



NATIONAL ASSEMBLY, 8TH PARLIAMENT

PARLIAMENTARY STANDING COMMITTEE ON NATURAL RESOURCES

**REPORT ON THE EXPLORATION ACTIVITIES BY HEADSPRING INVESTMENTS /
ROSATOM IN NAMIBIA**

REPORT NO.4 OF 2025

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EXECUTIVE SUMMARY

The Parliamentary Standing Committee on Natural Resources held a consultative meeting with ROSATOM/Headspring Investments Rosatom to discuss comprehensively their uranium exploration activities in Leonardville and the mining techniques used.

ROSATOM's uranium discovery in Leonardville, through its subsidiary HotSpring Investment, is estimated at around 50,000 metric tons. This will be valued at approximately U\$18 billion, without any value addition.

Headspring Investments Rosatom / Headspring Investments (Pty) Ltd is a Namibian-registered exploration company wholly owned by Uranium One Group, the international mining division of Rosatom. Rosatom, being a Russian state-owned enterprise, is mandated to manage the state's nuclear energy sector.

Headspring Investments (Pty) Ltd has been exploring for uranium on eight (8) Exclusive Prospecting Licenses (EPLs), no: 4654, 4655, 4656, 4657, 6780, 6781, 6782 and 6783, predominantly in Omaheke Region, with small portions falling under Hardap and Khomas Regions respectively. Most of the exploration uranium core drilling took place in the vicinity of Leonardville on 39 commercial farms. A few drilling activities were almost started in the communal area (reserve), around the time the company's drilling permits were revoked in late 2021. This was a result of complaints by an NGO, created exactly at the same time and reported to be owned by the very farmers who benefited from the company. It was disclosed that these farmers enjoyed support from the then leadership of the Ministry of Agriculture, water and Land Reform. Their claims are that the aquifer will be contaminated by the uranium exploration activities. It must be said that the exploration activities are not importing uranium to come and deposit it on site, the uranium is a natural resource, which has developed there for over billions of years, just like it is in the Erongo region. The radiation or natural contamination is already there.

Rosatom is a global leader in the nuclear industry, with the necessary expertise. It is the best in the sector of uranium mining, nuclear technologies and atomic technologies.

It is actually in the best interest of Namibia and the Omaheke Region in particular to allow the continuation of both the uranium explorations and the company to enter into the uranium mining phase. Because it is the only way scientific knowledge can be acquired on where the natural contaminations are, so that the government can apply a mitigating strategy, such as bringing in fresh water. It can be proven that the current situation is a disaster waiting to happen, as people and animals could be drinking highly contaminated water without knowing it.

Further, for over a period of 50 years, In-Situ Recovery (ISR) technology has been perfected and now accounts for 50% of the global uranium mining and for 20 years, Uranium One operated about eight ISR uranium mines around the world with operations in the USA and Kazakhstan. Currently, Uranium One operates five ISR mines in Kazakhstan, while ARMZ/Minerals operates two ISR mines in Russia. Experience in operating these mines comes from the early development of ISR in the early 1960s under the Soviet Union, bringing expertise of over 50 years.

The exploration started in 2011 with desktop studies, and the drilling commenced in 2012. Despite that, in 2013, operations were suspended due to a moratorium on Uranium exploration, recommencing with activities again between 2018 and 2019 when the moratorium was lifted.

To date, about 50% of exploration work has been completed. Headspring Investments (Pty) Ltd drilled 592 Exploration boreholes using the diamond core drilling technique from 2012 to 2021 and 36 Hydrogeological/monitoring boreholes using the down-the-hole (DTH) drilling technique as per the agreement of the drilling permit of 2012 (Attached drilling permit of 2012).

Within the scope of work that needs to be executed under the exploration activities, preparation for pilot testing is included. Headspring Investments (Pty)

Ltd has prepared 95% of the construction (mobile units) of the pilot testing area. Drilling of monitoring boreholes within and surrounding the pilot test area is still awaiting approval of the drilling permit from the Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR).

This notwithstanding, the committee's meetings with the International Atomic Energy Agency (IAEA) reaffirmed their support for Namibia in terms of scientific support, for the country to continue its uranium mining and to develop its nuclear industry beyond the current status of just mining. Further, IAEA warned that if Namibia does not take advantage of its position now as a uranium mining country to enter the beneficiation phase, other non-uranium mining countries are already lining up to capture the technological advances and use it to industrialise themselves using uranium from Namibia.

What is reassuring is that, with ROSATOM's technological capabilities as a world leader in nuclear technologies, they are ready, willing and able to provide Namibia with high-definition nuclear technologies (Mineral beneficiation, nuclear energy, nuclear medicine, and development of nuclear fuel) to develop its uranium industry beyond just mining. Further, the company is prepared to educate Namibian, empower and build an industry, employing over 20,000 direct and indirect jobs, with direct investment exceeding U\$5 billion and creating both a supply chain and value chain way in excess of U\$40 billion over time, which could benefit Namibia.

It is the committee's view that Namibia stands to gain a great deal through this ROSATOM investment and that the exploration and activities should be allowed to continue without delay and that technological and scientific processes that will be employed in the explorations and later on in the mining, must be used to assist in determining which areas have quality water and which areas have contaminated water, out of the natural process. This will assist the government in deciding on proper water distributions. This notwithstanding, the environmental concern can only and must be solved by

scientific processes to be employed on site, rather than personal rhetoric or emotional expressions, not backed up by real data collected from the site.

COMMITTEE MEMBERS

Hon. Dr. Tobie Aupindi, Chairperson
Hon. Tuulikki Abraham, Deputy Chairperson
Hon. Uahekua Herunga, MP and Member
Hon. Immanuel Nashinge, MP and Member
Hon. Pohamba Shifeta, MP and Member
Hon. Ferdinand Hengombe, MP and Member
Hon. Ephraim T. Nekongo, MP and Member
Hon. Armas Amukoto, MP and Member
Hon. Rodrick Likando, MP and Member
Hon. Otilie Haitota, MP and Member
Hon. Vetaruhe Kandorozi, MP and Member
Hon. Fenni Nanyeni, MP and Member
Hon. Aina Kodi, MP and Member
Hon. Clemencia Coetzee, MP and Member
Hon. Elder Filipe, MP and Member
Hon. George H. Kambala, MP and Member
Hon. John Likando, MP and Member
Hon. Sebastiaan Karupu, MP and Member
Hon. Willem Amutenya, MP and Member
Hon. Ester Haikola-Sakaria, MP and Member
Hon. Marius Sheya, MP and Member
Hon. Longinus lipumbu, MP and Member
Hon. Diederik Vries, MP and Member

MANDATE OF THE PARLIAMENTARY STANDING COMMITTEE ON NATURAL RESOURCES

According to the Rules for Establishing, Functioning and Procedures of Parliamentary Standing Committees, Rule 37 outlines the mandate of the committee among others:

The Committee on Natural Resources must exercise parliamentary oversight on behalf of the Assembly in pursuance of Article 63(2)(f) of the Constitution in respect of the Government Entities, and for that purpose may consult and liaise with the Government Entities concerned.

1. BACKGROUND

- 1.1. The Parliamentary Standing Committee on Natural Resources undertook a visit to the uranium exploration block operated by Headspring Investment Uranium 1, a local subsidiary of Rosatom, a Russian state-owned uranium exploration firm. Uranium exploration activities are ongoing in Leonardville, a small town 134 kilometres south of Gobabis in the Omaheke region, including consultations with the Regional Government. The committee further attended the High-Level meeting with the Executive Management of Rosatom and the meeting of the International Atomic Energy Agency (IAEA) in Moscow in September 2025.
- 1.2. The aim was to assess the scale of investment, progress in exploration, and potential socio-economic benefits, while also fostering collaboration on mineral beneficiation and nuclear technology in line with NDP6 and the integration of new uranium mines into the national mining grid.

2. TERMS OF REFERENCE OF THE VISIT

- 2.1. With full understanding of Namibia's vision and quest for developing a fully integrated uranium industry, as an important pillar for energy security, economic development and decarbonization efforts, by ensuring a secure, sustainable and responsible supply chain for nuclear Final fuel, which powers low-carbon electricity generation. An integrated industry also fosters best practices in environmental management and community engagement, addresses concerns about past activities, and drives innovation in uranium exploration, mining and utilisation. The Parliamentary Standing Committee on Natural Resources undertook a process to understand why Headspring Investments Rosatom's drilling license was abruptly withdrawn, and four years later, it is not being reissued, despite the

investor investing close to a N\$1 billion in the exploration activities, so the Committee undertook the following:

- a) Undertook to assess ongoing uranium exploration activities in the Omaheke Region.
- b) To engage the Regional Governor, Headspring Investments Rosatom/(Pty) Ltd on investment plans, employment creation, and local beneficiation.
- c) To gain a first-hand understanding of the technological processes and potential for uranium beneficiation.
- d) To identify policy and legislative measures required to support uranium mining and nuclear technology in Namibia.
- e) To go beyond the consultations of the Report of the 7th Standing Committee on Natural Resources.

3. METHODOLOGY

- 3.1. Meeting with the Headspring management
- 3.2. Meeting with the high-level meeting with the Executive management of Rosatom.
- 3.3. Meeting with the International Atomic Energy Agency (IAEA).
- 3.4. Conducted the oversight visit to the uranium exploration site in Leonardville using a combination of qualitative and observational approaches to gather information.

4. PURPOSE OF THE REPORT

The purpose of the report is to present the findings and recommendations to be discussed and approved by the National Assembly.

5. DISCUSSIONS AND FINDINGS

5.1. Headspring Investments Rosatom

- a) Headspring Investments Rosatom/Headspring Investments (Pty) Ltd is a Namibian-registered exploration company wholly owned by Uranium One Group, the international mining division of Rosatom. Rosatom,

being a Russian state-owned enterprise, is mandated to manage the state's nuclear energy sector.

- b) Headspring Investments ROSATOM's uranium discovery in Leonardville is estimated to be between 50,000 and 100,000 tons of U_3O_8 . This will be valued at approximately U\$18 billion, without any value addition.
- c) Headspring Investments Rosatom has been exploring for uranium on eight (8) Exclusive Prospecting Licenses (EPLs), no. 4654, 4655, 4656, 4657, 6780, 6781, 6782 and 6783, predominantly in the Omaheke region, with small portions falling under Hardap and Khomas region respectively. Most of the exploration diamond core drilling (name of the drilling methodology) took place in the vicinity of Leonardville on 39 commercial farms, and a few drilling activities almost started in the communal area (reserve), around the time the company's drilling permits were revoked in late 2021 by the Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR).
- d) The exploration activities before the halt benefited the commercial farmers, and an NGO that supports the closure of the project was founded around the same period the project was stopped and is supported mostly by the commercial farmers. The amount in compensations is in millions to the commercial farmers. This NGO continues to get preferential support from the then leadership of the Ministry of Agriculture, Water and Land Reform. Their claims are that the aquifer will be contaminated by both the uranium exploration activities and later mining. It must be said that the exploration activities are not importing uranium to come and deposit it on site or where it's being found. Uranium is a natural resource which has developed there for billions of years. Just like it is in the Erongo region. So, the radiation or high natural concentration is already there.
- e) The exploration started in 2011 with desktop studies and the drilling commencing in 2012. Despite that, in 2013, operations were suspended

- due to a moratorium on Uranium exploration, recommencing with activities again between 2018 and 2019 when the moratorium was lifted.
- f) To date, about 50% of exploration work has been completed. Headspring Investments Rosatom drilled 592 Exploration boreholes using the diamond core drilling technique from 2012 to 2021 and 36 Hydrogeological/monitoring boreholes using the down-the-hole (DTH) drilling technique as per the agreement of the drilling permit of 2012.
- g) To date, the company has invested close to a billion NAD in Namibia. Within the scope of work that needs to be executed under the exploration activities, preparation for pilot testing is included. Headspring Investments Rosatom has prepared 95% of the construction (mobile units) of the pilot testing area. Drilling of monitoring boreholes within and surrounding the pilot test area is still awaiting approval of the drilling permit from the Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR). It is prudent to note that the pilot testing is awaiting the evaluation by the experts requested from the IAEA through the office of the Environmental Commissioner.
- h) It is actually in the best interest of Namibia and the Omaheke Region in particular, to allow the continuation of both the uranium explorations and to allow the company to move into the production phase. Because it is the only way scientific knowledge can be acquired in areas with high natural concentrations of radionuclides, so that government can apply a mitigating strategy, such boundary set ups and water purification systems, because it can be proven that the current situation is a disaster waiting to happen as people and animal could be drinking water with high levels of radionuclides without knowing. This is a natural phenomenon in areas of the uranium orebody, since uranium goes through decay because of its radioactive properties.

5.2. Uranium One Group

- a) Uranium One Group falls under the mining division of Rosatom to manage international exploration and mining operations, while ARMZ

Uranium Holding Co/Minerals manages operations in Russia with two In-Situ Recovery (ISR) uranium mining operations and one underground mine.

- b) In Kazakhstan, Uranium One Group is a participant in six joint ISR uranium mines with NAC Kazatomprom, the national nuclear corporation of Kazakhstan: Akdala, South Inkai, Karatau, Akbastau, Zarechnoye and Kharasan. Zarechnoye and Kharasan were recently sold, and Budenovskoye (also ISR) was bought.
- c) In America, Uranium One Group also had an ISR uranium mine in Wyoming, and they were sold.
- d) In Africa, projects that are in their advanced stages are the Mkuju River Project in Tanzania, which recently started an open-pit uranium operation and the Project Wings in Namibia, which is showcasing potential to use the ISR uranium mining method. Early exploration activities are underway in Niger for uranium and Mali for lithium.
- e) The company produces about 4,6 thousand tons of natural uranium per year. Uranium One Group supplies natural uranium to energy companies in Europe, North America and Asia.

5.3. Rosatom

- a) State Atomic Energy Corporation Rosatom (Rosatom) is a multi-industry holding company which comprises assets in power engineering, machine building, and construction. Its strategy is to develop low-carbon generation, including wind power and solar energy. Rosatom is the national leader in power generation (accounting for about 20% of Russia's total output) and ranks first globally in terms of the size of its order portfolio for the construction of NPPs (41 units at various implementation stages in 11 countries).
- b) Rosatom is the only company in the world that has all technologies of the nuclear fuel cycle, from uranium mining to the back end of nuclear facilities' life cycles. Its scope of activities also includes production of innovative non-nuclear products, nuclear medicine, digitalisation,

software development, logistics and development of the Northern Sea Route. Rosatom incorporates over 550 enterprises employing nearly 420,000 employees. USA, France, and China all buy nuclear related products from ROSATOM, even with the economic sanctions in place.

5.4. Rosatom highlights

- a) No. 1 in the world in terms of the number of simultaneously implemented nuclear reactor construction projects, 41 units at various implementation stages in 11 countries.
- b) No. 1 in Russia in terms of electricity power generation (19.66 % of total power generated in Russia).
- c) The world's only nuclear icebreaker fleet.
- d) Rosatom is a proponent of the uniform national policy and best management practices in nuclear power utilisation, the nuclear weapons industry, and nuclear safety. Rosatom is responsible for meeting Russia's international commitments regarding peaceful uses of nuclear energy and nuclear non-proliferation.

6. A PRESENTATION TO THE PARLIAMENTARY STANDING COMMITTEE ON NATURAL RESOURCES BY HEADSPRING INVESTMENTS ROSATOM DURING ITS ORDINARY MEETING (4/2025), MONDAY, 7 JULY 2025, VENUE: PINK ROOM, TIME: 09:00

- 6.1. Members Present: Hon. Tuulikki Abraham, Deputy Chairperson, who chaired the meeting. Other Members present were Hon. Ferdinand Hengombe, Hon. Armas Amukoto, Hon. Immanuel Nashinge, Hon. Rodrick Likando, Hon. Vetaruhe Kandorozu, Hon. Aina Kodi, Hon. Clemencia Coetzee, Hon. Elder Filipe, Hon. John Likando, Hon. Sebastiaan Karupu, Hon. Diederik Vries, Hon. Ottilie Haitota and Hon. Marius Sheya.
- 6.2. The Headspring Investments Rosatom delegation, comprised of Mr Aldo Hengari, Director of Operations, Ms Vanessa Bohitile, Deputy Director, Mr Agrippa Mpuka, Office Administration, and Dr Kuiri Tjipangandjara, Independent Consultant on water issues.

- 6.3. The presentation outlined the uranium exploration project in the Omaheke Region, Namibia, by Headspring Investments Rosatom, the Namibian operating company. The company currently holds eight active Exclusive Prospecting Licences (EPLs) along with their Environment Clearance Certificates (ECCs), which are also active, with approximately 50 per cent of exploration work completed. However, the continuation of exploration activities is delayed due to pending approval of drilling permits by the MAFWLR, owing to unresolved issues of permit violations and the wait for experts' evaluation by the IAEA on the pilot testing ECC application at the Office of the Environmental Commissioner. Headspring Investments Rosatom explained that it intends to pilot test the use of the In-Situ Recovery (ISR) mining method, which it described as a low-impact alternative to traditional mining for low-grade deposits.
- 6.4. The company has secured several relevant permissions from the Government Ministries. The Ministry of Industries, Mines and Energy (MIME) has granted eight active Exclusive Prospecting Licences (EPLs). The Ministry of Environment, Forestry and Tourism (MEFT) has issued Environmental Clearance Certificates (ECCs) for the EPLs and for a field laboratory, while the ECC for pilot test mining is still pending, and the company is also waiting for the International Atomic Energy Agency (IAEA) evaluation. The Ministry of Health and Social Services (MOHSS), through the National Radiation Protection Authority (NRPA), approved Radiation Management Plans for the EPLs and the laboratory, with approval for pilot test mining still awaiting an ECC's approval first. The Ministry of Agriculture, Fisheries, Water, and Land Reform has yet to approve drilling permits, which have been pending for nearly four years.
- 6.5. Members of the Committee raised concerns regarding possible aquifer contamination from the use of sulphuric acid, as raised by the Stampriet Aquifer Uranium Mining Association (SAUMA), and the lack of proper

community consultation. Headspring Investments Rosatom stated that the method is proven to work internationally, the acid concentration is highly diluted, contained within closed-loop systems and only through pilot testing will the company prove whether the project moves to a mining operation. Further, the company is committed to local empowerment through scholarships, of which 20 students were sent to Namibia Institute of Mining Technology (NIMT), some were sent to universities in Russia, local employment opportunities and socially sustainable projects, such as school upgrades, gardening and feeding schemes.

- 6.6. The company requested for urgent engagement between the company and all relevant stakeholder's ministries including the MIME, MoHSS, MEFT and MAFWLR, as well as the Secretary to Cabinet, Executive Directors (EDs), Commissioners and senior officials (Directors and technocrats, to resolve outstanding permit issues because it is already affecting the investment and that the meeting will be guided by the technical committee recommendations.
- 6.7. The Committee is implored to do a background check on where SAUMA stem from as according to the company some farmers who started SAUMA are the same farmers when the company drilled on their farms, they were benefitting from the project. The farmers were silent while exploration activities were happening on their farms, but when the company's exploration headed over into the communal areas, where the local communities were ready to work with the company, is when the farmers stood up because they were no longer standing to benefit, as for every borehole the company drill a certain amount is paid to assist the community.
- 6.8. The company invited the committee to visit the sites and request any documentation that the committee might need to have a better understanding. The company further urged national leaders (politicians) to come out of their shell to go and see what is happening

in the world through benchmarking visits to the USA, Idaho, to understand the technological advances being used in the uranium mining and nuclear industry. For example, in the USA, Wisconsin energy groups is mining uranium using the In-situ recovery mining in areas where they are also having agricultural activities.

7. MEETING WITH THE HONOURABLE GOVERNOR OF THE OMAHEKE REGIO

7.1. Hon. Dr. Tobie Aupindi (Chairperson), Hon. Immanuel Nashinge, and Hon. Ferdinand Hengombe, accompanied by the Committee Secretariat, met with the Governor of the Omaheke Region.

7.2. The Governor raised concern that uranium exploration has been inactive for approximately four years following the termination of the company's water drilling licence, causing frustration among investors and the local community.

7.3. The company has obtained all other required licences except the water permit from the Ministry of Agriculture, Fisheries, Water and Land Reform. A special committee established by the Prime Minister visited the project; however, the Ministry did not attend the meeting.

7.4. There is conflict between the investors and some commercial farmers (SAUMA), who oppose the project due to concerns about underground water contamination. These concerns are reportedly not supported by scientific evidence.

7.5. Hydrological and pilot testing are still incomplete. Final decisions should be based on scientific findings. The company conducted its own tests with mixed results and offered to assist the Ministry with water testing at no cost as the process can be very expensive and highly technical.

7.6. The prolonged delay has negatively affected the company's investment and led to job losses in Leonardville.

7.7. Despite the delays, the company remains committed to the project and continues to support the community through corporate social responsibility initiatives, including support to schools and sponsorship of students at NIMT and other vocational institutions.

9. SITE VISIT TO HEADSPRING INVESTMENTS ROSATOM EXPLORATION SITE IN THE VICINITY OF LEONARDVILLE IN OMAHEKE REGION

9.1. Modus Operandi

- a) The committee comprised three (3) Members of Parliament from the Parliamentary Standing Committee on Natural Resources, Hon. Dr Tobie Aupindi (Chairperson), Hon. Immanuel Nashinge, Hon. Ferdinand Hengombe, four (4) parliamentary staff and two (2) NBC media crew who undertook the visit.
- b) On farm Tripoli 546, the administration center of the project, the Committee was welcomed by Headspring Investments (Pty) Ltd team; Mr. Kirill Egorov-Kirillov (Managing Director), Mr. Aldo Hengari (Director of Operations), Ms. Vanessa Bohitile (Strategic Development and Communication Deputy Director), Mr. Abel Nghifitikeko (Geologist/Overseer) and Mr. Sergey Alexandrov (Lead Engineer on ISR) and support staffs.
- c) Mr Aldo Hengari made an induction presentation, which covered safety measures to be observed during the visit, even though no exploration activities have been taking place since late 2021, and at the time of the delegation field visit, the entire explorations were on hold, apart from care and maintenance. The presentation covered theory on all types of work executed under the exploration, and furthermore, the delegation undertook a field visit to align the theory presentation with what was practically done on the ground.

9.2. Field visit on Farm Tripoli 546

- a) The presentation provided an in-depth look at seven (7) major points that are particularly crucial for understanding the development of Wings Project:
 - i. IRosatom Fuel Cycle
 - ii. Overview of Exploration, Pilot Testing and Future Mining Development Plan
 - iii. Preparation for Pilot Testing
 - iv. In-Situ Recovery (ISR)/ In-Situ Leaching (ISL), The Envisaged Method of Mining
 - v. Economic Benefits
 - vi. Relevant Permission from the Namibian Government
 - vii. The Radionuclides Experiment

- b) These seven points covered the context of the nuclear energy cycle and its sustainability, the envisioned method of mining for the project.
- c) Additionally, important details about exploration efforts, pilot testing preparations and the broader mining development plan were shared. This included insights into the exploration phase and what plans, as well as preparations for In-Situ Recovery (ISR) pilot testing, along with specifics about the designated pilot testing area and the Radionuclides experiment.



Figure 1 Safety Induction Presentation

- d) After the overview presentation by Headsprings Investments, Rosatom, the delegation continued with a field visit.

9.3. Core Storage Facility

- a) The storage facility consists of 20ft ventilated shipping containers where exploration drilling core samples for all boreholes drilled, pulverised samples and reject samples are stored. Each container is labelled with the borehole number and tables for the samples stored inside. The storage facility is fenced off, kept locked and is guarded by security.

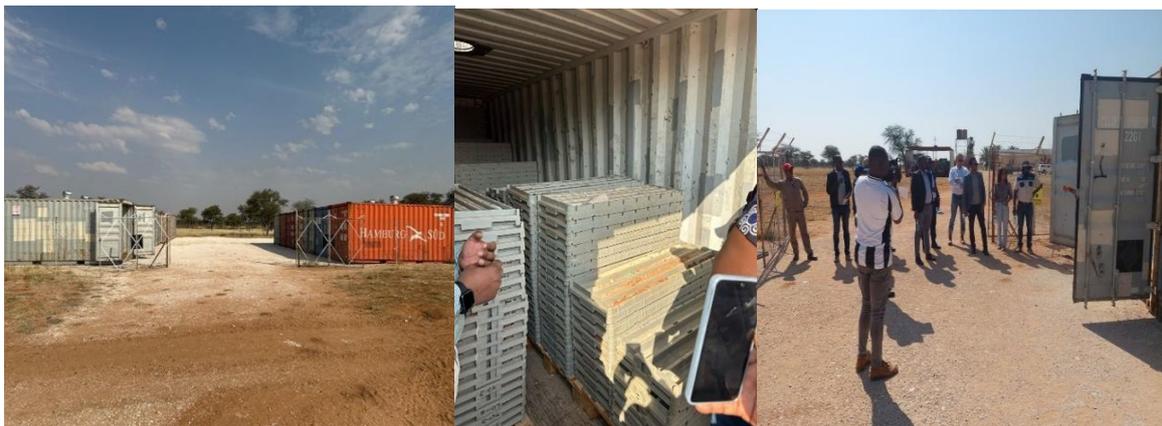


Figure 2 Core Samples Storage Facility

9.4. Mobile Field Chemical Laboratory

- a) Headspring Investments Rosatom conducted exploration activities, which involved exploration drilling, hydrogeological drilling, core sampling, geophysical well logging, testing of hydrogeological

boreholes and core sample testing (geochemical sampling and analysis).

b) During the exploration stage up until late 2021, solid samples were sent to Kazakhstan for physical and geochemical analysis. After acquiring an Environmental Clearance Certificate (ECC) for the mobile laboratory, Headspring Investments Rosatom assembled a containerized onsite mobile geo-analytical laboratory. The laboratory will provide sample preparation, sorting, assaying and analytical testing of the uranium mineralisation from the exploration. This will help to reduce and minimise transportation, and thus the movement of radioactive material, as well as testing costs.



Figure 3 Field Lab

c) The laboratory consists of the following amenities:

- Sample receiving area
- Core cutting and analysis area
- Drying department
- Crushing department
- Purification and storage area
- Area for determining carbonate content
- Sample preparation for the X-Ray Diffraction Analysis

- Uranium X-Ray Diffraction and Silicate Analysis
- Gamma spectrometry area
- Shower and toilet
- Offices

d) The waste management of the Laboratory is divided into two types; neutralized chemical waste and household waste that will be temporarily stored on site.



Figure 4 Waste Management

9.5. Exploration Boreholes

a) The purpose of Exploration Diamond core drilling is to get good core samples from the ground that will be used by geologists to probe the contents of known ore deposits and potential sites.



Figure 5: Exploration borehole

- b) Headspring Investments explained that diamond core drilling offers several significant advantages over other drilling methods that can be used for exploration. Cutting is more accurate than percussive techniques, which means that there is less chance of damage, which could affect structural integrity for both the core sample being extracted and the borehole's wall. As the procedure is relatively quiet, it can be done in virtually any location without fear of creating excess noise. Very little dust is produced with diamond core drilling, so it creates little mess or disruption.
- c) The stability of a borehole and continuous sealing of a borehole's wall are achieved by using biodegradable drilling fluids. The following internationally approved drilling fluids are used: Core Smart, Corewell, SlurryPRO and Bentonite.
- d) The exploration borehole begins drilling with an HQ diameter of 96 mm and a core size of 63.5 mm. Once the loose fracture formation and the Kalahari aquifer are passed, downhole drill rods are pulled out of the borehole and NW metal casing is installed. After installing the metal casing, drill rods are lowered to the bottom of the borehole, and drilling

continues with an NQ diameter of 75.6 mm with a core size of 47.6 mm to the targeted depth.

- e) When the geologist is finished and satisfied with the core samples produced by the driller, a geophysical survey is conducted in the borehole for approximately 2-3 hours. The survey is carried out to control and guide geological studies. The borehole is then cemented or pressure grouted from bottom to surface, and a collar ID is recorded. Finally, the exploration borehole and site are rehabilitated. The core samples are transported to the geologist's base for further analysis.

9.6. Hydrogeological Boreholes

- a) Headspring Investments explained that the Hydrogeological borehole begins with a DTH hammer bit diameter of 305 mm, while simultaneously inserting a steel casing diameter of 373 mm to hold the formation until the loose fracture formation is passed and stop drilling. Change the DTH hammer bit diameter from 305 mm to 254 mm and continue drilling, again inserting a smaller steel casing diameter of 273 mm. Finally, a DTH hammer bit with a diameter of 205 mm is attached, and we continue drilling up to the targeted depth.
- b) Headspring Investments used AMC HV foam to assist with borehole stability and reduce the stickiness of clays and shales, and problems associated with mud rings and bit balling. AMC HV foam is a biodegradable, highly concentrated foam which has been formulated for use in mineral and water well drilling applications.
- c) Once the drilling is done, rods are taken out and start putting in PVC casings with diameters of 113 mm and 165 mm. PVC casings with a diameter of 113 mm are inserted first in the borehole with a cap at the bottom, followed by a perforated PVC casing with a diameter of 113 mm inserted within the aquifer to allow water to pass through. The PVC casings' diameter of 165 mm is then inserted until the surface. The

annulus space between the borehole's wall and the PVC casing is first filled with a calculated volume of gravel bags (size 3-4 mm) in diameter, until a minimum of 10 m above the perforated PVC casing is filled. The rest of the annulus space is filled with cement-bentonite mixture.

- d) A minimum of 10m is to avoid the cement mixture from blocking the perforated section, since this will block the water from entering the perforated holes of the PVC casing, and the bentonite is to help the cement to harden faster. The drill site is rehabilitated, and pump test work begins for hydrogeological studies.



Figure 6 Hydrogeological borehole

9.7. Area in preparation for Pilot Testing and the Radionuclides Experiment

- a) The objective of the pilot test is to determine the main technical and economic parameters of the project and make a decision on its further development to become a mining operation.



Figure 7 Pilot Test Site

- b) The test consists of one five-spot well pattern and a processing pilot plant based on ion exchange technology.
- c) Four injection wells are located at a distance of 15 m from one another, with one recovery/production well in the centre.
- d) Four monitoring wells are yet to be drilled to monitor leaching solutions migration: two wells inside the pattern contour (inside the aquifers above and below the ore body hosting aquifer). Two other wells will be drilled outside the well field along the natural flow direction, 20 m and 40 m from the pattern, respectively.
- e) The start of the test is a subject for Namibian regulators' permission issue through the office of the Environmental Commissioner.
- f) Pilot test area covers 0,00002 % of the deposit, which is an area of 225 m².

- g) During pilot testing, samples will be regularly collected and analysed for sulphates, alpha and beta activity (radionuclides) and other general water analyses.



Figure 8 Ion-exchange columns, Mobile Units, Injection Wells flowmeters

9.8. The Radionuclides Experiment

- a) Headspring Investments has been conducting water sampling in areas along the uranium orebody for radionuclide analysis. Collectively, with the Namibian Government, water samples were also collected from seven (7) hydrogeological boreholes. This analysis shows a high natural concentration of radionuclides above the World Health Organisation (WHO), rendering water around the orebody not to be fit for human, animals and irrigation.
- b) As part of the Pilot Testing preparations, which resins to be used, Headspring Investments would like to experiment to assess the effectiveness of specific ion-exchange resins in removing naturally occurring radionuclides from groundwater (once extracted for the experiment) without adding any reagents to the groundwater. The objective of this experiment will not only help identify steps in finding the right resins for the pilot test but also help the Namibian government to find methods of reducing the high natural concentration of radionuclides in water.

10. IN-SITU RECOVERY (ISR) / IN-SITU LEACHING (ISL)

10.1. Overview of In-Situ Recovery

- a) In-Situ Recovery is the main mining method for uranium. The worldwide ISR production has been steadily increasing during the last decade, from 7,926t in 2004 to 29 434t in 2017, which was 50% of the world total. Kazakhstan has increased its ISR production during this period from 3 603 tU to 23 700 tU, which was a 40% of the world's total natural uranium production in 2017. Most of the ISR mines demonstrate lower capital, operation and production costs compared to conventional open pit and underground mines.
- b) Acid ISR mines operating and capital costs are almost twice lower comparing to alkaline ISR mines due to higher uranium recovery, lower leaching period and the possibility of natural attenuation for aquifer restoration. The main areas of ISR effectiveness increase are geological and ISR leaching systems, 3D modelling and simulation, wellfield and pumping systems optimisation, and valuable by-products recovery from leaching solutions. In-Situ Recovery mining of uranium is currently undertaken in Australia, China, Russia, Kazakhstan, Uzbekistan and the USA.
- c) In-situ recovery mining, often also referred to as In-situ leaching, is a combined mining and extraction technology particularly suited to uranium ores hosted in pervious sandstone formations. Leaching solutions are circulated through the ore-bearing formation by a system of patterned boreholes. Uranium minerals are dissolved, and uranium bearing solution are pumped out to the surface for further processing to recover uranium.
- d) ISR uranium mining technology was developed independently in both the Former Soviet Union and the U.S. in the early 1960s. The method was conceived for extracting uranium from roll-front sandstone-type deposits located in water-saturated, permeable rocks that were not suitable for conventional mining techniques. It was developed in both countries

using similar engineering and technological approaches. However, the Soviets adopted the acid leach system, while the U.S. employed an alkaline, primarily carbonate-based system. In the following years, acid ISR technology was also applied in Bulgaria, Czechoslovakia, the former East Germany, and China. By 1998, new acid leach projects were being developed in Australia.

- e) The application of ISL technology is limited to a bedded sandstone deposit with relatively high permeability sealed on the top and bottom with an impermeable layer such as a clay seam. Particular care must be exercised to ensure the leaching solutions are contained in the ore seams. Monitor wells are required around the perimeter, above and below the deposit, to identify any excursions (leakage) of mining solutions.
- f) A key advantage of this mining technique is the large reduction in radiation exposure levels normally associated with uranium mining. The stringent exposure limits established by uranium regulators worldwide, both during operations and for decommissioning, make ISR one of the few viable mining options to exploit low-grade uranium deposits.

10.2. The Best Practices

- a) Over a period of 20 years, Uranium One operated about eight ISR uranium mines around the world, with operations in the USA and Kazakhstan. Currently, Uranium One operates five ISR mines in Kazakhstan, while ARMZ/Minerals operates two ISR mines in Russia. Experience in operating these mines comes from the early development of ISR in the early 1960s under the Soviet Union, bringing expertise of over 50 years.
- b) Stakeholder concerns must be taken seriously during the regulatory review and approval process and, if approved, on an ongoing basis thereafter through the life of the mine. This is necessary to provide the future mine operator with the “social license” often required to operate.

10.3. The Subsurface Environment

a) Potential Impacts

- ISR mining of uranium occurs using either acid leach or alkaline leach, depending on the nature of the host rock. The primary subsurface issue of concern is the short- and long-term impacts that solution mining might have on the groundwater supply within the various aquifers of the Basin. Proper characterisation of the original groundwater regime is critical to properly understanding the potential impacts from ISR mining and the means that might be required to prevent or remediate (mining solutions control within the area of mining) these impacts through pilot testing.
- In Kazakhstan, there was clear evidence that natural (i.e., without human intervention) restoration does occur, and that the original mining aquifer water quality could be restored without treatment over time. It is therefore considered that natural restoration is a valid concept and that its viability in the specific geology within the SAB should be confirmed through testing.
- Actual water quality results within nearby aquifers (above, below, and lateral to the mining aquifer) can vary significantly. The implication reviewed is that the various aquifers within the Basin are generally of good water quality, considering potential uses such as human consumption, crop irrigation or watering livestock.
- The mining solution should be adequately controlled so that it doesn't slowly migrate over time outside of the intended boundaries and potentially contaminate nearby aquifers. Monitoring wells above, below and lateral to the mining aquifer are vital in monitoring these activities, so that mitigations are put in place to avoid contamination.

b) Remediation of Impacts

- Any proposed mining activity must be based on a detailed understanding of the hydrological, hydrogeological and hydrogeochemical characteristics, as well as the current and potential future uses of the groundwater resources. The extent of connectivity

between the mining zone aquifer and any other aquifers above, below, or laterally, along with surface water, must be well understood.

- In Kazakhstan, the natural (pre-mining) water quality within the mining aquifer was very poor, which rendered the water essentially unusable for any current or future known human activities due to the naturally high concentration of radionuclides. The overlying aquifers were of better quality, and so steps were necessary to ensure that leakage of mining solutions from injection wells/boreholes was prevented across the various depths down to the mining aquifer. These steps primarily involved the application of proper wellfield technology, including the use of well casings and grouting. Additionally, regular (i.e., annual) integrity testing of the wells was performed to ensure they functioned as required. Where well installation is to be performed by drilling contractors, the mine operator must provide effective oversight of well installation practices and integrity testing to ensure design specifications are consistently achieved.
- In Kazakhstan, a key natural mitigating feature was the relatively slow natural migration of the groundwater of approximately 1-2 m per year. This meant that even in a worst-case scenario where there was a loss of control over mining solutions within an aquifer over an extended period, the groundwater movement was minimal, which allowed for a timely corrective response. If needed, the response could entail adjusting flows across the injection or production wells to recapture any solutions promptly.
- Mine design must include the placement of “monitoring” wells at strategic locations around the area to be mined, with screening to the specific aquifers of interest, whether above, below or within the mining aquifer. Placement must be such that it would allow for the timely detection of any solutions outside of the intended mining zone. Monitoring wells allow for initial sampling of water prior to the start of the injection of mining solution. These wells also allow for ongoing sampling

of groundwater during mining to ensure that mining solutions are being properly contained. If needed, such wells can subsequently be used to recapture any wayward mining solution. Independent verification of water sampling protocols and lab analysis of samples should be performed to further generate confidence in the results.

- Maintaining water balance is an important operational technique for controlling injected solutions within the mining aquifer. By ensuring the quantity of solution extracted from the mining aquifer is equal to the quantity injected. This will result in preventing outward migration and loss of the solution.
- The success of the natural restoration versus treatment options can be re-evaluated in depleted wellfields as mining progresses, with adjustments made, if needed, to the restoration techniques depending on the results received.

10.4. The Surface Environment

a) Potential Impacts

- By its nature, ISR mining avoids the key disruptions to the surface environment that result from traditional open-pit or underground mining methods. The ISR technique avoids large excavations as well as the resulting waste rock piles and tailings impoundment facilities that can pose their own hazards and often require costly, long-term management.
- Disruption of surface vegetation and contours in the wellfield occurs to a limited extent during drilling activities and other wellfield development work, such as pipeline installation.
- ISR operations generate solutions from bleed streams, captured solutions from process spills or leaks, as well as contaminated wash water. Such solutions will contain small quantities of radioactive or other contaminants. Additionally, it must be assumed that, on occasion, wellfield pipelines will develop leaks. Any uranium production facility will

typically produce small volumes of solid radioactive waste that will require long term disposal and management.

b) Remediation of Impacts

- The surface disruption that arises from wellfield development and the installation of processing and ancillary facilities can normally be alleviated through post-mining re-contouring and using recovered topsoil where it exists to support revegetation of natural plant species.
- Effective management of the risk from wellfield leaks can be achieved through the following measures:
 - ✓ Proper design and quality control over materials and installation practices
 - ✓ Systems monitoring and visual inspections that will allow identification of any leaks promptly and allow for effective corrective actions
 - ✓ Installing trunk lines well away from any surface water bodies.
 - ✓ Properly engineered containment structures
 - ✓ Disposal or remediation of contaminated soil.
- Solid radioactive materials (i.e., surface-contaminated objects) for disposal should be managed as low-level radioactive waste and disposed of in an approved waste disposal facility. Liquid wastes that are generated can be minimised through the use of evaporative containment ponds.

10.5. Additional Considerations

- a) It is also worth emphasising that depleted mining zones present an immediate opportunity to perform progressive restoration and decommissioning. Such zones allow for the immediate onset of natural restorative processes that can be evaluated on an ongoing basis. The principle of continual improvement can be applied to subsequent wellfield restoration activities to optimise results based on experience. This avoids the need for a massive decommissioning campaign at the end of an operation's life and reduces the potential for the operator not

having the necessary resources to see its rehabilitation obligations through to the end.

- b) Finally, it is also very important that the project proponent demonstrate that it will implement and continually improve its performance through an effective environmental management system.

10.6. Political and social

- a) Political and social aspects will continue to strongly influence the development and health of the uranium mining industry, including ISL. While this much is agreed across a broad spectrum of stakeholders, and in general it is considered that this will become generally more important, the way forward is not easy to predict, and such a prediction will not be attempted here. The IAEA gives guidance on appropriate community and stakeholder consultation, and in some cases participation in decision making, in Ref. [159].
- b) While there is some expectation that the models developing in countries such as Australia, Canada, France, Germany and the USA will become the norm worldwide, this is not certain. The widespread influence of multinational mining companies is a factor. Public expectations in the 'home' or customer countries, or corporate policy, may be to apply the strictest of home country, international and local requirements with respect to governance, social and environmental aspirations and performance. What is considered and accepted as appropriate can be expected to develop in each country or region, informed by what happens elsewhere as a result of government, industry and non-governmental organisation input. From time to time, high-level political decisions may encourage, discourage or ban uranium mining in general or uranium ISL mining in particular. Such decisions may be reversed at any time and can be influenced by reported or real performance within the industry or the broader nuclear power industry, including nuclear weapons proliferation and nuclear accident concerns.

- c) The accident at the Fukushima Daiichi nuclear power plant in 2011 has had a significant negative effect on public, political and non-governmental organisation perspectives of nuclear power, in general, and its associated activity of uranium production. In order to mitigate such negative perspectives, the nuclear and uranium industries need to achieve near perfection in all aspects of operation. (IAEA Nuclear Energy Series No. NF-T1.4 2016)

10.7. Regulatory Regimes

- a) In many countries with current ISL projects and with long-established regulatory regimes, regulatory requirements are sophisticated and extensive. In fact, they can potentially become cumbersome with duplication of licensing and conditions between different jurisdictions (e.g. federal and state governments in Australia and the USA) or between government departments (e.g. health/radiation, mining and environmental protection authorities).
- b) In some countries, regulatory requirements are poorly established and fragmentary. Some countries also have more general requirements regarding conventional mining of non-radioactive ores and radiation protection measures intended for the medical field, nuclear power or non-mining industrial use (e.g. density gauges, X-ray machines). Some countries may move to establish specific ISL requirements or guidelines, as Australia has [154]; however, other jurisdictions may continue to apply more general guidelines or regulations. Countries that are new to ISL mining can be expected to develop their regulations further and may or may not choose to provide ISL-specific documentation. Some joint government-industry efforts have attempted to streamline regulatory requirements while keeping high levels of environmental and health protection.
- c) Australia, for example, has considered normalising uranium mining (i.e. uranium mining is considered under the same laws and regulations as other mines, albeit with appropriate radiation protection aspects) [160].

However, this recommendation was not accepted by the government of the day [161]. Similar ongoing debates occur in the USA [133], and the same may occur in other jurisdictions in the future. (IAEA Nuclear Energy Series No. NF-T1.4 2016).

11. MEETING WITH ROSATOM'S TOP MANAGEMENT IN MOSCOW DURING THE WORLD ATOMIC WEEK/GLOBAL ATOMIC FORUM

11.1. High-Level Meeting with the Executive Management of ROSATOM, Moscow, 25 September 2025

- a) The meeting was attended from ROSATOM by the First Deputy Director General for Development and International Business, Kirill Komarov, General Director of Tenex - Sergey Polgorodnik, President of Uranium One - Pavel Larionov Kirill Komarov, Kirill Egorov-Kirillov (Managing Director), Headspring Investments Rosatom, Vanessa Bohitile (Strategic Development and Communication Deputy Director); and on the Namibian side, Honourable Dr Tobie Aupindi (MP & Chairperson of the Parliamentary Standing Committee on Natural Resource), Hon. Sophia Shannigwa (MP), Hon. Imms Nashinge (MP, and Leader of Official Opposition, Parliamentary Standing Committee on Natural Resource), Hon. Ferdinand Hengombe (MP, Parliamentary Standing Committee on Natural Resource) and Dr Herman Shitaleni, (Nuclear Specialist and Chairman of the Atomic Energy Board).
- b) The meeting discussed the envisaged technology to be pilot tested in the Wings Project in the vicinity of Leonardville, the In-Situ Recovery. Further, the meeting discussed technological benefits, advances and value additions that ROSATOM can extend to Namibia, in addition to local empowerment, youth training, and employment creation. Lastly, the meeting discussed the high radionuclides in the water.
- c) What is reassuring is that, with ROSATOM's technological capabilities as a world leader in nuclear technologies, they are ready, willing and able to provide Namibia with high-definition nuclear technologies (Mineral

beneficiation, nuclear energy, nuclear medicine, and development of nuclear fuel) to develop its uranium industry further than just mining. Further, the company is prepared to educate Namibians, empower and build an industry, employing over 20,000 direct and indirect jobs, with direct investment exceeding U\$5 billion and creating both a supply chain and value chain way in excess of U\$18 billion, which could benefit Namibia.

- d) It is the committee's view that Namibia stands to gain a great deal through this ROSATOM's investment and that the exploration activities should be allowed to continue without delay and that technological and scientific processes that will be employed in the explorations and later on in the mining, must be used to assist in determining which areas have good quality groundwater and which areas have been affected, out of the natural phenomena. This will assist the government in deciding on proper water distributions and guidelines for use.

12. MEETING WITH THE DIRECTOR GENERAL OF THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA), IN MOSCOW DURING THE WORLD ATOMIC WEEK/GLOBAL ATOMIC FORUM

- 12.1. The International Atomic Energy Agency (IAEA) is an intergovernmental organisation that seeks to promote the peaceful use of nuclear energy and to inhibit its use for any military purpose, including nuclear weapons. It was established in 1957 as an autonomous organisation within the United Nations system and reports to both the General Assembly and the Security Council of the United Nations, and is headquartered at the UN Office at Vienna, Austria.
- 12.2. The meeting was attended by the Director General, Rafael Grossi, and his team and on the Namibian side, Honourable Dr Tobie Aupindi (MP & Chairman of the Parliamentary Standing Committee on Natural Resource), Hon. Sophia Shannigwa (MP), Hon. Imms Nashinge (MP, Parliamentary Standing Committee on Natural Resource), Hon.

Ferdinand Hengombe (MP, Parliamentary Standing Committee on Natural Resource) and Dr Herman Shitaleni, (Nuclear Specialist and Chairman of the Atomic Energy Board).

- 12.3. Meetings with the IAEA reaffirmed their support for Namibia in terms of scientific support, for the country to continue its uranium mining and to develop its nuclear industry beyond the current status of just mining. Further, IAEA warned that if Namibia does not take advantage of its position now as a uranium mining country to enter the beneficiation phase, other non-uranium mining countries are already lining up to capture the technology and use it to industrialise themselves using uranium from Namibia.
- 12.4. The organisation also conducts research in nuclear science and provides technical support and training in nuclear technology to countries worldwide, particularly in the developing world. Namibia will enjoy the assistance of the IAEA in terms of developmental support.
- 12.5. The IAEA would also like to warn Namibia not to miss an opportunity provided by international law, which can be enjoyed by any uranium-producing country, because the IAEA is worried about the new trend, whereby rich, non-uranium-producing countries are now putting up technological advances to develop their own nuclear industries using uranium from countries such as Namibia.

13. CONCLUSION

- 13.1. Uranium exploration is part of the mainstream economic trajectory of Namibia under the National Development Plan 6 (NDP6). The Committee visited the uranium exploration site, held various meetings in Windhoek, Omaheke with the Regional Governor and Moscow with ROSATOM and the International Atomic Energy Agency (IAEA), for familiarisation and to ensure that the natural resources of the country are explored responsibly, speedily, and to benefit the communities and the country as a whole in an environmentally sustainable manner.

- 13.2. The Committee concludes that there is a lack of understanding created specifically to sabotage this uranium project. The uranium is already there, as proven. So, it is safe to say that the natural high concentration of radionuclides has already taken place for millions of years. This is unavoidable. The current situation, as it stands, is a 'clear and present danger', because there are no capacities to test for radionuclides.
- 13.3. The technological and scientific capabilities ROSATOM will bring are the only chance the country will have to be able to properly monitor the underground elevations of radionuclides. This is coupled with the laboratory, which has been put in place to analyse real scientific data on the natural distribution of radionuclides along the orebody. This can inform decision makers on the water usage qualities.
- 13.4. There is a need for urgency in decision-making regarding resource exploitation in the country to address joblessness and accelerate economic growth. This is due to divergent views opposing the exploration activities, which are mostly not based on any specific scientific data.
- 13.5. Finally, it is also very important that the project proponent demonstrate that it will implement and continually improve its performance through an effective environmental management system. It must be re-emphasised that the company is not going to bring uranium to Leonardville; the uranium is already there naturally for billions of years. The antagonists who are against the uranium explorations had no problem when the company was exploring on their farms, as they were benefiting millions of dollars from the company, and they were under the impression that they were going to benefit even more as the explorations and mining proceeded. This is the real reason why those against the project started to mobilise themselves to create unnecessary alarms and propaganda. The Standing Committee on Natural Resources Calls for science-based evidence to continue to

lead the way in the exploration and mining of uranium in Omaheke and in all the other natural resource projects, such as oil and gas and other mineral explorations and mining in Namibia.

- 13.6. In general, given an appropriate geological and hydrological setting, proper planning, rigorous regulatory oversight, transparent operations and active stakeholder input and involvement, ISR mining of uranium can be performed safely. The interests of current and future generations must be actively considered and protected, just like in offshore oil and gas drilling. ISR mining for uranium, when proper planning and management practices exist, will have limited and short-lived environmental impacts.
- 13.7. Transparency to stakeholders is vital for a modern mining operation. As the Australian Government Guide states, "Rigorous monitoring and public reporting programs should be used to demonstrate both progress towards, and achievement of, agreed environmental outcomes, such that it will be possible to take corrective or enforcement action if the environmental outcomes may not be, or are not being, achieved. Monitoring data should be publicly available."
- 13.8. Any future ISR mine operator must have clear terms and conditions within its operating license that mandate ongoing monitoring and independent verification by qualified regulatory specialists, and the International Atomic Energy Agency has agreed to progressively provide scientific assistance to Namibia.
- 13.9. Further, in future, specific policies must be developed to guide water drilling operations that focus on mineral resources. This will ensure that the regulatory framework will be driving compliance. Further, the mining operator must provide adequate assurance of the resources that will be needed (i.e., a surety bond) for progressive and final rehabilitation of the site.
- 13.10. Lastly, each proposed mining site and related stakeholder issues are unique. If proper planning and oversight do not occur, any mining

activity can certainly have deleterious environmental impacts. However, examples certainly do exist of how ISR uranium mining has been successfully carried out over several decades in active agricultural settings. Cameco Corporation's Crow Butte and Smith Ranch operations in the U.S. are two examples of such success.

13.11. For four years, the Ministry of Agriculture, Water and Land Reform has held a multi-billion-dollar investment hostage, a project promising thousands of jobs and significant revenue for the Namibian people. Why do the Ministry of Mines and the Ministry of Environment continue to fold their hands and allow this travesty to persist?

13.12. It seems that in the past, the Ministry of Agriculture was applying a generic, outdated policy designed for borehole drilling and water extraction to a sophisticated, technologically advanced In-Situ Recovery (ISR) mining process. This is a profound and negligent misapplication of policy.

13.13. The Ministry of Agriculture has pointed out in the past to be acting under its mandate to protect water resources. However, it does not have a specific, standalone policy guideline that focuses on, or even adequately addresses, the unique environmental controls and closed-loop system of ISR mining. They are using a sledgehammer to crack a nut, and in the process, they are shattering investor confidence and our nation's economic future.

13.14. Is there no specific policy which the Ministry of Agriculture used to justify this indefinite delay? If it is the Water Resources Management Act, we assert that its current interpretation is archaic. It is being wielded as a blunt instrument of prohibition rather than a smart tool for regulated, scientific management. To halt a 21st-century mining technology with a policy framework designed for conventional boreholes is not caution; it is incompetence.

13.15. The continued inaction of the Ministry of Mines and the Ministry of Environment in the face of this bureaucratic intransigence is

unacceptable. The two ministries are the custodians of our mineral wealth and environmental integrity. It is their duty to actively challenge this obstruction and provide a clear, scientific, and regulatory pathway for such investments.

13.16. The continued inaction of the Ministry of Mines and the Ministry of Environment in the face of this bureaucratic intransigence is unacceptable. The ministries are the custodians of our mineral wealth and environmental integrity. It is their duty to actively challenge this obstruction and provide a clear, scientific, and regulatory pathway for such investments.

14. RECOMMENDATIONS

It is therefore recommended that:

- 14.1. Government must expedite the finalisation of the scientific studies, currently being undertaken with the view to remove the uncertainty that is clouding this potential significant investment.
- 14.2. Expedite the government water analysis report on radionuclides that was sampled during the “Preliminary Program for Groundwater Sampling in the Stampriet Transboundary Aquifer System (STAS)” together with Headspring Investments (Pty) Ltd.
- 14.3. Expedite the evaluation of the Pilot Test EIA for the Environmental Clearance Certificate (ECC) application by the independent experts from the International Atomic Energy Agency (IAEA), based on scientific evidence.
- 14.4. If needed, the Committee must subpoena the Headspring Investments Rosatom for all the nondisclosure agreements between the commercial farmers and the company.
- 14.5. Since Rosatom is a fully state-owned company, the Government of Namibia must continue to engage the Government of Russia to explore opportunities of establishing nuclear reactors for energy production, nuclear medicine, etc.

- 14.6. Rosatom must bring in the machinery and technology for value addition and beneficiation, thus creating job opportunities for Namibians.
- 14.7. The Ministry of Agriculture, Fisheries, Water and Land Reform must educate local farmers and members of the community on how farming and mining can co-exist and be guided by scientific data and evidence.
- 14.8. The Ministry of Mines and Energy and the Ministry of Environment, Forestry and Tourism in collaboration with the Ministry of Agriculture, Water and Land Reform should: a) In the future, formally present the specific, written policy clause that explicitly prohibits ISR mining and justifies this four-year ban, or; b) Immediately commence, in collaboration, the urgent development of a specific policy guideline for ISR mining activities.
- 14.9. Uranium being a highly radioactive mineral, the PCNR recommend that as far as this project is concerned, scientific evidence MUST lead the way over personal interests, and general public rhetoric.
- 14.10. The report acknowledges that the new Minister of Hon. Inge Zaamwani-Kamwi was sworn in as a Member of Parliament on the 07 April 2025, and appointed Minister, by Her Excellency, the President of the Republic, on the same day. This report, therefore, wishes to completely acknowledge that these activities described herein did not happen on her watch. However, the Committee looks to her capable leadership to provide direction on this matter.

15. SIGNATURE



Hon. Dr. Aupindi Tobias Ocean, MP
Chairperson: Committee on Natural Resources

Date

