Copper Fox Metals Inc.

Schaft Creek Project: Land and Resource Use Baseline







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SCHAFT CREEK PROJECT: Land and Resource Use Baseline

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Prepared for:



Copper Fox Metals Inc.

Prepared by:



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Executive Summary





Executive Summary

The proposed Schaft Creek Project is located in an area with a number of overlapping land use activities and tenures. Many of these activities - including guide outfitting, commercial recreation, and First Nations land use - value the area for its remote, wilderness characteristics. Others, such as mineral developers, may have different priorities. The Project also lies within the asserted traditional territory of the Tahltan Nation, a First Nation with its own goals and objectives regarding the development and/or preservation of the natural landscape.

Overall, development objectives of the land and resources have been established by the Cassiar Iskut-Stikine Land and Resource Management Plan (LRMP), which generally supports mineral development, subject to environmental standards and regulations. In addition, the Tahltan Nation is also developing a land management plan for their territory.

In recognition of the dependency of many land use activities (e.g., hunting) on the nature of the biophysical environment (e.g., wildlife), the land and resource use study area covers the extent of the biophysical study area for the proposed Schaft Creek Project. Table 1 identifies the land use interests identified within this area.

Parks and protected areas	The proposed mine site is located approximately 15 km from the southwest corner of the Mt. Edziza Provincial Park, while the Galore Creek Access Road is located across the river from the Iskut Hot Springs Provincial Park.	
Mineral exploration and development	The proposed Schaft Creek Project would share an access road with the proposed Galore Creek Project. Other exploration projects in the vicinity of Schaft Creek include KSM, Bruckjack, Mt. Dunn, Bronson Slope, and Trek.	
Guide outfitting	The majority of Project infrastructure is located within the guide outfitting licence held by Northwest Ranching & Outfitting. Other licences overlapping the peripheral of the study area are held by Misty Mountain Outfitters, Golden Bear Outfitting, and Kinaskan Lake Outfitters.	
Traplines	The majority of Project infrastructure is located within the trapline licence held by Ken Cottrell. In total, eight trapline territories overlap the study area.	
Other tenures	Other land use interests include water licences, angling guides, grazing/ra tenures, cabins, commercial recreation, forestry, transportation, and tourism.	
Tahltan land use	The Tahltan Nation values the study area for a variety of subsistence and cultur activities, including hunting, trapping, fishing, and plant harvests.	

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Glossary and Abbreviations





Glossary and Abbreviations

ВСТС	BC Transmission Corporation	
GMD	General Management Direction	
FSR	Forest Service Road	
ILMB	Integrated Land Management Bureau (Government of BC)	
ILRR	Integrated Land and Resource Registry	
LRMP	Land and Resource Management Plan	
NTL	Northwest Transmission Line (proposed)	
RMZ	Resource Management Zone	

1. Introduction





1. Introduction

This report summarizes the existing land and resource use activities and values in the vicinity of the Schaft Creek Project, including land management strategies and both tenured and non-tenured activities.

1.1 SCHAFT CREEK PROJECT SUMMARY

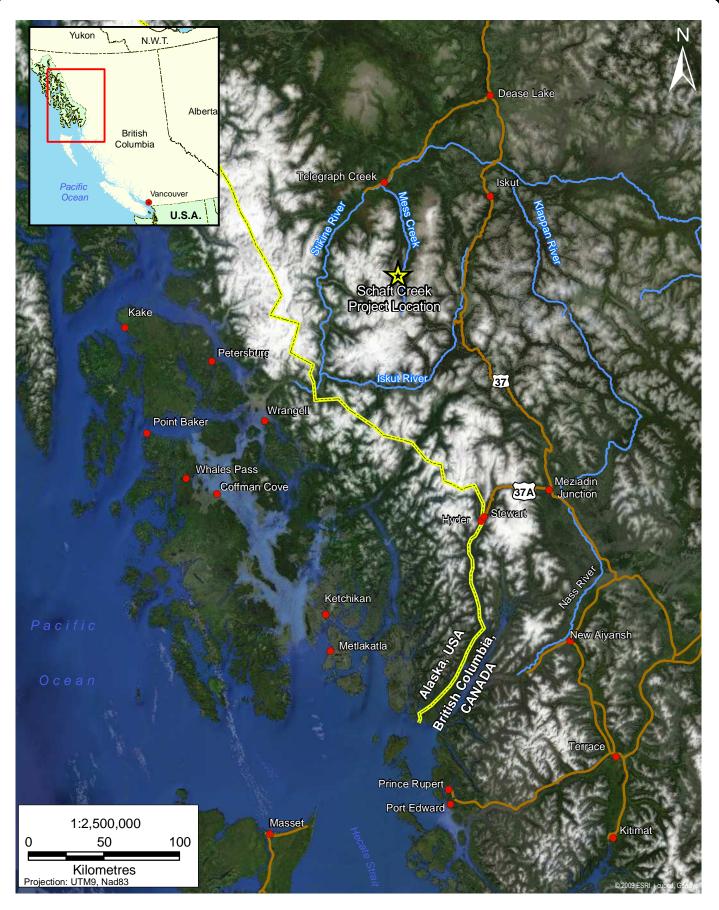
Copper Fox Metals Inc. (Copper Fox) is a Canadian mineral exploration and development company focused on developing the Schaft Creek deposit located in north-western British Columbia, approximately 60 km south of the village of Telegraph Creek (Figure 1.1-1). The Schaft Creek deposit was discovered in 1957 and has since been investigated by prospecting, geological mapping, geophysical surveys as well as diamond and percussion drilling. The deposit is situated within the upper source regions of Schaft Creek, which drains northerly into Mess Creek and onwards into the Stikine River. The Stikine River is an international river that crosses the US/Canadian border near Wrangell, Alaska. The Schaft Creek deposit is a polymetallic (copper-gold-silver-molybdenum) deposit located in the Liard District of north-western British Columbia (Latitude 57° 22' 42''; Longitude 130°, 58' 48.9''). The property is comprised of 40 mineral claims (Figure 1.1-2) covering an area totalling approximately 20,932 ha within the Cassiar Iskut-Stikine Land and Resource Management Plan.

The Schaft Creek Project is located within the traditional territory of the Tahltan Nation. Copper Fox has been in discussions with the Tahltan Central Council (TCC) and the Tahltan Heritage Resources Environmental Assessment Team (THREAT) since initiating exploration activities in 2005. Copper Fox will continue to work together with the Tahltan Nation as work on the Schaft Creek Project continues.

The Schaft Creek Project entered the British Columbia EA process in August 2006. Although a formal federal decision has not yet been made, the Project will likely require federal approval as per the *Canadian Environmental Assessment Act.* Copper Fox has targeted the third quarter 2010 for submission of their Schaft Creek EA Application.

The current mine plan would see ore mined from an open pit at a rate of 100,000 tonnes per day. The mine plan includes 812 million tonnes of Measured and Indicated Mineable resources providing for an estimated 23 year mine life. The Project is estimated to generate up to 2,100 jobs during the construction phase and approximately 700 permanent jobs during mine operations.

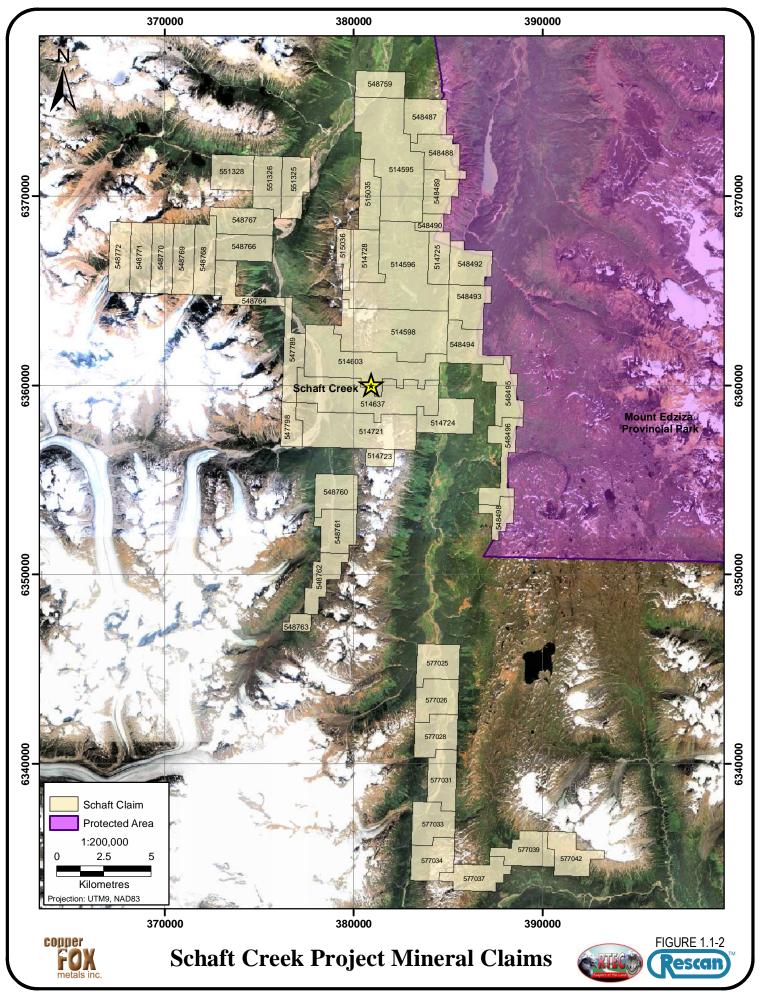
The deposit will be mined with large truck/shovel operations and typical drill and blast techniques. The ore will be crushed, milled and filtered on site to produce separate copper and molybdenum concentrates. The Process Plant will include a typical comminution circuit (Semi-Autogenous Mill, Ball Mill and Pebble Crusher) followed by a flotation circuit and a copper circuit with thickener, filtration and concentrate loadout and transportation. The Process Plant includes a designated molybdenum circuit with thickener, filtration, drying and bagging. A tailings thickener and water reclaim system will be used to recycle process water. The circuit will have a design capacity of 108,700 tonnes per day and a nominal capacity of 100,000 tonnes per day (36,000,000 tonnes per year). Approximately 293,000 tonnes of concentrates will be produced each year, which will be transported via truck to the port of Stewart, BC, for onward shipping to markets.





Location Map for Schaft Creek Project





Copper Fox will construct an access road to the mine site (Schaft Creek Access Road; Schaft Road) to the 65.1 kilometre point (65.1km) of the Galore Creek Access Road (Galore Road). The Schaft Road will cover a distance of 39.5 km from the Galore Road to the Schaft mine site (Figure 1.1-3). Both the Galore and Schaft roads will be gravel roads with six meter wide driving surface. Pullouts and radio controls will be used to manage two-way traffic on the road. The Schaft Road will be a private road used to service the Schaft Creek mine.

The Galore Road is a fully permitted multi-use road; BC MOF Special Use Permit (S24637). The Galore Road is being constructed by Galore Creek Mining Corporation. Currently, Galore Creek Mining is only planning to construct the Galore Road to 40km while they review the current Galore Creek Project for which the road was to service. Copper Fox will engage Galore Creek Mining with respect to the completion of the Galore Road, and if necessary, arrange to transfer the MOF Special Use Permit to Copper Fox as the Schaft Creek Project advances.

The Galore Road connects to Highway 37 near Bob Quinn Lake. The total road distance from the Schaft mine site to Highway 37 is 105 km. The majority of the 39.5 km Schaft Road is within the Mess Creek watershed. In order to avoid geohazards along the Mess Creek valley, the Schaft Road will cross Mess Creek twice (Figure 1.1-3). Mess Creek is considered navigable per Transportation Canada criteria.

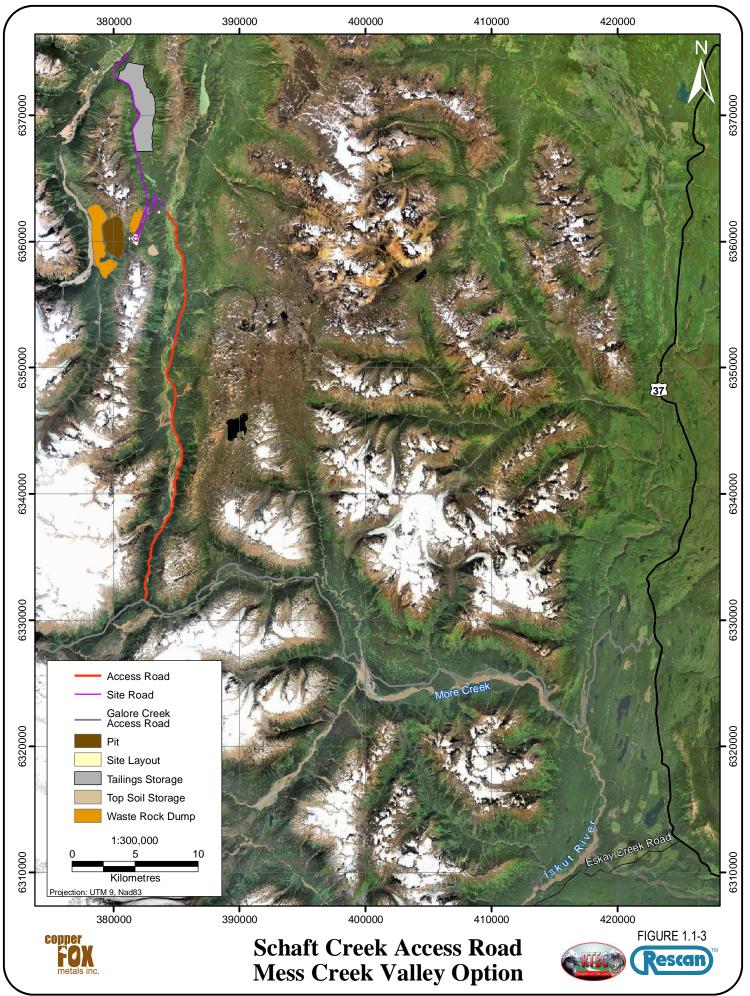
After crossing Mess Creek at the north end of the Schaft Road (32.5 km), the route rises up the side of Mount LaCasse crossing Shift Creek (10 m bridge) and Big B Creek (10 m bridge). The route terminates at Snipe Lake (39.5 km). Conventional 30-tonne trucks will be used to transport concentrate from the mine site to the Bob Quinn area along the Schaft and Galore roads. From Bob Quinn to Stewart, convention B-train commercial truck haulage can then be utilized along Highway 37 and 37A. There will be 30 concentrate trucks along this route over a 24 hour period, seven days per week.

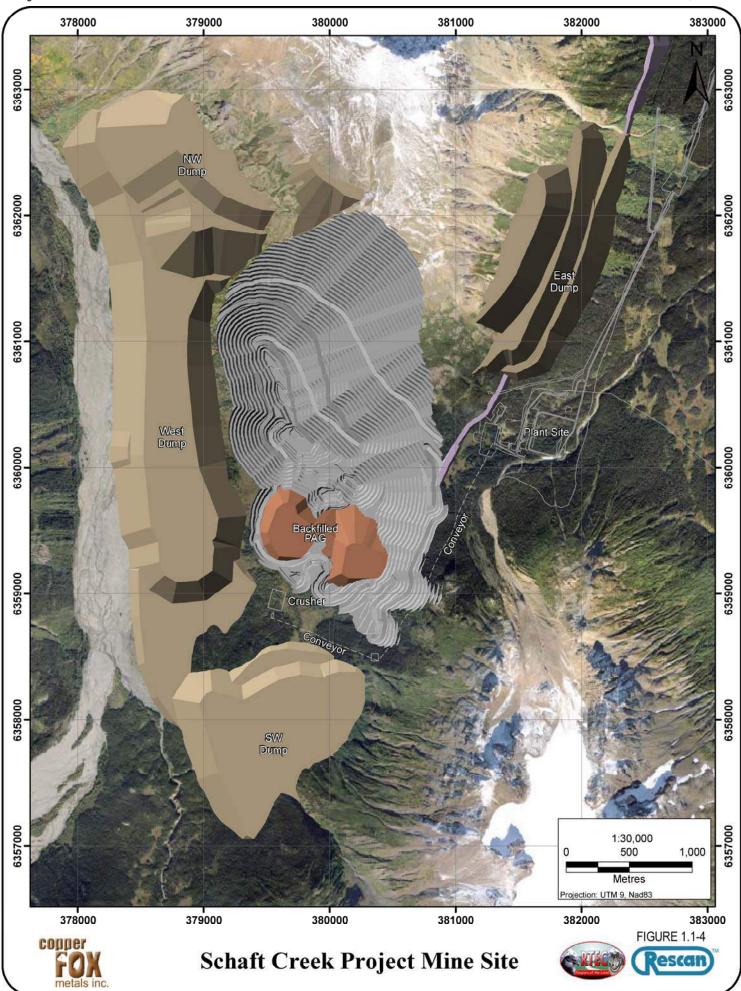
Electrical power to the mine site will be provided via a 138 kV transmission line, extending from Bob Quinn Lake to the Project along the proposed corridor for the Galore and Schaft roads. The proposed transmission line assumes that electrical power will be supplied from British Columba Transmission Corporation's (BCTC) proposed new 287 kV Northwest Transmission Line from a point near Bob Quinn Lake.

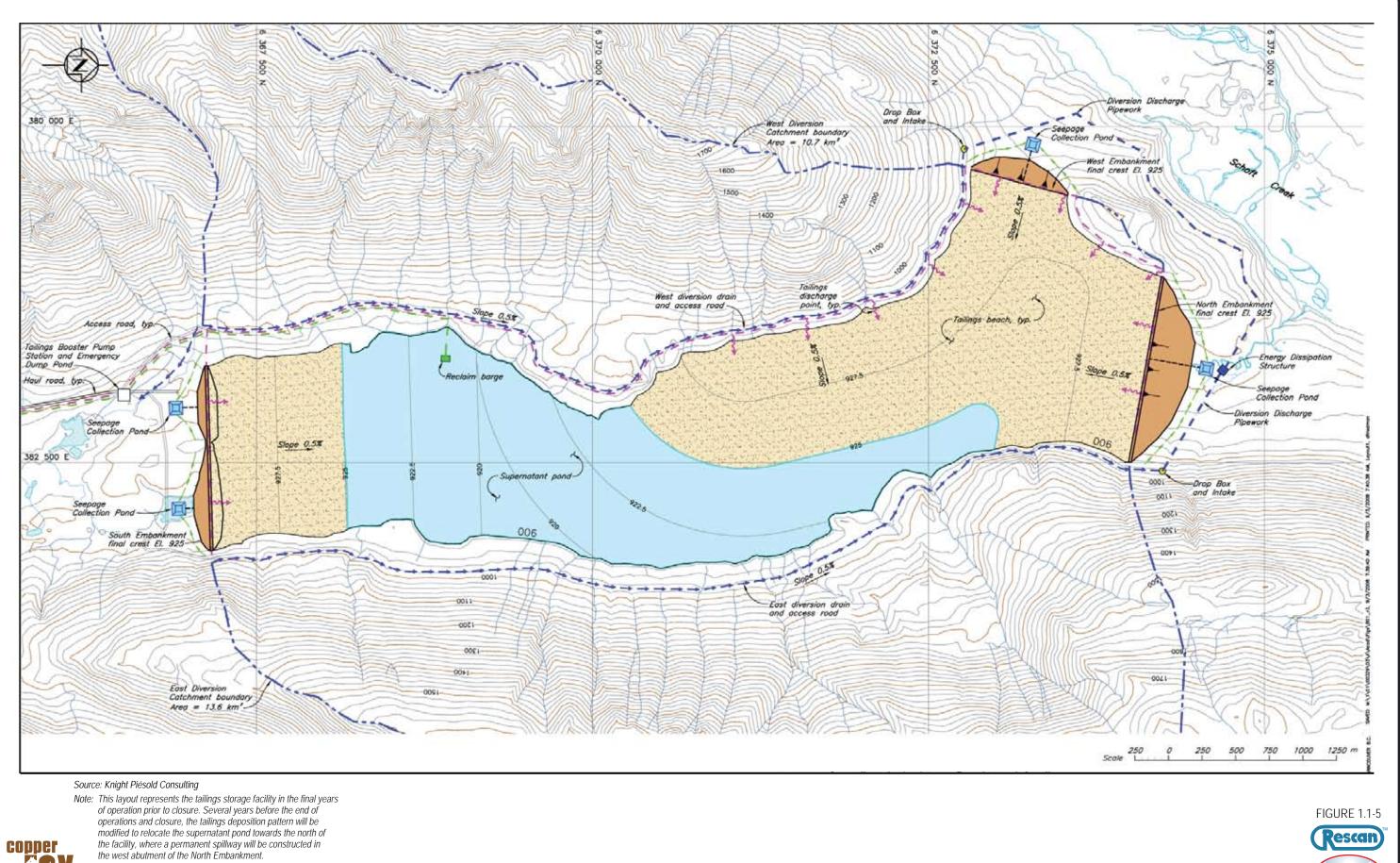
The Schaft Pit will encompass an area of 4.9 km² at the end of the mine life (Figure 1.1-4). The Pit will extend 330 m below the current elevation (520 masl). An ore stockpile and crusher will be located between the Pit and Schaft Creek. Crushed ore will be conveyed to the Plant site on the saddle just east of the Pit. Tailings from the Process Plant will be piped to the Skeeter Tailings Storage Facility (TSF) as a slurry (55% solids).

Over the life of the mine the Project will generate over 812 million tonnes of tailings, which will be managed in the Skeeter TSF. The TSF will not span the low relief watershed divide between Skeeter and Start watersheds. The Skeeter TSF will require three embankments to contain the tailings generated over the life of the mine (Figure 1.1-5). Based on average climatic conditions, the TSF will have a positive water balance. Discharge from the TSF will be to Skeeter Creek.

The Project will generate an estimated 1,547 million tonnes of waste rock. Waste rock dumps are proposed around the perimeter of the Schaft Pit, with the majority of the material being placed on the east side of Schaft Creek (Figure 1.1-4). The current plan assumes the waste rock will be non-acid generating and will not leach metals at or near neutral pH. The plan is subject to change as work progresses on the metal leaching and acid rock drainage program.







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Schaft Creek Project - Skeeter Tailings Storage Facility

The Project will be a fly-in, fly-out operation, and a new airfield capable of handling a Boeing 737 will be constructed to the east of the Pit. The preliminary design includes a 1,600 m compacted gravel landing strip, terminal building, fuelling facilities, small maintenance facility and control and lighting systems.

A permanent camp will be constructed to support approximately 700 employees. Other facilities include a truck shop, warehouse, administration, maintenance laboratory, explosive storage, water treatment facilities and potable water storage.

1.2 REGIONAL CONTEXT

The proposed Schaft Creek Project is located in the northwestern British Columbia, within the asserted territory of the Tahltan Nation. The study area is remote, largely undeveloped, and difficult to access. The area is rich in mineral resources, although mineral development is limited by factors such as distance to market, a lack of established infrastructure, and the challenges of access. Highway 37, running north-to-south from Kitwanga to the Alaska Highway, is the main corridor for land-based access; most communities and services are located along this route.

The nearest community is Telegraph Creek, a Tahltan village of approximately 300 people on the Stikine River, approximately 60 km north of the Project. One of the most remote communities in BC, Telegraph Creek is connected to Dease Lake and Highway 37 by an unpaved rural road. Telegraph Creek, other communities, and the Tahltan Nation are discussed in the Schaft Creek Project Socio-Economic Baseline Report (RESCAN 2010).

The economy of northwest BC is largely driven by resource sectors, including mining and mineral exploration. The forestry sector is also important, although primarily based around the more southern communities of Smithers, Terrace, Burns Lake and Prince George. The communities closer to the Schaft Creek Project, such as Dease Lake, have not historically had a large reliance on forestry, and exhibit closer ties to mineral exploration and development (BC Stats 2009). The Eskay Creek mine accounted for a significant amount of regional employment, until its closure in 2008. At its peak, the Eskay Creek project directly employed approximately 350 people at the mine (approximately 30% of whom were members of the Tahltan Nation), while many more were employed indirectly providing supplies, transportation, and other services (MREPBC 2007). The economy of northwest BC is also described in further detail in the Socio-Economic Baseline Report (Rescan 2010).

1.3 LAND AND RESOURCE USE STUDY OBJECTIVES

The Land and Resource Use Baseline Study will provide information needed to conduct an effects assessment in this area. As such, this report identifies current tenures, activities and interest groups related to the Schaft Creek Project, including:

- Hunting and trapping
- Tourism and recreation
- Water withdrawal
- o Settlement
- First Nations land use

- Guide outfitting
- Minerals and mining
- Camps and cabins
- Parks and protected areas
- o Other activities

Objectives include the determination of levels and areas of use, benefits gained, and patterns or changes over recent years. While the context of historical background of land use in the area will be provided (including both First Nations and non-Aboriginal use), this study will focus on contemporary (i.e. present-day) land use activities.

2. Study Area and Methodology





2.1 STUDY AREA

The land and resource use study area (Figure 2.1-1) encompasses the broadest area included in biophysical baseline studies for the Project; namely, the study area for terrestrial ecosystems. As a number of biophysical aspects are important components of land use activities – *e.g.* wildlife, fisheries, and edible plants – the use of the terrestrial study area accounts for potential overlap between studies.

Baseline data collection began with the identification of both tenured and non-tenured land users within the study area. This was completed through review of relevant land management plans, correspondence with government agencies, use of the BC government's Integrated Land and Resource Registry (ILRR), and review of existing reports and publications related to the area.

These desk-based data sources were then enhanced through interviews and field investigations. Identified interest groups and land users were contacted; provided with background information about the Schaft Creek Project and baseline studies; and invited to participate. Interviews and mapping exercises were used to determine specific areas of use, levels of use/harvest (quantifiable, where possible), seasonal variances, and importance for livelihoods or other benefits.

Land use activities and values specific to the Tahltan Nation are addressed in Section 8.

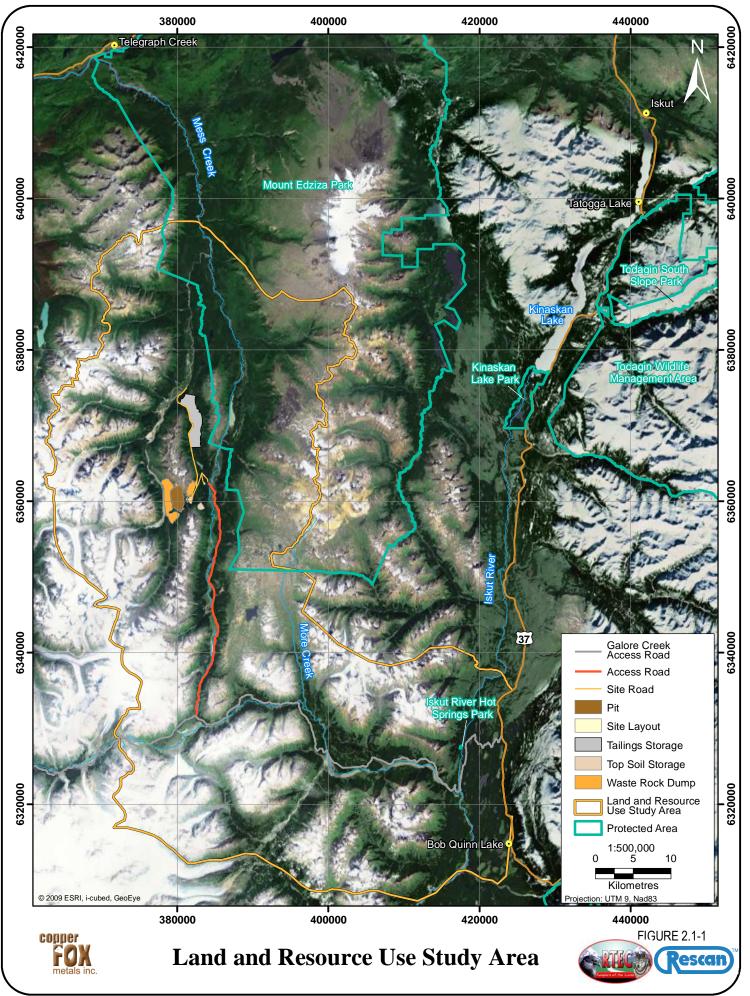
2.2 METHODOLOGY

A combination of secondary (desk-based) and primary (field-based) research was used to gather baseline land use information.

Secondary research included a review of relevant land management plans and other government publications, and a tenure search to identify people and businesses with various licences for land and resource use. Consultation with government agencies, local industry, and the Tahltan Nation also provided insight into land users and interests.

Potentially affected land users—such as trapline owners, guide outfitters, and commercial recreation ventures—were contacted to determine potential degrees of overlap between these land uses and the proposed Schaft Creek Project, and to identify what activities are pursued in the study area. Potentially affected tenure holders were contacted, although not all chose to participate in the baseline study at this time. These stakeholders will be kept informed of Project developments, and will be invited to participate in the consultation process throughout the environmental impact assessment and Application.

Interviews and other primary data collection were mostly conducted in the summer of 2008, after which baseline research efforts were suspended.



3. Land Management





3. Land Management

This section describes applicable land management considerations, including those defined under the Cassiar Iskut-Stikine LRMP, the Kitimat Stikine Regional District, and relevant parks and protected areas.

3.1 CASSIAR ISKUT-STIKINE LRMP

The Project is located within the boundaries of the Cassiar Iskut-Stikine Land and Resource Management Plan (LRMP), which encompasses approximately 52,000 km² of northwestern BC. The LRMP was finalized in October, 2000, following three years of negotiations between First Nations, public and government representatives.

Three levels of management directions have been established for the LRMP area. Over the entire plan area, excluding protected areas, a set of General Management Directions (GMDs) provide management objectives and strategies for all natural resources and resource values. Additional objectives and strategies are specified for 15 area-specific Resource Management Zones (RMZs), reflecting the specific values of each RMZ (ILMB 2000).

There are also 14 protected areas within the LRMP, which are governed by a separate set of objectives and strategies. In general, no mining, logging, or hydroelectric development is permitted within protected areas (ILMB 2000). Protected area management is described further in Section 3.4.

3.1.1 General Management Directions

The Cassiar Iskut-Stikine LRMP (ILMB 2000) specifies ten General Management Directions, which apply to all areas:

0	Access Management	0	Biodiversity and Ecosystem Health
0	Botanical Forest Products	0	Cultural Heritage
0	Hunting, Trapping, Guiding, Fishing	0	Mineral and Energy Resources
0	Settlement, Agriculture and Range	0	Recreation and Tourism
0	Timber	0	Visual Quality

Strategies for the achievement of these objectives are provided in the LRMP.

3.1.1.1 Access Management

Much of the Plan area is remote and inaccessible by road. With the exception of protected areas, this management direction seeks to manage access to meet the needs of land users, as long as ecological and cultural heritage values are respected (ILMB 2000). Management objectives applying to land-, water- and air-based access are summarized in Table 3.1-1.

Category	Objectives
Land-based	 Keep impacts on wildlife habitat and sensitive ecosystem to a minimum during road construction and use.
	 Manage game populations by controlling hunting and fishing access, where required.
	 Maintain aesthetic quality of viewscapes and recreational features while providing opportunities for a range of recreation and tourism activities.
	 Conserve archaeological resources and heritage trails; minimize impacts on First Nations' traditional use sites; and maintain the integrity and historic features of identified pioneer heritage sites.
	 Provide access for long-term resource management and economic development needs while minimizing impacts on environmental, social, cultural heritage and wildlife habitat values; and commercial activities.
	 Avoid adverse impacts to sensitive terrain due to road construction and use.
Water-based	• Maintain the remote quality of identified lakes and rivers by restricting motorized recreational boat use, where required.
Air-based	• Minimize disturbance to wildlife (particularly Stone's Sheep and mountain goat) due to aircraft use, particularly during sensitive periods.
	 Minimize disturbance to remote land- and water-based recreation and tourism activities due to aircraft use

Table 3.1-1. Access Management Objectives

Source: ILMB (2000)

3.1.1.2 Biodiversity and Ecosystem Health

The LRMP area is noted to have a high diversity of plants, animals and other living organisms, supporting healthy populations of many species which may be threatened or endangered in other parts of the province (ILMB 2000). Notable features of the plan area include the large mammal predator-prey systems, and Coastal grizzly-salmon ecosystems in the Lower Stikine, Iskut and Unuk river valleys.

This management direction seeks to provide an environment containing the indigenous diversity of flora and fauna, including genes, species, and ecosystems at all levels of organisation, throughout the LRMP area. Table 3.1-2 summarizes management objectives for aquatic ecosystems and riparian habitat; endangered plants and animals; fire management; landscape connectivity; natural disturbance patterns and ecosystem representation; predator-prey systems; special landforms; and wildlife.

Table 3.1-2. Biodiversity and Ecosystem Health Management Obj

Category	Objectives
Aquatic Ecosystems and Riparian Habitat	Improve and update information on aquatic and riparian biota and habitat.
mpunannaonae	• Promote awareness and involvement of public and First nations in habitat management.
	Maintain naturally-occurring aquatic biota.
	 Manage activities to achieve no net loss of fish habitat.
	 Conserve riparian habitat by minimizing disturbance of habitat features.
	 Maintain the integrity of watersheds with high fisheries values and domestic water use.
	 Identify and rehabilitate/enhance fish populations and habitat.
	 Maintain water quality and quantity within the natural range of variability.

(continued)

Category	Objectives	
Endangered Plants and Animals	 Maintain habitats of rare, threatened and endangered animals, plants and plant communities. Implement conservation measures when trapping, hunting or fishing blue-listed species. Maintain habitat and minimize disturbance for: Fisher 	
	 Raptors Trumpeter Swans Bull Trout 	
Fire Management	 Manage fires to minimize damage to people and property, while allowing natural disturbance processes to occur. Enhance habitat consistent with natural disturbance patterns through prescribed burning. 	
Landscape Connectivity	 Maintain contiguous areas of functional habitat creating an interconnected network of ecosystems and key wildlife habitat. 	
Natural Disturbance Patterns / Ecosystem Representation	 Maintain seral and patch size distributions of forests consistent with natural disturbance types. During forestry activities, retain natural characteristics at the stand level. 	
Predator-Prey Systems	 Maintain natural predator-prey systems. Maintain large areas of contiguous habitats at the landscape, sub-regional and regional scales for large mammal predator-prey systems. 	
Special Landforms (Plateaus)	 Minimize impacts of motorized activities on plateaus and their habitats. Maintain connectivity for wildlife between plateaus and adjacent plateaus and mountain ranges. 	
Wildlife	 Maintain habitat to support healthy wildlife populations. Manage development/access to conserve important habitat features and wildlife populations. Maintain high value habitat and the functional integrity of seasonal ranges for: Moose Caribou Stone's sheep and mountain goat Grizzly bear Marten Minimize bear/human conflicts and disruption of bear habitat. 	

Table 3.1-2. Biodiversity and Ecosystem Health Management Objectives (completed)

Source: ILMB (2000)

3.1.1.3 Botanical Forest Products and Medicinal Plants

A variety of botanical forest products within the plan area provide for both commercial and sustenance use; including mushrooms, berries and medicinal plants. Objectives for the management of these products are summarized in Table 3.1-3.

Category	Objectives
Botanical Forest Products and Medicinal Plants	 Maintain pine mushroom growing sites with integrated forest management.
	 Maintain opportunities for sustainable harvesting of other species of mushroom.
	 Maintain accessible berry-producing areas across the landscape through time.
	 Maintain opportunities for the sustainable harvesting of medicinal plants.
	• Maintain opportunities for sustainable harvesting of other botanical forest products.

Source: ILMB (2000)

3.1.1.4 Cultural Heritage Resources

The rich heritage of the area is noted in the LRMP, including historical and contemporary use by First Nations and non-Aboriginal people. Recognized heritage resources include archaeological sites, First Nations traditional use sites, and non-Aboriginal (*e.g.* pioneer) historic sites. Management objectives for cultural heritage resources are summarized in Table 3.1-4.

Table 3.1-4. Cu	Iltural Heritage Resource	es Management Objectives
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Category	Objectives
Cultural Heritage Resources	Conserve archaeological resources.
	 Minimize the impact of development on First Nations' traditional use sites.
	 Conserve heritage trails (including the Klastline Trail and the Telegraph Trail).
	 Maintain the integrity and historic features of pioneer heritage sites.

Source: ILMB (2000)

3.1.1.5 Hunting, Trapping, Guide Outfitting and Fishing

Hunting, trapping and fishing activities are recognized for their sustenance, recreation, cultural and economic significance for both First Nations and non-Aboriginal residents; including those from local communities, as well as from outside the plan area. Guide outfitting operations also bring important economic and employment benefits for local and regional economies (ILMB 2000).

Fish and wildlife resources are managed by the provincial government, to conserve maintain viable and sustainable populations. After conservation goals have been met, the harvestable surplus is available to First Nations and non-Aboriginal hunters, trappers and anglers. Management objectives for fish, game and furbearer populations (and harvests) are summarized in Table 3.1-5.

Category	Objectives
Hunting, Trapping, Guide- Outfitting and Fishing	 Manage game wildlife populations to be a sustainable renewable resource.
	 Maintain opportunities for local, resident and non-resident hunting.
	 Maintain opportunities for First Nations subsistence and traditional use hunting.
	 Maintain furbearer populations to be a sustainable renewable resource.
	 Provide and maintain commercial opportunities for hunting, fishing and trapping.
	 Manage wild and enhanced salmon (and other wild fish stocks) to be a sustainable and renewable resource.
	 Maintain opportunities for local, resident and non-resident fishing.
	 Maintain opportunities for First Nations subsistence and traditional use fishing.

Source: ILMB (2000)

3.1.1.6 Mineral and Energy Resources

Globally-significant mineral and energy resources are recognized within the LRMP area, which includes over 30 developed prospects, and several past producers (ILMB 2000). The most recent mineral operation – the Eskay Creek gold-silver mine – finished mining in March, 2008 (Barrick 2008). Energy resources include significant potential for natural gas, petroleum, coal and coal-bed methane (ILMB 2000).

The LRMP supports exploration and development in the area (excluding protected areas), including the development of access roads; and attempts to reduce uncertainty for industry and investment (ILMB 2000). Any activities are subject to any applicable environmental review processes. Management objectives for mineral and energy resources are summarized in Table 3.1-6.

Category	Objectives
Mineral and Energy Resources	 Provide a secure land base to support exploration and development of mineral and energy resources.
	 Provide opportunities for appropriate access for exploration and development.
	 Ensure security of mineral and energy resource tenures.
	 Minimize impacts to the land base and meet environmental regulatory standards.
	 Improve understanding of geological resources.
	 Increase public knowledge and enjoyment of geological and energy resources.
	 Promote mineral- and energy-related business, services and job opportunities that have economic/employment benefits for present and future generations.

Source: ILMB (2000)

3.1.1.7 Recreation and Tourism

The LRMP area is noted for its "world-class tourism opportunities" (ILMB 2000), including backcountry exploration, fishing, wildlife viewing, scenery and Aboriginal culture. Objectives in other categories – including biodiversity, visual quality and cultural heritage – also relate to recreation and tourism. Specific management objectives are summarized in Table 3.1-7.

Category	Objectives
Recreation and Tourism	Identify opportunities for tourism and recreation development.
	• Provide a secure land base to support environmentally- and culturally-sensitive development.
	 Manage natural, cultural and recreation resources in front- and back-country areas to support world class wilderness tourism opportunities.
	 Retain the natural character of high-value recreation features during access design and management
	 Promote development of locally-based, viable tourism opportunities consistent with long term tourism goals for the area.
	Maintain or increase opportunities for local recreational use.
	• Promote mining-based recreation and tourism activities (including tours of local operations).

Source: ILMB (2000)

3.1.1.8 Settlement, Agriculture and Range

The plan area is noted to be isolated and sparsely populated, and includes settlement around the communities of Telegraph Creek, Iskut and Bob Quinn. The community of Dease Lake lies just outside the northern boundary of the LRMP.

Small-scale agricultural production is generally limited to fluvial terraces of the Stikine River valley, between the Tuya and Chutine Rivers (*i.e.*, approximately 30 km on either side of Telegraph Creek). Range land primarily accommodates horse grazing for guide outfitters.

Category	Objectives
Settlement	 Provide Crown lands for residential, commercial and industrial development within the settlement areas identified in existing community plans, rural land use by-laws, etc.
	Maintain visual quality from the communities of Dease Lake, Telegraph Creek and Iskut.
Agriculture	Provide opportunities for small-scale farming.
Range	 Provide for livestock grazing needs on Crown land.
	 Reduce potential conflicts between agriculture/range use and wildlife.
	 Avoid spread of disease from domestic livestock to wildlife.
	 Maintain the integrity of rare and endangered plant communities while providing ongoing Crown range use.
	 Maintain water quality in areas with agriculture and range use.
	 Reduce and – where possible – eradicate invasive weed species that pose a risk to wildlife habitat and range lands.

 Table 3.1-8. Settlement, Agriculture and Range Management Objectives

Source: ILMB (2000)

3.1.1.9 Timber

Less than two percent of the total LRMP area is considered suitable for timber harvesting, due to extensive alpine and subalpine areas with low timber volumes. The majority of harvestable stands are located around Bob Quinn Lake and the Klappan. Management objectives consider opportunities for timber harvest, while maintaining other values (including biodiversity, wildlife habitat, and tourism/recreation); objectives are summarized in Table 3.1-9.

Table 3.1-9. Timber Management Objectives

Category	Objectives
Timber	 Produce a long term, secure and sustainable supply of timber that is economically-feasible and will benefit the local economy.
	 In managing timber, apply principles of ecosystem management at the landscape unit and stand level.
	 Provide opportunities for forest management and harvesting in order to generate local economic benefits over the long term.
	 Maintain opportunities for public review of forest management plans.
	 Maintain the health and productivity of the forest resources through forest health and salvage operations.

Source: ILMB (2000)

3.1.1.10 Visual Quality

The LRMP notes that the plan area is "renowned for its scenic beauty" (ILMB 2000), with a number of distinct scenic areas visible from communities, travel corridors and other important areas. Aesthetic values are emphasized to support tourism, recreation and quality of life. Most visual quality objectives have been designed to mitigate forestry-related activities, and the LRMP recognizes that it is not always possible to carry out mining (and other activities) to meet the same standards of visual quality (ILMB 2000). Management objectives are summarized in Table 3.1-10.

Category	Objectives
Visual Quality	 Maintain scenic values and provide increased opportunities to view scenic landscapes in areas of importance to First Nations, communities, tourism and recreation. Design forest management and other resource management/development activities to reflect the importance of known scenic areas. In non-forested areas, design development activities to reflect the importance of visual quality.

 Table 3.1-10. Visual Quality Management Objectives

Source: ILMB (2000)

3.1.2 Area-Specific Management

The LRMP identifies 15 resource management zones (RMZs) for area-specific management direction (Figure 3.1-1). The southeastern part of the land use study area overlaps with the Middle Iskut RMZ (ILMB 2000). Table 3.1-11 summarizes the management directions for this zone.

Table 3.1-11. Management Objectives for the Middle Iskut Zone

Category	Objectives
Minerals	Follows the General Management Directions
Timber	Minimum 100 m reserve (i.e., no-harvest) zone along the lskut River. (This reserve zone applies to forestry activities, but not mining.)
Access	Restrict new roads/public access west of the Iskut River, using river crossings as control points. Encourage the location of main forestry haul roads as far from the Iskut River as feasible.
Visual	Preserve viewscapes from Highway 37, Devil Lake, and the navigable portions of the Iskut River. From Highway 37, landscape alterations may be visible, but not apparent. From the Iskut River, alterations should be difficult to distinguish.
Fish and Wildlife	Follows the General Management Directions. If an access road is constructed to Devil Lake, monitor fish populations and take action to prevent overfishing.
Recreation and Tourism	Provide opportunities for front-country tourism at Devil Lake.

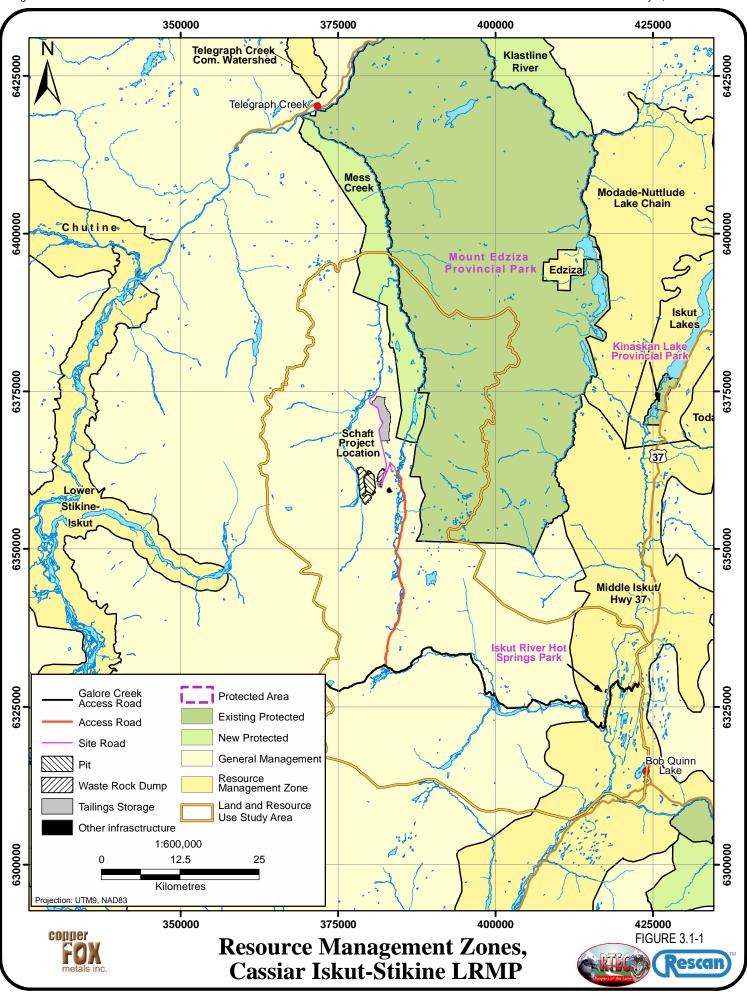
Source: ILMB (2000)

The Middle Iskut RMZ boundary is approximately 25 km from the proposed Schaft Creek mine site and/or access road. Project components located within this RMZ include Highway 37, the Galore Creek Access Road, and the airstrip at Bob Quinn Lake.

The Middle Iskut zone covers approximately 176,000 ha and includes a significant portion of the LRMP's timber harvesting land base. Management directions for this zone reflect the importance of riparian habitat, and protect a minimum 100 m no-harvest zone along the Iskut River. Riparian habitat in this area is also valued as a transitional ecosystem between the Interior Coastal Hemlock and northern boreal forests.

This zone also includes Highway 37, which is recognized for its importance to tourism traffic. The highway and other roads provide access to local water bodies (including the Iskut River) for various recreational opportunities. Activities include kayaking, rafting, hiking and canyoning, as well as camping at Devil Lake (approximately 3.5 km south of the Galore Creek Access Road, and 2.2 km west of Highway 37) and visiting the Iskut Hot Springs Provincial Park (discussed further in Section 3.4.2). Riparian habitat is also protected to ensure sustainability of recreational values along the river.

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The Middle Iskut zone includes requirements for restricted public access to the west side of the Iskut River, employing river crossings as access control points. It also specifies that viewscapes be preserved.

3.2 RURAL LAND USE BYLAWS

Development at Bob Quinn Lake is governed by the Regional District of Kitimat-Stikine rural area bylaws (RDKS 1992). This planning document recognises the economic potential of the Bob Quinn area as *"a strategic location for staging of resource extraction activities"* (RDKS 1992). In general, the rural land use bylaws discourage scattered development along Highway 37.

All land in the Bob Quinn Lake area is designated as a temporary permit area, whereby the Regional District may issue permits subject to the following criteria (RDKS 1992):

- The land is suited to the use intended;
- There would be no significant conflicts of temporary uses with existing and proposed future use;
- The natural environment shall not be adversely affected to any significant extent (including sensitive fish and wildlife habitat areas);
- Traffic flows and drainage shall not be adversely affected;
- The land is suitable for the water and sewage disposal requirements of the intended use; and
- Temporary permits shall be subject to the technical referral process, and negative concerns shall be satisfactorily rectified.

Table 3.2-1summarizes the applicable zoning designations and permitted uses in the Bob Quinn rural planning area.

Designations	Permitted Land Uses
Light Industrial (I-1)	Repair, processing, small-scale manufacturing, wholesaling, assembly, storage, aviation, and directly related uses including sales of fuel, industrial services, utilities, and expediting or warehouse use. Does not include manufacture or bulk storage of explosives or hazardous materials.
Heavy Industrial (I-2)	Large-scale manufacturing or processing facilities such as sawmills, log sort yards, log processing or chipping facilities, mines, ore processing plants, and large-scale storage yards.
General Commercial (C-1)	Retail, rental, service or wholesale uses dealing with all forms of merchandising and recreation uses, including retail outlets, restaurants, motels, hotels, private recreational facilities, and gasoline service stations.
Tourist Commercial (C-2)	Commercial campgrounds, recreation vehicle sites, fishing and hunting lodges, tourism cabins, lakeshore facilities, and tourism commercial services.
Single Family Residential (R-1)	One single family dwelling or mobile home per parcel, and ancillary buildings, tot lots, play fields, and recreation areas.
Mobile Home Park (MHP)	Mobile home park, caretaker residence, ancillary storage, home occupations, tot lots, playfields, and recreation areas.
Multiple Use (MU)	Highway maintenance camp and uses ancillary to a highway maintenance camp, such as residential accommodations, light industrial and general commercial uses.

 Table 3.2-1. Bob Quinn Rural Planning Area Zoning Designations

(continued)

Designations	Permitted Land Uses
Airport (A)	Aviation and ancillary uses including staging areas, aircraft parking areas, storage facilities for materials to be transhipped by aircraft, hangers, runway and grounds maintenance equipment garage, fuel dispensing and storage facilities, navigation and landing aids, and one caretaker's residence.
Resource Activities (W)	Forestry, mineral or aggregate extraction, resource management, refuse sites, wilderness, open space, outdoor recreation, and fish and wildlife habitat.
Recreation (WR)	Parks, open space, outdoor recreational use, developed recreational improvements such as trails, public campgrounds, and picnic sites, and ancillary facilities directly related to outdoor recreation.
Hazardous Lands (H)	Open space, wilderness parks, and sensitive environment management and directly related activities.

Table 3.2-1. Bob Quinn Rural Planning Area Zoning Designations (completed)

Source: RDKS (1992)

3.3 PARKS AND PROTECTED AREAS

The Project is located in proximity to the southwest corner of Mt. Edziza Provincial Park; while the access road runs close to the Iskut River Hot Springs Provincial Park (Figure 3.1-1).

3.3.1 Mt. Edziza Provincial Park

Mt. Edziza Provincial Park is a remote wilderness area comprising over 23,000 km² of northwestern B.C., south of Telegraph Creek on the west side of Highway 37. The park is renowned for its unique and striking volcanic landscape, which includes lava flows, basalt plateaus, cinder fields and cinder cones. There are also a number of significant lakes and rivers, most of which flow north into the Klastine and Stikine drainages. In the south, the Spectrum range is a noted attraction for its brilliant red, yellow, white and purple rocks (MOE 2008d). The eastern extent of the Park, along Mess Creek, was officially incorporated into the Park in 2003 under the Stikine Country Protected Areas Management Plan (MWLAP 2003b).

Access to the park is limited. The recommended overland route requires transport across the Stikine River from Telegraph Creek, and roughly follows Mess Creek and the old Telegraph Trail, joining with the Buckley Lake trail at Buckley Lake. Additional overland trails include the Klastine River trail (from Highway 37, north of Iskut), and the Kinaskan-Mowdade Lakes trail from Kinaskan Lake provincial park. Trails in the park are noted to be unmarked and often overgrown (MOE 2008d).

Access can also be attained via authorized chartered aircraft. Four companies are currently permitted: North Pacific Sea Planes (Tatogga Lake), Pacific Western Helicopters Ltd. (Dease Lake), Canadian Helicopters Ltd. (Smithers), and Vancouver Island Helicopters Ltd. (Sidney). Horseback access to the park is also allowed, with a letter of permission from BC Parks (MOE 2008d).

3.3.2 Iskut River Hot Springs Provincial Park

The Iskut River Hot Springs are located on the western bank of the Iskut River, approximately 15 km northwest of Bob Quinn Lake; and across the river from the proposed access road (Figure 3.1-1). The area has cultural significance to the Tahltan First Nation, and was given park designation following the recommendations of the Cassiar Iskut-Stikine LRMP.

Hot water is noted to weep into the river from its west bank in several areas, but there are no pools for bathing. Access to the six hectare park is limited, with no established trail and difficult foot access.

From Highway 37, prospective visitors face a six kilometre hike (or two kilometres from the Devil Lake FSR) through dense vegetation and over rough terrain, and must all cross the Iskut River (MWLAP 2003a). Access may also be gained by boat or helicopter (MOE 2008b).

3.3.3 Other Protected Areas

Four other protected areas exist in the vicinity of the Project, but outside the land use study area. To the southeast is the Ningunsaw provincial park and ecological reserve, which protects a number of inter-related ecosystems and biogeoclimatic zones, from the Ningunsaw river valley, to the high alpine (MOE 2008e). To the north, the Stikine River provincial park connects the Mt. Edziza and Spatsizi Plateau Wilderness provincial parks; and includes the internationally-renowned Grand Canyon of the Stikine. Adjacent to Highway 37, south of Iskut, the Kinaskan Lake provincial park provides angling opportunities (Kinaskan and Natadesleen lakes) and camping facilities for highway travellers (MOE 2008c). On the east side of the highway, the Todagin South Slope provincial park (and adjoined wildlife management area), which protects habitat for local wildlife, including large game (MOE 2008g).

4. Mineral Exploration and Development





4. Mineral Exploration and Development

Several clusters of mineral tenures overlap with the study area, including those in the vicinity of the proposed Schaft Creek Project, around the southern portion of the Mount Edziza Provincial Park, and north and south of the Galore Creek Access Road. The following sections summarize some of the main exploration and development activities currently underway in the areas.

4.1 GALORE CREEK

The most advanced development in the area is the Galore Creek project (NovaGold Resources Inc., and Teck Corporation), a proposed copper-gold mine located southwest of the Schaft Creek Project (MEMPR 2010). Galore Creek received its environmental assessment approval in 2007, but activity was suspended later that year due to rising costs. Construction of the Galore Creek Access Road (the eastern portion of which would be shared with the Schaft Creek Project) has continued, and—as of January 2010—the road was serviceable to Kilometre 48, at which point it will cross upper More Creek (MEMPR 2010). The Galore Creek development plan is currently being redesigned, and would require a feasibility study and an amended Environmental Assessment Certificate prior to development (MEMPR 2010).

4.2 RED CHRIS

The Red Chris project (Imperial Metals Corp.), another proposed copper-gold mine, is located 25 km south of Iskut. This project received environmental assessment certification in 2005. It has not started development, although exploration activities have continued.

Development of the Red Chris project has been challenged by the lack of a transmission line servicing the area, as well as legal disputes surrounding the federal environmental certification. The lack of grid electricity may be alleviated by the proposed Northwest Transmission Line (Section 5.4); while on January 21, 2010, the Supreme Court of Canada upheld the federal approval of the project (Imperial Metals 2010).

4.3 OTHER EXPLORATION PROJECTS

South of the Schaft Creek Project are a number of properties in various stages of exploration and/or environmental assessment, including the KSM (Kerr-Sulphurets-Mitchell) gold-copper project (Seabridge Gold Inc.), which anticipates submitting an environmental assessment application in September 2010 (MEMPR 2010). Other exploration activities in the vicinity of the KSM project, include those at the Snowfield gold-copper and Brucejack gold-silver deposits (Silver Standard Resources Inc.); Mt. Dunn copper-gold prospect (Paget Minerals Corp.); Bronson Slope copper-gold (Skyline Gold Corp.); and Trek (Romios Gold Resources Inc.) (MEMPR 2010).

4.4 HISTORICAL EXPLORATION SITES

Historical exploration sites identified in close proximity to Schaft and Mess creeks (Cottrell 2008, *pers. comm.*) are associated with the following operations:

• Hecla Mining: sites identified at the north end of Mess Lake and others in the area. Most infrastructure has been removed.

- McLeod: a site located near Schaft Creek on the west side of Mt. LeCasse. Infrastructure has been removed, and may have been washed away in a seasonal flood.
- Utah Mining: camp at Utah Lake, near Mess Creek. The camp has been removed but a helicopter landing pad may remain.

None of these sites are known to be currently undergoing exploration or extraction. Historical exploration activity is also described in the Schaft Creek Project Description (Copper Fox Metals Inc. 2008).

4.5 NORTHWEST TRANSMISSION LINE

In January 2010, the BC Transmission Corporation (BCTC) submitted an environmental assessment application under the BC Environmental Assessment Act. This project proposes to extend the 287 kV power grid to Bob Quinn Lake, where it could service new mine developments in the region. The project is being developed under a joint funding agreement between the governments of BC and Canada.

5. Hunting





5. Hunting

The classification of hunting activities in BC is largely dependent on the residency of the hunter. Hunters who are not residents of BC must be accompanied by a registered guide outfitter. These outfitters have licensed tenures over a defined geographic area. However, provincial residents may hunt independently (pursuant to applicable regulations and limitations).

5.1 GUIDE OUTFITTING

Four guide outfitting licences overlap with the land use study area (Figure 5.1-1). The licence held by Ms. Heidi Gutfrucht (Northwest Ranching & Outfitting) has the largest area of overlap with the Schaft Creek Project, comprising the mine site and the majority of the access road. The tenure held by Mr. Derek Drinnan (Misty Mountain Outfitters) includes the eastern 15 km of the access road and junction with Highway 37. The other two licences, held by Mr. Greg Williams (Golden Bear Outfitting) and Mr. Jerry Creyke (Kinaskan Lake Outfitters) overlap with the outer parts of the study area.

Any non-resident hunter (*i.e.*, not a resident of B.C.) must employ the services of a guide outfitter to hunt in the province. Outfitting clients often come from across the United States and Europe, and typically pay thousands of dollars for remote hunts in northern B.C. Large game such as Stone's Sheep, mountain goat, moose and grizzly bear are prized in the area.

As with many other tenures across the province, guide outfitting licenses are not exclusive, and may overlap with other land use rights including resource extraction. The following sections summarize the use and guiding/hunting activities of each outfitter, based on interviews conducted in 2008.

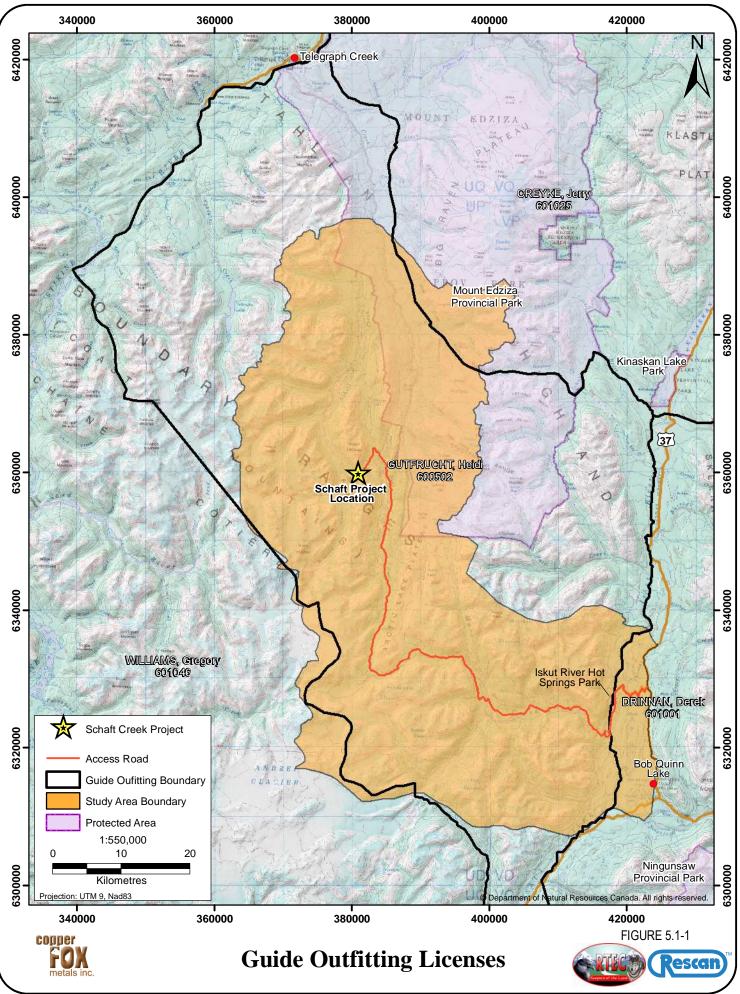
5.1.1 Northwest Ranching and Outfitting

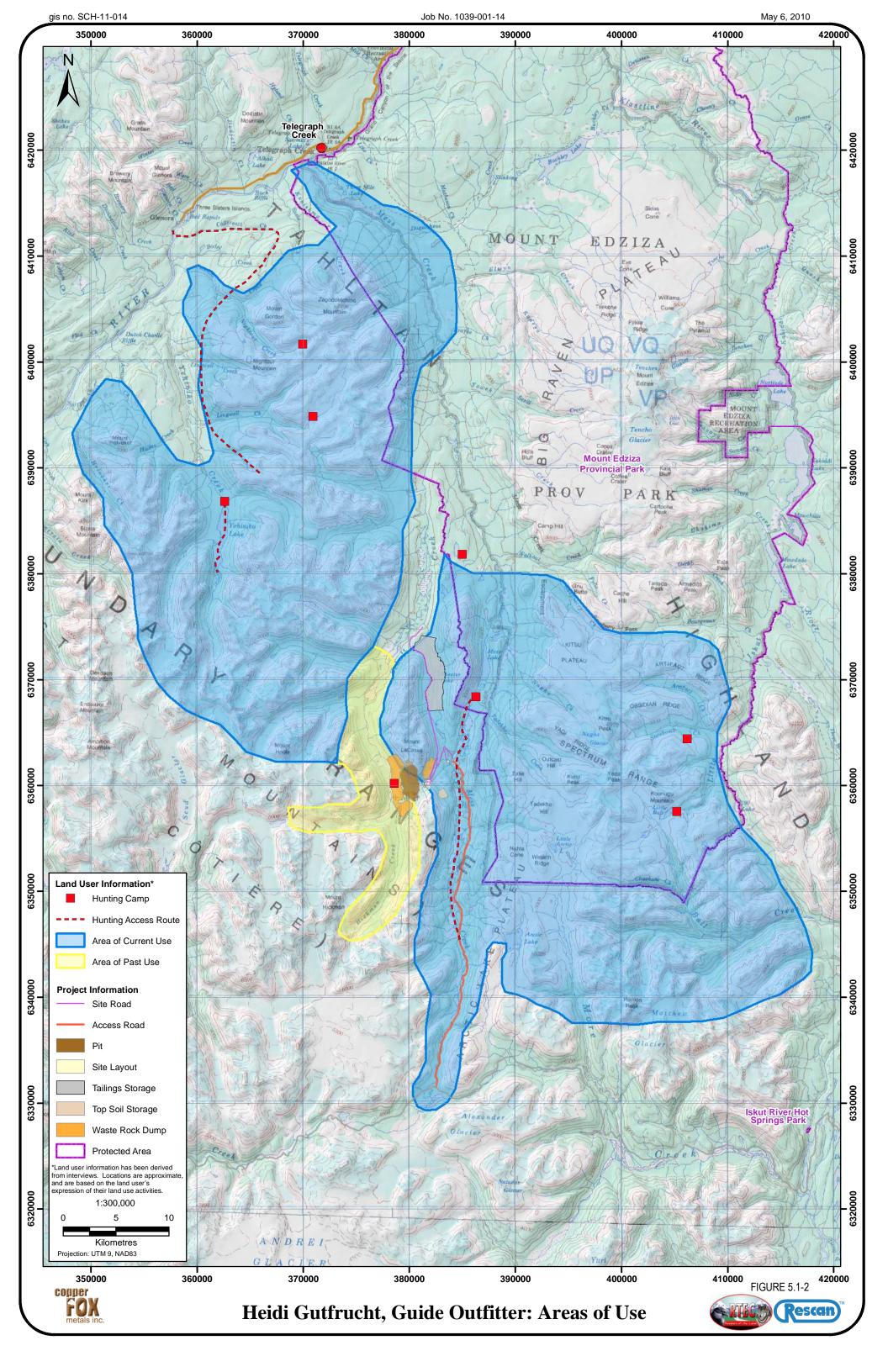
Heidi Gutfrucht has operated in the Schaft Creek and Mess Creek areas for around 30 years, guiding hunts for black bear, grizzly bear, moose, mountain sheep, mountain goat, and wolf (MOE 2009b). She is well known and respected in the guide outfitting industry (Thomas Jr. 2005). She has expressed a high degree of concern regarding the Schaft Creek Project (and mining in the area, in general) and potential detrimental effects on both the natural environment and on her livelihood.

5.1.1.1 Outfitting Activities

Ms. Gutfrucht reported usage of all her licensed territory north of the Iskut River (Gutfrucht 2008, *pers. comm.*). She intentionally avoided the area south of the river, with the understanding that protection of this area would be to the benefit of the wildlife stocks in the broader region. With a livelihood dependent on wildlife stocks and environmental health, she makes an effort to manage her territory and conserve natural resources (Gutfrucht 2008, *pers. comm.*).

In a typical year, Ms. Gutfrucht would run two sheep hunts in August, the first in the Coast range, and the second in the Spectrum range. This would be followed by approximately four moose hunts from mid-September to early October (Gutfrucht 2008, *pers. comm.*). Ms. Gutfrucht has established a number of camps within her outfitting territory, although none of them have permanent structures (other than woodpiles and bear caches). She does not focus her activities in one area, but moves around regularly (Gutfrucht 2008, *pers. comm.*). Figure 5.1-2 provides a basic overview of Ms. Gutfrucht's use of her outfitting territory, including the general locations of camps, access routes, and hunting areas. This map was developed through a combined interview/mapping exercise, which did not reference the propose Project components.





5.1.1.2 Environmental Concerns

Ms. Gutfrucht believes that the Project area should be valued as one of the last great expanses of wilderness in the world (Gutfrucht 2008, *pers. comm.*). Specifically, environmental concerns include potential downstream effects on fish and water quality throughout the Schaft, Mess, and Stikine drainages.

Ms. Gutfrucht reported that exploration at the Schaft Creek property (among others in the area, including Galore Creek) over the past 3 to 4 years has lead to noticeable and detrimental effects on her outfitting business (Gutfrucht 2008, *pers. comm.*). Effects include noise and visual disturbance related to increased helicopter traffic. She also noted that the helicopters often disturbed moose, goats, and other wildlife in the area. Noise from blasting was also noted to be a disturbance.

Ms. Gutfrucht commented that the Mess Creek and Schaft Creek valleys are recognized as important breeding areas for moose, of which she notes there are substantially fewer than in previous years (Gutfrucht, 2008, *pers. comm.*). She expressed concern that, while helicopter protocols and no-fly zones are established, they appear to be unenforced, allowing pilots to revert to the easiest routes even at risk to wildlife.

Ms. Gutfrucht reported the following observations regarding wildlife populations in the Project area over the past few years (based on her experience in the area over the past two decades):

- The moose have left the valley bottoms and moved into the trees, while the sheep and goats have left the high alpine and also moved to the trees. She attributes these changes to the increased helicopter traffic in the area.
- As a consequence of moving out of their preferred habitat, the moose, sheep, and goats have become more vulnerable to predation by wolves. She notes an increase in the number of wolves in the area, as well as the number of evident kills by wolves.
- She has seen sheep run off mountain cliffs (to their death) in response to helicopter presence in the area.
- Goats have left the Mess Creek valley.
- The valley south of Mess Lake used is high quality moose habitat, and used to have a large moose population.

Ms. Gutfrucht also expressed concern regarding the winter survival rates for wildlife, associated with movement from the Schaft and Mess valleys into neighbouring areas, and subsequent increases in population and competition for over-winter resources.

5.1.1.3 Livelihood Concerns

Ms. Gutfrucht's guide outfitting operation is her entire livelihood, and has been for over 20 years. Her hunts are priced at \$35,000 per person, and she has typically guided approximately six trips (with two clients each) every year. When exploration and helicopter traffic increased a few years ago, she began to receive complaints from clients regarding the negative implications of these activities on their experience. She noted that not only do these activities scare the wildlife and decrease hunting success, but they are also detrimental to the remote wilderness experience that her clients seek (Gutfrucht 2008, *pers. comm.*).

Ms. Gutfrucht reported that, in general over the past few years, the success rate of her hunts has decreased (Gutfrucht 2008, *pers. comm.*). She attributed this to an increase in helicopter traffic, and her observation that the moose have moved out of the valleys, and that the sheep have moved out of the high alpine areas. She commented that both species have moved into the trees and are therefore less accessible.

In July 2008, Ms. Gutfrucht reported that she could no longer offer trips in the Mess Creek and Schaft Creek valleys, areas where she previously based a lot of her activities. In September 2008, she reported that she had had her worst outfitting season ever, with only one kill all year. She described how clients had abandoned hunts part-way through, dissatisfied about the helicopter presence and other aesthetic and environmental disturbances, and the lack of available wildlife; this has resulted in significant economic costs to her business. As an outfitter, Ms. Gutfrucht felt that her reputation and livelihood were endangered (Gutfrucht 2008, *pers. comm.*).

Ms. Gutfrucht reported that she'd lost a third of her sheep hunters during the 2009 season: rather than six clients, she only had four. This amounted to approximately \$70,000 in lost revenue. She felt that her reputation (based on her outfitting territory) has been damaged, and she is no longer getting the return clients and word-of-mouth recommendations that she relies on (Gutfrucht 2010, *pers. comm.*). She noted that—despite this—the 2009 season was better than the 2008 season, as exploration activities had evidently been scaled back in 2009.

5.1.2 Misty Mountain Outfitters

Mr. Derek Drinnan operates Misty Mountain Outfitters, based in Whitehorse, YT. This outfitting tenure overlaps with the southeastern portion of the land use study area, including the Bob Quinn Lake airstrip, and the first 15 km of the Galore Creek Access Road at its junction with Highway 37. Mr. Drinnan declined to participate in the land use baseline study (Drinnan 2008, *pers. comm.*).

Misty Mountain Outfitters runs a variety of big game hunting excursions from including those targeting moose, caribou, mountain goat, stone sheep, wolf, wolverine, grizzly bear, and black bear (Misty Mountain Outfitters 2010). Most trips are scheduled for late-August through October, although some spring trips are also noted. Week-long fishing trips are also offered. Trips are based out a main lodge, and flights are coordinated to and from Smithers, BC.

5.1.3 Golden Bear Outfitting

Greg Williams recently acquired Golden Bear Outfitting, based in Telegraph Creek, from its former operator (Mr. Dempsey Callison). He has been operating in this area since 2007, although the company operated under Mr. Callison for a number of years (G. Williams 2008, *pers. comm.*). The outfitting business contributes 100% of his income, and he also values the lifestyle it provides.

Most of company's trips have four to six guests, most of whom are American. Access to the area is by air and horseback. Advertising is largely through word-of-mouth, and Mr. Williams reports a significant number of repeat clients. Most clients are after trophy kills, primarily moose, goat, and caribou, as well as sheep and grizzly bear. Mr. Williams planned to distribute any extra meat to Telegraph Creek community residents (G. Williams 2008, *pers. comm.*).

As of 2008, most of the activities in this territory had been based on the north side of the Stikine River, accessed from Telegraph Creek. However, Mr. Williams was considering an expansion of operations

south of the river, as well as diversifying to include activities such as fishing, backcountry adventure, and photography trips (G. Williams 2008, *pers. comm.*).

Mr. Williams expressed concern at the potentially increased accessibility of the area to resident hunters, which could lead to over-harvesting. He was also concerned about possible environmental effects of the mine and tailings impoundment, including effects on wildlife (G. Williams 2008, *pers. comm.*).

5.1.4 Kinaskan Lake Outfitters

Kinaskan Lake Outfitters, run by Mr. Jerry Creyke, operates a big game hunting venture under guide outfitting licence 601025. This outfitting territory overlaps with the northeast portion of the land use study area, and includes Mt Edziza Provincial Park, Kinaskan Lake Provincial Park, and both sides of Highway 37. None of the proposed Project infrastructure is within this area.

The Creyke family has held this licence for 58 years, from when the tenures were first implemented in the 1950s (Creyke 2008, *pers. comm.*). Mr. Creyke has worked in the guide outfitting industry for the past 35 years, and it is his primary livelihood. He chooses the guide outfitter lifestyle because he has a love for the outdoor environment. Around 12 to 14 people employed by Kinaskan Lake Outfitters.

A typical season involves approximately five trips between August and October (Creyke 2008, *pers. comm.*). Most trips include two-to-three groups of people, with around two-to-three people per group. Most clients are from the United States, and business is advertised through word-of-mouth. Mr. Creyke notes that most clients are looking for trophy kills, although he always ensures that any extra meat is used (Creyke 2008, *pers. comm.*).

Trips are reported to use areas on both sides of Highway 37. There is a base camp at Kinaskan Lake, and other temporary camps are located throughout the territory. Hunting activities are not focused in any particular area(s), but utilize the full extent of the territory (Creyke 2008, *pers. comm.*). Target species vary with the season, and include sheep, goat, moose, and other trophy wildlife. The company's primary season is in August and September.

Mr. Creyke expressed concerns about the effects of industrial development (including mining) on wildlife in the area (resulting in animals moving away from areas of disturbance). In particular, he was concerned about the increased use of helicopters associated with mineral exploration, as well as the development of new roads which facilitate access for people (and hunters) into remote areas (Creyke 2008, *pers. comm.*). The Mess Valley and Klappan Valley were two areas of noted concern. Mr. Creyke felt that increased access to currently unroaded areas is the greatest potential effect of mining in the region. He also expressed concern that mine workers may also be drawn to hunt while in the area (Creyke 2008, *pers. comm.*).

5.2 **RESIDENT HUNTING**

Residents of B.C. do not require the services of a guide outfitter, although they must comply with provincial hunting regulations, and possess a valid hunting licence. Hunting regulations are described by the *Hunting & Trapping Regulations Synopsis* (MOE 2009a), including the open season dates and bag limits for various species Special considerations applicable to WMU 6-21 include limited hunting areas for sheep, caribou, and mountain goat in Mt. Edziza Provincial Park, and a limited hunting area for mountain goat along the Stikine River (MOE 2009a).

Regular tenured users of the Schaft Creek area reported that they were not aware of any resident hunting in the area (Cottrell 2008, *pers. comm.*; Gutfrucht 2008, *pers. comm.*; Williams 2008, *pers. comm.*). This was attributed to the largely inaccessible state of the area at this time, and these parties expressed concern that increased access associated with resource extraction may lead to increased hunting by resident hunters, leading to potential detrimental effects on wildlife populations in the area.

Usage numbers or harvest statistics specific to the Schaft Creek area are not available. Harvest statistics for the broader Wildlife Management Unit are discussed below.

5.3 HARVEST STATISTICS

Harvest statistics for both resident and non-resident hunters is collected for each WMU. Actual harvest records for non-resident hunters are reported by guide outfitters, and are also provided for compulsory inspected (CI) species (i.e., grizzly, sheep and mountain goat) for both resident and non-resident hunters. Kill data for resident hunters for non-CI species is based on the extrapolation of reports from sample groups of hunters (Thornton 2008, *pers. comm.*).

It is important to note that the following harvest statistics are related to the broader WMU, and are not particular to the Schaft Creek Project and the land use study area.

5.3.1 Grizzly

Grizzly harvest statistics for WMU 6-21 have fluctuated over the past few decades. However, the overall trend has been relatively constant for resident hunters; while non-resident harvests show a marked decline. On average, resident hunters have a higher annual harvest rate than non-residents.

Among resident hunters, the average number of hunters per year generally increased through the 1980s, peaked in the early 1990s, since when it has declined slightly (Table 5.3-1). The total hunting effort (*i.e.* hunter-days per year) has mirrored the number of hunters, averaging approximately 8 hunting-days per hunter. Total harvest has followed a similar pattern, with around four to eight kills annually between 1986 and 2000; and a spike of 14 kills in 1996.

	Resident			Non-Resident		
Years	Average Number (Hunters per year)	Average Effort (Hunter-Days per year)	Average Harvest (Kills per year)	Average Number (Hunters per year)	Average Effort (Hunter-Days per year)	Average Harvest (Kills per year)
1981-1985	11.6	104.2	1.0	10.4	59.8	3.6
1986-1990	13.4	88.0	5.2	3.6	31.0	1.8
1991-1995	18.4	140.0	4.8	3.2	24.0	2.6
1996-2000	14.8	112.6	5.4	3.0	22.2	1.8
2001-2005	11.0	90.2	2.2	0.4	2.0	0.6
Overall Average	13.8	107.0	3.7	4.9	38.4	2.1

Table 5.3-1. Grizzly Hunting Statistics (WMU 6-21): Five-Year Averages, 1981-2005

Source: derived from MOE (2008a)

The number of non-resident grizzly hunters sharply declined from an average of ten people per year in the early 1980s, to around three hunters annually between 1986 and 2001. The average hunting effort has also declined. Between 2001 and 2005, only two non-resident grizzly hunters were identified in this WMU, with a total of ten hunting days.

5.3.2 Sheep

Sheep harvests have generally increased over this period (Table 5.3-2) for both resident and nonresident hunts. The rate of increase among resident hunters is higher than that of non-residents, although annual non-resident harvests are generally higher. Recent years show an average of around 20 resident sheep hunters per year. The average number of resident hunters also shows a slight increase, as does the average effort. Among non-resident hunters, the number of sheep hunters has fluctuated considerably, but since 1997 it has been steady at around ten hunters per year.

	Resident			Non-Resident		
	Average Number	Average Effort	Average Harvest	Average Number	Average Effort	Average Harvest
Years	(Hunters per year)	(Hunter-Days per year)	(Kills per year)	(Hunters per year)	(Hunter-Days per year)	(Kills per year)
1981-1985	16.8	129.2	2.0	10.0	83.6	4.8
1986-1990	16.6	119.8	2.0	4.4	27.6	1.8
1991-1995	17.6	101.4	4.0	6.4	34.2	4.8
1996-2000	23.4	145.4	4.4	8.4	53.6	7.6
2001-2005	21.2	146.4	7.8	10.0	61.6	8.8
Overall Average	19.1	128.4	4.0	7.8	52.1	5.6

Table 5.3-2. Sheep Hunting Statistics (WMU 6-21): Five-Year Averages, 1981-2005

Source: derived from MOE (2008a)

5.3.3 Mountain Goat

Mountain goat harvest levels are generally comparable between resident and non-resident hunts, and have fluctuated over the past couple decades (Table 5.3-3). Between 2001 and 2005, the number of resident hunters each year fluctuated from eight to 18, while non-resident hunters fluctuated from four to 14. In general, the number of resident hunters, and their hunting effort, outweighs that of non-residents.

Table 5.3-3. Goat Hunting Statistics (WMU 6-21): Five-Year Averages, 1981-2005

		Resident			Non-Resident	
	Average Number	Average Effort	Average Harvest	Average Number	Average Effort	Average Harvest
Years	(Hunters per year)	(Hunter-Days per year)	(Kills per year)	(Hunters per year)	(Hunter-Days per year)	(Kills per year)
1981-1985	21.2	131.0	13.0	21.2	138.4	14.4
1986-1990	19.8	90.4	9.6	10.0	61.4	4.5
1991-1995	19.4	95.0	6.6	10.8	61.4	9.0
1996-2000	21.4	132.0	11.0	12.0	66.4	11.4
2001-2005	13.0	72.4	7.0	10.0	60.8	9.4
Overall Average	19.0	104.2	9.4	12.8	77.7	10.6

Source: derived from MOE (2008a)

5.3.4 Moose

As moose harvests do not undergo compulsory inspection, extrapolations from sample groups are used to provide estimates for resident harvest numbers, hunter numbers, and hunting effort. These estimates indicate an average annual resident harvest level of approximately 38 in the most recent

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years (Table 5.3-4). It is evident that the number of both hunters and hunter-days are substantially higher for moose than for the other, CI-species described above, with an average of approximately 80 resident hunters and nearly 500 hunter-days annually. The number of non-resident moose hunters and hunter-days is also higher than for other species, although to a lesser degree. In general, both resident and non-resident moose hunting levels have only slightly increased over the years, with a slight dip in the late 1980s.

		Resident			Non-Resident	
	Average Number	Average Effort	Average Harvest	Average Number	Average Effort	Average Harvest
Years	(Hunters per year)	(Hunter-Days per year)	(Kills per year)	(Hunters per year)	(Hunter-Days per year)	(Kills per year)
1981-1985	85.0	504.8	17.8	16.2	100.0	12.8
1986-1990	46.2	314.0	18.2	11.2	68.6	5.1
1991-1995	80.4	479.2	27.0	14.6	90.2	12.0
1996-2000	103.4	677.8	36.6	17.0	101.0	14.0
2001-2005	96.2	778.0	38.0	18.4	100.6	16.4
Overall Average	82.2	550.8	27.5	15.5	92.1	12.1

Table 5.3-4. Moose Hunting Statistics	s (WMU 6-21): Five-Year Averages, 1981-2005
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Source: derived from MOE (2008a)

6. Trapping





6. Trapping

6.1 TRAPLINES

The land use study area overlaps with eight registered trapline territories (Table 6.1-1; Figure 6.1-1).

Trapline	Registered Owner	Community of Residence
TR0621 T006	Ken Cottrell	Dease Lake
TR0621 T004	Bruce Creyke	Dease Lake
TR0621 T005	Albert, Billy, Carl, Harry, Ira, and Ralph Edzerza	Telegraph Creek
TR0621 T013	Earl, Jerry, and Richard Jackson	Telegraph Creek
TR0621 T015	Lee Marion	Telegraph Creek
TR0621 T016	Bill Sampson	Telegraph Creek
TR0621 T019	Dempsey and Lorgan Bob	Telegraph Creek
TR0620 T001	lskut Families (Amalgamated)	lskut

Table 6.1-1. Registered Traplines

Source: MOE (2009c)

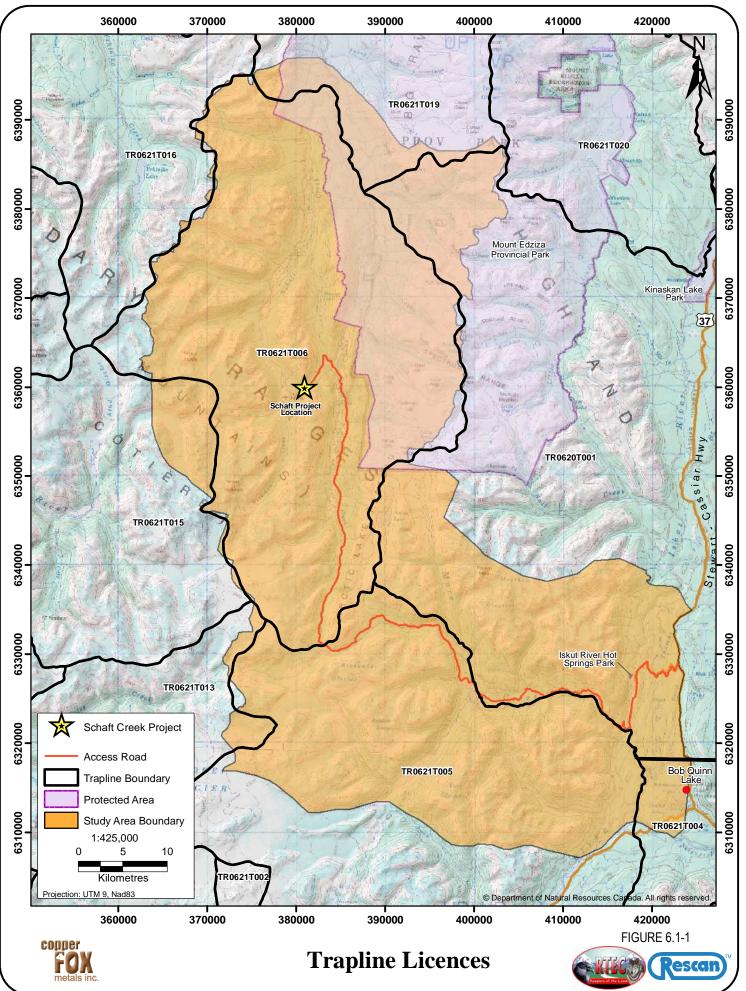
The proposed Schaft Creek mine site and access road lie within the trapline licence held by Mr. Ken Cottrell (TR0621 T006). In addition, the Galore Creek Access Road traverses the tenure held by the Edzerza family (TR0621 T005), and a large tenure held by a group of Iskut families (TR0620 T001). The other tenures overlap with peripheral portions of the study area.

6.1.1 TR0621 T006

This trapline is registered to Mr. Ken Cottrell. An interview with Mr. Cottrell regarding his use of the area was conducted in July 2008, and is summarized below. Unfortunately, Mr. Cottrell passed away in 2009. The status of his tenure, and whether it has been transferred to another licensee, was undetermined at the time of writing.

Mr. Cottrell held this tenure for over 30 years, since 1976, and trapped it consistently over this period. He reported trapping to be a "means to an end", as he would sell pelts for income to supplement his largely subsistence lifestyle on Mess Lake (Cottrell 2008, *pers. comm.*). Mr. Cottrell resided year-round in a cabin on the south end of Mess Lake, and maintained seasonal use of cabins at Jonny Lake and south of Skeeter Lake (Cottrell 2008, *pers. comm.*). He was also employed by Copper Fox as a caretaker at their exploration camp.

Mr. Cottrell's trapping season generally ran from November to March, depending on the weather and fur market, as well as his own income needs (Cottrell 2008, *pers. comm.*). He accessed his traplines by snowmobile and/or snowshoe. He commented that, aside from income, trapping also contributed to a healthy and physically active lifestyle. In addition to trapping, he also engaged in mineral prospecting, fishing (in Mess Creek and Mess Lake), and various studies of the natural environment (Cottrell 2008, *pers. comm.*).



Mr. Cottrell noted that the Schaft Creek area did not have many other users, although he saw the occasional hunter. He attributed the lack of usage to the relative inaccessibility of the area, which he noted is dependent on air access (Cottrell 2008, *pers. comm.*). He was not aware of any recreation or hiking in the area.

Mr. Cottrell noted that his most commonly trapped species marten, while lynx and wolf were among the most valued. He regularly set traps in the Skeeter Valley, and reported that this area was good for wolverine and marten. Traps set in the valley north of Mess Lake (to where Mess Creek joins Schaft Creek) were reputedly good for wolverine and lynx.

Mr. Cottrell believed that, over the past few years, development in the area—most notably through helicopter traffic—had altered the patterns and behaviours of local wildlife, although he was not certain if population numbers had been affected (Cottrell 2008, *pers. comm.*). His main concern regarding future development was the control of access to the remote areas, and he believed that road access (in particular) should be limited to prevent an influx of resident hunters to the area (Cottrell 2008, *pers. comm.*).

Figure 6.1-2 provides a basic overview of Mr. Cottrell's use of his trapline territory, including the general locations of trapping cabins and trapline routes. This map was developed through a combined interview/mapping exercise, which did not reference the proposed Project components.

6.1.2 TR0621 T005

This tenure overlaps with parts of the Galore Creek Access Road, including much of the area south of the Road. This trapline is registered to Albert, Billy, Carl (deceased), Harry, Ira (deceased), and Ralph Edzerza. No one was reported to have trapped this area recently, although the exact nature and frequency of use was largely unknown (Edzerza 2008, *pers. comm.*).

6.1.3 TR0620 T001

This tenure overlaps with parts of the Galore Creek Access Road, including its junction at Highway 37, and the area north of the Road. The trapline registered to a list of Iskut families, who amalgamated their trapline tenures into one large licence. As of 2008, it was understood that the primary trapper of this tenure was Mr. Donald Kinney, who reported that he has typically focused on the Klappan area, and not on the west side of the highway (Kinney 2008, *pers. comm.*).

6.1.4 Other Traplines

The peripheral trapline tenures do not overlap with any of the proposed Schaft Creek Project components or activities. Attempts were made to contact the registered owners of these traplines through mail and telephone, and information was provided regarding (a) the proposed Schaft Creek Project, (b) the land and resource use study, and (c) how interested parties may become involved and/or express concerns regarding the Project.

6.2 HARVEST STATISTICS

The BC Ministry of Environment compiles fur harvest statistics for each registered trapline through fur sales. However, while these statistics can provide an indication of trapline usage, they do not consider potential trapping that may occur outside of market sales. In addition, sales may not occur in the same year that a pelt was trapped. As such, it is important to consider that trapping activity may not correspond with fur return statistics, and little/no fur sale does not mean that a trapline is inactive. In

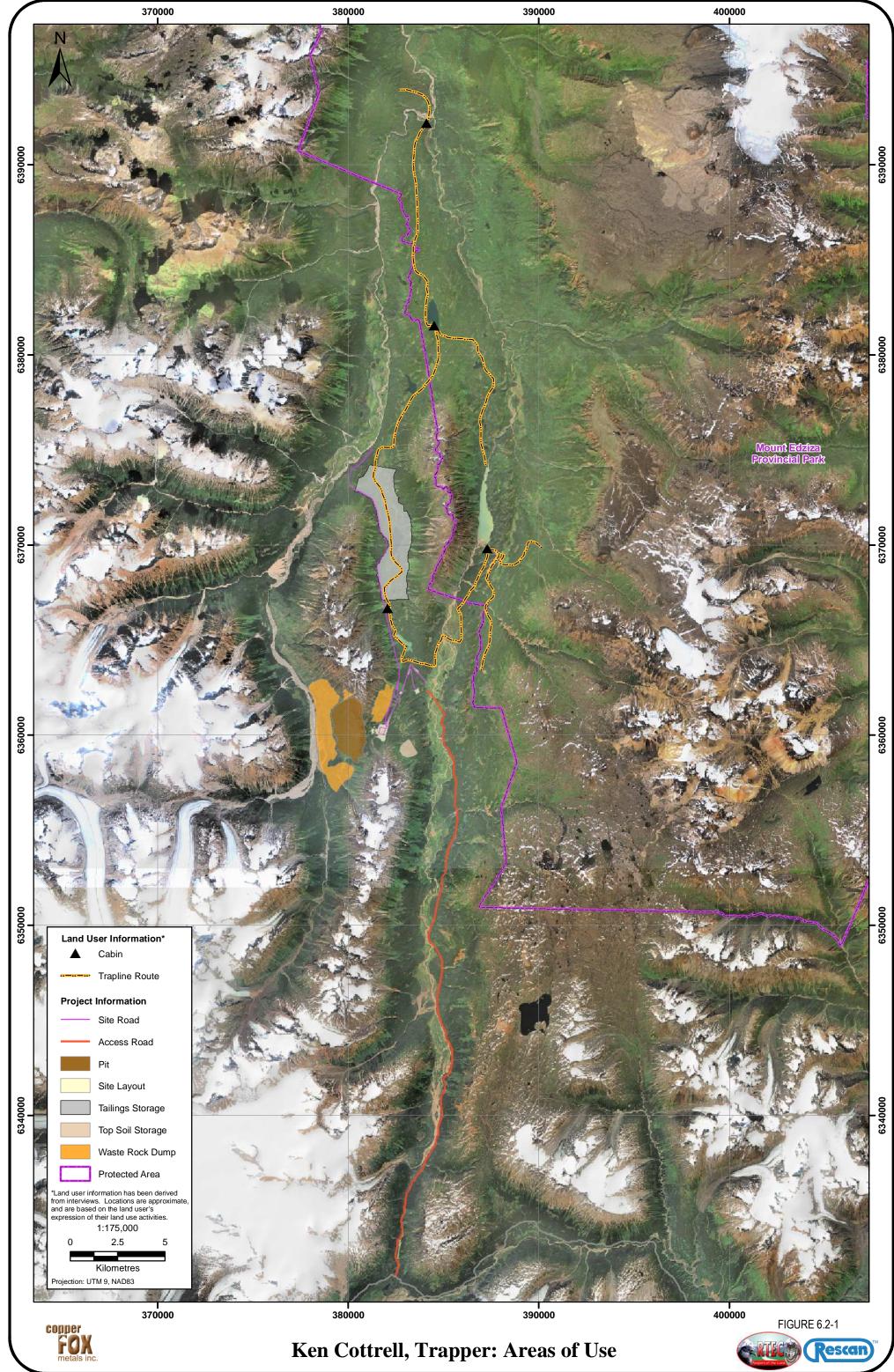
addition, trapping activity has substantially decreased over the past few decades (from a high in the late 1950s) due to a decline in global fur market prices (NovaGold 2006).

Based on fur returns from 1985 to 2007 (MOE 2008f), for the traplines listed in Table 6.1-1, the following trends are evident:

- The Cottrell trapline, which overlaps the proposed Schaft Creek Project, exhibits regular fur sales. Marten make up the majority of sales, ranging from zero to nearly 70 pelts each year. Beaver, wolf, and lynx are also regularly reported. The total number of pelts reported annually over the last ten years ranges from approximately 14 to 69.
- The Iskut families' trapline (TR0620 T001) exhibits the highest level of pelt sales. Marten have been the most consistently trapped, ranging from 542 pelts in 1988 to 11 in 2007. The total number of pelts reported annually over the last ten years ranges from approximately 10 to 100.
- The regular sale of marten pelts is also reported for the Sampson trapline (TR0621 T016), ranging from zero to more than 100 each year. The total number of pelts reported annually over the last ten years ranges from approximately 16 to 47.
- Not many fur sales are evident for the Creyke (TR0621 T004), Edzerza (TR0621 T005), and Bob (TR0621 T019) traplines.

No fur return data was available for the Jackson (TR0621 T013) or Marion (TR0621 T015) traplines.

May 6, 2010



7. Other Land and Resource Use





7. Other Land and Resource Use

7.1 WATER RESOURCES

Only two water licences are located within the land use study area (MOE 2010). License C049328 is issued to Ministry of Transportation and Highways for enterprise-related water withdrawal from Bob Quinn Lake. Licence Z120374 is held by NovaGreenPower Inc. (owned by Alta Gas Ltd.) for run-of-river power generation.

North of the land use study area, a number of water licences for irrigation and domestic use are located on tributaries of the Stikine River (MOE 2010). The closest licence to the confluence of Mess Creek and the Stikine River is located approximately one km upstream (and two km downstream from the community of Telegraph Creek).

7.2 ANGLING

Professional angling guides in BC are not usually licensed to a particular geographical area, although they may be associated with one or more regions in the province. In May 2008, an invitation was sent to all angling guides registered in the Skeena region, including information regarding the proposed Schaft Creek Project, the land use study, and the environmental assessment process.

Only one response was received, from Bell II Lodge's steelhead fishing operation. The company reported that they fish the Unuk and Iskut river system west of Highway 37 (Straight 2008, *pers. comm.*). Their primary concerns included water quality and potential adverse effects on the Stikine River watershed.

7.3 GRAZING

One grazing/range tenure is located within the study area. RAN073776 is held by Heidi Gutfrucht for her use of horses associated with her guide outfitting operations (described in Section 5.1.1).

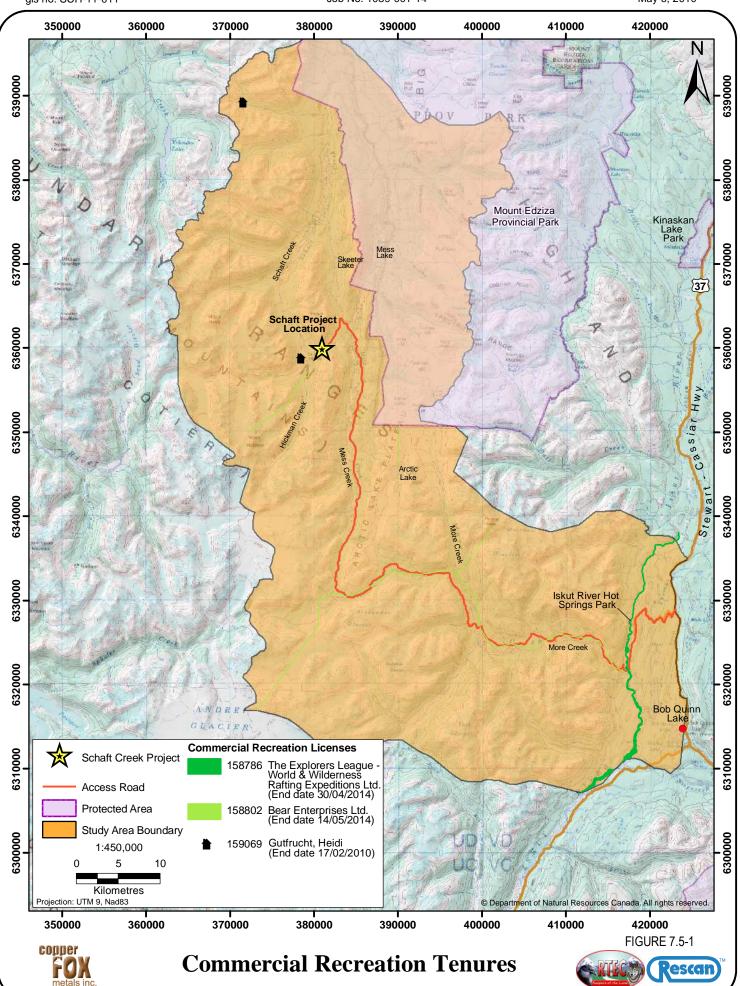
7.4 CABINS

Four registered trappers' cabins are known to exist within the trapline area held by Mr. Ken Cottrell (TR0621 T006; Section 6.1.1). This includes a cabin on the south end of Mess Lake; one on the south end of Skeeter Lake; one north-northwest of Skeeter Lake on Schaft Cree; and one near the confluence of Schaft Creek and Mess Creek (M. Williams 2008, *pers. comm.*).

7.5 COMMERCIAL RECREATION

Aside from the guide outfitting activities described in Section 5.1, three parties were identified to have commercial recreation licences within the study area (Figure 7.5-1).

Bear Enterprises Mountaineering, based in Smithers, has a licence for guided mountaineering and rock climbing excursions in the study area. This licence covers much of the Galore Creek Access Road route, including More Creek and the Iskut River. Separate areas under the same tenure are located near Hickman Creek (south of the proposed mine site) and adjacent to Mt. Edziza Provincial Park (near Arctic Lake).



Bear Enterprises runs backcountry skiing, mountaineering, and ice climbing activities in the winter, and rock climbing, hiking, and mountaineering programs in the spring and summer (Bear Mountaineering 2010). The company reports that they typically use areas adjacent to the Mt. Edziza Provincial Park, but at times also ski in the mountains between the Iskut and Stikine Rivers (Dietzfelbinger 2008, *pers. comm.*).

The Explorers League also has a licence for guided freshwater recreation, and is noted to run wilderness rafting expeditions. This licence covers a number of rivers in northwestern BC, including the lskut, Unuk, and Spatsizi rivers (The Explorer's League 2010).

In addition, guide outfitter Heidi Gutfrucht also has a commercial recreation licence for two hunting camps within the study area. Ms. Gutfrucht's use of the area is described in Section 5.1.1.

7.6 FORESTRY

Three forestry tenures were identified within the land use study area. One of these is held by Copper Fox, for timber clearing associated with Schaft Creek Project exploration and development, and another is held by the Galore Creek Mining Corp. for timber clearing along the Galore Creek Access Road.

Dena Cho Industries, a Tahltan forestry venture, has a few scattered forest licences in the vicinity of Bob Quinn Lake, Devil Lake, and along the first two kilometres of the Galore Creek Access Road. Dena Cho Industries has a non-replaceable forest licence for 120,000 m³ (in the Iksut-Boundary Block).

7.7 HYDROELECTRIC POWER GENERATION

AltaGas has requested a waterpower licence for run-of-river power generation on More Creek. The status of this licence application, and/or AltaGas' development plans, was not known at the time of writing.

7.8 TRANSPORTATION

Highway 37 is the central corridor of northwest BC, extending from Kitwanga (in the south), past Bob Quinn Lake (the nearest commercial airstrip to the Schaft Creek Project), and north to join the Alaska Highway in the Yukon. Along the way, Highway 37 passes communities such as Bell II, Iskut, Dease Lake, and Good Hope Lake; the highway is the sole means of overland travel to and from these communities. In addition, Highway 37 also connects to the District of Stewart (and its port) via Highway 37A, and to the Tahltan village of Telegraph Creek via the unpaved Telegraph Creek Road.

Highway 37 is also one of the only two routes for drivers heading to Alaska. As such, it is a popular travel route for a large number of recreational vehicles (RVs) in the summer months. Most of the highway is only two lanes, without a marked centre line, and passing areas are limited. In the winter, the length and remoteness of the route can impede snow clearing and winter road maintenance, and driving conditions can be hazardous.

Until its closure in 2008, concentrate from the Eskay Creek mine was sent by haul truck along Highway 37/37A to the Port of Stewart. With the prospect of numerous potential new mining developments in the region, concerns regarding highway safety have been expressed by residents of Stewart and other highway stakeholders. To address these concerns, the District of Stewart has organised a Highway 37 Road Users Working Group, which includes representation from the RCMP, the Ministry of Transportation and Highways, the Insurance Corporation of BC, the BC Ambulance Service, and local

area residents, as well as representatives from many of the mineral exploration projects in the area and other industries. The goal of the working group is to identify possible areas of concern, and solutions, to ensure a high level of safety for all highway users.

Air transportation infrastructure in proximity to the Schaft Creek Project is limited to an airstrip at Bob Quinn Lake, which is operated by the Bob Quinn Lake Airport Society. Hawk Air operates a regular seasonal service between Vancouver (via Smithers) and Bob Quinn Lake; dubbed the "Miner's Express", this service is specifically designed to serve mineral exploration and development activities in the region. Other airports in the region include Dease Lake, Terrace, and Smithers.

7.9 TOURISM AND RECREATION

A variety of tourism and accommodation services are located along Highway 37, although they may be separated by long distances. The Bell II Lodge at the Bell II crossing provides accommodation, a campground/RV park, restaurant, general store, and gas bar. The Lodge runs high-end heliskiing trips in the winter months, and focuses on fishing tours in the summer, as well as providing roadside services to travellers. Further north, the Mountain Shadows Resort, Tatogga Lake Lodge (south of Iskut) and Bear Paw Ranch (north of Iskut) also provide meals and accommodation for highway travellers. Other options are also available in the Dease Lake.

For many tourists visiting the area, much of the appeal lies in the area's remote and scenic landscape and high wilderness values. Opportunities for wildlife viewing, hiking, and nature photography are easily accessible from the highway, in addition to front- and back-country adventures in some of the area's parks and ecological reserves. As described in Section 3.3.1, the Mt. Edziza Provincial Park provides a variety of hiking trails, including the Klastine River Trail (which follows a traditional trail of the Tahltan Nation) which connects Highway 37 with the northern region of the Park. The area is also known for long distance horseback trail riding, canoeing/kayaking, and the use of snowmobiles and all-terrain vehicles. However, it has been noted that much of the land use study area—including the Schaft Creek and Mess Creek valleys—is remote and difficult to access, and hence has minimal public use (Cottrell 2008, *pers. comm.*; Gutfrucht 2008, *pers. comm.*; G. Williams 2008, *pers. comm.*).

8. Tahltan Land and Resource Use





8. Tahltan Land and Resource Use

The Schaft Creek Project lies within the traditional territory of the Tahltan Nation. This is defined as the area historically used by the Tahltan people through hunting, fishing, plant harvesting, trapping, and other activities. These activities are still pursued today by Tahltan residents of Telegraph Creek and other communities, and are often bring families together during important harvest times (such as the summer fish camp on the Stikine River).

With respect to the Schaft Creek study area, historical and contemporary Tahltan land and resource use will be further defined through traditional use studies with the Tahltan Nation. It is expected that these studies will be completed in 2010.

The Tahltan have commented on the importance of the Schaft Creek and Mess Creek valleys for their subsistence harvests, referring to the area as the "deep freeze of the Tahltan" (Brown 2008, *pers. comm.*; 2006, *pers. comm.*). Concerns have been expressed regarding the potential construction of roads facilitating increased access to this relatively inaccessible area (Brown 2008, *pers. comm.*). Tahltan land use is noted to be strongly linked to the natural environment and wildlife; in particular, the importance of moose hunting was identified, as was the importance of moose meat to the Tahltan diet (Brown, 2006, *pers. comm.*). In addition to subsistence, hunting and wildlife is noted to be very significant to Tahltan culture and heritage (Brown, 2006, *pers. comm.*).

Another identified area of importance is the Iskut hot springs (protected under the Iskut Hot Springs Provincial Park), which is noted to be valued as a spiritual and cultural site for the Tahltan (Callison, 2008, *pers. comm.*).

The Tahltan Nation is currently developing a Tahltan Territorial Stewardship Plan, which would outline Tahltan land management strategies, objectives, and values for their traditional territory, with a particular interest in addressing the pace and scale of mining and other industrial developments in their territory. At the time of writing, this information was not available. If further information becomes available throughout the development of the Schaft Creek Project environmental assessment, it may be considered at a later time.

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