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ASSESSMENT REPORT

describing

HERITAGE RESOURCE OVERVIEW AND HERITAGE RESOURCE IMPACT ASSESSMENTS

Field work performed on September 7 and 8, 2016

at the

HEC PROPERTY

Hec 1-26 YF47204-YF47229

NTS 105D/11
Latitude 60°43′N; Longitude 135°14′W

in the

Whitehorse Mining District
Yukon Territory

prepared by

Archer, Cathro & Associates (1981) Limited

for

STRATEGIC METALS LTD.

by

H. Burrell, P.Geo.

October 2016

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APPENDICES

Statement of Expenditures
Hec 1-26 Mineral Claims
November 14, 2016

Contract HRIA and HROA (including management)

Ecofor Consulting B.C. Ltd.	$13,093.88

APPENDIX I

PHYSICAL COPY OF HERITAGE RESOURCE OVERVIEW AND HERITAGE REOURCE IMPACT ASSESSMENTS

ECOFOR
natural and cultural resource consultants

Heritage Resource Overview Assessment: Hec Property Quartz Exploration

(For Public Distribution: No Sensitive Heritage Site Data)

Prepared for:
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August 22, 2016

Heritage Resource Overview Assessment: Hec Property Quartz Exploration

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MANAGEMENT SUMMARY

Archer, Cathro, and Associates (Strategic Metals Ltd.) is evaluating the industrial mineral potential of limestone on the Hec Property, northwest of Whitehorse. The exploration program includes upgrades to an existing 3 km long trail, bridge reinforcement, moving heavy equipment to the claims drilling area, and diamond drilling along section lines of limestone outcrops. As part of this project, Archer, Cathro, and Associates has contracted Ecofor to prepare a Heritage Resources Overview Assessment (HROA) for the project area preceding a Heritage Resource Impact Assessment (HRIA).

The objectives of the HROA are to identify and assess the heritage resource potential and sensitivity within the study area, and to provide a written report detailing the results. In order to accomplish these objectives, Ecofor has completed a desktop review of the physical/environmental and cultural/historical setting of the study area, and used the data produced by that study to conduct a GIS-based analysis of the study area to identify areas of heritage resource potential. This methodology is designed to provide an additional data set to assist in identifying heritage resources. There is potential for the occurrence of numerous site types, including permanent habitation sites, temporary habitation sites, fishing sites, quarry sites, rock art sites, human remains, trails, culturally modified tree (CMT) sites, and historic sites within the study area.

The highest potential within the study area for heritage resources is located along ridges and terraces where high, flat terrain breaks to downward south aspect slopes. These areas are often associated with good access to water, as well as providing commanding views of the surrounding landscape, and have high potential for temporary look out points, habitation sites, and lithic scatters. As well, based on nearby trail networks (Gotthardt 1994), there is high potential for transportation corridors or trail sites, as well as CMT sites. Other possible site types include additional temporary and permanent habitation sites and historic sites within the study area. The possibility of other site types located outside of the identified high potential areas is always present.

Based on the results of the HROA, Heritage Resources Impact Assessments (HRIAs), consisting of pedestrian survey and shovel testing if warranted, are recommended for a variety of discrete areas of heritage resource potential lands (totaling 54.6857 ha; 0.1% of the total study area) before any ground disturbing activities be approved to proceed. An additional 19.8 ha were identified with potential for Culturally Modified Trees (CMTs). However, this data is limited to the eastern portion of the study area within the City of Whitehorse limits, and predicted potential for CMTs is also present throughout the remainder of the study area based on the possibility of mature growth. A minimum standard of pedestrian survey is recommended for these CMT potential areas. Review of this HROA, and field participation of, Kwanlin Dün First Nation (KDFN) participants is also recommended and encouraged before any development is approved to proceed.

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1. INTRODUCTION

At the request of Archer, Cathro, and Associates, Ecofor Consulting Ltd. has conducted a Heritage Resource Overview Assessment (HROA) for the Hec Property (see Figure 1).

The report begins with a basic outline of the project and the objectives of the work undertaken. The proposed activities and their impacts are discussed in Section 2.0. Section 3.0 describes the methods employed in assessing the archaeological potential. Section 4.0 provides a description of the physical/environmental and cultural/historical setting of the study area. Section 5.0 presents the heritage resource potential model and the results of its implementation, and Section 6.0 finishes with a summary of this analysis and a series of heritage resource management recommendations for the Hec Property. Appendix A presents a series of maps illustrating the HROA results, Appendix B presents the Yukon Heritage Resources Policy for Heritage Resource Management on Yukon Lands, and Appendix C presents the Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon.

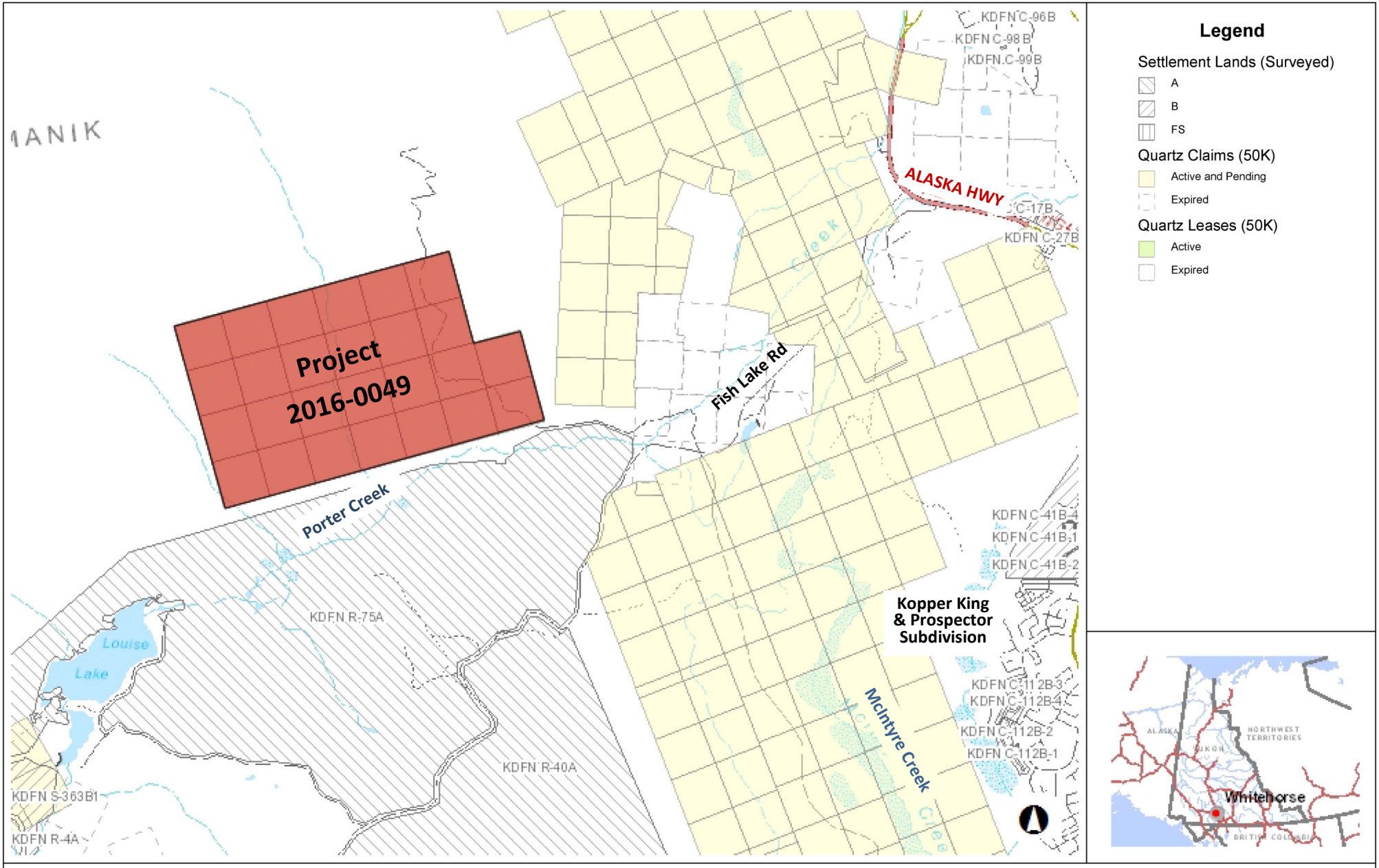
1.1 Project Overview

The objectives of the HROA are to identify and assess the heritage resource potential within the study area, and to prepare a written report detailing the results. As a component of the HROA, a heritage resource model was created to assist in providing baseline recommendations for management of any known heritage resources, as well as areas of significant potential for previously undocumented heritage resources, within the study area footprint.

The study area, including a 50 m buffer, covers 593.1 ha and is immediately north of Porter Creek. The study area is intersected by the City of Whitehorse city limits, with the southeast corner within the city limits and the remainder of the study area immediately west of the city limits (see Figure 1). The study falls within the traditional territories of the Kwanlin Dün First Nation. This area is divided into a series of claims, and has existing access trails throughout the southern and eastern section of the study area. The primary disturbance factors will be the diamond drilling activities, upgrade of the existing access trails, the creation of spur trails, the movement of heavy machinery.

This study was conducted at the request of Archer, Cathro, and Associates. The data produced will be used to help guide further heritage resource work within the study area

FIGURE 1: HEC Prpeoperty Overview Map



PROJECT DETAILS

Project: 2016-0049
Hec Property - Quartz Exploration

Proponent: Strategic Metals Ltd.

Office: Whitehorse Designated Office

Projection: Yukon Albers

0 1.3 2.6 3.8km

Scale: 1: 50,265

YESAB
Yukon Environmental and Socio-economic Assessment Board

This map is for general reference only. Data that appears on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Source: YESAB Geolocator

Map Created **Mar 03, 2016 11:27 AM**

1.2 Objectives of the Heritage Resource Overview Assessment

The scope of this project involves an HROA for the Hec Property Quartz Exploration area. The objective of this work is to:

1. Identify and assess heritage resource potential or sensitivity within the study area through a review of the listings of known archaeological and historic sites, in addition to a review of the biophysical and topographic mapping.
2. Prepare a written report of the overview and make management recommendations.

This report documents the methods and results of the HROA. The study is based on existing information and the professional experience of Ecofor's archaeologists, and is directed solely at determining the potential for archaeological sites within the defined boundaries of the study area. Based on the determination of archaeological potential, cultural resource management recommendations are presented.

These recommendations may include one of three levels of management action: 1) Heritage Resource Impact Assessment (HRIA), 2) Pedestrian Survey, or 3) No Further Work (NFW). An HRIA involves thorough field analysis of areas assessed to have archaeological and historical potential. These areas are surveyed and, if necessary, shovel tests are excavated to test for subsurface archaeological material. HRIAs include recording both newly identified sites as well as locations that were tested and no sites were found. Pedestrian survey applies only to areas of potential for culturally modified trees (CMTs). If other areas of potential are identified during HRIA or pedestrian survey work, field methodologies should be revised accordingly.

Research for this study was conducted by Chandra Young-Boyle, Tim Bennett, and James Mooney, of Ecofor Consulting, and includes consulting documents pertaining to the history, archaeology, ethnography, geology, and geography of the study area.

While all observations, conclusions, and recommendations made in this report are the result of research undertaken by the authors, this work is subject to the review or modification by the Heritage Resources Unit, Yukon Government. In the Yukon, heritage resources are managed under the provisions of the Yukon First Nations Umbrella Final Agreement (UFA) Chapter 13, the Inuvialuit Final Agreement, and the enabling legislation: the Yukon *Historic Resources Act* (Government of Yukon 2002)*, Archaeological Sites Regulations* (Government of Yukon 2003). The Yukon Government is responsible for heritage resource management on non-settlement lands. Archaeological resources are protected under the *Heritage Resources Act*, whether located on public or private land. Protected sites may not be altered without a permit issued by the Minister or designate.

This overview assessment does not include a review and/or collection of Traditional Knowledge or Traditional Land Use (TK/TLU) information. However, the Kwanlin Dün First Nation will be invited to review this report and share relative information, as per their sensitive heritage and TK/TLU protocols, to assist in better management of heritage resources.

2. PROPOSED ACTIVITIES WITHIN THE STUDY AREA

The intent of Archer, Cathro, and Associates (Strategic Metals Ltd.) is to conduct diamond drilling to test the limestone bedrock within the study area to determine the purity and size of the potential limestone deposit. Associated work includes trail upgrades, the development of spur access trails, and the resultant ground disturbance from the movement of heavy equipment within the study area.

In undertaking these development activities, changes to the environment will occur. For example, the creation and upgrading of access trails and diamond drilling activities. Proper education of all employees and contractors regarding observation, recognition, and preservation of any existing heritage site is strongly encouraged prior to and during any ground disturbing actions. Field inspection by a qualified archaeologist can identify areas where unrecorded subsurface archaeological sites may be present. Field inspections can also record any heritage sites that may be in conflict with the proposed development. Once recorded and assessed, archaeological sites with high significance may be avoided or excavated, to mitigate negative impacts, as necessary.

If heritage sites are encountered, increased access to the sites could result in future vandalism or looting. As such, the exact locations of the sites should not be distributed or made public. Records kept at the Heritage Resources Unit will be reviewed to determine if any recorded archaeological sites are within the study area. If recorded sites have the potential to be impacted by development, cultural resource management recommendations will be made (see Section 6.0). Predicting, finding, recording, and preserving heritage sites is the purpose of the archaeological assessment process. This HROA is the first steps toward achieving this goal.

3. METHODOLOGY

This HROA employs a twofold methodology for identifying heritage resource potential within the study area that included a desktop review of the study area by experienced archaeologists and a GIS based analysis that is informed by the results of the desktop review. The GIS analysis results were reviewed against the hypothesized results from the desktop review, and adjustments to the expectations and/or GIS predictions were made as necessary.

The desktop review relied on two lines of evidence, the physical/environmental and cultural/historical setting of the study area:

1. The first line of evidence is based upon attributes of the physical/environmental setting. These attributes are derived from an analysis of the biogeoclimatic zones, physiography, hydrology, bedrock and surficial geology, and vegetation and wildlife distributions. This approach relies on the assumption that specific geographic features, such as elevated landforms (e.g. ridges, knolls, terraces, etc.), water features (e.g. lakes, rivers, creeks, wetlands, and their associated banks/margins), and resource patches (e.g. hunting and foraging locales, quarry sources), can be linked to specific settlement and resource exploitation patterns. Further detail regarding the correlation of specific landform types and heritage resource sites is presented in Section 3.1.
2. The second approach is built upon a review of previous heritage resource management research conducted within the study area and adjacent lands aimed at understanding the area's cultural/historical setting. The review includes previous archaeological studies, historical records, and ethnographic accounts of the traditional cultural groups living within the study area. The results of this review are presented in terms of a general overview of the culture history of the study area and a specific listing of previously recorded heritage resource sites. A list of potential site types expected for the study area, and the physical/environmental attributes they are expected to be correlated with, are presented below in Section 3.2.

Although the sample size of previously recorded sites within the study area is too small to allow for strong conclusions to be made, considering trends seen in site distributions from the broader surrounding area suggests that most sites within the study area will likely be located on flat landforms immediately above steep slopes that offer good access to water and a commanding view of the surrounding landscape. A slight skew towards south-facing landforms is evident, but sites have also been recorded on landforms with other aspects. A secondary correlation was observed between sites and documented transportation corridors such as trails and waterways.

With these general criteria identified, a GIS based heritage resource potential analysis was conducted to evaluate lands within the study area and identify specific areas of potential. Analysis included both ERSI ArcGIS and ET Surface spatial software. A tin (triangular irregular network) was derived to calculate the slope and aspect of the study area. Buffers zones of archaeological potential ranging from 25 to 50 m were assigned to water features, which were filtered for slope greater than 20%. The key variable considered in this analysis is slope. Areas

of potential are identified at the upslope transition where steep slopes (grades of 20-100%) meet relatively flat areas (grades of 0-10%). Areas with slope grades ranging from 10-20% were not considered in this analysis because they are too steep to have good potential for finding heritage sites on them, but not steep enough to mark a significant break in slope that defines a likely place for heritage sites. Once breaks between 20-100% grades and 0-10% grades were identified, buffer zones measuring 25 m back from these breaks in slope were plotted to define general areas of potential. Although south-facing flat terraces are generally considered to have the highest potential, the decision was made to not include aspect in analytical parameters, based on the fact that sites have been previously recorded on landforms facing all directions. The western portion of the study area that falls outside of the City of Whitehorse city limits has lower resolution data, and the GIS analysis utilized visual analysis of the slopes and topographic images to assist in identifying areas of potential.

The results of this analysis were reviewed in relation to the hypothesized results. The predictions produced by the analysis were found to be in agreement with the hypothesized results. No significant modifications were made to the areas of potential identified by the GIS analysis.

GIS analysis was also used to evaluate the potential for heritage resource CMTs. Parameters for this analysis included that the area be vegetated with pine-leading forests and that these forests were more than 70 years old.

Low potential is assigned to all areas not identified by the final GIS/desktop analyses. Areas considered to have low potential for heritage resources are typically characterized by nondescript landforms with no significant topographic relief, limited access to fresh water, poorly-drained sediments (as indicated by vegetation cover), and/or significant levels of previous disturbance. Areas that are predicted or modelled as having low archaeological potential may still contain heritage resources, however the probability of heritage resources is low and any identified heritage sites would be considered a chance find that does not fit with the established settlement and land use pattern within the study area.

The results of the desktop review are presented below in Section 4.0, and the results of the GIS analysis are discussed in Section 5.0.

3.1 Landforms and Geographic Features with High Heritage Resource Potential

In addition to the areas around known sites, a number of landforms and landscape features can be used to help identify areas of heightened heritage resource potential. Such landforms and landscape features include:

1) Elevated landforms such as valley edges, terraces, ridges, mid-slope benches, and knolls. These landforms are considered areas of potential for heritage resources because they generally offer better drained soils, relative proximity to water and game, and larger viewsheds. Elevated landforms with south-facing, grassy margins, are considered

especially high potential because of their warmer temperatures and better airflow which helps reduce insects. These types of landforms are associated with a wide variety of site types including campsites, lookout sites, cache sites, etc.

2) Areas within close proximity to water are also considered to be areas of potential for heritage resources. The potential of these areas is bolstered both by human water needs, but also those of large game animals, fish, and bird species. The easy access to water makes these areas ideal for habitation and hunting sites.
3) Areas near lithic raw material sources area considered to have potential for heritage resources due to their value as quarry sites.
4) Caves, rockshelters, and tors, are listed as possessing increased potential for heritage resources due to possible use as temporary shelters from poor weather as well as possible quarries for lithic raw materials.

3.2 Potential Site Types Expected in Study Area

Nine broad site types are considered in this heritage resource potential model for their likelihood to be present within the study area. Definitions of these site types, and the physical/ environmental attributes they are expected to be correlated with, are presented below.

Permanent/Long-Term Habitation Sites

Permanent/long-term habitation sites would indicate prolonged or repeated occupation of a locality. In this area, permanent/long-term habitation sites could be considered those sites which are returned to seasonally year after year, such as a summer campsite. Based on previous archaeological and ethnographic research, these sites are considered most likely to be associated with high, well-drained, south-facing landforms with grassy margins and/or open, pine dominated forests, and good access to water. Essentially, permanent/long-term habitation sites are only expected in optimal locations.

Temporary Habitation Sites

Temporary habitation sites tend to be associated with resource gathering activities such as hunting and foraging, but can sometimes be related to ceremonial activities. Subsistence related sites are typically represented by lithic tools, evidence of tool production/maintenance, hearths, hunting blinds, and possibly faunal remains. Ceremonial sites related to puberty and shamanistic rituals are often represented by cairns, isolated hearths, and lithics. The locations of hunting related temporary habitation sites are heavily influenced by landforms that also attract animals (e.g. water features) or that offer a commanding view of areas where animals are likely to congregate (e.g. elevated lookouts). Foraging related temporary habitation sites will be focused on areas that support commonly foraged resources such as berries. The criteria for these sites will vary depending on the resource being foraged. Ceremonial sites will not necessarily be connected to any specific type of resource, but are often found in difficult to reach places such as high elevation ridges and plateaus. One final area of potential for temporary habitation sites

is along travel corridors such as trails. Typically, if found along a travel corridor, these sites will also be associated with some other noteworthy geographic feature such as a lookout or clearing or any features that is distinctive relative the surroundings.

Quarry Sites

These sites are found in areas where natural stone was quarried for the fabrication of stone tools. Desirable qualities in raw material types for stone tool manufacture include conchoidal fracture properties and low occurrences of internal flaws and inclusions. Such materials are typically found in a number of contexts including natural veins in bedrock, volcanic formations, or in secondary deposits (e.g. riverbeds).

Rock Art Sites

Rock art is man-made markings or etchings/peckings on natural stone surfaces. Rock art tends to be located along major watercourses, trails, or at boundaries of traditional territories.

Fishing Sites

Fishing sites typically include fish weirs or natural narrowing of major rivers and streams where fish could be caught more easily. Some potential also exists in lakes, but there are no lakes associated with the study area. Louise Lake is the closest, and is approximately 1.2 km southwest of the study area.

Human Remains

Unexpected human remains are rarely encountered during heritage resource studies, however the potential for their presence always exists, especially in areas where higher densities of people are known to have congregated in the past. Burial practices of First Nations include the use of graves or spirit houses, often placed on prominent points or terraces near village/camp sites, or on low, level ground near trails. Spirit houses often contained goods and tools that were considered useful to the individual. With the arrival of Christian missionaries and the introduction of Christian burial practices, the use of designated cemeteries increased. As well, the increased European presence in the 19th century led to an increased looting of spirit houses, discouraging First Nations people from continuing this burial practice.

Culturally Modified Trees

Culturally modified trees (CMTs) are trees that have been altered by humans for a variety of purposes including cambium stripping, sap, kindling, and/or bark collection, marking trails (blazes), and communicating messages. Most CMTs documented in the southern Yukon are pine trees.

Trails

Trails are pedestrian travel routes that may be marked by a well-worn trail bed, blazed trees and/or other CMT types, and/or cairns. Trials are often associated with natural corridors such as rivers and elevated ridges. The Yukon Cultural Services Branch and Kwanlin Dün First Nation publication on the heritage resources of the Fish Lake area (Gotthardt 1994) identifies a transportation corridor associated with the study area. The trail follows Porter Creek from Louise Lake to the Yukon River, and would pass immediately south of the study area as part of the larger transportation network within the area. As a result, there is an elevated potential for associated trail sites in the study area.

Historic Sites

European trading began in the region in the 1840s, and it is likely that Europeans stuck closer to their trading routes (rivers and trails), relying on First Nations to procure items from further away. Gold prospectors have worked within the study area, but their presence would likely post-date AD 1860. As such, Historic Period sites are expected to be most frequently encountered along documented travel corridors and settlement sites. This however, does not preclude the possibility of encountering isolated Historic Period materials associated with early European trapping and prospecting activities. Moreover, artifacts of European origin could have been traded to First Nations persons then transported to locations generally considered to be more indicative of Precontact sites.

4. ANALYSIS OF STUDY AREA

The study area is located, immediately north of Porter Creek and is intersected by the northwestern City of Whitehorse city limits. The study area covers 593.1 ha, which includes a 50 m buffer added for the archaeological potential mapping on NTS mapsheet 105D/11. This footprint falls within the traditional territories of the Kwanlin Dün First Nation.

Key geographic features within the study area include Porter Creek, which is immediately south of the study area and two unnamed tributaries of the creek that intersect the study area, one running north-south through the center of the study area and another that interests the southwest corner. There are no other major hydrological features within the study area; Louise Lake is the nearest associated lake, and lies approximately 1.2 km southwest of the study area. The study area is also approximately 4 km southwest of Mount Sumanik, at approximately 1600 m ASL. Elevations within the study area range from approximately 1000 to 1300 m ASL.

Further information regarding the broader environmental and cultural setting of the study area are presented below.

4.1 Physical/Environmental Setting

The study area is located within Boreal Cordillera Ecozone and the Yukon Southern Lakes Ecoregion (see Smith et al. 2004 for full discussion). This ecoregion is characterized by broad valleys and large lakes, and dominated by boreal/subalpine coniferous forest cover.

4.1.1 Biogeoclimate

The Yukon Southern Lakes ecoregion is arid, and falls within the rain shadow of the St. Elias-Coast Mountains. Annual precipitation ranges from 200-325 mm, 30-50% of which occurs during the summer months as rain. Snow cover is usually in place from late October to mid-April in the valleys and a month longer on higher elevations. Mean annual temperatures are between -2 to -3 °C. Mean January temperatures range between -21 and -25 °C, while mean July temperatures range from 12-14 °C. Extreme temperature ranges have been recorded from -55 to 34 °C in some areas (Smith et al. 2004).

4.1.2 Physiography

Campsites, temporary use sites, and travel routes tend to be located on level, well-drained terrain. Generally, ridges with south-facing aspects have higher archaeological potential, as they receive more sunlight. Terraces and breaks in slope associated with water features also tend to have higher archaeological potential. Topographic indicators can also be used to predict the locations of caves or rock shelters. In alpine terrain, ice patches attracted caribou, which in turn attracted human hunters. These ice patches can be a source of well-preserved artifacts; examples date back over 8,000 BP (Hare et al. 2004).

The Yukon Southern Lakes Ecoregion, a large area of rounded summits and broad valleys, is part of the Yukon Plateau physiographic unit as defined by Bostock (1948) and Hughes (1987). In general, its topography is characterized by dissected plateaus, rolling hills and broad valleys occupied by lakes and rivers (Smith et al. 2004). This streamlined topography was shaped by the glacial ice flows of the McConnell Glaciation (Bostock, 1966; Hughes 1969), which had covered lowland areas by sometime after 26,000 BP and had receded prior to 9,000 BP (Jackson et al. 1991). In the postglacial period, rivers and streams cut into the thick deposits of till, glaciofluvial gravels, and glaciolacustrine clay and silt deposited during the McConnell Glaciation creating steep-sided canyons and flights of terraces (Smith et al. 2004).

Much of the terrain that resulted from these processes lies between 1,000 and 1,500 m ASL. The highest point in the ecoregion is the summit of Mount Arkell which reaches 2,377 m ASL. Other peaks over 2,000 m ASL are Joe Mountain, Mount Lorne, Mount Byng, Pilot Mountain, and peaks in the Sifton and Englishman ranges. The ecoregion's major rivers and lakes all lie below 760 m ASL (Smith et al. 2004).

4.1.3 Hydrology

Water availability is the one primary environmental predictor of archaeological site potential. Proximity to water sources is an important indicator of archaeological potential as water is essential for survival, provides access to game and fish, and watercourses are used as travel routes.

The Yukon Southern Lakes Ecoregion is situated within the Yukon's Interior Hydrologic Region (see Smith et al. 2004: Figure 8). The primary drainage flows northward through rivers such as the Yukon, Teslin, and Takhini and their tributaries. Some smaller rivers in the western part of the ecoregion flow west into the Alsek River. Streamflow is driven by meltwaters in spring and rainfall through the summer. Minimum streamflow usually occurs in April, immediately before spring melting begins. Wetlands and lakes cover approximately 5% of region's landmass (Smith et al. 2004).

4.1.4 Bedrock and Surficial Geology

The geology of the area is considered as a component of the HROA to aide in determining the potential of quarry sites and rock art sites.

The bedrock geology of the Yukon Southern Lakes Ecoregion is characterized by coarse-grained, crystalline metamorphic and granitic rocks in the eastern and western thirds of this ecoregion, while mafic volcanic rocks, limestone reefs and clastic sediments characterize the central third (Smith et al. 2004). Four lithologically distinct tectonostratigraphic terranes, Yukon–Tanana, Stikinia, Cache Creek, and Dorsey, are represented within this ecoregion. Summaries of all four of these terranes can be found in Smith et al. 2004 (pp. 208-209), but for the purpose of this report it will simply be noted that the project area is situated within the Stikinia terrane, which is characterized by volcanic and sedimentary rocks such as basalt, limestone, argillite, sandstone,

and conglomerates (Hart 1997; Hart and Villeneuve 1999; Smith et al. 2004). The lands surrounding the study are also renowned for their resource-bearing potential. Gold (Hart and Radloff 1990), copper (Watson 1984), and coal (Bremner 1988; Hunt and Hart 1994) have all been mined in the vicinity.

The surficial geology of the Yukon Southern Lake Ecoregion is associated with the most recent Cordilleran glaciation, the McConnell, which covered the south and central Yukon between approximately 26,500 and 10,000 BP. These glacial processes deposited large quantities of till, typically supported by a sandy and/or silty matrix (Smith et al. 2004). As the McConnell Glaciation came to an end, glaciofluvial and glaciolacustrine processes further distributed and shaped these deposits to create the undulating landscape and well-incised drainages that characterize the ecoregion today.

4.1.5 Vegetation

We observe vegetation, especially forest cover, in order to determine the potential for Culturally Modified Trees (CMT) as well as determining soil drainage. This information informs our assessment of basic archaeological potential based in the understanding that people prefer dry areas to wet.

Open coniferous and mixed woodland forests dominate the flora of Yukon Southern Lakes Ecoregion. Pine is the most common tree species in the region due to the fact that they regenerate quickly in fire burned areas. Forest fires are common in the area due to the low precipitation level in the warm summer months. In the few areas that have not been subject to forest fires in the last 100 years white spruce-feathermoss forests are common. Black spruce has a limited presence in this ecoregion, mostly occurring in the eastern portion, where near-surface permafrost is present. Other tree species include subalpine fir, aspen, balsam poplar, paper birch, and willow. Medium shrubs dominate the highlands where shrub birch, underlain by lichen and moss, takes over the drier sites, while in wetter, north-facing locations, willow and shrub birch with moss groundcover are dominant. Along mountain summits the alpine dwarf shrub tundra include willow, lingonberry, bearberry, bilberry, and mat or cushion plants such as dryas, lichen, and graminoids (Smith et al. 2004).

4.1.6 Wildlife

The wildlife present in a study area can inform archaeologist on a number of aspects of past lifeways including, but not limited to subsistence and hunting patterns, mobility (both in terms of a seasonal round and short term provisioning), and resource economies (e.g. furs and hides, bones for tool manufacture and building supplies, etc).

The Southern Lakes Ecoregion supports the most diverse mammalian population in the territory, with at least 50 out of the 60 recorded animals in the Yukon calling the region home. Dall sheep, Stone sheep, grizzly bear, wolves, coyotes, red fox, beaver, and wolverine are plentiful in this area. Elk were introduced to the ecoregion in the 1950s, and add to the ungulate population

which include moose, caribou, and mule deer. The highest density of lynx in North America occurs in this ecoregion. Other species include muskrat, cougar, marten, northern flying squirrel, woodchuck, meadow jumping mouse, and little brown myotis bat, along with many others. This ecoregion also supports a large and greatly diverse avian population, including both permanent and migratory birds (Smith et al. 2004).

4.2 Cultural/Historical Setting

To provide cultural and historical context for the study area, the Prehistoric, Proto-Historic, and Historic past land use of the larger region is summarized below. While the Historic Period is well recorded, the Prehistoric and Proto-Historic Periods are not as well recorded. The following is a summary overview of the culture history for the broader region including south-central and southern Yukon, and northern British Columbia. Many researchers have reviewed the culture history of this broader area and presented the information using a variety of terms and temporal ranges (Clark 1981; West 1996; Workman 1978; Wright 1995, 1999).

4.2.1 Prehistoric Period (pre ca. 11,000 BP to ca. A.D. 1700s)

The earliest prehistoric occupation, which dates to early post-glacial times, is known as the Northern Cordilleran Tradition (Clark 1983; Hare 1995). The earliest Northern Cordilleran Tradition occupation known at present is a site located near Beaver Creek, dated to 10,670 radiocarbon years before present (BP) (Heffner 2002). The majority of sites associated with this tradition appear to date prior to 7,000 to 8,000 BP. The Northern Cordilleran Tradition, with some overlap, predates the introduction of microlithic technology from Alaska into the interior of the central and southern Yukon (Clark 1983; Hare 1995).

The Northern Cordilleran Tradition is followed by the Little Arm Phase, which dates from approximately 7,000 BP to 4,500 BP (Clark and Gotthardt 1999; Workman 1978), and can be defined by the use of microlithic technologies. After about 4,500 BP, there is less evidence of microblade use in the Yukon, and an increase in the use of notched projectile points, and a variety of scraping and carving tools, labeled the Taye Lake Phase in southwest Yukon, or more broadly in Yukon and Alaska, the Northern Archaic Tradition (Hare 1995; Workman 1978).

The most recent archaeological culture of southern Yukon is that of the Aishihik Phase (Workman 1978). This phase is thought to be a cultural development from the earlier Taye Lake culture, although there are some significant differences in technology. Key amongst these technological innovations are native copper tools, small stemmed Kavik points, end- and sidescrapers, and ground adzes (Hare 1995), but perhaps most notable is the introduction of the bow and arrow which replaced a type of throwing spear known as an atlatl as the primary hunting weapon (Hare et al. 2004). This transition from atlatl to bow and arrow technology has been clearly documented by recent finds from high elevation ice patches in the southern Yukon (Hare at al. 2004). These Aishihik Phase sites are found above the White River Volcanic ash layer (also known as Tephra) that is dated to about 1,250 radiocarbon years BP (Clague et al. 1995), and are

correlated with the appearance of Athabaskan peoples who are thought to be the direct ancestors of the current Kwanlin Dün and Ta'an Kwäch'än First Nations peoples (see below).

4.2.2 Proto-Historic Period (A.D. 1700s to ca A.D. 1840s)

The Proto-Historic Period, as presented here, also overlaps with late Prehistoric/Athabaskan Period. It is defined by the appearance of non-native goods, other early trade items, and foreign (western or eastern) influences, but not the documented accounts of contact between indigenous North American peoples and European/Russian/Asian peoples themselves. Other indicators of the Proto-Historic Period are the arrival of the first non-native diseases and the spread of information related to non-native populations. This period spans the time between the first introduction of non-native influences or artifacts, and the recording of first hand or primary written accounts. Unlike other cultural periods with more specific temporal ranges it is difficult and perhaps impossible to determine when the first 'outside' influences of European, Russian, Asian, or other cultures began to impact First Nations people in the Yukon interior.

Some of these far reaching effects may have been passed along from Russian exploration in the early and mid-1700s (Veniaminov 1984) and other Asian and European (Andreev 1944, Quimby 1985) exploration and contact with coastal communities. The Chilkat Tlingit from the Northwest Coast travelled and traded with many interior First Nation peoples throughout this Proto-Historic Period including the Kaska and the Northern Tutchone from the Dawson and Mayo areas, and occasionally the Mountain Dene people from as far away as Fort Norman on the Mackenzie River. The Tlingit protected and controlled the trading routes into the interior and fiercely defended those routes when they were threatened. News of early non-native explorers and traders would have travelled inland along with foreign items such as metals, cloths, glass beads, and later tobacco and other goods.

In some of the earliest cases, the impacts of these foreign cultures could have had significant impacts even without the presence of the foreigners themselves. Such is the case for what is call 'drift-iron' whereby metals and other materials from Asian or European shipwreck wash ashore. Historical accounts of shipwrecks have been reported in the mid-1700s, but much earlier wrecks were possible. Metals and other foreign trade items have been derived from ship wrecks off what is now British Columbia, Southeast Alaska, and perhaps the Northwest Alaska as well.

4.2.3 Historic Period (post-A.D. 1840s)

The Yukon has a rich and vibrant historical background including First Nations, missionaries, fur traders, placer miners, and entrepreneurs. Mineral prospecting and mining efforts in the second half of the 19th century were in some ways very dependent on the existing infrastructure of the fur trading and missionary efforts. As the competition for the inland fur trade grew, so would the number of sternwheelers on the Yukon River. These steamers could better supply the small number of trading posts along the Yukon and its tributaries, and reduce the risk of prospectors running short of supplies. As a result, more of the fur traders and other explorers turned their attention to the search for gold and other minerals.

Whitehorse, although relatively young as a city, is an area of land that has been used for thousands of years by various First Nation groups as part of their seasonal round. The first outsiders used the Yukon River and its tributaries as their highways into the country. Due to the fact that First Nations people in the area preferred to travel by foot, the Westerners reported that the aboriginal population in the area was low (Dobrowolsky and Ingram 1994).

The land that is now Whitehorse became the location of a permanent settlement soon after the beginning of the Klondike Gold Rush. First Nations people would set up camps on the edges of town in order to easily access the trading opportunities and seasonal jobs packing, on boats, or at wood camps.

On the way to the gold fields from Skagway prospectors encountered a six mile stretch of treacherous water encompassing Miles Canyon and the Whitehorse Rapids (from which the city got its name). Steam boats could not navigate these waters so passengers had to make their way past the hazards on their own. Most travelers used the First Nation portage route on the east bank of the river. In 1897, Norman Macaulay created the Canyon and White Horse Rapids Tramway Company, using horse-drawn carts on log rails that ran from a short lived community upriver of Miles Canyon called Canyon City to a small tent community in the area that is now known as Riverdale (Dobrowolsky and Ingram 1994).

As the Gold Rush continued, the White Pass and Yukon Route Limited Railway Company (WP&YR) was interested in capitalizing on the situation and started planning a railway from Skagway to Fort Selkirk. The difficult terrain and effective steamboat system made them reconsider that route, and the new terminus point became Whitehorse. In October 1899, the railway company commissioned the survey of a new town site on the west bank of the river. The temporary camps on the east bank were not adequate for what they needed. WP&YR originally wanted to name the city Closeleigh after Close Brothers & Company of London (major financers of the railway), but William Ogilive decided it should be White Horse (later shortened to Whitehorse). The city was sectioned off into 17 large lots that were subsequently subdivided. The majority of the lots were owned by the WP&YR, and it was not until the 1950s that ownership of the streets was transferred to the city (Dobrowolsky and Ingram 1994).

The official opening of the railway occurred in Carcross in July 1900. In less than two years Whitehorse grew from a community of temporary camps at the foot of the rapids, to a vibrant bustling transportation town. Although the railway had a huge impact on the creation of Whitehorse, it was the shipyards that kept people employed and living in town. The British Yukon Navigation Company (BYNCo.), a sister company to WP&YR, bought out and owned almost every boat on the Yukon River, giving them a near monopoly on the transportation to Dawson (Dobrowolsky and Ingram 1994). Whitehorse was the maintenance and docking location for these boats and today's Shipyards Park is a testament to the large area of town that used to be dedicated to servicing the sternwheelers.

In 1920, the first plane landed in Whitehorse, and the WP&YR set up a Canadian air service. Planes became a regular occurrence, landing on the water, ice, and a landing strip up on the escarpment above the river valley.

As the world's attention was drawn to growing concerns in Europe in 1939, the Canadian Government began building a chain of airfields across the northwest under the Northwest Staging Route Program. Following the bombing of Pearl Harbor there was no doubt that Alaska and the Yukon would play a key role in the war, and a road needed to be built to link Alaska to the contiguous United States. It was quickly decided that the "Prairie Route" would be used, whereby key airfields would be linked from Great Falls, Montana to Fairbanks, Alaska. In February 1942, the US War Department issued the directive to begin construction. These actions spurred on the building of approximately 2,446 km (1,520 miles) of new road starting in Dawson Creek, British Columbia, up through the Yukon Territory, and ending in Fairbanks, Alaska. Whitehorse, once again, found itself the epicenter of transportation and communication for the territory. The convenient location made it easy to connect and supply materials to various communities with ease.

At the time the White Pass railway had its terminus in Whitehorse, which was halfway between Dawson Creek and Fairbanks. This helped to provide quick access to the Pacific Coast and as the main supply line, making Whitehorse the principal distribution point for supplies. In 1943 they moved 281,962 tons of freight from Skagway to Whitehorse. In addition, thousands of army troops and civilian workers were brought into Whitehorse to construct the highway, many of which stayed for a long period of time. The American government maintained this highway during WWII. Six months after the war, the portion located in Canada became the property of the Canadian government, and was then maintained by the Canadian Army for about 20 years.

Throughout the years Whitehorse has proven to be a city able to adapt to the needs of the people who live there and the territory as a whole. It was incorporated as a City in 1950 and in 1953 was named the capital of the Yukon (transferred from Dawson City; Yukon Info 2012). The community has held on to its historical roots, and there are a vast number of historical buildings, walking tours, and museums in town.

4.2.4 Modern First Nations

The Study Area is located within the traditional territory of the Kwanlin Dün First Nation, who are affiliated with the Southern Tutchone Tribal Council. In the past, the Tutchone peoples were highly mobile, travelling in small groups in order to exploit the greatest number of resources. They would modify their movements depending on the patterns of large game animals and fish, or in later years to trade furs. The Tutchone peoples followed the same basic seasonal cycle. In the summer, small domestic units gathered together to catch fish so that they could dry and store it for the winter months. By mid-summer several family groups moved upland together in order to kill large game mammals that they would dry and store in caches scattered in a variety of areas. From there some units may move away independently during the coldest months to trap and live off of the cached foods. By late winter, people would disperse again in order to harvest game to meet their needs till the spring. The leanest months were March and April. Several units often

came together at this point to catch spawning whitefish or trap muskrat and beaver. May was the most plentiful month, with migrating waterfowl, fat ground squirrels, larger and more abundant fish, as well as the arrival of the Coastal Tlingit traders (McClellan 1981).

The principal ethnographic descriptions of the Tutchone are available in Cruikshank (1974, 1975), Johnson and Raup (1964), McClellan (1950, 1964, 1970a, b, 1975), and Tanner (1966). Additional information on camp and village locations can be found in Schwatka (1885). Although no villages were inhabited year round, people would return to fishing and/or hunting spots year after year. In the summers Tutchone people preferred to walk overland, rather than brave the sudden winds on the large lakes or the treacherous river rapids. Watercraft were constructed for use, however they were not the preferred method of transport.

The Kwanlin Dün First Nation takes its name from the waterway now referred to as Miles Canyon. Their ancestors called the area Kwanlin, meaning “running water through canyon”. The heart of their traditional territory is the Whitehorse area, and the Nation as a whole is comprised of multiple bands. The first recorded interaction between Kwanlin Dün First Nation individuals and Westerners was in the 1880s in reference to the portage route around the Whitehorse Rapids and Miles Canyon (Kwanlin Dün First Nation 2012). A comprehensive collection of the bibliographic references and basic chronology was compiled by Dobrowolsky, Lindsay, and Jim for the Kwanlin Dün First Nation in 1996.

4.3 Previously Recorded Heritage Resources

The proximity of known archaeological sites to a particular area of interest is used as an indicator of archaeological potential due to possible associations between site types. For example, temporary habitation sites are often found in association with trails, and workshop areas are often found near campsites. A review of the Yukon Historic Sites Inventory and Yukon Archaeological Sites Inventory resource indicates that are no previously recorded archaeological sites within the study area.

Based on previous work associated with the study area (Gotthardt and Hare 1994), the area was used heavily by Southern Tutchone peoples as part of their seasonal resource procurement rounds. This archaeological study of the Fish Lake (Lu Zil Män) area, completed as a partnership between the Kwanlin Dün First Nation and the Yukon Heritage Branch recorded the oral history and archaeological sites in the area. This study identifies a trail following Porter Creek immediately south of the study area that is part of a larger transportation network and links the Yukon River and Fish Lake.

4.4 Other Culturally Sensitive Areas

4.4.1 Cemeteries

There are no documented cemeteries within the study area. Although unlikely, the possibility exists of encountering human remains, especially in association with the documented travel corridor along Porter Creek.

If human remains are encountered, the guidelines provided in Appendices B and C should be followed.

4.4.2 Travel Corridor

The area around the Yukon River and Fish Lake, and Louise Lake, have extensive documented travel corridors used by both First Nations and European populations.

First Nations use includes a trail running from Fish Lake up (north) to Louise Lake and following Porter Creek (northeast) to the Yukon River, passing the study area. The exact location of the traditional trail, or trails, through the current study area has not been identified, but the existence of these trails has been documented through elder interviews during Traditional Land Use investigations. This trail system likely followed the banks of Porter Creek to the Yukon River, overlapping existing roads. Trail sites will likely often overlap current trails and areas of heritage resource potential identified in Section 5.0 of this report.

There are no documented European travel routes within the study area, but overland portions of early European travel routes are also known to be present in the vicinity.

5. GIS-BASED HERITAGE RESOURCE POTENTIAL ANALYSIS

Based on the GIS analysis performed for this study (see Section 3.0), several discrete areas of heritage resource potential, totaling 54.6857 ha (0.1% of the total study area), have been identified within the study area. These high potential areas are associated with hydrological features and south aspect breaks in slope. Data for potential CMTs is limited due to the lack of data beyond the City of Whitehorse city limits. Based on the available data, and the continued forest cover extending into the study area, there is potential for mature pine (>70 years old) throughout the study area, including the proposed work area in the western portion of the study area. Based on available data, 19.76 ha of the study area has predicted potential for CMTs.

Maps illustrating these areas of potentials are presented in Appendix A. The remaining lands are considered to possess low potential for significant heritage resource sites. However, it must be noted that the results of this predictive analysis do not rule out the possibility of chance finds of heritage materials being made within the low potential areas. It should be noted that the areas of potential presented in this report take into account areas of avoidance already proposed by Heffner and Young (2014) for the area around Long Lake.

In addition to these areas of heritage resource potential, the predicted probability of encountering the potential site types outlined in Section 3.2 within the study area is presented in Table 1. Note that heritage resource potential has been assessed and presented in a conservative manner. Field assessment may determine that the actual areas of potential cover less area than that which is mapped. By erring on the side of caution we reduce the risk of missing any heritage resources. Follow-up fieldwork may refine the areas of potential into smaller, more precise polygons. Fieldwork may also identify areas of potential outside of the mapped, predicted potential.

Site Type	Potential	Comments
Permanent/ Long-Term Habitation	Moderate	Permanent/long-term habitation tend to be located near significant landscape features that provide optimal places for campsites. Several such landscape features/camping places are present within the study area, in association with Porter Creek as well as the south aspect breaks in slope on rocky outcrops in the western portion of the study area.
Temporary Habitation	High	The probability of finding temporary habitation sites is high based on the associated water features and the pronounced topographic relief in portions of the study area, particularly the western half. In addition, the previously identified trail following Porter Creek.
Quarry Sites	Low-Moderate	Although basalt is present within the study area, it is typically not of knappable quality. That said, there is limited potential for small outcrops of higher quality basalt or other knappable volcanic rocks. Some potential also exists for knappable rocks in Porter Creek.
Rock Art Sites	Low	The potential for rock art is considered to be low, but some potential exists in higher elevation areas.
Fishing Sites	Low-Moderate	The potential for finding fishing sites along Porter Creek is evaluated as moderate. This site type may also overlap with temporary and long-term habitation sites.
Human Remains	Low	Organic preservation conditions in the study area is not considered to be favorable for the preservation of human remains, however there is a small chance of encountering isolated Historic Period graves.
Culturally Modified Trees	Low-Moderate	Although there is potential for CMTs based on forest cover, which indicates potential for pine age class 8 (141-250 years old), CMTs identified in the vicinity of the study area generally recent.
Trails	High	The well documented travel corridor following the south boundary of the study area along Porter Creek indicates a high potential for trails within the study area.
Historic	Moderate to High	Intensive mid-19th century use of the general area has been documented. Historic Period sites may include settlements, trails and tramways, mining related sites, trapping related sites, etc.

Table 1: Assessment of the probability of encountering predicted site types.

6. SUMMARY AND RECOMMENDATIONS

The goal of this study was to identify areas of archaeological potential within the proposed Hec Property study area. This was accomplished through a detailed review of the physical/environmental setting, cultural/historical setting, and previous heritage studies and identified sites within the study area. Several discrete areas of heritage resource potential with HRIA recommendations (54.6857 Ha; 0.1%) and a minimum of 19.75 ha of high CMT potential, dating to more than 70 years ago were identified. The remainder of the areas are considered to have low potential for encountering previously undocumented heritage resources.

Heritage resource management recommendations for the Hec Property directly follow the assessment of heritage resource potential discussed in Section 5.0. These recommendations include:

1) Heritage Resource Impact Assessments (HRIAs) are recommended for areas with heritage resource potential before any development be approved to proceed within them (see mapping in Appendix A). Should additional areas of potential be identified within a proposed development area during HRIA work, they should be assessed following the same standards recommended for the areas of potential identified in this report. HRIA work should be conducted under a Class 2 archaeological research permit issued by the Heritage Resources Unit of Yukon Tourism and Culture. HRIAs should, at minimum, include provisions for surficial survey and subsurface testing within the boundaries of the HRIA area identified in this document and any associated areas of potential that are identified in the field which are at risk of being impacted by proposed developments. Additional recommendations may be made following an HRIA depending on the results obtained.
2) A minimum standard of pedestrian survey through areas with potential for CMTs dating to more than 70 years ago is recommended before any development be approved to proceed within them (see mapping in Appendix A). If CMTs are identified by pedestrian survey, they should be documented in the interim and final reports for the survey work and reported to the local First Nations. If any additional heritage resources are observed in association with CMTs, or if any landforms with heritage resource potential (as identified in this report) are identified within them, full HRIA work is recommended due to the tendency of CMTs to be correlated with other site types such as trails. Because the potential for full HRIA work is relatively high in these areas, this work should be conducted under a Class 2 archaeological research permit issued by the Heritage Resources Unit of Yukon Tourism and Culture. Additional recommendations may be made following the further investigation of CMT areas depending on the results obtained.
3) No Further Work (NFW) is recommended in areas identified as having low heritage resource potential prior to allowing development (see mapping in Appendix A). However, development should only be allowed to proceed on the condition that all chance finds of heritage resource materials be reported immediately to the Heritage Resources Unit of Yukon Tourism and Culture, and that all work at the location of a chance find cease until

the Heritage Resources Unit is able to assess the finds and issue a response (clearance to proceed or requirements for avoidance/further mitigative work).

All chance finds of heritage resources should also be reviewed on a case by case basis to allow for a determination of whether HRIA work should be required prior to any development. If chance finds include human remains the guidelines provided in Appendices B and C should be followed.

It is also recommended that this HROA report be submitted to the Kwanlin Dün First Nation for review and consultation with regard to traditional knowledge/ land use. Moreover, if further heritage resource work is conducted within the Hec Property, it is recommended that representatives from the Kwanlin Dün First Nation be consulted and given opportunity to participate in any field investigations.

Should future HRIA work be conducted, all heritage resource sites identified, whether new or revisited, should be recorded as per the requirements outlined in the Yukon Archaeological Sites Regulation (O.I.C. 2003/73). Once recorded/revisited, specific heritage resource management recommendations should be made for each site that reflect the potential impacts associated with the proposed development that spurred the HRIA.

Lastly, although all efforts were made during the production of this report to make its assessment of heritage resource potential as comprehensive and accurate as possible, the methods employed provide relatively coarse resolution. As such, small undocumented areas of heritage resource potential may be present within the study area. Moreover, there is always a possibility that chance finds of heritage resources will be made in areas of low perceived potential. The recommendations contained herein are intended to be used for planning purposes. Should intensive development be proposed for areas within the Hec Property in the future, further assessment, focused on the specific footprint of the proposed development is recommended.

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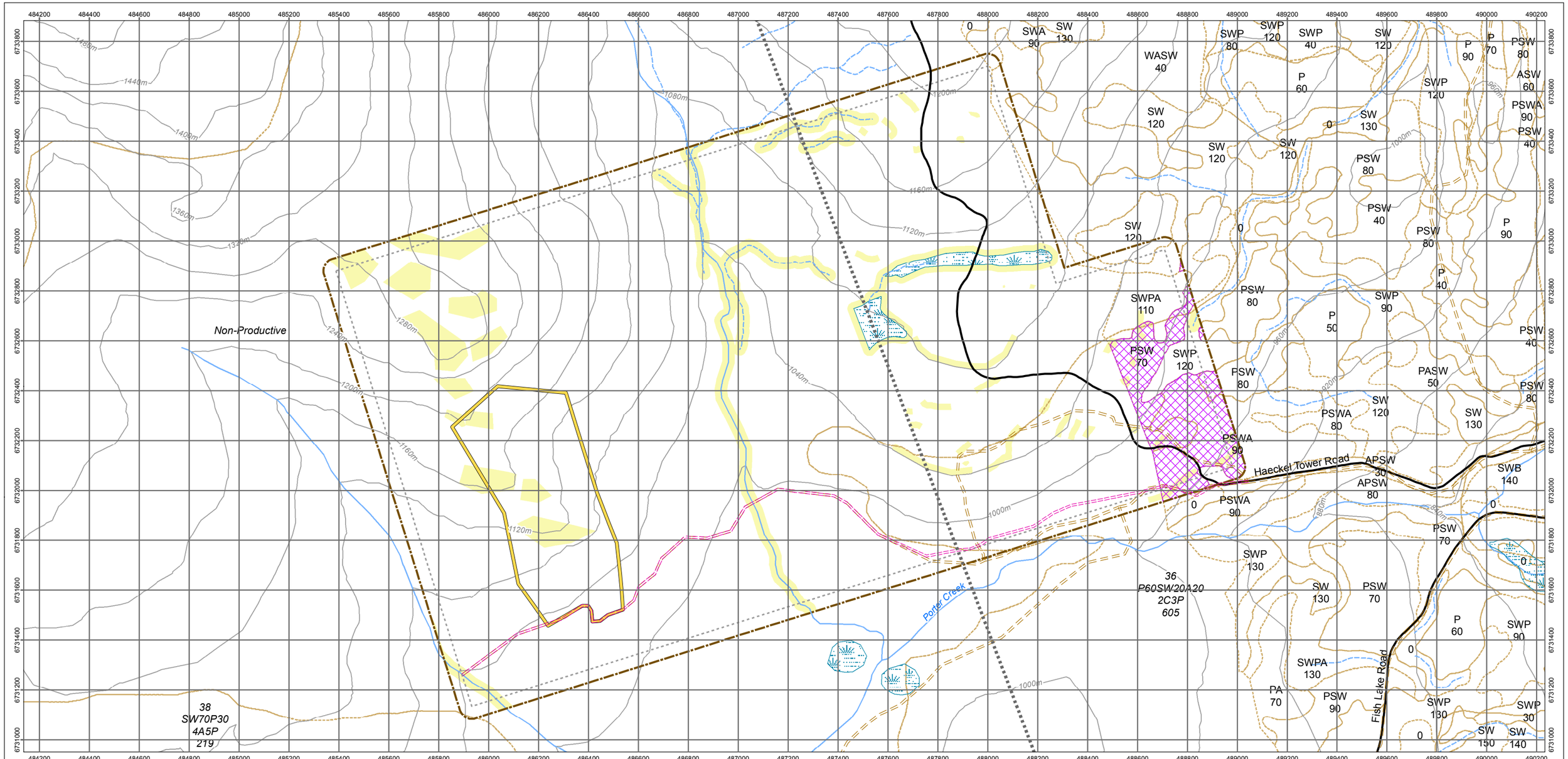
APPENDIX A: HROA Results Mapping

APPENDIX A: HROA RESULTS MAPPING



ARCHER CATHRO

FIGURE 2
HEC PROPERTY HROA

N
1:15,000
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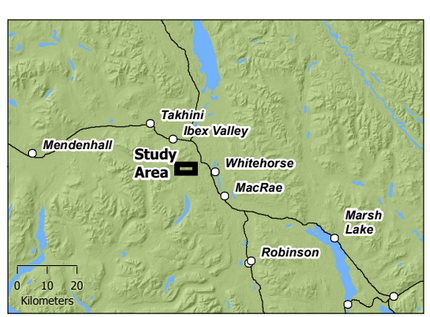
NAD 1983 UTM Zone 8N
NTS MAPSHEET: 105D/11



Base Features
Contour (100 ft)
River/Stream-Definite
River/Stream-Indefinite
Wetland

Access
Main Road
Road - Other

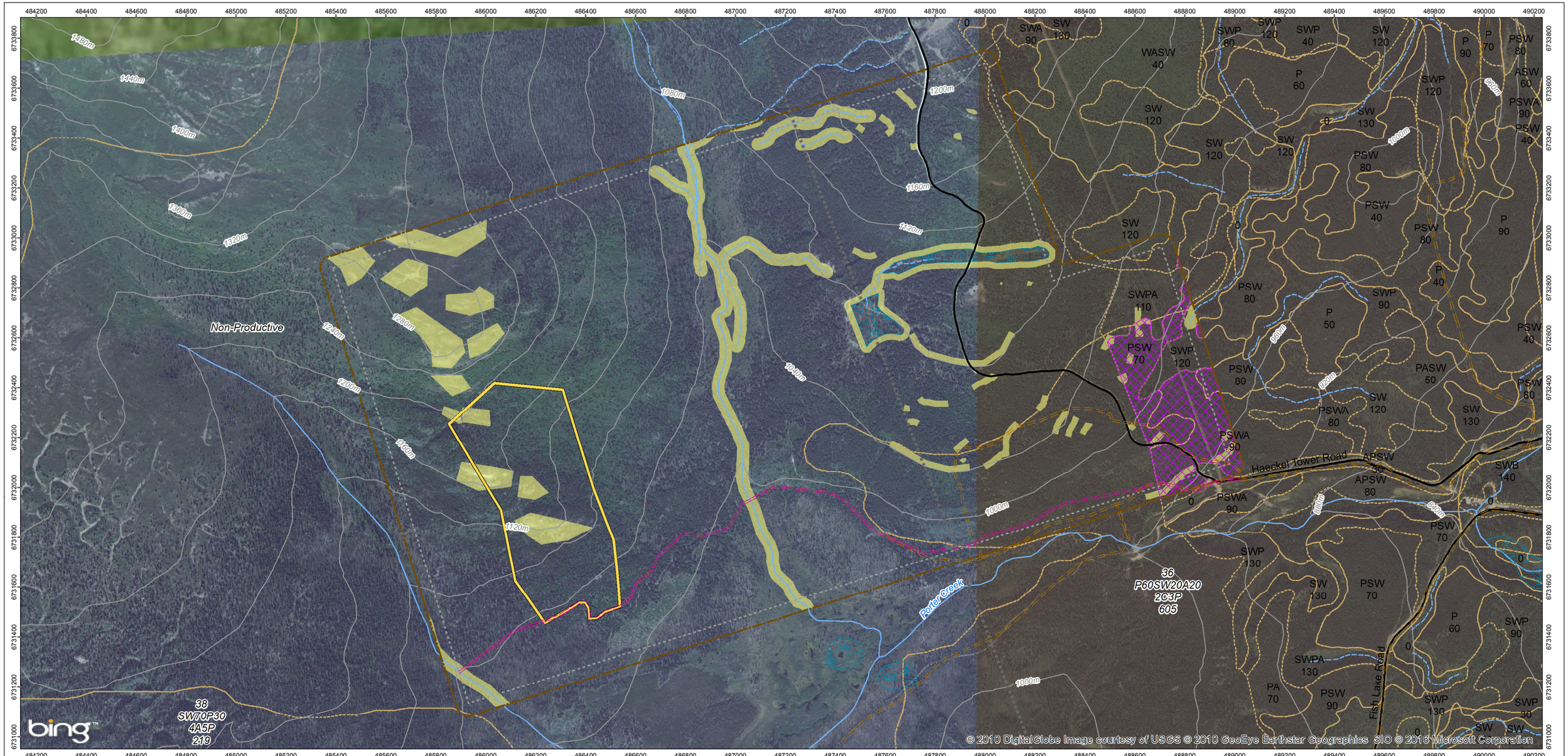
Land Use
Property Boundary
CoW City Limits
Forest Cover (VRI)

Assessment Features
Proposed Trail Upgrade
Work Area
Archaeological Potential
50m Property Buffer
CMT Potential
(Pine Leading, Age Class >= 70 Years)

ECOFOR
natural and cultural resource consultants

Ecofor Consulting Ltd. Date: July 29, 2016 (KL)

	Work Area	50m Property Buffer
EPN:	2016-1181-002	2016-1181-002
Study Area:	37.8 ha	593.1 ha
Easting:	486229	487100
Northing:	6731960	6732422
Permit Number:	N/A	N/A



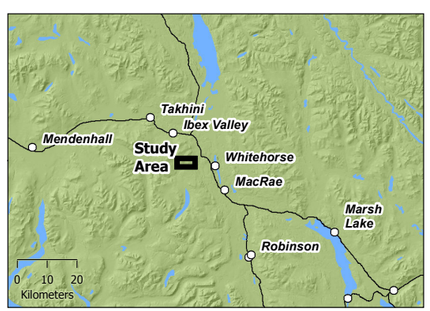
ARCHER CATHRO

FIGURE 1
HEC PROPERTYHROA

N
1:15,000
0 200 400m

NAD 1983 UTM Zone 8N
NTS MAPSHEET: 105D/11

Disclaimer: This product is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The base data layers have been obtained from the National Topographic Database (NTDB), and GeoYukon.



Base Features
- Contour (100 ft)
- River/Stream-Definite
- River/Stream-Indefinite
- Wetland

Access
- Main Road
- Road - Other

Land Use
- Property Boundary
- CoW City Limits
- Forest Cover (VRI)

Assessment Features
- Proposed Trail Upgrade
- Work Area
- Archaeological Potential
- 50m Property Buffer
- CMT Potential (Pine Leading, Age Class >= 70 Years)

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Permit Number:	N/A	N/A

APPENDIX B: Yukon Heritage Resources Policy for Heritage Resource Management on Yukon Lands

Yukon
Tourism and Culture

Operational Policy for Heritage Resources Management on Yukon Lands

This document has been developed to communicate the Yukon Government's position on ownership and management of heritage resources in the context of the development assessment and review process in the Yukon. The Operational Policy for Heritage Resources Management is based in the provisions of the Yukon First Nations Umbrella Final Agreement (UFA), Chapter 13 and the enabling legislation: the Yukon *Historic Resources Act,* and the Inuvialuit Final Agreement. In the implementation of the legislation, Yukon Government is acting to protect and manage heritage resources on behalf of all Yukoners.

Ownership and Management Authority – Moveable Heritage Resources
Yukon Government is identified as the responsible authority for heritage resource management on non-settlement (Yukon) lands based on the specific provisions concerning ownership of moveable heritage resources in the UFA, Chapter 13 (13.3.3):

- Government owns all moveable and documentary heritage resources that are not "ethnographic resources directly related to culture and history of Yukon First Nation people".

Significant management direction is provided by the UFA in the use of the term '**moveable**' in connection with heritage resources. Anticipating the requirement to manage heritage resources in future land developments and activities, the option to move heritage resources with the objective of protection is fundamental in the UFA Chapter 13.

Ownership and Management - Heritage Sites
UFA 13.8.1 Ownership and management of Heritage Sites in a Yukon First Nation's Traditional Territory shall be addressed in that Yukon First Nation Final Agreement. Examples of heritage sites that have been identified in First Nation Final Agreements: Fort Selkirk, Forty Mile, Rampart House, Lansing Post, Tagish Post, Canyon City, Lapierre House, Tr'ochëk.

With the exception of heritage sites set out in FNFA as per 13.8.1, heritage sites and non-moveable heritage resources (structures/built heritage) are governed by Laws of General Application (*Historic Resources Act*). Ownership vests in Yukon Government.

Designation of Heritage Sites under the *Historic Resources Act* ensures sites are protected from activity or development impacts. Sites or areas of historical significance in theYukon, beyond those listed in FNFA, may also be nominated for designation under the HRA. The nominations are reviewed by the Yukon Heritage Resources Board, who then recommends to the Minister that a site be designated as a Yukon Historic Site.

Heritage Resources – Definitions
The UFA Chapter 13 does not provide definitions of heritage resources, but makes the distinction among types of heritage resources as follows (13.3.6.): ethnographic objects directly related to the culture and history of Yukon Indian People, palaeontological objects, and archaeological objects. Definitions for these terms are provided in *Historic Resources Act* (Part 6 Historic Objects and Human Remains – Definitions). Generally, palaeontological objects are the fossil remains of ancient plants and animals; archaeological objects are abandoned objects that are older than 45 years. For operational purposes, "**moveable ethnographic objects directly related to the culture and history of Yukon Indian People**" (UFA 13.3.2) are objects that were

known to have been owned or used by First Nations individuals or families within living memory[1]. 'Direct' indicates the line of ownership for the object is unbroken or can be reconstructed. As per UFA 13.3.5 – if an object cannot readily be determined to be ethnographic, it is held in custody by Yukon Government until its nature has been determined.

Protection of Heritage Resources

Accidental discovery of heritage resources (UFA 13.8.7) – heritage resources discovered during construction or excavation are protected under Laws of General Application (*Historic Resources Act, Mining Land Use Regulations; Land Use Regulations*). The *Historic Resources Act* (64) prohibits destruction or alteration of a heritage resource except in accordance with a historic resources permit.

Report of Findings

> *Historic Resources Act* Part 6 Report of Findings:
> 71(1) Every person who finds an object that is or that likely is a historic object, or remains that are or that likely are human remains, shall immediately report the find to the Minister.
> (2) If the object is found on settlement land the finder shall also report the find to the Yukon first Nation which governs the settlement land.
> Quartz and Placer Mining Land Use Regulations – E Historic objects and burial grounds
>
> > **9 .** Any sites containing archaeological objects, palaeontological objects or human remains or burial sites discovered in the course of carrying out an operation must be immediately marked and protected from further disturbance and, as soon as practicable, the discovery reported to the Chief (of Mining Land Use).

In respect of UFA 13.4.8, 13.7.1, Yukon Government provides to First Nations archaeological, palaeontological and historic site inventories and research reports on heritage resources found in their traditional territories.

First Nation Burial Sites

Procedures to manage and protect First Nation burial sites have been established by the Yukon Government and Yukon First Nations: "Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon". http://www.tc.gov.yk.ca/pdf/respecting_guidelines.pdf . General provisions include:

- Restrict access to preserve dignity of the site
- Newly discovered sites/accidental discovery
  - RCMP/Chief Coroner to be informed
  - If determined to be a First Nation burial, First Nation to be informed
  - general rule no further disturbance

Heritage Resource Assessment and Permits

Standard archaeological impact assessment and mitigation procedures are followed to guide heritage resources assessment in the Yukon. The Government of British Columbia Archaeological Impact Assessment Guidelines are the recommended guideline for Yukon and are comparable to standards used in other Canadian jurisdictions: http://www.tsa.gov.bc.ca/archaeology/docs/impact_assessment_guidelines/in dex.htm

Heritage assessments ideally are undertaken in cooperation with affected First Nations. Archaeological consultants are required to communicate with affected First Nations prior to undertaking field research. A First Nation may choose not to provide oral history or traditional knowledge input to the consultant, however. In such cases, the First Nations may keep confidential information on traditional use areas, subsistence resources and

[1] Ethnographic objects of themselves may not be informative of ownership. Many historic objects (for example, guns, axes, knives) were used equally by all Yukoners and attribution of ownership (for example to Nacho Nyak Dun vs. Selkirk First Nation vs. a non-First Nation trapper) cannot be made without direct knowledge of who made or used the object or in whose former camp the object was found. Therefore knowledge or memory of historic use is critical in determining if the objects are ethnographic.

cultural values and work independently with the Yukon Environmental and Socio-Economic Review board to ensure concerns with these values are addressed for a particular project.

Under the *Yukon Environmental and Socio-Economic Assessment Act*, heritage resource assessment is generally required for all activities that will impact or will potentially impact heritage resources. All heritage resource assessments are required to be carried out under permit:

Historic Resources Act

> **62** No person shall search or excavate for historic objects or human remains except in accordance with a historic resources permit. *S.Y. 1991, c.8, s.61.*

Archaeological Sites Regulation

> **3.** No person shall survey and document the characteristics of an archaeological site without a Class 1 or Class 2 permit.
>
> **4.** No person shall excavate, alter, or otherwise disturb an archaeological site, or remove an archaeological object from an archaeological site, without a Class 2 permit.

APPENDIX C: Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon

Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon

With approvals as of August 1999

This document was prepared pursuant to provisions of
Yukon First Nation Final Agreements
and the Yukon Transboundary Agreement with the Gwich'in Tribal Council

Yukon
Tourism
Heritage Branch

Table of Contents

List of Figures and Appendices

Introduction and Background

The treatment of every burial site requires respect. Legislation of various types protects burial sites and cemeteries from being disturbed. Government agencies and First Nations keep and consult records of known sites so that land use plans or proposals can avoid such sites.

There are many historic and First Nation graves in the Yukon however which are no longer marked and which may be disturbed accidentally through land use or development. Other sites may be disturbed by natural forces, such as erosion, leading to the exposure of human remains.

As more people travel in backcountry areas, for work or pleasure, it is expected that the number of such discoveries may increase. It is important therefore to have guidelines for reporting, investigating and managing such sites in a coordinated and effective manner, to give them proper respect.

Yukon First Nation (YFN) Final Agreements (Section 13.9.0) and the transboundary agreement with the Gwich'in Tribal Council (Tetlit Gwich'in) (Section 9.5) require the development of procedures to protect and manage YFN or TG burial sites, and specify certain actions when such sites are discovered.

Consistent with these obligations, these guidelines were developed at two workshops held jointly in March and October l998, involving First Nation Elders, heritage and implementation staff, the RCMP, Coroner and other Yukon and federal government officials.

Purpose

To provide direction on the reporting, identification, treatment and disposition of human remains found outside of recognized cemeteries in the Yukon, to ensure these remains are respected and protected consistent with legislation and Yukon land claims agreements.

Scope and Application

These guidelines apply to anyone who discovers human remains or grave goods outside of recognized cemeteries in the Yukon, and to the Yukon, Federal and First Nation government officials involved in protecting and caring for such sites.

The guidelines reflect existing practices in many ways. They do not replace legislation or regulations protecting burial sites, but are intended to integrate obligations contained in Yukon land claim agreements with land use permitting regimes and the Development Assessment Process . These guidelines may apply on Settlement Lands at the discretion of each First Nation. Government approval is required for management plans for sites on non-Settlement Land.

Existing known burial sites that are marked or otherwise recorded are protected by existing legislation. Management plans for these sites may be developed on a case by case basis.

Burial sites discovered within the boundaries of a designated heritage site may be subject to the management plan for that site.

The guidelines do not apply within National Historic Sites or National Parks. Parks Canada has its own guidelines respecting burial sites and human remains.

Evaluation and Revision of Guidelines

The implementation of these guidelines will be evaluated as necessary to ensure that they are fulfilling their purpose.

GUIDING PRINCIPLES

All human remains, and items found at graves (grave offerings, markers etc.) shall be treated with respect and dignity regardless of their cultural affiliation.

Actions taken following the discovery of sites will be consistent with Yukon and transboundary land claim agreement provisions respecting Yukon First Nation and Tetlit Gwich'in Burial Sites.

Each discovery will be handled on a case by case basis in consultation with the affected parties, in a coordinated and timely manner.

Definitions - see Appendix 1
References - see Appendix 2
Land claims provisions - see Appendix 3

Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites

See also Figure 1.

These guidelines cover five steps: discovery and notification; site protection and investigation; investigation and reporting; and site disposition or management agreements. A final step, arbitration, is provided for where no disposition agreement is reached.

1. Discovery and Notification

If human burial remains are accidentally discovered the following guidelines apply:

a) The finder will immediately cease any further activity at the site and report the site to the RCMP.

b) *If the finder is operating under a land use licence or permit*, the site must also be reported immediately to the land manager/permitting authority, as set out on the permit. The land manager/permitting authority shall confirm that the site is reported to the RCMP.

c) Based on the information it receives, the RCMP will notify: 1) the Coroner's office if the site is of a forensic or criminal nature; or 2) both the First Nation(s) in whose Traditional Territory the Site is located and the Heritage Branch, if the site is a suspected historic or First Nation burial site.

2. Site Protection and Identification

a) the land manager/permitting authority shall take reasonable measures to protect the site from environmental factors and any form of unauthorized interference or disturbance.

b) based on the evidence reported at the scene, the RCMP/Coroner will investigate the site and make a preliminary determination as to the nature of the remains.

c) *if the site is of a criminal or forensic nature* (potential crime scene or missing person), then the Coroner's office and police will assume authority over the site/remains.

d) Heritage Branch may recommend that an archaeologist assist police or coroner in the preliminary assessment of the site.

e) *If the site is **not** of police/coroner interest* then the Director, Heritage Branch, the affected First Nation(s) and the land manager will assume interim responsibility for protection and investigation of the site. If it's a suspected First Nation site, the Heritage Branch and First Nation would assume this responsibility.

f) the Director, Heritage Branch, the affected First Nation(s) and land manager shall take reasonable measures to restrict access and ensure that the human remains and any grave offerings are not further disturbed pending the investigation and identification of the remains. The RCMP may be consulted about protecting the site.

Figure 1

Guidelines respecting the Discovery of Human Remains and First Nation* Burial Sites

2. Site Protection and Investigation
-protection/no disturbance or access

If not a criminal matter, Heritage Branch takes lead with affected FN or transboundary group. RCMP may assist if requested.

- *First Nation, Minister*
- *permitting authority - person may continue activity*

with FN consent. If consent is not provided, proceed according to terms and conditions of arbitrator(UFA 26.7.0 TG Ch.18)

or

- *rebury, relocate or remove remains*
- *restrict/specify access if necessary and possible*
- *may designate existing or new site as burial site/cemetery or heritage site*
- *management plan (jointly prepared/approved by FN and Government on Non-Settlement Lands)*

Maps, inventories, reports, plans, agreements.

**the Tetlit Gwich'in will be involved in steps to protect and manage Tetlit Gwich'in burial sites discovered within their Primary Use Area (Fort McPherson Group Trapping area within the Peel River Basin).*

g) Where human remains are at risk of being destroyed or damaged, the Minister of Tourism for Heritage may issue a stop work order prohibiting any further activities and may make an agreement with the First Nation or the Tetlit Gwich'in or land owner or user for any investigation, excavation, examination and preservation and removal of the remains, consistent with land claim provisions. (s.*72, Historic Resources Act- This would address concerns about unknown remains.)*

Existing site inventories, land use records, affected First Nations and community elders, and military authorities, should be consulted as soon as possible about possible identification of the remains.

Some examination of the site/remains may be required to determine its cultural affiliation and age, and whether or not the site is modern or historic.

3. Investigation and Reporting

a) The Heritage Branch/land manager will direct an archaeologist or qualified examiner to carry out an investigation under any required permits, in consultation with the affected First Nation and other affected parties, to make an initial report citing, if possible*, the cultural affiliation of the human remains.

b) Within a reasonable time to be specified by the Minister, and the affected First Nation(s), the archaeologist or qualified examiner shall deliver a written report and any notification not yet made, to:

- the Minister, and the affected First Nation(s) if appropriate;
- the Director of the Heritage Branch;
- the land manager/permitting authority;
- any other representative of the interred, if known.

c) The written report shall attempt *to identify:

- the representative group of the interred;
- the geographic boundaries of the site;
- the grave offerings or other heritage resources that may be associated with the remains or the site.

d) The archaeologist or examiner may, with the agreement of the proper authority and the representative of the interred, if known, remove all or part of the human remains for further analysis or for temporary custody where the remains may otherwise be at risk.

e) Any exhumation, examination and reburial of human remains from a YFN/TG burial site shall be at the discretion of the affected YFN/TG; and if ordered by an arbitrator pursuant to land claim provisions, will be done or supervised by the YFN or Tetlit Gwich'in.

*it is often difficult to determine the cultural ancestry or affiliation of fragmentary human remains

3.1 Reporting

a) If the site is determined to be a Yukon First Nation Burial Site, or Tetlit Gwich'in burial site, the appropriate representative will be contacted in writing to provide further direction on the disposition of the remains. *

b) A person carrying out Government or First Nation authorized activity where a First Nation site is discovered can continue that activity with the consent of the First Nation in whose Traditional Territory the Yukon site is located. The consent of the Tetlit Gwich'in is required if the site is in the Tetlit Gwich'in primary use area. If consent is denied, the person can seek terms and conditions from an arbitrator about continuing the activity (see Section 5).

c) If after the final report, the human remains are found to be those of a different aboriginal people than those mentioned previously, the proper authority of that group shall be notified in order that they may assume the role of the representative.

d) Where a site is **not** found to be a Yukon First Nation or Tetlit Gwich'in burial site, or a military or mariner's burial site, the Director, Heritage Branch may publish notice of the discovery in a newspaper or other public notice seeking information on the remains.

4. Site Disposition Agreement (Management Plan)

4.1 When the site or remains are identified

a) The site shall not be disturbed and the Director, Heritage Branch or First Nation if on Settlement Land, shall initiate discussions towards entering into a site disposition agreement with the representative of the interred.

b) If the site is a Yukon First Nation Burial Site or a Tetlit Gwich'in burial site on non-settlement land, there must be joint approval of the site management plan by the Yukon First Nation in whose Traditional Territory the site is located and the Government. If the site is a Tetlit Gwich'in burial site located off Tetlit Gwich'in land but in the primary use area, the management plan must be jointly approved by the Tetlit Gwich'in and the Government.

c) Decisions regarding reburial, relocation or other disposition should be determined on a case by case basis in consultation with those concerned and in a timely manner.

Site disposition agreements shall determine such things as:
1. the interim care of the human remains*;*

2. the scope and extent of analysis to be performed on the human remains, if any;
3. the exact location of the place where the human remains are to remain or to be interred;
4. the style and manner of disinterment, if applicable;
5. the style and manner of reinterment, if applicable;
6. the time period in which disinterment and reinterment is to take place;
7. the procedures relating to, and the final disposition of any grave offerings discovered with the human remains and any additional analysis of them;
8. the provision for future maintenance of the cemetery or site where the human remains are to be located;
9. access to the site and ways to prevent disturbance;
10. any other issue agreed upon.

*it is often difficult to determine the cultural ancestry or affiliation of fragmentary human remains

4.2 When no representative is identified or no disposition is specified:

If disposition is not specified by a representative, or the remains are not claimed or no affiliation is established within a reasonable time, the Minister, or First Nation if on Settlement Land, shall with the necessary permits and approvals provide for the following disposition:

a) cover and leave the remains where they were found and have the site recorded as a burial site/ heritage site, if on land suitable for a burial site; or
b) have the remains disinterred and reinterred in the nearest appropriate cemetery; or
c) remove the remains from the site for analysis and may have them reinterred in a recognized cemetery or;
d) may act as the temporary repository of the remains.

(Where the remains were found on Settlement Land but are not considered First Nations remains, the Government may remove the remains in consultation with the First Nation.)

5. Arbitration

a) If no disposition agreement or management plan is reached within a reasonable time the matter may be referred to arbitration for settlement. If this matter concerns a Yukon First Nation Burial Site, this shall be done pursuant to 26.7.0 of the UFA; or Chapter 18, if the matter concerns a Tetlit Gwich'in site in the primary use area.

6. Records

a) A record of the site and a report of the discovery and disposition plan shall by kept by the Government and the affected First Nation(s)/representative for future reference to protect the site.

b) Access to information about discovered sites will be addressed in any site management plan developed under these guidelines, and will be protected under the *Access to Information and Protection of Privacy Act*, and the *Historic Resources Act* or *any similar First Nations legislation.*

Appendix 1

Definitions

burial site

the location of any human grave or remains that have been interred, cremated or otherwise placed, and include ossuaries, single burials, multiple burials; rock cairns; cave or cache burials etc. not situated within a cemetery

First Nation Burial Site

This refers to a Yukon First Nation Burial Site or a Tetlit Gwich'in burial site, which is defined as: a place outside a recognized cemetery where the remains of a cultural ancestor of a Yukon Indian Person (or the Tetlit Gwich'in) have been interred, cremated or otherwise placed."

[from the Definitions section of the *Umbrella Final Agreement for the Council for Yukon Indians (now Council of Yukon First Nations) and the Transboundary Agreement between Canada and the Gwich'in Tribal Council*]

human remains

mean the remains of a dead human body and include partial skeletons, bones, cremated remains and complete human bodies that are found outside a recognized cemetery" *(adapted from Historic Resources Act)*

grave offering

any object or objects associated with the human remains which may reflect the religious practices, customs or belief system of the interred.

historic

under the Historic Resources Act this generally means something older than 45 years.

land manager

Agency responsible for the administration of the land on which the site is located. For example, currently territorial parks are managed by Yukon Parks and Outdoor Recreation; gravel pits and rural airports are administered by Community and Transportation Services. Settlement Land is administered by the First Nation. Private land is administered by the land owner. (Burial sites may not be disturbed on any land without proper authorization.)

Recognized cemetery

a defined area of land that is set aside for the burial of human bodies.

representative

means a descendant of the interred or of the person whose remains are found, or where no descendant survives or is identified, an official representative of the appropriate First Nation in whose Traditional Territory the burial site is located or the closest culturally affiliated group, religious denomination, military or marine authority as evidenced by the location or mode of burial.

Where no representative can be determined the Minister shall act as the representative on Non-Settlement Lands and on Settlement Lands at the discretion and with the consent of the First Nation

representative group

means the appropriate Yukon First Nation or the closest culturally affiliated group, religious denomination, military or marine authority as evidenced by mode and style of burial which is willing to act as a representative.

Site disposition agreement

means a written agreement to be reached between the Director of the Heritage Branch and the representative of the interred regarding the disposition of the remains, including any disinterment and reinterment, and management plan

Management plan

means a plan to identify the roles of the representative, Government and land owner or manager respecting the care and protection of the site, including a consideration of site records, site access, and ways to protect a site from disturbance.

Appendix 2

References

The following include requirements to protect burial sites and were considered in the development of these Guidelines.

Umbrella and Yukon First Nation Final Agreements, Sections 13.9.0 and 26.7.0, and Implementation Plans
Yukon Transboundary Agreement (Gwich'in Tribal Council), Sections 9 and 18, and Implementation Plan
Yukon Historic Resources Act, Part 6
Criminal Code
Cemeteries and Burial Sites Act
Coroner's Act
Territorial Land Use Regulations
Yukon Archaeological Sites Regulations
Yukon Quartz Mining Act, and Regulations
Yukon Placer Mining Act, and Regulations
Yukon Surface Rights Act
Vital Statistics Act

Appendix 3

Land Claims Provisions Relating to Burial Sites

13.9.0 Yukon First Nation Burial Sites*

13.9.1 Government and Yukon First Nations shall each establish procedures to manage and protect Yukon First Nation Burial Sites which shall:

13.9.1.1 restrict access to Yukon First Nation Burial Sites to preserve the dignity of the Yukon First Nation Burial Sites;

13.9.1.2 where the Yukon First Nation Burial Site is on Non-Settlement Land, require the joint approval of Government and the Yukon First Nation in whose Traditional Territory the Yukon First Nation Burial Site is located for any management plans for the Yukon First Nation Burial Site; and

13.9.1.3 provide that, subject to 13.9.2, where a Yukon First Nation Burial Site is discovered, the Yukon First Nation in whose Traditional Territory the Yukon First Nation Burial Site is located shall be informed, and the Yukon First Nation Burial Site shall not be further disturbed.

13.9.2 Where a Person discovers a Yukon First Nation Burial Site in the course of carrying on an activity authorized by Government or a Yukon First Nation, as the case may be, that Person may carry on the activity with the agreement of the Yukon First Nation in whose Traditional Territory the Yukon First Nation Burial Site is located.

13.9.3 In the absence of agreement under 13.9.2, the Person may refer the dispute to arbitration under 26.7.0 for a determination of the terms and conditions upon which the Yukon First Nation Burial Site may be further disturbed.

13.9.4 Any exhumation, examination, and reburial of human remains from a Yukon First Nation Burial Site ordered by an arbitrator under 13.9.3 shall be done by, or under the supervision of, that Yukon First Nation.

13.9.5 Except as provided in 13.9.2 to 13.9.4, any exhumation, scientific examination and reburial of remains from Yukon First Nation Burial Sites shall be at the discretion of the affected Yukon First Nation.

13.9.6 The management of burial sites of a transboundary claimant group in the Yukon shall be addressed in that Transboundary Agreement.

*This is an excerpt from the Umbrella Final Agreement between Canada, the Council for Yukon Indians and the Government of the Yukon (l993),Ch. 13, pp. 128-129, and subsequent Yukon First Nation Final Agreements.

9.5. Tetlit Gwich'in Burial Sites*

9.5.1 Government and Tetlit Gwich'in shall each establish procedures to manage and protect Tetlit Gwich'in burial sites which shall:

(a) restrict access to Tetlit Gwich'in burial sites to preserve the dignity of Tetlit Gwich'in burial sites;

(b) where the Tetlit Gwich'in burial site is outside the primary use area *(Fort McPherson Group Trapping Area)*, require the joint approval of government and the Yukon First Nation in whose traditional territory the Tetlit Gwich'in burial site is located for any management plans for the Tetlit Gwich'in burial site;

(c) where the Tetlit Gwich'in burial site is on land in the primary use area which is not Tetlit Gwich'in Yukon land, require the joint approval of government and the Tetlit Gwich'in for any management plans for the Tetlit Gwich'in burial site; and

(d) provide that, subject to 9.5.2, where a Tetlit Gwich'in burial site is discovered, the Yukon First Nation in whose traditional territory the Tetlit Gwich'in burial site is located or the Tetlit Gwich'in, if the Tetlit Gwich'in burial site is in the primary use area, shall be informed and the Tetlit Gwich'in burial site shall not be further disturbed.

9.5.2 Where a person discovers a Tetlit Gwich'in burial site in the course of carrying on an activity authorized by government, a Yukon First Nation or the Tetlit Gwich'in, as the case may be, that person may carry on the activity with the agreement of the Yukon First Nation in whose traditional territory the Tetlit Gwich'in burial site is located or the Tetlit Gwich'in if the Tetlit Gwich'in burial site is in the primary use area.

9.5.3 In the absence of agreement under 9.5.2, the person may refer the dispute to arbitration under chapter 18 of this appendix for a determination of the terms and conditions upon which the Tetlit Gwich'in burial site may be further disturbed.

9.5.4 Any exhumation, examination and reburial of human remains from a Tetlit Gwich'in burial site ordered by an arbitrator under 9.5.3 shall be done by, or under the supervision of, the Tetlit Gwich'in.

9.5.5. Except as provided in 9.5.2 to 9.5.4, any exhumation, scientific examination and reburial of remains from Tetlit Gwich'in burial sites shall be at the discretion of the Tetlit Gwich'in**.**

*This is an excerpt from Appendix C - Yukon Transboundary Agreement between Canada and the Gwich'in Tribal Council, (l992), p. 32.

YESAB Ready - No Sensitive Site Location Data

HERITAGE RESOURCES IMPACT ASSESSMENT – INTERIM REPORT

HEC PROPERTY 2016 WORK AREA AND TRAIL UPGRADE HRIA

ADMINISTRATION			
Permit Number	16-18ASR	**Report Author**	Chandra Young-Boyle
Ecofor EPN	2016-1181	**Report Editor**	James Mooney
Ecofor Contact	Chandra Young-Boyle Archaeologist/Permit Holder	**Contact Information**	709-770-5111 chandra.young-boyle@ecofor.ca

PROJECT INFORMATION			
Type	Limestone Exploration	**Name**	Hec Property
Proponent	Strategic Metals Ltd.	**Contact**	Heather Burrell 1016-510 Hastings St. Vancouver, BC V6B 1L8 867-667-4415 hburrell@archercathro.com

ASSESSMENT DESCRIPTION			
Assessment Date(s)	September 07-08, 2016	**Survey Type**	Impact Assessment
Development Type:	Proposed area of ground disturbance for diamond drilling for limestone exploration		

TRADITIONAL TERRITORY			
First Nation(s)	Kwanlin Dün First Nation	**Contact(s)**	John Meikle 35 McIntyre Drive Whitehorse, Yukon Y1A 5A5 Phone: (867) 633-7800 Fax: (867) 668-5057 E-mail: reception@kdfn.net
	Ta'an Kwäch'än First Nation (adjacent study area, not within)		Derek Cooke 117 Industrial Road Whitehorse, Yukon Y1A 2T8 Phone: (867) 668-3613 Fax: (867) 667-4295 E-mail: info@taan.ca

GEOGRAPHIC REFERENCE			
Ecoregion	Yukon Southern Lakes	**Map(s) Attached**	Yes
NTS Map sheets	105D/11	**Area (ha)**	37.8 ha
UTM(NAD 83)	8V 486220 6731983 (approximate center point)	**Elevation (m)**	~1000 -1200 m ASL

ECOFOR
natural and cultural resource consultants

Location: The proposed project area (Hec Property 2016 work area and trail upgrade) is located approximately 1.2 km west of the city limits of the City of Whitehorse, which intersects the Hec Property. The project area is approximately 6.4 km west of the Alaska Highway, accessible by Fish Lake Road, Haeckel Tower Road, and a quad trail that intersects the southern boundary of the Hec Property. The study area, which consists of the proposed 2016 work area within the Hec Property, is approximately 1.6 km northeast of Louise Lake and 880 m north of Porter Creek. The property has a predominant south aspect slope, with the topographic high falling north of the property boundary. The development area is within the traditional territory of the Kwanlin Dün First Nation and west/southwest of the traditional territory of the Ta'an Kwäch'än First Nation

MANAGEMENT SUMMARY

The proposed project involves upgrades to a 3 km long access trail (Photo 2010) and diamond drilling along sections of limestone outcrops, which will be conducted by Archer, Cathro and Associates (see Figures 1 and 2). The 2016 proposed work area and trail upgrade area were assessed by Ecofor employees Chandra Young-Boyle (permit holder) and Robert Mooney. A representative from Ta'an Kwäch'än First Nation (Derek Cooke) also participated in the fieldwork. Ecofor attempted to include a representative from Kwanlin Dün First Nation, but the representative was unable to participate in the fieldwork.

A series of four south facing, breaks in slope were identified during a pre-field review for archaeological potential within the project area. The project area was assessed by pedestrian survey and the areas of predicted high potential were assessed in field. Two Shovel Test Locations (STLs) were excavated in the southern portion of the study area that were not identified during the pre-field review. These both produced negative shovel tests. Two additional areas were shovel tested within predicted areas of high potential, one of which had one (JeUt-33) positive shovel test consisting of two obsidian flakes, located in the northwestern study area. The remainder of the study area, including two of the predicted areas of high potential, was assessed as having low potential for subsurface archaeological material due to the continuously sloping terrain.

Pedestrian transects were made throughout the project area to confirm that no other areas of potential were present. Some signs of previous disturbances are present along and adjacent the existing quad trail. These include signs of previous ground disturbance with cat pushes (Photo 2008), trenching, and evidence of current recreational uses (e.g. recent fire pits). However, the study area other than the trail showed no sign of previous disturbance.

More information about the STLs and heritage sites recorded is presented below in the Evaluation section of this report.

POTENTIAL IMPACTS

The project consists of the development of a 3 km long access trail and diamond drilling at locations throughout the study area. The primary ground disturbance factor will be diamond drilling for limestone exploration as well as the use of heavy equipment along the access trail and within the study area to access the drill locations.

ARCHAEOLOGICAL ASSESSMENT METHODOLOGY

Heritage resources potential was determined by identifying site presence indicators using a variety of resources including landscape features (e.g. waterbodies, wetlands, and watercourses), topographic mapping, Yukon Archaeological Sites Database, aerial photographs, and orthographic images where

possible. The known sites databases were used to determine if sites were located in or near the project area. Spatial and topographic mapping was used to locate waterbodies, watercourses, wetlands, and landforms that may indicate areas or corridors that have higher potential for heritage sites. Aerial photographs, topographic maps, and orthographic images were used to determine prominent topography with high potential for heritage resources. The in-field assessments were conducted throughout the entire project area by pedestrian transects. Transect tracks were recorded by GPS tracks. Landforms determined to possess potential for buried heritage resources were subsurface tested by 35 cm x 35 cm shovel tests. Tested areas were marked with GPS waypoints and sketch maps were drawn. If cultural materials were identified then the sites were recorded, materials were collected, cleaned, and interpreted, and data was submitted for Borden numbers to record the sites. Illustrative representations of the study area, site locations, and photographs of the sites discussed in this report are presented in the attached maps and photodocumentation.

EVALUATION

Known Sites/Previous Work: No previous heritage assessments have been conducted on the property and no previously known sites have been identified on the property.

Heritage Resource Assessment: Overall the development area was found to be predominantly sloping Photo 2015 and 2017). No permanent hydrological features intersect the study area. However, the south end of the study area is undulating and poorly drained and demonstrates signs of previous flooding. The proposed development area was assessed by a crew of two to three people. The crew consisted of Chandra Young-Boyle and Robert Mooney (Ecofor employees) as well as Derek Cooke (Ta'an Kwäch'än First Nation representative) for September 7. The crew completed a pedestrian survey of the area spaced at approximately 10-20 m apart. Four areas were identified as possessing high potential for subsurface heritage resources (STLs), and subjected to shovel testing. Three STLs produced negative results, and one STL produced cultural material. JeUt-33 (STL4/CYB1) contained two obsidian flakes from one positive shovel test found in the top 15 cm below surface. Visibility was generally good throughout the study area, with views of about 30 m. An Area of Potential (AOP) was also identified outside of the study area (see mapping), 30 m north of the existing quad trail but approximately 300 m north of the proposed access trail. The AOP (Photo 2004) is a defined, west facing break in slope overlooking a tributary to Porter Creek. This area has high potential for subsurface archaeological material and would require shovel testing as a component of an HRIA if development occurs in this area.

JeUt-33: The newly recorded site (Photos 2027 and 2029) is located 1.3 km north of Porter Creek and 1.9 km northeast of Louise Lake. The site is located on a south facing break-in slope with a panoramic view of the Porter Creek valley, with Fish Lake and Louise Lake, and Whitehorse visible in the distance. The site consists of one positive shovel test towards the western edge of the landform that produced two obsidian flakes. A total of 20 negative shovel tests were excavated at the landform, and the positive shovel test was bracketed at 1-2 m intervals in all cardinal directions. The positive shovel test was flagged and a 30 m buffer zone was flagged with yellow no work zone flagging.

The site is accessible by an access road that runs east off the Haeckel Tower Road. The access road is a rough quad trail approximately 3.5 km long running east off the Haeckel Tower Rd. The site is approximately 400 m north of the quad trail, and is accessible by foot.

Due to the low number of artifacts recovered, and the high number of negative shovel tests surrounding the positive test and across the landform, the site is considered to be mitigated with regard to heritage resource concerns. Therefore, no further archaeological work is recommended.

Shovel Test Locations: Three additional areas were shovel tested for subsurface archaeological material. STL1 (Photo 2012) and STL2 (2014) are located in the southeastern portion of the study area. STL1 is located on a rocky outcrop and consists of four shovel tests, and STL2 is located on a break in slope and consists of seven shovel tests. STL3 (2035) consists of four shovel tests and is located in the northwestern section of the study area on the crest of a limestone cliff face and surrounded by sloping terrain. All shovel tests were 35 cm x 35 cm in size and excavated to subsoil or approximately 35-40 cm in depth.

Previous Disturbance: There is no evidence of previous disturbance throughout the work area, except for the trail area, which showed signs of recent and past disturbance. There is evidence of cat pushes and trenches adjacent the trail as well as recent evidence of recreational uses (e.g. fire pits).

RECOMMENDATIONS

Pedestrian survey was conducted throughout the proposed project area. The majority of the project area was found to be sloping, with low potential for heritage resources. Four exceptions to this trend were found on elevated landforms. These areas were shovel tested and one new subsurface lithic site was identified. Additional testing in close proximity to the positive shovel tests did not yield additional artifacts, and the site is considered to be mitigated and is not a significant heritage resource concern with regard to the proposed development. Therefore, **no further heritage resource work is recommended in relation to the proposed Hec Property 2016 Work Area and Trail Upgrade**.

If any additional segments of the Hec Property or access trail are added to the project, then those new areas are also required to be reviewed for possible impacts to heritage resources. This follow-up heritage review may be conducted though desktop overview and/or field study. Complete artifact analysis and full project reporting, to meet Yukon Heritage Permit requirements, is pending and will be completed prior to March 31, 2017. Please note that Borden archaeological site numbers and Yukon Historic Sites Inventory numbers will be confirmed and included in the final reporting. The locational data of both prehistoric and historic archaeological sites and built structures is not to be shared with the public.

Signed:

Chandra YBoyle

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