# Swiss Mining Institute November 2018

# Arabian Nubian Shield Ethiopia and Saudi Arabia

- Strong platform of partners, contractors & company management
- Development ready project starting at ~ 140koz p.a. with potential uplift to 200koz p.a.
- Currently assembling development finance for construction 2019, commissioning 2020
- Extensive exploration portfolio in Arabian-Nubian Shield, in Ethiopia and Saudi Arabia



Ethiopia, Africa's highest growth country, base for African Union, world's largest provider of peace-keeping forces.

KEFI is the developer of Ethiopia's 1<sup>st</sup> modern gold mine, to kickstart a national priority sector with Govt as co-investor.



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### **KEFI Overview**

- Focused on the two largest Arabian Nubian Shield countries: Ethiopia & KSA
- Proprietary data base and locally-based experienced teams
- KEFI Market Cap £9M at 1.7p on AIM ("KEFI"). 12-month high 5p.
- Management & contractors own 15%. Special situation funds ~ 30%
- \$300M development funding is at project-level (contractor, equity, debt)
- NPV of £44M now, or NPV £75M at start production. Open pit only, at \$1300/oz flat, net of debt, after tax, discounted at 8%.
- Excludes value of underground deposit, district deposits adjacent to open pit and exploration projects in Saudi Arabia
- Strong local partners investing alongside KEFI into the local JV companies: Ethiopia: Gov't (\$20M), banks&insurers (\$30-38M), combined <49.9% Saudi: Al Rashid family conglomerate ARTAR, contributes 60% of JV costs
- Ethiopian development-ready project in a district of drilled satellite deposits:
- Extensive exploration portfolio in Ethiopia and Saudi Arabia



Location of KEFI's portfolio within Ethiopia and Saudi Arabia, in the Arabian-Nubian Shield (ANS)

#### Directors



#### Mark Wellesley-Wood, Non-Executive Chair, Chair Technical Review Committee – BEng (Mining)

Mark is a mining engineer, with over 40 years' experience in both the mining industry and investment banking. He has been closely involved in mining activities in Africa, having started his career on the Zambian copper-belt. Mark is a former Executive Chairman and CEO of South African gold miner, DRDGold Limited, and a former director of Investec Investment Banking and Securities in London. He is currently Chairman of AIM quoted Tri-Star Resources plc.



#### Harry Anagnostaras-Adams – Managing Director – B. Comm, MBA, Fellow of Australian Institute of Company Directors

Harry was founder or co-founder of Citicorp Capital Investors Australia, investment company Pilatus Capital, Australian Gold Council, Atalaya (EMED), KEFI Minerals and Cyprus-based Semarang Enterprises. He has overseen a number of start-ups in those and their related organisations principally through the roles of Chairman, Deputy Chairman or Managing Director. He qualified as a Chartered Accountant early in his career while working with PricewaterhouseCoopers.



#### Norman Ling, Non-Executive, Chair Nominations Review Committee – BA German and Economic History [Hons]

Norman was a member of the British diplomatic service for more than 30 years, for the last ten with the rank of ambassador. He has served in a wide range of countries in the Middle East and Africa. His last post, before retirement, was as Ambassador to Ethiopia, Djibouti and the African Union. For the last two years he has been actively involved with development of the mining industry in Ethiopia.



#### Mark Tyler – Non-Executive Director – Bsc (Eng) Mineral Processing, GDE (Mineral Economices)

Mark has over 20 years of mining finance experience, having participated in mining equity investments at the IDC of South Africa and as the Co Head of Resources Finance and subsequently a resources investment banker in London for Nedbank, a South African bank. He is currently also a resources adviser to Exotix Capital, an emerging markets investment bank and the London representative for Auramet International, an international precious metals financier.



#### John Leach – Finance Director – BA Ec, MBA, CA (Aust & Canada)

John has over 25 years' experience in senior executive positions in the mining industry internationally and is a former non-executive Chairman of Australianlisted Pancontinental Oil and Gas NL. He is a Member of the Institute of Chartered Accountants (Australia), a Member of the Canadian Institute of Chartered Accountants, and is a Fellow of the Australian Institute of Directors.

# KEFI Senior ManagementMINERALSManaging Director and Finance DirectorPlus Newly-Appointed Operations Specialists

#### **David Munro - Operations**

David began his career as a mining engineer in underground mining and progressed to manage all parts of the minerals value chain. He has been responsible for mining and smelting operations on five continents and every major commodity.

MD of Billiton BV. Under his leadership this business grew into one of the world's largest and lowest cost integrated producers of primary aluminium. After the merger of Billiton and BHP to form the world's largest mining company, he was appointed President of Strategy and Development.

As CEO of the then ailing RMC Group plc, once a constituent of the FTSE 100 Index, he overhauled the company's strategy and management. By 2005 the company's prospects had improved and it was sold.

He was also one of the original UK based directors of Kazakhmys plc, the first former Soviet mining company to list on the LSE main board in 2005. As Strategy Director he was instrumental in the establishment of their two major open pit copper projects in Kazakhstan, both of which are now in production.

#### Eddy Solbrandt - Systems

Eddy began his career in the mining industry in 1986 and has since worked in open cut and underground metalliferous mines, as well as in coal, gold and mineral sands in Australia, New Zealand, USA, Canada, Mexico, UK, Ukraine, Russia, Kazakhstan, Indonesia, Thailand, South Africa, Mozambique and Namibia.

Eddy is founder of GPR Dehler, an independent, international management consultancy which specialises in productivity improvement for mining companies worldwide, especially in the areas of human resources development and performance improvement.

He is adept at providing swift assessment, analysis and development of solutions and strategies for achieving strategic, operational and financial objectives integrating process, people and technology. He is a seasoned facilitator experienced in designing and conducting interactive strategy workshops.

#### **Brian Hosking - Planning**

Brian began his career as a geologist and technical planning in a variety of mining operations.

In 1990 he set up his own human resource consulting firm, then led its growth and integration into Transearch, a large global search firm. In 1999 he was elected to serve on the Transearch Board as Executive Director and COO.

In 2003 Brian set up Meyer Hosking and focused on the mining sector developing this niche in London providing strategic services including remuneration advice, management assessment and executive search to a wide range of clients.

Brian has established a strong international reputation as a consultant with an in depth knowledge of the industry. In this capacity he is regularly retained as a strategic advisor to executive management teams and boards across the mining industry.

#### Norman Green – Development

Norman is a graduate mechanical and professional engineer with the key experience of having managed large mining and refining construction projects from concept to completion with more than 30 years experience in this field. Major projects Hillside Aluminium smelter, the Skorpion Zinc project and the Husab Uranium mine are included in his handiwork, as well as a number of pure deep level underground mines.

He founded and built Green Team International (GTI) into a successful project engineering firm providing or supporting construction implementation and other engineering support to mainly African mines. Projects studied or handled by GTI as the Project Implementation Team or "Owner's Team" included major gold, uranium, copper, nickel, iron ore and platinum projects in Namibia, South Africa, DRC, Peru and Madagascar.

Norman now conducts projects of special interest with his long-standing associates for long-established clients.

Senior Management have been paid mainly in shares rather than cash

# **Ethiopia and Saudi Arabia**

- The two largest countries in the Arabian-Nubian Shield, by land mass
- Both have a long ancient history of mining
- Both opened to modern mining during the past decade
- Both recently installed younger national leaders and are demonstrably pro-development

- In both countries:
  - $_{\rm O}$  KEFI has secured pole position for the mining sector
  - **KEFI's proprietary database and in-country teams provide early mover advantages**

# **Ethiopia Development Funding**

# at Project Level

- To minimise ownership dilution from imminent development funding, have arranged development funding at project-level.
- Have also arranged a working capital facility for parent comprising £450K per month available for drawdown from Jan 2019. Repayments half-convertible at floor price of 2p.
- ~\$300M development funding package at project level comprises:
  - \$60M for mine (equipment & infrastructure) funded via Ausdrill mine services agreement whereby capital is recouped from production cash flows at \$/tonne
  - $\odot$  \$110-118M project equity:
    - \$60M already spent by KEFI Minerals (Ethiopia)
    - \$50-58M commitments by local partners (Govt, Banks&Insurers) for up to 50%
  - \$110M project lease-bond or loan for processing infrastructure (lease/bond mandated) plus additional sums for costs and escrowed cash for debt service during construction
     \$20M working capital for ore stockpile funding

# Market Capitalisation Statistics of Peers This compares EV (Mkt Cap+Debt) with NPV

"Pre-Construction", "In Construction" and "New Producers"



KEFI's market capitalization of \$11M is only 20% of the NPV of its +50% of Tulu Kapi

### Saudi Arabia

### **Operator of Largest Non-Govt Explorer**

- KEFI has been operator of the Gold & Minerals Joint Venture (G&M) since 2008
- G&M has taken the opportunity of the past 2-3 years of regulatory overhaul by the Government
- KEFI has assembled a cherry-picked exploration portfolio. The largest other than Ma'aden (Govt)
- Field work is focused on starting drilling in 2019 at the same time as project-development in Ethiopia

View a video summarising KEFI's projects in Saudi Arabia here





### **Tenement Locations in Saudi Arabia**

### via the G&M Joint Venture with ARTAR



#### Saudi Arabia



# Key Exploration Area for 2019 Wadi Bidah Mineral District



Comparison of 120km long Wadi Bidah VMS Belt (left) vs. the Bisha VMS Belt in Eritrea (right) (same scale).



G&M JV (via ARTAR) has registered applications for most of Wadi Bidah VMS Belt. Contain 24 VMS systems and many historic workings

# **Hawiah Licence**

# At top of Wadi Bidah Mineralised District



Geophysics identified an intense north-south trending self-potential (SP) anomaly located from surface to +300m depth with +2km strike length (consistent with the presence of a massive sulphide source)



- Gossan 6km long, 5-40m wide
- 53 Trenches across the gossan along its entire length, samples average 2-3ppm or g/t gold
- Drilling to start 2019
- Potential for a very large VMS copper-gold deposit



### Ethiopia

### **Developing the First Modern Mine**

- 2014: KEFI acquired Tulu Kapi Gold Project
- 2015-2017: formalised permits, construction & operating contracts and community plans
- The past 2-3 years of public calls for change in Ethiopia have resulted in recent very positive change
- KEFI and now pressing the "go" trigger for 2019 construction and commencement of district exploration

**View** a video summarising KEFI's projects in Ethiopia <u>here</u>



### **Phases of a Project for Risk Mitigation**

# **Tulu Kapi Ready to Start Construction 2019**





### **Tulu Kapi Project-Independent Validation**

### For Project Financiers, at Nov 2018





### KEFI has a Project Pipeline Positioned From Step 1 to Step 9 Triggering Step 10 in Early 2019



# **TULU KAPI** GOLD MINES S.C.

### TULU KAPI'S TIMETABLE



### Ethiopia

# **2018 Political Developments**

- April 18: new Prime Minister Dr Abiy Ahmed a smooth leadership change. Lifted the State of Emergency that
  of > 2 years and introduced a series of initiatives that have been welcomed inside and outside Ethiopia.
- April-Aug 18: new Mines Ministry, new central bank Governors and new V.P. of Oromia Regional Govt. Peace Agreement with Eritrea, reconciliation with Oromia Liberation Front, commitment to privatisation and deregulation of major Government enterprises. Rapid and far-reaching changes across many dimensions.
- An impressive refreshed commitment to development and democratisation. Note that Ethiopia has been in top 10 growth countries for over 15 years of change and development. This year, Africa's highest growth country.
- Tulu Kapi Gold Project has full permit for its development, operation, social & environmental plans.

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- Remaining administrative consents for development trigger are:
  - Oromia Regional Govt to trigger detailed community resettlement action plan done
  - Ministry of Mines to endorse all past equity investment (+US\$60M) and refined project plan mostly done
  - Central bank to approve finance plan details (security, leasing components, cash control) happening

# ANS Mining S.C ("ANS")

### **KEFI's Local Institutional Partners**

- Govt committed in 2017 as KEFI's initial partner: Ministry of Finance & Economic Cooperation to invest \$20M
- ANS formed in 2018 to be KEFI's second local partner in Tulu Kapi Gold Mine
- ANS founders have committed 10% of the ANS investment of \$30-38M
- Investors into ANS mainly comprise major Ethiopian banks and Insurance companies
- Ethiopia investors cannot invest outside Ethiopia and seekexposore to gold-hard-currency based assets
- The gold sector is a national priority (dropped from 400Koz in 2017 to nil today)
- Tulu Kapi starts at 140Kpa
- The cash flow outlook for Tulu Kapi indicates rapid debt-repayment, organic growth & good potential dividends

### KEFI's Cornerstone Asset Tulu Kapi is in Ethiopia's largest gold region



# **KEFI Equity Finance Structure**



- All consortium parties are either listed companies or government entities (thereby providing transparency, suitable regulation and accountability at all levels). All parties will undertake both a project responsibility role and a project investment role:
- TKGM \$110M of equity funding and management of the project (past equity is \$60M and additional planned is \$50-60M)
- Government of Ethiopia to invest new equity \$20M funding and operate all off-site infrastructure
- ANS signed binding agreement to invest new equity \$30-38M (£22.5-£28.5M) in TKGM
- Ausdrill to supply and operate the mining fleet (on a cost per tonne basis)
- Lycopodium performance guarantee on process plant designed and supplied for fixed price. Cost-based assembly with incentivised targets



Contacts



Local community consultation before development starts at Tulu Kapi

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**KEFI Minerals plc** 



# APPENDICES



# Tula Kapi Gold Project

The Tulu Kapi project lies 360 km due west of Ethiopian capital, Addis Ababa. Access is via a sealed road and the site benefits from main electricity grid access within 50km of the project. Tula Kapi has a probable ore reserve of 1.05Moz and mineral resources totalling 1.72Moz.

**The project is fully permitted** – the mining agreement formalised in Apr-15, with terms including a 20-year mining licence, 5% Government free carried interest and full permitting for development and operation. Minor ancillary licences are being processed for issuance once community resettled. Planned gold production is 144koz p.a. for the first 3 years, with net operating cash flow c.\$78M p.a. (at assumed gold price \$1,300/oz) and life of mine open-pit gold production of 980koz at an AISC of c. \$800/oz.

#### **Project Timeline**

- 1930s Discovered and mined on a small scale by an Italian consortium 2009 Nyota Minerals Limited acquired the licences and undertook extensive exploration and drilling Nyota Minerals publish an initial DFS based on a 2.0 Mtpa 2012 processing plant, capex \$290M for ~100 Koz pa gold over 10 years KEFI acquires 100% of the project for ~\$10M, equating to a cost of Dec-13 Jun-14 ~\$10/oz reserves for a project with ~\$50M historical expenditure **Mining Licence Granted** 2015 DFS completed, evaluated conventional open-pit mining 2015 operation and carbon-in leach (CIL) processing International tenders to select project contractors 2016 May-17 DFS update, incorporates due diligence and refinements on the 2015 DFS. Process plant capacity of 1.7-1.9Mtpa KEFI announced increased process plant capacity to 1.9-2.1Mtpa, Oct-17 capex c. \$160M for ~140Koz pa gold over 7 years
- <image>

Project development- 1930's to present day

• 2018 Financing to start development

#### Tula Kapi - Resources & Reserves (JORC 2012)

#### **Geological Overview**

- The Tulu Kapi region comprises typical greenstone characterised by prominent hills of intrusive rocks and deeply incised valleys hosting both metasediments and metavolcanic material
- Gold is hosted in quartz-albite alteration zones as stacked sub-horizontal lenses in a syenite pluton into which a swarm of dolerite dykes and sills have intruded
- Gold mineralisation extends over a 1,500m by 400m zone and is open at a depth of over 400m
- Relatively simple mineralogy comprises gold, silver, pyrite and minor sphalerite and galena – metallurgical recoveries of gold average ~ 93%





**Examples of Mineralised Tula Kapi Drill Core** 

#### Reserves

	Cut-off	Tonnage	Gold Grade	Cont. Gold
	(g/t)	(millions)	(g/t)	(Moz)
High grade	0.90	12.0	2.52	1.0
Low grade	0.50 - 0.90	3.3	0.73	0.1
		15.4	2.12	1.05

#### Resource

		Tonnage (millions)	Gold Grade (g/t)	Cont. Gold (Moz)
Indicated	Below 1,400m	17.7	2.49	1.4
Inferred		1.3	2.05	0.1
		19.0	2.46	1.5
Indicated	Above 1 100m	1.1	5.63	0.2
Inferred	Above 1,400m	0.1	6.25	0.0
		1.2	5.69	0.2
Indicated	Tatal	18.8	2.67	1.6
Inferred	Total	1.4	2.40	0.1
		20.2	2.65	1.7

#### Note:

Resources were reported above and below 1,400m RL to reasonably reflect the portion of the resource that would likely be exploited via either open-pit or underground methods.

### Tulu Kapi Gold Project Overview of Post-DFS Refinements 2018 Plan Agreed with Contractors & Financier

As part of the due diligence for financing, KEFI has agreed the 2018 Plan with the preferred financier and contractors.

Whilst resources and reserves and the mine plan remain essentially unchanged, the planned process plant has been expanded to a nameplate of 1.9-2.1Mtpa, to reduce stockpiles and expand cash flows.

#### The 2018 Plan is supported by the:

- draft mining services agreement with Ausdrill/African Mining Services
- draft plant design, supply and construction contracts with Lycopodium
- confirmations of commitment and schedule from Ethiopian Roads Authority and Ethiopian Electricity & Power Corp'n for roads and power
- draft operational arrangements with the explosives, fuel, laboratory services and other ancillary support services
- the draft report by the independent technical experts for the lenders

The implementation plans have been agreed on a base schedule of 24 months from drawdown of project finance to 1<sup>st</sup> gold pour. Incentivised arrangements are proposed for faster start-up.

#### 2018 Plan compared with most recent DFS

Key mining and financial parameters from these studies are summarised in the table below.

	2018 Plan	2017 DFS Update
Stripping Ratio	7.4	7.4
Total Ore Processed	15,400 kt	15,400 kt
LOM Head Grade	2.1 g/t	2.1 g/t
Gold Recovery	93.3%	93.3%
Total Gold Production	980 koz	980 koz
Process Plant Throughput	1.9-2.1 Mtpa	1.5-1.7 Mtpa
Avg. Gold Production (first 8 years)	135koz p.a.	115 koz p.a.
Cash Operating Costs	\$701/oz	\$684/oz
All-in Sustaining Costs	\$793/oz	\$801/oz
All-in Costs (incl. initial capex)	\$973/oz	\$937/oz
NPV at start of construction (8% real discount rate) (after debt)	\$115M/£82M	\$69M
NPV at start of production (8% real discount rate) (after debt)	\$192M/£137M	\$159M
NPV at start of production (8% real discount rate) (before debt)	\$337M	\$289M
Payback Period	3 years	3 years
Net Operating Cash Flow (average for first 8 years)	\$73M p.a.	\$60M p.a.

Note: Both cases at a gold price of \$1,300/oz.

### Tulu Kapi - Project Development Progress

#### **Government and Community**

- Mining Licence issued, bilateral agreement signed, permitted for development, operating, environmental and social
- Project Company (TKGM) shareholders agreement signed Mining Licence transferred to TKGM
- Roads and power authorities have committed to construct and operate required off-site infrastructure
- · Community resettlement plans and compensation agreed and ready for implementation upon drawdown
- Finance Ministry and Central Bank has approved tax treatments and capital ratios
- Currently reviewing draft documentation for \$160M infrastructure bond finance

#### Contractors

- · Have confirmed updated costs for financing agreements
- Have agreed base case 2-year construction schedule, with incentivisation for quicker schedule and lower cost





### The mining fleet and operators will be provided by Ausdrill/African Mining Services MINERALS Planning and Control by KEFI/TKGM



Ausdrill / African Mining Services has developed a mainly African based business over a 27 year period where 97% of employees are nationals. It currently conducts mining operations for clients in Ghana, Mali, Bukino Faso, Senegal and drilling services in other countries also.

### Another African Mining Services Open Pit Mine



# **TULU KAPI** GOLD MINES S.C.

# LYCOPODIUM process plant construction contractor



Lycopodium is mainly African-based, having built 57 gold plants and worked in over 20 African countries over a period of over 20 years. It has also worked in Australia, Asia and Europe.

Lycopodium will be co-ordinated and controlled by KEFI/TKGM.



# **THANK YOU**