

## Assessment Report

# On Year-2018 Geological Mapping and Rock Geochemical Sampling On the DORIAN MINER PROPERTY SZS Mineral Exploration

Mount Lorne area, south-central Yukon  
YE29701 – YD29711 (DORIAN MINER 1-11), YE29712 (DORIAN MINER 13),  
YE29713 (DORIAN MINER 12), YE29714 – YE29734 (DORIAN MINER 14 – 34)  
YE22233 – YE22256 (MINOR 1-24), YE22257 – YE22268 (TRITONE 1-12)

NTS Sheet 105D10

Whitehorse Mining District

Work Performed: July 11, 2018

Additional Staking: June 12 – 13, 2018

**Effective date: December 14, 2019**

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December 14, 2019

## 1. Summary

In 2018, a single-day exploration program was conducted on the Dorian Miner property, located about 27 km southeast of City Centre, Whitehorse, Yukon, and about 9.5 km southeast of the intersection of the Alaska and South Klondike Highways. The program comprised geological mapping and limited rock sampling on 36 claims added to the property earlier in 2018.

The Dorian Miner property comprises 70 Yukon quartz mining claims covering 1,468.6 hectares (3,627 acres). The property covers the historic “Ni Showing”, consisting of gold-bearing quartz-arsenopyrite veins in felsic and mafic dykes roughly 1.8 km north of the Mount Lorne pluton.

The Dorian Miner property is located within the Whitehorse Trough, forming the northern portion of the Stikinia Terrane consisting of mafic to intermediate volcanic flows and carbonate and mixed clastic-carbonate assemblages. The Whitehorse Trough consists of three major groups: the Lewes River Group, an island arc assemblage comprised of mafic volcanic and volcanoclastic rocks; the Laberge Group, a Lower to Middle Jurassic dominantly sedimentary assemblage; and the Tantalus Formation, an Upper Jurassic to Lower Cretaceous sedimentary assemblage. In the property area, the Mount Lorne pluton, a biotite-hornblende granite stock, has intruded predominantly Lewes River Group grey limestone, the latter intercalated with strongly fractured black shale in the Ni Showing area. This stock has been traditionally assigned as a member of the 74 Ma Prospector Mountain Suite; however, recent re-evaluation of the regional setting of west-central Yukon suggests this suite may be of slightly younger “Late late Cretaceous” age.

In 2014, the “Monk” prospect was discovered during follow-up of an anomalous soil sample grading 0.397 g/t Au south of the Ni showing. The Monk showing comprises weakly pyritic carbonate rocks returning a value of 0.303 g/t gold (Au).

Year-2014 results at the Ni showing continue to support the hypothesis that a cupola of the Mount Lorne Pluton underlies the showing area. Publicly available Total Field Magnetic data indicates a magnetic “high” anomaly northeast of the Ni Showing. This represents another new target area for further exploration, particularly along marginal areas of the potential intrusion.

The 2018 program led to identification of a small monzonitic stock north of the Ni showing. The stock has undergone weak but pervasive silicification and carbonate alteration, and is weakly pyritic with ubiquitous limonite after sulphides. No previous documentation of this is known; therefore, this is considered as a new geologic discovery. Rock sampling returned gold values to 0.437 g/t Au from centimetre-scale drusy, limonitic quartz veining. The age relationship of this stock with other intrusive rocks in the property area is unknown, although it likely represents a distinct emplacement event. The stock occurs west of the aforementioned magnetic high feature, which requires “ground-truthing” to determine its origin.

Recommendations for the 2020 program include expansion of the Ni Showing soil geochemical grid to the east, north and south, to test for extension of the NNW-trending anomalous zone marking the Discovery Dyke and the geochemical signature, if any, of the northeastern magnetic anomaly. Combined surface magnetic and VLF-EM surveying is recommended to cover the total extent of the proposed and existing

soil grids. A second soil geochemical “mini-grid” will also test the extent of the Monk Prospect. Both target areas will be accompanied by detailed geological mapping and rock sampling.

Also recommended is another mini-grid across the northern monzonitic stock, and soil geochemical sampling along the claim lines established in 2018. Total proposed expenditures stand at **CDN\$47,885**; with a 10% contingency, proposed expenditures stand at **CDN\$52,674**.

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## 2. Introduction

### 2.1 Introductory Statement

The original Dorian Miner claim block was staked to cover a known gold showing, the Ni showing (Yukon Minfile no. 105D 066), which had undergone mechanized trenching, mapping and sampling from 1980 through 1998. The 2018 claims covered prospective ground to the north.

In June 2018, an additional 34 Yukon quartz mining claims were added on to the Dorian Miner property, located about 27 km southeast of City Centre, Whitehorse, Yukon, and about 9.5 km southeast of the intersection of the Alaska and South Klondike Highways. Two further claims were added on July 11, together with a brief program of geological mapping, prospecting and rock sampling on the June, 2018 claim block. This assessment report is designed to satisfy the requirements of assessment filing with the Yukon Mining Recorder (Whitehorse district), Ministry of Energy, Mines and Resources, Government of Yukon. Expenditures, including digitization and report writing, total CDN\$4,224.05.

Carl Schulze, geological consultant with All-Terrane Mineral Exploration Services, a Whitehorse-based contract exploration company, supervised all work done on the program. Mr. Schulze was present on the property throughout the program.

### 2.2 Terms, Definitions and Units

All costs contained in this report are reported in Canadian dollars. Distances are reported in metres (m) and kilometres (km). "GPS" refers to Global Positioning System with co-ordinates reported in UTM grid, Zone 8, Nad 83 projection. A "Minfile Occurrence" refers to documented mineral occurrences on file with the Yukon MINFILE Mineral Inventory, Ministry of Energy, Mines and Resources, Government of Yukon. "Mag" refers to "Magnetic" geophysical surveying methods and VLF-EM stands for "Very Low Frequency Electromagnetic" geophysical surveying.

"ICP-ES" stands for "Inductively coupled plasma emission spectroscopy". The term "ppm" refers to parts per million, which is equivalent to grams per metric tonne (g/t); ppb refers to parts per billion per metric tonne. "Ma" refers to million years. The symbol "%" refers to weight percent unless otherwise stated. QAQC refers to quality assurance/ quality control.

"Au" is the symbol for the chemical element gold. The following symbols pertain to elements analyzed during ICP-MS analysis, and include elements described in subsequent sections.

Elemental abbreviations used in this report are:

Au: Gold	Mg: Magnesium
Ag: Silver	Mn: Manganese
Al: Aluminum	Mo: Molybdenum
As: Arsenic	Na: Sodium
B: Boron	Ni: Nickel
Ba: Barium	P: Phosphorous
Be: Beryllium	Pb: Lead
Bi: Bismuth	S: Sulphur
Ca: Calcium	Sb: Antimony
Cd: Cadmium	Sn: Tin
Ce: Cerium	Sr: Strontium
Co: Cobalt	Ta: Tantalum
Cr: Chrome	Te: Tellurium
Cu: Copper	Th: Thorium
Fe: Iron	Ti: Titanium
Ga: Gallium	Tl: Thallium
Hg: Mercury	U: Uranium
In: Indium	V: Vanadium
K: Potassium	W: Tungsten
La: Lanthanum	Y: Yttrium
Li: Lithium	Zn: Zinc
Rb: Rubidium	Zr: Zirconium
Se: Selenium	

Minerals found on the property include pyrite and pyrrhotite (iron sulphides), arsenopyrite (iron-arsenic sulphide), scorodite (hydrated iron arsenate) and chalcopyrite (copper sulphide).

### **2.3 Terms of Reference**

This report will focus on the results of all aspects of the 2018 program.

At this point the claims are privately held by the four-entity partnership. Mr. Carl Schulze, PGeo, of All-Terrane Mineral Exploration services, designed, managed and supervised the 2018 program, and was on site during the entire program.

## **3. Property Description and Location**

The Dorian Miner claim block consists of 70 full-sized Yukon quartz mining claims covering 1,468.6 hectares (3,627 acres). The property is located about 27 km southeast of the City Centre of Whitehorse, Yukon, and about 9.5 km southeast of the intersection of the Alaska and South Klondike Highways, known as Carcross Corners (Figures 1-3). The Ni showing is located at UTM location 513170E, 6711320N (UTM datum NAD 83, Zone 8), within NTS Sheet 105D10 in south-central Yukon Territory, Canada.

Work in 2018 comprised prospecting, geological mapping, and limited rock sampling (3 rock samples), not requiring a permit. Mechanized exploration, particularly trenching and drilling beyond established threshold levels, will require a minimum of a Class 2 operating permit, and may require a Class 3 permit.

No environmental liabilities are known on the property, and the only significant past disturbance consists of historic trenching in the Ni showing area. The claims are located on crown land outside of Whitehorse city limits. In the event of option or sale, the four partners: Carl Schulze, Robert Stirling, Karl Ziehe and Kluane Drilling Ltd., will collectively retain a 2% NSR royalty on any future production on the property. The property is located in the traditional territory of the Kwanlin Dun First Nation (KDFN). At this point no consultation has been conducted with the KDFN, due to the preliminary nature of exploration.

Table 1 lists the claim status of the Dorian Miner claim block.



Table 1: Claim Status as of Dec 8, 2019

<b>Grant No's</b>	<b>Claim Name</b>	<b>Recording Date</b>	<b>Expiry Date</b>
YE29701 – YE29710	DORIAN MINER 1-10	04-Jun-13	04-Jun-22
YE29711	DORIAN MINER 11	04-Jun-13	04-Jun-21
YE29712	DORIAN MINER 13	04-Jun-13	04-Jun-22
YE29713	DORIAN MINER 12	04-Jun-13	04-Jun-22
YE29714	DORIAN MINER 14	04-Jun-13	04-Jun-21
YE29715	DORIAN MINER 15	04-Jun-13	04-Jun-22
YE29716	DORIAN MINER 16	04-Jun-13	04-Jun-21
YE29717	DORIAN MINER 17	04-Jun-13	04-Jun-22
YE29718	DORIAN MINER 18	04-Jun-13	04-Jun-21
YE29719	DORIAN MINER 19	04-Jun-13	04-Jun-22
YE29720 - YE29725	DORIAN MINER 20-25	04-Jun-13	04-Jun-21
YE29726	DORIAN MINER 26	04-Jun-13	04-Jun-22
YE29727	DORIAN MINER 27	04-Jun-13	04-Jun-21
YE29728	DORIAN MINER 28	04-Jun-13	04-Jun-22
YE29729	DORIAN MINER 29	04-Jun-13	04-Jun-21
YE29730	DORIAN MINER 30	04-Jun-13	04-Jun-22
YE29731 - YE29734	DORIAN MINER 31-34	06-Aug-13	06-Aug-21
YE22233 - YE22244	MINOR 1-12	18-Jun-18	18-Jun-20
YE22245	MINOR 13	18-Jun-18	18-Jun-21
YE22246	MINOR 14	18-Jun-18	18-Jun-20
YE22247	MINOR 15	18-Jun-18	18-Jun-21
YE22248	MINOR 16	18-Jun-18	18-Jun-20
YE22249 - YE22252	MINOR 17-20	18-Jun-18	18-Jun-21
YE22253 – YE22254	MINOR 21-22	18-Jun-18	18-Jun-20
YE22255 – YE22256	MINOR 23-24	23-Jul-18	23-Jul-21
YE22257 – YE22268	TRITONE 1-12	18-Jun-18	18-Jun-20

## **4. Accessibility, Climate, Local Resources, Infrastructure and Physiography**

The Dorian Miner property can be accessed by an All-Terrain Vehicle (ATV) trail extending from the end of the “CCC Road”, itself extending southeast from the South Klondike Highway (Yukon Hwy 2) about 8 km south of Carcross Corners (Figure 2). The South Klondike Highway is a paved all-weather road, open year-round. The CCC Road is a dirt road, but is open year-round, due to permanent residences along its entire length. The ATV trail is locally rough and quite steep, requiring skilled ATV operators. The length of the trail from the CCC Road to the NI showing is 5.9 km. The trail is also accessible in winter by snowmobile.

The property area has a dry sub-arctic continental climate, with some intermittent moderation in winter caused by south winds originating from the Gulf of Alaska. Average high temperatures in July for Whitehorse stand at 20°C; average lows at 8°C. Average January high temperatures stand at -11°C; average lows stand at -19°C. Precipitation at Whitehorse averages about 10 inches (250 mm) per year, with the spring being the driest period, and the fall being the wettest. Temperatures at the property are somewhat lower and precipitation somewhat higher due to elevation.

Whitehorse (2019 pop. Approx. 31,000) is a full-service city with an available workforce, including exploration and diamond drilling services. Whitehorse is serviced by an international airport and the Alaska and South Klondike highways. The White Pass and Yukon Railway is not operative north of Carcross.

The property covers a plateau with elevations ranging from about 1,200m to 1,400m, except for a stream valley in west-central areas which is somewhat lower. Most of the property is covered by taiga and buckbrush typical of areas along the tree line in the Whitehorse area, with hilltops slightly above tree line covered by dense buckbrush. Outcrop exposure is good along ridgelines and hilltops in eastern areas but very sparse in western areas. Glacial till covers areas without outcrop exposure, and attains a minimum thickness of 30 metres in western areas, particularly along the west-flowing stream valley.

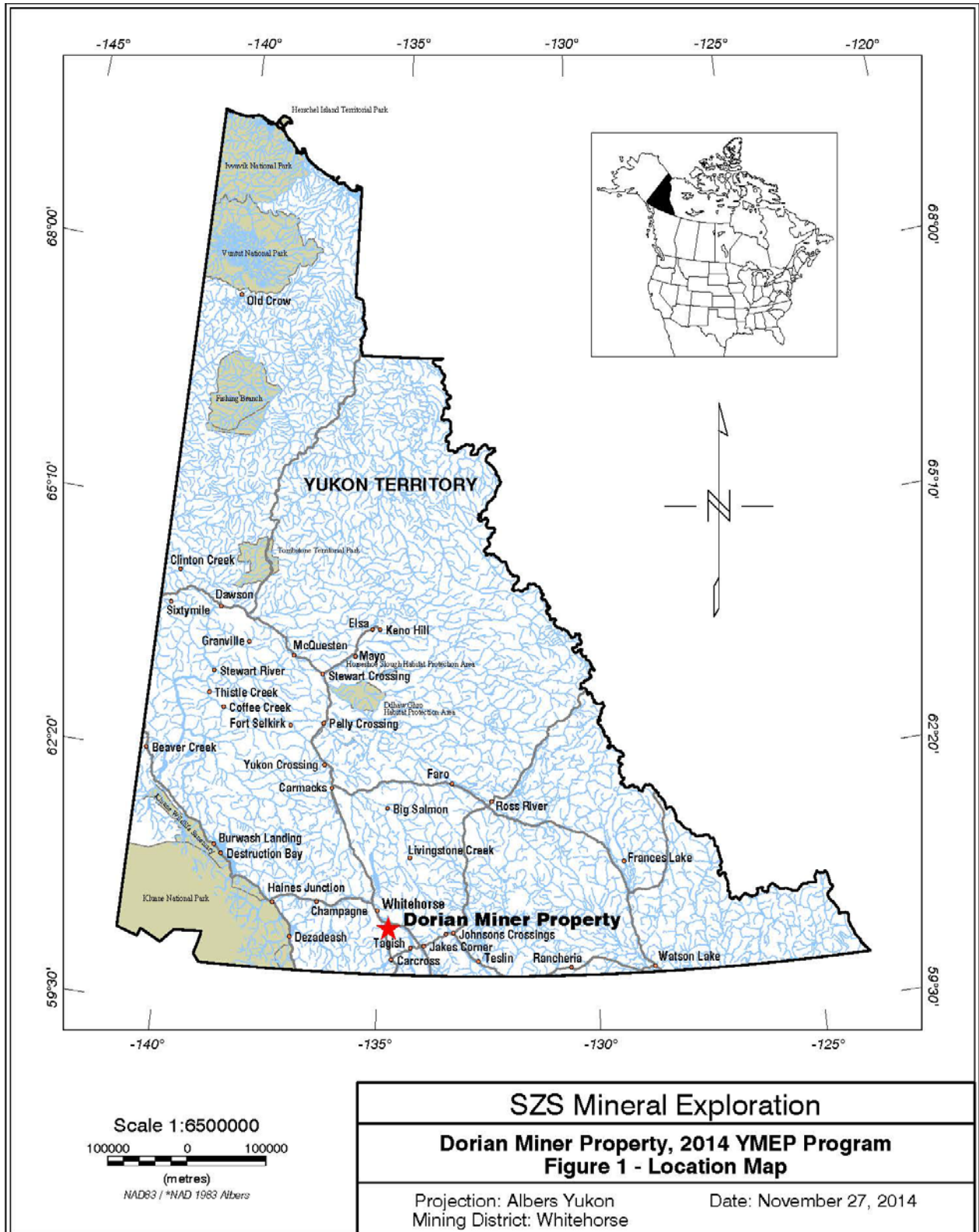


Figure 1: Location Map

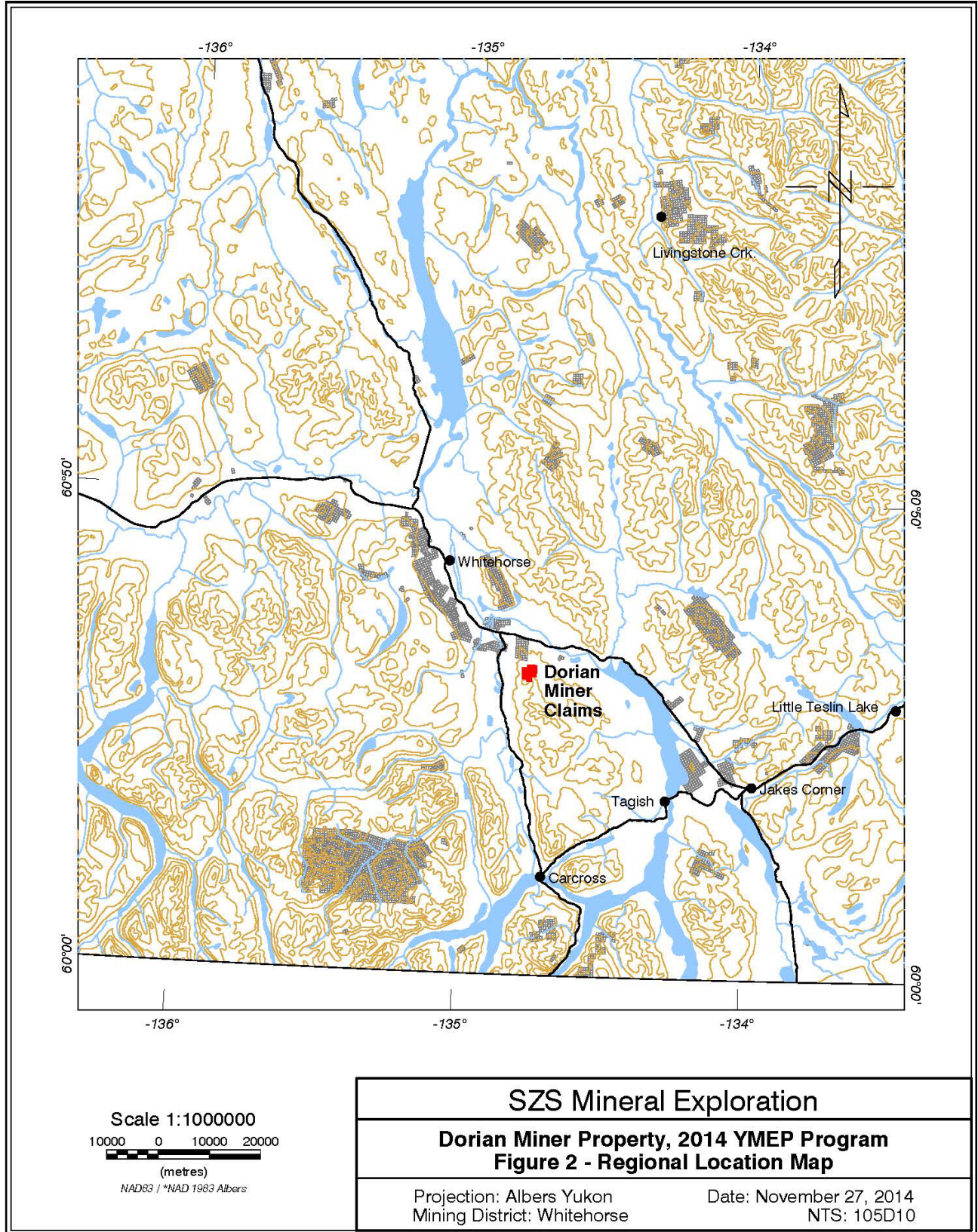


Figure 2: Regional Location Map

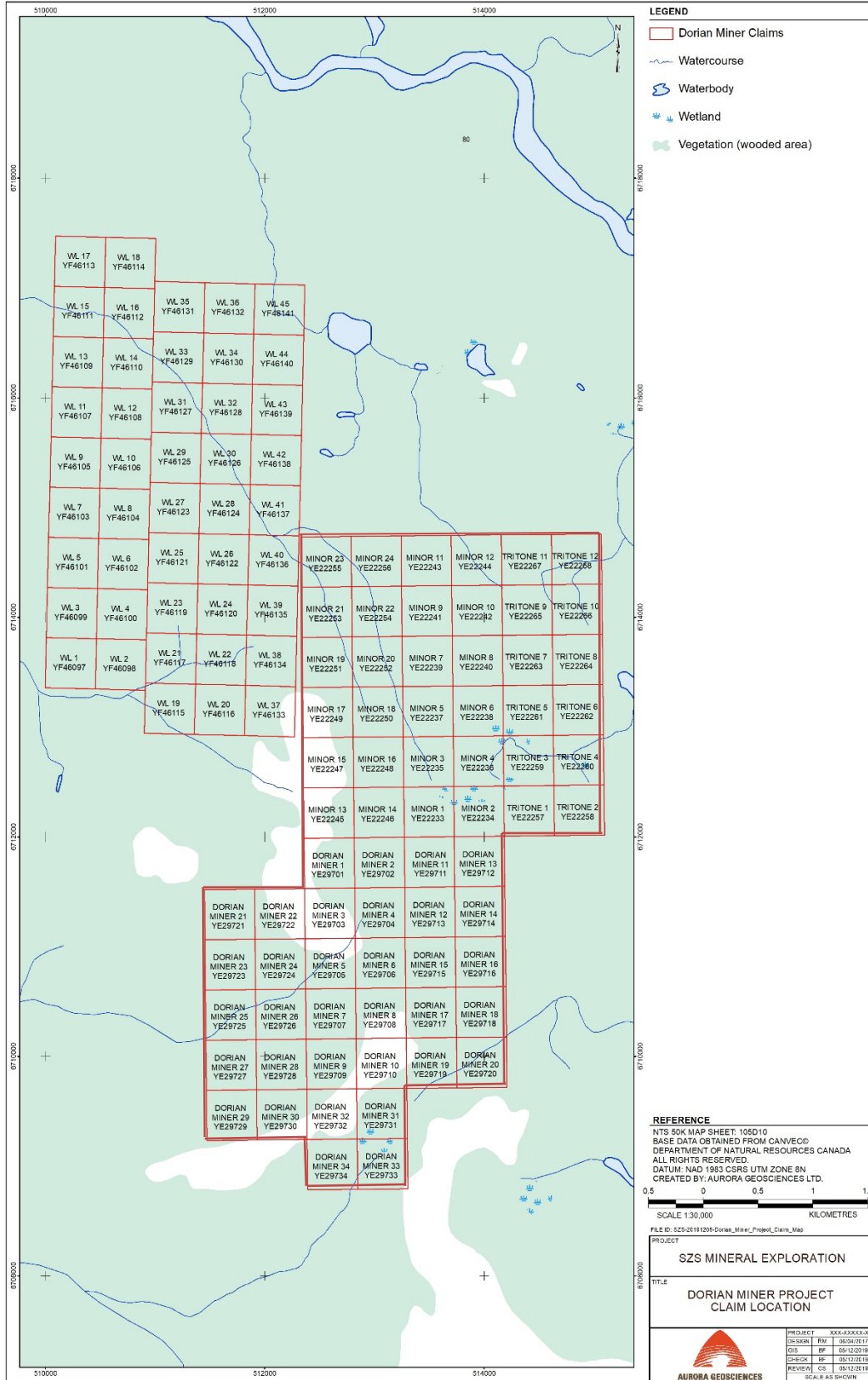


Figure 3: Claim Map (December, 2019)

## 5. History

The area covered by the present Dorian Miner claims was staked numerous times during the 1960s and 1970s. The property was first staked in August, 1959 as the LUCKY 1-10 claims by C. Edwards and H. Woodward, and re-staked as the KID 1-2 claims in 1960 by L. Bellerive. The claims were successively dropped and re-staked as follows: as the AN 1-8 claims in June, 1964 by K. Lumsden; as the OWL 1-40 claims in January 1967 by A. Jackson; as the AXE 1-4 claims in June, 1967 by L. Doey; and as the BEN 1-18 claims in February, 1968 by A. Nelson and A. Parker who also added the FLY 1-24 claims. The only assessment work filed was bulldozer trenching on the AXE claims (Yukon Minfile, 2013); this is currently unavailable. In August 1970 New Imperial Mines staked a large block of LOME claims to the northeast of the AXE claims but did not file assessment work. The area was re-staked as the TOM 1-4 claims in June, 1973 by L.G. Barrett; Barrett re-staked the TOM 1-3 claims in October, 1979.

Interest in the property area was rekindled partly from RGS silt sampling of Whitehorse area streams, returning a value of 76 ppb gold (Au); re-assaying returned a value of 15 ppb Au. In 1994, Mr. Brian Carter visited the Ni showing and took several rock samples, some of which returned anomalous gold values. One sample from an arsenopyrite-bearing mafic dyke returned a value of 0.970 opt (33.3 g/t) gold; another sample from a felsic dyke returned a value of 0.168 opt ((5.77 g/t) gold. In July, 1995 Mr. Carter re-staked the area as the NI 1-6 claims. Carter spent 24 days doing trail rehabilitation, prospecting and re-sampling of old trenches excavated by L. Doey. The best result was one of 0.633 opt (21.7 g/t) gold, again from the mafic dyke sampled in 1994. The property was visited by Kennecott Canada Inc. and Hemlo Gold Mines (Hemlo); grab sampling by Kennecott returned values to 16.5 and 8.09 g/t gold, and a grab sample by Hemlo returned a value of 3.15 g/t gold. Sampling results led Carter to add the NI 7-30 claims in July 1996.

In 1996 the NI 1-30 claims were subsequently optioned by RFH Investments which employed Nicholson and Associates to conduct a fall, 1996 program of geological mapping, prospecting, geochemical sampling and surface magnetic and EM geophysical surveying (Yukon Minfile, 2013). Rock sampling, primarily chip sampling at the NI showing area, returned background to weakly elevated gold values, and soil sampling returned generally low values with a few "spot highs" including values of 103 and 621 ppb Au respectively. The soil grid covered a small area south of the NI showing. A separate single line survey returned several elevated gold values to 60 ppb. The 1996 program led to the discovery of a small copper showing which returned a copper value of 4,699 ppm copper with 1.9 ppm (g/t) silver near the south claim boundary (Nicholson and Barron, 1996). The results of the 1995 and 1996 programs, which are the only ones of which assessment reports are available, are incorporated into the results of the 2013 program.

In October, 1996 D. Cosgrove staked the RAZ 1-10 claims along the south boundary of the NI claims. In December, 1997 C. Takkas re-staked the NI claims as the PER 1-20 block. Also in December, 1997 J. Martin staked the DAP 1-16 claims on the north and east side of the NI claims.

The area sat idle until May 31, 2013, when staking of the Dorian Miner block commenced. Exploration in 2013 consisted of property-wide preliminary geological mapping, silt sampling of two streams within property boundaries, prospecting and rock sampling, particularly in the trenched area of the Ni Showing. Project highlights include confirmation of gold-arsenic mineralization in the westernmost trench of the Ni

Showing, with results to 3.11 g/t gold with 0.9 g/t silver and 1.47% arsenic from a 1.2-metre chip sample, and confirmation of copper grades at a small chalcopyrite showing, named as the “Misty Showing”, in the southern property area (Schulze, 2013).

In 2014, a two-phased exploration program was conducted on the Dorian Miner property. Phase 1 comprised grid soil sampling centered on the Ni showing, and returned anomalous gold values to the north, south and west of the “Discovery Dyke”, itself at the western end of the Ni Showing. Results also revealed a zone of anomalous gold-in-soil values trending NNW from, and along strike of, the Discovery Dyke, as well as a zone of anomalous gold and pathfinder values along a NNE trending lineament west of the dyke. Reconnaissance-style soil sampling to the south returned a value of 397 ppb Au; subsequent rock sampling of weakly pyritic limestone at that site returned an anomalous gold value of 0.303 g/t Au, associated with weakly elevated “pathfinder element” values. This, named the “Monk Prospect”, represents a new carbonate-hosted gold target.

Phase 2 comprised a diamond drilling program of 216m in two holes collared from a single site, targeting a gold-arsenopyrite bearing felsic dyke which is the main host of mineralization at the Ni showing. The best value from hole DH-14-01 was 0.061 g/t gold across 0.7 metres, part of a larger intercept of 0.043 g/t Au with 1,552 ppm As across 2.6 metres. Hole DM-14-02, drilled at the same azimuth but steeper dip, also r=intersected the target dyke; however gold values are low, to a maximum of 0.059 g/t Au with 719 ppm As across 1.4 metres.

## **6. Geological Setting and Mineralization**

### **6.1 Regional Geological Setting**

The Dorian Miner property is located within the Whitehorse Trough, forming the northern portion of the Stikinia Terrane, consisting of mafic to intermediate volcanic flows and carbonate and mixed clastic-carbonate assemblages. The Whitehorse Trough is part of the island arc allocthonous terrane comprising the Intermontane Belt (Nicholson and Barron, 1996). In the property area, the Whitehorse Trough consists of three major groups: the Lewes River Group, Laberge Group and the Tantalus Formation. The Upper Triassic Lewes River Group consists of an island arc assemblage comprised of mafic volcanic and volcanoclastic rocks, as well as greywacke, siltstone, argillite and conglomerate, and an upper unit of grey limestone. The Laberge Group consists of a Lower to Middle Jurassic dominantly sedimentary assemblage; these are lithologically indistinguishable from Lewes River clastic sediments, but are stratigraphically higher. The Tantalus Formation is an Upper Jurassic to Lower Cretaceous sedimentary assemblage which locally hosts coal seams (Nicholson and Barron).

The Whitehorse Trough assemblages have been intruded by several plutonic suites; most notably the mid-Cretaceous Whitehorse Suite, consisting of grey, equigranular, medium to coarse grained felsic to intermediate and lesser mafic intrusions. The Whitehorse Batholith, within Whitehorse city limits on the southwest side of the Yukon River, is associated with numerous past-producing copper-gold skarn

deposits of the Whitehorse Copper Belt. A second suite, the late Cretaceous Prospector Mountain Suite, consists of coarse grained equigranular quartz-hornblende-biotite granite; this is represented by the Mount Lorne Pluton directly south of the property. A third major suite is the early Cretaceous Teslin Suite, comprised of fine to coarse grained hornblende biotite granite, granodiorite and quartz monzonite (Gordey and Makepeace, 2001).

Recent re-evaluation of the stratigraphic setting of west-central Yukon has determined that the late Cretaceous intrusive suite actually consists of two distinct suites: an 80-74Ma suite which includes intrusions at the core of the Casino and Sonora Gulch systems; and a 72 – 67Ma suite, tentatively referred to as the “Late late Cretaceous Prospector Mountain Suite”, represented by the Prospector Mountain and Mount Cockfield intrusions (Nelson, Colpron and Israel, 2013).

The regional structural orientation in the Whitehorse area is predominantly NNW – SSE, slightly oblique to the NW – SE orientation seen throughout most of southwestern Yukon. The orientation of the lithological units and stratigraphic setting is roughly parallel to the NNW – SSE structural trend.

## 6.2 Property Geology

The portion of the Dorian Miner property staked before 2018 is underlain primarily by grey, semi-massive, locally foliated and locally carbonaceous limestone marking the upper member of the Lewes River group (Map 1). The southern property area covers the northern contact of the limestone with the Upper Cretaceous Mount Lorne Pluton, consisting of coarse grained, buff-coloured equigranular, hornblende-biotite granite (Figure 4). The limestone unit becomes progressively more coarsely crystalline towards the intrusion, indicating contact metamorphism. Year-2014 mapping extended the known boundary somewhat to the east (Map 1). Although no age dating of the Mount Lorne pluton is known to this author, at this point it is considered a member of the latter suite.



*Figure 4: Hornblende-biotite granite of the Mount Lorne pluton*



Geological mapping in 2014 focused on the northern and south-central property areas to determine potential for mineralization, as well as detailed mapping of the Ni Showing area. The Ni Showing area is underlain by a northeast – southwest trending intercalated sequence of grey fine-grained limestone with strongly fractured to brecciated, typically limonitic argillite to shale, extending at least 350 metres east of the Ni Showing (Maps 1 and 2). Although limestone is typically “massive” to thickly bedded, a unit of limestone breccia consisting of poorly sorted sub-angular heterolithic clasts to 30 cm occurs directly southeast of the Ni Showing. The fabric suggests a turbiditic, rather than hydrothermal, origin of brecciation.



*Figure 5: Brecciated heterolithic limestone breccia*

This sequence is cross-cut by abundant NNE – SSW trending dykes, comprised mainly of variably feldspar-porphyrific mafic to intermediate dykes, but including at least one felsic dyke along the same orientation. Although the mafic dykes consistently occupy the NNE – SSW extending lineation, felsic dykes also extend along a NNW – SSE lineament (the Discovery dyke), and along an ESE extending orientation (Map 1). Mapping indicate the range in composition, including amount of felsic porphyries, represents a continuum of magma pulses from early mafic emplacement through progressively more felsic emplacement. The felsic dykes, also variably porphyritic, may represent emplacement of a more evolved magma pulse during this emplacement event.

Mapping indicates that the extreme northeastern property area is underlain by beige to grey limestone, crosscut by NNW – SSE trending metre-scale felsic and mafic dykes. Mapping west of the Ni Showing indicated the area is underlain by grey limestone with rare felsic and mafic dykes. One outcrop roughly 600 metres WNW of the Ni Showing revealed thin boudined bands of dark grey limestone showing positive differential weathering and small-scale “Z” folding, within light grey limestone.

Year-2014 mapping indicates that a grey limestone plateau covers much of the south-central property area. This hosts fairly abundant mafic dykes up to 1.0 metres wide typically extending ENE – WSW. A north-south trending, weakly to moderately limonitic mafic dyke extends across this plateau. This becomes somewhat more silicified towards its known northern limit, where bedrock is buried under glacial overburden. Mapping also indicated the southwestern property area is underlain by grey limestone crosscut by mafic dykes with variable iron sulphide content and limonitization. A larger unit of hornfelsed mafic volcanic rocks extends directly along the northern boundary of the Mount Lorne Pluton (Map 1); this may be a distinct lithological unit from the mafic dykes.



*Figure 6: North-south trending dyke, central plateau*

Mapping in 2018 showed the area underlying the recently staked MINOR 1-24 and TRITONE 1-12 claims to be underlain by Lewes River Group black shales to argillite with lesser siltstone (Figure 9, Map 2). Mapping also revealed the presence of a fine grained, locally quartz  $\pm$  biotite porphyritic monzonitic stock, marked by weak silicification, phyllic alteration and weak-moderate limonitization. Weak alteration halos surrounding biotite laths have resulted in a speckled appearance at some locations. The intrusion, visible from the air, is oriented roughly north-south with an aerial extent of roughly 400m by 250m, although further work is required to define its dimensions. Locally abundant fractures associated with minor quartz veining occur throughout the intrusion. Minor late andesite to basalt dykes extend north-south, and locally cross-cut the northern felsic intrusion.



*Figure 7: Felsic intrusion, Minor claim area, 2018 mapping*

### 6.2.1 Property Structural Geology

Year-2014 mapping confirmed the presence of the three structural lineations identified in 2013: a NE – SW trending lineation, an east-west trending lineation, and a NNW – SSE lineation. The NE – SW trending lineation is most pronounced at the Ni Showing area, marked by the mafic dyke set. The stratigraphic setting also extends roughly NE-SW, although this is not necessarily controlled by this lineation. The east-west lineation, which extends at about  $70^{\circ}$  –  $250^{\circ}$ , is marked mainly by mafic dykes in the south-central area. One felsic dyke in the Ni Showing area extends at about  $110^{\circ}$  –  $290^{\circ}$ ; it is not clear whether this belongs to this lineation. The NNW – SSE trending lineation is marked by the dyke hosting the “Discovery Showing”, the large mafic dyke extending across the southern plateau, and several other dykes in the southern property area. This lineation is marked by a fault zone extending at  $345^{\circ}$  -  $85^{\circ}$  across the north margin of the pluton, associated with strongly fractured to brecciated calc-silicate altered limestone and moderate shearing within the quartz-biotite granite. Mapping suggests this fault has caused a sinistral offsetting of stratigraphy of about 100 metres (Schulze, 2013).

Mapping in 2018 indicated that the NNW – SSE trending lineation extends into the Minor block, indicated by several small shear zones within the monzonite stock. However, dips are more variable, ranging from  $-20^{\circ}$  W to  $-75^{\circ}$  W. The lineation is also marked by at least two NNW-trending steep-walled gulches,

bounded on the east side by cliffs comprising Lewes River Group fine clastic sediments. At least one minor shear zone is also oriented along the NE – SW trending lineament. Sediments proximal to the monzonite stock show a NW-SE striking foliation fabric, dipping moderately to the NE. Bedding within the sedimentary assemblage along the southernmost gulch is oriented at 315 -20 NE, although farther to the northeast this steepens to 345 -80 E. Mafic dykes throughout the area extend roughly north-south, and occur within the stock, indicating late emplacement.

### 6.3 Mineralization

Year-2013 mapping confirmed the presence of felsic dyke-hosted gold-arsenic veining at the Ni Showing area, returning values to 3.11 g/t Au with 0.9 g/t silver (Ag) and 1.47% arsenic (As) across 1.2m from the “Discovery Showing” area. Historic sampling of the same returned values to 5.462 g/t gold from grab sampling. Sampling in 2013 also yielded a result of 6.05 g/t gold from proximal float of mafic dyke rock with 15% arsenopyrite veining. Year 2014 sampling of trench “push” of felsic dyke rock with quartz-arsenic veining returned values from 2.37 to 23.54 g/t gold, with strongly variable bismuth (Bi) values from 2 to 146 ppm, antimony (Sb) values from 27 to 184 ppm, cobalt (Co) values from 78.2 to 556 ppm, and arsenic (As) values ranging from 4.81% to 24.8%. Several samples occur along the NNW projection of the dyke, although this may be merely an effect of trench excavation. A single large float boulder with similar mineralization located roughly 45 metres to the east returned a value of 10.5 g/t gold with 52 ppm Bi, 288 ppm Co, 108 ppm Sb and 19.1% As. This similar signature indicates a common origin, although its location suggests a possible separate location.

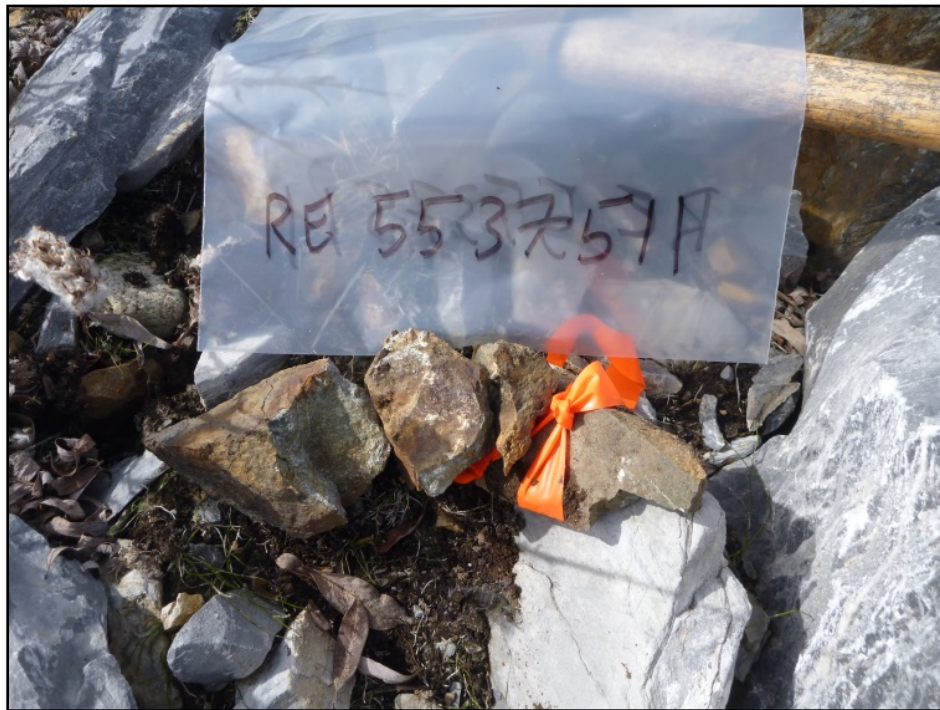


Figure 7: Sample RE5537511: Trench push, arsenic veining in felsic dyke returning 23.54 g/t gold



**Figure 8: Sample RE5537514: Proximal float, felsic dyke returning 3.80 g/t gold**

Sampling of felsic dyke rock elsewhere in the Ni Showing area returned low gold values from 0.005 g/t to 0.116 g/t gold, the latter from a composite grab sample of moderately arsenical felsic dyke rock. A composite grab sample taken at the eastern limit of exposure of the east-west trending felsic dyke (Map 2) hosting centimetre-scale arsenopyrite veining returned a value of 0.557 g/t Au with 1.29% As, 24 ppm Sb and background Bi and Co values. The showing occurs along a north-south trending fault, suggesting the mineralization is fault rather than dyke controlled.

Several samples were taken from mafic dyke material throughout the southern property area. These returned low gold values to a maximum of 0.029 g/t Au with low to background pathfinder element values. A sample of the mafic unit bordering the Mount Lorne Pluton returned 0.033 g/t Au, 557 ppm As and 2 ppm Sb. This was taken near a NE-SW trending fault, likely part of the NE-SW trending lineament.

A 0.6-metre chip sample of outcrop near a 2014 soil sample returning 0.397 g/t gold returned a value of 0.303 g/t Au, 13 ppm Sb and background values of other pathfinder elements. This consisted of weakly pyritic limestone, and represents an intriguing target for further exploration.

The monzonite stock identified in 2018 has undergone pervasive weak to moderate limonitization, and phyllic (sericitic), carbonate and argillic alteration. Fine grained disseminated pyrite, attaining abundances to 1.0%, is fairly ubiquitous within the stock, and is the partial source of limonitization. The intrusion also hosts numerous occurrences of centimetre-scale shear-hosted drusy quartz veins, including sheeted veins, associated with somewhat increased limonite staining. Trace disseminated chalcopyrite was also identified at two sites.

Mapping in 2018 also revealed moderate to strong limonitization within sediments comprising the shear eastern walls of the NNW – SSE trending gulches. Although no significant sulphide mineralization was found, the sediments host abundant quartz ± calcite veining, indicating late fluid movement.



*Figure 8: Sample R618315: Drusy quartz vein within monzonite stock*

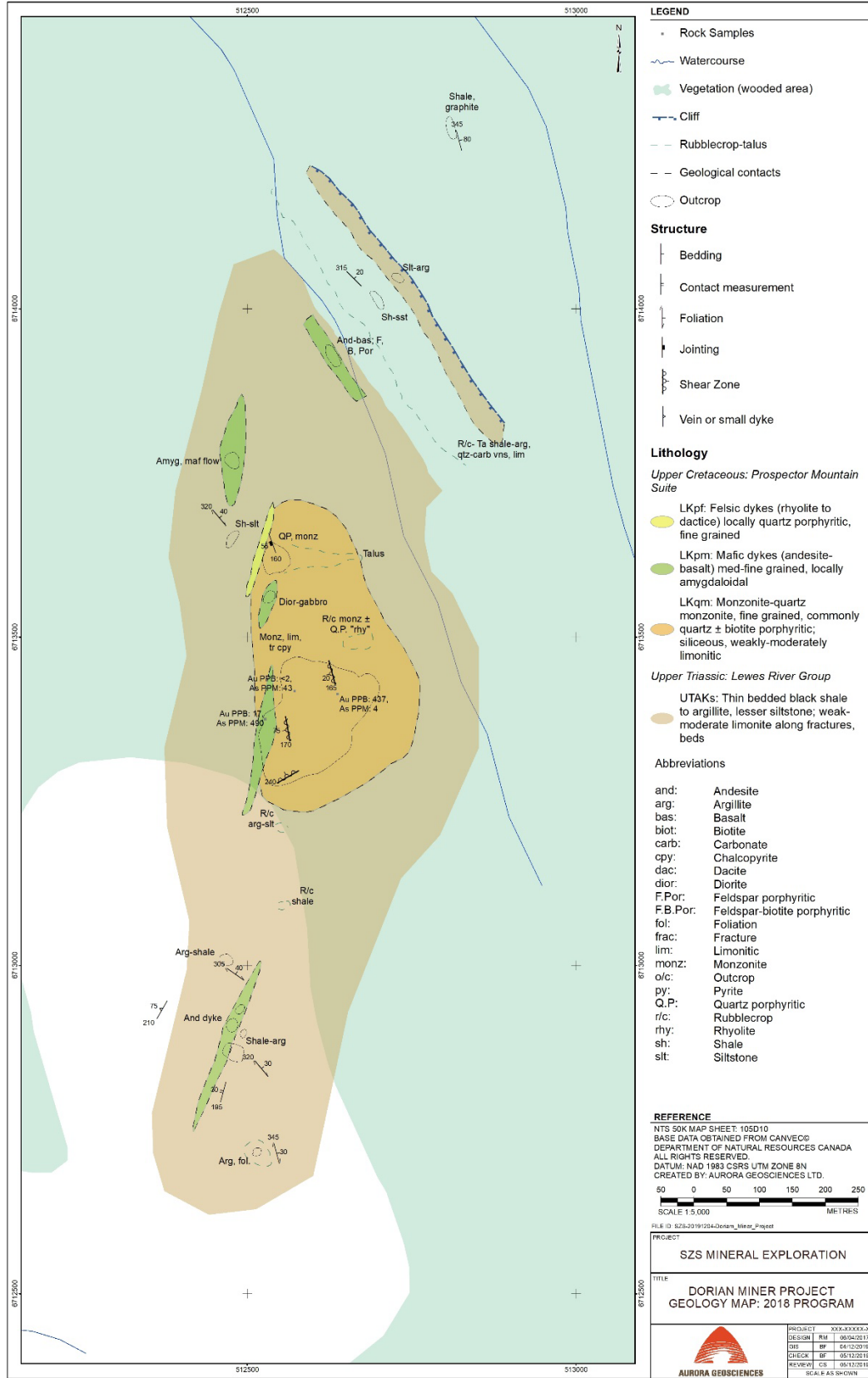


Figure 9: Property geology, western Minor block

## 7. Deposit Setting

The target deposit settings at the Dorian Miner property all fall into the category of intrusion related gold mineralization. In this setting, mineralization is associated with a core intrusion, typically varying in composition from monzonite, quartz monzonite, granite, granodiorite to syenite. The intrusion has been emplaced in host rock that is potentially reactive where calcareous, particularly units of silty limestone, calcareous sediments or calcareous volcanic rocks. The intrusion is typically associated with dykes or apophyses, commonly occurring as multiple pulses with varying compositions that become more felsic with progressive cooling and solidification of the intrusion.

Two specific deposit settings occur at the Dorian Miner property: skarns and lode style settings. Skarn-style deposits occur either along intrusion margins or along reactive dykes extending from the intrusions. Skarns along intrusion margins occur either as endoskarns, emplaced within the intrusion, or exoskarns, emplaced within reactive country rock adjacent or proximal to the intrusion. In either case, skarn mineralization occurs when metal-rich silica-laden fluids pass through reactive calcareous sediments; the calcareous host reacts with the siliceous fluids producing “calc-silicate” minerals. Metals, including base and/or precious metals, are precipitated in sulphide form from the fluids into the calc-silicate mineralized zone.

Typical skarn mineral assemblages are: base metal skarns including lead-zinc skarns; copper +/- silver +/- gold skarns, gold-silver skarns, and tungsten +/- tin skarns. Skarn deposits are normally fairly small but can be high-grade and of economic size, with multiple deposits occurring within a mineralized “camp”. The Whitehorse Copper Belt consists of a series of copper – silver – gold skarns along the western margin of the granitic Whitehorse Batholith.

Vein-style deposits occur as vein, stringer and stockwork zones. Veins are typically planar structures, caused when siliceous metal-rich fluids pass through an open area, such as a fault zone. Silica is gradually emplaced from vein margins to the centre; specific fluid pulses may result in metal-rich layers, including precious-metal-rich layers, within the vein. Stringer and stockwork zones occur when metal-rich siliceous fluids pass through brecciated or strongly fractured areas, most typically fault zones, within the host rock. Vein deposits tend to be high grade and of small tonnage; stringer and stockwork deposits tend to be of lower grade but higher tonnage, due to incorporation of unmineralized country rock.

Gold +/- silver vein mineralization is typically associated with a suite of “pathfinder elements”, particularly arsenic, and also antimony, mercury, and, if proximal to the intrusion, bismuth. Arsenic is a particularly strong indicator of gold, as these elements tend to precipitate from solution at the same temperature and pressure. This suite of pathfinder elements also occurs in gold-rich skarn deposits. The Ni showing consists of gold and silver-bearing near-massive arsenopyrite veining within or proximal to dykes of mafic to felsic composition.



## 8. Work Program

### 8.1 Work program

The 2018 work program comprised a single traverse by two personnel, focusing on geological mapping and rock geochemical sampling. Helicopter support was provided by Heli Dynamics Ltd.

Results of geological mapping are discussed in Section 6.2: Property Geology. Three rock samples were taken from the monzonitic stock in 2018 and underwent 33-element Inductively Coupled Plasma Emission Spectroscopy (ICP-ES) analysis as well as fire assay analysis for gold. One sample of sheeted drusy quartz veining with fine grained disseminated pyrite and patchy limonite after sulphides returned a value of 0.437 g/t Au (Figure 8). A separate sample to the west returned a value of 0.017 g/t Au with 490 ppm As (Figure 9), and the third sample returned a sub-detection gold value. No other significantly elevated metal or pathfinder elements were returned.

### 8.2 Personnel

The following personnel were involved with 2018 activities on the property:

Carl Schulze, BSc, PGeo, Partner:	Geological mapping and project design
Harlan Schulze:	Geotechnical assistant
Karl Ziehe, Partner:	Helicopter pilot, Heli Dynamics Ltd.

Sample analysis was done by Bureau Veritas Commodities Canada Ltd (Bureau Veritas), which has a prep lab in Whitehorse.

## 9. Sample Preparation, Analysis and Security

### 9.1 Surface Sampling Preparation

The rock geochemical sampling was subject to rigorous parameters, including detailed descriptions of each sample. Rock samples were obtained using an Estwing rock hammer, and located in the field using a non-differential Global Positioning System (GPS) instrument. Samples were placed in plastic bags designed specifically for rock sampling. A tag with the unique sample number, supplied by Bureau Veritas Commodities Canada Ltd (Bureau Veritas) was placed in the bag; the sample number was written on both sides of the bag using "Magic Markers". The sample numbers were also written on a soft metal "Butter Tag"; the tags were attached to the sample locations in the field. All samples, including soil and silt samples, are accompanied by a photograph of the sample site.

Rock samples were recorded as to location (UTM - NAD 83), sample type (grab, composite grab, chip, etc.), exposure type (outcrop, rubblecrop, float, etc.), formation, lithology, modifier (for textural or structural descriptions), colour, degrees of carbonate presence and silicification, other alteration if applicable, economic mineralization including estimated amounts, date, sampler and comments (Appendix 3. Minimum sample weight was 0.5 kg, although samples tend to be larger than this. Care was taken during rock sampling to obtain as representative a sample as possible, including a comprehensive description of sample types.

Field data was entered into Microsoft Excel spreadsheet format, and later matched with analytical results. This process was continually re-checked to ensure the correct results are associated with the particular descriptions.

## **9.2 Sample Analysis and Security**

All rock samples were placed in thick plastic industry standard sample bags, sealed with thick plastic serrated “Zap Straps” and sent in a similarly sealed rice bag to a preparatory laboratory of Bureau Veritas at Whitehorse, Yukon, an analytical laboratory with ISO 9001:2015 and 14000:2015 certification. Sealed rice bags were personally handed by Carl Schulze directly to the Whitehorse prep lab of Bureau Veritas. The ‘Sample Chain of Custody’ Form was completed and signed by both Mr. Schulze and a representative of Bureau Veritas.

At the prep facility, all rock samples underwent crushing to guarantee 90% of the sample size was passed through a 2.0mm screen (Procedure code PRP 90-250). The resulting material was then thoroughly mixed, and a 250-gram portion of this underwent pulverization ensuring that a minimum of 85% of material could pass through a 200-mesh screen. These pulp samples were then shipped to the Bureau Veritas analytical laboratory in North Vancouver, British Columbia. A 0.5-gram sample of each pulp underwent analysis by 33-element Inductively Coupled Plasma Emission Spectroscopy (ICP-ES, Procedure code AQ300) and gold by 50-gram fire assay fusion Au by ICP-ES analysis (Procedure code FA350-Au).

Bureau Veritas provides comprehensive in-house quality-control, including insertion of “standard” and “blank” reference material of known element compositions. Bureau Veritas inserted two blank samples to test for any potential contamination during ICP-ES and fire assay analysis respectively. Both returned sub-detection level values for Au and the 33-element suite, confirming that no detectable contamination has occurred during either process. Bureau Veritas also inserted three in-house standard reference material samples for all 33 elements involved in ICP analysis, as well as one sample of reference material for gold to determine accuracy of analysis by fire assay. No significant deviations from expected ICP-ES values were encountered in any of the standard samples, indicating accuracy of results by ICP-ES analysis for the batch. The gold standard sample returned a value of 0.211 g/t Au compared with an expected value of 0.212 g/t, indicating accuracy of fire assay analysis of the sample batch (Appendix 3).

## 10. Discussion and Conclusions

### 10.1 Discussion

Year-2014 mapping of the Dorian Miner property established the eastern extension of the north boundary of the Mount Lorne Pluton, as well as the presence of mafic extrusive units along its margin. Mapping also confirmed the presence of the three structural lineations previously identified, and that the north-south lineation may represent the most significant extensional event, resulting in emplacement of the widest dykes. Year-2014 mapping also established the orientation of the dyke swarm at the Ni Showing, as well as the intercalated nature of the limestone and shale units.

Phase 1 soil sampling revealed an area of weakly elevated gold-in-soil values extending north, south and west of the Discovery Dyke. Sampling to the east, covering the historic excavations, returned low to background gold values except for areas near known minor gold occurrences. The area of elevated gold values can be partially explained by simple downslope dispersion, as well as glacial dispersion from southeast to northwest. However, certain anomalous trends cannot be explained by these effects. Gold values suggest a trend extending NNW of the Discovery Dyke, which is along its projected strike extension. The trend includes a gold value of 105 ppb (0.105 g/t) about 200 metres to the northwest of the Discovery Dyke, which is likely out of range to reflect simple down-slope dispersion. Arsenic values are elevated directly downslope of the Discovery Dyke but are at background levels further to the NNW, suggesting the former reflects dispersion. The anomalous gold trend is associated with weakly elevated cobalt and sulphur values, but background antimony and zinc values. Although gold values along the SSE extension of the trend are not significantly elevated, arsenic and antimony values are, and sulphur values are anomalous, to a maximum of 0.566%. This suggests the soil anomaly represents a mineralized zone, although not continuously auriferous. If it marks the extent of the actual Discovery Dyke, this may host intermittent areas of strongly auriferous quartz-arsenopyrite veining along its strike extent.

Elevated gold values along a north-northeast trending lineament west of the Discovery Dyke are also associated with anomalous sulphur values to 0.427%, elevated antimony and weakly elevated arsenic values. Subsequent prospecting revealed mafic dyke rubblecrop with pyrite and pyrrhotite; although a single rock sample returned a background gold value, results suggest a mineralized zone along this lineament. Two elevated gold values at the northern ends of two soil geochemical lines are associated with weakly elevated sulphur values and background values of other pathfinder elements; these warrant follow-up work.

Anomalous sulphur values may be partially explained by strong limonitic staining after pyrite within strongly fractured shale, although most anomalous S values were obtained from areas south of the exposed Ni Showing area. These may represent sulphide mineralization in these areas.

Soil sampling elsewhere in 2014 returned low to weakly elevated values reflecting proximity to weakly mineralized mafic dykes or fault zones within mafic units. The only exception is the strongly anomalous gold value of 397 ppb gold with weakly elevated cobalt, arsenic, antimony and zinc values. A 0.6-metre

chip sample of outcrop of beige, weakly pyritic banded limestone directly upslope returned a value of 0.303 g/t (303 ppb) gold with 13 ppm antimony and background values of other pathfinder elements. This has been named the “Monk Prospect”. Although this value is not excessively high, its setting and soil geochemical association suggests potential for a carbonate-hosted auriferous zone with a distinct mineralogy from that of the Ni Showing.

Detailed mapping in the Ni Showing area, combined with drill core logging, continues to support the hypothesis that a second intrusion, or an upper level pulse of the main Mount Lorne pluton, underlies this area. Core logging of Hole DM-14-01, drilled to 150 metres, shows an increasingly saccharoidal texture to the limestone, as well as increased mottling and a “tighter” fabric, suggesting contact metamorphism has taken place. The strongly fractured to brecciated nature of the shale suggests this brittle layer has undergone buckling, possibly due to emplacement of an intrusive body. The strongly limonitic fractures also suggest a strong sulphide presence, possibly from hydrothermal fluids associated with the intrusion. These features, combined with the variably feldspar porphyritic dykes in the area, suggest a moderate to long-lived emplacement history. Publicly available data on Total Field Magnetics and First Vertical Derivative indicate a magnetic “high” feature northeast of the Ni Showing.

The 2018 mapping revealed the presence of a limonitic and weakly mineralized monzonitic stock. This intrusion is not documented in any previous assessment reports or in the geological database provided by the Yukon Geological Survey, and can be considered as a new discovery. Age of the stock remains inconclusive, although it has provisionally been classed as a member of the late Cretaceous Prospector Mountain Suite. The stock has undergone subsequent structural disruption and hydrothermal vein emplacement, indicating metal-bearing fluid movement was either syn- or post-emplacement. The value of 0.437 g/t Au from drusy veining in altered monzonite is sufficiently anomalous to indicate fluids associated with the intrusion are at least somewhat auriferous.

The surface expression of the intrusion is west of the circular magnetic high anomaly, which remains unexplained. The fabric of the monzonitic rock is distinct from that of the Mt. Lorne pluton to the south, indicating emplacement from a separate pulse or magmatic event. The intrusion locally is quartz-porphyritic, indicating potential for a multi-pulsed emplacement event. The fabric and mineralogy are distinct from the feldspar porphyritic dykes at the Ni showing, supporting the hypothesis for a separate origin. The intrusion may not be genetically related to mafic dyke emplacement, which likely occurred as a separate, subsequent event.

## 10.2 Conclusions

The following conclusions can be made from results of the 2014 exploration program on the Dorian Miner property:

- The Dorian Miner property covers the northern margin of the Mount Lorne Pluton and territory to the north, including the Ni gold showing. The Mount Lorne pluton has been designated as a member of the 74 Ma Late Cretaceous Prospector Mountain Suite, which includes the Sonora Gulch and Casino plutons. Recent re-evaluation of west-central Yukon suggests it may be a

member of a newly identified slightly younger 67 Ma “Late Late” Cretaceous intrusive suite which includes the Mount Cockfield stock. No age dating is known to this author.

- Phase 1 grid soil sampling across the Ni Showing area returned anomalous gold values to the north, south and west of the “Discovery Dyke” at the western end of the showing. Sporadic anomalous values were returned from the extensively trenched area east of the dyke. This is partially, although not adequately, explained by down-slope dispersion and glacial smear.
- Soil geochemical results revealed a zone of anomalous gold trending NNW from, and along strike of, the Discovery Dyke. A second zone of anomalous gold, antimony and sulphur values was returned along a NNE trending lineament west of the Discovery Dyke; both suggest mineralized structures. Anomalous sulphur values were also returned from southern portions of the grid.
- Reconnaissance-style soil geochemical sampling returned a value of 397 ppb Au; subsequent rock sampling of weakly pyritic limestone at this location returned an anomalous gold value of 0.303 g/t associated with weakly elevated antimony, cobalt, zinc and arsenic values. This has been named the “Monk Prospect”, and represents a new target setting of carbonate-hosted gold within the property.
- Results of detailed mapping and diamond drill core logging at the Ni showing continue to support the hypothesis that a cupola of the Mount Lorne Pluton underlies the showing area. Publicly available total field magnetic data indicates a magnetic “high” anomaly northeast of the Ni Showing. This represents another target area for further exploration, particularly near the intrusive margins.
- Mapping in 2018 identified a weakly though pervasively pyritic and limonitic monzonitic stock north of the Ni showing. This is undocumented, and is considered to be a new discovery. Its age and relationship to other local intrusive rocks remains inconclusive, although likely represents a separate event from emplacement of the Mt. Lorne pluton or of mafic and felsic dykes in the property area.
- One of three rock samples from the stock returned an anomalous value of 0.437 g/t Au, indicating associated hydrothermal fluids are at least locally auriferous. The altered host rock is reactive, and has locally undergone structural disruption, resulting in potential for further mineralized occurrences.
- The monzonitic stock is located west of the circular magnetic feature, which remains enigmatic. Abundant quartz-carbonate veining and limonitic staining of sedimentary cliff exposures northeast of the monzonite unit may be related either to the stock or the unknown source of the more aerially extensive magnetic feature.

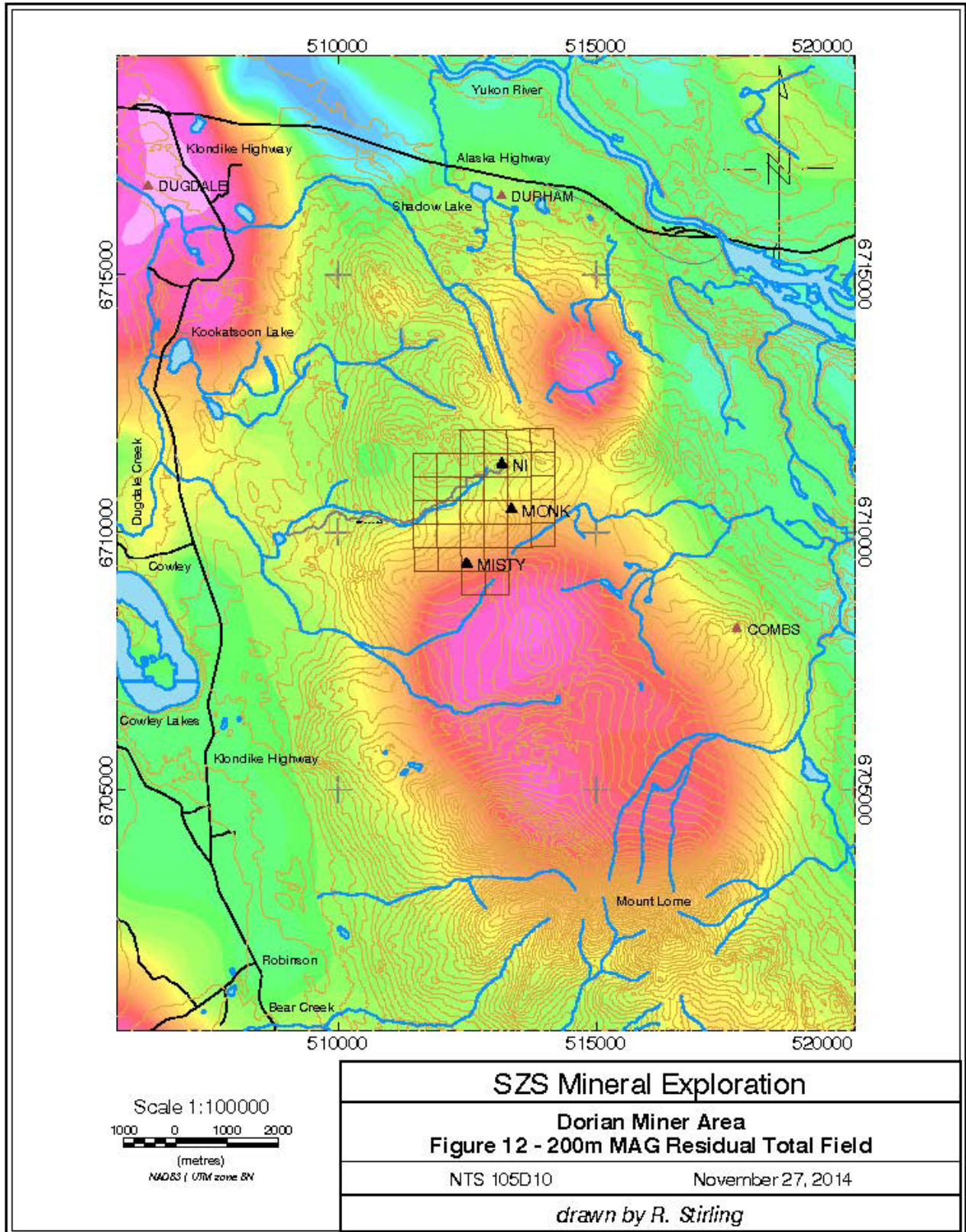


Figure 10: 200m Magnetic Residual Total Magnetic Field

# 11. Recommendations

## 11.1 Recommendations

Results of the 2014 and 2018 programs on the Dorian Miner Property indicate potential for mineralization is strongest at three locations: the Ni Showing, the Monk showing and the northern monzonite stock. At the Ni Showing, expansion of the 2014 soil grid to the east, north and south is warranted, particularly to test whether the magnetic high anomaly northeast of the Ni Showing has a gold and/or pathfinder geochemical signature. The grid would retain its 100-metre line spacing and 50-metre station spacing. A total of 147 samples are recommended for the expanded grid, as well as 16 more to test the area of two historic gold-in-soil values of 103 and 621 ppb Au respectively. At least one reconnaissance line is recommended to extend at least 1.0 km further north, to extend within the northern magnetic high anomaly. Soil sampling will be accompanied by detailed geological mapping. A combined ground magnetic and VLF-EM survey is also recommended for this grid, including the area sampled in 2014. This could be done by a single technician over a three-day period.

The second significant target area is the Monk Prospect. A detailed grid involving a 25-metre line spacing and 25-metre sample spacing, at the same line azimuth as the main grid, is recommended to test the area. A total of 81 samples are recommended. Again, soil sampling will be accompanied by detailed geological mapping.

Exploration of the northern stock may be compiled with reconnaissance-style exploration across the MINOR 1-24 and TRITONE 1-12 claim block. A small grid is recommended to cover the stock, and will comprise four 600m long soil survey lines with a line spacing of 100m and station spacing of 50m. Soil geochemical sampling is also recommended for each of the claim lines, at a 100-metre station spacing. These surveys would require a total of 136 soil samples. Soil sampling will be done in conjunction with detailed geological mapping and rock sampling.

The 2020 program is recommended to consist of two phases, both with daily helicopter support from Whitehorse. Phase 1 will consist of a five-day program of geological mapping, rock and soil sampling, with one geologist, three soil samplers and a single geophysical operator for the last three days. Phase 2 will consist of two days of follow-up geological mapping, rock sampling and further grid soil sampling, if warranted. Phase 1 would take place in early July, to allow for some thawing of the active layer along the north slope; Phase 2 would take place in early August, when Phase 1 analytical results have been returned. Total proposed expenditures, including digitization and report writing stand at **CDN\$47,885**; with a 10% contingency, proposed expenditures stand at **CDN\$52,674**.

At this time, no further work is recommended elsewhere on the property, as no significantly anomalous results have been returned to date outside of these zones.

**18.2 Recommended Budget**

Pre-program planning:	\$ 650
Personnel: Project Geologist: 7 days @ \$650/day:	\$ 4,550
Personnel: Soil technicians: 17 person-days @ \$350/day:	\$ 5,950
Geophysical Survey (all-in):	\$ 2,700
Helicopter: 2.8 hrs @ \$1,600/hr:	\$ 4,480
Rock samples: 46 samples @ \$50/sample:	\$ 2,300
Soil samples: 365 soils @ \$48/soil (including Phase 2):	\$17,520
“Standards”:	\$ 300
YWCHSB:	\$ 585
Field, office expenses:	\$ 500
	<hr/>
	<b>Field Expenses: \$39,535</b>
Certificate of Work fees:	\$ 1,400
Digitization, GIS services:	\$ 2,400
Report Writing:	\$ 4,550
	<hr/>
	<b>Project Expenses: \$47,885</b>
	10% Contingency: \$ 4,789
	<hr/>
	<b>Total Proposed Expenses: \$52,674</b>



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Website Sources:       Yukon Mining Recorder: <http://www.yukonminingrecorder.ca>  
                                   Agat Website               <http://www.agatlabs.com>  
                                   Yukon Minfile:           <http://ygsftp.gov.yk.ca/httpdocs/minfile>

## Appendix1. Certificate of Author

I, Carl M. Schulze, PGeo, hereby certify that:

a) I am a Consulting Geologist and partner of:

SZS Mineral Exploration  
35 Dawson Rd  
Whitehorse, Yukon Y1A 5T6

b) This certificate applies to the assessment report entitled: "Assessment Report on Year-2018 Geological Mapping and Rock Geochemical Sampling on the Dorian Miner Property, SZS Mineral Exploration" dated December 14, 2019 (the "Assessment Report").

c) I am a graduate of Lakehead University, Bachelor of Science Degree in Geology, 1984. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC), Lic No. 25393. I have worked as a geologist for a total of 35 years since my graduation from Lakehead University.

d) My most recent personal inspections of the property occurred on July 11, 2019, for one field day.

e) I am responsible for all Sections of the Technical Report.

f) I am a partner in the Dorian Miner project and am not independent of the owners.

g) I have read the Instrument and the Assessment Report. This is an Assessment Report, and is not meant to be filed with any Securities Commission, rather with the Whitehorse Mining Recorder, Ministry of Energy, Mines and Resources, Government of Yukon.

h) At the effective date of the assessment report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the report not misleading.

Dated this 14th Day of December, 2019

*Carl Schulze*

---

**"Carl Schulze"**

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## Appendix 2: Statement of Expenditures

### Applicable Expenditures, 2018 Program, Dorian Miner Property

DORIAN MINER 1-34 Claims	No of units	Cost/unit	Total cost
Personnel: C. Schulze @ \$600/day	1	\$600.00	\$600.00
Personnel: Technician 1 @ \$200/day	1	\$200.00	\$200.00
No. of rocks:	3	\$58.02	\$174.05
Helicopter support, incl. fuel	0.8	\$1,650	\$1,320.00
Other Expenses			\$168.99
GIS, Report writing:			\$1,800.00
<b>Total costs</b>			<b>\$4,263.04</b>

### **Appendix 3: Rock Descriptions**

*SZS Mineral Exploration*

**Appendix 3: Rock Sample Descriptions**

**2018 Program, Dorian Miner Project**

NB. UTM NAD 83, Zone 8

Sample No.	Easting	Northing	Sample Type	Sample Descrip	Formation	Lithology	Modifier	Colour	Carb. Pres	Silicification	Alteration 1	Alt 2	Other alt	Mineral 1	Amt (%)	Min 2	Amt (%)	Date	Sampler	Comments
R618313	512527	6713375	C. Grab	Outcrop	LKqm	Monzonite	fractured	tan	C1	S1-2	A1		L2	Pyrite	<1			July 11/2018	CS/HS	Monzonite stock, locally sheared
R618314	512572	6713418	C. Grab	Rubblecrop	LKqm	Monzonite	fractured	tan	C2		A1	Ph1-2	L2	Pyrite	>1	Cpy	tr	July 11/2018	CS/HS	5% calcite/ankerite stringers, clotty chalcopyrite
R618315	512637	6713413	C. Grab	Outcrop	LKqm	Monzonite	Sheared	tan-buff	C1-2	S2	A1		L1	Pyrite	<1	Cpy	tr	July 11/2018	CS/HS	Sheeted drusy quartz veins

## **Appendix 4: Original Results**



**BUREAU VERITAS** MINERAL LABORATORIES  
Canada

[www.bureauveritas.com/um](http://www.bureauveritas.com/um)

Bureau Veritas Commodities Canada Ltd.  
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada  
PHONE (604) 253-3158

**Client:** All-Terrane Mineral Exploration Services  
35 Dawson Rd.  
Whitehorse Yukon Y1A 5T6 Canada

Submitted By: Carl Schulze  
Receiving Lab: Canada-Whitehorse  
Received: October 15, 2018  
Report Date: January 09, 2019  
Page: 1 of 2

# CERTIFICATE OF ANALYSIS

WHI18001093.1

## CLIENT JOB INFORMATION

Project: Dorian Milner  
Shipment ID:  
P.O. Number  
Number of Samples: 3

## SAMPLE DISPOSAL

IMM-PLP Return immediately after analysis  
IMM-RJT Return immediately after analysis

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: All-Terrane Mineral Exploration Services  
35 Dawson Rd.  
Whitehorse Yukon Y1A 5T6  
Canada

CC:

## SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP90-250	3	Crush (>90%), split and pulverize 250g rock to 200 mesh			WHI
FA350-Au	3	50g Fire assay fusion Au by ICP-ES	50	Completed	VAN
EN002	3	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	3	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SHP01	3	Per sample shipping charges for branch shipments			VAN
BAT01	1	Batch charge of <20 samples			VAN

## ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.  
\*\*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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35 Dawson Rd.

Whitehorse Yukon Y1A 5T6 Canada

Project: Dorian Milner

Report Date: January 09, 2019

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# CERTIFICATE OF ANALYSIS

WHI18001093.1

Method	WGHT	FA350	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	kg	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01	0.001	
R618313	Rock	0.71	17	<1	50	<3	8	<0.3	3	9	565	2.67	490	2	47	<0.5	<3	<3	3	0.81	0.068
R618314	Rock	0.87	<2	<1	29	<3	10	<0.3	2	2	209	1.09	43	3	25	<0.5	<3	<3	3	0.27	0.070
R618315	Rock	0.73	437	1	8	<3	14	<0.3	1	2	528	0.95	4	<2	60	<0.5	<3	<3	4	0.80	0.057





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35 Dawson Rd.  
Whitehorse Yukon Y1A 5T6 Canada

Project: Dorian Milner

Report Date: January 09, 2019

Page: 2 of 2

Part: 2 of 2

# CERTIFICATE OF ANALYSIS

WHI18001093.1

Method	Analyte	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	%	ppm	ppm	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
R618313	Rock	10	1	0.04	89	<0.001	<20	0.42	0.07	0.19	<2	0.24	<1	<5	<5	<5
R618314	Rock	15	<1	0.04	138	0.001	<20	0.38	0.07	0.23	<2	<0.05	<1	<5	<5	<5
R618315	Rock	9	1	0.17	34	<0.001	<20	0.29	0.11	0.04	<2	<0.05	<1	<5	<5	<5



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**Project:** Dorian Milner  
**Report Date:** January 09, 2019

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Part: 1 of 2

# QUALITY CONTROL REPORT

WHI18001093.1

Method	WGHT	FA350	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	kg	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01	0.001	
Pulp Duplicates																					
R618314	Rock	0.87	<2	<1	29	<3	10	<0.3	2	2	209	1.09	43	3	25	<0.5	<3	<3	3	0.27	0.070
REP R618314	QC			<1	29	<3	9	<0.3	2	2	207	1.06	41	2	25	<0.5	<3	<3	3	0.27	0.070
Reference Materials																					
STD DS11	Standard			15	154	142	357	1.6	81	14	1075	3.26	46	6	68	2.3	8	12	51	1.06	0.074
STD OREAS262	Standard			<1	123	56	157	0.4	64	27	550	3.47	37	10	37	0.6	3	<3	22	3.06	0.041
STD OREAS45EA	Standard			1	712	14	34	<0.3	392	51	412	22.51	5	9	4	<0.5	<3	<3	313	0.04	0.030
STD OXC145	Standard		211																		
STD OREAS45EA Expected				1.6	709	14.3	31.4	0.26	381	52	400	22.65	11	10.7	4.05				303	0.036	0.029
STD DS11 Expected				13.9	156	138	345	1.71	81.9	14.2	1055	3.2082	42.8	7.65	67.3	2.37	7.2	12.2	50	1.063	0.0701
STD OREAS262 Expected				118	56	154	0.45	62	26.9	530	3.284	35.8	9.33	36	0.61	3.39		22.5	2.98	0.04	
STD OXC145 Expected			212																		
BLK	Blank			<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01	<0.001
BLK	Blank		<2																		
Prep Wash																					
ROCK-WHI	Prep Blank		<2	1	3	<3	30	<0.3	<1	3	489	1.85	<2	<2	29	<0.5	<3	<3	24	0.70	0.041



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35 Dawson Rd.  
Whitehorse Yukon Y1A 5T6 Canada

**Project:** Dorian Milner  
**Report Date:** January 09, 2019

**Page:** 1 of 1

**Part:** 2 of 2

# QUALITY CONTROL REPORT

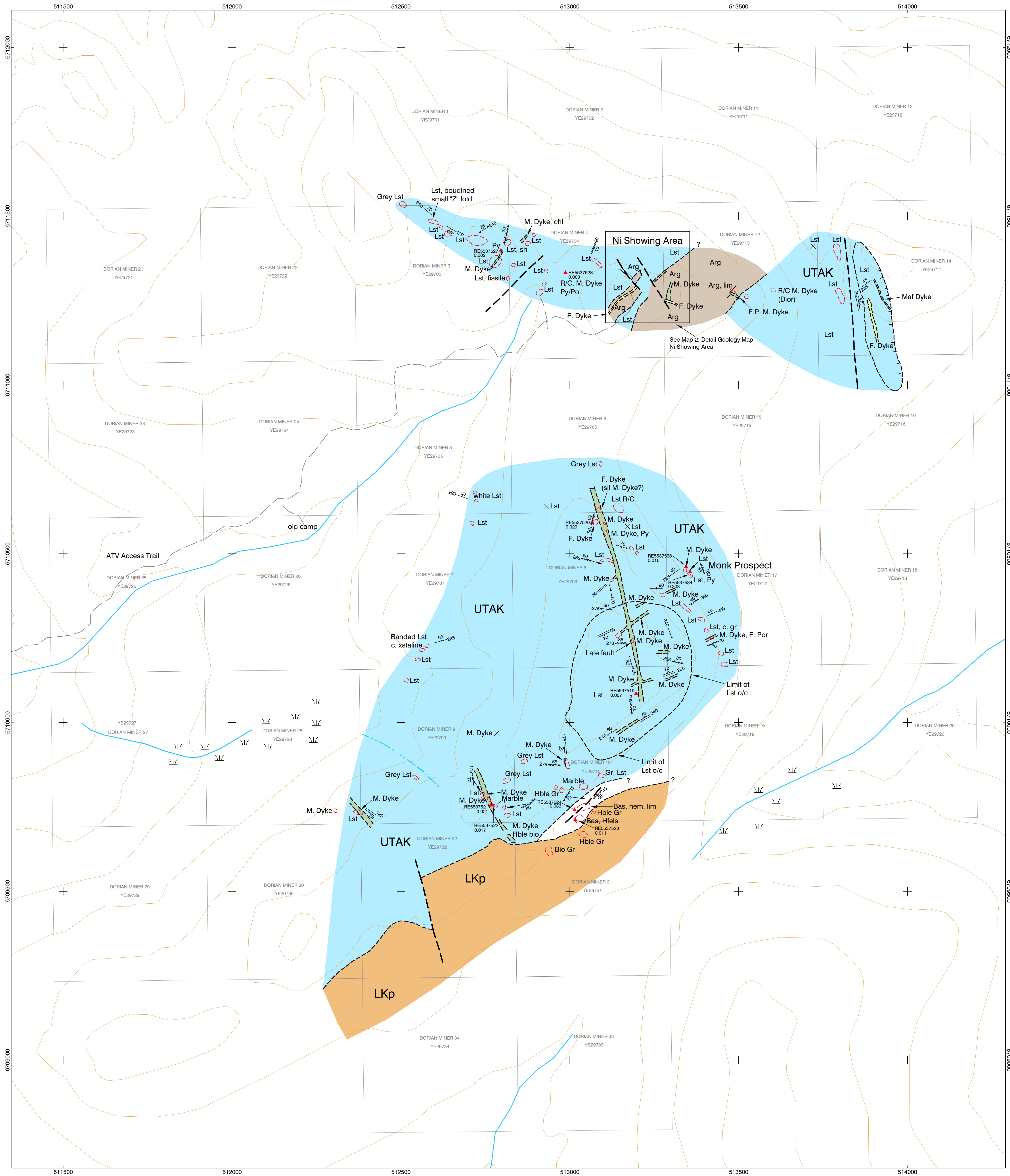
WHI18001093.1

Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
MDL	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
Pulp Duplicates															
R618314	Rock	15	<1	0.04	138	0.001	<20	0.38	0.07	0.23	<2	<0.05	<1	<5	<5
REP R618314	QC	15	<1	0.03	137	0.001	<20	0.38	0.07	0.23	<2	<0.05	<1	<5	<5
Reference Materials															
STD DS11	Standard	17	59	0.86	444	0.089	<20	1.15	0.07	0.42	3	0.29	<1	5	<5
STD OREAS262	Standard	15	42	1.21	259	0.003	<20	1.24	0.08	0.31	<2	0.28	<1	<5	<5
STD OREAS45EA	Standard	8	896	0.10	152	0.098	<20	3.38	0.02	0.06	<2	<0.05	<1	<5	11
STD OXC145	Standard														
STD OREAS45EA Expected		7.06	849	0.095	148	0.0984		3.32	0.02	0.053		0.036		12.4	78
STD DS11 Expected		18.6	61.5	0.85	417	0.0976	6	1.129	0.0694	0.4	2.9	0.2835	0.3	4.9	4.7
STD OREAS262 Expected		15.9	41.7	1.17	248	0.003		1.204	0.071	0.295		0.253		3.73	3.24
STD OXC145 Expected															
BLK	Blank	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5
BLK	Blank														
Prep Wash															
ROCK-WHI	Prep Blank	6	2	0.44	65	0.075	<20	0.99	0.09	0.10	<2	<0.05	<1	<5	<5

### **Appendix 5: Maps**

Map 1: Property Geology Map, 2014 (YMEP Program)

Map 2: Property Geology, western MINOR block, 2018



**LEGEND**

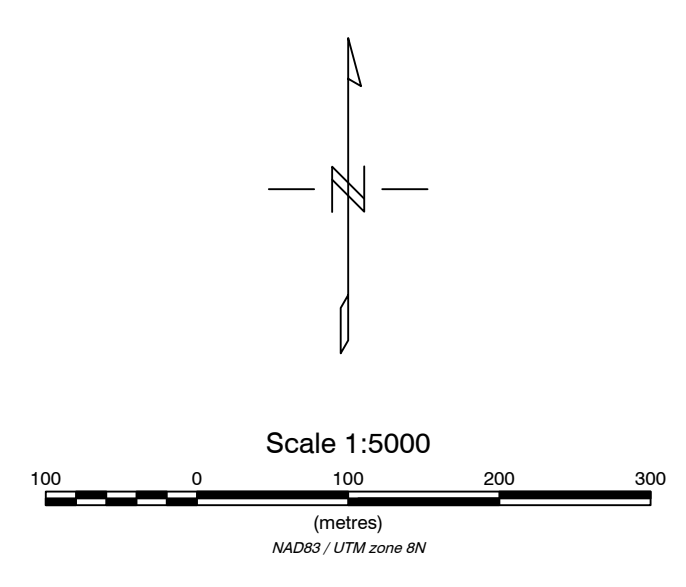
- Upper Cretaceous**
- LKpf Felsic Dykes, fine grained, commonly quartz-porphyritic
  - LKpm Mafic Dykes, fine grained, commonly limonitic near Mt. Lorne pluton: locally feldspar porphyritic
  - LKpg Mt. Lorne Pluton: coarse grained Quartz-Feldspar Hornblende +/- Biotite Granite, massive, likely source of local dykes
- Upper Triassic**
- UTAK Lewes River Group: Massive to thick-bedded grey limestone, locally sooty; fine grained, recrystallized near Mount Lorne Pluton
  - UTAKs Lewes River Group: Thin-bedded black shale - argillite, typically fractured, moderate to strong limonite along fractures

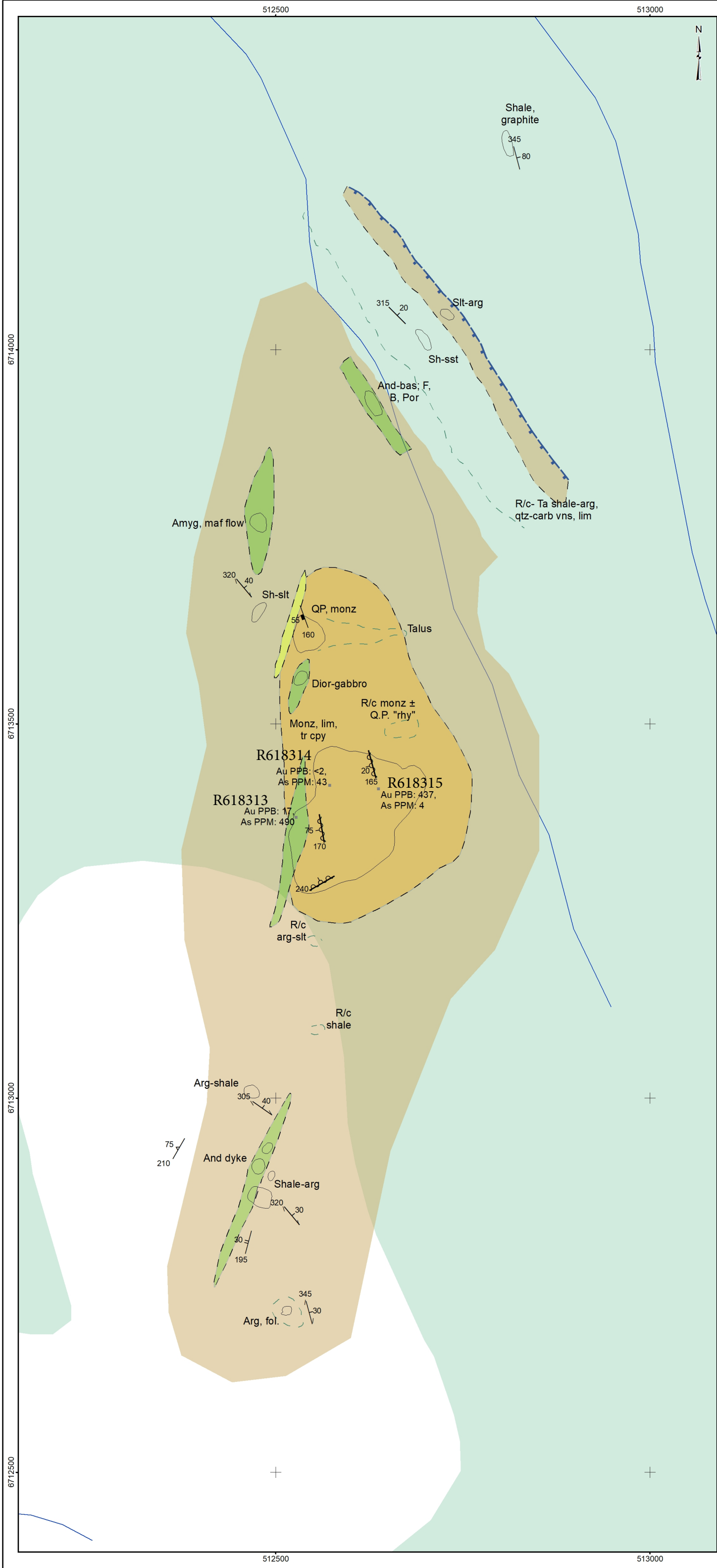
**SYMBOLS**

- Fault or shear zone
- / 100 Strike and dip of Bedding
- / 100 Strike and dip of Foliation
- / 100 Strike and dip of Jointing
- / 100 Strike and dip of Shear Zone
- / 100 Strike and dip of Dyke
- Outcrop boundary
- Rubblecrop boundary
- x Float
- Geological contact (approximate)
- ▲ RE5537528.3.33 2014 Rock sample location, sample number, Au ppm
- / ATV trail
- / Swamp

**ABBREVIATIONS**

Arg	Argillite	Py	Pyrite
As	Arsenopyrite	QFH	Quartz-Feldspar
Bor	Bornite		Hornblende
Cu	Copper	Rcpor, R/C	Rubblecrop
Chl	Chlorite	Rhy	Rhyolite
Chl	Diorite	sh	Shear
F.H. Gran	Feldspar - Hornblende	sk	Skarn
	Granite	sil	Silicified
Fol	Foliated	slt	Siltstone
Gran	Granite	wk	Weak
Hble	Hornblende	Woll	Wollastonite
Int	Intermediate	Zn	Zinc
Lst	Limestone		
Lim	Limonite		
Maf	Mafic		
Mo	Molybdenum		
o/c	Outcrop		
Po	Pyrrhotite		





**LEGEND**

- Rock Samples
- ~ Watercourse
- Vegetation (wooded area)
- Cliff
- Rubblecrop-talus
- Geological contacts
- Outcrop

**Structure**

- | Bedding
- | Contact measurement
- | Foliation
- | Jointing
- | Shear Zone
- | Vein or small dyke

**Lithology**

*Upper Cretaceous: Prospector Mountain Suite*

- LKpf: Felsic dykes (rhyolite to dacite) locally quartz porphyritic, fine grained
- LKpm: Mafic dykes (andesite-basalt) med-fine grained, locally amygdaloidal
- LKqm: Monzonite-quartz monzonite, fine grained, commonly quartz ± biotite porphyritic; siliceous, weakly-moderately limonitic

*Upper Triassic: Lewes River Group*

- UTAKs: Thin bedded black shale to argillite, lesser siltstone; weak-moderate limonite along fractures, beds

**Abbreviations**

and:	Andesite
arg:	Argillite
bas:	Basalt
biot:	Biotite
carb:	Carbonate
cpy:	Chalcopyrite
dac:	Dacite
dior:	Diorite
F.Por:	Feldspar porphyritic
F.B.Por:	Feldspar-biotite porphyritic
fol:	Foliation
frac:	Fracture
lim:	Limonitic
monz:	Monzonite
o/c:	Outcrop
py:	Pyrite
Q.P.:	Quartz porphyritic
r/c:	Rubblecrop
rhy:	Rhyolite
sh:	Shale
slt:	Siltstone

**REFERENCE**

NTS 50K MAP SHEET: 105D10  
 BASE DATA OBTAINED FROM CANVEC©  
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 DATUM: NAD 1983 CSRS UTM ZONE 8N  
 CREATED BY: AURORA GEOSCIENCES LTD.

50 0 50 100 150 200 250  
 SCALE 1:5,000 METRES

FILE ID: SZS-20191204-Doriam\_Miner\_Project

**PROJECT**  
 SZS MINERAL EXPLORATION

**TITLE**  
 DORIAN MINER PROJECT  
 GEOLOGY MAP: 2018 PROGRAM

PROJECT	XXX-XXXX-XX
DESIGN	RM 06/04/2017
GIS	BF 04/12/2019
CHECK	BF 05/12/2019
REVIEW	CS 05/12/2019

**AURORA GEOSCIENCES**

SCALE AS SHOWN