

# TANTALUM-NIOBIUM INTERNATIONAL STUDY CENTER

## PRESIDENT'S LETTER

Friends,

March has arrived, the Winter Olympics have finished, and we can start looking towards the Fifty-first General Assembly of the T.I.C. which will take place on Monday October 4th 2010. This will form part of the meeting to be held from Sunday October 3rd to Wednesday October 6th, in Lake Tahoe, Nevada, U.S.A., including a plant tour to the facility of Niotan Inc in Mound House.

The Executive Committee, along with the Technical Promotion Officer (TPO) and the Secretary General, are busy developing what we are confident will be diverse and interesting technical and social programmes. The success of the technical programme depends very much on the quality and quantity of the papers submitted, through the commitment of our membership, and I urge you to consider contributing your own abstract to the Executive Committee, TPO or Secretary General, in order that we finalize the programme at our next Committee meeting to be held in Brussels at the end of April. Maybe you have a suggestion for an invited paper – if so, please let us know! Also, if you have any views on how we can continue to improve our Association, we would welcome your input.

Later in this Bulletin, you will see a report on the progress of the Working Group on Tantalum and Niobium Mining. I wish to thank the members of this Group for their dedicated efforts over the last year, as they wrestled with very difficult and contentious issues.

It is not just springtime that begins to stir and 'come in from the cold': there are signs of renewed vigour in the tantalum and niobium markets, which we hope will blossom throughout the year. I hope that we will also start to see a re-growth in the Membership, which as a result of the recession has declined in the last couple of years.

Richard Burt  
President

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## LAKE TAHOE, OCTOBER 2010



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The Tantalum-Niobium International Study Center will be holding its Fifty-first General Assembly and associated technical meeting on the shores of Lake Tahoe, Nevada, U.S.A., from Sunday October 3rd to Wednesday October 6th 2010. All events will take place at the Hyatt Regency in Incline Village, North Lake Tahoe, where delegates will also stay.

The administration of the association will be carried out in the formal General Assembly on the morning of Monday October 4th, including election of applicants for membership and the appointment of the members of the Executive Committee. The technical presentations will take place in two half-day sessions, on Monday and Tuesday mornings, to allow delegates some spare time.

A plant tour to visit the facility of Niotan Inc will be scheduled on Wednesday October 6th. The company is located in Mound House, east of Carson City, around one hour away from Incline Village, by bus.

Niotan Inc is a primary tantalum smelting facility that converts the world's tantalum to robust electrolytic capacitor powders by lean manufacture of highly designed micro-particles. Niotan products are micro-engineered to improve the efficiency of electrolytic capacitors while meeting or exceeding the capacitor industry's most stringent standards. Niotan's plant uses advanced evaporation technology to recycle all aqueous process streams and it is a zero-discharge, green facility with by far smallest environmental footprint in the industry. Having qualified a range of products throughout the industry in 2008, Niotan expanded its production capability to its current level of over 250 tons per year.

Concerning the social programme, a welcome reception on the evening of Sunday October 3rd will give everyone the opportunity to greet old acquaintances and make new ones, and a gala dinner will take place on the evening of Monday October 4th. We are also preparing an interesting programme of sightseeing tours for those accompanying delegates.

An invitation will be sent to the nominated delegate of each member company in early July. Others who would like to attend should contact the T.I.C. on [info@tanb.org](mailto:info@tanb.org).

## TANTALUM – A RARE METAL IN ABUNDANCE?

*This article is based on the paper given by Mr Richard Burt, President of GraviTa Inc., on October 20th 2009, as part of the Fiftieth General Assembly held in Tallinn, Estonia.*

### FOREWORD

Tantalum is classified as a rare metal. How rare is it? Is it really in short supply, or is there enough for the foreseeable future?

This article presents one person's view as to the abundance – or lack thereof – of potential future tantalum supply and it will attempt to shed some light on the often confusing information that is published in the technical and popular press. The article takes a holistic approach: rather than concentrating on a few well known deposits it will attempt to collate information on as many deposits as possible. It discusses and differentiates between geologic occurrences, resources and reserves, and the increasing level of information that becomes available – not only geological information, but mineralogical, metallurgical and cost information.

By weighting the various data, a regional, statistical, 'most likely' resource base is developed, giving an overall indication of potential future supply.

### INTRODUCTION

For many years papers have been presented to the General Assembly seeking to determine the previous year's production on a country by country – or region by region – basis. These papers, coupled with the paper showing the official T.I.C. statistics, have provided an important 'snapshot' of the tantalum primary industry. This paper will not carry on that tradition, it will neither look backward, nor forward to the immediate future of the tantalum market. Indeed, in the words of those immortal thespians from Monty Python 'Now for something Completely Different'.

Tantalum is classified as one of the 'rare metals'. How rare is it? Is the world about to run out? Is it indeed nearly all in Central Africa, as many recent 'popular press' articles would have us believe? By developing a database incorporating all active or recently active projects where tantalum is either the primary or secondary product, or could be a minor but not insignificant by-product, various resource estimates can be developed that will hopefully answer these basic questions.

The resource estimates are of course not an indication of potential future production – other issues come into play including recovery during the concentration stage, product quality, markets, pricing, politics... These are not the subjects of this article.

The article will not discuss – or even name – individual projects. Many operators and developers have provided confidential information to the author to enable this paper to be developed; such information will remain that way, and will be combined on a regional basis.

While every attempt has been made to verify the basic inputs, this was not always possible, and there are undoubtedly some gaps. Furthermore, the outputs include various objective and

subjective interpretations of raw data – as such the estimates presented are one man's best estimate of current resources based on some 35 years of industry watching, they are not 'official figures' cast in stone. And, of course, these can only be current estimates, as exploration is an ongoing activity. Totally new deposits will be found. Conversely, further exploration work on existing projects may well show that some no longer meet the criteria required for them to be classified as a resource.

### RESERVES AND RESOURCES

It may seem self evident but, for a developer to decide whether or not to open a mine, a prerequisite is a good knowledge of the material available to treat, and, in order to raise money, to be able to communicate this information to putative investors in a clear, concise and readily comparable format. It wasn't always quite like that and information could be (intentionally or otherwise) misleading.

Consequently, various organizations throughout the world have developed a series of definitions that must be strictly adhered to in all public documents. Of these, arguably the most widely used – and to which others generally adhere – is the Australian developed 'Joint Ore Reserves Committee' (JORC) code first published in 1989. This code – as do all others, such as Canada's '43-101' - clearly defines Reserves and Resources plus various reporting requirements. The summary definitions in the code are (JORC 2004):

A '**Mineral Resource**' is a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

An '**Ore Reserve**' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves.

In simple terms, a **resource** could be regarded as the 'geological' determination of a quantity of material **in the ground** in terms of tonnage and grade; a **reserve** is the 'economic' determination of this. Essentially, a reserve is only a reserve if it **can be mined at a profit at the time of reporting**. This means that a reserve at a market price of 'X' may well cease to be so if the market price decreases significantly. However, with the resource, the requirement is only that 'there are reasonable prospects for eventual economic extraction', hence, within limits, a resource is essentially not price sensitive. Put another way: a reserve is mineable, a resource potentially will be.

Subdivision of the resource into 'inferred', 'indicated' and 'measured' categories depends on the level of confidence that can be put on the data, generally related to the density of drilling and the homogeneity of the material. Inferred resources are just that – inferred, from limited but good data. Only indicated and measured resources are incorporated when developing, after appropriate mine design and metallurgical testing, the reserve.

The FSU had earlier developed a similar – and very effective – system with an alphanumeric coding: many exploration projects carried out in parts of Africa through the 1980s reported their resources using this classification, and it is believed to still be in use in the FSU countries and in China amongst other places.

In addition, several well known mines and potential mines developed 'official' resource and reserve figures prior to the development of the JORC and other codes, and are therefore not properly 'compliant'.

To ensure no confusion with JORC or other reporting codes, all the above (excluding inferred resources) shall be classed herein as the 'known' resource.

## DEVELOPMENT OF THE DATABASE

The purpose of this article is to develop a best estimate of 'likely resources'. A simple summation of the relatively few operating (or temporarily closed) properties with published 'known' resources, interesting though it may be, would only provide part of the picture. It would not consider the inferred resources, nor potential new mines.

In addition to the inferred resources, there are many exploration projects which have not reached the stage of developing an 'official' resource, but where there is sufficient information that the existence of a good resource target is evident. In other cases, information, while reasonable, is 'hearsay' rather than verifiable. For simplicity sake, these will be classified as 'deposits':

A **'Deposit'** is defined for this article as a geological structure where only preliminary exploration has been carried out, where the information available is very limited, or where information is only available through technical papers, and where a best estimate is required.

And finally, artisanal miners, almost by definition, do not develop a resource base – they simply follow a seam or an alluvial showing until it peters out, maybe next week, maybe in fifty years.

For avoidance of any doubt, these are NOT compliant with JORC, or 43-101, or any other code. Nevertheless, all of these need to be factored into the world resource base if one is to develop a holistic 'likely resource estimate'.

A database, incorporating all the relevant information that can be obtained from reviews of technical journals, the mining press, company websites and news releases, as well as personal communication, has therefore been developed, incorporating close to 100 projects where tantalum is either the primary or secondary product, or could be a minor but not insignificant by-product. Projects that hit the headlines for a brief period

during the 2000 scramble for tantalum and subsequently disappeared without any effective exploration being carried out are not included in the database. Nor are 'occurrences', those occasions where tantalum bearing minerals have been identified but where no attempt at quantification was made – generally in truly scientific papers presented at mineralogical conferences.

Information can be split into 'background' (Table 1) and 'data' (Table 2).

Name of Deposit
Owner
Country/Region
Basic mineral type (pegmatite, apogranite, carbonatite, placer)
Type (hardrock, softrock, placer mine, artisanal)
Status (operating, c/m, feasibility study, exploration...)
Significant by-product potential
Level of knowledge (from excellent to minimal)
Source(s) of information

Table 1: Background Information

Tonnes and grade of 'known' resource
Tonnes and grade of 'inferred' resource
Estimated tonnes and grade of 'deposit'
Nb-Ta ratio

Table 2: Data

Simply adding the data suggests an enormous amount of tantalum, something over 2 billion pounds (Table 3), but this is a fairly meaningless figure. Close to half of this total is classified as existing in 'deposits' and, as any geologist or promoter will tell you, this is totally unacceptable!

	million lbs	
Known	436	20%
Inferred	729	34%
Deposits	1,004	46%
TOTAL	2,169	

Table 3: World tantalum 'Resource'

To develop a meaningful figure, account must be taken of probabilities: especially the diminishing probability of successfully converting inferred resources and deposits into mineable reserves.

### Discounting for resource classification

Not all 'known' resources make it into the reserve category or into production. However, even with operating mines, exploration is rarely 'completed'. As the reserves diminish, new resources are sought and often found and the final resource is often much greater than the 'pre-production' figure. Tanco is a typical example – developed as a twenty year mine in 1969, it reached its fortieth anniversary in 2009, just prior to being put on care & maintenance, with a remaining unpublished resource apparently good for several more years production. Hence, for this exercise, 'known' resource tonnage is discounted by just 5%.

The potential for properly determined 'inferred' resources being upgraded to 'known' is probably no greater than 50:50.

Tonnages are therefore discounted by 50%.

The chance of projects classified as 'deposits', that have not even proceeded far enough to develop an inferred resource, actually making it into production is low. On the other hand included in this classification are deposits where otherwise reasonable information cannot be verified. Deposit tonnages are therefore discounted by 80%. Where the level of knowledge is minimal the discount is increased to 90%.

Using the appropriately discounted tonnages and the grades, it is then a simple calculation to determine a resource figure in terms of million pounds  $Ta_2O_5$ .

### Discounting for quality

Assuming all other things are equal, the lower the grade of ore, then the higher the production cost (in terms of \$/lb), and the higher the market price has to be for even a resource to meet the criterion of 'potentially' profitable. Even the most adventurous exploration company will conclude that this means there is probably a 'cut-off grade' or grade below which a resource is not a resource but simply a geological anomaly. This grade will be highest for hard-rock ores, and lowest for placer or alluvial material. Prices – whether market prices or potential operating costs – will not be discussed in this article. However, an estimate of the cut-off grade has been made, below which the following discounting has been applied:

- for hard-rock operations, 2% per g/t (or ppm) below 175 ppm  $Ta_2O_5$
- for soft-rock operations, 2% per g/t (or ppm) below 125 ppm  $Ta_2O_5$
- for placer operations, 2% per g/t (or ppm) below 75 ppm  $Ta_2O_5$

These might be regarded as quite low, but it must be borne in mind that several mines ARE in operation at these grades.

Where, however, the operation will have by-product credits that would have a substantial effect on profitability – be it tin, niobium, various industrial minerals or even coloured stones – then each of the cut-off grades above has simply been halved.

Recovery of tantalum from soft-rock and placer deposits is comparatively simple. Hard-rock pegmatite mining and processing does add challenges, but as most mines are open pit, and are able to process their ores by gravity concentration, these challenges are well understood. However, several of the next-generation 'megaprojects' are essentially niobium orebodies with elevated tantalum values that not only require a different primary concentration process, more akin to niobium processing, they will almost certainly require some secondary processing operation to unlock the tantalum from the niobium, all of which add complexity (and hence potentially lower recovery) as well as both capital and operating costs. These negative factors will to some extent be mitigated by the sale of co- and by-products that also occur in these types of deposits. Some have other challenges related to their mineralogy, including liberation size, requiring finer grinding – again with potential loss in recovery and higher costs. These will likely have a negative impact on the potential for bringing these new projects into production, which in the context of this article means that their resource estimate should be discounted to a greater or lesser extent. Dependent on a subjective assessment of the level of technical challenges, a discount of 10%, 25% or 50% has been applied.

In the case of mines already in operation, neither of these discount factors are applied – they have, as it were, proved their worth already.

### The Central Africa Conundrum

Since the commencement of the various civil wars in the DRC, coupled with the short-lived spike in tantalum prices in 2000, 'coltan' has continued to be targeted by many NGOs and freelance journalists as one of, the main, or the only contributor to rebel funding. Amongst the many claims is the ongoing belief of writers of Central Africa's dominant position in terms not only of production, but also of world tantalum resources with such statements as: 'It is generally believed that 80% of the world's reserves are in Africa with the DRC accounting for 80% of the African reserves' (IPIS January 2002).

But what is the real situation? Not only has the tantalum mining – along with the much more important tin mining – industry switched over the last forty years from industrial scale mining to artisanal exploitation, but essentially all mines are treating alluvial or easily mined soft-rock deposits. Artisans do not carry out exploration to delineate future resources. In any event alluvial resource estimation is extremely difficult, even for experienced exploration geologists. The archives in the basement of the Royal Museum of Central Africa, in Tervuren, Belgium, contain a vast wealth of historical information gathered while the Congo was a Belgian colony, but they are mainly concerned with production. Where resources are mentioned they tend to be hard- or soft-rock resource estimates and are relatively low.

As such, no modern, verifiable figures for DRC resources have been located in what is best described as the 'technical press'. We are left with various 'best estimates', several of them quite old. Three estimates within a decade of independence – all from eminent geologists - are remarkably consistent, at 55-65 million pounds  $Ta_2O_5$  (excluding those at the well documented Manono mine) (Barton 1962, Anthoine and others 1967 and Varlamoff 1969) and historical production, a figure of 60-65 million pounds  $Ta_2O_5$  can be inferred.

However in T.I.C. Bulletin issue 16 (1978) it is stated that: 'There has been much controversy as to the size of tantalite reserves in Zaire. They have been estimated as high as 81.9 million pounds Ta by the USGS in 1975 [essentially the Barton figure when converted to  $Ta_2O_5$ ]. On a comparable in-ground basis a review of other sources has resulted in an estimate of 10.1 million pounds  $Ta_2O_5$ . .... In addition the reserves at Manono alone would be about 20 million pounds  $Ta_2O_5$ .'

Roskill's estimate in 1999 was just 5 million pounds  $Ta_2O_5$ . Their most recent reports have not attempted to estimate a figure on the basis that there are no verifiable figures available. Shepherd and Peard (2001) state that 'The eastern part of the DRC is said to hold some 15% of the world's supply of the ore'. This they compared to the 40% in Australia, which at that time would result in a figure for the DRC of 45 million pounds  $Ta_2O_5$ .

Manono is usually excluded from these estimates. Not only is it in Katanga province as opposed to the Kivu area, it is also one of the only significant hard-rock tin-tantalum deposits in the DRC. As such, more information is available, and its resource is incorporated directly in the database.

Accepting that since some of these estimates were made, a reasonable amount of tantalum has been extracted, it would

nevertheless be reasonable to conclude that the 'best estimate' for the DRC resource base – again excluding Manono - is 55 million pounds Ta<sub>2</sub>O<sub>5</sub>. This figure is therefore incorporated within the inferred resource base, but with no discounting.

It should be remembered that these estimated resources exist, and will continue to exist until they are mined. The current political situation within the DRC, and the various 'solutions' proposed by third parties are both - geologically at least – short term issues which have no lasting impact on the estimated resource base. As such, these issues are beyond the mandate of this article.

Rwanda is a different matter: in the 1980s a detailed inventory of that country's mining industry was carried out by the BRGM (Guillou and Ziserman 1987). While this was heavily weighted toward the potentially fairly healthy tin industry, there is sufficient information to develop a reasonable estimate of Rwanda's tantalum resource base, which is therefore included within the main database.

## WORLD RESOURCE BASE

It is clear that any individual 'line' within the database may be open to interpretation – indeed the 'error-bars' that would surround each individual output could be quite significant. While some countries (such as Australia, Canada or Brazil) do have sufficient projects to generally smooth out errors to an acceptable level, others do not. Consequently the information is presented on a regional basis.

It should be stressed that a resource always measures quantities of rock and mineral content 'in the ground' – it takes no account of recovery losses. Although actual recovery will vary considerably between individual projects, as a very rough guide, 'recoverable' tantalum will overall be of the order of 55% of the resource figure.

Several 'outputs' have been considered:

**Known Resources only:** (Table 4) Over 40% of the world's 433 million pounds of known Ta<sub>2</sub>O<sub>5</sub> resources occur in South America, with a further 20% in Australia, with essentially none in Central Africa, Europe or the Middle East. This would be the geologists' – or purists' – figure, as it discounts everything in the 'inferred' and 'deposit' categories.

	million lbs	
South America	191	44%
Australia	116	27%
Africa	51	12%
Asia	55	13%
North America	20	5%
	433	

Table 4: Known Resources (discounted)

**Potential Resource base:** (Table 5) Thanks to the generally poorly explored but potentially vast low grade deposits in Russia, plus the large resource in Saudi Arabia, classified by its owners as an 'inferred' resource, the 'Russia & Middle East' region is a potentially major future producer of tantalum, with close to 21% of the resource base. Central Africa's resource base, at 7%, is not insignificant – but it remains an order of magnitude lower than the existing 'urban legend' figure of 80%.

	million lbs	
South America	287	32%
Russia, Middle East	188	21%
Australia	154	17%
China & SE Asia	82	9%
Other Africa	67	7%
Central Africa	64	7%
North America	35	4%
Europe	19	2%
	896	

Table 5: Potential Resources (discounted)

Nevertheless, by the process of discounting those projects classified as 'deposits', the distribution between 'known' and 'inferred' resources (89% combined) and those classified as 'deposits' (11%) is much more acceptable (Table 6).

	million lbs	
Known	413	47%
Inferred	365	42%
Deposits	98	11%
TOTAL	877	

Table 6: Potential Resources by classification

**Most Likely Resource base:** (Table 7) It could be argued that early exploration projects should be ignored, and only operating (or currently closed) mines or those having reached feasibility study status should be included in the resource base. This essentially disqualifies many of the Russian properties, with the majority of the other regions subsequently having a larger proportion of the 698 million pounds of Ta<sub>2</sub>O<sub>5</sub>.

	million lbs	
South America	285	41%
Australia	145	21%
China & SE Asia	73	10%
Central Africa	63	9%
Russia, Middle East	69	10%
Other Africa	47	7%
North America	12	2%
Europe	5	1%
	698	

Table 7: Most Likely Resources

**Impact of cut-off grade:** (Figure 1) The sensitivity of the potential resource base to the inclusion of low grade prospects was tested by varying the (hard-rock) cut-off grade from 150 to 250 ppm Ta<sub>2</sub>O<sub>5</sub>. While at that level there is a 15% reduction in the resource base, it is still over 700 million pounds.

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**e-mail to**  
**info@tanb.org**

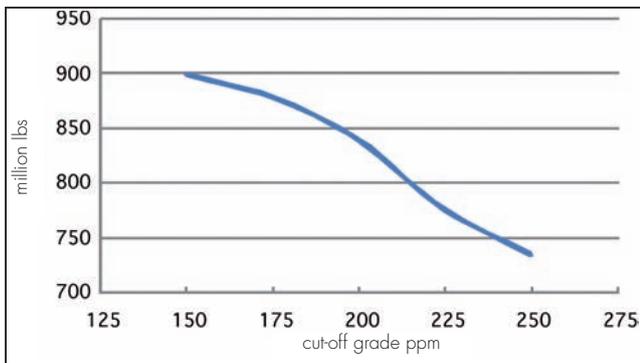


Figure 1: Impact of cutoff grade

## EXISTING VERSUS NEW – ANY DIFFERENCE?

It might be reasonable to construe that ‘existing’ mines are probably of higher grade than those waiting in the wings – after all, why otherwise would the former be in production, and the latter not? However, this is not the case (Figures 2 and 3). The grade versus ‘known + inferred’ resource base for operating properties is if anything slightly inferior to that of the grade versus resource base of properties not yet in production. Indeed, there is a greater quantity of higher grade material in the latter category.

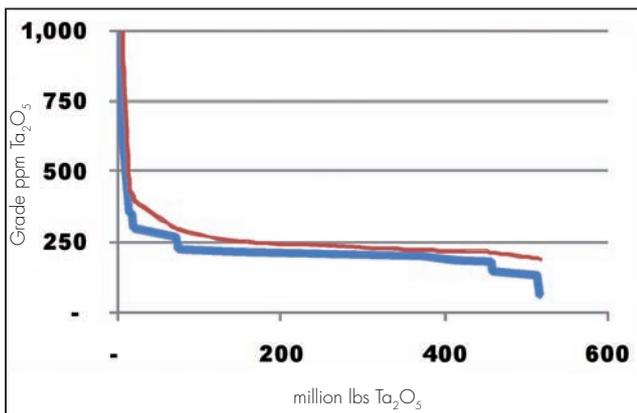


Figure 2: Grade vs Known + Inferred Resource – existing mines

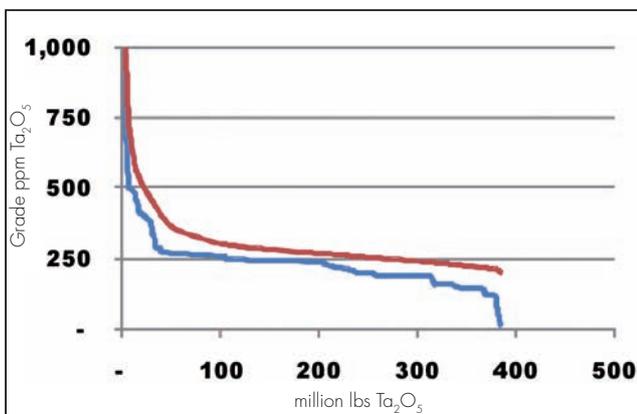


Figure 3: Grade vs Resource – potential mines

A presentation by Richard Burt at the Forty-fourth General Assembly of the T.I.C. in 2003 indicated that close to 85% of world production in 2002 was from pegmatite based orebodies. In the short to medium term pegmatite type orebodies and their

soft-rock derivatives will undoubtedly remain a major source as they continue to be the best understood at least in terms of mineral processing. However, further into the future, apogranite type rocks will become the major source. While they host 60% of all resources (Table 8), and are on average an order of magnitude larger than pegmatites in terms of contained tantalum per deposit at only a marginally lower grade, several are - or will be - dependent on co-products such as niobium or tin, or by-product industrial minerals (lithium minerals, feldspar).

	m lbs	percentage	grade
Pegmatite	222	25%	216
Apogranite	535	61%	206
Carbonatite	59	7%	228
Placer	61	7%	108
	877		

Table 8: Resources by rock type

Individual carbonatite deposits are also generally larger than pegmatites, but have more metallurgical challenges. None are to date in production, although some are at the feasibility study stage – the metallurgical challenges are only now being successfully addressed.

## CONCLUDING COMMENTS

The tantalum primary market is in a hiatus. Four of the world’s largest mines have closed – hopefully temporarily – in the last couple of years, taking well over 2 million pounds of production off the market. Unfortunately, at the same time, there have also been renewed calls from several sources for the curtailment of production and use of materials from Central Africa (rather than the approach recommended by the UN and being followed by the T.I.C.). These two factors might give rise to the concern that the supply of tantalum could dry up.

However, do not despair!

We can conclude from a statistical, ‘holistic’ collation of available information on worldwide tantalum projects, and one person’s interpretation thereof, that:

- Tantalum might be a ‘rare’ metal, but its abundance is clear, with the ‘most likely’ resource base computing to 698 million pounds  $Ta_2O_5$ . Not many metals can claim a resource base good for more than a century.
- Tantalum resources are widespread.
- South America (essentially Brazil), followed by Australia, are the two main hosts of tantalum resources.
- Central Africa hosts an estimated 60 million pounds of  $Ta_2O_5$ . While substantial, it is nevertheless of relatively minor significance in terms of overall resources. The ‘urban myth’ that Central Africa contains 80% of the world’s resources is shown to be just that – a ‘myth’. The figure is an order of magnitude lower.
- Resource grade of ‘existing’ mines is generally no better than potential future mines, although the metallurgy of the new mines might be more challenging. Consequently, there is no reason to presume that new mines will be by definition higher cost producers than existing ones.

Whether the 'old' and currently closed mines return to production as the market recovers, or whether 'new' mines fill the gap, might therefore depend on 'who is first past the post' – an intriguing future awaits us.

Richard Burt wishes to extend heartfelt thanks to the many Companies and Individuals who have freely provided much of the information that forms the basis of this article. Without their generosity, and willingness to share not only their public, but also their confidential information, there would have been no article.

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## BIBLIOGRAPHY

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Details of the many references consulted by Richard Burt while preparing this article can be obtained from the Secretary General on [info@tanb.org](mailto:info@tanb.org).

## WORKING GROUP ON TANTALUM AND NIOBIUM MINING – AN UPDATE

Since the report in the December Bulletin regarding the Policy on Artisanal and Small Scale Mining, the Working Group on Tantalum and Niobium Mining has continued to carefully examine various options with respect to its implementation. As a result of these deliberations, and further discussions with various directly impacted members throughout the supply chain, as well as other stakeholders including the International Tin Research Institute (ITRI), the Ministry of Mines of the Democratic Republic of Congo and the GeSI/EICC initiative, the Group concluded that the only practical approach would be to combine our efforts with the ITRI in Phase II of their Supply Chain Initiative ('iTSCi'), piloting of which is commencing shortly. To this end it was decided that the T.I.C. should provide the Initiative with seed capital to a total of US\$125,000 from internal funding to trial the traceability of tantalum/niobium from the DRC, and that we should seek to obtain matching funding from the GeSI/EICC or others. Ongoing funding would be obtained by a 'buyer levy' on all exports from the DRC and neighbouring countries such as Rwanda (in order to avoid creating an additional incentive for unofficial exports from those countries). This conclusion was recommended to, and fully endorsed by, the Executive Committee at a teleconference duly convened and held on February 17th.

We have communicated this decision to the ITRI, and over the next weeks need to pursue various discussions with them, including certain clarifications as to our level of ongoing commitment to and funding of the iTSCi. To become full members of the iTSCi will require various commitments from our processor and trader members, and we will be discussing these commitments with them directly.

To progress this initiative, the Working Group is forming a small 'implementation sub-group' incorporating representatives most directly involved in this part of the supply chain. Bill Millman has agreed to chair this sub-group.

## PATRAM 2010

PATRAM 2010 ([www.patram2010.org](http://www.patram2010.org)) is the 16th International Symposium on the Packaging and Transport of Radioactive Materials.

PATRAM symposia are the major international conferences dedicated entirely to the exchange of information on the future of packaging and transport of radioactive materials and, therefore, present a unique opportunity for the entire professional community including industry, government, inter-governmental and research organisations to look to the horizon in relation to these issues.

PATRAM 2010 is hosted by the Department for Transport of the United Kingdom, in cooperation with the International Atomic Energy Agency, the International Maritime Organization and the World Nuclear Transport Institute.

It will take place from October 3rd to October 8th 2010, in London, U.K. (Please note that these dates unfortunately coincide with the T.I.C. General Assembly).

## MEMBER COMPANY NEWS

### Commerce Resources / Globe Metals & Mining

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Commerce Resources and Globe Metals & Mining recently presented at the Objective Capital Rare Earth, Speciality & Minor Metals Investment Summit held in London on Thursday March 18th 2010. Objective Capital's Investment Summit is an opportunity for the speciality and minor metals industry and London investment community to meet and look to the future of the sector. You can view the presentations at: [http://www.objectivecapitalconferences.com/ocic/london\\_18mar10.html](http://www.objectivecapitalconferences.com/ocic/london_18mar10.html)

### Elite Material Solutions

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The office of Elite Material Solutions has recently moved. Here are the new details.

Address: Bishops Barn, Heath Farm Barns, Heath Road, Rollesby, Norfolk NR29 5HN, England  
Tel.: +44 1493 368415, Fax: +44 1493 368414

### Mekios U.K.

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Mekios U.K. has announced new contact details.

Address: 23 Buick House, 144 London Road, Kingston Upon Thames, Surrey, KT2 6QS, England  
Tel.: +44 793 052 9731

# Fiftieth General Assembly Tallinn, October 2009



Toomas Hendrik Ilves  
President of the Republic of Estonia



Guests enjoying the Gala Dinner



The ladies, during the Gala Dinner



Estonian folk dancing



Plant tour to AS Silmet



Lunch at Rakvere castle