

**2014 GEOLOGICAL AND GEOCHEMICAL EXPLORATION  
ON THE  
SUMMIT LAKE PROPERTY**

**WHITEHORSE MINING DISTRICT, YUKON**

Quartz Claims: WOLF 57-91(YF46062-YF46096)

Geographic Coordinates  
60°23' N to 60°25' N  
133°42' W to 133°48' W

NTS Sheet 105C05

Owner: H. Lole (Client ID 4001170)  
18, 10509 - 81 Avenue  
Edmonton, Alberta T6E 1X7

Operator: Graymont Western Canada Inc.  
260, 4311 - 12 Street NE  
Calgary, Alberta T2E 4P9

Consultant: Dahrouge Geological Consulting Ltd.  
18, 10509 - 81 Avenue  
Edmonton, Alberta T6E 1X7

Authors: H. Lole, B.Sc., FGS  
K. Krueger, B.Sc., Geo.I.T.

Field Work: September 2<sup>nd</sup> to 4<sup>th</sup>, 2014

Date Submitted: May 4, 2015



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## 1. INTRODUCTION

The Summit Lake quartz claims were staked by Henry Lole in mid-June 2014; Dahrouge Geological Consulting (Dahrouge) completed a surface sampling program from September 2<sup>nd</sup> to 4<sup>th</sup>, 2014. Exploration consisted of mapping outcrops and collecting 3 limestone samples, representing approximately 7.5 m of stratigraphy. The majority of the 2014 work on the claims focused on identifying access routes, mapping geological contacts and identifying high-calcium limestone outcrops on the Summit Lake Property. This report describes the 2014 exploration and provides an interpretation of the results. Appendix 1 is an itemized cost breakdown of the 2014 work completed on the Summit Lake Property. The operator for the 2014 exploration was Graymont Western Canada Inc.

The Summit Lake Property is comprised of 35 contiguous quartz claims; the Property has been grouped as per Grouping Certificate HW07574.

Structural measurements were obtained at stations throughout the Property. A magnetic declination of 24° 2' E was used. Attitudes of bedding and other planar features are given as A°/B° NW, where A° is the azimuth of the strike (right-hand rule) and B° is the amount of dip in the direction indicated. Where bedding has been obscured by structure, stratigraphic thicknesses were calculated using orientations from adjacent units. Where more than one bedding orientation was measured, the mean orientation was used.

### 1.1 GEOGRAPHIC SETTING

#### 1.1.1 Location and Access

The Summit Lake Property is located approximately 95 km southeast of Whitehorse, Yukon and 35 km east of the small community of Tagish, Yukon. Tagish has a population of approximately 390 with minimal amenities. Access to the Summit Lake Property from Whitehorse is by driving south, then east along Alaska Highway 1 (Klondike Highway) for approximately 95 km. A left turn off of Highway 1 onto the Property is located directly north of Squan Lake (Fig.'s 3.2 & 4.1). A network of well-maintained ATV trails exist and can be used for access within the claims.

### 1.1.2 Topography, Vegetation, Wildlife and Climate

Topography in the Summit Lake area is characterized by broad U-shaped glacial valleys and ridges of relatively low relief. Elevations in the claims group range from 885 m along the Highway up to approximately 1,000 m in the westernmost portion.

Tree cover in the Summit Lake area is moderate to dense. The most common trees are evergreen (spruce, pine and fir), with common birch, poplar, willow, cottonwood and aspen. There is no evidence of recent clear-cutting and logging in the area.

The abundance of wetlands in the Summit Lake area make it an ideal habitat for a variety of ungulates, birds and small mammals. The Yukon Government has identified seasonal riparian raptor and year-round muskrat ranges in the Summit Lake Property area. To the authors' knowledge, there are no restrictions on the area due to the presence of these animals. During exploration, Dahrouge endeavored to minimize disturbance to local flora and fauna.

The area is part of the Boreal Cordillera Eco-zone with generally dry and cool conditions. Climate is alpine to sub-arctic with average summer temperatures of 20° to 25°C and winter temperatures of -15° to -25°C, with extremes of 32°C and -55°C. Rainfall averages about 15 cm per year and maximum snowfall occurs from November to February with an average total of 128 cm. Snow often falls as early as September and as late as April.

## 1.2 PROPERTY

The Summit Lake Property is being held in trust for Graymont Western Canada Inc. by Henry Lole of Dahrouge Geological Consulting Ltd., based out of Edmonton, AB. The claims were staked between June 18<sup>th</sup> and 20<sup>th</sup>, 2014 by a four person crew based out of Tagish, YT. The Summit Lake Property consists of 35 quartz claims (WOLF 57-91) with a combined area of 731.5 ha.

**TABLE 1 .1 LIST OF SUMMIT LAKE CLAIMS**

<b>Grant Number</b>	<b>Claim Name</b>	<b>Original Size (ha)</b>	<b>Record Date</b>	<b>New Good To Date</b>	<b>Required Spending</b>
YF46062	WOLF 57	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46063	WOLF 58	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46064	WOLF 59	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46065	WOLF 60	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46066	WOLF 61	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46067	WOLF 62	20.9	14-Jul-14	14-Jul-19	\$400.00

YF46068	WOLF 63	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46069	WOLF 64	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46070	WOLF 65	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46071	WOLF 66	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46072	WOLF 67	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46073	WOLF 68	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46074	WOLF 69	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46075	WOLF 70	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46076	WOLF 71	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46077	WOLF 72	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46078	WOLF 73	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46079	WOLF 74	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46080	WOLF 75	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46081	WOLF 76	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46082	WOLF 77	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46083	WOLF 78	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46084	WOLF 79	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46085	WOLF 80	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46086	WOLF 81	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46087	WOLF 82	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46088	WOLF 83	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46089	WOLF 84	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46090	WOLF 85	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46091	WOLF 86	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46092	WOLF 87	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46093	WOLF 88	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46094	WOLF 89	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46095	WOLF 90	20.9	14-Jul-14	14-Jul-19	\$400.00
YF46096	WOLF 91	20.9	14-Jul-14	14-Jul-19	\$400.00
<b>Total Area:</b>		731.5	<b>Representation Work Cost:</b>		\$14,000.00
					<b>Certification Cost:</b> \$700.00
					<b>Total: \$14,700.00</b>

### 1.3 HISTORY AND PREVIOUS INVESTIGATIONS

The Summit Lake claims were staked in 2014 by Henry Lole and a team from Dahrouge Geological Consulting Ltd. There are no known published previous investigations for high-calcium limestone on the Property. Initial prospecting of the area was completed by Dahrouge during the summer of 2012 to assess the quality of the limestone. Historic exploration in the area surrounding the Summit Lake Property has dominantly been focused on gold and copper.

The TOG Property is adjacent to the northeast boundary of the Wolf Lake Property and has been explored in previous years for vein-hosted gold deposits. The TOG claims were first staked in 1972 by prospector Gord McLeod and are currently held by Dunvegan Exploration Ltd. The Property is now comprised of the TOG and GOT claims. Investigations have been done in 1979 by Archer Cathro and Associates, in 1982 by Noranda Exploration Co. Ltd. From 1985-1988 several geologists and companies sampled the site and reported values of 0.244 ounce/ton gold and higher. Newman Exploration also sampled pits on the Property, but reported low gold values. Dunvegan Exploration began their investigations of the Property in 1989 with road construction, sampling, magnetometer and VLF-EM surveys, as well as detailed mapping. In 1990, they ran an 8-hole (262.5 m) drill program and bulk sampling of the main showing vein. The bulk sample analysis returned values of 3.16 ounce/ton gold. Dunvegan's 2003 exploration program consisted of trench sampling.

The historic MUNG claims, staked in 1971, were located southeast of the Summit Lake Property, south of the Alaska Highway and west of Wolf Lake. These claims were held by the Wolf Lake Joint Venture Group and explored by Induced Polarization survey in 1972 and found trace copper-molybdenum mineralization.

Adjacent to the northwest corner and extending around the TOG/GOT claims is the MAG Property, which was staked by Sourdough Resources in 2011. Sourdough performed reconnaissance geological mapping and a ground magnetometer survey in 2011, but access to the report is currently restricted.

#### **1.4 PURPOSE OF WORK**

The work described herein was undertaken to accurately identify the location and extent of limestone units throughout the Summit Lake Property, and consisted of mapping and sampling.

#### **1.5 SUMMARY OF WORK**

In September 2014, Dahrouge completed a 2-day geologic mapping and sampling program on the Summit Lake Property.

A total of 3 limestone samples were obtained within the Summit Lake Property, representing approximately 7.5 m of stratigraphy (Fig. 4.2). Samples were collected by chipping outcrops perpendicular to defined or assumed bedding. Bedding was commonly difficult to identify due to the nondescript and cryptocrystalline nature of the limestone. Where bedding was uncertain or had been obscured by structure, stratigraphic thicknesses were calculated using the best



estimated orientation from adjacent units. Where more than one bedding orientation was measured, the mean orientation was used. An 18.23 km traverse was completed on the Property to map geological units and identify outcrops.

Geological observations were recorded, including lithologic information, measurements of structural elements, and other pertinent details (Appendix 4). A solution of 10% HCl was used to assess carbonate quality in the field. Samples were shipped to Graymont's lab in Salt Lake City, Utah for preparation and analyses by standard ICP techniques, and LOI. Analytical procedures are described in Appendix 2 and assay sheets are provided in Appendix 3.

Personnel were based in a cabin resort in Tagish, Yukon, and access to and from the Property was by rented four-wheel-drive vehicle. Access throughout the claims was by ATV and extensive hiking.

## **2. REGIONAL GEOLOGY**

### **2.1 STRATIGRAPHY**

The Summit Lake Property is underlain by Carboniferous to Jurassic Cache Creek Group rocks. The Cache Creek Complex is located within the central part of the morpho-tectonic Intermontane Belt of the Canadian Cordillera. It extends almost continuously over a distance of more than 1,000 km, from south-central Yukon Territory, through the Stuart Lake Belt of Armstrong in central British Columbia, to the type area near the village of Cache Creek in the Interior Plateau of south-central British Columbia (Beyers and Orchard, 1991) (Fig. 4.3).

Outcrops of the Carnian to Norian Lewes River Group are also seen proximal to the Summit Lake Property.

#### **2.1.1 Cache Creek Group**

The Cache Creek Group consists of oceanic shale, siltstone, chert, carbonates and ultramafic rocks. These are overlain by Upper Triassic rocks of the Aksala Group northwest of the Property.

In the Atlin Terrane of southern Yukon and northern British Columbia, Monger (1969, 1975) included the Kedahda, French Range, Teslin, Nakina, and Horsefeed formations as part of the Cache Creek Group.

The Late Mississippian to Late Permian Horsefeed Formation generally consists of a basal, massive, pale grey-weathering calc-arenite overlain by a thick succession of pale grey,

porcellanous, crinoidal, and foraminiferal calc-arenite. This member grades upwards into dark grey, very fine grained detrital limestone and dolomitic limestone. The uppermost member of the Horsefeed Formation is an aggregate of foraminiferal calcarenite and, in the lower part, locally breccia. Between Koshin and Nahlin rivers the most common lithology is pale grey, unsorted, massive limestone breccia (Monger, 1975) (Gabrielse, 1998).

The Mississippian to Permian Nakina Formation is tan or brown to green weathering, grey green or rarely maroon, very fine grained altered basalt, in places with small chlorite amygdules and calcite veins. The rocks are generally massive and the only planar structures recognizable are fractures and faults with slickensides. Other less common rock types are diabase and fine-grained basalt porphyry with small feldspar phenocrysts and very rarely, fine-grained gabbro, basaltic flow breccia and tuff (Monger, 1975).

### **2.1.2 Lewes River Group**

The Lewes River Group was determined to range in age from Carnian to Norian, based on dating of spiriferids, pelecypods, ammonites and cerioid corals. It generally consists of limestone, argillite, greywacke and sandstone. Lees (1934) recognized the presence of 3 units: a lower limestone sequence, middle sequence of greywacke and argillite with interbedded limestone intervals, and an upper limestone unit. The Lewes River Group is informally subdivided into the Povoas and Aksala formations. The Povoas Formation is a volcanic unit that consists of basalts and andesites, with minor carbonate rocks. It is overlain by the Carnian-Norian Aksala Formation, which has been subdivided into 2 main members: Casca and Hancock. Sequences of sandstones, conglomerates and mudstones comprise the Casca Member, which overlies the reefal carbonates of the Hancock Member (Colpron, 2011).

The Aksala Formation consists of mixed clastic and carbonate rocks that are divisible into three dominant facies: calcareous greywacke; thick carbonate; and red colored clastics (Shaw, 1989).

### **2.1.3 Intrusives**

The nearest known intrusive rocks occur 4 km east of the Property and are Early Cretaceous intrusions of the Teslin Suite. They are comprised of leucocratic, fine to coarse-grained, equigranular, hornblende-biotite granite, granodiorite, quartz monzonite and quartz monzodiorite (Shaw, 1989).

## 2.2 STRUCTURE

The structural geology of the area is dominated by two major sub-parallel, north-northwest trending faults that divide and define the boundaries between the Cache Creek Terrane (to the east) and the Whitehorse Trough and between the Whitehorse Trough and the Yukon-Tanana Terrane (to the west). The Nahlin Fault more or less marks the western extent of the Cache Creek Terrane and eastern extent of the Whitehorse Trough. It is a steeply dipping to vertical fault, or series of faults and has seen intermittent activity from the Late Triassic to Tertiary time. The Llewellyn fault marks the boundary between the regionally metamorphosed Yukon-Tanana Terrane and the Whitehorse Trough. It is also steeply dipping and appears to have been active from Late Triassic to Tertiary time (Shaw, 1989).

**TABLE 2.1 STRATIGRAPHY OF THE SUMMIT LAKE AREA**

Period	Stage	Stratigraphic Unit			Lithological Description	Approx. Thickness (m)
		Group	Formation/ Member			
Triassic	Norian	Lewes River Gp.	Aksala Fm.	Casca Mbr.	Sandstones, conglomerates and mudstones, limestone	unknown
				Hancock Mbr.	Massive to thick-bedded limestone	Up to 600
	Carnian		Povoas Fm.		Volcanics including basalts and andesites, minor carbonates	
Devonian to Permian		Cache Creek Gp.	Horsefeed Fm.		Massive to thick-bedded limestone, dolomitic limestone	Up to 1,500
			Nakina Fm.		Massive altered basalts, minor diabase	unknown

\*Adapted from Clapham et al., 2002.

## 3. PROPERTY GEOLOGY

### 3.1 STRATIGRAPHY & LITHOLOGY

As only initial prospecting work has been performed on the Summit Lake claims, a detailed description of the property geology is not yet possible. During the 2014 exploration, the volcanic Nakina Formation was the only unit encountered on the Summit Lake Property.

### **3.1.1 Horsefeed Formation**

Exposures of the Horsefeed Formation were mapped and sampled in 2012 from between 2,900 m to 3,100 m north of the Alaska Hwy within the Summit Lake Property. During the 2014 exploration, no outcrops of Horsefeed Formation were encountered. The outcrops generally consist of light-grey weathered, medium-grey to dark-grey fresh, micritic to coarse-grained lime mudstones. Outcrops are typically massive and somewhat resistant with minor calcite veining.

### **3.1.2 Nakina Formation**

Exposures of the Nakina Formation were mapped and sampled in 2014 from between 3,000 m to 3,300 m north of the Alaska Hwy within the Summit Lake Property. During the 2014 exploration, three outcrops of Nakina Formation were encountered. The outcrops generally consisted of orange to rusty brown weathered, light-grey to olive-grey fresh, fine-grained basalts. Nakina Formation outcrops are typically massive, hard and fairly resistant.

## **4. RESULTS OF 2014 EXPLORATION**

The 2014 exploration program was conducted in order to further delineate the contact between the volcanic Nakina Formation and the high-calcium limestones of the Horsefeed Formation.

The groundwork involved mapping and sampling at several locations along the northern boundary of the Property, to confirm the presence or absence of limestones. A traverse totalling 18.23 km was completed in 2014 for mapping and identifying outcrops to sample.

During the program, geological observations were recorded, including lithologic information, measurements of structural elements, and other pertinent details (Appendix 4). A solution of 10% HCl was used to assess carbonate quality in the field. In some instances, interval thicknesses were determined by measuring outcrops perpendicular to bedding, where it could be identified. In many cases the interval thickness can only be considered approximate (at best) due to the lack of reliable bedding surfaces.

All samples from the 2014 program were shipped from Whitehorse, YT to a lab in Salt Lake City, Utah for preparation and analyses by standard ICP techniques, and LOI (Appendices 2 and 3).

**5. DISCUSSION AND CONCLUSIONS**

Within the Summit Lake Property, the Horsefeed - Nakina Formation contact was mapped and tested by measuring and sampling stratigraphic sections. A total of 3 samples were collected, from the Nakina Formation along the northern portion of the Property. Unfortunately, limited time and outcrop exposure prevented further exploration for high-calcium limestone outcrops of the Horsefeed Formation.

**6. RECOMMENDATIONS**

The next phase of exploration on the Summit Lake Property should consist of diamond drilling, to determine the thickness and lateral extent of the high-calcium Horsefeed Formation on the Property.

Any future ground sampling and mapping should focus on areas that have seen only limited exploration during the 2014 exploration program.

## 7. QUALIFICATIONS

I, Henry Lole, residing at 11023 96 Street, Edmonton, Alberta, do hereby certify that:

- I am a geologist of Dahrouge Geological Consulting Ltd., Suite 18, 10509 - 81 Ave., Edmonton, Alberta, T6E 1X7.
- I am a 2011 graduate of Cardiff University, Cardiff, Wales, with a B.Sc. (Hons) in Exploration and Resource Geology.
- I have practiced my profession as a geologist continuously since 2011.
- I am a registered Fellow of The Geological Society, member 1019264.
- I co-managed the 2014 work described in this report.
- I am co-author of the report entitled "2014 Geological and Geochemical Exploration on the Summit Lake Property" and accept responsibility for the veracity of technical data and results.
- I hereby consent to the copying or reproduction of this Assessment Report following the confidentiality period.

Dated this 4<sup>th</sup> day of May, 2015.

Henry Lole, B.Sc., FGS

FGS 1019264

I, Kelly Krueger, residing at 1820 Rutherford Road, Edmonton, Alberta, do hereby certify that:

- I am a geologist of Dahrouge Geological Consulting Ltd., Suite 18, 10509 - 81 Ave., Edmonton, Alberta, T6E 1X7.
- I am a 2012 graduate of the University of Alberta, Edmonton, Alberta with a B.Sc. in Geology.
- I have practiced my profession as a geologist continuously since 2012.
- I am a registered Geologist in Training with the Association of Professional Engineers and Geoscientists of Alberta, member M96506.
- I co-managed the 2014 work described in this report.
- I am co-author of the report entitled "2014 Geological and Geochemical Exploration on the Summit Lake Property" and accept responsibility for the veracity of technical data and results.
- I hereby consent to the copying or reproduction of this Assessment Report following the confidentiality period.

Dated this 4<sup>th</sup> day of May, 2015.

Kelly Krueger, B.Sc., Geo.I.T.

APEGA M96506

**8.****REFERENCES**

- Beyers, J. and Orchard, M.J. (1989) Permian-Triassic boundary beds in the Cache Creek Group, Marble Range, near Jesmond, British Columbia; Geol. Surv. Can., Paper 89-1E, p. 127-132.
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- Shaw, D. A., Taylor W. A. and Copeland, D. J., 1989. Geological Report on the Bug, Phil and TOG-GOT-POT Group of Claims.



## ITEMIZED COST STATEMENT FOR THE 2014 EXPLORATION - SUMMIT

### a) Personnel

J. Dahrouge, geologist

<u>0.4</u>	days	Planning and supervision	
0.4	days	@ \$ 940.00	\$ 376.00

H. Lole, geologist

<u>1.7</u>	days	Field work and travel Sept 2-4	
1.0	days	Office work, reporting	
<u>2.7</u>	days	@ \$ 570.00	\$ 1,539.00

K. Krueger, geologist

<u>1.7</u>	days	Field work and travel Sept 2-4	
8.7	days	Project planning & preparations, reporting	
<u>10.4</u>	days	@ \$ 465.00	\$ 4,836.00

M. Osinowski, geologist

<u>1.7</u>	days	Field work and travel Sept 2-4	
1.7	days	@ \$ 465.00	\$ 790.50

B. Hagen, assistant

<u>1.7</u>	days	Field work and travel Sept 2-4	
1.7	days	@ \$ 410.00	\$ 697.00

J. Amundsen, geologist

<u>5.0</u>	days	Data entry, reporting	
5.0	days	@ \$ 490.00	\$ 2,450.00

C. Bouchard, geologist

<u>1.1</u>	days	Data entry, research, reporting	
1.1	days	@ \$ 490.00	<u>\$ 539.00</u>

\$ 11,227.50

**b) Food and Accommodation**

4	man-days @ \$ 148.50	Accommodations	\$ 593.99	
7	man-days @ \$ 54.36	Meals	\$ 369.66	
			<u>          </u>	\$ 963.64

**c) Transportation**

Vehicles:	SUV Rental (Whitehorse)	\$ 187.07	
	ATV Rental (Whitehorse)	\$ 663.25	
	Fuel	\$ 74.05	
		<u>          </u>	\$ 924.37

**d) Instrument Rental**

	Laptop	\$ 24.18	
	Radios	\$ 19.23	
	Satellite Phone	\$ 21.46	
	GPS Rental	\$ 18.43	
		<u>          </u>	\$ 83.30

**e) Analyses**

Central Lab of Graymont Western U.S. Inc.  
(3 rock samples)

3	samples @ \$ 4.50	Preparation fee	\$ 13.50	
3	samples @ \$ 25.00	Sample analysis	\$ 75.00	
			<u>          </u>	\$ 88.50

**f) Other**

	Software Rental	\$ 409.50	
	Disposable Supplies	\$ 65.41	
	Telephone charges	\$ 1.43	
	Overhead & Supply	\$ 378.01	
		<u>          </u>	\$ 854.35

**Total**

\$ 14,141.66

Edmonton, Alberta  
May 4, 2015

\_\_\_\_\_  
Kelly Krueger, B.Sc., Geo. I.T.

## APPENDIX 2: ANALYTICAL LABORATORY INFORMATION AND TECHNIQUES

### Name and Address of the Lab:

Graymont Western US Inc., Central Laboratory.  
670 East 3900 South, Suite 200  
Salt Lake City, Utah, 84107

### Statement of Qualifications:

Jared Leikam obtained a B.S. in Chemistry from the University of Utah in the class of 2003. Jared started working for Graymont in February of 2004 and has been working with the ICP Spectrometer for two and a half years, under the direct supervision of Carl Paystrup (Lab Supervisor).

Vonda Stuart obtained a B.S. in Chemistry from Weber State University in 2004. Vonda started with Graymont in August of 2007 and started working in the ICP Lab the following September.

### Sample Preparation, Procedures, Reagents, Equipment, etc.:

For the ICP sample preparation, 0.5 grams of the sample is mixed with 3 g of lithium carbonate. The sample and the lithium carbonate are then fused together in a muffle furnace at 850°C. Following the fusion process, the samples are dissolved in 1:1 HCl; a total of 40 mL 1:1 HCl is used in the dissolving process. The samples are then diluted to 200 mL and spiked with 10 ppm Co. Cobalt is used as an internal standard. At this point the samples are ready for analysis on the Perkin Elmer, Optima 7300V.

### Mesh Size Fraction, Split and Weight of Sample:

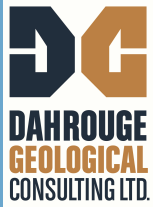
Upon receiving the samples, the prep room technician riffles and then splits the stone down to a manageable size (roughly 200 g). The stone is then dried in an oven at 120°C. Once the samples have been dried they get pulverized to a -200 mesh size. A split of this pulverized material is then sent for testing in the main part of the lab.

### Quality Control Procedures:

The ICP spectrometer is calibrated with two certified reference materials prior to analyzing a batch of samples. A batch typically contains 96 samples. Every 12<sup>th</sup> sample in a batch is a certified limestone reference sample. In addition to the 8 reference samples imbedded in the batch, there are 2 limestone reference samples analyzed at the beginning and at the end of the batch to ensure the accuracy of our Na and P numbers. Every element being analyzed in a sample is backed up by data from the certified reference materials. We also use an internal standard (10 ppm Co) to further ensure the quality and accuracy of the analysis.

**APPENDIX 3: ASSAY RESULTS – CENTRAL ANALYTICAL LABORATORY OF  
GRAYMONT WESTERN U.S. INC**

Lab ID	Sample Date	Plant	Lab Owner	Sample Type	Remarks	% CaCO3	% MgCO3	% Fe2O3	% Al2O3	ppm SrO	ppm MnO	% SiO2	ppm BaO	ppm K2O	ppm Na2O	ppm P2O5	ppm TiO2	% Total	% Sulfur	% LOI(1000)
2014106618	9/25/2014	202	202	Limestone	Dahrouge_-Yukon_Territory_-_120048	7.57	13.56	1.4	1.168	40	261	39.99	553	1805	343	272	453	64.1	0.013	12.3
2014106647	9/25/2014	202	202	Limestone	Dahrouge_-Yukon_Territory_-_120076	62.59	7.68	2.418	2.476	449	607	16.92	81	3851	14427	2690	3529	94.7	0.011	27.5
2014106648	9/25/2014	202	202	Limestone	Dahrouge_-Yukon_Territory_-_120077	12.49	7.30	4.15	7.046	287	933	36.05	128	8043	24897	610	2080	70.7	<.005	5.5

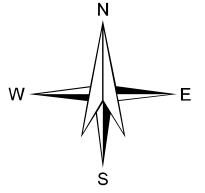


## APPENDIX 4: SAMPLE DESCRIPTIONS AND ASSAY RESULTS FROM THE SUMMIT LAKE PROPERTY

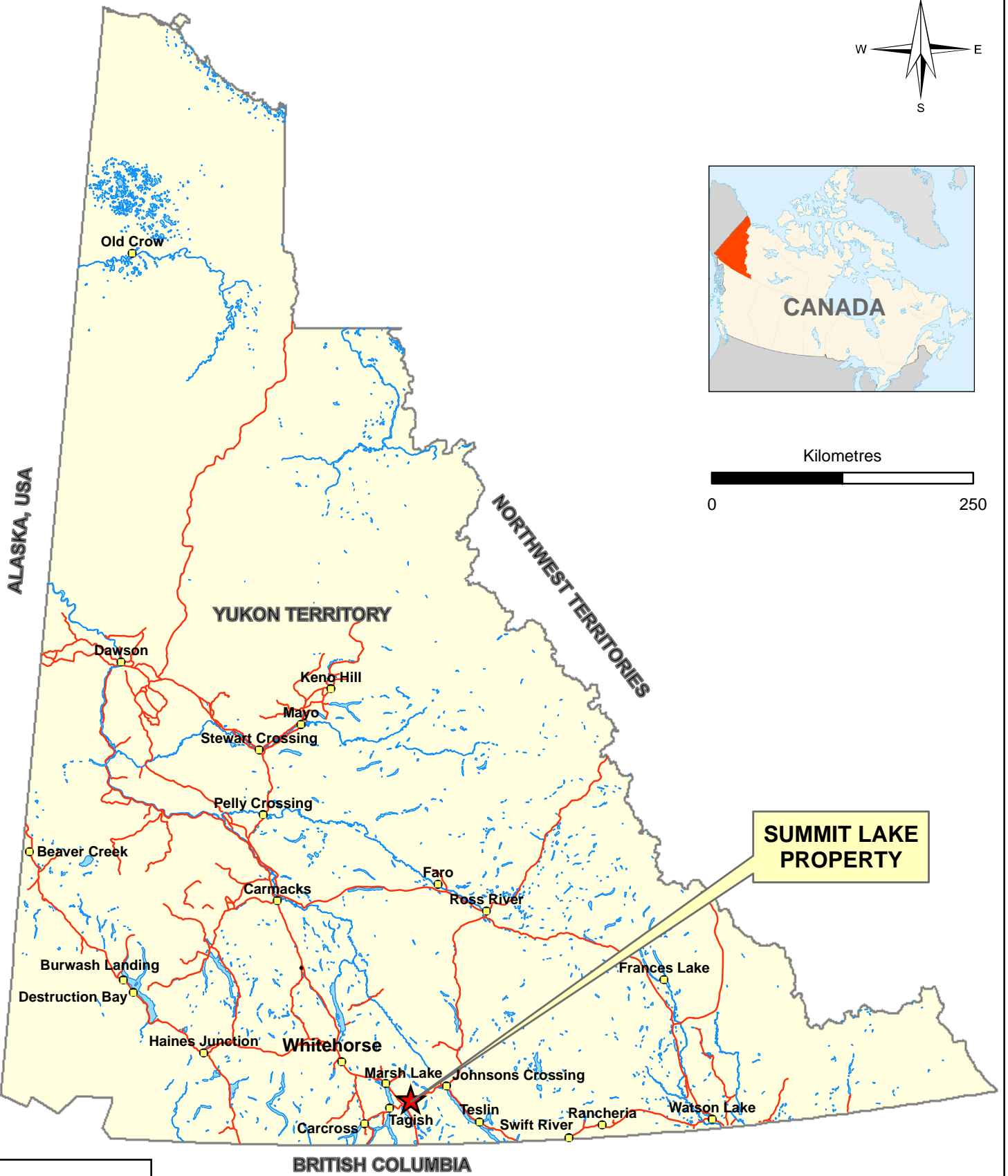


Notes: Stratigraphic thicknesses are based on measured attitudes of bedding listed below, with appropriate interpolations. Attitudes are strike and dip (right-hand rule). Sections are listed in numerical order of samples, which does not necessarily represent stratigraphic order. Most samples consist of chips at 30 cm intervals. UTM coordinates are NAD83, Zone 8N. Section locations are shown in Figure 4.2.  
 Stratigraphy Abbreviations: Mn - Mississippian to Permian Nakina Formation

Sample	Strat Unit	Strat Tkns (m)	Description	CaCO <sub>3</sub> (%)	MgCO <sub>3</sub> (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	SrO (ppm)	MnO (ppm)	P <sub>2</sub> O <sub>5</sub> (ppm)	
<b>Isolated Samples</b>												
120048	Pcc	2	<b>Basalt</b> , pink-brown weathered, light grey fresh, fine-grained, massive, resistant, hard, alteration: oxide, pervasive, strong intensity, no HCl reaction,	7.57	13.56	39.99	1.170	1.400	40	261	272	
120076	Pcc	1.5	<b>Basalt</b> , orange-yellow weathered, olive grey fresh, massive, resistant, alteration: oxide, strong intensity, weak HCl reaction, structure(s): calcite veinlet weak	62.59	7.68	16.92	2.476	2.418	449	607	2690	
120077	Pcc	4	<b>Basalt</b> , orange-brown weathered, olive grey fresh, massive, no HCl reaction,	12.49	7.30	36.05	7.046	4.150	287	933	610	








Kilometres



**SUMMIT LAKE  
PROPERTY**

**Legend**

-  Cities/Towns
-  Highway
-  Rivers
-  Lakes
-  Territorial Boundary

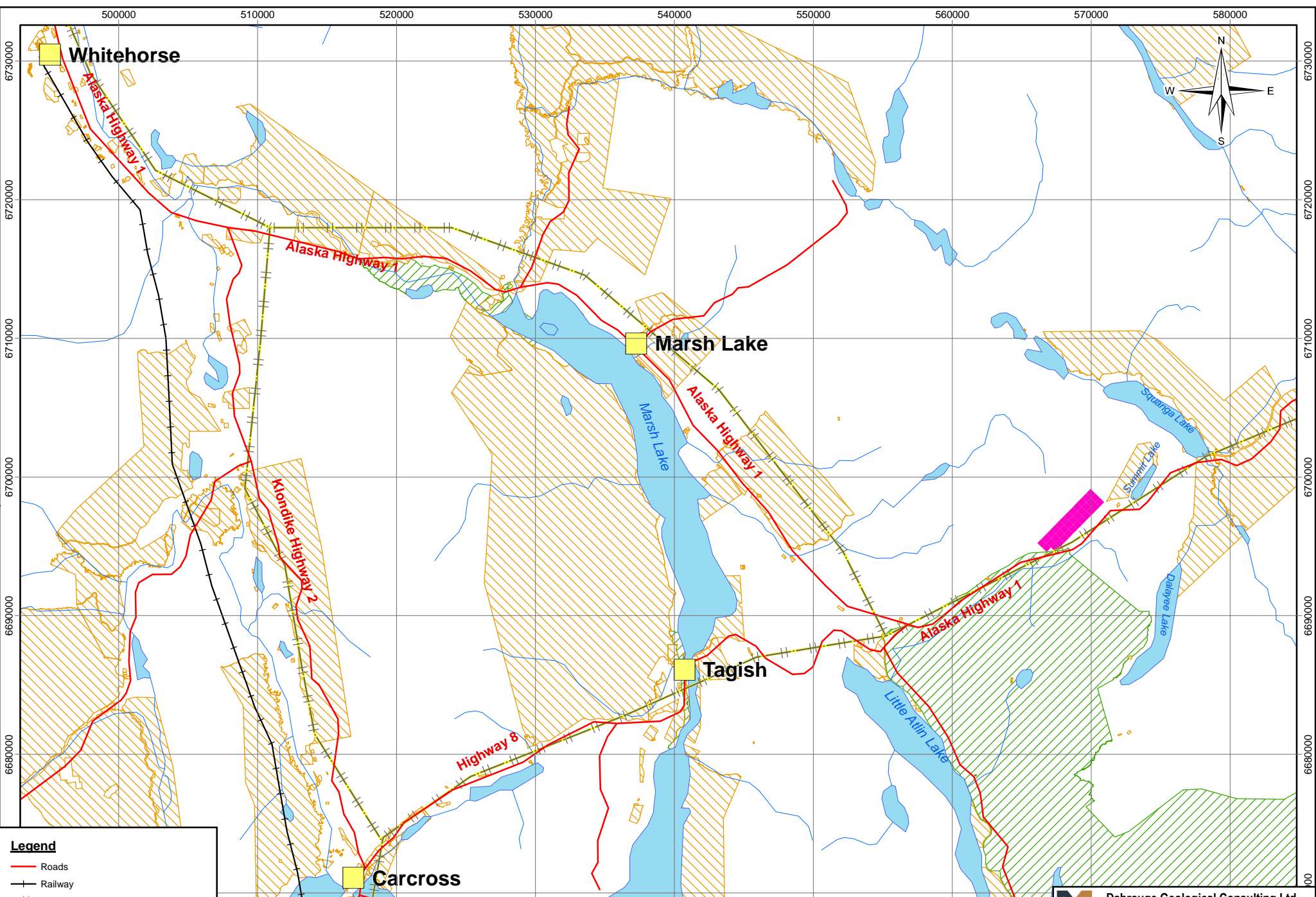
1:5,000,000

Coordinate System: UTM NAD83, Zone 8

**DG** Dahrouge Geological Consulting Ltd.  
Edmonton, Alberta

YUKON TERRITORY, CANADA

Fig. 3.1  
Property Location



**Legend**

- Roads
- +— Railway
- +— Transmission lines
- Rivers
- Lakes
- First Nations Settlement Land Surveyed
- Parks and Protected Areas
- Summit Lake Property

Kilometres

0      5      10      15      20

1:350,000

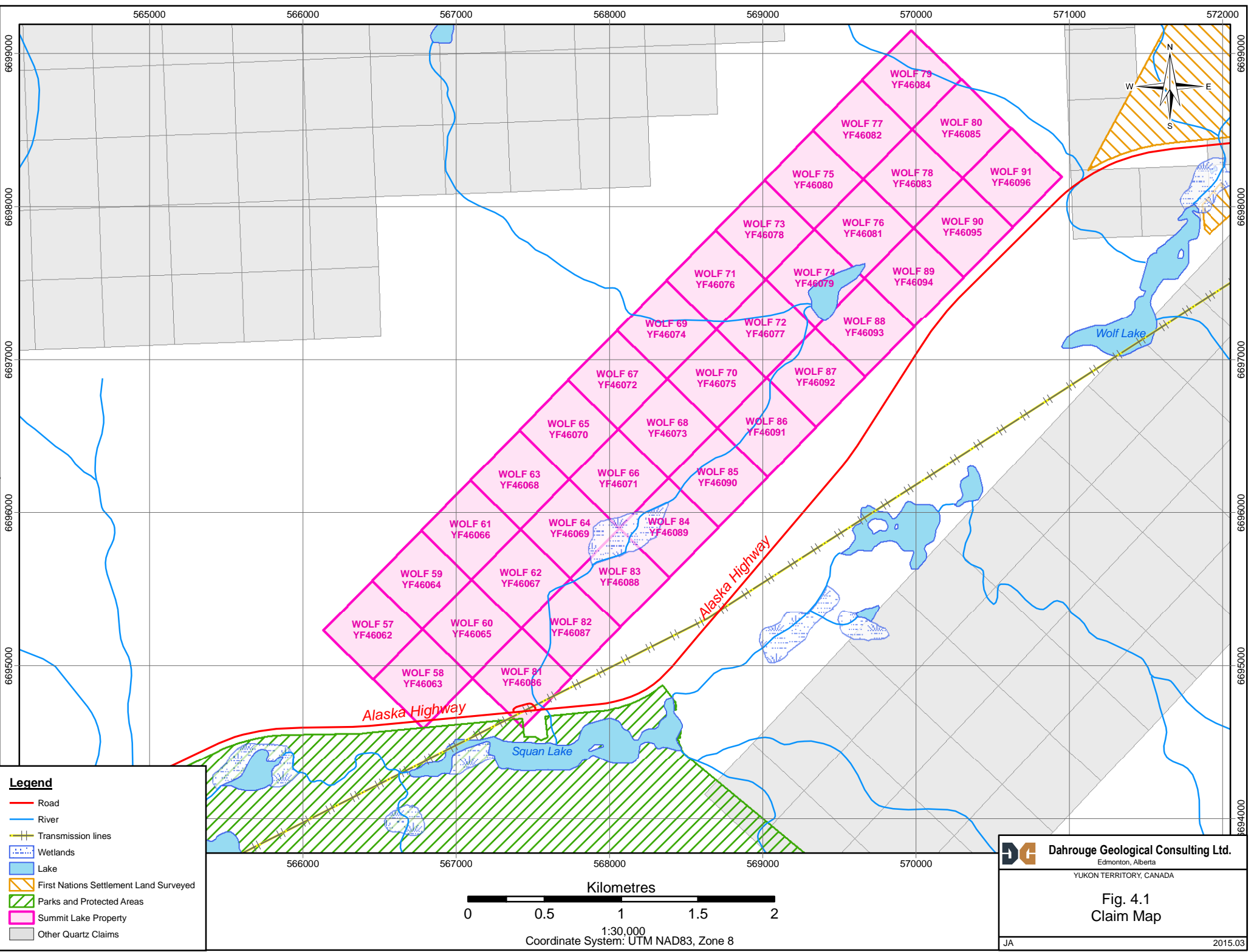
Coordinate System: UTM NAD83, Zone 8

**DG Dahrouge Geological Consulting Ltd.**  
 Edmonton, Alberta  
 YUKON TERRITORY, CANADA

**Fig. 3.2**  
 Access Map

JA 2014.11





**Legend**

- Road
- River
- Transmission lines
- Wetlands
- Lake
- First Nations Settlement Land Surveyed
- Parks and Protected Areas
- Summit Lake Property
- Other Quartz Claims

Kilometres

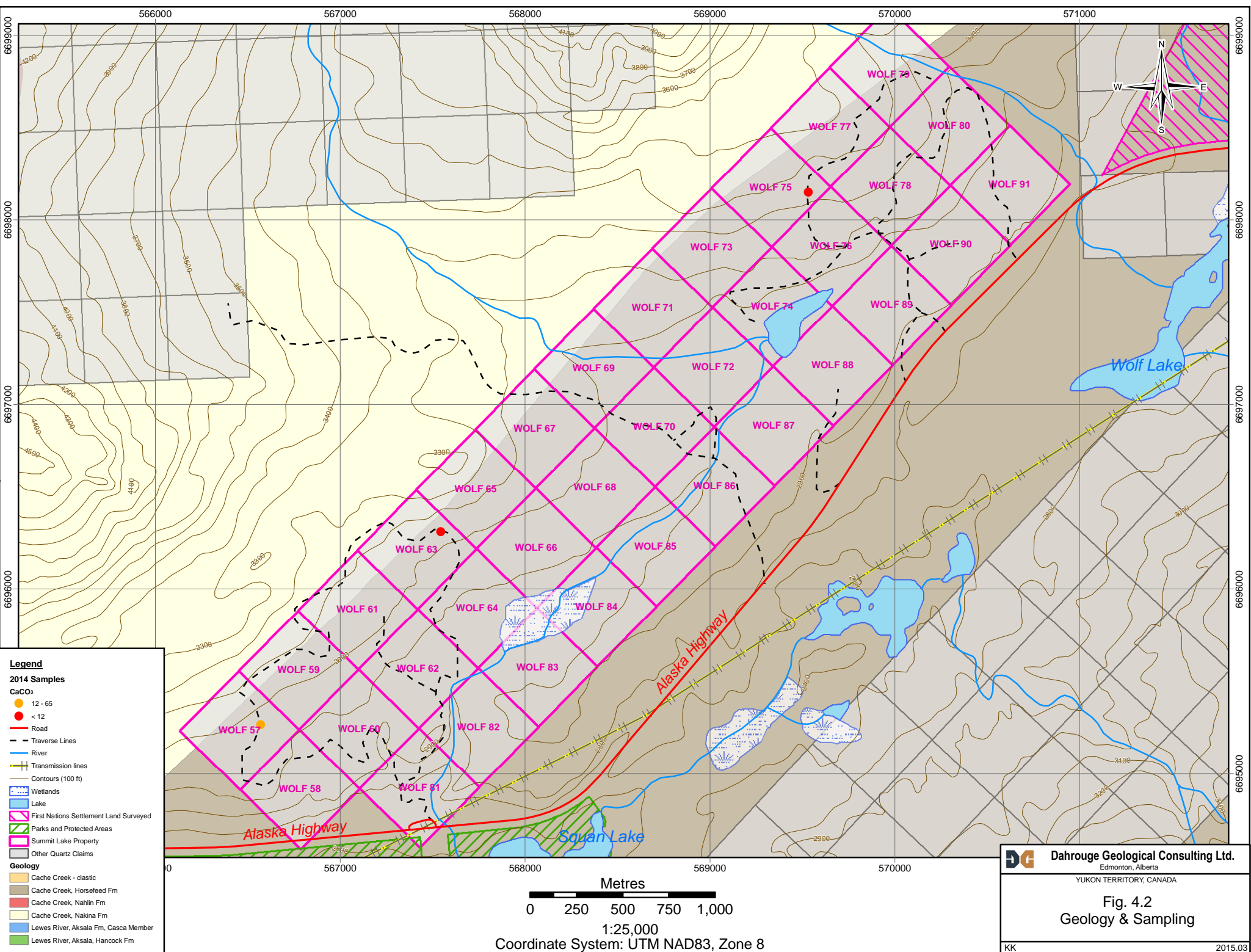
0 0.5 1 1.5 2

1:30,000  
Coordinate System: UTM NAD83, Zone 8

**DG** Dahrouge Geological Consulting Ltd.  
Edmonton, Alberta  
YUKON TERRITORY, CANADA

**Fig. 4.1  
Claim Map**

JA 2015.03



**Legend**

**2014 Samples**

**CaCO<sub>3</sub>**

- 12 - 65
- < 12

- Road
- - - Traverse Lines
- River
- Transmission lines
- Contours (100 ft)
- Wetlands
- Lake
- First Nations Settlement Land Surveyed
- Parks and Protected Areas
- Summit Lake Property
- Other Quartz Claims

**Geology**

- Cache Creek - clastic
- Cache Creek, Horsefeed Fm
- Cache Creek, Nahlin Fm
- Cache Creek, Nakina Fm
- Lewes River, Aksala Fm, Casca Member
- Lewes River, Aksala, Hancock Fm

Metres

0 250 500 750 1,000

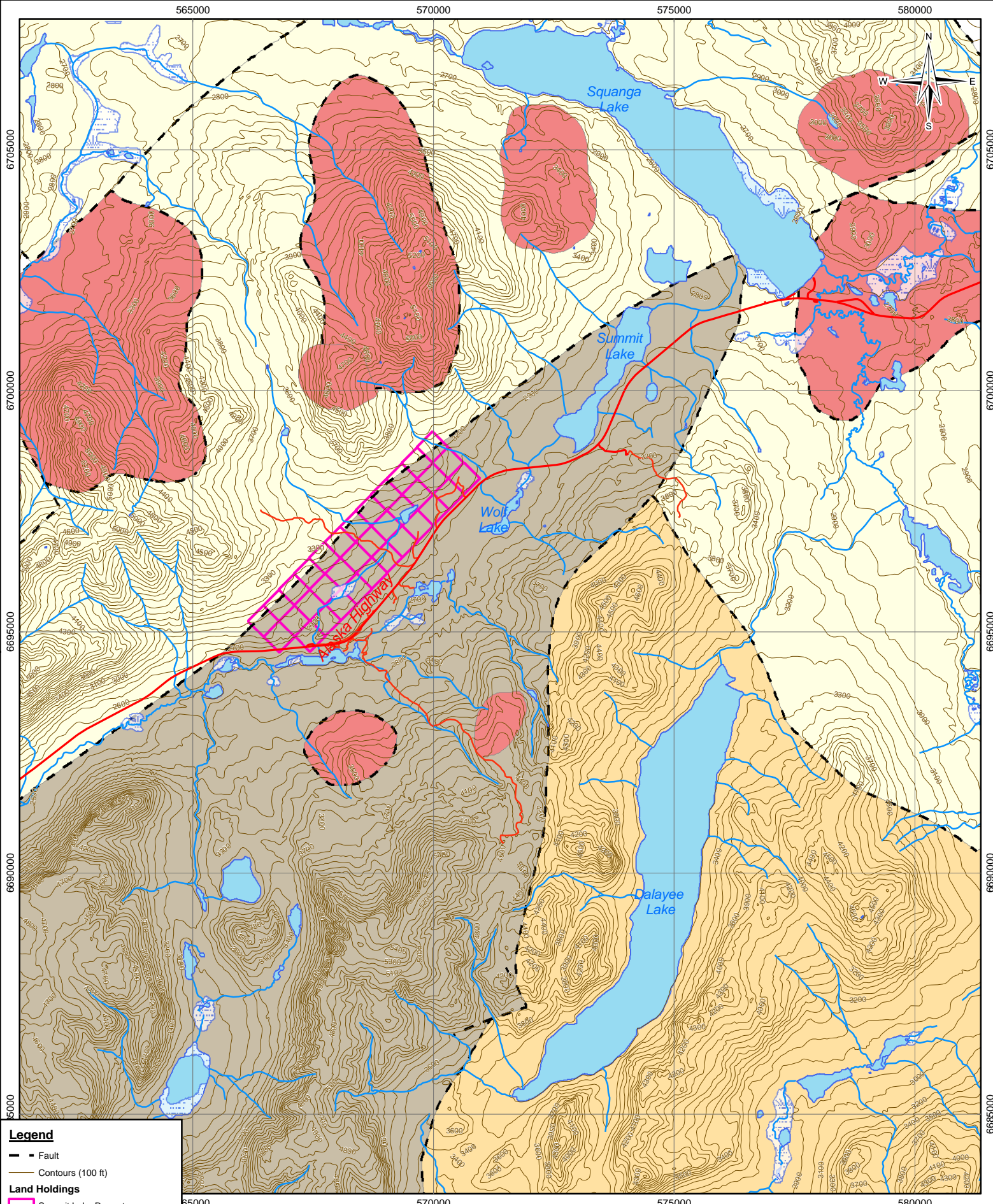
1:25,000

Coordinate System: UTM NAD83, Zone 8

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YUKON TERRITORY, CANADA

**Fig. 4.2**  
**Geology & Sampling**

KK 2015.03



**Legend**

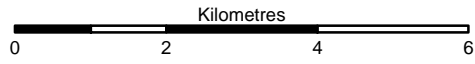
- - Fault
- Contours (100 ft)

**Land Holdings**

- Summit Lake Property

**Geology**

- Cache Creek Gp - clastic
- Cache Creek Gp - Horsefeed Fm
- Cache Creek Gp - Nahlin Fm
- Cache Creek Gp - Nakina Fm



1:100,000  
Coordinate System: UTM NAD83, Zone 8

**DG** Dahrouge Geological Consulting Ltd.  
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YUKON TERRITORY, CANADA

Fig. 4.3  
Regional Geology Map