



**LIBRA MINERALS LTD**

# **INFORMATION MEMORANDUM**



## **KABANGA TIN MINES ZAMBIA**

### **Exploration, Mining and Processing of Tin Ore**



June 2008



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## 1.0 Executive Summary

### Introduction

Kabanga Tin Mines is an exploration, mining and processing project in the tin belt of Zambia. Libra Pty Ltd of Brisbane, Australia is the “Mine Developer” and hold 85% of its Zambian units that own the project 100%.

Exploration on the three tin leases indicates that the Libra tin deposits looks very promising including eluvial ore and hard rock tin. Initial tests show high levels of tin, tantalite and niobium with some reefs of gold and PGM (Platinum Group Metals).

We have recently signed an agreement with a mining contractor for mining and processing of our eluvial resource in Siankopo with production to start on August/September 2008

We plan to define the eluvial ore resource in our other 2 tenements in 2008 and bring them into production by the end of 2008 (Kandiole) and early 2009 (Ibula)

With the rising price of tin and increasing demand, the company is in an excellent position to be a major contributor to the resources industry and supply the world with tin. We are still open for the first few who can join us developing one of the only major tin discoveries in the world.

The company shall source the latest technology in ore processing which will give the best recovery of Tin and secondary metals such as Tantalite, Niobium, Gold and Platinum. At first it can be exported as mixed concentrate, then, later as Tin ingots of 99.85% and 99.9% purity and separate metals concentrate such as Tantalite, Niobium, Gold and Platinum.

### The Company

Kabanga Tin Mines consist of several leases owned 100% by the Libra Group of Australia and their daughter companies, “Apila Ltd”, “Libra Minerals Ltd” and “Woodsman Investment Ltd” of Zambia.

Libra Pty Ltd is a private equity investment corporation established in Australia for 18 years and acts as the project developer. The company plans to go public in 2008 and then list on the Australian Stock Exchange (“ASX”) in May 2009.

Libra now holds several mining and prospecting rights in the middle of the tin belt of Zambia including a prospecting permit and 2 mining licenses.

### The Tenements

The Tenements are located in the tin belt region of Zambia near Livingstone in the Southern Province (Kalomo and Choma Districts). A distance of approx 400km south of Lusaka with mostly good access road up to the site.

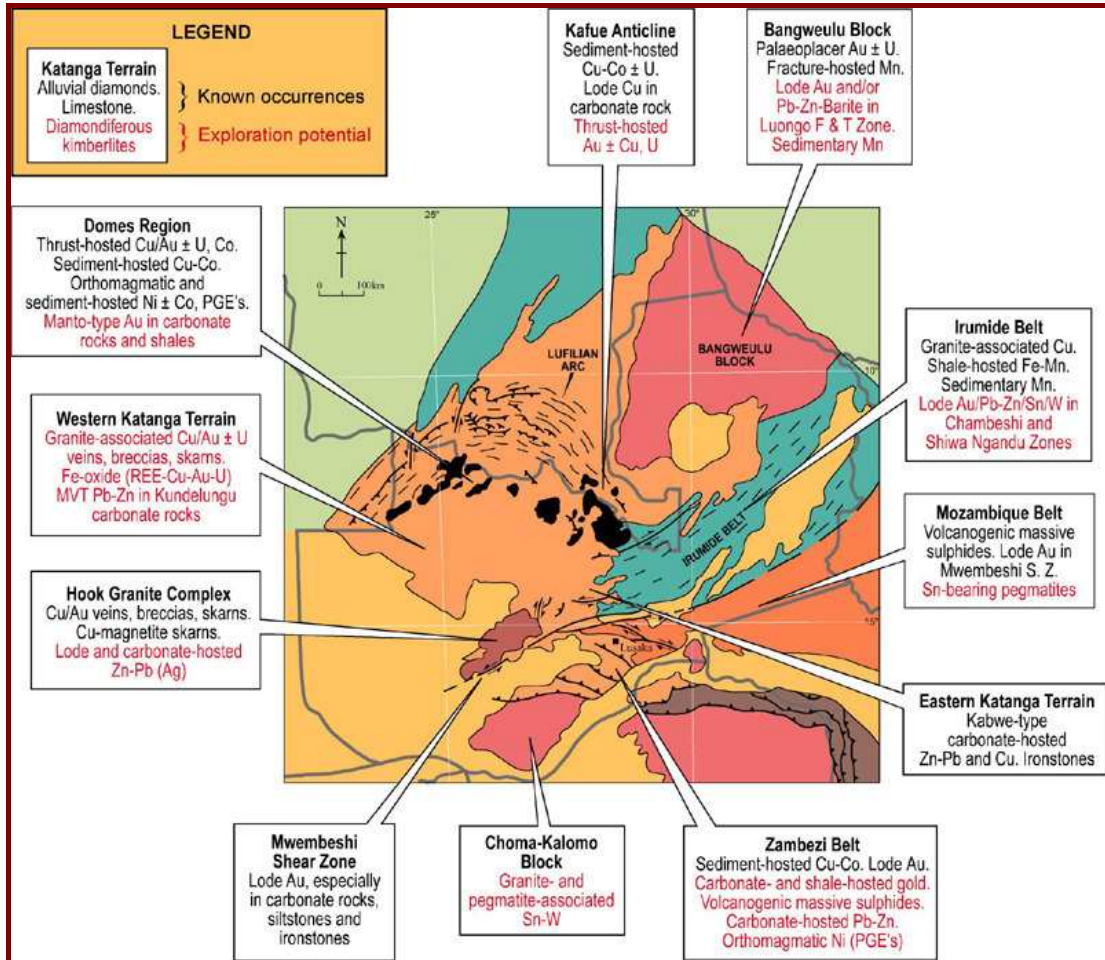
Libra has applied for 17 sites. 3 leases were granted on February-March 2007 and 14 are still pending including 7 under Libra Minerals Ltd 4 under Woodsman Investment Ltd and 3 under Apila Ltd (3 of the leases are large scale).

The **mining rights** at hand are as follows:

● Siankopo:	10 years small scale mining license	(SML 308)
● Ibula:	10 years small scale mining license	(SML 307)
● Kandiole:	2 years prospecting permit	(PP 258)



**Geology Map of Zambia**



**Exploration Works**

Exploration has been in two phases. Initially, using geological sampling, radiometric scanning, pitting, and trenching to define the extent and grade of the eluvial tin deposit. The second phase, to define the extent and grade of the total tin deposit including hard rock is by drilling and analysis of the drill core.

Siankopo, the most evaluated lease to date, has 5 substantial sites which are suitable for mining. In particular, 2 sites are high grade (called the grave) and Kapongo Hill is lower grade but larger quantities.

Libra has confirmed ore resources of 10 million tonnes in Siankopo in the eluvial zone located in the top 2-3 meters. This eluvial zone is ideal for low cost open pit mining. Further drilling is required to define the extent of this ore body beyond the currently estimated 10 million tones. Drilling to depths of 30 meters is expected to intersect further ore resources.

Libra plans to carry out this drilling program as soon as possible to prove up ore resources and bring it to JORC levels. Laboratory tests and resource calculations are necessary to complete this stage. It is proposed to start at the area of the 3 veins that were found around pit no. 70 in Kapongo Hill in Siankopo (see Kapongo Hill map no. 2).

**Breaking News**

**28th March 2008**

**Chemical analysis of**

Tests results from our first vein in pit no. 70 just came from Genalysis in Perth as follows:  
(Sn=Tin Ta=Tantalum Nb=Niobium U=Uranium Pt=Platinum



**intersected vein in Pit number 70**

Pd=Palladium)

**Analysis of the concentrate produced.**

**In the vein:**

Sn - 2.92 and 3.11%  
Ta - 181.5 and 191.6 ppm  
Nb - 124 and 161 ppm  
U - 3.1 and 2.9 ppm

**Outside the vein:**

Sn - 0.80%  
Ta - 84.6 ppm  
Nb - 97 ppm  
U - 2.4 ppm  
Pt - 3 ppb

**Concentrate (Chirobi):**

Sn - 50.77%  
Ta - 2.21%  
Nb - 2.40%  
U - 147.4 ppm  
Pd - 3 ppb

**Concentrate (Kapongo Hill):**

Sn - 77.32%  
Ta - 8162.8 ppm  
Nb - 5512 ppm  
U - 19.3 ppm  
Pd - 4 ppb

**Drilling (plan attached), Tests and mining stages**

Stage 1 of the drilling plan will be 20 holes adjacent to pit no. 70.

Stage 2 will be a further 130 holes drilled at 5 sites in Siankopo.

Stage 3 will be mineralogical and metallurgical analysis.

- Particle analysis
- Separation tests
- Recovery tests
- Metallurgical Flow sheet and optimization

Stage 4 – open cut mining.



**Vein in Pit No. 70**



## Mining and Processing

On 28/3/2008 we have signed a mining and processing agreement with the main contractor called: “CEM” of Zambia. CEM is a mining contractor for several major mining projects in Zambia; the key points of the agreement are:

- CEM shall develop the Siankopo mine at its costs including earth works, water, power and road improvement
- CEM shall mine and process at its cost the eluvial ore at Siankopo
- We shall be in charge and cover the costs of logistic (including transport, documents and insurance), marketing, treatment and sales of the tin concentrate and ingots
- We shall direct the mining operation to the most promising sites in Siankopo
- We shall supervise CEM operation to ensure compliance with our agreement, the law and good mining and processing practices
- Within 8 weeks of agreement date we shall prepare the mining and processing plans, submit Environmental Impact Study and development plan and start works on the water supply including bore hole drillings, water recycling plant, tanks and pipes for the processing line
- Within 10 weeks of agreement date CEM shall start the earth works in Siankopo to improve the roads and access to the site to enable trucks, machinery and supply to enter smoothly
- By 28/7/2008 CEM shall mine and process 40 ton per hour of ore working 24 hours a day 7 days a week (“24/7”)
- By 1/1/2009 CEM shall increase the capacity to 120 ton per hour of ore 24/7
- By 1/5/2009 CEM shall increase the capacity to 300 ton per hour of ore 24/7
- We agreed to pay CEM 50% of the sales for above works for the eluvial in Siankopo only

## Production Plan

We plan to produce the following quantity of Tin Concentrate packed in 20’ containers:

Month	Year	20’
SEP	2008	3
OCT	2008	6
NOV	2008	7
DEC	2008	7
JAN	2009	7
FEB	2009	8
MAR	2009	20
APR	2009	20
MAY	2009	20
JUN	2009	20
JUL	2009	25
AUG	2009	40
SEP	2009	40
OCT	2009	40
NOV	2009	60
DEC	2009	60
JAN	2010	60
FEB	2010	60

We shall produce Tin Concentrate of 65% Sn in 2008 and 70% Sn from 2009



**Financial Considerations**

# Strategic Growth Plan

## Libra Pty Ltd - Fund Raising

**Current:**

6/6/2008 - Current Status: Outstanding Shares: Total issued (fully paid) 102,000,002 shares

**Stage 1:**

6-10/2008 - raise \$2m by issuing 20m shares at a price of 10c/share  
Use the funds to conclude JORC compliance eluvial Resource Estimate in Siankopo, Kandiole and Ibula and increase production to 600 ton per hour of ore prior to listing

**Stage 2:**

5/2009 - list on ASX and raise \$30m by issuing 60m shares at \$0.50/share  
Use the funds to increase capacity to 1,000 tonnes/hour and develop all the mines

### 3 Steps to IPO



**Bond Issue**

We also offer investors who are interested in fixed return secured corporate bonds with high yield. Our current limited offering includes the following:

Amount	Interest
\$10-100k	3% per month
\$100k-1m	4% per month

The bonds include 3 months grace period and are set for 2 years with our call option on the second year. The bonds are secured and if we delay on the repayment of interest or capital the investor shall have the right to convert the bonds to shares at improved rate.

**Time Table**

- 2007: Obtain the mining rights, Radio Metric Scanning, Pitting and Trenching, Construction of the camp site and preparation of the eluvial resource estimate in Siankopo
- 2008: Conclude Resource Estimate to JORC level, Test Works and start mining @ 40 tonnes/hour of ore, pre IPO drillings, explorations, BFS, Off Take Agreement
- 2009: Increase mining and processing capacity to 600 tonnes/hour, improve the infrastructure and listing preparations such as issue of Prospectus and other legal and accounting requirements, IPO conclusion and start developing the other tenements
- 2010: Full scale mining and processing @ a rate of 1,000 tonnes/hour of ore, export to the



market and become a major tin supplier

## Positive Cash Flow

Positive cash flow is expected from the first quarter of 2009

### 1.1 Objectives

- To develop Kabanga as a world class mining project
- To achieve and maintain high profit margin
- To supply the best product (high concentration) and service to our clients
- To return maximum profits to our share holders
- Take care of the environment with minimum disruptions
- Provide employment, training, development and growth to the people of Zambia
- Safety first!
- Use the latest technology for optimal results
- Become the largest Australian Tin Supplier

### 1.2 Mission

The company mission is to establish itself as a first class mining concern using the latest technology and serving its clients with the highest concentration of Tin Concentrate and Ingots.

### 1.3 Keys to Success

To succeed Kabanga mines and its products must:

- Be of high standard and quality assured
- Comply with all the major world standards mainly for safety and mining practices
- Build a brand image and brand equity through marketing, integrity and promotion

## 2.0 Company Summary

Kabanga Tin Mines activities include exploration, mining and processing of Tin Ore, Gold and PGM (Platinum Group Metals). Customers are mostly: smelters and refineries of tantalite, PGM and tin in China, Germany, USA, Malaysia, South Africa, Thailand, Singapore and Belgium; many are public companies. The high quality in terms of consistent high % of concentrate and ingots will assure a rising market.

### 2.1 Company Ownership

Kabanga Tin Mines consist of several sites and owned 100% by Apila Ltd, Libra Minerals Ltd and Woodsman Investment Ltd of Zambia. These companies are members of the Libra Group of Australia and owned by:

- 85% Libra Pty Ltd of Australia – Project Developer
- 8% Plateau Minerals Ltd of Hong Kong – Chinese Importer of minerals.
- 5% Mika Airisniemi a Processing Engineer from Finland - CEO
- 1% Hon. Anson Simama an MP from Zambia – Company Secretary and Director
- 1% Ali Ismail a Mining Engineer from Egypt – Mining Engineer Consultant

We have to pay royalty of 15% of the net profit before income tax to Daled Mining Ltd of Zambia (“The Mine Explorer”)

### 2.2 Cash Flow

A Cash Flow for the project including all costs such as exploration, test works, mining, processing, drillings, machinery, equipment and operational cost is attached. Also included is the production rate, income from sales and investment and projected profit for the eluvial section only.



### 3.0 Sales and Promotion

The dominant marketing factor of our product is the extreme high demand for our metals. We have the clients ready in China, Germany, South Africa, Thailand, Singapore and Malaysia (mostly smelters and refineries) who are willing to buy everything we produce. We plan to promote our products and push the price up as much as we can during the project life span.

### 4.0 Market Analysis Summary

China is the biggest consumer of tin in the world. As long as this economy keeps on growing the demand will continue to increase. India is also catching up fast and increases their use of tin as more construction projects are executed and more industries are developing. Tantalite is used mainly in USA, Germany and China. The world economic growth also fuels more demand which makes it difficult to meet with current supply level of Tin and **there are no major tin discoveries that can change this situation in the near to medium term.**

In such growth, experts predict the resources boom will continue for many years to come and metals prices will continue to increase. The tin price is expected to increase from today's \$20,000-25,000/mt to the \$25,000-30,000/mt level over the next 2-3 years and Tantalite and Niobium could break the \$200,000/mt level.

### 5.0 Strategy and Implementation

The company's strategy is to focus on the EU and Chinese/Asian market with tin concentrate and ingots. A positive trial shipment of concentrate has already been sent to Malaysia Smelting Corporation in Penang - the world largest tin smelter. The smelter Assay Certificate show tin level of 65.5% Sn and very clean material.

#### 5.1 Marketing and Logistic Strategy

Our marketing strategy consists of direct sales ex works and export to the end users in China and other markets. We have the logistic arrangement in place with RB Freight Management of South Africa <http://www.rbfm.co.za> and insurance policy with AIG (American Insurance Group) [www.aig.com](http://www.aig.com). We have an offer from QBE the largest credit insurer in Australia to get a credit policy when required. We plan to execute an Off Take Agreement in 2008; we now negotiate with several interested buyers. We have an offer for an Off Take Agreement to buy all our production from one of the majors.

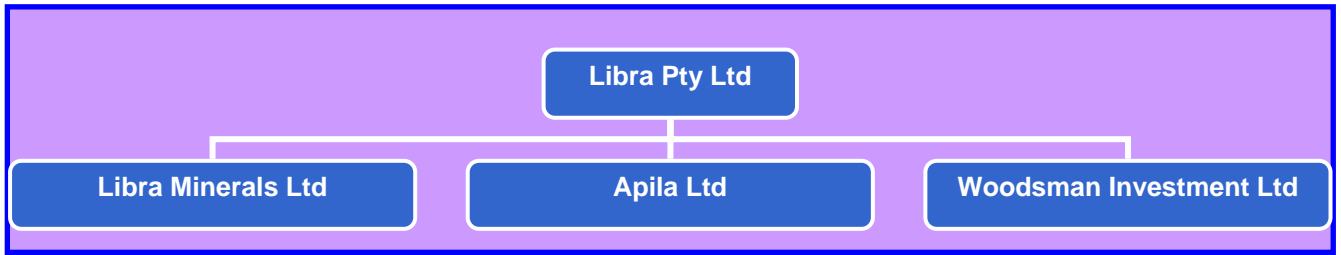
##### 5.1.1. Pricing Strategy

The pricing policy is set based on the market price as advertised on [www.lme.com](http://www.lme.com) for London Metals Exchange and on [www.kltm.com.my](http://www.kltm.com.my) for Kuala Lumpur Tin Market; in most cases it will be say 100% of LME daily cash price less say \$500/ton (treatment & impurity charge) for tin concentrate of say 65% Sn (Tin) content (for example if today the price is \$20,500/ton we get \$20,000/ton for the tin in concentrate we supply).

### 6.0 Organizational Structure

The company has allocated the initial management structure to set up the exploration and mining operation. Further mining engineers, geologists and metallurgists will be added to the management team as the project is developed and the team expands. Most of the management will be allocated from South Africa and Australia.





**Corporate Structure - Libra Group**



**Drill Rig**

### 6.1 Management Team



**Chanan Deluya - Managing Director and Share Holder of Libra Pty Ltd**, head sales, marketing and finance, has a 25 years career in finance, management and marketing. He is the managing director and founder of Libra Pty Ltd (Australia) and has extensive experience in marketing minerals mainly in Asia and Africa. Chanan spent a great deal of time and effort in recent years to explore the mining sector in Africa (Congo and Zambia) and Indonesia (identified 3 promising gold sites in Padang, Sumatra) and developed good contacts and deep understanding of the best areas to focus on. He is in charge on fund raising to support the project requirements. He also identified further projects in Asia for Nickel, Gold, Coal and Tin that are under negotiations.

**Hon. Anson Simama** is a Member of the Parliament of Zambia, **Director**, Share Holder and Secretary of the Project Companies. He assists us in any problem we may face with any local authority and considered by us as an insurance policy for Zambia.



**Dr. Aharon F.M. Aharon - Executive Director and Share Holder of Libra Pty Ltd**  
*B.Sc., M.App.Sc., Ph.D.*

- B.Sc (Geology), Auckland University, New Zealand.
- M.App.Sc. (Hydrogeology and Engineering Geology), University of NSW, Australia.
- Ph.D. (Chemistry), University of NSW, Australia.



Member of the Australian Institute of Mining and Metallurgy, Member of the Geological Society of Australia. A professional geologist and hydrogeologist for 25 years. Consultant to many mining projects in QLD, NT, SA and NSW – nickel (Western Mining, Kambalda), gold (WMC, Salt Lake), lead-zinc-copper (Goulburn, NSW), uranium (Mary Kathleen), coal (BHP and MIM in Qld) and mostly hydrogeology, locating groundwater in all types of geological environments. Several years, regional manager of an exploration company in Queensland focusing on exploration, drilling, regional and structural analysis, resource evaluation and project management. Many years in academia following a research path in chemical oceanography and hydro-metallurgy, and tutoring in geology and chemistry. Recently, published several papers describing and analyzing the groundwater resources of an area of Central NSW.

**ANDREW FALCONER – Executive Director of Metallurgy and Share Holder of Libra Pty Ltd**



- 1978 University of Otago, New Zealand - Master of Mineral Technology
- 1973 University of Birmingham, England - Bachelor of Science (honours) in Mineral Engineering

Metallurgist with over 30 years experience, with expertise primarily in titanium, tantalum and tin minerals including wet and dry gravity, magnetic and electrostatic separation processes. Andrew was involved in production plants and development projects in Australia, Africa, India and South America. Strengths include plant commissioning, metallurgical accounting, data analysis, flow sheet evaluation, production optimization, pilot plants, operator training and environmental matters. He worked with many mining companies including: Xstrata Ltd, Gippsland Ltd, Bluestone Tin Ltd, Downer EDI Ltd, AITCOBOL, SGS Lakefield, Sons of Gwalia and Iluka Resources (CV attached).

**P J (BASIE) FOURIE – Director of Exploration**

*M.Sc. (Geology); B.Sc. (Hons); B.Sc.*

- Master of Science (Geology), Rand Afrikaans University (now University of Johannesburg).
- Bachelor of Science Honours (Geology), Rand Afrikaans University
- Bachelor of Science (Geology and Geography), Rand Afrikaans University.



Basie is a Registered Professional Natural Scientist at SACNASP and as such a competent person for reporting of mineral resources (SAMREC Code) for listings on the JSE (Johannesburg Stock Exchange); Member of the Geological Society of South Africa. A very competent geologist with many years of management roles in Africa from senior geologist to general manager of many mining projects. Over the years he worked in countries like South Africa (home country), Namibia, Madagascar, Botswana and Kenya with many mining firms including: Mupane Gold, Sallies, Kenya Fluorspar Company, Vergenoeg Mining Company, Johannesburg Consolidated Investment Company (JCI), Klein Aub Copper Company and FOSKOR (CV attached). Basie has issued a geological review of our tin deposit based on his visit, our exploration works and past data (report attached)



**Amram Serfaty – Project Director**

*BEcon/BCom (Economics and Finance) Murdoch University of Western Australia*



Amram has 19 years of experience in the mining industry. This includes hands on one year drilling and blasting in Timna underground copper mine, three years in Iron Baron South Australia, and 15 years experience in management, production, drilling, blasting, haulage, crushing, storage sampling and ship loading with BHP Iron Ore Koolan Island Western Australia including drillers training in Mont Newman for BHP Billiton.

Experience includes exploration and production with various types of equipment, hard and soft rock, Tropical and desert climates, single and multi pits and processes, open pit and underground mine.

He is fluent in French, Hebrew, Arabic and English.

**Mika Airisniemi** from Finland is the **Chief Executive Officer** of the project, Share Holder and Director of the Project Companies. Mika spent the last 15 years in Zambia, Congo and Angola (mostly in Zambia) in the minerals and timber sectors and know the area very well. He is a processing engineer and very efficient and reliable executive and manager. He designed and built our processing line prototype. Management roles include:



- 1993 – 1999 Mikaira Mills Ltd, Kitwe – General Manager and Owner.
- 1999 – 2002 General Manager of Zambian operations of Wadi Al Rawda Trading of UAE employing 75 people.
- 2002 – 2006 Apila Timber Limited, Kitwe – General Manager and Owner – 65 employees.
- 2006 to date he is the CEO of Libra Minerals Ltd and managed up to 120 people at the pitting and trenching stage.



**Ali Ismail – Mining Engineer Consultant**, B.Sc., a Share Holder in the Project Companies, is a mining engineer from Egypt with over 20 years of mining management roles in Zambia. He is an expert on Zambia resources and have a great deal of experience in mining management and processing in Zambia including mine manager for Hetro Mining Ltd. in Kalengwa and Chifumba mines in the copper belt of Zambia, Mining Engineer for Sedgwick Company of Australia, Mining Engineer for Bruce Mining and Construction, Mining Engineer for Arinas Mine, Ndola, Shift Manager in Om El-Hewaitate Mine, Mining Engineer in Nassif Mine in the Red Sea Area and Inspector of Mines Safety for the Ministry of Mines of Zambia.

**Gary Wagner, Director**, is in charge of transport and logistics. He is an expert in logistic and knows the Southern part of Africa very well. Gary is in charge to set up all the logistic chain including road transport, warehousing, container loading, sea freight and all the documents. Gary has spent many years in Zambia and has very good contacts in the right places. He is currently the manager of Gauteng Province of South Africa at RB Freight Management. In the past he set up logistic arrangements and distribution for corporations such as: Diesel Management Systems (Pty) Ltd (British Aerospace Associated), Macron Petroleum, Indian Ocean Exports, Pure Fresh Foods and Bristol Myers Squibb





**Roy Raniga, Director of the Project Companies**, is in charge of marketing in Asia. He is the head of investment of Libra Pty Ltd and has worked for many years in marketing mining products in Australia and Asia. Roy career included working with Westpac Banking Corporation (Australia's first bank), Williams Consolidated Industries as their Asian Business Development Manager, he was also associated with GFI Group, Singapore Office and Hartsfield Capital Investment Bank (CV attached)

**Attachments:**

- **Project Cash Flow**
- **Geological Survey Report March 2007 – Mwale**
- **A Review of the Tin Deposit January 2008 – P J Fourie**
- **Mining Licenses for 10 years**
- **Site Map**



**The Flag of Zambia**

**KEY RISKS**

Investors are advised to consult with their advisors prior to investment in our company due to the risks associated with investment in the mining sector.

These risks include but not limited to exploration success, operating risks, risks associated with resource estimates, commodity price volatility and exchange rate risk, environmental risks, insurance risks, competition risk, future capital needs, personnel and the speculative nature of the investment.

Political Risk: while Zambia is considered one of the most stable countries in Africa and the Zambian are very friendly people and the government is very keen to attract foreign investment and provide incentives to foreign investors, investment in Zambia may carry a higher risk than investing in Australia in terms of level of law protection, legal system, economic and regional stability, transport and theft risk.

Libra is trying to protect its assets through the right contacts and developing good relationship with the government at all levels, participation in local community projects (so far we assisted local schools around us to paint the walls, we assisted in the repair of local water bore hole and pump and we plan to further take part in social projects that can provide benefit to the local community); we also have a parliament member on our board - just in case..



## Corporate Data

### Libra Pty Ltd

Australian Company Number 011 076 038  
Established: 1990  
Address: 18 Curlew Place, Riverhills, Queensland 4074 Australia  
Phone: +61 7 3279 4115, +61 7 3412 3511, +61 408 777 481  
E Mail: [info@LibraMinerals.com](mailto:info@LibraMinerals.com)  
Web site: [www.LibraMinerals.com](http://www.LibraMinerals.com)  
Bank: Westpac Banking Corporation  
Branch: Acacia Ridge, Queensland, Australia



**Tin Food Containers**





**Cassiterite Crystals in Siankopo**

### **Zambia - Brief**

Zambia is located in southern Africa and is endowed with substantial mineral resources and an economy historically based on the copper mining industry.

The official language of the country is English and the capital is Lusaka. Zambia is located well within the tropics and has altitudes generally between 1,000m and 1,500m.

The Government of Zambia has created a positive investment climate for the mining industry.

The following websites provide further information on Zambia:

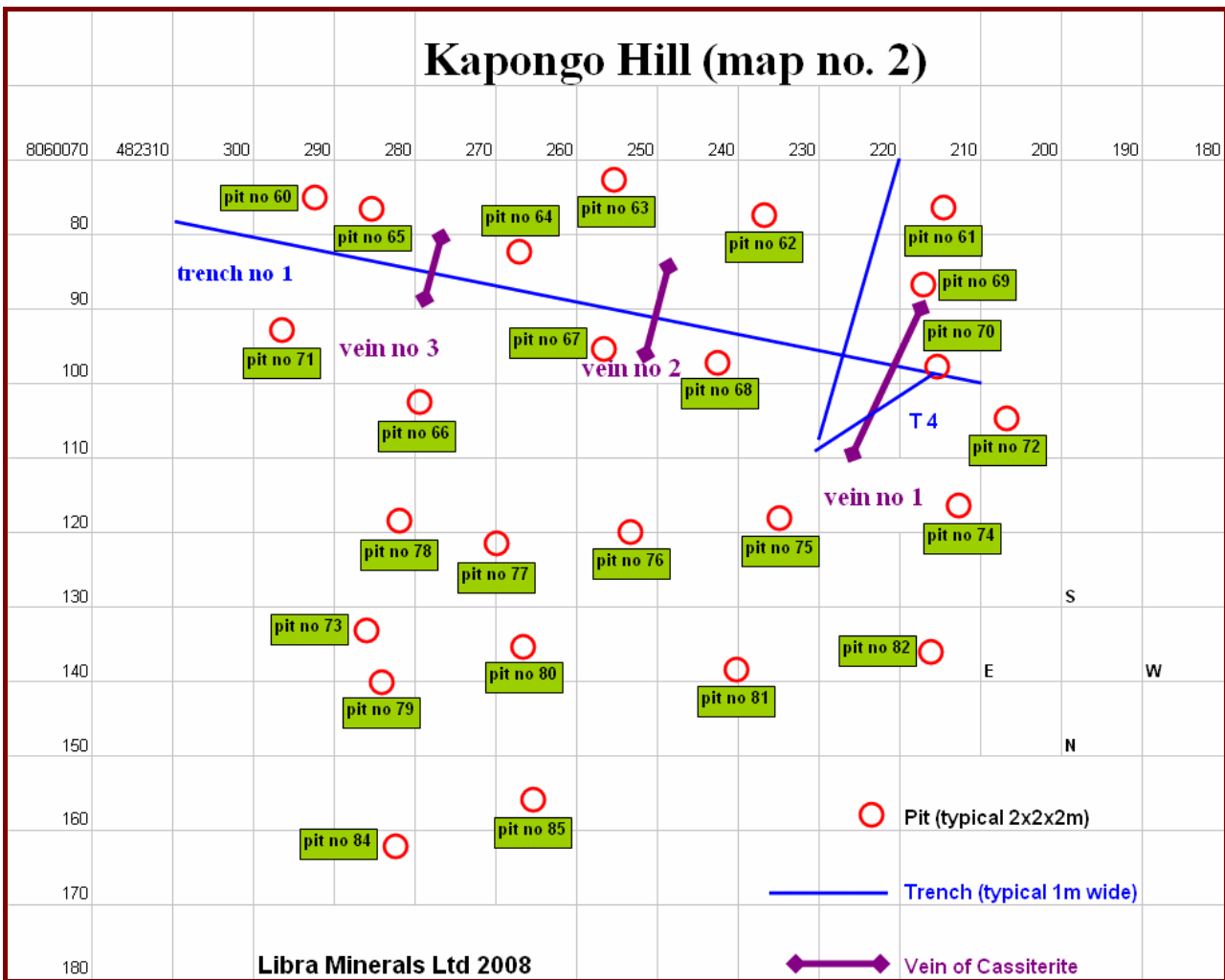
Zambian Ministry of Mines and Mineral Development <http://www.zambiamining.co.zm>

Investment Opportunities in Zambian Mining Industry <http://www.zambia-mining.com>

CIA World Factbook entry on Zambia

<https://www.cia.gov/library/publications/the-world-factbook/geos/za.html>





Kapongo Hill contain the largest resource in our first tenement “Siankopo”; we also found 3 veins around pit no. 70 which will be our first target for drilling



(TOOLSTATION)

**Tin Solder - The most common use for tin**



## Kabanga Tin Mines – Zambia

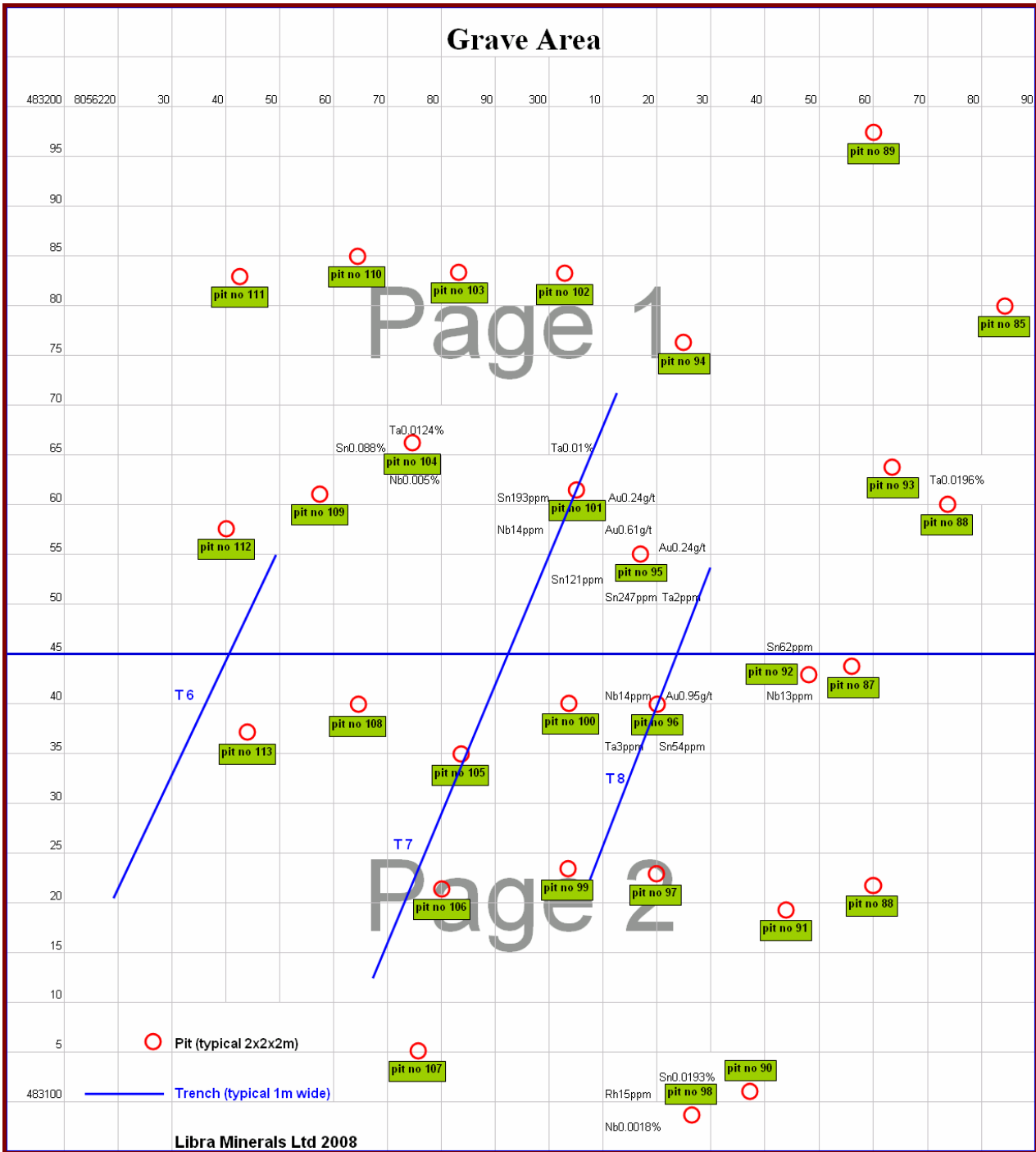
World Tin Resources		
Country	Reserve Base	
(By Principal Countries)		World Resources of Tin (In '000 tonnes of tin content)
Australia	300	
Bolivia	900	
Brazil	2500	
China	3500	
Indonesia	900	
Malaysia	1200	
Peru	1000	
Portugal	80	
Russia	350	
Thailand	200	
USA	40	
Other countries	200	
<b>World Total</b>	<b>11000</b>	

Source : Mineral Commodity Summaries, 2004.

World Tin Producers			
Country	2001	2002	2003
(By Principal Countries)		World Production of Tin (In tonnes of <a href="#">metal</a> content)	
Australia	9983	7078	3819
Bolivia	12039	13210	16386
Brazil	13048	11584	12200
China	93000	81000(e)	99000(e)
Indonesia	56286	78567	64026
Malaysia	4972	4215	3358
Peru@	38182	38815	40202
Russia	5500	7200	7000
Vietnam (e)	4500	4500	4600
Other countries	6490	1831	2409
<b>World Total</b>	<b>244000</b>	<b>248000</b>	<b>253000</b>

Source : World Mineral Production, 1999-2003.





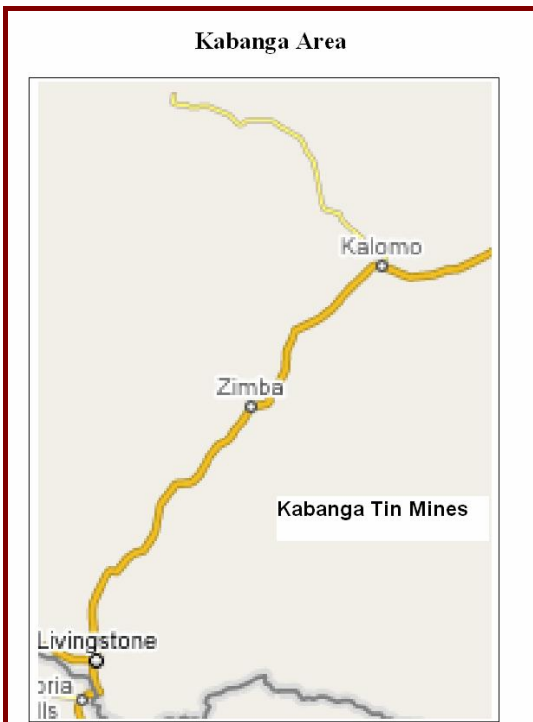
The Grave area contain interesting concentration of minerals including 2 pits (98 and 114) of 15 and 20 PPM of Rhodium and Gold around pits 95 and 96



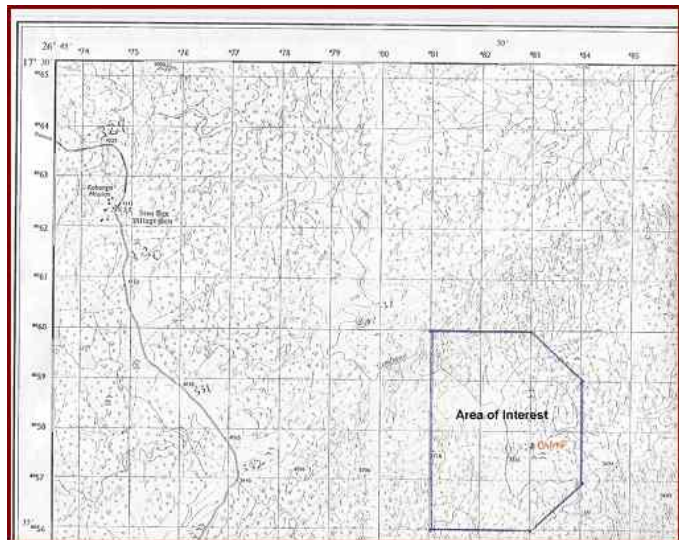
**LME Tin Price in USD\$/ton for the last 2 years**  
[www.lme.com](http://www.lme.com)



**Breaking the \$25,000/Mt!**



**Project Area**



**Location Map of Siankopo Tenement**



## DRILLING PLAN

### DRILLING AREA - Siankopo

Location: Kapongo Hill where the vein is located.

Trench No 1 (T1) starting from 0482343-8059946 to 0482206-8060114 east-west,

The location of the vein is 0482218-8060082

The thickness of the vein in the outcrop is 100cm.

The exposed area is 10m.

The location of the KH1 is 0482218-8060082 in angle of 70 degrees to the east.

KH2 will be 10m to the north-east of KH1

KH3, KH4 and KH5 on the same line (strike) with KH2 and 10m apart.

In the other side of the strike, KH6, KH7, KH8, KH9 and KH10 the same space.

The second vein is located in 0482237-8060067

The location of KH11 on the same point above, KH12, KH13, KH14, KH15 and KH16 will be in the left side of KH11 facing east, and KH17, KH18, KH19 in the right side of the KH11.

All the holes will be 70 degrees to the east and 50m long.

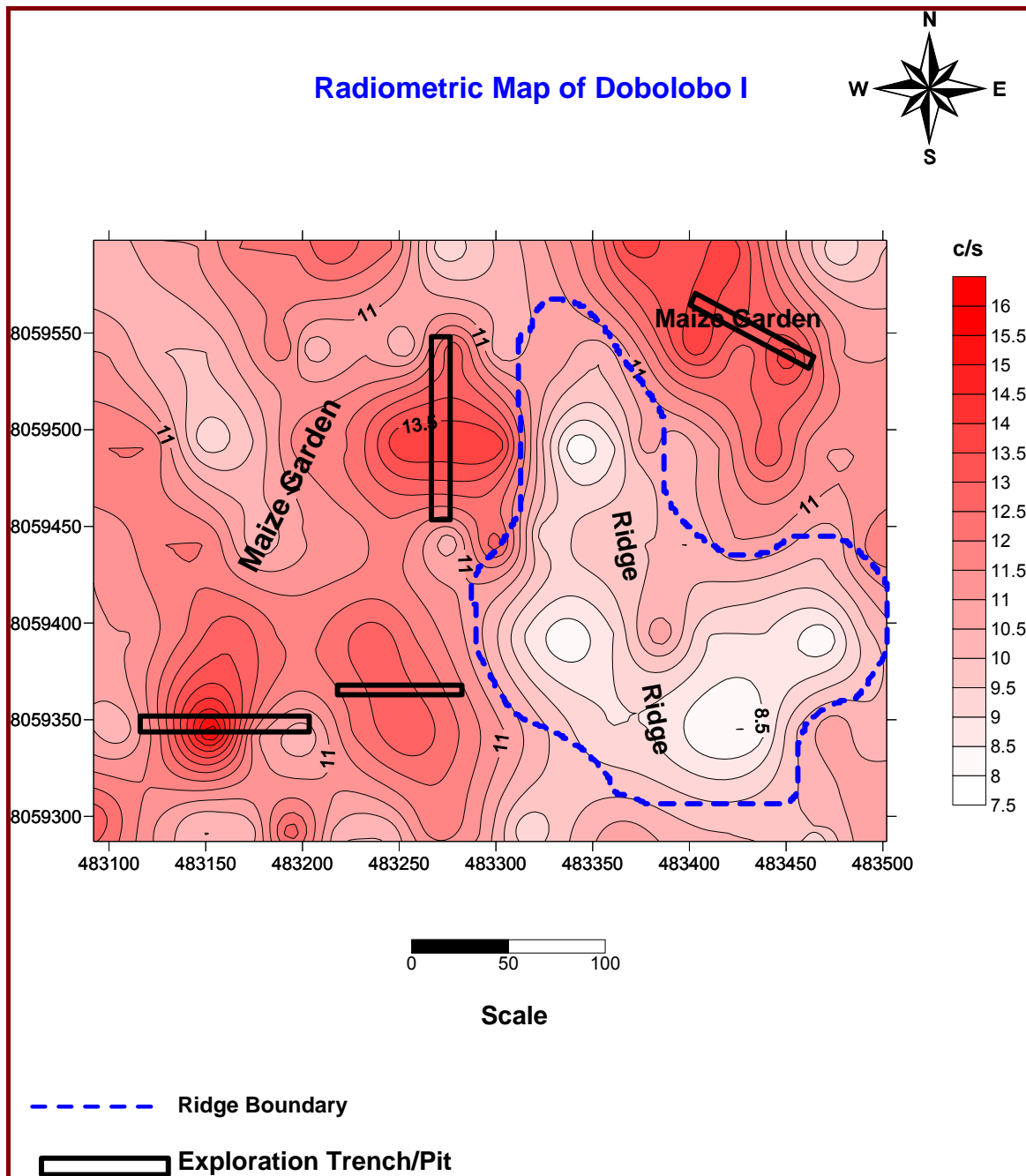
KH 20 will be in the location of 0482255-80560043 in 45 to 60 degrees to the west.

Hole No	Location	Angle degree	Depth m
KH1	0482218 8060082	70	50
KH2	0482213 8060093	70	50
KH3	0482210 8060083	70	50
KH4	0482208 8060071	70	50
KH5	0482205 8060060	70	50
KH6	0482217 8060107	70	50
KH7	0482220 8060116	70	50
KH8	0482222 8060127	70	50
KH9	0482224 8060136	70	50
KH10	0482226 8060146	70	50
KH11	0482237 8060082	85	50
KH12	0482234 8060058	85	50
KH13	0482233 8060048	85	50
KH14	0482230 8060038	85	50
KH15	0482227 8060028	85	50
KH16	0482240 8060075	85	50
KH17	0482243 8060084	85	50
KH18	0482245 8060094	85	50
KH19	0482247 8060103	85	50
KH20	0482248 8060050	45-60	50

### Time table:

- Preparation two weeks
- Drilling in the main vein one month
- Drilling in the second vein one month
- Preparation of the samples and delivery to the laboratory in Australia two weeks





## Tin Summary

Pure tin is a silvery white metal, which is soft, ductile and malleable. It is one of the oldest metals known to man, but it does not occur naturally as a metal. By far the most important tin mineral is cassiterite, a naturally occurring oxide of tin, which in its purest form contains 78.6% tin. Tin is a relatively scarce metal compared to some other base metals like copper, lead and zinc, with an average abundance of about 2ppm in the Earth's crust.

Tin (Sn) is a member of Group IV of the Periodic Table, along with carbon, silicon, germanium and lead. As a metal, the most important properties of tin are its low melting point, its non-toxicity, its resistance to corrosion, its attractive appearance and the ability to readily form alloys with most metals to create useful materials.

Tin is rarely used in its pure form because of its softness, it is almost always used in combination with other metals, either as an alloying element or as a coating.

In compounds, tin can appear in two oxidation states, either +2 (stannous form) or +4 (stannic form), and it forms various industrially-important compounds of each type.

## Property

Atomic mass	118.69
Atomic number	50
Melting point	232°C
Boiling point	2625°C
Density	7.28g/cm <sup>3</sup>
Electrical resistivity at 20°C	12.6 μΩ cm
Young's Modulus at 20°C	49.9GPa

Tin possesses a unique combination of properties, which has led to its use in a wide range of applications. It finds many different applications as a metal, alloy or as a chemical compound. The two most significant uses of tin are in solders and tinplate. The total world consumption of tin is around 370,000 tonnes.

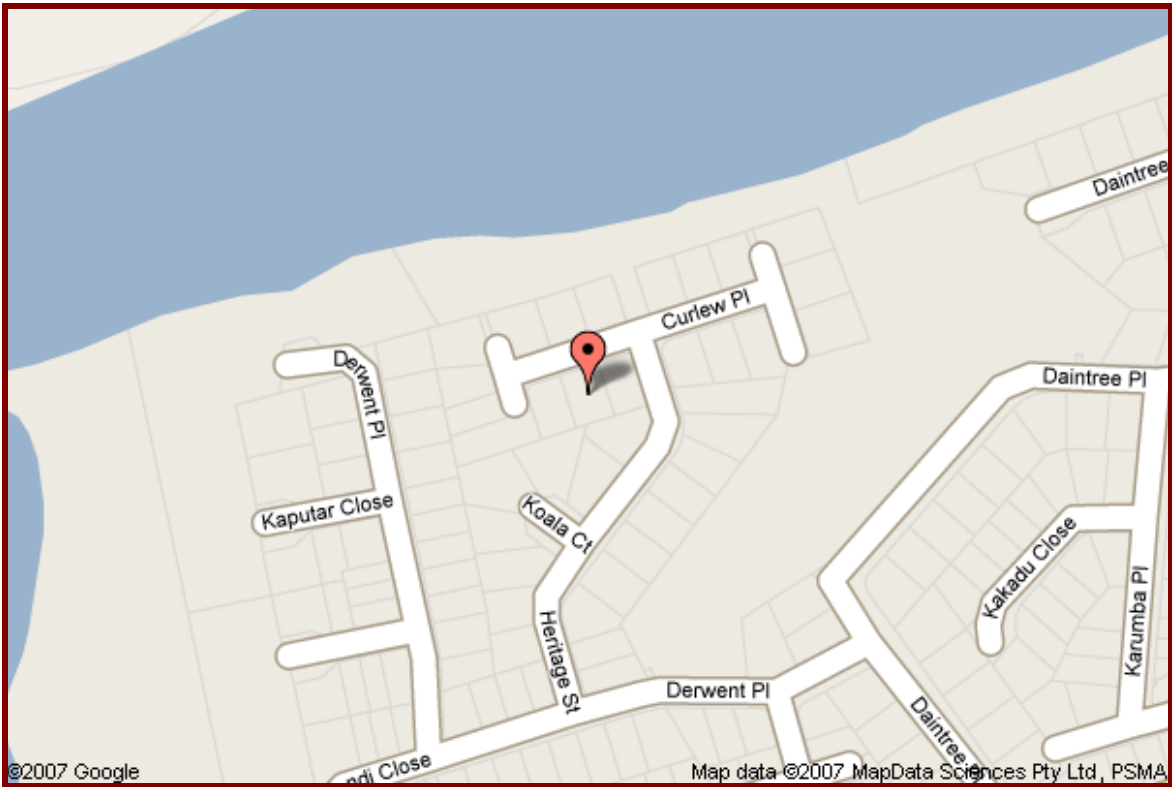


**Tin Plate**

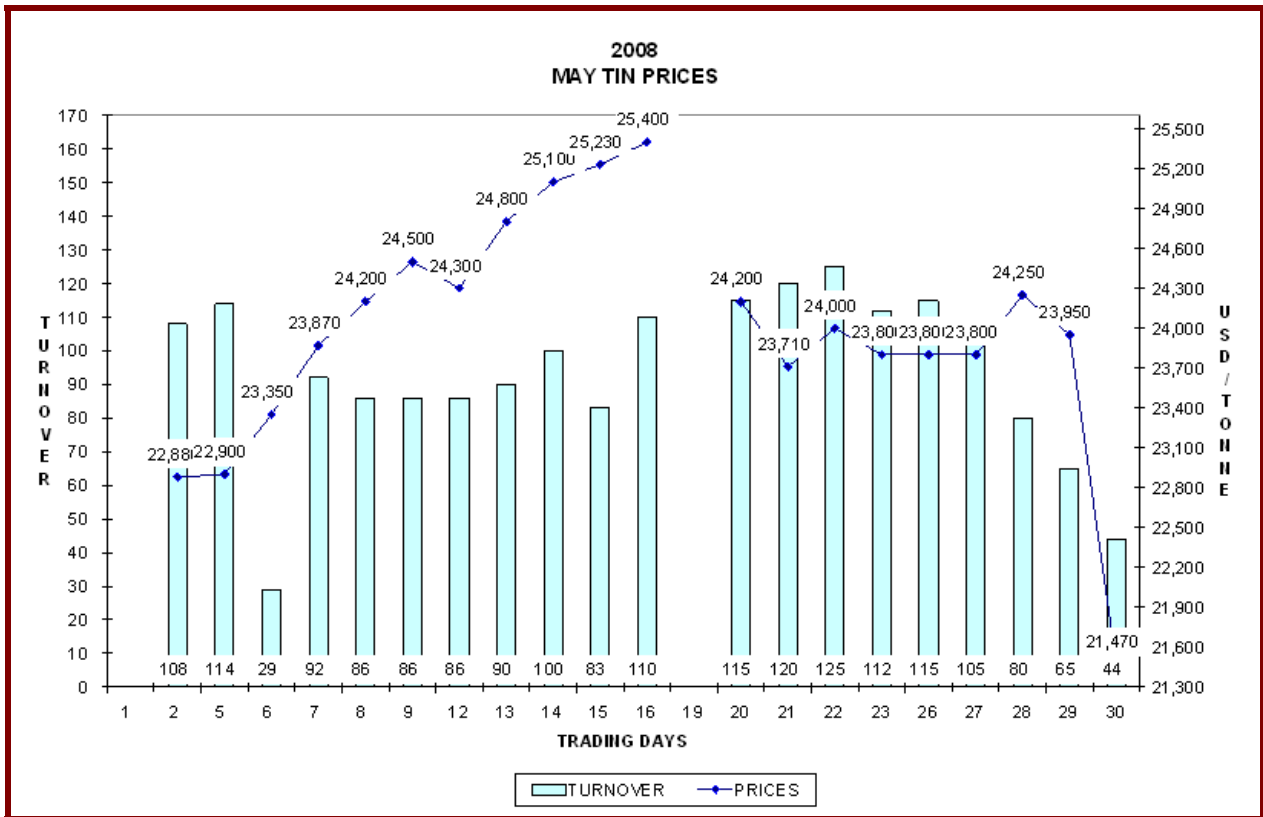


**Tin Ingots**





**Libra Pty Ltd Head Office - 18 Curlew Place, Riverhills, Queensland 4074 Australia**



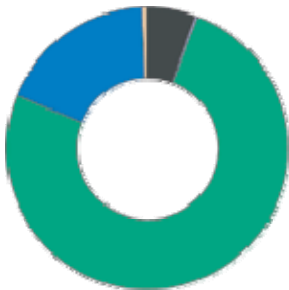
**Kuala Lumpur Tin Market Daily Price and Turnover (Breaking the \$25,000/ton!)**





**Cassiterite Vein in Siankopo**

World tin production

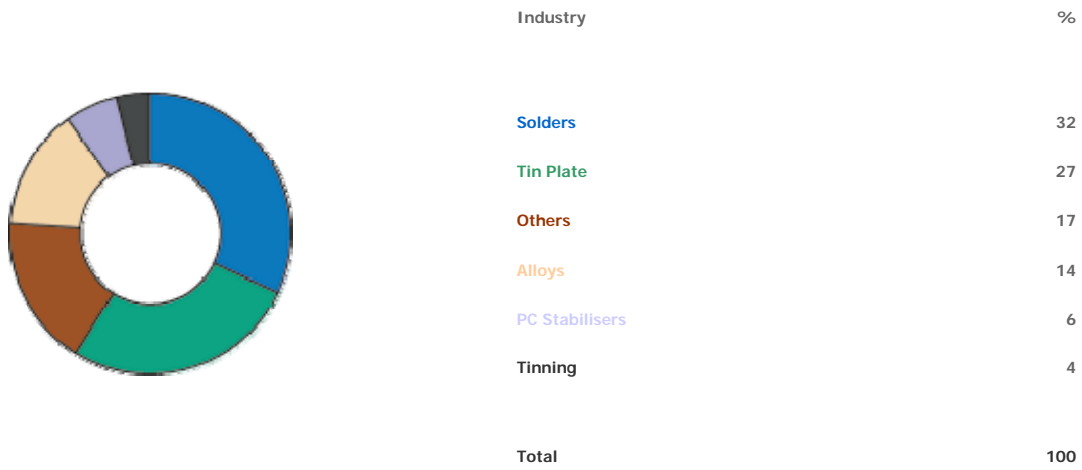


Region	%
America	18
Asia	75
Europe	5
Oceania	1
Africa	1
Total	100



## Kabanga Tin Mines – Zambia

### Industrial consumption



**Source: LME**

