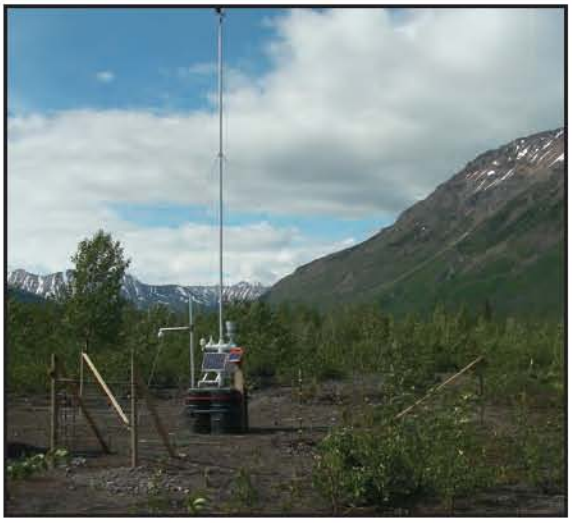
CopperFox Metals Inc.

Schaft Creek Project

British Columbia, Canada

Schaft Creek Project: 2007 Meteorology Baseline Report



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EXECUTIVE SUMMARY

Executive Summary

The Schaft Creek Project is located on the eastern edge of the Coastal Mountains in north central British Columbia. The climate of the Project area is characterized by the transition between the coast and interior. The Coast Mountains, with peaks over 3,000 m in elevation lead to lifting of moist air masses moving inland from the Pacific Ocean. Annual precipitation in the Coast Mountains is often above 3,000 mm, while temperatures are mild due to the proximity of the Pacific. The climate of the interior sub-boreal plateau, on the other hand, is continental with annual precipitations between 400 and 800 mm with very warm and short summers and cold winters.

The meteorological baseline program for the Schaft Creek Project was initiated in 2005 with the installation of an automated meteorological station in the saddle area between Mount LaCasse and Mess Creek (Schaft Creek Saddle station). Two additional stations were installed in August, 2006: one north of the Schaft Creek exploration camp (Schaft Creek Camp station) and one on the eastern flank of Mount LaCasse (Mount LaCasse station). The automated stations records hourly measurements of temperature, relative humidity, solar radiation, precipitation, snow depth and 10 m wind speed and direction. Two snow courses were sampled monthly during the winter of 2007 to determine the snow-water-equivalent of the snow pack. In addition, snow depth was measured monthly at four snow probe locations.

Data from four government weather stations within a 100 km radius of the Project area (Iskut Ranch, Todagin Ranch, Bob Quinn and Unuk-River-Eskay Creek) were used to characterize regional climate conditions. Snow pillow information obtained by the British Columbia Ministry of Environment at the Tumeka Creek, Kinaskan Lake and Wade Lake was used to characterize the snowfall in the region.

At the Schaft Creek Saddle station, the annual average air temperatures were -0.2°C in 2006 and 0.7°C in 2007. In 2006, monthly average temperatures ranged from -14.4°C in November to 12.5°C in July. In 2007, average monthly temperatures ranged from -10.2°C in December to 11.7°C in July. The hourly minimum temperatures were -30.0°C (March 2006) and -29.9°C (December 2007).

Total annual precipitation measured at the Schaft Creek Saddle station (977 masl) was 913 mm in 2006 and 779 mm in 2007. At the Mount LaCasse station (1440 masl) measured total annual precipitation was 553 mm in 2007. Total annual precipitation typically increases with increasing elevation. The fact that less precipitation was observed at the LaCasse station is likely due to wind effects associated with the exposed station location. Two methods of measuring rainfall were used at the Schaft Creek Saddle and Mount LaCasse meteorological stations: a GEONOR (gravimetric) and a Texas Instruments tipping bucket precipitation gauge. Both methods yielded similar results during summer rain events, which provided assurance that the collected precipitation data was representative of actual events.

Average annual observed wind speed at Schaft Creek Saddle station was 2.5 m/s in 2006 and 2.4 m/s in 2007. Southerly winds predominated at both stations. Wind speeds at the Schaft Creek Camp station were lower, and primarily from the south and southeast. The station recorded summertime southerly katabatic winds with elevated wind speeds during the afternoon driven by the cooling effects of the glaciers at the Schaft Creek headwaters. Wind speeds at the Mount LaCasse station were higher than at the other stations due to its exposed location and higher elevation.

In 2006, the average annual solar radiation measured at the Schaft Creek Saddle station was 108 W/m^2; average monthly solar radiation ranged between 6 W/m^2 and 243 W/m^2. In 2007, the average solar radiation was 109 W/m^2, with monthly averages ranging between 11 W/m^2 and 232 W/m^2.

The snow depths recorded in the Schaft Creek Project area were greater in 2007 than in 2006. The peak snow depth in 2006 (138 cm) was measured at the snow probe station SSP1 near the Schaft Creek Saddle meteorology station at the beginning of May (elevation 1010 masl). In 2007, the greatest snow depth measured at SSP1 was 245 cm (March). Snow depths measured at all snow probing stations (SSP1 through SSP4) in 2007 were approximately 1.5 to 2.5 times greater than snow depths measured in 2006. In 2006, the maximum snow water equivalent was measured in March. At Skeeter Lake Valley (SSCW1, elevation 854 masl) the SWE was 295 mm, and at Schaft Creek Camp High Elevation (SSCW2, elevation 1436 masl) the SWE was 593 mm. The values measured at the same stations in March 2007 were 594 mm and 838 mm, respectively. The maximum SWE values recorded in 2007 were 676 mm (SSCW1, May) and 1071 mm (SSCW2, April). The SWE measurement at SSCW1 indicated that the measurements of total precipitation at the LaCasse station (1440 masl, 553 mm in 2007) are likely lower than typical precipitation values at that elevation. As expected, the SWE values for the high elevation snow course (SSCW2) were considerably higher than the SWE for the lower elevation station (SSCW1).

Collection of meteorological data and maintenance of the automated meteorological stations are scheduled to continue throughout 2008.

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1. INTRODUCTION

1. Introduction

The study of meteorology and climate is an important component of the environmental and socioeconomic baseline study and environmental impact assessment for the Schaft Creek Project. Meteorological data collected for the baseline study will be used to determine the specific climatic conditions at the site and how they may influence the Project, *e.g.* through site selection for mine infrastructure and water and waste management planning. Meteorological data will also be used for the modelling of the potential air quality effects associated with the proposed mine operations.

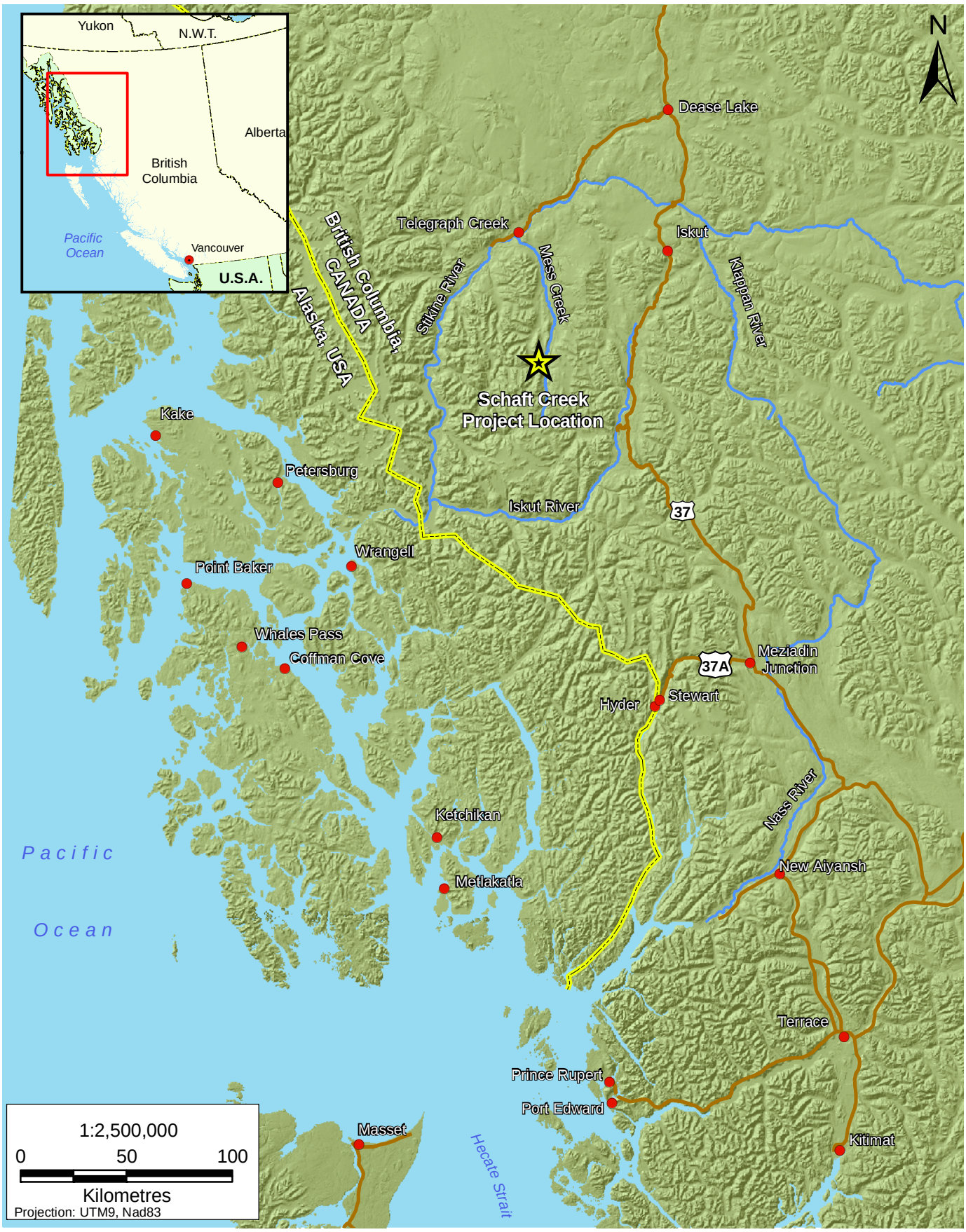
The meteorological baseline program for the Schaft Creek Project began in October 2005 with the installation and commissioning of an automated meteorology station at the saddle area east of the Schaft Creek exploration camp and west of Mess Creek. Additional automated meteorology stations were installed in 2006 in the Project area. The automated meteorological measurements were augmented by manual snow surveys and snow probing at selected locations. Collection of on-site meteorological data is scheduled to continue through 2008. Below is a description of the methods that were used for the meteorological baseline program along with results from the 2005, 2006 and 2007 field studies.

1.1 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 is a polymetallic (copper-gold-silver-molybdenum) deposit located in the Liard District of north-western British Columbia (Latitude 57^{o} 22’ 4.2’’; Longitude 130^{o}, 58’ 48.9”). The property is comprised of 40 mineral claims covering an area totalling approximately 20,932 ha within the Cassiar Iskut-Stikine Land and Resource Management Plan (Figure 1.1-2).

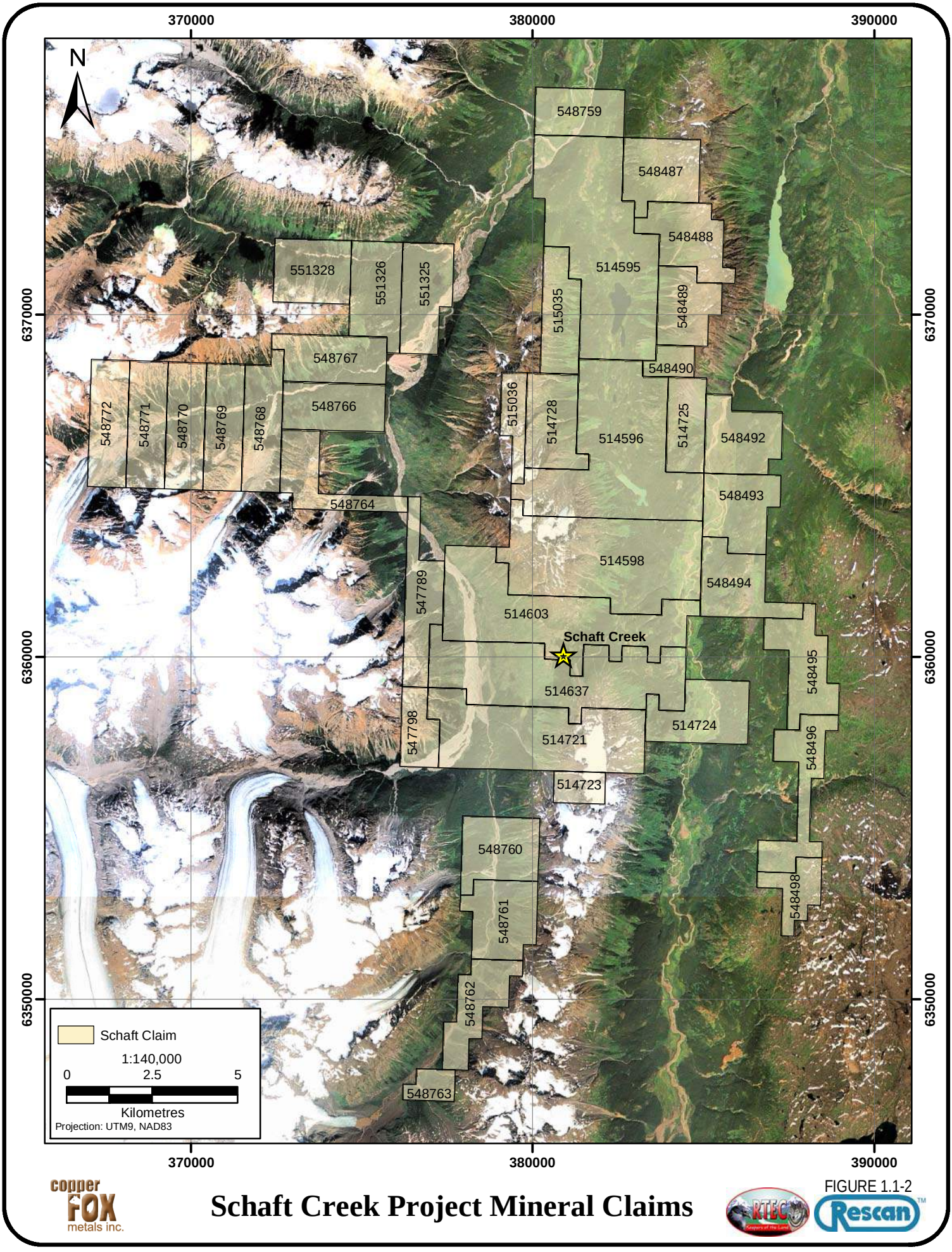
The Schaft Creek Project is located within the traditional territory of the Tahltan Nation. Copper Fox has been in discussions with the Tahltan Central Council (TCC) and the Tahltan Heritage Resources Environmental Assessment Team (THREAT) since initiating exploration activities in 2005. Copper Fox has engaged in numerous agreements with the TCC including a Communications Agreement, Traditional Knowledge Agreement, Letter of Understanding with the Tahltan Nation Development Corporation (TNDC) and a THREAT Agreement. Copper Fox will continue to work together with the Tahltan Nation as work on the Schaft Creek Project continues.

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. Over 65,000 meters of drilling has been completed on the property as of end of 2007. Additional drilling is planned for 2008 to support future economic assessments of the property and an environmental assessment application.



Location Map for Schaft Creek Project

FIGURE 1.1-1



Schaft Creek Project Mineral Claims

FIGURE 1.1-2

The Schaft Creek Project entered the British Columbia environmental assessment 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 end of 2008 for submission of their Schaft Creek Environmental Assessment Application.

Copper Fox has recently released a scoping level engineering and economic report for Schaft Creek. The mine and associated infrastructure are presented in Figure 1.1-3. The current mine plan has ore milled from an open pit at a rate of 65,000 tonnes/day. The Schaft deposit will be mined with large truck/shovel operations and typical drill and blast techniques. An explosives manufacturing facility will be constructed on-site to support blasting activities. The mine plan includes 719 million tonnes of minable ore over a 31 year mine life. The Project is estimated to generate up to 1,200 jobs during the construction phase of the project and approximately 500 permanent jobs during the life of the mine.

Ore will be crushed, milled and filtered on-site to produce copper and molybdenum concentrates. The mill 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 shipping. The mill includes a designated molybdenum circuit with thickener, filtration circuit, drying and bagging. The filter plant will be located at the plant site. A tailings thickener and water reclaim system will be used to recycle process water. The circuit will have a design capacity of 70,652 tonnes per day and a nominal capacity of 65,000 tonnes per day (23,400,000 tonnes per year). The copper and molybdenum concentrates will be shipped via truck from the mill to the port of Stewart, BC.

Copper Fox will construct an access road from Highway 37 to the Schaft Creek property. Access to the property from Highway 37 will require approximately 105 km of new road. The first 65 km of the access road to the Schaft Creek property corresponds to the Galore Creek access road. NovaGold and Teck Cominco have currently put a hold on future construction efforts along their access road and the overall Galore Creek Project. Copper Fox will seek approval from the provincial government and NovaGold/Teck Cominco to construct the first 65 km of the Galore Creek access road should the status of the project not change.

The route of the final 40 km of access road has not been finalized. Copper Fox has completed initial investigations of a route along Mess Creek. An alternative route is also being considered that utilizes the plateau to the east of Mess Creek. Copper Fox is currently investigating the feasibility, as it relates to geohazards, of the two alignments. Both alignments include a 30 m bridge on Mess Creek. Mess Creek is considered navigable as per Transportation Canada criteria. Figure 1.1-4 presents the access road alignment that follows the Galore Creek road (65 km from Highway 37) and the Mess Creek alignment (40 km) to the Schaft Creek property.

Over the life of the mine, the Schaft Creek Project will generate over 700 million tonnes of tailings. There are three tailings facilities being considered (Figure 1.1-3). The three options will undergo an alternatives assessment that will include engineering, construction and operating costs, geotechnical, geohazards, environmental and social considerations.

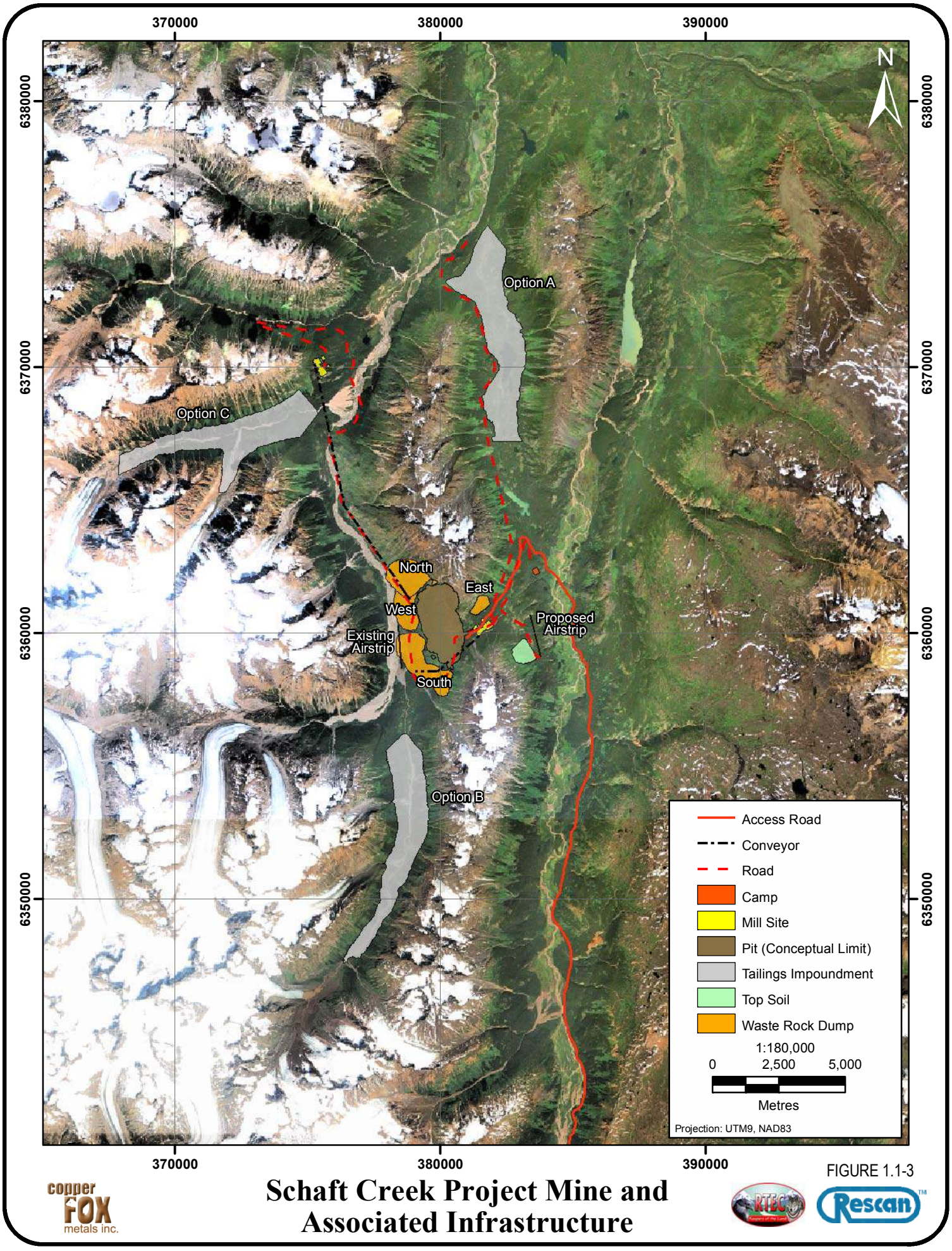


FIGURE 1.1-3

Schaft Creek Project Mine and Associated Infrastructure

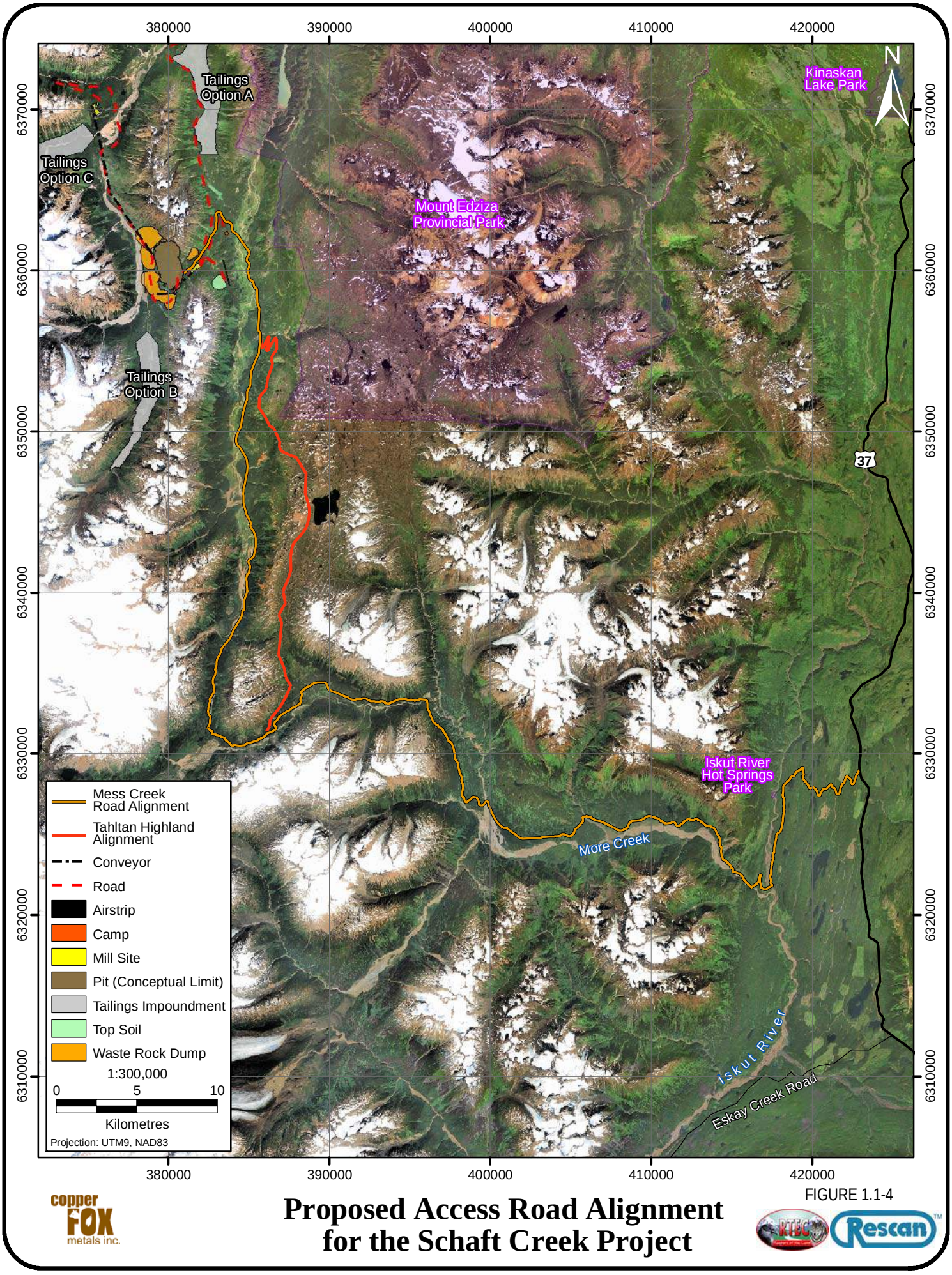


FIGURE 1.1-4

Proposed Access Road Alignment for the Schaft Creek Project

The Project will generate over a billion tonnes of waste rock. Waste rock dumps are proposed around the perimeter of the pit (Figure 1.1-3). This includes the flat area between the proposed pit and Schaft Creek.

A detailed water management plan has yet to be developed for the Project. A water management plan will be included in the next level of economic assessment (pre-feasibility) and the next project description update. A waste water discharge is expected from the tailings facility, waste rock dumps and domestic waste water treatment plant. The management plan will detail the plans to minimize natural drainage into the tailings facility, the pit and the waste rock dumps. Pit water will be pumped to the tailings facility.

A new airfield will be constructed to the east of the pit (Figure 1.1-3). The Project will be a fly-in, fly-out operation. The new landing strip will be capable of handling a Boeing 737. Other facilities include a terminal building, fuelling, maintenance and control facilities.

A permanent camp will be constructed to support a staff of approximately 500 employees. Other facilities include truck shop, warehouse, administration, maintenance laboratory, explosives storage, water treatment facilities and potable water storage.

Copper Fox has targeted the end of 2008 for submission of their Environmental Assessment Application and full Feasibility Report. Screening of the EA Application plus the 180 day review period will result in project approval as early as July 2009. Copper Fox will likely seek concurrent permitting for strategic permits to facilitate the timely construction of key project components. Construction is estimated to take two and half years. Thus, production could begin by early 2012.

1.2 Objectives

The objective of the meteorological baseline study was to collect meteorological baseline information for the purpose of characterizing meteorological conditions at the Schaft Creek Project area. Specific objectives included:

- Use data collected by the on-site meteorological stations in 2005, 2006 and 2007 to determine site specific:
  - precipitation;
  - temperature;
  - relative humidity;
  - wind speed and direction;
  - solar radiation; and
  - snow pack;
- Characterize snow accumulation using manual snow depth measurements and snow course surveys; and
- Compare site specific data to regional meteorological data.

2. METHODS

2. Methods

Meteorological data are required for a variety of purposes. Wind speed and direction data are usually needed to select sites for an airstrip, permanent camp and processing facilities in order to accommodate predominant wind patterns and mitigate potential effects of fugitive dust. Wind speed and air temperature data are required for air dispersion modelling that would likely be conducted during the environmental impact assessment to determine the Project's potential air quality effects. Solar radiation and precipitation data are required for design of water reservoir(s) and water balance calculations. Meteorological data was collected using a variety of automated and manual methods.

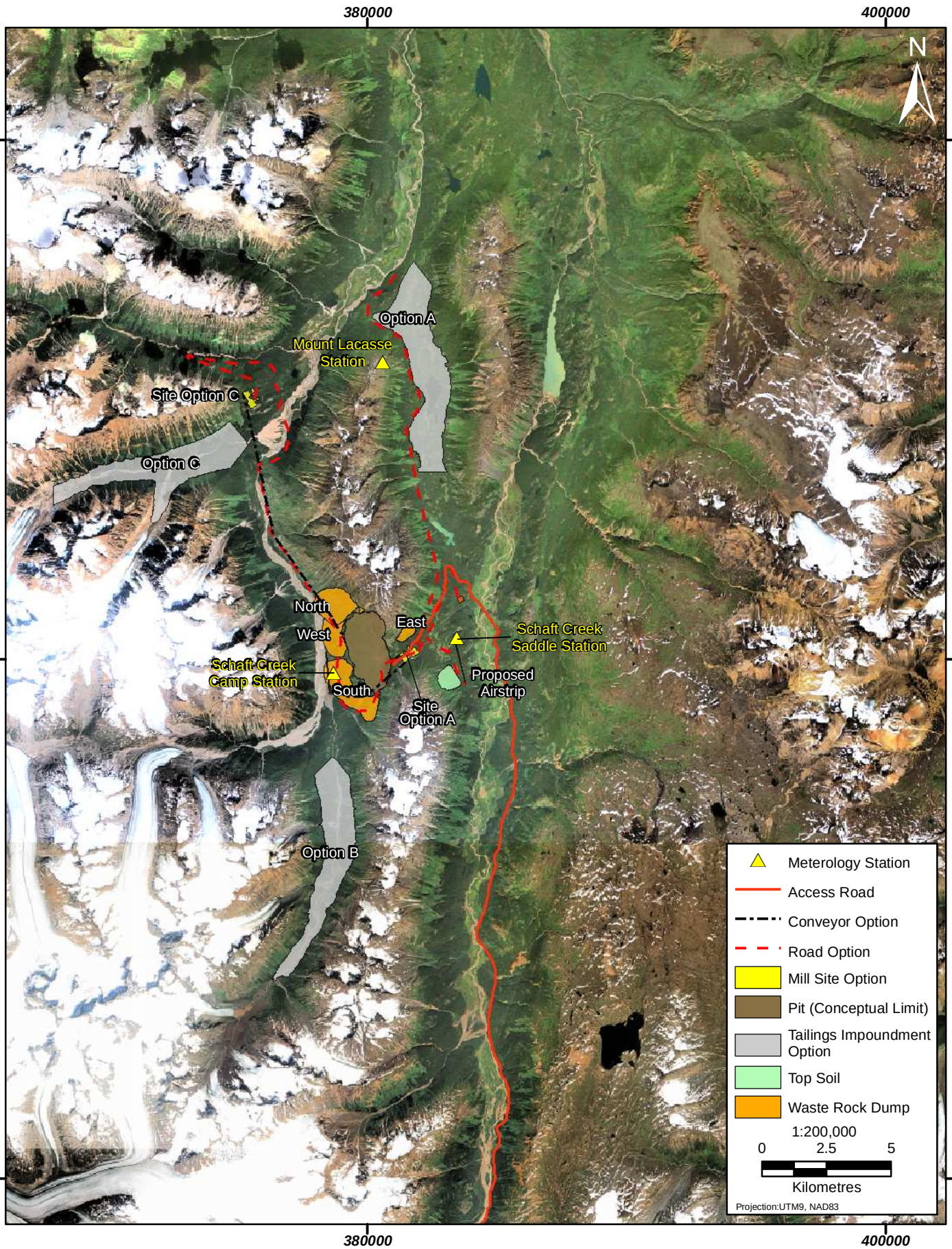
Apart from on-site measurements described below, regional meteorological data was utilized to characterize climatic conditions in the Project area. Data from four meteorological stations within a 100 km radius were available for this purpose (Environment Canada, 2002): Unuk River Eskay Creek, Bob Quinn, Iskut Ranch and Todagin Ranch. These stations all have over 10 years of climate data. Unfortunately, the latter three were decommissioned in the early 1990's. The fourth meteorological station at Unuk River Eskay Creek is also within 100 km of the Project area, has data from 1989 and it is the only station that is currently in operation.

2.1 On-Site Meteorological Stations

Three automated meteorological stations has been installed and commissioned for the Schaft Creek Project. The locations and characteristics of these stations are summarized below and shown on Figure 2.1-1.

- *Schaft Creek Saddle Station:* A Campbell Scientific/Westower meteorological station was installed on October 31, 2005 in the topographical "saddle" between Mount LaCasse and Mess Creek (UTM 09, NAD83, 383441 m Easting, 6360853 m Northing, 977 masl elevation). The location was chosen because it is near the proposed camp, mill facilities and airstrip.
- *Mount LaCasse Station:* A Campbell Scientific/Westower meteorological station was installed on August 10, 2006 near one of the proposed waste rock and tailings management facilities, Option A (UTM 09, NAD83, 380572 m Easting, 6371467 m Northing, 1440 masl elevation).
- *Schaft Creek Camp Station:* A RainWise meteorological station was installed August 7, 2006 near the proposed pit location (UTM 09, NAD83, 378676 m Easting, 6359490 m Northing, 853 masl elevation).

In order to ensure that the stations collect representative data the sensors were located according to guidelines set by Environment Canada (*i.e.* Meteorological Services of Canada (MSC) Guidelines for Co-operative Climatological Autostations, MSC 2004) when possible. Environment Canada has adopted, and wherever possible, follows standards set by the World



Automated Meteorological Stations for the Schaft Creek Project

FIGURE 2.1-1

Meteorological Organization (WMO). The Environment Canada guidelines were established to promote standardization and describe practices, procedures and specifications for proper siting of instruments, precision and accuracy of measurements and archive formats.

The primary concern when selecting an appropriate location for each of the meteorological stations was to avoid obstructions that would bias the wind speeds and directions, and to avoid shaded areas that would bias solar radiation data as well as limit full exposure of the solar power panel to the sunlight. The wind sensors were, where possible, located over open and level terrain, at a distance of at least ten times the height of any nearby building, tree or other obstruction. Sensors were protected from thermal radiation, and adequately ventilated. Because these stations are located in remote regions and unattended for long periods of time, consideration was also given to accessibility. The stations are powered with 12 volt rechargeable batteries and solar panels.

2.1.1 Campbell Scientific Inc. Stations

The Mount LaCasse and Saddle stations were constructed using Campbell Scientific Inc. instruments programmed to log the following meteorological data:

- Two minute wind speed, wind direction and standard deviation of wind direction;
- Hourly average wind speed, wind direction and standard deviation of wind direction;
- Hourly average air temperature;
- Hourly average relative humidity;
- Total precipitation for the last hour;
- Hourly average global solar radiation;
- Hourly average snow depth; and,
- Hourly average net radiation;

Each day at midnight, the following data was also automatically recorded:

- Daily maximum and minimum air temperature;
- Daily maximum wind speed, wind direction at maximum speed and time;
- Total daily precipitation; and,
- Diagnostic information.

The sensors were mounted on a 10 m high tower that was rock-anchored at its base and strengthened with guy wires (Plate 2.1-1). Ten metre towers are the standard for collection of wind speed and wind direction data when the data will be used for air dispersion modelling. A certified wind sensor was mounted at the top of the tower to provide data for future air dispersion modelling. Wind speed is measured in metres per second (m/s) and wind direction in degrees from true north by a RM Young Model 05305 Air Quality wind sensor.

Plate 2.1-1. Campbell Scientific Meteorological Station

The temperature and relative humidity sensors are combined into one unit (Campbell Scientific Model HMP45C212). The combination sensor was mounted on the tower protected from direct radiation by a multi plate solar radiation shield. Air temperature is measured in degrees Celsius and relative humidity in percent. The solar radiation sensor (*i.e.* silicon pyranometer) and net radiometer were also mounted on the tower. Solar radiation is measured in units of kilowatts per square meter using a Kipp & Zonen SP LITE sensor. Net radiation is measured in units of watts per square meter using a Kipp & Zonen NR LITE sensor.

GEONOR Model T-200B all-season precipitation gauges are being used to measure rain and snow-water-equivalent (SWE) precipitation at each station. The GEONOR precipitation gauges are mounted on a 2.5 m pedestal to ensure the collection orifice is always above snow level. The GEONOR gauges are surrounded by Alter wind screens to increase the capture efficiency (Plate 2.1-1). Snow depths are monitored with a Campbell Scientific Model SR50 ultrasonic sensor that is mounted to the tower with a cross arm. The snow depth sensor was installed at least 0.5 m above the maximum expected snow depth. Tipping bucket rain gauges (Texas Electronics Model TE525M) were installed at the LaCasse and Saddle meteorological stations in 2006.

The sensors for the auto-station are connected to a Campbell Scientific CR10X datalogger that controls the operation of the station. The datalogger's program monitors the sensors every 5 seconds and generates hourly and daily averages. The hourly and daily averages are stored in a

SM4M memory module connected to the CR10X datalogger. The modules are changed out on a regular basis and brought back to the office for downloading. The stations are powered with a 50 Watt solar panel and a 12 volt 93 Amp-hour deep cycle marine battery, with the entire station grounded to prevent lightning from damaging the electronics.

2.1.2 RainWise Inc. Stations

The Schaft Creek Camp station was constructed using RainWise Inc. gauges programmed to provide the following automatically logged meteorological data in ten minute intervals:

- Air temperature;
- Relative humidity;
- Dew temperature;
- Wind speed, wind direction and maximum wind direction;
- Solar radiation and daily accumulation of solar energy;
- Rainfall and snow depth; and,
- Diagnostic information.

The sensors were mounted on the RainWise Monopod Sensor Support System. The support system was anchored to 50 gallon drums at its base and strengthened with guy wires (Plate 2.1-2). Wind speed is measured in kilometres per hour (km/h) and wind direction in degrees from true north by a RainWise AerVane wind sensor.

The temperature and relative humidity sensors are combined into one unit (RainWise RH/T). The sensor was mounted on the Monopod tower. Air temperature is measured in degrees Celsius and relative humidity in percent. The solar radiation sensor (*i.e.* silicon pyranometer) and net radiometer were also mounted on the tower. Solar radiation is measured in units of kilowatts per square meter using a RainWise Pyranometer, which features a PIN silicon photo diode.

The RainWise Raingauge precipitation gauge is being used to measure rain precipitation at the Schaft Creek Camp stations. The RainWise precipitation gauge is mounted directly onto the Monopod tower with no wind screens (Plate 2.1-2). Snow depths are monitored with a RainWise ultrasonic sensor that is mounted to the tower. During the winter of 2006 and 2007, the Rainwise station lost power repeatedly. It was suspected that the power draw by the ultrasonic snow sensor played a major role in depleting the batteries. Therefore, the snow depth sensor was disconnected in 2007. Instead, snow depth was measured weekly at the station by Copper Fox staff on site.

The sensors for the auto-station are connected to a RainWise Electronic Datalogger (EDL) that controls the operation of the station. The datalogger is mounted in a 4X enclosure. Periodically, a laptop computer is brought to the station and used to download the data directly from the EDL using Weather Log Data Retrieval WL Com version 1.46 software. The RainWise stations are powered by four 6 volt batteries (8 Amp-hour) and a 20 Watt solar panel.

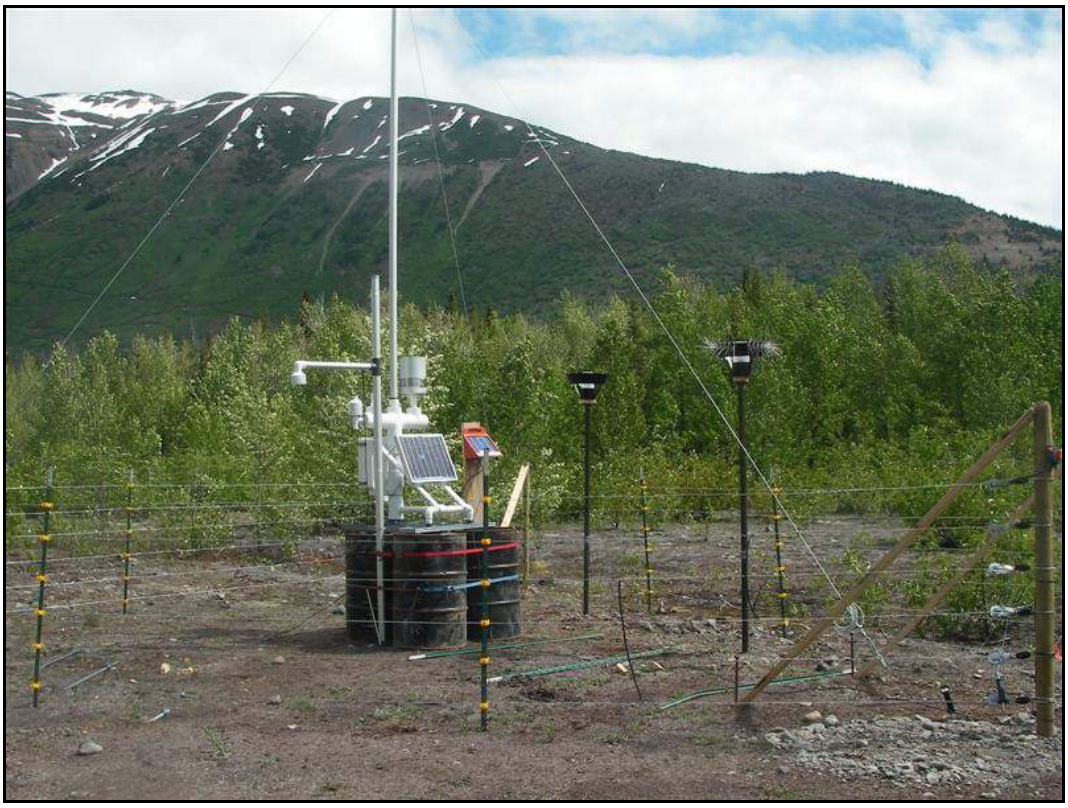


Plate 2.1-2. RainWise Meteorological Station

2.1.3 Maintenance Work Conducted in 2007

Routine maintenance was conducted on the Schaft Creek Meteorology stations throughout 2007. The Schaft Creek Camp Rainwise meteorology station malfunctioned several times throughout 2007 as a result of manufacturing defects. Although useful data was recorded throughout the year, the data record suffers from discontinuities.

The following upgrades to the stations in operation were completed in 2007:

- a sturdy fence was built around the Schaft Creek Camp station to protect it from wildlife;
- the GEONOR precipitation gauges at both the Saddle and LaCasse meteorology stations were equipped with inlet heaters to prevent snow bridge formation over the inlets, thus preventing a loss of precipitation data.
- the programming code for the precipitation gauges was modified to exclude signal noise in the precipitation signal; and
- sturdy steel housings were installed around the Texas Instrument tipping bucket rain gauges to prevent wildlife damage or damages caused by pressure exerted by the snow pack that accumulated over the winter.

2.2 Snow Surveys

The baseline meteorology program also included manual snow surveys that were conducted during the winters of 2006 and 2007. Snow surveys determine the depth and the water content of the snow pack and can be used to estimate the amount of runoff from the mountain watersheds. Two types of traditional manual snow surveys were conducted in the study area: snow probing (to measure snowpack depth) and snow course surveys (to measure snowpack depth and snow-water-equivalent).

2.2.1 Snow Probing

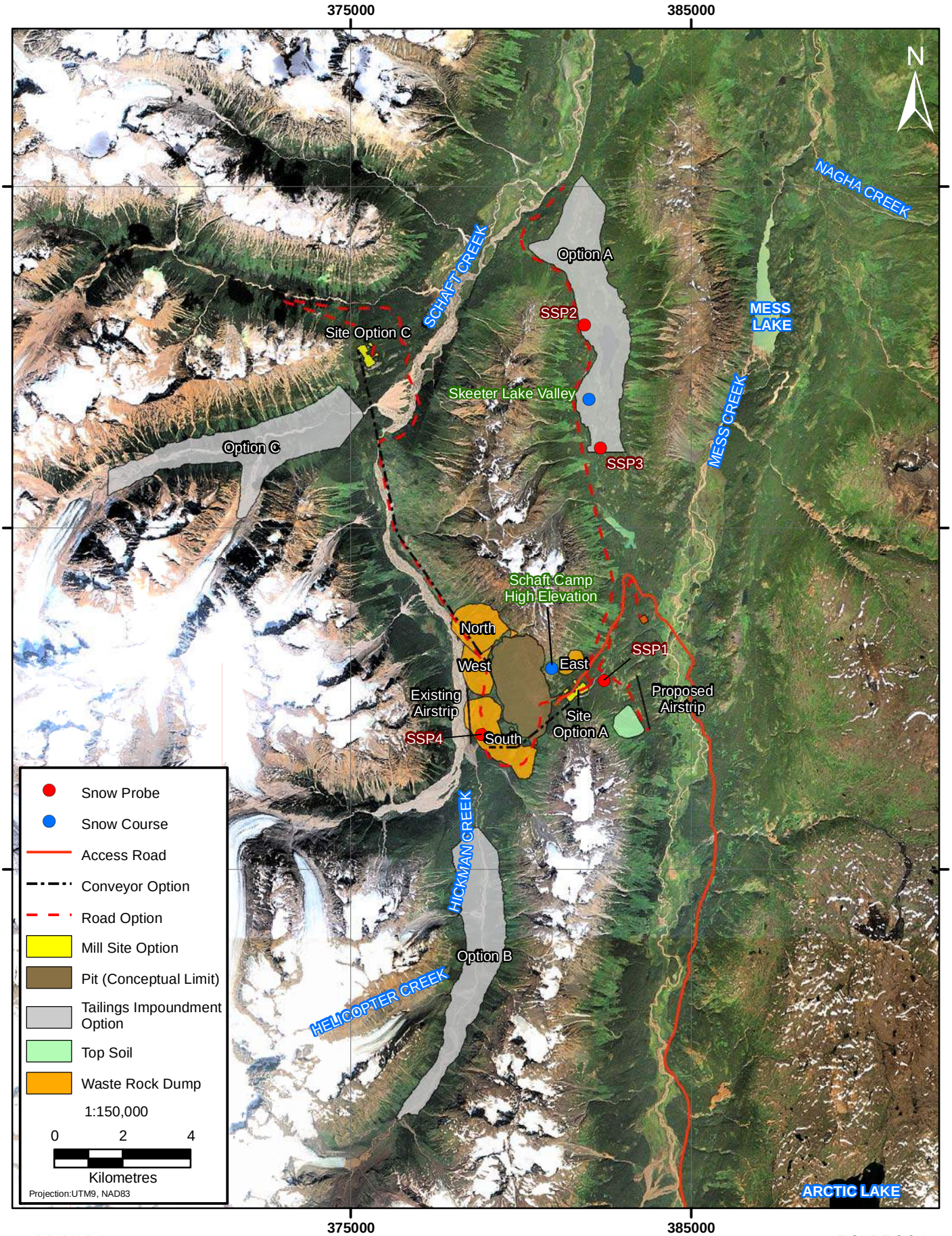
Four snow probing surveys were conducted in the Schaft Creek study area (Figure 2.2-1). The standard procedure for snow probing surveys includes driving a metal bar through the snowpack to the ground surface and recording the depth of snow. A total of seven readings are taken at approximately 5 m intervals at each location. Surveys are generally conducted in small meadows that are reasonably protected from the wind. The surveys began in February 2006. The snow probing sites are summarized below.

- *Schaft Creek Met Station*: the snow probing site (SSP1) is located a few hundred metres west of the Schaft Creek Saddle meteorological station, a short distance west of the proposed open pit at an elevation of 1010 masl.
- *Skeeter Creek North*: the snow probing site (SSP2) is located at the north end of the Skeeter Lake Valley, at the proposed Tailings Option A (elevation of 866 masl).
- *Skeeter Creek South*: the snow probing site (SSP3) is located at the south end of the Skeeter Lake Valley, south of the proposed Tailings Option A (elevation of 904 masl).
- *Schaft Creek Camp*: the snow probing site (SSP4) is located immediately north-east of the camp at an elevation of 862 masl.

2.2.2 Snow Courses

Two snow courses were sampled monthly from February through May of 2006 and 2007. SSCW1 is located in the Skeeter Lake Valley at an elevation of 854 masl, and SSCW2 is located north-east of the camp at an elevation of 1436 masl (Figure 2.2-1). The snow courses were installed using procedures in the British Columbia Ministry of Environment Procedure Manual for Snow Surveys (Volume 6, Section 9), December 1982. Standard snow sampling procedures were followed in accordance with the British Columbia Ministry of Environment (Water Management Branch, Surface Water Section) Snow Survey Sampling Guide (document no SS13-81).

The standard snow sampling procedure is the one most often used to sample a snow course. Generally, the snow courses consists of 10 snow core samples collected over 300 m situated in small meadows protected from the wind. The snow core sampler consists of a strong, light-weight, graduated aluminum tube and a weighing scale. Snow depth is measured by pushing the tube down through the snowpack to the ground surface and extracting a core. To obtain an accurate snow core sample, the surveyor must verify that the tube has reached ground level by



Schaft Creek Project Snow Probing and Snow Course Survey Locations

FIGURE 2.2-1

examining the base of the tube and finding soil. After clearing out the soil from the bottom end of the tube, the surveyor determines the amount of water in the snowpack by weighing the tube with its snow core and subtracting the weight of the empty tube. An average of all the ten samples taken is calculated and used to represent the snow course.

Data collected from the snow courses includes snow depth and snow-water-equivalent (SWE) precipitation based on ten samples from each station. This data will be used for the prediction of runoff data for the design of diversion ditches and impoundment water balances. The snow surveys were conducted at the beginning of the month for February to May. The Schaft snow course data are compared with regional stations monitored by British Columbia Ministry of Environment (BCMOE) at: Kinaskan Lake and Wade Lake.

2.3 Manually Collected Data

Measurements of morning (7:30 am) and afternoon (3:30 pm) temperatures and snow depth in Schaft Creek Camp, and snow depth at the Schaft Creek Camp meteorology station were logged daily by Copper Fox staff (Mr. Kenneth Cottrell). Temperatures were measured using a thermometer and snow depth was measured using staff gauges mounted on vertical supports made by two-by-fours.

2.4 Historical On-Site Meteorological Data

As part of the preliminary feasibility studies that were undertaken by Copper Fox Metals, some historical weather data was collected at the Schaft Creek Project site. These records are brief and not continuous, but they do provide some valuable on-site meteorological data. Data collected includes: daily maximum and minimum temperatures, precipitation, snow and snow on ground.

A weather station was established at the Schaft Creek site in the summer of 1969. The weather station equipment was provided by the Victoria Regional Climate Data Centre of the Department of Transport Canada. The Schaft Creek weather station was equipped with one Stevenson screen and stand, one rain gauge, one rainfall graduate, two minimum thermometers, two maximum thermometers, and one snow ruler. The period of record encompasses June to September 1969, and March 1970 to February 1972.

2.5 Regional Meteorological Data

Regional meteorological data from four meteorological stations within a 100 km radius are available to further characterize climatic conditions on-site (Environment Canada, 2002): Unuk River Eskay Creek, Bob Quinn, Iskut Ranch and Todagin Ranch. All of these stations have more than 10 years of data on record; unfortunately, the latter three were decommissioned in the early 1990's. Bob Quinn has since been re-commissioned; however, data was not available past 1994.

3. RESULTS

3. Results

Baseline data collected in 2006 and 2007 for air temperature, precipitation, wind speed and direction, solar radiation and snow depth measured at the on-site meteorological stations are presented below. Where possible, current baseline data were compared to historical records from the initial baseline work completed between 1969 and 1972. Current data was also compared to regional data from meteorological stations operated by Environment Canada – Meteorological Service of Canada (MSC), when possible.

3.1 Climatic Setting

The Schaft Creek Project is located on the eastern edge of the Boundary Ranges in the Coast Mountains. This is a high, rugged mountain range in north central British Columbia with the coastal mountains to the west and sub-boreal interior plateau to the east. The climate of the Project area is characterized by this coast/interior transition. The Coast Mountains with peaks over 3,000 m in elevation lead to lifting of moist air masses moving inland from the Pacific Ocean. Annual precipitation in the Coast Mountains is often above 3,000 mm, while temperatures are mild due to the proximity of the Pacific. The climate of the interior sub-boreal plateau, on the other hand, is continental with annual precipitations between 400 and 800 mm and very warm and short summers and cold winters.

Meteorological data collected at the Schaft Creek Saddle station is summarized in Table 3.1-1. Data from the Mount LaCasse station is summarized in Table 3.1-2, and data from the Schaft Creek Camp station is summarized in Table 3.1-3. Table 3.1-4 lists the mean monthly data available for the historical meteorological station at the Schaft Creek site. Monthly averages for four MSC stations within 100 km of the Project area are listed in Tables 3.1-5 to 3.1-8.

3.2 Air Temperature

At the Schaft Creek Saddle meteorological station, monthly average air temperatures ranged from -14.4ºC in November 2006 to 12.5ºC in July 2006, and -10.2 ºC in December 2007 to 11.7 ºC in July 2007 (Table 3.1-1 and Figure 3.2-1). There were two cold spells with mean daily air temperatures below -20ºC in 2006. One occurred in March 2006 and lasted for five days and one in November and lasted for one week. Meanwhile, the mean daily air temperature in the summer was above 20 °C for only one two-day period in 2006 (Figure 3.2-3). The hourly maximum air temperature recorded was 28.1ºC (11-Jun-06) and the minimum was -30.0ºC (15-Mar-06). In 2007, two cold spells with mean daily air temperatures below -20ºC occurred, in January and March, and lasted for three days. Mean daily air temperatures during the summer months never exceeded 20 °C in 2007 (Figure 3.2-3). Hourly maximum and minimum air temperatures for 2007 were 25.2°C and -29.9°C, occurring in August and December, respectively.

Table 3.1-1
Monthly Data for the Schaft Creek Saddle Automated Meteorological Station

	Average Air Temperature (°C)	Extreme Maximum Air Temperature (°C)	Extreme Minimum Air Temperature (°C)	Mean Maximum Air Temperature (°C)	Mean Minimum Air Temperature (°C)	Snow Depth (Last Day) (cm)	Total Precipitation (mm)[1]	Average Solar Radiation (W/m^2)	Average Wind Speed (m/s)
Nov-05	-3.5	8.1	-21.4	-0.9	-6.0	3	136	15	3.0
Dec	-4.7	4.1	-22.6	-2.0	-7.5	39	111	9	2.3
Jan-06	-7.5	1.4	-18.7	-4.5	-10.5	121	155	9	2.1
Feb	-7.4	3.6	-23.6	-4.0	-10.6	122	20	53	2.2
Mar	-8.1	6.7	-30	-3.9	-11.7	127	30	92	1.8
Apr	0.3	10.1	-7.0	4.2	-2.9	97	48	158	2.9
May	4.7	16.3	-5.2	9.0	1.1	0	40	199	2.5
Jun	10.6	28.1	2.7	15.7	6.0	0	14	243	2.8
Jul	12.5	23.7	5.2	17.2	8.4	0	28	208	2.7
Aug	9.8	21.2	3.8	14.1	6.5	0	29	165	2.9
Sep	7.2	21.3	-2.8	10.9	4.2	0	124	92	2.8
Oct	2.2	17.7	-11.2	5.6	-0.6	5	77	63	3.0
Nov	-14.4	0.5	-28.8	-11.2	-17	65	250	6	1.0
Dec	-4.3	2.3	-15.6	-2.1	-6.4	183	99	6	3.0
2006 Average	-0.2	13.8	-14.6	4	-3.9	n/a	n/a	108	2.5
2006 Total	n/a	n/a	n/a	n/a	n/a	n/a	913	n/a	n/a
Jan-07	-6.3	1.9	-25.6	-3.5	-9.3	219	4	16	3.0
Feb	-9.7	3.1	-24.0	-6.5	-12.7	243	86	20	1.3
Mar	-7.1	5.0	-25.2	-2.8	-10.8	289	143	85	2.5
Apr	0.1	10.2	-15.0	4.7	-3.6	205	69	180	2.6
May	4.9	15.1	-3.3	9.4	1.0	77	18	232	2.6
Jun	9.5	23.8	2.4	14.5	5.1	0	38	220	2.1
Jul	11.7	23.8	4.8	15.9	8.0	0	36	189	2.6
Aug	11.5	25.2	4.2	16.8	7.3	0	33	179	1.5[2]
Sep	6.9	20.3	-1.5	10.6	3.7	1	60	102	2.2[2]
Oct	0.5	6.8	-6.1	2.9	-1.5	62	184	48	2.4
Nov	-3.3	1.6	-14.0	-0.4	-5.7	63	31	25	2.1
Dec	-10.2	0.4	-29.9	-12.7	-7.4	94	76	11	n/a
2007 Average	0.7	11.4	-11.1	4.1	-2.1	n/a	n/a	109	2.4
2007 Total	n/a	n/a	n/a	n/a	n/a	n/a	779	n/a	n/a

[1] **Based on GEONOR data.**

[2] **Data is missing from August 17th to September 15th**

Table 3.1-2
Monthly Data for the Mount LaCasse Automated Meteorological Station

	Average Air Temperature (°C)	Extreme Maximum Air Temperature (°C)	Extreme Minimum Air Temperature (°C)	Mean Maximum Air Temperature (°C)	Mean Minimum Air Temperature (°C)	Snow Depth (Last Day) (cm)	Total Precipitation (mm)[1]	Average Solar Radiation (W/m^2)	Average Wind Speed (m/s)
Aug-06	6.9	17.2	1.4	10.8	4.3	0		165	3.4
Sep	4.3	17.5	-3.9	7.2	2	0		100	4.3
Oct	-0.5	13.6	-12.7	2.2	-2.8	13	61	66	4.1
Nov	-15.3	-1.9	-31.2	-12.5	-18	82	104	18	3.7
Dec	-6.6	0.1	-13.1	-4.7	-8.7	139	103	12	7
2006 Average	-3.1	9.1	-14.5	-0.4	-5.6	n/a	n/a	64	4.3
2006 Total	n/a	n/a	n/a	n/a	n/a	n/a	374	n/a	n/a
Jan-07	-7.6	-2.0	-23.4	-5.3	-10.2	168		20	3.1
Feb	-11.2	-2.4	-21.1	-7.4	-13.2	195	58	32	3.7
Mar	-9.6	0.8	-26.9	-5.9	-12.7	195	99	99	5.6
Apr	-3.2	6.6	-18.0	0.5	-6.4	184	26	203	5.3
May	1.6	10.8	-6.4	5.7	-1.6	116	18	263	4.5
Jun	6.5	18.5	0.3	10.6	3.2	0	73	236	3.1
Jul	6.6	12.4	2.4	10.0	3.6	0	31[2]	215	4.9
Aug	n/a	n/a	n/a	n/a	n/a	n/a	100[3]	n/a	n/a
Sep	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a
Oct	-2.5	2.3	-7.0	0.0	-4.1	64	100[4]	46	4.9
Nov	-5.1	1.7	-9.7	-2.3	-7.4	56	28	30	4.7
Dec	-10.6	-3.0	-32.5	-8.2	-12.6	75	21	16	4.8
2007 Average	-3.5	4.6	-14.2	-0.2	-6.1	n/a	n/a	116	4.5
2007 Total	n/a	n/a	n/a	n/a	n/a	n/a	554	n/a	n/a

[1]Based on GEONOR data.

[2]This monthly total only represents data from July 1st to July 10th

[3]From July 11th to October 9th, 100 mm of precip was accumulated

[4]This monthly total only represents data from October 9th to October 31st

Table 3.1-3
Monthly Data for the Schaft Creek Camp Automated Meteorological Station

	Average Air Temperature (°C)	Extreme Maximum Air Temperature (°C)	Extreme Minimum Air Temperature (°C)	Mean Maximum Air Temperature (°C)	Mean Minimum Air Temperature (°C)	Total Precipitation (mm)	Average Solar Radiation (W/m2)	Average Wind Speed (m/s)
Schaft Creek								
Aug*-06	9	21.8	-3.8	14.7	3	12	97	1.9
Sep	5.6	21.6	-9.3	11.7	0	121	57	1.2
May-07	3.9	14.9	-6.9	8.9	-2	14	525	1.9
Jun	9.8	25.5	-2.6	15.6	3	36	143	1.6
Jul	12.3	25.7	0.3	17.7	6	37	121	1.7
Aug[1]	11.9	23.7	-0.3	19.5	3	7	137	1.6
Oct[1]	0.2	7.4	-11.4	3.9	-3	105	28	1.3[2]
Nov	-7.6	2.2	-22.3	-3.3	-12	4	20	0.9
Dec	0.0	6.8	-38.3	-10.2	-20	2	17	1.4

***Not a complete month**

[1]Data is missing from August 11th to October 8th

[2]Wind direction sensor was malfunctioning from October 8th onwards.

Table 3.1-4
Average Monthly Data for the Historical Schaft Creek Camp Meteorological Station

	Mean Maximum Air Temperature (°C)	Mean Minimum Air Temperature (°C)	Total Precipitation (mm)		Mean Maximum Air Temperature (°C)	Mean Minimum Air Temperature (°C)	Total Precipitation (mm)
Jun* 1969	19.4	7.8	17	Jan-71	-14.7	-22.9	47
Jul	15.0	7.2	17	Feb*	0.6	-10.8	15
Aug	13.3	4.4	59	Mar	2.2	-12.2	129
Sep*	11.1	3.3	40	Apr	8.8	-7.9	45
Mar* 1970	4.4	-4.2	0	May	12.3	-2.0	12
Apr	5.4	-5.7	61	Jun	17.8	4.3	17
May	7.3	-0.2	19	Jul	20.7	7.2	28
Jun	11.1	3.1	56	Aug	17.4	6.7	56
Jul	11.4	5.3	21	Sep	11.6	2.8	43
Aug	15.3	5.1	54	Oct	4.1	-3.4	143
Sep	11.5	1.1	71	Nov	-1.9	-10.1	149
Oct	6.1	-2.9	124	Dec	-11.2	-20.2	51
Nov	-4.6	-13.8	50	Jan-72	-13.8	-23.3	38
Dec	-10.6	-18.4	92	Feb	-9.8	-18.8	74

*** Not a complete month**

Table 3.1-5
Average Monthly Data for Bob Quinn Meteorological Station (1977 to 1994)

Month	Mean Max Temp (°C)	Mean Temp (°C)	Mean Min Temp (°C)	Total Rain (mm)	Total Snow (cm)	Total Precip (mm)	Snow Depth Last Day (cm)
January	-5.2	-8.5	-11.7	19	41	60	46
February	-2.1	-6.4	-10.7	13	28	41	43
March	4.7	-0.3	-5.3	14	14	27	25
April	9.9	3.9	-2.2	18	7	25	1
May	14.8	8.2	1.5	28	1	29	0
June	18.5	11.9	5.3	34	0	34	0
July	20.4	14.1	7.8	57	0	57	0
August	19.7	13.4	7.1	50	0	50	0
September	14.4	9.3	4.2	86	0	86	0
October	7.5	4	0.4	94	8	102	1
November	-0.9	-3.7	-6.4	34	28	62	10
December	-5.3	-8.3	-11.3	18	53	71	34
Average	8.0	3.1	-1.8	n/a	n/a	n/a	n/a
Total	n/a	n/a	n/a	464	179	644	n/a

Note: n/a: this total or average is not required for this parameter

Table 3.1-6
Average Monthly Data for Iskut Ranch Meteorological Station (1976 to 1994)

Month	Mean Max Temp (°C)	Mean Temp (°C)	Mean Min Temp (°C)	Total Rain (mm)	Total Snow (cm)	Total Precip (mm)	Snow Depth Last Day (cm)
January	-6.2	-11.4	-16.6	7	29	37	41
February	-2.8	-8.7	-14.5	6	13	19	26
March	2.6	-3.4	-9.3	2	13	15	12
April	7.7	1.3	-5.1	2	4	6	0
May	13.2	6.3	-0.7	24	2	26	0
June	17.3	10.1	2.9	44	0	44	0
July	19.1	12.1	5.1	66	0	66	0
August	18.3	11.3	4.3	58	0	58	0
September	13.1	7.2	1.2	50	1	50	0
October	6.3	2	-2.4	35	6	41	1
November	-1.3	-6.1	-10.8	8	20	28	13
December	-6.5	-11.7	-16.8	4	37	41	26
Average	6.7	0.8	-5.2	n/a	n/a	n/a	n/a
Total	n/a	n/a	n/a	306	125	431	n/a

Note: n/a: this total or average is not required for this parameter

Source: Environment Canada Climate Normals 1971-2000 (Environment Canada 2002)

Table 3.1-7
Average Monthly Data for Todagin Ranch Meteorological Station (1976 to 1992)

Month	Mean Max Temp (°C)	Mean Temp (°C)	Mean Min Temp (°C)	Total Rain (mm)	Total Snow (cm)	Total Precip (mm)	Snow Depth Last Day (cm)
January	-8	-13.3	-18.6	1	31	32	56
February	-3.4	-9.9	-16.3	1	16	17	56
March	2	-4.9	-11.8	1	16	17	51
April	7.3	0.5	-6.2	3	8	11	4
May	12.6	5.4	-1.8	21	3	24	0
June	17	9.4	1.7	37	0	37	0
July	18.8	11.6	4.3	54	0	54	0
August	18.3	11.1	3.8	49	0	49	0
September	13	6.9	0.7	53	1	54	0
October	5.6	1.2	-3.2	33	15	47	4
November	-3.6	-8.4	-13.2	5	31	35	25
December	-7.9	-12.8	-17.6	1	42	43	46
Average	6	-0.3	-6.5	n/a	n/a	n/a	n/a
Total	n/a	n/a	n/a	258	161	419	n/a

Note: n/a: this total or average is not required for this parameter

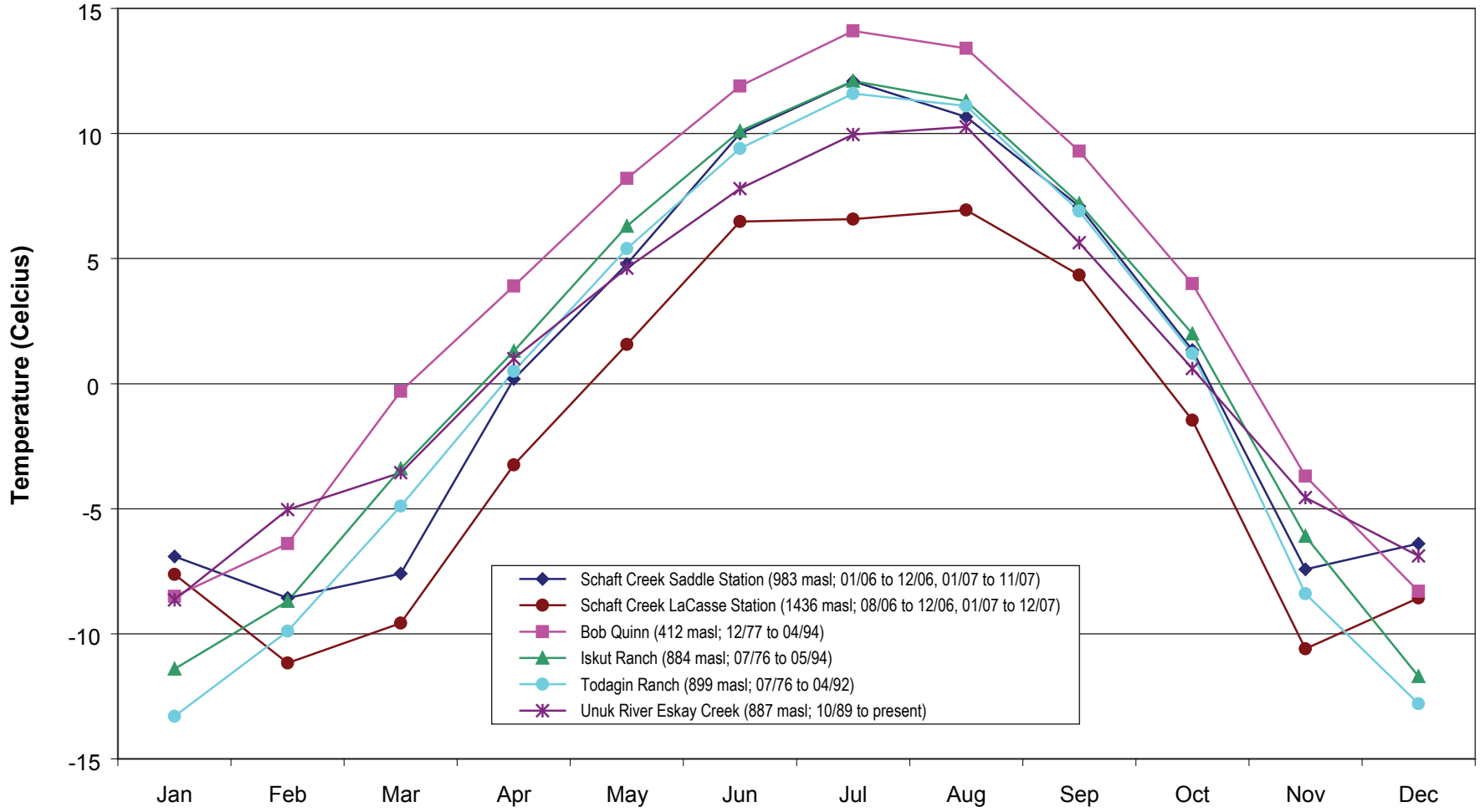
Source: Environment Canada Climate Normals 1971-2000 (Environment Canada 2002)

Table 3.1-8
Average Monthly Data for Unuk River Eskay Creek Meteorological Station (1989 to 2002)

Month	Mean Max Temp (°C)	Mean Temp (°C)	Mean Min Temp (°C)	Total Rain (mm)	Total Snow (cm)	Total Precipitation (mm)
January	-5.3	-8.6	-11.4	2.9	223	226
February	-1.8	-5	-8.4	7.1	214	221
March	0.2	-3.6	-7.3	3	159	162
April	5.1	1	-3.2	21.2	67.2	88.4
May	8.8	4.6	0.6	82.2	23.8	106
June	12.5	7.8	3.2	70.2	0.1	70.3
July	14.9	10	5.8	78.4	0	78.4
August	14.9	10.3	5.8	145	0	145
September	9.2	5.6	2.7	225	9.3	234
October	3.4	0.6	-2.1	145	110	254
November	-1.8	-4.6	-7.6	12.2	196	208
December	-3.9	-6.9	-9.4	0	281	281
Average	4.7	0.9	-2.6	n/a	n/a	n/a
Total	n/a	n/a	n/a	792	1283	2074

Note: n/a: this total or average is not required for this parameter

Source: Environment Canada Climate Normals 1971-2000 (Environment Canada 2002)



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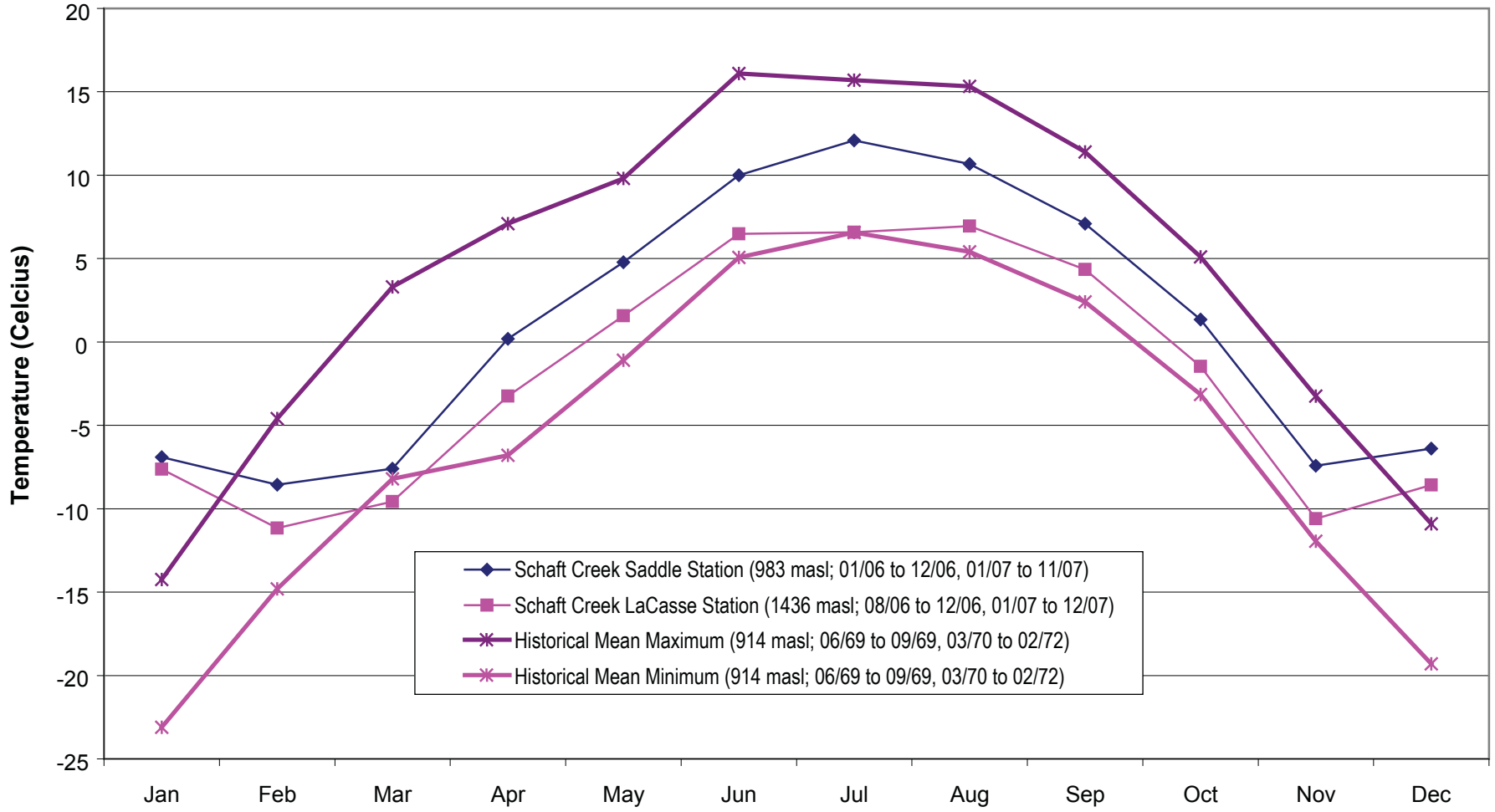
Monthly Average Air Temperature at Schaft Creek Saddle, Mount LaCasse and Regional Meteorological Stations

FIGURE 3.2-1

RTEC Keepers of the Land

Rescan™



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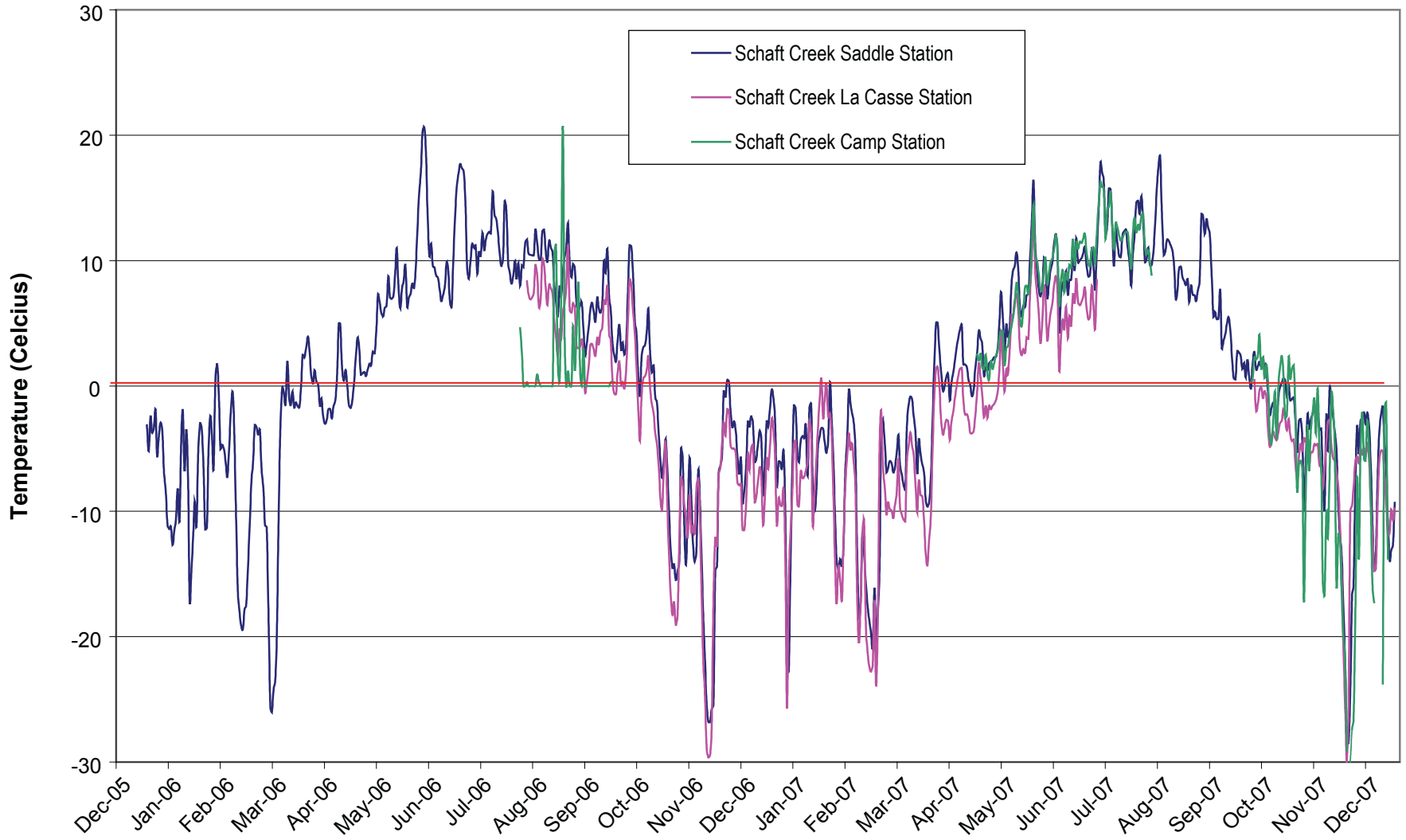
Monthly Average Air Temperature at Schaft Creek Saddle, Mount LaCasse and Historical Schaft Creek Meteorological Stations

FIGURE 3.2-2

RTEC Keepers of the Land

Rescan™



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Daily Average Air Temperature at Rescan Meteorolgical Stations (2006 and 2007 Data)

FIGURE 3.2-3

RTEC Keepers of the Land

Rescan™

Annual average air temperature at the Schaft Creek Saddle station was -0.2ºC in 2006 and 0.7°C in 2007. The monthly averages of 2006 and 2007 at the station do not follow the same seasonal trend as the four MSC weather stations at Unuk River Eskay Creek, Bob Quinn, Iskut Ranch and Todagin Ranch (Figure 3.2-1). It is not possible to compare the on-site station data to 2006 and 2007 regional data. Unfortunately, Bob Quinn, Iskut Ranch and Todagin Ranch stations are no longer in operation. In addition, data for 2006 and 2007 from Unuk River Eskay Creek was not available at the time of writing.

3.3 Precipitation

3.3.1 On-Site Data

Precipitation was measured by the three automated meteorological stations in the Project area. The Schaft Creek Saddle station and the Mount LaCasse station measured total precipitation using a GEONOR precipitation gauge, and rain using a tipping bucket rain gauge. The Schaft Creek Camp station measured only rain using a tipping bucket gauge.

The monthly precipitation data collected at the on-site meteorological stations shows that all stations have similar monthly trends (Figure 3.3-1). Total precipitation measured by the GEONOR precipitation gauge at the Schaft Creek Saddle meteorological station was 913 mm in 2006 and 779 in 2007 (Table 3.3-1). In 2006, November was the wettest month with 250 mm of precipitation, which primarily fell as snow. June was the driest month at the Schaft Creek Saddle Station, with only 14 mm of precipitation (Figure 3.3-1).

In 2007, the wettest month was October with 184 mm of precipitation, and the driest month was May with 18 mm of precipitation. The low precipitation reported in January 2007 at the Schaft Creek Saddle Station was a result of snow bridge formation over the GEONOR precipitation gauge. Therefore, precipitation data for January is not representative of the actual precipitation rate. The snow bridge was removed during a site visit in early February. The precipitation at the Schaft Creek Saddle Station in February 2007 is consistent with the snow water equivalent information reported for the same time interval, which provides confidence in the reliability of the GEONOR precipitation gauge.

In 2007, total precipitation recorded at the LaCasse station, located at an elevation of 1440 masl, was in 553 mm. Typically, total precipitation increases with increasing elevation in mountainous terrain. Regional data suggests an increase in precipitation of approximately 8% for every 100 m of elevation gain (Coulson, 1991). Therefore, the fact that considerably less total precipitation was measured at the LaCasse station (553 mm at 1440 masl) compared to the Saddle station (779 mm at 977 masl) was not expected. Similarly, 268 mm of precipitation was measured at the LaCasse station between October and December in 2006 compared to 426 mm at the Saddle station over the same period. Table 3.3-1 shows that while precipitation recorded during the summer months are in reasonable agreement between the two stations, the recorded precipitation during months with snow-fall are considerably lower at the LaCasse station. Therefore, it is likely that precipitation measurements at the LaCasse station were influenced (negatively biased) by the exposed location and the relatively high wind speeds at the station, which would cause snow to blow past the mouth of the precipitation gauge. Also, the location of the station at the

north-eastern slope of Mount LaCasse could be shielded from precipitation carried by the predominant southerly winds.

In 2007, the wettest month at the Mount LaCasse Station was October, with over 100 mm of rainfall/snow. The driest month was May, with 18 mm of rain. This agrees with the observed trends at the Schaft Creek Saddle Station for 2007. Only rainfall was measured at the Schaft Creek Camp Station. Therefore, seasonal precipitation trends at this station cannot be evaluated.

Table 3.3-1
Observed Monthly Onsite Precipitation from the Schaft Creek Meteorological Stations

	Saddle		LaCasse		Schaft Creek Camp
	GEONOR (mm)	Tipping Bucket (mm)	GEONOR (mm)	Tipping Bucket (mm)	(mm)
Jan-06	155	snow			
Feb	20	snow			
Mar	30	snow			
Apr	48	snow			
May	40	snow			
Jun	14	17			
Jul	28	31		**Installed Aug 2006**	**Installed Aug 2006**
Aug	29	33		28	12
Sep	124	128	**Installed Oct 2006**	99	121
Oct	77	76	61	41	n/a
Nov	250	snow	104	snow	snow
Dec	99	(15) snow	103	snow	snow
2006 Total	**913**				
Jan-07	4	snow	n/a	2	snow
Feb	86	snow	58	2	snow
Mar	143	snow	99	0	snow
Apr	69	snow	26	16	snow
May	18	snow	18	17	14
Jun	38	30	73	67	36
Jul	36	39	31[1]	36	37
Aug	33	35	100[2]	n/a	7[3]
Sep	60	60		n/a	n/a
Oct	184	123	100[4]	40	105[4]
Nov	31	3	28	11	4
Dec	76	snow	21	snow	2
2007 Total	**779**		**553**		

Notes: n/a – not available
snow – tipping bucket rain gauges do not measure frozen precipitation (snow)
[1]This monthly total only represents data from July 1st to July 10th
[2]From July 11th to October 9th, 100 mm of precip was accumulated
[3]Data is missing from August 11th to October 8th
[4]This monthly total only represents data from October 9th to October 31st

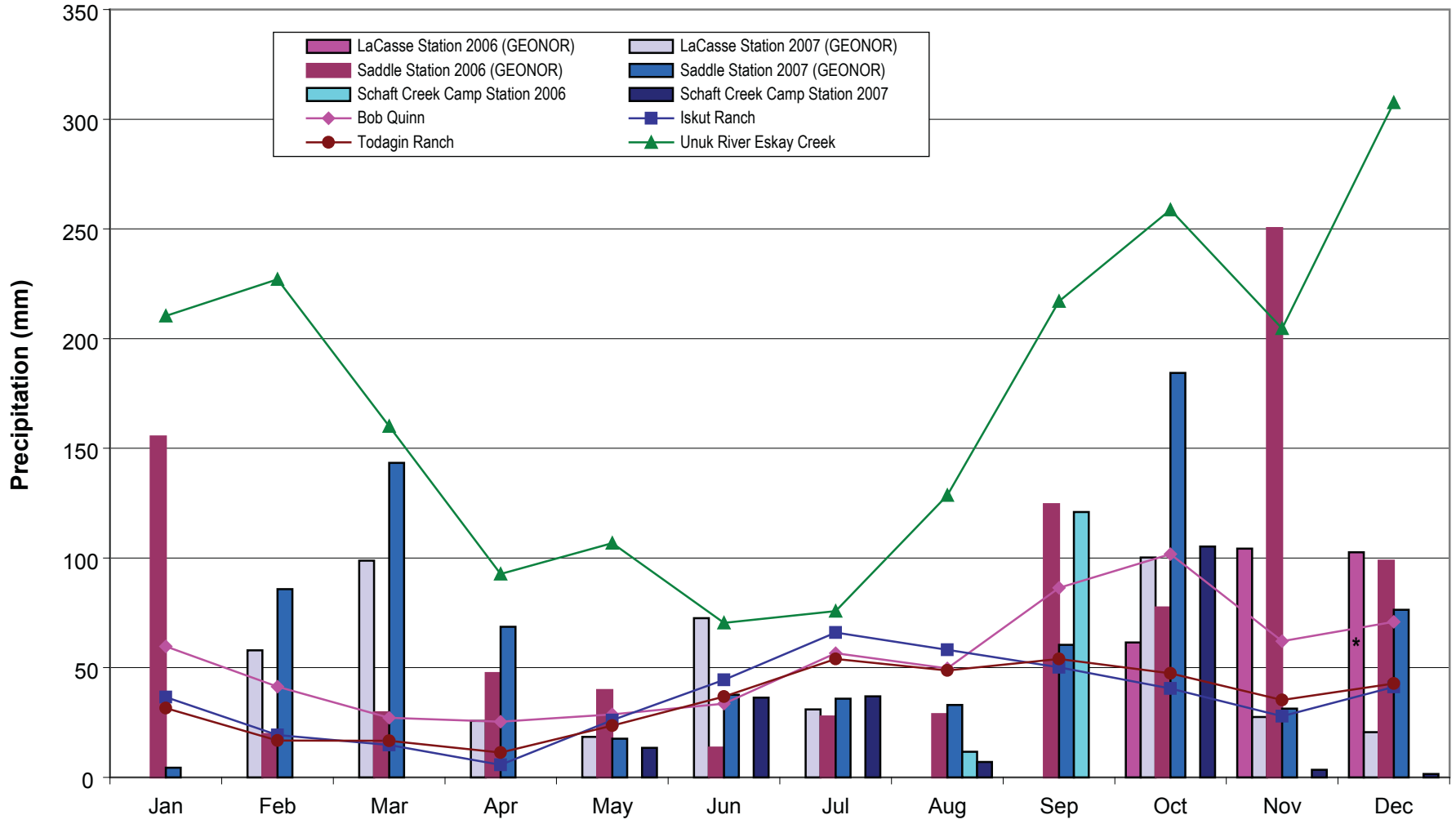


FIGURE 3.3-1

Monthly Precipitation

Comparison of GEONOR and tipping bucket precipitation measurements at the Schaft Creek Saddle Station showed that precipitation values recorded during rain events were in good agreement (Figure 3.3-2). Similarly, rain-fall measurements at the GEONOR precipitation gauge and the tipping bucket gauge at the LaCasse station was in reasonable agreement (Table 3.3-1). The consistent precipitation (rain) measurements provide a quality assurance check for the GEONOR precipitation gauges, which collects precipitation data year-round.

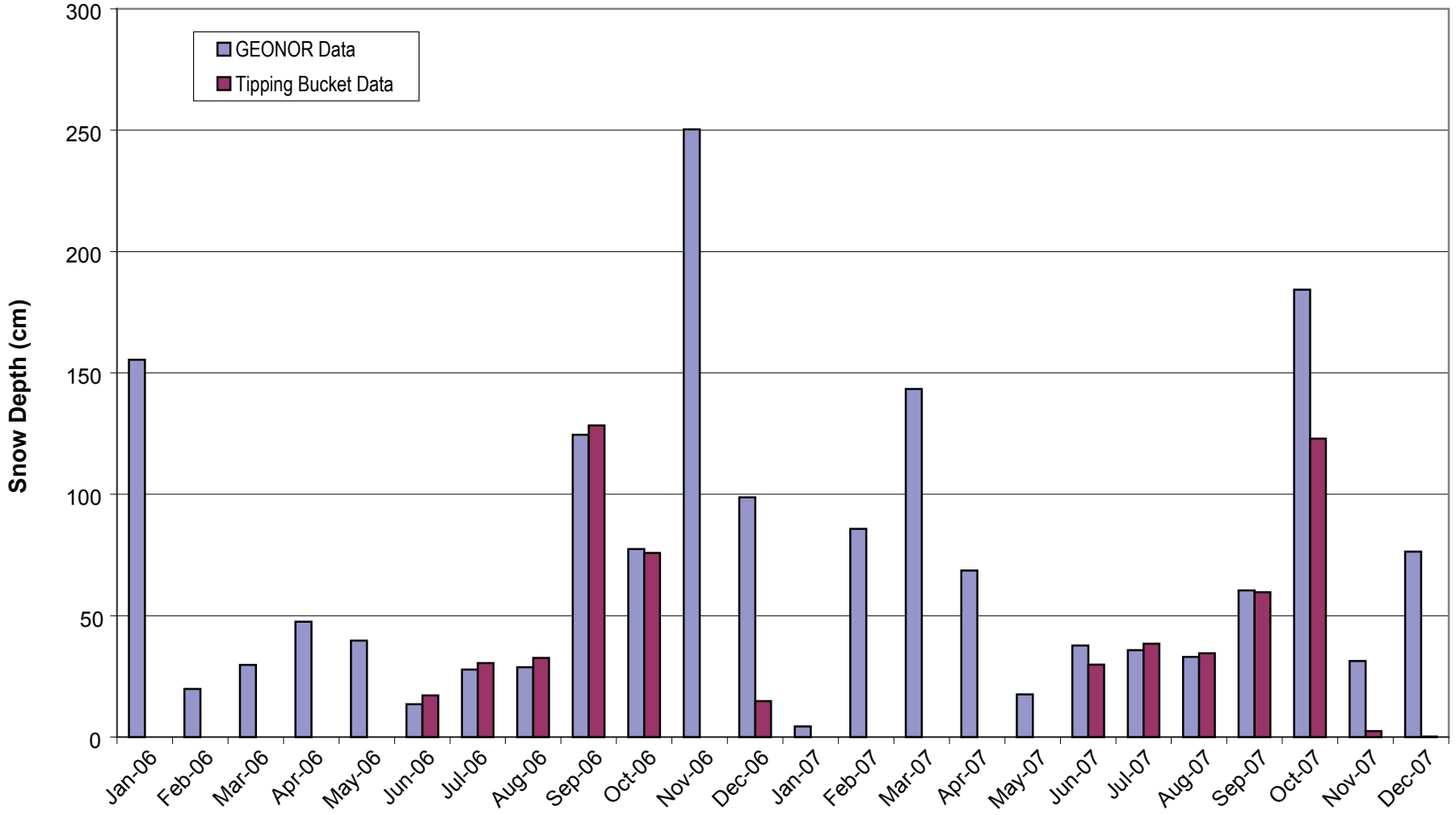
Table 3.3-3
Environment Canada Meteorological Stations
Near the Schaft Creek Project

Station	Period of Record	Location	Approx. Distance to Project [km]	Elevation [masl]	Observed Average Annual Precipitation [mm]
Iskut Ranch	1976-1994	57° 52' N; 131° 10' W	57	854	435
Todagin Ranch	1973-1992	57° 36' N; 130 ° 04' W	62	899	419
Telegraph Creek	1979-present	57° 54' N; 130° 20' W	63	250	369
Bob Quinn	1977-1994	56° 58' N; 130° 15' W	65	610	642
Iskut River	1976-1994	56°43'58.80"N; 131°40'1.20"W	82	884	431
Unuk River-Eskay Creek	1989-present	56°39'10.74"N; 130° 26'45.54"W	87	887	2074
Dease Lake	1944-present	58° 25' N; 130° 00' W	130	807	426

b: Scaled using orographic factor of 8 % increase per 100 m rise in elevation (Coulson, 1991). Values scaled to median elevation of Schaft Creek catchment
c: This likely over-predicts the annual precipitation

3.3.2 Regional Data

The monthly trends from the on-site data collected from Schaft Creek Saddle station in 2006 and 2007 do not agree well with the average monthly precipitation from the regional stations (Figure 3.3-1). The precipitation at the three inactive regional stations shows a steady decrease in precipitation through the winter months, with the lowest average monthly precipitation occurring in April. From April, the precipitation increases through the late spring/early summer such that the peak precipitation occurs in July at Iskut and Todagin Ranch, and in October at Bob Quinn. The data collected at Schaft Creek Saddle station in 2006 and 2007 does not show this same seasonal trend. The wettest months occur in November and October, and the driest month occurs in June and May of 2006 and 2007, respectively. There is no steady decline in precipitation through the spring; rather, there is an increase in precipitation from February to April, and then a decrease from April throughout the summer months.



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Comparison of Geonor and Tipping Bucket Precipitation Data at the Schaft Creek Saddle Meteorological Station

FIGURE 3.3-2

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The seasonal trends at Unuk River Eskay Creek station falls between the trends observed at stations in the Project area, and the decommissioned regional stations. Like the 2006 Schaft Creek Saddle station monthly precipitation data, the driest month at Unuk River is June. The wettest month is in December, unlike either the other regional stations or the on-site stations. The variations in the seasonal trends of the regional stations within a 100 km radius of the Project indicate that local climatic conditions within the area are complex and are influenced by large-scale regional factors such as mountain ranges and the Pacific Ocean, as well as smaller-scale factors such as local topography.

3.4 Wind Speed and Direction

The average annual wind speeds measured at Schaft Creek Saddle meteorological station in 2006 and 2007 were 2.5 m/s and 2.4 m/s, respectively, with monthly averages ranging from 1.0 m/s to 3.0 m/s (Table 3.4-1). The station recorded calm wind conditions (*i.e.* hourly average wind speed less than 1.0 m/s) 34% and 32% of the time in 2006 and 2007 respectively. The dominant wind direction at Schaft Creek Saddle station in 2006 and 2007 was from the south (Figure 3.4-1 and Figure 3.4-2).

The annual average wind speed at the Mount LaCasse station was approximately 4.5 m/s. The monthly average wind speed measured at the station ranged from 3.1 to 7.0 m/s (Table 3.4-1). The elevated wind speeds measured at the LaCasse station (compared to the Saddle station) are due to the exposed location and higher elevation (1440 masl). The station recorded calm wind conditions only 8% and 9% of the time in 2006 and 2007, respectively. The dominant wind direction was from the south and southeast in 2006 (August through December). The wind blew from these directions 35% and 30% of the time, respectively. In 2007 the dominant wind direction was also from the south and southeast, blowing 57% and 37% of the time from these directions, respectively (Data from July 11th to October 9th is missing due to a lightning strike) (Figure 3.4-3 and Figure 3.4-4).

From January to mid August, 2007, the Schaft Creek Camp station recorded calms 40% of the time (Table 3.4-1). Winds were predominantly from the south southeast to south southwest (Figure 3.4-5). Average monthly winds speeds were lower at the Schaft Creek Camp station because of the more sheltered location in the valley bottom and the lower elevation (855 masl).

Glacier winds (or katabatic winds) driven by the cooling effects of the glaciers located south of the Schaft Creek Project dominate the wind conditions in the Schaft Creek valley. These winds produce a distinct diurnal pattern with respect to the distribution of wind speeds in the Schaft Creek valley during the summer months. Figure 3.4-6 and Figure 3.4-7 shows the wind speed and wind direction distributions recorded in May and June, 2007 at the Schaft Creek Camp station and Saddle station, respectively.

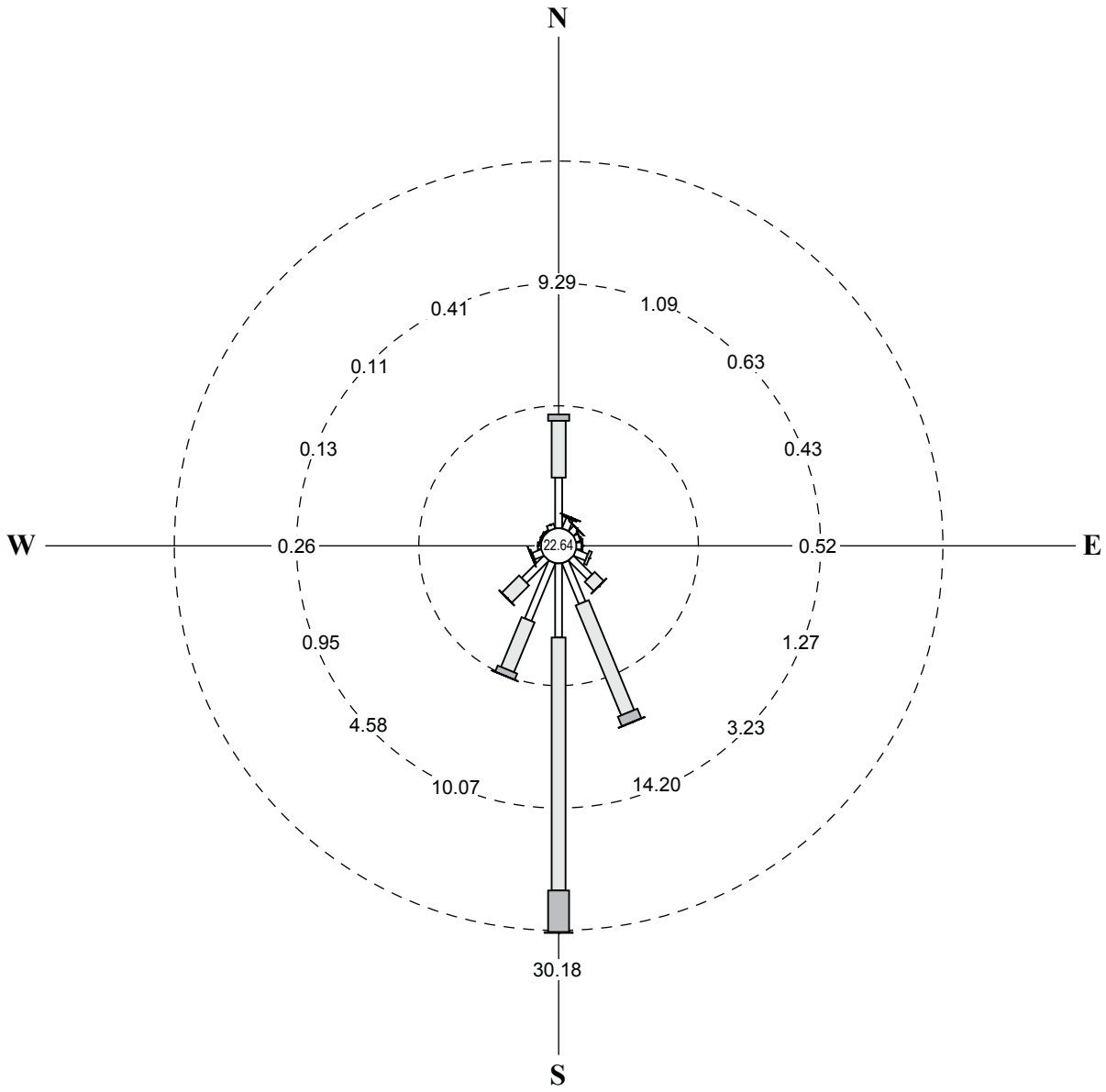
After sunrise, the southerly winds in the Schaft Creek valley increased and reached their maximum during the afternoon, gradually decreasing until sunset and throughout the night. Meanwhile, the wind speeds at the Saddle station remained relatively constant throughout the diurnal cycle. The average wind direction in the Schaft Creek valley shifted from south-southeast to south-southwest as the katabatic winds increased in intensity throughout the day.

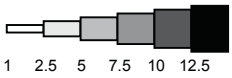
At the Saddle station, the wind direction shifted from south to south-southwest, which suggested that winds from Mess Creek dominated at the saddle location during the daytime hours.

Table 3.4-1
Average Monthly Wind Speed (m/s)

Month	Schaft Creek Saddle Station	Mount LaCasse Station	Schaft Creek Camp RainWise Station
2005			
Nov	3.0		
Dec	2.3		
2006			
Jan	2.1		
Feb	2.2		
Mar	1.8		
Apr	2.9		
May	2.5		
Jun	2.8		
Jul	2.7	**Installed Aug 2006**	**Installed Aug 2006**
Aug	2.9	3.4	1.9
Sep	2.8	4.3	1.2
Oct	3.0	4.1	n/a
Nov	1.0	3.7	n/a
Dec	3.0	7.0	n/a
2007			
Jan	3.0	3.1	n/a
Feb	1.3	3.7	n/a
Mar	2.5	5.6	n/a
Apr	2.6	5.3	n/a
May	2.6	4.5	1.9
Jun	2.1	3.1	1.6
Jul	2.6	4.9[1]	1.7
Aug	0.8[2]	n/a	1.6[3]
Sep	1.2[2]	n/a	n/a
Oct[4]	2.4	4.9[1]	1.3[3]
Nov	2.1	4.7	0.9
Dec	0.1[5]	4.8	1.4

Notes: n/a – not available
[1]Data is missing from July 11th to October 9th due to a power outage caused by a lightning strike
[2]Data is missing from August 17th to September 15th
[3]Data is missing from August 11th to October 8th
[4]Wind direction sensor was malfunctioning from October 8th onwards
[5]Wind speed and wind direction sensors were malfunctioning from December 12th to December 31st, 2007



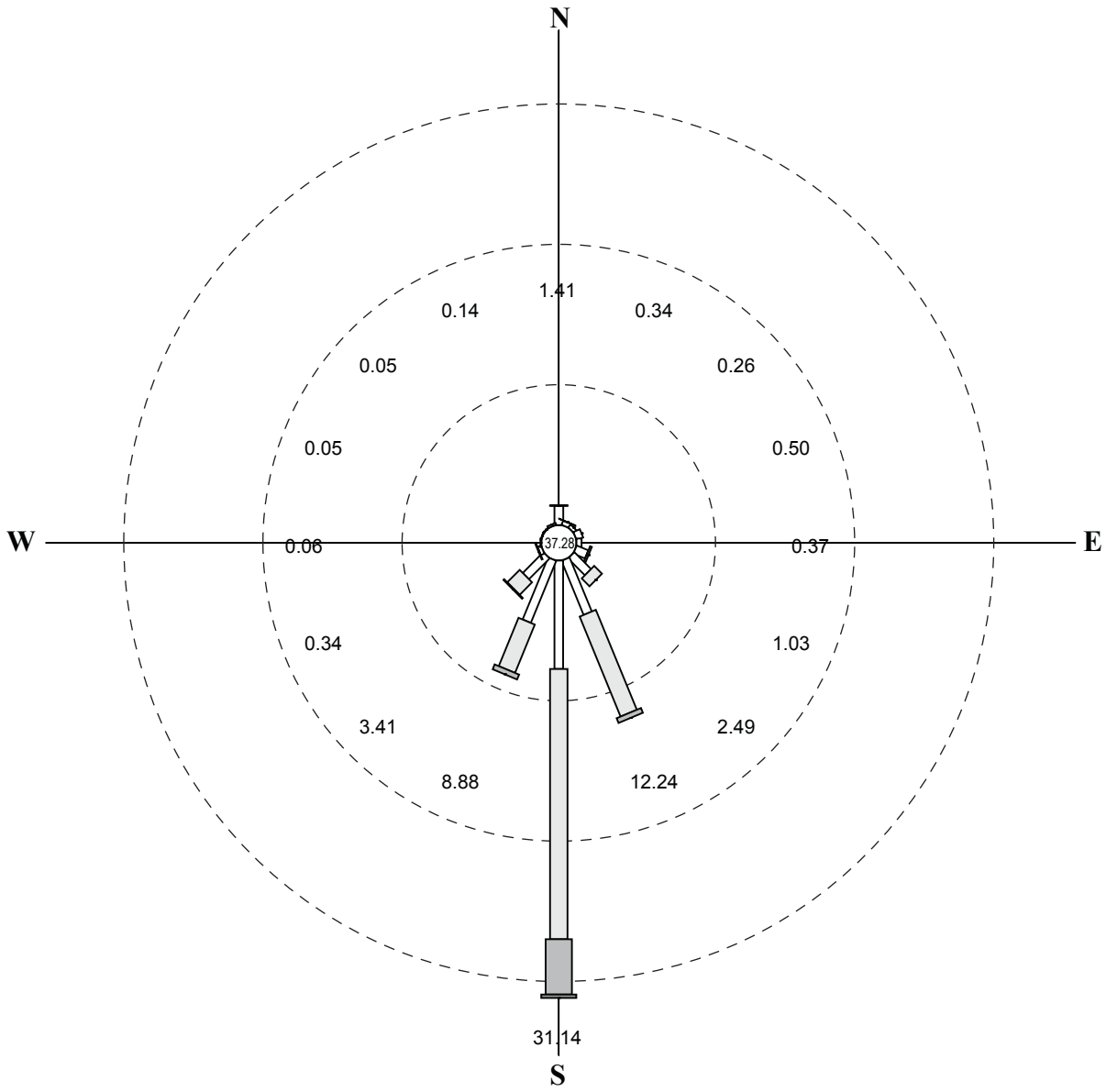


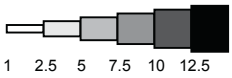
Wind Speed (Meters Per Second)

Calms included at center.
Rings drawn at 10% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

FIGURE 3.4-1

Wind Rose for Schaft Creek Saddle Meteorological Station (Jan 2006 to Dec 2006)



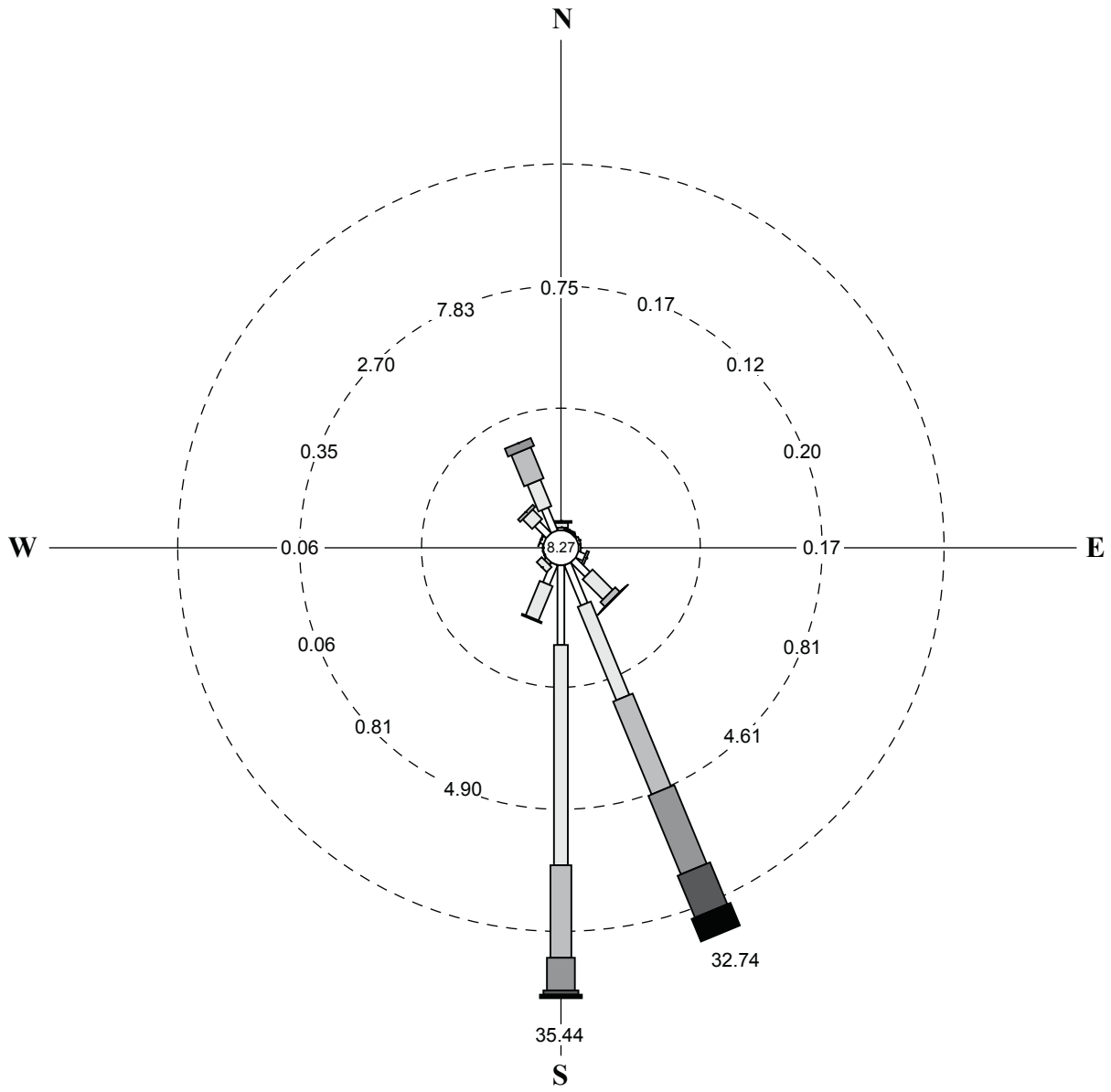


Wind Speed (Meters Per Second)

Calms included at center.
Rings drawn at 10% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

FIGURE 3.4-2

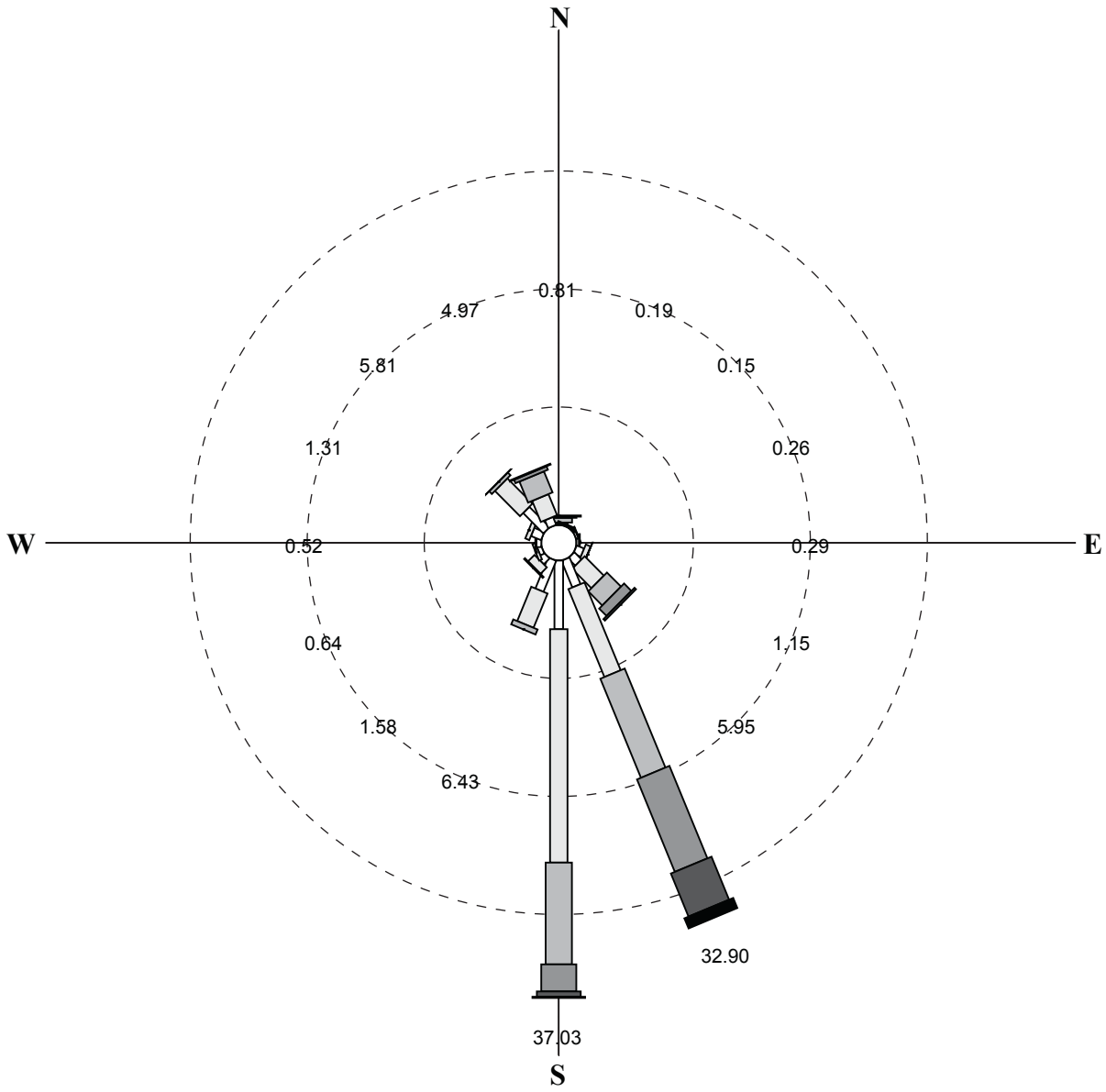
Wind Rose for Schaft Creek Saddle Meteorological Station (2007)



Calms included at center.
Rings drawn at 10% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

FIGURE 3.4-3

Wind Rose for Mount LaCasse Meteorological Station (Aug 2006 to Dec 2006)

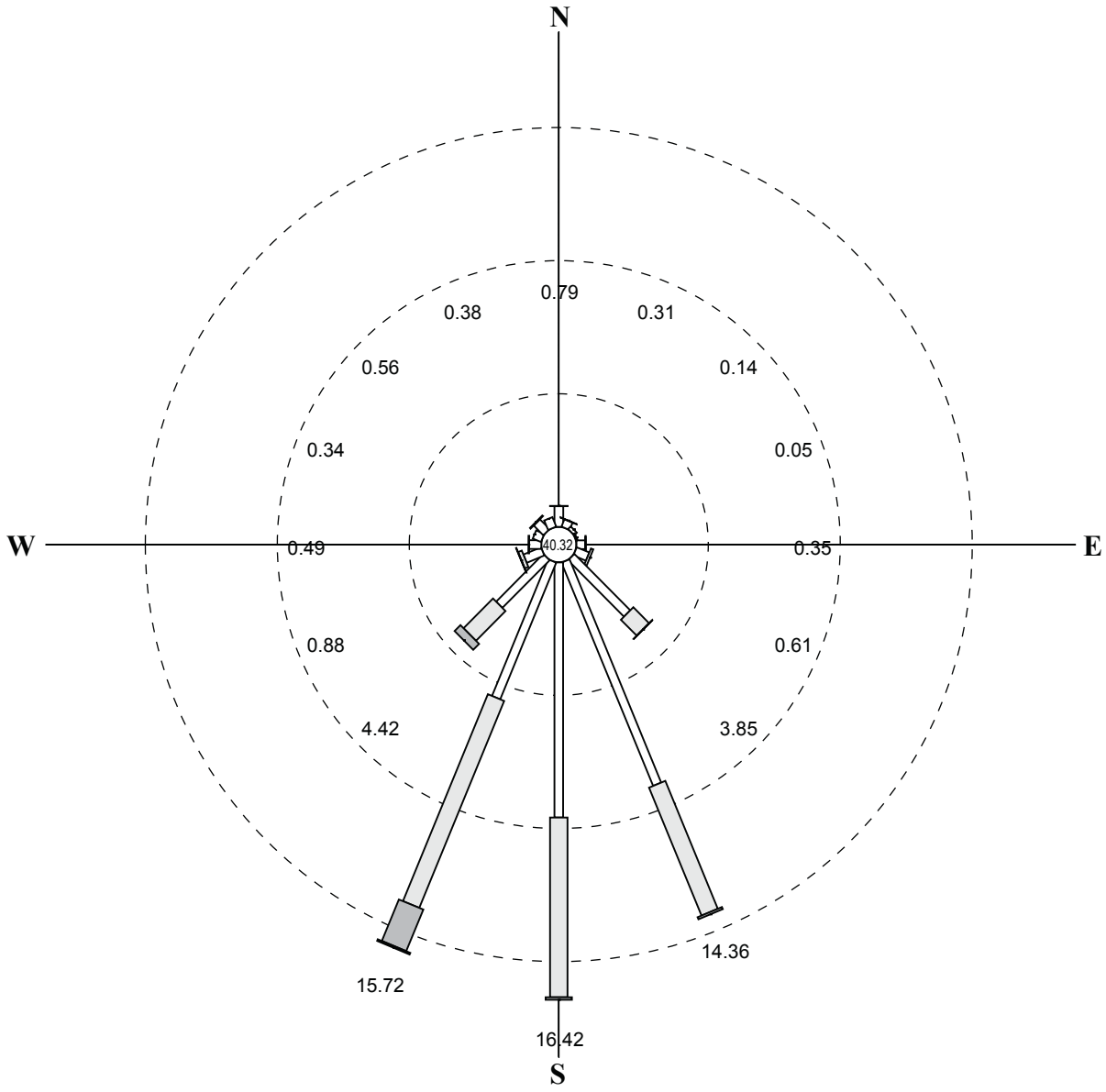


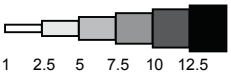
Calms included at center.
Rings drawn at 10% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

Note: Windspeed and direction data for July 11th to October 9th are missing.

FIGURE 3.4-4

Wind Rose for Mount LaCasse Meteorological Station (2007)



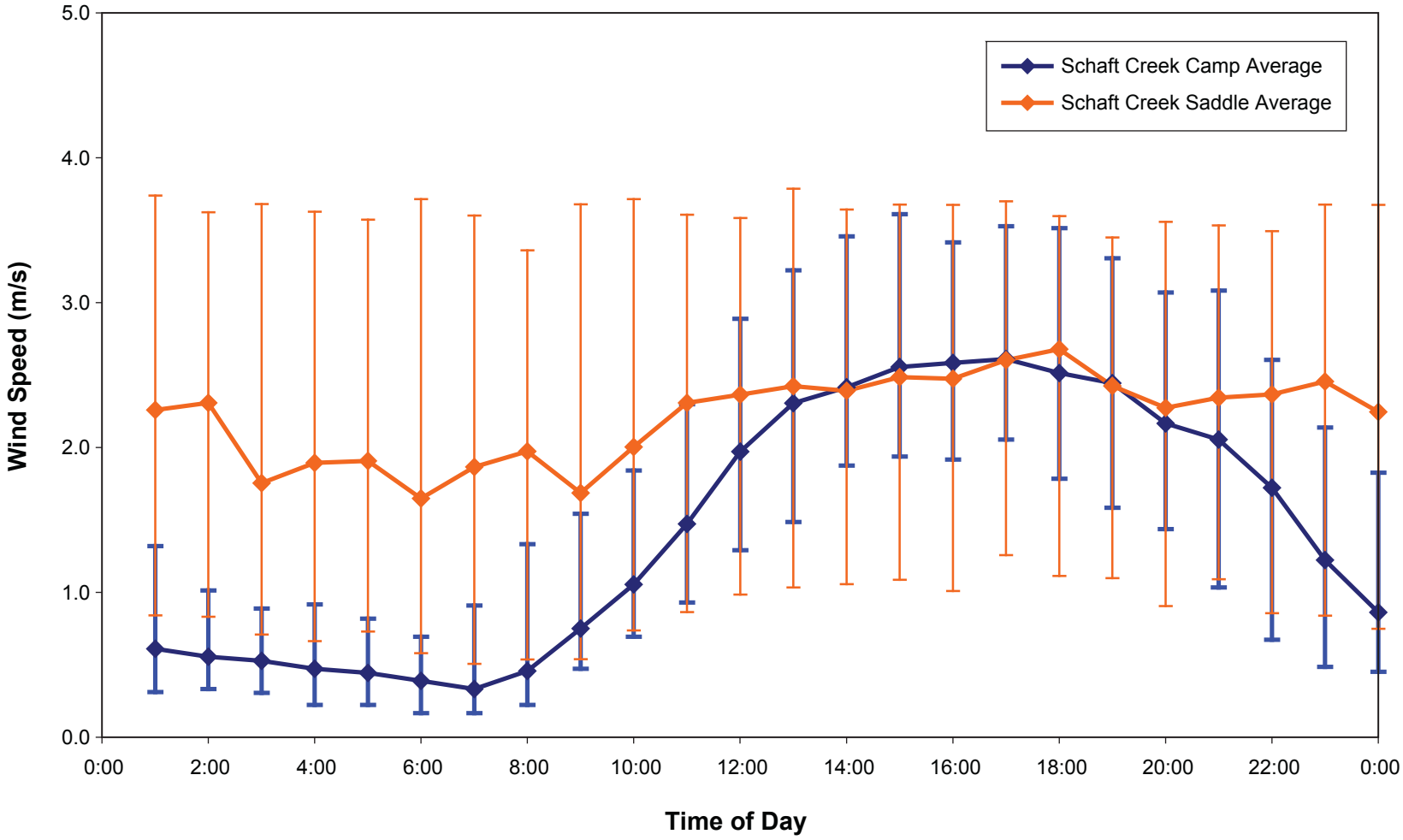


Wind Speed (Meters Per Second)

Calms included at center.
Rings drawn at 10% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

FIGURE 3.4-5

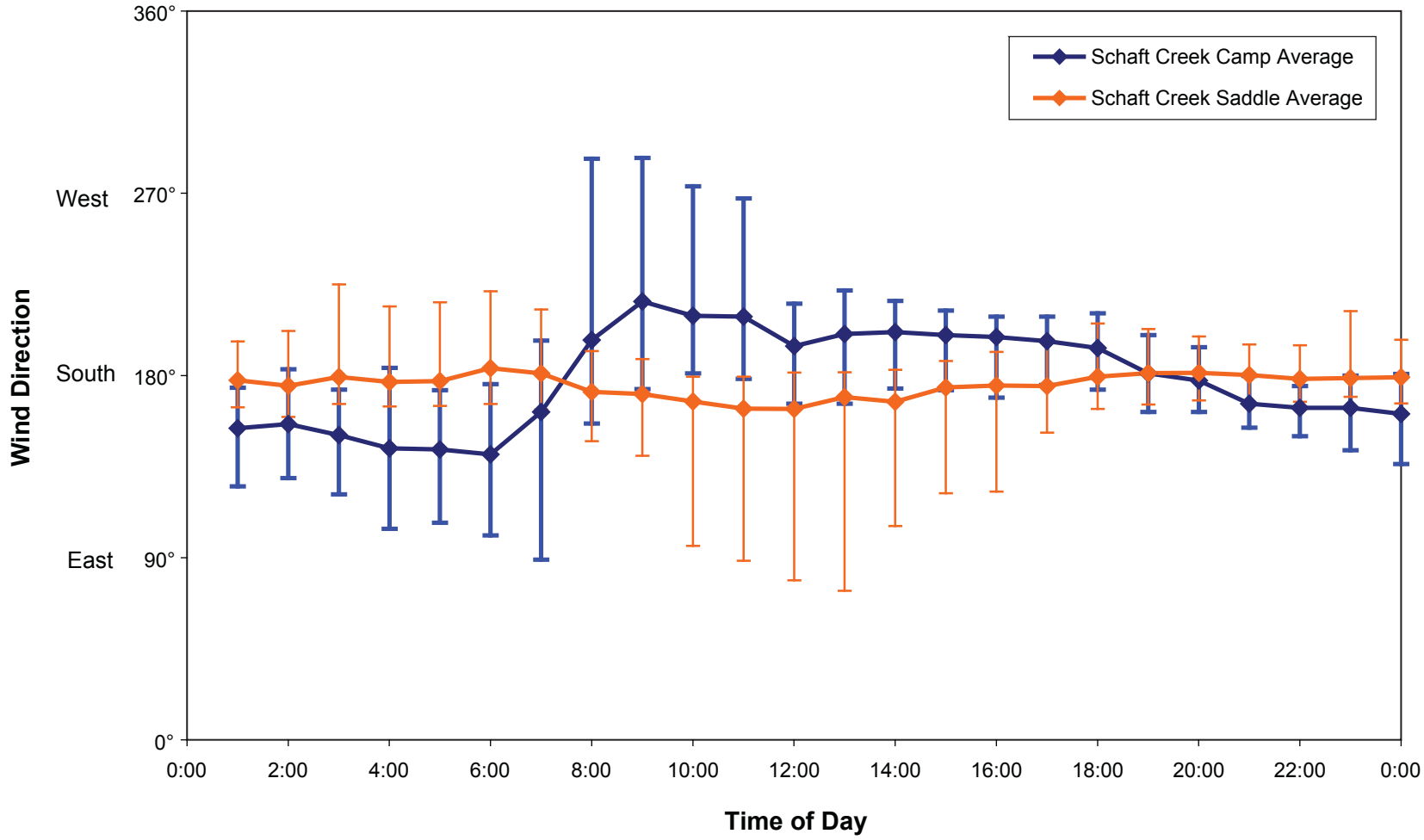
Wind Rose for Schaft Creek Camp Meteorological Station (May 2007 to August 11th, 2007)



Note: error bars show 25th and 75th percentiles.

Wind Speed Distributions at the Schaft Creek Camp and Saddle Stations (May and June, 2007)

FIGURE 3.4-6



Note: error bars show 25th and 75th percentiles.

Wind Direction Distributions at the Schaft Creek Camp and Saddle Stations (May and June, 2007)

FIGURE 3.4-7

3.5 Solar Radiation

The average annual solar radiation measured at Schaft Creek Saddle meteorological station in 2006 and 2007 were 108 W/m^2 and 109 W/m^2 with monthly averages ranging from 6 to 243 W/m^2 (Table 3.5-1). For 2006 and 2007, the peak monthly average solar radiation occurred in June and the lowest monthly average solar radiation occurred in November and October, respectively. Observed solar radiation at all sites are summarized in Table 3.5-1.

Table 3.5-1
Average Monthly Solar Radiation (W/m^2)

Month	Schaft Creek Saddle Station	Mount LaCasse Station	Schaft Creek Camp RainWise Station
2005			
Nov	15		
Dec	9		
2006			
Jan	9		
Feb	53		
Mar	92		
Apr	158		
May	199		
Jun	243		
Jul	208	**Installed Aug 2006**	**Installed Aug 2006**
Aug	165	165[1]	97[1]
Sep	92	100	57
Oct	63	66	n/a
Nov	6	18	n/a
Dec	6	12	n/a
2007			
Jan	17	20	n/a
Feb	20	32	n/a
Mar	85	100	n/a
Apr	181	203	n/a
May	232	263	525
Jun	220	236	143
Jul	189	215[2]	121
Aug	179	n/a	137[3]
Sep	102	n/a	n/a
Oct	48	46[2]	28[3]
Nov	25	30	20
Dec	11	16	17

Notes: n/a – not available
[1]Stations were commissioned in August, 2006.
[2]Data is missing from July 11th to October 9th due to a power outage caused by a lightning strike.
[3]Data is missing from August 11th to October 8th

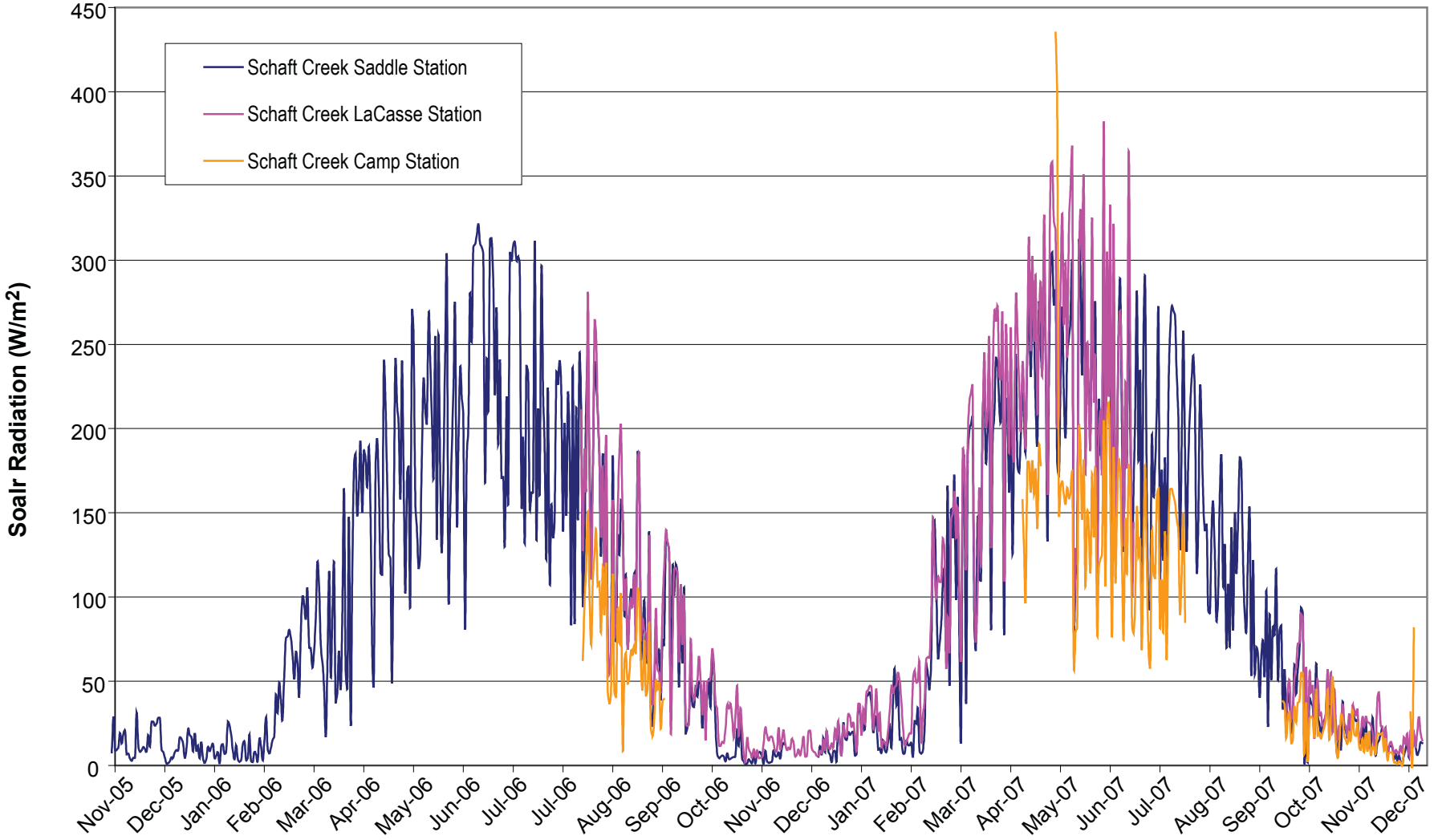


FIGURE 3.5-1

Daily Average Solar Radiation at Schaft Creek Meteorological Stations

3.6 Snow

The baseline meteorology program included the following snow survey data collection,

- Snow depth was measured at the Schaft Creek Saddle station (November 2005 to December 2007) and Mount LaCasse station (October 2006 to December 2007) on an hourly and daily basis and was also measured manually at the Schaft Creek Camp from November 10th to December 31st, 2007 (Section 2.3)
- Four snow probing surveys were conducted from February to May of 2006 and 2007 (SSP1, SSP2, SSP3 and SSP4)
- Two snow courses were sampled from February to May of 2006 and 2007 (SSCW1 and SSCW2)

3.6.1 Snow Depth

The data collected at the Schaft Creek Saddle and Mount LaCasse meteorological stations cover approximately two years of data, and two full snow seasons (Figure 3.6-1). The snow depth in December 2005 is much lower than values recorded for the same time in 2006. Snow-water equivalent values reported by Environment Canada at Kinaskan Lake (4D11P) were twice as large at the end of December, 2006 when compared to the end of December, 2005 (120 mm and 285 mm, respectively). This is in agreement with the observed snow depths obtained at the Schaft Creek Saddle station, indicating the 2006 was a year of higher snowfall. In the fall, snow appeared earlier at Schaft Creek LaCasse meteorological station in both 2006 and 2007 (compared to Saddle station). This reflects the higher elevation of this station compared to Schaft Creek Saddle station. The monthly average air temperature for November is quite low, and this is reflected in the high snow accumulations for this month (Figure 3.2-1). The manually collected data from November and December of 2007 indicates that lower levels of snow were present at the Schaft Creek Camp, when compared to the Schaft Creek Saddle and Mount LaCasse stations. As the Schaft Creek Camp is at a lower elevation, this is expected.

3.6.2 Snow Probing

The results from manual snow depth measurements (snow probing) taken in 2006 and 2007 are summarized in Table 3.6-1. Snow depths in 2007 are approximately 1.5 to 2.5 times greater than the same time in 2006.

Table 3.6-1
Results of the Schaft Creek Project Snow Probing (cm)

	SSP1		SSP2		SSP3		SSP4	
Date	**2006**	**2007**	**2006**	**2007**	**2006**	**2007**	**2006**	**2007**
Elevation (masl)	1010	1010	866	866	904	904	862	862
Feb-01	130	202	109	160	104	173	83	138
Mar-01	130	245	98	190	91	210	68	178
Apr-01	128	166	104	199	97	163	97	186
May-01	138	240	94	160	73	178	53	128

All results displayed are the average of 7 samples

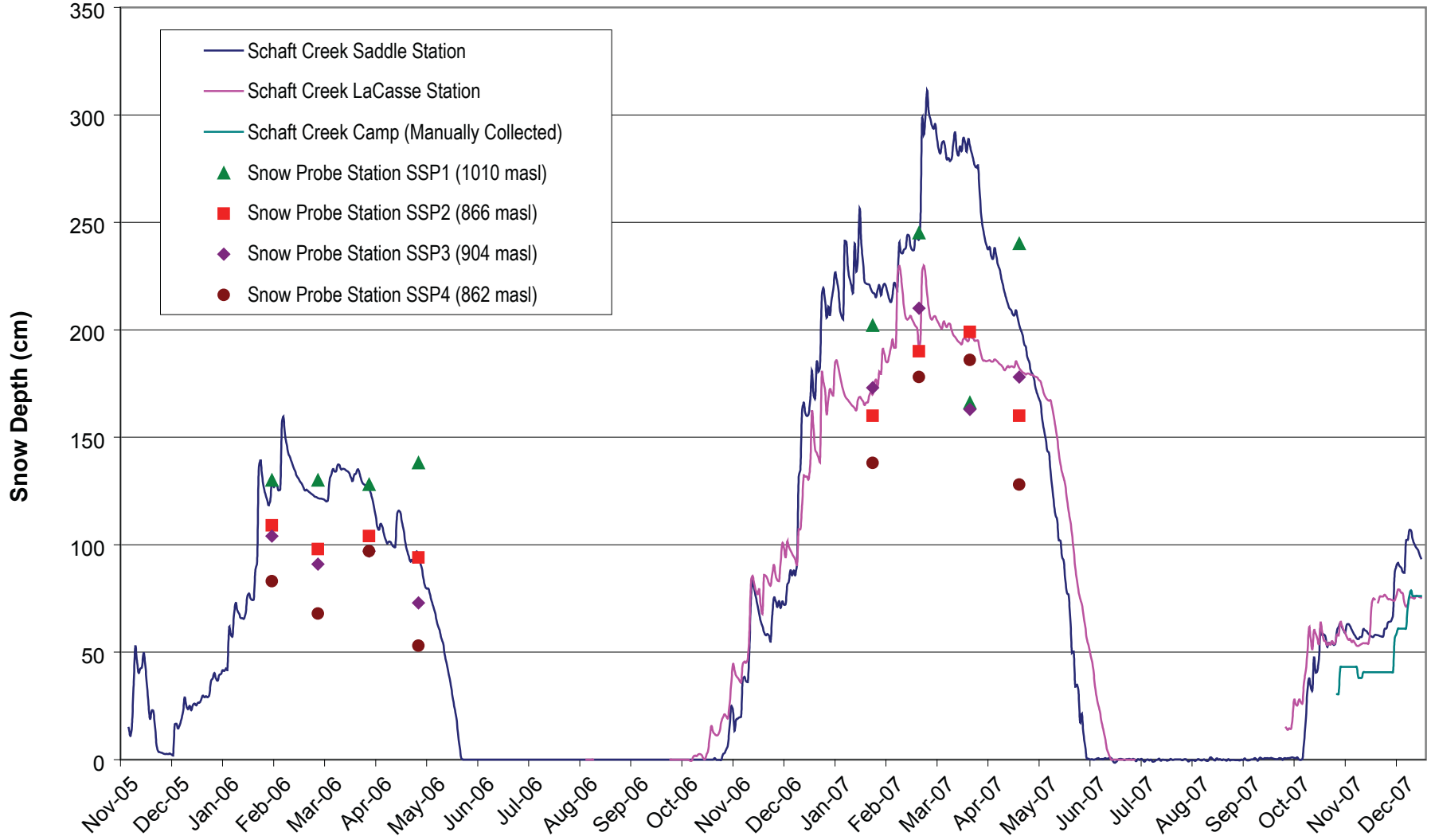


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FIGURE 3.6-1

Snow Depth at Schaft Creek Meteorological Stations

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3.6.3 Snow Surveys

The two snow survey locations at the Project site gave a maximum snow-water-equivalent (SWE) of 295 mm at Skeeter Lake Valley (SSCW1, 854 masl) and 593 mm at Schaft Camp High Elevation (SSCW2, 1436 masl)) in 2006, both occurring in March (Table 3.6-2). The snow surveys conducted in 2007 at both the on-site snow courses and at the regional snow courses have a higher SWE than the values from 2006. Snow survey field data sheets from the snow courses in the Project area are listed in Appendix 1. A maximum snow-water-equivalent (SWE) of 676 mm in May at Skeeter Lake Valley (SSCW1) and 1071 mm in April at Schaft Camp High Elevation (SSCW2) were observed in 2007.

Table 3.6-2
Snow-Water-Equivalent (mm) for 2006 and 2007 Snow Surveys

Date	[1,2]Tumeka Creek (4D10P)	[2]Kinaskan Lake (4D11P)			[2]Wade Lake (4D14P)			Skeeter Lake Valley (SSCW1)		Schaft Camp High Elevation (SSCW2)	
	2007	4 Year Average[4]	2006	2007	4 Year Average[4]	2006	2007	2006	2007	2006	2007
Elev (masl)	1220	1020	1020	1020	1370	1370	1370	854	854	1436	1436
Jan-01	158	216	120	300	161	146	172	n/a	n/a	n/a	n/a
Feb-01	529	311	214	405	231	229	184	n/a	495	n/a	765
Mar-01	623	348	266	431	190	259	229	295	594	593	838
Apr-01	n/a[3]	445	315	634	328	308	315	257	553	422	1071
May-01	n/a[3]	423	364	604	350	371	375	227	676	561	1057

n/a = not available
1: Snow Pillow was not sampled at Tumeka Creek (4D10P) in 2006 or Telegraph Creek (4D01P) in 2006 and 2007
2: Source BCMOE 2007
3: BCMOE Station experienced technical malfunction during these months
4: Historical Data is available from 1967 onwards.

Table 3.6-3 shows the daily measurements collected between November 10, and December 31, 2007. Daily manual measurements will be collected through the winter of 2008.

Table 3.6-3
Manually Collected Data at Schaft Creek Camp

Date	7:30 AM Temperature (°C)	3:30 PM Temperature (°C)	Snow Depth (cm) Remote	Camp
Nov-10	-3	0.6	30	30
Nov-11	-10.2	-2.3	30	30
Nov-12	-3.6	0		43
Nov-13	-6	0.1		43
Nov-14	-2.8	0.8		43
Nov-15	-4.2	0		43
Nov-16	-1.6	0.6		43
Nov-17	-3.9	-5.4		43
Nov-18	-6.5	-3	25	43
Nov-19	-14	-12.6	25	43

(continued)

Table 3.6-3
Manually Collected Data at Schaft Creek Camp (completed)

Date	7:30 AM	3:30 PM	Snow Depth (cm)	
	Temperature (°C)	Temperature (°C)	Remote	Camp
Nov-20	-18.6	-10.3	25	43
Nov-21	-10.6	-4.2	25	43
Nov-22	-12.6	-6.4	25	43
Nov-23	-7.9	-1.7	25	38
Nov-24	-1	0.6	25	38
Nov-25	-6.5	-2.7	25	38
Nov-26	-3	0	28	41
Nov-27	-15.6	-11	28	41
Nov-28	-10.7	-9	29	41
Nov-29	-10.6	-11.4	28	41
Nov-30	-18.6	-11.2	28	41
Monthly Total				0
Dec-01	-22.2	-14.2	28	41
Dec-02	-22.4	-18.6	28	41
Dec-03	-35.9	-35.2	28	41
Dec-04	-35.2	-28.2	28	41
Dec-05	-32.7	-26.6	28	41
Dec-06	-26.2	-21	28	41
Dec-07	-25	-20.4	28	41
Dec-08	-20.6	-12.2	28	41
Dec-09	-3.6	-1.4	28	41
Dec-10	-13.6	-8.5	28	-41
Dec-11	-4.6	-0.4	28	41
Dec-12	-2.8	1	28	41
Dec-13	-5	-3.2	28	41
Dec-14	-4.7	-1.9	28	41
Dec-15	-2	-0.1	42	56
Dec-16	-4.2	-2.7	44	58
Dec-17	-9.2	-8.2	48	61
Dec-18	-14.1	-11.9	50	61
Dec-19	-14.3	-12.3	50	61
Dec-20	-23.4	-19.2	50	61
Dec-21	-14.7	-3.7	50	61
Dec-22	-3.7	-0.6	50	61
Dec-23	-2.2	-0.6	58	71
Dec-24	-0.8	-1.7	60	76
Dec-25	-3.4	-2.2	62	79
Dec-26	-11.7	-11.3	62	76
Dec-27	-12.9	-12.2	62	76
Dec-28	-13.3	-12.2	62	76
Dec-29	-19.4	-16.4	62	76
Dec-30	-20.2	-17.7	62	76
Dec-31	-20.3	-16.2	62	76
Monthly Total				

4. SUMMARY

4. Summary

Automated weather stations equipped with sensors for temperature, relative humidity, precipitation, solar radiation, snow depth, and wind speed and direction were installed at three sites within the Schaft Creek Project area. Snow probing surveys were conducted at four locations in the Schaft Creek study area. In addition, snow-water-equivalent was also measured at two snow survey locations onsite.

Data collection is on-going at Schaft Creek Saddle, Mount LaCasse and Schaft Creek Camp RainWise meteorological stations. Schaft Creek Saddle meteorological station was installed in October 2005; the Mount LaCasse and Schaft Creek Camp meteorological station were installed in August 2006.

The average annual air temperature at the Saddle station was -0.2°C in 2006, with monthly averages ranging from -14.4°C in November to 12.5°C in July. In 2007, the air temperature averaged 0.7°C with monthly averages ranging from -10.2°C in December to 11.7°C in July. The hourly minimum temperatures recorded in 2006 and 2007 were -30.0°C (March) and -29.9°C (December), respectively.

Total annual precipitation measured at the Schaft Creek Saddle station (977 masl) was 913 mm in 2006 and 779 mm in 2007. At the Mount LaCasse station (1440 masl) measured total annual precipitation was 553 mm in 2007. Total annual precipitation typically increases with increasing elevation. The fact that less precipitation was observed at the LaCasse station is likely due to wind effects associated with the exposed station location. Two methods of measuring rainfall were used at the Schaft Creek Saddle and Mount LaCasse meteorological stations: a GEONOR (gravimetric) and a Texas Instruments tipping bucket precipitation gauge. Both methods yielded similar results during summer rain events, which provided assurance that the collected precipitation data was representative of actual events.

Average annual observed wind speed at Schaft Creek Saddle station was 2.5 m/s in 2006 and 2.4 m/s in 2007. Southerly winds predominated at both stations. Wind speeds at the Schaft Creek Camp station were lower, and primarily from the south and southeast. The station recorded summertime southerly katabatic winds with elevated wind speeds during the afternoon driven by the cooling effects of the glaciers at the Schaft Creek headwaters. Wind speeds at the Mount LaCasse station were higher than at the other stations due to its exposed location and higher elevation.

In 2006, the average annual solar radiation measured at the Schaft Creek Saddle station was 108 W/m^2; average monthly solar radiation ranged between 6 W/m^2 and 243 W/m^2. In 2007, the average solar radiation was 109 W/m^2, with monthly averages ranging between 11 W/m^2 and 232 W/m^2.

The snow depths recorded in the Schaft Creek Project area were greater in 2007 than in 2006. The peak snow depth in 2006 (138 cm) was measured at the snow probe station SSP1 near the Schaft Creek Saddle meteorology station at the beginning of May (elevation 1010 masl). In

2007, the greatest snow depth measured at SSP1 was 245 cm (March). Snow depths measured at all snow probing stations (SSP1 through SSP4) in 2007 were approximately 1.5 to 2.5 times greater than snow depths measured in 2006. In 2006, the maximum snow water equivalent was measured in March. At Skeeter Lake Valley (SSCW1, elevation 854 masl) the SWE was 295 mm, and at Schaft Creek Camp High Elevation (SSCW2, elevation 1436 masl) the SWE was 593 mm. The values measured at the same stations in March 2007 were 594 mm and 838 mm, respectively. The maximum SWE values recorded in 2007 were 676 mm (SSCW1, May) and 1071 mm (SSCW2, April). The SWE measurement at SSCW1 indicated that the measurements of total precipitation at the LaCasse station (1440 masl, 553 mm in 2007) are likely lower than typical precipitation values at that elevation. As expected, the SWE values for the high elevation snow course (SSCW2) were considerably higher than the SWE for the lower elevation station (SSCW1).

Collection of meteorological data and maintenance of the automated meteorological stations are scheduled to continue throughout 2008.

REFERENCES

References

BCMOE. 2007. *Automated Snow Pillow Reporting.* British Columbia Ministry of Environment website http://srmapps.gov.bc.ca/apps/aspr/ (accessed March 15, 2007)

Coulson, C.H. 1991. *Manual of Operational Hydrology in British Columbia.* Edited by C.H. Coulson. British Columbia Ministry of Environment, Water Management Division, Hydrology Section.

Environment Canada (EC). 2002. *CDCD V1.02 – Canadian Daily Climate Data*. Climate Information Branch, Atmospheric Environment Service (CD-ROM).

Meteorological Service of Canada (MSC). 2004. *MSC Guidelines for Co-operative Climatological Autostations. Version 3.0*. Environment Canada, Surface Weather, Climate and Marine Division, Atmospheric Monitorin Water Survey Branch.

APPENDIX 1
SNOW SURVEY FIELD DATA SHEETS

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Creek Project Environmental Baseline Study, Project no. 772-4

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW1		2006	2	28
			Year	Month	Day
Snow Course Name:	Skeeter Lake Valley				
Observer's Name:	Wade Brunham				
Number of Tubes Used:	3	Driving Wrench Used: Yes:	Yes	Scale No.:	Rescan snow survey kit
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1		78.74	68.58	154.94	127	27.9	35.5
2		73.66	71.12	151.13	127	24.1	32.8
3		78.74	68.58	154.94	127	27.9	35.5
4		86.36	73.66	157.48	127	30.5	35.3
5		83.82	81.28	158.75	127	31.8	37.9
6		91.44	82.55	162.56	127	35.6	38.9
7		88.9	73.66	161.29	127	34.3	38.6
8		76.2	63.5	152.4	127	25.4	33.3
9		86.36	73.66	154.94	127	27.9	32.4
10		81.28	73.66	156.21	127	29.2	35.9
Total		825.5				294.64	
Average		82.55				29.464	

Please complete in field or as soon after snow sampling as possible.

Time sampling began 1517 a.m. / p.m. ended 1637 a.m. / p.m.

A. Weather Conditions at Snow Course

	Freezing	✓	Thawing		Temp	-15	˚C
	Blowing		Calm	✓			
Skies:	Clear	✓	Partly Cloudy		Overcast		
Precipitation:	None	✓	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet		Dry	✓			
	Soft		Crusted	✓			
Support:	None		Person on skies/snowshoes	✓	Person on foot		
Serious Drifting:	No	✓	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	✓			

C. Sampling Conditions

	Easy		Moderately Difficult		Very Difficult	✓	
Ground Reached on all Samples:	Yes		No*	✓			
Ice Layers:	In snowpack	✓	On ground	✓			
Ground under snow:	Dry		Damp		Wet		Frozen

D. General Condition en Route

Snow line elevation _____ metres

Thaw:	None	✓	Sunny slopes		General		
Small streams:	Bridged with snow	✓	Open		Clear		Muddy

*Describe fully under remarks

E. Remarks:

A lot of ice in the snow and on the bottem. Multiple samples had to be taken at each site. Due to ice build up the ground was never reached.

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Creek Project Environmental Baseline Study, Project no. 772-4

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW1		2006	4	4
			Year	Month	Day
Snow Course Name:	Skeeter Lake Valley				
Observer's Name:	Wade Brunham				
Number of Tubes Used:	2	Driving Wrench Used: Yes:	Yes	Scale No.:	Rescan snow survey kit 20 FT
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	86	86	69	107	84	23	26.5
2	99	99	83	112	84	28	28.2
3	84	84	74	109	84	25	30.3
4	89	89	66	107	84	23	25.7
5	91	91	76	113	84	29	31.9
6	94	94	74	112	84	28	29.7
7	97	97	74	112	84	28	28.9
8	81	81	64	105	84	22	26.6
9	84	84	67	109	84	25	30.3
10	86	86	67	109	84	25	29.4
Total		892				257	
Average		89				26	

SSCW1 4-Apr-06

Please complete in field or as soon after snow sampling as possible.

Time sampling began 10:30 a.m. ended 11:11 a.m.

A. Weather Conditions at Snow Course

	Freezing		Thawing	✓	Temp	4	˚C
	Blowing		Calm	✓			
Skies:	Clear		Partly Cloudy	✓	Overcast		
Precipitation:	None	✓	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet		Dry	✓			
	Soft		Crusted	✓			
Support:	None		Person on skies/snowshoes		Person on foot	✓	
Serious Drifting:	No	✓	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	✓			

C. Sampling Conditions

	Easy		Moderately Difficult	✓	Very Difficult		
Ground Reached on all Samples:	Yes		No*	✓			
Ice Layers:	In snowpack	✓	On ground	✓			
Ground under snow:	Dry		Damp		Wet	✓	Frozen

D. General Condition en Route

Snow line elevation metres

Thaw:	None		Sunny slopes		General	✓	
Small streams:	Bridged with snow	✓	Open		Clear		Muddy

*Describe fully under remarks

E. Remarks:

Difficult sampling, not able to get a good (80%) sample at station 4, over 20 atempts were made and the best core length to snow depth ratio (74%) was used

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Creek Project Environmental Baseline Study, Project no. 772-4

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW1		2006	4	4
			Year	Month	Day
Snow Course Name:	Skeeter Lake Valley				
Observer's Name:	Wade Brunham				
Number of Tubes Used:	2	Driving Wrench Used: Yes:	Yes	Scale No.:	Rescan snow survey kit 20 FT
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	86	86	69	107	84	23	26.5
2	99	99	83	112	84	28	28.2
3	84	84	74	109	84	25	30.3
4	89	89	66	107	84	23	25.7
5	91	91	76	113	84	29	31.9
6	94	94	74	112	84	28	29.7
7	97	97	74	112	84	28	28.9
8	81	81	64	105	84	22	26.6
9	84	84	67	109	84	25	30.3
10	86	86	67	109	84	25	29.4
Total		892				257	
Average		89				26	

SSCW1 4-Apr-06

Please complete in field or as soon after snow sampling as possible.

Time sampling began 10:30 a.m. ended 11:11 a.m.

A. Weather Conditions at Snow Course

	Freezing		Thawing	✓	Temp	4	˚C
	Blowing		Calm	✓			
Skies:	Clear		Partly Cloudy	✓	Overcast		
Precipitation:	None	✓	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet		Dry	✓			
	Soft		Crusted	✓			
Support:	None		Person on skies/snowshoes		Person on foot	✓	
Serious Drifting:	No	✓	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	✓			

C. Sampling Conditions

	Easy		Moderately Difficult	✓	Very Difficult		
Ground Reached on all Samples:	Yes		No*	✓			
Ice Layers:	In snowpack	✓	On ground	✓			
Ground under snow:	Dry		Damp		Wet	✓	Frozen

D. General Condition en Route

Snow line elevation metres

Thaw:	None		Sunny slopes		General	✓	
Small streams:	Bridged with snow	✓	Open		Clear		Muddy

*Describe fully under remarks

E. Remarks:

Difficult sampling, not able to get a good (80%) sample at station 4, over 20 atempts were made and the best core length to snow depth ratio (74%) was used

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Project Environmental Baseline Study (Project no. 772-4) for CopperFox Metals

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW1		2007	FEB	1
			Year	Month	Day
Snow Course Name:	Skeeter Lake valley SNOW COURSE				
Observer's Name:	DAN JARRATT, LARRY GREENLAW				
Number of Tubes Used:	4 then 3	Driving Wrench Used: Yes:	X	Scale No.:	Geoscientific 20 FT
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	166	161	140	221	175	46	28.3
2	155	151	137	180	132	48	31.9
3	156	152	137	180	132	48	31.7
4	161	154	140	183	132	51	33.1
5	170	166	141	183	132	51	30.5
6	152	149	141	180	132	48	32.5
7	165	163	137	180	132	48	29.7
8	168	165	144	185	132	53	32.3
9	168	165	141	183	132	51	30.8
10	163	157	144	183	132	51	32.3
Total		1584				495	
Average		158				50	

Please complete in field or as soon after snow sampling as possible.

Time sampling began 11:46 a.m. [ ] p.m. [ ] ended 12:15 a.m. [ ] p.m. [X]

A. Weather Conditions at Snow Course

	Freezing	X	Thawing		Temp	-5	˚C
	Blowing		Calm	X			
Skies:	Clear	X	Partly Cloudy		Overcast		
Precipitation:	None	X	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet		Dry				
	Soft		Crusted				
Support:	None		Person on skies/snowshoes	X	Person on foot		
Serious Drifting:	No	X	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*	X	No				

C. Sampling Conditions

	Easy	X	Moderately Difficult		Very Difficult			
Ground Reached on all Samples:	Yes	X	No*					
Ice Layers:	In snowpack	X	On ground	X				
Ground under snow:	Dry	X	Damp	X	Wet		Frozen	

D. General Condition en Route

Snow line elevation 0 metres

Thaw:	None	X	Sunny slopes		General			
Small streams:	Bridged with snow	X	Open		Clear		Muddy	

*Describe fully under remarks

E. Remarks:

oversnow traffic from small mammals.

A couple of the plugs were damp moss.

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Project Environmental Baseline Study (Project no. 772-4) for CopperFox Metals

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW1		2007	MAR	2
			Year	Month	Day
Snow Course Name:	Skeeter Lake valley SNOW COURSE				
Observer's Name:	DAN JARRATT, LARRY GREENLAW				
Number of Tubes Used:	4	Driving Wrench Used: Yes:	X	Scale No.:	Rescan 20 FT
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	188	185	150	229	173	56	30.1
2	193	192	168	239	173	66	34.4
3	185	180	159	234	173	61	33.8
4	189	187	165	231	173	58	31.3
5	194	187	154	234	173	61	32.7
6	173	170	151	234	173	61	35.8
7	184	178	152	229	173	56	31.4
8	183	179	152	229	173	56	31.2
9	187	183	160	236	173	64	34.7
10	184	179	159	229	173	56	31.2
Total		1820				594	
Average		182				59	

Snow Course SSCW1 Skeeter Lake Valley, March 2, 2007

Please complete in field or as soon after snow sampling as possible.

Time sampling began 9:00 a.m. / p.m. ended 10:10 a.m. / p.m.

A. Weather Conditions at Snow Course

	Freezing	X	Thawing		Temp	-15	˚C
	Blowing		Calm	X			
Skies:	Clear		Partly Cloudy		Overcast	X	
Precipitation:	None		Raining		Snowing	X	

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 2 cm

	Wet		Dry	X			
	Soft		Crusted				
Support:	None		Person on skies/snowshoes	X	Person on foot		
Serious Drifting:	No	X	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	X			

C. Sampling Conditions

	Easy	X	Moderately Difficult		Very Difficult			
Ground Reached on all Samples:	Yes	X	No*					
Ice Layers:	In snowpack	X	On ground					
Ground under snow:	Dry		Damp	X	Wet		Frozen	

D. General Condition en Route

Snow line elevation 0 metres

Thaw:	None	X	Sunny slopes		General			
Small streams:	Bridged with snow	X	Open		Clear		Muddy	

*Describe fully under remarks

E. Remarks:

Quantum heli 206 B ZXI Jet Ranger.

The 20 ft scale was field repaired with a hose clamp because the bottom ring broke off 2 days earlier on February 28, 2007

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Creek Project no. 830-1 (Copper Fox Metals)

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW1		2007	April	1
Snow Course Name:	Skeeter Lake Valley		Year	Month	Day
Observer's Name:	Wade Brunham				
Number of Tubes Used:	4	Driving Wrench Used: Yes:	√	Scale No.:	Rickly digital S/N 2500
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	286	286	260	452	367	85	29.7
~~2~~	~~223~~	~~223~~	~~190~~	~~444~~	~~367~~	~~77~~	~~34.5~~
3	301	301	284	431	367	64	21.3
4	293	293	269	418	367	51	17.4
5	301	301	283	423	367	56	18.6
6	296	296	281	419	367	52	17.6
7	293	293	273	435	367	68	23.2
8	308	308	290	429	367	62	20.1
9	315	315	285	419	367	52	16.5
10	305	305	275	430	367	63	20.7
average density for nine samples = 20.6%							
Sample # 2 was omitted because it was taken too close to trees and there was melting with an ice layer 30 cm below surface							
Total		2698				553	
Average		300				61	

Snow course SSCW1 Skeeter Lake Valley, April 1, 2007

Please complete in field or as soon after snow sampling as possible.

Time sampling began 10:20 a.m. [ ] p.m. [ ] ended 10:55 a.m. [ ] p.m. [ ]

A. Weather Conditions at Snow Course

	Freezing	√	Thawing		Temp	-8	˚C
	Blowing		Calm	√			
Skies:	Clear	√	Partly Cloudy		Overcast		
Precipitation:	None	√	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet		Dry				
	Soft		Crusted	√			
Support:	None		Person on skies/snowshoes		Person on foot	√	
Serious Drifting:	No	√	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	√			

C. Sampling Conditions

	Easy	√	Moderately Difficult		Very Difficult		
Ground Reached on all Samples:	Yes	√	No*				
Ice Layers:	In snowpack		On ground				
Ground under snow:	Dry		Damp		Wet		Frozen √

D. General Condition en Route

Snow line elevation 0 metres

Thaw:	None		Sunny slopes	√	General		
Small streams:	Bridged with snow	√	Open		Clear		Muddy

*Describe fully under remarks

E. Remarks: great sampling, at station # 10 had to make a few attempts as it started warming up.

Difficult sampling at #3 because close to tree, some melting had occurred, ice layer at 30 cm below surface. Station #3 was not included in the calculations.

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Project Environmental Baseline Study (Project no. 772-4) for CopperFox Metals

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW1		2007	MAR	2
			Year	Month	Day
Snow Course Name:	Skeeter Lake valley SNOW COURSE				
Observer's Name:	DAN JARRATT, LARRY GREENLAW				
Number of Tubes Used:	4	Driving Wrench Used: Yes:	X	Scale No.:	Rescan 20 FT
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	188	185	150	229	173	56	30.1
2	193	192	168	239	173	66	34.4
3	185	180	159	234	173	61	33.8
4	189	187	165	231	173	58	31.3
5	194	187	154	234	173	61	32.7
6	173	170	151	234	173	61	35.8
7	184	178	152	229	173	56	31.4
8	183	179	152	229	173	56	31.2
9	187	183	160	236	173	64	34.7
10	184	179	159	229	173	56	31.2
Total		1820				594	
Average		182				59	

Snow Course SSCW1 Skeeter Lake Valley, March 2, 2007

Please complete in field or as soon after snow sampling as possible.

Time sampling began 9:00 a.m. / p.m. ended 10:10 a.m. / p.m.

A. Weather Conditions at Snow Course

	Freezing	X	Thawing		Temp	-15	˚C
	Blowing		Calm	X			
Skies:	Clear		Partly Cloudy		Overcast	X	
Precipitation:	None		Raining		Snowing	X	

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 2 cm

	Wet		Dry	X			
	Soft		Crusted				
Support:	None		Person on skies/snowshoes	X	Person on foot		
Serious Drifting:	No	X	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	X			

C. Sampling Conditions

	Easy	X	Moderately Difficult		Very Difficult			
Ground Reached on all Samples:	Yes	X	No*					
Ice Layers:	In snowpack	X	On ground					
Ground under snow:	Dry		Damp	X	Wet		Frozen	

D. General Condition en Route

Snow line elevation 0 metres

Thaw:	None	X	Sunny slopes		General			
Small streams:	Bridged with snow	X	Open		Clear		Muddy	

*Describe fully under remarks

E. Remarks:

Quantum heli 206 B ZXI Jet Ranger.

The 20 ft scale was field repaired with a hose clamp because the bottom ring broke off 2 days earlier on February 28, 2007

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Creek Project Environmental Baseline Study, Project no.772-4

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW1		2006	2	28
			Year	Month	Day
Snow Course Name:	Skeeter Lake Valley				
Observer's Name:	Wade Brunham				
Number of Tubes Used:	3	Driving Wrench Used: Yes:	Yes	Scale No.:	Rescan snow survey kit
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1		119.38	107.95	167.64	127	40.6	34.0
2		142.24	116.84	175.26	127	48.3	33.9
3		149.86	129.54	180.34	127	53.3	35.6
4		191.77	177.8	200.66	127	73.7	38.4
5		193.04	175.26	193.04	127	66.0	34.2
6		177.8	152.4	189.23	127	62.2	35.0
7		177.8	165.1	187.96	127	61.0	34.3
8		189.23	167.64	195.58	127	68.6	36.2
9		177.8	162.56	190.5	127	63.5	35.7
10		165.1	142.24	182.88	127	55.9	33.8
Total		1684.02				593.09	
Average		168.402				59.309	

Please complete in field or as soon after snow sampling as possible.

Time sampling began 1011 a.m. p.m. ended 1139 a.m. p.m.

A. Weather Conditions at Snow Course

	Freezing	✓	Thawing		Temp	-10	˚C
	Blowing		Calm	✓			
Skies:	Clear	✓	Partly Cloudy		Overcast		
Precipitation:	None	✓	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet		Dry	✓			
	Soft		Crusted	✓			
Support:	None		Person on skies/snowshoes	✓	Person on foot		
Serious Drifting:	No	✓	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*	✓	No				

C. Sampling Conditions

	Easy		Moderately Difficult	✓	Very Difficult		
Ground Reached on all Samples:	Yes		No*	✓			
Ice Layers:	In snowpack	✓	On ground				
Ground under snow:	Dry		Damp		Wet		Frozen ✓

D. General Condition en Route

Snow line elevation _____ metres

Thaw:	None	✓	Sunny slopes		General		
Small streams:	Bridged with snow	✓	Open		Clear		Muddy

*Describe fully under remarks

E. Remarks:

At stations 1 & 2 an ice layer was hit at 51cm. Wolf tracks present throughout the site

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Creek Project Environmental Baseline Study, Project no. 772-4

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW2		2006	4	4
			Year	Month	Day
Snow Course Name:	Schaft Camp High Elevation				
Observer's Name:	Wade Brunham				
Number of Tubes Used:	2	Driving Wrench Used: Yes:	Yes	Scale No.:	Rescan snow survey kit
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	104.14	104.14	100.33	114.3	83.82	30.5	29.3
2	99.06	99.06	93.98	116.84	83.82	33.0	33.3
3	99.06	99.06	96.52	114.3	83.82	30.5	30.8
4	144.78	144.78	137.16	132.08	83.82	48.3	33.3
5	152.4	152.4	129.54	134.62	83.82	50.8	33.3
6	149.86	149.86	124.46	129.54	83.82	45.7	30.5
7	151.13	151.13	130.81	132.08	83.82	48.3	31.9
8	148.59	148.59	121.92	132.08	83.82	48.3	32.5
9	139.7	139.7	118.11	129.54	83.82	45.7	32.7
10	135.89	135.89	119.38	124.46	83.82	40.6	29.9
Total		1324.61				421.64	
Average		132				42.2	

SSCW2 4-Apr-06

Please complete in field or as soon after snow sampling as possible.

Time sampling began 1235 a.m. / p.m. ended 1307 a.m. / p.m.

A. Weather Conditions at Snow Course

	Freezing		Thawing	✓	Temp	3	˚C
	Blowing		Calm	✓			
Skies:	Clear		Partly Cloudy	✓	Overcast		
Precipitation:	None	✓	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet	✓	Dry				
	Soft		Crusted	✓			
Support:	None		Person on skies/snowshoes		Person on foot	✓	
Serious Drifting:	No	✓	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	✓			

C. Sampling Conditions

	Easy	✓	Moderately Difficult		Very Difficult		
Ground Reached on all Samples:	Yes		No*	✓			
Ice Layers:	In snowpack	✓	On ground				
Ground under snow:	Dry		Damp		Wet		Frozen	

D. General Condition en Route

Snow line elevation _____ metres

Thaw:	None		Sunny slopes		General	✓	
Small streams:	Bridged with snow	✓	Open		Clear		Muddy	

*Describe fully under remarks

E. Remarks: The ground was not reached at any of the sample locations due to soft snow at or near the bottom of the snow pack. A good crust had developed on the snow but generally deteriorated as temperatures increased

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Creek Project Environmental Baseline Study, Project no. 772-4

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW2		2006	4	28
			Year	Month	Day
Snow Course Name:	Schaft Camp High Elevation				
Observer's Name:	Wade Brunham				
Number of Tubes Used:	3	Driving Wrench Used: Yes:	Yes	Scale No.:	20ft Rescan
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	142.24	142.24	127	165.1	121.92	43.2	30.4
2	111.76	111.76	109.22	157.48	121.92	35.6	31.8
3	185.42	185.42	172.72	182.88	121.92	61.0	32.9
4	189.23	189.23	180.34	182.88	121.92	61.0	32.2
5	139.7	139.7	132.08	162.56	121.92	40.6	29.1
6	187.96	187.96	175.26	185.42	121.92	63.5	33.8
7	199.39	199.39	187.96	195.58	121.92	73.7	36.9
8	213.36	213.36	203.2	200.66	121.92	78.7	36.9
9	185.42	185.42	167.64	190.5	121.92	68.6	37.0
10	119.38	119.38	104.14	157.48	121.92	35.6	29.8
Total		1673.86				561.34	
Average		167				56.1	

SSCW2 28-Apr-06

Please complete in field or as soon after snow sampling as possible.

Time sampling began 1220 a.m. p.m. ended 1300 a.m. p.m.

A. Weather Conditions at Snow Course

	Freezing		Thawing	✓	Temp	-1	˚C
	Blowing	✓	Calm				
Skies:	Clear		Partly Cloudy	✓	Overcast		
Precipitation:	None	✓	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet	✓	Dry				
	Soft	✓	Crusted				
Support:	None		Person on skies/snowshoes	✓	Person on foot		
Serious Drifting:	No	✓	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	✓			

C. Sampling Conditions

	Easy		Moderately Difficult	✓	Very Difficult		
Ground Reached on all Samples:	Yes		No*	✓			
Ice Layers:	In snowpack		On ground	✓			
Ground under snow:	Dry		Damp		Wet		Frozen ✓

D. General Condition en Route

Snow line elevation _____ metres

Thaw:	None		Sunny slopes		General	✓	
Small streams:	Bridged with snow	✓	Open		Clear		Muddy

*Describe fully under remarks

E. Remarks:

Some drifting observed at 3, 4, 6, 7, 8, 9. Very cold and windy sampling difficult at site 10

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Project Environmental Baseline Study (Project no. 772-4) for CopperFox Metals

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW2		2007	FEB	1
			Year	Month	Day
Snow Course Name:	Schaft camp high elevation SNOW COURSE				
Observer's Name:	DAN JARRATT, LARRY GREENLAIR				
Number of Tubes Used:	3	Driving Wrench Used: Yes:	X	Scale No.:	Geoscientific 20 FT
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	216	212	211	206	132	74	34.7
2	198	196	194	203	132	71	36.4
3	208	207	184	201	132	69	33.1
4	226	225	222	213	132	81	36.2
5	239	236	232	213	132	81	34.4
6	224	220	213	208	132	76	34.7
7	234	231	229	216	132	84	36.3
8	234	231	227	216	132	84	36.3
9	234	230	216	211	132	79	34.3
10	206	202	180	198	132	66	32.7
Total		2189				765	
Average		219				76	

Snow course SSCW2, Schaft camp high elevation, February 1, 2007

Please complete in field or as soon after snow sampling as possible.

Time sampling began 12:50 a.m. [ ] p.m. [X] ended 13:26 a.m. [ ] p.m. [X]

A. Weather Conditions at Snow Course

	Freezing	X	Thawing		Temp	-5	˚C
	Blowing		Calm	X			
Skies:	Clear	X	Partly Cloudy		Overcast		
Precipitation:	None	X	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet		Dry				
	Soft		Crusted				
Support:	None		Person on skies/snowshoes	X	Person on foot		
Serious Drifting:	No	X	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	X			

C. Sampling Conditions

	Easy	X	Moderately Difficult		Very Difficult			
Ground Reached on all Samples:	Yes	X	No*					
Ice Layers:	In snowpack	X	On ground					
Ground under snow:	Dry	X	Damp		Wet		Frozen	

D. General Condition en Route

Snow line elevation 0 metres

Thaw:	None	X	Sunny slopes		General			
Small streams:	Bridged with snow	X	Open		Clear		Muddy	

*Describe fully under remarks

E. Remarks: plugs were all dry, needles, moss, some bark (very little), beautiful site.

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Project Environmental Baseline Study (Project no. 772-4) for CopperFox Metals

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW2		2007	MAR	1
			Year	Month	Day
Snow Course Name:	Schaft camp SNOW COURSE				
Observer's Name:	DAN JARRATT, LARRY GREENLAW				
Number of Tubes Used:	3	Driving Wrench Used: Yes:	X	Scale No.:	20 FT
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	236	234	203	254	173	81	34.8
2	221	218	196	246	173	74	33.7
3	231	229	213	257	173	84	36.7
4	249	246	229	259	173	86	35.1
5	258	257	241	259	173	86	33.7
6	244	239	226	257	173	84	35.1
7	249	246	224	259	173	86	35.1
8	259	254	239	262	173	89	35.0
9	244	241	227	264	173	91	37.9
10	235	230	221	249	173	76	33.1
Total		2394				838	
Average		239				84	

Snow Course SSCW2 Shaft Creek High Elevation, March 1, 2007

Please complete in field or as soon after snow sampling as possible.

Time sampling began 14:50 a.m. / p.m. ended 15:40 a.m. / p.m.

A. Weather Conditions at Snow Course

	Freezing	X	Thawing		Temp	-22	˚C
	Blowing	X	Calm				
Skies:	Clear		Partly Cloudy		Overcast	X	
Precipitation:	None		Raining		Snowing	X	Lightly

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 1 cm

	Wet		Dry	X			
	Soft		Crusted				
Support:	None		Person on skies/snowshoes	X	Person on foot		
Serious Drifting:	No	X	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	X			

C. Sampling Conditions

	Easy	X	Moderately Difficult		Very Difficult			
Ground Reached on all Samples:	Yes	X	No*					
Ice Layers:	In snowpack	X	On ground		Moderate near last 0.5m of the profile			
Ground under snow:	Dry		Damp		Wet		Frozen	

D. General Condition en Route

Snow line elevation 0 metres

Thaw:	None	X	Sunny slopes		General			
Small streams:	Bridged with snow	X	Open		Clear		Muddy	

*Describe fully under remarks

E. Remarks:

Quantum 206B Jet Ranger helicopter ZXI

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Creek Project no. 830-1 (Copper Fox Metals)

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW2		2007	April	1
Snow Course Name:	Schaft camp high elevation		Year	Month	Day
Observer's Name:	Wade Brunham				
Number of Tubes Used:	5	Driving Wrench Used: Yes:	√	Scale No.:	Rickly digital S/N 2500
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	375	375	365	541	420	121	33.2
2	360	357	356	533	420	113	31.7
3	338	336	336	529	420	109	32.4
4	381	381	375	538	420	118	31.5
5	390	387	362	518	420	98	27.1
6	393	393	374	539	420	119	31.8
7	366	366	364	524	420	104	28.6
8	380	380	376	531	420	111	29.5
9	360	360	357	519	420	99	27.7
10	350	350	330	499	420	79	23.9
average density = 29.7%.							
Total		3685				1071	
Average		369				107	

Snow course SSCW2 Schaft camp high elevation, April 1, 2007

Please complete in field or as soon after snow sampling as possible.

Time sampling began 9:36 a.m. [ ] p.m. [ ] ended 10:05 a.m. [ ] p.m. [ ]

A. Weather Conditions at Snow Course

	Freezing	√	Thawing		Temp	-12	˚C
	Blowing		Calm	√			
Skies:	Clear	√	Partly Cloudy		Overcast		
Precipitation:	None	√	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet		Dry				
	Soft		Crusted	√			
Support:	None		Person on skies/snowshoes		Person on foot	√	
Serious Drifting:	No	√	Yes*		Which Stations		
Evidence of oversnow traffic:	Yes*		No	√			

C. Sampling Conditions

	Easy	√	Moderately Difficult		Very Difficult		
Ground Reached on all Samples:	Yes	√	No*				
Ice Layers:	In snowpack		On ground				
Ground under snow:	Dry		Damp		Wet		Frozen √

D. General Condition en Route

Snow line elevation 0 metres

Thaw:	None		Sunny slopes	√	General		
Small streams:	Bridged with snow	√	Open		Clear		Muddy

*Describe fully under remarks

E. Remarks: moderate drifting throughout the snow course, but generally consistent snow depths were observed.

British Columbia Ministry of Water, Land and Air Protection- Environmental Protection Division- Flood Hazard/River Forecast Centre

Schaft Creek Project Environmental Baseline Study, Project no. 772-4 (2006) or 830-1 (2007)

SNOW SURVEY FIELD DATA SHEET

Snow Course No.	SSCW2		2007	May	1
			Year	Month	Day
Snow Course Name:	Schaft Creek camp high elevation				
Observer's Name:	Dan Jarratt, Brandon Marion				
Number of Tubes Used:	4	Driving Wrench Used: Yes:	Yes	Scale No.:	Rescan's 20ft
		No:			

Station Number	Snow Depth (cm)		Core Length (cm)	Weight of Tube and Core (cm)	Weight Tube Only Before Sampling (cm)	Snow-Water Equivalent (cm)	Density (%)
	With Dirt Plug	Without Dirt Plug					
1	234	232	224	272	175	97	41.5
2	244	235	230	282	175	107	45.4
3	241	239	229	282	175	107	44.7
4	260	258	255	295	175	119	46.3
5	248	246	237	279	175	104	42.3
6	257	254	244	284	175	109	43.0
7	236	235	229	277	175	102	43.2
8	244	243	241	279	175	104	42.9
9	234	227	222	282	175	107	46.9
10	220	216	206	277	175	102	47.1
Total		2385				1057	
Average		239				106	

Snow course SSCW2 Schaft camp high elevation, 1-May-07

Please complete in field or as soon after snow sampling as possible.

Time sampling began 11:42 a.m. [ ] p.m. [ ] ended 12:40 a.m. [ ] p.m. [x]

A. Weather Conditions at Snow Course

	Freezing	✓	Thawing		Temp	-2	˚C
	Blowing		Calm	✓			
Skies:	Clear		Partly Cloudy		Overcast	✓	
Precipitation:	None	✓	Raining		Snowing		

B. Surface Snow Conditions at Snow Course

Fresh fallen snow depth 0 cm

	Wet		Dry			
	Soft		Crusted			
Support:	None		Person on skies/snowshoes		Person on foot	✓
Serious Drifting:	No	✓	Yes*		Which Stations	
Evidence of oversnow traffic:	Yes*	✓	No			

C. Sampling Conditions

	Easy	✓	Moderately Difficult		Very Difficult		
Ground Reached on all Samples:	Yes	✓	No*				
Ice Layers:	In snowpack	✓	On ground				
Ground under snow:	Dry	✓	Damp		Wet		Frozen	

D. General Condition en Route

Snow line elevation 0 metres

Thaw:	None	✓	Sunny slopes		General		
Small streams:	Bridged with snow	✓	Open		Clear		Muddy	

*Describe fully under remarks

E. Remarks:

Surface of the snow was hard crust so did not need the snow shoes.

Easy sampling, all plugs were either dry soil or moss or twigs or pine needles.