EDISON

KEFI Minerals

Corporate update

Final government approvals granted

Metals & mining

After two years lost to a state of emergency in Ethiopia, a new political order has emerged that has allowed KEFI to progress Tulu Kapi to the point of development. All federal government consents have now been received (including from the National Bank of Ethiopia, Ethiopia's central bank). This now allows KEFI to trigger the first equity instalment of US$11.4m from its Ethiopian partners into the project, which will fund detailed engineering & procurement (including long lead items), allow community resettlement and defer debt funding until FY20. Importantly, however, it also enables the infrastructure finance bond programme to proceed, such that, on the current timeline, commissioning of the plant is anticipated to start by end-2020, with first gold in April 2021 and full production by mid-2021.

Year end	Revenue (£m)	PBT* (£m)	EPS* (p)	DPS (p)	P/E (x)	Yield (%)
12/17	0.0	(3.6)	(1.2)	0.0	N/A	N/A
12/18	0.0	(4.6)	(1.0)	0.0	N/A	N/A
12/19e	0.0	(3.4)	(0.2)	0.0	N/A	N/A
12/20e	0.0	(8.6)	(0.4)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles and exceptional items.

Technically simple

Under the aegis of the new political environment, mining has been deemed a strategic industry in Ethiopia. In this context, Tulu Kapi has several technical advantages, including the fact that the plant will employ a conventional carbon-in-leach process route and that, although a specialised mining ore loading cycle will be required in some instances, less than 10% of the total material movement is categorised as 'selective', with the balance being otherwise completely standardised.

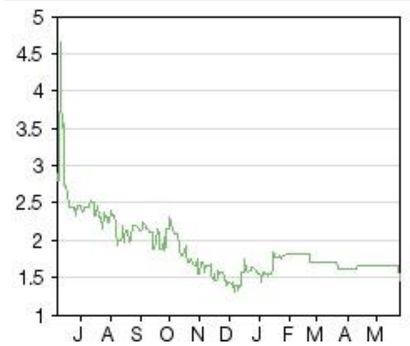
Valuation: 207–458% premium to the share price

We calculate that Tulu Kapi is capable of generating free cash flow of c £48.0m a year for seven years, from 2021 to 2027. With average (maximum potential) dividends of 0.95p/share for the nine years from 2021 to 2029 inclusive (after deduction of a 55% 'minority' interest), and assuming the full conversion of KEFI's £4m secured convertible loan facility, this implies a valuation for KEFI of 4.70p/share (at a 10% discount rate), rising to 5.69p/share in FY21. However, this valuation increases further, to 5.35p, in the event of the drawdown of only £3m of the convertible loan facility and the conversion of half of that into shares, and to 5.85p in the event that the whole facility is repaid in cash in the manner of conventional debt. Stated alternatively, assuming full drawdown and conversion, we estimate an investment in KEFI shares on 1 January 2019 at a price of 1.53p could generate an internal rate of return to investors of 36.8% over 11 years to 2029 in sterling terms. Note however, that this valuation is based on the projected dividend flow resulting from the execution of the Tulu Kapi project alone, and ignores the exploration and development of the pipeline of targets in the KEFI portfolio. In the event that KEFI is ultimately successful in leveraging its cash flow from the mine into its other assets in the region, our valuation rises to 8.53p/share.

7 June 2019

Price	**1.53p**
Market cap	**£10m**
	US$1.2706/£
Net debt (£m) at 31 December 2018	0.5
Shares in issue	643.6m
Free float	94.8%
Code	KEFI
Primary exchange	AIM
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	6.3	(12.6)	(46.4)
Rel (local)	8.3	(13.0)	(42.6)
52-week high/low		4.65p	1.29p

Business description

KEFI Minerals is an exploration and development company focused on gold and copper deposits in the highly prospective Arabian-Nubian Shield – principally the Tulu Kapi project in Ethiopia and, to a lesser extent, the Jibal Qutman project in Saudi Arabia.

Next events

Community resettlement	Mid-2019
Engineering & procurement	Mid-2019
Construction start	End-FY19
Closing of project infrastructure bond	January 2020

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Edison profile page

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Investment summary

Specialist Arabian-Nubian Shield operator

KEFI Minerals is a gold junior that specialises in exploration on either side of the Arabian-Nubian Shield (ANS), which spans the African and Arabian plates and is the source of some of man's earliest known mining activities, including the Mahd adh Dhahab ('Cradle of Gold') mine, which is the leading gold mining area in the Arabian peninsula. Currently, it has a 100% interest in its flagship Tulu Kapi project in Ethiopia, comprising 1.8Moz (although this will reduce to c 45% post-funding) and a 40% interest in Jibal Qutman in Saudi Arabia, which contains a further 0.7Moz, of which the overwhelming majority is in the indicated category of resources.

Valuation: Base case 207% premium to the share price

Assuming the full conversion of KEFI's £4m secured convertible loan facility, we calculate that Tulu Kapi is capable of generating free cash flow of c £48.0m a year for seven years, from 2021 to 2027 (inclusive). With average (maximum potential) dividends of 0.95p/share for the nine years from 2021 to 2029 inclusive (after the deduction of a 55% 'minority' interest), this implies a valuation for KEFI of 4.70p/share (discounted back to FY19 at a rate of 10% per year), rising to 5.69p/share in FY21, when we estimate that the first potential dividend could be paid to shareholders (given that the majority of the proposed debt financing is in the form of a bond). However, this valuation increases to 5.35p in the event of the drawdown of only £3m of the convertible loan facility and the conversion of half of that into shares, and to 5.85p in the event that the whole facility is repaid in cash in the manner of conventional debt. Stated alternatively, assuming full drawdown and conversion, we estimate that an investment in KEFI shares on 1 January 2019 at a price of 1.53p could generate an internal rate of return to investors of 36.8% over 11 years to 2029 in sterling terms. Note, however, that this valuation is based on the projected dividend flow resulting from the execution of the Tulu Kapi project alone and ignores the exploration and development of the pipeline of targets in the KEFI portfolio. In the event that KEFI is ultimately successful in leveraging its cash flow from the mine into its other assets in the region, our valuation rises further, to 8.53p/share.

Sensitivities: Admirably geared to the gold price

Self-evidently, final government approvals materially reduce the risks associated with the development of the Tulu Kapi project. Otherwise, from an empirical perspective, a ±10% change in the gold price will, on average, result in a 2.31p change in our valuation, while a ±10% change in costs will result in a 1.71p change in our valuation.

Financials: Balance sheet carrying values and financing

KEFI writes off all exploration expenditure so that its balance sheet is deliberately conservative. On account of changes to accounting standards, KEFI will be required to review the carrying value of its investment in KME (also known as KEFI Ethiopia – see Exhibit 9), which holds the company's share of the Tulu Kapi project currently under development. As set out in its recently released 2018 annual report, KEFI's investment in KME will be revalued at full finance closing in accordance with the requirements of new IFRS 9 accounting standards. Accordingly, KEFI's planned 45% beneficial interest in the underlying valuation of Tulu Kapi will be revalued from £4.598m as at 31 December 2017 to c £41m based on the company's disclosures in the annual report. The balance sheet of TKGM at full closing of all project funding will also reflect all equity subscriptions, which are currently estimated to exceed c £94m, or US$120m (Ethiopian birr equivalent) along with the fair valuation-based assets and liabilities in accordance with IFRS.

KEFI had £0.5m in net debt on its balance sheet as at 31 December 2018, after £6.9m in operating and investing cash outflows before working capital in FY18. It plans to finance its initial US$194.7m capex funding requirement principally via a bond (US$160m) and project-level equity (US$58m in addition to the US$60m equity already invested) and an ore stockpile banking facility (US$10-20m). We assume further mezzanine funding of US$7.7m in the form of a streaming agreement to sell gold at US$450/oz (escalating). While the infrastructure financing is off balance sheet, KEFI will recognise the asset and liability side in accordance with the new accounting standards. From the perspective of economic appraisal, if all funding sources are considered, we forecast a maximum aggregate net debt funding requirement overall for the project of £112.5m (US$143.0m) in FY20, which (in our estimation) equates to an approximately 55:45 net debt:equity ratio at the project level. Within this context, it is notable that KEFI has designed the whole structure to sustain a flat gold price for 10 years, at US$1,050/oz, which represents its lowest price over the course of the past nine years.

Company description: Arabian-Nubian Shield specialist

KEFI was formed in 2006 and has since rapidly evaluated and relinquished a number of exploration properties as well as acquiring new projects. The ANS, which spans the African and Arabian plates, became the company's primary focus in 2008, when it commenced exploration in Saudi Arabia. It expanded its activities there in December 2013, when it acquired 75% of Tulu Kapi in Ethiopia for £4.5m, before buying the remaining 25% for US$0.75m plus 50m shares in September 2014. KEFI's exploration activities are now concentrated exclusively on the ANS, with Tulu Kapi in Ethiopia as its flagship project, followed by Jibal Qutman in Saudi Arabia.

History

The ANS is the source of some of man's earliest known mining activities, including the Mahd adh Dhahab ('Cradle of Gold') mine, which is the leading gold mining area in the Arabian peninsula. Gold was first mined in the area around 5,000 years ago in the form of swarms of gold-bearing quartz veins and the site has been identified as one of the possible locations of King Solomon's mines, with archaeologists having found a large abandoned gold mine, c 1Mt of waste rock, and thousands of stone hammers and grindstones left by early artisanal miners.

Tulu Kapi

Although very little detailed academic work was performed on it at the time, the Tulu Kapi deposit was known and exploited as long ago as the 1930s, when an Italian company (SAPIE) conducted saprolite, hydro-mining of the quartz veins at depth near the contact of the diorite and syenite, where the degree of albitization is less and the degree of silicification is more. Note that this mineralisation is not the immediate target of either KEFI's exploration work or its development plans (see Geology, below).

Having lain dormant for some years, exploration restarted under the auspices of the UN Development Programme (UNDP), which drilled two diamond holes at Tulu Kapi during the 1970s and identified the eponymous UNDP zone. Canadian junior, Tan Range (TREC), continued exploration work with grid soil, ground geophysical and diamond drill work (five holes totalling 374m) between 1996 and 1998. Mapping, soil sampling, ground geophysics (induced polarisation and magnetics) and additional drill holes (34 diamond drill holes totalling 6,908m on an 80 x 80m grid) were then performed by GPMC/Minerva between 2005 and 2009, which resulted in the announcement of a maiden inferred resource at Tulu Kapi of 690,000oz gold in September 2009.

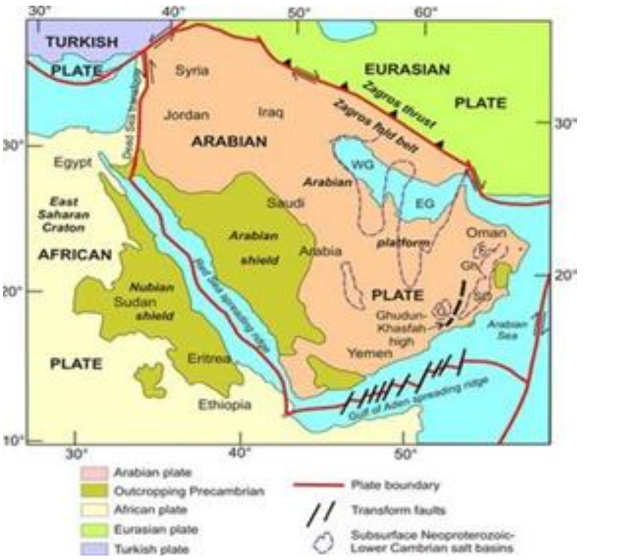
Exploration was intensified between 2009 and 2013 by Tulu Kapi's new owner, Nyota, in the form of airborne (radiometry) and ground (induced polarisation and magnetics) geophysical surveys plus 14 trenches (totalling 98m) and infill drilling (259 diamond drill holes, totalling 65,125 m, and 331 reverse circulation (RC) holes totalling 38,328m), which led to the expansion of the resource to 1.9Moz at an average grade of 2.3g/t (cf Exhibits 3 and 4, below).

After a period of due diligence, KEFI acquired 75% of Tulu Kapi for £4.5m in December 2013 (cf historic exploration expenditure of >US$50m, source: KEFI Minerals), equivalent to US$5.17 per contemporary resource oz. In September 2014, it bought the remaining 25% of Tulu Kapi for £750,000 plus 50m shares – equivalent to US$5.06/oz at that time – such that its total consideration in respect of Nyota's 1.9Moz resource estimate (cf Exhibits 3 and 4, below) was US$9.77m (equivalent to US$5.14/oz).

Geography

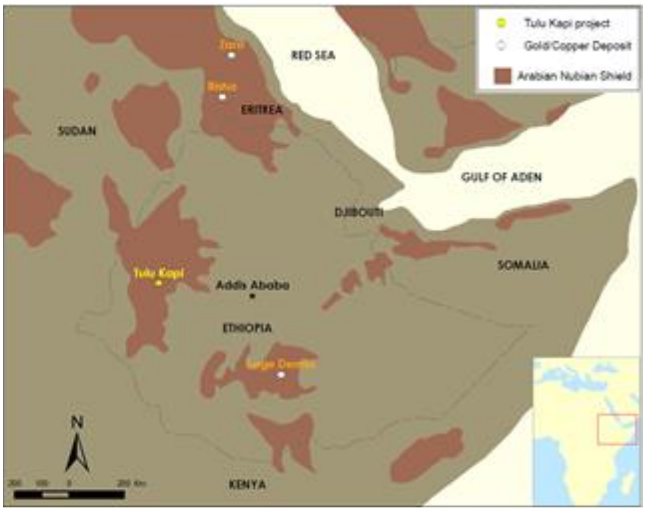
Tulu Kapi is located in the Oromia regional state (the biggest in the country) and in the Ghimbi/Gimbi zone of western Ethiopia, approximately 360km west of Ethiopia's capital, Addis Ababa. It is accessible via a 565km main road that passes less than 12km from the site and takes approximately 10 hours to complete by car. The government has reserved for KEFI the exploration rights over 1,900km^2 of the Tulu Kapi district, for exploration to commence as soon as Tulu Kapi development is triggered. This area includes the Tulu Kapi deposit and surrounding areas. The site is 1,600–1,765m above sea level.

Exhibit 1: Location of the ANS and major tectonic structures



Source: KEFI Minerals

Exhibit 2: Location of Tulu Kapi in the ANS



Source: KEFI Minerals

Geology

In general, the ANS consists of Precambrian crystalline rocks and hosts various minerals in a diverse range of deposit formations, including gold, copper, zinc, tantalum, silver and potash, which can be found in mesothermal gold, polymetallic, quartz vein gold and volcanogenic massive sulphide (VMS) ores.

Tulu Kapi

The region around Tulu Kapi consists of typical greenstone geology. Tulu Kapi itself is located in the Tulu-Dintu shear zone – a major north-east/south-west trending fault – which is characterised by Neoproterozoic, meta-volcanic sedimentary successions that have been faulted and folded and intruded granites, mafics and ultra-mafics. The deposit itself exists at the contact of three plutonically related lithologies, being one syenite and two diorites into which two major dyke swarms have intruded (being porphyritic, dioritic and basic in nature, thereby indicating a dilational environment). Gold is hosted in the syenite, stacked up against the diorite, leading KEFI to posit that it represents a structurally controlled, hydrothermally altered deposit in which the host rock is the gabbro sill, the heat source was the quartz and the structurally suitable deposition zone is albitized syenite. It is thought that the syenite itself is unlikely to be the source of the gold-bearing fluids and current thinking is that the shear zone represents a structure created by reactivation of a former vein-fault zone. This reactivation caused the brittle syenite intrusion to shear, thereby forming a series of low angle faults that provided the conduit for both the swarm of dolerite sills and the mineralising fluids. As a consequence, the principal gold mineralisation at Tulu Kapi is associated with shallow (c 30^{o}) north-west dipping zones of dense gold-bearing quartz veining, enveloped by an auriferous, highly albitized, metasomatic alteration centred on the shear zone. Gold is generally only associated with the albitized zones (including gold contained within quartz veins and fractures); however, there does not appear to be any correlation between the degree of albitization and the gold grade. The alteration also includes the replacement of the mafic minerals with sulphides (see Metallurgy, below). One of the significant consequences of this formation is the marked visible distinction between the (green) host rock of mafic syenite and the (white) ore comprising albitized syenite. The albitized zones are of a lensoid nature comprising discrete, stacked bodies that pinch and swell along both strike and dip. The thickness of the individual albitized zones is highly variable. Dykes and/or sills are present within the syenite in the form of mafic rocks (dolerite) and are up to 10m in thickness.

There are two ostensible zones of mineralisation, being the more fractured, but higher-grade central zone (c 2.7g/t) and the generally lower-grade (c 1.1g/t), albeit first to be discovered, UNDP zone. The two are separated by the UNDP fault (an in-filled dyke). However, there is no major faulting to offset mineralisation.

The exact nature of the shear zone has not been fully confirmed and the shear contact is considered to be complex with deep drilling having identified high gold grades within the diorite located beyond the shear. In addition, deep diamond drilling has identified particularly high gold grades at depth, within the syenite, close to the shear zone. Note that the degree of alteration in the syenite reduces with depth, with less albitization and more silicification. This zone is variously known by KEFI either as ‘the deeps’ or ‘the feeder zone’.

Reserves and resources

The currently defined mineralisation at Tulu Kapi exists within in a 1,500 x 400m surface area, with gold, silver and pyrite existing in conjunction with minor amounts of sphalerite and galena. Resources in the (main) central area have been drilled on a 40m grid, concentrating to a 20m grid in some areas, which is relatively dense given the style of mineralisation and therefore suitable for reporting to the indicated category of resources. Outside the central area, the grid ranges from 40m to 80m and is suitable for inclusion in the inferred category. Note that a large portion of the resource also exists in the indicated category owing to extensive reverse circulation (RC) drilling.

Including Jibal Qutman, a summary of KEFI’s total attributable resource (with Tulu Kapi’s resource being assessed at a cut-off grade of 0.5g/t) is as follows:

Exhibit 3: KEFI Minerals – assets' resources (100% basis)

		Cut-off grade (g/t)	Tonnage (Mt)	Grade (g/t)	Contained gold (Moz)
Tulu Kapi					
	Measured	0.50	0.00	0.00	0.00
	Indicated	0.50	19.40	2.65	1.65
	Inferred	0.50	1.51	2.32	0.11
	Total	0.50	20.91	2.62	1.76
Jibal Qutman					
Oxide	Measured		0.00	0.00	0.00
	Indicated		8.30	0.86	0.23
	Inferred		2.80	0.64	0.06
	Sub total		11.10	0.80	0.29
Sulphide	Measured		0.00	0.00	0.00
	Indicated		9.70	0.86	0.27
	Inferred		7.60	0.72	0.18
	Sub total		17.30	0.80	0.45
Oxide + sulphide	Measured		0.00	0.00	0.00
	Indicated		18.00	0.86	0.50
	Inferred		10.40	0.70	0.24
	Total		28.40	0.80	0.73
Grand total	**Measured**		**0.00**	**0.00**	**0.00**
	Indicated		**37.40**	**1.79**	**2.15**
	Inferred		**11.91**	**0.93**	**0.36**
	Total		**49.31**	**1.58**	**2.51**

Source: KEFI Minerals, February 2015 (Tulu Kapi) and May 2015 (Jibal Qutman)

This modifies only fractionally for Tulu Kapi when considered with respect to differentiated cut-off grades to reflect discrete open pit and underground mining domains.

Exhibit 4: Tulu Kapi resource at differentiated cut-off grades

	Category	Cut-off (g/t)	Tonnes (Mt)	Grade (g/t)	Contained gold (Moz)
Above 1,400m RL	Measured	0.45	0.00	0.00	0.00
	Indicated	0.45	17.70	2.49	1.42
	Inferred	0.45	1.28	2.05	0.08
	Sub total	**0.45**	**18.98**	**2.46**	**1.50**
Below 1,400m RL	Measured	2.50	0.00	0.00	0.00
	Indicated	2.50	1.08	5.63	0.20
	Inferred	2.50	0.12	6.25	0.02
	Sub total	**2.50**	**1.20**	**5.69**	**0.22**
Total	Measured		0.00	0.0	0.00
	Indicated		18.78	2.67	1.62
	Inferred		1.40	2.40	0.10
	Total		**20.18**	**2.65**	**1.72**

Source: KEFI Minerals, February 2015

Of the 'above 1,400m RL' resource, 81% of the tonnage, 86% of the grade and 70% of the gold inventory have subsequently been converted into appropriately mineable reserves, as follows:

Exhibit 5: Tulu Kapi reserves

Category	Cut-off grade (g/t)	Tonnage (Mt)	Grade (g/t)	Contained gold (Moz)
Probable (high grade)	0.9	12.00	2.52	0.98
Probable (low grade)	0.5-0.9	3.30	0.73	0.08
Total		**15.40**	**2.12**	**1.05**

Source: KEFI Minerals, April 2016

Note that the mine design around which these reserves are derived is based on an optimised pit shell using a gold price of US$1,250 per ounce and that gold mineralisation remains open at depth (>400m below surface).

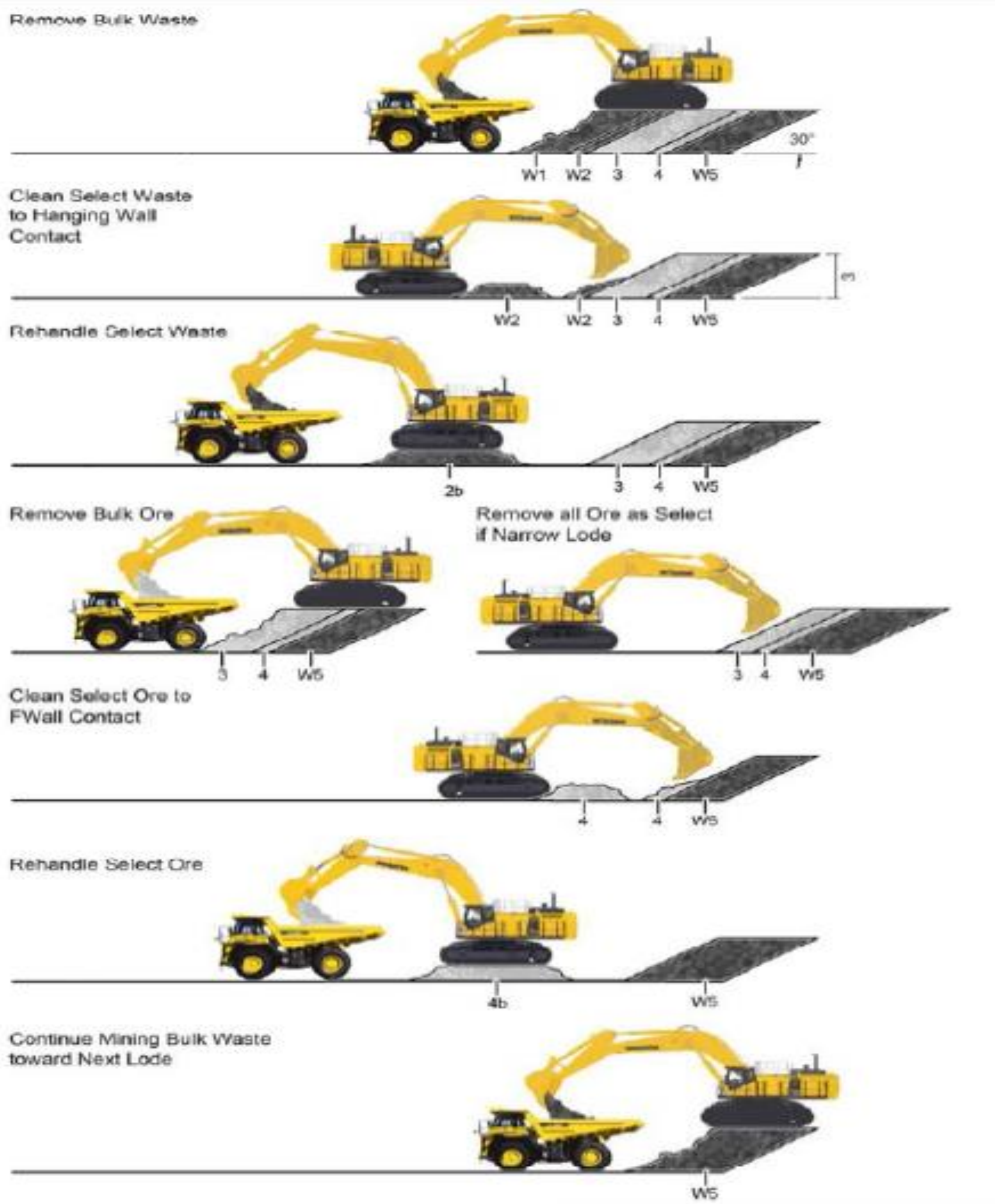
Mining

The Tulu Kapi mine design is based on conventional open-pit mining methods. Open-pit and blast mining in conjunction with load and haul will be configured on 7.5m benches using 120t backhoe excavators. Every second blast hole will be used for grade control. As per KEFI's draft mine services contract with Ausdrill, to further increase the mined gold grade, a 'bulk' mining approach will be applied to 70–80% of the ore and 90–95% of all material mined, and a 'selective' mining approach to 20–30% of the ore and 5–10% of all material mined. In this case, there will be a specific requirement for excavator cleaning and re-handling of waste material in a seven-step process:

1. bulk waste removal;
2. cleaning waste from the hanging-wall contact;
3. re-handling of selective waste;
4. removal of bulk ore;
5. cleaning of selective ore to the footwall contact;
6. re-handling of select ore; and
7. continuation of waste material mining.

It is envisaged that mining will progress across the bench from west to east to avoid collapsing the ore material into the waste. A schematic representation of the ore loading cycle is shown below:

Exhibit 6: Selective mining ore loading cycle, schematic representation



Source: KEFI Minerals

In general, the cycle uses more productive top loading of trucks. However, the excavator will need to be on the same level as trucks when handling material less than 1m thick at the extreme eastern and western limits of the pit. In conjunction with the more selective loading cycle, this increases mining costs to an average US$3.56/t, but is more than offset by the resulting decrease in dilution. This method of mining inevitably confers a requirement for precise and accurate blasting on the part of the operators. A water cannon will also be used in the pit to assist ore spotters to distinguish between (white) ore and (green) waste.

The average stripping ratio of the open pit in the first two years of operations is 4.9:1, owing to the dip of the orebody rather than rock competence or topography. It then increases in the third and fourth years, when operations enter a low density area of veins, before falling again at the end of the life of the mine, such that it averages 7.47 to one over the life of operations. The berm width is 6m for 15m high batters, increased to 10m at the base with a maximum inter-ramp height of 120m. Geotechnical berms will be accommodated by the in-pit road.

Initially, it is expected that a workforce of 700 plus 300 for construction will be required. This will decline to c 700 once steady-state production is achieved. However, the mine will indirectly support a further 250 employees through its ongoing supply requirements.

Metallurgy

Petrography

Petrographical studies have determined that the gold at Tulu Kapi occurs on the grain boundaries and fractures within sulphides. The gold grains vary in size from c 1µm to 300µm, with an average of c 11µm – hence gold grains can occasionally be seen in core.

According to a 2007 study commissioned by then owner GPMC, the most abundant type of sulphide associated with the gold is pyrite, followed by sphalerite, bornite, chalcopyrite, galena, arsenopyrite and tetrahedrite-tennantite. Encouragingly, there is an absence of gold in arsenic, tellurium and antimony sulphide minerals.

Weathering

The Tulu Kapi syenite hill is divided into a weathered and an unweathered zone. There is a sharp transition between the oxides and sulphides, and the transition zone between the two is reported to range from <1m to only several metres in the majority of the deposit. On account of its negligible thickness, previous work on the metallurgical characteristics of this transition zone was discontinued. There is no evidence of supergene enrichment.

Plant design

Initial conclusions relating to the metallurgical test work to date are summarised below:

- the oxide and transitional ores are of medium hardness and fresh ore becomes harder with increasing depth;
- all the ore types are amenable to gold extraction by conventional cyanidation;
- leach dissolutions of 97.4% and 96.4% were obtained for oxides and deep, hard, fresh ores, respectively, at a P_{80} grind size of 75µm in a leach time of 24 hours;
- recovery test work with and without gravity separation showed that gravity separation did not significantly increase overall gold recovery. As a result, run-of-mine cyanidation was selected as the process route; and
- leach optimisation test work ultimately indicated the following optimum parameters:
  - optimum grind: 80% passing 75µm
  - optimum initial cyanide concentration: 0.035% NaCN
  - presence of preg-robbers: 1.75%
  - resonance time: 24 hours

As a result, a conventional carbon-in-leach process route was chosen to mitigate the effects of potential preg-robbing, especially at the start of operations, on account of incomplete grubbing and clearing of organic material before processing. Later, in consideration of project refinements, a number of modifications to the process flow sheet were made to simplify the operation of the plant as well as restraining costs, including:

- the modification of the processing plant comminution circuit from a primary SAG mill and secondary ball mill to a larger SAG mill-only circuit, and
- an increase in the grind size from P_{80}=75µm to P_{80}=150µm.

A secondary pebble crusher is also likely to be required in the fourth year of operations (at a budgeted cost of US$2.5m) to process the harder, fresh ore.

The onsite infrastructure will be built by Lycopodium, including the processing plant, provided under a fixed price engineering, procurement and construction (EPC) contract, and the accommodation village, earthworks, water dams and tailings storage facility under a ‘cost plus’ EPC management arrangement. In general, the plant has been designed to be ‘dumb’ (ie with low levels of automation, such as automatic titration) to reflect the fact that the operation will be in a country with limited initial access to appropriately trained technicians. Overall life-of-mine recoveries of gold are forecast to average c 92.6%.

Infrastructure

Power

The plant will be powered by overhead grid power lines. Existing power lines are 40km away. A new, 47km long, 132kV power line from Gimbi to Tulu Kapi will also be required, which KEFI will construct and then sign over to the government. The plant’s initial power requirement is estimated at 10MW plus an additional 3MW at start-up. It may then increase to 13MW as a result of the incorporation of an additional secondary crusher to process the fresh ore from the fourth year of operations. Hence, infrastructure will be constructed for a power requirement of 15MW, with the additional 2MW being made available to the local community. Note that the estimated capital cost of the power infrastructure is included within the US$20m committed to the project by the Ethiopian government.

In its Q118 quarterly update, KEFI reported that the Ethiopian Electric Power Corporation (EEPC) had confirmed its commitment to the completion of the required infrastructure for Tulu Kapi by the end of 2019 as part of the Ethiopian government’s earn-in of an additional 20% interest in Tulu Kapi at project level. Since then, it has approved a budget for its works and is preparing its subcontractor tender documents for offsite infrastructure. Note that, in this case, the EEPC’s work has started because its deadlines are of a critical path nature to allow the project to proceed on schedule.

Water

Western Ethiopia experiences average annual precipitation of 150cm annually (cf 59.4cm a year for London). The majority of this occurs in the wet season, between May and September, and particularly between June and August. Nevertheless, the design of the process plant is around the concept that rainwater can be captured during the two years of construction, stored and reused. There has also been provision for water bores.

Roads

As part of its earn-in of an additional 20% interest in Tulu Kapi at project level, the Ethiopian government has also agreed to construct two major roads outside the mine licence area to both minimise the impact of the operation on the local community and to improve Tulu Kapi’s connectivity with the outside world during operations. Specifically, these are:

- a 14.97km road from the village of Kelley to Tulu Kapi, of which c 9.5km will be outside the mine licence area; and
- a 4.5km southern bypass road.

In its Q118 quarterly update, KEFI reported that the Ethiopian Roads Authority had also confirmed its commitment to the completion of these roads. Since then, it has also approved a budget for its works and is preparing its subcontractor tender documents for offsite infrastructure. Note that, as with the EEPC (see above), the Roads Authority’s work has started because its deadlines are similarly of a critical path nature to allow the project to proceed on schedule.

Tailings and waste

The preferred site for the development of the Tulu Kapi tailings storage facility is an area immediately adjacent to and to the east of the proposed plant site. The site will be developed as an impoundment facility with staged downstream wall lifts to match the anticipated deposition of 1,200ktpa of gold tailings for a period of six years, after which the facility will be self-raised as a day wall facility for a further five years.

Financial, fiscal and legal environment

All project plans have been approved and form a legally binding contract with the government as part of the mining agreement.

On granting a mining licence for Tulu Kapi, the Ethiopian government became eligible for a 5% free-carried interest in the project. Thereafter, revenues are subject to a 7% royalty and profits to 25% income tax (after deducting depreciation over a four-year period for past capex). Moreover, the company’s agreement is written in such a way that KEFI benefits from any future reduction in the 7% rate, but is protected from any future increases.

In the meantime, capital goods may be imported free from import taxes (assuming they are included on the Mining List). Taxes become payable once commercial production is declared.

Community resettlement

All land in Ethiopia is owned by the government and every Ethiopian is entitled to land (effectively, on a long lease) at the age of 18, although the land is allocated to the family at an earlier stage. As a result, the landscape is characterised by a large number of small landholdings and any initiative such as the development of a mining project at Tulu Kapi will require a programme of resettlement including, where appropriate, infrastructure such as roads and schools etc. This process is concluded via the agency of the government and it is a not uncommon aspect of life in Ethiopia. In the case of Tulu Kapi, the focal government entity is the Ministry of Mines.

Given KEFI’s current mining plan, 260–300 households will require relocation, representing c 1,300 people from the local kebele (village) plus a further c 500 people from the surrounding countryside. As a consequence, KEFI has been involved in an active period of community consultation (in collaboration with the government) and stakeholder engagement, with the result that its Resettlement Action Plan (RAP) has now been approved as part of the mining agreement signed between the company and the government. In negotiating the RAP, KEFI and the government offered the villagers 17 potential site options, of which three were chosen.

In consideration of the RAP, KEFI has budgeted US$13.5m (which is deductible against future tax liabilities). This includes building starter homes, livelihood restoration and community development. In addition to compensation for structures, residents are also entitled to crop compensation (eg five years for coffee). Residents have a statutory 90-day time limit to relocate once compensation has been paid and appropriate infrastructure constructed.

On 19 April 2018, KEFI announced that formalities had been triggered at site for resettlement, following re-engagement in the process by the local government after the change of government leadership arising from the appointment of a new prime minister on 2 April 2018. Since then, the Ethiopian federal government has approved the resettlement plan of the local villagers, the local government has approved the compensation calculations, and the regional government has begun triggering the formal administrative and legal steps for the resettlement programme in consultation with the community and TKGM, which is expected to lead to compensation payments any time from mid-2019 for the first-phase relocation of c 60 households before year-end 2019. Note that the company has provided extra scheduled time for this first phase in order to proceed cautiously and safely against a backdrop of sporadic recurrences of regional instability.

Permitting & approvals

Public

After a two-year period during which it was riven by protests and states of emergency, in 2018, Abiy Ahmed was chosen to lead the ruling Ethiopian People's Revolutionary Democratic Front coalition after the unexpected resignation of previous prime minister, Hailemariam Desalegn. The new prime minister is Ethiopia's first leader from the Oromo ethnic group, which had been at the centre of anti-government protests since 2016. Since taking office, Dr Abiy has pledged to bring more transparency to a government at home with a campaign of political liberalisation, while simultaneously seeking to end disputes with Ethiopia's neighbours abroad (especially Eritrea).

Since then:

- The prime minister has issued the remaining instructions for the development of the Tulu Kapi project.
- The Ethiopian federal government has approved the resettlement plan of the local villagers, the local government has approved the compensation calculations, and the regional government has begun triggering the formal administrative and legal steps for the resettlement programme in consultation with the community and TKGM.
- All federal government consents have been received from the relevant agencies.

Private

Equity

KEFI has received the requisite third party consents for it to satisfy the conditions precedent for the settlement by its Ethiopian partners of the first equity instalment of US$11.4m into the project. For these purposes, the required third-party consents include the following:

- The National Bank of Ethiopia (NBE, the Ethiopian central bank) has approved the terms of the full project finance package. Approval has been received from NBE regarding all requested matters, including the right to use leasing, a debt/equity capital ratio up to 70/30, the recognition of historical expenditure in the calculation of the capital ratio, and the right to use gold price hedging and market-based, long-term fixed interest rates.
- KEFI's guarantee to ANS that if the project fails to proceed for whatever reason and is restructured in whichever manner decided by KEFI, KEFI will ensure that ANS recovers the first instalment of its investment before KEFI recovers its own investment. Security-sharing approval has been received from KEFI's secured working capital financier Sanderson to achieve this.
- KEFI's other partner, the Ministry of Finance, has also now approved that the documentary confirmations and undertakings requested by ANS be completed this month to allow execution and settlement of the first ANS equity instalment in June.

Debt

In May 2018, KEFI announced that it had formally mandated ACT Capital as the bond arranger for the infrastructure finance, to be sourced from the placement of US$160m of listed infrastructure bonds. While that process has already resulted in formal reports from the independent technical expert (Micon) regarding the project's technical aspects and associated risks, implementation awaits KEFI/TKGM confirmation that it is ready to trigger full finance close. On successful completion of due diligence, documentation and private placement of the bond issue, the planned Luxembourg-listed bonds will fund ownership by the Luxembourg-regulated Finance SPV of the gold processing plant and ancillary infrastructure at the Tulu Kapi Gold Project for lease to TKGM.

Assumptions

KEFI completed an updated definitive feasibility study (DFS) on the Tulu Kapi project in July 2015 in collaboration with Senet, Golders, Epoch and Snowden. The DFS reflected both a complete overhaul and an independent validation of Tulu Kapi's geological resources and reserves, with KEFI inserting significant additional data and 'wireframing' each individual ore lode in the system. Thereafter, the project's plant construction and mining operation was put out to international tender and was, with the winning tenderers, further refined and optimised via joint value-engineering exercises. In general, while the mine plan remained unchanged, plant throughput increased to align the processing rate with the mining rate to avoid building up a large stockpile for post-mining processing.

In May 2017, KEFI completed a 2017 DFS update that incorporated due diligence and all of the refinements since the 2015 DFS. This was followed by a decision in July to majority finance the project by way of a bond to finance the onsite infrastructure. Three months later, in October 2017, it then announced further increases to the planned production rate at Tulu Kapi, from 1.5–1.7Mtpa to 1.9–2.1Mtpa. This had the immediate effect of increasing gold production in the first three full years of operations from 115koz a year to >140koz a year, although total forecast gold production from the open pit remained at 980koz. On 1 February 2018, KEFI then announced additions to its senior management team for triggering development, including David Munro (former chief development officer of Billiton), as part of its operational readiness preparations. KEFI released the results of the final Tulu Kapi project models, production plans and costings following independent expert reviews on 7 May 2018, at the time of the announcement of the bond issuance mandate. Comparison between KEFI's current plans and those from April 2018 show very little difference, other than timings, with production that had been expected in 2020 now being delayed until 2021 and the life of processing operations therefore continuing into 2028 (cf 2027 previously).

Capex

Including all savings, a comparison of KEFI's capex expectations in May 2019 vs April 2018 and July 2017 is provided in the table below, including Tulu Kapi's calculated capital intensity as the project has evolved.

Exhibit 7: Tulu Kapi estimated initial capex, July 2017, April 2018 and May 2019

(US$000s, unless otherwise indicated)	2017 KEFI plan	Final project models	May 2019 estimates
	July 2017	April 2018	May 2019
Mining	15.8	28.6	28.6
Processing	75.9	100.1	100.1
Infrastructure	15.7	15.7	15.7
Tailings	18.7	14.9	14.9
Indirect	1.8	0.0	0.0
Owner's costs	13.7	14.7	14.7
Community relocation etc	10.0	13.5	13.5
Environmental management	1.1	1.3	1.3
Further contingency	3.3	12.7	3.3
Other	(15.7)	(20.7)	(15.0)
Additional funding-related costs	15.6	0.0	0.0
Subtotal	**155.8**	**180.7**	**177.1**
Working capital	4.0	7.1	3.4
Additional funds required for project funding	33.0	33.9	14.2
Cash buffer	0.0	17.7	0.0
Totals	**192.8**	**239.4**	**194.7**
Assumed throughput rate (Mtpa)	1.7	1.9-2.1	1.9-2.1
Capital intensity (US$ per annual tonne)	**113.41**	**119.70**	**97.35**

Source: Edison Investment Research, KEFI Minerals

On the basis of these updated estimates, overall, pre-production capex equates to US$1,401 per annual oz of average gold production at full capacity. Of the total initial capex of US$194.7m (including savings), 38.2% or US$74.3m will be borne by KEFI (in the form of TKGM – see Exhibit 9) and 61.8% or US$120.4m will effectively be borne by the bond, which will be repaid via quarterly lease payments of US$9.0m per quarter between Q122 (after a grace period of 30 months, during which no lease payments will be made) and Q428 (by which time all of the outstanding notes will have been redeemed). For accounting purposes, infrastructure funding financed via the bond will be treated as a finance lease and still be capitalised on project company TKGM's balance sheet in the manner of conventional debt funding.

Recent developments, timing and funding mix

KEFI's approach to its funding requirements has been consistent in seeking to share risk with contractors and to minimise dilution. During 2014 and 2015, it revised its inherited DFS as a precursor to opening the project construction and mining to international tender, with the specific intent of reducing upfront capex by introducing contract mining. Since then, it has introduced project-level equity (eg the government of Ethiopia and a consortium of Ethiopian investors) as well as pursuing bond financing. In addition, KEFI has a close working relationship with the Development Bank of Ethiopia, which is reported to have offered to advance an ore stockpile facility to the Tulu Kapi project in the order of US$10–20m.

Since our last report on the subject (see Honing in on production, published on 6 December 2018), KEFI has announced the following developments and initiatives:

- 17 December – the issue of 19m shares at 2p per share.
- 25 January – the expansion of the project-level equity contribution from the consortium of Ethiopian investors, from US$30m to US$38m, in return for an increased project-level shareholding, such that KEFI would be left with a 50.1% effective interest in the project (down from an estimated 54.0% previously).
- 21 February – a placing of 57m shares at a price of 1.7p per share to raise £969,000.
- 8 April – KEFI announces that one-third of the US$38m to be invested by the consortium of Ethiopian investors will be via KEFI Ethiopia Ltd (see Exhibit 9), such that it will be left with an effective 45% interest in the project.
- 16 April – that once all funding is in place, costs at the parent company will reduce to c £1m pa plus the costs of exploration.
- 17 April – the issue of 14.9m shares at 2p per share.

During the period, therefore, KEFI has issued 90.9m shares (or 16.4% of the total immediately prior to the first issue) to raise £1.6m (US$2.1m) at the parent company level. This compares with our previous expectation that KEFI would raise US$4.7m (£3.4m at then prevailing forex rates) in previously uncommitted equity. Given the expanded level of other financing arrangements, however, we would now regard the implied balance of £1.8m in uncommitted equity as being superfluous to requirements and, as such, we have removed it from our calculations. In the meantime, KEFI's Ethiopian partners have agreed to start funding the project via their agreed project-level equity investment. To this end, long lead capital items have already been identified. This allows the closing of the main, US$160m Luxembourg infrastructure bond to be deferred until December 2019/January 2020 which, in turn, allows a greater cash build (owing to the existence of a 'grace period') before debt repayments fall due.

A summary of KEFI's financing arrangements is provided in the table below. Note that, at this stage, we are not anticipating any further parent company-level equity financing arrangements. However, we continue to anticipate c US$7.7m in additional, mezzanine funding which, for the purposes of our analysis, we have assumed to be in the form of a streaming agreement to sell gold at US$450/oz (escalating) and yielding an internal rate of return to the counterparty of 16%.

Exhibit 8: Tulu Kapi sources of funding

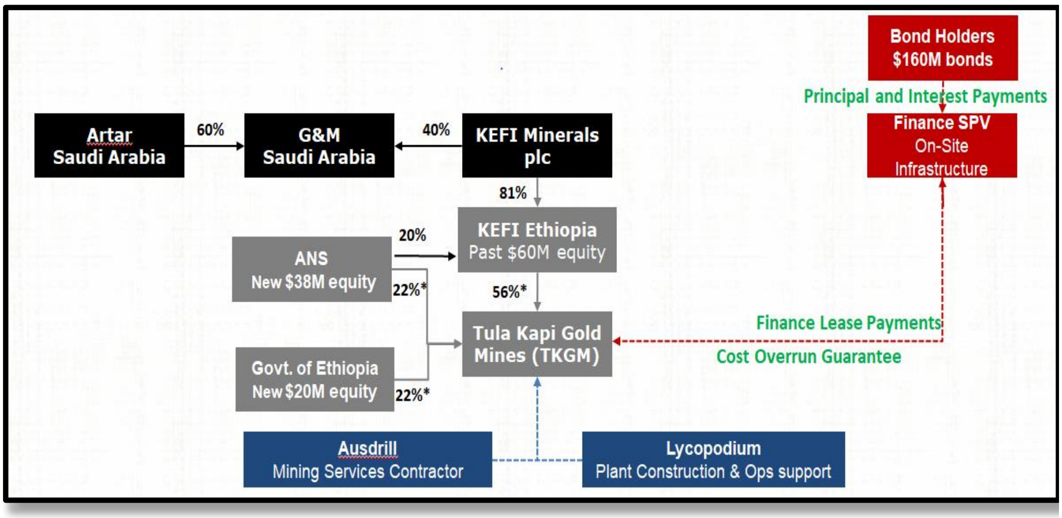
Item	Previous		Current	
	US$m	£m	US$m	£m
Bond	160.0	116.5	160.0	124.9
Senior secured debt	0.0	0.0	0.0	0.0
Ethiopian government participation at project level	20.0	14.6	20.0	15.6
Future committed equity	3.0	2.2	0.0	0.0
Other project level equity*	30.0	21.8	38.0	29.7
Ore stockpile facility	10.0-20.0	7.3-14.6	10.0-20.0	7.8-15.6
Mezzanine (eg streaming)	7.7	5.6	7.7	6.0
Additional parent company level equity	4.7	3.4	0.0	0.0
Working capital convertible loan facility	0.0	0.0	5.1	4.0
Total	**235.4-245.4**	**171.4-178.7**	**240.8-250.8**	**188.0-195.8**

Source: KEFI Minerals, Edison Investment Research. Note: US$1.2807 (previously US$1.3731/£); totals may not add up owing to rounding. *ANS in Exhibit 9.

Otherwise, the government's policy directive requiring a maximum 50% debt gearing (ie debt/[debt+equity]) policy for new projects does not apply to KEFI's Tulu Kapi project, which has prior approval to expand the debt portion of its funding requirement to 70% of the total. In addition, clarification received from the regulator (the National Bank of Ethiopia) indicates that historical exploration spend on the project of c US$60m is considered to contribute towards equity for the purposes of this calculation.

A summary of KEFI's wider, group structure, including the financing arrangements between all of the various parties and the project in the light of these developments, is provided in the exhibit below:

Exhibit 9: KEFI group structure



Source: KEFI Minerals.

Mine schedule and opex

In preparing for contract execution and estimating contracted costs, KEFI has updated detailed mine engineering and planning for the bulk mining (>90%) and also for the selective mining (<10%) of its ore and waste, which it has now built into contractually detailed schedules. This is an area on which KEFI has focused intensively, to reliably measure average grade and also manage grade variability during operations. This process began with significantly expanded resources, based on extra drilling and trenching results, and then developed on the basis of more tightly defined reserves derived from the wireframing of the entire ore system.

Comparison between KEFI's current plans and those from April 2018 show very little difference, other than timings, with production that had been expected in 2020 now being delayed until 2021 and the life of processing operations therefore continuing into 2028 (cf 2027 previously).

Exhibit 10: Updated Tulu Kapi mine plan and cost assumptions

	2020	2021	2022	2023	2024	2025	2026	2027	2028
Current									
Waste (kt)	1,647	18,552	19,540	20,478	19,640	18,577	11,569	4,954	78
Stripping ratio	4.7	5.1	7.6	13.2	8.3	9.2	6.2	4.7	4.8
Ore processed (kt)	0	2,126	2,120	2,103	2,080	1,972	1,927	1,955	1,112
Grade (g/t)	0.00	2.54	2.31	1.96	2.43	2.10	2.14	2.03	0.84
Contained gold (koz)	0.00	173.9	157.4	132.6	162.6	133.3	132.8	127.9	29.9
Recovery (%)	0.00	92.88	92.97	91.34	93.80	91.98	92.07	92.95	92.68
Recovered gold (koz)	0.0	161.5	146.3	121.1	152.6	122.7	122.2	118.9	27.7
Operating costs (US$/t processed unless otherwise indicated)									
Mining (US$/t mined)*	-	3.89	3.54	3.21	3.20	3.29	3.70	5.56	76.43
Milling (oxide, US$/t)	-	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57
Milling (fresh ore, US$/t)	-	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07
Milling (hard ore, US$/t)	-	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62
Total (US$/t)	-	53.69	49.78	46.68	47.02	48.67	40.38	31.39	20.37
Gold price (US$/oz)	1,482	1,437	1,304	1,303	1,264	1,235	1,319	1,428	1,500
Sustaining capex (US$000s)	0	9,102	1,512	2,436	3,397	1,633	2,848	4,380	9,102
Previous**									
Waste (kt)	6,502	18,444	20,000	20,132	19,994	18,192	8,262	3,510	0
Stripping ratio	6.1	4.9	9.7	10.6	9.7	7.9	5.3	4.8	N/A
Ore processed (kt)	534	2,126	2,120	2,098	2,042	1,977	1,915	2,003	579
Grade (g/t)	1.94	2.73	2.15	2.02	2.34	2.34	1.93	1.76	0.70
Contained gold (koz)	33.4	186.7	146.6	136.3	153.5	148.5	118.7	113.6	13.0
Recovery (%)	92.49	95.12	92.20	91.82	93.61	92.82	90.96	94.12	85.61
Recovered gold (koz)	30.9	177.6	135.1	125.2	143.7	137.8	108.0	106.9	11.1
Operating costs (US$/t processed unless otherwise indicated)									
Mining (US$/t mined)*	3.02	3.79	3.45	3.19	3.16	3.36	4.12	6.28	-
Milling (oxide, US$/t)	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57
Milling (fresh ore, US$/t)	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07
Milling (hard ore, US$/t)	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62
Total (US$/t)	56.02	52.51	48.73	46.52	47.74	49.04	35.81	27.15	23.81
Gold price (US$/oz)	1,482	1,437	1,304	1,303	1,264	1,235	1,319	1,428	1,500
Sustaining capex (US$000s)	2,611	6,991	378	1,712	3,114	2,740	2,773	4,587	902

Source: KEFI Minerals, Edison Investment Research. Note: *Includes waste. **Previous: as published in our note Blue sky and beyond, May 2018.

Note that while the scheduling of mining and stripping has changed in Exhibit 10, above, aggregate life-of-mine schedules remain identical in the two scenarios, as do average unit operating costs (expressed on a US$/t basis). Life-of-mine sustaining capital is an immaterial US$0.5m (1.9%) lower in the updated schedule relative to the previous one.

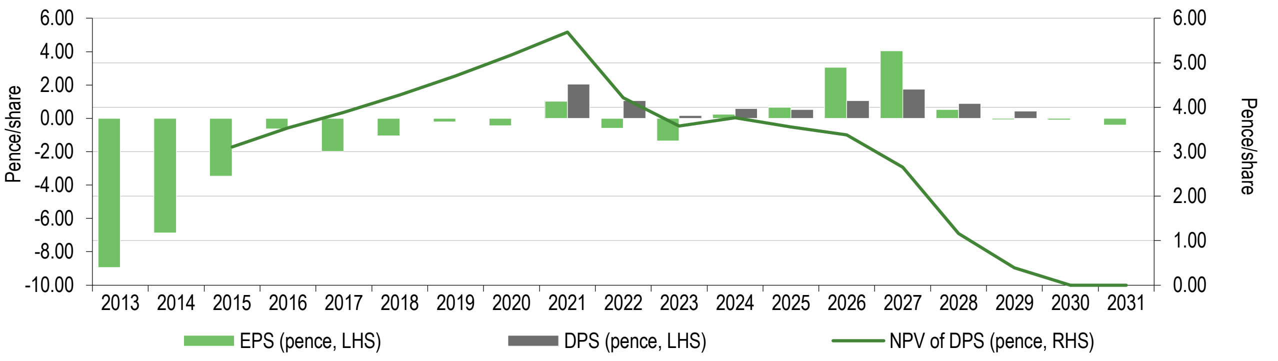
Encouragingly, as per KEFI's update of 9 November 2017, the proposed mining method and equipment specification are considered straightforward and technically sound by the lenders' independent technical expert. In particular, the fact that less than 10% of the total material movement is categorised as 'selective' mining under the draft mining contract specifications indicates that the mining methods are otherwise generally very standardised.

Additional costs include the 7% mining royalty, US$8.6m in life-of-mine offsite costs and a US$10.0m provision for closure costs. Onsite general and administrative costs are forecast to be US$7.5m pa during full mining and processing operations and US$3.7m pa while reprocessing stockpiles. Head office costs are assumed to amount to £1.0m pa. A carried-forward tax loss of US$55m has also been applied to future pre-tax profits before tax is payable.

Valuation

On the basis of the above assumptions and assuming the full conversion of KEFI's £4m secured convertible loan facility (see our note, Honing in on production, published on 6 December 2018), we calculate that Tulu Kapi is capable of generating free cash flow of c £48.0m a year for seven years, from 2021 to 2027 (inclusive). With average (maximum potential) dividends of 0.95p/share for the nine years from 2021 to 2029 inclusive (after deduction of a 55% 'minority' interest), this implies a valuation for KEFI of 4.70p/share (discounted back to FY19 at a rate of 10% per year), rising to 5.69p/share in FY21, when we estimate that the first potential dividend could be paid to shareholders (given that the majority of the proposed debt financing is in the form of a bond).

Exhibit 11: Edison estimate of life of mine KEFI EPS and maximum potential DPS (pence/share), FY13–31e



Source: Edison Investment Research

In our last note, however, we considered a number of other scenarios with respect to the conversion of the £4m secured convertible loan facility, which are reproduced below on a comparable basis:

Exhibit 12: Edison valuation of KEFI relative to potential convertible loan facility scenarios

Treatment of £4m secured convertible loan facility	Previous (pence/share)	Updated (pence/share)	Change (%)	Upside relative to current share price* (%)
Repaid in cash (ie considered as conventional debt)	7.21	5.85	-18.9	+282.4
Drawdown of £3m and conversion of half into shares	6.11	5.35	-12.4	+249.7
All £4m converted into equity	5.27	4.70	-10.8	+207.2

Source: Edison Investment Research. Note: *Current KEFI share price 1.53p at the time of writing.

Note that the changes in our valuations (compared to those calculated in our last note) compare with a 16.4% increase in the number of shares since then, which alone would imply a 14.1% reduction in valuation. In the meantime, our worst-case valuation of 4.70p/share rises to 8.53p (cf 9.68p previously) if KEFI is successfully able to leverage its cash flow from the mine into its other assets in the region. Stated alternatively, assuming full drawdown and conversion, we estimate that an investment in KEFI shares on 1 January 2019 at a price of 1.53p could generate an internal rate of return to investors of 36.8% over the 11 years to 2029 in sterling terms. Note, however, that this valuation is based on the projected dividend flow resulting from the execution of the Tulu Kapi project alone and ignores the exploration and development of the pipeline of targets in KEFI's portfolio.

Sensitivities

Quantitatively, our base case discounted dividend flow valuation of 4.70p is sensitive to the gold price, cash costs and discount rate inputs, to the extent shown in Exhibits 13 and 14 below.

Exhibit 13: Discounted dividend valuation sensitivity to gold prices and costs (pence)

Valuation (pence per share)		Gold price				
		-20%	-10%	Base case*	+10%	+20%
	+20%	0.00	0.00	1.28	3.60	5.89
	+10%	0.00	0.65	3.01	5.30	7.60
Cash costs	Base case	0.00	2.42	**4.67**	7.00	9.31
	-10%	1.81	4.11	6.41	8.71	11.03
	-20%	3.51	5.81	8.12	10.43	12.75

Source: Edison Investment Research. Note: *Gold price changes are relative the forecasts detailed in Exhibit 10.

On average therefore, it can be seen that a ±10% change in the gold price results in a 2.31p change in our valuation, while a ±10% change in costs results in a 1.71p change in our valuation.

Exhibit 14: Discounted dividend valuation sensitivity to discount rate (pence)

Discount rate (%)	0%	5%	10%	15%	20%	25%	30%
Valuation (pence)	8.53	6.23	**4.70**	3.65	2.90	2.35	1.94

Source: Edison Investment Research

Financials

KEFI had £0.5m in net debt on its balance sheet as at 31 December 2018, after £6.9m in operating and investing cash outflows before working capital in FY18. This cash burn rate compares to an equivalent £5.6m in FY17 and £3.6m in H118.

KEFI plans to finance its US$194.7m capex funding requirement principally via a TKGM bond (US$160m) and project-level equity (US$58m in addition to the US$60m equity already invested) and an ore stockpile banking facility (US$10–20m). We assume further mezzanine funding of US$7.7m in the form of a streaming agreement to sell gold at US$450/oz (escalating). While the principal financing is the off balance sheet infrastructure funding for TKGM, if all funding sources are considered, we forecast a maximum immediate aggregate net debt funding requirement overall for the project of £112.5m (US$143.0m) in FY20, which (in our estimation) equates to an approximately 55:45 net debt:equity ratio at the project level. Note that our estimate of aggregate debt has deliberately incorporated all components at the project level, whether on or off balance sheet, and comprises cash, the TKGM bond (US$160m), ore stockpile facility (US$10–20m) and streaming contingent liability (US$7.7m).

Exhibit 15: Financial summary

£'000s	2013	2014	2015	2016	2017	2018	2019e	2020e
December	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS								
Revenue	0	0	0	0	0	0	0	0
Cost of Sales	(927)	(2,071)	(1,634)	(2,260)	(3,522)	(4,145)	(3,365)	(1,000)
Gross Profit	(927)	(2,071)	(1,634)	(2,260)	(3,522)	(4,145)	(3,365)	(1,000)
EBITDA	(927)	(2,071)	(1,634)	(2,260)	(3,522)	(4,145)	(3,365)	(1,000)
Operating Profit (before amort. and except.)	(927)	(2,189)	(1,724)	(2,315)	(3,546)	(4,155)	(3,375)	(1,010)
Intangible Amortisation	0	0	0	0	0	0	0	0
Exceptionals	(442)	(379)	(428)	1,944	(2,359)	(180)	0	0
Other	0	0	0	0	0	0	0	0
Operating Profit	(1,369)	(2,568)	(2,152)	(371)	(5,905)	(4,335)	(3,375)	(1,010)
Net Interest	4	(413)	(319)	(136)	(75)	(459)	(58)	(7,569)
Profit Before Tax (norm)	(923)	(2,602)	(2,043)	(2,451)	(3,621)	(4,614)	(3,433)	(8,579)
Profit Before Tax (FRS 3)	(1,365)	(2,981)	(2,471)	(507)	(5,980)	(4,794)	(3,433)	(8,579)
Tax	0	0	0	0	0	0	0	0
Profit After Tax (norm)	(923)	(2,602)	(2,043)	(2,451)	(3,621)	(4,614)	(3,433)	(8,579)
Profit After Tax (FRS 3)	(1,365)	(2,981)	(2,471)	(507)	(5,980)	(4,794)	(3,433)	(8,579)
Minority interests	0	115	0	0	0	0	1,888	4,718
Net income (normalised)	(2,151)	(3,469)	(2,778)	(3,177)	(3,907)	(4,775)	(1,545)	(3,860)
Net income (FRS3)	(1,365)	(2,866)	(2,471)	(507)	(5,980)	(4,794)	(1,545)	(3,860)
Average Number of Shares Outstanding (m)	29.0	56.0	92.8	194.9	315.3	476.1	727.3	882.8
EPS - normalised (p)	(7.4)	(6.2)	(3.0)	(1.6)	(1.2)	(1.0)	(0.2)	(0.4)
EPS - normalised and fully diluted (p)	(7.4)	(6.2)	(3.0)	(1.5)	(1.1)	(0.9)	(0.2)	(0.4)
EPS - (IFRS) (p)	(4.7)	(5.1)	(2.7)	(0.3)	(1.9)	(1.0)	(0.2)	(0.4)
Dividend per share (p)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)	-	-	-	-	-	-	-	-
EBITDA Margin (%)	-	-	-	-	-	-	-	-
Operating Margin (before GW and except.) (%)	-	-	-	-	-	-	-	-
BALANCE SHEET								
Fixed Assets	7,152	9,299	11,926	14,053	16,275	18,795	105,899	166,995
Intangible Assets	6,900	9,139	11,845	13,992	16,232	18,757	18,757	18,757
Tangible Assets	252	160	81	61	43	38	87,142	148,238
Investments	0	0	0	0	0	0	0	0
Current Assets	4,014	1,061	1,012	3,561	1,047	284	83,774	28,975
Stocks	0	0	0	0	0	0	0	0
Debtors	655	335	358	3,056	94	115	0	0
Cash	3,279	640	562	410	466	88	83,693	28,894
Other	80	86	92	95	487	81	81	81
Current Liabilities	(3,363)	(3,202)	(1,995)	(2,067)	(2,852)	(3,727)	(615)	(615)
Creditors	(3,363)	(3,202)	(1,995)	(2,067)	(2,852)	(3,112)	0	0
Short term borrowings	0	0	0	0	0	(615)	(615)	(615)
Long Term Liabilities	0	0	0	0	0	0	(125,925)	(140,800)
Long term borrowings	0	0	0	0	0	0	(125,925)	(134,739)
Other long term liabilities	0	0	0	0	0	0	0	(6,060)
Net Assets	7,803	7,158	10,943	15,547	14,470	15,352	63,134	54,555
CASH FLOW								
Operating Cash Flow	(1,424)	(2,006)	(2,729)	(2,211)	(51)	(3,291)	(6,362)	(1,000)
Net Interest	4	(413)	(319)	(136)	(75)	115	(58)	(7,569)
Tax	0	0	0	0	0	0	0	0
Capex	(877)	(3,133)	(3,507)	(3,014)	(2,625)	(2,835)	(87,114)	(61,106)
Acquisitions/disposals	(1,083)	(750)	0	16	0	0	0	0
Financing	4,735	3,663	6,480	5,192	2,807	5,128	51,215	0
Dividends	0	0	0	0	0	0	0	0
Net Cash Flow	1,355	(2,639)	(75)	(153)	56	(883)	(42,319)	(69,675)
Opening net debt/(cash)	(1,924)	(3,279)	(640)	(562)	(410)	(466)	527	42,846
HP finance leases initiated	0	0	0	0	0	0	0	0
Other	0	0	(3)	1	0	(110)	0	0
Closing net debt/(cash)	(3,279)	(640)	(562)	(410)	(466)	527	42,846	112,521

Source: Company accounts, Edison Investment Research

Contact details	Revenue by geography
23 Ezekia Papaioannou Street, Office 21, 2nd Floor, Nicosia. Cyprus 1075 +357 22 25 61 61 KEFI-minerals. com	N/A

Management team

Executive chairman: Harry Anagnostaras-Adams	Head of operations: David Munro
Harry Anagnostaras-Adams qualified as a chartered accountant while working with PricewaterhouseCoopers and has an MBA from the Australian Graduate School of Management. He has overseen a number of business start-ups, both in the mining industry (eg KEFI and EMED Mining) and outside (eg Citicorp Capital Investors, Pilatus Capital and Cyprus-based Semarang Enterprises) in the capacity of chairman, deputy chairman and managing director.	David Munro has been in the metals and mining industry since 1977. He joined Gencor in 1981 and served variously as its executive director of new business and trading, MD of Billiton International, general manager of Samancor, vice president of strategy & business development, chief development officer and executive director of Aluminium. Since leaving BHP Billiton, other positions held include strategy director and executive officer of Kazakhmys and group CEO of CEMEX.
Adviser - exploration strategy: Jeff Rayner	**Finance director: John Leach**
Jeff Rayner is a geologist with more than 25 years' experience in gold exploration and mining in Australia, Europe and Asia. He started his career in Australia with BHP Gold and later Newcrest Mining. He was involved in the early exploration discovery of the Cracow, Gosowong and Cadia Hill deposits, as well as Monte Ollasteddu and Biely Vrch. He joined EMED in 2006 and became MD of KEFI in November 2006 and exploration director in October 2014. He is a member of the Australasian Institute of Mining & Metallurgy and of the Society of Economic Geologists.	John Leach has over 25 years' experience in senior executive positions in the mining industry internationally. He holds a BA (economics) degree and an MBA. He is a member of the Institute of Chartered Accountants (Australia), a member of the Canadian Institute of Chartered Accountants and a Fellow of the Australian Institute of Directors.

Principal shareholders	(%)
Hargreaves Lansdown	14.39
Global Prime Partners	12.72
Interactive Investor Trading	9.12
Halifax Share Dealing	5.52
Barclays	3.80
Jarvis Investment Management	3.65
OWG	3.03

Companies named in this report

EMED, Gencor, BHP Billiton, Samancor, Kazakhmys, Newcrest

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