

ASX ANNOUNCEMENT 9 November 2009

# MORE HIGH GRADES FROM THE KASKARA COPPER-LEAD-ZINC DISCOVERY

# **POTENTIAL MAJOR DISCOVERY**

# **KEY POINTS**

- Kaskara copper-lead-zinc discovery is substantially larger than originally identified:
  - ▶ Currently more than 900 m long and 450 m wide.
  - Final extent of discovery not yet determined, with further extensions to discovery zone expected.
- New rock-chip data verifies first pass grades, showing numerous high grades from diverse localities:
  - ▶ Up to 23.5% copper.
  - Over 35.0% lead.
  - Up to 34.4% zinc.
- At least 16 tabular-shaped massive poly-metallic gossans are considered to be weathered variants of massive copper-lead-zinc sulphides.
- Massive gossans surrounded by vein and gossan networks are indicative of a halo of disseminated mineralisation.
- Geological setting and metal association is similar to the world-class Tsumeb copper deposit (40 km north). Total Tsumeb production was around 24.8 Mt @ 5.50% copper, 11.82% lead, 4.19% zinc, and 171.3g/t silver (Source: Geological Survey of Namibia).
- Kaskara is shaping up to be a major discovery for Sabre.
- Geophysical survey to commence mid November, to aid in generating future drilling targets.

# **1 EXECUTIVE SUMMARY**

The Kaskara copper-lead-zinc prospect is shaping up to be a major discovery for Sabre Resources.

Extensive mineralisation at surface at Kaskara is considered to be **indicative of copper**, **lead** and zinc sulphides at depth. The massive poly-metallic gossans are presently considered to be the weathered versions of massive sulphides. Other styles of mineralisation point to a halo of disseminated sulphides.

Grades recorded in the gossans are highly encouraging. Numerous high grades correspond to concentrations of secondary copper-lead-zinc minerals. These high grade zones are linked together by bands of lower, more moderate grades. A common feature of gossans worldwide is that grades rarely reflect those of the primary sulphides below, with enrichment and depletion of metals occurring haphazardly as a result of weathering.

The distributions of primary sulphides at depth are presently unknown, but geological data collected by Sabre is presently being processed to determine a mineralisation model for Kaskara. This data, combined with the results of the forthcoming geophysical programme, will allow Sabre to define high-quality targets for future drilling.

Sabre is focusing on a **Tsumeb-style model for mineralisation at Kaskara**. The world-class Tsumeb mine, 40 km to the north of Kaskara, was operational from 1907 to 1993. The total production at Tsumeb was around:

### 24.8 Mt @ 5.50% copper, 11.82% lead, 4.19% zinc, and 171.3g/t silver (to 1991 – Source: Geological Survey of Namibia).

Early indications are that mineralisation at Kaskara shows many analogies to Tsumeb.

Mapping and sampling is ongoing, and extensions to the presently recognised distribution of surface mineralisation are expected both in outcrop and under soil cover.

### 2 COMMENTARY

The Company is very excited by the new results received from Kaskara, and believes that the project is potentially a significant discovery.

Numerous, laterally extensive, massive zones of mineralisation defined at surface are encapsulated by a halo of disseminated mineralisation, so the potential for significant sulphide mineralisation to be present at depth is high.

Work on site is ongoing, with the final extent of the surface discovery zone still yet to be determined. A geophysical programme will commence shortly, to assist in defining the extent of the discovery and to locate prime drill targets.

The Company looks forward to reporting future exploration results from Kaskara as work continues. Sabre intends to progress exploration to a stage ready for drilling as rapidly as possible.

## 3 A SUBSTANTIALLY LARGER KASKARA

Comprehensive mapping and sampling at Kaskara has yielded **more exceptionally high**grade results for copper, lead and zinc at numerous localities over the prospect. New data yields values of **up to 16.0% copper**, **over 35.0% lead**, and **up to 27.4% zinc**. This new data, which was collected from different locations to the first phase of sampling, validates the reporting of the discovery data of **up to 23.5% copper**, **over 35.0% lead**, and **up to 34.4% zinc**. Distributions of samples are shown in Map 1 (overleaf).



Figure 1 – The location of the 3 discovery zones compared to the extent of mineralisation now recognised at Kaskara. Grid is 100 m spacing. See Map 1 (below) for more detail.

The copper-lead-zinc mineralising system at Kaskara is **significantly larger than was originally identified**. Now, geological mapping completed to the present time shows that the Kaskara mineralising system extends over an area measuring more than **900 m long by 450 m wide (**Figure 1, Map 1). Initial investigations reported to the ASX on 24 September 2009 identified 1 gossan at 3 separate locations. Now **sixteen (16) massive gossan units have been identified. Numerous zones containing high grades** within these gossans can **extend over tens of metres**, and are linked together by zones containing lower and more moderate grades.

Kaskara was discovered in September 2009 by Sabre. It lies immediately adjacent to historic workings that appear to have exploited a separate zone of mineralisation. The site was identified by consultant Douglas Haynes as having a strong potential for extensive copper mineralisation in a regional geological appraisal of the Otavi Mountain Land. Mr Haynes is well-known in the industry as being instrumental in the discovery of the giant Olympic Dam deposit at Roxby Downs in South Australia

# Kaskara - surface mineralisation (Map 1)





Figure 2 – Location of the Ongava Project, northern Namibia, within which the Kaskara discovery is located. Other base-metal projects throughout the region are shown.

### **4 LOCATION OF KASKARA**

Kaskara is located at the heart of the Ongava Poly-Metallic Project in northern Namibia (Figure 2). The project occupies the centre of the highly prospective Otavi Mountain Land, a historic world-renowned mining region and home to the world-class Tsumeb copper-lead-zinc-silver mine (now closed). Kaskara is located on the 9 km long Lucas Post Trend (Figure 3), a soil geochemical and structural geological trend that is host to several copper-lead-zinc prospects and highly anomalous soil geochemistry results.

Namibia enjoys extensive national infrastructure, with railways, sealed highways, reticulated water and power, and mobile phone services readily accessible from the project area. The country has a strong historic mining culture, coupled with a stable democratic government and a modern mining legal system. Progressive mining policies set down in the early 2000s and some notable mineral discoveries since that time have unlocked the latent mineral potential of Namibia.



Figure 3 – The Ongava Poly-Metallic Project area (EPL 3542). Major mines and prospects are labelled. Other prospects are represented by yellow dots (20km grid).

#### 5 RESULTS OF FIELD SAMPLING

New data collected over the past month records values of **up to 16.0% copper**, **over 35.0% lead**, and **up to 27.4% zinc**. These compare favourably with the originally reported values of up to 23.5% copper, over 35.0% lead, and **up to 34.4% zinc**.

Spot analyses were recorded using a Niton XLt592 portable XRF (x-ray fluorescence) analyser on gossanous rock chip samples collected from Kaskara<sup>\*</sup>. Several hundred analyses have been taken. Below are listed the original data reported on 24 September 2009 alongside a representative listing of new data collected from Kaskara over the past month, showing higher and lower grades:

	Reported	data (24/	9/2009)	
East	North	Cu %	Pb %*	Zn %
794567	7834183	7.57	6.02	32.85
794567	7834183	2.04	9.79	3.53
794567	7834183	8.96	0.23	0.07
794550	7834194	11.26	12.35	11.16
794550	7834194	2.76	11.77	32.31
794498	7834225	13.26	9.74	34.41
794498	7834225	5.35	2.36	2.91
794362	7834261	2.03	5.02	1.05
794362	7834261	4.32	22.74	16.34
794362	7834261	4.51	13.54	4.28
794362	7834261	1.19	4.26	1.22
794304	7834262	16.03	27.45	29.12
794304	7834262	23.52	18.44	24.14
794304	7834262	11.38	35.00*	19.98
794291	7834251	4.16	32.10	17.25
794291	7834251	2.51	16.66	9.86
794291	7834251	2.11	0.67	16.23
794291	7834251	5.21	35.00*	23.68
794291	7834251	3.33	11.02	28.41
794247	7834261	17.01	21.28	32.01
794247	7834261	7.64	5.07	28.28
794247	7834261	7.32	5.25	28.36

All samples were taken from *massive poly-metallic gossans* or from *vein and gossan networks* (see below). All data collected are plotted in Map 1.

794676

7834180

9.38

25.58

7.12

Calibration of the XRF with certified high-grade standards (see Appendix for Analytical Method) means that these values provide **a realistic estimate of mineralisation at Kaskara**. Sabre is confident in the veracity of these results (see Appendix) and will not require laboratory analyses of these samples. Given the typically variable nature of gossans, it is to be expected that future bulk sampling of the gossan will yield results lower than the highest values obtained by this spot sampling.

<sup>&</sup>lt;sup>\*</sup> Several samples were top-cut to 35.00% Pb due to extremely high lead values. It is possible that these particular XRF results are inherently inaccurate at such high levels, hence their cut. Such analyses do, however, indicate very high contained lead values within those samples.

## 6 MINERALISATION DISTRIBUTIONS AT KASKARA

Much of the mineralisation at Kaskara is associated with or dominated by iron oxides (in particular, hematite). Unlike much of Australia, iron oxides are relatively uncommon in the dolomitic rocks of the Otavi Mountain Land. Their pervasive nature at Kaskara is indicative of strong weathering of sulphides at depth.

Four styles of surface mineralisation are identified:

- 1. Massive poly-metallic gossans
- 2. Outcropping sulphides
- 3. Vein and gossan networks
- 4. Extensive oxidation

The highest grades recorded at Kaskara are found in the massive poly-metallic gossans and the vein and gossan networks. Other types have not been systematically sampled and are not reported here. Outcropping sulphides are predominantly coarse-grained galena, so analyses would only show extremely high lead values and would be meaningless. Extensive oxidation zones show weak to moderate grades in oxidised planes or zones, but are of interest in defining the lateral extent of mineralisation at depth.



Figure 4 - Contact of a thick massive poly-metallic gossan with the adjacent dolomite sequence.

### 6.1 Massive poly-metallic gossans

Tabular, *massive, poly-metallic gossans* dip southward at around 45° into the hill at Kaskara (Figure 4). Initial investigations identified 1 such unit at 3 separate locations. Now **sixteen (16) massive gossan units have been identified** (see Map 1). **Individual massive gossans range up to 150 m long and 6 m thick**, and they are arranged in an *en echelon*, or stepwise,

pattern. Other, less continuous zones of the same material have been identified, but they are grouped in the *vein and gossan network* classification (below).

The *massive poly-metallic gossans* are comprised predominantly of iron oxides (hematite). Both red and blue hematite are present, with fragments of the blue hematite having a tabular shape but being randomly oriented within the gossan. These are likely to be a collapsed boxwork, which formed from the weathering of massive sulphides (Figure 5).

Much of the red hematite is fine-grained and forms the groundmass of the *massive poly-metallic gossans*. The red hematite is often host to equally fine-grained copper-lead-zinc minerals dispersed throughout (Figure 6). In places, these minerals are coarser-grained, and are identified as copper-descloizite (Figure 7) and mottramite (Figure 8) (both copper-lead-zinc vanadate minerals). Other secondary minerals, such as malachite (copper carbonate), are also seen on occasion.

A distinctive feature of the *massive poly-metallic gossans* is that, when hit with a geological hammer, they ring like a bell. This is because of the highly metallic nature of the rock.



Figure 5 – Laminated tabular clasts of blue hematite representing collapsed boxwork structure after massive sulphides.



Figure 6 – Descloizite disseminated throughout the gossan imparts a stippled appearance.



Figure 7 – A hematitic rock showing coarse-grained copperdescloizite.



Figure 8 – Mottramite clots within the massive gossan.

#### 6.2 Outcropping sulphides

*Outcropping sulphides* are limited to the south-easternmost area investigated to date. A line of coarse-grained galena (Figure 9) trends approximately east-west and is surrounded by extensive oxidation. Iron oxides adjacent to galena show boxwork texture typical of gossans, and are probably after copper and zinc sulphides.

The full extent of the *outcropping sulphides* has not yet been determined. Mapping is continuing to define the extent of this style of mineralisation.



Figure 9 – Outcropping coarse-grained galena (bluey-grey) surrounded by various iron oxides after other sulphides.

#### 6.3 Vein and gossan networks

The most extensive style of mineralisation at Kaskara is the *vein and gossan networks* that surround and extend along strike from the *massive poly-metallic gossans*. The intensity of mineralisation in the *vein and gossan networks* varies markedly, as do textures within the mineralised rocks. Some of the most common textures include iron oxide breccia zones (Figure 10), selective replacement of rocks by copper vanadates and iron oxides (Figure 11), copper vanadate vein networks and fracture infill (Figure 12), and irregular gossan zones (Figure 13).

As with the *massive poly-metallic gossans*, the iron-rich zones within the *vein and gossan networks* contain variable amounts of copper-descloizite disseminated throughout the hematite. Grain sizes of the copper-descloizite vary from microscopic to coarse-grained.

Grades are variable in the vein and gossan networks. These networks are considered peripheral to the main mineralised zones represented by the massive poly-metallic gossans.



Figure 10 – Dolomitic breccia with gossanous hematite as groundmass.



**Figure 11 –** Selective replacement of deformed dolomite by mottramite (greenish).





Figure 12 – Mottramite & copper-descloizite vein as part of a vein network.

Figure 13 – Irregular zones of hematitic gossan throughout dolomite.

### 6.4 Extensive oxidation

Zones of extensive oxidation surround all other styles of mineralisation at Kaskara. Oxidation takes the form of pervasive alteration of the host rocks through to iron oxide coatings on joint surfaces. Extensive oxidation zones represent the outermost expression of mineralisation at Kaskara and shows strong base metal anomalism. These areas are likely to indicate adjacent mineralisation, either along strike at surface or down-dip at depth.



Figure 14 – Oxidation of dolomites on joint surfaces.

### 7 GEOPHYSICAL PROGRAMME

Sabre has contracted a prominent Namibian geophysical company, used to define many of the Australian-owned uranium projects throughout Namibia, to perform a geophysical survey at Kaskara. The survey will use a variety of techniques to do the following:

- Assist with identification of primary targets at Kaskara.
- Provide constraints on the style of mineralisation at Kaskara.
- Define the distribution of mineralisation at depth.

The programme is scheduled to begin in mid-November 2009. Data collection may take several weeks, and a similar time frame may be required for data processing.

Yours faithfully, Norman Grafton Company Secretary Sabre Resources Ltd

#### For further information please contact:

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#### Or consult our website:

#### **Competent Person Declaration**

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Dr Matthew Painter of Sabre Resources Ltd, who is a member of The Australasian Institute of Geoscientists. Dr Painter has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves". Dr Painter consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### APPENDIX – Analytical method

Rock chip samples were analysed using the portable Niton XLt592 handheld XRF analyser (the Niton). The equipment was used extensively by Sabre personnel since early 2008 on both soil and rock chip samples. Statistical evaluation of results recorded on-site using the Niton and cross-checked against commercial assays shows that the Niton returned average values within 4.5% of the grades determined by commercial laboratories in Australia. Based on excellent correlation between Niton results and traditional chemical assays, Sabre is confident to use the Niton as an indicator of mineralisation grade to report exploration results.

After correct referencing with the appropriate certified standards, a Sabre geologist uses the Niton to record spot readings, which are taken over a 60 second period. Referencing to the same standard is again performed after every 20 to 30 spot readings, and at the end of the session.

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