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**2022 Assessment Report Mapping and Prospecting****Red Lake North Property**

Red Lake, Ontario

NTS 052N007

Skinner and Goodall Townships, Shabu Lake, and Shabumeni Lake Areas  
Red Lake Mining Division

**Kinross Gold Corporation**

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Work Conducted: July 7 - July 21, 2022

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February, 2023

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## Summary

This report summarizes exploration work completed by Kinross Gold Corporation on the Red Lake North (RLN) Property ("The Property"), Red Lake, Ontario during July 7-21, 2022. The Property is in northwestern Ontario in 75 kilometers northeast of Red Lake and 73 kilometers northeast of Ear Falls. The Property has an area of approximately 33 sq km (3300 Ha) consisting of 10 multi-cell mining claims and 2 single cell mining claims. Claims lie in the Skinner and Goodall Townships, Shabu Lake, and Shabumeni Lake Areas, Red Lake Mining Division. All claims are currently in good standing until September 2023 and registered under the Great Bear Resources Ltd. Kinross Gold Corporation completed the acquisition of the property in February 2022.

Bjorkmans Prospecting Inc. of Atikokan, Ontario was contracted by Kinross Gold Corp. to carry out prospecting and mapping on the Property. The purpose of the program was to locate/re-sample historic gold occurrences on the Property, gather data in untested areas, gain better understanding of the geology and evaluate potential for gold mineralization within the Property. The field crew consisted of two geologists (Karla Bjorkman and Cameron Bushen) and two assistants (Autumn and Faith). Fifteen days were spent on the property and 129 rock samples were collected. All work was supervised by Andrea Diakow, P.Geo, Project Manager for Great Bear Resources.

Prospecting has successfully identified a 4.2 km west-east anomalous gold trend (defined by samples F064357 and F064251) within the Property. 30 new occurrences were identified in 30 samples with weakly anomalous values of 0.015 ppm Au in addition to 7 elevated (over 0.15 ppm) gold values obtained in 2021 program. That trend is spatially associated with an interpreted fault inferred from geophysics and may also be a part of regional axial trace of a D2 fold.

Lithology on the property is dominated by felsic volcanic. Two gold bearing samples are of weakly to intensely quartz veined diorite (F064281 and F064358).

Highlights of the 2022 rock sampling program are:

- F064251 - 0.436 ppm Au in Quartz Vein in sulphide mineralized Felsic Volcanic
- F064281 - 0.449 ppm Au in Diorite with Quartz Vein
- F064288 - 0.22 ppm Au in sheared Intermediate Volcanic near Quartz Vein
- F064335 - 1.24 ppm Au in 20cm – wide Quartz Vein in sulphide mineralized Felsic Volcanic
- F064357 - 0.772 ppm Au in Quartz Vein in Felsic Volcanic
- F064358 - 0.325 ppm Au in Diorite wall rock of F064357
- F064371 - 0.134 ppm Au in Quartz Vein in sulphide mineralized Felsic Volcanic

Follow up mapping and prospecting is recommended to infill areas of the Property that were not covered in this and previous programs. Focus should be within the northern and southern parts of claims 612218-612221. Airborne geophysics, LiDAR, and detailed aerial imagery are recommended to be obtained over the property to assist in the identification of outcrop, structures, and other sampling targets.

This report is being submitted to the Ministry of Northern Developments and Mines for assessment purposes. Expenditures of 64841.00 CAD, incurred for 15 days of mapping and prospecting are being submitted for assessment credit.

All UTM coordinates are in datum NAD 83, Zone 15N.

## 1. Introduction

The Property is located in northwestern Ontario in 75 kilometers northeast of Red Lake and 73 kilometers northeast of Ear Falls. It falls within the jurisdiction of the Red Lake Mining division. Claims comprising the property are owned by Kinross Gold Corporation (KGC). KGC acquired the Property in February 2022. All claims are in good standing and currently registered under the Great Bear Resources Ltd.

The Property lies within the Birch-Uchi Greenstone Belt, part of the Uchi Subprovince in the western Archean Superior Province of the Canadian Shield. The Birch-Uchi Greenstone Belt, which is characterised by steeply dipping panels of metamorphosed volcanic and sedimentary rocks, consists of three major volcano-sedimentary assemblages: the Mesoarchean Balmer Assemblage, the Narrow Lake/Woman Assemblage and the Neoproterozoic Confederation Assemblage.

The Birch-Uchi greenstone belt records a stratigraphic history spanning approximately 290 Ma, involving repeated episodes of rifting, and associated depositional and magmatic phases.

The Birch-Uchi greenstone belt displays evidence of, at least, three events of regional deformation resulted in the widespread development of folds, axial planar fabrics, and ductile shear zone.

Gold mineralization in the region occurs along deformation zones trending 1) north and northeast at Confederation, Woman and Uchi lakes; 2) east-northeast at Swain and Shabumeni lakes (Fyon and Lane 1986; Thurston 1986). Gold bearing quartz vein systems associated with east-northeast trending Swain Lake deformation zone occur at Leonard, Car, Woman, Swain and Birch lakes. Gold mineralization is structurally controlled with gold-bearing quartz veins hosted by shear zones and/or fracture zones concentrated in areas of greenschist grade metamorphism (Parker and Atkinson, 1992).

Regional scale geophysics shows two structural trends on the property – east (west and central portion of the property) and northeast (claims 612220-612222 and 613034). Regional D2 Fold Axial traces are interpreted south of and through the property. A large magnetic low in center of the property may possibly be associated with a D2 Fold Hinge. The Property also has an interpreted magnetic low which is coincident with felsic volcanic and felsic fragmental rocks (Smythe and Irwin, 2022).

The Property saw very limited prospecting (Chance, 2010; Smythe and Irwin, 2022). Highlights of the 2021 prospecting (581 samples) include 0.715 ppm Au (Sample 31440) and 0.217 ppm Au (Sample 116630) in Felsic Volcanic and 0.255 ppm Au (Sample 116775) and 0.299 ppm Au (Sample 116773) in Quartz Veins.

On claims adjacent to the Property known historical gold occurrences are from Leonard Lake Area (3.18 g/t Au in sample 23914; At Least 3000 ppb Au in DDH P04-01), Sheehan Lake Area (At Least 3000 ppb in DDH S-87-09), Mousseau Lake Area (At Least 3000 ppb Au in DDH ML-88-12), Woman Lake Area (500-3000 ppb Au) and area near Bathurst Mine (At Least 3000 ppb Au in DDH 1, 4).

Bjorkmans Prospecting Inc. of Atikokan, Ontario was contracted by Kinross Gold Corp. to carry out prospecting and mapping on the Property. The purpose of the program was to locate/re-sample historic gold occurrences on the property, gather data in untested areas, test geophysical anomalies to gain better understanding of the geology and evaluate potential for gold mineralization within the Property. Prospecting

was carried out during the period July 7 - July 21 2022 over 15 field days. The field crew collected 129 rock samples (see Map for locations, Appendix E).

Prospecting has successfully identified a 4.2 km west-east anomalous gold trend (defined by samples F064357 and F064251) within the Property. Thirty (30) new occurrences were identified in 30 samples with weakly anomalous values of 0.015 ppm Au in addition to 7 elevated (over 0.15 ppm) gold values obtained in 2021 program. Gold mineralization trend is spatially associated with an interpreted fault inferred from geophysics and may also be a part of regional axial trace of a D2 Fold.

All UTM coordinates are in datum NAD 83, Zone 15N.

This report is being submitted to the Ministry of Northern Developments and Mines for assessment purposes. Expenditures of 64841.00 CAD, incurred for 15 days of mapping and prospecting are being submitted for assessment credit.

## 2. Property Description and Location

The Red Lake North property is in northwestern Ontario and is centered at UTM coordinates 514162 E/ 5681991 N (NAD 83, Zone 15N) on NTS map sheet 052N07. The property is located 75 kilometers northeast of Red Lake and 73 kilometers northeast of Ear Falls (Figure 1, Figure 3).

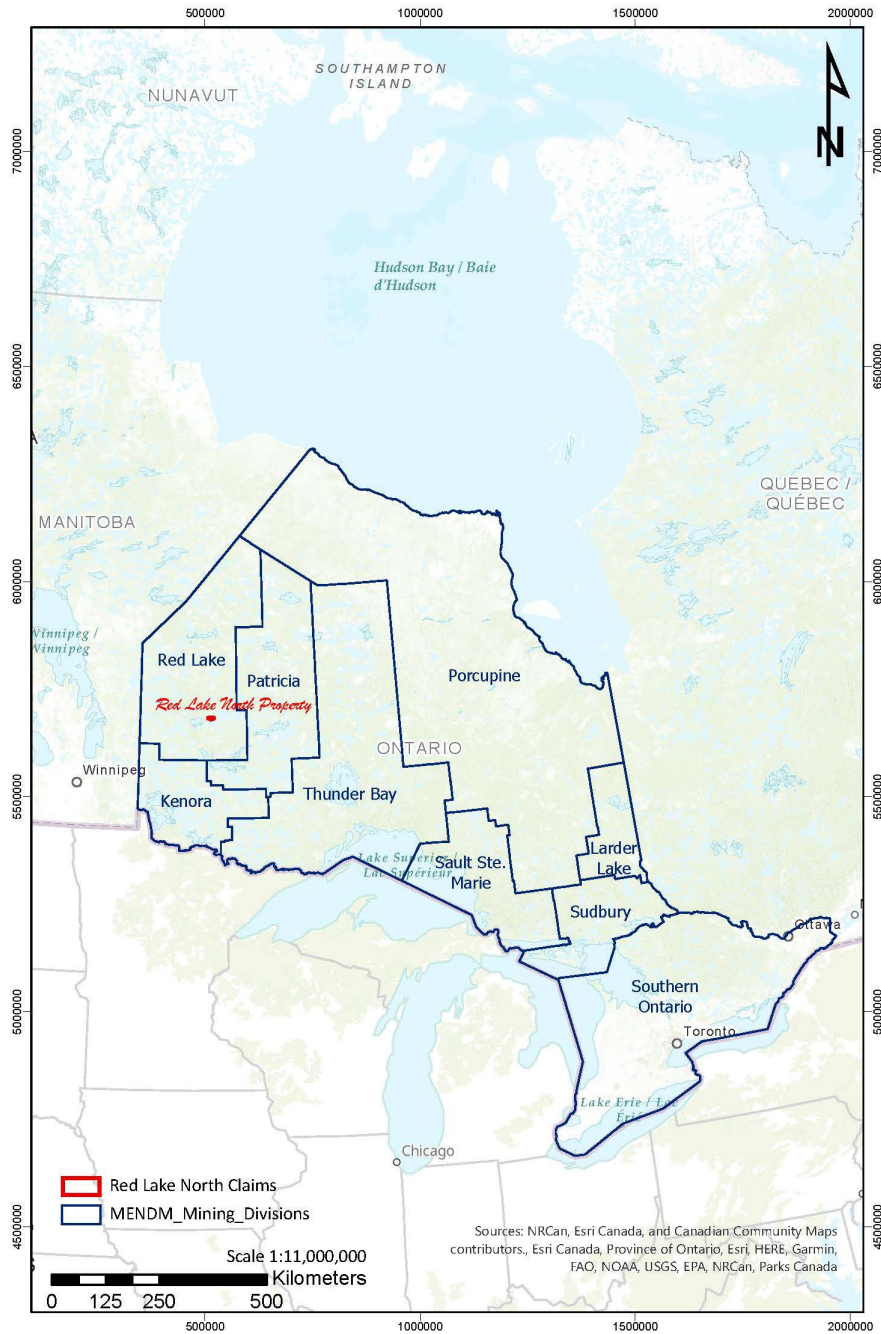
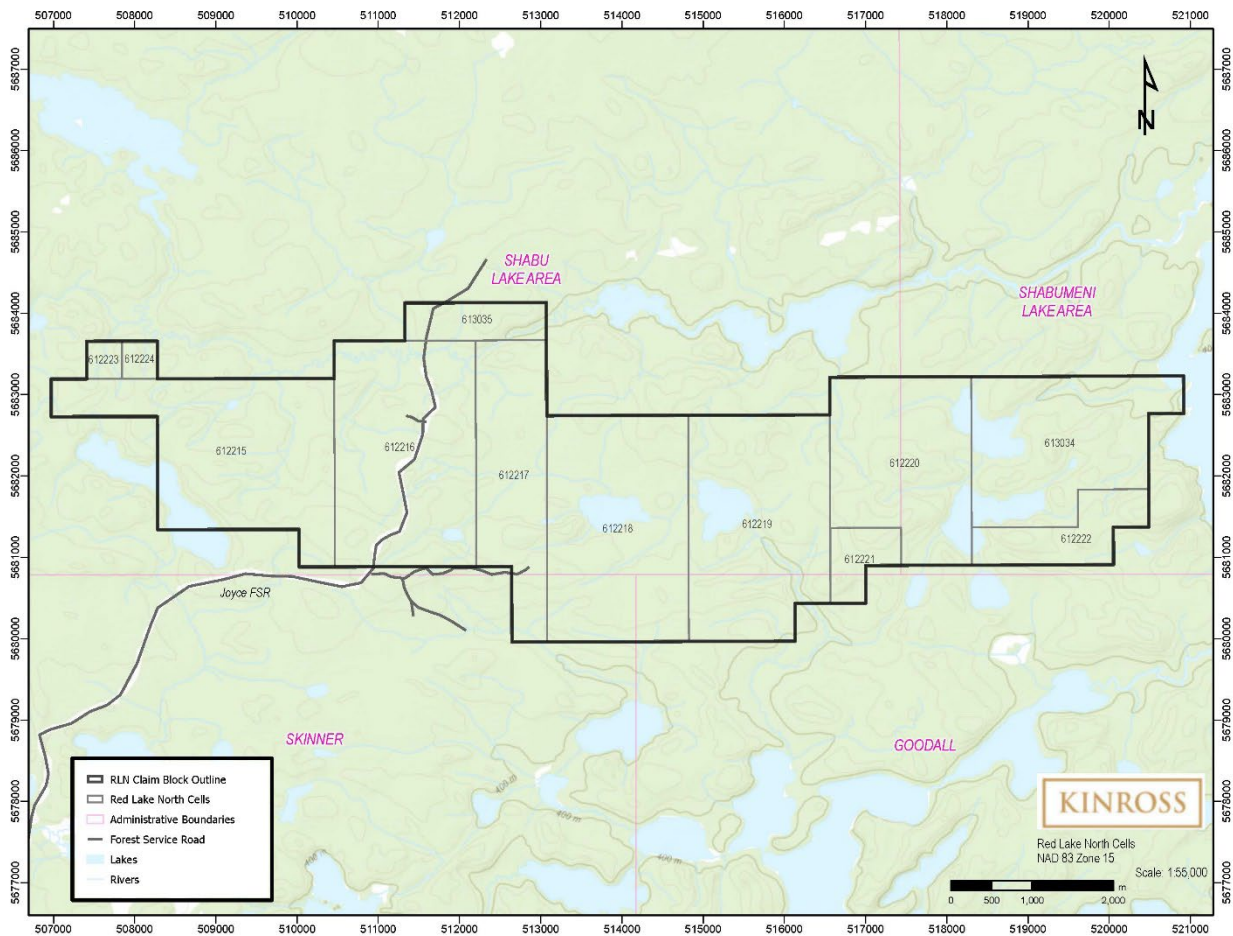


Figure 1. Property location

### 3. Claims and Ownership

The Property lies within the Skinner and Goodall Townships, Shabu Lake, and Shabumeni Lake Areas, Red Lake Mining Division (Figures 1, 2). The Property has an area of approximately 33 sq km (3300 Ha) consisting of 10 multi-cell mining claims and 2 single cell mining claims (Table 1). All claims are currently in good standing until September 2023 and registered under the Great Bear Resources Ltd. Kinross Gold Corporation completed the acquisition of the Great Bear Resources in February 2022.



**Figure 2. Property Claims**



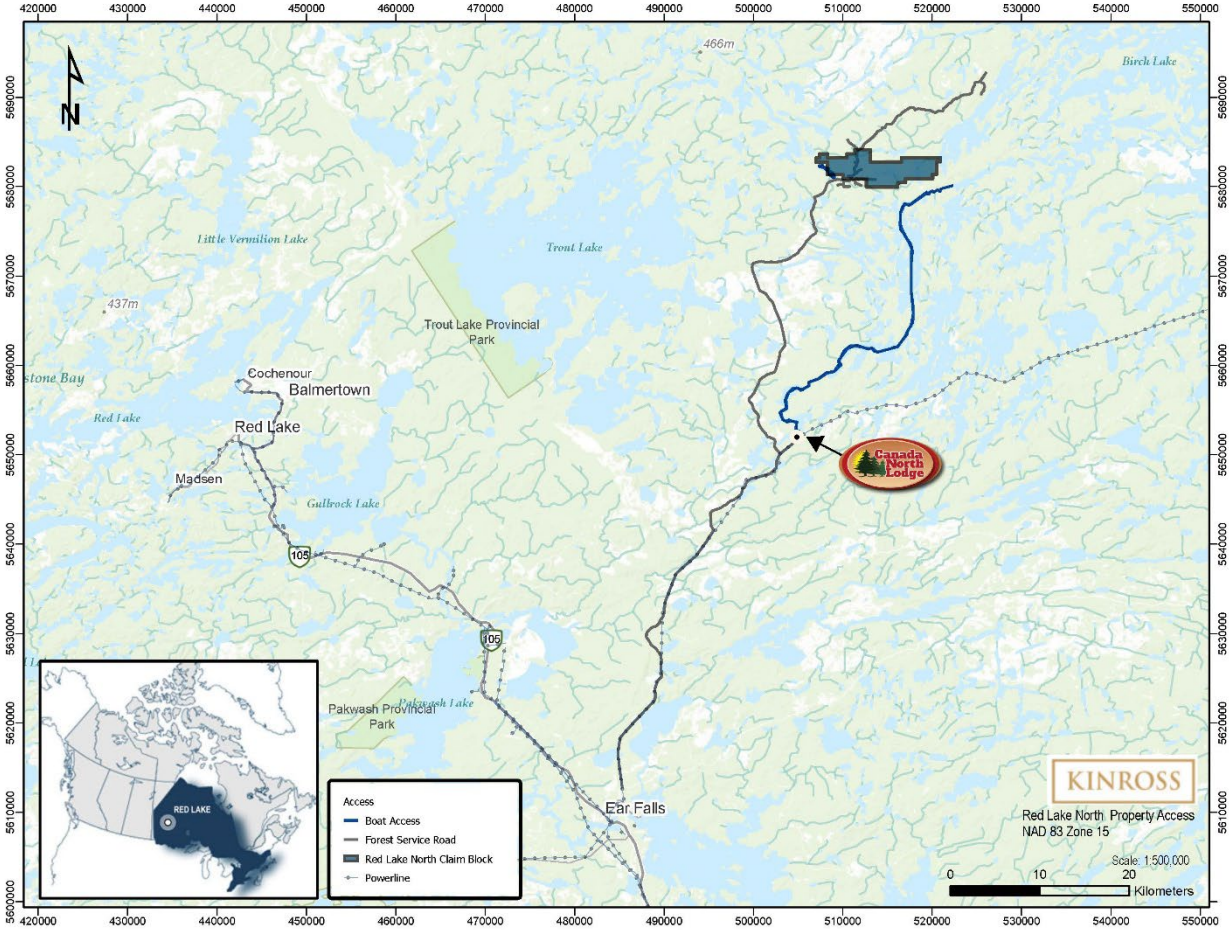
**Table 1. Red Lake North Property Claims**

| Claim  | Title | Type                     | Township/Area                     | Status | Issue Date | Due Date   | Holder         |
|--------|-------|--------------------------|-----------------------------------|--------|------------|------------|----------------|
| 612215 | MCMC  | Multi-cell Mining Claim  | Shabu Lake Area                   | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 612216 | MCMC  | Multi-cell Mining Claim  | Shabu Lake Area                   | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 612217 | MCMC  | Multi-cell Mining Claim  | Shabu Lake Area, Skinner          | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 612218 | MCMC  | Multi-cell Mining Claim  | Shabu Lake Area, Skinner, Goodall | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 612219 | MCMC  | Multi-cell Mining Claim  | Shabu Lake Area, Goodall          | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 612220 | MCMC  | Multi-cell Mining Claim  | Shabu Lake Area                   | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 612221 | MCMC  | Multi-cell Mining Claim  | Shabu Lake Area, Goodall          | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 612222 | MCMC  | Multi-cell Mining Claim  | Shabumeni Lake Area               | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 612223 | SCMC  | Single Cell Mining Claim | Shabu Lake Area                   | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 612224 | SCMC  | Single Cell Mining Claim | Shabu Lake Area                   | Active | 2020-09-07 | 2023-09-07 | (100) GBR LTD. |
| 613034 | MCMC  | Multi-cell Mining Claim  | Shabumeni Lake Area               | Active | 2020-09-22 | 2023-09-22 | (100) GBR LTD. |
| 613035 | MCMC  | Multi-cell Mining Claim  | Shabu Lake Area                   | Active | 2020-09-22 | 2023-09-22 | (100) GBR LTD. |

**4. Access, Infrastructure, Climate, and Physiography**

The property is vehicle accessible via a series of gravel logging roads extending from Ear Falls (Figure 3). Most of these roads are currently used for timber haulage year-round and are well maintained by companies contracted or subcontracted through Domtar Corporation of Dryden, Ontario. Vehicle access directions are as follows (Smythe and Irwin, 2022):

1. From Hwy. 105 at Ear Falls turn east onto Gold Pines Road and travel 3 km
2. Turn north onto Wenesaga Road and travel north and east for 1 km
3. Turn north onto South Bay Road and travel north and east for 47 km
4. Turn north onto Joyce Road and travel north for 45 km



**Figure 3. Property Access**

Detailed description of the access is taken from Smythe and Irwin (2022) as follows:

“...The southern property boundary crosses Joyce Road at approximately the 45km marker with claims extending north to approximately the 53km marker. Eastern portions of the property are accessible by foot,

by four-wheel-drive vehicle and/or ATV along logging roads and trails. The western portion of the property is accessed by a 42km boat ride from Woman River Camp along Woman River and Woman Lake, followed by a 2km bush wack to the southern claim boundary. The central portion of the property is currently difficult to access, though published forestry plans show potential for future trails and cut blocks east of Joyce Road (*Trout Lake Forest 2022-2023 Annual Work Schedule Operations Map, Basemap: 551568*). Supplies and manpower may be obtained locally in Ear Falls or Red Lake, or in the more distant communities of Kenora, Dryden or Thunder Bay, to the south. The closest source of electric power is the power line along South Bay Road, 45km to the south of the property. “

Topography consists of typical northwestern Ontario taiga forest, with low rolling wooded hills interspersed with swampy valleys. Tree cover consists mainly of spruce and pine, with lesser amounts of poplar and birch. Climate is also typical of northwestern Ontario, with cold, moderately snowy winters and warm to hot summer months. Temperature extremes range from  $-40^{\circ}$  in winter to  $+35^{\circ}$  in mid-summer (Maxwell et al, 2019).

There are several safety concerns when operating on the Property. A major issue is the difficulty of traversing and navigating the heavy bush that is prevalent on the Property, especially when inclement weather makes the ground more slippery. Staying in groups and establishing a firm check-in time with management should be used to mitigate these hazards. Cell phone reception does not extend into the Property so other forms of communication, including satellite phones, emergency satellite communicators, and hand-held radios, are very useful. Finally, encounters with animals, such as moose, black bear, lynx, and wolves, are real possibilities due to the prevalence of wildlife and heavy bush. Field teams should carry bear safety kits (with bear spray and bear bangers) and work in groups. (Maxwell, et al., 2019).

## 5. Exploration History

The Property has seen very limited exploration, with the exception of prospecting and mapping completed by Great Bear Resources in 2021. Highlights of the 2021 prospecting (581 samples) include 0.715 ppm Au (Sample 31440, strained/crenulated felsic volcanic rock with quartz veinlets) and 0.217 ppm Au (Sample 116630) in Felsic Volcanic and 0.255 ppm Au (Sample 116775) and 0.299 ppm Au (Sample 116773) in Quartz Veins (Smythe, Irwin, 2022), Figure 4-5.

All historic work completed on the property and nearby is summarized in Table 2. The source of information are assessment files registered with Ontario Ministry of Northern Development and Mines (MNDM) and other reports found in public domain.

Exploration on the properties near RLN claims started in 1927 (Leonard Lake area), in 1937 (Sheehan Lake area), in 1987 (Mousseau Lake and Woman Lake areas) and in late 20's near Bathurst Lake. Bathurst Mine, 3 km south of the Property, had 307 Oz Au production by 1930.

### **Notable Nearby Exploration**

- |                                   |  |
|-----------------------------------|--|
| • Flint Rock Mines Ltd 1963-1987  | Drilling, sampling Shabu Lake Occurrence         |
| • Madson Red Lake Gold Mines 1967 | Drilling West Shabu Lake                         |
| • Fronteer Dev. Group 2002-2004   | Drilling, mapping and sampling near Leonard Lake |
| • P.English 2010                  | Field Reconnaissance, Sampling near Shabu Lake   |



Regional scale geophysics shows two structural trends on the property – east (west and central portion of the property) and northeast (claims 612220-612222 and 613034). Regional D2 Fold Axial traces are possible south of and through the property. Large magnetic low in center of the property can possibly be associated with a Hinge line. RLN mag low is coincident with felsic volcanic and felsic fragmental rocks (Smythe and Irwin, 2022).

Several gold occurrences have been discovered on claims adjacent to the Property and primarily in Leonard Lake Area, Sheehan Lake Area, Mousseau Lake Area and area near Bathurst Mine:

#### Leonard Lake Area

**Sample 23914:** Grab sample 23914 was taken from a quartz vein located a few hundred metres southeast of Leonard Lake in the northern part of the property. The sample, from a 20-45 cm wide quartz vein containing minor arsenopyrite, assayed 3.18 g/t gold with 3700 ppm arsenic. The vein is oriented 060/50N and is hosted within a narrow, chloritic shear zone in diorite. Nearby selective grab sample 23912, consisting of quartz containing arsenopyrite, assayed 0.18 g/t gold with >10000 ppm arsenic (R.Falls, 2002).

**DDH P04-01:** Presence of Gold: At Least 3000 ppb Au in DDH P04-01 drilled by Fronteer Development in 2004 (Assessment Report 52N07SW2003)

#### Sheehan Lake Area

**DDH S-87-09, Sheehan Lake South Shear** – Presence of Gold: At Least 3000 ppb Au in DDH S-87-09 (Assessment report 52N07SW0004, 52N07SW00008)

#### Mousseau Lake

**DDH ML-88-12:** 0.034 and 0.043 opt Au over 1.5 m. DDH ML-88-10: 0.042 opt Au/1.5 m.

**Mousseau Lake – 1988,** Presence of Gold: At Least 3000 ppb Au in DDH ML-88-12 (Assessment report 52N07SW00010)

#### Bathurst Mine Area

**DDH 1,4:** Presence of Gold: At Least 3000 ppb Au. DDH 1,4 were drilled by Selco Exploration Co Ltd in 1973. **Bathurst Mine** had 307 Oz Au production (1930), numerous high grade gold veins at Bathurst mine.

#### Woman Lake Area

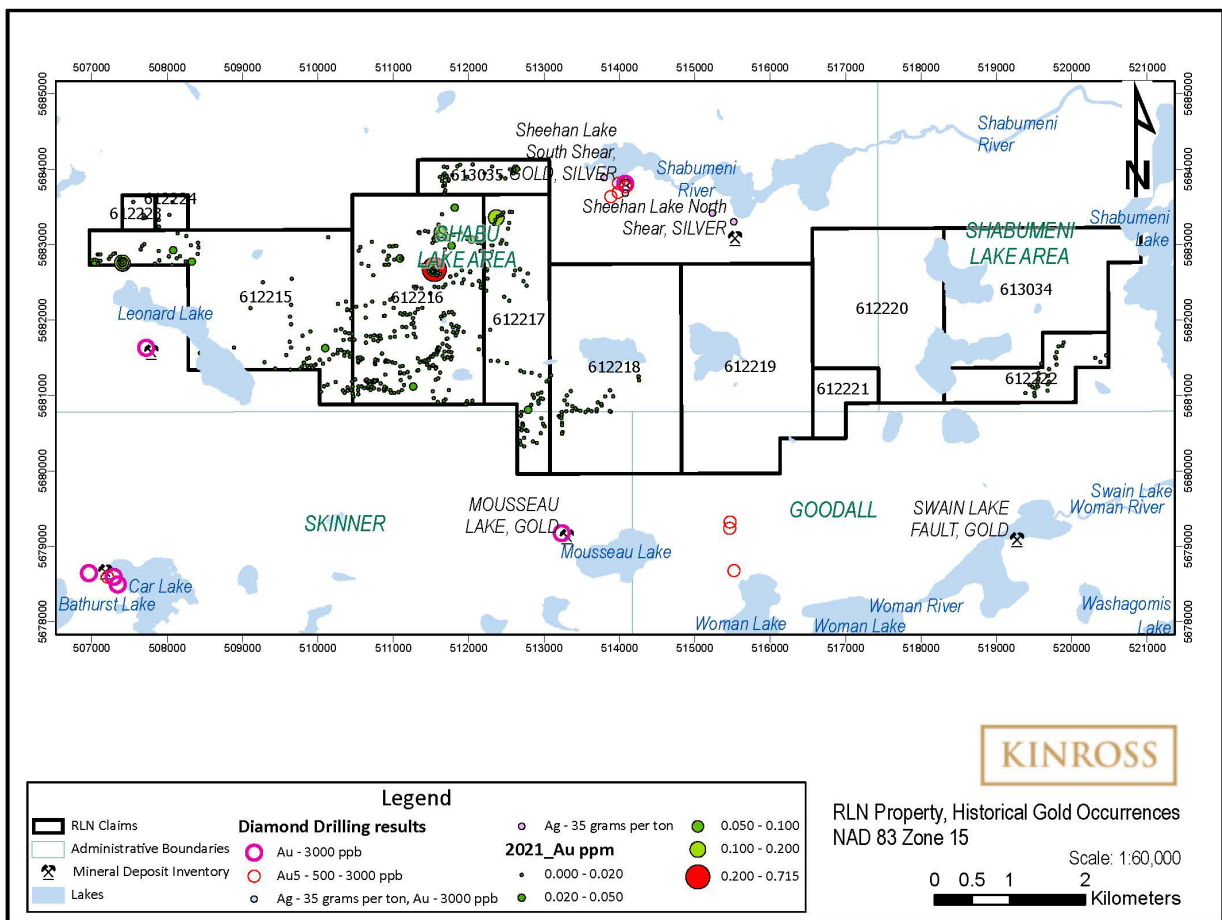
**DDH GH-87-01, GH-87-03, and GH-87-15:** Presence of Gold: 500-3000 ppb Au.

Fronteer Dev. Group completed soil sampling program to the west of Leonard Lake in the northwestern part of the Portage Property (R.Falls, 2002). Gold values obtained from a 2.5 km long north-south soil line with samples taken at 50 m intervals along this line are generally low, but there are spot high values of 97 ppb at station 507300E/5680850N and 122 ppb at station 507300E/5680300N. These may be transported anomalies as samplers describe the area as being covered by glaciofluvial deposits consisting of sand, gravel and boulders. Quartz veins containing up to 3.18 g/t gold outcrop within 700 metres to the east and northeast of the anomalous soil samples.

Taura Gold Inc completed soil sampling on the Shabu River Property (Wynne, 2021). The soil campaign successfully identified two anomalous gold trends. Anomaly #1 in the south of the soil grid has a generally east-west trend. Anomaly #2 is located off the western edge of Sheehan Lake. These results confirm gold distribution pattern described by Fyon and Lane (1986), Thurston (1986) for east—northeast trending deformation zones. It appears that soil sampling tested metavolcanic-metasedimentary contact and elevated

gold values highlight the role of lithology contrasts in localizing the gold mineralization, though K.Wynne (2021) stresses that “neither anomaly is located on a mapped lithological or structural contact, but they may be associated with as-yet unidentified mineralized structures”.

There is a strong correlation between gold deposits and the three metavolcanic-metasedimentary cycles in the belt. Approximately 53% of all gold deposits in the Birch-Confederation lakes area are situated within the Cycle II sequence (the Narrow Lake/Woman Assemblage). About 88% of all gold produced from the Birch-Confederation lakes area was extracted from mines situated within the Cycle II sequence (Parker and Atkinson, 1992). In a view that the Property sits near edge of Birch-Uchi greenstone belt and most of the Property is underlain by rocks of the Woman Assemblage (Figure 7-9,11) which are in contact with Trout Lake granitoid batholith, there is a good chance that this setting is favourable for gold mineralization.



**Figure 4. Historical Gold Occurrences**

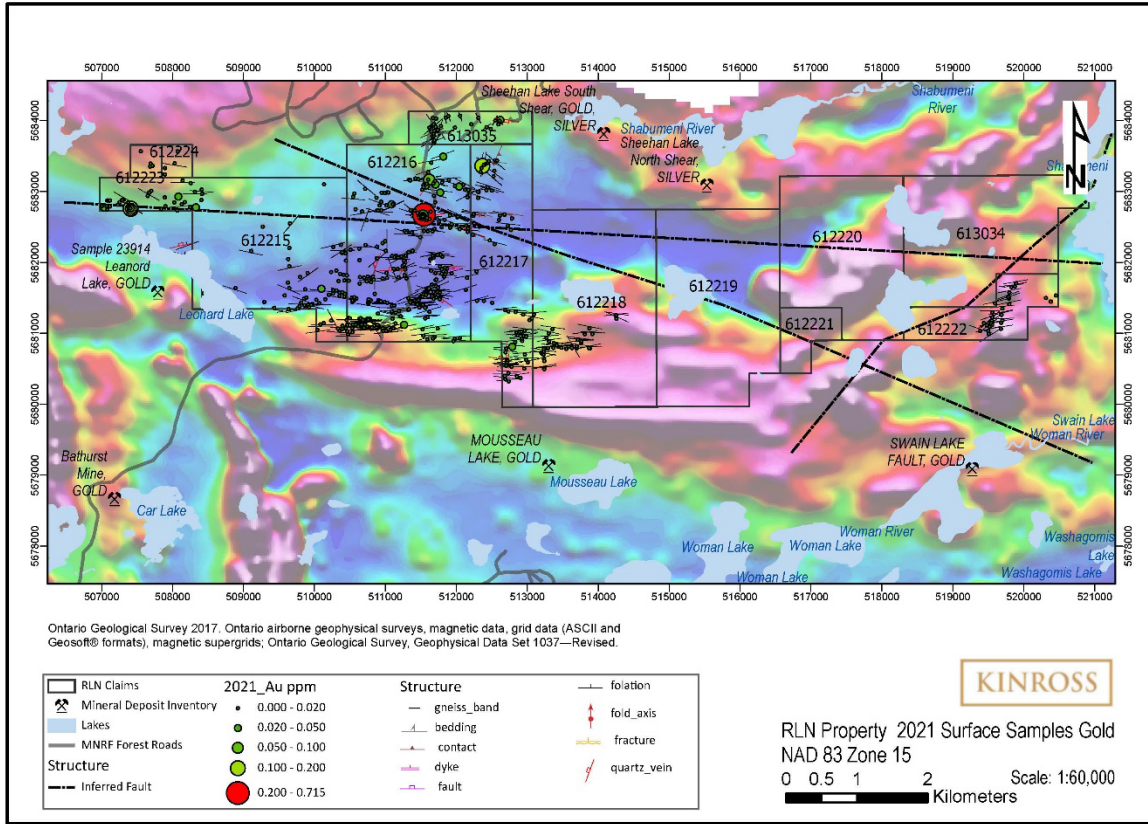


Figure 5. 2021 Surface Samples Gold and Magnetic Grid

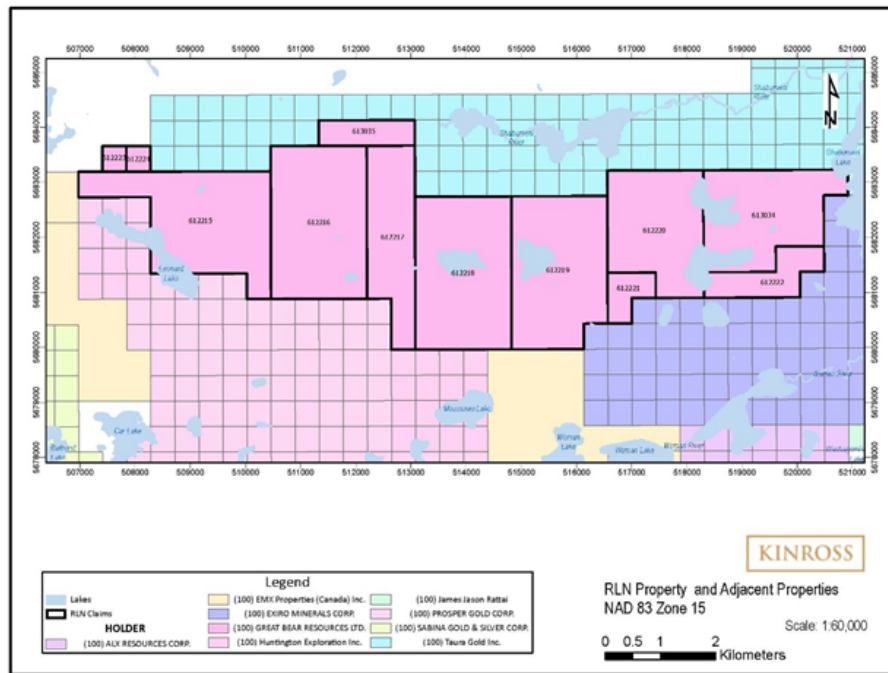


Figure 6. Adjacent claims

**Table 2. Exploration History**

| AFRI_FID    | Year | Performed For                  | Quantity                           | Property Name         | Township            | Work Type          | Work Description   |
|-------------|------|--------------------------------|------------------------------------|-----------------------|---------------------|--------------------|--|
| 52N07SE0058 | 1967 | Madsen Red Lake Gold Mines Ltd |                                    |                       | Shabu Lake Area     | EM, MAG            |  |
| 52N07SW0007 | 1967 | Madsen Red Lake Gold Mines Ltd |                                    |                       | Shabu Lake Area     | PDRILL             |  |
| 52N07SE0057 | 1969 | Noranda Exploration Co         | 22.8 lmi                           |                       | Shabumeni Lake Area | EM, MAG            | Electromagnetic, Magnetic / Magnetometer Survey  |
| 52N07SE0062 | 1969 | Northwest Explorers Ltd        | 87.5 lmi                           |                       | Goodall             | AEM, AMAG, ARAD    | Airborne Electromagnetic, Airborne Magnetometer, Airborne Radiometric  |
| 52N07SE9923 | 1970 | Hudson Bay Oil & Gas Co Ltd    |                                    |                       | Shabumeni Lake Area | ARAD               | Airborne Radiometric   |
| 52N07SW0020 | 1970 | Selco Exploration Co Ltd       |                                    |                       | Skinner             | PDRILL             | Diamond Drilling   |
| 52N07SW0003 | 1985 | Summit Red Lake Gold Mines Ltd | 814 humus samples, 55 grab samples | Sheehan Lake Property | Shabu Lake Area     | GCHEM, MAG, VLF    | Electromagnetic Very Low Frequency, Geochemical, Magnetic / Magnetometer Survey  |
| 52N07SE9924 | 1987 | Noramco Exploration Inc        |                                    |                       | Shabumeni Lake Area | ACOMP, AMAG, AVLF  | Airborne Electromagnetic Very Low Frequency, Airborne Magnetometer, Compilation and Interpretation - Airborne Geophysics |
| 52N07SE0010 | 1988 | Noramco Exploration Inc        |                                    |                       | Goodall             | GCHEM, GEOL, MICRO | Geochemical, Geological Survey / Mapping, Microscopic Studies  |
| 52N07SW0004 | 1988 | Shabu Gold Mines Ltd           | 23ddh/10437'                       |                       | Shabu Lake Area     | ASSAY, PDRILL      | Assaying and Analyses, Diamond Drilling  |
| 52N07SE0002 | 1993 | Asarco Expl. Co Of Canada Ltd  |                                    |                       | Goodall             | PDRILL             | Diamond Drilling   |
| 52N02NE9869 | 1993 | Asarco Expl. Co Of Canada Ltd  |                                    |                       | Goodall             | EM, GEOL, MAG      | Electromagnetic, Geological Survey / Mapping, Magnetic / Magnetometer Survey   |

| AFRI_FID    | Year        | Performed For                  | Quantity  | Property Name                         | Township            | Work Type                     | Work Description   |
|-------------|-------------|--------------------------------|---|---------------------------------------|---------------------|-------------------------------|--|
| 52N07SW2001 | 2002        | Fronteer Development Group Inc | 98.1 line km, 116 samples, 236 soil samples. 1:10000 geol map | Portage Property                      | Shabu Lake Area     | AEM, AMAG, ASSAY, GCHEM, GEOL | Airborne Electromagnetic, Airborne Magnetometer, Assaying and Analyses, Geochemical, Geological Survey / Mapping                     |
| 52N08NE2003 | 2003        | Jilbey Gold Exploration Ltd    | 74 rock samples, 389 soil samples. Traversed 18 claims        |                                       | Keigat Lake Area    | ASSAY, GCHEM, MAG             | Assaying and Analyses, Geochemical, Magnetic / Magnetometer Survey   |
| 52N07SW2002 | 2003        | Fronteer Development Group Inc | 68 till samples, 77 rock/channel samples, 870 soil samples    | Portage Property                      | Shabu Lake Area     | ASSAY, GCHEM, GOVER           | Assaying and Analyses, Geochemical, Overburden Studies   |
| 52N07SW2003 | 2004        | Fronteer Development Group Inc | 8 DDH/ 2403.96m, 797 core samples                             |                                       | Shabu Lake Area     | ASSAY, PDRILL                 | Assaying and Analyses, Diamond Drilling  |
| 20000006556 | 2010        | Perry Vern English             | 45 rock samples   |                                       | Satterly Lake Area  | ASSAY, PROSP                  | Assaying and Analyses, Prospecting By Licence Holder   |
| 20000008649 | 2011 - 2012 | Aurcrest Gold Inc              | 45 samples, 39 km traverse                                    | Swain Lake Property                   | Shabumeni Lake Area | ASSAY, PROSP                  | Assaying and Analyses, Prospecting By Licence Holder   |
| 20000019487 | 2020        | Taura Gold Inc                 | 523 soil samples  | Shabu River Property                  | Shabu Lake Area     | ASSAY, GCHEM, SOIL            | Assaying and Analyses, Geochemical, Soil/Till Sampling   |
| 20000019556 | 2020        | Mastodon Geol. Services Inc    |   | Birch-Uchi Property, Red Lake Project | Dent                | AGR, AGRAD, AMAG, ARAD, AVLF  | Airborne Electromagnetic Very Low Frequency, Airborne Gradiometer, Airborne Magnetometer, Airborne Radiometric, Airborne Resistivity |
| 20000019557 | 2020        | Mastodon Geol. Services Inc    |   | Birch-Uchi Property                   | Shabu Lake Area     | ACOMP, AEM, AGR, AMAG, AVLF   | Airborne Electromagnetic, Airborne Electromagnetic Very Low Frequency, Airborne Magnetometer, Airborne                               |

| AFRI_FID    | Year | Performed For            | Quantity | Property Name           | Township        | Work Type          | Work Description  |
|-------------|------|--------------------------|----------|-------------------------|-----------------|--------------------|---|
|             |      |                          |          |                         |                 |                    | Resistivity, Compilation and Interpretation - Airborne Geophysics   |
| 20000020237 | 2021 | Great Bear Resources Ltd |          | Red Lake North Property | Shabu Lake Area | ASSAY, PROSP, ROCK | Assaying and Analyses, Prospecting by Licence Holder, Rock Sampling |

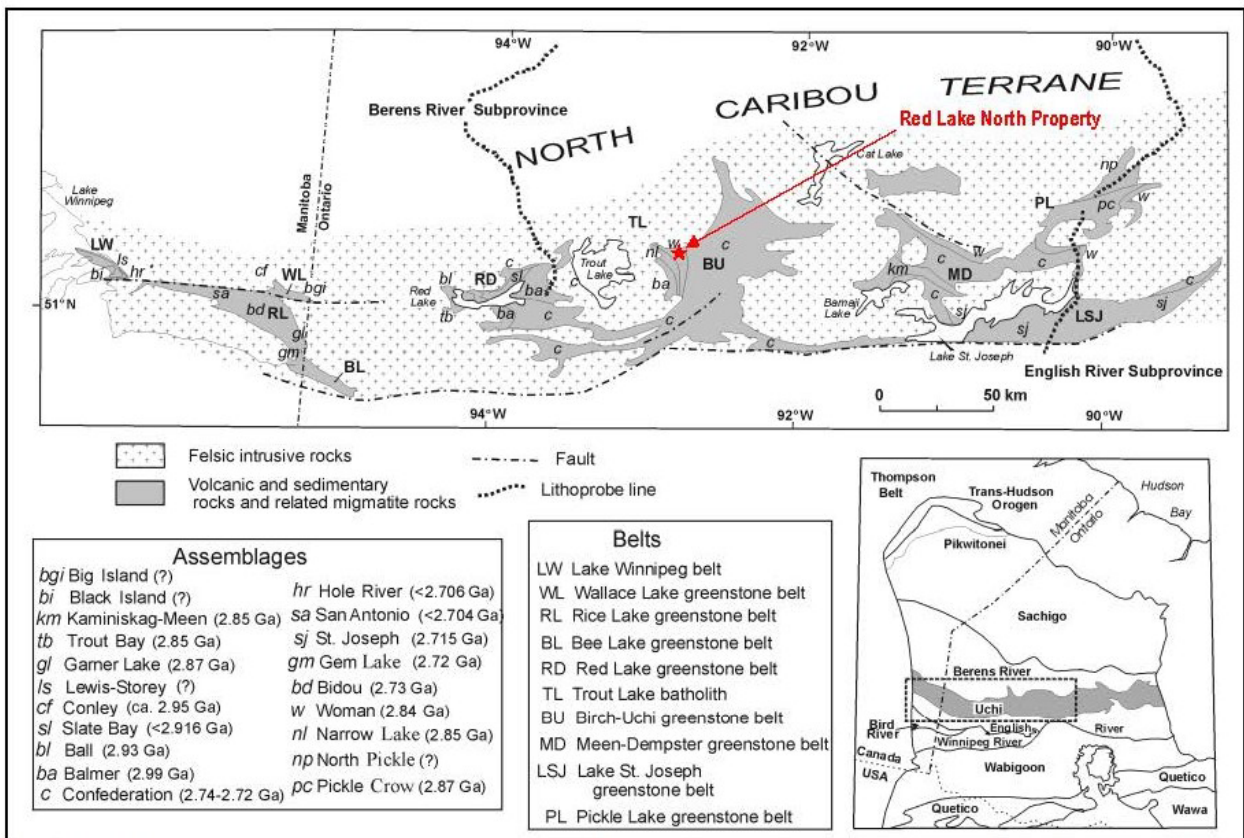


**6. GEOLOGICAL SETTING**

**6.1 REGIONAL GEOLOGY**

Regional geology summary is largely based on reports by Pryslak 1971a, Stott & Corfu 1991, Thurston 1985, Sanborn-Barrie et al., 2000, 2001, 2004), Rogers 2002.

The RLN Property lies in the Birch-Uchi Greenstone Belt, part of the Uchi Subprovince in the western Archean Superior Province of the Canadian Shield (Figure 7-8). The Uchi Subprovince, tabular, eastward-trending (approximately 080°) sequence of metavolcanic and lesser metasedimentary rocks, forms ribbon-like supracrustal network. This ribbon-like region of Uchi Subprovince is bounded by Berens River Subprovince (plutonic belt) to the north and English River Subprovince (metasedimentary-plutonic belt) to the south. The supracrustal rocks of the Uchi Subprovince are subdivided into several greenstone belts (Figure 7-9a).



**Figure 7. Generalized tectonic map of the western Uchi Subprovince, showing location of volcano-sedimentary assemblages (modified from Percival et al., 2000)**

The Birch-Uchi greenstone belt is characterised by steeply dipping panels of metamorphosed volcanic and sedimentary rocks with only very locally moderate-to shallow-dipping strata. The Birch-Uchi greenstone belt preserves approximately 290 Ma record of magmatic and sedimentary activity, with evidence of multiple episodes of intense hydrothermal alteration, deformation, metamorphism and gold mineralization. The Birch-Uchi greenstone belt is characterised by steeply dipping panels of metamorphosed volcanic and sedimentary rocks with only very locally moderate-to shallow-dipping strata.

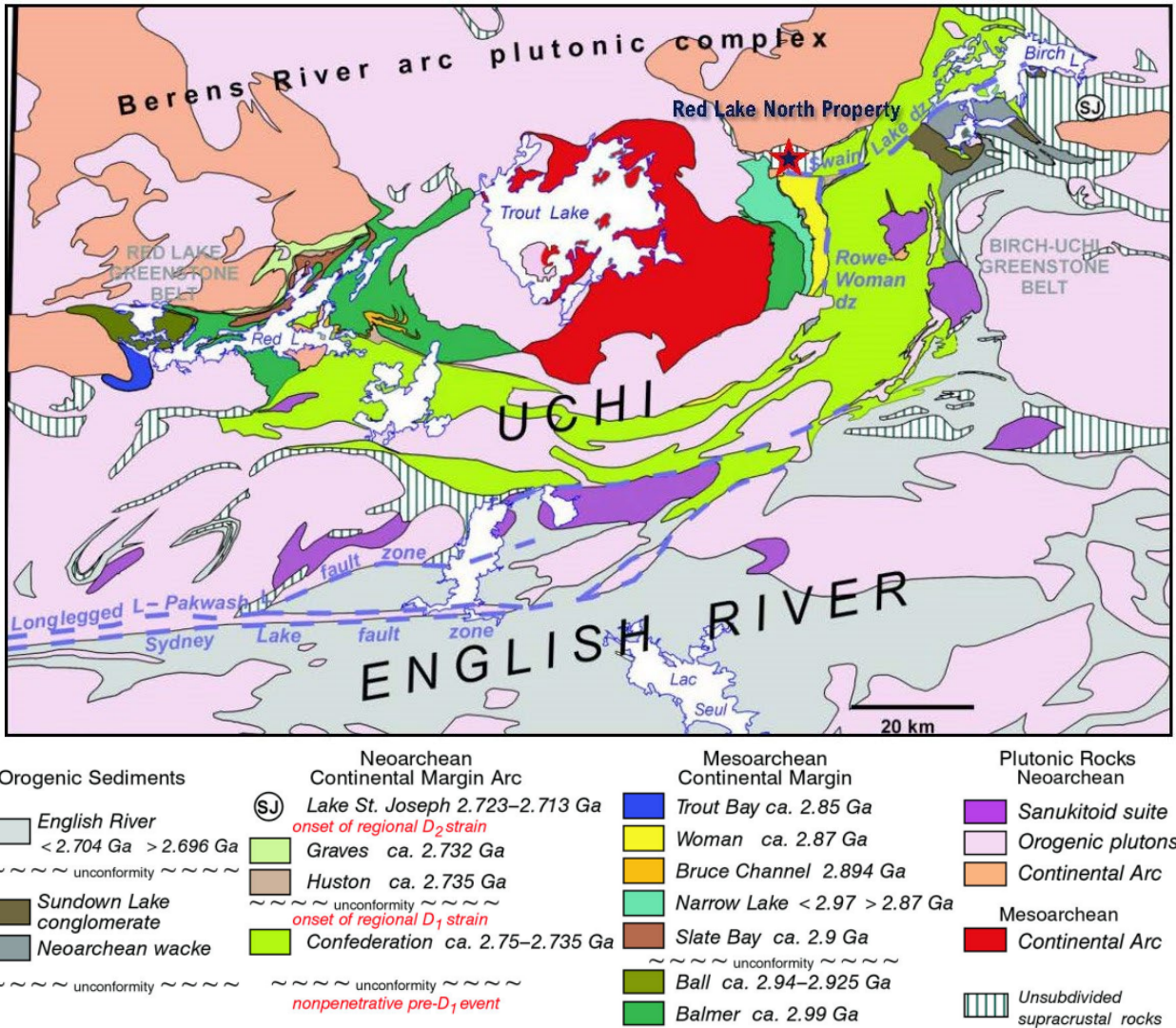


Figure 8. Major tectonostratigraphic assemblages and tectonic affinities assigned to volcanic, sedimentary and plutonic rocks of the eastern Uchi Subprovince (2.75–2.99 Ga). GSC, Open File 4256- published 2004.

The Birch-Uchi greenstone belt preserves approximately 290 Ma record of magmatic and sedimentary activity, with evidence of multiple episodes of intense hydrothermal alteration, deformation, metamorphism and gold mineralization. The Birch-Uchi greenstone belt is interpreted to have evolved on the southern flank of an ancient continental block, North Caribou terrane, by eruption and deposition of 2.99–2.85 Ga volcano-sedimentary sequences in a continental margin setting, followed by 2.75–2.73 Ga subduction-related arc volcanism manifested by the Berens River arc plutonic complex (Figure 7-9a). Continental collision with the Winnipeg River terrane at 2.72–2.7 Ga led to subsequent thickening and metamorphism (Stott and Corfu, 1991; Sanborn-Barrie et al., 2000, 2001, 2004).

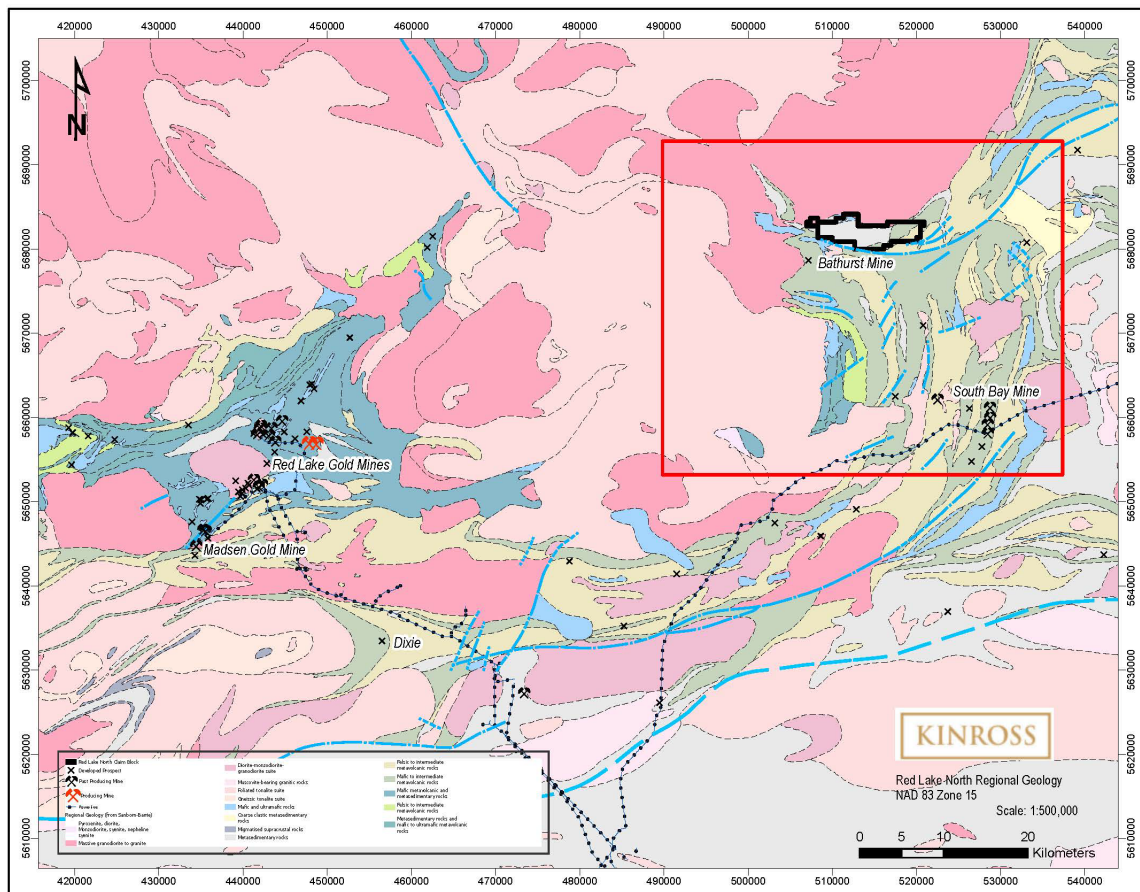
The Birch-Uchi Greenstone Belt consists of three major volcano-sedimentary assemblages, thought to represent three volcanic cycles (Stott and Corfu, 1991). From oldest to youngest these are the Mesoarchean



Balmer Assemblage (Cycle I), the Narrow Lake/Woman Assemblage (Cycle II) and the Neorchean Confederation Assemblage (Cycle III), described after Sanborn-Barrie et al. (2004) as follows:

The Balmer Assemblage (2989-2964 Ma) - tholeiitic and komatiitic basalt with minor felsic volcanic rocks, iron formation and fine-grained clastic meta-sediments. Occur east of, and intruded by, the Trout Lake batholith. Relative to the Balmer assemblage of the Red Lake belt, this sequence contains less tholeiitic pillowed basalt at its exposed base, overlain by a thick sequence of massive (unpillowed) calc-alkaline volcanic rocks, ranging in composition from basaltic andesite to rhyolite, with associated volcanogenic siltstone. These chemical and textural distinctions are interpreted to reflect local emergence of the Balmer assemblage in the Confederation Lake area, perhaps as a result of formation on thicker continental crust (Rogers et al., 2000).

The Woman Assemblage / Narrow Lake Assemblage (2870 Ma) forms a band of bimodal volcanic rocks that outcrops along the western edge of Woman Lake in the Birch-Uchi belt. This assemblage overlies the Narrow Lake assemblage with the boundary marked by interbedded iron-formation and siltstone of the Medicine Rock assemblage, which contains detritus from Woman -and Balmer-age sources. Mafic volcanic rocks exhibit arc-like compositions (both island-arc tholeiite-like and calc-alkaline). The eastern part of the assemblage is dominated by subaerial to very shallow marine welded felsic tuff of 2870 Ma age. Stromatolitic marble demarcates the top of assemblage.



**Figure 9. Regional Geology**

Confederation Assemblage (2750-2735 Ma) – the most extensive volcanic sequence in the Uchi Subprovince (Stott and Corfu, 1991). It dominates the volcanic stratigraphy of the Birch-Uchi greenstone belt,

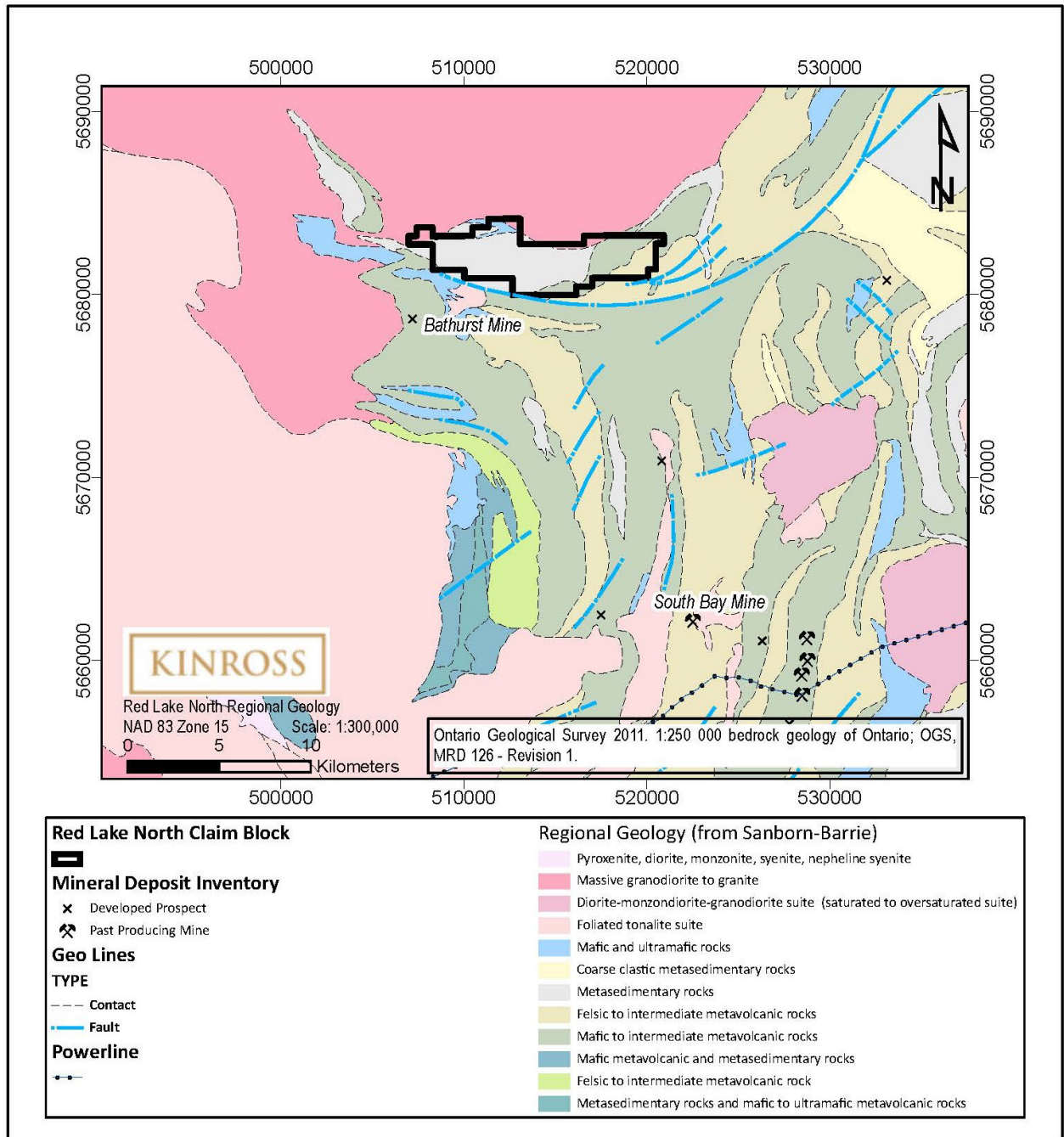


Figure 9a. Regional Geology (Insert for Figure 9)

where three volcanic sequences are distinguished. From west to east, these are the Knott, Agnew, and Earngey sequences. The Knot sequence has an arc-like composition ranging from island arc tholeiite-like at the base, to calc-alkaline mafic volcanic rocks towards the top. Associated felsic rocks include ignimbrites dated at 2742 Ma. The Agnew sequence is dominantly of tholeiitic affinity, comprising basaltic rocks and economically significant FIII-type (Leshner et al., 1986) rhyolitic rocks dated at 2744-2738 Ma which hosted the past-producing South Bay volcanogenic massive sulphide mine. The 2742-2735 Ma Earngey sequence is dominated by calc-alkaline intermediate to felsic volcanic rocks. In the Birch-Uchi belt, volcanic sequences of the Confederation assemblage are interpreted to be separated from each other by eastward-dipping thrusts or high-angle reverse faults (Rogers, 2002).

The oldest known granitoid rocks in this part of the Uchi Subprovince are tonalitic rocks of the Trout Lake plutonic suite 2860-2805 Ma, with the majority of the batholith at 2840 Ma. This batholith is intrusive into the Balmer Assemblage and may represent the plutonic equivalent of the Woman Assemblage.

A small volume of Neoproterozoic synvolcanic plutonic rocks is known to correlate with the extensive Confederation volcanic assemblage. Within the Birch-Uchi belt a group of granophyric granodiorite to quartz-feldspar porphyry intrusions are associated with basaltic to rhyolitic flows of the Confederation Assemblage (Thurston, 1985; Rogers, 2002).

Felsic to intermediate intrusions related to the Trout Lake Batholith of the Berens River arc plutonic complex occur on the northern and western margins of the Red Lake North property. Most of the property is underlain by rocks of the Woman Assemblage (Figure 7-9, 11), though the contacts between the Woman Assemblage, Narrow Lake Assemblage, and the Confederation Assemblage are contested and not well mapped.

The Birch-Uchi greenstone belt displays evidence of, at least, three events of regional deformation resulted in the widespread development of folds, axial planar fabrics, and ductile shear zones:

(D0) – a pre-2870 Ma nonpenetrative deformation event may affect the Balmer Assemblage as inferred by a possible unconformity between the Balmer and overlying Narrow Lake Assemblage;

(D1) – regional penetrative fabrics are interpreted within the central part of the belt where north-trending folds and fabrics with a steep lineation are developed in Confederation-age rocks. This is consistent with post -2732 Ma east-west shortening and near-vertical extension.

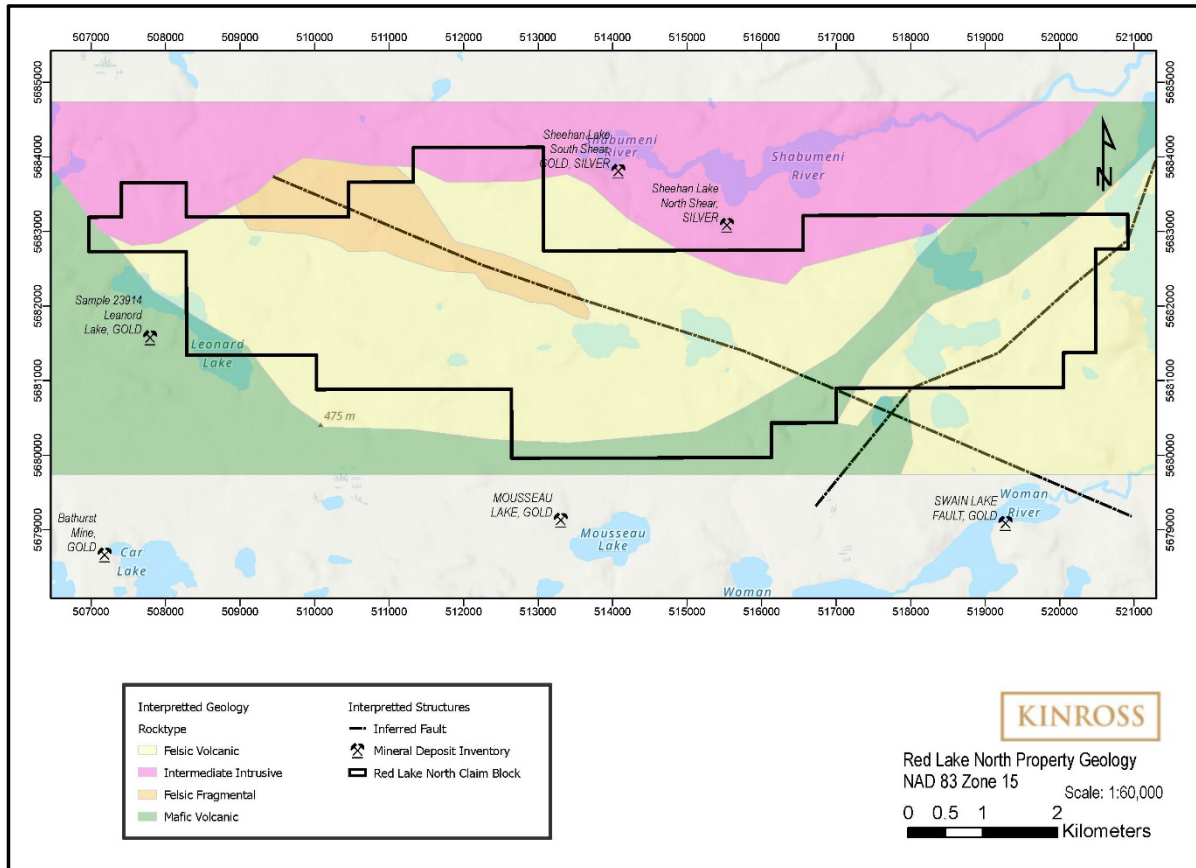
(D2) - regional penetrative deformation characterised by east-northeast striking moderate – to steeply south dipping foliation. Linear deformation zones with intensely developed foliation and strong lineation, such as Swain Lake deformation zone, are parallel to regional D2 structures and are interpreted to have developed during D2.

Supracrustal rocks of the Birch-Uchi belt are characterised by mineral assemblages typical of greenschist- and amphibolite-facies regional metamorphism.

The Birch-Uchi belt contains a number of past-producing gold mines. Bathurst Mine had 307 Oz Au production (1930). At the Bathurst Mine gold mineralization is hosted in quartz veins up to 3m wide and occurs as pyrite with lesser chalcopyrite and arsenopyrite, occasional sphalerite +/- galena and locally native gold. Mineralized zones are often spatially related to the contacts between mafic volcanics and feldspar-quartz porphyry dykes.

## 6.2 PROPERTY GEOLOGY

Summary of local geology is taken from Smythe and Irwin (2022) as described below.



**Figure 10. Property Geology**

Outcrop is abundant on the Red Lake North property, with many bedrock exposures occurring along new forestry roads and within recently logged cut blocks. Geologic interpretation (Figure 10) of the property was influenced by government geologic mapping, regional geophysical data, minor historic prospecting, field station lithology, and structural measurements taken by field crews on the property and near the property margins in summer 2021. Most of the property contains volcanic rocks of the Woman Assemblage (Figure 7, 11); however, it is possible there is a sliver of Narrow Lake Assemblage mafic volcanics and sediments in the western portion of the property, beneath and to the north of Leonard Lake (coloured green on Figure 10). The following rock descriptions have been compiled from previous field work on the property:

### Woman and Narrow Lake Assemblage Volcanic Rocks

#### *Felsic Volcanic Flows*

This is the dominant rock type observed on the property. Buff with patchy rust weathering, grey, fine grained, weak- to strongly foliated felsic volcanic flow. Local weak- to moderate chlorite +/- silica +/- carbonate



alteration. Most samples contain trace- to 10% pyrite mineralization. Phenocrysts include trace- to 2% fragmented quartz crystals (1-3mm) and 1-30% feldspar crystals (1-4mm). Rarely magnetic.

#### *Felsic Fragmental (Volcaniclastic)*

There is a narrow band of fragmental rocks observed in outcrop along Joyce Road and along an ESE-WNW trending forest road in the northern portion of the property. Green-grey weathered, grey, siliceous felsic fragmental with beige, sericite-altered felsic volcanic clasts, lapilli to bomb sized (1-10cm). Moderate strain/flattening. Clasts and matrix comprise 30-40% feldspar phenocrysts and trace to 1% quartz phenocrysts in a fine grained, siliceous matrix. Local epidote alteration. Trace pyrite and chalcopyrite mineralization observed.

#### *Intermediate Volcanic*

This lithology is rare and is observed locally in the eastern portion of the property. It is buff grey weathered, dark grey/black, fine-grained, hornblende+/-plagioclase+/-biotite phyrlic intermediate volcanic. Strongly foliated, magnetic, with weak chlorite and carbonate alteration. Local trace pyrite.

#### *Mafic Volcanic*

This lithology is rare and is observed locally in the western portion of the property. It is grey-green weathered, fine-grained, chloritized mafic volcanic. Locally rusty/limonitic. Hornblende +/- biotite +/- pyroxene(?) rich. Foliated- to massive texture. Local pillow textures observed.

### **Trout Lake Intrusive Suite**

#### *Intermediate Intrusive*

This unit is best observed along Joyce Road, north of the Shabumeni River bridge. Green-buff weathered, grey-green fresh, medium grained, massive intermediate intrusive. Contains 50% epidote altered feldspar crystals and 30% biotite clusters up to 1cm (this creates a “pock like” weathered surface).

### **Other Intrusive Rocks**

#### *Mafic Dykes*

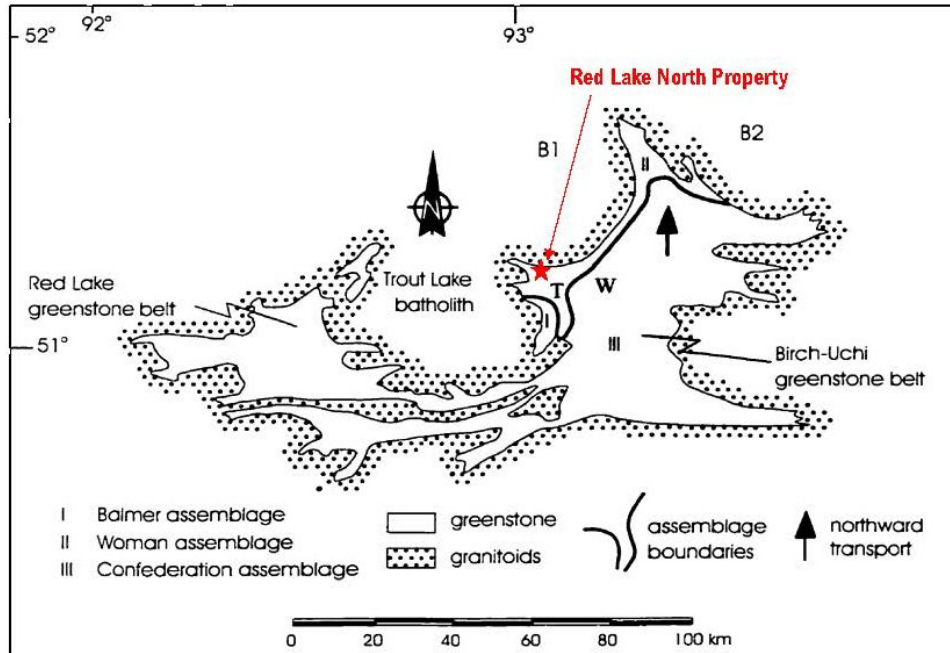
Buff grey-green weathered, greenish grey fresh, massive to strongly foliated, fine grained hornblende +/- biotite rich mafic dykes. 1cm-1m in width. Observed both cutting foliation of host rock, as well as occurring as foliation parallel dykes.

### **Structural Geology**

The dominant foliation on the Red Lake North property dips steeply and trends roughly East-West, though it shows a wrapping around intrusions of the Trout Lake batholith in the north and western parts of the property. The property sits just north of the “centre of triple junction in foliation (schistosity) pattern and the strain field”, as described by Crews, 1999 (Figure 6):

*“Stott and Corfu (1991) hypothesized that the northward transport of the Confederation assemblage mass was accomplished by two heterogeneous deformations (D1, D2), on the scale of the Birch-Uchi belt. D1 created the N-S structural grain in the greenstone belt mainly by northward translation and rotation of rock strata. These displacements were thought to “have accompanied the aggregation of the assemblages after 2730 Ma, during collision between the Uchi-Sachigo and Wabigoon-Winnipeg River Superterrane. The northward transport is conceived to have been in the*

form of a fist-like, northward closing protrusion of the [Confederation] assemblage, which overrode part of the Woman assemblage. Conceivably associated with this northward transportation event in the Birch-Uchi greenstone belt is the second deformation. D2 schistosity strikes eastward and dips moderately to steeply southward carrying a shallowly plunging stretching lineation which is generally masked by the steeper D1 lineation".



**Figure 11. Red Lake – Birch-Uchi greenstone belts; B1, B2 – granitoid batholiths; T - centre of triple junction in foliation (schistosity) pattern and the strain field; W-Washagomis Lake. Modified from Crews, 1999.**

**Gold Mineralization**

Several samples of 2021 program returned anomalous (above detection) gold values, with the highest surface sample returning 0.715 g/t Au (Figure 12, Table 3). Gold in this sample occurred in a dark grey, very fine grained, strongly foliated/crenulated, locally vuggy felsic volcanic rock with foliation parallel 2-3mm thick quartz veinlets.

**Table 3. 2021 Samples with gold values over 0.15 ppm Au**

| Sample ID | Easting (m) | Northing (m) | Rock Type       | Au_ppm |
|-----------|-------------|--------------|-----------------|--------|
| 31440     | 511545.1    | 5682671.3    | Felsic Volcanic | 0.715  |
| 116586    | 511616.4    | 5683165.5    | Felsic Volcanic | 0.154  |
| 116587    | 511616.4    | 5683168.1    | Felsic Volcanic | 0.173  |
| 116630    | 512366.8    | 5683359.3    | Felsic Volcanic | 0.217  |
| 116773    | 507410.7    | 5682752.3    | Quartz Vein     | 0.299  |
| 116774    | 507411.3    | 5682754.7    | Quartz Vein     | 0.159  |
| 116775    | 507407.6    | 5682758.2    | Quartz Vein     | 0.255  |

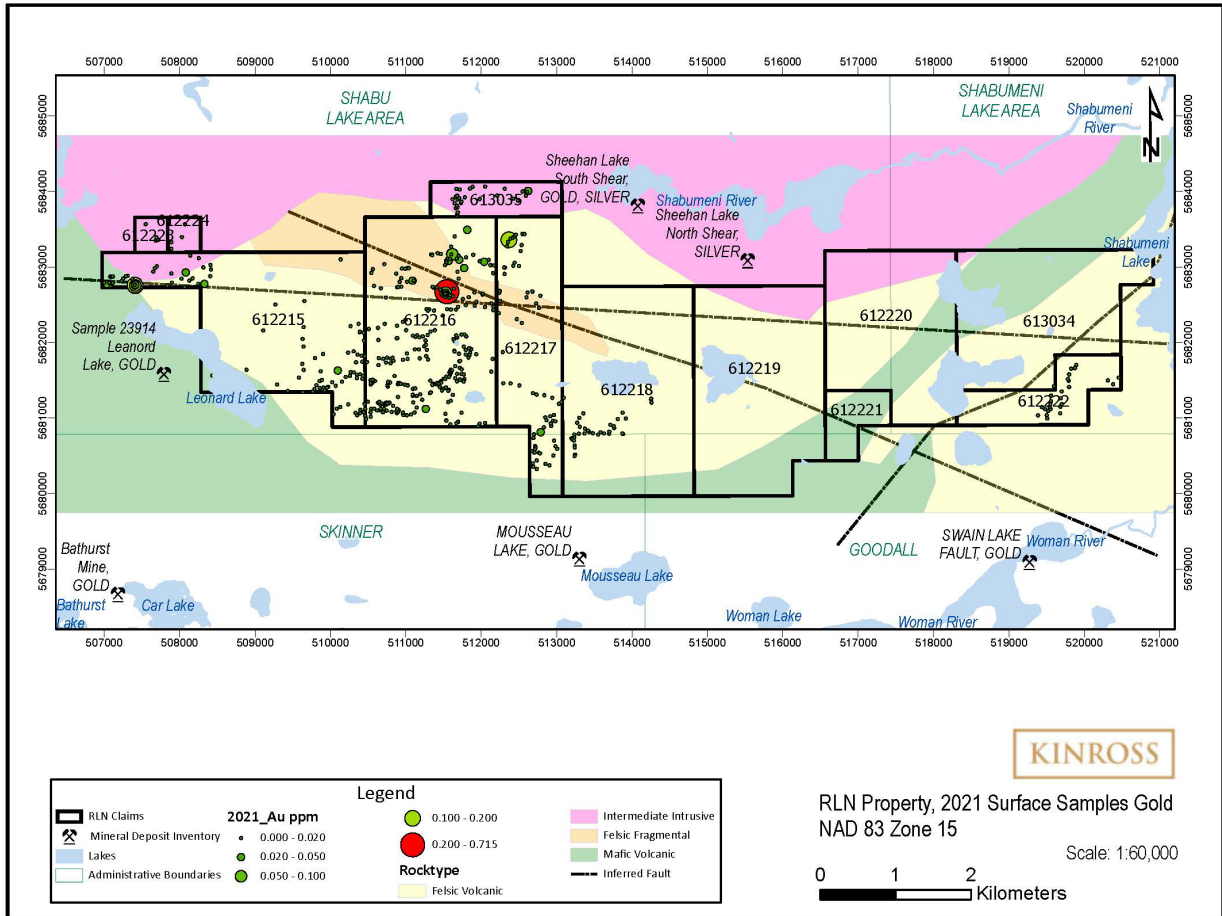


Figure 12. 2021 Surface Samples Gold Values

**7. Exploration**

During the period July 7-21 of 2022, Bjorkman Prospecting Inc. completed rock sampling and prospecting on the Property.

The purpose of the program was to locate/re-sample historic gold occurrences on the Property, gather data in untested areas, gain better understanding of the geology and evaluate potential for gold mineralization within the Property.

Using historic reports, maps and satellite images crew of 2 geologists and 2 field assistants located and sampled previously unidentified outcrops, visited and resampled many outcrops from previous field work, tested areas of anomalous mineral occurrences and airborne geophysical anomalies. Outcrops encountered were located with handheld GPS devices.

Over 2 weeks of this program, 129 rock samples were collected as grab samples and subsequently analyzed for gold by fire assay and multi-element ICP. A great deal of samples were collected in new areas that had not been historically sampled. These new areas cover claims 612218, 612219, 612221 and 613034.

A total of 135 samples (including control samples) were collected and taken to ALS Canada Ltd for FA-AA and multi-element ICP-MS analysis. All samples were delivered to the ALS Lab by J.Bjorkman where they were weight, crushed, split to 250 g and pulverized until 85% passed through a 75 um mesh. Rejects were required to be disposed.

Preparation codes and analytical techniques are shown (Table 4, 5). Assay results and Certificates of Analysis are in Appendix D.

**Table 4. ALS Sample Preparation**

| <b>ALS Canada</b>         |                                 |
|---------------------------|---------------------------------|
| <b>Sample Preparation</b> | <b>Description</b>              |
| WEI-21                    | Received Sample Weight          |
| CRU-31                    | Fine crushing – 70% <2mm        |
| LOG-21                    | Sample Logging- ClientBarCode   |
| CRU-QC                    | Crushing QC Test                |
| PUL-QC                    | Pulverizing QC Test             |
| SPL-21                    | Split Sample – riffle splitter  |
| PUL-31                    | Pulverize up to 250g 85% <75 um |

**Table 5. ALS Analytical Procedures**

| <b>ALS Analytical Procedures</b> |                                    |                   |
|----------------------------------|------------------------------------|-------------------|
| <b>ALS Code</b>                  | <b>Description</b>                 | <b>Instrument</b> |
| ME-MS61                          | 48 element four acid ICP-MS        |                   |
| ME-MS61L                         | Super Trace Lowest DL 4A by ICP-MS |                   |
| PGM-MS23                         | Pt, Pd, Au 30g FA ICP-MS           | ICP-MS            |
| Au-AA25                          | Ore Grade Au 30g FA AA finish      | AAS               |
| Au-AA23 Au 30g FA-AA finish      | Au 30g FA-AA finish                | AAS               |



Daily traversing, sample and outcrop locations are in Appendix E. Daily logs with outcrop photos and detailed description are in Appendix C.

**A review of field data indicates:**

Lithology encountered on the property includes mafic volcanic (18 samples), intermediate volcanic (22 samples), intermediate intrusive (5 samples), felsic volcanic (19 samples), felsic intrusive (2 samples), schist (1 sample). Rock type is found to be consistent with previous mapping (2021). Rock description is somewhat different.

Geological description of all samples include color, mineral composition, grain size, texture, mineralization, alteration and its intensity, and magnetic intensity where and if it was observed.

34 outcrops have been recorded with 9 in mafic volcanic, 1 in mafic intrusion, 8 in intermediate volcanic, 10 in intermediate intrusive, 4 in felsic volcanic and 2 in felsic intrusive. No outcrop map has been produced.

Quartz veining is present. A total of 65 QV-samples were taken with 4 samples from quartz veins in mafic volcanic. All quartz veins from mafic volcanic returned values below detection limit. Samples taken from variably deformed and altered quartz veins returned the highest assay values: F064251 (0.436 ppm Au), F064335 (1.24 ppm Au), F064357 (0.772 ppm Au), F064371 (0.134 ppm Au). The remaining quartz veins show elevated gold values (> 0.015 ppm Au) and are related to late-stage veining in association with sulphides (chalcopyrite, pyrite).

A total of 32 structural measurements were made from rocks exposed. Structural data include measurements of shear zones (4), foliation (3), quartz veins (18). Seven (7) measurements do not specify for which structure type they were taken (See map, Appendix E).

Foliation within claim 612219 shows NE-trend where felsic volcanic flows strike 98°-110° and dip 75° to the south and mafic volcanic flows strike 89° and dip 78° to the south (See Map, Appendix E).

Shear zones, on average, are trending 76°S/192° (See Map, Appendix E).

Alteration observed on the property consists of moderate to strong silica and weak carbonate with later minor epidote. No gold for silica alteration reported for samples within claim 612215-612216. Though sample F064358 with reported moderate silica returned 0.325 ppm Au and this sample is 70 m aside of the mapped contact between mafic and felsic volcanic.

Mineralization includes pyrite and chalcopyrite largely present in all rock types as anhedral, euhedral, disseminated, in clusters and stringers.

No representative hand-specimen of outcrops was collected for future use and whole rock analysis.

**A review of analytical data indicates:**

Out of 129 samples 37 samples (29%) returned values below detection limit, 37 samples (29%) returned values >0.015ppm. Gold values over 0.015 ppm are considered to be anomalous and listed in Table 6.

**Table 6. 2022 Samples with values over 0.015 ppm Au**

| Sample ID | Easting (m) | Northing (m) | Lithology                               | Au_ppm | Appendix C     |
|-----------|-------------|--------------|---|--------|----------------|
| F064251   | 511535.555  | 5682659.979  | Quartz Vein                             | 0.436  |                |
| F064252   | 511593.984  | 5682759.479  | Quartz Vein                             | 0.025  |                |
| F064255   | 512618.284  | 5684014.145  | Quartz Vein                             | 0.037  | Figure 1       |
| F064257   | 512754.814  | 5684032.917  | Quartz Vein                             | 0.065  |                |
| F064271   | 516458.116  | 5680524.107  | Intermediate Volcanic                   | 0.018  |                |
| F064274   | 508302.780  | 5682780.485  | Felsic Volcanic                         | 0.016  | Figure 5       |
| F064279   | 508088.643  | 5682985.776  | Diorite, 5mm Quartz Vein with pyrite    | 0.032  |                |
| F064281   | 508105.846  | 5682996.037  | Diorite, Quartz Vein                    | 0.449  |                |
| F064282   | 510275.125  | 5682499.873  | Quartz Vein                             | 0.039  |                |
| F064288   | 509124.871  | 5682660.314  | Intermediate Volcanic, Quartz Vein      | 0.22   | Figure 8       |
| F064291   | 509469.537  | 5681947.152  | Felsic Volcanic                         | 0.016  | Figure 9,10    |
| F064293   | 509471.58   | 5681948.675  | Felsic Volcanic                         | 0.033  | Figure 9,10    |
| F064295   | 509473.63   | 5681949.724  | Felsic Volcanic                         | 0.025  | Figure 9,10,11 |
| F064296   | 511771.634  | 5681506.276  | Quartz Vein                             | 0.036  | Figure 9,10,11 |
| F064297   | 511771.634  | 5681506.276  | Intermediate Volcanic                   | 0.027  |                |
| F064301   | 511541.039  | 5682638.068  | Late vein, alteration or mineralization | 0.017  |                |
| F064305   | 511640.277  | 5683963.834  | Late vein, alteration or mineralization | 0.036  |                |
| F064306   | 511639.144  | 5683966.54   | Late vein, alteration or mineralization | 0.043  |                |
| F064309   | 512321.522  | 5681897.667  | Late vein, alteration or mineralization | 0.088  |                |
| F064325   | 510758.543  | 5681803.991  | Quartz Vein                             | 0.037  | Figure 23      |
| F064327   | 507423.21   | 5682749.119  | Late vein, alteration or mineralization | 0.023  |                |
| F064328   | 507423.649  | 5682749.168  | Late vein, alteration or mineralization | 0.02   |                |
| F064329   | 507424.002  | 5682749.965  | Late vein, alteration or mineralization | 0.033  |                |
| F064331   | 507424.194  | 5682750.917  | Quartz Vein                             | 0.021  |                |
| F064333   | 507417.354  | 5682753.122  | Quartz Vein                             | 0.04   |                |
| F064334   | 507408.834  | 5682757.355  | Quartz Vein                             | 0.051  |                |
| F064335   | 507409.133  | 5682758.068  | Quartz Vein                             | 1.24   | Figure 25      |
| F064339   | 511488.4    | 5681601.519  | Late vein, alteration or mineralization | 0.025  |                |
| F064347   | 511745.071  | 5683160.876  | Felsic volcanic                         | 0.064  |                |
| F064348   | 512189.989  | 5683341.435  | Felsic volcanic                         | 0.057  |                |
| F064352   | 511270.251  | 5681112.133  | Quartz Vein                             | 0.067  |                |
| F064354   | 515025.87   | 5682024.541  | Intermediate Volcanic                   | 0.027  |                |
| F064357   | 507279.68   | 5682775.853  | Quartz Vein                             | 0.772  |                |
| F064358   | 507279.364  | 5682775.686  | Diorite                                 | 0.325  |                |
| F064364   | 514908.865  | 5680246.082  | Intermediate Volcanic                   | 0.077  | Figure 14      |
| F064365   | 515382.523  | 5680398.778  | Intermediate Volcanic                   | 0.016  |                |
| F064371   | 511093.593  | 5682827.465  | Quartz Vein                             | 0.134  | Figure 16      |

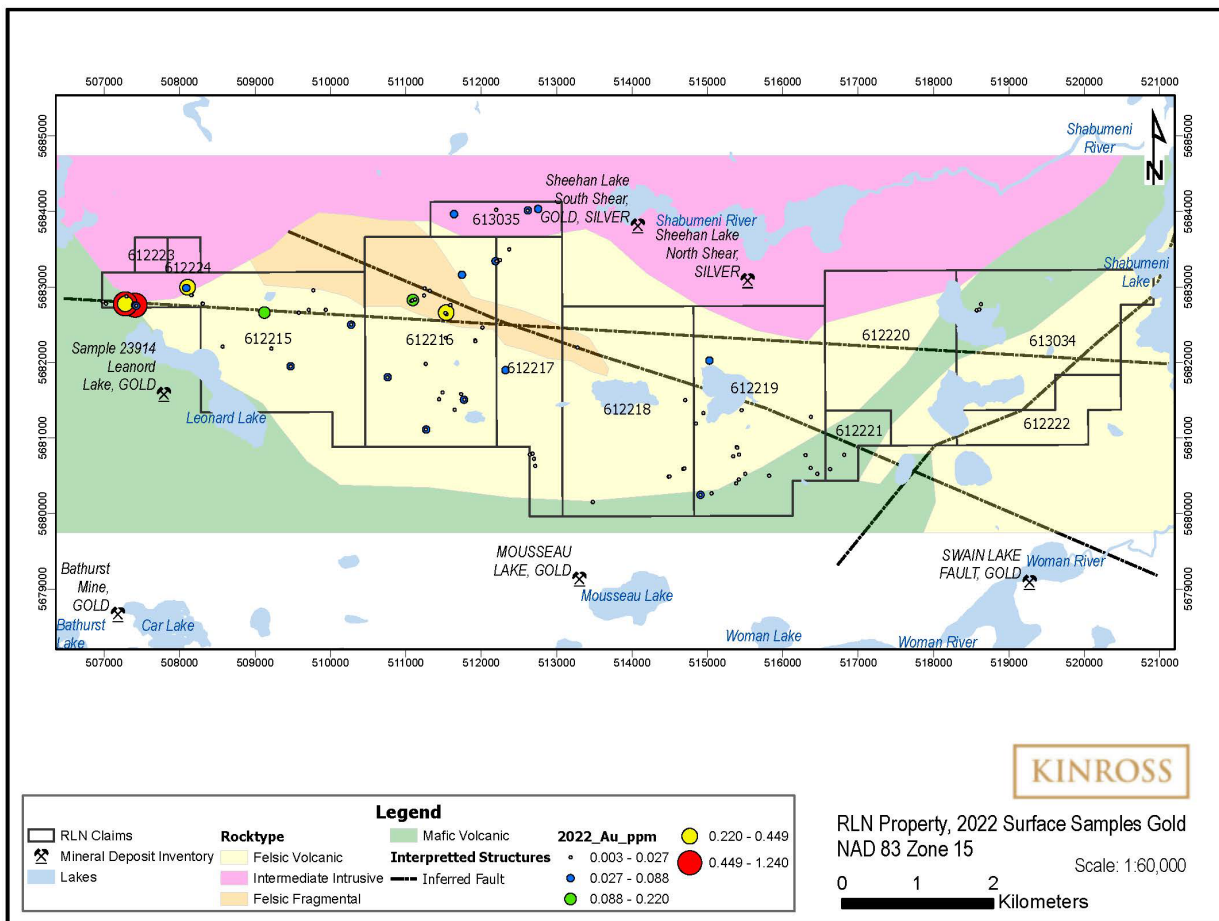
**RESULTS**

Gold values obtained from the prospecting are shown on Figures 13, 14 and listed in Table 6.

2022 exploration program added 37 anomalous (>0.015 ppm Au) gold values. The highest gold value from this program is 1.24 ppm Au for sample F064335 taken from 20 cm wide quartz vein in locally rusty and sulphide mineralised felsic volcanic with some malachite at 507409E/5682758N (Figure 25, Appendix C). This vein, named as “northern vein”, is one of the two quartz veins that strike parallel in the area at 79°SW/120°. Result confirms high values from 2021 field program: 0.255 ppm Au in sample 116775, 0.159 ppm Au in sample 116774 and 0.299 ppm Au in sample 116773.

Additional high values were obtained from quartz veins in felsic volcanic with pyrite and chalcopyrite: 0.772 ppm Au for sample F064357 at 507279E/5682776N, 0.436 ppm Au for sample F064251 at 511535E/5682660N and 0.134 ppm Au for sample F064371 at 511093E/5682827N. Quartz veins in intermediate volcanic and intrusive yielded 0.449 ppm Au for sample F064281 at 508105E/5682996N, 0.22 ppm Au for F064288 at 509125E/5682660N, 0.325 ppm Au for sample F064358 at 507279E/5682776N (Table 6).

Lithology on the property is dominated by felsic volcanic (Figure 13).



**Figure 13. 2022 Surface Samples Gold Values**

6). Felsic Volcanic, tested in 19 samples, returned 6 assay values in a range 0.015-0.064 ppm Au (Table 6).

Felsic intrusive, tested in two samples, returned assay values in a range 0.006-0.011 ppm Au.

Intermediate volcanic, tested in 22 samples, yielded 0.22 ppm Au in sample F064288, 0.077 ppm Au in sample F064364, 0.027 ppm Au in samples F064297 and F064354 (Table 6).

Intermediate intrusive, analyzed in 5 samples, returned 0.449 ppm Au in sample F064281, 0.325 ppm Au in sample F064358, and 0.032 ppm Au in sample F064279 (Table 6).

Mafic volcanic present on the property in minor amounts and analyzed in 18 samples shows no gold.

Altogether, 2020-2021 exploration program had 51 samples with Au-values over 0.015 ppm Au (considered as anomalous) Figure 5, 12. Some of those values were confirmed by 2022 results. Sample 116775 (0.255 ppm Au) is confirmed by sample F064335 (1.24 ppm), sample 116863 (0.143 ppm Au) is confirmed by F064251 (0.436 ppm Au), sample 116803 (0.037 ppm Au) is confirmed by F064371 (0.134 ppm Au), sample 116620 (0.077 ppm Au) is confirmed by F064255 (0.037 ppm Au), sample 116459 (0.033 ppm Au) is confirmed by F064352 (0.067 ppm Au).

Mag low is coincident with Felsic Volcanic and Felsic Fragmental rocks (Figure 13-14).

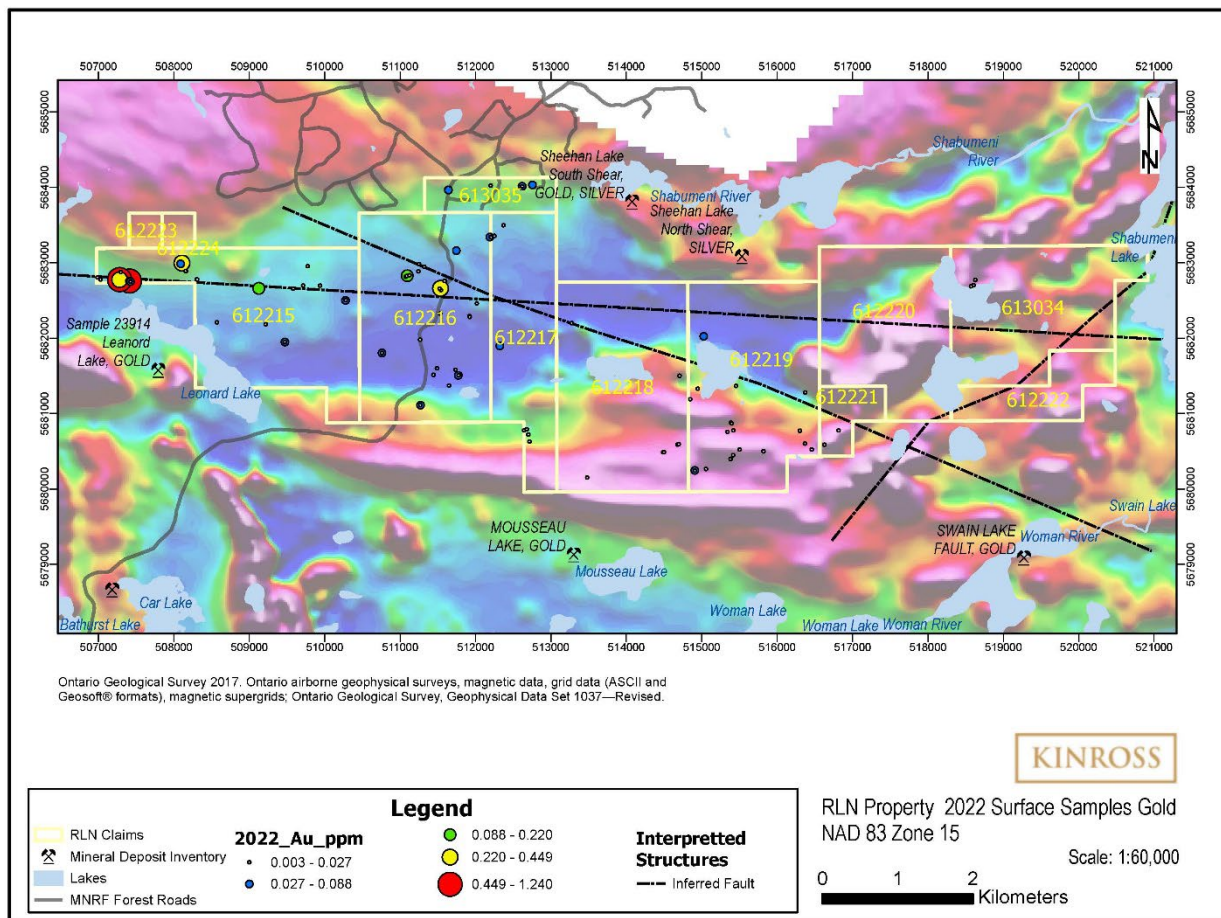


Figure 14. 2022 Surface Samples Gold values

## 8. Conclusions and Discussions

Gold-bearing samples F064357 (0.772 ppm Au) and F064251 (0.436 ppm Au) define 4.2 km west-east trend of gold mineralization within the Property. The Trend is spatially associated with interpreted fault inferred from geophysics and could also be a part of regional D2 fold axial trace. These features might provide a trap for auriferous fluids. More prospecting and mapping are needed to confirm the validity of this trend of anomalous gold mineralization.

Prospecting has enlarged the dataset of mineral occurrences on the Property by more than 30 samples with weakly anomalous values of 0.015 ppm Au in addition to 7 elevated (>0.15 ppm Au) gold values obtained in 2021 program.

Rock sampling on the Property has shown that gold tends to occur near the contact between various lithologies (see Figure 13-14):

Mafic Volcanic/Felsic Volcanic contact: within 20 m from mapped contact for samples F064335 (1.24 ppm Au) and F064334 (0.051 ppm Au); within 70 m for samples F064357 (0.772 ppm Au) and F064358 (0.325 ppm Au).

Intermediate Intrusive/Felsic Volcanic contact: within 63 m from mapped contact for F064281 (0.449 ppm Au)

Felsic Fragmental/Felsic volcanic contact: within 135 m from mapped contact for sample F064251 (0.436 ppm Au) and within 143 m for sample F064371 (0.134 ppm Au).

## 9. Recommendations

Follow up mapping and prospecting is recommended to infill areas of the Property that were not covered in this and previous programs, within claims 612218-612221 in particular, in their northern and southern parts.

More prospecting is recommended to confirm the validity of the west-east trend of anomalous gold mineralization.

Airborne geophysics, LiDAR, and detailed aerial imagery are recommended to be obtained over the property to assist in the identification of outcrop, structures, and other sampling targets.

## 10. References

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Thurston, P.C. 1985: Physical Volcanology and Stratigraphy of the Confederation Lake Area, District of Kenora (Patricia Portion); Ontario Geological Survey, Report 236, 117p. Accompanied by Map 2498.

## 11. Statement of qualification

I, A. Adamova, P.Ge, residing in Vancouver, British Columbia, do hereby certify that:

- 1) I personally prepared and reviewed sections of this report titled “2022 Assessment report Prospecting and Mapping, Red Lake North Property”.
- 2) I am a geologist with Kinross Gold Corporation.
- 3) I graduated from Polytechnic Institute, Kyrgyz Republic with B.Sc in Geology (1991).
- 4) I am a member of the Engineers & Geoscientists of British Columbia (EGBC).
- 5) I have worked intermittently as a geologist for a total of 28 years since my graduation, including 13 years in Canada.
- 6) My knowledge of the property as described herein was obtained by review of published works.
- 7) I am not aware of any material fact or material change with respect to the subject matter of the assessment report which is not reflected in the assessment report, the omission to disclose which makes the assessment report misleading.

Signature of Author:



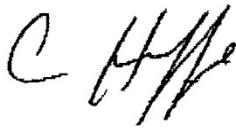
Albina Adamova, P.Ge

Dated this 8<sup>th</sup> day of February, 2023

I, Crystal McCullough, do hereby certify that:

1. I reside at 25 Cochenour Crescent, Cochenour, Ontario, P0V-1L0
2. I am employed by Great Bear Resources Ltd. Headquartered in Toronto, Ontario
3. I am a graduate from Memorial University of Newfoundland with a B.Sc Earth Science degree (2003) and I have practised professionally since that time.
4. I am a member in good standing with the Association of Professional Geoscientists of Ontario, member number 2097 with a professional geologist status.
5. I have practiced my profession as a geologist for 19 years and have worked in the mineral exploration industry since 2002. I have done extensive geological work in Canada, as an employee of various exploration companies and as an independent consultant. I have worked on properties at all stages of exploration, from green fields grass roots, to advanced stage exploration.
6. I am currently the Vice President for Rimini Exploration and Consulting Ltd.
7. I have reviewed the available data pertinent to the property and I believe the property to be of merit to justify additional work.
8. I have no direct or indirect interest in the property.

Signed at Cochenour, Ontario, this 10<sup>th</sup> day of December 2022.



Crystal McCullough, P.Geol



## 12. Expenditures

### Analytical

| Date       | Vendor         | Description              | Invoice Number | Amount Paid | HST             | Expense Amount  |
|------------|----------------|--------------------------|----------------|-------------|-----------------|-----------------|
| 2022-08-14 | ALS Canada Ltd | Rock Samples-Prospecting | 6058858        | 13019.91    | 620.00          | 12399.91        |
|            |                |                          |                |             | <b>Subtotal</b> | <b>12399.91</b> |

### Wages

| Date       | Vendor | Description   | Invoice Number  | Amount Paid     | HST            | Expense Amount  |
|------------|--------|---|-----------------|-----------------|----------------|-----------------|
| 2022-08-22 |        | Senior Prospector prep July7; travel June 8,21; prospecting 9-20  | INV-0017        | 9011.75         | 1036.75        | 7975.00         |
| 2022-08-22 |        | Junior Prospector, travel June 7, 8, 21, 22; prospecting 9-20   | INV-0017        | 8494.78         | 977.28         | 7517.50         |
| 2022-08-22 |        | Prospecting Assistant, travel July 8, 21; fieldwork July 9, 10, 12, 13, 16, 18, 19; camp cook July 11, 14, 17, 20       | INV-0017        | 6723.50         | 773.50         | 5950.00         |
| 2022-08-22 |        | Prospecting Assistant, travel July 7-8, 21; fieldwork July 10, 11, 13, 14, 16,17, 19, 20; camp cook July 9,12,15,18     | INV-0017        | 6963.63         | 801.13         | 6162.50         |
| 2022-08-22 |        | Prospecting Assistant, travel July 7-8, 21; fieldwork July 9, 11, 12, 14, 15, 17, 18, 20; camp cook July 10, 13, 16, 19 | INV-0017        | 6963.63         | 801.13         | 6162.50         |
| 2022-08-22 |        | Professional Geoscientist, July 7-21, management & GIS set-up and delivery  | INV-0017        | 1356.00         | 156.00         | 1200.00         |
|            |        |   | <b>Subtotal</b> | <b>39513.28</b> | <b>4545.78</b> | <b>34967.50</b> |

### Equipment Rental

| Date       | Vendor | Description                        | Invoice Number  | Amount Paid    | HST           | Expense Amount |
|------------|--------|------------------------------------|-----------------|----------------|---------------|----------------|
| 2022-08-22 |        | Starlink Internet July 8-21        | INV-0017        | 226.00         | 26.00         | 200.00         |
| 2022-08-22 |        | Truck daily rental July 7-22       | INV-0017        | 723.20         | 83.20         | 640.00         |
| 2022-08-22 |        | SUV daily rental Aug 8-21          | INV-0017        | 316.40         | 36.40         | 280.00         |
| 2022-08-22 |        | UTV rental expense, July 8-21      | INV-0017        | 2689.40        | 309.40        | 2380.00        |
| 2022-08-22 |        | Boat/canoe/motor rental, July 8-21 | INV-0017        | 1423.80        | 163.80        | 1260.00        |
|            |        |                                    | <b>Subtotal</b> | <b>5378.80</b> | <b>618.80</b> | <b>4760.00</b> |

### Accommodation

| Date       | Vendor             | Description                             | Invoice Number  | Amount Paid    | HST           | Expense Amount |
|------------|--------------------|---|-----------------|----------------|---------------|----------------|
| 2022-08-22 | Canada North Lodge | 4 people, \$100/person/night, July 8-16 | INV-0017        | 3616.00        | 416.00        | 3200.00        |
| 2022-08-22 | Woman River Lodge  | weekly rental; July 16-20               | INV-0017        | 3480.40        | 400.40        | 3080.00        |
|            |                    |   | <b>Subtotal</b> | <b>7096.40</b> | <b>816.40</b> | <b>6280.00</b> |

**Travel**

| Date       | Vendor | Description                                    | Invoice Number  | Amount Paid | HST        | Expense Amount |
|------------|--------|--|-----------------|-------------|------------|----------------|
| 2022-08-22 |        | Mileage, 4x4 Ram 2500 July 7-22                | INV-0017        | 2811.44     | 323.44     | 2488.00        |
| 2022-08-22 |        | Mileage, SUV July 8-21                         | INV-0017        | 725.69      | 83.486     | 642.20         |
| 2022-08-22 |        | Flight Toronto-Thunder Bay, July 7, 2 people   | INV-0017        | 538.26      | 61.9242    | 476.34         |
| 2022-08-22 |        | Flight Toronto-Thunder Bay, Porter, round trip | INV-0017        | 864.72      | 99.4812    | 765.24         |
| 2022-08-22 |        | Taxi, travel expense, Aug 22                   | INV-0017        | 115.00      | Tax Exempt | 115.00         |
| 2022-08-22 |        | Tips and gratuities expense for taxi, Aug 22   | INV-0017        | 20.00       | Tax Exempt | 20.00          |
|            |        |  | <b>Subtotal</b> | 5075.11     | 568.33     | <b>4506.78</b> |

**Food**

| Date       | Vendor        | Description        | Invoice Number  | Amount Paid | HST        | Expense Amount |
|------------|---------------|--------------------|-----------------|-------------|------------|----------------|
| 2022-08-22 | Wendy's       | Meal, Aug 7        | INV-0017        | 34.41       | 3.96       | 30.45          |
| 2022-08-22 | Tim Hortons   | July 8             | INV-0017        | 71.29       | 8.20       | 63.09          |
| 2022-08-22 | Extra Foods   | Groceries, July 8  | INV-0017        | 889.84      | Tax Exempt | 889.84         |
| 2022-08-22 | Extra Foods   | Groceries, July 8  | INV-0017        | 301.73      | 34.71      | 267.02         |
| 2022-08-22 | KD Fine Foods | Groceries, Aug 14  | INV-0017        | 426.92      | Tax Exempt | 426.92         |
| 2022-08-22 | KD Fine Foods | Groceries, July 16 | INV-0017        | 135.51      | Tax Exempt | 135.51         |
| 2022-08-22 | KD Fine Foods | Groceries, July 16 | INV-0017        | 66.96       | 7.70       | 59.26          |
|            |               |                    | <b>Subtotal</b> | 1926.67     | 54.58      | <b>1872.09</b> |

**Supplies**

| Date       | Vendor               | Description                                       | Invoice Number  | Amount Paid | HST  | Expense Amount |
|------------|----------------------|---|-----------------|-------------|------|----------------|
| 2022-08-22 | Intercity Industrial | Field Consumables 10 safety glasses June 13, 2022 | INV-0017        | 37.52       | 4.32 | 33.20          |
| 2022-08-22 | Canadian Tire        | August 8  | INV-0017        | 24.84       | 2.86 | 21.98          |
|            |                      |   | <b>Subtotal</b> | 62.35       | 7.17 | <b>55.18</b>   |

**TOTAL 64841.46**

| Work/Cost Type                       | Unit of Work       | Cost/Unit | Amount CAD      |
|--------------------------------------|--------------------|-----------|-----------------|
| Wages                                | 15 days (4 people) | 2331.17   | 34968.00        |
| Analytical                           | 135 samples        | 91.85     | 12400.00        |
| Supplies                             |                    |           | 55.00           |
| Accommodations                       | 15 days (4 people) | 418.67    | 6280.00         |
| Food                                 | 15 days (4 people) | 124.81    | 1872.00         |
| Travel                               | 15 days (4 people) | 300.45    | 4507.00         |
| Rentals (Truck, ATV, Boat, Internet) | 15 days (4 people) | 317.33    | 4760.00         |
| <b>TOTAL</b>                         |                    |           | <b>64841.00</b> |

## Appendix A

## List of Samples, UTM Coordinates and Assay Values

| Sample  | Easting (m) | Northing (m) | Lithology                          | Description  | Au_ppm |
|---------|-------------|--------------|------------------------------------|--|--------|
| F064251 | 511535.6    | 5682660      | Quartz Vein                        | Quartz vein in micaceous wallrock, anastomosing, fine grained (<1mm), sugary, white. Epidote within vein. Minor pyrite within wall rock.   | 0.436  |
| F064252 | 511593      | 5682760      | Quartz Vein                        | Quartz vein in intermediate to felsic volcanic, fine grained (<1mm), equigranular, white. Chalcopyrite-pyrite mostly in wall rock not quartz vein.   | 0.025  |
| F064253 | 511589.4    | 5682759      | Intermediate Volcanic Crystal Tuff | Intermediate volcanic with white mica, fine grained (<1mm), equigranular, grey, fine-grained quartz, white mica, epidote, plagioclase, cubic pyrite up to half centimetre, rusty red face, weak foliation defined by white mica planes | 0.009  |
| F064254 | 512198.0    | 5684022      | Mafic Volcanic                     | Mafic volcanic (meta), fine grained (<1mm), equigranular, green, weak to moderate foliation, magnetic sulphide grains, red hematite, potential carb/ankerite.  | 0.006  |
| F064255 | 512618.3    | 5684014      | Quartz Vein                        | Quartz vein red and orange, fine grained (<1mm), sugary, cubic pyrite up to 5mm in size, many parallel veins (Figure 1, Appendix C)  | 0.037  |
| F064256 | 512617.5    | 5684013      | Tonalite                           | Pyrite mineralized tonalite, medium grained (1-5mm), equigranular, white, cubic pyrite up to 5mm, quartz a bit sugary, 20% biotite. Wall rock of sample <b>F064255</b>   | 0.011  |
| F064257 | 512754.8    | 5684033      | Quartz Vein                        | Sugary quartz vein, fine grained (<1mm), sugary, white, minor pyrite. Quartz vein orientation hard to distinguish (but it is perpendicular to the previous veins)  | 0.065  |
| F064258 | 515454.1    | 5681367      | Mafic Volcanic                     | Amphibolite facies Mafic volcanic (meta), medium grained (1-5mm), equigranular, green, strongly magnetic, coarse disseminated hematite (5mm grains), chlorite and amphibole, rusted out hematite edges                                 | 0.005  |
| F064259 | 514847.9    | 5681190      | Carbonate Vein                     | Carbonate vein with offsets, fine grained (<1mm), equigranular, white, 1-2cm carbonate-quartz, rusted out spots in wall rock with chlorite   | 0.005  |
| F064261 | 514946.4    | 5681330      | Felsic Volcanic                    | Meta felsic volcanic, medium grained (1-5mm), equigranular, grey, likely a recrystallized felsic volcanic, quartz and plagioclase groundmass with some biotite, cubic pyrite ranging from less 1mm to 5mm                              | 0.006  |
| F064262 | 514705.9    | 5681501      | Quartz Vein                        | 3cm quartz chlorite vein, fine grained (<1mm), sugary, white with some green chlorite patches, no visible sulphides but some rusty spots of quartz   | <0.005 |
| F064263 | 512699.6    | 5680723      | Intermediate Volcanic              | Intermediate volcanic, fine grained (<1mm), equigranular, grey-green groundmass with pinkish milky quartz vein, pyrite and trace chalcopyrite finely disseminated, moderate to strong pervasive magnetite, rusty wrath surf            | 0.007  |
| F064264 | 512680      | 5680791      | Intermediate Volcanic              | Intermediate volcanic with quartz vein, fine grained (<1mm), equigranular, grey-green fine to med grained groundmass, some garnet/ (dark vitreous)? Pyrite and chalcopyrite mineralization in wall rock                                | 0.005  |

| Sample  | Easting (m) | Northing (m) | Lithology             | Description  | Au_ppm |
|---------|-------------|--------------|-----------------------|--|--------|
| F064265 | 512675.6    | 5680791      | Intermediate Volcanic | Intermediate volcanic with small quartz vein (1cm), fine grained (<1mm), equigranular, grey, quartz is pretty clear, fine chalcopyrite along edges of quartz vein, one spot stringerish  | 0.007  |
| F064266 | 512643.2    | 5680778      | Intermediate Volcanic | Intermediate volcanic, fine grained (<1mm), grey, pegmatitic, quartz vein, coarse pyrite on edge of vein contact. This is VERY close property boundary, may drop   | 0.007  |
| F064267 | 512715.7    | 5680630      | Intermediate Volcanic | Intermediate volcanic, fine grained (<1mm), equigranular, grey, quartz vein, fine sulphides in wall rock not much in quartz vein, rusty surfaces and pockets, pyrite. Many veins in the area mostly similar orientation              | 0.006  |
| F064268 | 513480.2    | 5680151      | Intermediate Volcanic | Intermediate Volcanic, fine grained (<1mm), equigranular, green groundmass mostly epidote-quartz-chloritic, quartz vein with chlorite (a little bit sugary), some rusty surfaces, no visible mineralization                          | <0.005 |
| F064269 | 516300.5    | 5680773      | Quartz Vein           | Quartz carbonate vein in mafic volcanic, fine grained (<1mm), equigranular, mafic volcanic groundmass with quartz carbonate vein, bit of rust in quartz vein, some carbonate, ankerite? Most of mineralization in wall rock, pyrite. | <0.005 |
| F064270 | 516369.1    | 5680603      | Schist                | Chlorite white mica schist, fine grained (<1mm), foliated, grey, trace pyrite fine grained. Potentially sericite? Rusty surfaces   | <0.005 |
| F064271 | 516458.1    | 5680524      | Intermediate Volcanic | Intermediate volcanic, rusty, fine grained (<1mm), weakly foliated, grey, green-grey fine-grained quartz with chlorite and plagioclase, rusty foliation plane with pyrite.   | 0.018  |
| F064272 | 516627.2    | 5680587      | Mafic Volcanic        | Mafic volcanic (maybe mudstone), fine-grained (<1mm), foliated almost fissile, dark grey, fine-grained pyrite  | 0.005  |
| F064273 | 516814.5    | 5680776      | Mafic Volcanic        | Mafic volcanic with pyrite, fine grained (<1mm), equigranular, grey slightly green, pyrite seems primary but sample cause ignored last   | 0.005  |
| F064274 | 508302.8    | 5682780      | Felsic Volcanic       | Silicified felsic volcanic, fine grained (<1mm), equigranular, light grey wall rock, white quartz vein, finely disseminated sulphides. Heavy silicification near vein  | 0.016  |
| F064275 | 508307.7    | 5682779      | Quartz Vein           | Quartz vein, fine grained (<1mm), equigranular, white milky quartz with chlorite grain clusters, hematite and orange-stained rusty surfaces, trace pyrite associated with chlorite spots mostly                                      | 0.009  |
| F064276 | 508307.7    | 5682779      | Felsic Volcanic       | Felsic volcanic, medium grained (1-5mm), equigranular, grey, recrystallized felsic volcanics (light meta), misty plagioclase and quartz, fine grained disseminated euhedral pyrite, no magnetite                                     | 0.006  |
| F064277 | 508153.9    | 5682891      | Quartz Vein           | Rusty red and orange quartz vein, fine grained (<1mm), sugary, pyrite range of grains sizes up to 2-3cm (anomaly), disseminated pyrite mostly in wall rock or edges of vein  | 0.005  |
| F064278 | 508161.4    | 5682891      | Felsic Volcanic       | Felsic volcanic vein wall rock, fine grained (<1mm), equigranular, grey, wall rock is <b>F064277</b> , fine disseminated euhedral pyrite <1mm  | 0.012  |

| Sample  | Easting (m) | Northing (m) | Lithology             | Description  | Au_ppm       |
|---------|-------------|--------------|-----------------------|--|--------------|
| F064279 | 508088.6    | 5682986      | Diorite               | Diorite (gabbro?), coarse grained (5-10mm), equigranular, dark grey diorite 40% mafic, 60% felsic, small 5mm vein with coarsely disseminated pyrite  | 0.032        |
| F064281 | 508105.8    | 5682996      | Diorite               | Diorite almost gabbro, coarse grained (5-10mm), equigranular, grey-dark grey, with quartz vein, pyrite coarsely disseminated in wall rock, large mafic component (up to 50%)   | <b>0.449</b> |
| F064282 | 510275.1    | 5682500      | Quartz Vein           | Quartz vein, fine grained (<1mm), white, some rusty red spots, sugary, pyrite fine grained and within the vein. Vein chipped for sample. Barely out of outcrop   | 0.039        |
| F064283 | 510276.8    | 5682504      | Felsic Volcanic       | Felsic volcanic with disseminated pyrite, fine grained (<1mm), equigranular, grey-light grey to green, pyrite fine grained disseminated subhedral, mostly chalcopyrite, quartz   | 0.005        |
| F064284 | 509773.3    | 5682955      | Mafic Volcanic        | Mafic volcanic, fine grained (<1mm), equigranular, grey, dark grey with rusty weathered surfaces, very fine disseminated pyrite. Potentially a bit more intermediate in some spots   | 0.006        |
| F064285 | 509579.2    | 5682658      | Intermediate Volcanic | Intermediate volcanic, fine grained (<1mm), equigranular, grey, 5mm quartz porphyroblasts (phenocrysts?), small amount of very fine disseminated anhedral pyrite, alluring rusty surfaces  | 0.008        |
| F064286 | 509712.8    | 5682697      | Intermediate Volcanic | Intermediate volcanic with quartz lens/clasts, fine grained (<1mm), equigranular, grey, sugary quartz lenses (could be clasts), pyrite associated with sugary quartz features  | 0.005        |
| F064287 | 509938.3    | 5682696      | Mafic Volcanic        | Mafic volcanic very rusty surfaces, fine grained (<1mm), equigranular, grey, dark grey black with bright rusty surfaces, small pyrite stringers, probably more than it seems. Almost looks like a sediment but probably mafic volcanic | 0.006        |
| F064288 | 509124.9    | 5682660      | Intermediate Volcanic | Intermediate volcanic, fine grained (<1mm), grey, some rusty surfaces, a bit of pyrite sometimes, sheared wall rock around quartz vein. Tough to get into fresh surfaces   | <b>0.22</b>  |
| F064289 | 509217.1    | 5682185      | Felsic Volcanic       | Felsic volcanic, fine grained (<1mm), equigranular, grey, light grey with rusty patches, seems to be mostly quartz and plagioclase, rust spots have sulphides in them or formerly did  | 0.006        |
| F064290 | 509468.9    | 5681947      | Felsic Volcanic       | Silicified rusty felsic volcanic, fine grained (<1mm). Tucked in behind a tree root on a steep outcrop. Mostly chalcopyrite but if pyrite  | 0.007        |
| F064291 | 509469.5    | 5681947      | Felsic Volcanic       | Silicified rusty felsic volcanic, fine grained (<1mm). Tucked in behind a tree root on a steep outcrop. Mostly chalcopyrite but if pyrite  | 0.016        |
| F064292 | 509469.6    | 5681947      | Felsic Volcanic       | Silicified rusty felsic volcanic, fine grained (<1mm). Tucked in behind a tree root on a steep outcrop. Mostly chalcopyrite but if pyrite  | 0.011        |
| F064293 | 509471.6    | 5681949      | Felsic Volcanic       | Felsic volcanic, fine grained (<1mm), quartz rich, sugary vein, euhedral pyrite along vein   | 0.033        |



| Sample  | Easting (m) | Northing (m) | Lithology                               | Description   | Au_ppm |
|---------|-------------|--------------|---|---|--------|
| F064294 | 509471.8    | 5681949      | Felsic Volcanic                         | Felsic volcanic, fine grained (<1mm), equigranular, silicified, greenish grey mineral (epidote?). Wall rock of <b>F065293</b> . Very fine disseminated pyrite.  | <0.005 |
| F064295 | 509473.6    | 5681950      | Felsic Volcanic                         | Sheared felsic volcanic, fine grained (<1mm), grey, pyrite between layers in the shear, rusty surfaces, shear layers around 1cm thick, mostly quartz  | 0.025  |
| F064296 | 511771.6    | 5681506      | Quartz Vein                             | Sugary rusty quartz vein in Intermediate Volcanic, fine grained (<1mm), white, semi saccharoidal rusty white vein approximately 2-3cm thick, sub-planar vein, shear/foliation around vein. Mineralization mostly edge or outside vein | 0.036  |
| F064297 | 511771.6    | 5681506      | Intermediate Volcanic                   | Intermediate volcanic vein wall rock, fine grained (<1mm). Wall rock of sample <b>F064296</b> . Rusty surfaces, pyrite and chalcopyrite mineralization. Foliated roughly parallel vein  | 0.027  |
| F064298 | 511777.3    | 5681508      | Intermediate Volcanic                   | Intermediate volcanic with quartz vein, fine grained (<1mm), equigranular, green-greenish grey with white crystalline quartz vein, bits of sulphides in the wall rock, silicified? decent amount of quartz in wall rock               | 0.008  |
| F064299 | 511733.4    | 5681581      | Quartz Vein                             | Quartz vein, fine grained (<1mm), sugary, white, semi saccharoidal and part crystalline. A few brownish rusty spots. Trace sulphides edge of vein, maybe some sphalerite?   | 0.005  |
| F064301 | 511541      | 5682638      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), foliated, grey, rusty fractures with pods of pyrite, possible garnets  | 0.017  |
| F064302 | 511524.9    | 5682655      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, coarse grained (5-10mm), crystalline, white, glassy/rusty white 2cm wide   | 0.006  |
| F064303 | 511523.6    | 5682655      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, coarse grained (5-10mm), crystalline, white, glassy/rusty white 2cm wide   | <0.005 |
| F064304 | 511523.2    | 5682655      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, coarse grained (5-10mm), porphyritic, grey, wall rock to previous samples  | 0.007  |
| F064305 | 511640.3    | 5683964      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), banded, rusty, 3cm wide QV, weathered surface, yellow, Pyrite only visible in wall rock  | 0.036  |
| F064306 | 511639.1    | 5683967      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), banded, rusty, wallrock only, more felsic looking  | 0.043  |

| Sample  | Easting (m) | Northing (m) | Lithology                               | Description   | Au_ppm |
|---------|-------------|--------------|---|---|--------|
| F064307 | 515818.7    | 5680500      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), sheared, rusty, minor carb veinlets in o/c, mostly mafic with felsic layers   | 0.006  |
| F064308 | 513275.3    | 5682199      | Mafic volcanic                          | Mafic volcanic, fine grained (<1mm), equigranular, grey-green, loose boulder from outcrop, locally magnetic, Pyrite   | 0.008  |
| F064309 | 512321.5    | 5681898      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), equigranular, grey, ankerite spots throughout, pyrite.   | 0.088  |
| F064310 | 514486.6    | 5680487      | Mafic volcanic                          | Mafic volcanic, fine grained (<1mm), equigranular, grey-very dark grey with fine grained chalcopyrite disseminated, 5% disseminated carbonate   | 0.005  |
| F064311 | 514496.6    | 5680489      | Quartz Vein                             | Quartz Vein, 5cm wide, fine grained (<1mm), crystalline, green, very shallow QV with lots of epidote  | 0.005  |
| F064312 | 514497.5    | 5680489      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), crystalline, green, 5cm wide QV, chalcopyrite & pyrite in wall rock, fine-grained black and very soft mineral.  | <0.005 |
| F064313 | 514499.2    | 5680490      | Mafic Volcanic                          | Mafic Volcanic, fine grained (<1mm), grey, clear-white quartz stringers, chalcopyrite, malachite  | 0.005  |
| F064314 | 514679.2    | 5680589      | Mafic Volcanic                          | Mafic Volcanic, fine grained (<1mm), foliated, grey, clear-white quartz stringers, pyrite   | 0.006  |
| F064315 | 514694.2    | 5680595      | Mafic Volcanic                          | Mafic Volcanic, fine grained (<1mm), grey, 1-2cm wide white QV with dull-black mineral, chalcopyrite  | 0.005  |
| F064316 | 515420      | 5680779      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), equigranular, green, rusty surface, quartz-carbonate stringers/stockwork, epidote, lots of busted rock from machines driving over | 0.011  |
| F064317 | 515340.9    | 5680758      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), foliated, grey, rusty spots on weathered surface, whole outcrop is weathered, pyrite  | 0.008  |
| F064318 | 518571.1    | 5682689      | Mafic volcanic                          | Mafic volcanic, fine grained (<1mm), grey-dark grey with rusty layers, pyrite   | <0.005 |
| F064319 | 518606.5    | 5682702      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), rusty yellow & red with fine-grained black mineral, pyrite  | <0.005 |
| F064321 | 518606.1    | 5682702      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), rusty yellow & red with fine-grained black mineral, weathered yellowish wall rock has lots of pyrite, QV has large 5mm-1cm wide chunky pyrite                 | <0.005 |
| F064322 | 518606.4    | 5682702      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), rusty, weathered yellowish wall rock has lots of pyrite, small quartz-stingers pyrite-mineralized as well   | <0.005 |
| F064323 | 518606.5    | 5682702      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), rusty, wall rock to previous samples  | <0.005 |
| F064324 | 518628.5    | 5682772      | <Null>                                  | Mafic volcanic, fine grained (<1mm), rusty, quartz stringers, pyrite  | <0.005 |

| Sample  | Easting (m) | Northing (m) | Lithology                               | Description  | Au_ppm      |
|---------|-------------|--------------|---|--|-------------|
| F064325 | 510758.5    | 5681804      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), white, 1 cm-wide QV with rusty spots, sulfides in wall rock  | 0.037       |
| F064326 | 510758.5    | 5681803      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), equigranular, white, wall rock to previous sample, pyrite in wall rock   | 0.015       |
| F064327 | 507423.2    | 5682749      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), porphyritic, white, wall rock is 50-50 mafic and felsic, 1-2cm wide white QV, sample is mostly just quartz, no visible min in QV. Chalcopyrite. Pyrite                        | 0.023       |
| F064328 | 507423.6    | 5682749      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), porphyritic, white, wall rock is 50-50 mafic and felsic, 1-2cm wide white QV sample is south QV & wall rock, chalcopyrite-pyrite mineralization is in wall rock               | 0.02        |
| F064329 | 507424      | 5682750      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), porphyritic, white, wall rock is 50-50 mafic and felsic, chalcopyrite-pyrite is on certain layers, hard to tell amounts. Malachite  | 0.033       |
| F064330 | 507423.6    | 5682750      | Late vein, alteration or mineralization | Late vein, alteration or mineralization medium grained (1-5mm), porphyritic, white, wall rock is 50-50 mafic and felsic, wall rock between 2 QVs, chalcopyrite-pyrite is at random places, hard to tell amounts, native copper in the wallrock | 0.008       |
| F064331 | 507424.2    | 5682751      | Quartz Vein                             | Quartz Vein, medium grained (1-5mm), porphyritic, white, northern 2 cm-wide qv, with chalcopyrite and pyrite   | 0.021       |
| F064332 | 507424.7    | 5682752      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), porphyritic, white, wall rock to the north  | 0.01        |
| F064333 | 507417.4    | 5682753      | Quartz Vein                             | Quartz Vein, medium grained (1-5mm), porphyritic, white, looks like both QVs come very close together, chalcopyrite  | 0.04        |
| F064334 | 507408.8    | 5682757      | Quartz Vein                             | Quartz Vein, medium grained (1-5mm), porphyritic, white, northern vein, 20cm wide rusty and green, smokey grey seams, very fine dark grey mineral, chalcopyrite, pyrite, malachite.  | 0.051       |
| F064335 | 507409.1    | 5682758      | Quartz Vein                             | Quartz Vein, medium grained (1-5mm), rusty, northern vein, 20cm wide, rusty and green, chalcopyrite, malachite.  | <b>1.24</b> |
| F064336 | 511441.5    | 5681513      | Quartz Vein                             | Quartz Vein, coarse grained (5-10mm), equigranular, 70cm wide milky white QV, no visible sulfides.   | 0.014       |
| F064337 | 511441.6    | 5681514      | Quartz Vein                             | Quartz Vein, coarse grained (5-10mm), equigranular, 70cm wide milky white QV, no visible sulfides. The whole outcrop is very weathered.  | <0.005      |
| F064338 | 511441.7    | 5681514      | Quartz Vein                             | Quartz Vein, coarse grained (5-10mm), equigranular grey, wall rock to previous 2 samples, has mm wide stockwork veins, whole outcrop is very weathered   | 0.007       |

| Sample  | Easting (m) | Northing (m) | Lithology                               | Description   | Au_ppm |
|---------|-------------|--------------|---|---|--------|
| F064339 | 511488.4    | 5681602      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), equigranular, grey, many small veinlets, chalcopyrite - pyrite mineralization is at random, rusty weathered surface                         | 0.025  |
| F064341 | 511265.3    | 5681980      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), equigranular, grey, 2-3cm wide white qv with rusty spots and pyrite   | <0.005 |
| F064342 | 511264      | 5681980      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), equigranular, grey, pyrite  | <0.005 |
| F064343 | 516371.9    | 5681279      | Felsic volcanic                         | Felsic volcanic, fine grained (<1mm), foliated, grey, rusty shear zone, carb veinlets, pyrite   | <0.005 |
| F064344 | 515387.2    | 5680879      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), sheared, grey, very rusty, pyrite  | 0.006  |
| F064345 | 515395.6    | 5680871      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), sheared, grey, very rusty, 1cm wide white QV cross cutting shear, pyrite, chalcopyrite   | <0.005 |
| F064346 | 508569.7    | 5682210      | Felsic volcanic                         | Felsic volcanic, fine grained (<1mm), grey- light grey, slightly transparent glassy texture, pyrite   | <0.005 |
| F064347 | 511745.1    | 5683161      | Felsic volcanic                         | Felsic volcanic, medium grained (1-5mm), crystalline, grey, felsic with mafic chunks, more pyrite in mafic bits   | 0.064  |
| F064348 | 512190      | 5683341      | Felsic volcanic                         | Felsic volcanic, fine grained (<1mm), very rusty and weathered, pyrite  | 0.057  |
| F064349 | 512203.9    | 5683340      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), very rusty, 5cm wide, weathered   | <0.005 |
| F064350 | 512203.3    | 5683340      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), rusty, QVs at different angles to main QV, pyrite   | 0.006  |
| F064351 | 511648.4    | 5681372      | Mafic Volcanic                          | Mafic volcanic, fine grained (<1mm), equigranular, grey, crystalline porous quartz & epidote veins, small amount of pyrite in wall rock   | 0.006  |
| F064352 | 511270.3    | 5681112      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), sugary, white, very rusty and abundant sulphides, quartz vein around 2cm thick and sugary. Might be resampled can't tell what they took here                            | 0.067  |
| F064353 | 511266.9    | 5681113      | Intermediate Volcanic                   | Intermediate Volcanic, fine grained (<1mm), rusty grey sheared area, some sugary quartz lenses likely sheared veins, pyrite present, looks nice texturally  | 0.007  |
| F064354 | 515025.9    | 5682025      | Intermediate Volcanic                   | Intermediate Volcanic, fine grained (<1mm), equigranular, grey groundmass, plagioclase a bit coarser than other min, cubic pyrite disseminated up to 1-2mm. Slightly rusty surfaces on weathered outcrop. | 0.027  |

| Sample  | Easting (m) | Northing (m) | Lithology             | Description  | Au_ppm       |
|---------|-------------|--------------|-----------------------|--|--------------|
| F064355 | 507293.1    | 5682877      | Quartz Vein           | Quartz Vein, fine grained (<1mm), crystalline, white clear quartz mildly rusty, no notable sulphides, some biotite in quartz vein, rust source? Nearby samples that ran ok-ish                                       | <0.005       |
| F064356 | 507295.1    | 5682877      | Diorite               | Diorite, medium grained (1-5mm), equigranular, grey, Diorite mostly play some biotite - amphibolite (20% mafic), very small vein like structure with chalcopyrite nearby, not much aside from bit of chalcopyrite    | 0.005        |
| F064357 | 507279.7    | 5682776      | Quartz Vein           | Quartz Vein, medium grained (1-5mm), sheared/foliated diorite? Equigranular, grey, grey sheared groundmass mostly plagioclase. Rusty surfaces and veins. Disseminated blebs by pyrite                                | <b>0.772</b> |
| F064358 | 507279.4    | 5682776      | Diorite               | Diorite wall rock of F064357, medium grained (1-5mm), grey, sheared/foliated, wm? + plagioclase and silicified rusty surfaces. Disseminated blebby pyrite. Lots of small veins hard to get true wall rock            | <b>0.325</b> |
| F064359 | 506986.1    | 5682805      | Diorite               | Diorite, medium grained (1-5mm), equigranular, grey, Diorite with sugary 1cm quartz vein, cubic fine pyrite near edges vein  | 0.007        |
| F064361 | 507025      | 5682779      | Tonalite              | Tonalite, medium grained (1-5mm), equigranular, grey, with quartz lenses, very fine specs of pyrite, quartz is semi saccharoidal   | 0.006        |
| F064362 | 515055.5    | 5680265      | Intermediate Volcanic | Intermediate Volcanic, medium grained (1-5mm), foliated, grey to light grey green fresh, rusty surfaces, white mica, sericite? Likely small ankerite veins. Quartz vein kind of milky, 5mm thick                     | <0.005       |
| F064363 | 514907.9    | 5680246      | Quartz Vein           | Quartz Vein, fine grained (<1mm), crystalline, white, milky quartz with rusty surfaces, small fine sulphides in quartz vein, qv is around 4cm thick, irregular. Pyrite, pyrrhotite.                                  | 0.011        |
| F064364 | 514908.9    | 5680246      | Intermediate Volcanic | Intermediate Volcanic, fine grained (<1mm), equigranular, green, disseminated pyrite. Wall rock of <b>F064363</b> .  | 0.077        |
| F064365 | 515382.5    | 5680399      | Intermediate Volcanic | Intermediate Volcanic, medium grained (1-5mm), equigranular, green, quartz vein in intermediate volcanic, flight rust edges of vein, fine sulphides (pyrite) in edge of vein and wall rock                           | 0.016        |
| F064366 | 515416.1    | 5680449      | Quartz Vein           | Quartz Vein, fine grained (<1mm), crystalline, white, black seam of some mineral in QV (tourmaline?), 2-3mm chalcopyrite grains somewhat rarely,   | <0.005       |
| F064367 | 515502      | 5680524      | Intermediate Volcanic | Intermediate Volcanic, more in mafic side, medium grained (1-5mm), equigranular, greenish grey, fine-grained chlorite and medium-grained plagioclase, cubic pyrite coarsely disseminated, foliated weak to moderate. | <0.005       |
| F064368 | 511072.6    | 5682814      | Intermediate Volcanic | Intermediate Volcanic, medium grained (1-5mm), equigranular, grey, rusty weathered surfaces, disseminated sulphides pyrrhotite maybe also pyrite?  | <0.005       |
| F064369 | 511086.4    | 5682824      | Quartz Vein           | Quartz Vein, fine grained (<1mm), crystalline, white 10cm quartz vein bit of rust, orangey red quartz and blebby sulphides, mostly pyrite, some molybdenite?   | <0.005       |



| Sample  | Easting (m) | Northing (m) | Lithology                               | Description   | Au_ppm       |
|---------|-------------|--------------|---|---|--------------|
| F064370 | 511086.4    | 5682824      | Intermediate Volcanic                   | Intermediate Volcanic, medium grained (1-5mm), equigranular, grey, very micaceous, altered by nearby vein, odd texture, disseminated sulphides. Wall rock of <b>F064369</b>   | <0.005       |
| F064371 | 511093.6    | 5682827      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), crystalline, white, tiny bit sugary, rusty red and green, malachite and chalcopyrite main mineralization but of pyrite. Continuation of <b>F064369</b> vein likely                        | <b>0.134</b> |
| F064372 | 511124.7    | 5682834      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), crystalline, white, quartz vein with rusty spots around 3-5cm thick, spots of coarse euhedral pyrite, little bit sugary but mostly not, pyrite edge veins.                                | <0.005       |
| F064373 | 511241.7    | 5682886      | Intermediate Volcanic                   | Intermediate Volcanic, medium grained (1-5mm), equigranular, grey, small 1cm orange sugary quartz veins, rusty weathered and fractured surfaces, pyrite.  | <0.005       |
| F064374 | 511317.7    | 5682948      | Felsic Volcanic                         | Felsic Volcanic, medium grained (1-5mm), equigranular, grey, medium to coarse grained plagioclase quartz, possibly silicified intermediate volcanic, rusty weathered surface, chalcopyrite and pyrite disseminated coarsely | 0.005        |
| F064375 | 511249.7    | 5682982      | Felsic Volcanic                         | Felsic Volcanic, medium grained (1-5mm), equigranular, grey, medium to coarse grained plagioclase quartz, possibly silicified intermediate volcanic, rusty weathered surface, chalcopyrite and pyrite disseminated coarsely | <0.005       |
| F064401 | 512199.8    | 5683340      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), very rusty 5cm wide QV, weathered, pyrite   | <0.005       |
| F064402 | 512199.3    | 5683341      | Quartz Vein                             | Quartz Vein, fine grained (<1mm), very rusty 5cm wide QV, weathered, pyrite   | <0.005       |
| F064403 | 512205      | 5683339      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), rusty, wall rock to the south side of QV, 5% biotite in seams with pyrite   | <0.005       |
| F064404 | 512204.1    | 5683343      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), rusty, wall rock to the south side of QV, 5% biotite in seams with pyrite   | 0.012        |
| F064405 | 512250.3    | 5683356      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), super rusty and weathered, pyrite   | <0.005       |
| F064406 | 512371.4    | 5683497      | Late vein, alteration or mineralization | Late vein, alteration or mineralization, fine grained (<1mm), porphyritic, grey, 1cm felsic vein and stockwork calcite veins, pyrite  | <0.005       |
| F064407 | 512016.3    | 5682461      | Felsic Volcanic                         | Felsic Volcanic, medium grained (1-5mm), rusty, boulder likely from outcrop, sulfide (pyrite) pod and in fractures  | 0.006        |
| F064408 | 511920.7    | 5682293      | Quartz Vein                             | Quartz Vein, medium grained (1-5mm), white, 15cm wide white QV, some rusty spots, very weathered  | <0.005       |

| <b>Sample</b> | <b>Easting (m)</b> | <b>Northing (m)</b> | <b>Lithology</b>                        | <b>Description</b>  | <b>Au_ppm</b> |
|---------------|--------------------|---------------------|---|---|---------------|
| F064409       | 511923.2           | 5682280             | Late vein, alteration or mineralization | Late vein, alteration or mineralization, medium grained (1-5mm), grey, 15cm wide white QV, some rusty spots, very weathered | <0.005        |
| F064410       | 511530.1           | 5682327             | Quartz Vein                             | Quartz Vein, medium grained (1-5mm), grey, 2cm wide white QV, some rusty spots, very weather, 5mm wide quartz veins as well | 0.006         |

## Appendix B

### Outcrop Description

| ID | Easting (m)<br>NAD83Z15N | Northing (m)<br>NAD83Z15N | Mapper            | Date       | Lithology                                | Description  |
|----|--------------------------|---------------------------|-------------------|------------|--|--|
| 1  | 511734.964               | 5684011.706               | Cameron<br>Bushen | 2022-07-09 | Diorite                                  | Diorite, fine grained (<1mm), 50% felsic, rest seems to be biotite and amphibole, grey   |
| 2  | 512547.322               | 5683984.547               | Cameron<br>Bushen | 2022-07-09 | Tonalite                                 | Tonalite, coarse grained (5-10mm), equigranular, grey, white and grey with some green (epidote), epidote alteration weak to moderate, some foliation                                     |
| 3  | 512490.277               | 5683880.783               | Cameron<br>Bushen | 2022-07-09 | Diorite                                  | Diorite, coarse grained (5-10mm), equigranular, white  |
| 4  | 515381.362               | 5681135.271               | Cameron<br>Bushen | 2022-07-10 | Mafic Volcanic                           | Mafic Volcanic, fine grained (<1mm), foliated, green, weak to moderate pervasive carbonate alteration (calcite)  |
| 5  | 515411.034               | 5681247.735               | Cameron<br>Bushen | 2022-07-10 | Mafic Volcanic                           | Mafic Volcanic, fine grained (<1mm), green, highly chloritized greenstone  |
| 6  | 515454.934               | 5681434.431               | Cameron<br>Bushen | 2022-07-10 | Mafic Volcanic                           | Mafic Volcanic, medium grained (1-5mm), equigranular, green, same as sample F064258  |
| 7  | 514847.906               | 5681199.647               | Cameron<br>Bushen | 2022-07-10 | Intermediate<br>Volcanic                 | Intermediate Volcanic, fine grained (<1mm), equigranular, grey, not as much chlorite as previous outcrops, amphibole-quartz-plagioclase, plagioclase-phyric some spots                   |
| 8  | 515036.86                | 5681491.477               | Cameron<br>Bushen | 2022-07-10 | Intermediate<br>Volcanic                 | Intermediate Volcanic, fine grained (<1mm), equigranular, grey with more green in weathering rind, plagioclase grains coarser than rest of rock up to 0.5mm                              |
| 9  | 513051.137               | 5680099.095               | Cameron<br>Bushen | <Null>     | Intermediate<br>Volcanic                 | Intermediate Volcanic, fine grained (<1mm), chlorite mica schist, foliated, green, very soft, white micas and chlorite, rusty surfaces but no sulphides seen                             |
| 10 | 516034.786               | 5681084.758               | Cameron<br>Bushen | 2022-07-12 | Intermediate<br>Volcanic<br>Crystal Tuff | Intermediate Volcanic Crystal Tuff, medium grained (1-5mm), crystalline, grey-green, quartz crystals medium with bit finer groundmass, interesting rusty boulder on top, maybe not local |
| 11 | 516388.261               | 5680536.244               | Cameron<br>Bushen | 2022-07-12 | Intermediate<br>Volcanic                 | Intermediate Volcanic, fine grained (<1mm), equigranular, green, moderate magnetic but can't see why, probably fine magnetite  |


| ID | Easting (m)<br>NAD83Z15N | Northing (m)<br>NAD83Z15N | Mapper            | Date       | Lithology       | Description   |
|----|--------------------------|---------------------------|-------------------|------------|-----------------|---|
| 12 | 516568.291               | 5680623.292               | Cameron<br>Bushen | 2022-07-12 | Mafic Volcanic  | Mafic Volcanic, fine grained (<1mm), equigranular, grey   |
| 13 | 516760.906               | 5680606.044               | Cameron<br>Bushen | 2022-07-12 | Mafic Volcanic  | Mafic Volcanic, fine grained (<1mm), equigranular, grey, 0.5cm cubic pyrite seems primary, not sampled  |
| 14 | 508602.539               | 5682670.364               | Cameron<br>Bushen | 2022-07-13 | Tonalite        | Tonalite, medium grained (1-5mm), equigranular, grey, probably outcrop but hard to say for sure, blueish mineral might just be catching light oddly   |
| 15 | 508395.577               | 5683045.131               | Cameron<br>Bushen | 2022-07-13 | Monzonite       | Monzonite, medium grained (1-5mm), equigranular, grey, pink and black, 35% mafic components, Kspar heavy monzonite. Bit of epidote  |
| 16 | 508624.349               | 5683105.36                | Cameron<br>Bushen | 2022-07-13 | Diorite         | Diorite, coarse grained (5-10mm), 35% mafic mostly biotite, equigranular, grey-light grey and black speckled, mostly plagioclase and biotite  |
| 17 | 508704.66                | 5683150.819               | Cameron<br>Bushen | 2022-07-13 | Monzonite       | Monzonite, coarse grained (5-10mm), equigranular, pink and dark grey, Kspar and plagioclase with 30% mafic components   |
| 18 | 508727.045               | 5683138.859               | Cameron<br>Bushen | 2022-07-13 | Diorite         | Diorite, coarse grained (5-10mm), 15% mafic mostly biotite, equigranular, grey-light grey and black speckled, mostly plagioclase and biotite  |
| 19 | 508863.96                | 5683040.091               | Cameron<br>Bushen | 2022-07-13 | Diorite         | Diorite, coarse grained (5-10mm), equigranular, grey, light grey 15-20% mafic hornblende and biotite, some anhedral pyrite maybe 0.5%, pyrite   |
| 20 | 508710.819               | 5682586.192               | Cameron<br>Bushen | 2022-07-13 | Felsic Volcanic | Felsic volcanic, fine grained (<1mm), quartz rich, equigranular, light grey, abundant amorphous quartz  |
| 21 | 508683.646               | 5682460.453               | Cameron<br>Bushen | 2022-07-13 | Felsic Volcanic | Felsic Volcanic, fine grained (<1mm), Quartz rich, equigranular, grey-light grey, abundant amorphous quartz   |
| 22 | 510392.316               | 5682992.984               | Cameron<br>Bushen | 2022-07-14 | Monzonite       | Monzonite, coarse grained (5-10mm), quartz monzonite to quartz syenite, equigranular, grey, somewhat foliated, alignment of biotite, 30% biotite and remaining is felsic components, probably outcrop but not 100% sure |
| 23 | 510152.107               | 5683101.449               | Cameron<br>Bushen | 2022-07-14 | Felsic Volcanic | Felsic Volcanic, fine grained (<1mm), equigranular, grey, mostly fine-grained quartz-plagioclase, occasional lenses of more mafic material  |
| 24 | 518351.976               | 5682872.612               | Karla<br>Bjorkman | 2022-07-13 | <Null>          | Mafic volcanic, fine grained (<1mm), grey-dark grey   |
| 25 | 509153.246               | 5682184.774               | Cameron<br>Bushen | <Null>     | Felsic Volcanic | Felsic Volcanic, fine grained (<1mm), meta felsic volcanic with quartz phenocrysts, grey, no notable sulphides or rust  |

| ID | Easting (m)<br>NAD83Z15N | Northing (m)<br>NAD83Z15N | Mapper            | Date       | Lithology                | Description   |
|----|--------------------------|---------------------------|-------------------|------------|--------------------------|---|
| 26 | 509418.805               | 5681954.142               | Cameron<br>Bushen | 2022-07-15 | Intermediate<br>Volcanic | Intermediate Volcanic, fine grained (<1mm), equigranular, grey, outcrop is steep slope leading to swampier area   |
| 27 | 511656.285               | 5681527.144               | Cameron<br>Bushen | 2022-07-16 | Intermediate<br>Volcanic | Intermediate Volcanic, fine grained (<1mm), quartz-phyric, green, greenish grey fine groundmass slightly larger quartz, no notable sulphides  |
| 29 | 507299.719               | 5682888.58                | Cameron<br>Bushen | 2022-07-18 | Gabbro                   | Gabbro, medium grained (1-5mm), equigranular, grey, 70% amphibole & biotite and 30% plagioclase, almost green colour to the plagioclase   |
| 30 | 507294.421               | 5682878.902               | Cameron<br>Bushen | 2022-07-18 | Diorite                  | Diorite, medium grained (1-5mm), equigranular, grey, higher plagioclase abundance than nearby Gabbro point. Most of the outcrop is more plagioclase than mafic minerals. Maybe the gabbro point nearby is edge of intrusion |
| 31 | 507204.158               | 5682874.267               | Cameron<br>Bushen | 2022-07-18 | Diorite                  | Diorite, coarse grained (5-10mm), equigranular, grey, mostly plagioclase and some mafic minerals, bit of pyrite dissemination   |
| 32 | 515112.218               | 5680345.262               | Cameron<br>Bushen | 2022-07-19 | Mafic Volcanic           | Mafic Volcanic, fine grained (<1mm), equigranular, green-grey and massive, mostly plagioclase & chlorite  |
| 33 | 514934.312               | 5680232.667               | Cameron<br>Bushen | 2022-07-19 | <Null>                   | Intermediate volcanic, fine grained (<1mm), foliated, green, some plagioclase grains are coarser, growth during meta? Some rusty weathering but no visible minerals   |
| 34 | 515101.587               | 5680313.638               | Cameron<br>Bushen | 2022-07-19 | Mafic Volcanic           | Mafic Volcanic, fine grained (<1mm), equigranular, green, massive, fine-grained chlorite and slightly coarser plagioclase   |
| 35 | 514824.023               | 5680829.427               | Cameron<br>Bushen | 2022-07-19 | Mafic Volcanic           | Mafic Volcanic, fine grained (<1mm), equigranular, green, greenish blue with epidote green, chunky milky quartz veins, no mineralization or rust  |





**Appendix C**


**Daily Logs, Photo**



| Date       | Mapper         | Notes   | Rock  | Samples   | Photo  |
|------------|----------------|---|---|---|--|
| 2022-07-09 | Cameron Bushen | <p>Today Grace and I prospected with Karla and Autumn to start, we are checking out a sample from last year along the road. Then we headed up to the northern part of the property trying to follow up on the rock samples at 512628 5684001, taken in previous years that had good results. We started our traverse from the road at 511694 5684072 and headed east.</p> <p>We started the day with Karla and Autumn exploring an anomalous sample from last year at 511535 5682663. We looked around the area a bit and Grace found a quartz vein at 511593 5682760 which was sample <b>F064252</b>. The wall rock was mineralized with a bit of pyrite and chalcopyrite with not much in the vein itself, the quartz was semi-saccharoidal. Next, we headed north and began our trail from the road. the rocks in the area were mapped as intermediate intrusive which for the most part is what we saw today aside from a few places where I think they're pretty felsic. There was one sample which seemed to be mafic volcanic and seemed to be outcrop but maybe not? It was located at 512198 5684022 and had a bit of pyrrhotite we didn't see anything else like it today. The most interesting spot was the rusty quartz veins which were sampled last year shown in <b>Figure 1</b>. We resampled the wall rock and the vein. A lot of the pyrite here was very cubic with more mineralization in the wall rock (diorite to tonalite). These were samples <b>F064255</b> and <b>F064256</b>. We looked around the area a bit more and found one more decent quartz vein at 512754 5684033 which</p> | <p><b>Mafic Volcanic</b></p> <p><b>Quartz Veins</b></p> | <p><b>F064252</b><br/> <b>F064255</b><br/> <b>F064256</b></p> |  <p><i>Figure 1: rusty quartz vein at 512617 5684014 (sampled in 2021).</i></p> |

| Date       | Mapper         | Notes   | Rock                  | Samples                          | Photo |
|------------|----------------|---|-----------------------|----------------------------------|-------|
|            |                | <p>was very sugary with a bit of pyrite in it, it was oriented roughly perpendicular to the previous veins but its hard to definitely say the orientation because it was just barely showing on a very flat pavement like outcrop. Then we got out of the bush, the area was an old cut from a few years ago so pretty brushy area.</p>   |                       |                                  |       |
| 2022-07-10 | Cameron Bushen | <p>Today faith and I prospected off the eastern logging roads trying to fill in some new ground, we began our trek at 515691 5680975. The weather was very hot in the morning, possibly the hottest I've ever felt. The afternoon was very wet and thunderstormy, possibly the wettest I've ever been.</p> <p>The day started with some low lying swampy land between a cut and a small creek system, we didn't see a whole lot until we made it to the shore of the lake to the north and found a small ridge. This ridge was all the same rock type which seemed like mafic volcanic (area is mapped as intermediate) with some hematite at around 8% that was rusted out in the weathering rind. Sample <b>F064258</b> was taken in this area at 515453 5681368. We walked along this ridge but there was little variation in the rock. The best sample today was at 514705 5681502 which was a quartz vein that Faith found, it was sample <b>F064262</b> and was sugary quartz with some chlorite and a tiny bit of rust. After we took that sample the thunderstorm caught us and we had to get out. We didn't see a whole lot of outcrop today, kind of lacking on that front, and we got abused by the elements a bit but not too bad. Pretty weather intense first day out for Faith. I was bad and took no picture today.</p> | <b>Mafic Volcanic</b> | <b>F064258</b><br><b>F064262</b> |       |

| Date       | Mapper         | Notes   | Rock                  | Samples            | Photo  |
|------------|----------------|---|-----------------------|--------------------|--|
| 2022-07-11 | Cameron Bushen | <p>Today Faith and I prospected in the southern central part of the property after finding my hand lens on the road in the morning (yay). The weather was partly cloudy in the morning with some thunderstorms in the afternoon and a high of 24. We started our traverse at 512707 and headed south.</p> <p>In the beginning of the day we were finding tons of 2-3cm quartz veins all of which had some degree of mineralization, usually a bit of chalcopyrite and pyrite some examples of these veins can be seen in <b>Figures 2 and 3</b>. One of the better veins we found was super close to the edge of the property, dangerously close. This was sample <b>F064266</b> and was mineralized with coarse euhedral pyrite on the edges of the vein. The sample stands out in that the mineralization style is different than the other veins in the area. Most veins had fine grained and disseminated sulphides in the wall rock when they were mineralized. After sampling a few veins in this area. We continued south through a bit of a swamp then came out in a new cut (there are tons of cuts and roads that are relatively new and don't show up on the map. The exposure was a bit worse here compared to the previous area and we found one decent vein that we sampled which was sample <b>F064268</b>. At this point we could hear some thunder in the distance and decided to stay closer to the road in case we needed to get out quickly, didn't want to get caught out in a thunderstorm two days in a row. This ended up being a prudent decision since there were a few strikes pretty close by and we got out to the truck. We finished the day by mapping in some of the newer roads which lead towards the northwestern part of the property a nice little discovery</p> | Intermediate Volcanic | F064266<br>F064268 |  <p><i>Figure 2: quartz veins in intermediate volcanic at 512714 5680630 near sample F064267</i></p>  <p><i>Figure 3: quartz vein near 512669 5680797</i></p> |



| Date       | Mapper         | Notes  | Rock   | Samples   | Photo   |
|------------|----------------|--|--|---|---|
| 2022-07-12 | Cameron Bushen | <p>Today Grace and I prospected in the south eastern part of the property starting at 515722 5681000 and heading to the south and east. We had to do some construction on a beaver damn to make it there, and spent most of the day in flattish ground with little to no outcrop <b>Figure 4.</b></p> <p>Our day started with reconstructing a small section of damn to make it mostly crossable without getting mostly wet. This took a bit of time. Next, we headed to the southeast along the creek system planning to do a loop in the southeast area. Most of what we walked in for the morning was a low flat mossy area with lots of Labrador tea. Later we came into a but if a hillside with pretty bad thick bush with lots of blowdown but a bit more outcrop, this hill was mostly mafic volcanic with pyrite that seemed like it was probably primary. The best sample of the day from a sulphide perspective was <b>F064271</b> located at 516457 5680525 which was an intermediate volcanic that had a seam of euhedral pyrite in it parallel to the foliation. the other good sample on the day was a quartz-carb vein at 516299 5680773 (sample <b>F064269</b>) which had a bit of pyrite mineralization in the wall rock. For the last half of the day we mostly saw mafic volcanics that were kind of boring and for the most part didn't sample, one of them was almost fissile like a shale or mudstone but I decided it was probably still just a mafic volcanic. This was at 516626 5680588 sample <b>F064272</b>. That's about all that happened the rocks were kind of boring and it was very misty and damp.</p> | <p><b>Intermediate and Mafic Volcanics,</b></p> <p><b>Quartz Veins</b></p> | <p><b>F064269</b><br/> <b>F064271</b><br/> <b>F064272</b></p> |  <p><i>Figure 4: example of flat mossy ground which has no outcrop</i></p> |



| Date       | Mapper         | Notes   | Rock            | Samples | Photo   |
|------------|----------------|---|-----------------|---------|---|
| 2022-07-13 | Cameron Bushen | <p>Today Faith and I prospected in the north west of the property using the new cut roads. We followed up on some of the better numbers from last year trying to see if we could find anything promising around them. At the end of the day since Karla and Autumn had a long canoe trek we used the UTV to map in some of the new roads.</p> <p>Our traverse began at the end of the driveable portion of one of the newer roads located at 508634 5682213 heading to the north west. To start the day we were mostly in nice bush with little outcrop so we set our sights on a spot that ran 0.05ppm Au last year to see if we could find anything around there. Close by to where that sample was taken we found a series of quartz-chlorite veins with some mineralization so we took some samples of the vein and wall rock. The outcrop these samples come from is shown in <b>Figure 5</b>. The best of these samples was a small vein with silicified felsic volcanic surrounding it with disseminated pyrite at 2% this is sample <b>F064274</b> located at 508302 5682781. The best sample of the day was at 508153 5682892 and was a rusty orange red quartz vein with pyrite. The pyrite was a wide range of shapes and sizes including a 2-3cm euhedral grain right on the edge of the vein. the vein is shown in <b>Figure 6</b> its kind of deceptive because it doesn't look rusty much at all on the surface. After that vein we started seeing more boring felsic intrusives, sometimes with fairly high mafic components and that's how it stayed for most of the rest of the day. The felsic intrusives seems to come further south than the current interpretation suggests. Lastly, we mapped in most of the roads that were</p> | Felsic Volcanic | F064274 |  <p><i>Figure 5: Quartz veins near anomalous gold sample from 2021, located at 508303 5682780</i></p>  <p><i>Figure 6: quartz vein located at 508153 5682892</i></p> |












| Date              | Mapper                | Notes   | Rock  | Samples   | Photo  |
|-------------------|-----------------------|---|---|---|--|
|                   |                       | <p>seemed like it was all felsic volcanic, but the entire area also seemed to be pretty heavily silicified. Was a pretty boring day up until that last outcrop, thinking about following that area up tomorrow.</p>   |   |   |  <p><i>Figure 10: Outcrop wall of samples F064290-F064295, pictured right of me is the rusty spot hidden behind the tree within its roots, left of me is the quartz vein and its wall rock samples. Located at 509473 5681948</i></p> |
| <p>2022-07-16</p> | <p>Cameron Bushen</p> | <p>Today Faith and I prospected close to the road checking out some of the points that ran decent numbers from last year. Our traverse started from 511421 5681454 and we started by heading to the east and staying to the south of the road. We had a shorter day today because we had to move from one lodge to another.</p> <p>We started by trying to follow up a sample that ran 0.01ppm and looked around the area for any veins. We found a nice vein at 511771 5681507 where we took samples <b>F064296</b> and <b>F064297</b>. The vein was around 2-3cm thick and the wall rock was rusty on either side, the vein can be seen in <b>Figure 11</b>. The wall rock was very mineralized around 5% mostly pyrite with a bit of chalcopyrite, the vein itself was less mineralized but fairly sugary and looked nice. It seemed like this vein was unsampled so I have high</p> | <p><b>Intermediate Volcanic, Quartz Veins</b></p> | <p><b>F064296<br/>F064297<br/>F064352<br/>F064353</b></p> |  <p><i>Figure 11: quartz vein with rusty wall rock, location of samples F064295 and F064296 located at 511771 5681507</i></p>  |



| Date       | Mapper         | Notes  | Rock                  | Samples | Photo |
|------------|----------------|--|-----------------------|---------|-------|
|            |                | <p>hopes. The other cool spot we found was at 511269 5681113 which we had to leave the bush and walk around to on the road because the old cut/blow down area was so unbelievably bad. We couldn't tell where the sample from last year had been but it seemed pretty good so we sampled it again. These were samples <b>F064352</b> and <b>F064353</b>. The first sample is of veined area with mostly pyrite mineralization, very rusty and sugary. The second sample was more interesting a bit of a sheared area with sugary quartz lenses that were probably sheared veins. I really liked the look of these area texturally but I forgot to take a picture because we were trying to rush out to switch cabins. I wish I could tell where they had sampled previously because I would be surprised if they hadn't sampled this stuff before but it looked good. This log feels scattered hopefully its coherent.</p> |                       |         |       |
| 2022-07-17 | Cameron Bushen | <p>Today Faith and I prospected starting in the south east part of the property at 515876 5681047 heading north along the river and around the lake a bit before looping back. It was VERY hot today, I did not feel well by the end of the day.</p> <p>We saw literally one rock all day that I am confident was outcrop. It was sample <b>F064354</b> located at 515025 5682025. The sample was of an intermediate volcanic with around 2-3% cubic pyrite disseminated so all things considered it was at least a mildly interesting rock for being the only rock we saw. Other than that we were in somewhat swampy wet mossy ground most of the day with lots of alders. Sometimes the edge of lakes is a good place to look for outcrop but the edges of this lake certainly don't seem to be, most of the way around it's a gentle slope from wet swampy ground into the lake. Kind of a boring day but we got a</p> | Intermediate Volcanic | F064354 |       |


| Date       | Mapper         | Notes   | Rock                         | Samples  | Photo  |
|------------|----------------|---|------------------------------|--|--|
| 2022-07-18 | Cameron Bushen | <p>pretty good hike in and was definitely feeling like it by the end of the day. No pictures.</p> <p>Today Grace and I prospected in the far west of the property following up on some of the samples that had ran decently well-ish from last year in the 10-50 ppb range. We walked in along the road and then began our traverse from around 507624 5682838 heading to the west and a bit south. Today was hot, in the high 20's and called for rain in the afternoon but it never did.</p> <p>For most of the day our samples were of small quartz veins that had a small amount of pyrite and weren't that interesting. The hope is that we might catch a hint of the system introducing gold to the rocks that ran a little bit since it seemed like they had sampled whole rock without veins, so we did a lot of vein hunting around those samples. The best sample we found today was a bit of a new area not super close to any of the things that ran well, this was a sheared/foliated and veined diorite at 507279 5682776 where we took samples <b>F064357</b> and <b>F064358</b> (vein and wall rock respectively). The main vein was the first sample, although many smaller veins are running all throughout the wall rock as well. The vein was rusty red with pyrite mineralization throughout as a range of sizes and sometimes blebby. The wall rock was mineralized similarly with blebby and fine pyrite throughout and we took a nice big rep of that. Unfortunately I didn't get a good picture of this because it was mostly buried in dirt and sand and didn't clean up well for a decent picture. So instead <b>Figure 12</b> shows an example of the kind of quartz veins we were finding, a few cm thick with a bit of mineralization. <b>Figure 13</b> is much more interesting and shows some weird rock type that seems to be mafic volcanic</p> | <b>Diorite, Quartz Veins</b> | <b>F064355</b><br><b>F064357</b><br><b>F064358</b> |  <p data-bbox="1140 857 1747 880"><i>Figure 12: quartz vein at 507292 5682877 location of sample F064355</i></p>  |




| Date              | Mapper                | Notes  | Rock                                | Samples   | Photo  |
|-------------------|-----------------------|--|-------------------------------------|---|--|
|                   |                       | <p>clasts within a felsic intrusive? Super weird and we found it on our way out as we were already late, it didn't seem obviously economically significant so we took a picture and left it but I'm still kind of wondering what it was. Seemed like at least 2 clast sources were present, possibly more?</p>   |                                     |   | <p><i>Figure 13: interesting rock type near 506988 5682813</i></p>   |
| <p>2022-07-19</p> | <p>Cameron Bushen</p> | <p>Today Faith and I prospected in the south part of the property. It was supposed to rain a lot today and it rained for maybe 15 minutes then stopped with the temperature staying in the mid to low 20s. We did a lot of small traverses today jetting around on the UTV to fill in the gaps along the roads in the south. Our first traverse started from 514876 5680339 and we mostly stayed to the east of the road. We didn't see a whole lot at the start of that small trav pretty flat ground and found a ride near the edge of the cut before the swamp, where that ridge met the road was a pretty sizeable quartz vein shown in <a href="#">Figure 14</a>. This vein was sample <b>F064363</b> and was one of the better samples we took today with some pyrite within the vein. Some of the scattered rock around the area from the road building looked like wall rock that was even more mineralized than the stuff in outcrop but we couldn't be sure if it was from the area so we settled for the actual wall rock. Our next trav was from the next road over just to the east of where we were previously, starting at 515184 5680501 and heading to the south and east. The best sample we found on this trav was a quartz vein with some chalcopyrite in it (not a ton just a bit) and not much else the grains were in the vein and 2-3mm at their largest. This was sample <b>F064366</b> at 515415 5680450. We made one more stop today at a third spot but didn't see a whole lot this was a hill of outcrop around 514803 5680827 there were some quartz veins</p> | <p><b>Intermediate Volcanic</b></p> | <p><b>F064363</b><br/><b>F064364</b><br/><b>F064366</b></p> |  <p><i>Figure 14: quartz vein at 514907 5680246, sample F064363 and F064364</i></p> |






| Date       | Mapper         | Notes   | Rock                                | Samples            | Photo   |
|------------|----------------|---|-------------------------------------|--------------------|---|
|            |                | around but nothing that seemed to be worth sampling. We saw a ton of rock today, lots of outcrop is exposed in the cuts along ridges.   |                                     |                    |   |
| 2022-07-20 | Cameron Bushen | <p>Today Grace and I prospected in the middle part of the property just west of the main road. The goal today was to follow up some of the samples that ran well from last year that people hadn't checked out yet. The area we looked at was in the cut with tons of ridges to explore, lots of rock to look at. The day was hot with a high near 30 if not over it, certainly felt like it was.</p> <p>The first point we went to was a vein that had ran 40 ppb previously. The vein is shown in <b>Figure 15</b>. This vein was resampled both in the wall rock and the vein itself with a rep taken. The wall rock right beside the vein had strange textures, very micaceous and what seemed like amphibole found as coarser grains than most other minerals in it, with disseminated pyrite. The wall rock stood out as different than most of the rock around it. This vein or other similar veins could be found all along the ridge, including the best sample we took today which was <b>F064371</b> shown in <b>Figure 16</b>. Malachite and chalcopyrite can be seen within the vein in this picture, unfortunately it has a weird glare on it I think from my phone case having quartz dust on it maybe. It seemed like it was probably a continuation of the same vein in <b>Figure 15</b> just a bit further along, and was super unassuming on the surface before breaking into it and seeing a bunch of green and red with malachite. Karla says it seemed like the veins with chalcopyrite is what ran best last year so hopefully this runs well. After that we followed the ridges along poking into rusty spots and veins as you do. We</p> | Intermediate Volcanic, Quartz Veins | F064371<br>F064374 |  <p data-bbox="1140 876 1501 901"><i>Figure 15: quartz vein at 511085 5682824</i></p>  <p data-bbox="1140 1364 1753 1388"><i>Figure 16: Quartz vein sampled as F064371 located at 511092 5682828</i></p> |



| Date       | Mapper         | Notes  | Rock               | Samples        | Photo   |
|------------|----------------|--|--------------------|----------------|---|
|            |                | <p>found a few more interesting spots including a decent amount of disseminated pyrite in sample <b>F064374</b> with no veins around it, most of the mineralized stuff was near veins so this stood out a bit. It was in a felsic volcanic I think, but maybe a silicified intermediate volcanic. After finishing our trav we loaded up the UTV and canoe and left. very hot day nice to find some cool veins last day.</p>  |                    |                |   |
| 2022-07-08 | Karla Bjorkman | <p>We started the morning off by loading up the truck with all our gear. We also reconfigured the trailer to accommodate the UTV and canoe. We were able to make it to Dryden for lunch, then we grocery shopped for an hour and a half before fueling up and getting some last minute items from Canadian Tire. We made it to Ear Falls around 6:30 pm and another hour brought us to the lodge, we drove the last stretch slowly so Autumn's car could keep up. There was minimal traffic at this time of the evening. Our cabin at the Canada North Lodge is a minute walk from the truck with the reward of being right next to the lake surrounded on three sides with water!</p> |                    |                |   |
| 2022-07-09 | Karla Bjorkman | <p>We started the day off by getting all of our prospecting gear organized and new helpers up to speed. It took us about 1 hour to make it to the property with the trailer and the occasional log truck and grader. We were unable to get the right channel on our radio so we drove cautiously. Almost the entire area, surrounding all the roads on the property, has been recently logged which is helpful in locating outcrops. Our first stop was at the first gold number next to the main road. While we were unable to locate that particular sample we did find more things to sample including a quartz-vein (<b>Figure 17</b>). It was striking east west</p>              | <b>Quartz Vein</b> | <b>F064303</b> |  <p><i>Figure 17: quartz vein, sample F064303</i></p> |

| Date       | Mapper         | Notes   | Rock   | Samples        | Photo   |
|------------|----------------|---|--|----------------|---|
|            |                | <p>and went from a few centimeters wide to 10 or 15, hard to tell since it was broken up from logging machines. Our next stop was near the north end of the property where Cam and Grace went for a hike to follow up on another sample to the east. On the west side of the road there was a fairly long area of what seemed to be a quartz vein surrounded by very rusty wall rock with 2-5% pyrite, some disseminated and some in seams. After this Autumn and I tried following up some more quartz veins next to the road but found no extensions. We then unloaded the UTV and checked access to the east (road starts just south of the southern property line) and found loggers had built more roads in that direction which will make accessing that side much faster and easier!</p> |  |                |   |
| 2022-07-10 | Karla Bjorkman | <p>Today Autumn and I did a traverse west of the small lake in the middle of the property. There weren't any hills, very gentle slopes led to small streams/swamp systems. The bush was very nice which made for easy traversing and shade from the sun. It was very humid and hot all day until 3 pm when a thunderstorm rolled in and rained very hard. Since we only had 2 samples (<b>Figure 18</b>), due to minimal outcrop exposure, about 6 outcrops/4 kms, we were able to make it back to the truck a little sooner than we thought. We took many short breaks due to the heat and applied bug repellent almost every water break because the blackflies, deerflies, mosquitos and no-see-ums were out full force!</p>   | <b>Late vein, alteration or mineralization</b> | <b>F064308</b> |  <p><i>Figure 18: Sample F064308, the only mineralized rock during our traverse</i></p> |






| Date       | Mapper         | Notes  | Rock                                       | Samples                                       | Photo  |
|------------|----------------|--|--|---|--|
| 2022-07-11 | Karla Bjorkman | <p>Our first task o the day was finding Cam's hand lens, which had fallen off the trailer on the first day, we were able to find it! Grace and I dropped off Cam and Faith on the lower east road then took the UTV down a road which happened to be where we had planned a traverse. We found it was a very flat area with no outcrop so we drove until we saw some. While our second traverse of the day saw a lot of outcrops, it was a lot of digging and breaking rock before we found something worth sampling. We found a quartz-epidote vein that had localized chalcopyrite in the wall rock (<b>Figure 19</b>). Closer to the road we found a smaller quartz vein that had some chalcopyrite as well. Moving along we stopped at a cliff by the road, although a thunderstorm was fast approaching so we weren't sure when we would have to go, we were able to find a few more samples before the storm finally reached us. It was a very intense downpour as we drove out to pick up the other crew, unfortunately we all got soaked! We ended the day early as a much larger thunder storm moved in, we drove another road to see if it went further than last year and luckily it did, so there is more road access to the west.</p> | <p><b>Mafic Volcanic, Quartz Veins</b></p> | <p><b>F064311<br/>F064312<br/>F064313</b></p> |  <p><i>Figure 19: Samples F064311-13, mineralized quartz vein, Hammer handle points north and pens show strike and dip (blue pen)</i></p> |


| Date       | Mapper         | Notes   | Rock        | Samples | Photo   |
|------------|----------------|---|-------------|---------|---|
| 2022-07-12 | Karla Bjorkman | <p>We started the day by making a bridge to cross the stream at the end of the lower east road, luckily there was a beaver dam not far away that just needed a little patching up so Autumn and I left Cam and Grace there to start canoeing in the upper east river. We encountered a few beaver dams and logs across the river that were easy to navigate, however the rapids took much more time to pass through the first time. To reach the closest part of the property after that took 2.5 hours. Once we arrived there and started hiking we realized we were in a vary large swamp and it didn't make sense for us to continue at this time because it would take a substantial hike to reach higher ground and we didn't have radio contact with the others to let them know we would be several hours late. We are planning a much longer day tomorrow so that this can be accomplished! On our way back we had the wind at our backs and knew how to navigate each obstacle, so it was much faster. I think we shaved off half an hour.</p> |             |         |  <p><i>Figure 20: Navigating a shallow spot in the river</i></p> |
| 2022-07-13 | Karla Bjorkman | <p>Autumn and I returned going down the river to access the eastern end of the property. We had a nice early start and made good time in the canoe and over the portage (<b>Figure 21</b>). When we reached the first wide part of the river there was a bull moose eating off the bottom of the lake, he wasn't too worried about us, just looked then slowly made his way back to shore!</p> <p>We had been hoping to make it further down the river than the day before but there was another rapids not far from the second wide spot/lake. This one was much more serious than the one before and would require portaging, although it is difficult to see on the satellite image (there was a small portage trail, but it was very steep and narrow). We decided this</p>   | Quartz Vein | F064319 |  <p><i>Figure 21: Navigating the rapids</i></p>                 |

| Date       | Mapper         | Notes  | Rock        | Samples | Photo   |
|------------|----------------|--|-------------|---------|---|
|            |                | <p>would take too much time and energy so we headed into the property from there. We made it to the most north-east lake within the property and hiked the shoreline until we found outcrop. There was a nice rusty quartz vein there so we took a few samples before we had to head back to the canoe (<b>Figure 22</b>). Thankfully it was a nice day so we enjoyed the 2 hour ride back to the truck, we had planned to be out by 6 but didn't make it until 7 but we had radio contact with Cam part way back so they didn't have to worry about us.</p>                         |             |         |  <p><i>Figure 22: Quartz vein on the lakeshore, sample F064319</i></p> |
| 2022-07-14 | Karla Bjorkman | <p>Today Faith and I checked out some of the quartz-vein samples from last years work to see if we could follow them up some more to the west of the main road. The one vein we were able to find more of (plus it looked nice and rusty) was too difficult to break another piece off. We found another quartz vein further along and the wall rock had about 4% pyrite in it (<b>Figure 23</b>). There was a lot of outcrop in this area but there wasn't anything else worth sampling. The crew last year did a very good job sampling and finding quartz-veins in this area!</p> | Quartz Vein | F064325 |  <p><i>Figure 23: Quartz vein with mineralized wall rock</i></p>      |



| Date       | Mapper         | Notes   | Rock  | Samples               | Photo   |
|------------|----------------|---|---|-----------------------|---|
| 2022-07-15 | Karla Bjorkman | <p>Today was very hot again, Autumn and I headed into the most western area of the property. We were able to reach the area that had some of the highest gold numbers from last year and found that there were 2 quartz-veins that ran parallel, the samples that ran the best were from the northern vein. We tracked it about 15 meters east of the previous samples to where they decreased from 15-20cm wide and 1 meter apart to 2cm wide and 20cm apart. The wall rock that was in the middle looked just like all the other wall rock but when we broke it we found a lot of chalcopyrite and copper! While at first it was mostly tarnished and difficult to tell for sure, once we found some fresher pieces it was a very bright pink so we are fairly certain it is native copper (Figure 24). After taking lots of samples there we took a few more of the area that had been sampled before and found some semi-massive chalcopyrite in the quartz vein and disseminated chalcopyrite consistent throughout the northern vein (Figure 25).</p> | <p><b>Quartz Veins<br/>Mafic and Felsic<br/>Volcanics</b></p> | <p><b>F064330</b></p> |  <p><i>Figure 24: Sample F064330 native copper in the wall rock</i></p>  <p><i>Figure 25: Sample F064335, quartz vein loaded with chalcopyrite</i></p> |

| Date       | Mapper         | Notes   | Rock        | Samples | Photo  |
|------------|----------------|---|-------------|---------|--|
| 2022-07-16 | Karla Bjorkman | <p>Today we planned a shorter field day so we would have time to move our gear after work to the next cabins and go to town for fuel and groceries. It was also very hot so ending a bit early was a very nice treat! Both teams worked from the second road that goes east on the property, we thought it was an old cut but realized it was all just blow down and very difficult to navigate. We were unable to find much shade so made the most of a few small trees. Thankfully we found a quartz vein and a few mineralized areas to make it a worth-while trek. On our walk back to the truck on the road we were able to get a better look at the outcrops along the main road and found a quartz vein that looked rusty and had pyrite in and surrounding the vein (<b>Figure 26</b>). Tomorrow we are hoping to include some forested areas in our day!</p> | Quartz Vein | F064341 |  <p data-bbox="1543 738 1822 771"><i>Figure 26:17 Sample F0064341</i></p> |
| 2022-07-18 | Karla Bjorkman | <p>Today we all hiked in the logging right-of-way to the northwest corner of the property. Cam and Grace went to the area where Autumn and I had followed up on samples and they continued there. Autumn and I went north to see if there was more outcrop but the crew last year covered the area and there was nothing else for us to sample. On our way back we found some outcrop with pyrite that the loggers had exposed so that was helpful! They are actively logging this area; it would be a good idea to come back again when they are done. We forgot bug spray but thankfully the mosquitos weren't too bad, it was also very humid today but there was more cloud coverage than yesterday!</p>  |             |         |  |

| Date       | Mapper         | Notes   | Rock        | Samples | Photo   |
|------------|----------------|---|-------------|---------|---|
| 2022-07-19 | Karla Bjorkman | <p>Autumn and I headed east just below the river (at the north end) with the intention of following up on the samples there. We were able to uncover a very rusty area on strike with other samples. Eventually we realized there was a quartz vein close by that was exposed by an overturned root mass and found that our rusty area was where it ended once we uncovered the whole thing (Figure 27). We took several samples here over about 15 meters. When we went to the highest gold value in the area, we found it was a 5mm wide rusty quartz vein, it didn't have much for sulfides. This area could probably be covered again, Autumn and I ran out of time and there was a lot of outcrops to look at.</p>   | Quartz Vein | F064402 |  <p>Figure 27: Sample F064402, Rusty quartz vein</p> |
| 2022-07-20 | Karla Bjorkman | <p>I woke up this morning with a severe migraine, thankfully I was able to take some Advil and sleep most of it off by breakfast time but I didn't have much energy for the day. Faith and I were still able to cover a small area to the east of the main road just below where Autumn I were yesterday. On our way back Faith spotted a 15cm wide white quartz vein. It was traceable for about 10 meters but it stayed just as big the whole way. Unfortunately, we didn't see any sulfides in the area.</p> <p>When we got out everybody joined to get the UTV and canoe loaded on the trailer for the drive home.</p> <p>We found that without the trailer the drive took 45 minutes each day to go from the camps we stayed at to the property. The road was maintained by 2 graders so it was in great condition the whole time! The loggers were friendly and are currently logging more of the property to the north-west.</p> |             |         |   |

**Appendix E.**

**Daily Traverse, Sample and Outcrop Location**





