacts)	Assessment Significance Rating	
		Unmitigated	Mitigated
Noise	Disturbance to third parties (public receptors)	L	L





# Reptile Uranium Namibia (Pty) Ltd

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## Tumas Project: Proposed new Powerline

RUN propose to construction a 132 kV overhead transmission powerline, to supply power to the Tumas mining and processing activities. The proposed powerline will be ~44 km long, following a route parallel to an existing 66 kV transmission line to the Langer Heinrich Mine. This line will commence at the Kuiseb substation, which is an existing 220/132 kV NamPower substation, and terminate at a 132/11 kV substation to be constructed at the Tumas Project site



### Example of typical 132 kV steel monopole powerline



- Poles will arrive pre-assembled.
- Mobile cranes will be used to place the poles in their foundation holes.
- Concrete will be mixed and poured onsite for the foundations of the monopoles and for the foundation and platform of the substation and for the plinths.
- Total peak workforce: ~ 40 workers.
- Construction phase is expected to take ~12 months.

### Potential impacts

Section	Potential impact	Significance of the impact	
		Unmitigated	Mitigated
<b>Biodiversity</b>	Potential loss or disturbance of biodiversity composition and habitat destruction.	M-H	L-M
	Potential loss or disturbance of fauna (including avifauna) and flora.	H	L-M
	Collision of birds with the overhead powerline and electrocution of birds.	H	L-M
<b>Soils and land capability</b>	Loss of soil resources through physical disturbance and from pollution.	M-H	L
<b>Archaeology</b>	Disturbance or destruction to archaeological sites and their landscape setting.	H	M
<b>Visual impacts</b>	Visual impact (and sense of place) from sensitive views within the Namib Naukluft National Park.	M	M
<b>Surface water and ground water</b>	Pollution of surface water and groundwater (construction phase).	M	L
<b>Air quality and noise</b>	Air pollution and noise pollution (construction phase).	L	L

### Mitigation measures

#### Biodiversity:

- Use the existing NamPower service road, from where access points to the new poles will be made.
- Clear the minimum number of tracks.
- Minimise disturbance in sensitive lichen field areas.
- Avoid marble ridge for position of infrastructure.
- Install bird flight diverters on relevant sections of the powerline).

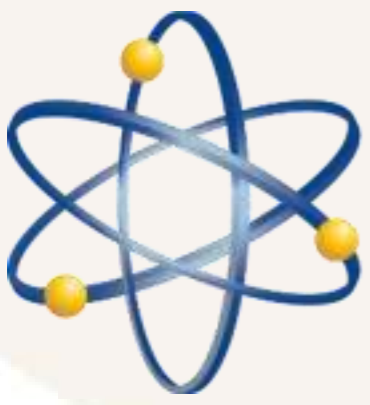
#### Soils and land capability:

- Pollution prevention through basic infrastructure design and through education and training of workers.
- The required steps to enable fast reaction to contain and remediate pollution incidents.
- Contaminated soil and building rubble will be transported away from the site to an appropriate and approved classified waste disposal site.
- Limit the disturbance of soils to what is absolutely necessary.

#### Archaeology:

- Powerline along the proposed service corridor: Re-route the alignment (where required) to prevent direct impacts of six sites.
- Kuiseb to the C28: Confined to the existing corridor as far as possible. Design and construct the powerline infrastructure to avoid two archaeological sites.
- Demarcate archaeological sites and avoid placing of monopole structures (and associated infrastructure and activities) at these sites.





# Reptile Uranium Namibia (Pty) Ltd

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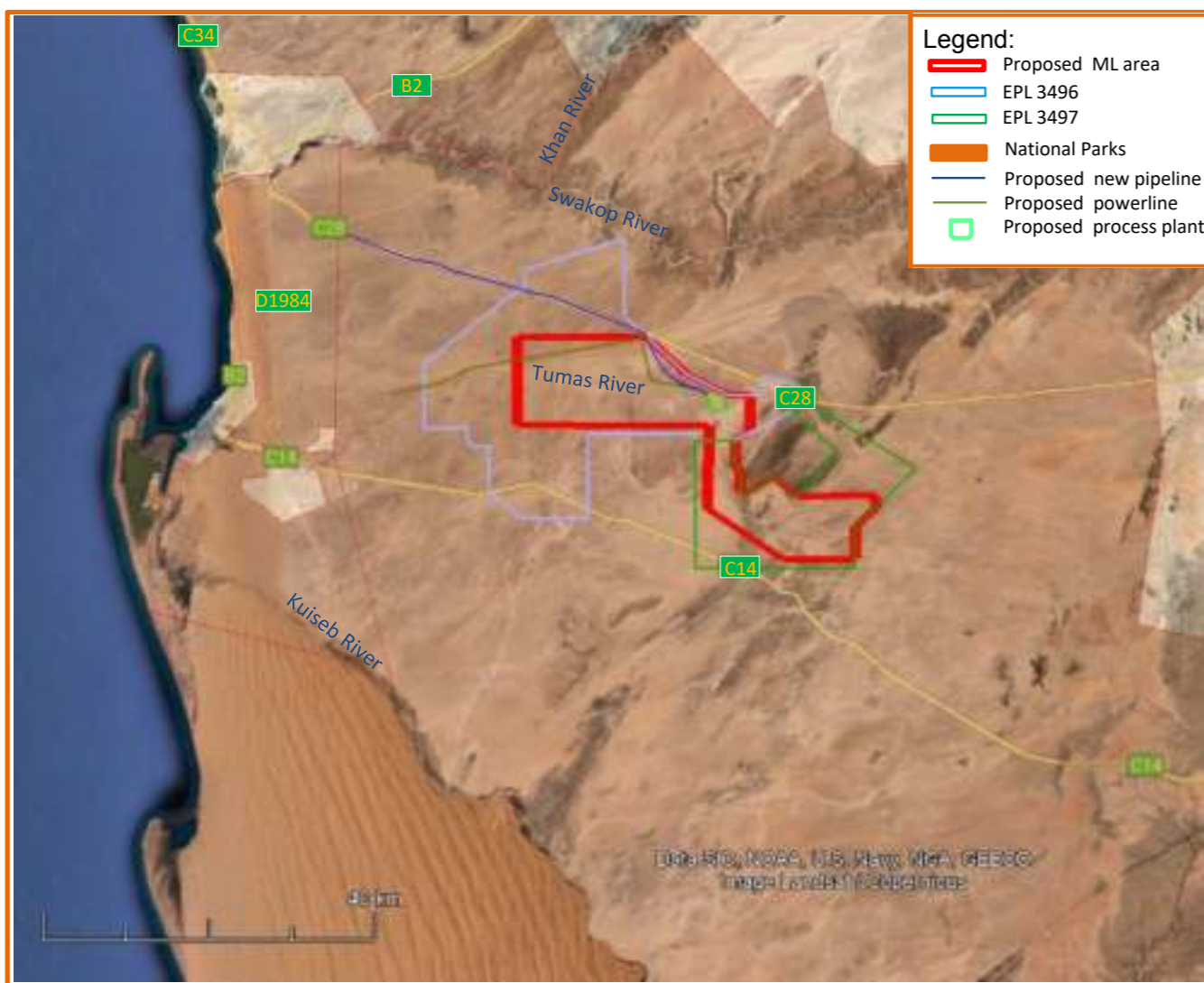
## Proposed Tumas Project

Reptile Uranium Namibia (RUN) submitted an application to the MME to convert, in part, its EPLs 3496 and 3497 to a ML. RUN is a wholly owned subsidiary of Reptile Mineral Resources and Exploration (Pty) Ltd (RMR) who manages and conducts the exploration activities on the tenements. RUN and RMR are both wholly owned subsidiaries of Deep Yellow Ltd, an Australian listed company.

### Project background

- Located in the Namib Naukluft National Park in the Erongo Region of Namibia, approximately 40 km east from Walvis Bay.
- The area has been explored for minerals since the 1970s. In 2006, after Deep Yellow Limited acquired RMR, exploration activities intensified on the EPLs.

### Tumas Project activities and infrastructure:



- Open Pit mining.
- Ore transported with haul trucks to the onsite plant for processing.
- Mineral and non-mineral waste (i.e. radioactive contaminated) from the mining and processing activities to be disposed of at onsite facilities (WRDs and TSFs).
- Use of reagents for processing.
- Water supply and storage as well as power supply to the mining and processing activities.
- Final product, uranium oxide ( $U_3O_8$ ) and by-product, vanadium pent-oxide ( $V_2O_5$ ) exported for further processing.



### Project key characteristics summary

Group	Specific	Details																			
Mining	Target minerals	Carnotite (containing uranium and vanadium)																			
	Mining method	Open cast mining																			
	Ore Mined	Up to 4,500 kt per annum																			
	26 years	110,000 kt over the life of mine (LOM)																			
	Mineable area	<table border="1"> <thead> <tr> <th>Name</th> <th>Area (Ha)</th> <th>Max depth (m)</th> </tr> </thead> <tbody> <tr> <td>Tumas 1 East</td> <td>396</td> <td>23</td> </tr> <tr> <td>Tumas 1</td> <td>636</td> <td>43</td> </tr> <tr> <td>Tumas 3</td> <td>1,520</td> <td>43</td> </tr> <tr> <td>Tumas 2</td> <td>389</td> <td>43</td> </tr> <tr> <td><b>Total</b></td> <td><b>2,941</b></td> <td></td> </tr> </tbody> </table>		Name	Area (Ha)	Max depth (m)	Tumas 1 East	396	23	Tumas 1	636	43	Tumas 3	1,520	43	Tumas 2	389	43	<b>Total</b>	<b>2,941</b>	
		Name	Area (Ha)	Max depth (m)																	
		Tumas 1 East	396	23																	
		Tumas 1	636	43																	
Tumas 3		1,520	43																		
Tumas 2	389	43																			
<b>Total</b>	<b>2,941</b>																				
Depth of the minerals below surface	Occurs from surface and will be mined to a maximum depth of ~53 m.																				
Mining rate	A mining rate of approximately 12,417 kt per year.																				
Life of mine	Deep Yellow and RUN have continued developing the known resources for the Tumas Project since the completion of the PFS. Deep Yellow has announced a substantial increase in ore reserves. The operating life of the mine is now estimated to be 26 years based on the operating profile detailed in the PFS.																				
Indicative development footprint size	The footprint at the proposed mine site, including mining and processing facilities and associated infrastructure (including the PV) plant) is ~ 4,000 ha.																				
Mine residues	Waste rock	Clean waste rock overburden (<50 ppm $U_3O_8$ average grade) and waste rock material (grade range between 50 to 100 ppm $U_3O_8$ ), not processed, will be placed in mined out areas, except that mined from Tumas 3.																			
		Waste rock mined from Tumas 3 will be used for the construction of TSF walls (within mined-out pits) and water diversion berms. Surplus waste rock will be placed on WRDs. WRDs will cover an area of approximately 1,000 ha, which is included in the 4,000 ha above, with an average height of 22 m. Total waste rock that will be mined over the LOM: approximately 220,000 kt.																			
Processing	Plant	Alkali leaching.																			
	Run of mine (ROM)	A ROM ore stockpile will be approximately 26 Ha in area with a height of ~15 m to (maximum) 18 m.																			
	Rate	The estimated ROM processing rate will be approximately 4.1 Mtpa of ore sent to the process plant for processing.																			
	Total ore tonnes processed	110,000 kt.																			
	Final product	It is anticipated that approximately 3 million pounds (Mlbs) of $U_3O_8$ and 1 Mlbs of $V_2O_5$ will be produced each year.																			
Processing residues	Tailings	The tailings will entirely fill the ~ 10 km long Tumas 3 pit and will be covered with barren waste rock. At the end of the LOM, an estimated 110,000 kt of tailings solids and ± 75,000 ML of tailings slurry material will be disposed of in the TSFs.																			
Resource use	Water demand	Up to 2.9 million $m^3$ per year (with peak demand estimated at 3.5 million $m^3$ per year).																			
	Power demand	Power to be supplied via an 132kV powerline, together with a 20 MW Solar Array. Average operational load of 30Mwe.																			
Employment	Staff: construction	Approximately 1,000 skilled and unskilled workers at peak.																			
	Staff: operational	Approximately 274 employees (and ~300 contract personnel) at full operations.																			
	Operating times	24 hours a day, 7 days a week.																			

### Tumas Project layout

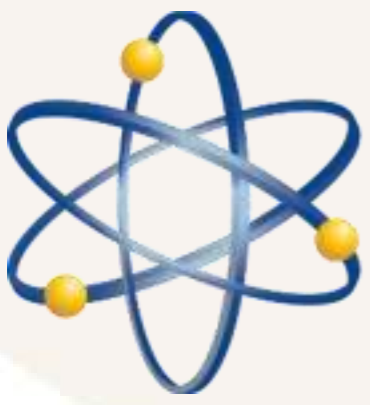


### Tumas 3 outline



- Tumas 3 pit will supply ore for the first 10 years of operations.
- Mining will then progress to Tumas 1E, Tumas 1 and finally Tumas 2.





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## Radiology

The rationale for undertaking a radiological study for the proposed mining and processing operations at the Tumas Project is based on the mining, handling, and processing of radioactive mineral ore, in the form of uranium-bearing minerals. Such activities release radioactive elements into the environment

Receptors were identified as those members of critical groups that are expected to receive the largest relevant exposure dose from radiation considering a specific pathway in a specific location. Critical groups (or representative persons) are those persons that are most at risk of being exposed to a specific exposure pathway. Several critical groups have been identified, including those living in permanent and temporary settlements around the project area (relative distances shown below) as well as tourists frequenting some destinations.

The radiological impact assessment is supported by the air quality, groundwater and surface water studies' findings.

The following radiation-related baseline exposure doses were estimated for the proposed Tumas Project site:

- A total direct external gamma exposure dose of some  $1.1 \pm 0.4$  milli-Sievert per annum (mSv/a).
- An inhalation dose due to radon and progeny of some  $0.2 \pm 0.1$  mSv/a.
- An inhalation dose due to ambient atmospheric dust of some 0.003 mSv/a.

Public Receptor Locations	Distance and Direction from the proposed Tumas Project
Elspe Minerals gypsum mining operations	Between 3 km and 5 km west-northwest and west of the proposed Tumas 3 area, within the Tumas Project area
Vogelfederberg tourist spot	Some 18 km southwest of Tumas 3 area, and some 27 km west of Tumas 1 area
Ganab tourist campsite	Some 46 km from the Tumas 3 area and some 27 km east of Tumas 1 area
Farm Palmenhorst	Some 22 km north of Tumas 3 area
Farm Goanikontes	Some 31 km north-west of Tumas 3 area
Swakop River Smallholdings	Some 43 km north-west of Tumas 3 area
Rooikop Airport	Some 39 km west-southwest of Tumas 3 area
Rössmund	Some 49 km north-west of Tumas 3 area
Walvis Bay	Some 50 km west-southwest of Tumas 3 area
Long Beach	Some 51 km west-northwest of Tumas 3 area
Topnaar settlements along the Kuiseb River	Scattered settlements of the Topnaar community along the Kuiseb River, between 50 km and 60 km from the proposed Tumas Project area
Swakopmund	Some 55 km north-west of the proposed Tumas 3 area
Arandis	Some 55 km north-northwest of the proposed Tumas 3 area

### Potential impacts

- Emissions of radiologically relevant dust due to mining, blasting, conveying, stockpiling and transport of radioactive mineral ore and its processed mineral waste, with impacts on the atmospheric and aquatic exposure pathways.
- Rock breaking, sizing, screening and the associated transport of mineral feed material, with impacts on the atmospheric and aquatic exposure pathways.
- Production of process liquor, with impacts on the aquatic pathway in the event of spillage or seepage.
- Run-off / spillage of process liquor, tailings spills, spillages of sludge from cleaning bunded areas during maintenance and repairs, spills of rinse and process water, with impacts on the atmospheric and aquatic pathways.
- Transport, storage and handling of process liquor, with impacts on the atmospheric and aquatic pathways.
- Production of concentrated uranium, including its drying, with impacts on the atmospheric and aquatic pathways.
- Handling, transport and disposal of leached mineral ore and other process residues from the processing circuit, with impacts on the atmospheric and aquatic pathways.
- Storage of leached ore and waste rocks on TSFs and WRDs, with impacts on atmospheric pathway and aquatic pathways.
- Run-off and seepage from WRDs and TSFs, especially during and in the aftermath of episodes of heavy rains, with impacts on the atmospheric and aquatic pathways.

The assessment found that all public radiation exposure doses resulting from uranium mining and processing operations at the proposed project are trivial exposure doses as they result in total exposure doses of  $<1 \mu\text{Sv/a}$  for adults as well as for infant receptors.

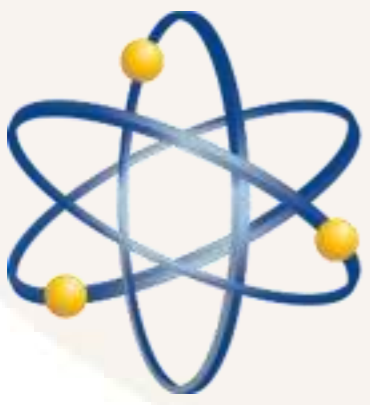
### Mitigation measures

#### Key radiological mitigation measures include the following:

- Active and passive dust suppression measures implemented.
- Seepage and related unintended releases of radiologically relevant minerals, liquids and gases minimised by appropriate design and operation of the process plant, WRDs and TSFs.
- The disposal of radiologically relevant mineral and non-mineral waste (i.e. radioactive contaminated waste) into TSFs will be undertaken to minimise the potential for seepage or related emissions and/or releases of radionuclides into the environment.
- WRDs and TSFs designed and operated to ensure the long-term integrity of such structures to minimise the potential seepage and emissions of radionuclides into the environment.
- Closure planning will commence in early operations, to ensure that rehabilitation measures can be successively phased in and become an active part of the day-to-day management of WRDs and TSFs.

Environmental component	Environmental issues (i.e. aspects / potential impacts)	Assessment Significance Rating	
		Unmitigated	Mitigated
Radiology	Radiological impacts to third parties (public receptors)	L	L





## Socio- economic

The Erongo Region is the second most prosperous region in Namibia, with 70% of the available labour force employed and a high annual per capita consumption level, compared to the national average. As a result, the coastal towns of Walvis Bay and Swakopmund have attracted migrants from all over the country and have experienced high annual growth rates

### Potential Impacts

- Economic Impacts: The proposed Project activities and infrastructure will have economic impacts which will be reflected ultimately in changes in income (gross and net national income) and livelihoods during the different Project phases. It also has wider economic impacts through upstream, downstream and side-stream linkages.
- Job Creation and Skills Development.
- Temporary Housing on Site, during Construction: Construction workers frequently stay on site for large scale projects to cut down travelling time, minimise potential road accidents and other inefficiencies.
- In-Migration and Housing: The mine will attract successful and unsuccessful job seekers which could induce migration to Walvis Bay and Swakopmund.
- Traffic impacts: The key potential traffic related impacts relate to road capacity and third party (i.e. public) road safety.

### Mitigation measures

#### Economic

- Give tender preferential weighting to supply companies owned by empowerment beneficiaries
- Promote gender equality.
- Implement a procurement policy which promotes the use of small and medium enterprises.
- Inform stakeholders, such as suppliers and government, as early as possible, of the possibility of moving to care and maintenance or closure so they can make financial adjustments.

#### Job creation

- Recruit locally during construction and operations to minimise in-migration.
- Promote equality among empowerment beneficiaries and women.
- Promote stable working conditions.
- Promote skills development.

#### Temporary housing (poaching, littering & social ills)

- Construct a security fence around the camp, with access gates manned by security personnel and prohibit access to the NNNP.
- Report poachers and workers who contravene park rules.
- Train and hold on-going awareness campaigns to educate contractors about the park rules and biodiversity and the harm caused by litter.
- Operate an alcohol-free and drug-free worksite.
- Minimise number of shared rooms, occupied at the same time, to reduce the real risk of spreading HIV and other sexually transmitted diseases.
- Provide recreational and educational facilities.

#### In-migration

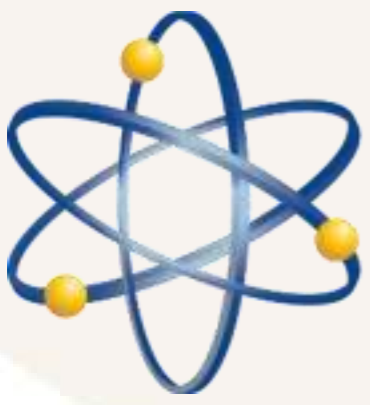
- Develop a stakeholder engagement plan early in the Project process.
- Actively engage with key stakeholders to jointly plan recruitment strategies which will enable existing local residents of Walvis Bay and Swakopmund to register their interest in employment with RUN and its contractors, early in the Project's development, to discourage in-migration from elsewhere.
- Identify high performing unskilled/semi-skilled local workers during construction for training and recruitment for the operations phase.
- Engage with key stakeholders to plan and manage the potential negative impacts of project-induced in-migration (arrival areas that include essential infrastructure).

#### Traffic

- All vehicles fitted with a tracker to monitor speed.
- Promote basic road safety behaviour for all RUN employees and contractors through training and awareness.
- Ensure ongoing road maintenance of the access road to the mine.
- All standard safety protocols relating to working within public roads to be adhered to.

Environmental component	Environmental issues (i.e. aspects / potential impacts)	Assessment Significance Rating	
		Unmitigated	Mitigated
Socio economic	Economic – construction & operation	VH+	VH+
	Economic – decommissioning & closure	H	H
	Job creation - construction & operation	VH+	VH+
	Job creation - decommissioning & closure	H	H
	Temporary housing onsite during construction		
	• Poaching	M	L
	• Littering	H	M
	• Social ills	H	M
	In-migration	H	M
	Traffic	H	L-M





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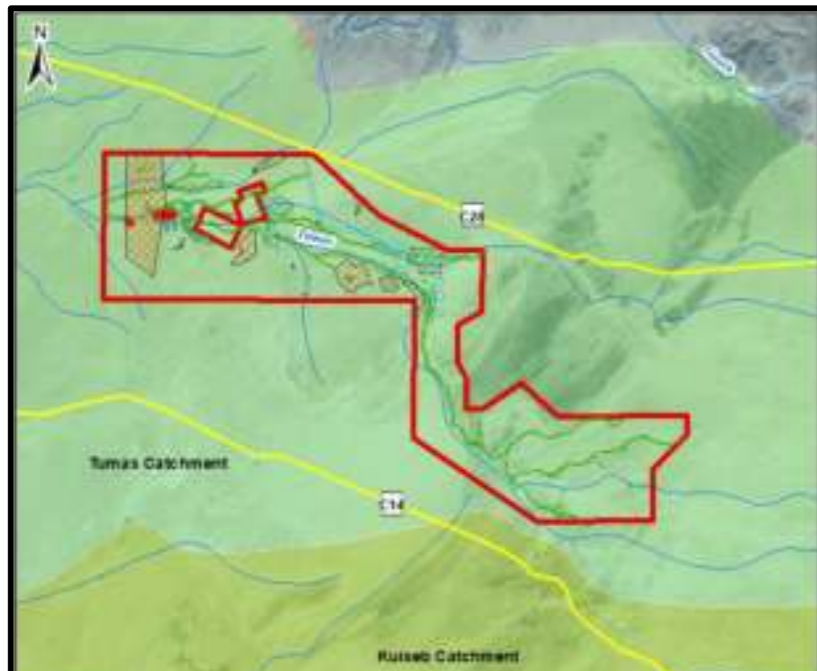
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## Surface Water

In the context of the desert environment most surface water either evaporates or percolates into the ground. In a few instances heavy rainfall leads to temporary flowing surface water resources.

### Local hydrology

Drainage lines / washes flows in an east-west direction to join the Tumas River. The Tumas drainage starts initially as a braided system east of the ridges and then passes through a major bedrock drainage constriction where it becomes narrow and incised.



### Regional hydrology

The Project falls within the Tumas River Catchment - separated from the larger Kuiseb River catchment in the south and Swakop River catchment in the north. The confluence of the Tumas and Tubas Rivers lies towards the western extent of the Project area. The Tumas-Tubas Rivers, which flow east to west and consist of many smaller tributaries, are ephemeral rivers with episodic flows which is linked to the higher rainfall events during summer months.

The Tumas River terminates in the dune fields to the northeast of Walvis Bay, where it ends as a mud-filled series of depressions located against the dunes on the inland side of the dune belt.



### Potential Impacts

#### Surface water contamination

- Surface water may collect contaminants (hydrocarbons, salts, and metals) from numerous sources, amongst others the process plant area, WRDs and collection channels.
- There could also be spillages of contaminated water from the TSF or dirty water storage facilities.
- Direct contamination of active flow channels could result in environmental impacts over a long duration.
- There are no surface water users in the vicinity of the proposed Project. Any changes to surface water quality would not have an impact on the local community.

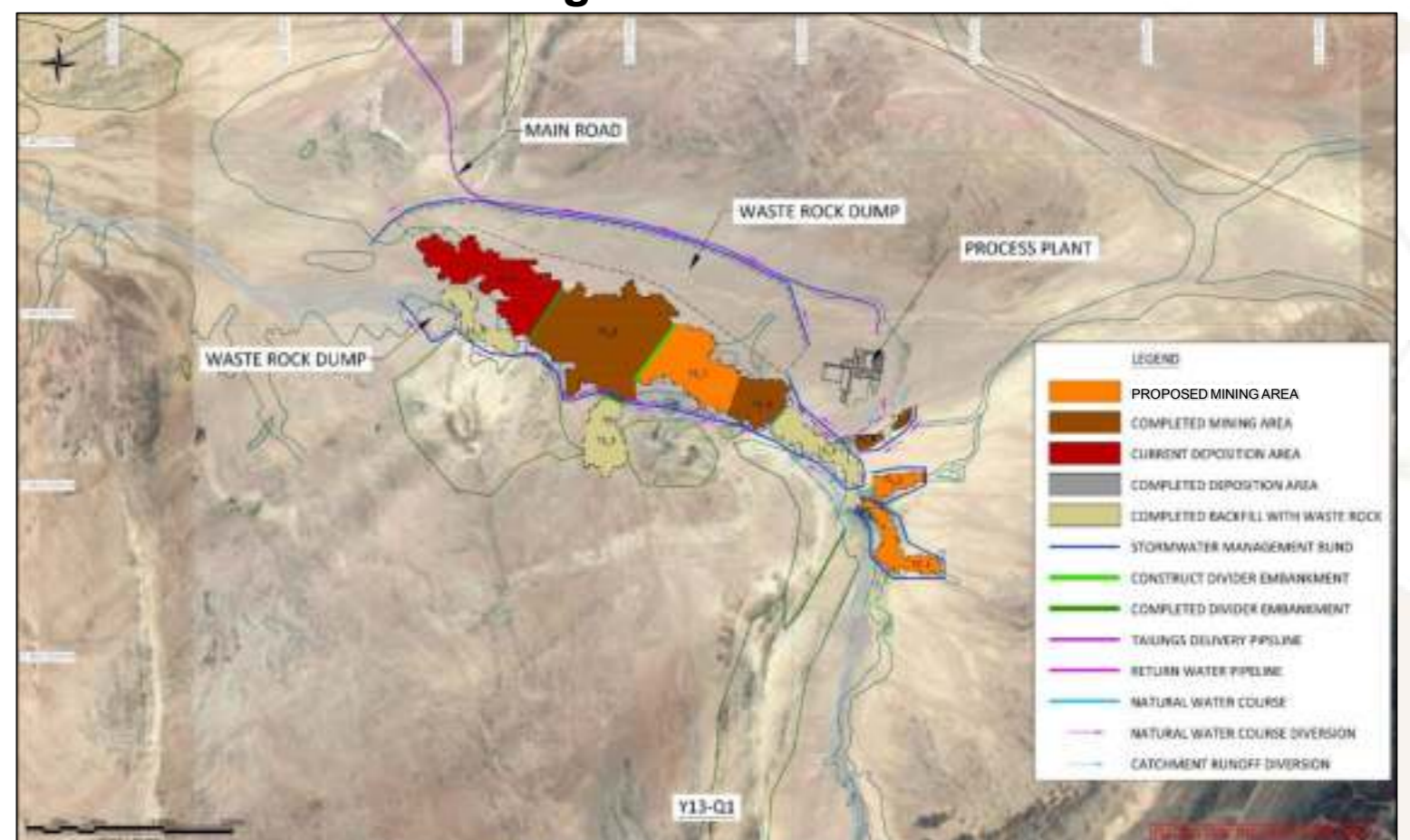
#### Reduction in clean water catchments due to mining activity footprint

- A relatively small portion of the Tumas / Tubas catchments will be impacted. The key issue is the potential loss of surface water flow volume which is important for the ecological system.
- Diversion channels will be constructed to convey the clean runoff from clean water catchments.
- Dirty water catchment areas will be minimised.

### Key mitigation measures

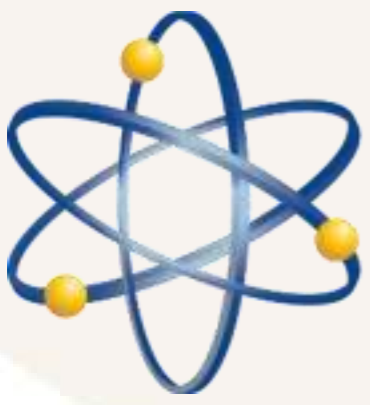
- Adopt best practice guidelines to develop detailed storm water and runoff management plans for the processing plant area and WRDs.
- Ensure dirty water and clean water systems are in place so that no cross contamination occurs.
- Design and construct conveyance, collection and storage infrastructure to effectively contain dirty water.
- Design and construct adequate lined systems for the dirty water infrastructure to prevent seepage into the groundwater systems.
- Design and construct diversion infrastructure to direct clean water from clean upstream catchments to clean downstream catchments, ensuring that the natural flow regime is maintained at entry, exit and within the diversion channel.
- Survey of all natural flow channels before mining commences.
- Suitably line and size the dirty water storage facility(s) to ensure no spillage into the environment during design floods.

### Layout of conceptual Tumas 3 stormwater management structures



Environmental component	Environmental issues (i.e. aspects / potential impacts)	Assessment Significance Rating	
		Unmitigated	Mitigated
Surface Water	Surface Water Contamination	H	M





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## Visual

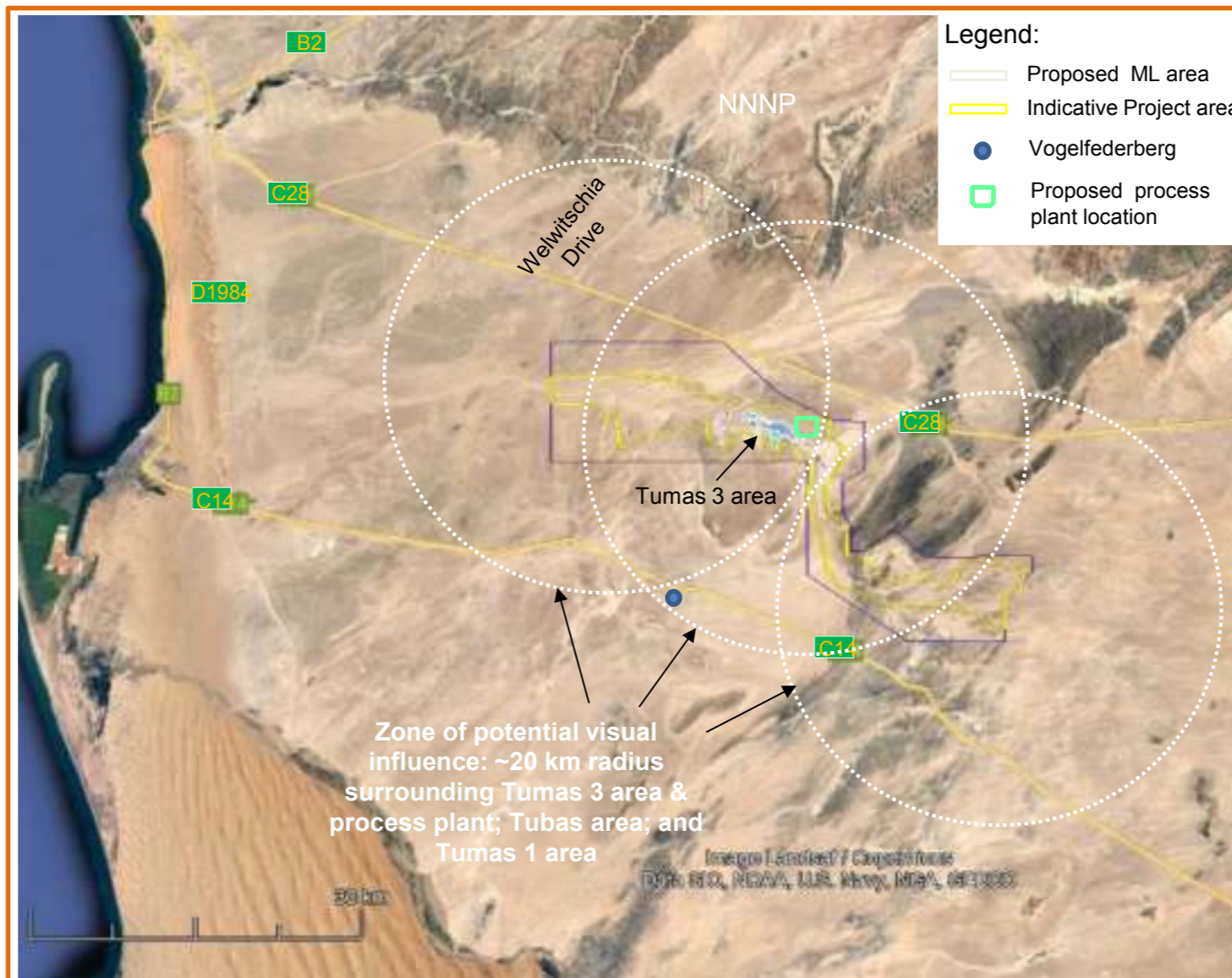
The background visual resource of the wider landscape is high and sensitive to change, primarily due to the scenic beauty of the Namib Naukluft National Park and its vast expanse of a perceived undisturbed landscape.

Plains, shallow and wide washes, hills, ridges and inselbergs characterise the Project area / visual study area. Various bedrock outcrops, as well as schists of the Tinkas Formation, form prominent ridges. The highest ridge is located ~10 km east of the proposed process plant area. The Vogelfederberg Camp Site, adjacent to the C14, rises approximately 25 m above the surrounding plain. Man-made structures in the greater study area include linear infrastructure, the on-site prospecting and mining structures, Langer Heinrich mine to the north, and tourist facilities further afield.

Sensitive tourist-oriented viewer locations are situated along routes such as the C28 and C14 roads and at specific points of attraction such as the Welwitschia Drive, Vogelfederberg Campsite and the Ganab campsite.

### Potential impacts

- Typically, mining projects cause major visual and landscape disturbances.
- The most significant Project facilities from a visual impacts perspective are the WRDs, process plant, PV power plant, open pits (to be backfilled progressively with either waste rock or tailings material) and other associated infrastructure.
- These facilities / infrastructure, along with the proposed activities can cause change to the fabric and character of the Project area and possible visual intrusion in a sensitive landscape.



- The visual intrusion of the proposed Project is considered to be moderate for daytime (relating to visual receptors and sensitive viewers) as infrastructure would be absorbed in the landscape at some distance.
- The negative effect of the Project's night lighting would be observed against dark skies. This impact specifically relate to people using the C28 road and also, to a certain extent to people using the C14 road and camping at Vogelfederberg.

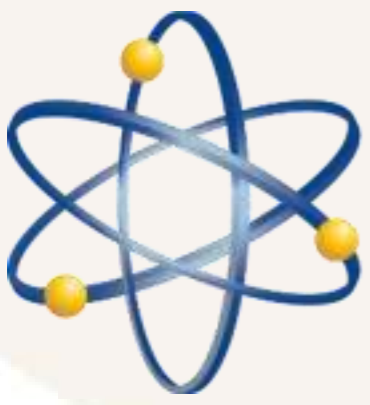
### Mitigation measures

#### Key visual mitigation measures include the following:

- Land disturbance will be limited to what is prudently necessary.
- Structures that will remain behind after closure will be shaped to blend in with the surrounding landscape.
- Littering will be prevented.
- The number of light fixtures - including security lighting - will be minimized.
- Light fixtures with precisely directed illumination will be used in mining areas and along haul roads to avoid light "spillage".
- Along the periphery lights will be installed that are activated on illegal entry; high pole-top security lighting will be avoided.
- Consider the guidelines provided by MEFT in the Park Management Plan on minimising the impact of lighting.

Environmental component	Environmental issues (i.e. aspects / potential impacts)	Assessment Significance Rating	
		Unmitigated	Mitigated
Visual	Visual and landscape disturbance	H	M





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## Tumas Project: Proposed new Water Pipeline

RUN propose to construction water pipeline to supply water to the Tumas mining and processing activities. The proposed route for the water pipeline is ~65 km in length, following an alignment from the NamWater base pump station near Swakopmund to the Tumas Project, largely parallel to the C28 Road and the two existing water pipelines supplying water to the Husab Mine and the Langer Heinrich Mine.



### Water supply:

- ±2.5 million m<sup>3</sup>/a for processing and domestic requirements and ±350 000 m<sup>3</sup>/a (groundwater) for dust suppression.
- Processing and domestic water will be sourced from NamWater (i.e. desalinated water).
- Storage capacity of 6 days at the Project site.

### Existing pipelines next to the C28 Road



- The proposed Tumas pipeline will be a nominal 350 mm diameter steel pipe or equivalent
- The project preference is to place the proposed pipeline below ground depending on geotechnical conditions.
- The section of the pipeline along the proposed new service corridor to the Tumas process plant area will be underground.
- Total peak construction workforce: ~ 30 to 40 workers.
- Construction phase is expected to take ~ 9 to 10 months.

### Mitigation measures

### Potential impacts

Section	Potential impact	Significance of the impact	
		Unmitigated	Mitigated
<b>Biodiversity and soil</b>	Potential loss or disturbance of biodiversity composition and habitat destruction due to construction activities of the pipeline	H	M
	Potential loss or disturbance of fauna (including animal movement) and flora	H	L-M
<b>Archaeology</b>	Disturbance or destruction to archaeological sites and their landscape setting	H	M
<b>Visual impacts</b>	Visual impact (and sense of place) from sensitive views within the Namib Naukluft National Park.	M	M
<b>Surface water and ground water</b>	Pollution of surface water and groundwater.	M	L
<b>Air quality and noise</b>	Air pollution and noise pollution	L	L

### Biodiversity:

- Bury the pipeline alongside the C28 where geotechnical conditions allow, and bury deeper when crossing washes. Avoid obstructing water flow and damage by floods.
- Bury the pipeline from T/Off along the new service road corridor to the Tumas Project area. Minimise ground disturbance by stockpiling excavated material in disturbed areas inside service corridor between road and existing pipelines and outside of washes and drainage areas.
- Backfill excavated areas immediately upon laying of pipeline.
- Avoid the marble ridge along the proposed new service corridor to the Tumas Project area for position of infrastructure.
- Implement special rehabilitation measures where lichen fields are affected.
- Mimic the “wildlife crossing” points along the existing pipeline(s) – i.e. follow the same pipeline corridor for above ground sections of the pipeline.
- Avoid removing or damaging *Welwitschia mirabilis* individuals. Demarcate these during construction to prevent inadvertent damage.
- Rehabilitate all areas disturbed by the construction activities.

### Archaeology:

- Re-routing of the proposed infrastructure (where required) along the service corridor would prevent direct impacts.
- Work on the proposed new pipeline along the C28 should be confined to the existing corridor as far as possible.
- All workers (temporary and permanent) will be educated about the importance of preserving archaeological sites.
- Implement a chance find procedure.