2020 GEOLOGICAL AND GEOCHEMICAL EXPLORATION
ON THE
SHADOW LAKE PROPERTY

WHITEHORSE MINING DISTRICT, YUKON

Grant Numbers: WL 1-45 (YF46097-YF46141)

Geographic Coordinates
60°33’ N to 60°35’ N
134°46’ W to 134°49' W

NTS Sheet 105D10

Owner:	J. Dahrouge (Client ID 4002813) 103, 10183 – 112th Street Edmonton, Alberta T5K 1M1
Operator:	Graymont Western Canada Inc. 260, 4311 – 12th Street NE Calgary, Alberta T2E 4P9
Consultant:	Dahrouge Geological Consulting Ltd. 103, 10183 – 112th Street Edmonton, Alberta T5K 1M1
Authors:	J. Dahrouge, B.Sc., Sp.C., P. Geo. A. Shumilak, B.Sc., G.I.T.

Field Work Completed: August 21, 2020

Date Submitted: June 15, 2021

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

LIST OF FIGURES

1. INTRODUCTION

The Shadow Lake group of quartz claims were staked by Henry Lole in late June 2014 and transferred to Jody Dahrouge in April 2019. Dahrouge Geological Consulting Ltd. (Dahrouge) completed a surface sampling program on August 21st, 2020. Exploration consisted of collecting 18 samples. A traverse totalling 7.36 km was completed in order to map geologic units and identify outcrops. The majority of the 2020 work focused on identifying access routes, mapping geological contacts, and identifying high-calcium limestone outcrops on the Shadow Lake Property. This report describes the 2020 exploration and provides an interpretation of the results. Appendix 1 is an itemized cost breakdown of the 2020 work completed on the Shadow Lake Property. The operator for the 2020 exploration was Graymont Western Canada Inc. (Graymont).

The Shadow Lake Property is comprised of 45 contiguous quartz claims; the Property has been grouped as per Grouping Certificate HW07732.

Structural measurements were obtained at stations throughout the Property. A magnetic declination of 18° 46' east 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 Shadow Lake Property can be accessed by travelling approximately 18 km southeast of Whitehorse, Yukon along the Alaska Highway (Hwy 1), then spurring off south onto the Klondike Highway (Hwy 2) for approximately 2 km (Fig.'s 3.1 and 3.2). A network of well-maintained ATV trails bisects the northern portion of the Property and can be used to further access the claims. Extensive hiking is also required, as much of the southern half of the Property has no pre-existing ATV trails.

1.1.2 Topography, Vegetation, Wildlife and Climate

Topography in the Shadow Lake Property area is characterized by northwest trending broad U-shaped glacial valleys and ridges of significant relief. Elevations on the Property range from 730 m in the north, nearest the Alaska Highway, up to approximately 1,300 m on the highest peak in the southeast corner of the Property (Fig. 4.1).

Tree cover in the Whitehorse 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 industry clear-cutting and logging in the area. There is, however, a public municipal firewood area overlapping the northern portion of the Property.

The abundance of wetlands and small ponds in the Shadow Lake area make it an ideal habitat for a variety of ungulates, birds, and small mammals. The Yukon Government has identified a woodland caribou winter range in the Shadow 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 the 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 Shadow Lake claims are being held in trust for Graymont by Jody Dahrouge, based out of Edmonton, AB. The claims were staked from June 22nd to 24th, 2014 by a four-person crew based out of Whitehorse, YT. The Shadow Lake Property consists of 45 quartz claims (WL 1-45) with a combined area of 940.5 ha.

TABLE 1.1 LIST OF SHADOW LAKE CLAIMS

Grant Number	Claim Name	Original Size (ha)	Record Date	Current Good To Date	New Good To Date	Required Spending
YF46097	WL 1	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46098	WL 2	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46099	WL 3	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46100	WL 4	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46101	WL 5	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46102	WL 6	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46103	WL 7	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46104	WL 8	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46105	WL 9	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46106	WL 10	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00

YF46107	WL 11	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46108	WL 12	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46109	WL 13	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46110	WL 14	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46111	WL 15	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46112	WL 16	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46113	WL 17	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46114	WL 18	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46115	WL 19	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46116	WL 20	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46117	WL 21	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46118	WL 22	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46119	WL 23	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46120	WL 24	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46121	WL 25	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46122	WL 26	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46123	WL 27	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46124	WL 28	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46125	WL 29	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46126	WL 30	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46127	WL 31	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46128	WL 32	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46129	WL 33	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46130	WL 34	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46131	WL 35	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46132	WL 36	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46133	WL 37	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46134	WL 38	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46135	WL 39	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46136	WL 40	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46137	WL 41	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46138	WL 42	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46139	WL 43	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46140	WL 44	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
YF46141	WL 45	20.9	14-Jul-14	14-Jan-2022	14-Jan-2023	$100.00
	Total Area:	940.5	**Representation Work Cost:**			$4,500.00
			Certification Cost:			$225.00
			Total:			**$4725.00**

1.3 HISTORY AND PREVIOUS INVESTIGATIONS

The Shadow Lake claims were staked in 2014 by a team from Dahrouge. Exploration programs were then completed in 2014, 2015, and 2019 to investigate carbonate quality on the Property. Historical exploration surrounding the Shadow Lake Property has dominantly been focused on copper mineralization of the Whitehorse Copper Belt, a 30 km northwest trending zone of skarn deposits, which is located west of the Property. To the knowledge of the authors, there has been no previous exploration for high-calcium limestone in the Shadow Lake Property area.

The YT Property is located approximately 4 km northwest along Alaska Highway of the Shadow Lake Property and has been historically explored for copper minerals such as bornite and chalcopyrite. The YT claims were first staked in 1967 by Lewes River Mines Ltd., then optioned to Arcturus Ventures Inc. in 2006, who currently holds them. Exploration completed between 1967 and 1970 by Lewes River Mines Ltd. consisted of an induced polarization survey, geochemical sampling and line cutting. In 2006, 2007, and 2008 Arcturus Ventures Inc. completed magnetic surveys in order to confirm the Triassic Aksala Formation limestone - Coast Intrusive contact.

The JIM (85337-8, 85355-8), SUE (75653-6) and ACE (85476) claims held by Lobo del Norte Ltd. are located at the southeast end of the Whitehorse Copper Belt and is approximately 4.5 km west of the Shadow Lake Property. Historic exploration on the JIM claims in 1998 included trenching, outcrop, float, and soil sampling.

The Dorian Miner claims were first staked in 2013 by Karl Ziehe, Carl Schulze, Robert Sterling, and Kluane Drilling Ltd. They are located approximately 1 km south of the southeast corner of the Shadow Lake Property. In 2013 and 2014, geological mapping, rock and silt sampling was completed. Two diamond drill holes were also completed in 2014. Nickel, gold, and copper mineralization has been noted in skarn deposits throughout the Dorian Miner claims. Abundant felsic and mafic dikes cut through the Lewes River Group limestones on the claims. Schulze (2014) noted that the Limestone from the upper Lewes River Group was more crystalline and marbleized with depth suggesting metamorphism.

In June 2018, Carl Schulze staked 36 additional claims (MINOR 1-24, TRITONE 1-12) extending north of the Dorian Miner to the south-eastern perimeter of the Property (Fig. 4.1). No assessment work has been filed yet on these claims. The MINOR and TRITONE claims will expire in 2021.

1.4 PURPOSE OF WORK

The work described herein was undertaken to accurately identify the location and extent of limestone units throughout the Shadow Lake Property and consisted of mapping and sampling. The 2020 exploration program is a follow-up to work completed in 2014, 2015, and 2019 by Dahrouge (Krueger and Lole, 2014, Krueger and Lole, 2015, Krueger and Shumilak, 2020).

1.5 SUMMARY OF WORK

In August 2020, Dahrouge completed a one-day geologic mapping and sampling program on the Shadow Lake Property.

A total of 18 limestone samples were obtained within the Shadow Lake Property (Fig. 4.2). A 7.36 km traverse was completed in order to map geologic units and identify outcrops. 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.

Geological observations were recorded, including lithologic information, measurements of structural elements, and other pertinent details (App. 4). A solution of 10% HCl was used to assess carbonate quality in the field. Samples were shipped to a lab in Sandy, 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 hotel in Whitehorse, YT, and access to and from the Property was by rented four-wheel-drive vehicle. Access throughout the Property was by extensive hiking.

2. REGIONAL GEOLOGY

2.1 STRATIGRAPHY

The Shadow Lake Property is located within the Whitehorse Trough, part of the Stikine Terrane. The Whitehorse Trough is a 500 km long, northwest-trending intermontane basin located in south-central Yukon, which originated as a fore-arc basin, but progressively developed into a piggy-back basin near the end of the Pliensbachian during orogenic events (Colpron, 2014). The basin straddles the Yukon-British Columbia border, with its northernmost margin in the Carmacks area, approximately 200 km north of the Shadow Lake Property. The area of the Trough covers approximately 2.44 million hectares. The basin contains up to 3 km thick Jurassic Laberge Group sedimentary rocks, underlain by Triassic Lewes River Group sediments. Overlying the sedimentary sequences are Cretaceous and Neogene volcanics (Fig. 4.3).

2.1.1 Laberge Group

The Jurassic Laberge Group has been informally subdivided into the Richthofen, Nordenskiold, and Tanglefoot formations (Table 2.1). The Richthofen Formation is characterized by thin- to medium-bedded turbidite beds, massive sandstone intervals, and fossiliferous conglomerates. It ranges from 500-1,000 m in thickness and is restricted to the southern half of the basin, so it is not present in the Whitehorse area. The Nordenskiold Formation consists of dark grey, massive dacites with quartz, plagioclase, biotite, and hornblende phenocrysts in a cryptocrystalline groundmass. The Tanglefoot Formation consists of coal-bearing, fluvial to marginal marine interbedded sandstones and mudstones, conglomerates, and rare bioclastic limestones. The limestones locally contain abundant ammonites, pelecypods, and carbonaceous material. It is at least 600 m thick and is restricted to the northern half of the Whitehorse Trough, and has not been seen in outcrop near the Shadow Lake Property to date. The Richthofen, Nordenskiold, and Tanglefoot formations unconformably overlie the Triassic Lewes River Group and are unconformably overlain by the Jurassic-Cretaceous Tantalus Formation (Colpron, 2011).

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 three 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 (Table 2.1). 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 two 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). Large areas of the sedimentary sequence were subsequently intruded by granitic rocks during the Cretaceous.

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 roughly 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 SHADOW LAKE PROPERTY AREA*

<table>
<tr><th rowspan="2">Period</th><th rowspan="2">Stage/Age</th><th colspan="3">Stratigraphic Unit</th><th>Lithological Description</th><th>Approx. Thickness (m)</th></tr>
<tr><th>Group</th><th colspan="2">Formation/ Member</th><th></th><th></th></tr>
<tr><td rowspan="7">Jurassic</td><td>Bathenian</td><td></td><td colspan="2">Tantalus Fm.</td><td>Quartzite, chert and pebble conglomerate, minor sandstone, shale and minor coal</td><td>200-300</td></tr>
<tr><td>Bajocian</td><td rowspan="6">Laberge Gp.</td><td colspan="2" rowspan="2">Tanglefoot Fm.</td><td rowspan="2">Interbedded sandstones and mudstones, conglomerates, rare limestones</td><td rowspan="2">Up to 600</td></tr>
<tr><td>Aalenian</td></tr>
<tr><td>Toarcian</td><td colspan="2" rowspan="2">Nordenskiold Fm.</td><td rowspan="2">Volcanics including dacites</td><td rowspan="2">unknown</td></tr>
<tr><td>Pliensbachian</td></tr>
<tr><td>Sinemurian</td><td colspan="2" rowspan="2">Richthofen Fm.</td><td rowspan="2">Massive sandstones, conglomerates</td><td rowspan="2">500-900</td></tr>
<tr><td>Hettangian</td></tr>
<tr><td rowspan="3">Triassic</td><td rowspan="2">Norian</td><td rowspan="3">Lewes River Gp.</td><td rowspan="2">Aksala Fm.</td><td>Casca Mbr.</td><td>Sandstones, conglomerates and mudstones, limestone</td><td>unknown</td></tr>
<tr><td>Hancock Mbr.</td><td>Massive to thick-bedded limestone</td><td>Up to 600</td></tr>
<tr><td>Carnian</td><td colspan="2">Povoas Fm.</td><td>Volcanics including basalts and andesites, minor carbonates</td><td></td></tr>
</table>

*Adapted from Clapham et al., 2002.

3. PROPERTY GEOLOGY

3.1 STRATIGRAPHY AND LITHOLOGY

As only initial prospecting work has been performed on the Shadow Lake Property, a detailed description of the Property geology is not yet possible. In the Whitehorse area, carbonate lithologies are known to occur within Triassic sequences. The Triassic limestones encountered within the Shadow Lake Property are from the Hancock and Casca members of the Carnian-Norian Aksala Formation (Fig. 4.2). The massive, resistant limestone exposures in the Whitehorse area are likely part of the Hancock Member. The following is a summary of the units underlying the Shadow Lake Property.

3.1.1 Laberge Group

Exposures of the Laberge Group have not been confirmed on the Shadow Lake Property during previous exploration programs completed by Dahrouge. However, mapping completed by the Yukon Geological Survey suggests the unit outcrops in the eastern-most claims of the Property. Typical lithology for the formation consists of massive sandstones and conglomerates.

3.1.2 Aksala Formation – Casca Member

Exposures of the Casca Member were mapped and sampled during previous exploration programs within the Shadow Lake Property. The member outcrops consist of light-grey weathered, medium-grey to dark-grey fresh, micritic to fine-grained lime mudstones and argillaceous lime mudstones. Outcrops are typically massive and somewhat resistant with minor calcite veining. Significant silica contamination ranging from 2.95 to 38.19% has previously been observed in the Casca Member of the Aksala Formation.

3.1.3 Aksala Formation – Hancock Member

The cliff-forming Hancock Member of the Aksala Formation has been mapped within the western and northern claims of the Shadow Lake Property. The member outcrops consist of very light-grey to medium-grey weathered, light-grey to medium-grey fresh, cryptocrystalline to micritic lime mudstones. Both massive and resistant, the Hancock Member limestones have minor carbonaceous stringers and oxide alteration along fractures. The Hancock Member is the high-calcium limestone unit targeted by Dahrouge in exploration projects.

3.2 STRUCTURE

Given the early stage of exploration on the Property, the structure is currently largely unknown. Several structural measurements were taken in the 2020 exploration program, specifically within the western portion of the Property (App. 4). Outcrops were observed to strike north, with dips ranging from 30° to 70° eastward.

4. RESULTS OF 2020 EXPLORATION

The 2020 exploration program was conducted in order to further assess the quality of the Aksala Formation limestones and provide more constraint on geologic contacts with other units in the area.

The groundwork involved mapping and sampling at several locations along the west-central portion of the Shadow Lake Property. A total of 17 samples were examined and analysed from the Hancock Member at seven locations. One sample was taken from the Casca Member at one location (Fig. 4.2).

During the programs, geological observations were recorded, including lithologic information, measurements of structural elements, and other pertinent details (App. 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.

Samples were shipped to Graymont's Central Lab in Sandy, Utah for preparation and analyses by standard ICP techniques, and LOI (App.'s 2 and 3).

The highest-quality Hancock Member section (2020-01) returned 97.65% $CaCO_3$, 0.86% $MgCO_3$ and 0.65% SiO_2 over 5.25 m of stratigraphy and included the highest-quality sample of 2020 (75753). Sample 75753 had 98.70% $CaCO_3$, 0.96% $MgCO_3$ and 0.71% SiO_2. Another notable section was 2020-02 that contained 97.28% $CaCO_3$, 1.20% $MgCO_3$ and 1.00% SiO_2 over 13 m of stratigraphic thickness (Fig. 4.2, App. 4). The rock type encountered from the Hancock Member in 2020 was exclusively micritic lime mudstones.

The remaining sample from the 2020 exploration program was a lime mudstone with 93.20% $CaCO_3$, 1.57% $MgCO_3$ and 2.90% SiO_2 averaged over roughly 0.75 m of stratigraphy from the Casca Member of the Aksala Formation (Fig. 4.2, App. 4).

5. DISCUSSION AND CONCLUSIONS

Within the Shadow Lake Property, limestones of the Norian-Carnian Hancock member of the Aksala Formation were mapped and tested. A total of 18 samples were collected in the west-central portion of the Property. Samples collected from the Hancock Member were fairly consistent in quality, generally averaging in excess of 97% $CaCO_3$, and indicate that the Aksala-Casca contact is further west in the 2020 sample area than previously mapped. The best section of Hancock Member limestone (2020-01) returned 97.65% $CaCO_3$. Limited time and challenging access routes prevented a conclusive determination of the quality of the Aksala Formation members.

The next phase of exploration on the Shadow Lake Property should consist of additional mapping and sampling, focusing on the southern and eastern portions of the Property. Confirming the contact with the Laberge Group in the east portion of the Property would also be beneficial. Identifying and mapping contacts between the Hancock and Casca members of the Aksala Formation throughout the Property should also be a priority. Southwest claims WL 1-6 should be allowed to lapse if higher quality limestones are not discovered in the future. Due to extensive cover, a backpack drill program may also provide valuable information of the Hancock Member's quality with depth while minimizing surface disturbance and environmental impact.

6. STATEMENT OF QUALIFICATIONS

I, Jody Dahrouge, residing at 11 Country Lane, Stony Plain, Alberta, do hereby certify that:

- I am a geologist and President of Dahrouge Geological Consulting Ltd., Suite 103, 10183 - 112 Street., Edmonton, Alberta, T5K 1M1.
- I am a 1988 graduate of the University of Alberta, Edmonton, Alberta with a B.Sc. specialized in Geology.
- I am a 1994 graduate of the University of Alberta, Edmonton, Alberta with a Sp.C. in Computing Science.
- I have practiced my profession as a geologist intermittently from 1988 to 1994, and continuously since 1994.
- I am a registered Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta, member M48123.
- I co-managed the 2020 work described in this report.
- I am co-author of the report entitled "2020 Geological and Geochemical Exploration on the Shadow 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 15th day of June, 2021.

PROFESSIONAL GEOLOGIST OF ALBERTA
J.R. DAHROUGE

Jody Dahrouge, B.Sc., Sp.C., P.Geo.
APEGA M48123

I, Andrew Shumilak, residing at 7446 Ellesmere Way, Sherwood Park, Alberta, do hereby certify that:

- I am a geologist of Dahrouge Geological Consulting Ltd., Suite 103, 10183 - 112 St., Edmonton, Alberta, T5K 1M1.
- I am a 2016 graduate of the University of Alberta, Edmonton, Alberta with a B.Sc. in Geology.
- I have practiced my profession as a geologist intermittently in 2017, and continuously since 2018.
- I am a registered Geologist in Training with the Association of Professional Engineers and Geoscientists of Alberta, member 214310.
- I co-managed the 2020 work described in this report.
- I am co-author of the report entitled "2020 Geological and Geochemical Exploration on the Shadow 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 15th day of June, 2021.

Andrew Shumilak, B.Sc., G.I.T.

APEGA 214310

7. REFERENCES

Bond, J.D., Morison, S. and McKenna, K. Surficial Geology of MacRae (1:50,000 scale). Yukon Geological Survey, Geoscience Map 2005-6.

Clapham, M.E., Smith, P.L. and Tipper, H.W. (2002) Lower to Middle Jurassic stratigraphy, ammonoid fauna and sedimentary history of the Laberge Group in the Fish Lake syncline, northern Whitehorse Trough, Yukon, Canada. In: Yukon Exploration and Geology 2001, D.S. Emond, L.H. Weston and L.L. Lewis (eds.), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, p. 73-85.

Colpron, M. (2011) (compiler). Geological compilation of Whitehorse trough – Whitehorse (105D), Lake Laberge (105E), and parts of Carmacks (115I), Glenlyon (105L), Aishihik Lake (115H), Quite Lake (105F), and Teslin (105C). Yukon Geological Survey, Geological map 2011-1, 1:250,000, 3 maps, legend & appendices.

Colpron, M. (2014) Birth of the Northern Cordilleran orogeny, as recorded by Jurassic sedimentation and exhumation in Yukon. Presentation at 2014 Geological Society of America Annual Meeting. Vancouver, Canada, 19-22 October 2014.

Deklerk, R. (2002) Yukon Minfile, 2002. A Database of Mineral Occurrences. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.

Doherty, R.A. (1999) Report on the 1997 RC Drill Program on the Mac 1-4 and Jeannie 1-12 claims. Assessment Report 093946 prepared for 145976 Yukon Inc.

Gordey, S.P. and Makepeace, A.J. (1999) Yukon bedrock geology in Yukon digital geology, Geological Survey of Canada, Open File D3826.

Hart, C.J.R. (1997) A transect across northern Stikinia: Geology of the northern Whitehorse map area, southern Yukon Territory (105D/13-16). Exploration and Geological Sciences Division, Yukon, Indian and Northern Affairs Canada, Bulletin 8, p. 112.

Hildes, D. (2007) Total magnetic field survey: YT and BC claims. Assessment Report 094935 prepared for Arcturus Ventures Inc.

Krueger, K. and Lole, H. (2014) 2014 Geological and Geochemical Exploration on the Shadow Lake Property, Assessment Report on Quartz Claims WL 1-45 (YF46097-YF46141), 12 p., 4 app., 5 fig.

Krueger, K. and Lole, H. (2015) 2015 Geological and Geochemical Exploration on the Shadow Lake Property, Assessment Report on Quartz Claims WL 1-45 (YF46097-YF46141), 12 p., 4 app., 5 fig.

Krueger, K. and Shumilak, A. (2020) 2019 Geological and Geochemical Exploration on the Shadow Lake Property, Assessment Report on Quartz Claims WL 1-45 (YF46097-YF46141), 14 p., 4 app., 5 fig.

Lees, E.J. (1934) Geology of the Laberge area, Yukon. Transactions of the Royal Canadian Institute, vol. 20, part 1, pp. 1-48.

Schulze, C.M. (2013) Assessment report on 2013 program of preliminary geological mapping, rock and silt sampling on the Dorian Miner Property. Assessment Report 096548 prepared for All-Terrane Mineral Exploration Services.

Schulze, C.M. (2014) Report on geological mapping, soil and rock geochemical sampling and diamond drilling on the Dorian Miner Property. Assessment Report 2014-005 prepared for SZS Mineral Exploration.

Stroshein, R. (2008) Assessment report on the 2008 geophysics surveys: Whitehorse Copper Belt. Assessment Report 095203 prepared for Arcturus Ventures Inc.

APPENDIX 1: ITEMIZED COST STATEMENT FOR THE 2020EXPLORATION

a) Personnel

A. Shumilak, geologist									
14.81	hrs		project management, field work and travel						
6.58	hrs		project planning & preparations, reporting						
21.38	hrs	@	$	59.00		$	1,261.61		
A. Shumilak, geologist									
4.84	hrs		project planning & preparations, reporting						
4.84	hrs	@	$	69.00		$	333.90		
S. Holmes, geologist									
14.15	hrs		field work and travel						
0.17	hrs		project preparations, data entry						
14.31	hrs	@	$	59.00		$	844.33		
P. Mickelsen, student									
0.37	hrs		project preparations, data entry						
0.37	hrs	@	$	45.00		$	16.75		
A. Ullrich, student									
14.39	hrs		field work and travel						
0.99	hrs		project preparations, data entry						
15.39	hrs	@	$	45.00		$	692.37		
T. Anderson, student									
14.15	hrs		field work and travel						
14.15	hrs	@	$	39.00		$	551.66		
J. Kerr, receptionist									
0.29	hrs		logistics, prepare shipments						
0.29	hrs	@	$	40.00		$	11.58		
								$	3,712.21

b) Food and Accommodation

5.29	man-days	@	$	103.95	accommodations (hotel rooms)	$	550.32		
5.96	man-days	@	$	70.00	meals	$	416.91		
								$	967.24

c) Transportation

Vehicles:	Truck rental	Driving Force (Whitehorse)	$	190.08		
	Fuel		$	20.78		
					$	210.86

d) Instrument Rental

Laptop	$	11.58		
Radios	$	15.06		
Satellite Phone	$	6.95		
			$	33.58

e) Analyses

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

18	samples	@	$	4.50	Preparation fee	$	81.00		
18	samples	@	$	25.00	Sample analysis	$	450.00		
								$	531.00

f) Other

Shipping	$	52.11		
Disposable Supplies	$	47.60		
Overhead & Supply	$	140.62		
			$	240.34
Total			$	5,695.23

Andrew Shumilak, B.Sc., G.I.T.

Edmonton, Alberta
June 15, 2021

APPENDIX 2: ANALYTICAL LABORATORY INFORMATION AND TECHNIQUES

Name and Address of the Lab:

Graymont Western US Inc., Western Region Office
585 W Southridge Way
Sandy, Utah, 84070

Statement of Qualifications:

Jared Leikam, Graymont Central Lab Supervisor, 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 14 years.

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 crushes the stone down to a -3/8-inch sizing. The technician then riffles and splits the stone down to a manageable size (roughly 200 g). The stone is then dried in an oven at 105ºC. Once the samples have been dried, they get pulverized in a Bico Disc Mill, so that 90% of the powder is passing a 75um screen. A split of this pulverized material is bagged up, given a barcode label and then set to the analytical lab for testing.

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^{th} 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 each batch. Every element being analyzed in a sample is backed up by data that we collect from the certified reference materials being analyzed within each batch of samples. 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	Date	Type	Sample	Status	$CaCO_3$	$MgCO_3$	Fe_2O_3	Al_2O_3	SrO	MnO	SiO_2	BaO	K_2O	Na_2O	P_2O_5	TiO_2	ICP Total	Sulfur	LOI 1000 C
					%	%	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	%
2020111833	1/9/2020	Limestone	75751	B	93.2	1.57	1.09	0.73	954	1295	2.90	113	1547	1589	699	408	100.1	0.02	42.2
2020111834	1/9/2020	Limestone	75752	B	97.5	0.94	0.15	0.22	451	114	1.59	40	608	<20	424	96	100.5	0.01	43.0
2020111835	1/9/2020	Limestone	75753	B	98.7	0.96	0.04	0.15	414	52	0.71	24	308	<20	172	46	100.7	0.01	43.4
2020111836	1/9/2020	Limestone	75754	B	97.6	0.86	0.04	0.14	430	56	0.65	20	311	<20	250	38	99.4	0.01	43.4
2020111837	1/9/2020	Limestone	75755	B	95.5	0.92	0.08	0.23	622	61	3.01	37	465	143	319	81	99.9	0.01	42.5
2020111838	1/9/2020	Limestone	75756	B	96.9	1.38	0.02	0.14	855	69	0.67	22	277	<20	424	35	99.3	0.01	43.4
2020111839	1/9/2020	Limestone	75757	B	97.9	1.21	0.03	0.16	753	57	0.44	24	414	<20	517	78	99.9	0.01	43.5
2020111840	1/9/2020	Limestone	75758	B	96.9	1.17	0.06	0.22	935	55	1.61	25	546	<20	452	53	100.2	0.01	43.0
2020111841	1/9/2020	Limestone	75759	B	97.5	0.96	0.07	0.19	684	67	1.37	19	527	<20	511	85	100.2	0.01	43.1
2020111842	1/9/2020	Limestone	75760	B	97.8	0.86	0.04	0.16	340	51	0.62	21	393	<20	220	55	99.6	0.01	43.2
2020111843	1/9/2020	Limestone	75761	B	97.1	0.77	0.03	0.12	350	92	0.98	25	240	<20	442	24	99.1	0.01	43.1
2020111844	1/9/2020	Limestone	75762	B	97.8	1.11	0.04	0.11	574	72	0.32	26	226	<20	237	28	99.5	0.01	43.5
2020111845	1/9/2020	Limestone	75763	B	97.3	1.15	0.11	0.20	468	127	0.83	24	576	45	398	63	99.7	0.01	43.3
2020111846	1/9/2020	Limestone	75764	B	97.3	1.05	0.11	0.18	305	128	0.62	16	436	41	255	51	99.4	0.01	43.5
2020111847	1/9/2020	Limestone	75765	B	97.5	1.03	0.05	0.16	288	124	0.55	9	369	<20	340	46	99.4	0.01	43.6
2020111848	1/9/2020	Limestone	75766	B	96.9	0.98	0.08	0.25	213	93	1.33	19	736	<20	213	82	99.7	0.01	43.1
2020111849	1/9/2020	Limestone	75767	B	98.2	0.77	0.05	0.15	234	221	0.60	21	426	<20	219	41	99.9	<.01	43.4
2020111850	1/9/2020	Limestone	75768	B	97.1	0.98	0.04	0.17	321	166	0.81	22	460	<20	193	38	99.2	0.01	43.4

APPENDIX 4: 2020 SAMPLE DESCRIPTIONS AND ASSAY RESULTS FROM THE SHADOW LAKE PROPERTY

DAHROUGE GEOLOGICAL CONSULTING LTD.

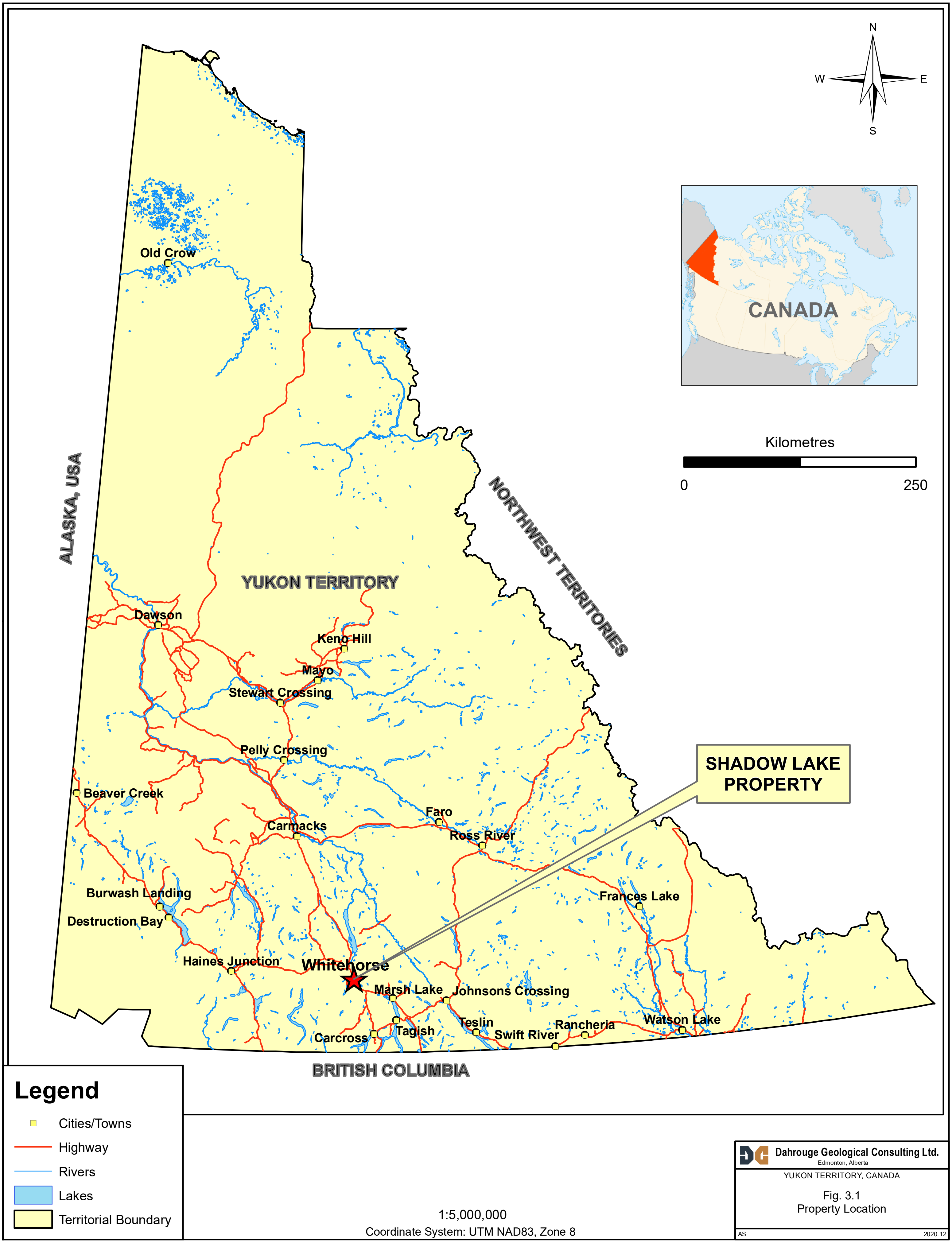
GRAYMONT

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. Sample locations are shown in Figure 4.2. Stratigraphy Abbreviations: Th - Triassic Aksala Formation (Hancock Member), Tc - Triassic Aksala Formation (Casca Member). Sample size: 10-12 chips or pieces that are approximately 2"x1.5"x1.5" per chip.

Sample	Strat Unit	Strat Tkns (m)	Description	$CaCO_3$ (%)	$MgCO_3$ (%)	SiO_2 (%)	Al_2O_3 (%)	Fe_2O_3 (%)	SrO (ppm)	MnO (ppm)	P_2O_5 (ppm)
Isolated Samples											
75751 UTM 509608E, 6715722N	Tc	0.75	**Lime Mudstone,** medium grey to tan weathered, dark grey fresh, micritic to very fine-grained, alteration: oxide, localized, weak intensity, weak HCl reaction, structure(s): calcite veinlet, local-scale, very weak	93.20	1.57	2.90	0.730	1.090	954	1295	699
75752 UTM 509995E, 6715490N	Th	0.75	**Lime Mudstone,** light brown-grey to tan weathered, light grey fresh, micritic, alteration: oxide, localized, weak intensity, moderate HCl reaction	97.50	0.94	1.59	0.220	0.150	451	114	424
75755 UTM 510013E, 6715445N	Th	8	**Lime Mudstone,** light brown-grey to tan weathered, medium grey to dark grey fresh, micritic, thinly-bedded, alteration: oxide, localized, weak intensity, moderate HCl reaction	95.50	0.92	3.01	0.230	0.080	622	61	319
75762 UTM 510156E, 6715498N	Th	3	**Lime Mudstone,** light brown-grey to tan weathered, medium grey fresh, micritic, thinly-bedded, fissile, alteration: oxide, localized, weak intensity, moderate HCl reaction, structure(s): bedding (definite), local-scale, 348/40 NE	97.80	1.11	0.32	0.110	0.040	574	72	237
75763 UTM 510177E, 6715505N	Th	2.75	**Lime Mudstone,** light brown-grey to tan weathered, light grey to medium grey fresh, micritic, thinly-bedded to massively-bedded, fissile, alteration: oxide, localized, weak intensity, moderate HCl reaction	97.30	1.15	0.83	0.200	0.110	468	127	398
75764 UTM 510185E, 6715511N	Th	3.25	**Lime Mudstone,** light brown-grey to tan weathered, light grey to medium grey fresh, micritic, thinly-bedded to massively-bedded, fissile, alteration: oxide, localized, weak intensity, weak HCl reaction, structure(s): bedding (undulatory), local-scale, 325/58 NE	97.30	1.05	0.62	0.180	0.110	305	128	255
75765 UTM 510200E, 6715498N	Th	1.5	**Lime Mudstone,** light brown-grey to tan weathered, light grey to medium grey fresh, micritic, thinly-bedded to massively-bedded, fissile, alteration: oxide, localized, weak intensity, weak HCl reaction, structure(s): bedding (undulatory), local-scale, 325/58 NE	97.50	1.03	0.55	0.160	0.050	288	124	340
75768 UTM 510265E, 6715502N	Th	1.25	**Lime Mudstone,** light brown-grey to tan weathered, light grey fresh, micritic, massive, alteration: oxide, localized, weak intensity, moderate HCl reaction	97.10	0.98	0.81	0.170	0.040	321	166	193
Section 2020-01 (UTM 509987E, 6715461N)											
75753	Th	0.25	**Lime Mudstone,** light brown-grey to tan weathered, light grey fresh, micritic, thinly-bedded to massively-bedded, alteration: oxide, localized, weak intensity, weak HCl reaction, structure(s): bedding (undulatory), local-scale, 10/31 E	98.70	0.96	0.71	0.150	0.040	414	52	172
75754	Th	5	**Lime Mudstone,** light brown-grey to tan weathered, light grey fresh, micritic, thinly-bedded to massively-bedded, alteration: oxide, localized, weak intensity, weak HCl reaction, structure(s): bedding (undulatory), local-scale, 342/72 NE	97.60	0.86	0.65	0.140	0.040	430	56	250
Section 2020-02 (UTM 510093E, 6715492N)											
75756	Th	3.5	**Lime Mudstone,** light brown-grey to tan weathered, dark grey fresh, micritic, thinly-bedded to massively-bedded, alteration: oxide, localized, weak intensity, moderate HCl reaction, structure(s): calcite veinlet, local-scale, weak; bedding (undulatory), local-scale, 352/55 E	96.90	1.38	0.67	0.140	0.020	855	69	424

Sample	Strat Unit	Strat Tkns (m)	Description	$CaCO_3$ (%)	$MgCO_3$ (%)	SiO_2 (%)	Al_2O_3 (%)	Fe_2O_3 (%)	SrO (ppm)	MnO (ppm)	P_2O_5 (ppm)
75757	Th	3.5	**Lime Mudstone,** light brown-grey to tan weathered, dark grey fresh, micritic, thinly-bedded to massively-bedded, alteration: oxide, localized, weak intensity, moderate HCl reaction, structure(s): calcite veinlet, local-scale, weak	97.90	1.21	0.44	0.160	0.030	753	57	517
75758	Th	3.5	**Lime Mudstone,** light brown-grey to tan weathered, dark grey fresh, micritic, thinly-bedded to massively-bedded, alteration: oxide, localized, weak intensity, moderate HCl reaction, structure(s): calcite veinlet, local-scale, weak	96.90	1.17	1.61	0.220	0.060	935	55	452
75759	Th	2.5	**Lime Mudstone,** light brown-grey to tan weathered, dark grey fresh, micritic, thinly-bedded to massively-bedded, alteration: oxide, localized, weak intensity, moderate HCl reaction, structure(s): calcite veinlet, local-scale, weak	97.50	0.96	1.37	0.190	0.070	684	67	511
Section 2020-03 (UTM 510143E, 6715493N)											
75760	Th	2.75	**Lime Mudstone,** light brown-grey to tan weathered, light grey to medium grey fresh, micritic, thinly-bedded to massively-bedded, fissile, alteration: oxide, localized, weak intensity, moderate HCl reaction	97.80	0.86	0.62	0.160	0.040	340	51	220
75761	Th	1.5	**Lime Mudstone,** light brown-grey to tan weathered, light grey to medium grey fresh, micritic, thinly-bedded to massively-bedded, fissile, alteration: oxide, localized, weak intensity, moderate HCl reaction, structure(s): bedding (approximate), local-scale, 335/42 NE	97.10	0.77	0.98	0.120	0.030	350	92	442
Section 2020-04 (UTM 510264E, 6715518N)											
75766	Th	3.5	**Lime Mudstone,** light brown-grey to tan weathered, light grey fresh, micritic, massive, alteration: oxide, localized, weak intensity, moderate HCl reaction	96.90	0.98	1.33	0.250	0.080	213	93	213
75767	Th	3.75	**Lime Mudstone,** light brown-grey to tan weathered, light grey fresh, micritic, massive, alteration: oxide, localized, weak intensity, moderate HCl reaction	98.20	0.77	0.60	0.150	0.050	234	221	219

F1



YUKON TERRITORY
ALASKA, USA
NORTHWEST TERRITORIES
BRITISH COLUMBIA
CANADA
SHADOW LAKE PROPERTY
Old Crow
Dawson
Keno Hill
Mayo
Stewart Crossing
Pelly Crossing
Beaver Creek
Faro
Carmacks
Ross River
Burwash Landing
Destruction Bay
Frances Lake
Haines Junction
Whitehorse
Marsh Lake
Johnsons Crossing
Teslin
Tagish
Carcross
Swift River
Rancheria
Watson Lake
N
W
E
S
Kilometres
0
250
Legend
Cities/Towns
Highway
Rivers
Lakes
Territorial Boundary
1:5,000,000
Coordinate System: UTM NAD83, Zone 8
Dahrouge Geological Consulting Ltd.
Edmonton, Alberta
YUKON TERRITORY, CANADA
Fig. 3.1
Property Location
AS
2020.12

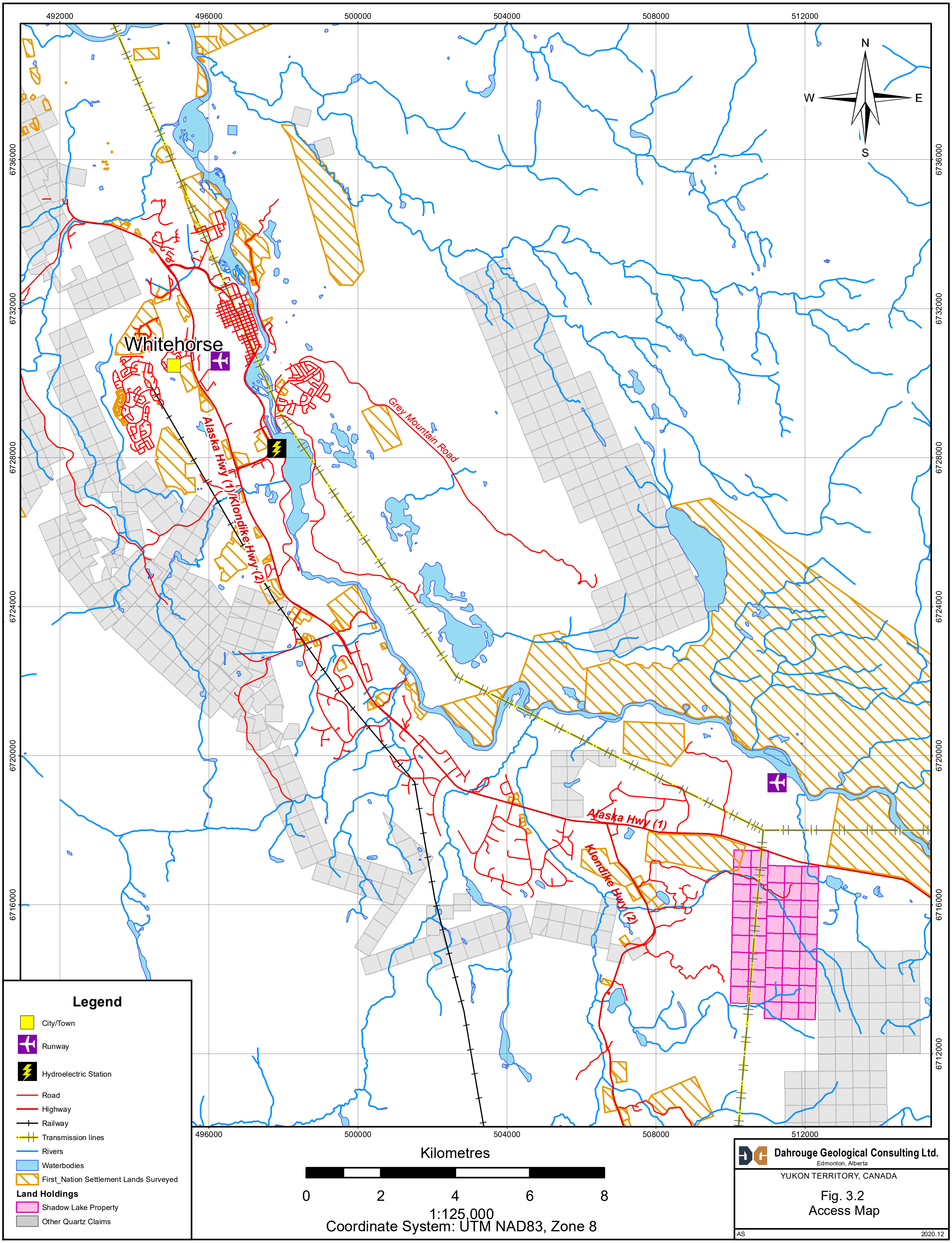
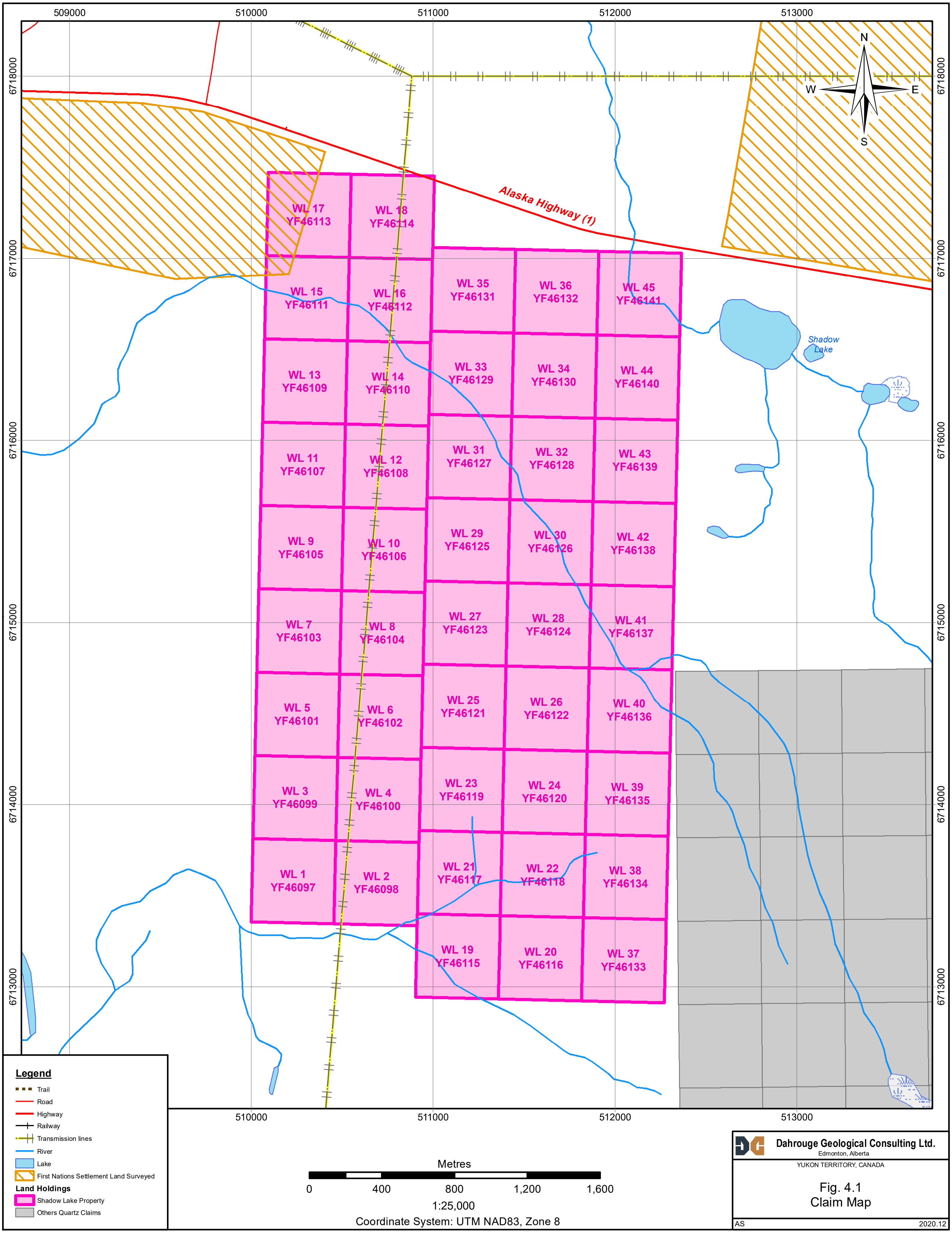


Fig. 3.2
Access Map

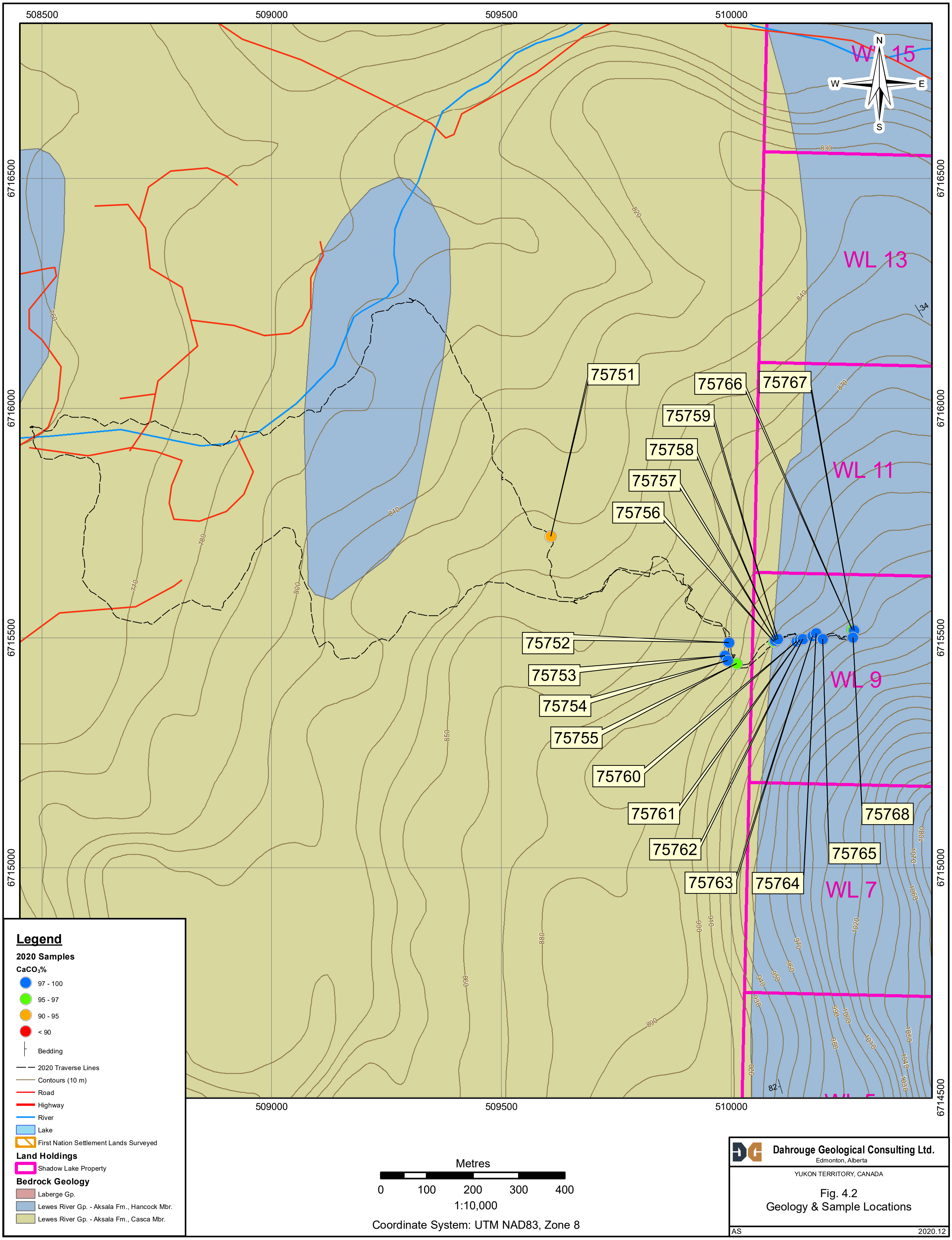


Dahrouge Geological Consulting Ltd.
Edmonton, Alberta

YUKON TERRITORY, CANADA

Fig. 4.1
Claim Map

AS
2020.12



Dahrouge Geological Consulting Ltd.
Edmonton, Alberta

YUKON TERRITORY, CANADA

Fig. 4.2
Geology & Sample Locations

AS 2020.12

F5

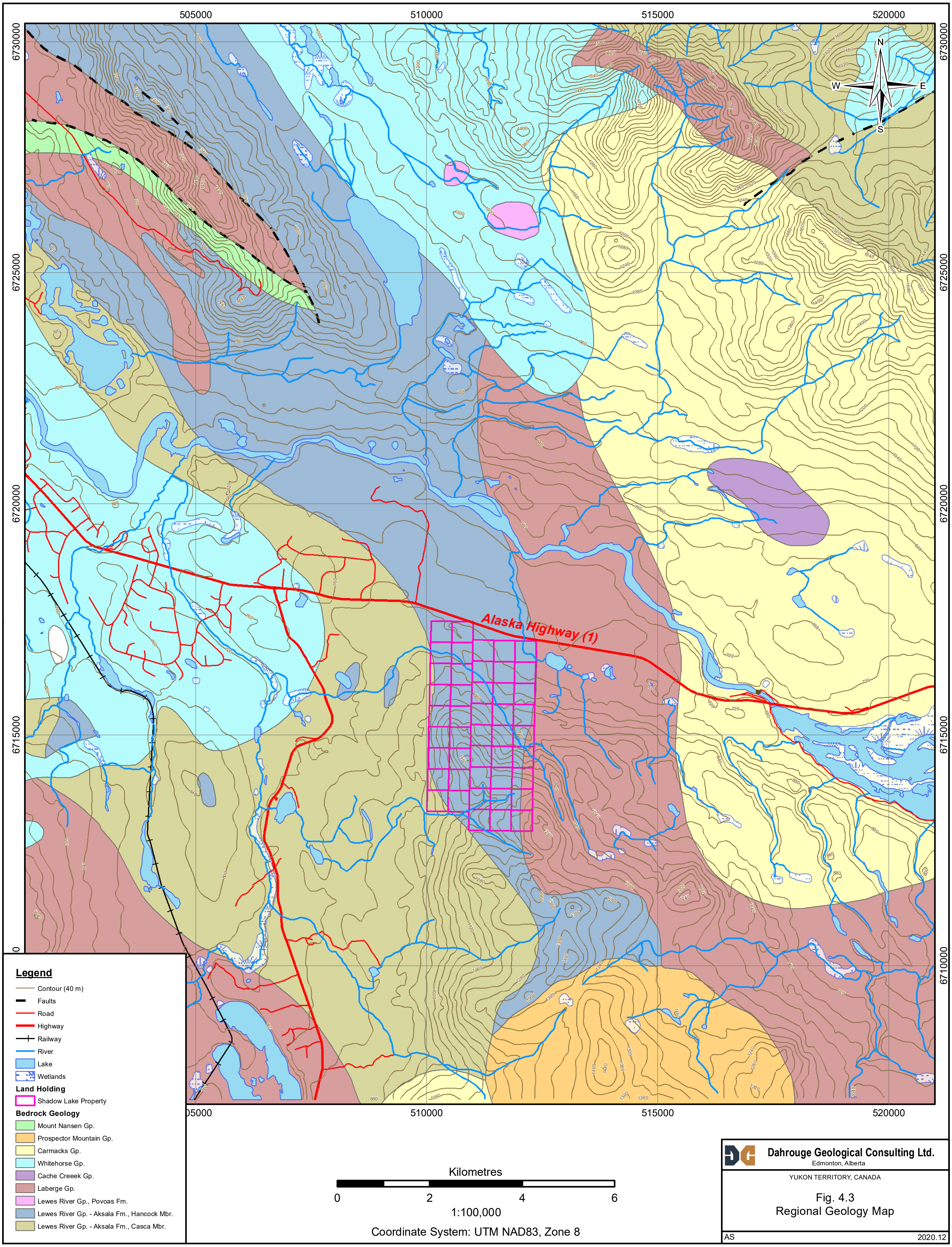


Fig. 4.3
Regional Geology Map