

The Unexplored Frontier: Investment Opportunities in South Sudan's Natural Resources



Stephen Dhieu Dau, Republic of South Sudan's Minister of Petroleum and Mining
April 17th, 2013



Introduction

South Sudan is rich in natural resources– with over 1.1 billion barrels of oil reserves and mineral deposits of gold, uranium, copper, rare earth and diamonds...

... offering investors significant potential with the lifting of OFAC sanctions and new exploration opportunities on the horizon...

... and we want to engage the private sector as we embark on these greenfield opportunities together.

Recent Developments



Petroleum Updates

- South Sudan reached an agreement with Sudan and will **resume oil production in April 2013**
- Recently passed the **Petroleum Act of 2012 and Petroleum Policy**
- Tullow Oil recently discovered oil in Kenya near Lake Turkana, indicating **additional areas for exploration** in the southeastern area of South Sudan
- Department of Treasury's Office of Foreign Asset Control **lifted US sanctions against South Sudan's petroleum sector** in December 2011



Mining Updates

- The **Mining Act 2012** was enacted by the President on Dec 27th, 2012
 - The new act endorses the **Extractive Industry Transparency Initiative**
 - Establishes a new **mining license system** based on international standards
 - **Ends the 2010 moratorium** on mining licenses
- In the process of finalizing a **mining regulatory framework**
- Government is currently engaged with several companies on **new mining concessions**



The Petroleum Opportunity



Snapshot of the Petroleum Industry

South Sudan is one of Sub-Saharan Africa's largest proven oil reserves

... and South Sudan is working to tap into this valuable resource

Ranking by Proven Reserves	Countries
Tier 1 <i>Over 8 billion barrels of proved reserves</i>	- Nigeria - Angola
Tier 2 <i>1-8 billion barrels of proved reserves</i>	- Chad - Congo - Gabon South Sudan - Equatorial Guinea
Tier 3 <i>Less than 1 billion barrels of proved reserves</i>	- Uganda - Ghana - Cameroon - Côte d'Ivoire - South Africa - Benin

- South Sudan produces **two primary varieties of oil**: Nile and Dar blends
- Oil production was at **326,000 barrels/day** in 2011
- There are **currently two export pipelines** for South Sudan's crude:
 - GNPOC – Nile Blend to Port Sudan
 - Petrodar – Dar Blend to Port Sudan
- Currently exploring **alternative pipelines and refinery** options
 - ILF Consulting Engineers is undertaking a feasibility study of alternative pipelines and will report in summer 2013
 - Five initial refinery sites have been identified, and two of these have begun initial construction prep

Establishing the Framework for New Investment Opportunities

Currently, only 5 blocks are under production:

Current Production

- **Blocks 1A and 2B:** Nile Blend (CNPC, Petronas, ONGC and Nilepet)
- **Block 5A:** Nile Blend (Petronas, ONGC, and Nilepet)
- **Blocks 3 and 7:** Dar Blend (CNPC, Petronas, Nilepet, Sinopec and Tri-Ocean Energy)



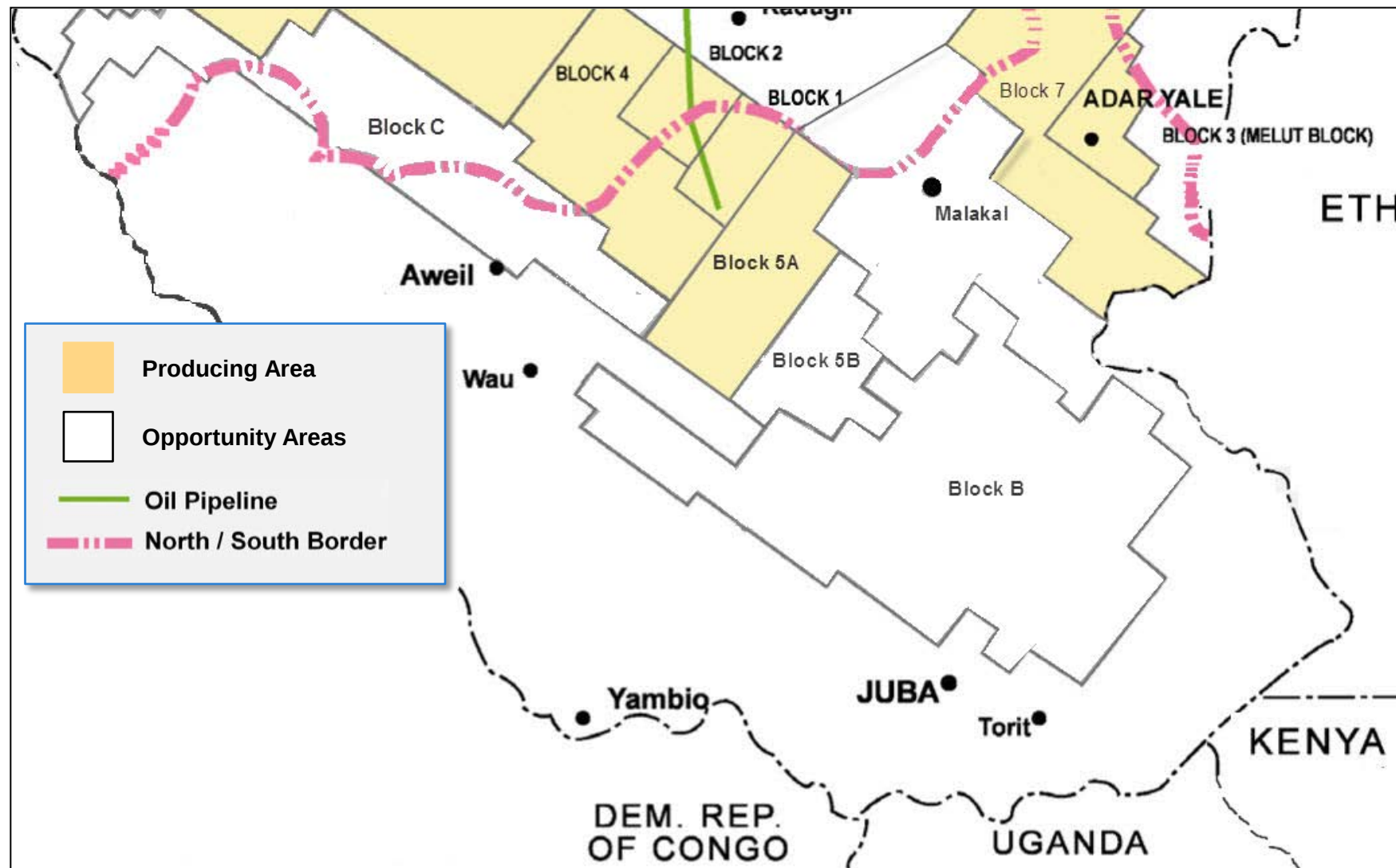
New Opportunities

- **Opportunities exist in Block B**– one concession block is available
- Process of **defining block sizes** for the purpose of a **new exploration promotion program**

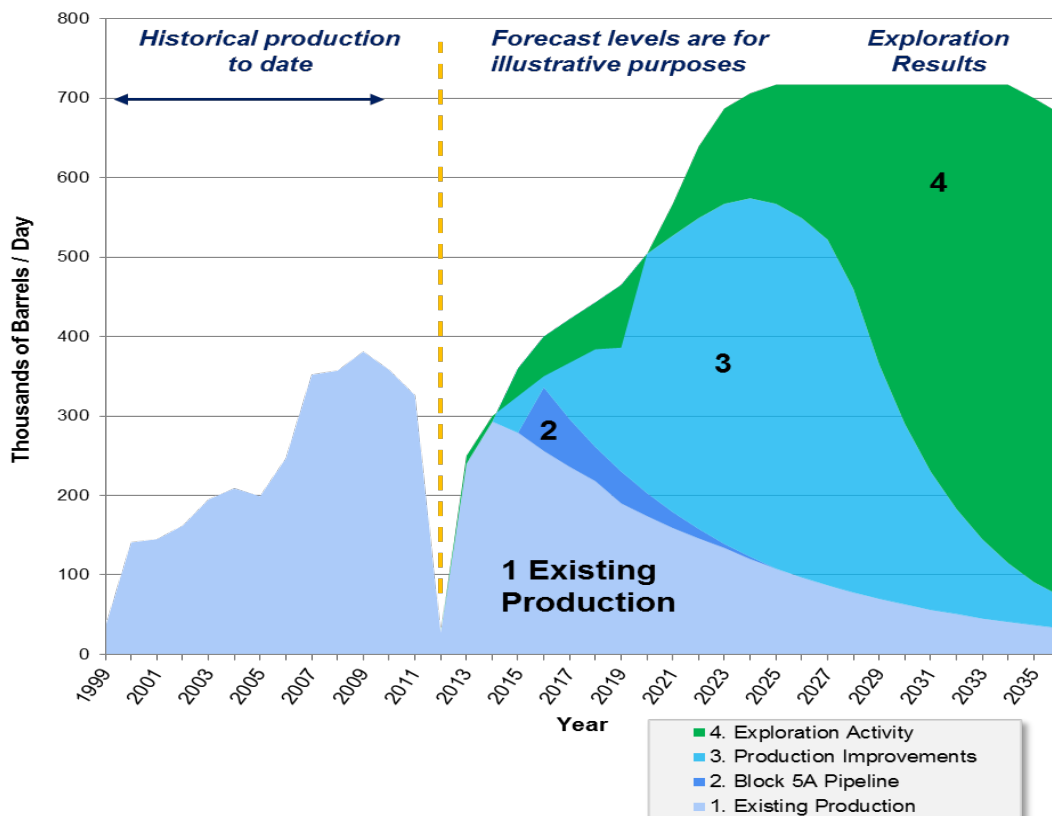
And we are working towards establishing the regulatory mechanisms to support and bolster new development opportunities

- ✓ **Establishing proper legal frameworks and regulations to promote private sector investment**, passing the Petroleum Policy and the Petroleum Act of 2012 and initiating a regulatory framework
- ✓ **Cooperating with international petroleum standards**, such as initiating government support for EITI and no longer subject to the US Department of Treasury OFAC sanctions for all petroleum sector investment and activity in South Sudan

Significant opportunities remain for production of known blocks and exploration of new areas



Long-term investments to double South Sudan's net share of production in the next 20 years are already underway



Intervention	Status
1. Restart of Existing Production	Underway
2. Block 5A pipeline construction <i>Optimize Block 5A production by building 300 km pipeline NE to connect with heavy oil production</i>	Under consideration
3. Production Improvements <i>Re-design and retrofit all processing facilities to process crude oil to meet pipeline specifications, including water flood and other IOR/EOR recoveries</i>	Underway
4. Exploration Activity <i>Develop exploration lease process for new areas</i>	TBD

Additionally, there are several short-term opportunities in infrastructure

Pipelines

- Depending on the findings from ILF Consulting Engineers' feasibility report, pursue next steps in developing an additional export pipeline
- Support development of an internal pipeline between the two production blocks to transport Nile and Dar blend

Refineries

- Site preparation for construction has begun at two sites (Upper Nile and Unity states), and a feasibility study is being completed for a third site
- Considering additional proposals for refineries in Upper Nile and Warrap states

Power

Consider power needs to support the oil supply chain throughout the country, including:

- Local and regional power grids
- Power plants

Domestic Product Supply

Opportunities to move the product from the refinery to domestic markets

- Barge options on the Nile River
- Build transport roads
- Construct storage depots

Together, we can capture the potential of South Sudan's petroleum sector

As the Ministry of Petroleum and Mining takes the next steps towards realizing a world-class oil production industry, we want to engage the private sector to achieve our dual goals

Government Next Steps

- **Transition to new exploration opportunities.** Define exploration concession terms (block sizes, lease terms, concession process, etc.)
- **Pursue infrastructure upgrade.** Define infrastructure projects and specific terms.
- **Continue to develop the business environment.** Finalize support for EITI, comply with other international standards, finalize petroleum regulations.

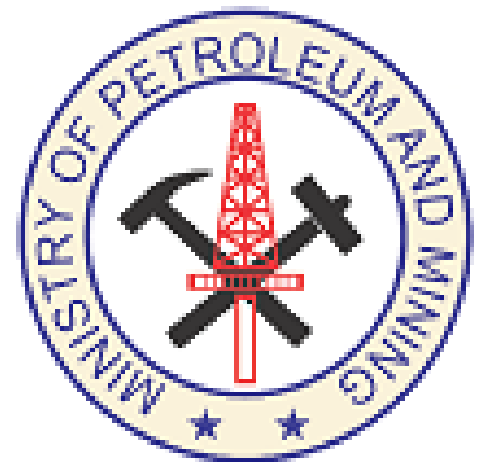


Private Sector Opportunities

- **Engage with us.** Provide input on the exploration process, consult with us on potential opportunities.
- **Provide supporting services** (audit, laboratories, environmental assessment, data management, IT support)
- **Develop capacity of Government of RSS to manage the petroleum sector.** Support needed skills and training opportunities.
- **Construct new infrastructure:**
 - Pipeline(s)
 - Refineries
 - Storage depots
 - Power plant
 - Fiber optics



The Mining Opportunity



Snapshot of the Mining Industry

South Sudan is abundant in natural minerals and metals, but most of the country remains unexplored

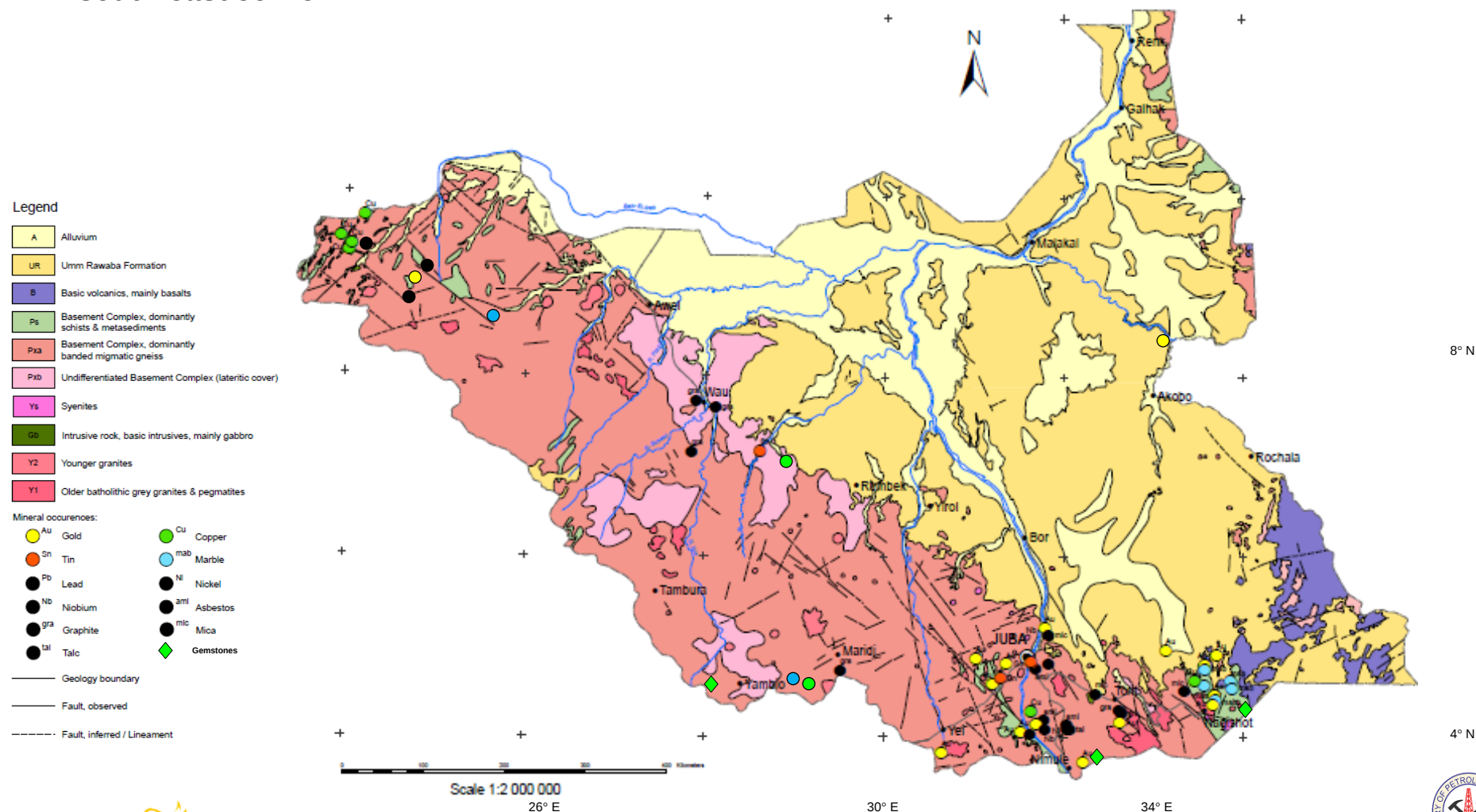
- The geology of South Sudan consists of both sedimentary and crystalline basement rocks, in nearly equal amounts.
- South Sudan's crystalline rocks are known to contain more than a dozen valuable types of metallic ores
- There are also large deposits of non-metallic, industrial minerals which are extremely useful in construction and road building
- Unlike petroleum, the mineral wealth of South Sudan has yet to be explored, other than artisanal gold mining.





Location map of South Sudan's mineral deposits

The metallic minerals, as well as gem stone deposits, occur in a broad belt along the south and southwestern margin of the country. Gold, in the form of placer deposits, is concentrated in the south-east corner.



The mining sector offers a greenfield opportunity

To date, only a fraction of the country has been explored, with gold as the primary target of exploration. Other minerals that have been identified include:

Mineral	Detail	Districts
Gold	Neutron activation analysis shows that the gold in South Sudan is of high quality	▪ Kapoeta district ▪ Morukanboloing
Copper	Older assessments reported 2-20 million tons of ore grading 2-10% copper	▪ Hofrat en Nahas ▪ Between Wau and Rumbek ▪ Kapoeta district
Zinc & Lead	Zinc and lead usually occur together in massive sulphide deposits	▪ Juba-Yei-To ▪ Between Torit and Wau
Aluminum	Three areas of anomalous aluminum values of above 4.5%	▪ Around Juba ▪ Raga-Wau-Rumbek ▪ West of Yambio
Manganese	At least two distinct manganese anomalies	▪ Juba Nimule-Yei-Amadi (over 35,000 ppm) ▪ Wau (1,500-3,500 ppm)
Uranium	Initial airborne surveys have revealed extensive deposits	▪ Eastern Equatoria
Iron	A older study shows deep deposits covering an area of about 80,000 km ² , with Fe ₂ O ₃ concentrations ranging from 22 to 90%.	▪ Wau-Raga ▪ Yambio
Marble/Dolomite	A company previously identified 8 million tons of marble consisting 52.6% CaO and 0.8% MgO with insignificant Na ₂ O and K ₂ O contents	▪ Kapoeta district ▪ Torit ▪ Kajokeji ▪ Mangayat- Raja



Recent regulations have created new opportunities for interested Exploration and Mining companies

- The **Mining Act 2012** was enacted by the President on Dec 27th 2012 and which endorses the Extractive Industry Transparency Initiative;
- The **Mining (Mineral Title) Regulations** have been drafted. The associated regulatory framework is currently under public consultation .
- Implementation of these documents and the concomitant strengthening of the legal Mining Operations has the potential for:
 - Approval of some 500 Licenses;
 - Creation of some 60,000 additional jobs;
- An Exploration License Title Holder with an economic find has the exclusive right to apply for a Mining License (Security of Tenure)
- Allows the Government of RSS an optional equity of up to a 15% stake in large scale mining operations

Mining Incentives

- **Land regulations** established by the type of mineral licenses
- **Tax incentives include:**
 - Capital allowances: 20%-100%
 - Deductible allowances: 20%-40%
 - Depreciation allowances: 8%-20%
- **Market access to:**
 - Regional markets: Common Market for East and Southern Africa (COMESA)
 - International markets: European Union (EU), General Systems Preference (GSP), and American Growth and Opportunity Act (AGOA)

Mineral operations – types of mineral licenses

The new regulations define various types of mining licenses

Type of License	Duration	Area	Extension
Reconnaissance	2 years	Maximum of 25,000 sq. km and Minimum of 10 sq. km	Not extendable
Exploration	5 years	Maximum of 2,500 sq. km and Minimum of 10 sq. km	Renewable for 2 terms of 5 years each
Large Scale Mining	25 years	As required by the Mining Operation	20 years each
Small Scale Mining	10 years	1 sq. km	Renewable for 10 years
Artisanal Mining License	1 year	1 sq. km	Must be renewed annually
Retention	5 years for Exploration License & 6 years for Mining License	Same as Exploration or Mining License	Not extendable

There are a number of opportunities to invest in South Sudan's mining sector

- Gold mining, both in the form of consolidation of previously artisanal operations with industrial scale, commercial operations, as well as the upstream search for “mother lode” underground deposits.
- Industrial mineral quarrying for building and road construction
- Opening of lime quarries and the construction of kilns for the manufacture of cement
- Opening quarries and the associated rough stone cutting installations for marble/decorative stones. Finish cutting and polishing facilities can be added as a follow-on phase.
- Exploration, defining, opening and operating of underground/open-pit manganese and other commercial and gemstone mines.
- Provision of required infrastructure equipment and experience for the Mining Directorate:
 - Development and implementation of a digital mining cadaster;
 - Capacity building for its staff;
 - Working with partners for practical experience;
 - Procurement of relevant tools of the trade and required hardware and software.

Timeline of Investor Opportunities

Immediate Term Next 6 months

- ☐ Apply for Reconnaissance and Exploration Licenses
- ☐ Develop proposals for oil infrastructure needs (pipelines, refineries, storage depots, etc.)
- ☐ Consult with Government of RSS on oil exploration opportunities

Short Term 6 months – 2 years

- ☐ Continue reconnaissance and exploration for mining
- ☐ Consult with Government of RSS on oil exploration opportunities
- ☐ Continue to build mid- and downstream petroleum infrastructure
- ☐ Provide key oil and mining services

Long Term 2-4 years

- ☐ Continue reconnaissance and exploration for mining
- ☐ Bid on new oil exploration licenses
- ☐ Continue to build petroleum infrastructure
- ☐ Provide key oil and mining services

Join the prestigious group of South Sudan's natural resource foreign investors



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Expert Panel & Q&A

