27 November 2009

Chalice Gold Mines (CHN)

Eritrea Gold

Analyst
Peter Chapman 612 8224 2847

Authorisation
Fleur Grose 612 8224 2845

Recommendation

Spec Buy

Price

$0.57

Target (12 months)

$0.73

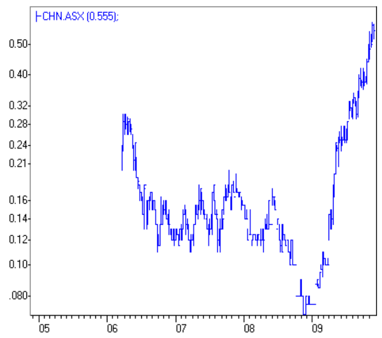
CHN is an early participant in the development of a gold industry in Eritrea, where it has highly attractive exploration ground and an advanced prospect in Koka's 1.0moz resource. Completion of feasibility by mid 2010 and exploration activity will maintain a great deal of interest in the stock. We initiate coverage with a Spec Buy recommendation and target price of $0.73.

Expected Return

Capital growth	**28%**
Dividend yield	**0%**
Total expected return	**28%**

Company Data & Ratios

Enterprise value	**$68m**
Market cap	**$78m**
Issued capital	**137.4m**
Free float	**86%**
12 month price range	**$0.07-0.59**
GICS sector	**Materials**



Emerging gold and base metals province

CHN is a player in the Arabian-Nubian Shield minerals province that has a current gold endowment of more than 20Mozs, including Centamin's 13moz Sukari Gold Mine in Egypt and numerous other large gold deposits. The area is largely unexplored in modern times. CHN's 615km^2 lease (80% interest held) is well located and has the potential for multi million ounce gold and substantial base metal discoveries.

Koka likely to be first mine

The high grade Koka prospect, is shaping up as CHN's first mine with feasibility due for completion by mid 2010. This is a high grade open pit deposit, scoped at over 100koz pa at US$420/oz for six years. SCE visited the site in July this year.

Recommend Spec Buy

Considerable value lies in CHN's unique position in Eritrea's emerging mineral province. Based on CHN's existing assets of Koka and exploration ground, we estimate a target price of $0.73 per share, with upside from further exploration success.

Resource drilling is under way as part of the Koka Feasibility, which is planned to be followed by exploration drilling of other targets. These events are likely to spark interest in the stock over the coming months.

As a Speculative Buy rating the risks are relatively high: the inherent value is associated with gold exploration, a high risk/reward business in a country that also carries sovereign risks. The company has no production or revenue at this stage.

Disclosure: In September 2009, 16.3m CHN shares were placed at a price of $0.27 to raise $4.4m by Southern Cross Equities, who received a fee.

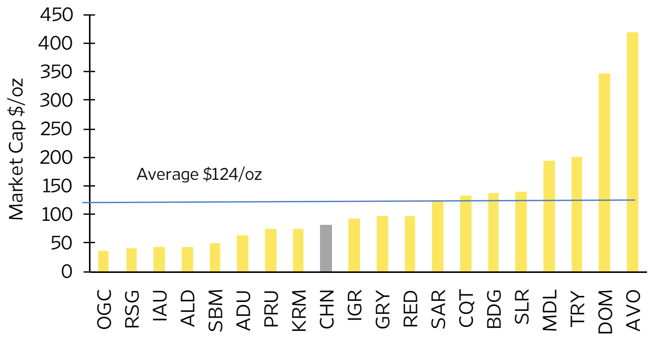
Investment Attributes

- **Positioned in emerging gold and base metals province.** CHN has a 615km^2 lease area (80% interest) in the highly prospective Arabian-Nubian province of Eritrea.
- **High grade, 1moz Koka prospect,** is shaping up as CHN's first mine with feasibility due for completion by mid 2010. This is a high grade open pit deposit, scoped at over 100koz pa at US$420/oz for six years.
- **Exploration potential.** CHN's tenements have the potential for discovery of a number of multi-million ounce gold and substantial VHMS base metal discoveries.
- **Early mover advantage.** Eritrea's history of war has suppressed its industries. Independent since 1993, it is finally taking an 'open for business" approach to mining and CHN is one of the first to benefit.
- **Indicative values.** The economics of the Koka deposit are attractive according to our initial assessment, resulting in a target of $0.73 (Fig 2).
- **Directors and management** have wide mining industry experience.
- **Balance sheet** shows cash of $9.7m and no debt.
- **Attractive comparatives.** EV/Resource oz of $80/oz, low prospective cash costs and 615km^2 tenements.

Risks

- **Exploration and geology.** A large part of the attraction of CHN is the potential for discovery. If this does not occur values may diminish.
- **Koka project parameters.** As Koka is at an early stage of its evolution, project parameters may change.
- **Approvals.** EIS, social, mining and all other reports required for approval have yet to be prepared and submitted.
- **Sovereign risks** specific to Eritrea, a country with a history of war and famine, with a young one party government. There was a recent shooting incident 100km from site when three company workers were killed.
- **Financial risk.** Until operations are established, there are no revenues.
- **Commodity price volatility** in gold and base metals.

Figure 1 – Market cap per resource oz, CHN and Peers



SOURCE: COMPANY AND SOUTHERN CROSS EQUITIES ESTIMATES

Figure 2 – Target Price Determination

	$m	cps
Koka Gold Project	55	0.40
Exploration	35	0.25
Cash	10	0.07
Total	100	0.73

SOURCE: SOUTHERN CROSS EQUITIES ESTIMATES

Zara Gold Project

Koka focus

The Zara Project consists of six contiguous granted licences covering an area totalling 615 sq km situated in northern Eritrea, 160 km northwest of the country's capital, Asmara (Figure 7).

Resources	Tonnes Mt	Grade g/t	Gold Koz
Indicacted	4.55	5.9	867
Inferred	0.49	4.9	77
Total	5.04	5.8	944

A significant high grade gold deposit has been defined at the Koka Gold Deposit, with a JORC Indicated and Inferred resource of 5.0mt at 5.8g/t for 944koz contained gold.

The Mineral Resource Statement as of February 2009 for Koka was prepared by independent consultants, Coffey Mining, based on a geological interpretation from 109 diamond drill holes completed by Sub-Sahara for approximately 18km. The bulk of the resource is shallower than 150m and the mineralisation is open at depth in the deepest holes drilled (to 250m below surface).

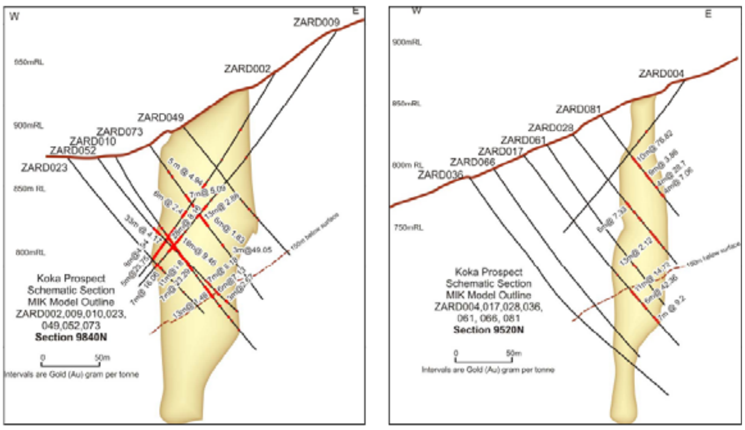
Geology

The Zara Project lies within the south-western part of the Late Proterozoic Arabian–Nubian Shield, an emerging gold and base metal province. Gold mineralisation is associated with a major regional shear corridor, with the main prospect identified to date, Koka being the focus of past exploration.

Koka has a total strike length of more than 700m and is developed along the sheared contact between a sequence of sedimentary and basaltic rocks to the west (footwall) and a felsic volcanic and intrusive sequence to the east (hanging wall).

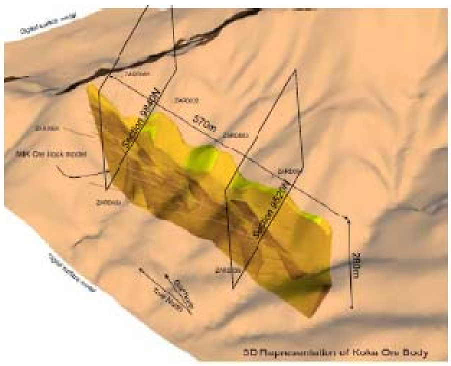
The steeply dipping western contact is strongly brecciated, quartz veined and altered over a width averaging around 20m. Gold is present in a stockwork of quartz veins cutting micro-granite; similar in style to Sukari. Visible gold and high gold values are associated with sulphides (pyrite, sphalerite, galena and chalcopyrite in quartz veins) with very little oxide.

Figure 3 – Koka Gold Deposit sections



SOURCE: COMPANY

Figure 4 – 3D image of Koka Deposit



SOURCE: COMPANY

Scoping study

A scoping study completed in October 2009 found the Koka deposit to have the potential to be financially robust based on a gold price of US$800/oz. The study outlined the main parameters of the project to be:

- Production of 110kozpa for six years and total of 677koz
- Cash costs of US$424/oz
- Capital cost of US$97.8m
- Open pit mining, high strip ratio of 12.4 (LOM); pre-strip of 3.7mt included in capex
- Conventional CIL treatment plant, capacity 500tpa; adequate bore water
- BFS completed mid 2010, 16 months from approval to commissioning
- Additional potential from resource expansion and pit design.

The high grade of the deposit makes us feel comfortable with these findings, despite a high strip ratio of 12.4:1.

Conceptual project economics

Koka DCF of $0.40/sh

We have provided an indicative economic assessment of the Koka project based on the scoping study. A simple analysis shows that the production of 677koz over six years would give an aggregate undiscounted cash surplus after tax of US$119m assuming a gold price of US$970/oz (SCE's forecast). CHN's share of this surplus equates to A$0.63/sh. A simple discounted cash flow model, based on the limited information published in the scoping study, discounts (at 10%) CHN's share of the surplus to A$0.40/sh.

These values are sensitive to the gold price assumptions as Figure 6 shows. At a gold price of US$1250/oz for instance our DCF model of Koka shows $0.85/sh.

Target price $0.73/sh

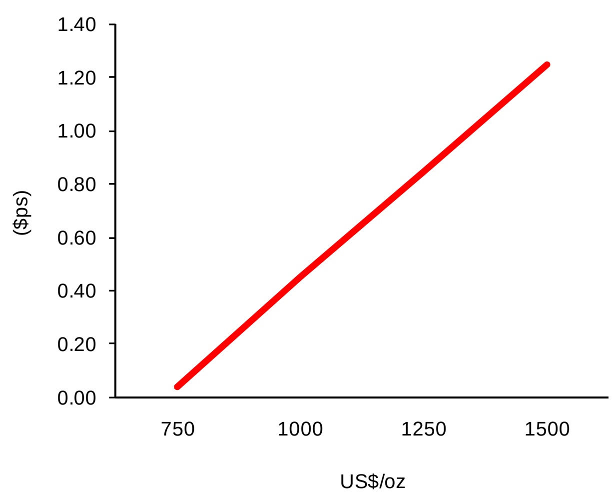
We use this DCF analysis, along with a value for exploration and corporate cash, to determine a target price of $0.73 (Figure 4). The exploration value assumes another 1.0moz at a unit value of $35/oz.

Figure 5 – Koka Indicative Economics at US$970/oz (US$m)

Production (Koz) – over LOM of 6 years	677
Revenue	657
Royalties	26
Net Revenue	630
C3 Cash Costs	287
Cash Profit	343
Depreciation	17
Pre tax profit	327
Tax at 38%	124
Cash Profit After Tax	219
Capex	100
Project Surplus	119
CHN Share (adj 10% Govt free carry)	78
CHN share (A$ps) - undiscounted	$0.63
CHN Share (A$ps) – DCF (10% disc rate)	$0.40

SOURCE: CHN AND SOUTHERN CROSS EQUITIES

Figure 6 –Koka's sensitivity to gold price



SOURCE: SOUTHERN CROSS EQUITIES

Exploration potential

Emerging gold and base metal province

The region has a current gold endowment of more than 20mozs, including Centamin's 13moz Sukari Gold Mine in Egypt, Nevsun's Bisha mine in Eritrea (1moz gold plus base metals), and numerous large gold deposits dating back to ancient times. It is largely unexplored in modern times. CHN's 615km^2 lease is well located and has the potential for multi million ounce gold and substantial base metal discoveries.

Koka and nearby targets

At Koka, phase 1 exploration drilling of four holes was done in 2005/06, with very good results that included 33 @ 4.17g/t to 189m and 43m @ 6.80g/t to 132m. Resource drilling of 75 holes continued to 2008, and phase 5 of 32 holes, 5000m at 20 x 20m spacing is currently underway. Another 2,500m to follow.

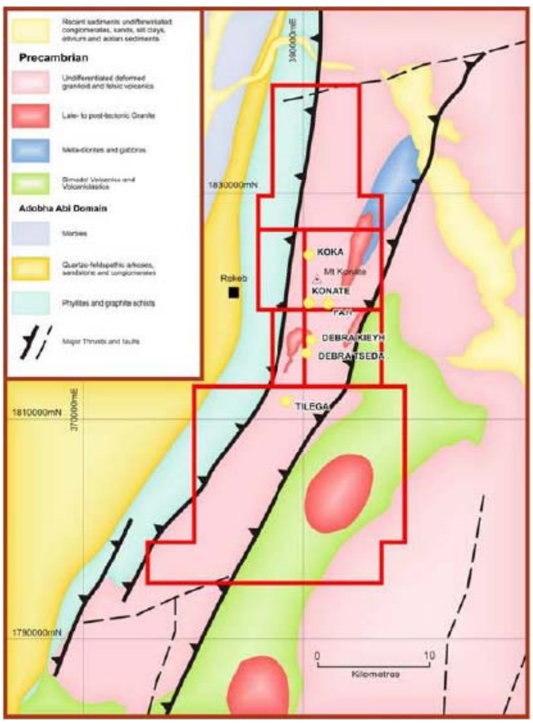
Koka East in the Koka hanging wall is a prime target that has extensive artisanal workings on high grade quartz veins. Koka South Extension has been identified as an IP resistivity anomaly and drilling confirmed Koka-style alteration and mineralization.

Regional exploration program commenced

Four kilometres south, on the Koka East trend, lies the Konate prospect; drilling has revealed this to be the same mineralisation although more complex. A ground-based gravity survey at the Jani VMS occurrence is underway.

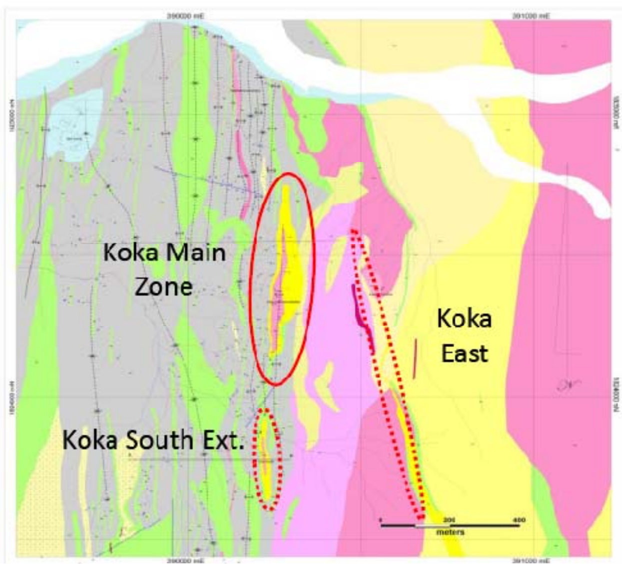
A regional exploration program has commenced with some 60 gold and VHMS base metals targets to be followed up, having been identified with the assistance of a Landsat interpretation and the occurrence of artisanal workings. Following the 5,000m resource drilling as part of the Koka feasibility, another 2,500m of exploration drilling is planned.

Figure 7 –CHN/DRA JV EritreaTenements



SOURCE: COMPANY

Figure 8 – Koka Gold Deposit and nearby prospects



SOURCE: COMPANY

Eritrea

A history of occupation, war and drought

Eritrea was largely impacted by the Italian invaders in the 19th century and in 1890 offically became a colony of Italy. In 1941 Britain took over, and in 1951 was federated with Ethiopa under a UN mandate. A gradual take over by Ethiopia ensued and a 30 year war between the two coutries ended in 1991. Following a UN-supervised referendum Eritrea declared its independence and gained international recognition in 1993. Eritrea's coast line along the Red Sea is strategically important to itself as well as to Ethiopia; it is a narrow strip of Eritrean territory that keeps Ethiopia landlocked and is the site of ongoing border tension.

Eritrea is an authoritarian single-party state, run by the People's Front for Democracy and Justice (PFDJ). War and drought has negatively impacted the economy, which in 2008 recorded GDP of US$3.5b or US$750 per capita for the 5.0m population. Human rights issues exist.

Government is supportive of mining's revival

The government is supportive of mining with an 'open for business' policy and a modern Mining Act to encourage investment in the industry, although it is still in its infancy. There was a scare in 2004 when the government suddenly announced a review of the mining law. However, the eventual outcome was not of great concern being the introduction of a Governement right to buy, at its election and based on an independently determined NPV, an extra 30% above its 'free-carried 10% interest. The corporate tax rate is a relatively high 38% and royalties (in Zara's case) are likely to be between 0-5%.

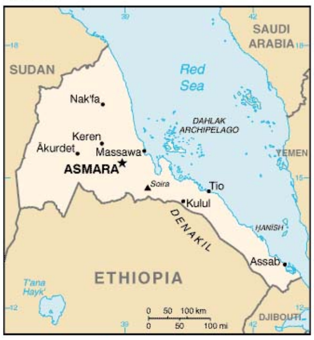
Pioneer, Nevsun, developing the Bisha Mine

Canada's Nevsun (US$400 market cap) is leading the way with the development of its Bisha gold-base metals VMS mine that is under development for planned commencement of operations end 2010. The US$250m project is financed by way of a US$230m project debt package backed by the governments of Germany and South Africa. Metal production over a 10 year mine life at Bisha is estimated at 1.1moz gold, 330kt copper and 500kt zinc.

Figure 9 – Eritrea's location, NE Africa

SOURCE: LUVENTICUS.ORG

Figure 10 – Eritrea and neighbours



SOURCE: TRAVELNOTES.ORG

Figure 11 – National Flag

SOURCE: MISSAFRICAUNITEDSTATES.COM YORDANOS GIDEY, MISS ERITREA 2007

Company Profile

History

Chalice Gold Mines and Sub-Sahara Resources completed a merger of the two companies in August 2009. The merger combined Sub-Sahara's Zara gold deposit with Chalice's cash.

In 1998 the 400km² Zara Prospecting License was granted to Dragon Mining (DRA), a 'first mover' in the country. This area was subsequently reduced and a JV between Dragon and Sub-Sahara was formed in 2003.

Zara Project 80% CHN

CHN has an 80% interest in the Zara gold project in Eritrea, Northern Africa. DRA has 20% and the government has the right to a 10% free carried interest and another 30% at market valuation. A JORC Indicated and Inferred resource of 5.0mt at 5.8g/t for 944koz contained gold has been estimated by independent consultants following 109 drill holes. A scoping study was completed in October 2009 concluding Koka to be an economic project at 110kozpa at a cash cost of US$424/oz over six years. Capital cost is estimated to be just under US$100m. A bankable feasibility is due for completion by mid 2010.

CHN has a strategic land holding in the Arabian-Nubian gold and base metals province that hosts the Sukari and Bisha mines. Granted tenements cover 615km^2 including 50km of strike on the major structural corridor that controls gold occurrences in the region. Numerous prospects have been identified by artisanal gold workings in the area.

Directors

Tim Goyder (Executive Chairman), Doug Jones (Managing Director and CEO), Michael Griffiths (Executive), Anthony Kiernan (Non Executive). The board has extensive African experience including Eritrea.

Shareholders

Tim Goyder 14.5%, Anvil Mining 6.1%.

Financial

Cash at the end of September 2009 was $9.7, no debt; $4.4m was raised by way of a placement in September 2009 at 27cps by Southern Cross Equities.

Risks

Exploration and geology. A large part of the attraction of CHN is the potential for discovery. If this does not occur values may diminish.

Koka project parameters. As Koka is at an early stage of its evolution, project parameters may change.

Approvals. EIS, social, mining and all other reports required for approval have yet to be prepared and submitted.

Sovereign risks specific to Eritrea, a country with a history of war and famine, with a young, one party government.

Financial risk. Until operations are established internal cash flow is minimal.

Commodity price volatility in gold and base metals.

Recommendation structure

Spec Buy: Expect >30% total return on a 12 month view but carries significantly higher risk than its sector

Buy: Expect >15% total return on a 12 month view

Accumulate: Expect total return between 0% and +15% on a 12 month view

Reduce: Expect -15% and 0% total return on a 12 month view

Sell: Expect <-15% total return on a 12 month view

Peter Chapman
Analyst Authorisation

Fleur Grose
Authorisation

Limited Incorporated ACN 071 935 441
Level 32, Aurora Place
88 Phillip Street, Sydney 2000
Telephone +61 2 8224 2811
Facsimile +61 2 9231 0588
Email general@sceq.com.au
www.sceq.com.au

Research Team

Sanjay Magotra
Head of Research
Senior Industrial Analyst
Infrastructure/Utilities
T 612 8224 2880
E smagotra@sceq.com.au

Daniel Blair
Industrial Analyst
Telco and Media
T 612 8224 2886
E dblair@sceq.com.au

Peter Chapman
Senior Resources Analyst
Oil/Gas/Gold
T 612 8224 2847
E pchapman@sceq.com.au

Fleur Grose
Resources Analyst
Iron Ore/Coal/Diversifieds
T 612 8224 2845
E fgrose@sceq.com.au

Johan Hedstrom
Senior Resources Analyst
Energy
T 612 8224 2859
E jhedstrom@sceq.com.au

TS Lim
Financials Analyst
Banks/Regionals
T 612 8224 2810
E tslim@sceq.com.au

Sarah McCloy
Executive Assistant
Research Team
T 612 8224 2885
E smccloy@sceq.com.au

Alexandra McPhee
Senior Industrial Analyst
Consumer/Rural/Retail
T 612 8224 2894
E amcphee@sceq.com.au

Hamish Perks
Industrial Analyst
Emerging Growth
T 612 8224 2804
E hperks@sceq.com.au

Andrew Peros
Industrial Analyst
Building Materials/Steels
T 612 8224 2838
E aperos@sceq.com.au

Stuart Roberts
Industrial Analyst
Healthcare/Biotech
T 612 8224 2871
E sroberts@sceq.com.au

Jonathan Snape
Senior Industrial Analyst
Emerging Growth
T 613 9235 1601
E jsnape@sceq.com.au

Mathan Somasundaram
Quantitative Analyst
Head of Quant & Data Services
T 612 8224 2825
E mathan@sceq.com.au

Lafitani Sotiriou
Analyst
Financials/Industrials
T 612 8224 2813
E lsotiriou@sceq.com.au

Janice Tai
Quantitative and System Analyst
T 612 8224 2833
E jtai@sceq.com.au

Joel Weiss
Quantitative Analyst
T 612 8224 2895
E jweiss@sceq.com.au

Southern Cross Equities Ltd and its associates hold 2039319 shares in CHN as at the date of this report. This position is subject to change without notice..

Disclosure: In September 2009, 16.3m CHN shares were placed at a price of $0.27 to raise $4.4m to clients of Southern Cross Equities, who received a fee