Minto Explorations Ltd.

A SUBSIDIARY OF CAPSTONE MINING LTD.

APPENDIX P
Baseline Vegetation Report

Minto Explorations Ltd.

ISSUED FOR USE

MINTO MINE ENVIRONMENTAL BASELINE ECOSYSTEMS AND VEGETATION REPORT

W14101068.024

August 2010

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1.0 INTRODUCTION

Minto Explorations Ltd. (MintoEx) is considering the expansion of the currently operating Minto Mine, which has been in production since 2007 (Capstone 2010). The Minto Mine is located approximately 240 km north of Whitehorse, Yukon (Figure 1).

Initial vegetation studies were conducted in the area in 1994 by Hallam Knight Piésold Ltd. for Minto Explorations Ltd., in association with the permitting of the original Minto Mine Project. This baseline report summarizes existing ecosystem and vegetation information for the area including, and surrounding, the current Minto Mine site (the Project area).

2.0 APPROACH

Information describing the terrestrial ecosystems and vegetation of the Project area has been compiled from a variety of sources, including:

- Previous studies of the area, particularly those conducted in support of the Initial Environmental Evaluation (IEE) by Minto Explorations Ltd. for the Minto Mine in 1994 and studies that formed part of the project proposal for the Carmacks-Stewart/Minto Spur Transmission Project by Yukon Energy Corporation (Yukon Energy) in 2006.
- Existing Ecological Land Classification (ELC) information, specifically:
  - Ecosystem mapping conducted as part of the IEE (Minto Explorations Ltd. 1994).
  - Earth Observation for Sustainable Development of Forests (EOSD) mapping developed by the Canadian Forest Service in 2000 (methods described by Wulder et al. 2004).
  - Descriptions of the ecozones and ecoregions of the Yukon (Smith et al. 2004).
  - The 2009 version of the fire history database developed and maintained by the Government of Yukon, Community Services, Protective Services Branch, Wildland Fire Management (referred to as GYWFM 2009).
- Colour digital orthophotos of the area (flown in 2009 at a 1:10,000 scale).
- Various territorial, federal, and international databases that manage lists and information on species and ecosystems at risk (e.g., the Yukon Department of the Environment, NatureServe, and the Committee on the Status of Endangered Wildlife in Canada [COSEWIC]).

Descriptions are provided for general landscape features, ecosystem types (including sensitive ecosystems), and plant species (including rare and invasive species) identified or potentially occurring within the Project area. Specific details describing the study methods (e.g., field surveys, mapping) used by supporting documentation are not provided in this report; this information should be obtained directly from the original sources cited.

2.1 ECOLOGICAL LAND CLASSIFICATION

Ecological Land Classification (ELC) is a valuable approach to resource management that establishes a common framework and language that is accessible to resource managers with a range of backgrounds and disciplines. A variety of ELC projects have been completed in the Yukon since the 1970s (e.g., Oswald and Senyk 1977; Zoladeski et al. 1996; Smith et al. 2004; Lipovsky and McKenna 2005; Meikle and Waterreus 2008); however, a standardized approach has yet to be finalized.

Two sources of ELC mapping were readily available for the Project area and include maps developed by Minto Explorations Ltd. (1994) for the original Minto Mine, as well as maps developed for the Canadian Forest Service's EOSD program (Wulder et al. 2004). The Minto Explorations Ltd. data and EOSD data represent conditions in 1994 and 2000, respectively.

2.2 SENSITIVE ECOSYSTEMS AND AT-RISK ECOSYSTEMS AND PLANTS

Sensitive ecosystems are generally described as ecosystems that are less resilient to disturbance and often demonstrate a high level of environmental specificity (i.e., their sustainability is linked to particular climatic and edaphic conditions) (RISC 2006). Sensitive ecosystems vary throughout the Yukon but generally include wetlands, grasslands, riparian areas, subalpine and alpine areas, and certain forest types. Within the Minto Project area, ecosystems that are considered sensitive include wetlands, riparian areas, permafrost areas, and grasslands.

Lists of ecosystems and plant species currently tracked by territorial and federal conservation agencies (where applicable) were compiled as part of the description of current ecological conditions in the proposed development area and its vicinity. Information sources included the Yukon Department of the Environment, COSEWIC, the *Species at Risk Act* (SARA) and corresponding SARA public registry, NatureServe (search restricted to ecosystems and plants of the Yukon Territory), and Douglas et al. (1981). The lists were further refined to include ecosystems and plants with a higher likelihood of occurring within the area based on available range maps, habitat requirements, and local knowledge.

2.3 SPATIAL BOUNDARY

The spatial boundary identified for the terrestrial environment places the Project area into a context that is more focused and reflective of the surrounding ecology, particularly when compared to the broader territory-level ecological descriptions. The boundary loosely corresponds to the two primary watersheds in the vicinity of the existing Minto Mine (Figure 2) and covers approximately 10,650 ha. For consistency, the boundary is the same as that delineated for the purpose of describing wildlife habitat.

3.0 RESULTS AND DISCUSSION

3.1 GENERAL ECOLOGY

The Minto Project is located approximately 240 km north of Whitehorse, Yukon, within the Boreal Cordillera Ecozone and the Yukon Plateau – Central Ecoregion (Smith et al. 2004; Figure 2). Earlier ELC mapping described the area as being within the Pelly River Ecoregion (Oswald and Senyck 1977).

3.1.1 Boreal Cordillera Ecozone

The Boreal Cordillera Ecozone is an extension of the boreal forest zone that spans across much of Canada (Smith et al. 2004). It has a cold climate, characterized by short, warm summers and long, cold winters. Temperatures are moderated over much of the ecozone by the Pacific maritime influence, as well as by variations in elevation and aspect.

Vegetation of the Boreal Cordillera Ecozone is typically represented by various conifer species, including white and black spruce (*Picea glauca* and *P. mariana*, respectively), lodgepole pine (*Pinus contorta*), and subalpine fir (*Abies lasiocarpa*). Several deciduous tree species are also fairly common, and include balsam poplar (*Populus balsamifera*), trembling aspen (*Populus tremuloides*), and paper birch (*Betula papyrifera*) (Smith et al. 2004). In the central Yukon portion of this ecozone, grasslands commonly develop on steep, dry, south-facing slopes, particularly along the Yukon and Pelly rivers. More typical boreal forest vegetation occurs on north-facing slopes.

3.1.2 Yukon Plateau – Central Ecoregion

The Yukon Plateau – Central Ecoregion is characterized by undulating, rolling hills and plateaus, broad valleys, and isolated high mountain ranges (Smith et al. 2004). Much of the ecoregion lies to the northeast of the St. Elias-Coast mountain rain shadow, resulting in generally lower precipitation levels overall.

Soils of the ecoregion are largely characterized as Brunisols, with some Cryosols present in areas influenced by permafrost (Smith et al. 2004). Permafrost regions range from widespread to sporadic, driven in part by the type of surficial materials present. The strong continental climate and warm, dry summers often result in early growing-season soil moisture deficits.

Different vegetation zones within the Yukon Plateau – Central Ecoregion can be broadly delineated along elevation gradients. The boreal forest occurs largely at elevations below approximately 1,200 m above sea level (asl). A subalpine zone generally occurs at elevations ranging between 1,200 m asl and 1,370 m asl, above which the treeline becomes increasingly discontinuous and is eventually replaced by alpine communities.

Within the boreal forest zone, frequent fires and the presence of various glacial landforms combine to produce a range of plant communities (Smith et al. 2004). Undisturbed areas on morainal soils that occupy lower slope positions typically support communities of white spruce and feathermosses (various species), with few shrub or herb species. These communities are often replaced by black spruce and brown mosses on colder, north-facing slopes and on some floodplain sites.

Valley bottoms and floodplains also support forests composed of white spruce and feathermoss; however, depending on the substrate, understory vegetation can range from a mixture of roses, horsetails (*Equisetum* spp.), willows, and alder (*Alnus* spp.) on recent floodplain units, to kinnikinnick, grasses (various species), and lichen (various species) if parent materials are particularly coarse (Smith et al. 2004). Kinnikinnick, grasses, and lichen are also common understory associates in drier, post-fire communities.

Under more disturbed (e.g., post-fire) conditions, lodgepole pine and trembling aspen tend to replace the white spruce-feathermoss forest, with pine occurring on well-drained sites with warmer aspects and coarser soils and aspen occurring on steeper, south-facing slopes with finer soils.

Grasslands are a unique feature within this ecoregion and are characteristically found on steep, warm aspects, sometimes extending from the valley floor to the alpine (Smith et al. 2004). In addition to a range of grass species, these grassland communities are also often composed of sagewort (*Artemesia* spp.), kinnikinnick (*Arctostaphylos uva-ursi*), rose (*Rosa* spp.), and juniper (*Juniperus* spp.). Sites with a relatively wetter moisture regime sometimes support willows (*Salix* spp.) and aspen.

Subalpine zones are composed primarily of subalpine fir and white spruce, with the occasional, stunted lodgepole pine. Shrub layers are largely characterized by shrub birch (*Betula nana*) and willows, which often occur together with blueberries (*Vaccinium* spp.) and crowberry (*Empetrum nigrum*) on mesic sites, various lichen species on drier sites, and mosses and Labrador tea (*Ledum* spp.) on moister sites (Smith et al. 2004).

3.1.3 Fire History

Wildfire is very influential in shaping the ecology of the Yukon, particularly with respect to the forested landscape. Many forests are kept in younger successional stages due primarily to the frequency and/or intensity of the burn. Studies of forest fire succession in the southern portion of the Yukon revealed that forests in the general area were rarely greater than 250 years old (Oswald and Brown 1990). The forests within the Yukon Plateau-Central Ecoregion in particular are often less than 100 years old due to the combination of frequent, large fires associated with thunderstorms and normally dry summer conditions (Smith et al. 2004).

Vegetation succession following fire will differ depending on a number of different factors, which include (but are not limited to) the vegetation present before the burn, the intensity of the burn, and various edaphic factors such as the amount of organic matter present (pre-and post-burn), the presence of permafrost (pre- and post-burn), soil texture (e.g., coarse vs. fine), soil drainage, and the type of parent materials present.

Most conifers, such as lodgepole pine and black spruce, can regenerate from seed following fire (provided they are sufficiently mature), while many hardwoods (e.g., aspen, balsam poplar and birch) have the ability to reproduce vegetatively before reaching seed-bearing age. Tree species that are commonly seen recolonizing post-fire landscapes in the Yukon include lodgepole pine and aspen, most often on moderately well to well-drained sites (Smith et al. 2004). Areas that supported black spruce or mixed black and white spruce forest, often in association with permafrost, will frequently regenerate with willows, aspen, and balsam poplar, and sometimes black spruce and paper birch, should conditions allow.

3.2 ECOLOGY OF THE PROJECT AREA

Descriptions of the ecosystems and vegetation occurring in the vicinity of the Project area are provided below. General ecological features including the influence of fire and potential presence of sensitive and at-risk ecosystems and plants are discussed.

3.2.1 Ecosystems and Vegetation

3.2.1.1 1994

In 1994, Hallam Knight Piésold developed an ecosystem map on behalf of Minto Explorations Ltd. and conducted a field survey of the area in support of the proposed Minto Project. The ecosystem map covered primarily the Minto Creek watershed (Figure 3), which overlaps with the southern portion of the area considered in this report. Following the field survey and development of the ecosystem map, a general landscape profile diagram (termed Schematic Vegetation and Landform Relationships by Hallam Knight Piésold) was developed for the Minto Creek Valley as a way of describing the relationship between ecosystems, parent materials, and their relative position on the landscape (Figure 4). Areas of permafrost were also identified, where applicable.

The area in the vicinity of the Minto Project in 1994 supported a variety of ecosystems and successional stages, owing largely to several forest fires that had occurred in the past, the most recent occurring in 1980 (Minto Explorations Ltd. 1994). A total of 11 map units were identified, ten of which were associated with vegetated ecosystems, and one of which identified exposed bedrock (Figure 3). Of the ten vegetated ecosystems:

- four were associated with ecosystems that were regenerating following fire;
- two were associated with (presumably) undisturbed areas;
- two were grass-dominated ecosystems; and,
- two were riparian/wetland ecosystems.

Ecosystems that were regenerating following fire were documented and mapped throughout the Minto Project area (Figure 3). Areas undergoing early stages of succession were largely dominated by shrub species such as willows, alder, and aspen (Minto Explorations Ltd.

1994). Willow-dominated regeneration in particular was frequently identified in association with lower slope positions (Figure 4).

Regenerating areas that supported a tree layer were mostly composed of aspen, with alder and willow in the understory. Older regenerating sites enabled the establishment of pine and spruce in the shrub layer. In some areas, notably south aspects in the upper reaches of the Minto Creek watershed, juvenile lodgepole pine formed dense stands, thus limiting the development of a more continuous ground cover.

Areas that had not been burned in many years often contained both lodgepole pine and aspen in the tree layer, with willows comprising the understory. White spruce was again present in the understory as well, and barring any future fires, would be likely to reach maturity on these particular sites.

Ecosystems associated with (presumably) undisturbed conditions supported forests dominated by black spruce or composed of a mix of white and black spruce (Minto Explorations Ltd. 1994). Black spruce forests were found most often on north-facing slopes and frequently displayed an open to sparse canopy with an understory of scrub birch, Labrador tea, shrubby cinquefoil (*Potentilla fruticosa*), and willow (Figure 4). Various herb species were also present along with a thick and extensive moss layer, composed primarily of *Sphagnum* species and feathermoss. These forests were also associated with areas where permafrost was closest to the ground surface.

Ecosystems composed of both white and black spruce were found most often on gently sloping south aspects (Minto Explorations Ltd. 1994). Various shrub and herb species were present in the understory along with a continuous cover of feathermoss and some *Sphagnum* species.

Grass-dominated ecosystems in the area were composed largely of scattered aspen, pasture sage (*Artemesia frigida*), altai fescue (*Festuca altaica*), and wheatgrass (*Agropyron* spp.) (Minto Explorations Ltd. 1994). They occurred primarily on steep, south facing slopes and were never described as occurring in association with permafrost (Figure 4). It is unclear whether or not these particular ecosystems correspond to the grasslands that are unique to the Yukon Plateau-Central Ecoregion (as described in Smith et al. 2004); however, their position on the landscape and species composition are consistent.

Riparian/wetland ecosystems were documented in valley bottoms and along the floodplains of lower Minto Creek (Minto Explorations Ltd. 1994). Ecosystems that were more poorly drained and subject to periodic flooding were composed largely of willows and sedges, with some grasses and horsetail also present. Drier riparian/floodplain ecosystems supported an open tree canopy consisting of white spruce and balsam poplar. A diverse shrub layer was almost always present and included willows, highbush cranberry (*Viburnum edule*), red-osier dogwood (*Cornus stolonifera*), and alder. The herb layer was almost always exclusively horsetail.

3.2.1.2 2000

EOSD data was used to describe and quantify the ecosystems present in the vicinity of the Minto Project, circa 2000. The ecosystem units are more general than those identified by Minto Explorations Ltd. (1994).

Overall, the area displayed a predominance of low shrub and herbaceous units in 2000 (Table 3.2-1; Figure 5). In 1995, the year immediately following the studies conducted by Hallam Knight Piésold, another forest fire burned through the area (GYWFM 2009). Depending on the intensity of the fire, much of the area, including existing forests, could have burned. It is conceivable that the low shrub and herb units of the EOSD data represent the early successional stages of ecosystems that were affected by the fire of 1995.

TABLE 3.2-1: DISTRIBUTION OF ECOSYSTEM UNITS WITHIN THE PROJECT AREA

Ecosystem Unit	Project Area Total (ha)	Proportion of Project Area (%)
Shrub Low	4,590.4	43.1
Herbs	3,895.6	36.6
Exposed/Barren Land	1,025.6	9.6
Coniferous-sparse	868.4	8.2
Coniferous-open	169.8	1.6
Shrub Tall	68.6	0.6
Broadleaf-open	7.1	0.1
Rock/Rubble	7.0	0.1
Broadleaf-dense	5.0	0.05
Shadow	3.7	0.03
Water	3.3	0.03
Coniferous-dense	2.9	0.03
Wetland-herb*	2.3	0.02
Mixedwood-sparse	0.6	0.01
Mixedwood-open	0.4	<0.01
Wetland-shrub*	0.1	<0.01
Total	**10,650.6**	**100.0**

*Sensitive ecosystem

3.2.1.3 2009

The ecosystems and vegetation in the vicinity of the Minto Mine, as described from orthophotos commissioned in 2009, are similar to those identified by previous sources. Various ecosystem types are present and range in structure and age from shrubland to forest. Fairly dense stands of shrubs and trees are visible along creeks and streams, some of which form riparian zones that are estimated to be up to 20 m wide. Forests that were previously burned are regenerating and much of the standing dead snags have fallen and are scattered throughout the understory. Areas that were mapped as grass-dominated ecosystems (Minto Explorations Ltd. 1994; Figure 3) seem to support more shrubs in 2009; however, field based investigations would need to be conducted to determine the extent of possible changes to these ecosystems.

3.2.2 Fire History

As previously described, the area in the vicinity of the Minto Mine has been burned by two major fires in the past 30 years (GYWFM 2009). The first and oldest fire burned approximately 7,236 ha in 1980, while the second and more extensive fire occurred in 1995 and burned approximately 55,521 ha. The full extent of the area considered in this report has been influenced by these two fires (Figure 6). The intensity and severity of the fires, particularly the one from 1995, are unknown.

3.2.3 Sensitive Ecosystems and At-Risk Ecosystems and Plants

Sensitive ecosystems identified as potentially occurring within the Project area include wetlands, riparian areas, grass-dominated ecosystems, and permafrost areas. All of these ecosystem types were identified by Minto Explorations Ltd. (1994); however it is unclear how these ecosystems were affected by, and subsequently responded to, the most recent fire in 1995.

Some riparian areas are visible on the 2009 orthophotos, occurring along creeks and streams in the vicinity of the Minto Mine. The wetland areas mapped by the EOSD data occur primarily along the banks of the Yukon River, along the very northern boundary of the Project area (Figure 5). The grass-dominated ecosystems previously identified may still be present; however, their current condition and extent are unclear without additional (field-based) assessments. Similarly with permafrost areas, most north-facing slopes within the area were identified as being associated with permafrost; however, it is unclear how these areas responded to past fires, particularly the most recent burn in 1995.

A list of plant species of conservation concern potentially occurring in the Project area was compiled with the help of the Yukon Department of the Environment (Table 3.2-2). The list identifies 38 species overall. An additional 43 species are currently on the Yukon Department of the Environment “Watch” list (data not shown), which identifies species that are of possible conservation concern; however, require additional information in order to refine their conservation status. The list below (Table 3.2-2) has not been refined to reflect the habitat potential present within the Project area.

TABLE 3.2-2: PLANT SPECIES OF CONSERVATION CONCERN POTENTIALLY WITHIN THE PROJECT AREA

Scientific Name	Subnational Common Name	G Rank[1]	S Rank[2]
Aphragmus eschscholtzianus		G3	S1
Artemisia laciniata	Siberian Wormwood	G4	S1
Artemisia rupestris	Rock Wormwood	G3	S2
Aster yukonensis	Yukon Aster	G3	S1
Botrychium alaskense	Alaska Moonwort	G2	S2
Botrychium lineare	Narrow-leaf Grape-fern	G2	S1
Botrychium multifidum	Leathery Grape-fern	G5	S1
Botrychium spathulatum	Spoon-leaf Moonwort	G3	S1
Botrychium tunux	Tunux' Moonwort	G2	S1
Botrychium yaaxudakeit	Yaa Xu da Keit's Moonworts	G2	S1
Carex laxa	Weak Sedge	G5	S1
Claytonia scammaniana	Scamman's Springbeauty	G3	S3
Comandra umbellata	Umbellate Bastard Toad-flax	G5	S1
Corispermum ochotense	Russian Bugseed	G3	S2
Cypripedium guttatum	Spotted Lady's-slipper	G5	S2
Delphinium brachycentrum	Northern Larkspur	G4	S1
Draba densifolia	Dense-leaf Whitlow-grass	G5	SNR
Draba murrayi	Murray's Whitlow-grass	G2	S1
Draba stenopetala	Star-flowered Draba	G3	S2
Eriogonum flavum	Umbrella Plant	G5	S1
Erysimum angustatum	Dawson Wallflower	G2	S2
Koeleria asiatica	Oriental Junegrass	G4	S2
Krascheninnikovia lanata	Winter-fat	G5	S1
Minuartia yukonensis	Yukon Stitchwort	G3	S2
Oxytropis mertensiana	Mertens' Crazy-weed	G4	S1
Oxytropis scammaniana	Scamman's Crazy-weed	G3	S3
Phacelia mollis	Coffee Creek Scorpion-weed	G2	S2
Podistera macounii	Macoun's Podistera	G4	S2
Podistera yukonensis	Yukon Podistera	G2	S1
Polystichum lonchitis	Northern Holly-fern	G5	S1
Potamogeton subsibiricus	Yenisei River Pondweed	G3	S1
Primula eximia		G5	S2
Saxifraga spicata	Spiked Saxifrage	G3	S1
Silene williamsii ssp. *williamsii*	Williams' Campion	T4	S1
Stellaria dicranoides	Matted Starwort	G3	S1
Stenotus macleanii	Northern Mock Golden-weed	G2	S2
Trisetum sibiricum	Siberian False-oats	G5	S1
Viola biflora	Northern Violet	G5	S1

[1]**G (Global) Rank**

G1 Critically imperilled globally

G2 Imperiled globally

G3 Vulnerable globally

G4 Apparently secure globally
G5 Secure globally
TX Rank assigned to taxonomic groups below the level of species

[2]S (Regional) Rank

S1 Critically imperilled in the territory because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the territory.
S2 Imperilled in the territory because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from territory.
S3 Vulnerable in the territory due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.
S4 Apparently secure in the territory; uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 Secure in the territory; common, widespread, and abundant.
SNR Unranked (regional conservation status not yet assessed)

4.0 RECOMMENDATIONS FOR ADDITIONAL WORK

Due to the length of time that has elapsed since the last vegetation survey, as well as the history of disturbance at the site (both natural and anthropogenic), additional vegetation surveys are recommended prior to the submission of an Executive Committee-level Project Proposal to the Yukon Environmental and Socio-economic Assessment Board (YESAB). The recommended program would include, as a minimum:

- An updated ecosystem map;
- A field survey in support of the ecosystem mapping process; and,
- A field survey of specific habitats within the Project area that have a higher likelihood of supporting rare plants (i.e., those listed on both the “Track” and “Watch” lists).

The information resulting from this 3-part investigation will allow for a more detailed description of existing conditions.

5.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Minto Explorations Ltd. Mining Corporation and their agents. EBA does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Minto Explorations Ltd. Mining Corporation, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user.

Use of this report is subject to the terms and conditions stated in EBA’s Services Agreement. EBA’s General Conditions are provided in Appendix A of this report.

6.0 CLOSURE

We trust this report meets your present requirements. Should you have any questions or comments, please contact the undersigned at your convenience.

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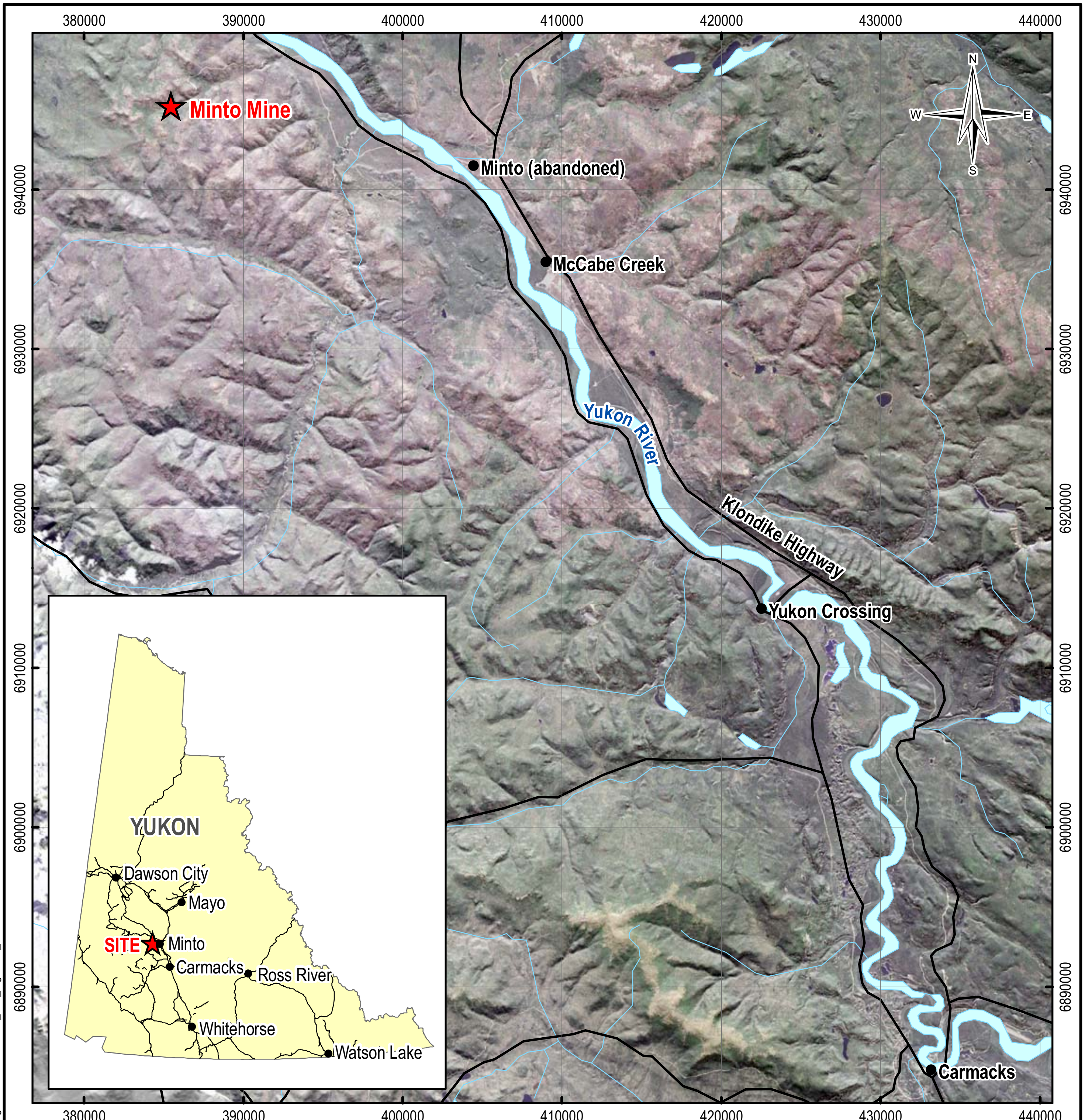
FIGURES



LEGEND

- Minto Mine
- Populated Place
- Road
- River
- Waterbody

NOTES

Base data source:
Geomatics Yukon

ISSUED FOR USE

MINTO MINE
2010 VEGETATION BASELINE REPORT

Site Location

PROJECTION	DATUM
UTM Zone 8	NAD83

Scale: 1:350,000

5 2.5 0 5

Kilometres

FILE NO.
W14101068_024_Figure01_Site.mxd

PROJECT NO.	DWN	CKD	REV
W14101068.024	MEZ	TP	0

OFFICE	DATE
EBA-VANC	August 11, 2010

CAPSTONE MINING CORP.

EBA Engineering Consultants Ltd.

Figure 1

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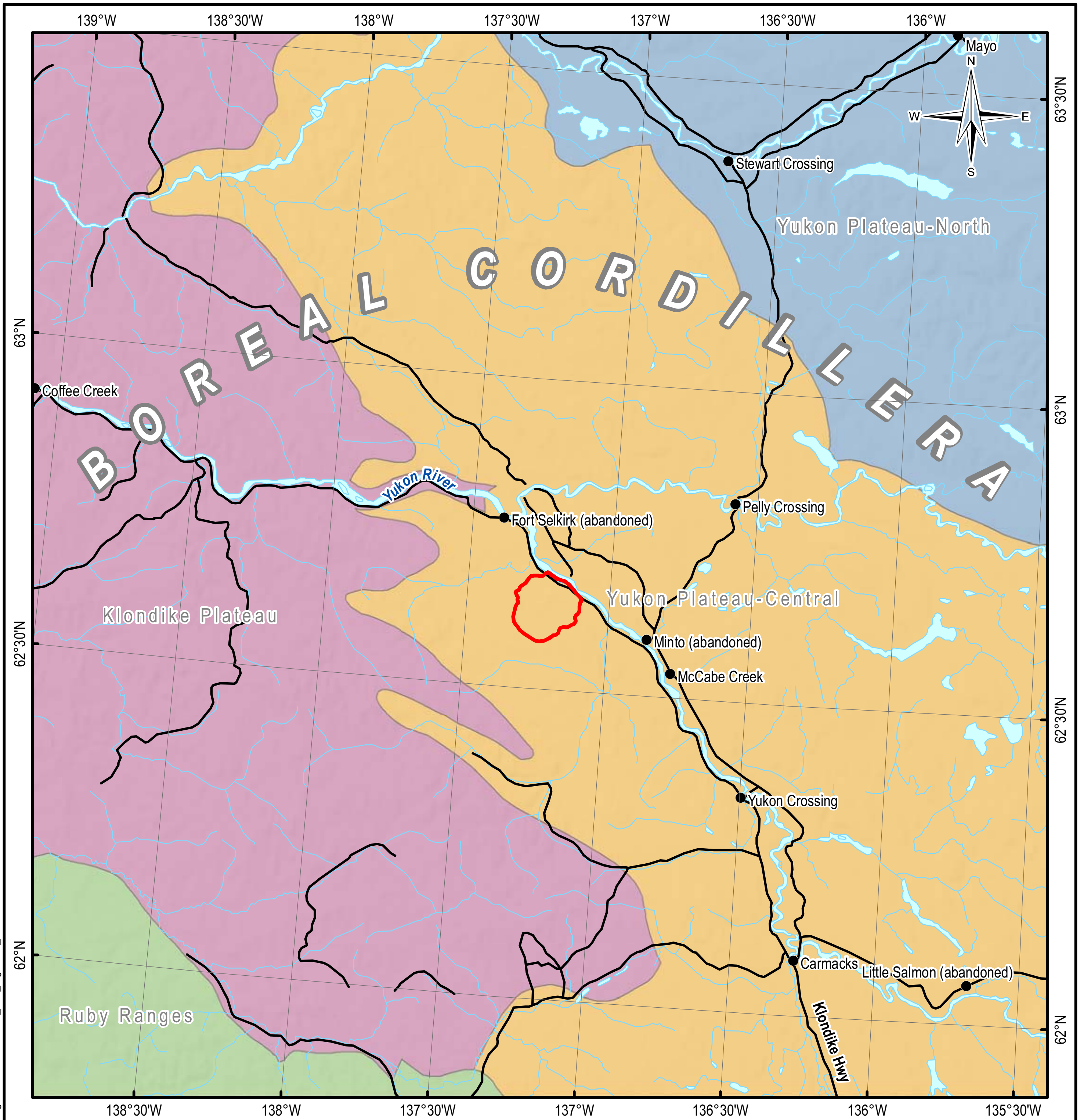

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LEGEND

- ● Populated Place
- Regional Study Area
- Road
- River
- Waterbody

Ecoregion

- Klondike Plateau
- Ruby Ranges
- Yukon Plateau-Central
- Yukon Plateau-North

NOTES

Base data sources:
Yukon Geomatics
Ecozone and Ecoregion created by Agri-Food Canada

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Ecozones and Ecoregions of the Area

PROJECTION	DATUM
Yukon Albers	NAD83

Scale: 1:1,000,000

20 10 0 20

Kilometres

FILE NO.
W14101068_024_Figure02_Eczones.mxd

PROJECT NO.	DWN	CKD	REV
W14101068.024	MEZ	TP	0

OFFICE	DATE
EBA-VANC	August 11, 2010

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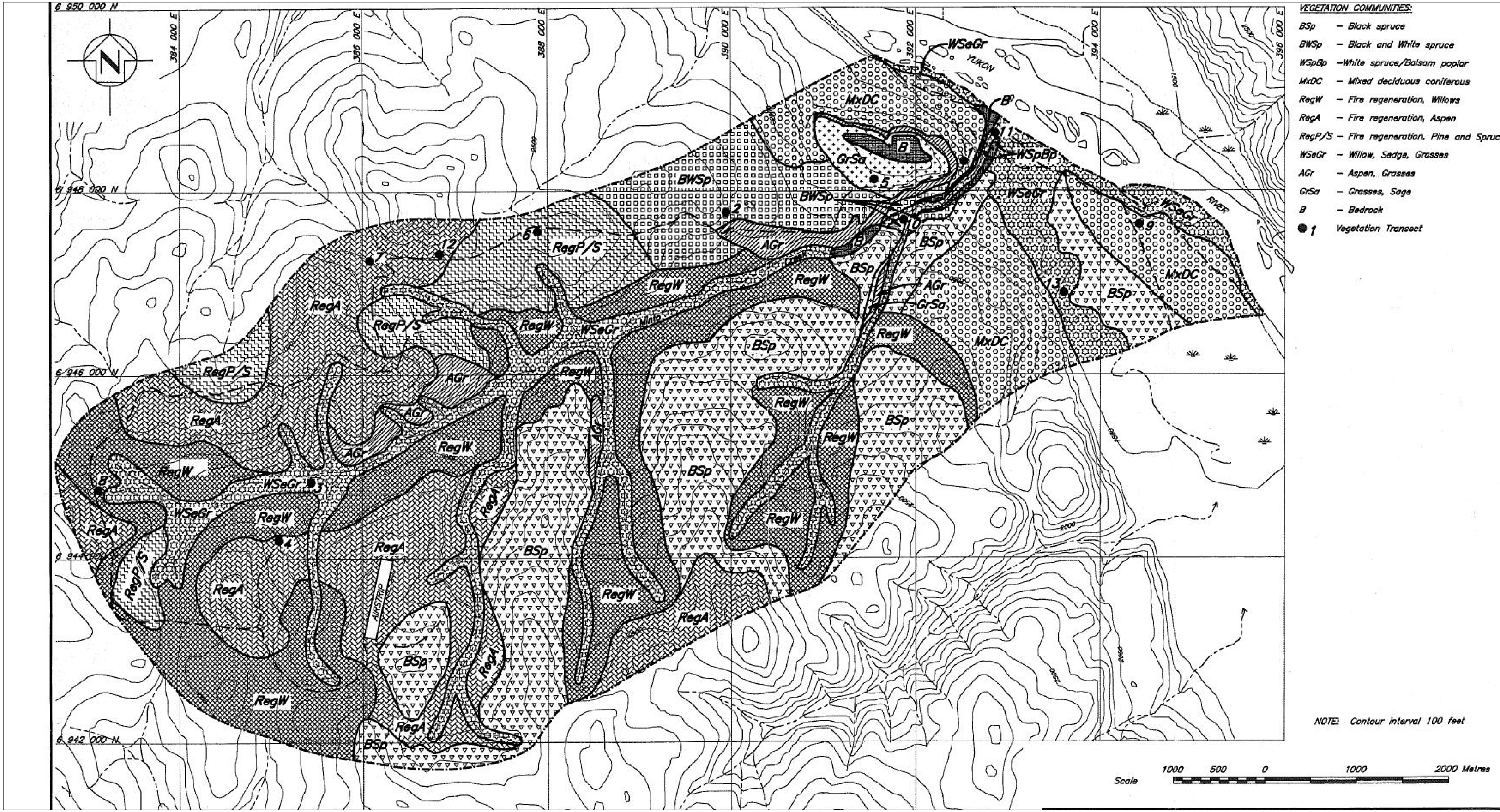
Figure 2



NOTES

Image Source: Figure 9.1, "Vegetation Survey", Prepared by Hallam Knight Piesold Ltd. for Minto Explorations Ltd, (1994)

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Ecosystem Map and Vegetation Survey (1994)

PROJECT NO.	DWN	CKD	REV
W14101068.024	MEZ	TP	0
OFFICE	DATE		
EBA-VANC	August 11, 2010		

Figure 3

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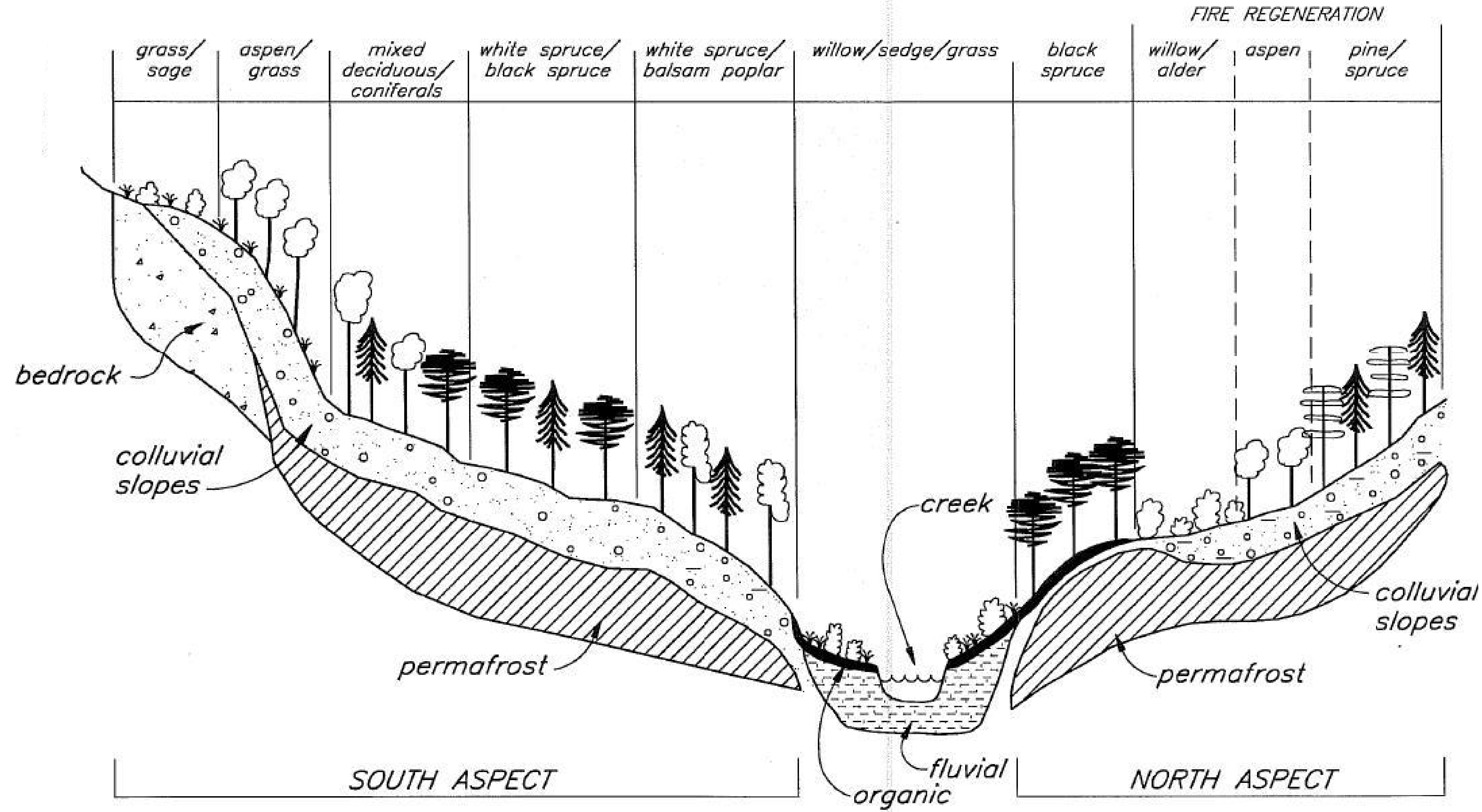

NOTES

Image Source: "Schematic Vegetation and Landform Relationships", Prepared by Hallam Knight Piesold Ltd. for Minto Explorations Ltd, (1994)

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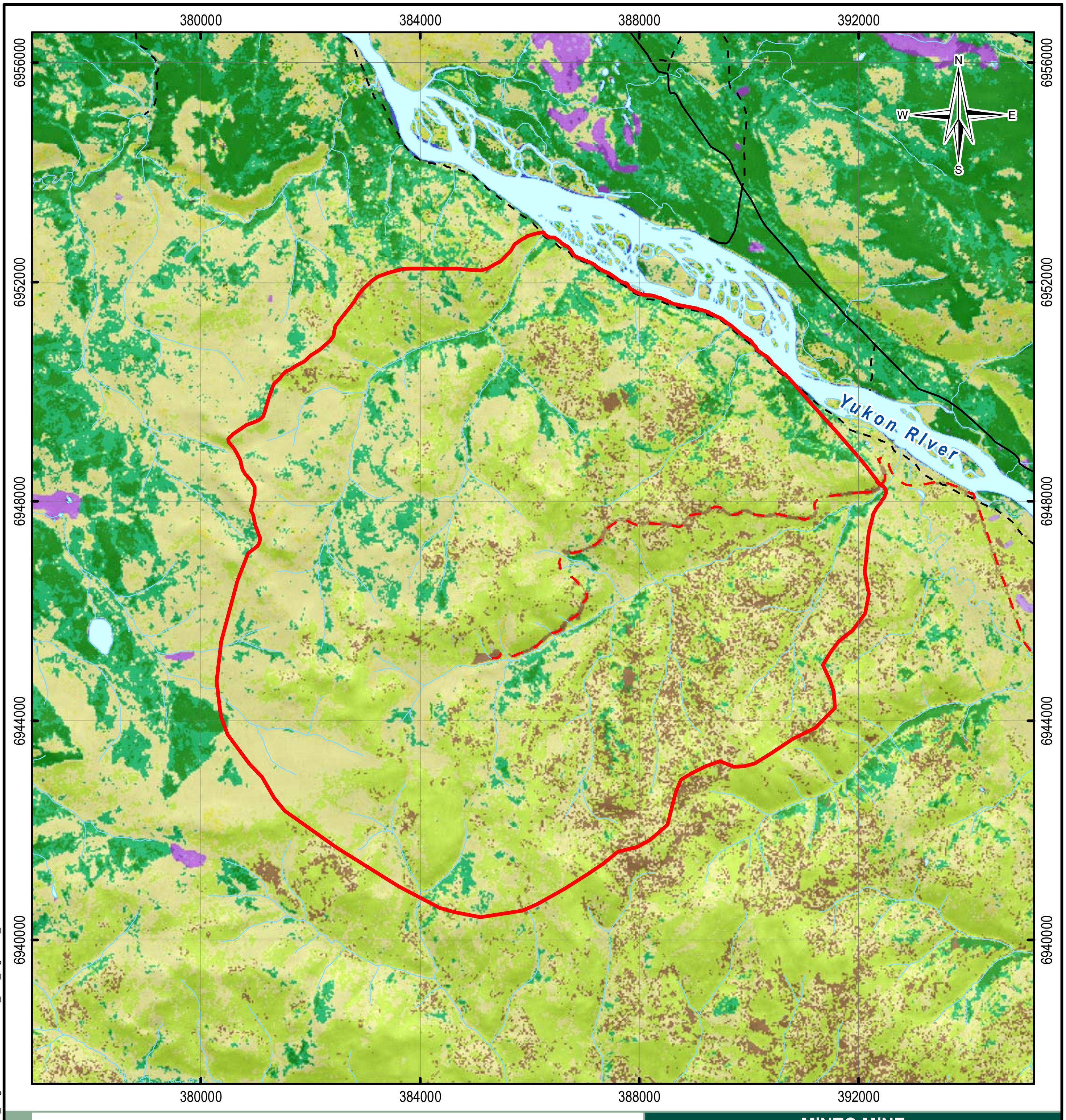
Landscape Profile Diagram (1994)

PROJECT NO.	DWN	CKD	REV
W14101068.024	MEZ	TP	0
OFFICE	DATE		
EBA-VANC	August 11, 2010		

Figure 4

Q:\Vancouver\Graphics\ENGINEERING\W141\W14101068_Capstone\W14101068_024_Figure04_Landscape.cdr



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LEGEND

Regional Study Area	Snow / Ice	Wetland-herb	Broadleaf
Minto Mine Access Road	Rock / Rubble	Herbs	Broadleaf-dense
Limited Use Road	Exposed / Barren Land	Grassland	Broadleaf-open
Trail	Developed	Agriculture	Broadleaf-sparse
Watercourse	Bryoids	Agr-cropland	Mixedwood
Waterbody	Shrubland	Agr-pasture / Forage	Mixedwood-dense
Land Cover Class	Shrub Tall	Forest / Trees	Mixedwood-open
Unclassified	Shrub Low	Coniferous	Mixedwood-sparse
Cloud	Wetland	Coniferous-dends	
Shadow	Wetland-treed	Coniferous-open	
Water	Wetland-shrub	Coniferous-sparse	
Non-Vegetated Land			

NOTES

Base data source:
NTS 1:50,000 (Sheet115I11)
EODS (Canadian Forest Service, 2006)

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Earth Observation for Sustainable Development of Forest (EOSD) Land Cover Classification

PROJECTION	DATUM
UTM Zone 8	NAD83

Scale: 1:100,000
2 1 0 2
Kilometres

FILE NO.
W14101068_024_Figure04_EOSD.mxd

PROJECT NO.	DWN	CKD	REV
W14101068.024	MEZ	TP	0

OFFICE	DATE
EBA-VANC	August 11, 2010

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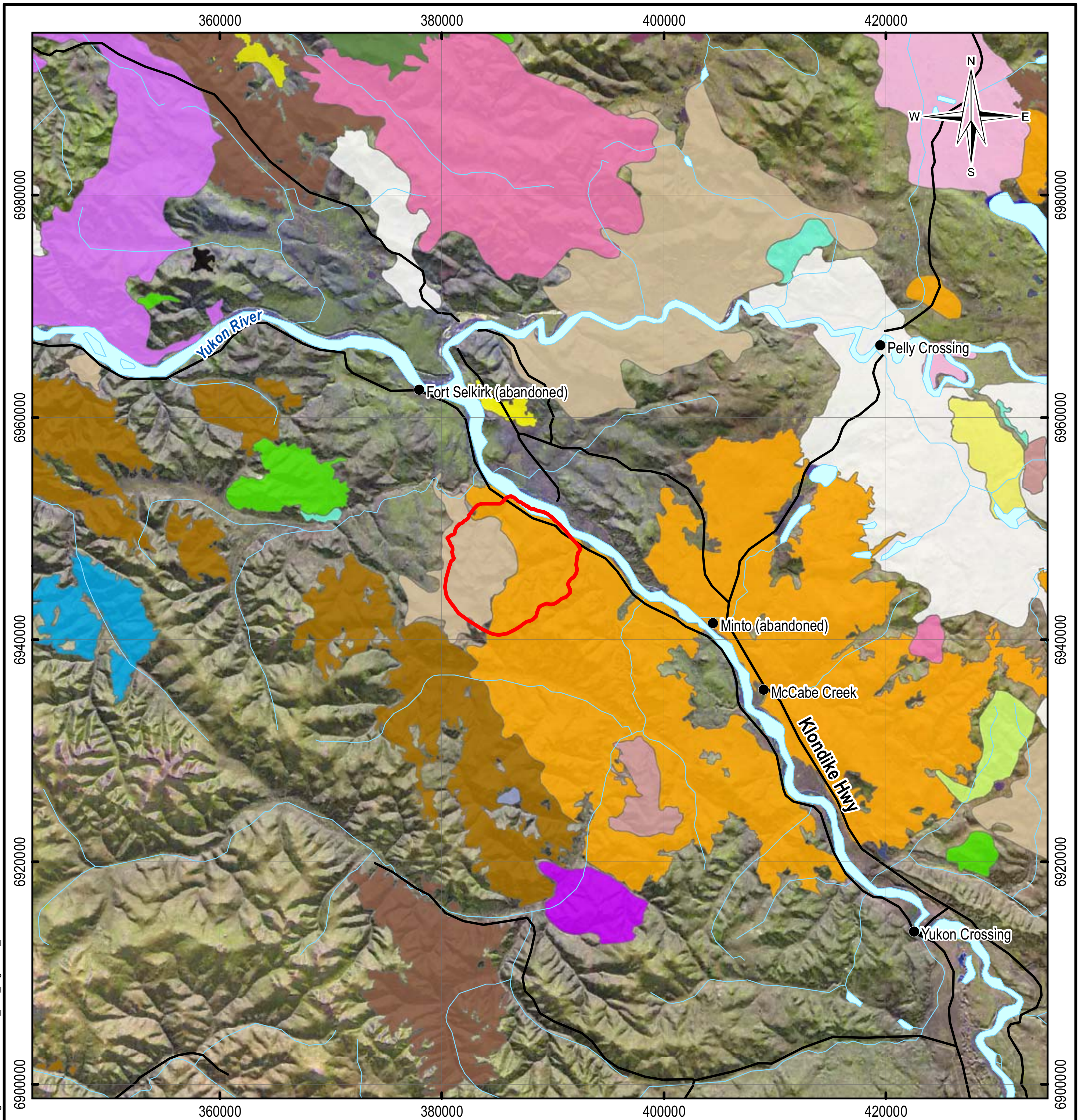
Figure 5



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LEGEND

- ● Populated Place
- Regional Study Area
- Road
- River
- Waterbody

Fire by Year (1946 - 2009)

1950	1971	1994
1951	1972	1995
1954	1975	1998
1958	1980	1999
1966	1983	2002
1967	1984	2004
1969	1990	2006
	1991	Unknown
	1993	

NOTES

Base data sources:
Yukon Geomatics
Fire History data created by Wildland Fire Management (Government of Yukon)

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Fire History of the Area

PROJECTION	DATUM
UTM Zone 8	NAD83

Scale: 1:500,000
10 5 0 10
Kilometres

FILE NO.
W14101068_024_Figure03_Fire.mxd

PROJECT NO.	DWN	CKD	REV
W14101068.024	MEZ	TP	0

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Figure 6

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APPENDIX A

APPENDIX A EBA'S GENERAL CONDITIONS

GEO-ENVIRONMENTAL REPORT – GENERAL CONDITIONS

This report incorporates and is subject to these "General Conditions".

1.0 USE OF REPORT AND OWNERSHIP

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

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Where EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed EBA's instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of EBA's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except EBA. The Client warrants that EBA's instruments of professional service will be used only and exactly as submitted by EBA.

Electronic files submitted by EBA have been prepared and submitted using specific software and hardware systems. EBA makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

3.0 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by EBA in its reasonably exercised discretion.

4.0 INFORMATION PROVIDED TO EBA BY OTHERS

During the performance of the work and the preparation of the report, EBA may rely on information provided by persons other than the Client. While EBA endeavours to verify the accuracy of such information when instructed to do so by the Client, EBA accepts no responsibility for the accuracy or the reliability of such information which may affect the report.