Framing the Future of Mineral Exploration in British Columbia
AME BC Mineral Land Access and Use Report

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EXECUTIVE SUMMARY

British Columbia has a long history of mineral exploration, development and mining. From humble beginnings, the Province is now renowned as a global centre for mineral exploration, mining and mineral production. Beginning in the early 1990s, British Columbia undertook an extensive land use planning exercise for all BC Crown land. Land use planning initiatives were intended to provide clarity for industry, and that transparency was one of the key promises that brought the exploration sector to planning tables. Twenty-five years later, land use designations are not providing clarity for industry and the security of mineral tenure and resource development has become more uncertain.

Unlike forest resources, where the resource is renewable and visible, mineral deposits are hidden, non-renewable, and geographically fixed. As well the mineral potential of land evolves over time. This presents unique challenges for land use planning and resource management, particularly given that land use planning designations are often static and not designed to manage sub-surface resources. Faced with these challenges, industry communicated three specific operational requirements with the intent of promoting a successful and sustainable mineral exploration and development industry:

1. Certainty of access to large tracts of land to conduct temporary, low-impact exploration for valuable mineral resources;
2. Ability to acquire secure mineral tenure; and,
3. Opportunity to advance and develop an economically feasible mineral resource project.

In May 2002, the Province confirmed in legislation a two-zone system for mineral exploration and mining under Section 11.1 (formerly Section 4) of the *Mineral Tenure Act.* This amendment was intended to help clarify the management of mineral sector activities and to ensure that mining applications are considered, subject to existing legislation, in all areas except parks, ecological reserves and protected heritage property or where mining has been prohibited by an order under the *Environmental and Land Use Act*.

At the heart of this two-zone system is the clear identification of land as either open or closed to exploration and mining. At the time, British Columbia was working towards the implementation of its Protected Area Strategy, which committed the province to double the amount of protected area land base to 12% by 2000. The implication was that 88% of the province would then be available for mineral exploration and development; however, this figure does not account for the effect of the Province's 40-plus land use classifications and 200-plus land use plans, which constrain mineral exploration on the available land base to varying degrees.

Accessing the Land Base

For the purpose of this report, the impacts of land use designations on mineral exploration activities have been separated into three different categories: Prohibited Access, Conditional Access and Full Access. Prohibited access areas have been defined as expanses of land where acquisition of mineral tenure is not allowed. Mineral exploration and development activities may be allowed in very limited instances, where the mineral tenure preceded the prohibited land designation. Conditional access areas are defined as areas of land where acquisition of mineral tenure is allowed and where mineral exploration and development is permitted, subject to access and use restrictions. Full Access areas have no additional impediments to access, new claims may be acquired and mineral exploration and development is permitted subject to prevailing legislative guidelines.

Land use designations within the Prohibited Access category encompass 18.59%[1] of provincial land base mineral tenure acquisition exploration and development. A further 32.92%[2] of the provincial land base is managed under the Conditional Access category. The overall result is that approximately 51.51% of the land base is covered by either a prohibited access or conditional access categories.

While prohibited access prevents new mineral tenure acquisition and broadly prevents mineral exploration and development, the clarity afforded by land use designations that fall within this category provides certainty to industry: there is absolute clarity that no new mineral claims are allowed, and except in a few instances mineral exploration and development activities are not permitted in these areas. Instead it is the ambiguous or conditional access land use designations that create a climate of uncertainty and thus pose a risk to attracting and retaining mineral exploration. Preliminary research reveals that the lack of certainty is further complicated by other compounding factors including Aboriginal rights and title lands, the availability of land use planning information and access to resource roads.

Moving Forward

Key factors for the mineral exploration and mining industry to succeed are certainty as to where and how it can operate and the confidence of developing a mineral resource within known scientific, environmental and community concerns. At present, land use planning is constraining mineral exploration on the provincial land base; however, many land use plans undergo a five-year review, which provides an opportunity for industry to bring the inherent challenges associated with mineral exploration and development to the attention of land use planners.

Outcomes from this phase of research also reveal that there are other opportunities for the mineral exploration and development industry to diminish the climate of uncertainty, including advocating for new

[1] Note that this number accounts for overlapping prohibited land use designations and areas are not double counted.
[2] Note that this number accounts for overlapping conditional land use designations and areas are not double counted.

tools and approaches, including a reliable, cost-and time-efficient permitting process, working with government to develop a web tool to access and convey impacts of land designation and further exploring preliminary findings reported upon here. Moving forward, the research will dig deeper into the level of restriction associated with land use designations that fall within the conditional access category, including ranking levels of conditional access, as well as confirming the degree to which full access categories cover the land base, if at all. The findings from the research will be used to guide AME BC policy development and work with government to ensure that the findings are taken into account in future land planning work.

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1.0 INTRODUCTION

British Columbia has a long history of mineral exploration, development and mining. From humble beginnings, the Province is now renowned as a global centre for mineral exploration, mining and mineral production. With a land base rich in minerals, metals and coal, and the largest concentration of geoscientists in the world, British Columbia is well positioned to capitalize on its assets; however, a number of challenges are impacting access to mineral resources in large areas of the province.

Beginning in the early 1990s, British Columbia undertook an extensive land use planning exercise for all BC Crown land (lands owned and managed by the Provincial government). This resulted in a suite of land use plans and designations that cover a large proportion of the provincial land base. Land use planning initiatives were intended to provide clarity for industry, and that transparency was one of the key promises that brought the exploration sector to planning tables. Twenty-five years later, the increase in the number and complexity of land use designations has not provided clarity for industry and the security of mineral tenure has become more uncertain. This has been exacerbated by the complexity of trying to integrate exploration and mining activities into land designations that are primarily intended to manage surface values.

1.1 PURPOSE OF THIS REPORT

The principle requirements for mineral exploration and mining industry to succeed are certainty as to where and how it can operate and the confidence of developing a mineral resource within known scientific, environmental and community concerns. This report will explore challenges to these requirements and identify potential solutions to increasing clarity.

Section 2.0 begins with an overview of mineral exploration and development in British Columbia. **Section 3.0** discusses the impact of provincial land use designations on mineral exploration and development activities. Three categories were created for this analysis, including prohibited access, conditional access and full access. The impacts of the prohibited and conditional access categories are considered both independently and in combination, and a series of maps support the discussion. **Section 4.0** identifies additional factors that may also influence mineral exploration and development in British Columbia. The final section, **Section 5.0**, presents recommendations for moving forward. All background information can be found in the appendices.

2.0 MINERAL EXPLORATION AND DEVELOPMENT IN BRITISH COLUMBIA

British Columbia is a global leader in mineral exploration, mining and mineral production (MEM, 2012), as well as mine reclamation science and application. The province has the largest concentration of exploration individuals, companies and geoscience professionals anywhere in the world, including support services such as business administration, finance, management, legal, engineering and environmental consulting services. B.C is Canada's single largest exporter of coal, the largest producer of copper and the only producer of molybdenum. The province also produces significant amounts of gold, silver, lead, zinc and more than 30 industrial minerals.

Mineral exploration and mining are important economic drivers for British Columbia. The exploration for minerals takes place in every region of the province and ranges from small, one-person operations, to multi-million-dollar investment projects. Price Waterhouse Coopers reported that the mining industry reported gross mining revenues have been shrinking over the past four years as follows; $8.2 billion in 2014, $8.5 billion in 2013, $9.2 billion in 2012 and $9.8 billion in 2011. Over the same period exploration spending was $388 million 2014, $476 million in 2013, $680 million in 2012 and $463 million in 2011. Commodity prices and world wide demand for minerals are the prime considerations impacting the status of BC's mineral exploration and mining activity. However availability of land for mineral exploration and subsequent mine development have a significant impact into the future viability of BC's mineral exploration and mine development.

It was reported in the Tumbler Ridge News in May 2004 that mining represents the highest value use to which a hectare of land can be put. "While Forestry gets $5700 per hectare, and agriculture a mere $1400, mining brings in, on average, $150,000 per hectare used."

Mineral exploration and mining provide vital materials, generate business and employment activities and contribute significant wealth to all regions of the province. While the province is a global leader in mineral exploration and development, only a small area of the provincial land base is disturbed by exploration and mine development. Registered mineral tenures typically cover less than 15% of BC's geographic area at any one time. As reported by the Chief Inspector, the land actually impacted by coal and metallic mine production activities in 2013 was 23, 473 and 23,834 hectares respectively for a total of 47,307 hectares. This amounts to 0.05% of the province and over 40% of this land is now under active reclamation.

2.1 CHARACTERISTICS OF MINERAL EXPLORATION

Mineral exploration is the lifeblood of mining. The goal is the discovery of new mineable deposits and the eventual development of a mine. The process is iterative, oscillating between research and development, and there are inherent attributes that lend to the complexity of successfully identifying and developing a mineral resource, specifically:

1. Mineral deposits are hidden in the subsurface; and,
2. Minerals are site-specific and immovable and must be developed where they are found.

Unlike forest resources, where the resource is renewable and visible, mineral deposits are non-renewable, hidden and geographically fixed. This presents unique challenges for land use planning and resource management, particularly given that land use planning designations are often static and designed to manage surface values.

2.2 Mineral Exploration and Land Use Access

Ongoing access to land with mineral potential is a major component of a viable mineral exploration industry. Mineral deposits are non-renewable and the mineral exploration industry must continually discover and develop new economically viable deposits in order to maintain production levels.

The industry is also cyclical and mineral claims may lay dormant or an area may not see any mineral exploration for an extended period of time. A subsequent review of the mineral claim history by government land use planners may then result in the land deemed to be of low or no mineral potential, which may lead to the overlay of land use planning designations that prevent future exploration activity. This in turn will result in a potential mineral deposit being overlooked with the value lost to the Province. Thus, when market demand and commodity prices improve the economic viability of exploring and developing deposits previously determined to have low mineral potential, the mineral resource is locked underground and access is prohibited. Science and technology continually evolve as do societal needs for minerals, and each of these factors may create economic value in land for the Province that previously was thought to be of low mineral potential and therefore low value.

Familiar with the challenges associated with the fixed nature of mineral deposits, industry communicated three specific operational requirements that would promote a successful and sustainable mineral exploration and development industry:

1. Certainty of access to large tracts of land to conduct temporary, low-impact exploration for valuable mineral resources;
2. Ability to acquire secure mineral tenure; and,
3. Opportunity to advance and develop an economically feasible mineral resource project under appropriate legislation.

In 2002, the province entered into legislation a two-zone system to support these operational requirements and provide greater certainty around access to Crown land and resources (see **Appendix A**). At the heart of this two-zone system is the clear identification of land as either open or closed to exploration and mining. At the time, British Columbia was working towards the implementation of its Protected Area Strategy, which committed the province to double the amount of protected area land base to 12% by 2000. The implication was that 88% of the province would then be available for mineral exploration and development. The reality, however, is far different.

3.0 ACCESSING THE LAND BASE

British Columbia has a total land base of 95,144,678 hectares. This land base is managed by various land use classifications such as No Registration Reserves, Provincial Parks, National Parks and Conservancies, as well as numerous other land use designations created under the Province's strategic planning frameworks. While the thrust of the two-zone concept is that land is open or closed (88% of the land base was available for exploration and development at the time it was implemented), it does not account for the effect of the Province's 40-plus land use classifications, which constrain mineral exploration on the 'open' land base to varying degrees.

For the purposes of this research, the impact of land use designations has been classified under three different categories: Prohibited Access, Conditional Access and Full Access. In this phase of work, the Prohibited category is presented in detail and initial findings around the Conditional Access category are summarized. Phase II of the project will involve a more detailed analysis of the conditional access categories, as well as confirm the degree to which fully open categories cover the land base, if at all.

Definitions for the three categories of access are as follows:

Prohibited Access – No access to land to acquire a mineral tenure and generally mineral exploration and development is prohibited in these areas.

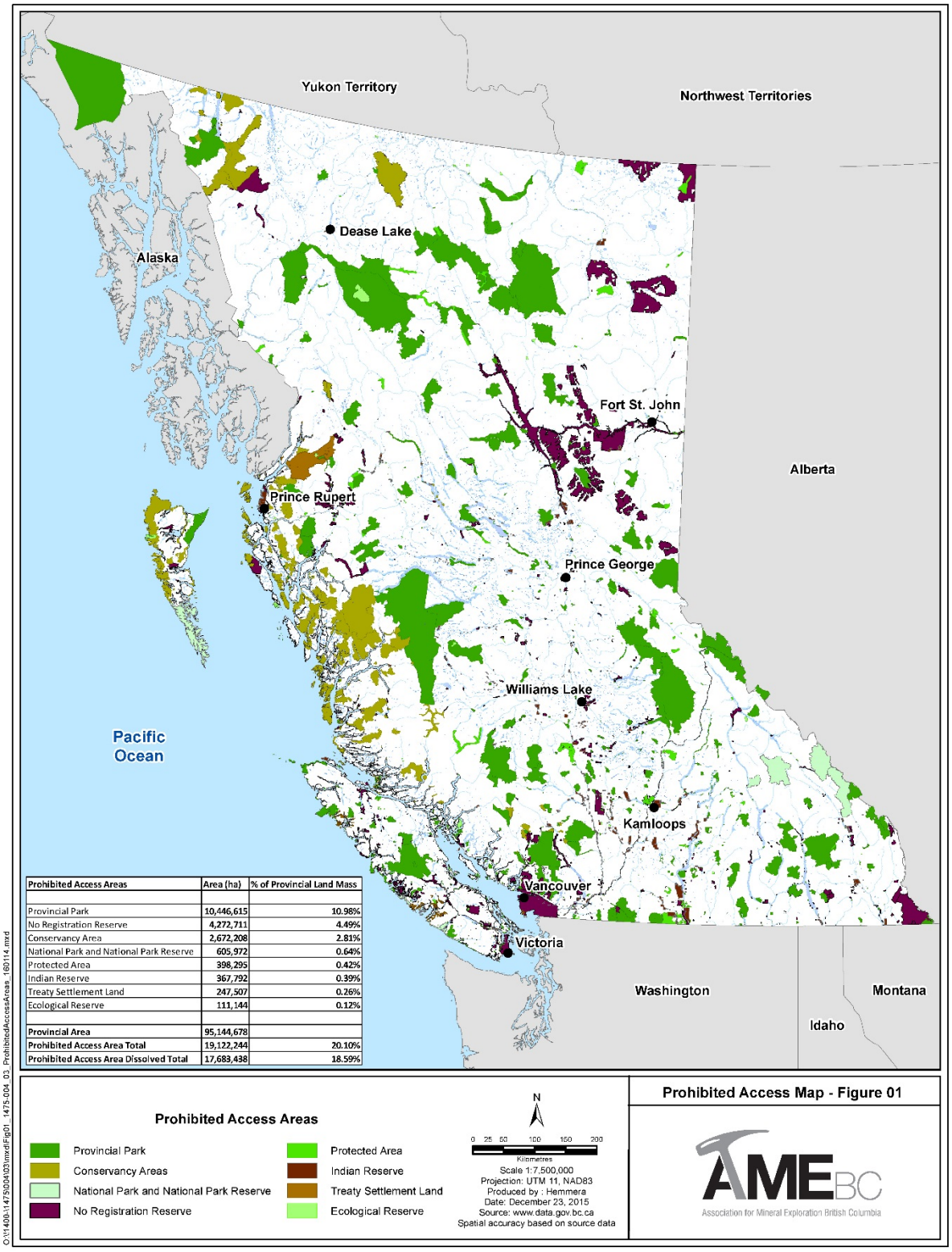
Conditional Access – Access for mineral exploration and development and new mineral tenure may be permitted in these areas, subject to access restrictions, seasonal closures, additional mitigation strategies, etc. that protect sensitive resource, recreational and other values in these areas.

Full Access – There are no additional impediments to access, new claims may be acquired and mineral exploration and development is permitted subject to prevailing legislative guidelines (*Mineral Tenure Act*, *Mines Act*, *Wildlife Act*, *Water Act*, *Environmental Management Act,* etc.)

3.1 PROHIBITED ACCESS

Prohibited access areas have been defined as expanses of land where no new mineral tenure may be acquired and generally mineral exploration and development activities are not permitted. Prohibited areas include National Parks, Ecological Reserves and Protected Areas.

The Prohibited Access Map (**Figure 1**) illustrates areas in British Columbia where access for new mineral tenure and where mineral exploration and development is prohibited. Of the total provincial land base, 14.97% (or approximately 14.2 million hectares) of provincial land is under conservation or park-related land use designations where no forestry, mining or industrial development is allowed. Another 4.49% (or approximately 4.27 million hectares) of land is closed under No Registration Reserves. Finally, access is excluded from another 0.65% of the land base, which is designated as treaty settlement land and Indian Reserve land.



Prohibited Access Areas	Area (ha)	% of Provincial Land Mass
Provincial Park	10,446,615	10.98%
No Registration Reserve	4,272,711	4.49%
Conservancy Area	2,672,208	2.81%
National Park and National Park Reserve	605,972	0.64%
Protected Area	398,295	0.42%
Indian Reserve	367,792	0.39%
Treaty Settlement Land	247,507	0.26%
Ecological Reserve	111,144	0.12%
Provincial Area	95,144,678	
Prohibited Access Area Total	19,122,244	20.10%
Prohibited Access Area Dissolved Total	17,683,438	18.59%

Figure 1 Prohibited Access Map

In total, individual land use designations within the Prohibited Access category exclude 20.10% of the provincial land base from new mineral tenure and mineral exploration and development. When overlaps are taken into account, this amounts to 18.59% of the provincial land mass. Each of these designations is identified in **Table 1**, including a reference to the corresponding legislation, as well as the provisions under the law. A more detailed description of the prohibited land use designations is found in **Appendix C**.

Table 1 Land Use Designations and Access: Access Prohibited

Designation	Total Area (ha)	Percent of Provincial Land Base	Policy or Legislation	Provision
Provincial Park	10,446,615	10.98%	*Park Act; Mineral Tenure Act; Protected Areas of British Columbia Act*	The right of a free miner to enter lands or to locate a mineral claim or lease does not extend to a park, unless authorized by the Lieutenant Governor in Council (i.e., Cabinet).
No Registration Reserve	4,272,711	4.49%	*Mineral Tenure Act*	Established by Ministerial order under *Mineral Tenure Act* or the *Coal Act*. Includes "no registration" reserves for mineral, placer and coal claims.
Conservancy Area	2,672,208	2.81%	*Protected Areas of British Columbia Act Mineral Tenure Act; Park Act;*	Subsection 9(10) of the *Park Act* explicitly prohibits the issuance of a park use permit for various activities in a conservancy, including mining.
National Park and National Park Reserve	605,972	0.64%	*National Parks Act*	Claim staking or any mineral exploration activity and mining are not permitted.
Protected Area	98,395	0.42%	*Protected Areas of British Columbia Act Mineral Tenure Act; Park Act;*	Nature of protection depends on terms of the Cabinet order; only areas subject to orders prohibiting commercial resource activity included here.
Indian Reserve	367,792	0.39%	*Indian Act; The British Columbia Indian Reserves Mineral Resources Act*	On Reserve land the province or Crown retains subsurface rights; however, a band must legally surrender its rights before any resources are removed.
Treaty Settlement Land	247,507	0.26%	Royal Assent of applicable treaty	Subject to the terms of the treaty, which may include ownership of the subsurface resources, mineral exploration may not be permitted without permission from the First Nation. Under the three current treaties, subsurface resources belong to the First Nations.
Ecological Reserve	111,144	0.12%	*Ecological Reserve Act; Mineral Tenure Act; Protected Areas of British Columbia Act*	Mineral exploration and development is not permitted in ecological reserves.

Designation	Total Area (ha)	Percent of Provincial Land Base	Policy or Legislation	Provision
SUBTOTAL	**19,122,244**	**20.10%***		

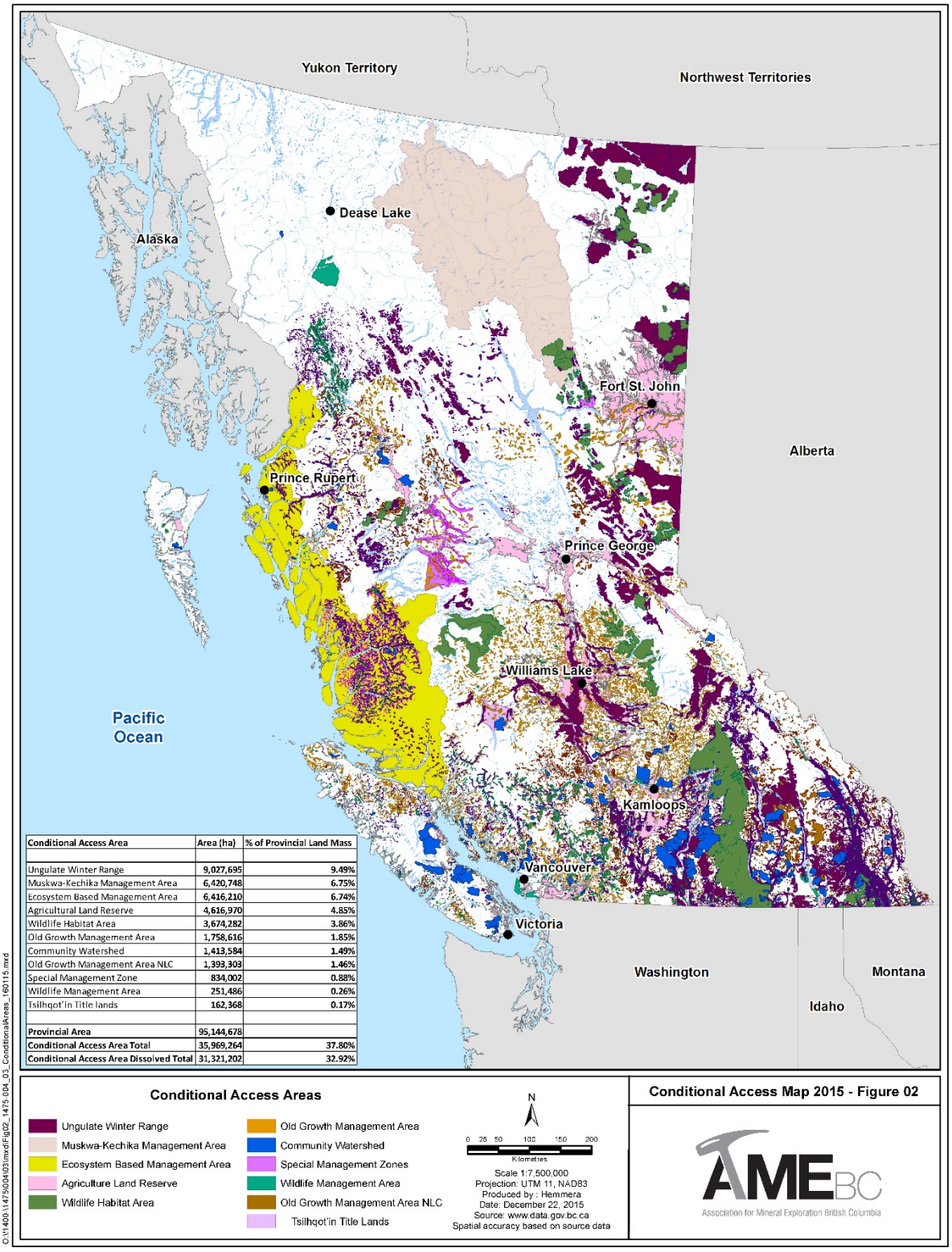
* This number includes the absolute percentage of land covered by prohibited access land use designations. Once overlapping designations are taken into account, Prohibited Access Areas account for 18.59% of the land base.

3.2 CONDITIONAL ACCESS AREAS

Conditional access areas are defined as areas of land where new mineral claims may be acquired and access for mineral exploration and development may be permitted, subject to access restrictions, seasonal closures and additional mitigation strategies that protect sensitive resource, recreational and other values. It is important to note that these provisions are in addition to the standard legislative requirements to which mineral exploration and development activities must adhere, such as the *Environmental Assessment Act*, *Mines Act*, Health, Safety and Reclamation Code for Mines in British Columbia and, where applicable, the *Forest Act*, *Forest and Range Practices Act*, *Forest Practices Code of British Columbia Act*, *Environmental Management Act*, *Water Act* and other federal and provincial statutes.

The Conditional Access Map (**Figure 2**) illustrates areas in British Columbia where access for mineral exploration and development may be permitted subject to provisions. Represented as one level of access, individual Conditional Access designations cover approximately 37.80% of the provincial land base. This number includes the absolute percentage of land covered by conditional access land use designations. Once overlapping designations are taken into account, Conditional Access Areas cover 32.92% of the land base. **Table 2** identifies each of the land use classifications and designations and includes a reference to corresponding legislation, as well as the provisions under the law. Research revealed that there were ten key land use designations that influence mineral exploration and development activities. Each of these designations has different degrees of influence on permitted activity levels and this will be further explored in the next phase of the project.

A more detailed description of the conditional access land use designations is found in **Appendix D**.



Conditional Access Area	Area (ha)	% of Provincial Land Mass
Ungulate Winter Range	9,027,695	9.49%
Muskwa-Kechika Management Area	6,420,748	6.75%
Ecosystem Based Management Area	6,416,210	6.74%
Agricultural Land Reserve	4,616,970	4.85%
Wildlife Habitat Area	3,674,282	3.86%
Old Growth Management Area	1,758,616	1.85%
Community Watershed	1,413,584	1.49%
Old Growth Management Area NLC	1,393,303	1.46%
Special Management Zone	834,002	0.88%
Wildlife Management Area	251,486	0.26%
Tsilhqot'in Title lands	162,368	0.17%
Provincial Area	**95,144,678**	
Conditional Access Area Total	**35,969,264**	**37.80%**
Conditional Access Area Dissolved Total	**31,321,202**	**32.92%**

Figure 2 Conditional Access Map

Table 2 Land Use Designations and Access: Conditional Access

Designation	Total Area (ha)	Percent of Provincial Land Base	Policy or Legislation	Provision	Map
Ungulate Winter Range	9,027,695	9.49%	*Forest Range and Practices Act*	Formal legal establishment began under the Forest Practices Code and continue under the Forest and Range Practices Act (FRPA). Management objectives are set on a case-by-case basis and must be consistent with the objectives set by government that pertain to the area.	Appendix F, Figure 4
Muskwa-Kechika Management Area	6,420,748	6.75%	*Muskwa-Kechika Management Area Act*	Given legal effect through the *Muskwa-Kechika Management Area Act*. Commercial and industrial activities managed to maintain 'special' values or features, with emphasis on identified non-extractive values with respect to wildlife and wildlife habitat, fish and fish habitat, heritage and culture, scenic areas and recreation.	Appendix F, Figure 5
Ecosystem Based Management Area	6,416,210	6.74%	North and Central Coast Land Use Plan	These are areas outside of Protected Areas and Biodiversity, Mining, Tourism Areas. There are some constraints on mineral exploration activities.	Appendix F, Figure 5
Agricultural Land Reserve	4,616,970	4.85%	*Agricultural Land Commission Act; Agricultural Land Reserve Use, Subdivision and Procedure Regulation*	The *Agricultural Land Commission Act* sets the legislative framework for the establishment and administration of the agricultural land preservation program. All mineral development must gain approval for "non-farm" use of the land.	Appendix F, Figure 6
Wildlife Habitat Area	3,674,282	3.86%	Government Actions Regulations under the *Forest Range and Practices Act*	Established by Ministerial order pursuant to the Government Actions Regulation (FRPA). Designates critical habitats in which activities are managed to limit their impact on the Identified Wildlife element for which the area was established.	Appendix F, Figure 7

Designation	Total Area (ha)	Percent of Provincial Land Base	Policy or Legislation	Provision	Map
Old Growth Management Area	1,758,616	1.85%	Government Actions Regulations under the *Forest Range and Practices Act*	Legally established and spatially defined areas of old growth forest that are identified during landscape unit planning or an operational planning process.	Appendix F, Figure 8
Community Watershed	1,413,584	1.49%	*Water Act;* Health, Safety, and Reclamation Code for Mines in British Columbia	Community Watersheds licensed under the *Water Act*. Lands designated as Community Watersheds do not preclude mineral activity; however, mineral exploration of is subject to special regulation under the Health, Safety, and Reclamation Code for Mines in British Columbia, as well as other relevant acts and guidelines.	Appendix F, Figure 9
Special Management Zone	834,002	0.88%	Bulkley LRMP, Lakes District LRMP and Dunlevy Creek Management Plan	Special management zones are designated in places where special care must be taken to maintain identified natural resource values. i.e. Lakes District LRMP, the resource management priority in SMZ is to conserve the integrity of the special and sensitive values. Resource development and extraction opportunities (logging, mineral exploration and mining development) exist; however, conservation objectives and strategies provide the context for extractive resource development activities.	Appendix F, Figure 5
Wildlife Management Area	251,486	0.26%	*Wildlife Act*	Established by regulation under BC's *Wildlife Act* and designated for the benefit of regionally to internationally significant fish and wildlife species or their habitats. Resource extraction like mining may be allowed.	Appendix F, Figure 10
Old Growth Management Area NLC	1,393,303	1.46%	Government Actions Regulations under the *Forest Range and Practices Act*	Under non-legal current OGMAs forest licensees may choose how to manage required old growth biodiversity targets.	Appendix F, Figure 11
Tsilhqot'in Title Lands	162,368	0.17%	Supreme Court of Canada Ruling	Aboriginal title gives the Tsilhqot'in the right to manage the land according to Tsilhqot'in laws and governance. Provincial laws	Appendix E, Figure 10

Designation	Total Area (ha)	Percent of Provincial Land Base	Policy or Legislation	Provision	Map
				of general application apply to Aboriginal title lands, subject to constitutional limits.	
SUBTOTAL	**35,969,264**	**37.80%***			

* This number includes the absolute percentage of land covered by conditional access land use designations. Once overlapping designations are taken into account, Conditional Access Areas account for 32.92% of the land base.

3.3 COMBINED EFFECT

The Prohibited Access map (**Figure 1**) illustrates that approximately 18.59% of the land base is off-limits to mineral exploration and development. The Conditional Access map (**Figure 2**) illustrates that an additional 32.92% of the land base is covered by designations that may restrict mineral exploration and development to some degree. The overall result is presented in **Figure 3**, which illustrates the combined effect, whereby approximately 51.51% the land base is covered by either a prohibited access or conditional access designation.

While areas of prohibited access constrain mineral exploration and development, the clarity afforded by land use designations that fall within this category provides certainty to industry: there is absolute clarity where they cannot operate. It is the conditional access land use designations that create a climate of uncertainty and thus pose a risk to attracting and retaining mineral exploration. Phase II of this project will dig deeper into the level of restriction associated with land use designations that fall within the conditional access category. In the interim, a short discussion is included below.

3.4 Conditional Access: Digging Deeper

Many provincial land use plans and corresponding land use designations assert that mineral development is permitted in all areas outside zones of prohibited access. This is reflective of the 2002 two-zone system, which inferred that 88% of the provincial land base is within the mineral zone; however, the varying sensitivities of other resource values to industrial development further constrain access to land for mineral exploration. For example, in some parts of the province Wildlife Habitat Areas have been designated to protect critical habitat. In these areas, mineral exploration is not outright prohibited, but instead development is authorized on a case-by-case basis by the Ministry of Environment. While case-by-case approvals avert blanket land-use closures, the associated level of uncertainty of approval for a high-risk, capital intensive industry becomes one more barrier to entry.

Where the Ministry of Environment permits mineral exploration activities to proceed, conditions for land use are established and industry must plan their work to minimize impacts to other resource values. During exploration there is generally greater flexibility to adjust activities to avoid impacts; however, these

modifications can increase costs, complicate and prolong the permitting and consultation process, and lead to unpredictable outcomes. This example is cited not to decry the protection of other resource values, but instead to illustrate that, despite best efforts to create a provincial land use planning framework that is representative of all interests, the mineral exploration industry is still want for a transparent and supportive operating environment.

Other challenges arise though the uneven application of similar zoning designations in LRMPs that permit different activities. Under the Special Management Zone (SMZ) designation, mining is both permitted and prohibited depending upon the direction found within the specific LRMP. For example, the Special Management Zone in the Bulkley LRMP "*recognizes that because of the hidden nature of mineral resources, exploration requires a large land base. It further recognizes that mineral exploration and mine development can occur in areas where wildlife, scenic, and recreation values are high*". While the Special Management Zone for the Vancouver Island Land Use Plan stipulates that "*Non-forest development projects of a commercial or industrial nature which have potential to significantly impact SMZ values will be examined through an inter-agency referral process and sufficient opportunities for public input will be allowed*". These variations in application can lead to misperceptions around permissible activities within specific zones across the province, potentially and needlessly resulting in reduced levels of mineral exploration activity.

It is clear from this short discussion that the challenges to land use access for mineral exploration are complex. Land use designations that use access controls, site-specific or temporal closures, and prioritize non-extractive values can also create operational conditions that significantly reduce levels of exploration activity, if not thwart it altogether. Prohibited access designations have a clear and definitive impact on mineral exploration and mining and conditional access provisions may also unduly influence mineral land use and access; however, there are other compounding factors that require closer examination including Aboriginal rights and title, the availability of and access to land use planning information and continued use of resource roads.

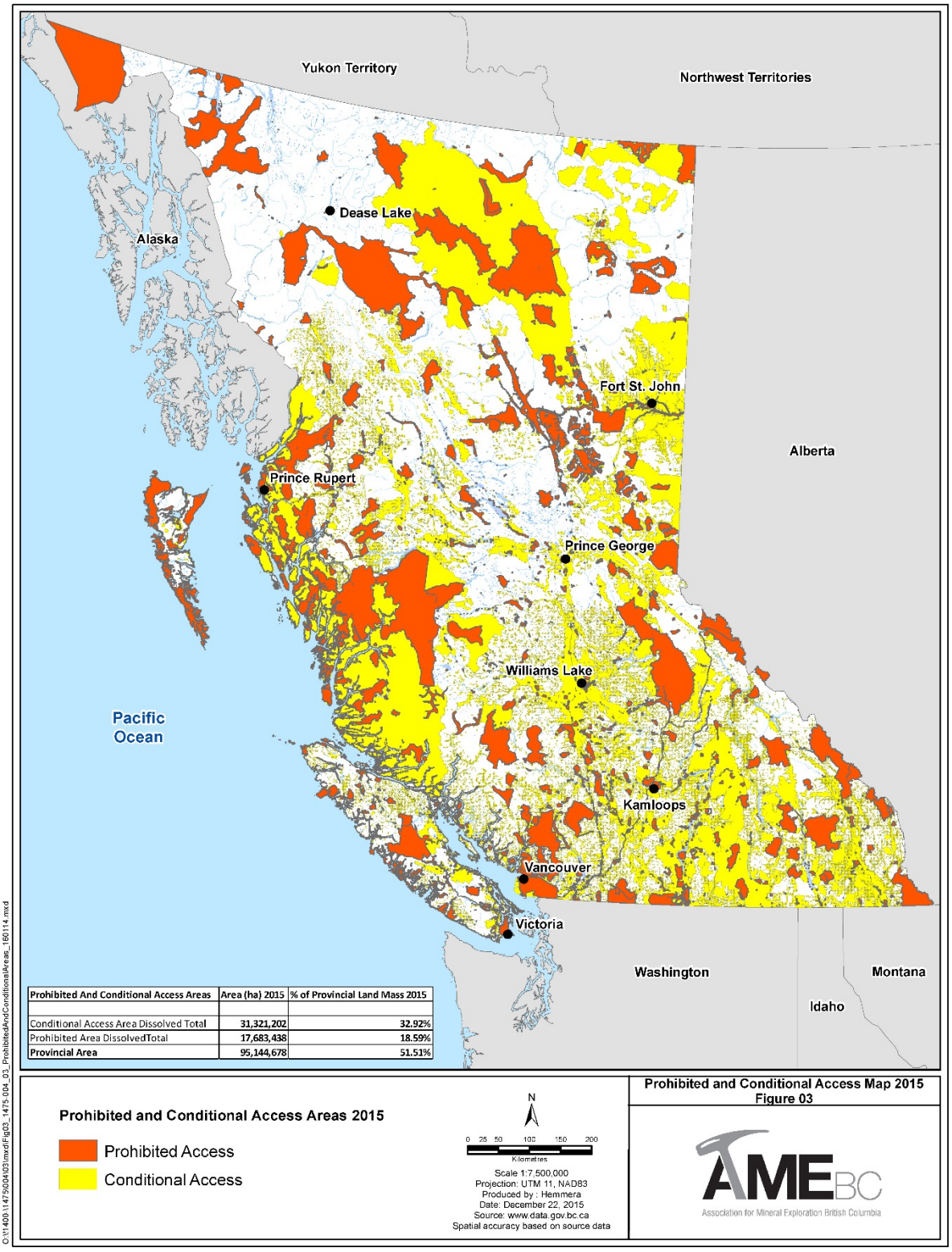


Figure 3 Prohibited and Conditional Access Map

4.0 UNDERSTANDING THE CHALLENGES TO MINERAL EXPLORATION AND DEVELOPMENT

There are many competing interests across British Columbia's landscape. The aim of the two-zone system is to ensure that mineral exploration and mining applications are considered, subject to existing legislation, in all areas except parks, ecological reserves, protected heritage property or where mining has been prohibited by an order under the *Environmental and Land Use Act*; however, the industry continues to face challenges.

The vast majority of mineral exploration companies do not produce revenue and therefore must rely on the public or private investment facilities. Exploration is considered a high risk investment given that the likelihood of an exploration project becoming a mine is extremely rare. As such, a degree of certainty of achieving the right to mine should a deposit be found is required to attract investments of time and money. The Province's comprehensive land use planning regime has challenged the perception around the security of tenure; in addition preliminary research reveals that there are other factors that may also influence mineral exploration and development in British Columbia, as discussed below.

4.1 ABORIGINAL LANDS

The majority of resource development in the province of British Columbia occurs within Aboriginal Traditional Territories where Aboriginal rights and title have not been settled. Mineral exploration intersects with Aboriginal interests under four different land tenure classifications: Indian Reserve Land, Treaty Settlement Lands, Traditional Territory and the newly declared Tsilhqot'in Title Lands. Each of these tenure classifications influences the amount of land included within the mineral zone.

Indian Reserve Land - On Reserve land the province retains subsurface rights on the reserve; however, an Indian Band must legally surrender its rights before any resources are removed. Reserve Land accounts for 0.39% of the land base (see Map 1).

Treaty Settlement Lands - Conditions for mineral exploration and development on land under treaty vary. Where a Final Agreement has been signed and a treaty is in place, Aboriginal people may own both the surface and mineral rights; in these cases mineral exploration is not permitted. Treaty Settlement Land covers 0.26% of the land base (See Map 1).

Traditional Territory - On any area of open Crown Land, including land traditionally used by Aboriginal people and communities that is not under treaty, mineral exploration and claim acquisition is permitted. However, access is not straightforward, as under these circumstances the Province of British Columbia has a duty to consult and where required, accommodate First Nations whenever it proposes a decision or activity that could impact Aboriginal rights or title – claimed or proven.

Tsilhqot'in Title Lands - Aboriginal title gives the Tsilhqot'in Nation the right to manage the land according to Tsilhqot'in laws and governance. Provincial laws of general application apply to Aboriginal title lands, subject to constitutional limits. Tsilhqot'in Title Land accounts for 0.17% of the land base (see Map 1). Note that the area of the Tsilhqot'in lands was digitized from a paper copy of the area as attached to the Supreme Court decision document.

For more information please refer to the Aboriginal Land section located in **Appendix E**.

4.2 AVAILABILITY OF LAND USE PLANNING INFORMATION

The provincial land use planning framework also impacts industry in the preliminary stages of exploration. Similar to other development, the exploration stage consists of the background research on a property or region of interest. Exploration and mining companies are required to research each land use plan individually to determine what designation zones and identified “values” (i.e. wildlife values) apply. This research can be labour-intensive given that there can be overlap between different land use plans and information on permitted land uses within each of the province’s 40-plus land use designations can be ambiguous. Further, provincial websites are lacking user-friendly interface that allows for easy navigation and efficient access to information.

4.3 RESOURCE ROADS ACCESS AND USE

Another factor that influences mineral exploration and development is certainty regarding access to land for development. In British Columbia, resource roads enable economic activity by providing relative easy access for mineral exploration. Road access is crucial infrastructure to mineral resource development and is recognized by the international investment community as an asset.

Recent land use planning initiatives have contributed to the reduction of access by precluding new permanent road development, imposing physical barriers to ensure seasonal closures of temporary roads, and prohibiting road development during the early stages of mineral exploration. Access roads for advanced exploration are prohibited from some areas as a result of WHA and UWR designations. These access restrictions will likely result in a long-term reduction in exploration efficiency and in increased capital expenditure. Some access restrictions may be prohibitively expensive, so development of some discoveries becomes economically infeasible.

5.0 MOVING FORWARD

The Province of BC made a commitment to work aggressively to revitalize the province's mineral exploration and mining industries. At present, B. C.'s mineral exploration and development industry has serious concerns about the impact of restrictions associated with land use planning on the industry. In their October 2013 report, the Fraser Institute identified "Uncertainty over which areas will be protected" as one of four factors adding to uncertainty for investment in BC's mineral exploration and mine development industry. In some cases, the challenge arises not from the designations themselves but from the lack of integration between the diverse suite of planning tools, and the absence of a one-window approach to accessing clear and concise information on land use designations, associated restrictions and permitted uses. Further complicating matters are the provisional terms for mineral exploration that are determined on a case-by-case basis.

There is a clear and definitive impact associated with prohibited access designations; however, at this stage of the research the true impact of conditional access land use designations cannot be confirmed. Additional quantitative and qualitative analysis of conditional access designations is required to accurately assess the degree of impact those designations have on mineral resource exploration. There are also other areas of analysis that will prove valuable in reaching a more balanced approach to land management.

5.1 RECOMMENDATIONS

Moving forward, findings from the Phase I research have revealed that there are opportunities for the mineral exploration and development industry, as well as issues that require further investigation. Listed below is a set of recommendations for consideration as AME BC moves into the next phase of this project. These recommendations include topics for further consideration, as well as distinct actions to support future research on this issue.

Recommendation #1: Land Use Planning

Land use planning is an ongoing process and can be a flexible tool to accommodate exploration activities while ensuring that other land use planning goals are achieved. Many land use plans undergo a regular review, which provides an opportunity for the mineral exploration and mining industry to bring the inherent challenges associated with mineral exploration and development to the attention of land use planners. This includes, reiterating the three conditions for success as identified by British Columbia's mineral exploration and development industry:

1. Certainty of access to large tracts of land to conduct temporary, low-impact exploration for valuable mineral resources;
2. Ability to acquire secure mineral tenure; and,
3. Opportunity to advance and develop an economically feasible mineral resource project under appropriate legislation

Recommendation #2: Access to information

Advocate for a comprehensive information management system that provides access to clear and concise information on all provincial land use designations, associated restrictions and permitted uses.

Recommendation #3: Permitting

Continue to improve on the reliable and cost-and time-efficient permitting procedure which also enhances environmental protection and social acceptability.

Recommendation #4: Exploring Issues on the Ground

Survey of AME BC members to identify challenges faced on the ground.

Recommendation #5: Detailed GIS Analysis (The Halo Effect)

Undertake a GIS analysis to investigate the perception that:

The mineral exploration sector avoids conducting exploration activities near or adjacent to parks and other protected areas; and,

Government is biased against permitting exploration activity adjacent to parks, conservancies or ecological reserves.

This task will involve mapping/plotting past/current mine sites and mineral exploration activity against prohibited areas, specifically parks and protected to areas to demonstrate legitimacy of the halo effect. This task should also include research into the role of Biodiversity, Mining, Tourism Areas designations, which are located adjacent to existing conservancies and other types of protected areas.

Recommendation #6: Detailed GIS Analysis (Mineral Deposits)

Undertake a GIS analysis, whereby lands with high mineral potential are plotted against areas of prohibited and conditional access to identify correlations with advanced mineral exploration projects and mine development. The outcome may help to determine the degree of influence between land use planning and mineral exploration and development.

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APPENDIX A
Provincial Legislation

Mineral Tenure Act

In BC, there are three broad classifications of subsurface materials. A mineral claim provides the rights to mineral contained in the hard rock, while a placer claim provides rights to valuable minerals in loose unconsolidated material such as gold nuggets in a sand or gravel. The third classification is coal rights, which are acquired via a coal license issued under the authority of the *Coal Act*. This report is limited to rights and activities acquired via mineral claims.

Mineral tenure (mineral claim and mining lease) in British Columbia is governed by the provincial Crown under the *Mineral Tenure Act*. Section 11 (2) of the *Mineral Tenure Act* exempts certain areas from the free-miner's general right of entry to explore for minerals, including the following:

Land occupied by a building;

The "curtilage" (including the yard) of a dwelling house;

Orchard land;

Land under cultivation;

Land lawfully occupied for mining purposes, except for the purposes of exploring and locating for minerals or placer minerals as permitted by this Act;

Protected heritage property, except as authorized by the local government or minister responsible for the protection of the protected heritage property; and

Land in a park, unless authorized by the Lieutenant Governor in Council (i.e. Cabinet) on recommendation of the person responsible for the park.

Further, Section 14(5) of the Act provides that a land use designation or resource management objectives do not preclude application for approval of mining activity except where the location is:

a. An area in which mining is prohibited under the *Environment and Land Use Act*;
b. A park under the *Park Act* or a regional park under the *Local Government Act*;
c. A park or ecological reserve under the *Protected Areas of British Columbia Act*;
d. An ecological reserve under the *Ecological Reserve Act*;
d. An area of Crown land if
    i. the area is designated under section 93.1 of the *Land Act*, for a purpose under that section, and
    ii. the order under that section making the designation, or an amendment to the order, precludes the application by the recorded holder;
e. A protected heritage property.

The Mineral Tenure Act also authorizes the establishment of mineral reserves and within the Province of BC. A mineral reserve is a legal instrument used to manage access to mineral, placer and coal lands. A mineral reserve may be established for a number of reasons as listed in section 22(2) of the *Mineral Tenure Act* and section 21(2) of the *Coal Act*, but the most common are to either prohibit registration of a claim via No Registration Reserve or to restrict the rights acquired via Conditional Registration Reserve. See definitions of each in Appendix C and D respectively.

Mineral rights formerly were available through a grant from the provincial Crown under the *British Columbia Land Act* (Land Act).

Two-Zone System for Mineral Exploration and Development

Numerous land use and zoning designations exist in British Columbia. To clarify the management of mineral sector activities, the province confirmed in legislation a two-zone system for mineral exploration and mining. In May 2002, Section 4 (now section 11.1) of the *Mineral Tenure Act* was amended and legislation was enacted to give effect to a two-zone system. The intent of this amendment is to ensure that mining applications are considered, subject to existing legislation, in all areas except parks, ecological reserves, protected heritage property or where mining has been prohibited by an order under the *Environmental and Land Use Act*.

The areas described under the two-zone system are:

Mineral Zone: Land open to mineral and coal exploration, tenure acquisition and mine development, including suitable access required to undertake these activities, subject to appropriate legislation.

Protected Zone: Crown land closed to mineral development through either legislation or order-in-council, as identified in Section 14 (5) (a) through (e) of the *Mineral Tenure Act*.

In principle, under the *Mineral Tenure Act*, mineral exploration is permissible in all mineral zone lands subject to the *Mines Act*, the *Environmental Assessment Act (*where applicable), as well as all required environmental applications and approvals. Mineral zone lands include many different designations such as special, general or enhanced resource management zones, old growth management areas, riparian management zones or wildlife habitat areas. At the time the two-zone system came into effect, British Columbia was working towards the implementation of its Protected Area Strategy, which committed the province to double the amount of protected area land base from 6% (1993) to 12% by 2000. Thus the implication was that 88% of the province would then be available for mineral exploration and development.

APPENDIX B

Land Use Planning in British Columbia

Land use planning has a long history in BC. However, it was not until the 1990s that circumstances demanded a province-wide approach. In 1991 the Commission on Resources and the Environment (CORE) was created with a mandate to develop a provincial land use strategy, and to undertake regional land use planning based upon decision-making through the building of consensus amongst diverse perspectives and stakeholders.

The creation of new protected areas became the focal point of the land use planning processes. In 1992, the Province formally announced a goal of doubling BC's parks and wilderness areas and in June 1993, the government released a Protected Areas Strategy (PAS) for British Columbia. This document set a commitment to expanding "a protected areas system that will protect 12% of the province by the year 2000." Protected areas were defined in part as lands where no industrial extraction is permitted; no mining, logging, hydroelectric dams or oil and gas development will occur.

In 1995, CORE was replaced by a smaller sub-regional scale of planning overseen by a new Land Use Coordination Office. The new planning process saw the creation of Land and Resource Management Plans (LRMPs), which continued to deliver the PAS target of achieving 12% protection. In 2001 the Land Use Coordination Office was eliminated and LRMPs were placed under the direction of the Ministry of Sustainable Resource Management.

In May 2002 the province enacted the "two-zone system" of land use put forward by the mining industry, as described above. Under this system, mineral exploration and mining were acceptable activities in all areas designated Resource Management Zones through LRMPs, and all planning tables in progress were required to implement the two zone approach.

In 2005, the Integrated Land Management Bureau was created and given responsibility for strategic land use planning. In 2006, it announced a "New Direction for Strategic Land Use Planning in BC" (the New Direction). In April 2008, implementation of the New Direction signaled the end of provincial-scale, comprehensive strategic land use planning based on a consensus-seeking model. Instead, the New Direction states that strategic land use planning will be flexible and responsive to current and emerging government goals and priorities, including its commitment to the "New Relationship with First Nations".

Strategic Land Use Planning

Strategic land use planning is the government-led process of defining the collective vision, goals, objectives, and strategies for the management and allocation of specific areas of Crown land. In general, strategic land use plans have a function similar to corporate mission statements: they provide high level direction about broad objectives for resource management zones, as well as strategies for achieving those objectives. The concept is designed to help find balanced solutions to meet social, economic and environmental needs. Across British Columbia there are more than 200 provincially endorsed land use plans in place or under development. These land use plans are complemented by the more than 450 Community Watersheds, 1,500 Wildlife Habitat Areas and Ungulate Winter Ranges and 1,000 provincial parks and protected areas.

The province also has at hand a suite of legislative tools that may be used to implement strategic land and resource planning objectives. The main Provincial statutes include, but are not limited to, the *Land Act*, the *Wildlife Act*, the *Parks Act*, the *Environment and Land Use Act*, the *Forest Practices Code of BC Act*, the *Mineral Tenure Act*, the *Agricultural Land Commission Act*, the *Heritage Conservation Act*, *Environmental Management Act* and the *Water Act*. The *Fisheries Act* is a relevant federal statute. Resource management activities of the provincial government must also ensure that they avoid unjustifiable infringement on aboriginal rights that are protected under the *Constitution Act* (1982).

Strategic Land Use Plans

Strategic land use plans are usually based upon large administrative boundaries, First Nation traditional territories, marine inlets or ecosystems, large watersheds, or some combination of these units. Strategic planning tools in the Province of BC include Regional Plans, Land and Resource Management Plans (LRMPs) and Sustainable Resource Management Plans (SRMPs). Unless designated under the provincial Table of Approved Legal Objectives land use plans do not have the same level of authority as legislative or policy mandates; however, irrespective of a plan`s legality, the objectives stated therein must still be followed. The Atlin Taku Land Use Plan is a recent example of a strategic land use plan.

Regional Plans

Regional plans include the four land use processes undertaken by the Commission on Resources and Environment: Vancouver Island, Cariboo-Chilcoltin, West Kootenay-Boundary and East Kootenay. Existing regional plans cover areas of 3 to 8 million hectares. Regional plans are no longer used as a planning tool.

Land and Resource Management Plans (LRMPs)

Land and Resource Management Plans (LRMPs) address issues similar to those at the regional level but with a greater level of detail and a range of public involvement that allows direct access to the process by any interested party. The plans typically cover areas of 1 to 5 million hectares, and in the absence of a regional plan, LRMPs serve as the primary zoning and allocation tool. For example, Resource Management Zones (RMZs), as well as protected areas, are designated through the LRMP process. These zones list a unique set of resource values, objectives to maintain or enhance those values, and a number of strategies to achieve the objectives.

Over 85% of the Provincial Crown land base is covered by 26 LRMPs (ILMB, 2006).

Sustainable Resource Management Plans (SRMPs)

Sustainable Resource Management Plans (SRMPs) facilitate resource management decisions for small-to medium-size landscapes or watersheds. They focus on similar issues and values as Regional Plans and LRMPs (e.g., timber, biodiversity, tourism) but at a more detailed level. Some of the resource values and activities that may be considered in SRMPs include, but are not limited to:

Agricultural values and soils

Visual quality

Timber

Non-timber forest products

Forage and associated plant communities

Water quality

Energy production, including alternative energy sources

Commercial and backcountry recreation

Fisheries and fish habitat

Sub-surface resource extraction

Wildlife habitat

Biodiversity (e.g., rare ecosystems, species at risk, old growth representation); and,

Cultural heritage resources.

SRMPs may be very focused in scope, addressing a single resource value, or they may be comprehensive plans addressing multiple resource values. For example, SRMPs are used to identify Old Growth Management Areas, a priority component of biodiversity planning, and are also useful for managing values such as spiritual and cultural resources as identified by First Nations. SRMPs are an important means of refining LRMP objectives, which can then be legally established under the *Forest and Range Practices Act* (FRPA).

There are 102 SRMPs completed and a remaining 93 plans under way, for a total of 195 SRMPs (ILMB, 2006).

Land Use Designations

Above and beyond land use plans, there are other land use designations that are associated with land use or management policies. Crown land use designations are applied to specific areas through Crown land use planning processes. Some Crown land use designations have been established through legislation (e.g., Provincial Park and Ecological Reserve) while other designations such as Wildlife Management Areas have been established through policy or planning processes.

APPENDIX C

Prohibited Land Use Designation Definitions

National Parks

Canada has a system of National Parks run by the federal government with the goal of protecting representative areas of national significance in each of 39 natural regions across the country. These parks are created under the authority of the *National Parks Act*. British Columbia is home to four National Parks and three National Park Reserves, which cover 605,972 hectares of land. Claim acquisition, other mineral exploration activities and mining are not permitted.

Provincial Parks and Protected Areas

There are over 1000 Provincial Parks and protected areas covering more than 10.8 million hectares throughout the province. Provincial parks are created, and their boundaries amended, in one of two ways: either through an order-in-council by Cabinet pursuant to the *Park Act* or by the Legislature via inclusion in Schedules C or D of the *Protected Areas of British Columbia Act*.

Provincial Parks are subdivided into three Classes – A, B, or C – with Class A parks garnering the highest amount of protection. Within all three of these classes, the *Park Act* prohibits a person from carrying on any activity that will restrict, prevent, or inhibit the use of the park for that designated purpose. Further, the *Mineral Tenure Act* states that the right of a free miner to enter lands or to locate a mineral claim or lease does not extend to a park, unless authorized by the Lieutenant Governor in Council (i.e., Cabinet).

Ecological Reserves

Ecological reserves are the most restrictive land use designation in the province of BC. There are currently 148 ecological reserves in the province, protecting about 197,909 hectares.

Like parks and conservancies, ecological reserves are established or modified by two means: (i) by order-in-council under the *Ecological Reserve Act* or (ii) by inclusion in schedules to the *Protected Areas of British Columbia Act*. As per section 14(5) of the *Mineral Tenure Act*, mineral exploration and development is not permitted in ecological reserves.

Conservancies

In 2006, the government introduced a new type of protection designation called “conservancies”. Conservancies protect the second-most amount of land in the province after provincial parks. At last count, there were 143 conservancies in the province covering close to 2.6 million hectares.

Subsection 9(10) of the *Park Act* explicitly prohibits the issuance of a park use permit for various activities in a conservancy, including mining. Under the *Mineral Tenure Act,* subsection 14(5) does not allow new mineral claims to be registered within a park or ecological reserve under the *Protected Areas of British Columbia Act*, which includes conservancies.

No Registration Reserves (NRR)

The NRR, previously termed No Staking Reserve (NSR), prohibits a free miner from registering a mineral claim over a parcel of land. This type of reserve is used to prevent the acquisition of mineral tenure in areas deemed incompatible with mining activity and can be short or long term in duration. Such reserves can be established prior to the existence of a claim or imposed after a claim is registered and in good standing. No Registration Reserves cover exist in all areas of British Columbia and there is overlap of NRR's with other prohibited and restrictive designations.

APPENDIX D

Conditional Access Land Use Designation Definitions

Ungulate Winter Range (UWRs)

An Ungulate Winter Range is defined as an area that contains habitat that is necessary to meet the winter habitat requirements of an ungulate species. These areas provide habitat necessary for the over-winter survival of deer, elk, moose, bighorn sheep, mountain goats and caribou. UWRs cover approximately 9 million hectares of land. Formal legal establishment of UWR and associated objectives began under the Forest Practices Code and continue under the *Forest and Range Practices Act* (FRPA).

Similar to wildlife habitat areas, management objectives for ungulate winter ranges are set on a case-by-case basis and must be consistent with the objectives set by government that pertain to the area.

Special Management Zones

Special management zones are areas where natural, cultural, and recreational values take precedence over development. Special Management Zones (SMZs) were established by the BC Government through land use planning processes to maintain and enhance values other than resource extraction, such as environmental and social concerns. Special management zones include the Muskwa—Kechika Management Area and Ecosystem Based Management Areas. Close to 15% of the province has been designated for special management – an area totaling over 13.8 million hectares.

Special management zones are not considered protected; however, they have management objectives or standards that are designed to conserve the specific features that led to its designation and therefore standards can vary widely between different zones. Special management zones are carefully managed to ensure that logging, mineral exploration and oil and gas exploration are sensitive to wildlife and environmental values.

Agricultural Land Reserve

The Agricultural Land Reserve (ALR) is a provincial zone in which agriculture is recognized as the priority use. Farming is encouraged and non-agricultural uses are controlled. The ALR covers approximately 4.6 million hectares. It includes private and public lands that may be farmed, forested or vacant land. Some ALR blocks cover thousands of hectares while others are small pockets of only a few hectares. The *Agricultural Land Commission Act* sets the legislative framework for the establishment and administration of the agricultural land preservation program.

The Agricultural Land Reserve takes precedence over, but does not replace other legislation and bylaws that may apply to the land. Section 3(4)(h) of the *Agricultural Land Reserve Use, Subdivision and Procedure Regulation* states that permitted land uses include surveying, exploring or prospecting for gravel or minerals if all cuts, trenches and similar alterations are restored to the natural ground level on completion of the surveying, exploring or prospecting. As coal is not considered a mineral under the *Mineral Tenure Act*, coal exploration is not a permitted use.

All mineral development must gain approval for “non-farm” use of the land. Mineral developers begin by applying to the Agricultural Land Commission and performing soil sampling and mapping. The Agriculture Land Commission Regional Commissioner may then visit the project site as part of an application to have the ALR lands within the Mining Lease designated for non-farm use within the ALR.

Wildlife Habitat Areas (WHA)

A Wildlife Habitat Area (WHA) is designated under the *Forest and Range Practices Act* as an area that identifies necessary habitat for the survival of a species at risk, such as woodland caribou or grizzly bear. The definition of species at risk includes endangered, threatened or vulnerable species of vertebrates, invertebrates, plants and plant communities. Wildlife habitat areas cover approximately 3.6 million hectares of provincial land.

Wildlife habitat areas are not protected areas; instead, they designate critical habitat in which activities must follow the general wildlife measures or meet an objective set out to ensure habitat conditions are maintained for the designated species. The Ministry of Environment determines the level of permissible development by evaluating the impact of proposed development on a species. Tools such as seasonal closures, additional mitigation strategies, and additional access restrictions are used to protect against wildlife disruption and habitat degradation. WHA status has become the leading land designation governing the conservation of wildlife species.

Old Growth Management Areas and Old Growth Management Areas (NLC)

Old Growth Management Areas (OGMAs) are legally established, spatially defined areas that protect the biological diversity of old growth forests. OGMAs are identified during landscape unit planning or an operational planning process. Landscape unit planning is an important component of the forest planning system in British Columbia. Landscape units are usually smaller geographical areas than resource management zones. Within non-legal current (NLC) OGMAs, forest licensees are not required to follow direction provided by non-legal OGMAs and may choose how to manage required old growth biodiversity targets.

Community Watershed

Community Watersheds are defined as the most downstream point of diversion on a stream for water use that is for human consumption and that is licensed under the *Water Act.* In total area, community watersheds represent 1.5 per cent of the province. Most community watersheds in British Columbia are quite small in area. The average area is 550 hectares and only 9 per cent of watersheds are larger than 10,000 hectares.

Lands designated as Community Watersheds do not preclude mineral activity; however, mineral exploration of the 467 approved Community Watersheds in BC is subject to special regulation under the *Health, Safety,*

and Reclamation Code for Mines in British Columbia, as well as other relevant acts and guidelines. Mineral exploration in Community Watersheds must pay special attention to retaining naturally occurring levels of water flow and quality. The Code dictates that naturally occurring surface and subsurface drainage patterns are not to be disrupted by mineral exploration activities, and the quality of water is not to be degraded. These restrictions do not prohibit mineral activity but they may require the incurring of additional planning or mitigation costs.

Wildlife Management Area (WMA)

A Wildlife Management Area (WMA) is an area of land designated for the benefit of regionally to internationally significant fish and wildlife species or their habitats. Conservation and management of fish, wildlife and their habitats is the priority in a WMA, but other compatible land uses may be accommodated. Wildlife management areas are designated under section 4 of the *BC Wildlife Act*. There are currently 25 wildlife management areas in BC covering a total of 251,486 hectares.

Within wildlife management areas wildlife values are prioritized, restrictions relating to critical habitats are commonplace, and additional permitting is required prior to beginning industrial activities. Mineral explorers and developers are most likely to interact with access restrictions put in place to avoid “damage” to sensitive habitat or disturbance of resident species.

Wildlife Habitat Features (WHF)

Wildlife Habitat Features (WHFs) are small localized areas that are identified as being essential to the well-being of a wildlife species. Wildlife habitat features require special management that is not otherwise provided for under FRPA and land use planning over the past decade has developed directions aimed at protecting WHFs. To date, the Ministry of Environment has not legally identified any areas as WHFs.

Conditional Registration Reserve (CRR)

CRRs permit acquisition of title on a parcel of land where that titles is subject to the specific conditions stated in the regulation. This type of reserve is used to ensure that the acquisition of minerals does not interfere with current or intended use of the land. For example, a CRR may be established to prevent a person from interfering with, obstructing, or endangering the construction, operation, or maintenance of a proposed hydro transmission line.

APPENDIX E
Aboriginal Lands

In British Columbia mineral exploration intersects with Aboriginal interests under four different land tenure classifications: treaty settlement lands, Indian reserve land, traditional territory and Aboriginal title lands.

Mineral claim acquisition on Indian Reserves is regulated by The British Columbia Indian Reserves Mineral Resources Act. The Act sets out the terms of an agreement between the federal and BC governments on the development and administration of mineral resources on Indian reserves as defined under the Indian Act. On Reserve land the province or Crown retains subsurface rights; however, a band must legally surrender its rights before any resources are removed. Indian Reserves cover approximately 352,917 hectares of the land base.

On any area of open Crown Land, including land traditionally used by Aboriginal people and communities that is not under treaty, mineral exploration and claim acquisition is permitted. However, access is not straightforward, as under these circumstances the Province of British Columbia has a duty to consult and where required, accommodate First Nations whenever it proposes a decision or activity that could impact Aboriginal rights (including title) - claimed or proven. The provision of clear and precise direction is required to ensure that exploration does not infringe upon this right, which is guaranteed by s. 35 of the Constitution Act, 1982 and is consistent with the Province's commitment to building a new relationship with First Nations.

In June 2014, the Supreme Court of Canada (SCC) confirmed the Tsilhqot'in Nation had Aboriginal title to a large tract of land (170,000 ha) in the west central interior of British Columbia. The Court confirmed that Aboriginal title gives the Tsilhqot'in the right to manage the land according to Tsilhqot'in laws and governance.

Treaties in British Columbia

About two thirds of the Aboriginal population in British Columbia is engaged in the process of negotiating treaties with the provincial and federal governments. Although each treaty negotiation is unique, comprehensive treaties generally address First Nations government structures and related financial arrangements, jurisdiction and ownership of lands, waters and resources, and cash settlements.

The current treaty process in BC consists of six stages. Where a Final Agreement (stage 6) has been signed and a treaty is in place the First Nation own both the surface and mineral rights; in these cases mineral exploration may occur but subject to the approval of that First Nation.

The three modern treaties in BC include the Nisga'a Final Agreement (2000), Tsawwassen First Nation Final Agreement (2009) and the Maa-Nulth First Nations Final Agreement (2011). Together these treaties cover approximately 236,282 hectares of land. There are other treaties existing in BC however those generally do not include final determinations of land designation.

Nisga'a Final Agreement

The Nisga'a Final Agreement is the first modern-day treaty in B.C. The last step needed to give legal effect to the Treaty took place on April 13, 2000, when Parliament passed the *Nisga'a Final Agreement Act*. The Nisga'a Treaty establishes decision-making authority for the Nisga'a Lisims Government. The Nisga'a Lisims Government may make laws in many areas and has principal authority over some, including administration of its own government, management of its lands and assets, Nisga'a citizenship, language and culture.

Covering an area of 201,900 hectares of land, the Nisga'a Government owns all subsurface resources on or under Nisga'a Lands.

Tsawwassen First Nation Final Agreement

The Tsawwassen Final Agreement was negotiated by the Government of Canada, the Government of British Columbia and Tsawwassen First Nation. The Final Agreement, signed in April 2009, provides Tsawwassen First Nation with certain rights and benefits regarding land and resources, and self-government over its lands and resources and its members. It provides certainty with respect to ownership and management of lands and resources and the exercise of federal, provincial and Tsawwassen governmental powers and authorities.

The Final Agreement land package consists of approximately 724 hectares of treaty settlement land for Tsawwassen First Nation. The majority of the land, approximately 662 hectares, will be called Tsawwassen Lands. The First Nation will have law-making authority over this land and will own the subsurface resources beneath it.

Maa-nulth First Nations Final Agreement

The Maa-nulth First Nations Treaty came into effect on April 1, 2011. The final agreement sets out law-making authorities that Maa-nulth may exercise on their lands. It also allows each Maa-nulth First Nation to enter into land use planning protocols with local governments to coordinate and harmonize land use planning processes and land use decisions.

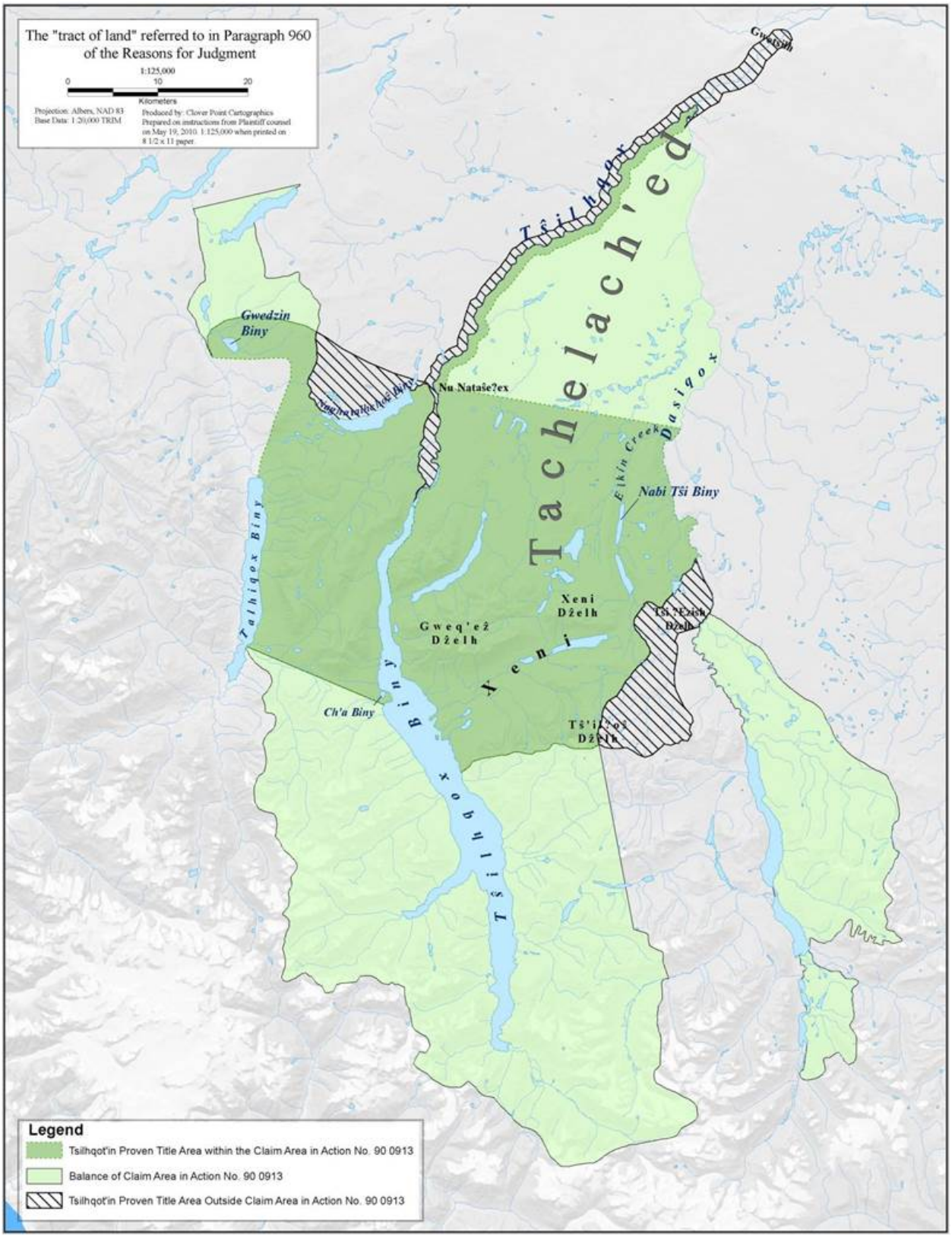
The Final Agreement treaty settlement land package consists of approximately 24,550 hectares of treaty land known as Maa-nulth First Nation Lands. Within this area, each Maa-nulth First Nation owns subsurface resources on or under its Maa-nulth First Nation Lands, except for the subsurface resources identified as "Subject Lands" which include land covered by valid mineral claims at time of the treaty process. As owners of subsurface resources, each of the Maa-nulth First Nations has the authority to set fees, rents, royalties and other charges, except taxes, for exploration, development, extraction and production of subsurface resources owned by that specific Nation.

Aboriginal title

In June 2014, the Supreme Court of Canada (the Court) issued their decision in the Tsilhqot'in Nation v British Columbia case. In the decision the Court confirmed a declaration of Aboriginal title in favor of the Tsilhqot'in Nation on approximately 1,700 square kilometres of land in west-central British Columbia. The SCC decision also stated that provincial laws of general application apply to Aboriginal title lands, subject to constitutional limits.

See map excerpt as attached to the Courts decision document.

In the Tsilhqot'in decision, the Court confirmed the three-part test to determine Aboriginal title, which considers an Aboriginal group's occupation of the land in question, the continuity of such occupation (when present occupation is relied on to prove occupation) and whether such occupation could be considered exclusive. However, the Court declared that Aboriginal title is not absolute, meaning that project development can still proceed on land where Aboriginal title is established as long as one of two conditions is met. Project development can occur on Aboriginal title lands where the provincial government has obtained the consent of the Aboriginal group or, alternatively, government can infringe Aboriginal title for the purposes of project development where it can demonstrate that the infringement is justified. In order to justify an infringement of Aboriginal title, government must meet three requirements: that it has met the duty to consult and accommodate, that there is a substantial and compelling objective/public purpose for the infringement (mining is specifically cited by the SCC as one potential purpose) and that the infringement is consistent with government's fiduciary duty to Aboriginal groups.


The "tract of land" referred to in Paragraph 960 of the Reasons for Judgment
1:125,000
0
10
20
Kilometers
Projection: Albers, NAD 83
Base Data: 1:20,000 TRIM
Produced by: Clover Point Cartographics
Prepared on instructions from Plaintiff counsel on May 19, 2010. 1:125,000 when printed on 8 1/2 x 11 paper
Gwedzin Biny
Nu Nataše?ex
Tachelach'ed
Elkin Creek
Dasiqox
Nabi Tši Biny
Talhiqox Biny
Xeni Dzelh
Gweq'eš Dzelh
Xeni
Ch'a Biny
Biny
Tsilhqot'in
Legend
Tsilhqot'in Proven Title Area within the Claim Area in Action No. 90 0913
Balance of Claim Area in Action No. 90 0913
Tsilhqot'in Proven Title Area Outside Claim Area in Action No. 90 0913

APPENDIX F
Prohibited and Conditional Access Maps