



**Traditional Knowledge Study Summary Report  
Pine Point Pilot Project**

**Fort Resolution, NWT**

Prepared by:

Sara S. Swisher  
for  
Tamerlane Ventures Inc.

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**TABLE OF CONTENTS**

1.0	Introduction.....	1
1.1	Research Communications.....	1
2.0	Methodology.....	2
2.1	Design and Population.....	2
2.2	Data Collection.....	3
	2.2.1 Background.....	3
	2.2.2 Qualitative Interview Protocol.....	4
2.3	Measures.....	5
2.4	Analysis.....	5
3.0	Results.....	5
3.1	Terrain.....	6
	3.1.1 Fires.....	6
	3.1.2 Earthquakes.....	6
	3.1.3 Land Disturbance.....	6
	3.1.3 Natural Hazards.....	7
3.2	Climate.....	8
	3.2.1 Ground Freeze and Thaw.....	8
	3.2.2 Severe Wind Weather.....	8
	3.2.3 Flooding.....	8
	3.2.3 Climate Changes Over Time.....	9
3.3	Vegetation.....	9
	3.3.1 Medicinal Plants.....	9
3.4	Wildlife.....	11
	3.4.1 Harvesting.....	11
	3.4.2 Migratory Animals and Birds.....	12
	3.4.3 Dens.....	14
	3.4.4 Beaver Dams.....	14
	3.4.5 Animal Harvesting Changes Over-Time.....	14
	3.4.6 Project Effects on Wildlife.....	16
3.5	Water.....	16
	3.5.1 Project Area Water Quality.....	16
	3.5.2 Project Area Spills/Contamination.....	16
	3.5.3 Fish Harvesting.....	16
	3.5.4 Fish Harvesting Changes Over-Time.....	18
	3.5.5 Project Effects on Fish Harvesting.....	18
3.6	Significant Sites.....	19
3.7	Traditional Use.....	19
	3.7.1 Individual Impacts.....	20
	3.7.2 Community Impacts.....	20
	3.7.3 Employment Impacts.....	21
	3.7.4 Social Effects.....	21
4.0	Closure.....	22

**LIST OF TABLES**

Table 2.1-1	Fort Resolution Traditional Knowledge Study Participants.....	3
Table 3.0-1	Participant Activities in Proposed Project Area.....	6
Table 3.1-1	Terrain Response Summary by Location.....	7
Table 3.2-1	Identified Flood Areas by Season.....	8
Table 3.2-2	Warming Trend Observations/Events.....	9
Table 3.3-1	Identified Vegetation in Proposed Project Area.....	10
Table 3.3-2	Identified Poisonous Plants in South Great Slave Region.....	10
Table 3.3-3	Identified Medicinal Plants in Proposed Project Area and Uses.....	11
Table 3.4-1	Birds and Animals Harvested in South Great Slave Region.....	12
Table 3.4-2	Migrating Birds and Animals in South Great Slave Region by Type.....	13
Table 3.4-3	Identified Den Animals in South Great Slave Region.....	14
Table 3.4-4	Animal Harvesting Changes Over-Time: Summary by Theme.....	15
Table 3.5-1	Fish Harvested in South Great Slave Region.....	17
Table 3.5-2	Fish Identified in Regional Water Bodies.....	17
Table 3.5-3	Fish Harvesting Changes Over-Time.....	18

**APPENDICES**

Appendix A	Traditional Knowledge Survey Proposal
Appendix B	Permit and Associated Correspondence
Appendix C	Prior Informed Consent Form
Appendix D	Participant Prior Informed Consent Forms
Appendix E	Study Maps

## **1.0 INTRODUCTION**

Tamerlane Ventures Inc. is a publicly traded mining company engaged in the exploration and development of mineral properties in North America and internationally. The company proposes to construct and operate a Zn/Pb pilot plant. The proposed project is referred to as the Pine Point Pilot Project (PPPP). The PPPP will confirm the potential to conduct full-scale underground mining of the remaining 34 known deposits. The proposed project will produce a bulk sample from the R190 deposit of approximately 1,000,000 metric tonnes of lead-zinc ore over the course of 12-15 months.

The Pine Point Pilot Project (PPPP) property is located 48 km (30 miles) east of Hay River, 140 km (87 miles) west of Fort Resolution and ~0.5 km north of Territorial Highway 5. Territorial Highway 5 links the communities of Hay River and Fort Resolution. The property encompasses an area of approximately 6 hectares (14.8 acres). The proposed PPPP includes a footprint area of approximately 2.5 hectares (6.2 acres).

The community of Fort Resolution is recognized as a key stakeholder in the proposed PPPP project. The community's Deninu Ku'e and Metis people have utilized the South Great Slave Region including the proposed PPPP area since time immemorial. The town of Fort Resolution includes approximately 534 residents. Approximately 88% of the residents are Aboriginal. Fifty-five percent of the population is comprised of men while the other 45% are women (Source: NWT Bureau of Statistics, 2005).

The purpose of this study was to obtain traditional knowledge from the community's Deninu Ku'e and Metis Aboriginal residents. The information was collected for continued planning and incorporation into Tamerlane's Developer's Assessment Report (DAR) as required by the Mackenzie Valley Environmental Impact Review Board's (MVEIRB) Environmental Assessment Process.

The study was conducted by consulting research analyst Sara Swisher, B.S. & M.S. Communication, for Tamerlane Ventures Inc. The Traditional Knowledge study was conducted in general conformance with the traditional knowledge guidelines issued by the Mackenzie Valley Environmental Impact Review Board (MVEIRB). The collection of the data for the study was made possible through the efforts and assistance of a number of individuals in the Fort Resolution community. These key individuals include Chief Robert Sayine (DKFN), President Lloyd Cardinal (FRMC), Tom Unka (DKFN), Arthur Beck (FRMC), Rosy Bjornson, IMA Coordinator (DKFN), Cec Heron, IMA Coordinator (NWTMN) and Patrick Simon (DKFN).

### **1.1 Research Communications**

Initial communication regarding the traditional knowledge study took place via telephone the week of September 11, 2006. Tamerlane contacted Chief Robert Sayine (DKFN) and President Lloyd Cardinal (FRMC) and requested permission to conduct a traditional knowledge study in collaboration with their communities the week of October 9, 2006. Verbal agreement and permission to conduct the study was obtained from Chief Robert

Sayine and President Lloyd Cardinal. Tamerlane requested Chief Robert Sayine and President Lloyd Cardinal to identify a Community Representative to work in concert with Sara Swisher, the consulting research analyst for the study. Tom Unka (DKFN) was recommended for the role and was verbally approved by Chief Robert Sayine and President Lloyd Cardinal.

An introductory letter from Sara Swisher, including a draft copy of the study proposal and survey, was faxed to Chief Robert Sayine (DKFN), President Lloyd Cardinal (FRMC) and President Robert Tordiff (NWTMN) for review and comment September 22, 2006. Direct feedback and survey edits were provided by Tom Unka (DKFN) and Cec Heron (NWTMN) September 22 and September 28, 2006 respectively. All requested edits were made and the final proposal was faxed to Tom Unka (DKFN) and Cec Heron (NWTMN) October 3, 2006. Sara Swisher called Tom Unka (DKFN) and Cec Heron (NWTMN) October 6, 2006, to obtain any final feedback prior to commencement of the study the following week.

The day after their arrival in Fort Resolution October 9, 2006, Tamerlane representatives David Swisher and Jerry DeMarco, along with Sara Swisher, consulting research analyst, attended a Fort Resolution Metis Council meeting October 10, 2006. During the meeting, the Council requested that the traditional knowledge study include a Community Representative from the Fort Resolution Metis community. Arthur Beck was nominated by the Council and the study's methodology was modified to include both Tom Unka (DKFN) and Arthur Beck (FRMC) as Community Representatives. The Council also requested that the Metis sample size (5-6 participants) outlined in the study proposal be changed to equal the Deninu Ku'e sample size (8-12 participants). The study's methodology was modified to include the requested sample size of 8-12 Fort Resolution Metis participants. A copy of the final traditional knowledge study proposal is included in Appendix A.

## **2.0 METHODOLOGY**

### **2.1 Design and Population**

Qualitative interviews were used as the method of observation for the traditional knowledge study. Individuals aged 45 years or older in the community were the primary focus of the study. Deninu Ku'e and Metis elders and individuals with extensive land-use experience and knowledge of the South Great Slave Region were the preferred sample population.

Study participants were identified, contacted and scheduled for the qualitative interviews by the Community Representatives: Tom Unka (DKFN) and Arthur Beck (FRMC). In addition to contacting participants, the Community Representatives conducted introductions, clarified questions, provided context for many of the questions and translated where necessary.

Extensive efforts were made by the Community Representatives to identify and schedule equal numbers of Deninu Ku'e and Metis individuals for the study. Scheduling conflicts and multiple cancellations resulted in a final sample that included 11 DKFN and 6 Metis individuals. See Table 2.1-1.

**Table 2.1-1  
Fort Resolution Traditional Knowledge Study Participants**

Affiliation	Name
Deninu Ku'e First Nation	Edward McKay Gene Norn Lester McKay Marcel Norn Henry Calumet Tom Unka Dean McKay Henry McKay Tommy Beaulieu Robert Ekinla Rachel Lafferty
Fort Resolution Metis Council	Freddy King Arthur Beck Eric Beck Pete King Ken Delorne Edward Balsillie

## 2.2 Data Collection

### 2.2.1 Background

Qualitative interviews were conducted October 10-16, 2006. After completing two interviews October 10, 2006, Sara Swisher received notification from the Aurora Research institute through the Deninu Ku'e Band Office that a scientific research license was required to conduct the study. The interviews immediately ceased and the permit application was completed and submitted to the Aurora Research Institute October 11, 2006. Letters of support were written by the Deninu Ku'e Band Office and the Northwest Territories Metis Nation Office and faxed to the Aurora Research Institute October 12, 2006.

Verbal approval to continue the study was given by Dr. Andrew Applejohn, Director of the Aurora Research Institute late October 12, 2006. Written approval from the Aurora Research Institute Director was faxed to the Deninu Ku'e Band Office early the following morning October 13, 2006.

After receipt of the written approval, the traditional knowledge interviews continued October 13-16, 2006. Following the conclusion of the interviews, Sara Swisher received a letter from Chief Robert Sayine (DKFN) requesting that the two interviews conducted prior to obtaining the scientific research license be included in the traditional knowledge study. The results of the two interviews are included in this report. A copy of the scientific research license, letters of support and related correspondence are included in Appendix B.

### 2.2.2 Qualitative Interview Protocol

The traditional knowledge interviews were conducted in the Council Chambers at the DKFN Band Office in Fort Resolution. Tamerlane provided refreshments. The interviews were conducted by Sara Swisher, consulting research analyst, in collaboration with the Deninu Ku'e and Metis Community Representatives: Tom Unka and Arthur Beck.

Prior to each interview, the Community Representative introduced the research analyst to the interview participant. Once introductions were made, each participant was given a prior informed consent form that was explained by the Community Representative and/or research analyst. Participants were asked to sign the form if they were comfortable with the information and voluntarily wanted to continue participation in the study. A copy of the prior informed consent form is included in Appendix C. The study participants' signed original prior consent forms are included in Appendix D.

Participants were asked at the start of each interview if they were familiar with Tamerlane's proposed Pine Point Pilot Project. If participants indicated that they were familiar with the project, the interview continued. If not, a brief description of the project was provided. Two maps were used to orient participants to the location of the proposed project and to facilitate the interview questions. One map (86.4 x 111.8 cm) illustrated the footprint area of the proposed project. The other map (21.6 x 27.9 cm) denoted the major landmarks and water bodies in the South Great Slave Region. Scaled-down copies of both maps are included in Appendix E.

Once oriented, participants were asked a series of qualitative questions by the research analyst. The Community Representatives provided translation where necessary. All responses were recorded on the survey instrument with hand-written notes. Throughout the course of each interview, the research analyst's written responses were read back to the participants for approval, editing and/or clarification. Each interview lasted approximately 1 ½ to 2 hours in duration. A participant honorarium was paid in cash at the conclusion of each interview.

## 2.3 Measures

Questions included in the qualitative interview were loosely structured to encourage conversation and designed to gather participants' 1) knowledge about the environment, 2) knowledge about the use and management of the environment, and 3) values about the

environment. The interview explored information specific to the proposed project area and information applicable to the entire South Great Slave Region. The questions explored seven specific topics of inquiry:

- Terrain
- Climate
- Vegetation (berry picking areas)
- Wildlife (hunting and trapping)
- Water (fishing)
- Significant Sites (culturally important sites)
- Traditional Use

## **2.4 Analysis**

The data collected from the qualitative interviews were entered into a spreadsheet and organized categorically. Once completed, the draft report was submitted to the Community Representatives: Tom Unka (DKFN) and Arthur Beck (FRMC) for content review. Requested edits were incorporated prior to finalizing the report. Upon completion, the original surveys with notes were returned to the Fort Resolution Deninu Ku'e and Metis communities for their archival records. The following section anonymously reports the results of the qualitative interviews by theme and/or category.

## **3.0 RESULTS**

The traditional knowledge study was conducted in Fort Resolution October 13-16, 2006. A total of 17 individuals were interviewed including 11 Deninu Ku'e and 6 Metis. All of the study participants have lived in the South Great Slave Region their entire lives and indicated having extensive familial roots in the region. The study participants ranged in age from 37-88 years old with an average age of 59 years. Among the Metis portion of the sample, participants ranged in age from 37-81 years old with an average age of 57 years, while the Deninu Ku'e study participants ranged in age from 37-88 years with an average age of 60 years. All but one study participant were male.

Participants were asked about their current personal and historical familial use of the proposed project area. All but two of the study participants indicated that either they or their families frequent the proposed project area and/or the greater general area in which the project site is located. Of the 15 participants currently using project area, 7 said that they and/or their families began to access the area after the road was built in the 1960's, while the other 8 indicated personal or familial use of the area as far back as the 1920's. Prior to construction of the highway, participants said the area was accessed in the winter by dog team and during the summer by boat or overland via cut lines. When using the area, study participants identified the activities listed in Table 3.0-1.



**Table 3.0-1  
Participant Activities in Proposed Project Area**

Activities	
<ul style="list-style-type: none"> <li>• Hunt</li> <li>• Trap</li> <li>• Pick Berries</li> <li>• Collect Medicine Plants</li> </ul>	<ul style="list-style-type: none"> <li>• Work (Tamerlane 2005 Drill Program)</li> <li>• Cut Lines (Tamerlane 2005 Drill Program)</li> <li>• Cut Firewood</li> <li>• Check Mineral Activity</li> </ul>

**3.1 Terrain**

Study participants were asked about their knowledge of the terrain in both the South Great Slave Region and the proposed project area. Fifteen of the 17 participants said they had walked or traveled through the proposed project area in recent years, and 12 of the participants said they actively snowmobile in the South Great Slave Region for work-related activities including: trapping, hunting, cutting firewood and cutting lines. Specific knowledge regarding past fires, earthquakes, land disturbance and natural hazards was explored.

**3.1.1 Fires**

All of the respondents had knowledge of past fires in the South Great Slave Region. Several of the participants reported significant experience working as fire fighters/crew bosses. They noted that the South Great Slave Region typically experiences multiple fires each year. The most frequently mentioned fires included the Pine Point fire (early 1970's) and the Hay River/Pine Point Fire (early 1980's) that burned from Hay River to Buffalo Lake; including the proposed project area. A list of all fires mentioned by participants is included in Table 3.1-1.

**3.1.2 Earthquakes**

None of the study participants had specific knowledge of earthquakes in the South Great Slave Region. However, four of the participants noted that slight tremors had been felt in Fort Simpson; once in the 1970's and in Fort Simpson and Fort Smith once in the 1980's on Christmas Eve. According to the participants, the epicenter of the tremors felt in the 1980's was in the Mackenzie Mountains. See Table 3.1-1

**3.1.3 Land Disturbance**

Participants were asked about their knowledge of land disturbance in the proposed project area. The most frequently cited sources of land disturbance were exploration/drilling activity and line cutting. Other identified land disturbance in the proposed project area included roads, gravel quarries, shacks and cabins, and evidence of trapping activity. See Table 3.1-1.

### 3.1.4 Natural Hazards

Several study participants identified natural hazards in the proposed project area that may pose a danger to work crews and/or equipment. Numerous sink holes are located in the area including a large one near Angus Tower. Floating fen, and bog are also located in the project area. One participant indicated that he had done exploration work in the project area in 1965. In his experience, the equipment being used had difficulties navigating the terrain. Another participant noted that workers should be aware of the area's unstable karst geology; specifically that it may be prone to collapse. Black bears were also identified as a potential hazard. The area's black bears have become habituated and may attack if fed. Finally, the project area was identified as hosting large areas of jack spruce and pine. The trees are a fuel source for potential fires. See Table 3.1-1.

**Table 3.1-1  
Terrain Response Summary by Location**

<b>Terrain Elements</b>	<b>Comments</b>
<p align="center">Past Fires <i>South Great Slave Region</i></p>	<ul style="list-style-type: none"> <li>• Dead Man's Island Fire (1958)</li> <li>• Pine Point Fire (early 1970's)</li> <li>• Salt Lake Fire (1971)</li> <li>• Thurban Fire (1971)</li> <li>• Fire Number Six (1973)</li> <li>• Hay River/Pine Point Fire (early 1980's)</li> <li>• Small fire near Little Buffalo River (2006)</li> <li>• Small fire near Pine Point (2006)</li> </ul>
<p align="center">Earthquakes <i>South Great Slave Region</i></p>	<ul style="list-style-type: none"> <li>• No specific knowledge of earthquakes in region.</li> <li>• Tremors in Fort Simpson (once in 1970's)</li> <li>• Tremors in Fort Simpson and Fort Smith (once in 1980's)</li> </ul>
<p align="center">Land Disturbance <i>Proposed Project Area</i></p>	<ul style="list-style-type: none"> <li>• Cut Lines</li> <li>• Exploration/Drilling Activity</li> <li>• Roads</li> <li>• Gravel Quarries</li> <li>• Old Shacks and Cabins</li> <li>• Trapping Activity</li> <li>• Miscellaneous Debris</li> </ul>
<p align="center">Natural Hazards <i>Proposed Project Area</i></p>	<ul style="list-style-type: none"> <li>• Sink Holes (in general area; large one near Angus Tower)</li> <li>• Floating Fen and Bog (may be present in project area)</li> <li>• Karst Formation (the geology is unstable and may collapse)</li> <li>• Black Bear (have become habituated to people)</li> <li>• Fires (abundant fire fuel located in project area)</li> </ul>

## 3.2 Climate

Participants were asked to share their observations regarding climate in the South Great Slave Region. Questions regarding freeze/thaw patterns, severe wind, flooding and climate changes over-time were explored.

### 3.2.1 Ground Freeze and Thaw

Respondents indicated that the ground in the region generally starts to freeze in October and is frozen hard sometime between November and January. It was noted that the time of year when the ground freezes is largely dependent on the amount of snow. Regarding spring thaw, respondents reported that the ground typically thaws between March and May.

### 3.2.2 Severe Wind Weather

All of the study participants reported severe wind weather in the region. Two of the respondents noted that the region's wind is due to its geographic location on the 60<sup>th</sup> parallel. Participants indicated that severe wind typically occurs in the fall and spring in line with the fall and spring equinoxes. March ("big wind" in chipewyan) and September were the months most frequently associated with severe wind weather. Significant wind storms of note included a severe wind storm during the summer of 1949 and a four day storm over New Years in 1959.

### 3.2.3 Flooding

When asked about flooding, all but one of the participants reported seasonal spring flooding in specific areas of the South Great Slave Region. No flooding was identified in the proposed project area. Specifically noted events included severe flooding on the Hay River in 1963 and Birch Creek in ~1980. Identified seasonal flood areas are listed in Table 3.2-1.

**Table 3.2-1  
Identified Flood Areas by Season**

<b>Season</b>	<b>Location</b>
Spring	<ul style="list-style-type: none"><li>• Great Slave Lake</li><li>• Slave River Delta</li><li>• Big Buffalo River</li><li>• Little Buffalo River</li><li>• Hay River (west channel)</li><li>• Birch Creek</li><li>• Paulette Creek (historically flooded during Pine Point Mine operation)</li></ul>
Fall	<ul style="list-style-type: none"><li>• Taltson River (dam controlled)</li></ul>

### 3.2.4 Climate Changes Over-Time

Almost all of the study participants indicated that freeze and thaw patterns in the South Great Slave Region have changed during their lifetimes. While participant's specific comments varied, the general consensus was that winters in the South Great Slave Region are shorter and warmer than in the historical past. One participant indicated first noticing freeze/thaw changes as early as the 1950's. Participants noted specific examples illustrating the warming trend. See Table 3.2-2.

**Table 3.2.-2**  
**Warming Trend Observations/Events**

<b>Participant Observations</b>
<ul style="list-style-type: none"><li>• Permafrost is coming to the surface (ground heaving) more now than in the past.</li><li>• The depth at which initial permafrost starts has increased.</li><li>• The region has had early thaws followed by a second freeze in recent years.</li><li>• A rain storm occurred over Christmas in 2005.</li><li>• Only two days were -32°C in 2006; the region has historically had -60°C weather.</li><li>• The ice on Slave River broke-up April 30 in 2006.</li></ul>

### 3.3 Vegetation

Participants were asked to identify the trees, plants and berries located in the proposed project area. One participant indicated that all of the trees and vegetation in the proposed project area are new growth from previous fires. A list of the identified plants is located in Table 3.3-1. Participants also identified poisonous/harmful plants located in the South Great Slave Region. These plants are listed in Table 3.3-2.

#### 3.3.1 Medicinal Plants

Medicinal plants were also discussed. Participants indicated that labrador tea, white rat root, spruce gum, tamarack and poplar buds are all medicinal plants located in the proposed project area. Descriptions of how these plants are used are located in Table 3.3-3. All of the participants indicated that some community members still use medicinal plants. Elders were identified as the principal users.

**Table 3.3-1  
Identified Vegetation in Proposed Project Area**

Vegetation Type	Local Name
Trees	<ul style="list-style-type: none"> <li>• Jack Pine</li> <li>• Black Spruce</li> <li>• White Spruce (very little located in project area)</li> <li>• Poplar (balsam, rough and smooth)</li> <li>• Birch</li> <li>• Tamarack/Larch</li> <li>• Willows</li> <li>• Aspen</li> </ul>
Plants and Berries	<ul style="list-style-type: none"> <li>• Raspberries</li> <li>• Gooseberries</li> <li>• Strawberries</li> <li>• Cranberries/Low Bush</li> <li>• Mooseberries/High Bush Cranberries</li> <li>• Saskatoons</li> <li>• Juniper Berries</li> <li>• Loganberries</li> <li>• Blueberries</li> <li>• Bunchberries</li> <li>• Water Sedge (geared for harsh climates)</li> <li>• Labrador Tea</li> <li>• Rose Hips</li> <li>• White Sweet Clover (not indigenous)</li> <li>• Asters (not indigenous)</li> <li>• Fireweed (not indigenous)</li> <li>• Foxtail (invasive)</li> </ul>

**Table 3.3-2  
Identified Poisonous Plants in South Great Slave Region**

Local Name	
<ul style="list-style-type: none"> <li>• Water Hemlock</li> <li>• Water Chives</li> <li>• Baneberries</li> <li>• Bunchberries</li> <li>• Rose Hips</li> </ul>	<ul style="list-style-type: none"> <li>• Yellow/Brown Rat Root</li> <li>• Juniper Berries</li> <li>• Poison Ivy</li> <li>• Various Mushroom Species</li> </ul>

**Table 3.3-3**

### Identified Medicinal Plants in Proposed Project Area and Uses

Local Name	Medicinal Use
Labrador Tea	<ul style="list-style-type: none"> <li>• Tied in a bundle and boiled to make tea for upset stomach; rich in vitamin C.</li> </ul>
White Rat Root	<ul style="list-style-type: none"> <li>• Ground or chewed and used to treat upset stomach, cold and pain.</li> </ul>
Spruce Gum	<ul style="list-style-type: none"> <li>• Boiled and drunk to treat stomach ulcerations or used as a poultice to disinfect and heal cuts.</li> </ul>
Tamarack	<ul style="list-style-type: none"> <li>• White, inner bark scraped and used as poultice to treat infections. Also used to treat high blood pressure.</li> </ul>
Poplar buds	<ul style="list-style-type: none"> <li>• Used to treat indigestion. The dark and smooth poplar bud varieties are used for different things.</li> </ul>
Birch Trees	<ul style="list-style-type: none"> <li>• Boiled and used to make “indian tea.”</li> </ul>

## 3.4 Wildlife

### 3.4.1 Harvesting

All of the participants said they harvest animals in the South Great Slave Region. See Table 3.4-1. While specific harvesting practices varied, participants indicated that fur-bearing land animals are typically harvested from November to mid-March, fur-bearing aquatic animals are generally harvested from mid-October to mid-May, and game animals are normally hunted year-round.

Participants were asked if any of the animals are harvested in the proposed project area. Several participants noted that it was difficult to ascertain the exact location of the proposed project. They indicated that they typically rotate trapping areas and that the specific proposed project site is viewed as part of a larger general area. Thirteen of the 17 participants indicated that animals are harvested in the proposed project area and/or greater general area. Animals identified as being harvested in the general project area included moose, woodland caribou, lynx, wolf, otter, bear, marten, rabbit, porcupines, upland game birds (including prairie chicken, spruce chicken and ruff grouse) and waterfowl.

**Table 3.4-1  
Birds and Animals Harvested in South Great Slave Region**

Type	Local Name
Birds	<ul style="list-style-type: none"> <li>• Waterfowl</li> <li>• Upland Game Birds</li> </ul>
Game Animals	<ul style="list-style-type: none"> <li>• Buffalo</li> <li>• Moose</li> <li>• Woodland Caribou</li> <li>• Barrenland Caribou</li> <li>• White Tail Deer</li> </ul>
Fur-Bearing Land Animals	<ul style="list-style-type: none"> <li>• Marten</li> <li>• Lynx</li> <li>• Mink</li> <li>• Wolf</li> <li>• Colored Foxes</li> <li>• Wolverine</li> <li>• Squirrel</li> <li>• Ermine</li> <li>• Fisher</li> <li>• Rabbit</li> <li>• Coyote</li> </ul>
Fur-Bearing Aquatic Animals	<ul style="list-style-type: none"> <li>• Muskrat</li> <li>• Beaver</li> <li>• Otter</li> </ul>

### 3.4.2 Migratory Animals and Birds

Participants were asked to identify the animals and birds that migrate through the South Great Slave Region. Birds and animals that migrate either through or within the region were identified (See Table 3.4-2). Participants generally indicated that naming all of the migratory birds and animals in the region was an impossible task. However, several species were identified as being “new” to the region including pine marten, cormorants and magpies which are believed to be chasing away the songbirds.

Specific animals and birds identified as migrating through the proposed project area included: woodland caribou, moose, bear, wolf, ducks, geese, swans, songbirds, whooping cranes (four were seen in the quarry four years ago), pelicans (not seen in project area but in the immediate vicinity), prairie chickens and ptarmigan.

**Table 3.4-2  
Migrating Birds and Animals in South Great Slave Region by Type**

Type	Local Name
Waterfowl	<ul style="list-style-type: none"> <li>• Geese</li> <li>• Swans</li> <li>• Surface-Feeding Ducks</li> <li>• Bay Ducks</li> <li>• Whooping Cranes</li> <li>• Sandhill Cranes</li> <li>• Cormorants (new species to area)</li> <li>• Seagulls</li> </ul>
Shoreline Birds	<ul style="list-style-type: none"> <li>• Sandpipers</li> </ul>
Upland Game Birds	<ul style="list-style-type: none"> <li>• Ptarmigan</li> <li>• Spruce Grouse</li> <li>• Sharp-Tailed Grouse/Prairie Chicken</li> <li>• Ruff Grouse</li> </ul>
Other Birds	<ul style="list-style-type: none"> <li>• Hawks</li> <li>• Owls</li> <li>• Woodpeckers</li> <li>• Snowbirds</li> <li>• Songbirds</li> <li>• Whiskey Jacks/Canadian Jays</li> <li>• Golden Eagle</li> <li>• Bald Eagle</li> <li>• Crows</li> <li>• Raven</li> <li>• Pelicans</li> <li>• Magpies (new species to area)</li> </ul>
Game Animals	<ul style="list-style-type: none"> <li>• Buffalo</li> <li>• Moose</li> <li>• Woodland Caribou</li> <li>• Barrenland Caribou</li> <li>• Whitetail Deer</li> <li>• Bear</li> </ul>
Fur-Bearing Land Animals	<ul style="list-style-type: none"> <li>• Wolf</li> <li>• Pine Marten (new species to area)</li> </ul>



### 3.4.3 Dens

Participants identified a number of animals that den in the eskers in the South Great Slave Region (See Table 3.4-3). Nine of the 17 participants were not aware of any animal dens located directly in the project area. Four participants indicated that fox, marten and bear den in the project area. The other participants indicated that they did not know of any specific animal dens in the project area, but that it was possible and/or likely that animals, including porcupine and squirrels, den there. Rationale included the fact that animals don't den in any one area, that there are known animal dens located adjacent to the property and that porcupines have been seen near the highway immediately south of the project area.

**Table 3.4-3  
Identified Den Animals in South Great Slave Region**

Local Name	
<ul style="list-style-type: none"><li>• Bear</li><li>• Cougar</li><li>• Wolf</li><li>• Coyote</li><li>• Fox</li><li>• Weasel</li><li>• Pine Marten</li></ul>	<ul style="list-style-type: none"><li>• Groundhog</li><li>• Rabbit</li><li>• Squirrel</li><li>• Chipmunk</li><li>• Porcupine</li><li>• Beaver</li><li>• Muskrat</li></ul>

### 3.4.4 Beaver Dams

Beaver dam areas are prevalent in the South Great Slave Region. Participants identified specific dam areas along Birch and Twin Creeks. When asked if they knew of any beaver dams located specifically in the project area, thirteen of the participants said “no” citing that the area's lack of water made it unlikely beaver habitat. The other four participants did not have specific knowledge of dams in the project area but indicated they may be present because beaver activity has been seen along the road between the gravel quarries and in the area upland of the project site.

### 3.4.5 Animal Harvesting Changes Over-Time

All but one of the 17 participants indicated that harvesting practices have changed during their lifetimes. The most frequently mentioned change was the fluctuation and cycle of animal populations over-time. Some participants noted increased populations for specific species and areas while others noted decreases. Participants also made several observations regarding changes in harvesting lifestyles and methods, as well as, the economics of traditional harvesting. A summary of participant observations organized by theme is included in Table 3.4-4.

**Table 3.4.-4  
Animal Harvesting Changes Over-Time: Summary by Theme**

Theme	Participant Observations
<b>Lifestyle and Method</b>	<ul style="list-style-type: none"> <li>• Fewer people harvest now than in the past.</li> <li>• Harvesting was traditionally done with dog teams.</li> <li>• Harvesting is much easier now with easily accessible roads and motorized equipment.</li> <li>• Bears are not hunted much now because they have become garbage eaters and carnivores.</li> </ul>
<b>Economics</b>	<ul style="list-style-type: none"> <li>• The price of fur has increased.</li> <li>• Gas is more expensive now than in the past.</li> </ul>
<b>Animal Populations and Cycles</b>	<ul style="list-style-type: none"> <li>• Harvesting is cyclic; food and vegetation likely affect the cycle.</li> <li>• New species such as marten, cougar, whitetail deer and magpies have come into the region.</li> <li>• Animals were more prevalent when more people harvested them for a living.</li> <li>• Caribou were historically more prevalent in the Pine Point region; traffic may have driven them away.</li> <li>• Barrenland caribou used to be prevalent the region; after the fires, they changed their migration pattern.</li> <li>• Woodland caribou sightings are more prevalent now than in the historical past.</li> <li>• Moose and caribou were more prevalent in the 1960's and 1970's than now; they depleted as Pine Point grew.</li> <li>• Moose are fewer now due to over-hunting and wolf-kills.</li> <li>• Moose were more prevalent when Pine Point was open than they are now.</li> <li>• Bison populations go up and down due to infection (such as anthrax).</li> <li>• Trap animals were historically more prevalent in the region than they are now; specifically lynx and marten.</li> <li>• Marten did not live in the area in the 1940's. Now both marten and lynx are plentiful. Conversely, minks were historically plentiful and now are not.</li> <li>• Marten were prevalent in the South Great Slave Region in the 1980's. Now they seem to be moving further and further east. There are now many around Snow Drift.</li> </ul>

### 3.4.6 Project Effects on Wildlife

Participants were asked if they thought the proposed project would affect the area's wildlife. Ten of the participants said they did not think the project would impact the wildlife. Within this group, participants indicated that the proposed project's size and duration were too small and limited to notably affect the wildlife. The other seven participants indicated that they thought the project either may or would affect the wildlife. These participants indicated that increased traffic, more people, possible pollution, habitat loss, noise and dewatering issues may drive the wildlife away.

## 3.5 Water

### 3.5.1 Project Area Water Quality

Participants generally indicated that the water (groundwater and surface water) in the proposed project area is poor. The water was described as alkaline, sulfurous and not drinkable. Several participants offered explanations. Two participants indicated that the water in the project area had been sulfurous but clear and drinkable prior to the start of the historic Pine Point Mine. One participant indicated that the water quality was alkaline and had a high pH even prior to the Pine Point Mine operations. Another participant indicated that the project area's poor water quality is likely due to its being from the same karst formation as the Pine Point Mine.

### 3.5.2 Project Area Spills/Contamination

Participants were asked if they knew of any spills that may have contaminated the water at the proposed project site. All but three of the participants indicated that they were not aware of any spills. Two of the three participants that did indicate knowledge of spills cited seeing small residual evidence of oil, fuel and drill mud from previous drilling. The third person who indicated having knowledge of previous spills in the project area did not offer any specific information.

### 3.5.3 Fish Harvesting

Fish are traditionally harvested in the South Great Slave Region to eat, feed dogs, bait traps and to trade. All of the interviewed participants either historically or currently harvest fish in the South Great Slave Region. Several of the participants indicated having significant experience as commercial fishermen on the Great Slave Lake and at the mouth of the Rocher River as far back as the 1950's.

Participants were asked to identify the fish they harvest in the South Great Slave Region. A list of all the noted fish is included in Table 3.5-1. Participants were also asked to identify the fish harvested in Big Buffalo River, Twin Creek and Polar Lake respectively.

Among the three water bodies, Big Buffalo River was identified as a primary harvesting location. In particular, Big Buffalo River was noted as a traditional harvesting area for

whitefish. When asked about Twin Creek, 15 of the 17 participants generally indicated that it was not used as a harvesting area. Three types of fish were identified as being present at the mouth of Twin Creek including pickerel, suckers and stickleback. Lake trout and jackfish were identified as being possibly present. When asked about Polar Lake, participants generally indicated that it was a stocked lake that was not used for traditional harvesting. A complete list of fish identified for the three water bodies is included in Table 3.5-2.

**Table 3.5-1  
Fish Harvested in South Great Slave Region**

Local Name	
<ul style="list-style-type: none"> <li>• Whitefish</li> <li>• Northern Pike/Jackfish</li> <li>• Pickerel/Walleye</li> <li>• Inconnu</li> <li>• Lake Trout</li> <li>• Dog-Face Salmon</li> <li>• Sucker (long-nose, silver, rocky mountain)</li> <li>• Goldeye</li> </ul>	<ul style="list-style-type: none"> <li>• Cisco</li> <li>• Burbot/Loche</li> <li>• Maria</li> <li>• Arctic Grayling</li> <li>• Tullibee</li> <li>• Mullet</li> <li>• Stickleback</li> <li>• Lamprey</li> </ul>

**Table 3.5-2  
Fish Identified in Regional Water Bodies by Local Name**

Big Buffalo River	Twin Creek	Polar Lake
<ul style="list-style-type: none"> <li>• Whitefish</li> <li>• Inconnu</li> <li>• Pickerel/Walleye</li> <li>• Lake Trout</li> <li>• Northern Pike/Jackfish</li> <li>• Arctic Grayling</li> <li>• Sucker (long-nose)</li> <li>• Goldeye</li> <li>• Cisco</li> <li>• Mullet</li> </ul>	<ul style="list-style-type: none"> <li>• Pickerel</li> <li>• Suckers</li> <li>• Stickleback</li> <li>• Lake Trout (maybe)</li> <li>• Jackfish (maybe)</li> </ul>	<ul style="list-style-type: none"> <li>• Rainbow Trout (stocked)</li> <li>• Arctic Trout (stocked)</li> <li>• Jackfish (stocked)</li> <li>• Northern Pike</li> </ul>

### 3.5.4 Fishing Harvesting Changes Over-Time

Participants were asked if fish-harvesting has changed during their lifetimes. Thirteen of the 17 participants cited specific changes. Like animal harvesting, the most frequently mentioned change was the fluctuation and cycle of fish populations over-time. Some participants noted constant populations for specific species while others noted decreases. Participants also made several observations regarding changes in harvesting lifestyles and methods. A summary of participant observations is listed in Table 3.5-3.

**Table 3.5-3  
Fish Harvesting Changes Over-Time: Summary by Theme**

Theme	Participant Observations
<p align="center"><b>Lifestyle and Method</b></p>	<ul style="list-style-type: none"> <li>• People do not throw away fish like they did in the past. People now eat jackfish and burbot which were historically used for dog food.</li> <li>• The young people do not utilize fish for subsistence like the older generations did in the historical past.</li> <li>• People do not harvest as many fish as in the historical past.</li> </ul>
<p align="center"><b>Fish Populations and Cycles</b></p>	<ul style="list-style-type: none"> <li>• The fish populations cycle.</li> <li>• The commercial fishing that started in the 1950's affected the fish population a little; however, there are still many good fish.</li> <li>• There are not as many fish as in the historical past; possibly due to poorer water quality.</li> <li>• The trophy and tourist fishing that started in the 1970's diminished the pickerel/walleye and northern pike populations on the Little Buffalo River. The inconnu and whitefish populations have not notably decreased.</li> <li>• The inconnu population is smaller than in the historical past.</li> <li>• Certain zones are now closed on the Big Buffalo River; helping to regenerate the trout, inconnu, pickerel/walleye and northern pike populations.</li> <li>• The fish have more parasites and the meat quality is not as good as in the past; most notably in bottom-feeder fish.</li> <li>• More fish have deformities than in the historical past.</li> </ul>

### 3.5.5 Project Effects on Fish Harvesting

Participants were asked if they thought the proposed project would affect traditional fishing activities. Fourteen of the participants said they did not think the project would

impact fishing. Within this group, participants indicated that the lack of water in the project area, the distance of the project from the lake and the use of freezing technology would preclude impacts on traditional fishing activities. Many of these participants qualified their comments by saying that fishing activities would not be impacted as long as effluent, mine water and/or wastewater were not discharged into the area's waterways.

The three other participants indicated that the project either may or would affect fish harvesting. Like the first group, the overriding concern was potential water contamination either from effluent discharges and/or blasting ammonium nitrates that may be absorbed into the aquifer once the project is over and the freeze perimeter is thawed.

### **3.6 Significant Sites**

Significant sites in the proposed project area were discussed. Participants were asked if they were aware of any people who historically lived in the proposed project area. Thirteen of the participants responded "no." The other four participants indicated that while they did not specifically know of anyone living in the project area, that they have seen evidence of old prospector and hunting cabins. Within this group, one person noted that people historically used the area seasonally to hunt. Another person noted that it is common to find evidence of people in the bush (e.g. axe marks, etc.).

Participants were also asked if they were aware of any areas of cultural significance in the proposed project area. Thirteen of the seventeen participants responded "no." One participant within this group indicated that although he did not know of any grave sites in the project area that Tamerlane should be aware of the possibility because people were historically buried where they died; not in a cemetery.

The other four respondents indicated "yes" or "perhaps." Within this group, one person indicated that cabins were historically located in the area but that surface impacts should be minimal if the mining is underground. Another individual said that the area is used for traditional harvesting activities including berry-picking and cutting wood. Another participant did not identify any significant sites but responded that he was sure they existed in the project area. A final person indicated that trappers from Hay River and Fort Resolution must have used the area because he had seen evidence of old cans.

### **3.7 Traditional Use**

All participants indicated that they depend on the South Great Slave region for their income. Each person interviewed said that they historically or currently hunt and trap as a source of income. In addition to traditional income, employment in industry was cited as a source of income; including eight participants who said they had worked at the historic Pine Point Mine.

As critical stakeholders in the South Great Slave Region, participants were asked to share their opinions and thoughts about Tamerlane's proposed project. Based on their

knowledge of the proposed project at the time of the interview, participants were asked a series of questions that explored individual impacts, community impacts, employment impacts and social effects.

### 3.7.1 Individual Impacts

Based on their knowledge of the proposed project at the time of the interviews, participants were asked how the project would personally impact their life. Each participant had at least one response. The answers generally aligned with one of five themes. In order of frequency, the themes included:

- No Impacts
- Employment
- Access/Harvesting
- Traffic/Road Condition
- Environment

Seven participants indicated that the project would not personally affect them because the scope and size of the project is small and/or the project area is far from Fort Resolution. Five participants said they were interested in potential job opportunities and would like to pursue employment associated with the project. Three other participants said that the project may restrict theirs or their children's ability to access and/or harvest in the general project area.

Two participants indicated that increased traffic associated with the project may damage the roads and/or pose a hazard to drivers. One participant expressed concern about the shaft closure at the end of the project and whether there would be resulting environmental impacts such as slumping and or collapse. One participant said that the project would cause notable change because it is mining, but that the impacts would be minimal because the project would operate within environmental regulatory standards.

### 3.7.2 Community Impacts

Community impacts were also discussed. Participants were asked how they thought the project would impact their people and community based on their present knowledge of the proposed project. Two participants indicated that either they did not know or that it was difficult to measure future impacts. Each of the other participants made at least one comment that generally aligned with five themes. In order of frequency, the themes included:

- Benefits
- Employment
- Environment
- Traffic/Road Condition
- Access/Harvesting

Most of the participants indicated that they foresaw community benefits and/or employment opportunities resulting from the project. Six participants indicated that the community could and/or should financially benefit from the project. Six participants specifically noted that they thought some degree of employment would result from the project and/or that employment opportunities would benefit the community.

Three participants cited environmental impacts. These individuals noted that it was important that the proposed project be environmentally sound and not make people sick. One participant said that the project's ore hauling would damage the highway and potentially create driver hazards. One participant indicated that the proposed project could adversely affect traditional harvesting in the area.

### 3.7.3 Employment Impacts

When asked, all 17 participants indicated that they thought job opportunities would result from the project. Several individuals emphasized personal interest in employment opportunities, while others generally indicated that employment opportunities would be beneficial to the Fort Resolution community.

### 3.7.4 Social Effects

Participants were asked if they foresaw social effects resulting from the proposed project. Each participant had at least one response. The answers generally aligned with one of five themes. In order of frequency, the themes included:

- No Impacts
- Drugs and Alcohol
- Benefits
- Employment
- Environment

Seven participants generally indicated that they did not foresee any social effects resulting from the project. Within this group, several noted that adverse effects such as drugs and alcohol already exist as a result of the historic Pine Point Mine.

Four other participants noted that more money and outside influence may result in more drugs, alcohol and disease in the community. Participants within this group said that they did not want to see a "repeat" of Pine Point in terms of drugs, alcohol and negative outsider influence on the community's young people.

Three participants cited positive financial social effects. Within this group, one person indicated that more money in the community could create development opportunities. Another individual noted that any project-related financial benefits should be put into the community and not individual people's pockets.



Three participants said that project-related jobs would result in positive social effects. Within this group, individuals noted that they would like to see equal opportunities for jobs, and that employment would create opportunities for the community's young people.

One participant cited the area's water quality as a main social effect. This individual said that it was particularly important to understand how the project could potentially impact surrounding water bodies.

#### **4.0 CLOSURE**

The success of this Traditional Knowledge study is attributed entirely to the Fort Resolution community. Tamerlane is grateful for the opportunity to incorporate the study's results into its planning and development throughout the Environmental Assessment Process.

The participants are again thanked for their thoughts, concerns and contributions to the study. In particular, the writer thanks the Deninu Ku'e and Metis Community Representatives: Tom Unka (DKFN) and Arthur Beck (FRMC). Mr. Unka and Mr. Beck played critical roles during the interviews. Their hospitality and cooperation created the positive collaborative working environment for the community-wide study.

The writer of this report believes that all of the Traditional Knowledge comments associated with the study's qualitative interviews have been represented appropriately in the manner in which they were discussed and intended. Should you have any questions or concerns, please contact the undersigned.

Respectfully,



Sara Swisher, B.S. & M.S. Communication  
Consulting Research Analyst for Tamerlane Ventures  
(360) 332-4653

## **APPENDIX A: Traditional Knowledge Survey Proposal**

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## **Traditional Knowledge Survey Proposal**

**Fort Resolution, NWT**

Prepared by:

Sara S. Swisher  
for  
Tamerlane Ventures Inc.

October, 2006

**TABLE OF CONTENTS**

1.0	Introduction.....	1
2.0	Methodology .....	1
2.1	Method .....	1
2.2	Population .....	2
2.3	Measures .....	2
2.4	Reporting.....	2

**APPENDICES**

Appendix A	Qualitative Interview Questionnaire
Appendix B	Additional Notes Sheets

## **1.0 Introduction**

Tamerlane Ventures Inc. is a publicly traded mining company engaged in the exploration and development of mineral properties in North America and internationally. The company proposes to construct and operate a Pb/Zn pilot plant. The proposed project is referred to as the Pine Point Pilot Project (PPPP). The PPPP will confirm the potential to conduct full-scale underground mining of the remaining 34 known deposits. The proposed project will produce a bulk sample from the R190 deposit of approximately 1,000,000 metric tonnes of lead-zinc ore over the course of 12-15 months.

The Pine Point Pilot Project (PPPP) property is located 48 km (30 miles) east of Hay River and 140 km (87 miles) west of Fort Resolution. The property encompasses an area of approximately 6 hectares 14.8 acres. The PPPP footprint area will encompass approximately 2.5 hectares (6.2 acres). The property's R190 deposit is ~0.5 km north of Provincial Highway 5. The highway links the towns of Hay River and Fort Resolution.

The town of Fort Resolution is a small community in the South Great Slave Lake region. In 2005, the Bureau of Statistics recorded 534 individuals residing in the community. Thirty-two percent of the population was aged 45 years or older.

The purpose of this study is to obtain traditional knowledge from Fort Resolution aboriginal residents. Individuals aged 45 years or older in the community will be the primary focus of the study. The information will be used for continued planning and will also be incorporated into Tamerlane's Developer's Assessment Report (DAR) as required by the Mackenzie Valley Environmental Impact Review Board's (MVEIRB) Environmental Assessment Process.

Tamerlane Ventures Inc. recognizes the importance of resource development in the Northwest Territories and the need for balance between those activities and the aboriginal peoples' traditional lifestyles. The Company acknowledges these responsibilities and is committed to maintaining the area's natural qualities and providing economic opportunities to the area's peoples.

## **2.0 Methodology**

The study will be conducted by consulting research analyst Sara Swisher, B.S. & M.S. Communication, for Tamerlane Ventures Inc. The Traditional Knowledge study will be conducted in general conformance with the traditional knowledge guidelines issued by the Mackenzie Valley Environmental Impact Review Board (MVEIRB).

### **2.1 Method**

Qualitative interviews will be utilized to collect the traditional knowledge in this study. A brief description of Tamerlane's proposed project will be given at the beginning of each interview and will be followed by a series of qualitative questions. A copy of the interview questionnaire is included in Appendix A. Each interview will require

approximately 1 hour 45 minutes, and will be conducted by the research analyst with the assistance of a Community Representative from the Deninu Ku'e and Metis communities. The Community representatives' essential functions will be to identify interview candidates, coordinate meeting times, translate where necessary and review interview notes with the research analyst at the end of each day. The community representatives will be recommended by the Deninu Ku'e First Nations (DKFN) and Fort Resolution Metis Council (FRMC) and compensated by Tamerlane. Interviews will be held in a mutually agreed upon location; preferably a comfortable and private location rented by Tamerlane from the DKFN. Hand-written notes will be taken throughout each interview.

## 2.2 Population

The sample population for the qualitative interviews will be identified by the Deninu Ku'e and Metis community representatives and will include 8-12 DKFN and 8-12 Metis individuals. Elders and/or individuals with extensive land-use experience and knowledge of the South Great Slave region are the preferred sample population for this study. Study participants should be representative of the entire community and come from different families with different experiences in order to avoid biased results. Tamerlane will provide \$100.00 in compensation to each interview participant and \$250.00 per day to the community representative.

## 2.3 Measures

The questions included in the questionnaire are loosely structured to encourage conversation and designed to gather participants' 1) knowledge about the environment, 2) knowledge about the use and management of the environment, and 3) values about the environment. Six specific topics of inquiry will be explored.

- Terrain
- Climate
- Vegetation (berry picking areas)
- Wildlife (hunting and trapping)
- Water (fishing)
- Significant Sites (culturally important sites)
- Traditional Use

## 2.4 Reporting

Once the data is collected, the research analyst will develop a final report for the Deninu Ku'e and Metis communities. The data will be compiled and reported using standard qualitative research practices. Participant names will be noted in the "participant" section of the final report. However, all comments and results will be reported confidentially. To this end, Tamerlane will destroy its copy of the survey instruments upon completion of the study. The DKFN and Metis will retain a copy of the survey instrument for archival purposes. Original final reports will be sent to both the DKFN and Metis. Tamerlane will retain a copy of the report for incorporation and use throughout the Environmental Assessment process.

## **APPENDIX A: Qualitative Interview Questionnaire**

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**Tamerlane Ventures Inc.  
Traditional Knowledge Collection Process  
Qualitative Interview Survey**

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*Introduction/Rapport Building*

Q1: How long have you lived in the South Great Slave region? \_\_\_\_\_

Q2: How long has your family lived in the South Great Slave region? \_\_\_\_\_

Q3: What type of activities do you do in the South Great Slave region (e.g. camp, picnic, hunt, trap etc.)?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q4: Do you or your family frequent the proposed project site (show map)?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, how long has your family frequented the site? \_\_\_\_\_

How did your family access the proposed project area before the road was built between Fort Resolution and the old Pine Point Mine? \_\_\_\_\_

\_\_\_\_\_

What type of activities do you do at the project site (e.g. camp, picnic, hunt, trap etc.)?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q5: Do you harvest in the South Great Slave region? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, what do you harvest (e.g. animals, plants, birds, fish)?

\_\_\_\_\_  
\_\_\_\_\_



***Terrain***

Q1: Are you aware of any past fires in the South Great Slave region? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, where and when were they? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Q2: Are you aware of any past earthquakes in the South Great Slave region?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, where and when were they? What was the magnitude? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Q3: Have you walked the proposed project site in recent years? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, when? \_\_\_\_\_

\_\_\_\_\_

Q4: Please describe your knowledge of any land disturbance in the proposed project area.

\_\_\_\_\_  
\_\_\_\_\_

Q5: Do you know of any natural hazards for work crews and equipment near the proposed project site (e.g. sink holes, dangerous terrain, etc.)?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, what and where are they? \_\_\_\_\_

\_\_\_\_\_

Q6: Do you snow mobile? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, where do you go and for what reason (e.g. hunting or recreation)? \_\_\_\_\_

\_\_\_\_\_

***Climate***

Q1: Are you aware of any flooding in the South Great Slave region?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, where and when did the flooding occur? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q2: When does the ground freeze in the South Great Slave region? \_\_\_\_\_

In your experience have you seen this change over time? \_\_\_\_\_

Q3: When does the ground thaw in the South Great Slave region? \_\_\_\_\_

In your experience have you seen this change over time? \_\_\_\_\_

Q4: Does the South Great Slave region experience severe wind weather (e.g. wind sheers, etc.)?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, at what time of year and with what frequency does it typically occur? \_\_\_\_\_  
\_\_\_\_\_

***Vegetation***

Q1: In your experience, what types of trees are present in the proposed project site?

\_\_\_\_\_  
\_\_\_\_\_

Q2: In your experience, what types of plants and berries are present in the proposed project site?

\_\_\_\_\_  
\_\_\_\_\_

Q3: Are you aware of any plants or berries that are harmful to people or animals in the South Great Slave region?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, what are they? If you are willing, please indicate where they are located on the map.

\_\_\_\_\_

Q4: Do you know of any medicinal plants in the South Great Slave region?

Yes \_\_\_\_\_ No \_\_\_\_\_

Are any of the plants located in the proposed project area? \_\_\_\_\_

\_\_\_\_\_

Q5: Do you know if any of the medicinal plants are still used? Yes \_\_\_\_\_ No \_\_\_\_\_

Please describe. \_\_\_\_\_

\_\_\_\_\_

***Wildlife***

Q1: What animals are harvested and/or trapped in the South Great Slave region? \_\_\_\_\_

\_\_\_\_\_

In what season(s) are these animals harvested? \_\_\_\_\_

Do you know if any of these animals are harvested and/or trapped in the proposed project area?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please describe. \_\_\_\_\_

\_\_\_\_\_

Q2: In your experience, has animal harvesting changed? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please describe. \_\_\_\_\_

\_\_\_\_\_

Q3: What animals and/or birds do you know of that migrate through the South Great Slave region?

---

Do you know if any of these animals migrate through the proposed project area?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please describe. \_\_\_\_\_

Q4: Are you aware of any animal dens in the South Great Slave region?

Yes \_\_\_\_\_ No \_\_\_\_\_

What type of dens are they? \_\_\_\_\_

Without being specific, can you tell me if they are they located within the proposed project area?

Yes \_\_\_\_\_ No \_\_\_\_\_

Q5: Are there known Beaver dam areas in the South Great Slave region?

Are you aware of any in the proposed project area? \_\_\_\_\_

---

Q6: In your opinion, will this project affect wildlife in the area? Yes \_\_\_\_\_ No \_\_\_\_\_

Why or why not? \_\_\_\_\_

---

***Water***

Q1: Please describe the water quality in the proposed project area.

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---

Q2: Do you know of any spills that may have contaminated the water at the proposed project site?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please describe where they occurred. \_\_\_\_\_

\_\_\_\_\_

Q3: What types of fish are harvested in the South Great Slave region? \_\_\_\_\_

\_\_\_\_\_

Are any of these fish harvested from the Big Buffalo River, Twin Creek or Polar Lake?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please describe. \_\_\_\_\_

\_\_\_\_\_

Q4: In your experience, has fish harvesting changed? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please describe. \_\_\_\_\_

\_\_\_\_\_

Q5: In your opinion, will this project affect fishing in the area? Yes \_\_\_\_\_ No \_\_\_\_\_

Why or why not? \_\_\_\_\_

\_\_\_\_\_

### ***Significant Sites***

Q1: Are you aware of any people who historically lived in the proposed project area?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please describe. \_\_\_\_\_

\_\_\_\_\_

Q2: Are you aware of any areas of cultural significance in the proposed project area?

Yes \_\_\_\_\_ No \_\_\_\_\_

If so, how do you think they will be impacted by the project? \_\_\_\_\_

\_\_\_\_\_

***Traditional Use***

Q1: Do you depend on the South Great Slave region for your income? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please describe. \_\_\_\_\_

\_\_\_\_\_

Q2: How will this project impact your life? \_\_\_\_\_

\_\_\_\_\_

Q3: How do you think this project will impact your people? \_\_\_\_\_

\_\_\_\_\_

Q4: Do you see job opportunities as a result of this project? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please describe. \_\_\_\_\_

Q5: What social affects do you see resulting from this project? \_\_\_\_\_

\_\_\_\_\_

Q6: Do you have a favorite story about the South Great Slave region? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, please tell me. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

***Descriptive Participant Information***

Q1: Current Date \_\_\_\_\_

Q2: Age \_\_\_\_\_

Q3: Gender \_\_\_\_\_

Q4: Place of Birth \_\_\_\_\_

Q5: Name \_\_\_\_\_

## **APPENDIX B: Additional Notes Sheets**

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## **APPENDIX B: Permit and Associated Correspondence**

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**SCIENTIFIC RESEARCH LICENCE**

**Licence # 14081N**

**File # 12 410 685**

**ISSUED BY:**           **Aurora Research Institute - Aurora College**  
Inuvik, Northwest Territories

**ISSUED TO:**           Ms. Sara S Swisher  
441 Peace Portal Drive  
Blaine, WA 98230  
Tel: (360) 332-4653

**ON:**                    13-Oct-06

**TEAM MEMBERS:**    Sara S. Swisher; Tom Unka; Arthur Beck

**AFFILIATION:**        Tamarlane Ventures Inc.

**FUNDING:**            Tamarlane Ventures Inc.

**TITLE:**     Fort Resolution Traditional Knowledge Survey for the Pine Point Pilot Project.

**OBJECTIVES OF RESEARCH:**

The purpose of this study is to obtain traditional knowledge from Fort Resolution aboriginal residents, focussing on individuals aged 45 years or older. The information will be used for planning, and incorporated into the Developer's Assessment Report (DAR) as required by the Mackenzie Valley Environmental Impact Review Board's (MVEIRB) Environmental Assessment Process.


**DATA COLLECTION IN THE NWT:**

**DATE(S):** October 13 to 31, 2006

**LOCATION:**   Fort Resolution

Licence# 14081 expires on December 31, 2006

Issued at the Town of Inuvik on Friday, October 13, 2006



Andrew Applejohn  
Director, Aurora Research Institute





## Aurora Research Institute – Aurora College

P.O. Box 1450 Inuvik NT X0E 0T0

Phone 867-777-4029 Fax 867-777-4264 Email: [licence@nwtresearch.com](mailto:licence@nwtresearch.com)

---

12410685

Friday, October 13, 2006

### NOTIFICATION OF RESEARCH Scientific Research Licence No. 14081

I would like to inform you that Scientific Research Licence No. 14081 has been issued to:

Ms. Sara S Swisher  
Independent Consultant for Tamerlane Ventures Inc.  
441 Peace Portal Drive  
Blaine, WA  
98230 United States  
Phone: 360-332-4653  
Email: [sswisher@centurymining.com](mailto:sswisher@centurymining.com)

to conduct the following study: "Fort Resolution Traditional Knowledge Survey for the Pine Point Pilot Project".

Please contact the researcher if you would like more information.

#### SUMMARY OF RESEARCH:

The purpose of this study is to obtain traditional knowledge from Fort Resolution aboriginal residents, focussing on individuals aged 45 years or older. The information will be used for planning, and incorporated into the Developer's Assessment Report (DAR) as required by the Mackenzie Valley Environmental Impact Review Board's (MVEIRB) Environmental Assessment Process.

Interviews will be utilized to collect the traditional knowledge and will include 8-12 Deninu Ku'e and 8-12 Metis individuals. Elders and individuals with extensive knowledge of the South Great Slave region are preferred. A brief description of the project will be given, followed by a series of questions. Each interview (approx. 1 hour 45 minutes) will be conducted by the research analyst with the assistance of Community Representatives. The Community Representative's functions will be to identify interview candidates, coordinate times, translate where necessary and review interview notes. Community Representatives will be recommended by the Deninu Ku'e First Nations (DKFN) and Fort Resolution Metis Council (FRMC).

Interviews will be held in a mutually agreed upon location rented from the Deninu Ku'e.

Questions included in the survey will explore participants knowledge of: terrain, climate, vegetation (berry picking areas), wildlife (hunting and trapping), water (fishing), significant sites (culturally important sites) and traditional use. Participants representative of the entire community, from different families and with different experiences will be chosen in order to avoid biased results. \$100.00 in compensation will be provided to each interview participant and \$250.00 per day to community representatives.

Information obtained from the interviews will be summarized into a final report for the Deninu Ku'e and Metis communities and will be the property of the Deninu Ku'e and Metis communities for future use and community research.

Tom Unka will be employed as Community Representative for the study. Arthur Beck will be employed as a Community Representative with the Metis interviews.



## Aurora Research Institute – Aurora College

P.O. Box 1450 Inuvik NT X0E 0T0

Phone 867-777-4029 Fax 867-777-4264 Email: [licence@nwtresearch.com](mailto:licence@nwtresearch.com)

---

12410685

Friday, October 13, 2006

### NOTIFICATION OF RESEARCH Scientific Research Licence No. 14081

The study will be conducted at The town of Fort Resolution.

Sincerely,

Karen Heikkila  
Manager, Scientific Services

#### DISTRIBUTION:

IMA Coordinator, Deninu Kue First Nation, P.O. Box 1899, Fort Resolution NT X0E 0M0

President, Fort Resolution Métis Council, P.O. Box 1421, Fort Resolution NT X0E 0M0

Executive Director, Akaitcho Territory Government, Great Slave Lake Office, Fort Resolution NT X0E 0M0

IMA Coordinator, NWT Metis Nation, P.O. Box 720, Fort Smith NT X0E 0P0

SAO, Fort Resolution Settlement Corporation/Deninoo Community Council, General Delivery, Fort Resolution NT X0E 0M0



**AURORA COLLEGE**  
Aurora Research Institute

Chief Robert Sayine  
Deninu Kue First Nation  
P.O. Box 1899  
Fort resolution NT  
X0E0T0

Friday, 13 October 2006

Re: Tamerlane Ventures Traditional Knowledge Survey

Dear Chief Sayine

The Aurora research Institute has reviewed the application submitted by Sara Swisher on behalf of Tamerlane Ventures Inc. to conduct research in your community. Based on the approval letter dated October 12 2006 which we received from your office, I have approved this license effective today. All of the appropriate data entry will be completed by Monday October 16, at which time you will receive a formal notification letter from ARI. I appreciate all of your patience through this regulatory process and look forward to hearing feedback as to the success of this project.

Regards,

  
Andrew Applejohn

Director  
Aurora Research Institute

Box 1450  
Inuvik, NT X0E 0T0  
Tel: (867) 777-3298  
Fax: (867) 777-4264



## DENINU KUE FIRST NATION

P.O. Box 1899

Fort Resolution, NT X0E 0M0

Phone (867) 394-4335/4336 Fax (867) 394-5122

October 12, 2006

Karen Heikkila, Manager Scientific Services  
Aurora College  
Aurora Research Institute  
191 Mackenzie Road  
P.O. Box 1450  
Inuvik NT, X0E 0T0

**Re: Support Letter for Ms. Sara Swisher, Independent Consultant for Tamerlane Ventures.**

Dear Ms. Heikkila,

In response to the application for Sara Swisher, Independent Consultant for Tamerlane Ventures Inc. to conduct research within the community of Fort Resolution NT.

- Deninu Kue First Nation has reviewed the traditional knowledge questionnaire and has no concerns with the methods and activities that will be taken place.
- Deninu Kue First Nation agrees to the methods and activities that will be conducted through a Traditional Knowledge Survey.
- Deninu Kue First Nation has copy rights to the traditional knowledge survey and the individuals that will be interviewed are sole owners of the TK.
- Deninu Kue First Nation requests that a copy of the final report be sent to our office.

If you have any further question or require further information please feel free to contact me @ (867)394-4335/6.

Sincerely,

Robert Sayine, Chief  
Deninu Kue First Nation

**Community Organization  
Review of Research Licence Application**

The *Deninu Kue First Nation*  
is requested to review the application of  
*Ms. Sara Swisher*  
to do the following study in the Northwest Territories:  
*Fort Resolution Traditional Knowledge Survey for the Pine Point Pilot Project*

Our Organization has recommended the following:

- Yes, we support the research application.
- No, we do not support the research application for the following reasons:

Date: Oct, 12, 2006

Deninu Kue First Nation  
Name of Organization Official

[Signature] (Chief)  
Signature of Organization Official

**Please return completed form to:  
Manager Scientific Services  
Aurora Research Institute  
P.O. Box 1450  
Inuvik, NT  
X0E 0T0  
Fax: (867) 777-4264**

NORTHWEST TERRITORY MÉTIS NATION



October 11, 2006

BY FAX: (867) 777-4264

Karen Heikkila  
Manager, Scientific Services  
Aurora Research Institute  
P.O. Box 1450  
Inuvik, NT X0E 0T0

Dear Karen:

**RE: TAMERLANE VENTURES INC. RESEARCH APPLICATION  
TRADITIONAL KNOWLEDGE STUDIES IN HAY RIVER & FORT RESOLUTION**

The Northwest Territory Metis Nation have no opposition to granting research licenses to the above noted for the Traditional Knowledge Studies in the communities of Fort Resolution and Hay River for the period noted in their application.

We have reviewed the research procedures and find them to be ethically acceptable.

Should you have any questions, please do not hesitate to contact me at (867) 872-2770.

Sincerely,

Cec Heron  
IMA Coordinator

Cc: IMA Steering Committee

BOX 720 • FORT SMITH, NT CANADA • X0E 0P0  
PHONE: (867) 872-2770 • FAX: (867) 872-2772





**DENINU KU'E FIRST NATION  
INTERIM MEASURES OFFICE**

P.O. Box 1899  
Fort Resolution, NT. X0E 0M0  
Tel (867) 394-5407 Fax (867) 394-5122

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October 30, 2006

Sara Swisher, Tamerlane Ventures  
441 Peace Portal Drive  
Blaine Washington, 98230

**RE: Interviews for Elders Gene Norn and Edward Mckay.**

Dear Ms. Swisher,

Please include the interviews conducted on October 10, 2006 of DKFN Elders Gene Norn and Edward Mckay in your traditional knowledge study.

If you require further information feel free to contact myself @ (867) 394-4335.

Sincerely,

  
Robert Sayine, Chief  
DKFN

**APPENDIX C: Prior Informed Consent Form**

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Interview Date:	_____		
Interviewee Name:	_____		
Language:	English <input type="checkbox"/>	Chipewyan <input type="checkbox"/>	
Affiliation:	Deninu Ku'e First Nation <input type="checkbox"/>	Fort Resolution Metis Council <input type="checkbox"/>	
Research Analyst / Interviewer:	Sara Swisher		
Community Representative:	Tom Unka <input type="checkbox"/>	Arthur Beck <input type="checkbox"/>	
\$100.00 Honorarium Paid at Conclusion of Interview			

**Participant Prior Informed Consent**

This study is being conducted to assist with Tamerlane Ventures Inc.'s Environmental Assessment for the proposed Pine Point Pilot Project.

The knowledge and information obtained from this qualitative interview will be incorporated into a final report for the Deninu Ku'e and Metis communities. The data will be compiled and reported using standard qualitative research practices. Participant names will be noted in the "participant" section of the final report. However, all comments and results will be reported confidentially. To this end, Tamerlane will destroy its copy of the survey documents upon completion of the study. The DKFN and Metis will retain a copy of their respective participants' survey instrument for archival purposes. Original final reports will be sent to both the DKFN and Metis. Tamerlane will retain a copy of the report for incorporation and use throughout the Environmental Assessment process.

Participation in the study is voluntary. Tamerlane will provide \$100.00 in compensation to each interview participant.

\_\_\_\_\_

I voluntarily agree to participate in this traditional knowledge study based on the methodology described above. I understand that the traditional knowledge and information disclosed during this qualitative interview will be used by Tamerlane throughout the Environmental Assessment process for the Pine Point Pilot Project.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**APPENDIX D: Participant Prior Informed Consent Forms**

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## **APPENDIX E: Study Maps**

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Hay River

False Point

Fish Point

High Point

Breynat Point

Sulphur Point

Presqu'île Point

Pine Point

Dawson Landing

Fort Resolution

Resolution Bay

Little Buffalo River

Salt Lake

Old Pine Point Mine

Big Buffalo River

Birch Creek

Pilot Project

Polar Lake

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