

Ecclestone on mining in Albania

Albania – Not Quite the Land that Time Forgot: In the not too distant past, with one of my other hats on, I was very involved with the mining scene in Albania. At the time I headed a company that desperately needed to diversify away from the mammoth country risk involved in doing business in Turkey (therein lies another story) and my glance turned to Albania for a couple of reasons. Firstly it was a country with a very strong mining history (in fact its fate post-WW2 was directly linked to mining). Secondly, its major resource was chromite, for which I have a particularly soft spot (as evidenced by my recent writings on Tasman's diversification into this metal). Thirdly it is geologically governed by the Eastern Ophiolite Belt which is a spur of the great Tethyan Copper Belt that stretches from the Carpathians in Slovakia, all the way through the Balkans, across, Turkey, Iran and ending in Afghanistan or Pakistan depending on your point of view.



I am more conflicted as to whether it is a positive or negative for the country that it is not currently a member of the EU.

Some Background

Albania, with a population of approximately 3.5 million people, has had an open market economy since 1991 though the country's potential (mineral and otherwise) remains largely untapped. The population of Albania is relatively young, (average age of 32) and the majority of people speak English, Greek and/or Italian. There is an ongoing effort in the country to improve infrastructure, sanitation facilities and

wealth creation amongst its population as part of an overall bid to eventually join the European Union.

Mining in Albania

Albania's mineral deposits included chromite, copper, ferronickel, limestone, and petroleum. After WW2, Communist state-run initiatives to mine became a priority.

Under central economic planning, especially from the late 1970's through 1990, Albania's chromite mining operations were among the most important components of the mineral industry. Indeed such was the strategic importance to China of Albanian chromite that the Chinese courted the Albanian *supremo*, Enver Hoxha, and managed to peel Albania off the Soviet Bloc and Albania was, for decades, a Chinese satellite rather than a creature of Moscow.



Albania had also been a producer of copper and nickel since the 1930s. Collapse in mining production of chromite, copper et al. followed the demise of the Communist regime and mining has been made into a priority by recent governments as a means to create jobs and export income.

In 1995 the Albanian government adopted a law to privatize the mining industry. Administrative preparation began in 1996 and to date the government continues to grant exploration concessions to international companies and individuals.

In cooperation on environmental issues, Albania participates in the Basel Convention on hazardous waste, the convention on biological diversity, and UN Conventions of the Law of the Seas on climate change.

Chromite – Not What it Was

During the Sinophile period, Albania was a leading world

producer and exporter of chromite and often was ranked second in terms of export (after South Africa) and third in terms of production (after the former South Africa and former Soviet Union). The export of chromite and ferrochromium also was among the country's chief sources of foreign exchange.

Although chromite deposits and outcroppings can be found throughout Albania, the principal commercial chromite deposits are in ultramafic massifs in the Midrita region, in the north-central and northern parts of the country. The mainly podiform ore was mined at seven mining districts, of which Bulqiza and Batra, about 30 km northeast of the capital, Tirana, represented about two-thirds of Albania's total production capacity. Albanian chromium ore grades from 18% to 43% chromium oxide (Cr_2O_3). The lumpy ores grade 39% to 42% Cr_2O_3 and the concentrates grade from 50% to 53% Cr_2O_3 . About 25% of the ore was suitable for direct shipment; the balance was divided equally between beneficiation and shipment as feedstock for the Burrel ferrochromium plant. In the late 1990s production was in steep decline as evidenced when in 1999, the production of run-of-mine chromite declined by 47% compared with that of 1998; the production of such marketable products as chromite concentrate, direct shipping chromite, and ferrochromium fell by 66%, 21%, and 7%, respectively.

Advantages & Pitfalls

A couple of important things should be noted here that I (and others in the mining space) learnt through experience rather than a website. Firstly, we need to look at the country in the context of it being essentially a backwater from 1950 (well, even more so before WW2) until the communist states fell in the late 1980s. Albania like every true socialist republic churned out geos like there was no tomorrow and with little consideration of the economic need for them. With all these skills and not many mines for them to work in, they were put to work scouring the country to find each and every mineral

deposit. No stone was left unturned for forty years and thus I would be as bold to say that it is probably the most thoroughly explored country on the planet. Not bad for Europe's only Third World country. The upshot of this is that when the government has its regular license auctions or tenders it produces very exact and very delineated properties for PRODUCTION. Thus a tender might read 175 hectares with a chromite resource of 25,760 tonnes of Chromite grading 46.3%. There is no fat or spare land on these production concessions. You can be pretty sure that the terms of what you bid for is what you get. Therefore you are also expected to get cracking and start exploiting what you have just bought as the tender usually contains a specified work commitment in Euros (and exploration is NOT work). You can hear Canadian promoters shuddering at the thought of all this transparency. There is not even a figleaf behind which a Vancouver promoter can hide when these deposits are so WYSIWYG.

Secondly, there is a rule in Albania that you must surrender half your territory, if it is not a production license, after a relatively short period of time. Then after that you must surrender another half until you eventually are on a shrinking island in a rising sea. This is all well and good for it is *use it or lose it*. This all comes together in the third point and the grand maxim. Because of the first point, most deposits in Albania are known. Thus Canadian and Australian miners who want to "reinvent the wheel" by making a discovery and spending large amounts on a drill program are wasting their time. The maxim is that Albania favours the producer over the explorer. The explorer is doomed to find something and then lose it. We heard of one case where a certain amount of exploration had been done and obviously that would be the part the concession holder would want to keep and give up another part. Instead some Chinese interests came in and offered somebody in high places some persuasion and the explorer was left with a donut AROUND the territory they had worked. If this story is not apocryphal, then it would seem that,

contrary to practice in other countries with “give-up” rules, here it is NOT the company that gets to decide which half of the acreage it gives up.

The Players

One of the first players into the Albanian chromite space was London’s Anglo-Pacific group that picked up some prime mines that had formerly been producers for the state mining entity. It then vended those on to Robert Giustra’s Empire Mining (which is now called Columbus Copper). Things were going well there with a very short timeline to production (less than a year) until rather suddenly ownership issues reared their ugly head. This totally derailed Empire’s production plans and stymied financing, while both mine-financing and chromite prices went soft. Eventually legal hearings resolved the issue but Empire had already moved on to greener pastures.

My own experience was in the putative takeover of a TSX junior that had a swathe of interesting chromite and PGM-chromite properties plus a gold property. Here we found that the “give-up rules” were looming over several of the properties making them rather binary as to whether they had any residual value or not, or what part of them one would be left with. We worked out it was cheaper to go to the tenders and acquire proven acreage rather than speculative territory.

The veteran player in Albania that has stood the test of time is Tirex, a company which we have known, and admired, for what is a long-time in what we might call “mining-years”. Here though is not the place to discuss their progress at length.

Kosovo

Ask an Albanian about Kosovo and they will comment “Greater Albania”. No-one would deny that most of the population of Kosovo are in fact Albanians but because of the vagaries of history (and the US wariness of redrawing borders) the Kosovar Albanians were first embedded in Yugoslavia and now have their

“own” state which they share with a Serbian minority (and some Macedonians and Bulgarians).

As for the geology, Kosovo is also somewhat of a mixture of Serbia and Albania. It has a lot of mountains but also has substantial valleys and foothills whereas Albania is almost all mountainous. It's the northern part of Kosovo that is most interesting where it borders Serbia and has a substantial history of base metal mining, Lead/Zinc and Copper, particularly around Trepca. Avrupa Minerals have a base metals project in Kosovo, the Trepca region.

Conclusion

Despite the pitfalls of my abortive acquisition I ended up starting an office in Albania to act as a listening post for upcoming auctions and to keep an eye out for potential targets in Albania, and Kosovo. The area remains as prospective as ever and no-one can point to any overt regulatory debacles to totally dissuade miners from heading into the fray. The problem is more the malaise in mining, than any malaise in the target country.

We are surprised that so many have been surprised by the success of Reservoir Minerals and its efforts in neighboring Serbia. We liked the prospects of this story since we first encountered it. The Balkans are all about fascinating geology from the historic gold mines of Greece and Romania, all sorts of base metals from Serbia and Bulgaria, Antimony in Serbia and Kosovo and the chromite riches of Albania. Other names to conjure that are exploring in the region are Euromax Resources (with interests in Macedonia and Serbia) and Pan Global Resources with its Lithium/Borates project in Serbia.

The region however is not for the faint-hearted, and particularly in Albania, this is a country where one has to go in eyes-wide-open and no delusions whatsoever.

Tasman Metals – Masters of All they Survey in Scandiland

Ever since the Tasman/Flinders merger deal was floated it was apparent that Tasman (TSXV: TSM | NYSE-MKT: TAS) wanted the benefits of diversification would bring. After all, if you a betting on a horse race it's better to have stakes on two favoured horses rather than just one. The Flinders deal went away and Flinders went on focus on its graphite mine and plant. Tasman has the longer haul REE project at Norra Karr to bring to fruition. The rationale of the earlier merger was to have one advanced project and one longer term one going at the same time. Finding a more advanced REE project than Norra Karr is no easy task, with many REE projects being more like a pack of snails dashing for a finishing line.

Thus to get something that will fill the gap between now and the ribbon-cutting on production at Norra Karr requires something NOT in the REE space because it needs to be something plug and play. This is the antithesis of the available REE projects, with their massive lead-times. Tasman has opted for one of our old favorites, Chromite.

DSO, the Way to Go?

If there is not a big hurdle in infrastructure shortage, then a product that can be produced as Direct Shipping Ore (DSO) is one of the simplest products to move from mine to market. The main mineral products that are traded in this form are also the world's most traded minerals iron ore, manganese, bauxite and chromite. Most are sold in a strictly un-upgraded form though some minimal effort can be made to get them into a more value added state. For example magnetite can be separated from

surrounding non-ferrous material by using large magnets to pick up the ore. Manganese and bauxite are rarely beneficiated much at site and chromite is the one most subject to potential value-added via conversion into ferrochrome. As DSO means large scale products movements at high grades it also requires bulk movement on the projects with the largest capex numbers going towards, conveyors, rail connections ports and the required loaders. The more economically developed the location the less these added expenses are required of a project developer.

Tasman's Move –Chromite in Finland

North-eastern Finland has been a very active exploration district, following the discovery of the large Sakati Cu-Ni deposit by Anglo American, which was announced in November 2011.

Tasman has acquired two chromite projects (Akanvaara and Koitelainen) that lie approximately 75 km apart in north-eastern Finland. The projects total 11,400 hectares in size and the company paid CAD\$45,529 to pick up these assets. Both have had extensive previous drilling, metallurgical testing and historical resources. Both are easily accessible by road.

The Akanvaara and Koitelainen chromite projects are of a stratiform intrusion-hosted style (compared to podiform deposits in locations like Albania). According to Tasman these, together with similar deposits on the Kola Peninsula of Russia, constitute one of the largest known undeveloped resources of chromite in the world. The Akanvaara and Koitelainen intrusions are part of a group of Archean/early Proterozoic mafic layered intrusions within the Fennoscandian Shield, which show cumulate igneous layering similar to other large layered intrusions (Fiskenaesset, Burakovka, Bushveld), and host deposits of **chromite, vanadium, titanium, PGE's and gold**. The new projects lie along the geological trend of the producing Kemi chromite mine, owned by Outokumpu, that has

been producing since 1966.



In addition to stratiform chromite, Tasman feels that the projects have potential for both platinum group metals (PGM's) and Vanadium (V). This is no surprise as PGMs often occur with Chromite.

Chromite – Relatively Immune to the Steel Blues

Having once been a director of a Chromite company the attractions of this metal come easily to mind. For us it was the easy mining and shipping that proved to be the main attraction. We have most particularly looked at the metal in Albania (where the metal was once so synonymous with the country that China managed to peel it off the Soviet Bloc just so they could exclusively have its supplies) and Turkey where there is quite a lot of production but mainly from quasi-artisanal mining operations.

Chromium (Cr) is an essential industrial element due in particular to its strengthening effect on steel alloys and its resistance to corrosion. The main application is as Ferrochrome (FeCr), which is a corrosion-resistant alloy with 80% of FeCr output goes towards Stainless Steel production. The average chrome content in stainless steel is 18% and stainless steel requires a minimum of 10.5% Cr by mass to impart favorable strength and anti-corrosion properties.

The remaining chromite is used in the aeronautics (for the protection of aluminium aircraft bodies), foundry, chemical and refractory sectors. Overall, demand growth for stainless steel and therefore chromium is forecast in the range 4-5% per year to 2020. The price trend for Ferrochrome has not been as depressing as for most other bulk commodities either...



China is the leading chromium-consuming country and the leading stainless steel producer. China produced 17 to 18 million metric tons of stainless steel and produced 3 million metric tons of high-carbon ferrochromium, the leading chromium ferroalloy used to make stainless steel. According to the USGS, China, anticipating a 500,000 ton-per-year-increase in stainless steel production, boosted its ferrochromium production capacity by 1.5 million metric tons in recent years. China's chromite ore imports were expected to increase to support increased ferrochromium production as were its ferrochromium imports to supplement that domestically produced for stainless steel production.

South Africa has been the leading chromite ore and ferrochromium producer. A couple of years back, South Africa's electrical power generating group declared an emergency because of the country's constrained electrical power supply. The power group negotiated short-term buyback deals with ferrochromium producers. However it should be noted that at the same time the government there took exception to the practice of exporting chromite ore in a DSO form to China for elaboration in Asia into FeCr and thus slapped restrictions on exports much in the same way Indonesia has done with Nickel and Tin and that the DRC has spoken of in Copper and Cobalt.

Tasman sees a niche for any potential output from its new assets in serving European stainless steel producers. They rank second only to China in scale and account for some 20% of global output. Europe's share of world chromium metal demand is equally significant, estimated by the European Commission at 1.8 million tonnes (approximately 18.5% of global consumption). The Kemi mine of Outokumpu in northern Finland is the EU's only chromium supplier. The US consumes about 6% of global chrome production and has no production though Stillwater in Montana are said to have some resources in this metal.

There is however no shortage of the metal and according to the

USGS, world resources are greater than 12 billion tons of shipping-grade chromite, sufficient to meet conceivable demand for centuries. About 95% of the world's chromium resources is geographically concentrated in Kazakhstan and southern Africa. However, it should be noted that the metal emanates from other places as well. Production from Albania is patchy these days and Turkey is a player. Canada used to be a producer with mines in the Thetford Mines area of Quebec.

Conclusion

As emerging "new" mining districts go, Scandinavia is one of the least new. The long history of mining in the region was essentially forgotten by those outside the region post-WW2 as the area was regarded as an industrial wonder and home to stultifying social security and tax systems. However companies like Boliden forged on with their traditional mining activities. With a number of years of experience in the region behind it Tasman now feels comfortable in spreading its wings across the region and across the different resources available in this richly geologically endowed area. Instead of being a playing field only for local companies it has become the favoured area for mine development in Europe in the space of just one decade. A very skilled and educated workforce combined with government's that know the worth of mining's value added makes it a totally different equation for the other "emerging" mining regions with rapacious and fickle administrations.

Tasman's management has now been immersed for years in the Scandinavian way of doing things and are clearly comfortable with the idea of getting even further into the mining scene in the region. That they have chosen a non-challenging metal, in terms of extraction, processing or pricing, is indeed a welcome sign.. To top it all off there are no listed Chromite stories we know of outside of the South African player, Merafe. This will give Tasman a further USP...