

**RECOMMENDATIONS TO THE GOVERNMENT OF BRITISH COLUMBIA  
REGARDING PRIVATE AND PUBLIC SECTOR ACTIONS TO IMPROVE  
THE GLOBAL COMPETITIVENESS OF THE BC MINING INDUSTRY**

**PREPARED BY**

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**MARCH 2, 2006**

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## **I. OVERVIEW OF SECTOR**

The expertise and experience of BC exploration and mining companies, of those BC companies serving the industry, and of individuals in the mining business are second to none on a global scale. Everywhere in the world that minerals are being sought and mines being developed, BC know-how is there.

Approximately 800 mining companies are located in Vancouver – roughly a quarter of the global number and BC is top-ranked in the world for raising mining exploration capital. BC-based, TSX listed firms raise over \$3 billion in debt and equity financing annually for projects located around the world. Less than 10 percent of that amount is designated for the industry in BC. Most mining financings listed on the TSX Venture Exchange are occurring in Vancouver and the TSX and TSX V combined account for 47 percent of the total equity capital raised for publicly listed mining companies worldwide.

Mining and mineral operations in the province are well in excess of \$5 billion (up from \$4.5 billion in gross revenues in 2004). Add to this the environmental/research, technical/consulting, assaying, and service/supply sector in BC that provides goods and services to the industry both within the province and around the world and the industry represents an even greater contributor to the economic and social well being of the entire province. The UBC Mining Department is now one of the largest in North America. Further, the industry's greatest economic impact is at the community and regional levels in the form of high-paying jobs and immense economic spin-offs.

The industry is a huge user of services, such as: accounting, legal, brokerage, information technology, construction, educational institutions, research institutes, and laboratories. BC's mining industry is an important driver of the economy of Vancouver, local communities near mines, "hot" exploration areas, and of the provincial economy in general.

The minerals industry is a primary industry. The healthier the industry in BC, the more solid an economic foundation it provides for secondary and tertiary industries in the province, such as manufacturing and tourism, respectively.

### **Employment**

More than 25,000 people are employed in mineral exploration and mining-related activities in British Columbia, including 10,000 direct and 15,000 spin-off jobs, respectively. Estimates suggest that an additional 8,500 jobs will be available in the industry by 2010.

Salary plus benefits paid to employees of main producers in 2004 was \$610 million; however, total employment in the industry is approximately 25,000 so the overall figure is much higher.

### **Payments to Government**

Total direct payments to governments in 2004 were \$344 million. These payments include federal and provincial income taxes, sales taxes, municipal property taxes, provincial mineral taxes, employee income tax deductions, WCB payments, CPP and Employment Insurance.

### **Indirect Payments to Government**

Payment for electricity by the industry in 2004 totaled some \$100 million.

Other indirect payments made by the BC minerals industry include items, such as: fuel tax, water tax, and PST on power.

## **Net Mining Revenues**

From the PricewaterhouseCoopers 2004 report on the BC minerals industry:

- Metallurgical coal shipments of 25.1 million tonnes for net mining revenues of \$990 million.
- Net mining revenues from copper concentrate of \$718 million.
- Molybdenum net mining revenues of \$398 million.
- Net mining revenues from zinc and zinc concentrate of \$530 million.
- Shipments of lead provided \$104 million in net mining revenues.
- Net mining revenues from gold and silver were \$309 million and \$270 million, respectively.

## **Safety Record**

The mining industry has an exemplary safety record. In 1996 the industry's injury rate was 6 per 100 person years. That number dropped to 4 per 100 person years in 1999. Today the injury rate is just 1.3 per 100 person years.

## **Expenditures**

Environmental expenditures by BC mining in 2004 amounted to \$83 million.

Capital expenditures during 2004 totaled \$217 million.

Mining industry expenditures for items such as machinery, equipment and construction purchases, production materials, steel, supplies, purchases, and outward transportation costs totaled \$4 billion in 2004. The industry's single greatest expense is outward transportation, comprised of rail costs, shipping costs, and wharfage fees. Total transportation costs in 2004 were \$826 million. The next largest component of total expenditures was machinery, equipment and construction material purchases at \$164 million in 2004. In addition, at an average wage of \$94,000, the industry is spending some \$940 million on wages each year.

## **Exploration**

Total exploration expenditures were approximately \$130 million during 2004 and increased to \$220 million in 2005. This reflects an overall increase in exploration world-wide – the highest since 1997. During 2005 over 650 projects were underway in the province, 191 of which were in the NW region of British Columbia.

Strong growth in exploration expenditures, major projects, and mineral claims over the last few years is due to a number of factors, such as: higher commodity prices; changing government policies; and increased renewal in mining risk capital.

## **High Risk, Capital Intensive**

As noted in the BC Mining Plan, there are essentially six phases of mining: geoscience; exploration; discovery; development; production; and reclamation. All of these phases need to be constantly active and robust in order to ensure that new mines will come on stream as old mines run out of ore, close, and sites are reclaimed. Mines have finite lives - these lives can fluctuate due to a number of factors, such as: changes in commodity prices; technological breakthroughs in extraction / processing; the exchange

rate; and changes in costs beyond the control of the industry (regulatory environment, lack of general infrastructure, etc.)

Considerable lead-time is required between grassroots discovery and mine development, on average 10 years or more. Only a small percentage of all mineral showings will warrant further development as mineral properties and only a small percentage of those will become operating mines. The mining industry needs access to vast geographic regions to survey for minerals. Most areas will not contain economic concentrations of minerals.

As all metal and coal prices are quoted in \$US, foreign exchange rates have a notable effect on gross revenues earned by BC mining operations. Based on gross revenue in 2004, a \$0.01 change in the value of the \$CAD would cause a gross revenue shift of \$35 million.

### **A Robust Industry**

For there to be a successful mining industry, it is obvious that the industry must have product to mine, whether it be precious minerals such as gold and silver, base metals such iron ore and copper, industrial minerals such as aggregates, or hydrocarbons such as coal. In order for minerals to be mined, they first must be discovered.

Discovery is a scientifically advanced, high-risk and capital intensive exercise. It is estimated that only 1 in 1000 mineral properties ever becomes a mine and this may be on the optimistic side. The ability to take an ore deposit from geological idea through grass roots and advanced exploration, feasibility studies, permitting and eventually a productive asset, requires solid government policy with a consistency of rules and regulations, access to capital in a sustainable manner, and, of course, support of commodity markets which will determine long-term viability.

The 2004 PricewaterhouseCoopers report states that new capital raised for BC projects by participating companies during 2004 was \$283 million (\$40 million of which was raised via flow-through share issuances). This represented an increase of 558 percent over the \$43 million raised in 2003. This year to year increase provides one indication of the potential the mining sector has in BC, especially in times of rising commodity prices and improving policy environment.

An indicator that the minerals industry in BC is robust throughout all parts of the economic cycle is the relative consistency of exploration spending, number of new discoveries, number of new mines being brought into production, and production revenue. Nothing can change the fact that the industry is cyclic, but a favourable political, regulatory, and socio-environmental climate can certainly reduce the boom or bust history.

## **II. COMPETITIVE PERFORMANCE**

### **II.1 Historical Context**

The mining industry has been a key part of the province's economy for over 150 years. As a primary industry – mining has always been important as an economic base for the province upon which are added the various secondary and tertiary businesses.

In decades past, the BC mining sector had competitive advantages, such as: rail and road infrastructure, inexpensive and accessible power, growing population looking for employment, stable economic and political environment, and ease of /or consistency in permitting. Things took a turn in the 1990s. Except for a brief rally in the mid-1990s, exploration spending in the province dropped precipitously. The political environment tended to be unfavourable to the industry and exploration / mining companies and individuals and those who supply and service the industry departed for other jurisdictions that encouraged a robust mining sector.

### **II.2 Global Context**

On a global scale the mining industry is globally integrated, advanced in its technology, capital intensive, and high risk. During the late 1990s and early 2000s, mining, or more importantly, exploration was not seen as a lucrative investment opportunity, and spending on mineral resource exploration and development was severely curtailed. Companies consolidated during this time period to effect cost reductions.

Since 2003, increased demand for minerals and metals around the world, but particularly from China and other countries in the Pacific Rim, has dramatically increased demand for commodities and driven up prices.

End-users of mineral products in the Pacific Rim have made considerable effort to move further back on the production chain to secure future supply by seeking to create international joint ventures.

Mergers and acquisition activity in the global mining industry is increasing, as large mining companies seek to replace reserves and resources through acquisition. Worldwide there is substantial consolidation in the mining industry.

As on a worldwide basis, mining in British Columbia has seen considerable consolidation. The principal driving force in this move to consolidation is that mining companies have developed the need to replace exhausting resources, or grow their companies to become more appealing to the investment community. However, with the very low level of exploration and development expenditures of the last 10 years, there are very few new resources to develop and the only viable growth alternative is acquisition/consolidation.

The BC mining industry is currently doing well in terms of existing producers because commodities, particularly metal prices, are high by historical standards. Exploration expenditures have recovered to close to the historic proportion to total Canadian expenditures. However, British Columbia is a high cost producer of commodities when compared to most other jurisdictions in the world.

Universities, colleges, and technical schools in the province are now training people from all over the world in mining engineering, business, and other disciplines, such as environment and sustainability.

This training and the experience gained during summer work in the industry goes on to influence mining practices throughout the world.

It is important to not lose sight of the fact that a strong domestic minerals industry is needed to retain a strong service industry in the same jurisdiction. With a decade-long weakening of the BC mining industry in the 1990s, industry personnel have seen substantial expertise develop in Australia and South Africa. China is currently making the international engineering and service firms align themselves with domestic service companies. Once again, a robust minerals industry in this province means a robust service industry as well.

### **III. FACTORS AFFECTING INDUSTRY PERFORMANCE**

In order for the mining industry to become competitive, sustainable, and a contributor to the provincial economy and to have strength on the international stage, several issues must be addressed.

Investment seeks certainty and predictability. Attracting and retaining an investment flow into the mining industry requires a number of critical factors be met, such as:

- Creating a balanced and stable policy environment
- Implementation of a two-zone land use planning system
- Having a predictable and efficient permitting process, with both federal and provincial departments involved in the process functioning in harmony
- Having access to affordable and reliable infrastructure including road, rail, and power
- Having a robust geoscience database
- Supporting world class educational institutions that provide people to lead and develop the mining industry into the future
- Maintaining access to vast geographic regions to explore for minerals
- Stable economic and political environment

The sheer number of mineral industry applications for new projects has created a bottleneck that could cause the province to miss out on the current boom in commodity prices. There are 23 major properties under review worth billions of dollars of investment and thousands of jobs. Except for coal, it has been 8 years since a major metal mine was built in British Columbia.

The biggest problems revolve around developing brownfields and greenfields deposits. Issues related to this work are what industry needs resolved in the immediate future.

#### **III.1 Focus on Four Factors**

The mining sector wishes to focus on four issues in particular that are of utmost importance to the industry at this point in time. They are major and immediate impediments to the development of new operating mines in this province.

Other factors affecting the industry are covered under III.2.

##### **➤ Impact on investment of unresolved land claims and other First Nation issues**

The uncertainty that relates to unresolved First Nation land claim and treaty issues negatively affects the level of investment in the mining sector that can be realized in this province. As industry, governments, and communities move towards a more collaborative approach in resource development, major unresolved impediments between any of these groups will bring successful resource development to a standstill. In many instances the mineral resources are being held hostage of to a lengthy battle over original title. Government's assertion that they hold exclusive possessor interests to the exclusion of First Nations will not provide satisfactory comfort to the mining companies to risk millions of dollars on resource investigations and development, especially when the courts are leading government and the First Nations in a different direction.

Much of the province's success, including that of the mining industry, is dependent on much greater levels of certainty in the province around treaty issues and the roles and responsibilities of industry with respect to "consultation and accommodation".

Considerable effort has been made by the BC government and First Nations representatives to forge a new relationship with BC's First Nations people. The BC mining sector fully supports the Premier in his effort to build a "New Relationship" with the province's First Nations people.

While settling land claims may be a long way off, the mining industry's immediate priorities relate more to:

- The need for direction in the area of resource revenue sharing
- Defining what is meant by adequate consultation – duty and obligations of industry and government to meaningful consult
- The lack of any clear direction on how First Nations are to be involved in the EA process – the role of First Nations in the permitting of new projects - increasing capacity within First Nations communities to adequately deal with mining projects, the environmental assessment process, and the need for timely decision making
- Training and education to allow First Nations people to fully participate in the modern economy

Advancing a constructive dialogue and developing partnerships with BC's First Nations community ranks as one of the top priorities for the BC mining industry. Examples of successful partnerships involving members of the mining and aboriginal communities, that were not without obstacles and challenges, but developed into unique partnership conditions, are:

- Vancouver Island's Eagle Rock Quarry project – a partnership between Polaris Minerals Corp. and both the Hupacasath and the Ucluelet First Nations
- Golden Bear Mine, near Telegraph Creek – North American Metals Corp. and the Tahltan First Nation
- Eskay Creek Mine – Barrick Mines (Homestake) and the Tahltan First Nation

A recent announcement in mid-February 2006 was made of an agreement between the Tahltan Central Council and Vancouver-based NovaGold Resources Inc. Nova Gold is looking to build a \$1.1 billion gold and silver mine (Galore Creek project) in northwestern British Columbia. Features of the agreement include:

- \$1 million annual payment to a Tahltan-administered trust fund
- royalties to the Tahltan
- role for the Tahltan in how the project's environmental efforts are monitored and addressed

The mining and minerals industry represents an opportunity for aboriginal communities to achieve the economic self-sufficiency they desire. The industry represents a great opportunity for a large number of aboriginal youth in BC to work close to their communities in jobs that pay well. Aboriginal communities are contributing labour and supply to the mining industry, especially in remote areas. Furthermore, the mining and minerals industry represents an opportunity for BC's First Nations communities to achieve a high level of economic self-sufficiency.

Participation of First Nations people in BC's mining industry – mostly in the trades sector – is gradually increasing in this province. Effective training for aboriginal people to better their education and skills level is important to ensure their participation at all levels in the mining industry in this province.

However, the industry cannot be expected to solely bear the burden of creating the self-sufficiency, training, etc. Governments need to participate, and a key way in which that can come about is by a revenue sharing arrangement, which effectively allows First Nations to access revenues from mineral development and operations within their historic lands. Government needs to come to the table with First

Nations to effectively resolve this issue, putting everyone on the same plane, one in which everyone benefits from positive growth and development and no one is left behind.

➤ **Impact of Department of Fisheries and Oceans (DFO) and their application of the Fisheries Act on the industry**

The Fisheries Act is supposed to provide guidance on how to limit or mitigate impacts on natural or endangered “fisheries”, instead it has been applied to stop projects that may affect “fish”, natural, endangered or artificial (planted to seeded).

BC’s mining industry needs clear and efficient processes to review proposed mining projects, while ensuring that Canada’s reputation as an environmental leader is maintained.

The main concerns with DFO’s activities on the exploration and mining businesses in BC are:

- Uncertainty associated with environmental assessment scoping and DFO’s recalcitrance in acting as the sponsoring or triggering agency with respect to the Canadian Environmental Assessment Act (CEAA) review – this has contributed to the following situations, which have caused significant impacts on project timelines and costs:
  - Inability to initiate the CEAA process
  - scope creep
  - numerous information requests from DFO that require additional work
  - lengthy delays in the environmental assessment and permitting process
  - refusal by DFO to either be the triggering agency, or refusal to engage in the process

Possible resolutions to the above are:

- DFO officials need to commit to a “service” approach rather than the current “policing” model.
- Better training of DFO staff re:
  - environmental assessment process
  - mandate of DFO in context of an environmental review
- Develop an industry education mechanism, so proponents have a better understanding of the Fisheries Act, federal and provincial environmental assessment process, rights and obligations under the various Acts
- DFO should produce a proponent’s guide that clearly identifies:
  - DFO’s mandate
  - types of information and level of detail required to determine if a project will result in a HADD (Harmful Alteration, Disturbance, or Destruction of fish habitat)
  - level of information and planning required for developing a fisheries compensation plan
  - when in the EA process the information is required
- Develop a transparent mechanism for evaluating projects and determine what types of projects or activities require a HADD authorization and therefore would trigger a CEAA review
- An apparent lack of a clear lines of authority between DFO headquarters and local habitat biologists – this has resulted in situations where local staff interpretation of the habitat policy differed from directives from DFO headquarters and the perception that local staff are not accountable for their decisions
- Unreasonable delays in providing responses – DFO staff take too long responding to requests from proponents, the Canadian Environmental Assessment Agency, or the BC Environmental Assessment Office – delays have:

- jeopardized the start of field programs required to get additional information requested by DFO
- added to the length of time it has taken to complete Environmental Assessments

Possible resolutions to these latter two points are:

- Conduct an industry awareness workshop for DFO staff who are involved in environmental assessments of mining activities – to give them a better understanding of the industry and issues unique to the industry – the impact of unreasonable delays on the viability of various projects could also be covered in the workshop – case studies could be used
- Communications training for DFO staff – DFO need to communicate much more effectively with project proponents and other regulatory agencies – inform everyone of the delay, reasons for the delay, and revised timeframe for providing a deliverable
- Refusal of DFO Regional Office to adopt explicit policies of DFO National related to habitat loss and compensation.

Possible resolution is:

- Re-enforce this mandate by correspondence from Ottawa

Other concerns with DFO's operations center around the following points:

- Inconsistent treatment among DFO offices / inexperienced staff
- Arbitrary and sometimes inappropriate decisions
- Excessive compensation demands for small to negligible HADDs
- Disregard of professional opinion and science where these conflicted with preconceived DFO positions
- Lack of an independent appeal mechanism for resolution of grievances
- Mandatory and excessive requirements for provision of security (LOCs), without considering trustworthiness or record of applicant, or scale of HADD
- Unpredictable and excessive exercise of powers by DFO staff, beyond their jurisdiction under the Fisheries Act

The Federal government needs to be encouraged to continue with changes to make the environmental assessment process more efficient and harmonized with provincial processes. Despite the harmonization agreement between BC and the federal government, many issues remain to be worked out.

The lack of a strong coordinating body in Ottawa to force federal departments to adhere to any timelines in decision making is a major issue. This allows not just DFO, but any federal department to seriously delay a project in the permitting process.

There is little accountability within federal departments in decision making.

Some major regulatory issues exist, such as the requirement for mining companies to get a second set of permits under the Metal Mine Effluent Regulations for disposal of wastes in water bodies (a Schedule II Amendment) that essentially duplicate the environmental assessment process under CEAA.

## ➤ **Impact of infrastructure issues, in particular, power rates on the industry**

The development of infrastructure (an interconnection of roads, rail, electricity, and communication technologies) is crucial to BC's mining industry remaining competitive with other jurisdictions in the world.

In order to access potential economic deposits infrastructure is a critical issue. Recently, government has taken the view that any building of infrastructure which in its initial phases may benefit one specific industry or company is considered a subsidy. Infrastructure should be provided in order to open up economic opportunities for all stakeholders whether small businesses, local residents, or large entities.

While the apparent tendency of the BC Ministry of Mines has been to consider any infrastructure or assistance as "subsidy", this does not appear to be the case in other Ministries (e.g. Tourism, Forestry).

The province's access/road deactivation policy is still impeding exploration access. The main driver of deactivation is liability. There is no review of the potential use of roads before they are deactivated. There has been little change in this during the Liberal government from when the NDP were in charge.

### **Electrify Highway 37**

An investment in infrastructure in the northern part of the province is an investment in the future of all British Columbians. The region north of Meziadin has the potential to provide a major contribution to the provincial economy. Before that potential can be realized, a major constraint must be overcome. This constraint is an inadequate supply of electrical power.

Northern parts of British Columbia still lack an interconnected infrastructure. In northwestern BC, for example, the Highway 37 corridor from Meziadin Junction to Dease Lake is poorly served by unreliable and expensive diesel power that often fails, resulting in brownouts to the service area. These power interruptions restrict rural communities and isolated regions from realizing their full development potential. Infrastructure improvements in northwestern BC will provide the tools needed for communities to pursue equitable social and economic growth in our province.

A power line proposal from Meziadin Junction to Bob Quinn Lake and a generating plant along the Iskut River have already been issued certification through the environmental assessment process. The Environmental Assessment Office concluded that there would be no significant adverse effects or impact on the environment through the implementation of an Environmental Management Plan and Fish Habitat Compensation Plan.

Infrastructure projects of this nature result in new opportunities for rural and urban communities, providing jobs and skills training during planning, implementation and construction, and ongoing employment in servicing and maintenance. New roadways and hydroelectric power in the Highway 37 corridor would also open up new opportunities for high-paying jobs in mining, forestry, and oil and gas, while revitalizing existing tourism, guide outfitting, transportation, and supply of industries in the northwestern part of the British Columbia.

Bringing grid-based and grid-priced electricity to this northwest area of the province would foster:

- Continued mine development
- Further mineral exploration activity
- Open green-field opportunities for independent green hydro power projects
- Expand tourism potential

New sources of revenue for the BC Government would be realized through an increased business tax base and a higher and expanded personal tax base.

At least a dozen mining properties at various stages of exploration and development are located within roughly 160 km of the proposed grid extension. BC Metals' Red Chris copper-gold property received its EA approval recently and is ready to construct a mine at a cost of nearly CDN\$250 million, subject to the availability of reasonably priced hydro-electric power needed by third quarter of 2007. Mt. Klappan Coal would also benefit from access to a power grid within the same time frame. Numerous other mining properties in the area have considerable potential, such as Nova-Gold's Galore Creek copper-gold property.

But the benefit of electrifying Highway 37 would not be just to the mining sector. Coast Mountain Hydro would benefit from access to the grid from its approved Forrest Kerr run-of-the-river power generating facilities.

The Electrify Highway 37 project would also provide an opportunity to improve working relationships with First Nations communities as they move towards self-sufficiency and would enable potential partnerships to form with mining and other industry sectors. The infrastructure development would need to consider the needs and aspirations of First Nations. And there must be effective consultation and accommodations with First Nations, which respect to cultural / heritage issues and traditional territories.

### **Inexpensive Power**

Power is the life blood of the mining industry, especially if the industry involves milling. BC Hydro should be encouraged to maintain its current industrial rates at a competitive level in order to ensure the longer-term viability of mining operations. It is important to note that, for the most part, BC mines, especially open pit copper and copper-gold deposits are low grade and significant cost increases are a severe curtailment on the economic viability of such deposits.

Also, the charging of PST on electricity used in production has long been an issue that the mining industry has called on to be eliminated.

Further development of power projects is critical to the future development of industry in this province. For British Columbia, hydro dams and the water they contain ("energy equivalent") are equivalent to oil and gas resources in the ground in Alberta.

## **Privatization of Vancouver Wharves**

One of the significant contributions the British Columbia mining industry makes to the economy is through transportation and port handling. The transport of mineral products represents over 60 percent of regional rail and 50 percent of regional port traffic.

For the mining industry to stay competitive, not only does it need to manage its own, controllable costs, but it needs to have costs not within its control remain reasonable.

It is important that the industry have affordable access to ports and railways. This can be achieved through collaboration of both provincial and federal governments and railway and port authorities to ensure BC remains a major gateway for mineral exports.

The process of privatizing Vancouver Wharves should ensure a consortium rather than one entity runs the port.

Although the Ridley Port is a federal asset, it is also important to ensure its future does not create for a monopoly situation that decreases competitiveness of BC companies.

### **➤ Education**

#### **The challenge of redevelopment of the Britannia Mine site**

The Britannia Project (Britannia) will transform an historic mining site into a sustainability-focused research, education, and entertainment destination. Two developments broadened local community and public support for Britannia:

- Financing and engineering expertise are in place enabling rehabilitation of the Britannia Mill building to commence. AMEC will serve as project manager and several significant corporate and government donors stepped forward to help fund the \$4 million rehabilitation project that will become the centerpiece of the project.
- The Squamish First Nation is joining the Board of the Britannia Project – they see the project as an opportunity for both joint ventures in tourism development and training for their young people wanting to pursue a career in tourism

The total fundraising objective for the project is \$30 million shared equally among the Government of Canada, the Province, and industry.

The key issue is to have public support for what the industry does (e.g. exploration activities, mine development, operations, etc.). Britannia is intended to increase understanding about the role of minerals in society and what the mining sector is all about. It will become a place where people become informed about issues facing the industry. A better-informed public is imperative if there is to be support for the best policies, not only for mining, but also for society in general. A sophisticated approach to public awareness will be an underpinning of the purpose of the Britannia Project. It will build on the successful mining experience offered by the BC Museum of Mining and demonstrate Canada's leadership role in raising global awareness about sustainability challenges and solutions.

The Britannia Project will engage visitors in the human and technological stories of this historic mining community and contrast these with a modern-day story of reclamation and regeneration. The movement

from the past to the present will then be brought full circle through a state of the art innovations gallery and research centre. Britannia is comprised of seven core visitor attractions:

- Visitors' Centre at Copper Square – *a welcoming place*
- Mining and Minerals Museum and Discovery Centre – *experiencing the power*
- Earth Garden – *designing with nature*
- Innovation and Sustainability Centre – *celebrating global leadership in sustainability*
- Main Street – *blending market-style commerce with old mining town flair*
- Outdoor Adventures – *exploring Britannia's backcountry*
- Waterfront – *revitalizing Britannia's waterfront*

The audience for this is both BC-based and international. Britannia will help to increase Canadian mining industry's image throughout the world, using the 2010 Olympic Winter Games as a platform.

### **Lack of trained personnel**

The mining sector, both in BC and Canada-wide, faces a serious skills shortage in the next decade according to a recent comprehensive study by the Mining Industry Training and Adjustment Council. The research concluded that the industry across Canada will need up to 81,000 new people to meet current and future needs and to fill positions vacated by retirees. The industry is expecting to lose up to 40 percent of the existing workforce due to retirement in the next 10 years.

BC's minerals industry is active in training programs for its own personnel and for people interested in entering various aspects of the industry.

There is, of course, The Northwest Community College School of Exploration and Mining. This relatively new initiative responds to the growing need for entry-level workers in the industry and provides exploration and mining training in the communities where the students are. Northwest Community College (NWCC) and Smithers Exploration Group (SEG) are partners in the project. The Ministry of Energy and Mines provided SEG with a grant of \$360,000 in April 2005; part of which was to be used to help support the programs conducted by the school.

The College of the Rockies (COR) offers the Mining Apprenticeship Program (MAP) in the Kootenays. This innovative and flexible apprenticeship program was developed by COR and Elk Valley Coal to increase access to skilled workers in the region, especially in the areas of heavy-duty mechanics, welding, electrical, millwright, and machinist trades. The pilot program in 2004/2005 focused on the heavy-duty mechanics trade. The College secured a variety of apprentice work experience placements with the Elk Valley mining operations (see Teck Cominco below). COR indentures, supervises apprentices and the program, and provides the technical training.

Many individual mining companies have their own training and apprenticeship programs. Some examples are provided below.

#### **Northgate Minerals Corporation**

Northgate's Kemess Mine is a fly in / fly out operation that employs 350 people. Currently there are 5 apprentices in the following areas: electrical, heavy-duty mechanics, and welding.

In 2004, the company introduced, in cooperation with the International Union of Operating Engineers, an innovative First Nations training program. There are trainees in five areas at the mine: mine operations, mine maintenance, mill operations, mill maintenance, and a rotation between site services and the warehouse. Trainees are referred by their band leaders and spend the equivalent of three months

learning operations or maintenance procedures as well as the day-to-day tasks that keep the mine running efficiently. Many are hired on full-time at Kemess after completing the training program.

The company also has an ongoing training program in both mine operations and mill operations. The mill has a line of progression and employees are trained regularly so they can become competent in the various circuits in the mill and thus progress along the line. An equipment trainer is on staff at Kemess to train employees on various pieces of mobile equipment. Mine rescue, first aid, and WHMIS training are also important components of the training program at Kemess.

### **Ledcor Civil Mining Ltd.**

In British Columbia Ledcor's mining group has approximately 205 hourly employees at the Gibraltar Mine site with 10 of them in an apprenticeship program. These numbers are included in the data for Gibraltar Mines (see below).

At Western Canadian Coal's Wolverine Coal Mine project Ledcor is in a start-up mode, but expects to have 150 hourly employees at the site when they reach mining mode in mid-2006. The company expects to have between 5 and 10 enrolled in the apprenticeship program there as well.

### **Gibraltar Mines**

Gibraltar Mines, owned by Taseko Mines Limited of Vancouver, and operated as a joint venture with Ledcor Civil Mining Ltd., requires a skilled, satisfied workforce who consistently achieve optimum levels of performance in a safe environment. The objective of the apprenticeship program at the Mine is to provide opportunities for non-tradespersons to increase their skill sets and hence improve their capabilities, potential for advancement, and future opportunities.

A total of 274 employees work at Gibraltar; 59 staff and 215 unionized workers, of which 80 (37 percent) are classified as tradespersons. There are currently eleven registered apprentices within the following areas: welder, millwright, heavy-duty mechanic, electrician, machinist, and gas fitter.

Employees interested in pursuing an apprenticeship are initially required to discuss their aspirations with their immediate supervisor. The internal selection process is merit based and is not based on company seniority. Preference is given to who have successfully completed a "Pre-Apprenticeship" training course. Employees who have expressed interest in an apprenticeship and who have a proven employment record are required to write a Mechanical Trades Assessment Examination. This exam is multiple choice and consists of questions relating to: trade mathematics (40), trade science (20), and mechanical aptitude and spatial relations (40). A mark of 85 percent or higher is considered a pass and the employee is offered the next available apprenticeship in their chosen trade. Employees with less than 85 percent are informed of the areas in which they need to improve and are eligible to re-write the exam after six months.

On average, over a four-year program, apprentices will be required to attend 210 hours (seven weeks) of trades school per year. To financially assist the apprentice during his/her schooling, the company has agreed to maintain the apprentice's wages at 40 hours per week. The Christian Labour Association of Canada (CLAC), the bargaining agent for the unionized workers, has agreed to cover the tuition and textbook costs. The apprentice is responsible for travel, accommodation, and living expenses.

The government previously employed a counsellor, based in Williams Lake, to assist apprentices to determine educational aspects of the programs. This has been discontinued, so the apprentices are now on their own. It would be worthwhile to reinstate this valuable resource.

### **Teck Cominco**

Teck Cominco and its related operations in BC employ 5,300 employees. Operations include the Trail zinc and lead refinery, Highland Valley Copper mine near Kamloops, and five open pit coal mines in the Elk Valley – Fording River, Greenhills, Elkview, Line Creek, and Coal Mountain.

Currently, approximately 75 apprentices are employed at BC operations in the following trades: heavy-duty mechanic, electrician, millwright, warehouseman, welder, machinist, steamfitter/pipefitter, automotive mechanic, and instrumentation. The number of apprentices is expected to exceed eighty by year-end 2006.

Apprentices follow the standard provincial apprenticeship program, covering up to five years of technical and on-the-job training. In some cases, a joint union-management committee oversees the apprenticeship program. Elk Valley Coal has developed an innovative program with College of the Rockies, whereby apprentices are indentured by the college, allowing apprentices to obtain their practical training at Elk Valley Coal as well as other employers in the region. Highland Valley Copper is currently working with the Kamloops/Thompson School District to explore ways to deliver millwright apprentice training in the Thompson Okanagan area including through distance learning.

Representatives from Teck Cominco's mining and refining operations are active participants on the Heavy Industry Training Advisory Committee (HITAC). This group played a significant role in developing the new approach to industry training in the province, which involved formation of the current Industry Training Authority (ITA).

Currently, HITAC is developing a new training program for the industrial electrician trade. The program is modular in nature, allowing apprentices and their employers to structure their training to best meet the needs of the operation where the apprentices work. The ITA has recently approved this program for further development work. HITAC is also working to establish itself as an Industry Training Organization (ITO). ITOs are being encouraged by the ITA as a means of specific industry sectors taking the lead in identifying current and future training needs, and working with education providers to develop appropriate training programs to meet these skill requirements.

## **III.2 Other Factors Affecting Industry Performance**

### **➤ Investment**

The mining sector is undergoing a major resurgence after years of negative growth and lack of investment.

Two dominant factors determine the attractiveness of BC to exploration and mining investment:

- A balanced and stable policy environment that provides certainty and predictability for investment
- Access to: affordable and reliable infrastructure, especially road, rail, power; geoscience data and world class educational institutions that will provide people to develop BC's mining sector into the future

A number of steps are key to ensure full investment is realized in this resurgence of the industry:

- National and international promotion of BC's mineral potential and investment opportunities
- Address long-standing issues such as PST and the use of coloured fuel at mine sites
- Continue to press the Federal government for an extension of the flow-through share tax credit program
- Implementation of the BC Energy Plan and focus on bringing forward, reliable, cost effective power
- Invest in key infrastructure projects, such as power along the Highway 37 corridor and the Stewart-Omineca Resource road, to open up the north
- Create a more efficient and responsive permitting process combined with greater certainty to mineral tenure and access to land

- Enhance and foster community relations, especially with First Nations
- Nurture and develop value-added opportunities with the mining sector and enhance trade within the Asia-Pacific Rim
- Consider targeting tax incentives in areas of the province that are still undeveloped (e.g. the beetle-kill region of BC) – some incentives to encourage companies to invest in these areas could result in positive mineral potential in otherwise unexplored regions of BC
- Further investment in Geoscience BC, in partnership with industry and the federal government, would be helpful in stimulating new discoveries and increasing investment

## ➤ **Financing**

Capital raised during 2003 and 2004 on the Toronto Stock Exchange and the TSX Venture Exchange, both traditional mining-based stock markets, represents roughly 47 percent of total equity capital raised for publicly-listed mining companies worldwide. Other stock exchanges, such as the Australian, London, and Johannesburg, were also strong in mining-based stocks.

Vancouver is one of the largest investment centers in the world for “mining,” and more specifically for raising early stage exploration capital.

There are some 800 companies domiciled in BC that are focused on mineral exploration worldwide. There are also numerous service companies, research institutes and other firms here that provide supplies and services to mineral exploration and mining companies operating worldwide.

BC-based, TSX listed firms raise over \$3 billion in debt and equity financing annually for projects located around the world.

Currently, less than 10 percent of that amount is designated for the industry in BC. The challenge is to increase that percentage. It is critical to maintain the super flow-through in BC and for the provincial government to support the industry’s lobbying for extensions at the federal level. Furthermore, it is important that government and industry continually seek to improve the regime for exploration in British Columbia.

## ➤ **Productivity**

Exploration and mining activities are a sophisticated science. Mining, in particular, demands continual technological innovation from every field of research and engineering – physical, electrical, mechanical, geological, biological, and chemical.

The search for greater operational efficiency is relentless and mine operators place enormous demands on the research and development facilities of equipment manufacturers and service providers worldwide. With their help BC’s mining industry has been able to make remarkable strides in efficiency, continually elevating our standards and achieving higher levels of environmental excellence.

Refinery / Hydro Met technology is seen as part of the future of the mining industry. Although the copper technology was developed in British Columbia, it appears the first application will be elsewhere, as the Canadian government underwrote INCO for Voisey’s Bay in Newfoundland. This is a technology that could improve, materially, the economic value of minerals mined in BC, generate new investment in the processing sector of BC, and create more jobs - directly in the refinery operations and also downstream in metals processing and fabricating industries.

### ➤ **Workforce**

The mining sector, both in BC and Canada-wide, faces a serious skills shortage in the next decade according to a recent comprehensive study by the Mining Industry Training and Adjustment Council. The research concluded that the industry across Canada will need up to 81,000 new people to meet current and future needs and to fill positions vacated by retirees. The industry is expecting to lose up to 40 percent of the existing workforce due to retirement in the next 10 years.

To improve labour relations, it would be useful to put the unions and the companies on a better footing in terms of provincial unfair labour practices, effectively providing for improved collective bargaining agreements that won't unreasonably restrict management from deploying labour in the most efficient manner possible. A more financially robust mining industry will be more inclined to participate in future developments within British Columbia - both brownfields and greenfields projects.

### ➤ **Technology / Value System**

BC has no downstream processing for most of its minerals. Aggregates do get transformed into finished products, but our base metal, coal, and other mined products are exported elsewhere in the world for further processing.

Downstream processing, such as a refinery for copper concentrate, would be beneficial to developing long-term mining operations in the province. To date, there appears to be little interest on the part of the BC government in promoting such an entity. The application of this technology will enhance BC's competitive costs in relation to other jurisdictions worldwide. However, risks associated with initial applications of technology need to be mitigated, otherwise the status quo of shipping our "raw materials" to the rest of the world for further processing and manufacturing will persist. This is not a subsidy, but an "investment."

To promote innovation, R & D, and technology commercialization incentives should be established to encourage research into new / enhanced methods of metal recovery and environmental reclamation.

### ➤ **Market Constraints**

Currently, demand exceeds supply in all minerals. The main market constraints are:

- Cost associated with delivery of BC products to markets
- Cost of shipping concentrate to Orient versus the cost of shipping cathode

### ➤ **Globalization**

The mining industry is a global industry and many individuals and companies based in British Columbia are involved in exploration and mining in other jurisdictions and in supplying goods and services to the international mining scene.

Higher grade and/or larger tonnage deposits being developed in other jurisdictions are a threat to mining in British Columbia.

BC's main advantage is currently stable economic and political environment.

### ➤ **Training and Education**

The mining industry has been starved for workers and technical talent. Government needs to work with industry to strengthen training both at the university and trades level and to ensure that there is a steady flow of qualified workers that are capable of entering the industry. On a per-capita basis, mining is the highest paying industry in BC.

Refer to Section III.1 Focus on Four Factors, under Education for more information on existing training and apprenticeship programs.

### ➤ **Land Tenure / Access to Land**

Resolution of **First Nation land claims** may be impossible in the short-term, but it does remain a critical issue regarding access to land in many areas of the province. Perhaps IAC should recommend one land claim for settlement on the basis of it being the most important for the advancement of the mining industry – largest number of undeveloped deposits with best exploration potential.

First Nations are critical in obtaining general stakeholder support for mining with operations taking place directly within First Nations traditional territory. It should be noted that the First Nations have a tendency to try and engage industry in issues that can only be resolved between governments and First Nations. Industry is not capable, nor does it have the authority to recognize native land claims or even native traditional boundaries. Industry cannot be utilized as a pawn in these First Nations disputes with various levels of government.

Many industries have been very successful in establishing economic agreements with First Nations recognizing that they support the First Nations' rights to continue negotiations with government, but do not take sides in such an area. It is critical that First Nations do not perceive or receive a veto over mineral or mining opportunities. Industry does not care who is the ultimate landlord as long as the fair rent on the land is distributed among the stakeholders that deserve it, that the fair rent on the land is consistent and has an economic justification. In other words, a rent could be paid to the Crown or to a First Nations group, but not to both. Industry is encouraged by the new initiatives being undertaken by the current BC government.

**Access to the land** base must be assured. The two-zone system has been implemented with land not available for mineral exploration and land available for mineral exploration. The fact that the land is

available for mineral exploration does not, by any stretch of the imagination, indicate that an ore body will be found. Rather, it allows the mineral industry to assess whether mineralization, especially substantial mineralization with economic potential that may further be proven to be ore bodies, may exist. It is a certainty that, if access is not available, no ore bodies will be found.

Continued spotty access to land still exists, notwithstanding the two-zone policy. The recent experience of a local junior company in the Nechako region of the province related to the removal of a bridge on an access road is a classic example. Everyone (MEM, MOF, forestry company, mineral exploration company, local contractors) agreed it would be bad/terrible for the bridge to be taken out, but it still happened - at very short notice and while a drill and crew were still located on the other side. The "reason" was perceived liability risk to the road permit holder. If the bridge was left in, the liability was mainly to do with possible breaches of environmental regulations. Ministry of Forests wouldn't do anything because it was not a "permanent" road deactivation, only temporary for five to eight years. Ministry of Energy and Mines protested, but to no avail, as the bridge was taken out.

The regulatory environment should be sufficiently strong enough to determine if it is in the public's best interest that a discovered ore body be mined.

### ➤ Regulation

While there may be a certain "burden of regulation in rich countries", other jurisdictions, in developing their own regulations, have often looked to what is in place in established jurisdictions. It is the regulatory / red tape environment of getting a project to the development permitting stage that is the most crucial hurdle. Once in production, the regulatory regime is not that onerous.

Reasonableness of regulatory standards (timeliness of decision-making, clarity of rules, efficiency) – with particular regard to new resource development is particularly important to ensuring that new mines continue to be developed as advanced exploration continues to prove up economic ore bodies. Development of new mines to replace old is a critical stage of a truly robust minerals industry.

Permitting the development of a new mine needs a predictable time-line. The current situation appears to be fraught with many administrative problems that must be sorted out if new mines are to be developed on time. This is a key impediment to productivity and hence competitiveness.

Regulatory stability and the ability to work in a cohesive and directed regulatory environment is critical. If Federal environmental laws are not required, then the provincial regulatory process works quite smoothly with mine permits being granted in less than 90 days. However, permitting of new mines is cumbersome if it involves the federal government. The federal government appears to have little respect for timelines nor for the ability to make timely decisions once a mining operation meets its environmental and economic thresholds. Given that commodity cycles move quickly in today's environment, government should realize that constant delay, bickering, and ineffectual cross-jurisdictional regulations are curtailing the industry's competitiveness.

Some key considerations for action that would improve the regulatory environment for the minerals industry include the following:

- Establish timelines for federal scoping and decision making in EA
- Expand the Canadian Environmental Assessment Agency's role
- Consider incorporating social and economic factors in the EA process
- Confirm key roles of decision makers and areas of authority, preferably under the coordination of a central review agency
- Establish clear standards for required science and decision making

- Where overlapping federal/provincial jurisdiction areas occur, consider designating a single review authority
- Centralize coordination of consultation activities with First Nations
- Establish clear forms and structures for benefit sharing with First Nations
- Develop innovative capacity building and partnership programs with First Nations
- Incorporate the consideration of Ministry of Energy & Mines Schedule 2 Amendments within existing EA process or timeframe

## ➤ **Taxes**

For a growing, robust mining industry in BC new deposits must be found and new mines must be built on an ongoing basis as extraction at older mines comes to a close. Building new mines is very capital intensive – the bigger the mine, the higher the capital requirement. Because of this high capital cost and with BC's current situation of a large number of deposits awaiting development, a fiscal regime which would provide a tax holiday or tax deferral in the early years of mine development would aid in stimulating expansion of the industry. Mining Association of BC's recommendation to "remove Provincial Sales Tax (PST) from industrial electricity purchases" should be supported.

Taxation is inconsistent in the mining business. There are too many taxes that do not recognize the complexity of the industry. A simple tax regime is encouraged with lower tax rates for both personal and corporate income tax.

#### **IV. COMPETITIVE OPPORTUNITIES**

High commodity prices, which the world is experiencing right now, have a tendency to cover up deficiencies in the competitive system. The real proof of BC mining's competitiveness is how it performs in low commodity prices. Industry and government must set the stage now, during the good times, to ensure that in any downturn in commodity cycles, BC's mining industry still prospers and has opportunities to discover deposits, finance deposits, and put them into production.

BC should look at its hydro power advantages like Alberta looks at its oil – as a competitive advantage / opportunity for its industries.

The BC minerals industry has the competitive advantage of a more productive workforce, as it is highly mechanized, but other jurisdictions are quickly catching up as Canadian-based companies take their efficiencies and technologies to these other regions.

BC's mining sector has invested heavily in safety training programs over the past decade and is the safest heavy industry in the province today. There is an opportunity for the province to market the industry's expertise in both safety training and developing a culture of responsibility for safety of self and fellow workers to help attract a goodly share of the global pool of technical talent and skilled workers needed in the industry.

## **V. COMPETITIVE BARRIERS**

The grades of large porphyry-type copper deposits in BC tend to be lower than those of porphyry deposits in some other jurisdictions. The industry has the expertise to mine these lower grade deposits and the skill to be very cost-efficient at their own operations regarding costs in their control. But there are numerous costs beyond the industry's control. The higher the total cost to the mining industry of doing business in this province, the greater the barrier to development of future mines.

The disfunctionality of DFO is viewed as a competitive barrier to the BC mining industry. The BC mining sector strives for continual improvement in its environmental record, to surpass expectations, and to be viewed as an industry of choice. No industry can be economically viable and flourish in the 21<sup>st</sup> century if it fails to be an environmental leader and practice corporate social responsibility. Similarly, no industry can provide environmental stewardship and contribute to improving the social and human condition without first being economically successful.

Capital costs associated with mine development have escalated dramatically. The capital expenditures for BC mines to stay competitive, based on lower head grades, results in much higher capital expenditures per unit of reserve. Therefore, the margin of profitability on BC mines is much lower.

Limited infrastructure in some areas of the province can potentially raise the stakes too high for the viability of mine development in those areas. Infrastructure (an interconnection of roads, rail, electricity, and communication technologies) is crucial to BC's mining industry remaining competitive with other jurisdictions in the world.

## **VI. STRATEGIES/OPTIONS FOR INDUSTRY ACTION**

### **➤ Impact on investment of unresolved land claims and other First Nation issues**

The industry fully supports the provincial government in its efforts to build a “New Relationship” with BC’s First Nations people.

Work with government to provide comprehensive First Nations education and community relations programs in mineral exploration and mining.

Work with government and First Nations to develop creative opportunities and “best practice” arrangements that enhance direct First Nations involvement in, and benefit from, the industry sector.

Work with government and First Nations to develop creative opportunities and “best practice” arrangements that enhance direct First Nations involvement in, and benefit from, the industry sector.

Continue to advance a constructive dialogue and develop successful partnerships with BC’s First Nations community.

### **➤ Impact of Department of Fisheries and Oceans (DFO) and their application of the Fisheries Act on the industry**

Work with government to develop an industry education mechanism, so proponents have a better understanding of the Fisheries Act, federal and provincial environmental assessment process, rights and obligations under the various Acts.

Work with government to conduct industry awareness workshops for DFO staff who are involved in environmental assessments of mining activities. This would give them a better understanding of the industry and issues unique to the industry and the impact of unreasonable delays on the viability of various projects could also be covered in the workshop. Case studies could be used.

Encourage the Federal government to continue with changes to make the environmental assessment process more efficient and more harmonized with provincial processes.

### **➤ Impact of infrastructure issues, in particular, power rates on the industry**

Work with government to help resolve issues related to infrastructure.

Offer partnerships to develop infrastructure.

## ➤ Education

Continued fundraising by industry (specifically by both the BC Museum of Mining and the Britannia Development Corporation) to meet the challenge of re-development of the historic Britannia Mine site into a sustainability-focused research, education, and entertainment centre.

Provide as clear a direction as possible as to numbers of skilled personnel (and the various skill sets) needed by the industry in the coming years in BC.

The minerals industry to encourage colleges and universities and to assist them to do awareness training of the mining industry for their students in resource management and planning programs.

As feasible and practical, provide experience training through summer jobs in the industry to as many post-secondary students as possible.

The minerals industry should explore taking advantage of the Pine Beetle initiatives. These programs are aimed at providing training and incentives to move people from the traditional wood and lumber industry that will be devastated as the resource is killed, into alternative industries.

Work with government and post-secondary educational institutes to establish regional mining apprenticeship programs similar to the program developed at College of the Rockies for the Kootenay area. For example, a similar type of initiative based in Williams Lake would be good for both the community and the mines in the area.

The BC minerals industry (AME BC, in particular) has applied to the federal government's Workplace Skills Initiative (WSI) Call for Proposals. WSI is a new funding initiative designed to help pilot innovative models that will mobilize and transform Canadian workplaces to meet present and future challenges. A major objective of the WSI is to fund pilot projects that respond to a range of skills-related challenges in Canadian workplaces. Projects must be partnership-based, focused on employers and employed Canadians, and support objectives of WSI.

In general, with all of the above issues, the mineral industry needs to work together to ensure a one-voice policy and that there is mutual respect between the scientists / geologists and exploiters / miners. Whenever there is a disconnect, the industry needs to ensure it is resolved.

## VII. STRATEGIES/OPTIONS FOR GOVERNMENT ACTION

### ➤ **Impact on investment of unresolved land claims and other First Nation issues**

Work with industry to provide comprehensive First Nations education and community relations programs in mineral exploration and mining.

Work with educational institutions, including universities, colleges, and technical / trade institutions to attract First Nations students into the industry.

Continue to pursue the conclusion of fair, affordable, and reasonable treaties that bring certainty to both First Nations communities and the resource sector.

Explore opportunities related to revenue-sharing, capacity building, and employment partnership programs for First Nations, communities, and industry. The province of Ontario is already considering revenue-sharing. What about BC?

Work with industry and First Nations to develop creative opportunities and “best practice” arrangements that enhance direct First Nations involvement in, and benefit from, the industry sector.

With regard to project review, the provincial government needs to address the inconsistency that exists between various regional offices with their implementation of the First Nations consultation requirements on exploration permits. It’s a firm “30 days” in some cases, a “soft 30 days” in others, and “45 days” in others.

### ➤ **Impact of Department of Fisheries and Oceans (DFO) and their application of the Fisheries Act on the industry**

BC’s mining industry takes its environmental stewardship very seriously. It is a very advanced industry and has developed many of the world’s leading techniques for dealing with issues in the environment. Education of both government and the academic community will assist in carrying this message to all stakeholders.

Worldwide reputation is hard to change quickly. British Columbia has been known as a jurisdiction that is unfriendly to mining, predominantly because of the decisions of the NDP governments during the 1990s. Nevertheless, the BC government also must stick up for its own resources and not be bullied by the Federal government when it comes to development.

Using the early development of Kemess as an example, it was the BC government that brought DFO very reluctantly to the table. Getting DFO to the table on project reviews may require the Premier talking to the federal Minister of Fisheries and Oceans.

The BC government needs to strengthen the harmonization agreement.

➤ **Impact of infrastructure issues, in particular, power rates on the industry**

The province is encouraged to see that infrastructure and new technology is an investment, not a subsidy to industry. Currently, hundreds of millions of dollars are being spent on building a better highway to Whistler. Is it just for the benefit of people from Squamish, Whistler, and Pemberton who travel to and from Vancouver? Is it an investment in the tourism industry, specifically related to Whistler? Which company benefits the most from that?

Commit the financial resources to provide hydroelectric power along the Highway 37 corridor.

Implement the BC Energy Plan and focus on providing reliable, cost-effective power.

Ensure that privatization of the Vancouver Wharves results in the port being run by a consortium.

Work with industry to help ensure the future of Ridley Port, a federal asset, does not create for a monopoly situation that decreases competitiveness of BC companies.

➤ **Education**

The provincial government recently announced it plans to invest an additional \$2.3 million to expand training for youth from rural and aboriginal communities so they can pursue careers in mining and mineral exploration.

Commit to provide ongoing financial support for the development of the Britannia Project into a world-class interpretive centre, communicating mineral exploration, mining, and sustainability.

Address the immediate and growing problem of a critical shortage of highly skilled personnel available to the BC mining sector.

Consider assistance for additional training programs for the minerals industry, keeping in mind the need to ensure that red tape and paperwork are kept to a minimum. The benefit of any such training assistance initiative can be quickly and significantly compromised if mounds of paperwork are required.

Funding for pre-apprenticeship programs is often wasted as many operations have collective agreements, which require apprentices to be drawn from the existing workforce. Such funding could be better redirected to apprenticeship, providing more training spaces at colleges, and to financially support employers who agree to train apprentices.

The government previously employed a counsellor, based in Williams Lake, to assist apprentices to determine educational aspects of their programs. This had been discontinued, so the apprentices are now on their own. It would be worthwhile to reinstate this valuable resource.

Work with industry and post-secondary educational institutes to establish regional mining apprenticeship programs similar to the program developed at College of the Rockies for the Kootenay area. For example, a similar, albeit smaller, type of initiative based in Williams Lake would be good for both the community and the mines in that general area.

The scheduling of formal training at the colleges could be improved. The yearly periods of technical training could be scheduled at times more convenient to the apprentices and the operations at which they work. Additionally, new models of technical training should be considered, where more technical training is completed before the apprentice enters the workforce.

Greater consideration should be given to where apprentices take their technical training. Currently, a number of apprentices must attend colleges in the lower mainland or on Vancouver Island, a great distance from where they reside.

The ITA could provide better information to prospective apprentices explaining apprenticeship training opportunities and requirements.

The ITO concept has merit and should be pursued actively. Currently, there are only three ITOs in place. These should be expanded along with appropriate funding to cover the major sectors in the BC economy.

Beyond apprenticeship, funding needs to be provided in a number of other areas of training and education. Teck Cominco was instrumental in initiating an operator development program at Selkirk College several years ago. This program prepares learners for employment as process operators in the province's pulp and paper mills, petroleum refineries, and metal refineries and smelters. More of these types of programs should be initiated to assist industry replace experienced operators who will soon be retiring from the workforce.

More funding is required for engineering and geoscientist education programs at UBC and BCIT. There is a global demand for mining geologists, engineers, and technologists. Without more learners graduating in these areas, many potential mining projects will be delayed.

## **VIII. RECOMMENDATIONS**

Moving forward, it is important that the minerals industry and the province focus action on solutions to the four main issues, while also pursuing actions on other issues as opportunities arise. Many suggestions are presented in this document. The following provides a summary of the main topics.

### **Resolution of First Nations Issues**

Considerable effort has been made by the BC government and First Nations representatives to forge a new relationship with BC's First Nations people (e.g. the Premier's initiative). Direct action is required in the areas of resource revenue sharing, the duty and obligations of industry and government to meaningfully consult, and the role of First Nations in the permitting of new projects.

Ontario is already considering revenue-sharing. What about British Columbia?

First Nations governments are targeting receiving most of or at least 50 percent of all resource-based income in Western Canada.

A case in point that shows the impact of First Nations issues on moving forward with mining projects in BC is the Fish Lake example of a First Nation using Department of Fisheries and Oceans and the Provincial Ministry of Environment to frustrate development.

Advancing a constructive dialogue and developing partnerships with BC's First Nations community ranks as one of the top priorities for the BC mining industry.

### **The Problems with DFO**

BC's mining industry needs clear and efficient processes to review proposed mining projects, while ensuring that Canada's reputation as an environmental leader is maintained. At this time, DFO is a major impediment to an effective process of environmental assessment, permitting and regulation for the industry.

Wherever the BC government and industry can agree to increased efficiencies in the provincial environmental review process that would alleviate some of the issues surrounding DFO and still ensure the integrity of environmental sustainability, this course of action should be pursued.

Using Kemess as an example, it was the BC government that brought DFO very reluctantly to the table. Getting DFO to the table on project reviews may require the Premier talking to the federal Minister of Fisheries and Oceans.

It is important to work toward harmonizing DFO and provincial fish and fish habitat management activities to reduce duplication and overlap.

Development and implementation of a faster and simplified approach to multi-agency exploration and mining approvals, with Ministry of Energy & Mines as the single coordinating agency, is integral to continued growth of the mining industry in BC.

### **Electrify Highway 37**

An investment in infrastructure in the northern part of the province is an investment in the future of all British Columbians. New roadways and hydroelectric power in the Highway 37 corridor would also open up new opportunities for high-paying jobs in mining, forestry, and oil and gas, while revitalizing existing tourism, guide outfitting, transportation, and supply of industries in the NW.

New sources of revenue for the BC Government would be realized through an increased business tax base and a higher and expanded personal tax base.

Committing financial resources to the Electrify Highway 37 project would also provide an opportunity to improve working relationships with First Nations communities as they move towards self-sufficiency and enable potential partnerships to form with mining and other industry sectors.

### **Inexpensive Power**

Power is the lifeblood of the mining industry, because of milling, but really it is extremely important most industries in BC. BC Hydro should be encouraged to maintain its current industrial rates at a competitive level in order to ensure the longer-term viability of mining operations. It is important to note that, for the most part, BC mines, especially open pit copper and copper-gold deposits are low grade and significant cost increases are a severe curtailment on the economic viability of such deposits.

### **Provincial Sales Tax on Electricity**

A long-standing issue with the industry relates to the need to remove provincial sales tax (PST) from industrial electricity purchases.

### **Privatization of Vancouver Wharves**

One of the significant contributions the BC mining industry makes to the economy is through transportation and port handling. It is important that the industry have affordable access to ports and railways. This can be achieved through collaboration of both provincial and federal governments and railway and port authorities to ensure BC remains a major gateway for mineral exports.

The process of privatizing Vancouver Wharves should ensure a consortium rather than one entity runs the port.

## **Financial Support for the Britannia Project**

The Britannia Project will transform an historic mining site into a sustainability-focused research, education, and entertainment destination.

Commit \$10 million in matching funds to support the development of the Britannia “Earth and Minerals Discovery Centre”.

## **Address the Lack of Trained Personnel**

Provincial government and industry need to work together to address the immediate and growing problem of a critical shortage of skilled personnel available to the BC mining sector. Additional training programs and recruitment into the industry are required.

Participation of First Nations people in BC’s mining industry – mostly in the trades sector – is gradually increasing in this province. The provincial government recently announced it plans to invest an additional \$2.3 million to expand training for youth from rural and Aboriginal communities so they can pursue careers in mining and mineral exploration in British Columbia.

Effective training for aboriginal people to better their education and skills level is also important to ensure their participation at all levels in the mining industry in this province.

The industry urges the provincial government, in its consideration of assistance for additional training programs for the minerals industry, to ensure that red tape and paperwork are kept to a minimum. If program administration is not efficient and effective, then the mounds of paperwork required compromise the benefit of any such initiative.

Funding for pre-apprenticeship programs is often wasted as many operations have collective agreements, which require apprentices to be drawn from the existing workforce. Such funding could be better redirected to apprenticeship, providing more training spaces at colleges, and to financially support employers who agree to train apprentices.

The government previously employed a counsellor, based in Williams Lake, to assist apprentices to determine educational aspects of the programs. This had been discontinued, so the apprentices are now on their own. It would be worthwhile to reinstate this valuable resource.

Provincial government, industry, and post-secondary educational institutes need to work together to establish regional mining apprenticeship programs similar to the program developed at College of the Rockies for the Kootenay area. For example, a similar type of initiative based in Williams Lake would be good for both the community and the mines in that general area.

The scheduling of formal training at the colleges could be improved. The yearly periods of technical training could be scheduled at times more convenient to the apprentices and the operations at which they work. Additionally, new models of technical training should be considered, where more technical training is completed before the apprentice enters the workforce.

Greater consideration should be given to where apprentices take their technical training. Currently, a number of apprentices must attend colleges in the lower mainland or on Vancouver Island, a great distance from where they reside.

The ITA could provide better information to prospective apprentices explaining apprenticeship training opportunities and requirements.

The ITO concept has merit and should be pursued actively. Currently, there are only three ITOs in place. These should be expanded along with appropriate funding to cover the major sectors in the BC economy.

Beyond apprenticeship, funding needs to be provided in a number of other areas of training and education. Teck Cominco was instrumental in initiating an operator development program at Selkirk College several years ago. This program prepares learners for employment as process operators in the province's pulp and paper mills, petroleum refineries, and metal refineries and smelters. More of these types of programs should be initiated to assist industry replace experienced operators who will soon be retiring from the workforce.

More funding is required for engineering and geoscientist education programs at UBC and BCIT. There is a global demand for mining geologists, engineers, and technologists. Without more learners graduating in these areas, many potential mining projects will be delayed.

AME BC has applied to the federal government's Workplace Skills Initiative (WSI) Call for Proposals. WSI is a new funding initiative designed to help fund innovative pilot projects that respond to a range of skills-related challenges in Canadian workplaces. Projects must be partnership-based, focused on employers and employed Canadians, and support objectives of WSI. Industry, the provincial government, and post-secondary institutes should work together to explore this Initiative further and/or create a made-in-BC equivalent of the federal government's WSI.

## **Technology / Value System**

To promote innovation, R & D, and technology commercialization incentives should be established to encourage research into new / enhanced methods of metal recovery and environmental reclamation.

## **Refinery**

BC government seems to see involvement in something like this as a subsidy but there are precedents by other provinces and the federal government that it is not a subsidy, but rather an investment to make the province and its industry more competitive. Examples include:

- Federal government investment in the Argentia smelter/refinery for Voisey's Bay
- Investment in Quebec in the centre of excellence /aluminium smelter in Quebec
- Ontario government's investments in General Motors
- BC government's investments in tourism and the film industry, and investment in BC's lumber industry (pine beetle, soft wood dispute, etc).

The provincial government should support development of made in BC technologies (refinery / Hydro Met technology. This would extend the value chain of the mining industry in BC.

### **Exploration Regime in BC**

It is critical to maintain the super flow-through in BC and for the provincial government to support the industry's lobbying for extensions at the federal level. Furthermore, it is important that government and industry continually seek to improve the regime for exploration in British Columbia.

Flow-through share financing policies should be liberalized to include mine development costs and exploration costs aimed at extending deposits that are being mined.

Despite the two-zone policy, the continued problem of spotty access (due to bridges being taken out, etc.) needs to be addressed.

Notices of Work need to be addressed. They are increasingly redundant for many programs (e.g. the continued requirement to submit one for a small IP survey). Furthermore, there is inconsistency between offices in how much/little information is required.

For other issue-specific recommendations referred to Appendix I.

## APPENDIX I: COMPETITIVE ISSUES FOR CONSIDERATION

### EXTERNAL ISSUES

Issue	What can be done to improve competitiveness?
Impact of US\$ and foreign exchange rates on the ability of Canadian and BC firms to compete in global market	<p>Become more efficient as operators: better methods / better equipment. Reduce input costs – electricity – transportation – storage – shipping.</p> <p>Encourage construction of copper refinery in BC if proven that it would reduce TC/RC without corresponding increase in other costs.</p>
Impact of commodity price cycles on cost structure of Canadian and BC firms	<p>Improve infrastructure to decrease costs.</p> <p>Increase in commodity prices results in higher operator revenues offset in whole or in part by input cost increases, especially labour, equipment, and consumables, which do not reverse when commodity prices fall.</p> <p>The CDN\$, which tracks commodity prices, partially offsets commodity price increases and decreases.</p> <p>Commodity price increases also encourage exploration spending and ultimately the development of new mines, increasing the supply of metal and pushing prices into the next downward spiral.</p> <p>Mining's ability to remain viable throughout the cycle is dependent on grade and cost structure.</p>
Resolution of border issues	n/a
Inadequacy of Trade Agreements/Rules (NAFTA, WTO) that may not be in Canada nor BC's best interest	n/a
Low cost offshore input factors affect ability of Canadian and BC firms to compete internationally	<p>US\$ inputs can be cheaper when commodity prices rise because of associated rise in CDN\$ – this reverses when commodity prices fall. The main US\$ input in O&amp;G, which have increased more than US\$ depreciation.</p>
Drop in demand by key markets	<p>Metal markets are global. Producers can sell all their standard quality product at the price set by marketplace. When metal prices rise, supply of copper concentrates increases driving up price charged by custom smelters to treat and refine (TC/RC) copper concentrates.</p>
Impact of geopolitical climate on individual sectors	<p>Perception is important; be sure processes are not politicized.</p> <p>In the mining business, everything can be managed except grade and tonnage. Large high grade deposits will attract investment in any location. Marginal deposits are of no interest generally and less so if they are located in high risk countries / jurisdictions.</p>

	Low country risk in terms of expatriation of assets and repatriation of capital can be offset by increased permitting risk where the economy is mature and diversified and its legal system highly evolved.
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## FEDERAL ISSUES

Issue	What can be done to improve competitiveness?
Impact of transportation policies on firms' ability to transport products	<p>Transportation policies impact mine operators in many ways. Overly restrictive policies have a negative impact on cost structure – e.g:</p> <ul style="list-style-type: none"> <li>-- Regulations forcing use of rail versus truck under certain conditions</li> <li>-- Restrictions or outright prohibition on oversize truck loads that are not consistent with adjoining jurisdictions</li> </ul> <p>The length and nature of road bans</p> <p>The sizing of bulk transportation vehicles</p>
Improvement of fiscal and regulatory policies (ie. corporate tax rates, royalties)	<p>Industry looks to government to establish fiscal and regulatory policies that encourage resource development in line with the massive economic benefits they derive from resource development.</p> <p>Eliminate fuel tax for all mining fleets.</p> <p>Accelerate depreciation.</p> <p>Give tax credits for reinvestment.</p>
Resolution of First Nations land claims	<p>Interim measures to move forward prior to resolution of Treaties. Resolution of FN land claims must be a top priority of government. In the meantime government needs to undertake to offer FN, with respect to any particular project development, that it will pay to FN the value ultimately adjudicated to belong to FN from that project.</p>
Impact of Agreement on Internal Trade on BC firms' ability to compete with other Canadian provinces	n/a
Elimination of asymmetrical regional development that favours one region over another (i.e., manufacturing base in Ontario and Québec)	<p>Our issue in the mining business is the asymmetrical application of environmental policies across the country and the double (Fed/Prov) coverage that occurs in certain areas.</p>
Appropriate response to changes in demographics: immigration policies, skills and training, growth	<p>Supply of skilled labour is a major issue for mine operators at this time. Additional training programs and recruitment into the industry are required.</p>

Need for patent protection regulations/legislation	Not a major issue in the mining industry.
Facilitate investment through appropriate investment policies	Flow-through share financing is critical to maintaining the levels of exploration activity that will result in the discovery of new mines. Flow-through share financing policies should be liberalized to include mine development costs and exploration costs aimed at extending deposits that are being mined.
Promotion of innovation and R&D	- - -

## INTERNAL ISSUES – INDUSTRY

Issue	What can be done to improve competitiveness?
Promotion of education / training / skills development to provide skilled labour force	Promote all aspects: technical schools, universities; other skills development.  Cover a meaningful portion of the cost to industry to recruit and provide skills training.
Labour relations	Put the unions and the companies on a better footing in terms of unfair labour practices and outlaw provisions in collective bargaining agreements that unreasonably restrict management from deploying labour in the most efficient manner possible.
Cost structure and main cost elements	Must ensure electrical power advantage in BC is maintained by moving to expand power generation capacity.
Impact of urban-regional dichotomy (i.e., 6 out of 10 manufacturing jobs are located in the Lower Mainland)	Let people know about the linkages; the importance of the industry to urban economy; illustrate linkages; see the parts of the industry in a different way e.g. junior mining sector as part of small business sector instead of part of the “mining industry” that people don’t like or understand.  Mining creates jobs in remote areas.
Increase marketing (identify relevant markets and new/emerging markets)	n/a
Impacts of infrastructure development (transportation, facilities, communications)	Critical to the mining industry is that there be no transportation bottleneck or ability to extract above market fees for the transportation, storage and handling of products as is currently the case in some areas. Establish an industry committee to review and recommend policies in this area.
Promotion of innovation and R&D and technology commercialization	Incentives must be put in place to encourage research into new / enhanced methods of metal recovery and environmental reclamation.

	The idea of developing a centre of innovation in BC based around development of a copper refinery – based on a similar set up that Alcan had developed in the Saguenay region of Quebec to get federal assistance with an aluminium refinery.
Dependence on certain sectors (especially for exports) and the need for diversification	n/a
Ensuring products meet client needs	Previously discussed.
BC firms are price takers in international markets	Previously discussed.
Impact of public relations and perceptions re: labour / management environment, and attitudes towards business / wealth creation	Governments are failing to adequately recognize the value and benefit we all derived from the development of our resources. Mining is a social undertaking. It engages an entire community. The success of many of our outlying communities depends upon the success of their local mines.
Improvements in Public-Private Partnerships: marketing, ventures, visibility	n/a

## INTERNAL ISSUES – GOVERNMENT

Issue	What can be done to improve competitiveness?
Impact of transportation policies on firms' ability to transport products	Previously discussed.
Improvement of fiscal and regulatory, and environmental policies (ie. corporate tax rates, royalties)	Keep pushing for better harmonization federal/provincial processes. Previously discussed.
Reasonableness of regulatory standards (timeliness of decision-making, clarity of rules, efficiency)	Keep pushing for better harmonization of federal and provincial processes.  This is a critical issue for resource development.  Too many regulatory levels and too many inconsistencies among them. A mindset that is often anti-development.  Reclamation expectations that are unnecessarily high while being blind to the long-term needs for industrial sites that could be put to other uses that are unknown at the time of mine suspension.  All stakeholders want a say and a share in the benefits from resource development, but all want to look only to one stakeholder for

	satisfaction of their reclamation objectives.
Resolution of First Nations land claims	Previously discussed.
Impact of Agreement on Internal Trade on BC firms' ability to compete with other Canadian provinces	n/a
Promotion of education/training/skills development to provide skilled labour force	Previously discussed.
Impact of municipal/regional government restrictions (taxes, regulations)	Ensure that municipal laws don't undermine provincial or federal ones. Must resist municipalities overreaching their boundaries to include distant mines in their municipal tax base.
Infrastructure development (transportation, facilities, communications, research)	Previously discussed.
Facilitate investment through appropriate investment policies and incentives	Previously discussed.
Land use issues	Two zone model – access is key!!  Must adopt two zone land use policy. Zone 1 where mining is allowed and Zone 2 where mining not allowed.
Impact of Digital Divide on BC firms	n/a
2010 Winter Olympics	Encourage redevelopment of the Britannia Mine site into high profile, attractive tourist destination.
Improvements in Public-Private Partnerships: marketing, ventures, visibility	n/a
Resolution of public debt issues	Mine development a contributor in resolving public debt issues.