

Notes for Address to

Technical Session I: Comparing Gold Industry in India and Australia

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Comparative Performance of Gold Mining Industry – India and Australia

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SLIDE 1 (INTRODUCTORY SLIDE)

- By way of introduction, my company, Indo Gold Limited, is a **PRIVATE, UNLISTED** Australian junior exploration and development company, focussed on an exciting new gold project in Rajasthan; we are bringing a modern exploration approach to bear on an ancient gold mining centre – perhaps +2000 years old – explored over the past 12 years or so, by the Geological Survey of India, the State Directorate of Mines and Geology and Hindustan Zinc Ltd.
- We also have subsidiary companies involved in a range of other exploration initiatives throughout India, encompassing gold, diamonds, base metals and bulk commodities.
- We are well cashed up following a recent \$10 million financing, **PRINCIPALLY** out of New York.
- We have deferred our **PUBLIC LISTING** on the London **AIM** market because of uncertainty in the **PERMITTING** process for our Rajasthan project.
- The **THEME** to my address will be a comparison of the Indian and Australian Gold Exploration and Mining Industries, with a focus on the **KEY SIMILARITIES**, the **KEY DIFFERENCES** and the **KEY ENABLING MECHANISMS** in each country.

SLIDE 2 (GET THE DRIFT)

- Of course, many of you may be aware of the geological concept of continental drift and plate tectonics; and will know that India and Australia were once linked in a great southern land mass called **GONDWANALAND**.
- Thus, the countries share very similar geology even if their cultural histories are quite different.

SLIDE 3 (OLD GEOLOGICAL TERRAIN)

- By far the majority of the gold ever produced in the world (+60%) derives from very old rocks within the **ARCHAEAN CRATONS**, dominated in India and Australia by what are referred to as **GREENSTONE BELTS**.
- In the case of **INDIA**, gold production has derived mainly from these old rocks in Karnataka and Andhra Pradesh, with one mining centre, **KOLAR**, being dominant – indeed, since its discovery in 1880, it has produced around 90% of gold mined in modern times.
- The main **ARCHAEAN** terrain in Western Australia, the Yilgarn Block, has dominated Australian production and contains the famous **KALGOORLIE** mining centre, which is still in production and has produced over 50 million ounces of gold (+1,560 tonnes) since its discovery in 1893.

SLIDE 4 (ARCHAEAN ROCKS AND GOLD PRODUCTION)

- As you will see from these maps, shown at exactly the same scale, both countries have their fair share of these Archaean rocks.
- In India the predominant occurrences of the earth's oldest rocks are in Karnataka, Andhra Pradesh, Madhya Pradesh, Chhattisgarh and Jharkhand.
- In Australia, the States of Victoria and Western Australia contain almost all the occurrences, with a smaller incidence in the Northern Territory.

SLIDE 5 (RECORD OF PAST GOLD PRODUCTION)

- This graph shows annual gold production in both countries from start of the modern era, say from mid-1880s first gold rush in Australia.
- The first thing to point out is that the data from India is somewhat misleading because only decade-by-decade totals are readily available so the chart does not show peaks and troughs that obviously would be present.
- From evaluation of ancient mining sites, researchers have estimated gold production in excess of 1,000 t in the pre-modern era, perhaps dating back to cultures as old as 3900 BC.
- Yet the modern mining era started only in 1880 with the “re-discovery” of the ancient mining sites at Kolar and their subsequent industrial development.
- In contrast, the discovery of gold in Australia occurred earlier, in 1851 at Hargreaves in NSW, which developed into the **1st AUSTRALIAN GOLD RUSH** and soon spread to the famous Victorian fields of Bendigo and Ballarat.
 - It led to a huge influx of population.
 - The building of the city of Melbourne.
 - The establishment of rural cities.
 - In the 1890s, Victorian goldfields contributed 90% of gold produced from Australian and over 35% of world production.
- These were all **VIRGIN or “GREENFIELD” DISCOVERIES**. There was no ancient gold mining culture in Australia prior to European settlement, unlike India which had a very mature and developed ancient mining culture that had all but disappeared prior to European colonization.
- The **2nd AUSTRALIAN GOLD RUSH** was led by the discovery of gold in Kalgoorlie in 1893 by Paddy Hannan, resulting again in a huge influx of population from all around the world.

- It led to the development of the inland city of **KALGOORLIE**. The need for water led to the building of a 370 mile long pipeline from near Perth (a considerable engineering feat in those days), thus fostering rural inland agricultural development as well.
- The **3rd AUSTRALIAN GOLD RUSH** commenced in the early-1980s, was dominated by production again from the Archaean rocks of WA, and was driven by several factors:
 - Steady increase in gold price due to removal of the “Gold Standard” in 1971 and the oil shock of the mid-1970s;
 - Geological re-appraisal of the West Australian fields;
 - The ability to “bulk mine” low grade oxide deposits and
 - The use of Carbon-in-Pulp (CIP) and Carbon-in-Leach (CIL) processing techniques.
 - In 1979 there were virtually no **GOLD RESERVES** in WA and a prevailing view was that the fields were “**MATURE**”, thus not very prospective.
 - It took the courage of a few individual people and companies to **CHALLENGE** this mindset.
 - Someone had to believe in the **PROSPECTIVITY** of the fields, and **EXPLORE** – it was not government agencies that did this!
 - **RISK CAPITAL** had to be raised – again, foreign capital markets were the drivers, not government and not solely the Australian markets, which were not adequate to provide for the levels of investment required.
 - This huge step-change in mindset required individuals in private enterprise to:
 - Believe that the application of new ideas, exploration methodologies and operational technologies could lead to

success in the same areas where others had not had success in the previous half-century!

- They were proved right in a most stunning way.
- The **3rd RUSH AUSTRALIAN GOLD RUSH THAT HASN'T ENDED** was initiated in Western Australia, and this geological province has out-performed many other well established gold-rich districts of the world that have seen little shift in production in the past 20 years.
- This **3rd AUSTRALIAN GOLD RUSH** has spread to other areas and resulted in new discoveries in younger rocks, for example the Telfer deposit in Western Australia in Proterozoic terrain, and the Cadia-Ridgeway deposits (New South Wales) in the Palaeozoic fold belts.
- In particular, the Proterozoic foldbelts are also well represented in India. Indeed our projects in Rajasthan involve exploration around ancient mining sites containing Proterozoic geology, and we are now applying exploration methodologies and search models derived from these newer discovery case histories in Australia.

SLIDE 6 (RAJASTHAN GEOLOGY AND MINES)

- Rajasthan is a geologically well endowed state of India with major mines such as KHETRI, RAMPURA AGUCHA, RAJPURA DARIBA, ZAWAR and a multiplicity of small marble and soapstone quarries. It is very like the famous MOUNT ISA geological succession in QUEENSLAND, but turned through 180 degrees, such that the eastern side is the western side and vice versa. In the past 20 years in the MOUNT ISA region there have been a number of major discoveries over ground where previous explorers had found nothing. The application of **NEW IDEAS, EXPLORATION METHODOLOGIES AND OPERATIONAL TECHNOLOGIES** has led to success in the same areas where others had not had success in the previously.
- In other words, **RAJASTHAN** is **EXTRAORDINARILY PROSPECTIVE**, but the enabling mechanisms are still not there to realise the potential.

- Indo Gold believes that the Bhukia gold-copper province in which it is working has multi-million ounce potential and could be a future, very large mining centre of world class status.
- The key issue facing Indo Gold and its JV Partner is PERMITTING or should I say THE LACK OF IT!
- We have been thwarted by the lack of grant of a Prospecting Licence (PL) at Bhukia. It is only when a PL is granted can this prospect be drilled out to International Mineral Resource Reporting Standards. Yes, we do have 2 granted Reconnaissance Permits (RPs), but potential mineralization cannot be fully investigated while ONLY 1 BOREHOLE can be drilled in 10 square kilometres or 10 BOREHOLES in 100 square kilometres, or 100 boreholes in 1000 square kilometres as per the RP rules.
- We have a major exploration drill programme and millions of dollars to put into the ground, but bureaucratic delays, an apparent “competitive” and unfriendly approach from Government agencies, and a misinterpretation of the Samatha judgment by successive Rajasthan Governments has stalled a major investment in a very under-developed region, where local peoples are crying out for investment and job opportunities. In essence, I am afraid to say that we feel UNWELCOME!
- FDI will not flow to India in the volumes required while the pace of reform is as slow as it has been, and the perceived attitude in certain parts of governments is as it is at present.
- But, the reality is that state-control still exists in various forms in India, and the mental leap to private involvement has been difficult for many participants, especially those in the various regulatory bodies and State-run enterprises.
- It is important to understand that India is NOT the ONLY geologically well-endowed country that is under-explored by modern means.
- Foreign investment can easily flow elsewhere where geological endowment is as good and the outcomes more certain. Indeed, it is my understanding that De BEERS are in the process of leaving India and

focussing their DIAMOND exploration in AFRICA. In the past week I have had 3 RESUMES from De Beers' geologists seeking work. Again, Anglo American has left India. I know, because in 1 day we will sign a lease agreement to take over their office in Udaipur!

- Ladies and Gentlemen, I am not familiar with the management of either of those companies, so don't know the reasons for their departure. However, I do suspect that part of the reason is that it's easier elsewhere in the world, despite excellent geological prospectivity in India!

SLIDE 7 (BEHRE DOLBEAR)

- To back up those comments and some of the experiences of Indo Gold over the past 3 years in India, I would draw your attention to the next slide.
- Founded in 1911, Behre Dolbear is one of the oldest, continually operating minerals industry consulting firms in the world. Since its founding, the company has spanned the industry from the primitive pick and shovel days of mining to the computer age of geostatistics. The company specializes in performing studies and consulting for a wide range of businesses with interests in the minerals industry.
- Since 1999, Behre Dolbear & Company has compiled a political risk assessment of countries of importance to the mining industry. This document lists the high risk and low risk parts of the world for receptivity to mineral investment, plus much valuable information about conditions in the countries such as economic and political systems, social issues, permitting, and corruption. It is free and available for download on their Web Page.
- The rankings in the annual survey reflect the collective experiences gained by the company and its professionals and are based on opinions gathered from their own professionals and research from various open and confidential sources.
- The ranking is Qualitative, not Quantitative. Only "Political Risk" is considered. Geology and mineral potential speaks for itself as

exploration, development and mining activity confirms the existence of such potential.

- From the Behre Dolbear report I have taken and compared India and Australia on all the seven criteria upon which each country is ranked. IT IS CONFRONTING, as you can see.
- I believe the Behre Dolbear research bears out to a considerable degree the experience of Indo Gold. The key issue is PERMITTING. While some of the others, such as SOCIAL ISSUES and CORRUPTION are very important in the Indian context, they are not, in my view, what is holding up development of the minerals industry here in India.

SLIDE 8 (KEY DRIVERS FOR SUCCESS)

- Favourable Geology!
- Entrepreneurial Individuals with New Ideas!
- Enabling, “Investor Friendly” Mining Code!
- Supportive Governments and Local Communities!
- New concepts/technologies!
- Risk Capital!

SLIDE 9 (KEY FACTS ABOUT AUSTRALIA AND ITS MINERALS)

- Gold is predicted to be the 3rd largest export earner for Australia in 2007-08 at around \$11 billion, behind coal at \$23 billion and iron ore at \$18.5 billion.
- The great majority of GOLD discoveries were and are made through small, entrepreneurial exploration companies.
- No ancient mine sites in Australia. Every discovery was a “Greenfield” one.

SLIDE 10 (KEY MESSAGE FOR INDIA)

- Geology is Excellent!
- Multiplicity of ancient Goldfields, so re-visit with fresh vision! There is ABUNDANT prospectivity - INDIA could easily be producing +50 tonnes GOLD per year!
- Encourage “Greenfield” exploration which should lead to New Discoveries.
- Develop Investor Friendly Approach! View foreign companies as Partners, not Competitors.
- Accelerate Permitting!

SLIDE 11 (WHAT COULD BE FOR INDIA)

- I return to one of my previous slides and superimpose on it what might be possible for India in the very near future.
- THANK YOU!