SIENNA MINING

Investing in Tanzania's Tier 1 Uranium

Fuel for an energy hungry world

Investment Presentation January 2024 Version 2

Board & Leadership

Athan Lekkas Chairman

With over 20 years of experience in international investment banking, Athan excels in project identification, acquisition, transaction structuring, capital raising, and talent identification. He has held Directorships in various Australian and North American companies, and currently serves as a Director in successful private businesses, including Magnum Mining & Exploration Limited, First Growth Funds Limited, and Sqid Technologies Limited, while also holding the position of Executive Chairman at Sienna Mining Limited.

Michael Davy Director

Michael is an Australian Accountant with over 15 years' experience across a range of industries. Michael is currently a director and owner of numerous successful private businesses. During the past five years Michael has held directorships in several ASX listed companies and is currently the Non-Executive Chairman of Raiden Resources Limited (ASX: RDN), Non-Executive Chairman of Haranga Resources Limited (ASX: HAR), Non-Executive Director of Arcadia Minerals Limited (ASX: AM7) and a Non-Executive Director of Vanadium Resources Limited (ASX:VR8).

Michael Clarke Director

Michael has consulted across a range of industries including manufacturing, education, energy and technology over the past 20 years. He has been a Company Director for both private and public companies including with ASX and CSE listed companies. Michael is currently a Director of First Growth Funds Limited (CSE) and Sqid Technologies Limited (CSE).

Corporate Team

Torey Marshall Director

Torey is qualified Geologist with almost 20 years' experience with public and private companies. His career has largely comprised energy, including Uranium, Hydrocarbons, Geothermal and related critical minerals. He has discovered or expanded resources for multiple Company's such as Earth Heat (resources up over 200%), Rampart Energy (Horseshoe Petroleum Discovery extension- part of the largest in the US in 50 years), Eagle Graphite (200% expansion in resource) and numerous similar examples in the private company space.

Board & Leadership

Geological / In Country Team

Brian Lloyd

40 years experienced uranium geologist with intimate knowledge of the area and in-country work. Discoveries in a wide range of commodities and styles.

Julius Namfua

Julius is a senior geologist with twenty years of experience in the field geology, exploration and mining, including two years with Mantra Tanzania, currently known as Uranium One Inc.

Marcus Flis

Geoscientist with 42 years in exploration, business development, and feasibility studies. Cut his teeth on Uravan roll front uranium exploration and assessment.

Ahmed Magoma

Ahmed Magoma is a senior Tanzanian regional geologist with over 25 years of experience and works across all levels of government and local authorities

Investing in Tanzania's **Tier 1 Uranium**

Tanzania is mining friendly, safe and politically stable

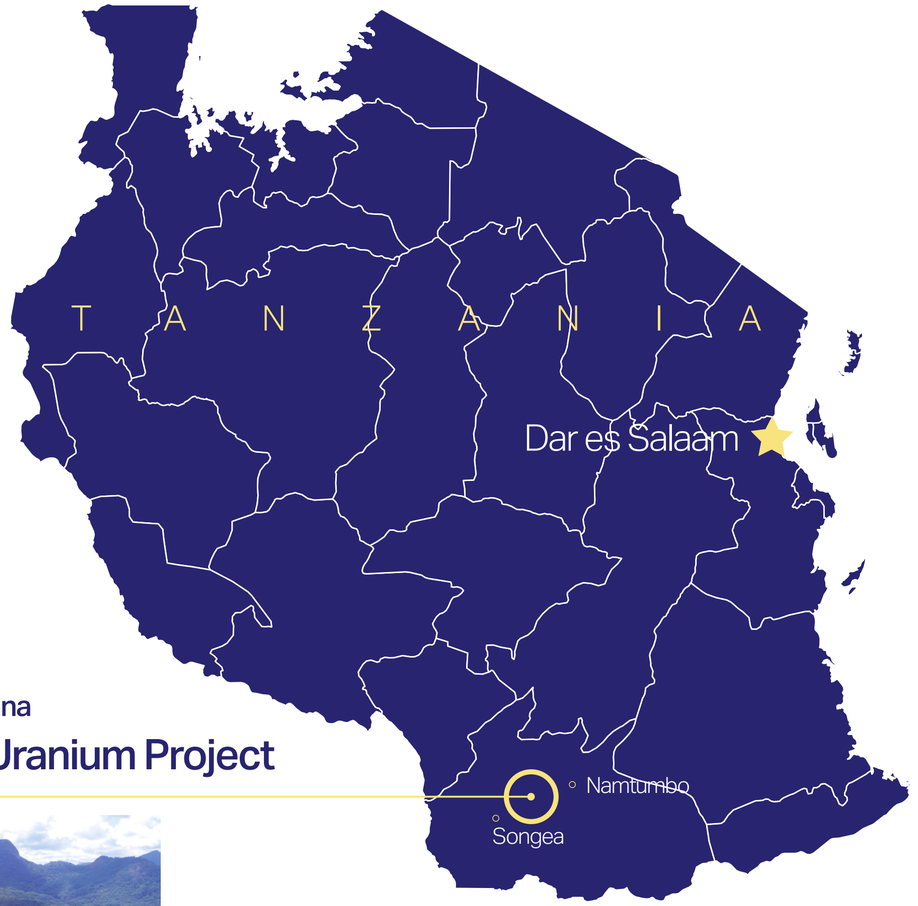
Established in-country team ready to commence next stage of exploration

Sienna via its 100% owned subsidiary LEGZ92 Inc holds multiple highly prospective licences (collectively known as Mkuju Project) secured for uranium exploration

Sienna's Licences completely surround the world class Nyota Uranium Deposit owned by Rosatom

A number of large uranium anomalies identified with exploration pathway towards extensive 2024 drill program

Easy access to roads, tracks and infrastructure



1,633km^2 Landholding
Searching for The Next Nyota

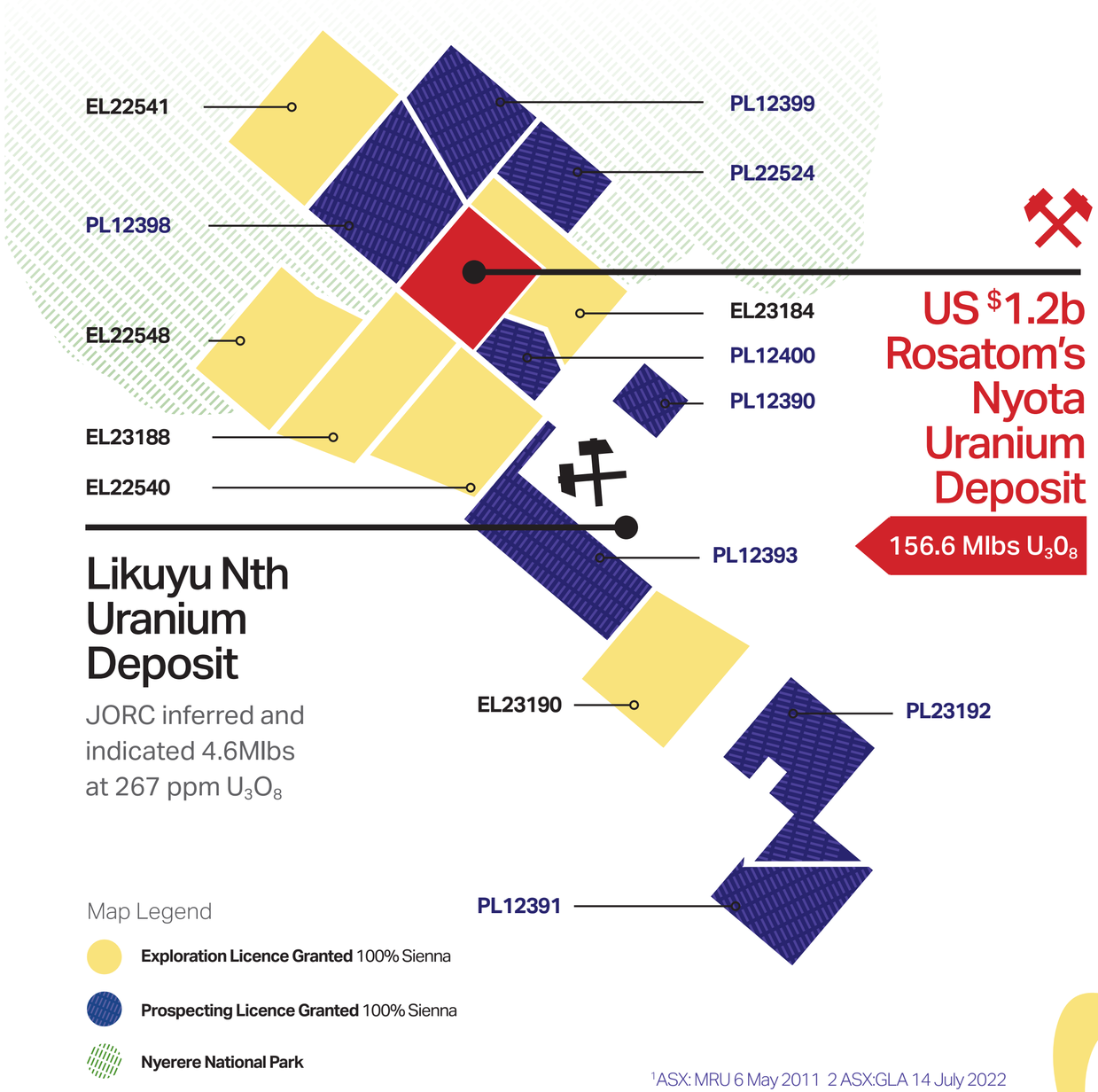
Successful conversion of 8 Exploration Licences (EL) were transferred to Prospecting Licenses (PL) in July 2023 with the Mining Ministry

These Prospecting Licenses can be held up to 7 years through annual lease payments

Collectively the prospecting and exploration licences held 100% by Sienna is known as the Mkuju Project

The remaining 5 Exploration Licenses have been granted with the ability to convert to prospecting licenses in the future.

Prospecting and Exploration licences covering 3,310 km2 currently granted cover 1,633km2 of area bordering and completely surrounding Mantra's 156.6 Mlbs Nyota Deposit and Gladiator's (ASX: GLA) Likuyu North Uranium Deposit.



[1]ASX: MRU 6 May 2011 2 ASX:GLA 14 July 2022

1,633km^2 Landholding **Searching for The Next Nyota** (continued)

The northern leases are covered by Nyerere National Park

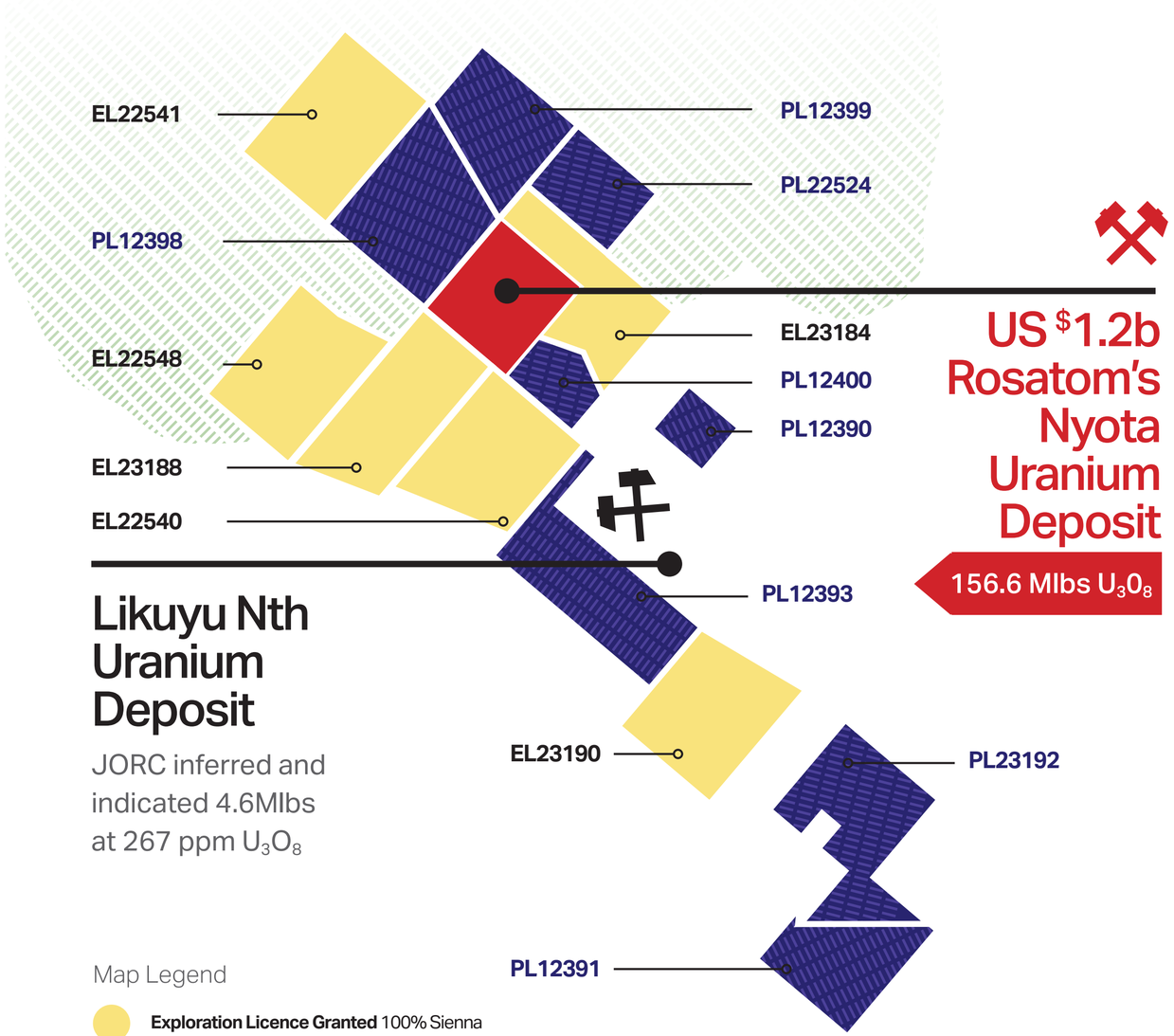
Energy projects, including uranium mining and extraction, are allowed activities in the Park

The Rosatom Nyota Uranium Deposit occurs in the park and they are beginning their pilot mining in 2024

Prospecting licenses granted from the Tanzanian Mining Ministry

Approval for entry and commencement of field program to Nyerere National Park expected first half of 2024

Our in-country team continue to work with all levels of government, ministry, authorities and infrastructure providers to secure timely outcomes for the project



[1]ASX: MRU 6 May 5011 2 ASX:GLA 14 July 2022

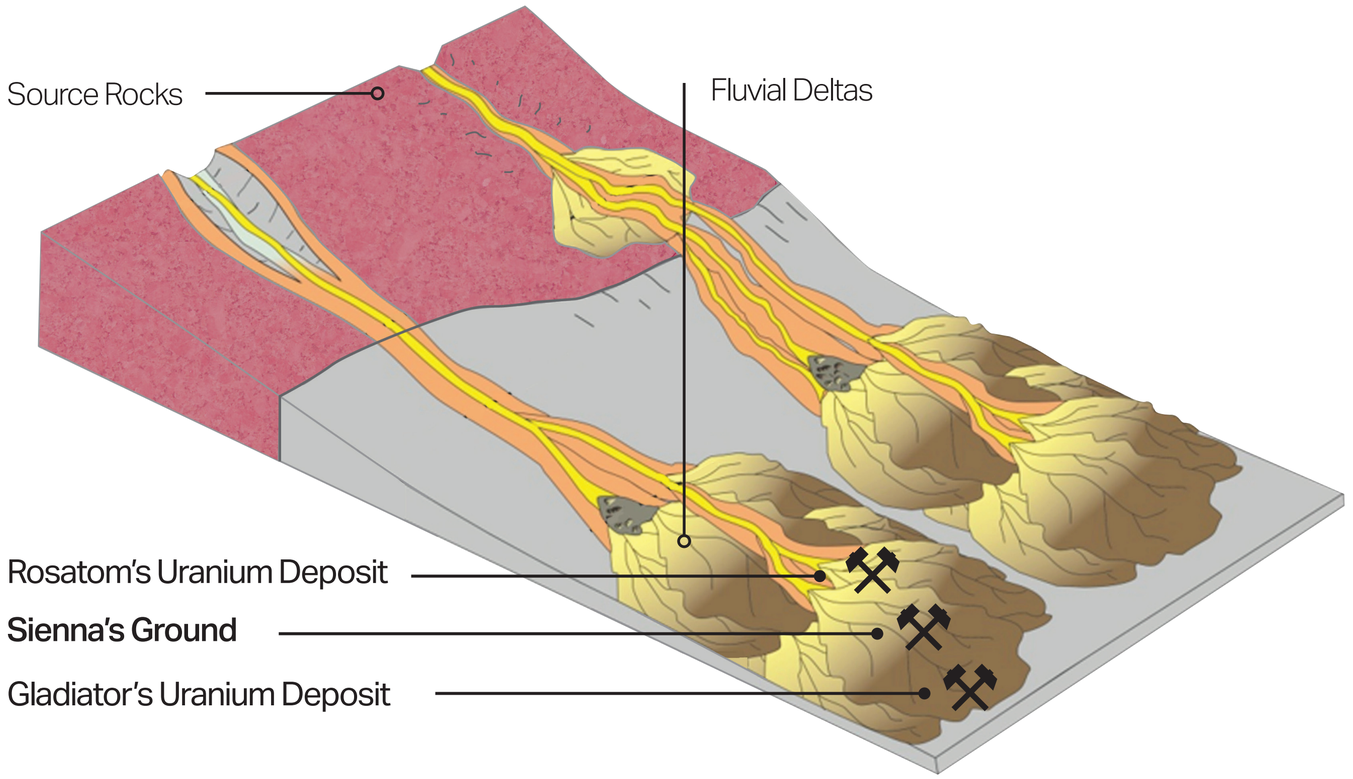
Neighbours to **Two World Class Uranium Deposits**

Rosatom's Nyota deposit to commence a pilot mineral extraction operation in early 2024

Gladiator (ASX: GLA) has mobilised a team & is currently trenching extensions of its existing uranium deposit for follow-up drilling in 2024

Sienna holds ground on the same trend as, and sits between, these two deposits in the same sedimentary sequence and adjacent to the Nyota Fault

These sediments host the US$1.2B Nyota deposit and the emerging Likuyu North deposit, collectively holding 156.6Mlbs U_3O_8



Uranium Mineralisation Style **Possible for ISL Extraction**

Nyota and Likuya are roll front-style uranium deposits

The uranium falls out of solution at an oxidising/reducing boundary

Porous host with confining layers that form aquifers

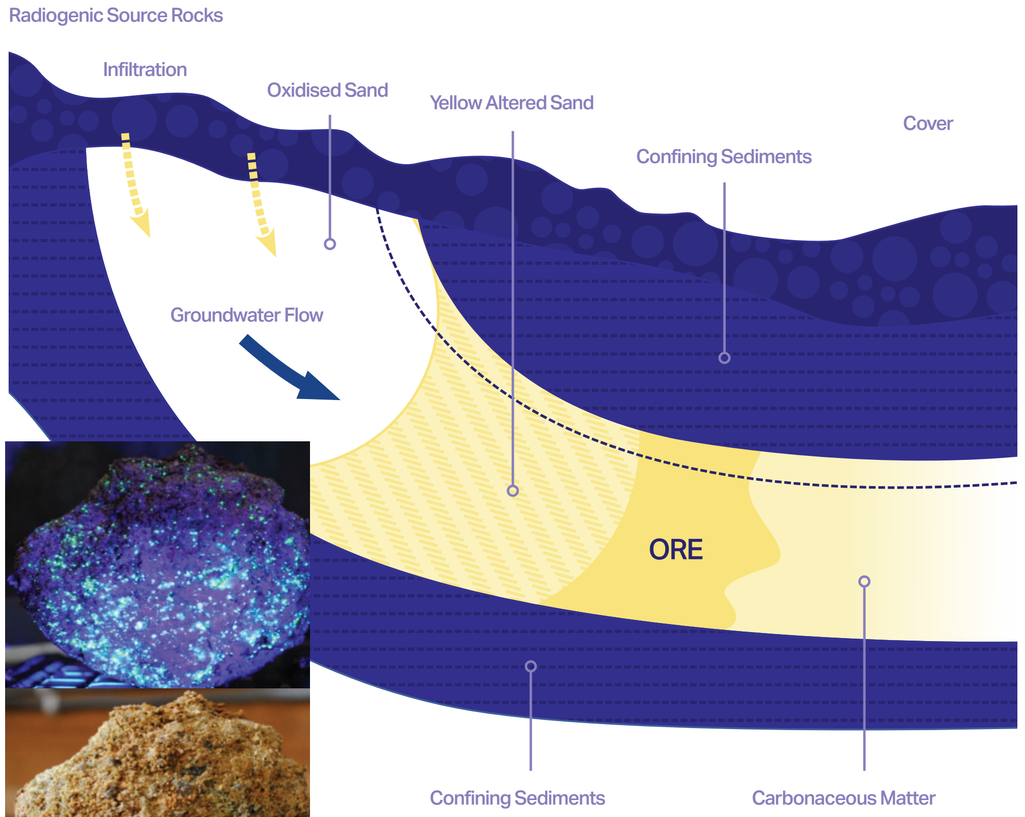
Source rock, typically intrusives, needed but aren't necessarily ore grade themselves

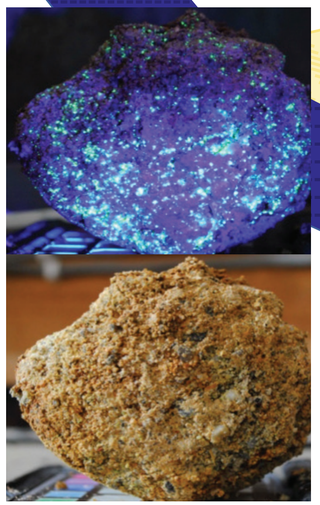
Faulting may cause sedimentary "stacking" and focus fluid movement

Possibility of very high grade uranium deposits formed: over 1% U_3O_8 possible, generally 150 to 2,500ppm

Intrusion-related uranium and REE targets ignored by previous workers

Roll-front uranium model





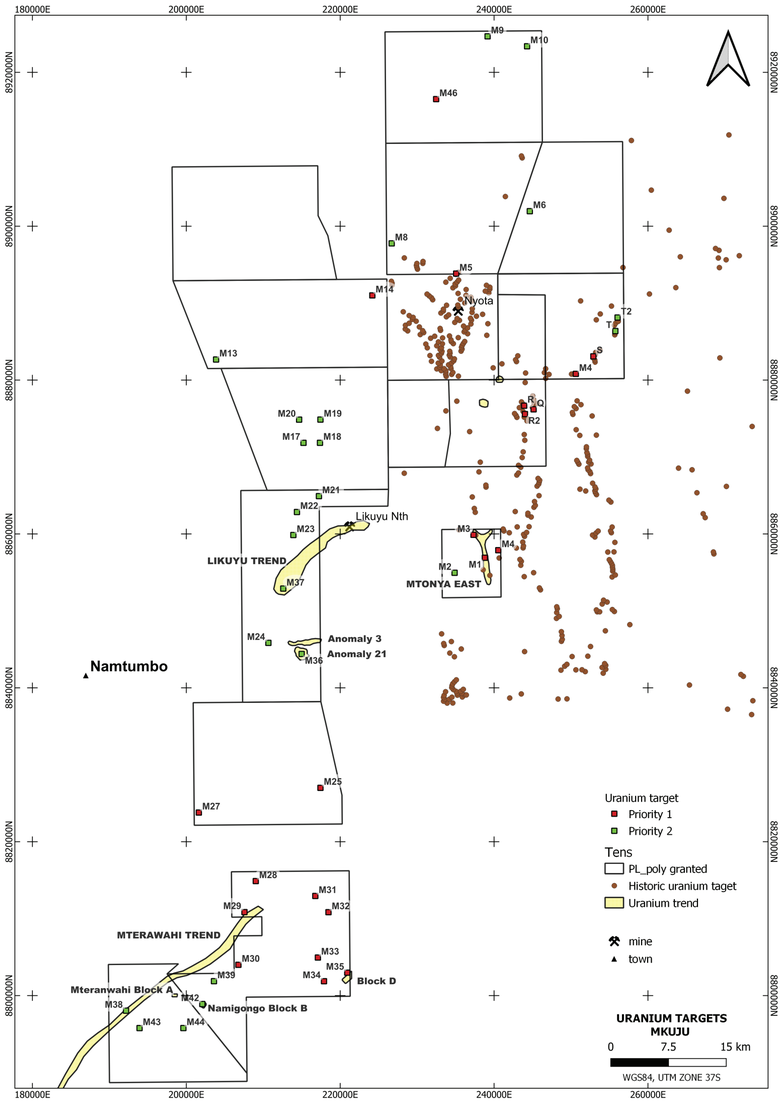
Nyota uranium ore with mineralisation visible under UV light

Mkuju Project Targets
Exploration Pathway to Substantial 2024 Drill Program

Four prospects have been assessed with ground spectrometer surveys to follow-up radiometric anomalies identified from airborne radiometric surveys. The anomalies have been mapped out and surface sampled for soil geochemistry. A total of 334 samples has been collected and assays awaited. Once received, the assays will form the basis for decision to follow-up these targets with drilling

Orientation drone-based airborne magnetic surveys have been trialled on two blocks with multiple survey configurations. This data will be used to inform the Company on planning for a larger survey to cover Sienna's prospecting lease holdings.

Dr Neil Pendock of Dirt Exploration (South Africa) has been engaged to apply his uranium targeting methodology using satellite hyperspectral scan data to the area. Dr Pendock has had considerable success using his techniques in identifying uranium targets."



Compelling Geology for Roll Front Style **Host to Globally Significant Deposits**

Mkuju Project located in the Selous Basin of the Mid-Upper Karoo age sediments

Area is dissected by NNE faulting

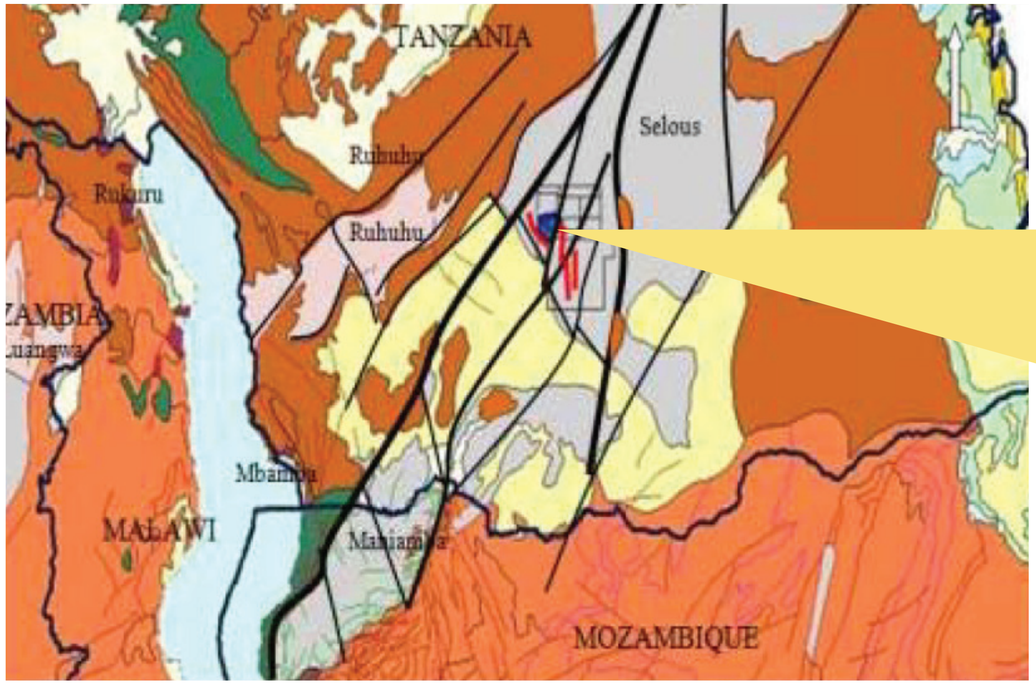
Fluvial and deltaic sandstones provide porous host rocks

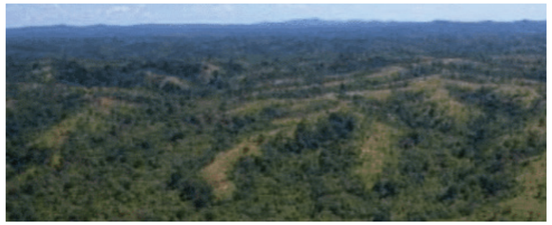
Shaley interbeds provide the constraining horizons

Carbonatite, syenite, and granitic intrusives are the source rocks

PLs cover the highly prospective Mbarangandu Fm, host to Nyota and Likuyu

Sedimentation cycles identified at Nyota and Likuyu are short-cutting Sienna's learning curve





Rosatom's Nyota Uranium Deposit

Regional Geology Key

- Mid-Upper Karoo
- Mid Karoo
- Lower Karoo (Basin names hightlighted)
- Upper Proterozoic Schist
- Middle Proterozoic Granites / Genites / Schist
- Lower Proterozoic Gneiss Terrains

Radiometric Data Points The Way **Significant database of historical data**

Areas outside the Nyota deposit tend to be under cover

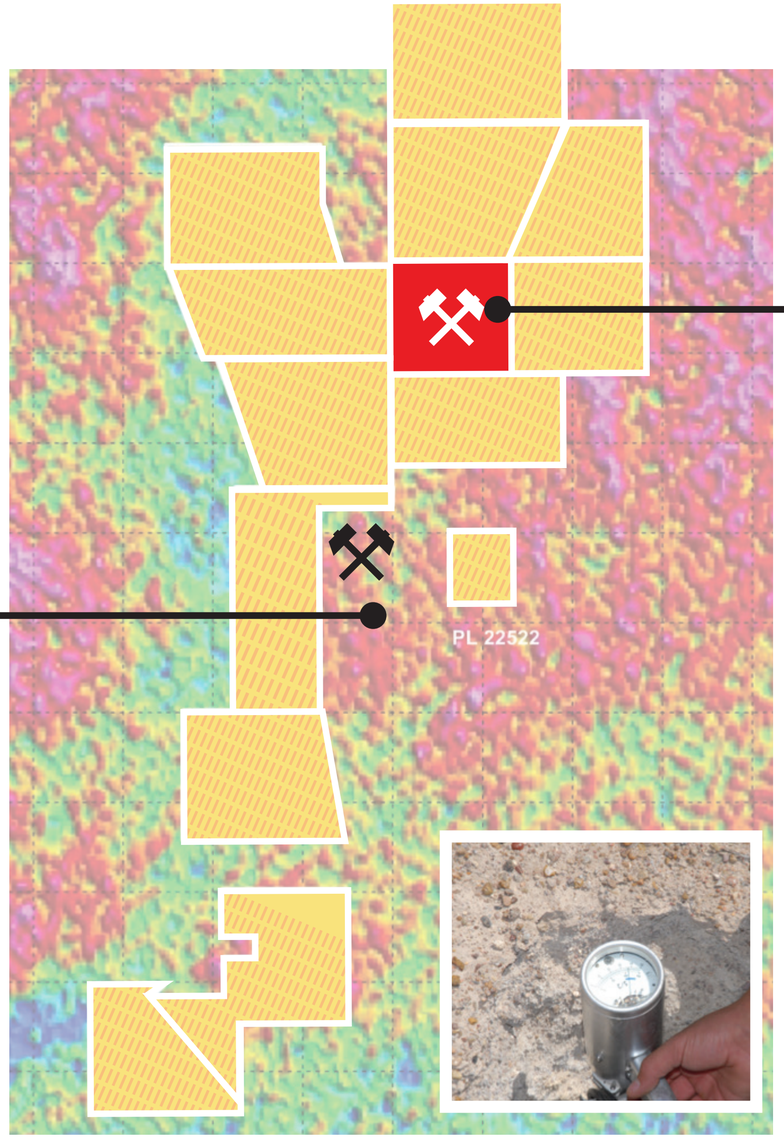
Cover diminishes or entirely masks radiometric signal

While the Nyota Deposit has a strong radiometric anomaly that at Likuyu is much reduced

Multiple targets on the Legz92 ground already identified

Progressing to acquire high resolution radiometric and aeromagnetic data to move to higher level processing

Work may identify primary uranium source with possibility for Rare Earth Element (REE) credits



Gladiator Resources Likuyu Nth Uranium Deposit

JORC inferred and indicated 4.6Mlbs at 267 ppm U_3O_8

US $1.2b Rosatom's Nyota Uranium Deposit

156.6 Mlbs U_3O_8

Next Steps: **Discovery**

Nyota and Likuyu North are closely associated with a NE/NNE trending fault

This normal fault juxtaposes the upper Mkuju Formation against the Mbarangandu Series to the south and may have controlled the sedimentation and water flow at both deposits

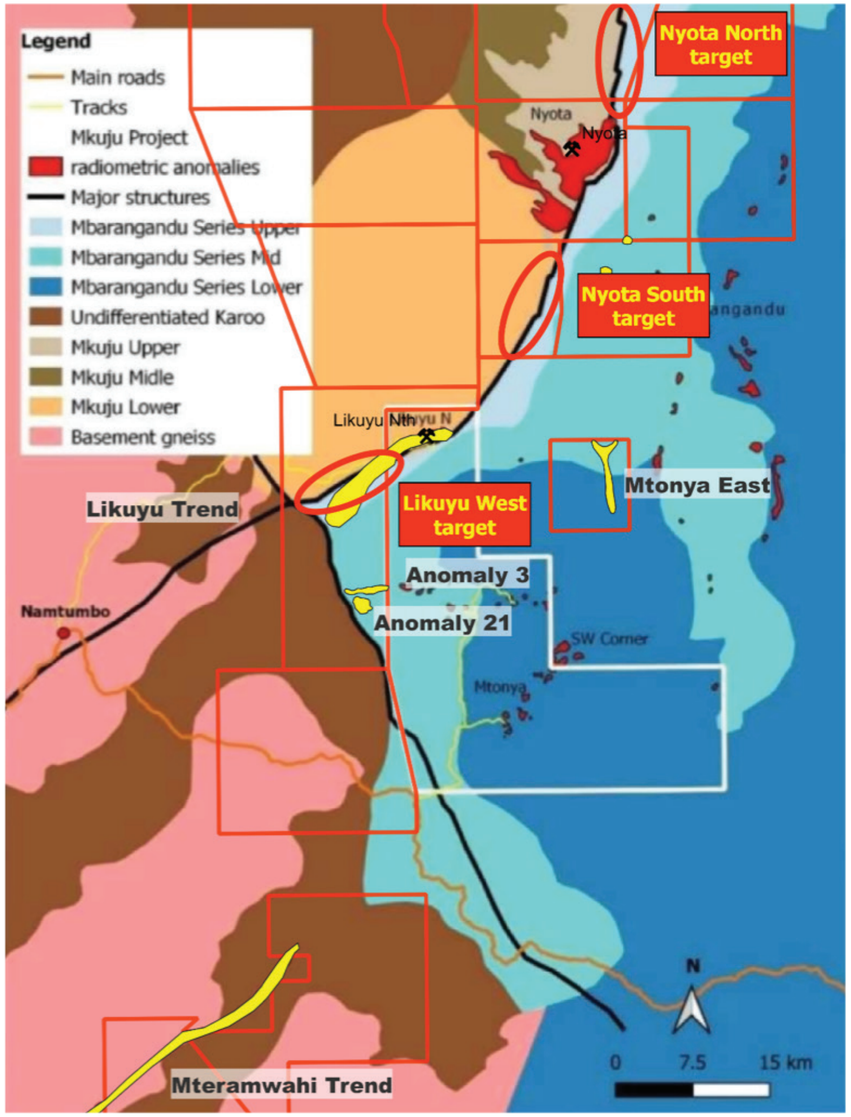
Sienna has identified three fault related targets on its ground

Large areas covering this fault have yet to be sampled

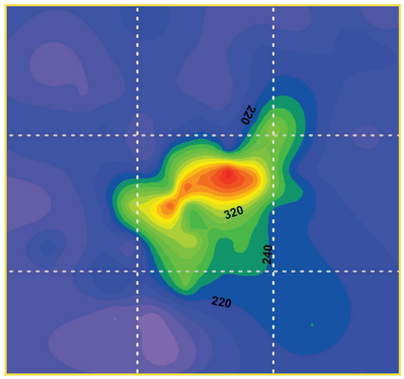
These form priority targets for the Company

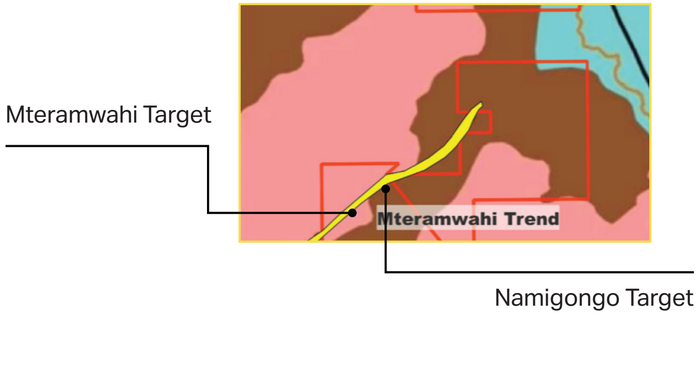
Regional surface sampling will be undertaken over these areas

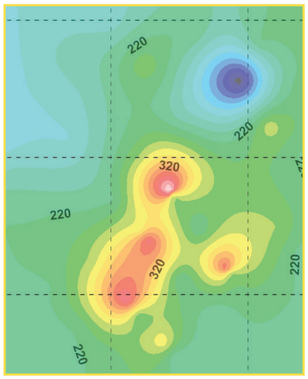
Five anomalous uranium trends remain untested



Mkuju: Field **Work Outlines Uranium Targets**







Spectrometer traversing defines uranium targets on the Mkuju Uranium Project

Initial surveying at Mteramwahi target shows uranium anomalism over 16 times background

Second target at Namigongo target extends anomaly to over two kilometres strike length

Targets are located on the airborne radiometric survey-defined Mteramwahi Uranium Trend

Over 20km of the trend occurs on Sienna's ground

Trenching to be planned as first pass assessment of ground survey results

The Trend is in excess of 45km long and has had very limited follow-up in the past. Mteramwahi Uranium Trend is a 45km strike length trend identified from an historic airborne radiometric survey

Reconnaissance spectrometer ground surveys have identified two prospective targets

In-fill surveying has defined uranium anomalous strike lengths of 500 to 1,000m

Surface grab sampling done to confirm uranium mineralisation

Trenching planned as a prelude to testing by drilling

Reconnaissance spectrometer surveying continues along the Trend to expand uranium footprint

Benefits of In-Situ Leaching (ISL) **Proven Uranium Extraction Process**

Rosatom, through Uranium One undertook ISL tests at the Nyota deposit in 2012/13

Economic Advantages

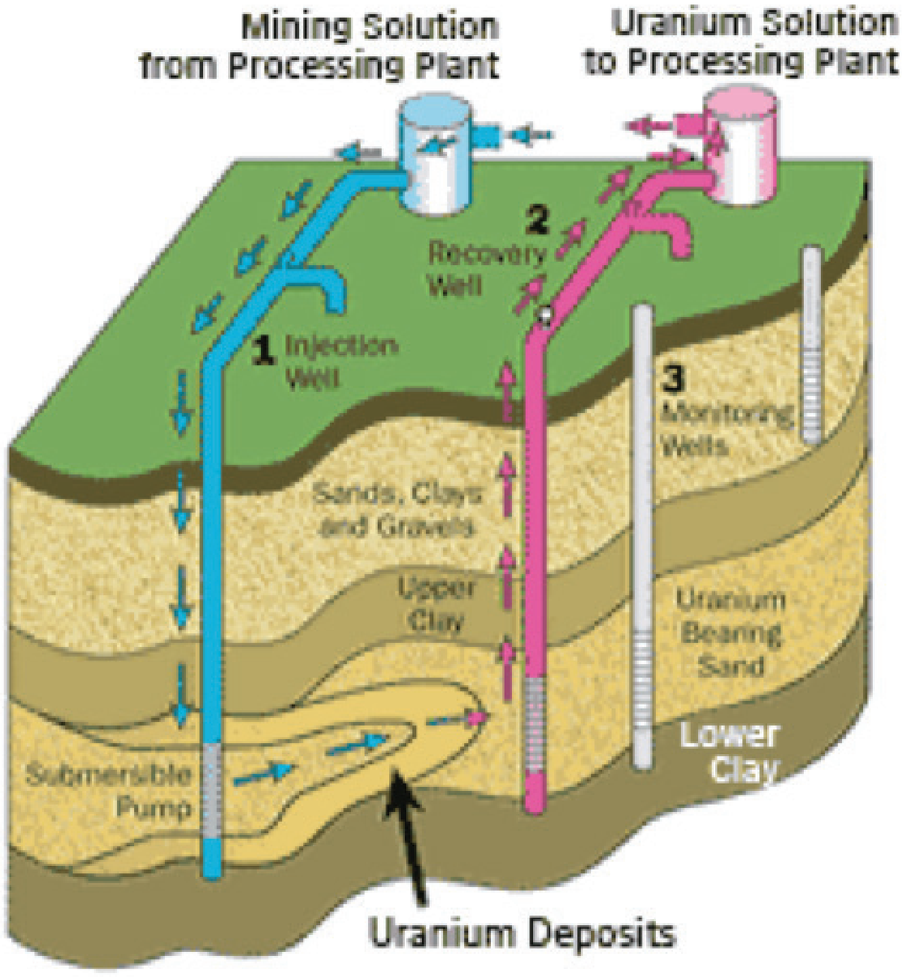
Lower construction costs of wells versus traditional mining allow for high return on investment (ROI). Scalable extraction process of Uranium from small to large ore bodies. Enables production capacity to match demand.

Environmental Advantages

Environmentally friendly extraction method. Process requires minimal surface disruption which reduces the impact on the environment. Solution used in the process is also recycled.

Safety

Considered a safer method compared to traditional mining techniques.



ISL is used by over 57% of the world's Uranium mines

"The outlook on potential uranium ISL Mining at Nyota Deposit (Tanzania)", A. Boystove, V Martynenko, and S Stander, IAEA-CN-216 Abstract 039)

Exploration Programme **Extensive Newsflow Expected**

Sienna Mining is pursuing a world-class uranium deposit by:

- Consolidating and endorsing prospecting licences
- Re-interpretation of existing information to align with learnings from Nyota and Likuyu
- Extensive drill testing of walk-up targets defined through geochemical surveys
- Defining new targets through ground truthing of new interpretation using rapid reconnaissance techniques
- Moving rapidly and diligently to resource drill-out

Sienna Mining is Pursuing a **Tier 1 Uranium Deposit** by:

1. Identifying targets from previous workers' knowledge base
2. Applying advanced geological models to prioritise targets of interest
3. Application of high resolution airborne geophysical survey to drive target selection, including the use of orientation drone surveying to set optimal survey parameters
4. Use of satellite hyperspectral scanning to support and further prioritise target selection
5. The deployment of a Rapid Reconnaissance Exploration "hit squad" to fast track target assessment
6. Development of an in-house, high QA/QC-driven sample preparation and pXRF assaying capability with support from referee labs
7. Deployment of a highly manoeuvrable rig for initial, wide-ranging, drill testing

Field Programme Underway

4 Months

Mkuju Uranium Project: Regional Assessement

> Acquire and interprest hyperspectral scan data
> Integrate derived targets with regional radiometric survey

> $220,000

4 Months

Mkuju Uranium Project: Target Assessment

> Acquire high resolution airborne data
> Initiate Rapid Reconnaissance hit squad

> $1,900,000

5 Months

Mkuju Uranium Project: Target Drill Testing

> High priority targets initial drill testing
> Establish in-house sample prep and pXRF assaying

> $1,300,000

10 Months

Mkuju Uranium Project: Resource Definition

> Establishment of resource base
> Drill out to Inferred Resource

> $2,500,000

Sienna Mining's Mkuju Uranium Project

Sienna Mining holds 3,310km2 of Prospecting Licences in the Ruvuma Region of Southern Tanzania.

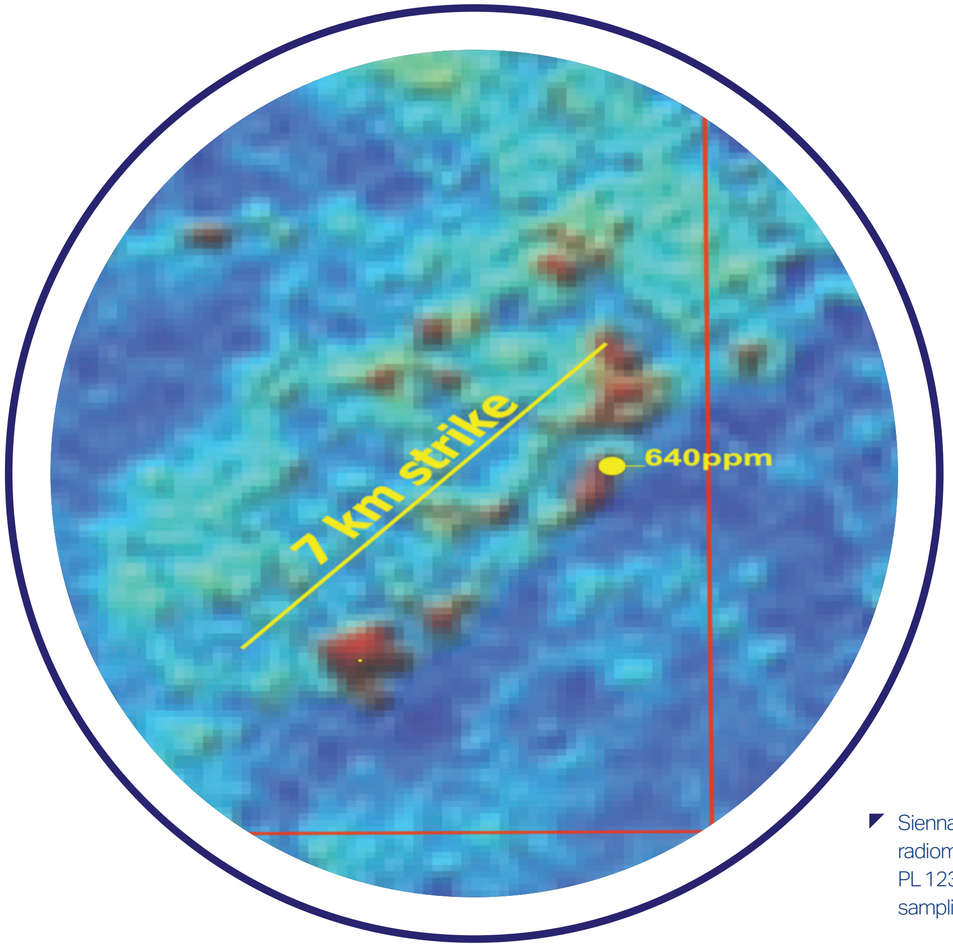
The immediate area hosts the giant Nyota Uranium Deposit that holds in excess of 152Million pounds of uranium and the Likuyu North Uranium Deposit that holds approximately 5 Mlbs of uranium.

These deposits, and the ground Sienna holds, are hosted by the Karoo sediments of the Selous Basin.

While previous explorers undertook cursory exploration of the area, their focus was very quickly directed at the two new discoveries of Nyota and Likuyu North, leaving the area grossly under-explored.

Sienna is seeking to capitalise on the knowledge base created by previous workers to drive further discoveries in this emerging Tier 1 uranium province.

Image of regional airborne radiometric data



Sienna's Ruvuma Prospect radiometric anomaly on PL 12397 showing surface sampling U3O8 in ppm

About Sienna Mining

Sienna Mining Limited is a global company with a developing uranium exploration project in southern Tanzania, East Africa. The Company is seeking to discover an economic uranium deposit in this emerging Tier 1 uranium province.

Sienna has assembled an expert, experienced, and diverse team to drive exploration through the application of advanced methodologies, sophisticated geological models, and unbiased assessment. Notably, Sienna will accomplish this through the knowledge base collected by previous explorers but underutilised due to the impacts of the accident at Fukushima-Diachi and the subsequent slow down in activity due to the Covid-19 pandemic.

> Environmental

Sienna is in close dialog with Tanzania's Environment Division of the Vice president's Office to not only ensure compliance with laws and regulations, but to proactively emplace processes, guidelines, and support to ensure harm from Sienna's exploration activities is minimised or eliminated. As the Mkuju Uranium Project advances to possible discovery and development, environmental policies will be codified to meet and exceed the requirements of Tanzania's Environmental Management Act, 2004.

> Social

Exploration activities are being supported by a local labour force that sees the Company imbedded with the local community. Through mutual respect, Sienna will seek to advance the aspirations of the community it operates in through the development of policies that will deliver a social licence to operate in the area.

> Governance

Sienna uses a "best practice" approach to corporate governance issues through the development of appropriate policies that aim to reduce investor risk. These include policies on

a. Code of Conduct
b. Securities Trading
c. Audits
d. Continuous Disclosure and shareholder communications
e. Remuneration, nomination and diversity
f. Whistle blowers

Pre-Deal Funding

Raising $750,000 in Pre-Deal round to kickstart exploration

Lead Manager appointed to assist Company towards backdoor listing or IPO on ASX

	Shares	Options at 30c Strike	Cash
Existing Shares on Issue	32,500,000	23,204,276	
Pre-Deal Raise at $0.10c	7,500,000		$750,000
Lead Manager issue	1,000,000	1,000,000	
Shares on Issue Post Funding	41,000,000	24,204,276	

Indicative capital structure subject to change

Disclaimer

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January 2024

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