ITIA

Tungsten

Newsletter – June 2016

In Pursuit of Tungsten Concentrate

The focus of this issue is the production of concentrate, with introductions to the Nui Phao mine in Vietnam owned by Masan Resources and to the Drakelands mine (formerly known as Hemerdon) in England owned by Wolf Minerals Ltd. The former, commissioned in 2013, is the world's largest operating mine whilst the latter produced small amounts of ore during the two World Wars of the last century and officially opened again in 2015.

Our warmest thanks are due to the authors of these articles which contain extensive information about both projects, absorbing to anyone with an interest in the supply of the raw material.

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Masan Resources Nui Phao Project

Bich Dinh Ngoc, Manager Community Liaison & Economic Restoration, Nui Phao Mining Company

Masan Resources Corporation (Masan), listed on Hanoi's UPCoM exchange (UPCoM:MSR), is the largest producer of primary and mid-stream tungsten products outside of China. Its flagship asset, the Nui Phao open-pit poly-metallic mine, located approximately 85 km north-east of Hanoi in Thai Nguyen Province, was acquired by Masan Group in 2010 as a greenfield project. On being commissioned from 2013, Nui Phao became the first new tungsten mine of scale to be successfully developed in the previous 15 years. Today, the Nui Phao project lays claim to being the world's largest operating tungsten mine and has consequently made Vietnam the second largest producer of tungsten globally. Along with tungsten, the Nui Phao project benefits from economic deposits of fluorspar, bismuth and copper.

With steady state operations achieved and constant plant optimization initiatives being undertaken, Masan is now turning its focus to mergers & acquisitions (M&A) opportunities.

Timeline to production

In 1986, with the goal of creating a "socialist-oriented market economy" that would assist in opening Vietnam up to the rest of the world, the Vietnamese government initiated a series of economic reforms known as Đổi Mới. As a part of these reforms, modern exploration techniques and foreign capital were increasingly introduced into the local minerals and mining sector. The reforms also resulted in foreign exploration companies commencing activities throughout Vietnam seeking a range of minerals including gold, nickel, copper, titanium, bauxite, iron ore and tungsten.

In the later 1990's, a Canadian junior miner seeking tin and copper deposits was attracted to the Thai Nguyen area by wide-spread artisanal activities and commenced exploration. On review of their initial exploration results, the focus was changed to tungsten and, on further exploration, the first geological resource estimate was released in 2003. Continued success of further drilling programs and metallurgical test work encouraged the company to undertake environmental and community baseline studies and the procurement of required permitting necessary to develop the project. In 2005, the initial Bankable Feasibility Study was completed, and the Government approved the Nui Phao Project on Environmental and Social Impact Assessments (ESIA).

In 2007, a change in project ownership slowed development of the project. Activity picked up in 2008 when the study was updated, several long-lead items were ordered, and initial engagement with community and local stakeholders was pursued. Due to the global financial crisis, project development was halted till mid-2010 when the then newly-formed Masan Resources Corporation agreed terms to acquire the Nui Phao project. Post-acquisition, Masan immediately validated the necessary licensing and approvals and started the community Compensation and Resettlement (C&R) process.

In early 2011, engineering and construction activities began as a result of the project being fully funded by way of debt and equity contributions. With the project physically taking shape, detailed end-user analysis was conducted and potential off-takers/customers were engaged for all four mineral products. These efforts culminated with agreements being reached with dominant players in each product market for 90% of planned production. Further, for tungsten, an agreement was reached with HC Starck to form a joint venture to build a downstream tungsten chemicals processing plant with a production capacity of 6,500 t WO_3 as ammonium paratungstate, blue tungsten oxide and yellow tungsten oxide. These key relationships continue through to today.

Community & environment

Masan believes the success of the business is heavily governed by their environmental and community initiatives. Therefore, environmental and community management plans play a key role and are equal in priority to operational activities. The Nui Phao Project has committed to developing the project in a manner consistent with best practices, such as the International Finance Corporation (IFC) guidelines and Equator Principles, while meeting or exceeding the legal and regulatory requirements of Vietnam.

Project Overview 2010

Project Overview 2011

Project Overview 2015

Nam Song Cong Resettlement Site

As part of the initial project planning, Masan alleviated community concerns, which were supported by underlying baseline environmental and community health data, by rehabilitating existing contaminated conditions caused by decades of small-scale mining activities. The contamination had affected land, water, biological and socio-economic resources; and had impacts on human health and livelihoods of downstream communities. Accordingly, Masan has made commitments and continues to take steps to ensure the quality of life, satisfaction and economic stability of the affected project community.

Resettlement activities have been conducted in line with World Bank guidance on involuntary resettlement. Based on the World Bank's guidance, households affected by land acquisition are provided with accommodation assistance for at least four months and income restoration for a minimum of 12 months that will help them plan, build their new homes and restore their livelihoods. As the project continues to develop and matures over the current lifespan of 20 years, it will affect approximately 1,925 households. In-line with their goals, Masan continues to resettle the community in a fashion that benefits both parties, i.e. favourable compensation for people with minimal disruption to operations.

Masan has built three relocation sites to partially compensate the displaced people. The facilities include basic services, such as water supply, telephone lines, electricity infrastructure, access road, water reticulation and sewage and waste treatment. On consultation with those affected, Masan has also built infrastructure for social development such as health care facilities, upgraded schools, community halls, two catholic churches, and a Cao Lan temple.

Masan's Public Consultation and Information Disclosure Programme (PCDP) is designed to collect and disseminate information to people interested in and/or affected by the project. It is intended to provide real opportunities for stakeholders to actively participate in the development of the project's operations. It establishes the foundation on which Masan conducts business with the community and the way complaints and grievances are managed.

A variety of channels are used to disseminate information, including newsletters, loudspeaker systems, information corners within the communities, and community meetings.

Geology

The Nui Phao project is located within the South China tectonic plate. The region has been subject to several episodes of rifting and periods of compression from the collision of the South China and Indochina plates. The country's rocks are intruded by Triassic and Cretaceous granites that are typically associated with tin mineralization but, locally, tungsten and base metals are also found in economic concentrations. The adjacent region of southern China hosts some of the largest hard rock tin and tungsten mines in the world. However, to date, no similar large deposits have been found in northern Vietnam.

Dong Bong Church completed (May 2016)

The rocks in the Nui Phao region range in age from lower Paleozoic to Cainozoic. The principal host rock for the Nui Phao mineralization are shales, sandstones, siltstones and marbles. The sequence has been intruded, first by Triassic Nui Phao granite, which outcrops to the south of the deposit and underlies much of the mineralization, and then by the Cretaceous Da Lien granite, which outcrops to the north of the deposit and is generally considered the source of the mineralization. The intrusion of the Nui Phao biotite granite resulted in the formation of an intercalated assemblage of magnetite, garnet, pyroxene and amphibole-rich skarns, as well as granitic and pegmatitic dykes and sills. The later intrusion of the relatively coarse grained two-mica muscovite-biotite Da Lien granite resulted in greisenisation, massive pyrrhotite-fluorite-albite overprinting and tungsten mineralization.

In the Nui Phao region, the sedimentary sequence strikes east-west and dips shallowly to the north. The Nui Phao granite cuts off the mineralization to the south; the contact with the Nui Phao granite dips shallowly to the

Meeting with local people in District Government Committee Office

Local people in new Cultural House built by Masan

Drilling to test ore structure

north, forming a base to the mineralization. The granite forms a 'high' between the central and western zones. The northern limit of mineralization is formed by a fairly steep, southerly-dipping contact with the Da Lien granite.

Northwest-southeast high angle strike slip faults have been interpreted as forming the contacts between many of the rock units in the region. An east-west fault is interpreted as forming the locus for magma intrusions between the Nui Phao and Da Lien granites. Magnetic data indicates the presence of two northerly-trending structures, which appear to define the limits of the known mineralization.

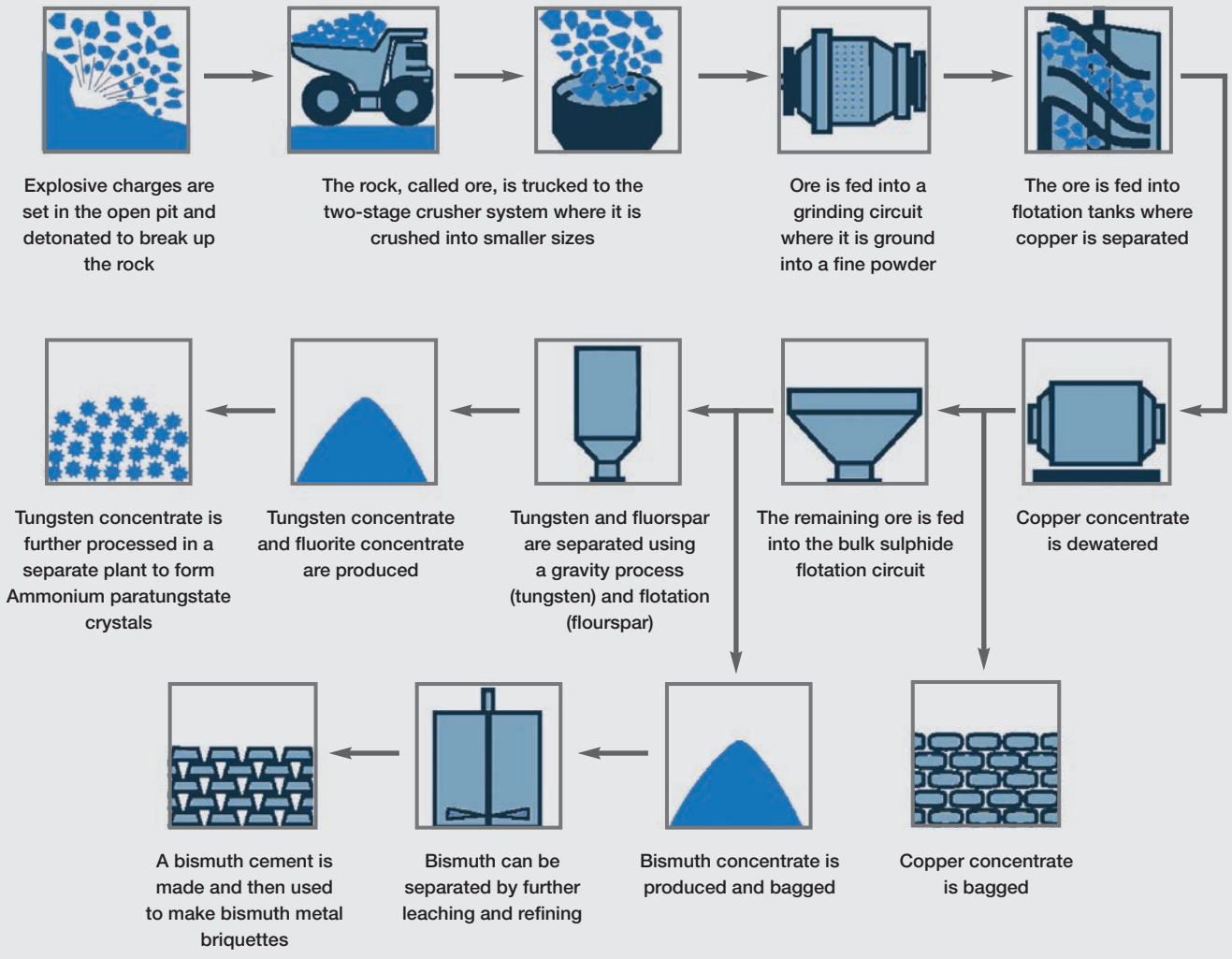
Part of the Nui Phao acquisition included a Joint Ore Reserves Committee (JORC) compliant resources based on some 44,670 m of drilling. This, with some additional drilling, was used to update the mine reserve in 2014 to give a detailed insight into the size and nature of the Nui Phao ore body. The resource and reserve at Nui Phao were 88 million tonnes and 55 million tonnes respectively when Masan acquired the project which was then increased to 96 million tonnes and 66 million tonnes respectively in 2014.

Operations

Mining activities, including pre-stripping, commenced at Nui Phao in late 2012. Masan worked with established local earthmoving contractors to progressively develop them into becoming mining contractors.

Process Plant Overview

Simplified Nui Phao process flow diagram



Mining takes place using an open cut method and is based on 5 meter benches mined on 2.5 meter flitches. Grade control drilling is used to define the boundary of waste and ore zones and is typically carried out on a 10 x 10 meter spacing. Blasting is typically carried out three to four times per week. Mining is conducted by a local contractor using excavators ranging in size from 20 tons through to 65 tons loading 70 ton mining trucks. The trucks deliver ore to the ROM (Run of Mine) pad from where it is delivered to the crusher by front end loaders. Waste is delivered to the waste dump located approximately 1.5 km from the pit or, if chemically suitable, used in the construction of the tailings dam walls some 2.5 km from the pit.

Commissioning of the process plant commenced in early 2013 and continued sequentially through each of the extraction and recovery circuits with ramp up and steady state operation achieved at the end of 2014. The process plant at Nui Phao is designed to treat 3,500,000 tons of ore to produce tungsten, copper, bismuth and fluorite concentrates. Permitting is in place for the plant to operate unrestricted, including scheduled maintenance, for 24 hours a day, 365 days a year.

Milling Circuit

The plant includes the following unit operations:

- a two-stage crushing plant;
- crushed ore storage and reclamation;
- a two-stage grinding section followed by thickening;
- bulk sulphide flotation;
- copper flotation, copper concentrate dewatering and storage;
- bismuth flotation, bismuth leaching and cementation, and bismuth packaging;
- tungsten gravity recovery, upgrading, drying and bagging;
- fluorite flotation, concentrate dewatering and storage; and
- waste water treatment.

Waste from the process plant is sent to one of two specifically engineered tailings dam storage facilities. Both facilities are designed to ICOLD standards. The construction and operation of both facilities are reviewed bi-annually for on-going compliance by a panel of independent international experts. The first facility is used to hold all of the tailings from the sulphide circuits, while the remaining tailings are sent to the oxide facility. Water is reused from both of these facilities in the process plant to minimize raw water consumption. Due to the monsoonal weather patterns in northern Vietnam, Masan has installed a waste water treatment facility that allows for excess water to be treated prior to any discharge to the environment.

Production

In 2015 Nui Phao production was over 5,100 tonnes of tungsten contained in concentrate, or more than 10,250 tonnes of tungsten equivalent units (by converting the all product streams to tungsten equivalent units on an as received value basis). Tungsten is sold via the joint venture as ammonium paratungstate, blue tungsten oxide and yellow tungsten oxide into all of the major tungsten markets outside of China.

Recognition

In September 2015, Masan, as a relatively new player in the global tungsten business, welcomed the opportunity to co-host the ITIA AGM showcasing its Nui Phao project.

The Drakelands Mine

Russell Clark, Managing Director, and James McFarlane, Senior Mine Geologist
Wolf Minerals Limited

Outline and profile

Wolf Minerals Ltd is an ASX (WLF) and AIM (WLFE) listed specialty metals company which is putting the UK back on the world map as a metals producer through the development of its Drakelands Tungsten and Tin Mine, in Devon, in the south west of England.

The £140 million project was officially opened in September 2015, becoming the first new British metal mine in 45 years and one of only two mines outside of China with production capacity greater than 3,000 tpa of tungsten in concentrate

Wolf expects to be the second largest tungsten concentrate producer in the Western World when Drakelands is ramped up to its full annual production capacity of 5,000 tonnes of tungsten concentrate – equivalent to about 3.5% of global demand and more than 20 per cent of Western production.

The scale of the fundraising, management, engineering and HR challenges and the achievement by Wolf in bringing the project on-stream, on time and on budget, is significant by any measure. However, this becomes particularly impressive when seen in the context of the difficult global economic climate which has prevailed during the majority of this development period. The project was not only a first for the company but also something not done in Britain for decades.

History and location

Drakelands Mine is located near the village of Hemerdon, just outside the coastal city of Plymouth, in an area associated for centuries with tin mining, with evidence of work going back to medieval times, and more recently with the neighbouring china clay mines which remain operational today.

Tungsten was first discovered at Hemerdon in 1867 and the deposit was identified as being a large tungsten-tin vein complex in 1916 during World War One exploration for indigenous metal resources. Wartime requirements saw it worked by UK government agencies in both World Wars, although with limited volumes of ore processed (just 16,000 tonnes in the First World War). During the Second World War a larger mill was constructed between 1942 and 1944, resulting in 200,000 tonnes of ore being processed before the mine closed again in June 1944.

Wartime demand again dictated the mine's fortunes with re-commissioning of the mill for a trial run during the Korean War although the end of this conflict also saw efforts to restart the mine lose momentum.

Interest in the project re-emerged in the late 1960's but serious efforts to restart the mine only took place from 1976 and after an extensive drilling programme and planning public enquiry, Amax Exploration UK obtained planning permission in 1986 to open the mine as an opencast mine working to a depth of 200 m.

Drakelands Mine during construction with Plymouth in the background

Unfortunately for the project, this coincided with China increasing production and the global crash in metals prices in the mid to late 80s which prevented development and saw the project placed on care and maintenance. Over the next 17 years, the Hemerdon project languished, passing through various subsidiaries before being finally dropped in 2003.

In 2007 the Hemerdon prospect was acquired by Wolf Minerals Ltd which opened up new negotiations with landowners, ratified the planning permission already in place and succeeded in generating the required momentum to develop the project. Extensive investigations, including analysis of previous and new drilling data, informed a comprehensive feasibility study (published May 2011) which confirmed the economics of the project and Wolf set about assembling the debt finance and equity investment to develop the project.

Face showing quartz veins within the granite ore body

The capital investment for the project was £140 million – a serious amount of money to find for a junior mining company like Wolf. A £75 million pound project finance facility was established with a consortium of three European banks and £100 million was raised in equity in Australia and the UK with very strong support from cornerstone shareholders Resource Capital Funds and Todd Corporation.

Wolf also secured off-take agreements with two of the largest tungsten consumers: Global Tungsten and Powders (GTP), in the USA, and Wolfram Bergbau und Hütten, in Austria, for 80 per cent of tungsten production over the first five years.

Finally Wolf had to acquire 17 private properties around the mining area and permit its Mine Waste facility under EU guidelines, another first in the UK.

With the project funded, properties purchased and permits and customers in place, construction work started in March 2014.

Perth-based engineering, consulting and contracting company GR Engineering Services was appointed by Wolf as its engineering, procurement and construction (EPC) contractor to deliver the process plant and CA Blackwell (now part of Hargreaves Services plc) was appointed as mining contractor. SGS was engaged to provide assaying services to the site.

The 18-month build project was successfully and safely completed on time and on budget and Drakelands Mine was officially opened on 17 September 2015, with the first deliveries of concentrate to customers taking place in the same month.

Geology and mineralogy

The tungsten deposit at Drakelands Mine is hosted within and around a granite intrusive, known as the Hemerdon Granite, intruded around 290 million years ago and predating the later Dartmoor granite mass to the northeast.

The Hemerdon Granite is essentially a north-northeast trending felsic dyke, 1.6 km long oriented NNE-SSW and averages 150 m wide dipping steeply to the ESE but with a wider spur to the SW.

The granite is porphyritic in texture, with round quartz porphyroblasts dominating its appearance. The Granite has been kaolinised within its upper portion (up to about 30 m depth), a common feature of granites in the local area that have supported the longstanding china clay industry.

Mineralisation is hosted within thousands of sheeted greisen-bordered quartz veins, bearing wolframite and cassiterite, with minor tourmaline and sulphide minerals. The mineralisation has been demonstrated by drilling to extend to at least 400 m below ground surface.

Resources and reserves

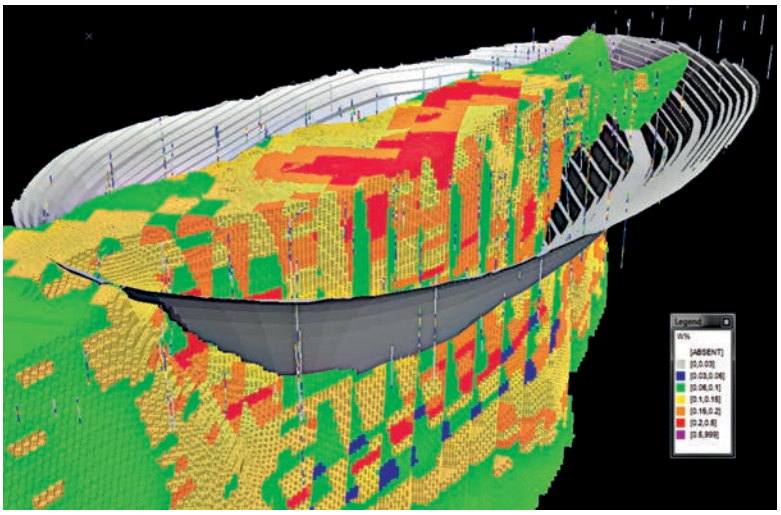
Wolf was fortunate in having access to considerable research, core samples and data from previous exploration carried out on the deposit. Amax had conducted a series of detailed drilling programs until 1980, drilling 25,400 m of diamond, reverse circulation and percussion holes as well as mining an underground decline for bulk sampling which was processed at an on-site pilot plant.

A detailed analysis and validation of existing data together with new drilling and surveys resulted in Wolf producing a Definitive Feasibility Study ("DFS") in 2011 proving the extent and viability of the project's tungsten and tin reserves and the economics of the project.

In March 2015 Wolf announced a 34% increase in ore reserves for the Hemerdon project following a successful geotechnical drilling programme. Consistent with Wolf's expansion plans for the project, the drilling programme was designed to better understand the strength of the wall rocks with a view to steepening the final pit slope, resulting in a deeper open pit and increased Ore Reserves.

The new 2012 JORC compliant ore reserve for the Hemerdon Project is 35.7Mt at 0.18% WO_3 and 0.03% Sn (reported above a 0.05% W (0.063% WO_3) cut-off), a 34% increase on the previous Ore Reserve reported in the 2011 DFS.

To date Wolf has drilled a total of 3.5 km of diamond and 24.2 km of percussion holes for grade control to further refine the knowledge of the deposit and as part of mining planning operations.



Block model of the ore reserves (colours indicate W content, grey: pit design)

Wolf's geologists are also working with leading institutions including Camborne School of Mines, Plymouth University and the British Geological Survey on geological and mineralogical studies of the deposit which will feed into broader research of South West England's geology.

Technical overview of operations

The extraction of tungsten at Drakelands takes place through open pit mining, with the pit measuring 850 m long by 450 m wide and ultimately extending to a depth of 260 metres.

The grade control drilling programme at 12.5 metre spacing has enabled a detailed mining plan to be developed for the first 18 months of operation and mining is carefully planned to ensure a consistent feed to the process plant.

Due to the weathered nature of the granite at surface, mining was initially a free dig with 120-tonne excavators and then ripping with Caterpillar D9 dozers. Wolf has moved to blasting as the ground has become harder with depth.

Once removed from the pit, ore is either directly fed into the primary crusher – a Sandvik hybrid crusher – or can be stored on the ROM stockpile, according to its mineralogical characteristics and grade, for blending or feeding into the process plan at night.

Extraction work in the open pit in April 2016

Nameplate capacity for the processing plant is 514 tonnes an hour of ore, with the initial treatment being to crush, wash and screen the granite so everything is clean and less than 9 mm in size.

Very fine waste clay (< 63 microns) is removed using cyclones and the remaining sand is separated into a fine (- 0.5 mm) fraction and coarse (+ 0.5 mm to 9 mm) fraction.

The fine fraction goes through a series of spirals and tables to remove waste particles.

Meanwhile the tungsten and tin in the coarse fraction is recovered through dense media separation (DMS) using ferrosilicon and magnetite as the medium. There are two stages of DMS at different densities to optimise recovery of the tungsten.

Inside the processing plant

Coarse dense media separation circuit

The product from the fine and coarse circuits is re-combined and passed through a ball mill to achieve the correct size prior to drying and calcining.

Calcining is carried out in reducing conditions to convert haematite to magnetite, with the waste magnetite then removed using low intensity magnets.

The remaining dried concentrate is passed through a series of high intensity magnets to recover tungsten before this is blended to the required grade for sale (60% + WO_3).

Non magnetics contain tin and this is passed through a tin circuit including tables to achieve the required grade for sale (40% + Sn).

An on-site laboratory for testing and quality control throughout every stage of the process is operated by SGS.

Concentrates are bagged into 1 tonne sacks ready for shipping, and when fully ramped up the plant will average one 20 tonne consignment per day leaving the site.

Non-hazardous tailings, DMS rejects and waste rock goes to a mine waste facility (MWF) which has planning consent for up to 105 million tonnes, meeting the needs of the current life of the mine.

It was the first mine waste facility designed and permitted by the Environment Agency under the new European Mine Waste Directive and the result was a learning process for both Wolf and the Environment Agency and during the process a good relationship has developed between miner and regulator.

The MWF is engineer designed to extremely high standards and its construction is independently quality controlled at all stages. It consists of a series of rockfill embankments progressively constructed from run-of-mine waste and enclosing a tailings facility. This is lined with 2 x 300 mm compacted engineered clay layers, bentonite geo-composite clay liner and a 2 mm HDPE membrane. Tailings are allowed to settle to let the process water be recycled.

Water management is a significant part of the project both in terms of managing run-off in an area which sees significant rainfall and in storing water for process use. In addition to tailings capacity, Wolf has created a 70,000 m^3 water reservoir, known as Tory Pond, but very soon found that a number of additional catch-pits were necessary to deal with heavy rainfall and provide greater opportunity to settle-out suspended sediments. Wolf also gained licences to abstract water from a local stream and built a new pumping station should there be a requirement to top up supplies.

Tailings pond constructed to the standard of the new European Mine Waste Directive

Planting trees; more than 50,000 in the first two years

Environmental work onsite: box culvert with eel pass

Environment and local community

Managing the environment is a key part of the project and significant environmental work and monitoring has taken place on site and will continue during the life of the project.

This has included planting 50,000 trees in the first two years since construction began, the building of new bridleways, construction/conversion of three stone barns for bats as well as installing 80 bat boxes, creating eel passes, extensive hydroseeding and the reconstruction of traditional Devon stone walls around the site.

Extensive monitoring programmes include noise, dust, vibration as well as surface and ground water chemical analysis and level tracking via 36 bore holes around the site. Wolf has achieved ISO 14001 for its environmental processes.

Russell Clark, Managing Director of Wolf Minerals (right) with Andreas Lackner, CEO of GTP, one of his major off-takers

And when mining is complete, a restoration concept has been agreed with the planning authority which will see the pit become a lake and the MWF a mixture of wooded slopes with native tree species, heathland and wetland habitats. A project bond of £15 million had to be deposited by Wolf and is required to be in place throughout the life of the project, to provide sufficient funding to remove the processing plant and restore the site should mining cease prematurely.

Wolf has also worked hard to establish and maintain good relationships with the local community and to win support for the jobs and economic benefits being created by the project in what is a traditional mining area of Devon.

Communication via regular newsletters, in person and with the local parish councils and newly-formed technical and local liaison groups is intended to ensure the community is always fully-informed and consulted as the mine has been planned, built and become operational. Wolf supports a wide variety of community projects and good causes locally focussing on youth and educational projects.

Drakelands Mine is in business providing a secure supply of tungsten – regarded as a critical mineral by the UK, US and EU – and will pump hundreds of millions of pounds into the UK economy over the next decade.

But it's been a long road and despite a valid planning permission being in place, Drakelands has been 150 years in the making and took Wolf almost nine years from becoming involved to the first concentrates being produced and sold.

ITIA news

The 29th Annual General Meeting, 26–28 September 2016, Stockholm

The 29th AGM will be held in the Radisson Blu Waterfront Hotel in Stockholm from Monday 26 to Wednesday 28 September, hosted by Sandvik Machining Solutions AB. The event will be followed by visits to Atlas Copco's Headquarters and its equipment testing mine in Stockholm organised by Atlas Copco Secoroc AB on 28 September and to Sandvik AB's former Headquarters and Sandvik Coromant Centre located in Sandviken on Thursday 29 September.

This year, delegates are fortunate to be invited by the City of Stockholm to a reception and buffet dinner at the beautiful Stockholm City Hall on Monday 26 September. Following the reception, there will be guided tour of the City Hall, where the Blue Hall is best known as the banquet venue after the annual Nobel Prize award ceremony on 10th December every year; it is also one of Stockholm's major tourist attractions.

This year's market papers (provisional titles) include:

- **Update on the EU Market**,
  HC Starck GmbH
- **Update on Japan Market**,
  Advanced Material Japan Corp
- **Update on the US Market**,
  Global Tungsten & Powders Corp
- **Update on China Market,**
  Chongyi Zhangyuan Tungsten Co Ltd

Following the market updates, there will be a panel discussion on the tungsten market with the speakers.

Technical papers are:

- **Recent Developments in Tungsten Additive Manufacturing,**
  Federal Carbide Co
- **Development of Hardmetal for Machining**,
  Sandvik Machining Solutions AB
- **Development of Hardmetal for Mining**,
  Atlas Copco Secoroc AB
- **Cemented Carbide Applications in China's Steel Industry**,
  Zhuzhou Cemented Carbide Works

A panel discussion on the topic "Is Secondary the New Primary?" will be a debate on the role of recycling versus primary production. Panellists include Mr Fang Jiyun (China Tungsten Industry Association), Dr Andreas Lackner (Global Tungsten & Powder Corp), Mr Stephen Nance (Tungco Inc) and Mrs Ulrika Wedberg (Wolfram Bergbau-und Hütten AG).

Details of the programme, including presentations, registration form and hotel reservation, are available from the Secretariat (info@itia.info) or may be downloaded from the ITIA website – http://itia.info/next-agm.html.

Stockholm City Hall

ITIA membership

Welcome to:
Happy Creek Minerals Ltd (Canada), a mining exploration and development company, with the Fox scheelite tungsten project in British Columbia.

Tungsten Mining Ltd (Australia), a resources company focusing on the exploration and development of the tungsten projects Mt Mulgine, Big Hill and Kilba in Australia.

For a full list of ITIA members, contact details, and products or scope of business, please refer to the ITIA website – www.itia.info.

A Visit to Wolf Minerals' Drakelands Mine

In April 2016, the Executive, HSE and Consortium Committees held their meetings in Plymouth at the kind invitation of Russell Clark, CEO of Wolf Minerals Ltd, who hosted a dinner for Committee members and led them on a tour of the Drakelands Mine (see photo). A history of the mine's development is one of the principal articles in this Newsletter.

Obituary

Kong Zhaoqing (1942–2016)

Kong Zhaoqing died from cancer on 24 March in Nanchang, Jiangxi at the age of 74. He is survived by his wife, Ma Fuju, his son, Kong Xianjie and his daughter, Kong Xiaoqing.

Kong was born in Shenyang, China and graduated from Changchun Technological Academy of Metallurgy and Geology in 1963.

Kong devoted nearly 50 years of his life to the tungsten industry and to the non-ferrous metal industry. He began his career in the Jiangxi Dajishan tungsten mine in 1963 and retired from China Tungsten Industry Association (CTIA) in 2010. Kong was the author of many papers and reports on the tungsten industry.

Kong's connection with ITIA goes back to 1985, when he hosted a delegation from the Primary Tungsten Association (the predecessor of ITIA) at the Jiangxi Xihuashan Tungsten Mine. Thereafter, he attended the ITIA AGMs many times. Kong is also warmly remembered for his role as compère of the historic and lively celebrations in Ganzhou in 2007 of the 100th anniversary of the discovery of tungsten in China, at which the ITIA was represented in force.

Kong Zhaoqing

Dr Burghard Zeiler
Secretary-General