

ASX ANNOUNCEMENT

20 OCTOBER 2009

UPGRADE OF REGIONAL POTENTIAL AT ZARA PROJECT, ERITREA

Zara Joint Venture, Eritrea (Dragon Mining Limited - 20% interest)

Chalice Gold Mines Limited, announces that it has upgraded and enhanced the regional exploration potential at the Zara Gold Project in Eritrea after completing the first phase of the regional exploration program.

For and on behalf of
Dragon Mining Limited

Peter G Cordin
Managing Director

CHALICE UPGRADES REGIONAL POTENTIAL AT ZARA PROJECT IN ERITREA



Chalice Gold Mines limited ABN 47 116 648 956

20 October 2009

Highlights

- Detailed Landsat interpretation completed over Zara Project, Eritrea
- Over 60 anomalies potentially indicative of gold or base metal targets identified
- Ground-based geophysics set to commence on newly identified VHMS targets



International gold company **Chalice Gold Mines Limited** (ASX: **CHN**) is pleased to advise that it has upgraded and enhanced the regional exploration potential at its 80%-owned 944,000oz **Zara Gold Project** in Eritrea, East Africa after completing the first phase of a regional exploration program.

The program also included tenements adjoining the Zara Project recently granted to the Company (100%).

Interpretation to date has resulted in the definition of over 60 priority anomalies indicative of gold or base metal targets on the 615 square kilometre tenement area outside of the current resource base at the Koka Deposit (Indicated and Inferred Resource of 5.04 million tonnes at 5.8g/t Au for 944,000oz).

This provides a very strong pipeline of regional exploration opportunities with the potential to yield new discoveries within a 25 km radius of a potential future mining operation at Zara, where Chalice is currently completing a Scoping Study.

Landsat Interpretation Identifies Numerous Anomalies

Following completion of its merger with Sub Sahara Resources to acquire the Zara asset, Chalice retained Perth-based remote sensing consultants Earthscan Pty Ltd to undertake an interpretation of satellite imagery covering the Proterozoic sedimentary and volcanic formations in north-western Eritrea, the prospective stratigraphy which hosts the Koka and Bisha Deposits.

This extensive study area covered over 35,000 square kilometres, centred on the Company's 615 square kilometre Zara Project, which is located 165 kilometres north of the capital, Asmara.

INVESTMENT OPPORTUNITY

High grade gold deposit

Scoping study near completion

Feasibility study by Mid-2010

Medium term production potential

Regional ground position virtually untouched by modern exploration

www.chalicegold.com

Landsat ETM+ 7 (Enhanced Thematic Mapper plus) satellite data was computer enhanced to highlight geological outcrop, regolith landforms, structural features and mineral alteration zones within the study area, which lies along major north-west trending structural corridors.

Spectral signatures of known gold and base metal mineral occurrences were used to identify similar signatures elsewhere within the targeted terranes. The target zones were then ranked using various parameters.

Within the Zara Project area the interpretation **identified over 60 anomalies** with spectral signatures indicative of alteration or iron enrichment commonly associated with known gold and/or base metal mineralisation in the region, including the Company's Koka Gold Deposit (see *Figure 1*).

Iron-rich anomalies were also interpreted within the newly granted Zara South permit where ground follow-up has identified gossans (massive iron-oxide rich rocks derived from the weathering of massive sulphides).

The gossans are associated with altered and pyritised rhyolites and cherty pyritic exhalites in a rock assemblage typical of Volcanic-hosted Massive Sulphide (VHMS) mineralisation. The gossans lie within interpreted northerly extensions of the volcanic stratigraphy hosting the Bisha polymetallic VHMS deposit approximately 100 kilometres to the south.

Canadian-based Nevsun Resources Limited recently secured financing for a US\$250 million development of Bisha, which will be a low-cost gold producer for its first two years of operations (~430,000 ounces of gold per year) and a low-cost, high-grade copper concentrate producer (~75,700 tonnes of contained copper metal per year) for a further three years before commencing long-term zinc concentrate production.

Chalice Gold looks forward to progressing the evaluation, ranking and exploration of these exciting regional targets. Immediate exploration plans include the acquisition and analysis of high-resolution Aster satellite imagery, ground-based geophysics, geological mapping and regional drainage geochemical sampling. A ground-based gravity survey will be conducted over the gossanous zone on Zara South. Gravity surveys have been successfully used to identify massive sulphide bodies elsewhere in Eritrea.

The regional exploration strategy will be advanced in parallel with forthcoming programs of in-fill and resource extension drilling at the Koka Deposit, together with completion of the Pre-Feasibility and Feasibility Studies.



Dr Doug Jones
Managing Director & CEO

20 October 2009

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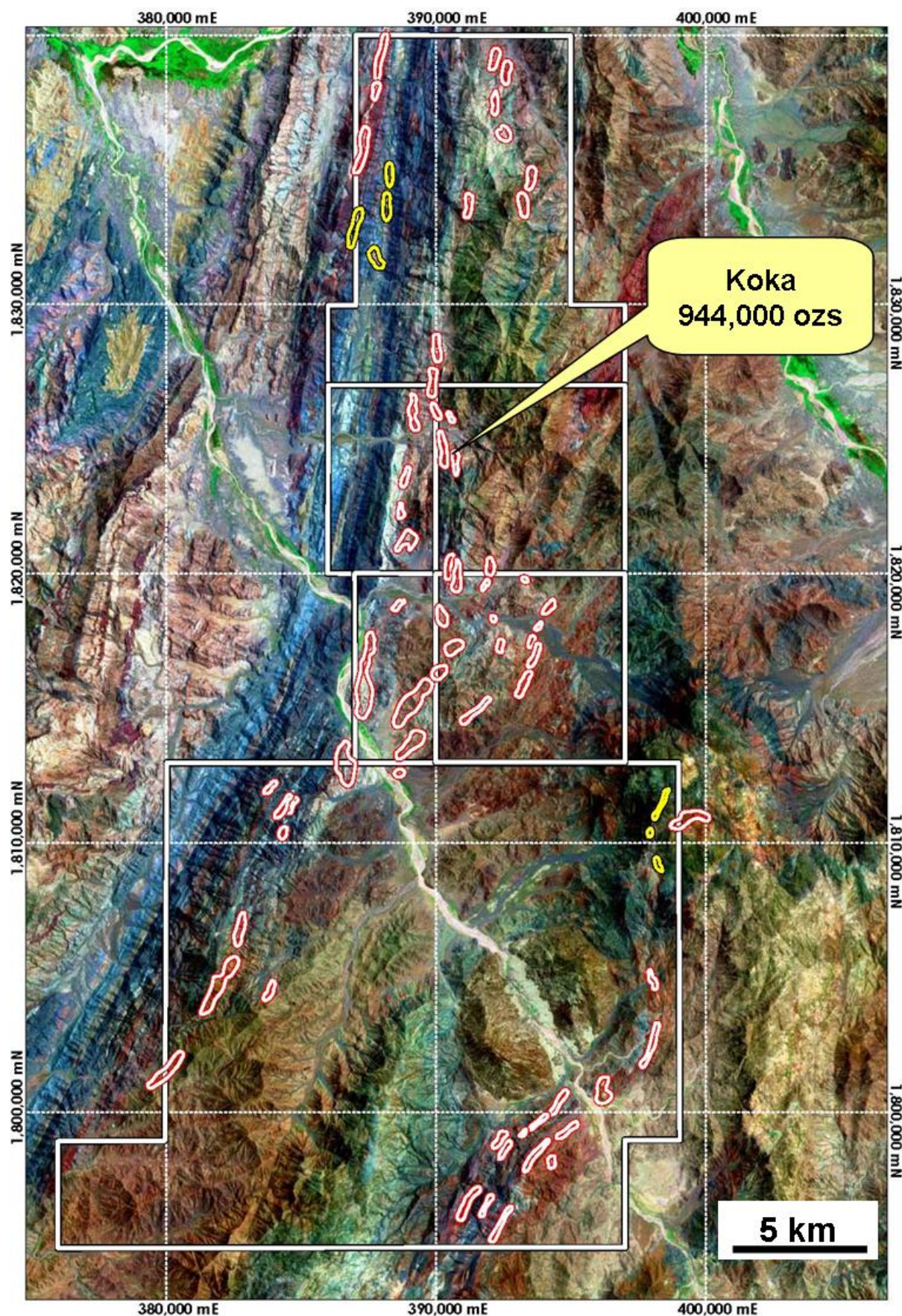


Figure 1: Landsat ETM+ 7, Bands 742 Image showing Koka Gold Deposit and interpreted anomalies within granted Zara Project permits. The red-white outlined anomalies reflect Fe Oxide, FeOH alteration, smectite and silica indicative of possible gold or VHMS mineralisation, the yellow outlined anomalies reflect FeOH, smectite clays, silica, sericite and minor carbonate indicative of possible gold mineralisation.

Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Dr Doug Jones, a full-time employee and Director of Chalice Gold Mines Limited, who is a Member of the Australasian Institute of Mining and Metallurgy and is a Chartered Professional Geologist. Dr Jones has sufficient experience in the field of activity being reported to qualify as a Competent Person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves, and consents to the release of information in the form and context in which it appears here.

The Independent Resource Estimate for the Koka deposit was prepared by Mr Brian Woolf, whilst employed as a Specialist Resource Geologist for Coffey Mining Pty Ltd. Mr Woolf, who is a Member of the Australasian Institute of Mining and Metallurgy, has sufficient experience in the field of Resource Estimation to qualify as a Competent Person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves, and consents to the release of information in the form and context in which it appears here.

The break-down between Indicated and Inferred Resource categories at Koka is as shown in the Table below.

Category	Lower grade cut-off (g/t)	Tonnes (Mt)	Gold (g/t)	Metal (Koz)
Indicated	1.2	4.55	5.9	867
Inferred	1.2	0.49	4.9	77
TOTAL	1.2	5.04	5.8	944