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# The Next Major Gold Mining Destination In Africa

Geological Research Authority of Sudan (GRAS)  
The Republic of the Sudan Ministry of Minerals





“ Sudan is one of the 20 countries producing 38% of world gold production. ”

# 01 ABOUT THE SUDAN

Khartoum,  
Capital of Sudan

# ABOUT THE SUDAN



**3<sup>rd</sup>**  
Largest Country  
In Africa

**40.2 Million**  
Population

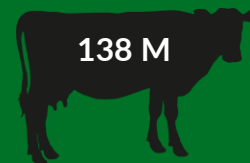
## ▶ **Arabic & English**

Official Languages

## ▶ **Agricultural**

### **Primary Resources**

including cotton, peanuts, gum arabic, and sesame seeds, alfalfa



Agriculture based  
economy supported by  
138 million heads of  
animal stock

Government conducted wide public  
dialogue and built a suitable and acceptable  
national political and constitutional  
framework.

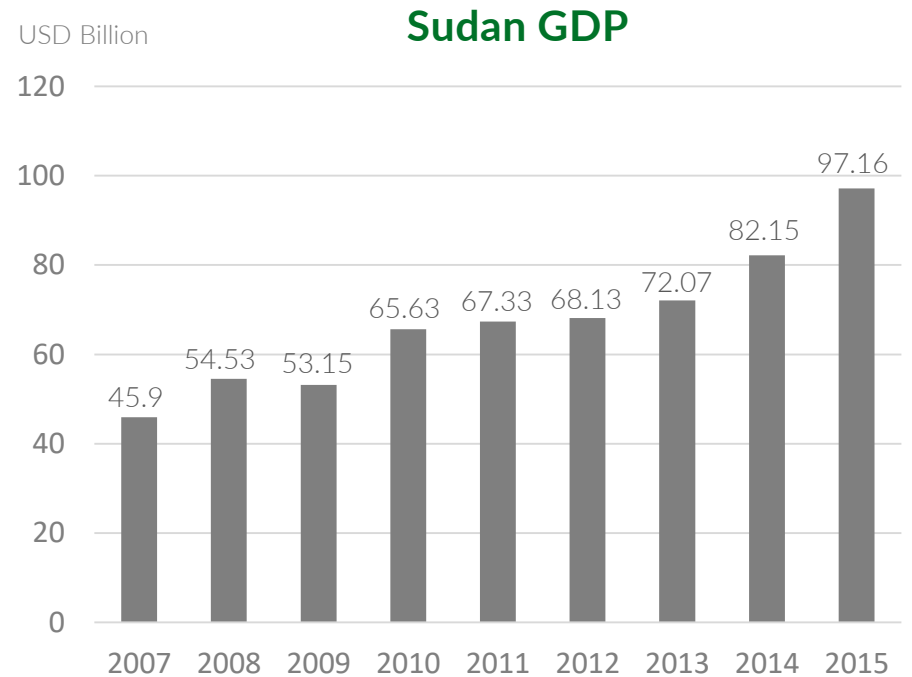
# ABOUT THE SUDAN



# SUDANESE ECONOMY

## Post-Sanctions Era for Sudan

- ▶ **JAN 2017** - the United States lifted a 20-year embargo
- ▶ American, European & other International companies are now able to invest in Sudan
- ▶ Sudan now open for international mineral investment



Source: [www.tradingeconomics.com](http://www.tradingeconomics.com) | World Bank



# 02

## MINERAL POTENTIAL

# POSITIONED TO BE A MAJOR MINING DESTINATION

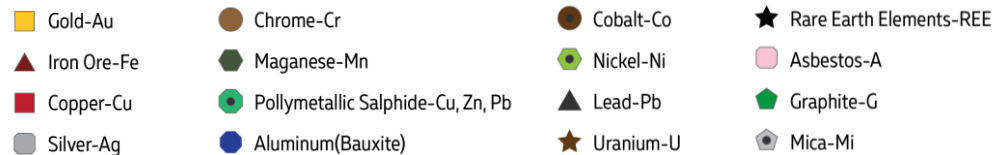
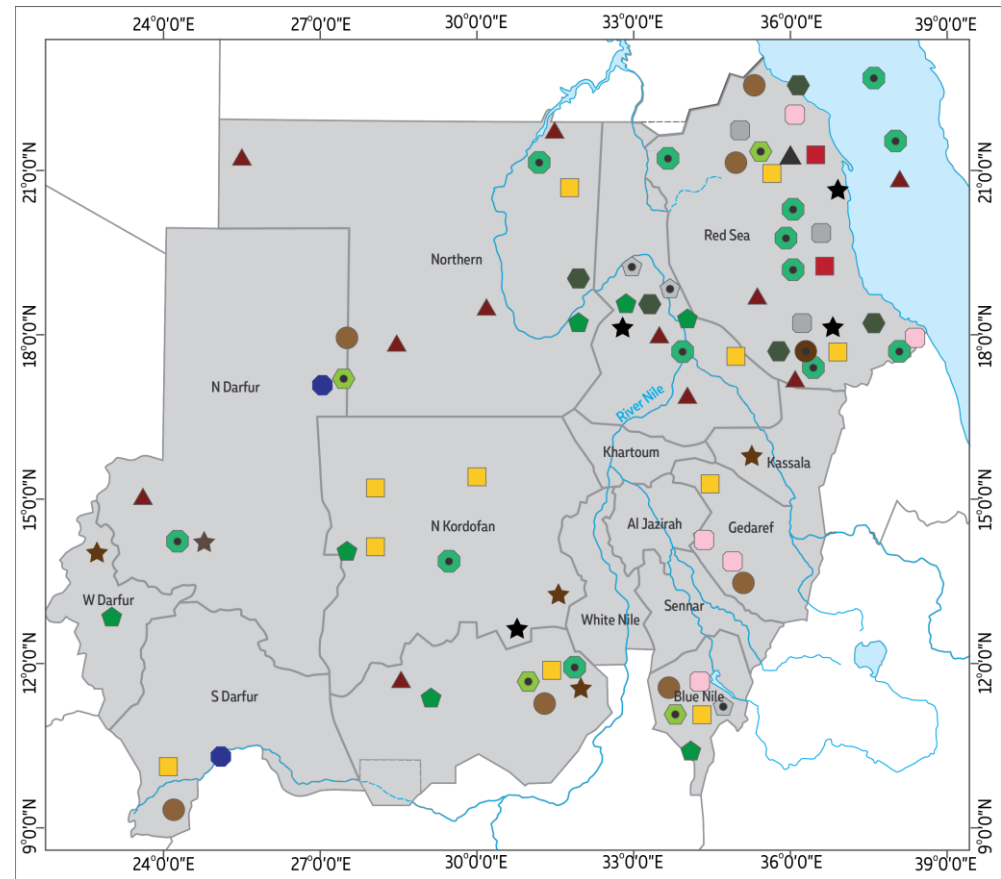
- ▶ Potential to re-emerge as a significant oil producer and become a mineral-based economy
- ▶ Mineral resources and oil reserves remain under-explored
- ▶ One of the last Precambrian terrains to be prospected
- ▶ Geological environments similar to large mineral deposits elsewhere globally – world-class deposits remain undiscovered



# MINERAL POTENTIAL IN SUDAN

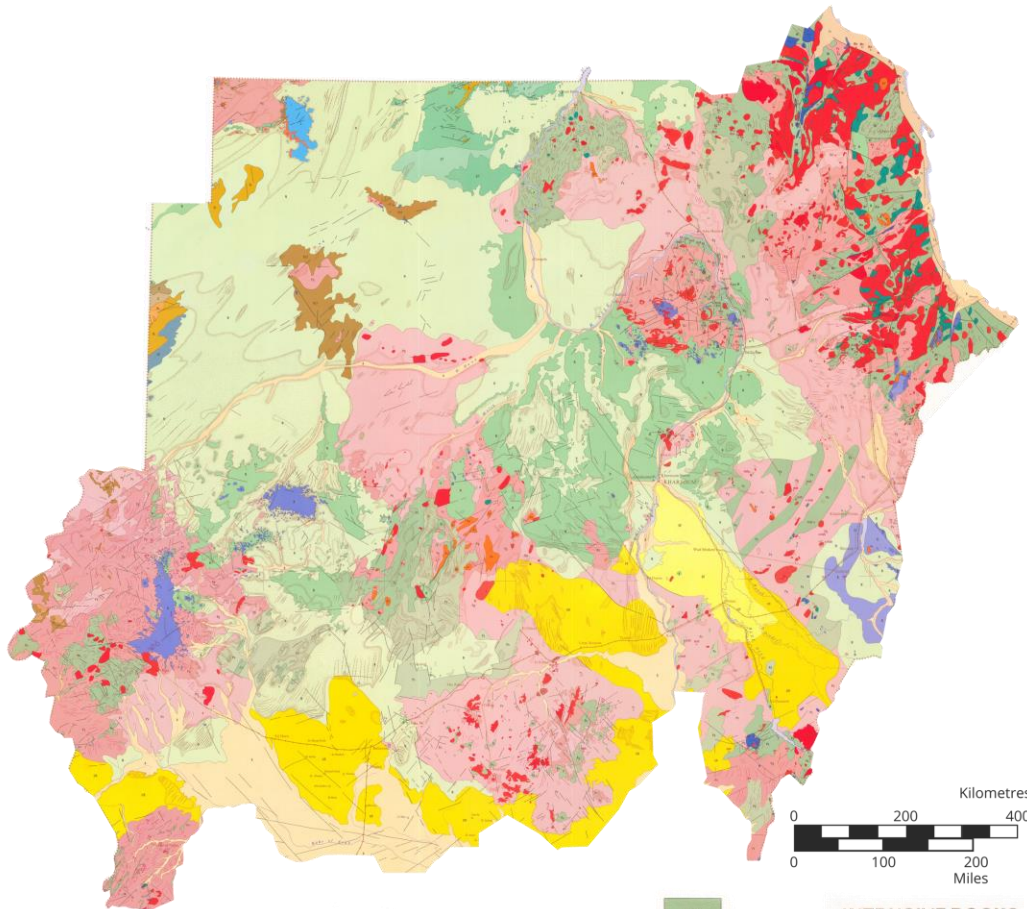
The main mineral potential includes:

- ▶ Precious Minerals  
Gold, Silver, Platinum
- ▶ Base Metals  
Copper, Zinc, Lead
- ▶ Other Metallic Minerals  
Iron, Chrome, Manganese, Uranium, REE
- ▶ Agro minerals  
Phosphates, Potash
- ▶ Industrial Minerals  
Limestone, Marble, Gypsum, Granite, Kaolin, Graphite
- ▶ Gemstones

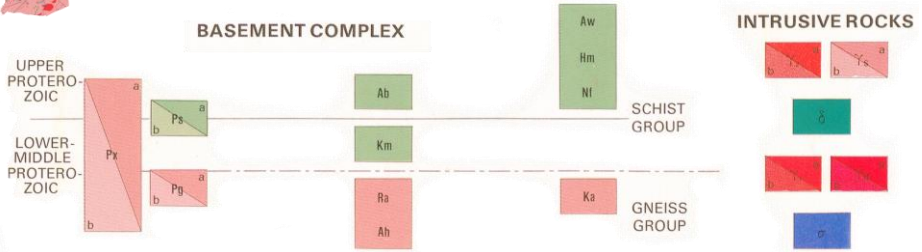




# GEOLOGICAL ENVIRONMENT OF SUDAN



- A** Alluviums, wadi fills, terraces, delta and swamp deposits
- GF** **GEZIRA FORMATION.**  
Unconsolidated clays, silts, sands and gravels
- UR** **UMM RAWABA FORMATION.**  
Unconsolidated sands with some gravels, clays and shales
- Hc** **HUDI CHERT FORMATION.**  
Cherty boulders deriving from lacustrine deposits
- Tr** **RED SEA LITTORAL GROUP.**  
Reefal and perireefal complex with associated deposits :  
"clastic sediments, evaporites and fossiliferous limestones"
- B** <sup>a</sup> **Basic volcanics, mainly basalts (a - outcrop, b - non outcrop)**  
<sup>b</sup>
- Av** <sup>a</sup> **Acidic and intermediate volcanics, mainly rhyolites and trachytes (a - outcrop, b - non outcrop)**  
<sup>b</sup>
- N** <sup>a</sup> **NUBIAN SANDSTONES FORMATION.**  
Continental clastic sediments including : sandstones, siltstones,  
mudstones and conglomerates (a - outcrop, b - non outcrop)  
<sup>b</sup>
- J** **GILFKABIR FORMATION.**  
Sandstones with siltstones and pebbles
- PT** **Sandstone, conglomeratic and arkosic sandstones, interbedded  
siltstones and mudstones (East of J. Uweinat)**
- C** <sup>a</sup> **Succession of limestones, sandstones and marls overlaying ferruginous  
continental sandstones (South of Libya, Chad and Sudan common  
border) (a - outcrop, b - non outcrop)**  
<sup>b</sup>
- DC** **KARKUR MURR and LAKE FORMATIONS.**  
Crossbedded sandstones, siltstones and shales
- D** <sup>u</sup> **Mainly plant bearing sandstones and siltstones with shales  
(West of Wadi Halfa and north west of Wadi Hawa)**  
<sup>l</sup>
- S** <sup>a</sup> **UMM RAS BEDS.**  
Fine and coarse sandstones, crossbedded, friable with some fossils  
(a - outcrop, b - non outcrop)  
<sup>b</sup>
- ε0** **Undifferentiated sediments : conglomerates, sandstones, siltstones and  
shales (North west of Wadi Hawa)**
- Am** **AMAKI SERIES.**  
Sandstones and conglomerates with some limestones and cherts
- Nw** **NAWA FORMATION.**  
Consolidated arkosic grits, mudstones and some limestones
- Pz** <sup>a</sup> **Undifferentiated Paleozoic (a - outcrop, b - non outcrop)**  
<sup>b</sup>





# 03 GOVERNMENT BODIES

# MINISTRY OF MINERALS

- ▶ Established in 2010
- ▶ Authority for metals and minerals within the lands, rivers and the continental shelf of Sudan
- ▶ Responsible for managing the mining investment system
- ▶ Promotes local and foreign investment in the mining sector



## Key Activities:

1. Supervision of geological exploration and prospecting
2. Entering contracts with investors and granting licenses
3. Developing local human resources in mining
4. Managing relations with institutions and relevant regional and international organizations
5. Administration of GRAS, SMRC, SUDAMIN

# MINISTRY OF MINERALS

## Sub Bodies

### GRAS—Geological Research Association of Sudan

- national geoscience technical organization
- fosters sustainable growth and socio-economic development of mineral resources
- develops and administers equitable policies for both industry stakeholders and the State of Sudan



### SMRC

- Monitors companies licensed for exploration and mining

### SUDAMIN

- develops national technical standards

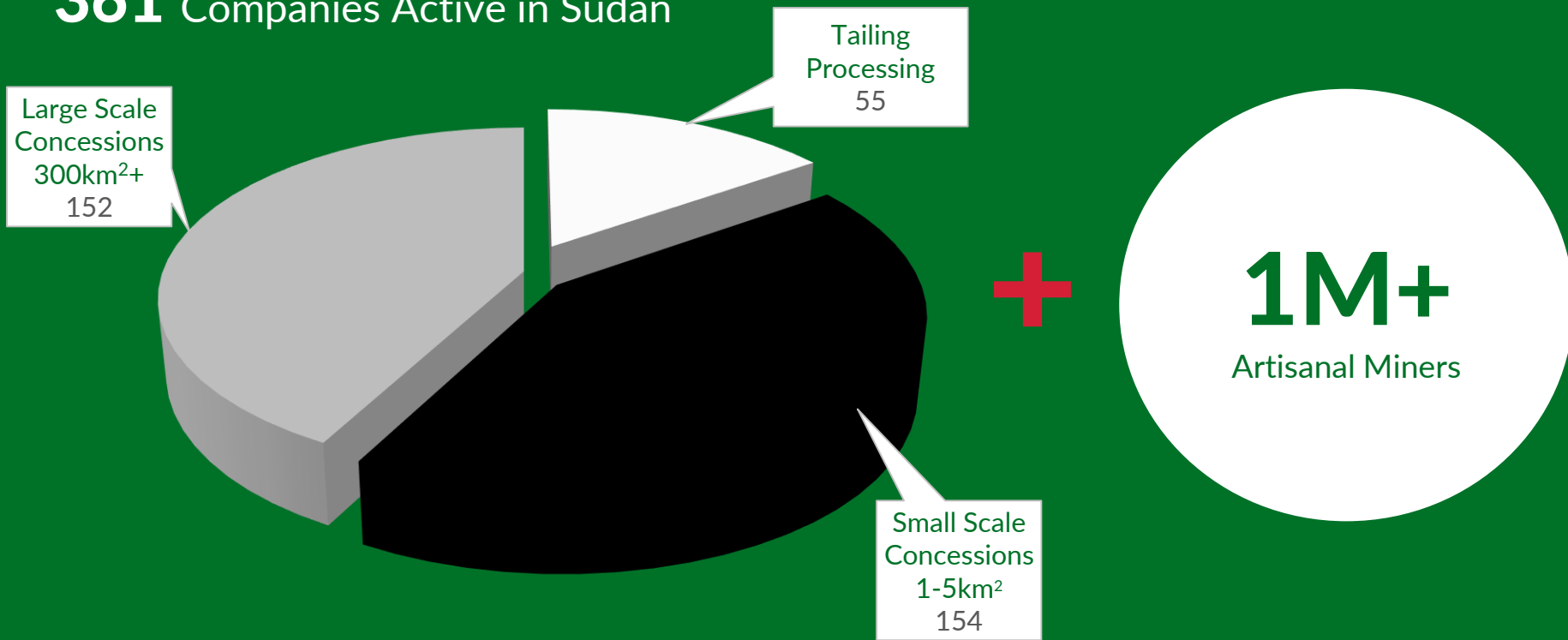


GOLD PRODUCTION  
IN THE SUDAN

04

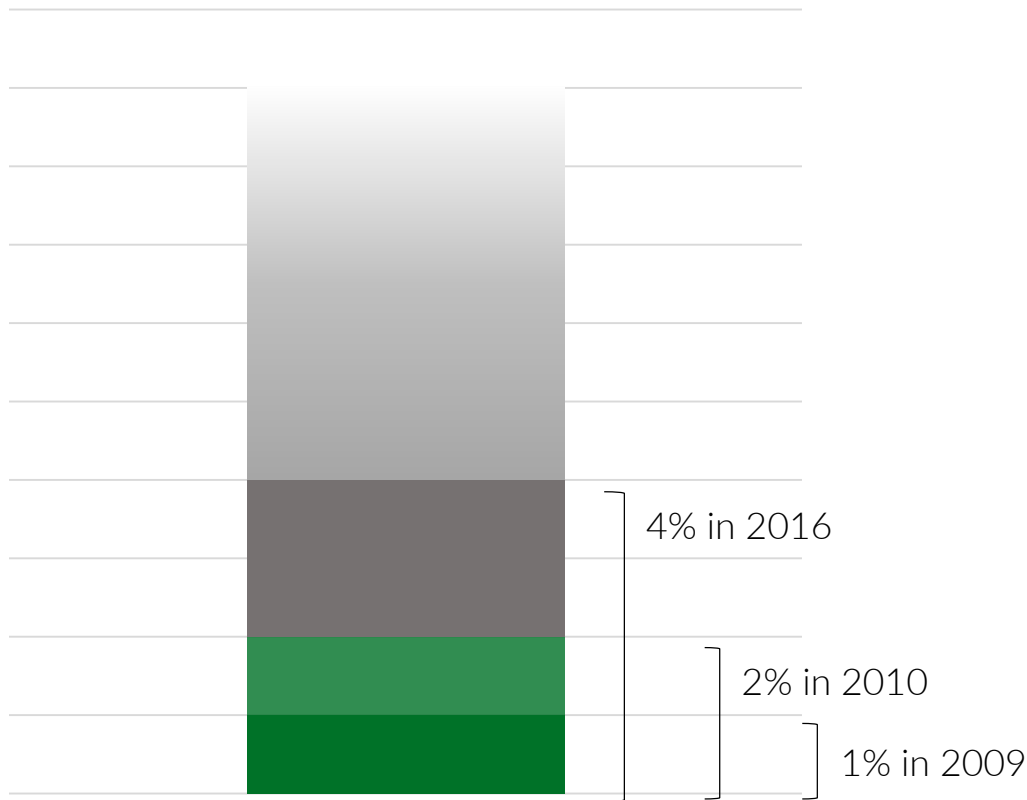
# MINERAL SECTOR DEVELOPMENT

**361** Companies Active in Sudan



# MINERAL SECTOR DEVELOPMENT

## Mineral Sector's Contribution to GDP



Mineral Sector's Contribution to GDP

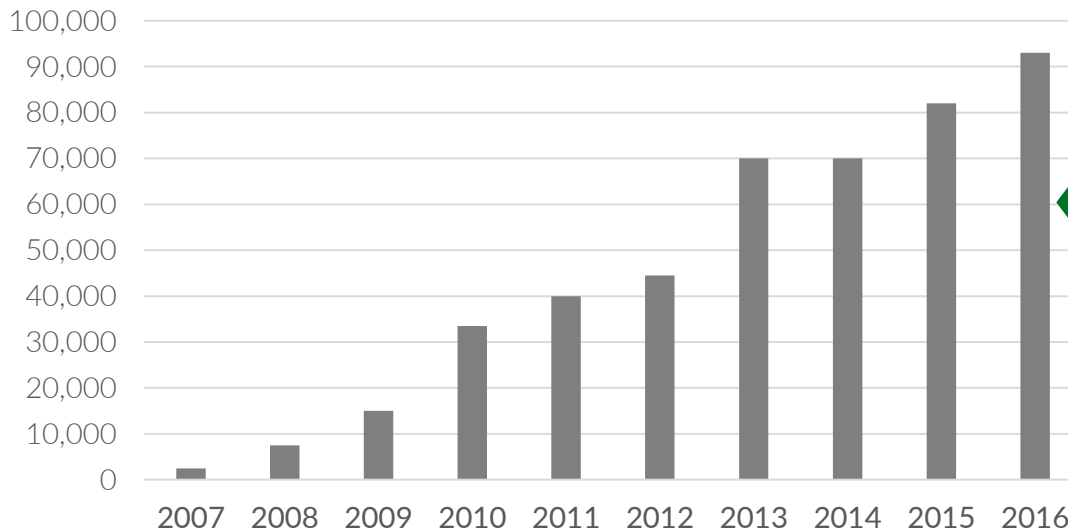
- Since the beginning of this decade, the mineral sector has played an important role in the economy of the country.
- Until 2009, the contribution of the mineral sector to GDP was about 1%.
- Since 2010, the contribution of the mineral sector to GDP increased to 2% and subsequently to 4% in 2016

# 2<sup>ND</sup> LARGEST GOLD PRODUCER IN AFRICA

Without any Commercial Gold Mines

Rank	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	South Africa	South Africa	South Africa	South Africa	South Africa	South Africa	South Africa	South Africa	South Africa
2	Ghana	Ghana	Ghana	Ghana	Ghana	Ghana	Ghana	Ghana	Ghana
3	Mali	Mali	Mali	Mali	Mali	Sudan	Sudan	Sudan	Sudan
4	Tanzania	Tanzania	Tanzania	Tanzania	Sudan	Mali	Mali	Mali	Mali
5	Guinea	Guinea	Guinea	Sudan	Tanzania	Tanzania	Tanzania	Tanzania	Tanzania
6	Togo	Togo	Sudan	Guinea	Burkina Faso	Burkina Faso	Burkina Faso	Burkina Faso	Burkina Faso
7	Zimbabwe	Congo, DR	Togo	Burkina Faso	Togo	Togo	Togo	Congo, DR	Guinea
8	Congo, DR	Sudan	Burkina Faso	Zimbabwe	Guinea	Congo, DR	Congo, DR	Togo	Zimbabwe

## Sudan Gold Production (in kg)



Gold Production 2010-2016  
>400 Tons

Produced **93.4 Tonnes** Of Gold  
In 2016



# SUDAN GOLD REFINERY CO.LTD

- ▶ **Located In Khartoum** – Capital of Sudan
- ▶ Sudan gold refinery maintains a high quality wet chemical refinery ( aqua regia process) as well as a complete precious metals melting system for accurate and reliable results
- ▶ The refinery is producing gold of different purities including: 995.0; 999.0; 999.9 in one kilo or large standard bars
- ▶ Refinery is producing silver of 999.0 fineness (400 kg/day)
- ▶ The refinery has an **annual production capacity of 270 to 360 tons**



An aerial photograph of a mining camp situated in a vast, arid desert landscape. The camp consists of numerous white and blue modular buildings, some with corrugated metal roofs, arranged in a semi-circular pattern. Several white pickup trucks and a larger white truck are parked on the sandy ground. In the foreground, there are stacks of blue water containers and a large, open-sided structure. The background features rugged, brown and grey mountains under a clear sky. A semi-transparent white box is overlaid on the right side of the image, containing the title text.

PRO-MINING  
INVESTMENT  
FRAMEWORK 05

Orca Gold's Camp at  
Block 14 Gold Project

# MINING OBJECTIVES & POLICY

1. Diversify the sources of national income in order to revive the economy
2. Expand the national industrial base – add value for mining products
3. Provide employment opportunities and combat poverty
4. Increase the Gross Domestic Product
5. Conservation of the environment and encourage safe techniques for gold processing
6. Attract foreign mining investments and encourage national investors
7. Training and capacity building of workers in the mining sector
8. Develop and upgrade local laboratories as well as build up minerals database and develop geological researches
9. Enhance sustainable development projects in mining – corporate social responsibility (CSR)
10. Continuous upgrade of the geological & mineral maps of the Sudan

# SUDAN PRO-MINING INVESTMENT FRAMEWORK

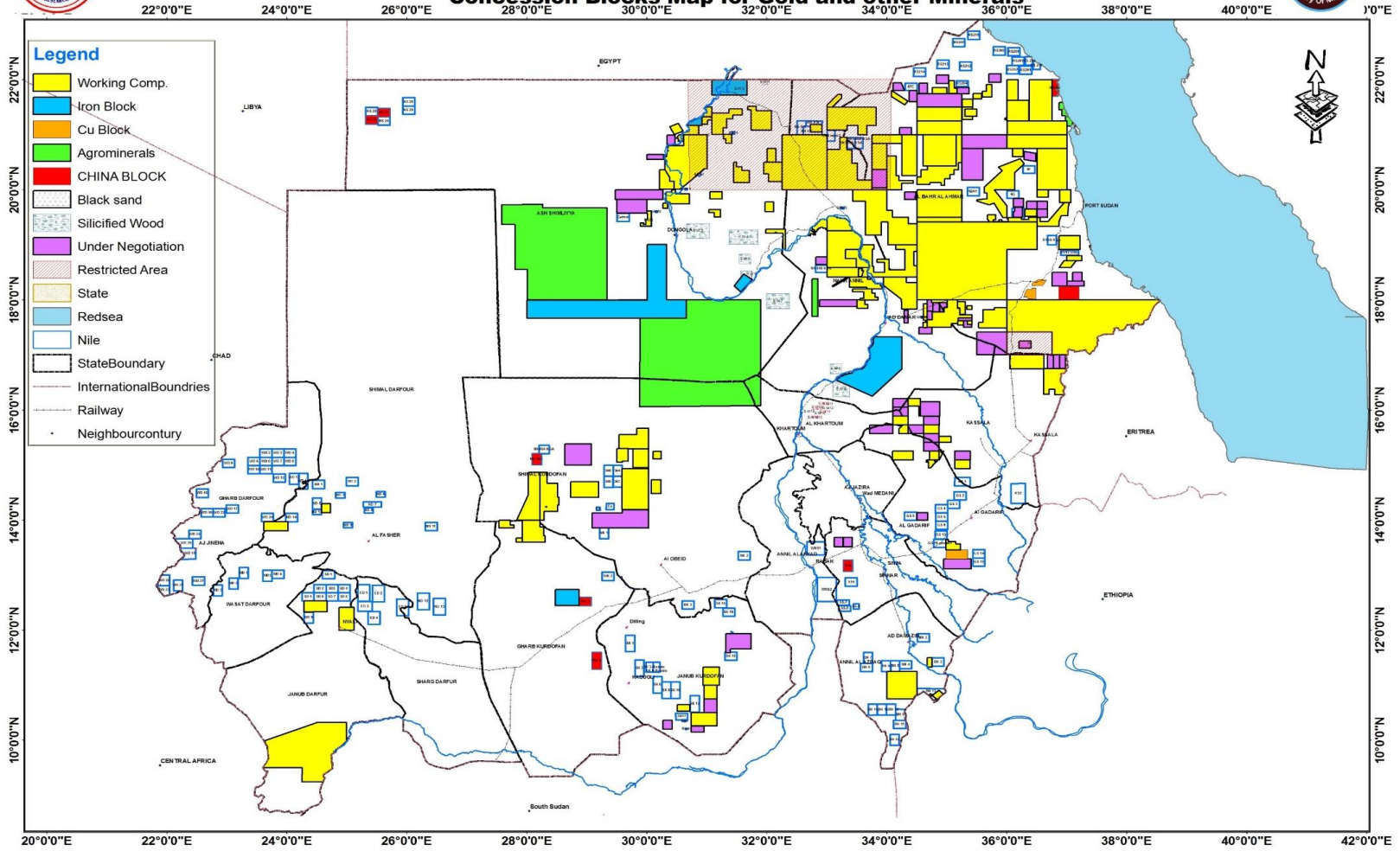
## The Government is entitled to:

- ▶ 5 to 7% royalty
  - ▶ 15-35% free carried interest
  - ▶ 15% business profit tax
  - ▶ Varied property taxes
- ▶ Attractive Mining Code and Investment Framework
  - ▶ Exploration License 2+1 years term and renewable
  - ▶ Mining Licenses – 25-year term and renewable
  - ▶ Investors recover all capitalized exploration and development expenses
  - ▶ Agreements cover both the exploration and exploitation periods
  - ▶ Custom free importation of all mining equipment + VAT retention
  - ▶ Majority equity ownership
  - ▶ Right to transfer ownership
  - ▶ Favorable foreign exchange rates
  - ▶ No withholding taxes
  - ▶ Access to the available data
  - ▶ Commercial terms negotiable

# CURRENT CONCESSION BLOCKS OF SUDAN



Republic of the Sudan  
**Ministry of Minerals**  
**Geological Research Authority of the Sudan**  
**Concession Blocks Map for Gold and other Minerals**



Projects Planning Administration 7\_Feb\_2017

0 150 300 450 600 Kilometers

# PROPOSED NEW CONCESSION BLOCKS

**160+**

Concession Blocks

**Available  
for Investment**

**119**

Blocks

**With Identified  
Mineral  
Occurrences**

**54**

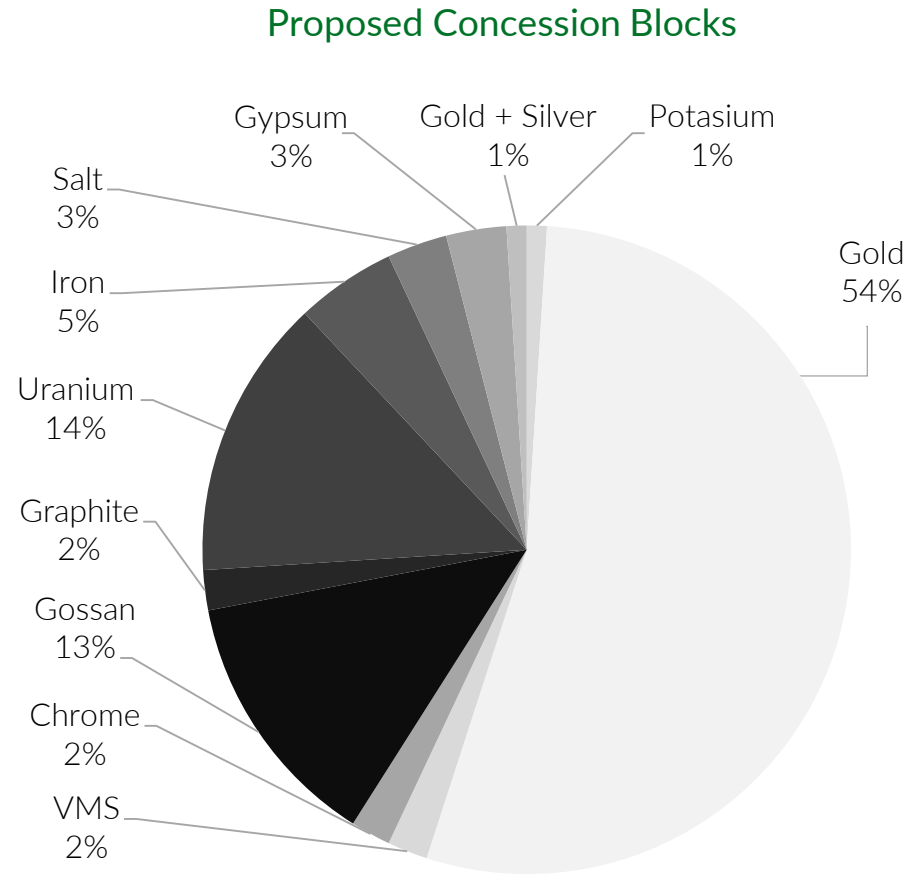
NEW Blocks

**Being Prepared**



# PROPOSED NEW CONCESSION BLOCKS

Mineral Type	No of Blocks
Gold + Silver	1
Potassium	1
Gold	64
VMS	2
Chrome	2
Gossan	15
Graphite	3
Uranium	17
Iron	6
Salt	4
Gypsum	4
<b>Total</b>	<b>119</b>





# COMPANIES OPERATING IN THE SUDAN

# 06



# COMPANIES OPERATING IN THE SUDAN

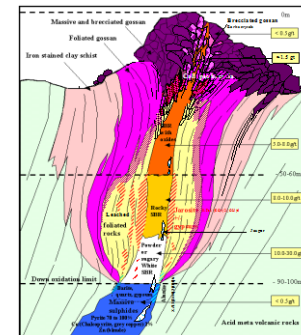


## Orca Gold Inc.

- ▶ Advance-Stage Gold Project in Northern Sudan
- ▶ Current Resources: 1.792 Moz Indicated Au resource at 1.82 g/t and 536k Inferred resource at 1.7 g/t
- ▶ On track to be first large scale gold mine in The Sudan

## Ariab Mining Company

Open pit operation and exploration for VMS



# COMPANIES OPERATING IN THE SUDAN



## Alliance for Mining Co. Ltd

- ▶ On April 30, 2013, the Government of the Republic of the Sudan granted an exploration license for Block 30 in Red Sea State to Kush for Exploration and Production Co. Ltd. (Kush E&P)
- ▶ In the end of 2014, Kush E&P and Sudanese partners established a special project company – Alliance for Mining Co. Ltd. – to operate the GPP and hold production license



## Managem Mining Company

Advanced Exploration and Pilot Development

- ▶ Proved 66t of Au at 1 out of 5 sites in 1 of their 3 concessions
- ▶ Heading for 250t of Au & associated metals



SUMMARY

07

Khartoum,  
Capital of Sudan

# WAY FORWARD FOR THE SUDAN

## ▶ OPEN FOR INVESTMENT AND POSITIONED TO BE AFRICA'S NEXT MAJOR MINING DESTINATION:

- ▶ Economic Sanctions Imposed By The U.S. Eased in January 2017

## ▶ UNDER EXPLORED:

- ▶ Sudan Is The Last Major Precambrian Terrane In Africa Yet To Be Explored For Mineral Resources
- ▶ Diversified Geology Hosts Huge Mineral Potential

## ▶ MINING-FRIENDLY:

- ▶ Infrastructure Is Developing
- ▶ Easy Permitting Process
- ▶ Skilled Labour Available