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# KEFI Minerals plc ("KEFI" or the "Company")

# COMPLETION OF 2015 DEFINITIVE FEASIBILITY STUDY AND UPDATE ON DEVELOPMENT FUNDING OF TULU KAPI GOLD PROJECT, ETHIOPIA

KEFI Minerals plc (AIM: KEFI), the gold exploration and development company with projects in the Kingdom of Saudi Arabia and the Federal Democratic Republic of Ethiopia, is pleased to report completion of the 2015 Definitive Feasibility Study ("2015 DFS") on time and in accordance with the Company's strategy. The 2015 DFS is now being reviewed by the Independent Technical Consultants to the financiers who are formally considering participation in the syndicate to agree the development funding arrangements in Q3 2015.

In April 2015, the Tulu Kapi Mining Agreement between the Ethiopian Government and KEFI was formally executed and included an undertaking to the Government to target the commencement of construction in late 2015 and an undertaking from the Government to facilitate the planned financing. KEFI has been granted a Mining Licence valid for a renewable period of 20 years, along with all major permits for the development and operation of the Tulu Kapi mine.

### **Highlights of 2015 DFS**

- Gold production remains at 960,000 ounces over 13 years with an average of 95,000 ounces per steady-state year (i.e. excluding the start-up year and the processing of low-grade stocks after open pit mining).
- All-in Sustaining Costs remain at c. US\$780/oz, which ranks the project in the lowest cost quartile
  globally for gold producers. This includes all operating costs, royalties, sustaining capital and closure,
  but excludes initial capital investment.

#### **Development Funding Plan**

- The initial funding requirement remains at approximately US\$120 million, based on the planned use of contract-mining and an all-new processing plant.
- Development funding plans remain for KEFI to seek US\$100 million of secured debt-based finance and US\$20 million of equity finance at the contractor-funding level, project subsidiary level or parent company level (in that order of preference). The projected equity investment is in addition to the US\$65 million that has been invested in the project to date.
- The targeted level of secured debt-based finance would result in a greater project Internal Rate of Return ("IRR") and higher Net Present Value ("NPV") for current shareholders than if KEFI funded the project entirely through equity finance. One particular scenario under consideration yields an IRR of 52% compared with an all-equity funded IRR of 28%. It also provides projected NPV at the commencement of production in 2017 of US\$156 million (c. £100 million), at a discount rate of 8%. Current KEFI market capitalisation is approximately £14 million.
- KEFI's objectives during Q3 2015 include the lowering of the initial funding requirement through the tendering and procurement process, and the refinement and agreement of the funding plan with contractors and financiers. The objective is to preserve robust project economics whilst minimising equity dilution.

The 2015 DFS combines the input from KEFI's independent specialist advisers including Senet (assembly of DFS and ore processing), Snowden (Mineral Resources and Ore Reserves), Epoch (tailings management), Cube Consulting (grade control and mine optimisation), Golder (environmental and social impact) and Endeavour Financial (project finance advisor and arranger). Further details are set out in the explanatory comments below. Some refinements may result from the review by the Independent Technical Experts acting for the secured financiers and from the outcome of the tendering and procurement process.

# Harry Anagnostaras-Adams, Executive Chairman of KEFI Minerals, commented:

"This has been a very successful quarter where we have been granted full development permitting from the Government of Ethiopia, completed a scheduled equity placing and we have now tabled the 2015 DFS for financier review on schedule and on specification.

"Once production commences, this development will bring substantial benefits to Ethiopia, including the creation of approximately 700 jobs at the mine site over its planned initial 13 year life."

# **ENQUIRIES**

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#### **EXPLANATORY COMMENTS ON 2015 DFS**

The Tulu Kapi 2015 DFS is based on a conventional open-pit mining operation and a 1.2Mtpa carbon-in-leach ("CIL") processing plant, with gold recoveries averaging 91.5%.

Utilising semi-selective mining techniques, it is planned to process ore mined above 0.9g/t gold and stockpile ore mined between 0.5g/t gold and 0.9g/t gold. Based on this mining approach, the following key mining and financial parameters for Tulu Kapi were estimated in the 2015 DFS:

	Initial 10 Years (excluding low-grade stock)	13-year LOM (including low-grade stock)
Waste:ore ratio	9.9:1.0	7.4:1.0
Total ore processed	12.0Mt	15.4Mt
Average head grade	2.5g/t gold	2.1g/t gold
Total gold production	888,000 ounces	961,000 ounces
Cash Operating Costs	US\$653/oz	US\$661/oz
All-in Sustaining Costs	US\$774/oz	US\$780/oz
All-in Costs (including initial capex)	US\$911/oz	US\$906/oz



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# **Capital Expenditure**

The table below provides the key components of the estimated peak funding requirement based on contract mining and building an all-new processing plant.

	US\$ millions
Processing	65.6
Infrastructure	19.7
Tailings (TSF)	7.5
Indirects (EPCM, etc)	14.3
Owners Cost	8.9
Subtotal	113.0
Pre-Production Funding	2.4
Working Capital	6.2
Total Capital	121.6

Contingency provisions aggregate to approximately 10%.

Potential Mining Contractors and Engineering, Procurement and Construction Management (EPCM) Contractors have been short-listed and final bidding will now proceed followed by procurement once development funding is arranged.

### **Unit Operating Costs**

The table below provides a summary of the average estimated life-of-mine unit operating costs:

	US\$/ounce	US\$/t
Mining	441	28
Processing	133	8
G&A	86	5
Cash Operating Costs	661	41
Royalties	87	5
Sustaining capex and closure costs	32	2
All-in Sustaining Costs	780	49

### **Key Financial Parameters**

The 2015 DFS base-case economic analysis was predicated on the capital and operating costs summarized above and the following parameters:

- Gold price of US\$1,250 flat over life-of-mine;
- US\$/Ethiopia Birr exchange rate of 20.0926
- Electricity cost of US\$0.03 /kWh
- Diesel cost of US\$0.84/litre

The base-case financial metrics tabulated below are stated on an after tax basis:

	Unleveraged	Leveraged
IRR	28%	52%
NPV (0%)	US\$263M	US\$187M
NPV at start construction 2015	US\$125M	US\$106M
(8% real discount rate)		
NPV at start production 2017	US\$256M	US\$156M



(8% real discount rate)		
Payback	2.5 years	4.5 years
Average Operating cash flow	US\$47M p.a.	US\$47M p.a.
before depreciation, financing	_	_
charges and tax (first ten years)		

The leveraged scenario is based on the targeted US\$100M of secured debt-based finance.

The sensitivity of the after-tax NPV (at an 8% real discount rate) to key parameters is tabulated below:

	-10% (US\$M)	Base Case (US\$M)	+10% (US\$M)
Gold Price	71	125	178
Capital Expenditure	134	125	116
Operating Costs	155	125	94

### **Mineral Resources and Ore Reserves**

The current Tulu Kapi Mineral Resource estimate totals 20.2 million tonnes at 2.65g/t gold, containing 1.72 million ounces:

JORC (2012) Resource category	Reporting elevation	Cut-off (g/t gold)	Tonnes (Mt)	Gold (g/t)	Ounces (million)
Indicated	Above 1400 RL	0.45	17.7	2.49	1.42
Inferred	Above 1400 RL	0.45	1.28	2.05	0.08
Indicated and Inferred	Above 1400 RL	0.45	19.0	2.46	1.50
Indicated	Below 1400 RL	2.50	1.08	5.63	0.20
Inferred	Below 1400 RL	2.50	0.12	6.25	0.02
Indicated and Inferred	Below 1400 RL	2.50	1.20	5.69	0.22
Total Indicated	All		18.8	2.67	1.62
Total Inferred	All		1.40	2.40	0.10
<b>Total Indicated and Inferred</b>	All		20.2	2.65	1.72

The Mineral Resources were split above and below the 1,400m RL to reasonably reflect the portions of the resource that may be mined via open pit and underground mining methods.

The current Tulu Kapi Ore Reserve estimate totals 15.4 million tonnes at 2.12g/t gold, containing 1.05 million ounces:

JORC (2012) Reserve category	Cut-off (g/t Au)	Tonnes (million)	Gold (g/t)	Ounces (million)
Probable - High grade	0.90	12.0	2.52	0.98
Probable - Low grade	0.50 - 0.90	3.3	0.73	0.08
Total		15.4	2.12	1.05

Note: Mineral Resources are inclusive of Ore Reserves. All numbers are reported to three significant figures. Small discrepancies may occur due to the effects of rounding.

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This Ore Reserve estimate is based on the Indicated Resource above 1,400m RL and reflects KEFI's envisaged semi-selective mining strategy that will utilise an elevated cut-off grade. Ore at a cut-off of between 0.50g/t and 0.90g/t gold is planned to be stockpiled and then processed in the final three years of the project, resulting in a project life of 13 years for the 2015 DFS.

The high-grade portion of the Ore Reserve contains nearly all the contained ounces and totals 12.0 million tonnes at 2.52g/t gold, containing 0.98 million ounces.

The above Mineral Resources and Ore Reserves were estimated using the guidelines of the JORC Code (2012).

# **Mining and Processing**

The mining method planned for Tulu Kapi is conventional open-pit drill and blast, load and haul on 7.5m benches, reflecting a semi-selective mining approach using 120 tonne backhoe configured excavators. The mine design was based on an optimized pit shell using a gold price of US\$1,250 per ounce.

Ore mined above a cut-off of 0.9g/t gold is planned to be processed for the first ten years of the project production schedule, with ore mined between 0.5g/t gold and 0.9g/t gold being stockpiled for later processing.

The Tulu Kapi deposit contains three ore types with the fresh ore becoming harder with increasing depth:

	% of Total Ore
Oxide ore	6%
Fresh ore	66%
Fresh hard ore	28%

The gold is free milling and all the processes included in the CIL plant design are standard and common to many current gold operations.

The processing plant is designed to treat 1.2Mtpa of ore based on mill availability of 96%, optimum grind size of 75 microns and a residence time of 24 hours.

The overall life-of-mine gold recoveries are estimated to be 91.5% with recoveries ranging from 85% for low-grade hard fresh samples to 95% for high-grade oxide samples.

# **Location and Infrastructure**

Tulu Kapi is located approximately 360km due west of Ethiopia's capital, Addis Ababa. A main road to Addis Ababa is within 15km of Tulu Kapi and was sealed with asphalt during 2014. The altitude of the project area is between 1,600m and 1,765m above sea level. The climate is temperate with annual rainfall averaging about 150cm.

The Tulu Kapi region has typical Precambrian type geology which is characterised by prominent hills of intrusive rocks and deeply incised valleys containing metasediments and metavolcanic rocks. Gold at the Tulu Kapi deposit 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 been intruded. Gold mineralisation extends over a 1,500m by 500m zone and is open at depth (+550m).

The mine will require the construction of two roads outside the mine licence area:

- A 15.0km access road from the town of Keley; and
- A 4.5km bypass road around the southern sided of the licence area.

The DFS envisages that process water requirements will be satisfied by the collection and storage of rainwater during the rainy season, between June and September.



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The mine will be connected to Ethiopia's electricity grid via a new 47km long, 132 kV power line. A 5 MW emergency diesel power plant will provide emergency backup power to critical process equipment and infrastructure in the event of a grid power failure. This will allow critical equipment to remain in operation until it can be safely shut down or until grid power is reinstated.

The mine layout has been designed to minimise the footprint of the operation and minimise community disruption. The number of households to be resettled has been reduced from c. 460 to c. 260, with a phased resettlement programme being undertaken over two years. The process is designed to comply with Equator Principles and IFC Standards.

The tailings storage facility will be constructed in four stages and has been designed with the capacity to support the planned 13 year mine life.

## **Legal Framework**

The Tulu Kapi Mining Agreement ("MA") between the Ethiopian Government and KEFI was formalised in April 2015. The terms of the MA include:

- 20-year Mining Licence covering an area of 7km<sup>2</sup>, with full permits for the development and operation of the Tulu Kapi gold project.
- Fiscal arrangements:
  - o 5% Government free-carried interest;
  - o Royalty of 7%;
  - o Income tax rate for mining of 25%;
  - o Historical and future capital expenditure is tax deductible over four years; and
  - o Stabilisation of fiscal arrangement to protect KEFI in case of future legislative changes.
- Government undertaking to facilitate international financing arrangements.

All project plans as submitted by KEFI have been approved and now form legally binding attachments to the Mining Agreement:

- Social Impact and Environmental plans for implementation, monitoring and management;
- Development and Production Work Programme for mining, processing and sales; and
- Community Resettlement Action Plan staged over 2015 and 2016.

#### **Outlook**

KEFI's objectives during Q3-2015 include the lowering of the initial funding requirement through the tendering and procurement programs and the refinement of the financing plan with contractors, and the secured financiers.

Key expected milestones for the remainder of 2015 at Tulu Kapi include:

- Finalising full development funding in Q3-2015; and
- Commencing community resettlement and major works on site in Q4-2015.

Achieving the above milestones during 2015 enables commissioning of the processing plant to commence in Q4 2016 and gold production to commence in 2017.

# **Competent Person Statement**

KEFI Minerals reports in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code 2012").



The information in this announcement that relates to Mineral Resources and Ore Reserves is based on information compiled by Mr Jeffrey Rayner. He is the Exploration Director of KEFI Minerals and a Member of the Australasian Institute of Mining and Metallurgy ("AusIMM"). Mr Rayner is a geologist with sufficient relevant experience for Group reporting to qualify as a Competent Person as defined in the JORC Code 2012. Mr Rayner consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The exploration results, Mineral Resources and Ore Reserves in this report have been previously released as follows:

Date of Release	Project	Subject	<b>Competent Persons</b>
22 April 2015	Tulu Kapi	Probable Ore Reserves	Frank Blanchfield
			Sergio Di Giovanni
4 February 2015	Tulu Kapi	Mineral Resource	Simon Cleghorn
	·		Lynn Olssen

KEFI confirms that it is not aware of any new information or data that materially affects the information in the above releases and that all material assumptions and technical parameters, underpinning the estimates continue to apply and have not materially changed. KEFI confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

#### NOTES TO EDITOR

## **KEFI Minerals plc**

KEFI is the operator of two advanced gold development projects within the highly prospective Arabian-Nubian Shield, with an attributable 1.93Moz (100% of Tulu Kapi's 1.72Moz and 40% of Jibal Qutman's 0.73Moz) Au Mineral Resources (JORC 2012) plus significant resource growth potential. KEFI targets that production at these projects generate cash flows for further exploration and expansion as warranted, recoupment of development costs and, when appropriate, dividends to shareholders.

Expected milestones for the remainder of 2015 at Tulu Kapi include:

- Formalisation of senior secured financing, agreement of final terms for project finance; and
- Full development funding and commencement of construction.

In addition, during 2015 KEFI anticipates triggering a Preliminary Feasibility Study to underpin the submission of a Mining Licence Application for Jibal Qutman in Saudi Arabia through its joint venture company, Gold & Minerals Ltd ("G&M"). The potential development of Jibal Qutman is targeted to follow the start-up of Tulu Kapi.

### **KEFI Minerals in Ethiopia**

The Tulu Kapi gold project in Western Ethiopia is being rapidly progressed towards development. In October 2014, KEFI Minerals reactivated the Mining Licence Application and assembled indicative project finance terms. The Mining Licence was granted in April 2015 and the secured lenders' independent technical consultants have now commenced their due diligence.

The 2015 Definitive Feasibility Study focused on construction of a 1.2Mtpa processing plant with estimated annual steady-state gold production 95,000oz and All-in Sustaining Costs (including operating, sustaining capital and closure) averaging US\$780/oz (excluding initial investment).

### KEFI Minerals in the Kingdom of Saudi Arabia



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In 2009, KEFI formed G&M in Saudi Arabia with local Saudi partner Abdul Rahman Saad Al-Rashid & Sons Company Limited ("ARTAR"), to explore for gold and associated metals in the Arabian Shield. KEFI has a 40% interest in G&M and is the operating partner. To date, G&M has conducted preliminary regional reconnaissance and has had five exploration licences ("EL") granted, including Jibal Qutman and the recently granted Hawiah exploration licence that contains over 6km strike length of outcropping gossans developed on VMS altered and mineralised rocks.

At Jibal Qutman, G&M's flagship project, the total Indicated and Inferred category Mineral Resources, JORC (2012) compliant, are now estimated at 28.4Mt at 0.80g/t Au for 733,045 contained gold ounces compared with 22.0Mt at 0.90g/t Au for 633,461 contained gold ounces previously estimated in March 2014, both at a cut-off grade of 0.2g/t Au.

ARTAR, on behalf of G&M, holds 24 exploration licence applications that cover an area of approximately 1,484km<sup>2</sup>. ELs are renewable for up to three years and bestow the exclusive right to explore and to obtain a 30-year exploitation (mining) lease within the area.

The Kingdom of Saudi Arabia has instituted policies to encourage minerals exploration and development and KEFI Minerals supports this priority by serving as the technical partner within G&M. ARTAR also serves this government policy as the major partner in G&M, which is one of the early movers in the modern resurgence of the Kingdom's minerals sector.



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