Geochemical Exploration in the Swift River Project Area

Watson Lake Mining Division, Yukon

NTS 105B/03

Includes work on:

Strata Property (centred at 375300E, 6669150, UTM, NAD83, Zone 9V)

Seagull Property (centred at 374750E, 6664800N, UTM, NAD83, Zone 9V)

Yukon Mineral Exploration Project 19-076

(Focused Regional)

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Introduction

Summary

An exploration program was undertaken in 2019 in the Swift River project area located in southeast Yukon within NTS map area 105B/03 roughly 15 north of the settlement of Swift River and about 140 km west of Watson Lake (Figure 1). The project benefited from the Yukon Mineral Exploration Program.

The Swift River project area is located along the eastern margin of the Seagull Batholith, which is intrusive into supracrustal rocks of the Yukon-Tanana Terrane. Known occurrences of mineralization in the area consist mainly of (i) tin and/or tungsten mineralization in skarns related to the emplacement of the Seagull Batholith and related granitic stocks, (ii) stratiform and/or stratabound zinc–lead–silver occurrences with considerable lateral continuity, and (iii) galena and sphalerite bearing veins with extremely high silver grades. The zinc–lead–silver horizons were originally thought to be skarns but recent workers have suggested that they may be VMS occurrences (possibly overprinted by skarn assemblages). Alternately, they may be modified sedimentary exhalative (sedex) deposits.

Recent stream sediment heavy mineral concentrate sampling in one small part of the program area has highlighted the potential of the Seagull Batholith and nearby country rock to host specialty metals such as niobium, tantalum, and the rare earth element in addition to tin and tungsten. There is also the potential for gems such as aquamarine to occur in this geological environment.

Much of the exploration work associated with the Seagull Batholith occurred in the late 1970's and early 1980's and was funded by major exploration and mining companies. Large regional geochemical sampling programs were routinely undertaken providing a valuable database for modern exploration programs.

Exploration in 2019 on the Swift River was undertaken in two areas – the Rusty Valley area and the Partridge occurrence area (Figure 2) and resulted in:

- The staking of the Strata property in the Rusty Valley area (8 claims) and the Seagull property in the Partridge occurrence area (4 claims).
- The collection of 15 silt samples, 9 heavy mineral concentrate (panned concentrate) samples, 78 soil and talus fine-fraction samples, and 39 rock samples.
- The completion of two scintillometer traverses in the Partridge occurrence area to test the effectiveness of this method for specialty metal exploration.
- The identification of an extensive zinc-lead-silver anomaly in talus fine-fraction samples within the Rusty Valley area extending over 1.5 km's characterized by values in excess of 370 ppm Zn with values of up to 4416 ppm Zn, 1180 ppm Pb and 6.70 g/t Ag. This anomalous zone lies within the Strata property.

- The location of numerous talus blocks of sphalerite and galena mineralization within the Strata property in the area of the talus fine-fraction anomaly with values of up to 13.97% Zn, 1.73% Pb and 29.6 g/t Ag hosted by sphalerite ± galena mineralized siltstone and calc-silicate (±magnetite) skarn. The nature of the mineralization and the significant length of the associated talus fine-fraction anomaly indicate the existence of nearby (upslope) stratabound and/or stratiform mineralization.
- The location of galena and sphalerite-rich trench rubble boulders in the Rusty Valley area with values of up to 21.37% Pb, 17.07% Zn and 395.8 g/t Ag. This mineralization is hosted within quartz veins and/or zones of intense silica flooding.
- The expansion of the area of potential calc-silicate (±magnetite) skarn mineralization in the Partridge occurrence area and rock sample results of up to 3.97% Sn, 4.70% Zn, 206.9 g/t Ag, and 812 ppb Au.
- The detection of radioactive talus boulders of granite during a scintillometer traverse that contain up to 577 Nb (along with elevated U and Th).

Additional exploration work to follow up on the 2019 results is recommended including expansion of geochemical surveying and geological mapping to define targets for subsequent geophysical surveys, trenching and/or drilling.

Location and Access

The Swift River project area is located in southeast Yukon and is centred roughly 15 north of the settlement of Swift River, which is located on the Alaska Highway, and about 140 km west of Watson Lake (Figure 1). It is located within the Watson Lake Mining District within NTS map area 105B/03. Access to the area may be gained along 4x4 truck roads and/or quad trails followed by hiking (Figure 2).

Figure 1. Map of southern and central Yukon showing the location of the Swift River project area (red circle). Map from Yukon Geological Survey MapMaker Online.

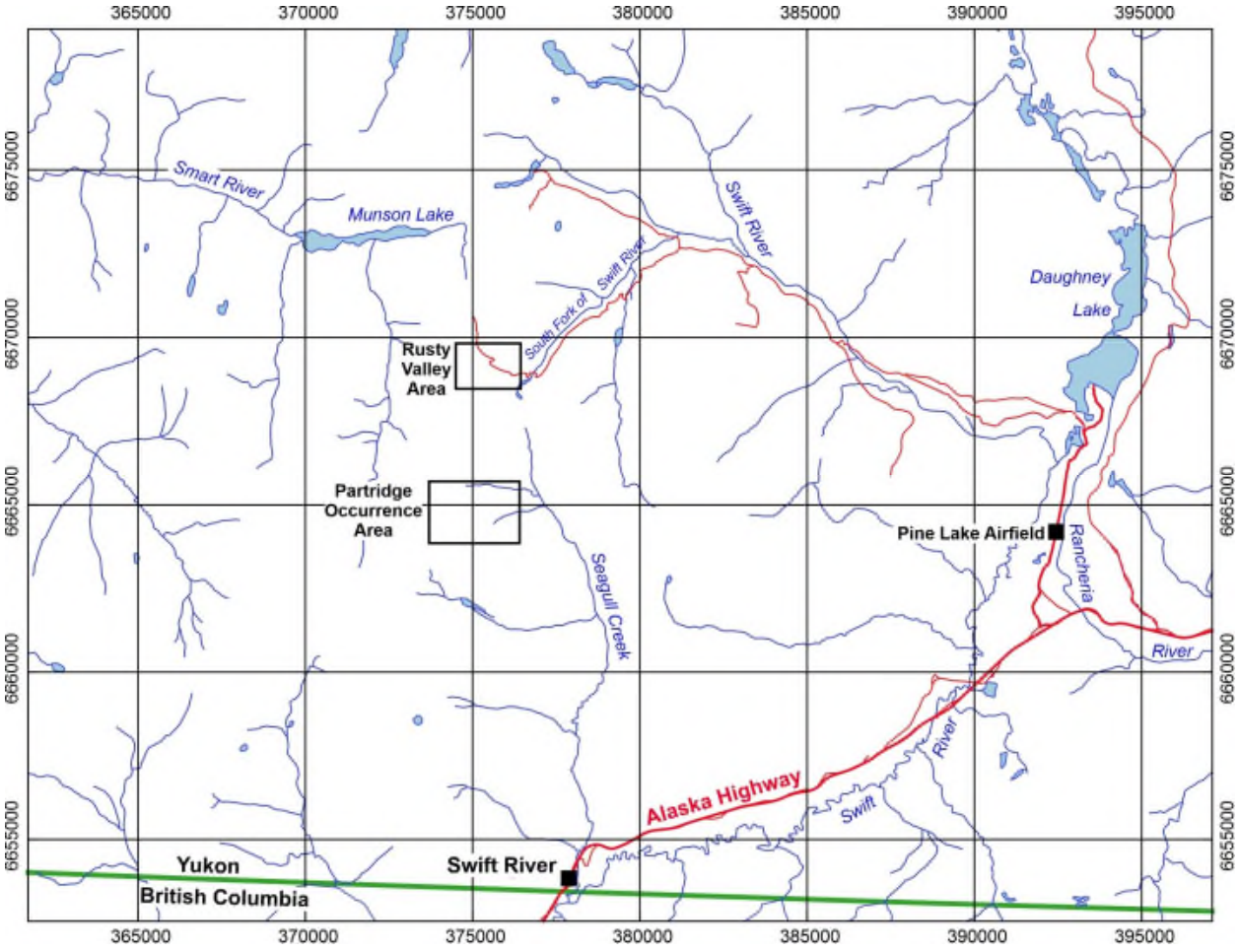

Figure 2. Location of the Swift River project exploration areas (rectangles with black perimeters). Coordinates: UTM, NAD 83, Zone 9V. Grid lines are 5 km apart.

Physiography

The Swift River project lies within the Dorsey Range of the Cassiar Mountains. Elevations range from 1300 m to 2000 m above sea level. The area is drained by Seagull Creek in the south, Goddart Creek in the west, Munson Creek in the north and the south fork of Swift River in the east (Figure 2). Creek valleys are vegetated but upland areas are above tree line.

Regional Geology

"Almost 40% of the exposed bedrock in south-central Yukon and adjacent northern British Columbia is of felsic plutonic origin. Most of the plutons were intruded after the last major deformational episode and are termed post-tectonic. Isotopic dating has refined their ages … several are mid-Permian, many are Early Jurassic and mid-Cretaceous, and a few are Early Eocene" (Liverton et al., 2005, p. 148).

"The plutons intrude an 80-km-wide northwest-trending belt of Yukon-Tanana Terrane (YTT). This terrane consists of polydeformed sedimentary, volcanic and plutonic rocks that have been resolved into time- and protolith-determined arc successions, above metasedimentary units of probable continental-shelf origin" (Liverton et al., 2005, p. 148).

"YTT is separated by transcurrent faults from Cache Creek Terrane to the west, and Slide Mountain Terrane to the east. These terranes contain stratigraphy that mainly records the evolution of mid-Paleozoic to Jurassic ocean basins, for the most part synchronous with the history of YTT. Slide Mountain Terrane is faulted to the east against marginal sedimentary rocks of ancient North America, a miogeoclinal succession of Cambrian to Permian age" (Liverton et al., 2005, p. 148). The regional setting of the project area is shown in Figures 3 to 5.

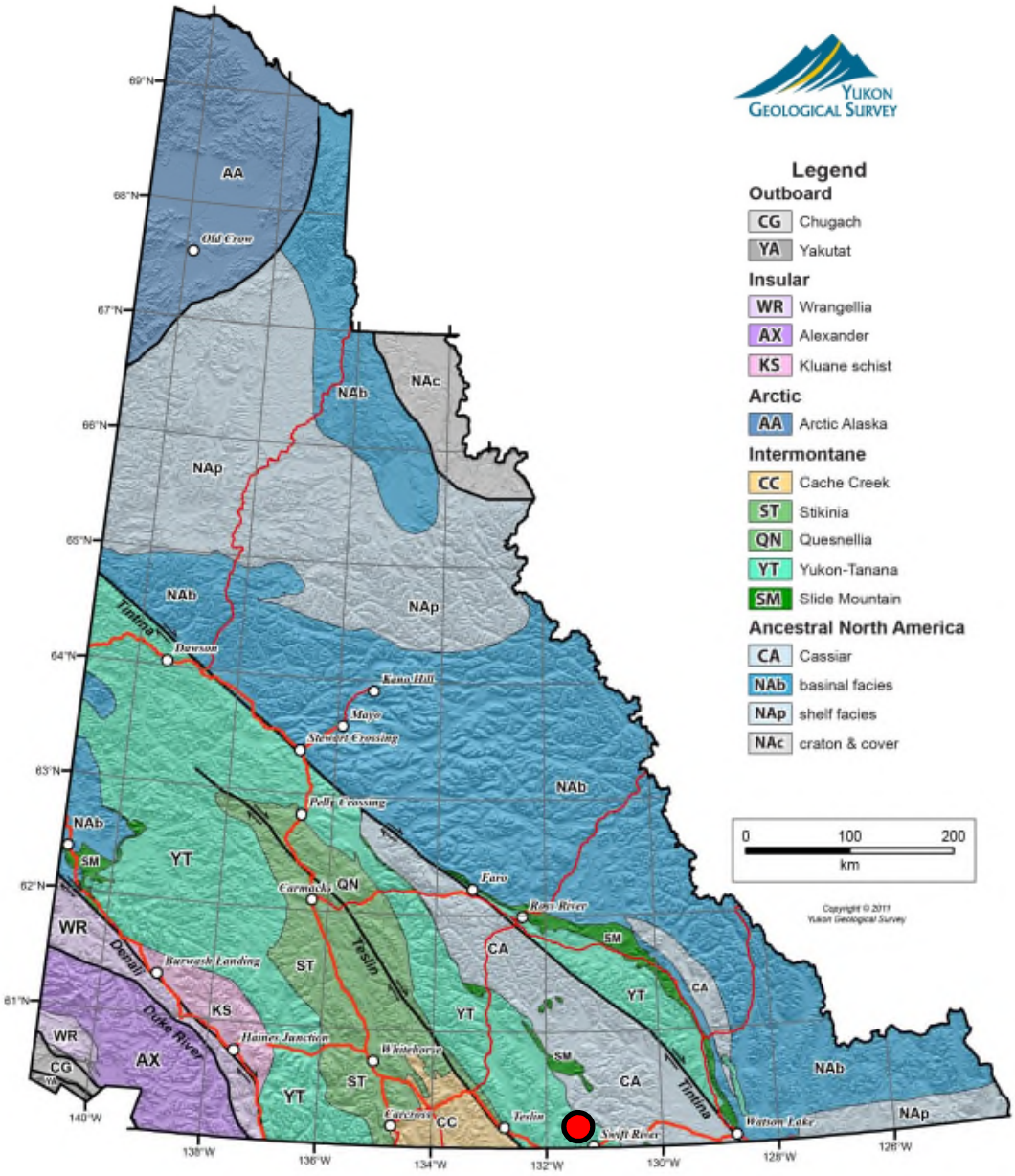

Figure 3. Yukon terrane map (Colpron and Nelson, 2011). The location of the Swift River project area is indicated by the red dot.

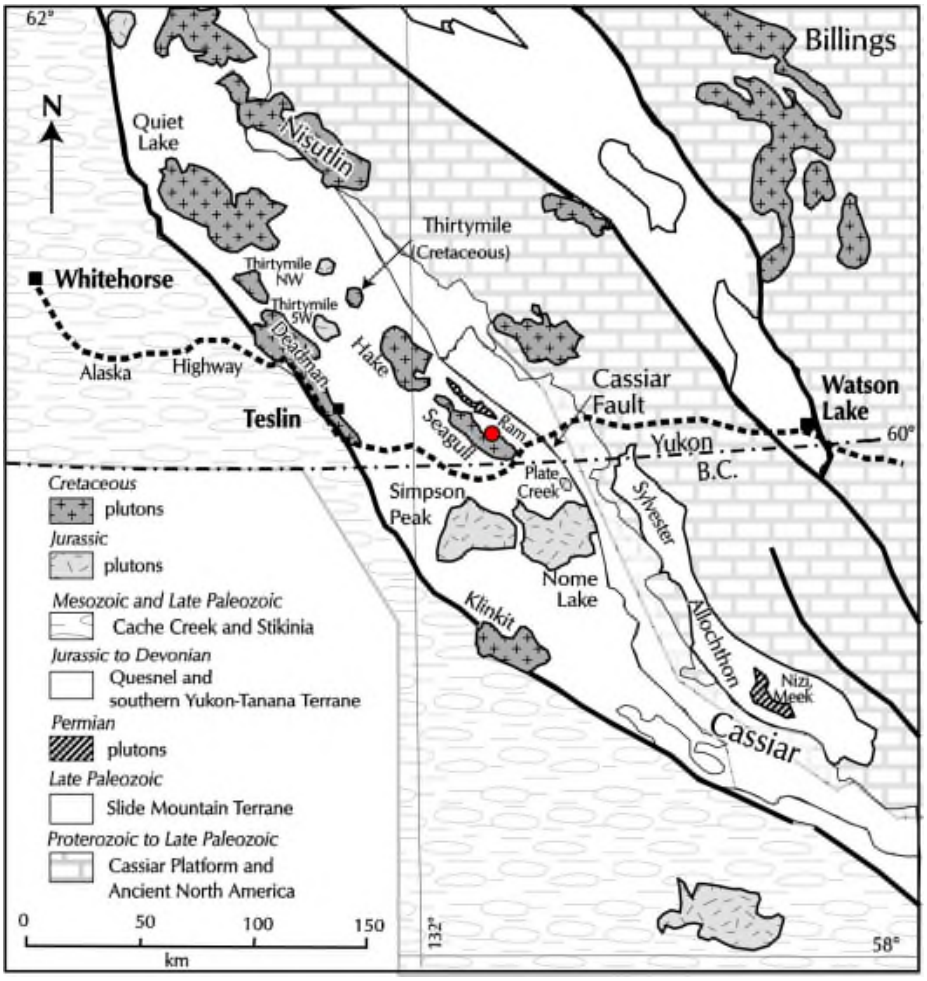

Figure 4. Geology of southeast Yukon and north-central British Columbia (Liverton et al., 2005). Swift River project area shown by red dot.

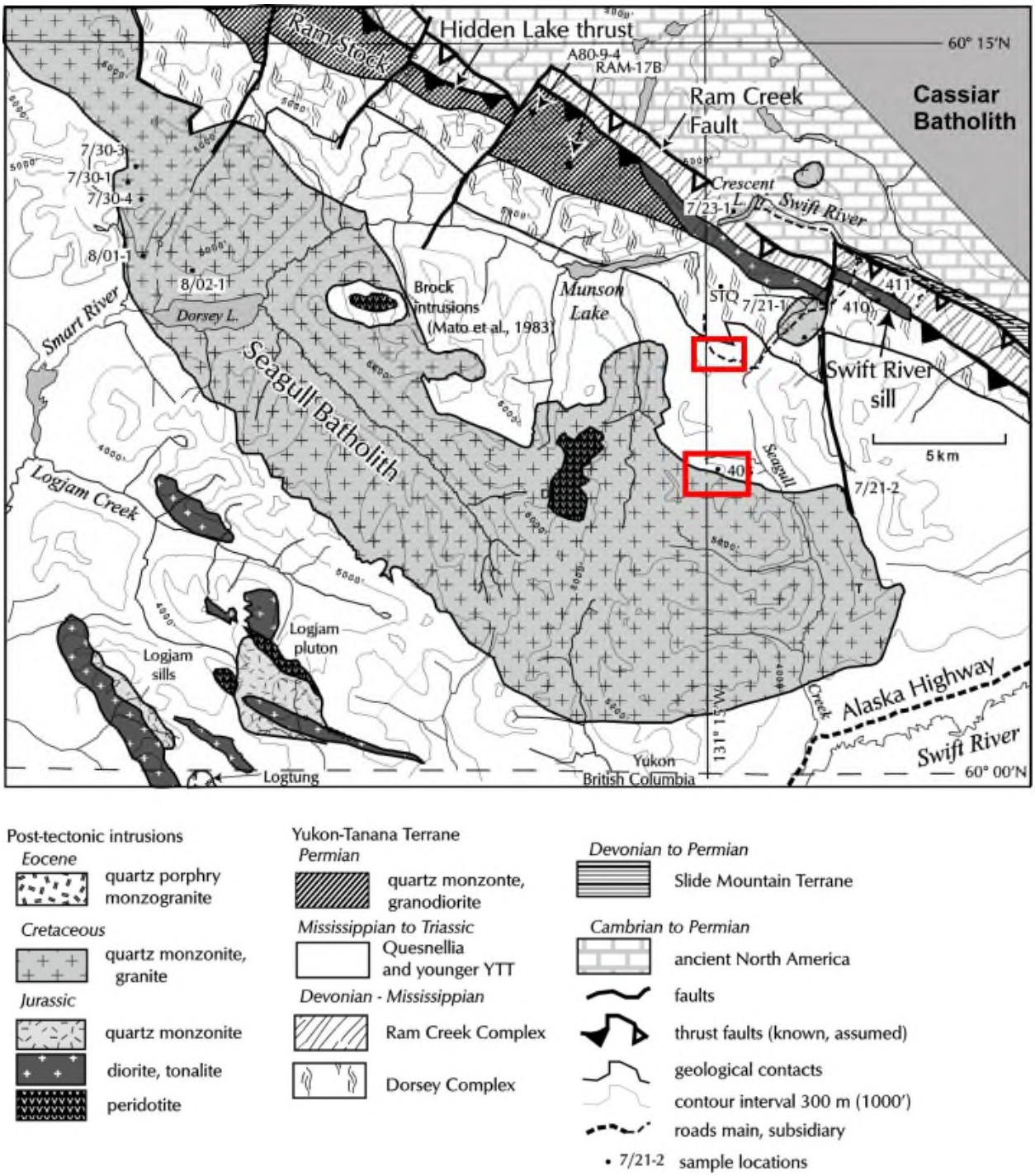

Figure 5. Geology of southeast Yukon in the Seagull batholith area (Liverton et al., 2005). Exploration areas (2019) shown by rectangles with red perimeters (Rusty Valley area to the north and Partridge occurrence area to the south).

Within the project area, supracrustal rocks southwest of the Ram Creek Fault consist of Devonian to Permian metavolcanic and metasedimentary strata of the Yukon-Tanana Terrane assigned to the Snowcap Group, Ram Creek Complex, Finlayson Group and Klinkit Group (Figure 6 a). The Devonian (and older?) Snowcap Group (formerly Dorsey Complex) "… is a highly strained 'basement' of siliciclastic sediments and amphibolite (Nelson, 2000), structurally overlain by basin and off-shelf sediments…." of the Finlayson Group (formerly Swift River Group; Nelson, 2001)" (Liverton et al., 2005, p. 148). The Klinkit Group is underlain be an erosional unconformity (Simard et al., 2003, Liverton et al., 2005).

"A Permian intrusion (the Ram Stock) … intrudes YTT just north of the Seagull Batholith…. It is a 26-km-long body, elongated northwest and parallel to the regional structural grain…. Width varies up to km, the product of vertical offset on northeast-trending faults that expose different levels of a steeply dipping tabular or lenticular intrusion…. The top of the body (southwest contact) is intrusive into lower Dorsey Complex…. The base of Ram Stock (northeast contact …) is a 10- to 20-m-wide mylonitic shear zone. This is the Hidden Lake Thrust, an intraterrane fault separating Dorsey Complex from Ram Creek Complex" (Liverton et al., 2005, p. 148-149). On the basis of U-Pb isotopic dating the crystallization age of the Ram Stock in interpreted to be 258.4±0.4 Ma (Late Permian)" Liverton et al., 2005).

The Early Jurassic suite if intrusions "…This suite includes subcircular granite bodies ranging from tens of metres to several hundred kilometres in area, sill-like diorite to tonalite, and several dunite to pyroxenite bodies. The age of these bodies is typically 186 to 188 Ma…. Most of the felsic intrusions have steeply dipping, locally sheared margins and insignificant stoping or xenolithic screens. Many are surrounded by a broad contact metamorphic aureole…. No miarolitic cavities or hydrothermal evidence was observed in the Jurassic intrusions; likely they cooled at least several kilometres beneath the surface" (Liverton et al., 2005, p. 154).

"Cretaceous granites intrude every tectonic belt in southern Yukon, and in some cases demonstrably plug faults that separate the terranes" (Liverton et al., 2005, p. 154). Cretaceous and early Eocene plutons are considered post-tectonic because they intruded after these terranes were joined together" (Liverton et al., 2005, p. 148). The Seagull Batholith, Hake batholith and Thirtymile pluton form a northwest trending belt of Cretaceous intrusions, commonly consisting of biotite leuco- quartz monzonite) that may be collectively referred to as the Seagull-Thirtymile granite (Liverton et al., 2005).

"A first-order difference between the Seagull-Thirtymile granites and others is map pattern. In particular, the Seagull Batholith has an irregular outline with numerous satellite stocks…. Valley exposures of granite between ridges of hornfelsed and hydrothermally altered country rock, and (in places) gently dipping intrusive contacts, attest that the Seagull-Thirtymile granite is barely unroofed. It also carries large pendants" (Liverton et al., 2005, p. 154).

"The Seagull-Thirtymile granites are characterized by high silica content and biotite is the only ferromagnesian mineral. Appreciable hornblende is only present in the porphyry lithodeme of the Thirtymile stock (Liverton, 1990). The granite has an equigranular or slightly porphyritic texture. Potash feldspar grains typically overgrow quartz and plagioclase grains at their borders, indicating partial replacement (Poole, 1956). Biotite is commonly slightly altered to chlorite …areas of the granite are characterized by abundant cavities rimmed with quartz and black tourmaline, purple and green fluorite with rarer blue-green beryl and topaz. Li-rich micas in Thirtymile pluton were described by Liverton and

Alderton (1994). These are zones where late-stage volatiles were concentrated, and likely were the highest points in the intrusion, now exposed by erosion" (Liverton et al., 2005, p. 154).

"At the head of the Swift River, along the northeast edge of YTT, are several large pyrrhotite-galena-sphalerite lenses hosted in calc-silicate layers (Bar (better known as Dan), Atom, Bom, and Munson (better known as TBMB); Deklerk, 2003 105B 026, 027, 028, 029). Some exploration programs have investigated the possibility that the adjacent volcanic rock and tuffaceous textures could indicate a syn-sedimentary (volcanogenic) origin. Galena and pyrrhotite samples from these occurrences have lead isotopic ratios that are midway between clearly epigenetic veins, and probable volcanogenic deposits in YTT, however, their modal age is broadly mid-Triassic to mid-Jurassic (Mortensen and Gabites, 2002)" (Liverton et al., 2005, p. 161).

"Cretaceous plutons of the Seagull-Thirtymile trend were the focus of considerable exploration activity during the late 1970s as the price of tin briefly soared. Among the most explored properties were the JC, a 600-m-long tin skarn (105B 040, Deklerk, 2003) and the nearby MC sheeted tin- and sulphide-bearing veins (Mato et al., 1983; 105B 088 (called Smith), Deklerk, 2003). At the JC, tin was precipitated in an early stage within andradite skarn, but later replaced by cassiterite within 90 m of the top of the granite (Layne and Spooner, 1991). At MC, cassiterite coats 'dry' (lacking quartz) fractures in country rock (DIAND, 1981, p. 150)" (Liverton et al., 2005, p. 161).

"The Cretaceous (113 to 98 Ma) meta- to peraluminous granites are late orogenic incipient 'A-type' plutons from highly fractionated F- and Cl-rich magmas. These generated extensive hydrothermal systems that produced tin, tungsten, molybdenum and beryl occurrences" (Liverton et al., 2005, p. 147).

The Cretaceous granites "… are silica- and iron-rich. The K_2O/Na_2O ratio is high, Rb is very high (in the most fractionated samples), and high field-strength elements are enriched in these rocks relative to chondrites, except for Ba, Sr, Ti and P…. Following the discussion by Creaser et al. (1991) the Seagull-Thirtymile granite could be derived from an igneous source within the lower continental crust, such as a partial melt of granodiorite to tonalite residue from previous magmatic episodes. This may explain the parallel geometry of the Seagull-Thirtymile granite with both Jurassic and Permian Ram Stock precursors" (Liverton et al., 2005, p. 162).

"The unusual character of the Seagull-Thirtymile granite reflects late-stage fractionation when halogen concentrations rose quickly toward the end of crystallization. This fortunate occurrence mobilized the metals and resulted in a high incidence of mineral showings. The degree of fractionation of granite samples indicated by normative minerals, Ga/Al, Rb/Zr or Rb/Sr ratios, could be used as an exploration tool" (Liverton et al., 2005, p. 162).

A map showing 1:50000 geological mapping in the central part of NTS map area 105B/03 (the project target area), from Roots et al. (2004), is shown in Figure 6a. The legend for Figure 6a, which also serves as a stratigraphic chart for the area, is shown in Figure 6b. The map of Roots et al. (2004) is presented as this map and the corresponding unit descriptions represent the most detailed government bedrock geological information available for the area. However, although the locations of bedrock units and unit descriptions provided by Roots et al. (2004) remain valid there have been significant revisions regarding the ages of some units and their terrane affiliations based on newer data and interpretations. The more recent geological interpretations are captured in the 1:1 million Yukon bedrock geology map (Colpron et

al., 2016), the pdf version of the Yukon bedrock geology map for NTS map area 105B at 1:250000 (Yukon Geological Survey, 2019), and the digital (shapefile) version of the Yukon bedrock geology map (complete), which is suitable for 1:1 million viewing (Yukon Geological Survey, 2018). The map legend/stratigraphic chart presented in Figure6b shows the unit names and descriptions of Roots et al. (2004) along with the corresponding unit names from the 1:250000 and 1:1 million maps (Yukon Geological Survey (2018 and 2019). Age assignments, terrane affiliations and unit names follow Colpron et al. (2016) and Yukon Geological Survey (2018).

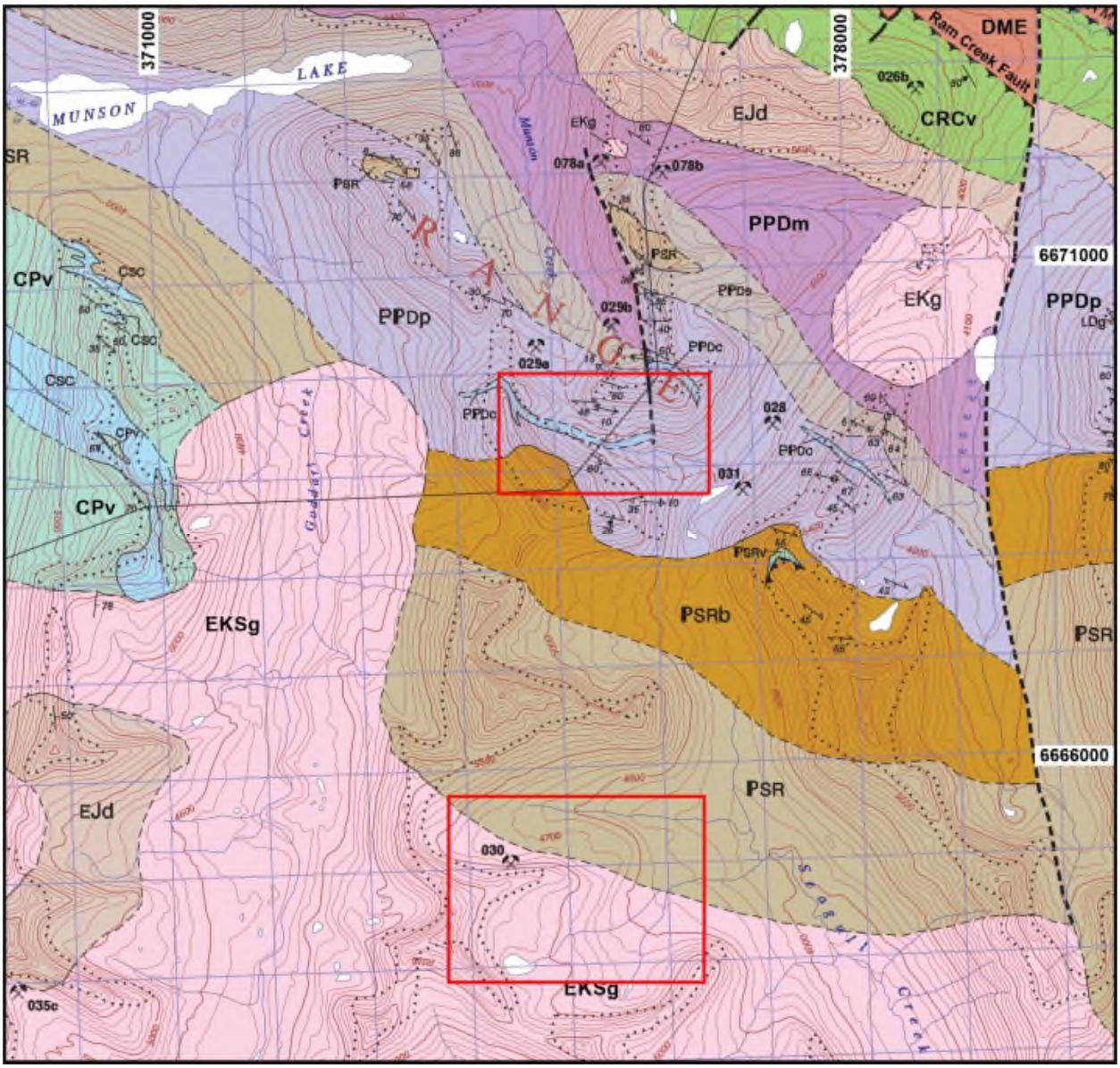

Figure 6a. Geology map of the central part of NTS map area 105B/03 (Roots et al., 2004). Exploration areas (2019) shown by rectangles with red perimeters (Rusty Valley area to the north and Partridge occurrence area to the south). Coordinates: UTM, NAD83, Zone 9.

1:50k Unit	1:50k Description	1:250k Unit	1:1 Mil Unit	Terrane
Mid-Cretaceous				
Seagull Batholith				
EKSg	Seagull Batholith: Biotite granite, granodiorite leuco-quartz monzonite, alaskite.	mKqS	mKS	
Cassiar Suite				
EKg	Biotite granite, granodiorite leuco-quartz monzonite, alaskite.	mKqC	mKC	
Early Jurassic				
Long Lake Suite, Brock Intrusion				
EJd	Hornblende diorite and quartz diorite; minor biotite hornblende quartz monzonite.	EJgL	EJL	
Middle Mississippian to Lower Permian				
Klinkit Group				
CPv	Volcanic fragmental member: Undifferentiated meta-tuff and volcanic breccia of intermediate composition; minor chloritic meta-sandstone and meta-siltstone 'dust-tuffs'.	CK1	CK	Yukon-Tanana
Klinkit Group, Screw Creek Formation				
CSC	Screw Creek Limestone: Thin-to thick-bedded, light grey weathering, commonly bioclastic limestone and dolomitic marble; minor maroon phyllite and bedded green chert.	CK2		
Upper Devonian to Lower Mississippian				
Finlayson Group (Swift River Group of Roots et al., 2004)				
PSR	Dark coloured quartz-plagioclase grit, meta-sandstone; minor phyllitic argillite, quartzite, conglomerate, limestone and chloritic meta-tuff, carbonaceous siltstone, grey chert and volcanic breccia (intermediate composition).	DMF3	DMF	Yukon-Tanana
PSRb	Black to grey, thin- to thick-bedded chert and siliceous phyllite with prominent grey to white clean quartzite.			
PSRv	Chloritic andesitic intrusions, breccia and tuff; green siliceous argillite.			
Ram Creek Complex				
CRCv	Chloritic meta-basalt and meta-tuff of intermediate to mafic composition; minor volcanic meta-sandstone; typically sheared.	DMF1		
Upper Devonian and Older				
Snowcap Group (Dorsey Complex of Roots et al., 2004)				
PPDp	Upper Dorsey unit: Red-brown weathering phyllite, grey phyllite and quartzite, grey metachert and felsic metatuff	PDS1	PDS	Yukon-Tanana
PPDc	Beige-weathering marble and limestone, brown calc-silicate rock.			
PPDs	Biotite ± garnet schist, quartz meta-grit, minor marble.			
PPDm	Lower Dorsey unit: Hornblende schist and gneiss, locally contains felsic leucosome with amphibolite.	PDS3		
East of Ram Creek Thrust Fault				
Upper Devonian to Lower Mississippian				
Earn Group				
DME	Recessive, carbonaceous shale and slate, locally phyllitic.	DMEC1	DMEC	Cassiar

Figure 6b. Legend for Figure 6a and stratigraphic chart for the project area (central part of NTS map area 105B/03). After Roots et al. (2004), Colpron et al. (2016), Yukon Geological Survey (2018) and Yukon Geological Survey (2019). See text for details.

Exploration History

History of the Strata Creek – Munson Creek Area

1947: Hudson Bay Mining and Smelting Company Limited undertook geological mapping and diamond drilling on their BOM claims, which encompassed what are now known as the Mod and Munson occurrences (Hudson Bay Mining and Smelting Company Limited, 1947). A diamond drill program was carried out … "with 1993 m in 18 holes drilled on the Mod prospect and 962 m in 9 holes on the Munson prospect" (Pautler, 2007, p. 3). Two holes (7B and 8B) were drilled by Hudson Bay holes in their No. 3 showing area located roughly 900 ft (274 m) almost directly north of Mun Pass (on the BOM No. 16 and BOM No. 13 claims). A small trench in this area is shown to contain 0.02 oz/ton Au, 3.32 oz/ton Ag, 3.9% Pb and 5.2% Zn. Drill hole sections of holes 7B and 8B show both holes to contain intervals of "sl. min" but no assay data are provided (Hudson Bay Mining and Smelting Co. Ltd., 1947).

1968: Boswell River Mines Ltd. conducted a program of grid soil geochemistry (89 samples analyzed for Pb, Zn) and induced polarization geophysics, two diamond drill holes (253m) and seven trenches in the Strata Creek area (McLeod and Sevensma, 1969).

1978: Geological mapping and geochemical sampling by Amax Potash Limited (Hodgson, 1978).

1979-80: Geological mapping, rock, soil and stream silt geochemistry undertaken by J.C. Stephen Exploration Ltd. for the DC Syndicate (Dome and Cominco; Stephen, 1981a and b) .

1990: "Trenching … immediately southwest of Mod showing, by H. Hibbing" (Pautler, 2007, p. 3).

2006: "A total of 8 man-days were spent on the Strata property between July 9 and 16, 2006. The 2006 work program consisted of mapping with concurrent geochemical sampling. Old trenches, drill sites and workings were evaluated, located and surveyed in by GPS" (Pautler, 2007, p. 4).

History of the Partridge Showing Area

1979: “Klinkit JV conducted mapping and sampling” (Liverton and Mann, 2013, p. 5).

1982: “Klinkit JV conducted mapping and sampling, VLF EM and mag surveys” (Liverton and Mann, 2013, p. 5).

1983 “Klinkit JV performed bulldozer trenching in 1983” (Liverton and Mann, 2013, p. 5).

1984: “Klinkit JV drilled 6 holes (248 m)” (Liverton and Mann, 2013, p. 5).

1992: Grant Stewart performed roadwork in the area of the Partridge occurrence in September of 1992 (Liverton and Mann, 2013).

2009: “Late in the 2009 summer season three days were spent … in geological mapping and sampling of the eastern part of the Seagull batholith…. That work identified a sheeted vein system that appears to be a new mineral occurrence” (Liverton, 2011, p. 1).

2010: “With the assistance of a YMIP Focused Regional grant during September 2010 the mineralized system was investigated for its cassiterite – tantalite and possibly gold potential. The fieldwork consisted of two parts: collection of heavy mineral concentrates from the streams (tantalite-columbite has a similar density to that of cassiterite and might be expected to be concentrated in the stream bed) and mapping of the Seagull batholith around the VAL prospect, with examination of outcropping joint/vein systems” (Liverton, 2011, p. 1).

2013: Work in the Partridge showing area in 2013 “… consisted of detailed mapping of the granite contact around the south side of the Val pendant with sampling of skarn exposures…. Hand specimens were semi-quantitatively analysed using a portable XRF instrument” (Liverton and Mann, 2013).

2014: YMEP project to “…investigate the possibility of economic concentrations of rare metals (rather than the traditional gold deposits sought in the Yukon) in placers at the headwaters of Seagull Creek” (Liverton, 2015, p. 1). “The active stream sediments and recent alluvial benches at the headwaters of Seagull Creek all carry some heavy minerals that include cassiterite, columbite-tantalite or fergusonite and monazite plus tungsten minerals. Quantities, however, are under one tenth of that required for economic placer extraction” (Liverton, 2015, p. 7).

Project Area Geology and Mineralization

The project area is centered about 15 km north of the settlement of Swift River, which is located on Alaska Highway approximately 140 km east of Watson Lake (Figure 2). The area is drained by the Seagull Creek to the south, Goddart Creek to the west, Munson Creek to the north and the South Branch of Swift River to the east (Figure 7).

The bedrock geology of the project area is dominated by supracrustal rocks of the Devonian to Permian Yukon Tanana Terrane with granitic rocks of the Mid-Cretaceous Seagull Batholith to the southwest (Figure 6a and 7). One large and several smaller granitic bodies intrude into rocks of the Yukon Tanana Terrane northeast of the Seagull Batholith. Various researchers have considered these to be offshoots of either the Seagull Batholith or to be part of the slightly older Cassiar Suite. Mineral occurrences shown in Figure 7 are discussed in the pages that follow.

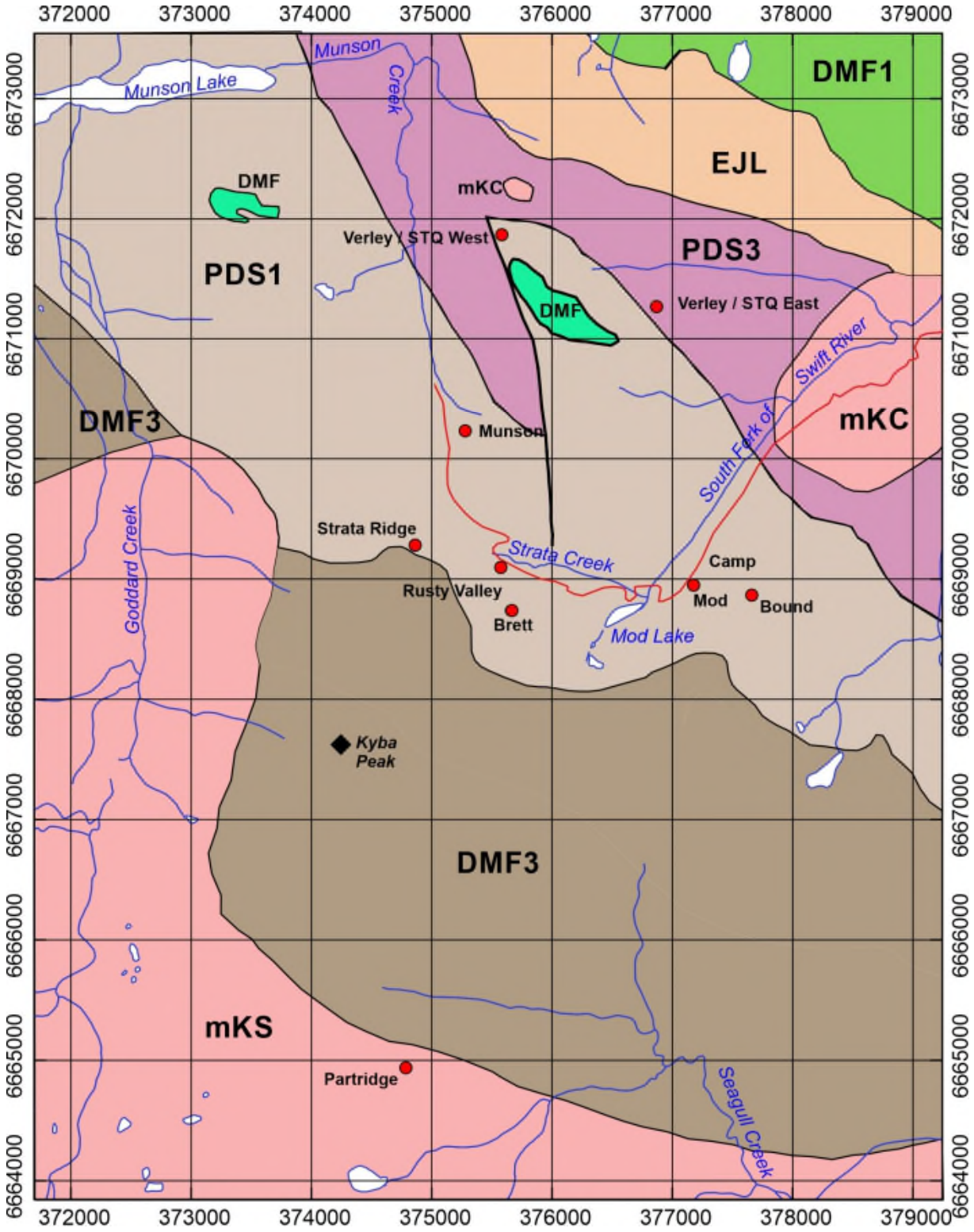

Figure 7. Project area geology and mineral occurrences (red dots). Geology from Yukon Geological Survey (2018). See Figure 6b for geological legend (see 1:1 million and 1:250000 unit codes). Exploration in 2019 focused on the Rusty Valley – Strata Ridge area and the Partridge occurrence area. Mod Lake, Strata Creek, Strata Ridge and Kyba Peak are informal names. Road (trail) is shown in red. Coordinates: UTM, NAD83, Zone 9V.

Strata Creek Area – Geology and Mineralization

The small lake situated at 376600E and 6668700N (NAD 83, Zone 9) near the headwater of the South Fork of the Swift River is informally named Mod Lake. The southeast flowing stream that enters the South Fork of the Swift River just northeast of Mod Lake is informally named Strata Creek and the northwest trending ridge west of Strata Creek is informally named Strata Ridge (Pautler, 2007). The Strata Creek – Strata Ridge area is underlain mainly by the Upper Dorsey stratigraphic unit (Roots et al., 2004) which is part of the Snowcap Group (Colpron et al., 2016), which was formerly known as the Dorsey Complex (Roots et al., 2004). The Upper Dorsey unit consists of red-brown weathering phyllite, grey phyllite and quartzite, grey metachert and felsic metatuff (Roots et al., 2004). Within the Upper Dorsey unit are narrow band of beige-weathering marble and limestone ± brown calc-silicate rock (Roots et al., 2004). The overall stratigraphic trend in the area is northwesterly with dips toward the southwest (Roots et al., 2004).

A geology map of the Mod Lake – Munson Creek area (including the Strata Creek area), based on mapping by Charlie Roots and Tim Liverton in 2000, is presented by Liverton and Casselman (2018) and parts of it are reproduced in this report in Figure 17. More structural complexity, including considerable folding and a thrust contact at the top of the Upper Dorsey unit, is shown on this map than on the map of Roots et al., (2004).

“Base metal-silver prospects have been known to exist in the upper Swift River region since 1946. These prospects, occurring in Yukon-Tanana terrane, have been previously described as isolated skarn occurrences and have hitherto received limited prospecting attention. Exploration work at the Mod property in 2016 has indicated that the sulphide mineralization is deformed (hence it predates the adjacent Cretaceous Seagull batholith) and that it demonstrates textures that are not consistent with a skarn origin. If, indeed, this mineralization is of exhalative origin then a large region of Yukon-Tanana terrane becomes prospective for mineralization similar to that of the Finlayson VMS district” (Liverton and Casselman, 2018).

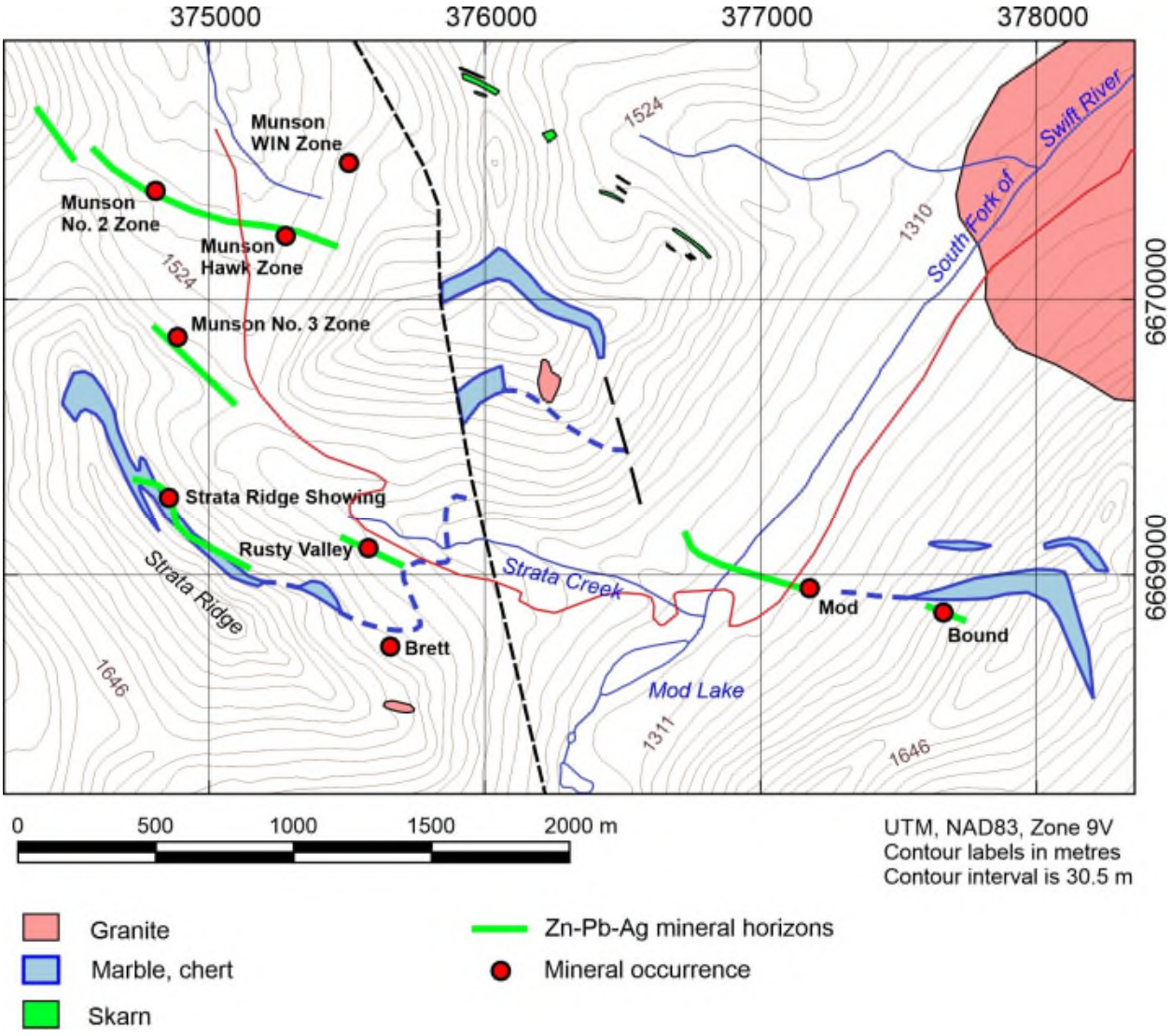

Figure 8. Map of the Mod Lake area showing selected geological features. Distribution of granite and marble from Liverton and Casselman (2018). Distribution of skarn from Hodgson (1978). Distribution of Zn-Pb-Ag mineral horizons from Pautler (2007). Road (trail) shown in red.

Rusty Valley Occurrence

The Rusty Valley occurrence lies northwest of Mod Lake on the south side of Strata Creek (Figure 7).

Trenching: "Seven trenches were completed by Boswell River Mines Limited in 1968, but nine trenches are shown on the 1978 geology map of Amax Potash (Hodgson, 1978). Several trenches were located on Strata 16 and the adjacent Strata 18 claim, which may have been excavated by Hibbing in 1990. The trenching by Boswell uncovered mineralized float assaying 9.2% Pb+Zn, 6.5 oz/ton Ag (McLeod and Sevensma, 1969). Mineralized float and ferricrete were observed in many of the trenches … but not sampled …" (Pautler, 2007, p. 16).

Drilling: Boswell River Mines Ltd. completed two AQ diamond drill holes targeted on the Rusty Valley occurrence (McLeod and Sevensma, 1969). Hole RV #1 was drilled at a bearing of 195° with an inclination of -50° for 712 feet (217.0 m). Hole RV #2 was drilled from the same location and with the same bearing and an inclination of -75° for 118 feet (36.0 m). Pautler (2007) determined that the collar locations of these two holes, based on field observations, are at UTM coordinates 6669098mN, 375575mE. The occurrence location for the Rusty Zone shown in Figures 7 is based on these coordinates. A summary of drill hole intersections is provided in Table 1.

DDH	From	To	Width	Ag (oz/ton)	Pb (%)	Zn (%)
RV# 1	68.2 ft (20.8 m)	105.5 ft (32.2 m)	37.3 ft (11.4m)	0.15	0.14	5.97
including	68.2 ft (20.8 m)	77.0 ft (23.4 m)	8.8 ft (2.7 m)	0.21	0.29	7.05
and	82.5 ft (25.1 m)	90.5 ft (27.6 m)	8.0 ft (2.4 m)	0.20	0.16	11.71
and	94.5 ft (28.8 m)	105.5 ft (32.2 m)	11.0 ft (3.4 m)	0.21	0.15	6.08
RV# 2	83.5 ft (25.4 m)	92.0 ft (28.0)	8.5 ft (2.6 m)	no geochemical analysis (massive magnetite)		

Table 1. Summary of intersections in drill holes RV #1 and RV # 2 (McLeod and Sevensma, 1969).

A sample collected in 1980 from the magnetite zone in hole RV #2 indicates that the magnetite contains elevated amounts of tin. “A sample from drill core Box 3, Hole RV-2, 82'-88' contained magnetite and ran 760 ppm Sn, 1 ppm W, 1.3 ppm Ag and 10 ppm Cu” (Stephen, 1981b).

The core log covering the mineralized interval in the hole RV #1 is reproduced in Table 2.

From (ft)	To (ft)	Remarks
0	30.0	Overburden.
30.0	67.0	Quartzite with interbedded phyllites.
67.0	78.0	Alteration zone, at 77.8 feet mineralization in the form of sphalerite, minor galena, also possibly some wolframite? Some light brown garnets were found in places.
78.0	82.5	Crystalline limestone.
82.5	90.5	Alteration zone with mineralization as bands of disseminated sphalerite, possibly some wolframite? And galena at both top and bottom contact.
90.5	94.6	Crystalline limestone.
94.6	104.0	Alteration zone. Mineralization occurs as sphalerite, wolframite? And galena at 94.6 feet and 101.6 to 102.2 feet. Pyrrhotite, sphalerite and magnetite occur from 103.3 to 104.0 feet.
104.0	115.0	Alteration zone with pyrrhotite, sphalerite, magnetite (banded) from 107.0 to 108.5 feet. Just pyrrhotite at 109.5 feet.
115.0	214.0	Interbedded phyllites and quartzites. 1” pyrrhotite at 139.0 feet and small amounts of disseminated pyrrhotite throughout this section

Table 2. Part of diamond drill hole RV #1 core log covering mineralized interval (McLeod and Sevensma, 1969).

Despite the observation of possible wolframite in the core there is no indication of W analyses in the accompanying report by McLeod and Sevensma (1969).

Boulder Sampling: Several samples collected from float boulders in the Rusty Valley and Mod Lake areas returned significantly anomalous metal values including result of 4.16 g/t Au, 20.5 g/t Ag, 0.659% Cu and 3.1% Zn (Table 3; De Paoli, 1998).

Sample	Location	Lithology	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)
98R-022	Rusty Valley	massive po	4160	4.3	1407	39	117	69
98R-061	Mod Lk. (south)	quartzite with asp	877	20.5	6590	42	486	>10000
98R-002	Mod Lk. (north)	quartz-po	308	3.2	1604	31	174	18
98R-024	Mod Lk. (north)	siltstone with po	274	2.3	1456	32	294	2085
98R-016	Rusty Valley	massive actinolite	149	3.7	542	230	31000	5

Table 3. Significant results from float boulder samples collected in the Rusty Valley and Mod Lake areas (De Paoli, 1988; sample prefix SR not shown; po = pyrrhotite, asp = arsenopyrite).

A sample of float collected in the Rusty Valley area in 1968 returned 0.13% Cu, 1.6% Pb, 4.6% Zn and 6.5 g/t Ag (McLeod and Sevensma, 1969, Table 1). No additional information was provided regarding the sample location.

Soil Sampling: Soil sampling in the Rusty Valley area in 1968 outlined a pronounced zinc-lead anomaly approximately 750 m long and 250 m wide with the long axis trending northwest. Soil samples returned values of up to 3800 ppm Zn and 5500 ppm Pb (McLeod and Sevensma, 1969). The anomaly is open to the northwest.

Geophysics: Within the Rusty Valley occurrence area an "… I.P. survey was conducted over baseline "4" and the accompanying gridlines. The survey was run at three different electrode spacings: 400 feet, 200 feet, 100 feet. The results at the various spacings are consistent and on lines 12+00 E and 28+00 E … a corresponding resistivity and chargeability response is evident" (McLeod and Sevensma, 1969, p. 11).

Location of Holes RV #1 and RV #2 in Relative to soil and I.P Anomalies: The "X" marking the Rusty Valley occurrence on Figures 9 and 10 is has been positioned at the collar location of holes RV #1 and RV #2, which were drilled in a southerly direction. The location is based on GPS field data obtained on the collar locations by Pautler (2007). A map accompanying McLeod and Sevensma (1969) shows the collars for these hole collars about 80 m to northeast near the road. Holes drilled in a southerly direction from either location would have missed the I.P chargeability anomaly and the main soil anomaly trend.

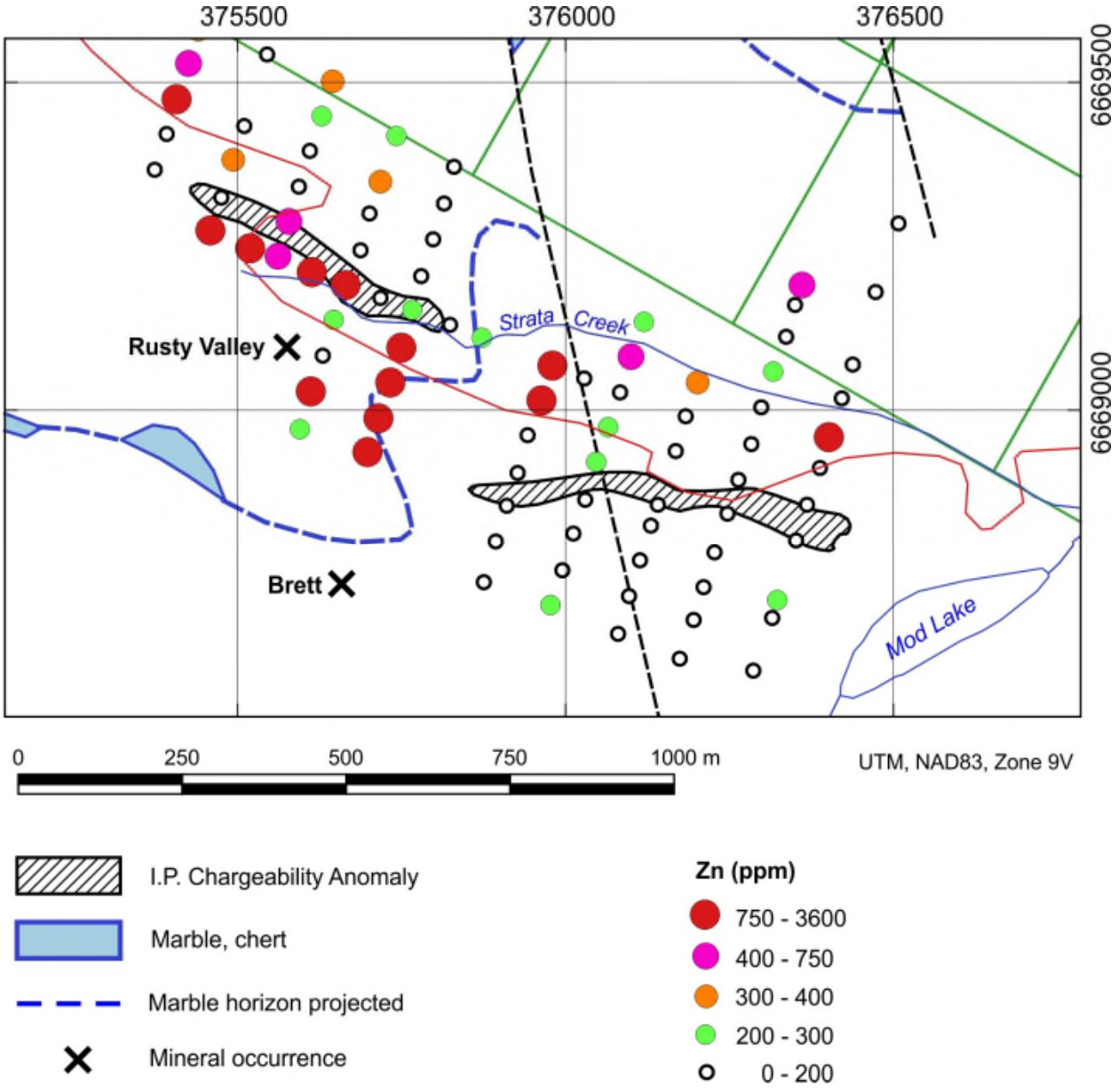

Figure 9. Zinc soil survey in the Strata Creek area (soil and I.P. data from McLeod and Sevensma, 1969). Distribution of marble is from Liverton and Casselman (2018). The "X" marking the Rusty Valley occurrence is located at the collar location of holes RV #1 and RV #2. Quartz claims in good standing at the end of 2018 are shown in green. The road (trail) is shown in red.

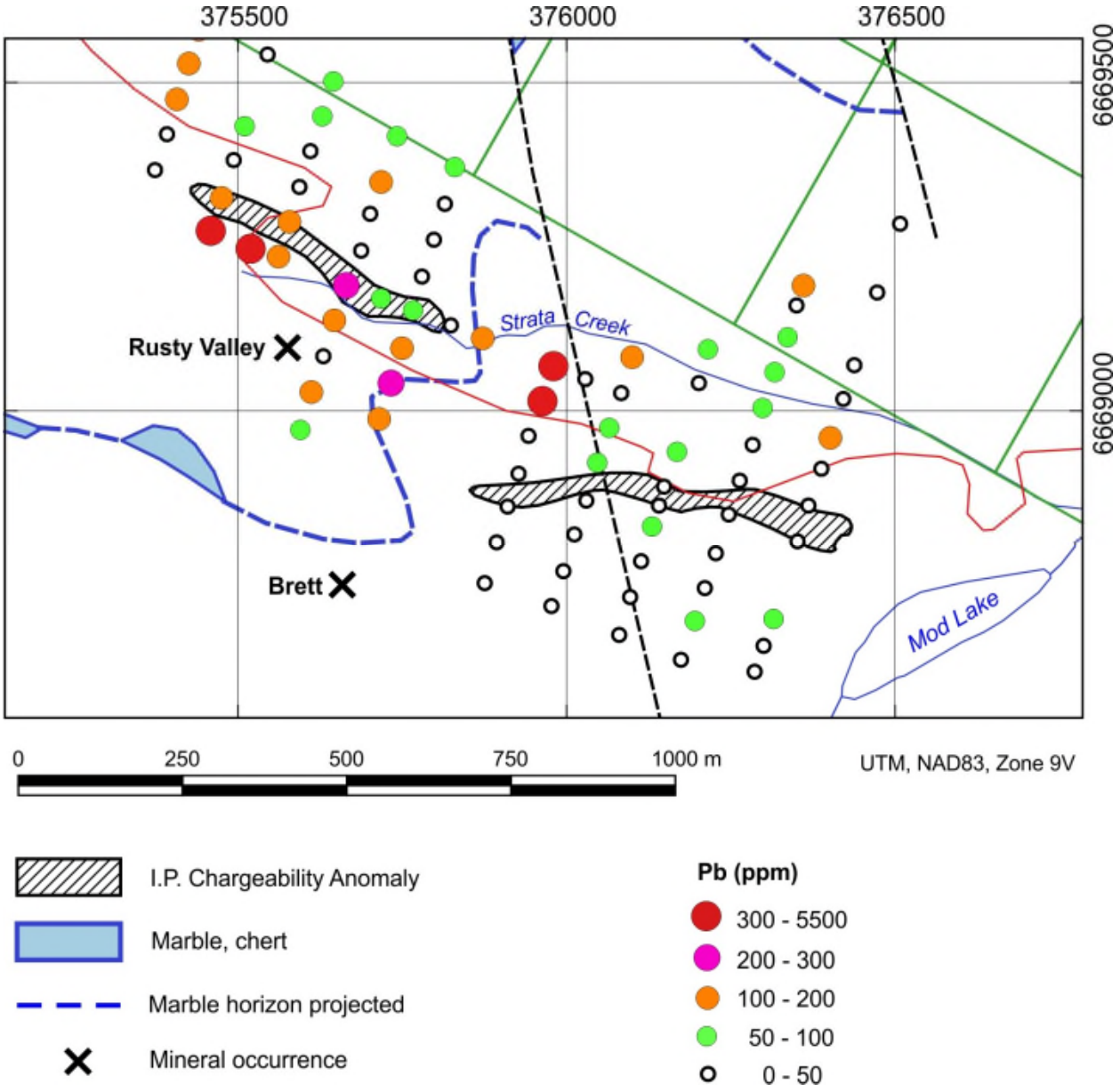

Figure 10. Lead soil survey in the Strata Creek area (soil and I.P. data from McLeod and Sevensma, 1969). Distribution of marble is from Liverton and Casselman (2018). The "X" marking the Rusty Valley occurrence is located at the collar location of holes RV #1 and RV #2. Quartz claims in good standing at the end of 2018 are shown in green. The road (trail) is shown in red.

Brett Showing

The Brett showing "… was discovered in 1998 approximately 230 meters stratigraphically above and to the south of the Rusty Valley showing. The Brett showing is a small gossanous outcrop of sphalerite and galena mineralization with associated marble and massive garnet hornfels" (De Paoli, 1998, p. 6).

The Brett Showing, located in 1998, is located "… at 375768E, 6668541N, and 5191 feet (1582.6 meters) elevation. The showing is approximately 250 meters south and 300 feet above the drill pad for the two 1968 Boswell River Mines Ltd. diamond drill holes" (De Paoli, 1988, p. 7).

> *Note: Based on the distance from the 1968 drill holes it is likely that NAD27 coordinates have been provided. The corresponding UTM NAD83 (Zone 9V) coordinates are 375660E, 6668736.*

"The showing is a poorly exposed outcrop of medium grained quartz-pyrrhotite-actinolite-sphalerite-calcite-galena approximately one meter thick hosted in an argillaceous quartz-muscovite schist (rhyolite schist). Foliation/bedding is at 138°/38°S. A 2–3 meter thick white marble with thin actinolite stringers immediately underlies the mineralization. The observed strike length of the mineralization is approximately 1.5 meters, with talus debris on both the east and west side of the showing, as well as above and below it" (De Paoli, 1988, p. 7). Maximum values form three grab samples include 9.3% Zn, 0.39% Pb and 30.8 g/t Ag (Table4). The samples also returned elevated amounts of tin (352 to 567 ppm Sn).

Sample	Zn (%)	Pb (ppm)	Cu (ppm)	Au (ppb)	Ag (ppm)	Mn (ppm)	Sn (ppm)	Fe (%)	Ca (%)
SR98R-006	9.3	2090	1716	22	30.8	5454	359	28.4	3.43
SR98R-007	2.7	3741	288	60	8.2	11886	352	30.7	0.52
SR98R-072	0.45	3948	149	20	6.2	5936	567	31.7	1.39

Table 4. Brett showing grab sample results (De Paoli, 1988).

Strata Ridge Showing

"Another sphalerite bearing skarn horizon is exposed in the cliffs on the north side of Strata Ridge (Samples 47737, 38). The zone was traced by talus boulders over a distance of approximately 400m. A sphalerite rich quartz vein was observed crosscutting the skarn (Sample 47740)" (Pautler, 2007, p. 8).

"Sphalerite bearing skarn talus boulders below an exposure of rusty cliffs on the north side of Strata Ridge returned results of 8.1 g/t Ag, 5.34% Zn and 778 ppm Pb (Sample 47738) and 1.73% Zn (47737)" (Pautler, 2007, p. 9). A quartz vein containing siderite, sphalerite and trace amounts of galena observed crosscutting the skarn returned 9.4 g/t Ag, 19.3% Zn and 664 ppm Pb (Sample 47740).

"Talus fine sampling was useful in tracing the skarn horizon exposed in the rusty cliffs on the north side of Strata Ridge…. The talus fine sampling indicates that the skarn horizon extends for 400m based on the highly anomalous talus fines from Samples 47736, 39, 41 and 42. Samples 47743 and 47752 are more weakly anomalous but may be further from source. If Sample 47752 is an indication of a mineralized zone above, then the strike extent would be close to 1 km (Pautler, 2007, p. 10).

Sample	Ag (g/t)	Zn (ppm)	Pb (ppm)
47736	1.5	2108	188
47739	1.4	1602	222
47741	1.9	1472	526
47742	3.1	1177	690
47743	1.6	754	206
47752	1.3	754	250

Table 5. North Strata Ridge talus fine-fraction sample results (Pautler, 2007).

The geology map of the Mod Lake – Munson Creek area (Liverton and Casselman, 2018 based on mapping by Charlie Roots and Tim Liverton in 2000) shows a folded, generally northwest trending band of marble and brown weathering chert that likely corresponds, in part, with the Strata Ridge showing.

Munson (TBMB), Mod, and Bound Occurrences

The Munson (TBMB), Mod (BOM) and Bound occurrences are believed to occur along the same northwest trending band of limestone/marble within the Snowcap Group (Figure 8). The distance between the Munson and Bound occurrences is about 3 km. This mineralized trend lies roughly 1 km northeast of the Rusty Valley occurrence. "Mineralization includes sphalerite and galena, along with significant silver and gold, in laminated pyrrhotite" (De Paoli, 1998, p. 6). "A marble unit adjacent to the obvious mineralization is traceable between the TBMB, MOD and Bound occurrences, with some obvious, but relatively minor, displacement by faults" (Liverton and Casselman, 2018, p. 105).

Munson (TBMB)

"Skarn or replacement type deposits are present at the Munson prospect located in the upper valley of Munson Creek at an elevation of about 1500 metres (5000 feet). The mineralization consists of heavy iron and manganese stained diopside rich rock with brown sphalerite, coarse crystalline galena, pyrrhotite, and traces of arsenopyrite. In one place, the Hawk Zone, mineralization consists of almost massive magnetite with minor sphalerite. The deposits are parallel to the foliation of the enclosing rocks, striking about N 70°W and dipping about 50°S" (Coombes and Smith, 1987, p. 15). "Chlorite-amphibole gangue mineral assemblages are seen" (Liverton and Casselman, 2018, p. 105).

"At the Munson prospect there are often silver bearing galena veins associated with the skarn mineralization. The presence of silver-rich galena, which post-dates the pyrrhotite, as well as intense clay alteration and manganese staining, indicates that hydrothermal solutions have migrated along fractures within and around the earlier pyrrhotite, sphalerite-rich skarn deposits. The elevated silver values are related to the hydrothermal veins and not to the skarn mineralization. The full extent of the silver-rich hydrothermal veins is still unknown as they are recessive weathering and are often covered by a very hard gossan capping of cemented boulders and cobbles" (Coombes and Smith, 1987, p. 15).

Some of the better silver values from the No. 2 zone of the Munson prospect include (i) grab samples of galena in clay zones containing 120, 114, and 113 oz/ton Ag, (ii) 24.7 oz/ton Ag from a 2.1 m gossan cap channel sample and (iii) 22.3 oz/ton Ag from a 1.3 m gossan cap channel sample.

MOD (BOM) and Bound

"The MOD showing is exposed for a strike length of 170 m in two bulldozer cuts. Two locations, 140 m apart and 25 m vertically apart, have been cleaned to expose 2.2 m true thickness of sulphide in the northwestern ('lower') showing and 8.4 m thickness at the 'upper' showing. Mineralization may be traced to the southeast to the top of the ridge. Some 800 m along strike sphalerite-magnetite mineralization is found adjacent to a marble horizon at the Bound occurrence" (Liverton and Casselman, 2018, p. 107).

“The sulphide mineralization is layered on a decimetre scale and foliation is obvious in thin section. Pyrrhotite forms one layer of 20 cm thickness at either exposure. The sulphides are laminated into pyrrhotite, sphalerite/tetrahedrite, sphalerite/magnetite, and galena-rich layers which is consistent with the mineralization being of exhalative origin…. Mixed sulphide layers contain sphalerite, often with tetrahedrite along its grain boundaries, with galena, euhedral magnetite crystals and rare arsenopyrite. Centimetre-scale folding of the mixed sulphides shows varying plunge directions” (Liverton and Casselman, 2018, p. 107). The mineralization at the MOD occurrence is accompanied by a diopside/hedenbergite-epidote gangue mineral assemblage Liverton and Casselman, 2018).

“Channel sampling of the lower showing yielded an average grade of 7.49% Zn, 5.12% Pb and 8.4 oz/ton Ag over 2.2 m true thickness. The upper showing has not been systematically channel sampled, however ~10 kg blocks of coarse galena gave an assay of 41.6% Pb and 62.7 oz/ton Ag, and the fine-grained pyrrhotite-bearing sulphide assayed 5.61% Zn, 3.19% Pb and 7.8 oz/ton Ag” (Liverton and Casselman, 2018, p. 108).

“The finely laminated and highly deformed nature of the sulphides at the Mod property is inconsistent with this mineralization being a skarn produced by the Seagull batholith. The deformation has preceded the thermal metamorphism that produced calc-silicate gangue minerals…. The geological setting at the Swift River area is prospective for VMS formation: the area is underlain by an abundance of basinal metasedimentary rocks and felsic meta-volcanic rocks. The authors are of the belief that the mineralization is likely to be of exhalative origin that was coeval with deposition of the volcano-sedimentary units that are part of the Yukon-Tanana terrane. The mineralization at Mod appears to be of VMS-origin, making this a significant new region that is comparable to the Finlayson district and is prospective for Zn-Pb-Ag VMS deposits. Detailed mapping, rock geochemistry and petrography are recommended to test this model” (Liverton and Casselman, 2018).

Partridge [VAL (A)] Occurrence Area – Geology and Mineralization

Mineralization discovered on the VAL (A) claims of Du Pont Exploration in the early 1980's corresponds closely to the location of the Partridge occurrence (Yukon Geological Survey Minfile). Tin mineralization is associated with skarn along the contact of a limestone roof pendant with rocks of the Seagull Batholith and also occurs in altered Seagull Batholith granite (Goad, 1980). Seven samples from the roof pendant and skarn area of the VAL (A) claims returned from 0.29% Sn to 2.00% Sn. A sample of highly altered Seagull Batholith granite with pervasive Mn staining and fluorite yielded 0.75% Sn. The mineral (or minerals) hosting the Sn was not identified (Goad, 1980). The mineralization occurs less than 1.5 km from the margin of the Seagull Batholith.

Goad (1980, p. 4) stated that the "… mineralization of the VAL (A) skarn zone appears to grade sufficiently high to be of interest …." but expressed uncertainty regarding the size and mineralogy of the tin bearing zone.

"The granite on either side of the Val marble pendant, which divides the two branches of Seagull Creek investigated in this work, shows E-W striking near vertical sheeted vein systems that carry cassiterite, much tourmaline and monazite …. Columbite-tantalite is also expected to be present in the veins and has been recognised in heavy mineral concentrates from below the Val cirques…. Country rocks to the north and east consist of polydeformed metasediments and metavolcanics of the Yukon-Tanana terrane (Liverton, 2015, p. 1).

The Val (Partridge) roof pendant consists of a marble unit that overlies a thin quartzite. "The marbles have been metamorphosed-metsomatised to skarn in various bedding-parallel layers and in discordant veins. At the granite contact high temperature skarns of melilite-garnet-diopside are developed, with actinolite skarn as the retrograde assemblage. At several disjointed localities along that contact greisenised skarn is also developed. This `wrigglite`- textured rock contains banded magnetite, phengite, fluorite, fluoborite and ludwigite-vonsenite. Cassiterite is associated with the magnetite-fluorite layers and may be present to >1% grade. Scheelite was also noted in outcropping actinolite skarn" (Liverton, 2015, p. 1-5).

"The skarns are developed around the southern side of the carbonate pendant across the dip slope within about 10m of the granite contact. Exposure is limited, but it is evident that the skarn is discontinuous along strike. Magnetite-rich skarn is found along the contact of the pendant at the eastern tip, at the centre and close to the western limit of the carbonate. It is difficult to assess the thickness of the skarn other than at the eastern end, but it does not exceed 3 metres at any one exposure …," (Liverton and Mann, 2013, p. 12).

Semi-quantitative analysis of a small number of hand specimens with a portable XRF unit returned values of up to 0.74% Sn and 3.18% W (Liverton and Mann, 2013). "It is notable (and economically significant) that the only tin mineral noted is cassiterite, rather than vonsenite, hülsite, burtite or nordenkiöldine, that would be metallurgically refractory" (Liverton and Mann, 2013, p. 8).

Sheeted vein systems occur in the region surrounding the Partridge showing and may contain greater amount of cassiterite and scheelite than is present as skarn mineralization (Liverton and Mann, 2013, p. 12).

Highly concentrated heavy mineral stream sediment samples collected below (east of) the Partridge showing in the headwaters of Seagull Creek and have returned values of up to >5% Sn, 1.24% W, 3.88% Nb, 0.61% Ta, 2.96% La, >5% Ce and 1.25% Nd (Figure 11; Liverton and Mann, 2013; Liverton, 2011). These results indicate the potential for the area to host deposits of Nb, Ta and rare earth element deposits (specialty metals) in addition to (or as co-products with) Sn and W. The amount of field material that underwent panning varied "… from ¾ to one 20l bucket full and the field panning collected a fairly 'dirty' specimen. These were panned again before shipment for analysis" (Liverton, 2011, p. 4; i.e. initial stream sediment volume of 15 to 20 litres was panned). After the two rounds of panning the "… concentrates represent ≤ 0.0l75% of the weight of the original sediments" (Liverton, 2011, p. 5). The weights of the heavy mineral concentrates varied from 0.565 g to 3.498 g (Liverton, 2011, Table 1).

Potential for Gem Mineralization Associated with the Seagull Batholith: "Blue beryl and danalite are found with quartz, blue tourmaline, fluorite, and green Fe biotite in a peripheral skarn (JC prospect Yukon MINFILE 105B 040). Though the skarn is some distance from the contact a lobe of the intrusion is intersected at depth in a diamond drill hole on the property. The Seagull batholith is fluorine rich, tin bearing and carries lithium micas (zinnwaldite and lepidolite) as well as tourmaline nodules. The nodules are of gemological relevance as some contain cavities lined with coarse crystals (Sinclair, 1983)" (Legun, 2005). The Seagull Batholith was identified by Groat in 1995 as displaying characteristics considered favourable for the formation of gem bearing and/or rare element pegmatites (Walton, L., 2004).

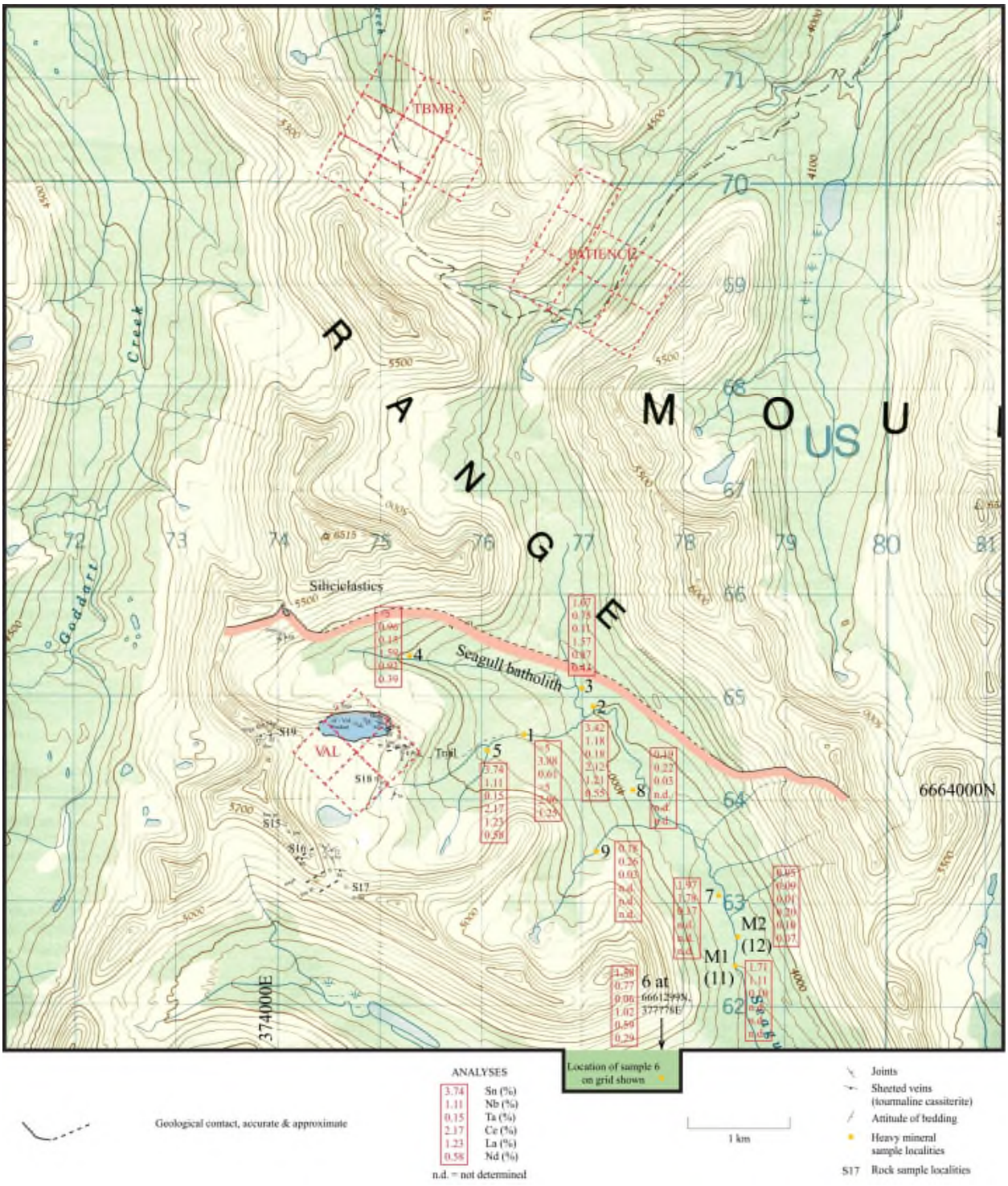

Figure 11. Stream sediment heavy mineral concentrate sample results in the Partridge (Val) occurrence area. Geological observations are also shown. From Liverton and Mann (2013). Heavy mineral sample results initially reported by Liverton (2011). Samples have undergone a very high degree of heavy mineral concentration.

2019 Exploration Program

Claim Staking

Twelve quartz claims were staked during the 2019 field program (Table 6 and Figure 12). All of the claims are registered in the Watson Lake Mining District to Glen Prior.

Strata Property: This is a group of 8 quartz claims (ST and MU claims) is located west of Mod Lake in the upper drainage area of the South Fork of the Swift River in NTS map area 105B/03.

Seagull Property: This is a group of 4 quartz claims (SG 1 to SG 4) located west of the upper part of Seagull Creek in NTS map area 105B/03.

Property	Claim Name	Tag Number	Recording Date
Strata	ST 1	YE86001	2019-08-16
	ST 2	YE86002	2019-08-16
	ST 3	YE86003	2019-08-16
	ST 4	YE86004	2019-08-16
	ST 5	YE86005	2019-08-16
	ST 6	YE86006	2019-08-16
	MU 1	YF52019	2019-09-06
	MU 2	YF52020	2019-09-06
Seagull	SG 1	YE86007	2019-08-16
	SG 2	YE86008	2019-08-16
	SG 3	YE86009	2019-08-16
	SG 4	YE86010	2019-08-16

Table 6. Quartz claims staked during the 2019 field program.

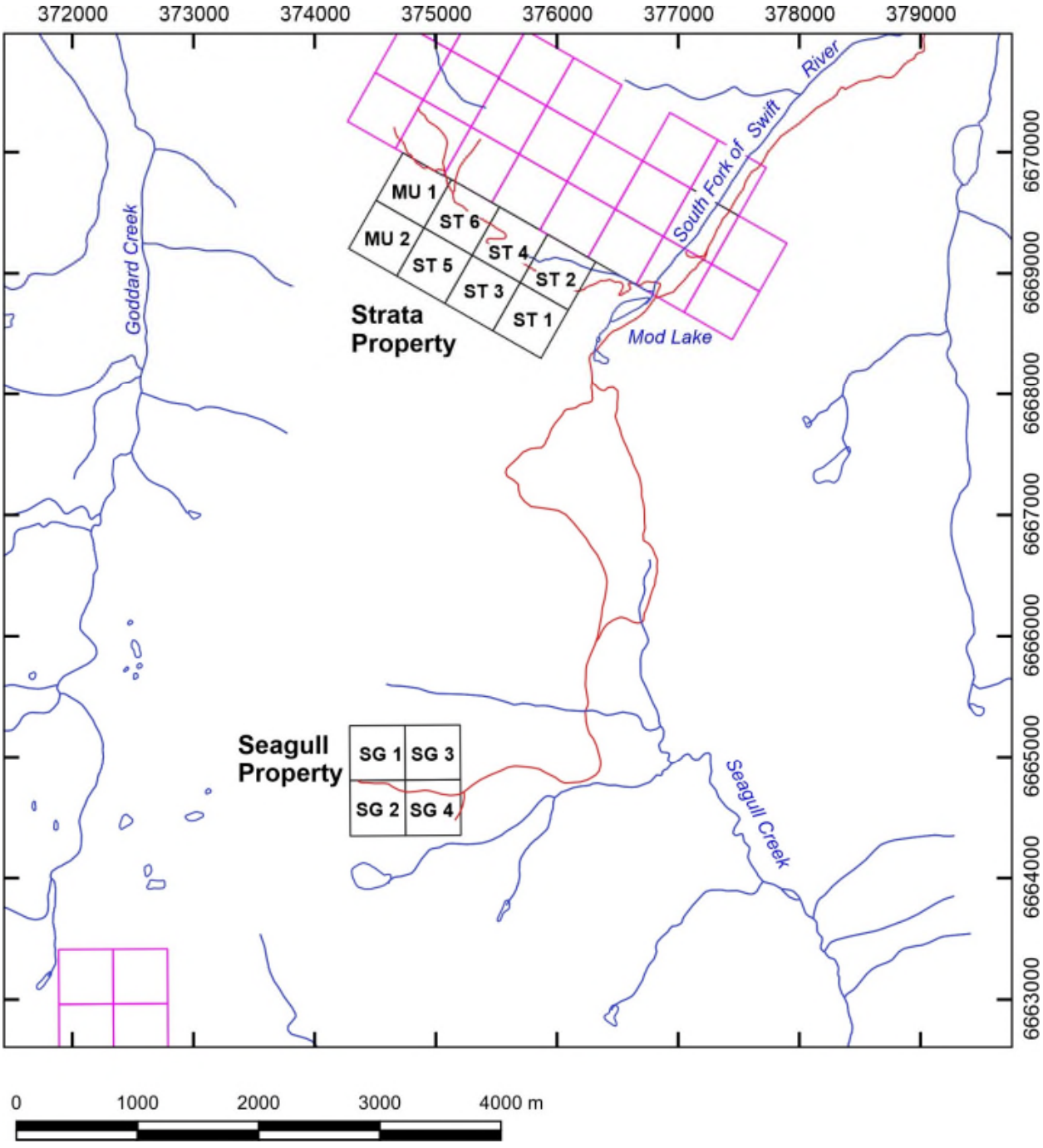

Figure 12. Map showing Strata property (ST and MU claims) and Seagull property (SG claims). Other claims shown in magenta. Roads (trails) shown in red.

Field Exploration Overview

Exploration field work on the Swift River project in 2019 included (i) stream silt sampling, (ii) stream heavy mineral concentrate (panned concentrate) sampling, (iii) talus fine-fraction and soil sampling, (iv) rock sampling, and (v) a limited amount of ground radiometric surveying.

Stream silt samples were collected partly or total from stream moss mats. Large pleated kraft sample bags were filled to maximum capacity to ensure enough silt was obtained for analyses. Sample weights varied from 40 g to 332 g after drying.

Heavy mineral concentrate (HMC) samples were collected near silt sampling sites if enough sand sized material was available. Heavy mineral concentration was achieved by field panning. Where possible, HMC sampling sites were selected where a drop in flow velocity occurs such as on the downstream side of mid-channel boulders. The sediment was collected from the stream bottom using a trowel. This material was sieved through a metal mesh screen with square openings 2.5 mm across and collected in a gold pan (sieving was undertaken with the pan and sieve held underwater and essentially all silt and clay are washed out of the sample during this process). A 36 cm (14") plastic Garrett gold pan (Garrett gravity trap) was used for panning. The inside diameter at the top of this pan is 34 cm, it is 7 cm deep, and has a flat, recessed bottom that is 15 cm across and 0.5 cm deep with near vertical sides. The pan has three riffles on one side. Sediment collection was stopped when the pan was about three quarters full – a volume of 1100 to 1500 ml (Figure 13). The sediment was then panned until the volume of material in the pan fit within the recessed bottom of the pan, which has a volume of approximately 100 ml (Figure 14). The initial sediment in the pan (before panning) was weighed in the field after as much water as reasonably possible had been drained from the pan. These initial weights ranged from 2.4 kg to 3.4 kg. After panning the HMC sample was collected in a large kraft sample bag and air dried. The weight of the dry HMC samples (which were sent for geochemical analysis) varied from 127 g to 201 g. The amount of heavy mineral concentration obtained by field panning was relatively modest. The weight fraction of the panned HMC sample relative to the initial stream sediment weight varied from 4% to 7%.

Soil profiles in the upper part of Rusty Valley (Strata Creek Valley) are poorly developed and typically consist of a thin Ah horizon over relatively undifferentiated mineral soil with no enriched upper-B horizon evident. Samples were collected with a long handled geotul (combined hammer and mattock) at depths of 15 to 40 cm and placed in a large, pleated kraft sample bag. The bags were filled to about 8 cm from the base and dry sample weights commonly ranged from 300 to 500 g. Nominal sample spacing was 50 m but his varied considerably due to the presence of absence of suitable soil. During field sampling clasts larger than 1 cm across were excluded from soil samples.

Talus fine-fraction samples were collected with a long handled geotul at depths of 0 to 30 cm and placed in a large, pleated kraft sample bag. The bags were filled to about 8 cm from the base and dry sample weights commonly ranged from 300 to 500 g. Nominal sample spacing was 50 m. During field sampling talus clasts larger than 1 cm across were excluded from talus fine-fraction samples.

Figure 13. Photo showing stream sediment in pan after sieving and before concentration by panning (heavy mineral concentrate sample SR701; 376236E, 6665434N, UTM NAD83 Zone 9V).

Figure 14. Photo showing stream sediment heavy mineral concentrate sample after concentration by panning (heavy mineral concentrate sample SR701; 376236E, 6665434N, UTM NAD83 Zone 9V).

Most of the 39 rock samples taken in 2019 were grab samples collected from boulder sized blocks of talus or trench rubble. Generally two samples were collected at each site – a sample for laboratory analysis and a representative sample to be retained. Samples submitted for geochemical analyses varied in weight from 161 to 1312 g with an average weight of 745 g.

Stream silt sample descriptions and heavy mineral concentrate sample descriptions are presented in Appendix 1, soil and talus fine-fraction sample descriptions are presented in Appendix 2, and rock sample descriptions are provided in Appendix 3.

A limited amount of ground radiometric surveying using a hand-held Saphymo Stel SPP2 scintillometer was undertaken along two traverses in the Partridge occurrence area. The SPP2 is equipped with a NaI scintillator and is designed to detect radioactivity above an energy threshold of 30 keV (commonly referred to as total radioactivity and includes radioactivity associated with potassium, uranium and thorium). Units of measurement are counts per second (cps), which are shown on an analogue display. It is powered by 3 D cell batteries. In order to facilitate field work, a wooden handle approximately 70 cm long was taped to the detector to make it easier to obtain readings at ground level. Radioactivity readings were recorded approximately every 5 or 10 m apart along the traverses. The location, lithology and exposure type (boulder or outcrop) were also recorded (Appendix 4). The ground between the recording sites was scanned with the scintillometer for anomalously radioactive rock.

All samples collected in 2019 were shipped to TSL Laboratories Inc. in Saskatoon, Saskatchewan where they underwent aqua regia digestion–ICP-MS analyses. In addition, all the silt, HMC, rock, and talus fine-fraction samples underwent four acid digestion–ICP-AES determinations at TSL. The two methods were employed to obtain reliable data for a broad suite of elements including (i) Au (aqua regia digestion) and (ii) Sn, W, Nb and La (near total determinations based on four acid digestions). After the initial analyses at TSL were reported samples were selected for Zn, Pb, Ag and Au assays. In addition, six selected rock pulps were sent from TSL to ALS Canada Ltd. in North Vancouver for additional determinations. Laboratory analytical results are presented in Appendix 5.

Location information was obtained using a Garmin GPSMAP 64st instrument. Location units are presented in the UTM NAD83 coordinate system (Zone 9V). Horizontal accuracy, as measured by the instrument, is generally within 3 m. The instrument does not display vertical accuracy but it is much poorer than horizontal accuracy.

Laboratory Methods

Laboratory Methods – TSL Laboratories Inc., Saskatoon

[Laboratory method descriptions provided by Mark Acres of TSL Laboratories Inc.]

Rock Sample Heavy Mineral Concentrate Sample Preparation

Samples received at TSL Laboratories Inc. in Saskatoon, Saskatchewan were opened, sorted and dried prior to preparation. Rock and HMC samples were crushed using a primary jaw crusher to a minimum 70% passing 10 mesh (1.70 mm).

A representative split sample was obtained by passing the entire sample through a riffler. The 250 gram sub-sample thus obtained was pulverized to a minimum 95% passing 150 mesh (106 microns).

Soil, Talus Fine-Fraction and Stream Silt Sample Preparation

Samples received at TSL Laboratories Inc. in Saskatoon, Saskatchewan were opened, sorted and dried prior to preparation. The samples were sieved to <80 mesh (<180 microns) prior to analysis.

Multi-Element Analysis by Aqua Regia Extraction and ICP-MS Determination

A 0.5 gram sample was digested with 3 ml of aqua regia (3:1 HCl/HNO_3) at 95°C for 1 hour and then diluted to 10 ml with deionized water. The solution was analyzed by inductively coupled plasma mass spectrometry (ICP-MS) for 36 elements. Aqua regia digestion may fail to liberate significant proportions of several of the reported elements (depending on sample mineralogy) including Al, B, Ba, Ca, Cr, Fe, Ga, K, La, Mg, Mn, Na, P, Sn, Sr, Th, Ti, V and W.

Multi-Element Analysis by Four Acid Extraction and ICP-AES Determination

Samples underwent four acid digestion using a combination of hydrochloric acid (HCl), nitric acid (HNO_3), hydrofluoric acid (HF) and perchloric acid ($HClO_4$). This digestion method is commonly referred to as 'near total' because hydrofluoric acid has the ability to dissolves silicate minerals. The resulting solution was analyzed for 35 elements by inductively coupled plasma emission spectroscopy. The four acid digestion may only partly liberate some elements including Al, Ba, Cr, Sn and Zr depending on sample mineralogy. Some loss of volatile elements such as As and Sb may occur.

Gold and Silver Assays: Gold and silver assays were determined on 29.16 g (1 assay ton) subsamples by fire assay procedure (production of Dore bead) followed by a gravimetric finish.

Lead and Zinc Assays: Samples that initially returned > 10000 ppm Pb and/or >10000 ppm Zn were submitted for assay determinations. A 0.5 g subsample underwent an analysis method utilizing four-acid (HNO_3-HF-$HClO_4$-HCl) digestion, large dilution and atomic emission spectroscopy.

Laboratory Methods – ALS Canada Ltd., North Vancouver

[Laboratory method descriptions provided by ALS Canada Ltd.]

Major Oxides (Method ME-ICP06): A prepared sample (0.100 g) is added to lithium metaborate/lithium tetraborate ($LiBO_2$/$Li_2B_4O_7$) flux, mixed well and fused in a furnace at 1000°C. The resulting melt is then cooled and dissolved in 100 mL of 4% nitric acid/2% hydrochloric acid. This solution is then analyzed by ICP-AES and the results are corrected for spectral inter-element interferences. Oxide concentration is calculated from the determined elemental concentration and the result is reported in that format.

Loss on Ignition (Method OA-GRA05): A prepared sample (1.0 g) is placed in an oven at 1000°C for one hour, cooled and then weighed. The percent loss on ignition is calculated from the difference in weight.

Trace Elements by Fusion – ICP-MS (Method ME-MS81): A prepared sample (0.100 g) is added to lithium metaborate/lithium tetraborate ($LiBO_2$/$Li_2B_4O_7$) flux, mixed well and fused in a furnace at 1025°C. The resulting melt is then cooled and dissolved in an acid mixture containing nitric, hydrochloric and hydrofluoric acids. This solution is then analyzed by inductively coupled plasma - mass spectrometry.

Silver, Arsenic, Cadmium, Cobalt, Copper, Lithium, Molybdenum, Nickel, Lead, Scandium, Thallium (Method Code ME-4ACD81): A prepared sample (0.25 g) is digested with perchloric, nitric, hydrofluoric and hydrochloric acids. The residue is topped up with dilute hydrochloric acid and the resulting solution is analyzed by inductively coupled plasma-atomic emission spectrometry.

Tin and W (Method XRF10): A calcined or ignited sample (0.9 g) is added to 9.0g of lithium borate flux (50 % - 50 % $Li_2B_4O_7$ – $LiBO_2$), mixed well and fused in an auto fluxer between 1050 - 1100°C. A flat molten glass disc is prepared from the resulting melt. This disc is then analysed by X-ray fluorescence spectrometry.

Sulphur (Method S-IR08): The sample is analyzed for total sulphur using an infrared spectroscopy analyzer. While a stream of oxygen passes through a prepared sample (0.05 to 0.6g), it is heated in a furnace to approximately 1350°C. Sulphur dioxide released from the sample is measured by an infrared detection system and the total sulphur result is provided.

Boron (Method B-ICP82b): A prepared sample (~0.2 g) is added to sodium peroxide flux (~2.6 g), mixed well and then fused in a furnace. The resulting melt is cooled and then dissolved in hydrochloric acid. This solution is then analyzed by inductively coupled plasma – atomic emission spectrometry.

Analytical Quality Assurance

Certified reference materials (standards) and blanks were inserted into the sample batches by both TSL and ALS. The data obtained on these materials were reviewed by the author and the no significant issues were detected.

Geochemistry Note

Most samples from the 2019 field season were submitted to TSL for analyses by both aqua regia digestion–ICP-MS determination and four acid digestion–ICP-AES determination. For the purposes of this report the aqua regia–ICP-MS data will generally be used for the chalcophile elements (Ag, As, Bi, Cd, Cu, Ga, Hg, Pb, S, Sb, Se, Te, Tl and Zn) with the exception of Sn, which is not reported by aqua regia–ICP-MS (Sn oxides may be resistant to aqua regia digestion). The aqua regia–ICP-MS will also be used for Au and B as these elements are not included in the four acid–ICP-AES suite. The four acid–ICP-AES data will generally be used for the lithophile elements and siderophile elements (other than Au) and Sn. The lithophile elements include most of the major elements and several trace elements including Be, Sr, Ba, Sc, Y, La, Zr, V, Nb, Cr, P, Th and U. The siderophile elements include Mo, W, Mn, Fe, Co, Ni.

Where Ag, Pb and/or zinc assays have been undertaken by TSL the assay results supersede all other analytical data.

Pulps from a few, selected samples were submitted to ASL Laboratories in Vancouver for additional analyses by a variety of methods including fusion digestions. For samples where ALS data is available the ALS results are considered preferable for certain elements, including Sn, W, Nb and B, and provide data for some elements not determined by TSL, including Li, Ta and the rare earth elements with higher atomic numbers than La.

Stream Silt Geochemistry

A map showing 2019 silt sample locations is presented in Figure 15. Most of the sampling was done in the area of the Seagull (SG) claims, west of Seagull Creek, with one sample collected from Strata Creek downstream from the ST claims.

Zinc results for stream silt samples are shown in Figure 16. Two samples collected north of the Partridge skarn occurrence returned strongly elevated zinc values (785 and 863 ppm) – these values probably reflect sphalerite skarn mineralization. Four samples collected south of the Partridge occurrence returned values of 308 ppm to 348 ppm Zn. These results may in part reflect the skarn mineralization in the Partridge occurrence area but the high value from the southern stream suggests Zn mineralization may occur in the granites to the south. The highest zinc value (1111 ppm) was obtained from Strata Creek downstream from the ST claims. This extremely high Zn value is the result of sphalerite mineralization in the Rusty Valley (Strata Creek Valley) area.

Arsenic results for stream silt samples are shown in Figure 17. Stream to the north, south and southeast of the Partridge occurrence are significantly enriched in arsenic in the stream sediment silt fraction with up to 373 ppm As. The distribution of high arsenic values suggests sources in addition to the Partridge occurrence. A granitic boulder found in the southernmost stream sampled during 2019 contains arsenopyrite in both a narrow quartz vein and an associated biotite alteration selvage (a sample of this mineralization (SR504) returned 4610 ppm As).

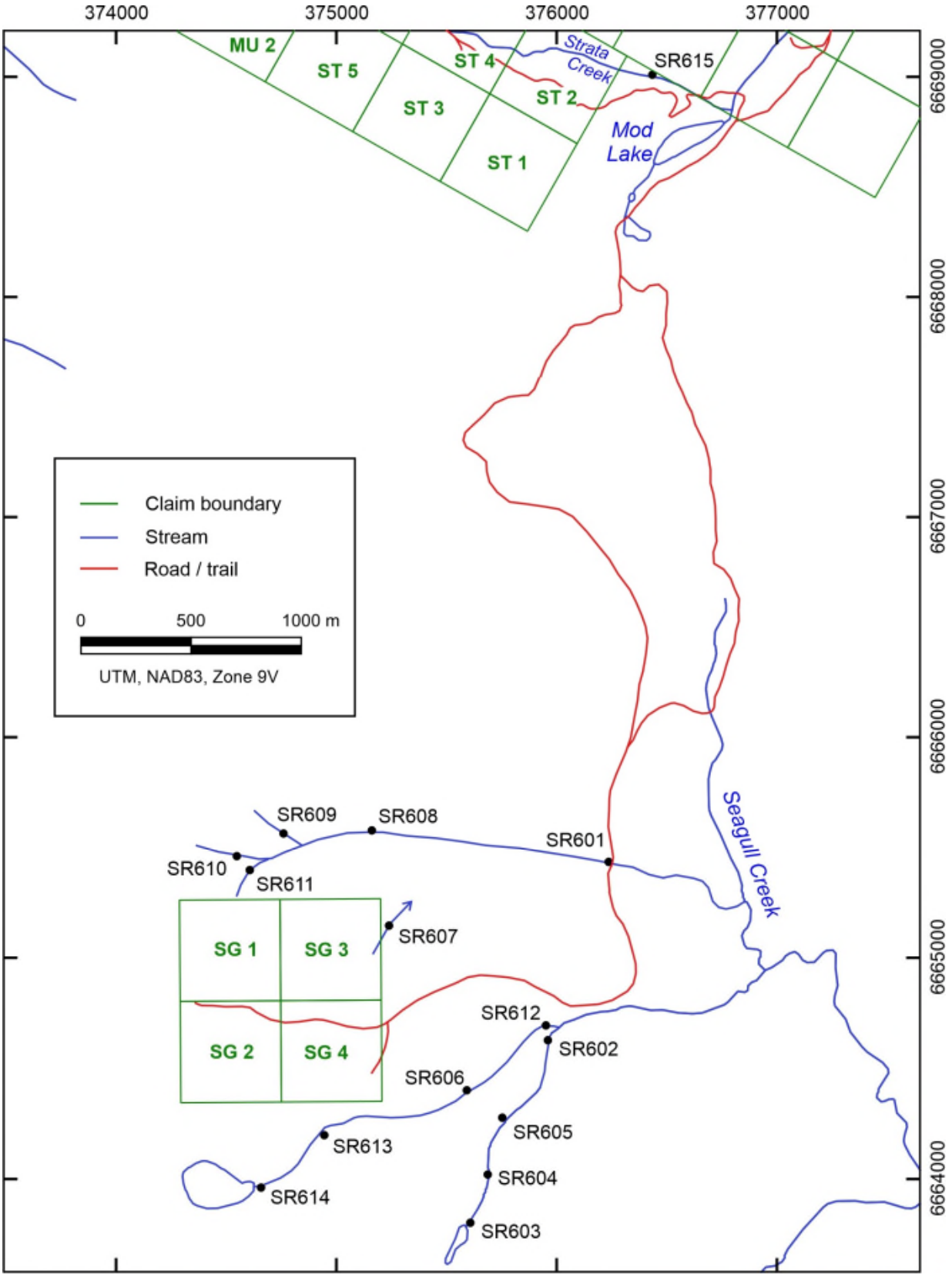

Figure 15. Map showing 2019 stream silt sample sites and numbers in the project area.

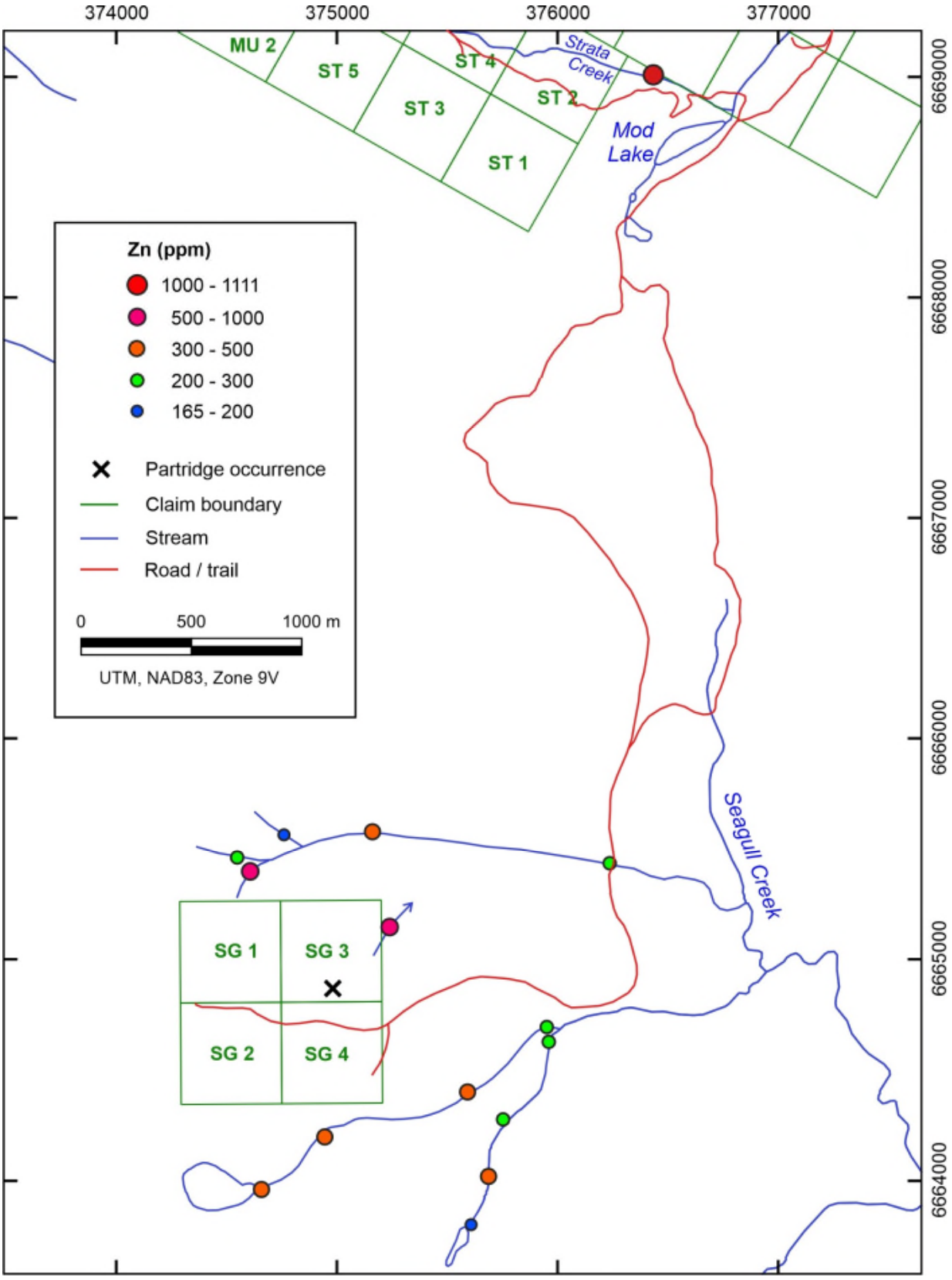

Figure 16. Map of zinc in 2019 stream silt samples.

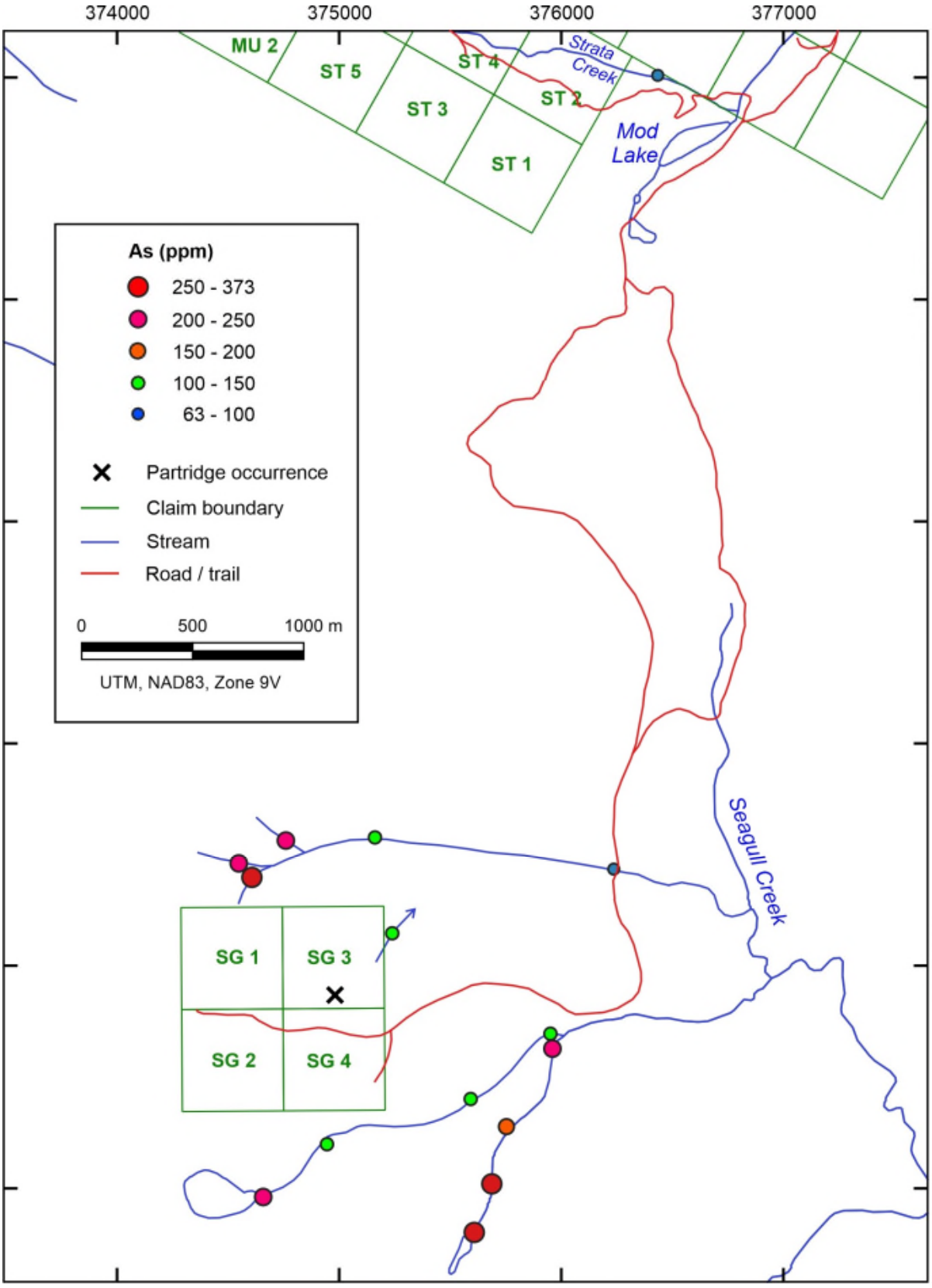

Figure 17. Map of arsenic in 2019 stream silt samples.

Heavy Mineral Concentrate Geochemistry

A map showing 2019 heavy mineral concentrate (HMC) sample locations is presented in Figure 18. The sites correspond with silt sample sites but not all sites had enough sand sized sediment to obtain a heavy mineral concentrate sample. Most of the sampling was done in the area of the Seagull (SG) claims, west of Seagull Creek, with one sample collected from Strata Creek downstream from the ST claims.

The amount of heavy mineral concentration obtained by field panning was relatively modest. The weight of sediment initially placed into the pan for field panning was weighed (2.4 to 3.4 kg) along with the weight of the material remaining after panning (127 to 201 g). The weight fraction of the panned material (which was sent for geochemical analysis) varied from 4% to 7% relative to the initial material weight (with an average of 5.8%).

Zinc results for heavy mineral concentrate samples are shown in Figure 19. The panned concentrate sample from Strata Creek below the ST claims returned a strongly elevated value of 676 ppm Zn. The eight samples from streams in the Partridge occurrence returned a maximum value of 109 ppm Zn.

Tin results for heavy mineral concentrate samples are shown in Figure 20. The stream north of the Partridge occurrence is highlighted with the three HMC samples returning 16 to 42 ppm Sn. In contrast, all five HMC samples from streams draining the valley south of the Partridge occurrence returned values of <5 ppm Sn. The one HMC sample collected from Strata Creek downstream of the ST claims returned 18 ppm Sn.

Niobium results for heavy mineral concentrate samples are shown in Figure 21. The two HMC samples stream north of the Partridge occurrence returned 50 and 70 ppm Nb. The two highest values for HMC samples collected south of the Partridge occurrence are 38 and 50 ppm Nb. These values appear to be somewhat elevated. For comparison, the HMC sample collected from Strata Creek returned only 14 ppm Nb.

The significant differences between the 2019 HMC results and those of Liverton (2011) are primarily a function of differences in the degree of concentration. The 2019 HMC samples had an average weight equivalent to 5.8% of the initial stream sediment that underwent panning. The Liverton (2011) results were derived from HMC samples that retained ≤0.0175% of the weight of the original sediments. Therefore, if all heavy minerals remained in the pan, heavy minerals (and their contained elements) in the 2011 data were concentrated by factors of ≥ 331 relative to the 2019 data. If one takes the highest Nb value obtained from the 2019 HMC samples (70 ppm Nb) and multiplies it by 331 a value of 23170 ppm (2.32%) Nb is obtained. The highest Nb value obtained by Liverton (2011) was 3.88% Nb.

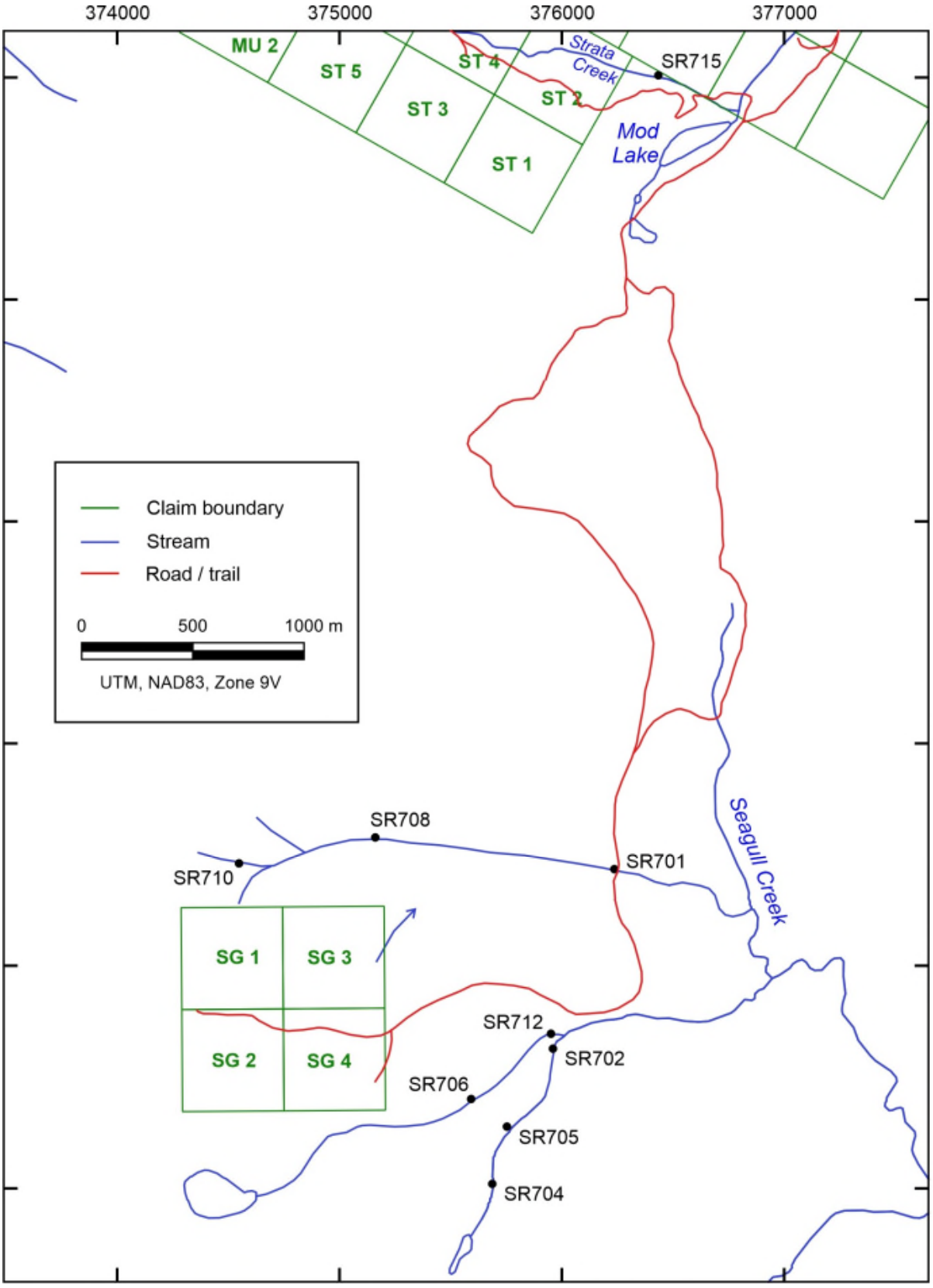

Figure 18. Map showing 2019 heavy mineral concentrate sample sites and numbers in the project area.

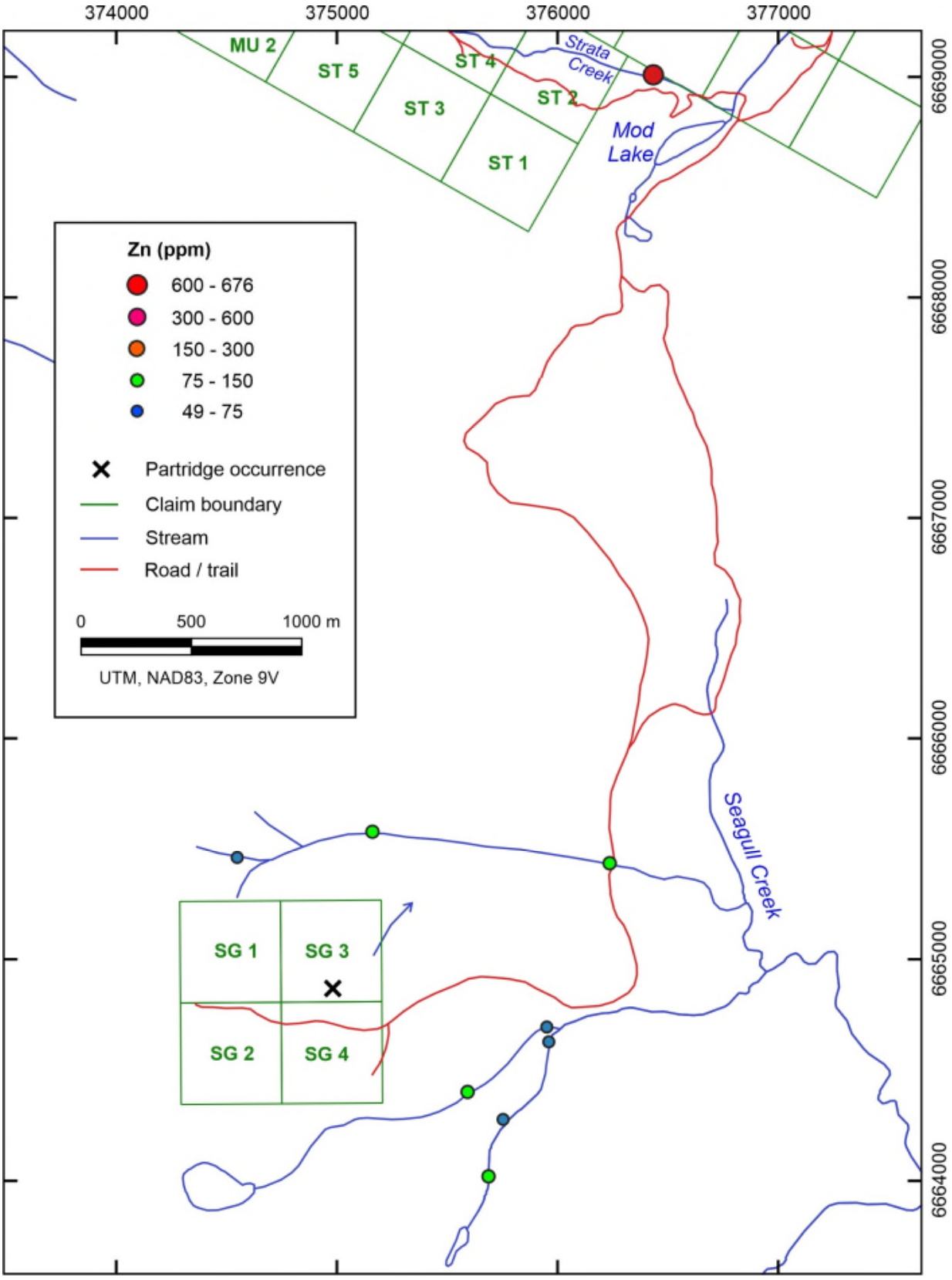

Figure 19. Map of zinc in 2019 heavy mineral concentrate samples.

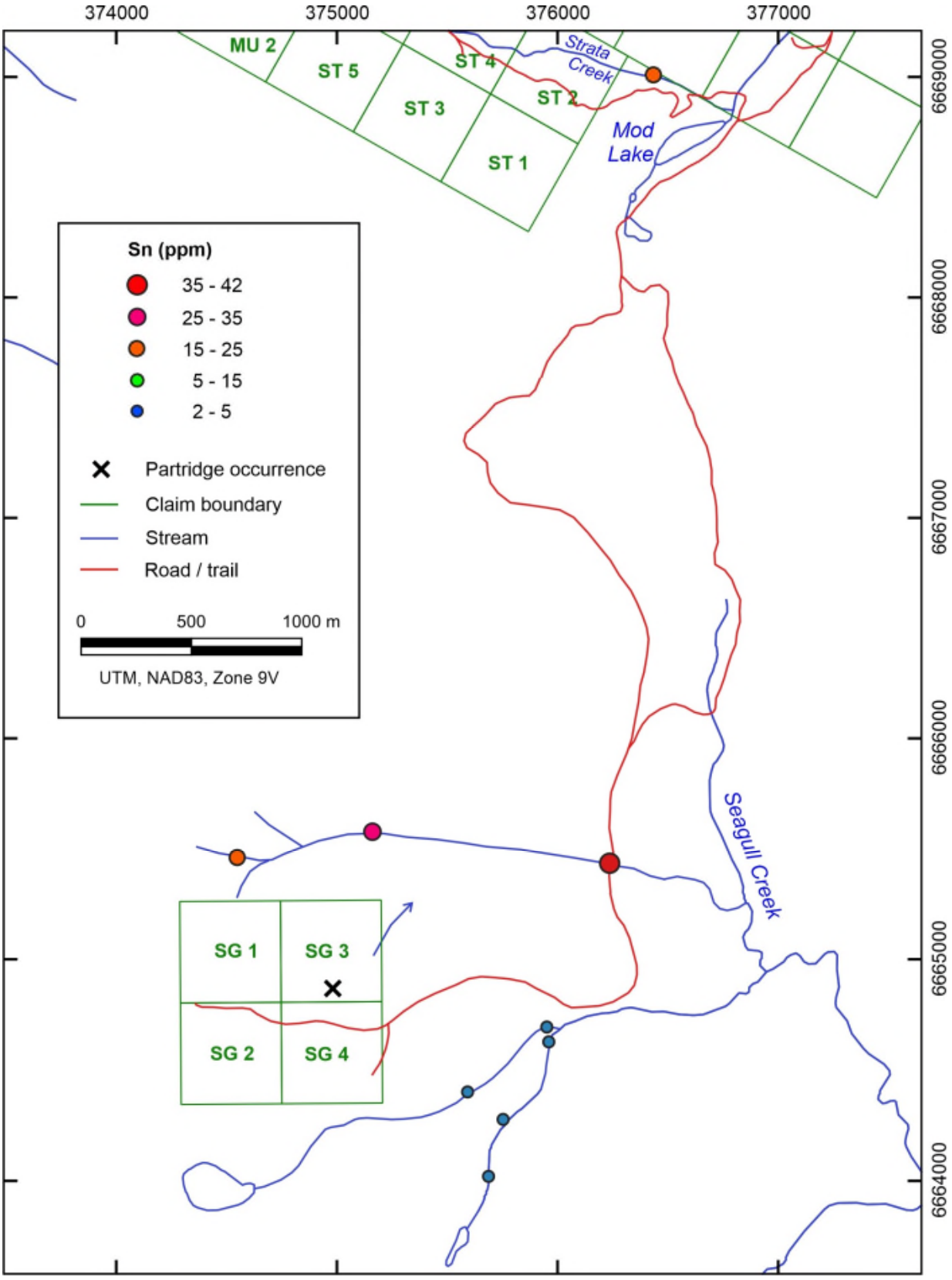

Figure 20. Map of tin in 2019 heavy mineral concentrate samples.

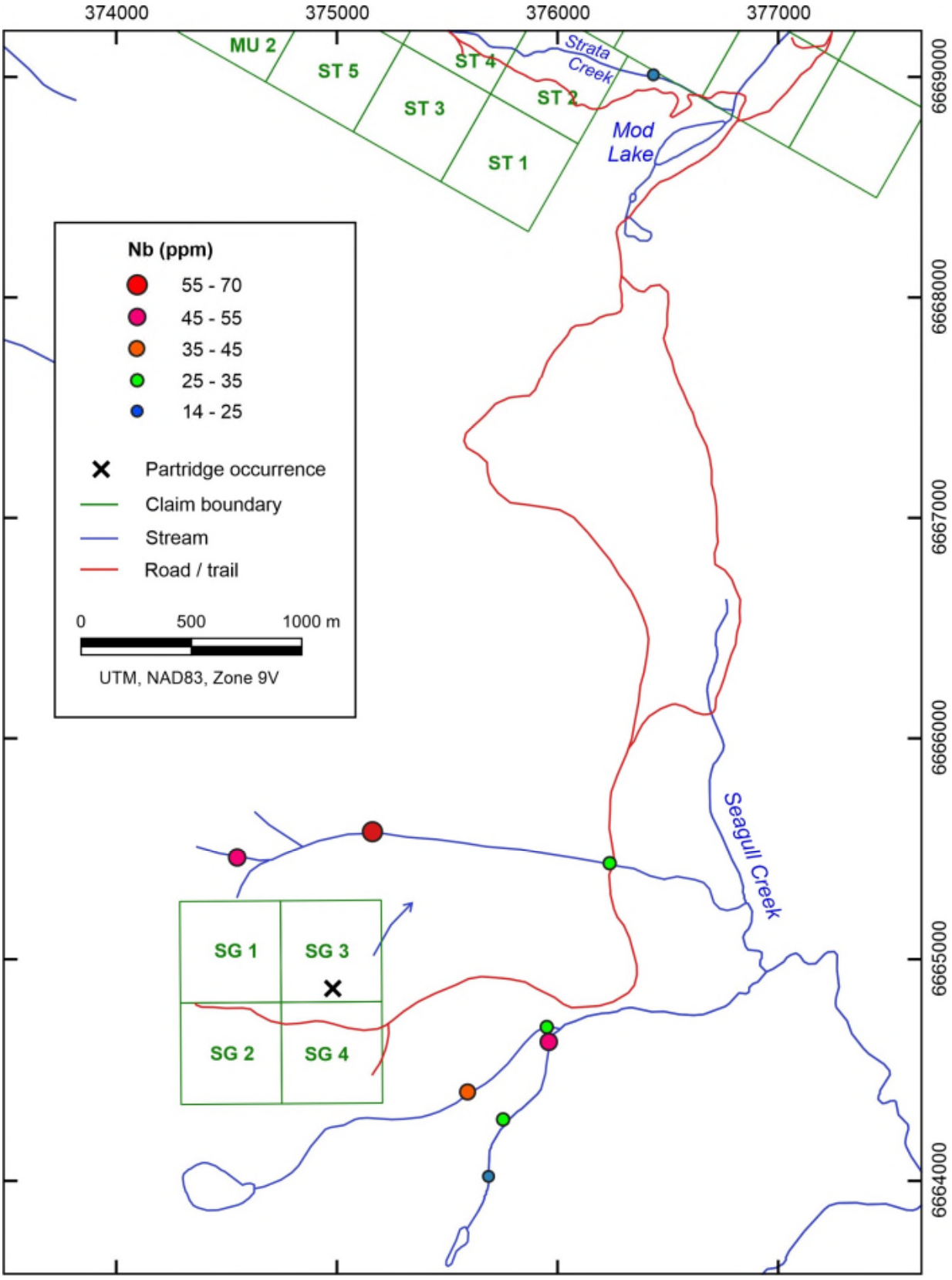

Figure 21. Map of niobium in 2019 heavy mineral concentrate samples.

Soil and Talus Fine-Fraction Geochemistry

Maps showing 2019 soil and talus fine-fraction sampling sites in the Rusty Valley (Strata Creek Valley) area are presented in Figure 22 and 23.

Zinc: Thirty talus fine-fraction samples were collected along a 1.5 km long middle to upper talus slope traverse along the southwestern wall of Rusty Valley (average sample spacing of 52 m). All of these samples returned greater than 370 ppm Zn with 18 samples containing >1000 ppm Zn (of which 4 samples contain >2000 ppm Zn). The highest value returned was 4416 ppm Zn (Figure 24).

Soil samples were collected over a grid spanning the central part of Rusty Valley in the headwater area of Strata Creek. This sampling grid was established to test for northwestern continuation of soil anomalies thought to be related to Zn-Pb-Ag mineralization intersected in drill hole RV #1(McLeod and Sevensma, 1969). The highest zinc values occur along the southwestern limit of the grid in soil samples containing a significant component. It is highly likely that these high values reflect mineral component transported down slope in talus rather than an underlying bedrock source. Ten of the samples collected near the base of the talus slope returned >1000 ppm Zn to a maximum of 3142 ppm Zn. (Figure 24).

Lead: A map of lead values in 2019 soil and talus fine-fraction samples (Figure 25) shows a similar anomaly pattern to that of zinc although the values are more subdued. The lead values tend to be highest in the northern part of the Strata Ridge eastern slope traverse with a maximum value of 1180 ppm Pb.

Silver: Silver values in soil and talus fine-fraction samples are shown in Figure 26. Values for most of the central and northern parts of the Strata Ridge eastern slope traverse exceed 1.00 ppm Ag (to a maximum of 6.70 g/t Ag). Soil and talus fine-fraction samples from the grid sampling survey in the upper Rusty Valley (Strata Creek Valley) also returned several elevated Ag values. Silver enrichment in samples near the southwestern margin of the grid survey probably represents metal transport in talus from the northeastern flank of Strata Ridge.

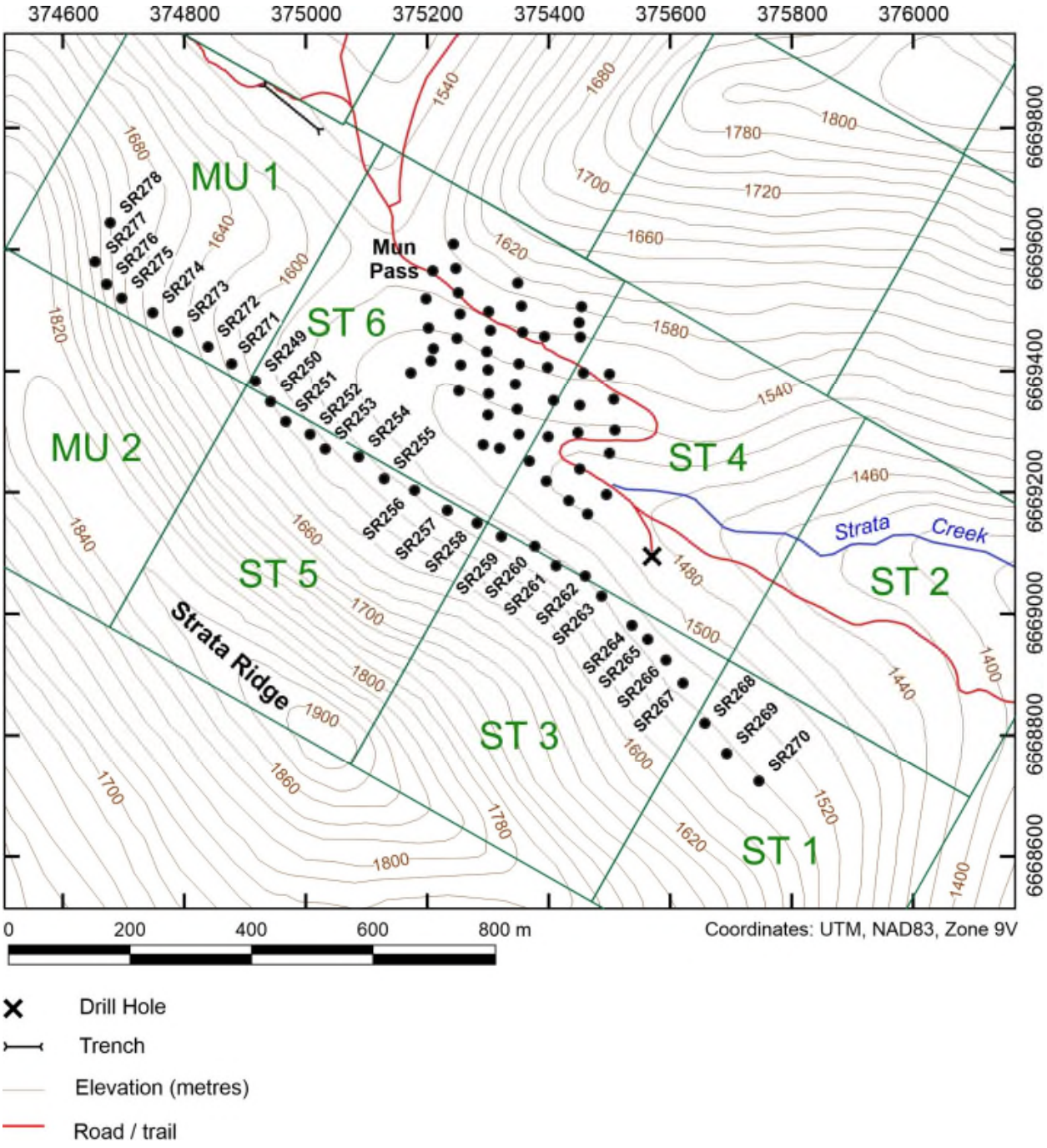

Figure 22. Map showing 2019 soil and talus fine-fraction sample sites in the Rusty Valley (Strata Creek Valley) area. Talus fine-fraction samples collected from the middle to upper part of the talus slope on the eastern flank of Strata Ridge are labelled. Numbers for soil samples collected from the sampling grid in the upper part of the valley southeast of Mun Pass are shown in Figure 23. **Claim boundaries shown in green. The locations Trench 3 (northwest of Mun Pass) and the collar of diamond drill hole RV #1 are shown.**

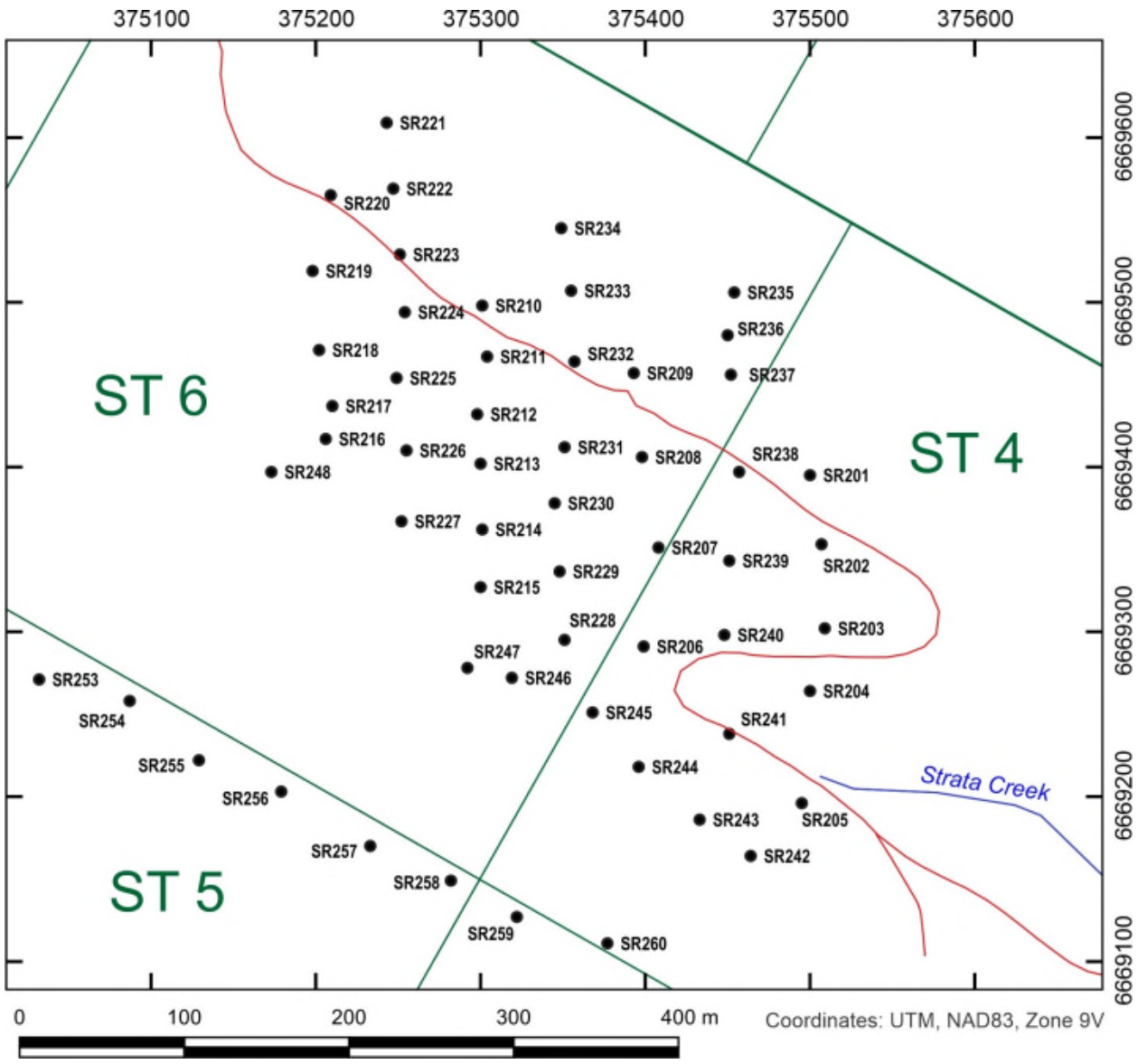

Figure 23. Map showing 2019 soil sample sites and numbers in the upper part of Rusty Valley (Strata Creek Valley). Claim boundaries shown in green. Roads (trails) shown in red.

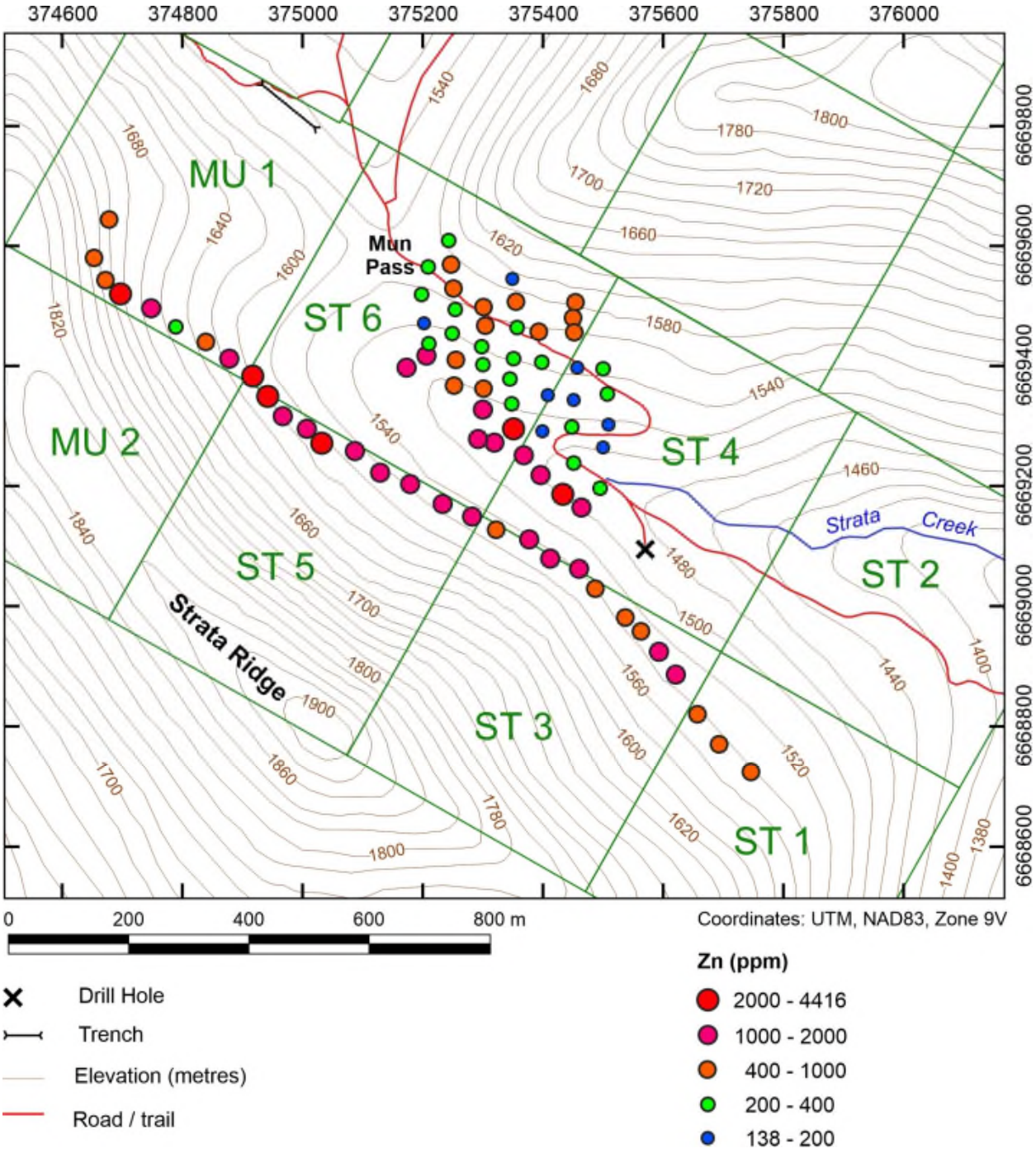

Figure 24. Map showing zinc values in 2019 soil and talus fine-fraction samples in the Rusty Valley (Strata Creek Valley) area. Claim boundaries and claim names shown in green. The locations Trench 3 (northwest of Mun Pass) and the collar of diamond drill hole RV #1 are shown.

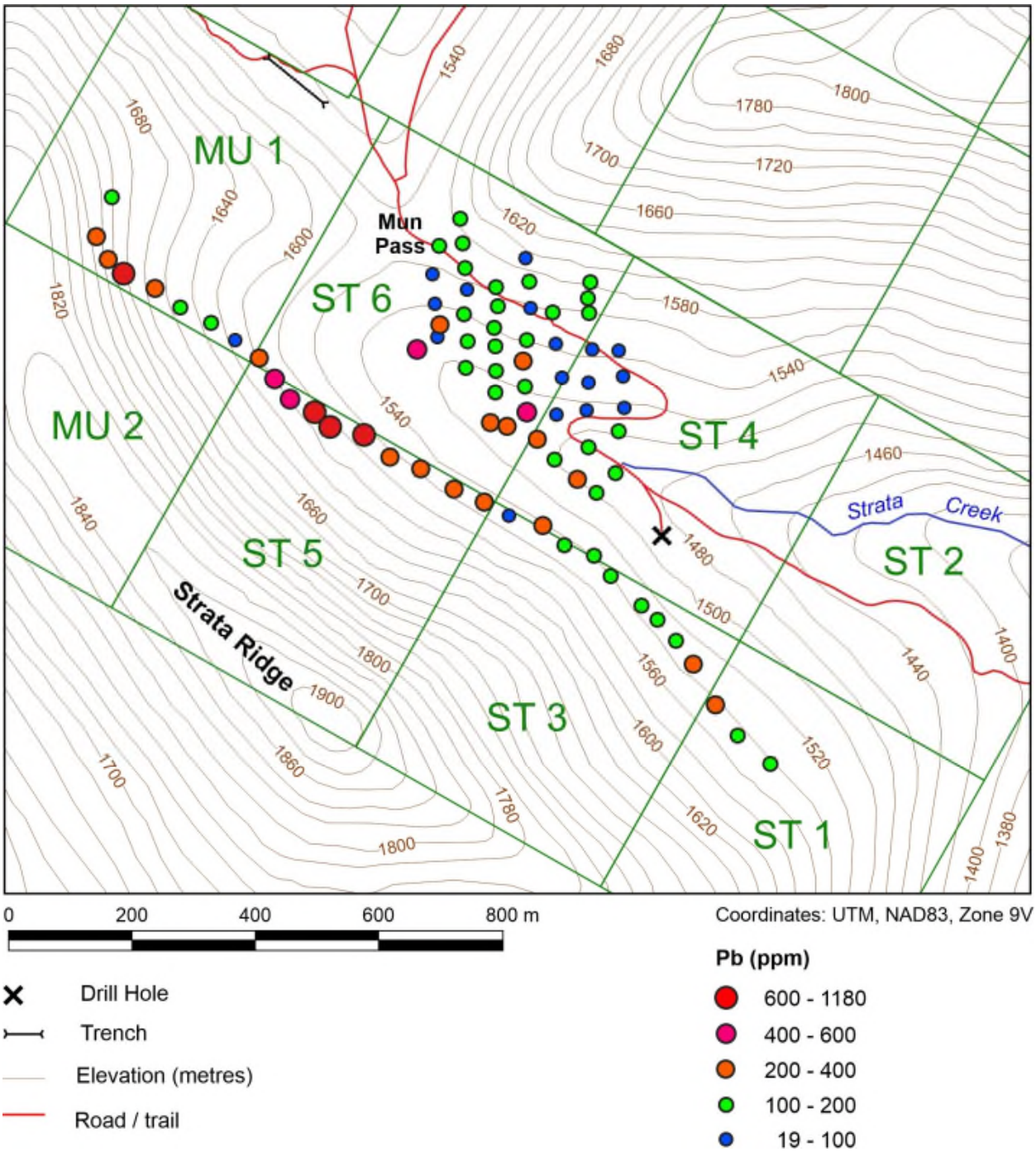

Figure 25. Map showing lead values in 2019 soil and talus fine-fraction samples in the Rusty Valley (Strata Creek Valley) area. Claim boundaries and claim names shown in green. The locations Trench 3 (northwest of Mun Pass) and the collar of diamond drill hole RV #1 are shown.

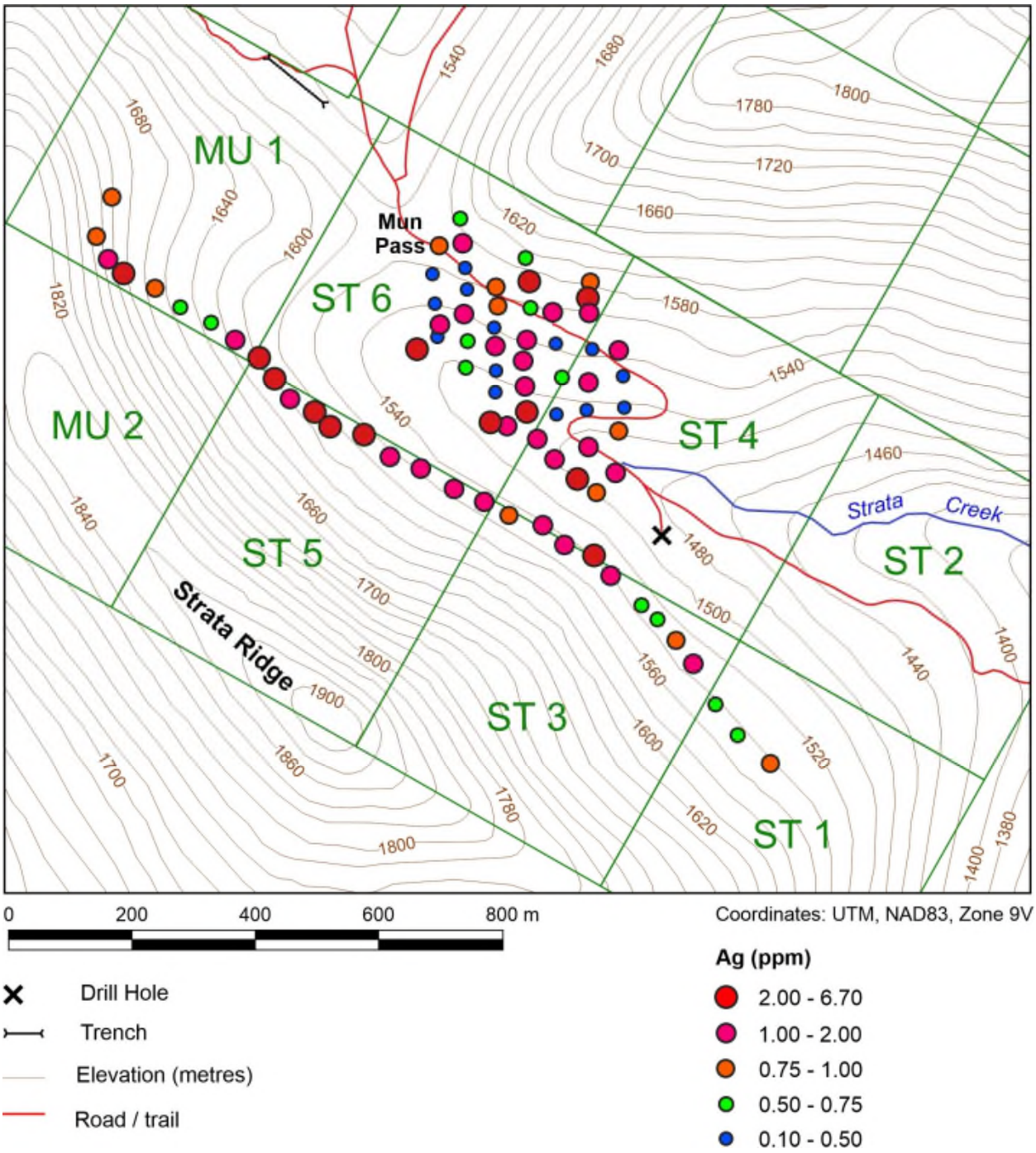

Figure 26. Map showing silver values in 2019 soil and talus fine-fraction samples in the Rusty Valley (Strata Creek Valley) area. Claim boundaries and claim names shown in green. The locations Trench 3 (northwest of Mun Pass) and the collar of diamond drill hole RV #1 are shown.

Rock Geochemistry: Metals

Rusty Valley Area

Rock sampling in the Rusty Valley area was concentrated in two areas (Figures 27 and 28):

(i) the steep talus slope on the northeast side of Strata Ridge near the northern post of claim ST 5, and

(ii) the Trench 3 area near the northeastern margin of claim MU 1 about 300 m northwest of Mun Pass (the location of this trench corresponds with the No. 3 zone of Coombes and Smith (1987, their figure 5) and the Munson (Bom) No.3 trench of Pautler, 2007, her figure 4).

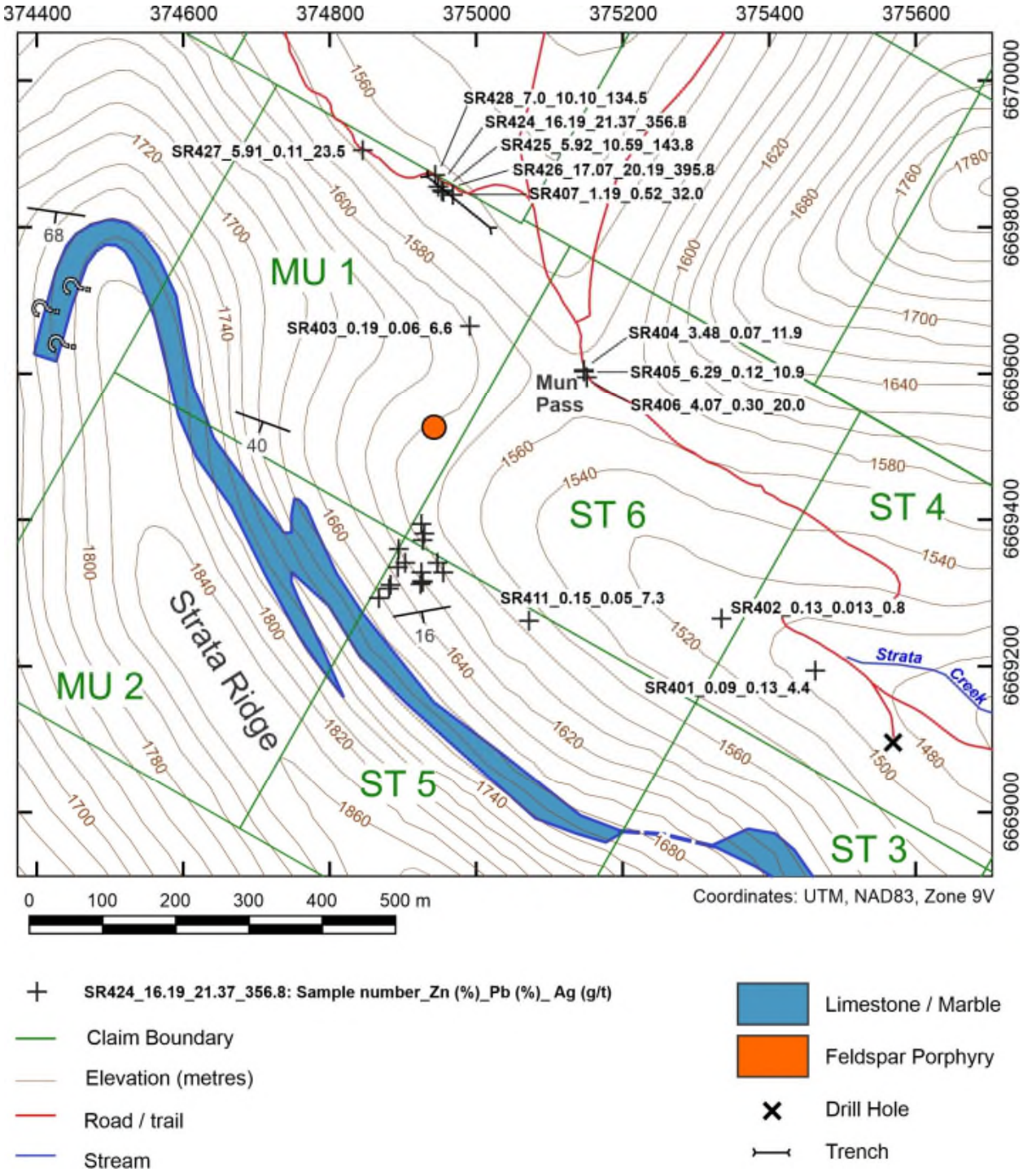

Figure 27. Map showing 2019 rock sample locations in the Rusty Valley (Strata Creek Valley) area. See Figure 28 for information on cluster of samples on the northeast flank of Strata Ridge. The locations Trench 3 (northwest of Mun Pass) and the collar of diamond drill hole RV #1 are shown. The distribution of the limestone / marble unit is based on Liverton and Casselman (2018) and 2019 field observations in the northwest part of Strata Ridge. The feldspar porphyry unit is based on a single outcrop.

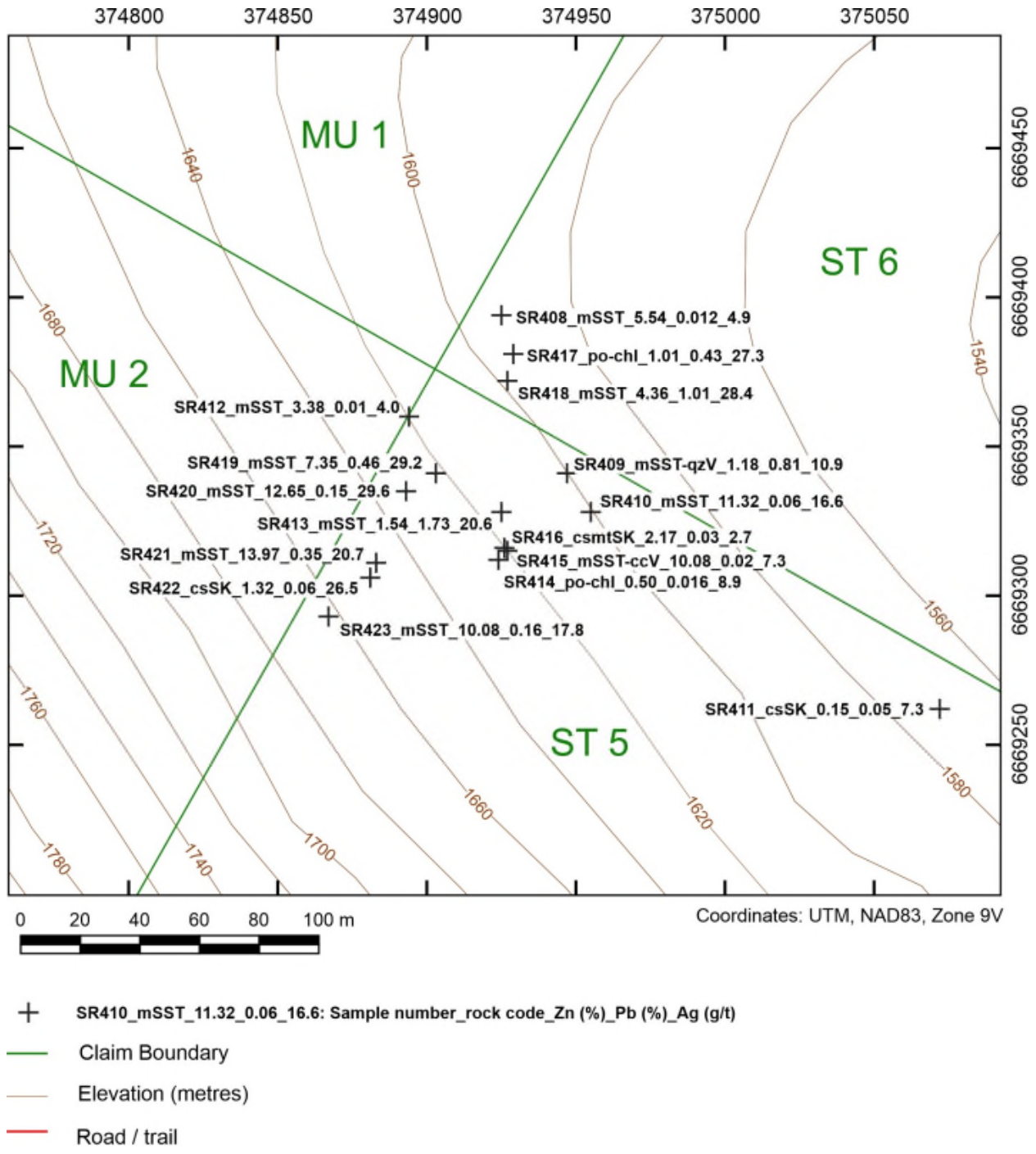

Figure 28. Map showing 2019 rock sample locations in the ST 5 area on the talus slope of Strata Ridge. Rock codes: csSK = calc-silicate skarn, csmtSK = calc-silicate–magnetite skarn, mSST = mineralized siltstone, po-chl = pyrrhotite-chlorite altered rock, ccV = calcite veins, qzV = quartz vein.

ST 5 Area

Sixteen samples (SR408 to SR423) of angular talus were collected from the upper part of the steep, northeast facing talus slope located southwest of MUN Pass near the northern post of claim ST 5 (Figure 29). Mineralization was noted during mid-slope, talus fine fraction sampling. Mineralized talus had also been observed in this area by Pautler (2007). The 2019 sampling occurred over a horizontal distance of about 200 m perpendicular to the slope (parallel to elevation contours) and 100 m parallel to the slope. GPS field readings indicate that the sampling occurred between elevations of 1564 m and 1633 m (vertical distance of 70 m). The uppermost sample was collected from near the top of the talus slope below the overlying cliff.

Analytical results for zinc in these 16 samples range up to 13.97% Zn with five samples yielding greater than 10% Zn. Lead values are considerably lower with a maximum of 1.73% Pb. Silver values vary from 2.7 g/t to 29.6 g/t with 7 of the 15 samples returning greater than 20 g/t Ag. Seven samples exhibit slightly elevated gold values of 19.6 to 81.2 ppb Au and one sample returned a more significant value of 483.4 ppb Au. Barium is elevated in two samples (149 and 466 ppm Ba) with the remaining samples containing less than 15 ppm Ba. Bismuth contents are elevated in several samples with 5 samples containing between 35 and 64 ppm Bi. Cadmium enrichment parallels zinc (up to 0.15% Cd). Several samples display minor copper enrichment (up to 618.4 ppm Cu). Elevated values of lanthanum occur in some samples with values of up to 344 ppm La. Manganese is strongly enriched with the lowest value being 0.21% Mn and 12 samples containing >0.75% Mn. Selenium values range up to 13.9 ppm. Tin values tend to be significantly elevated with 7 samples yielding between 118 ppm and 665 ppm Sn.

The 16 talus samples from the ST5 area all have high iron contents with values ranging from 12.45% to 42.20% Fe. Calcium values are generally below 1% but four samples contain from 4.92% Ca to 11.05% Ca. Magnesium values vary from 0.21% to 2.26% and do not appear to correlate with Ca. Aluminum contents vary from 1.72% to 9.23%. Sulphur contents vary from 0.67% to >10%.

Trench 3 Area

Some rubble boulders from Trench 3 area contain abundant galena and sphalerite within very siliceous rock that may represent veins and/or zones of intense silica flooding (Figures 30 and 31). The iron sulphide accompanying this mineralization is pyrite. This mineralization is strongly enriched in silver. Results for four samples of this mineralization range from 10.10% to 21.37% Pb, 5.92% to 17.07% Zn and 134.5 to 395.8 g/t Ag These lead and silver values are far higher than of other rock samples from the 2019 project area including some that contain high sphalerite contents (Figures 32 to 34). The Pb–Zn–Ag–rich Trench 3 samples also contain anomalous concentrations of gold (40.5 to 609.9 ppb Au), copper (1068.5 to 2659.5 ppm Cu), mercury (0.11 to 0.31 ppm Hg), Sb (70.9 to 287.7 ppm Sb) and selenium (12.0 to 63.7 ppm Se).

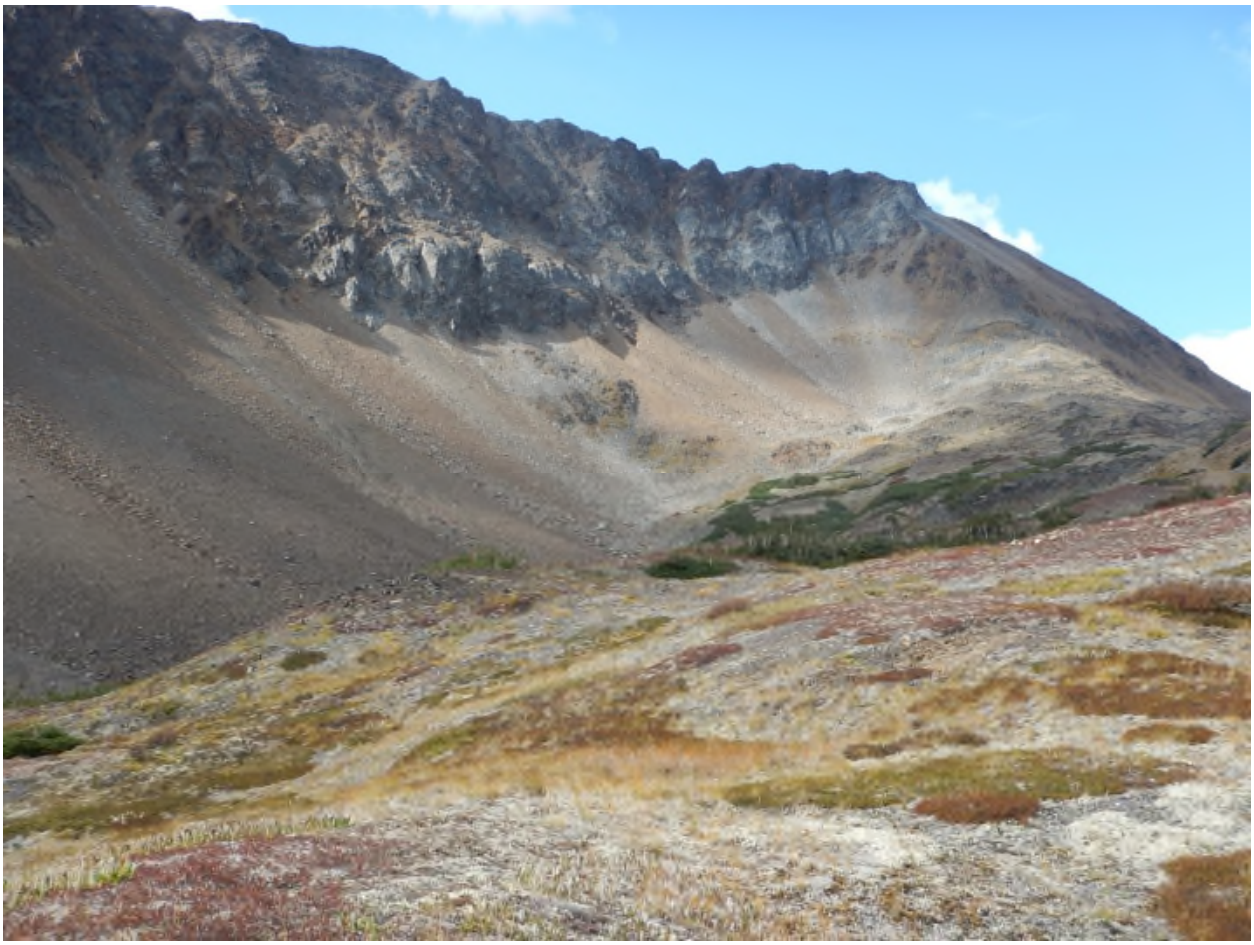

Figure 29. Photo showing the north end of Strata Ridge. The ST 5 area is near the left (south) edge of the photo in the upper part of the talus slope. The cliff-forming unit just above the talus slope on the skyline is limestone). Photo taken at 375556E, 6669334N toward 270° (UTM NAD83 Zone 9V).

Figure 30. Photo showing Trench 3. Photo taken at 374919E, 6669873N toward 130° (UTM NAD83 Zone 9V).

Figure 31. Photo showing Trench 3 rubble block from which sample SR424 was collected (21.37% Pb, 16.19% Zn and 356.8 g/t Ag). Photo taken at 374948E, 6669855N (UTM NAD83 Zone 9V).

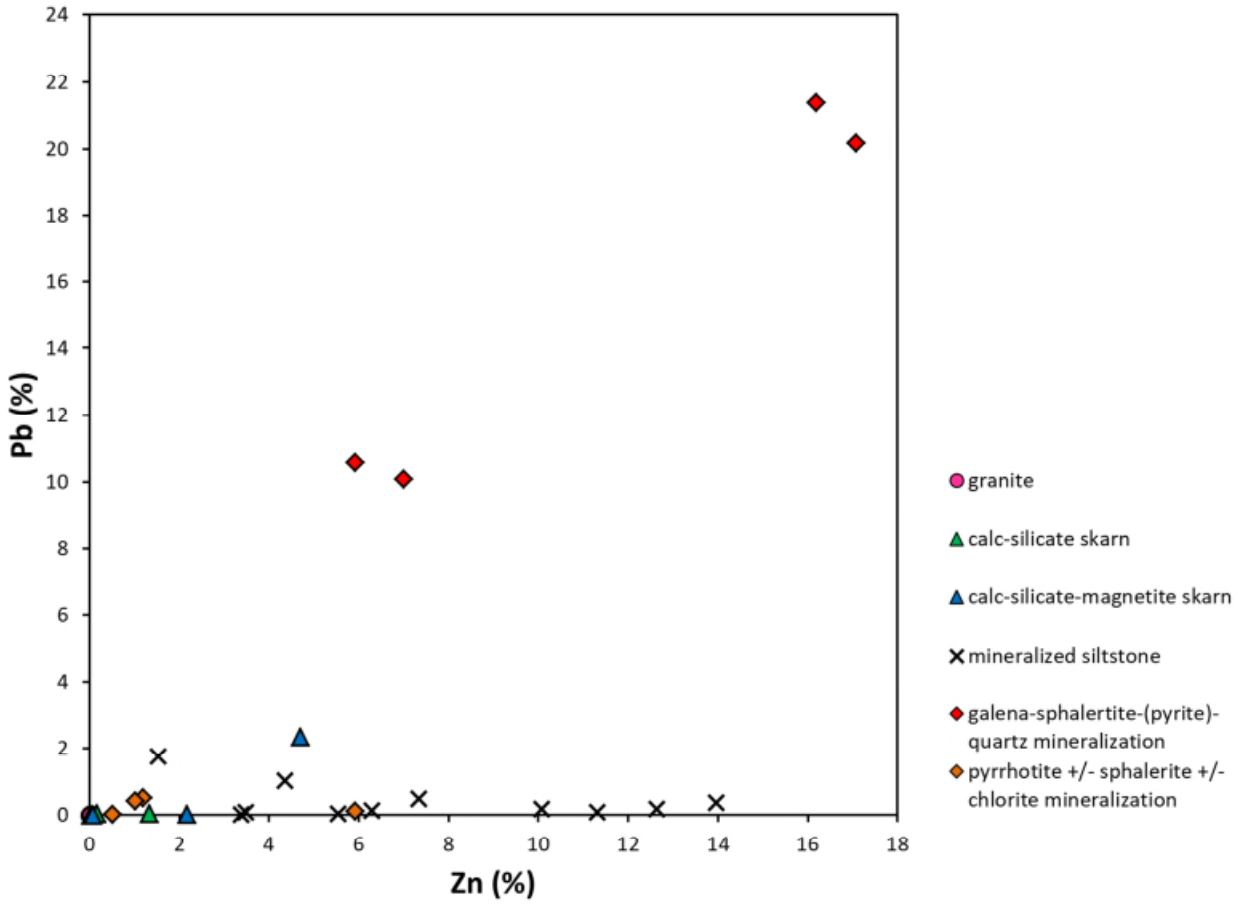

Figure 32. Binary plot of Zn versus Pb showing 2019 data for six sample types (values in weight percent). The galena–sphalerite– (pyrite) –quartz mineralization samples are from Trench 3.

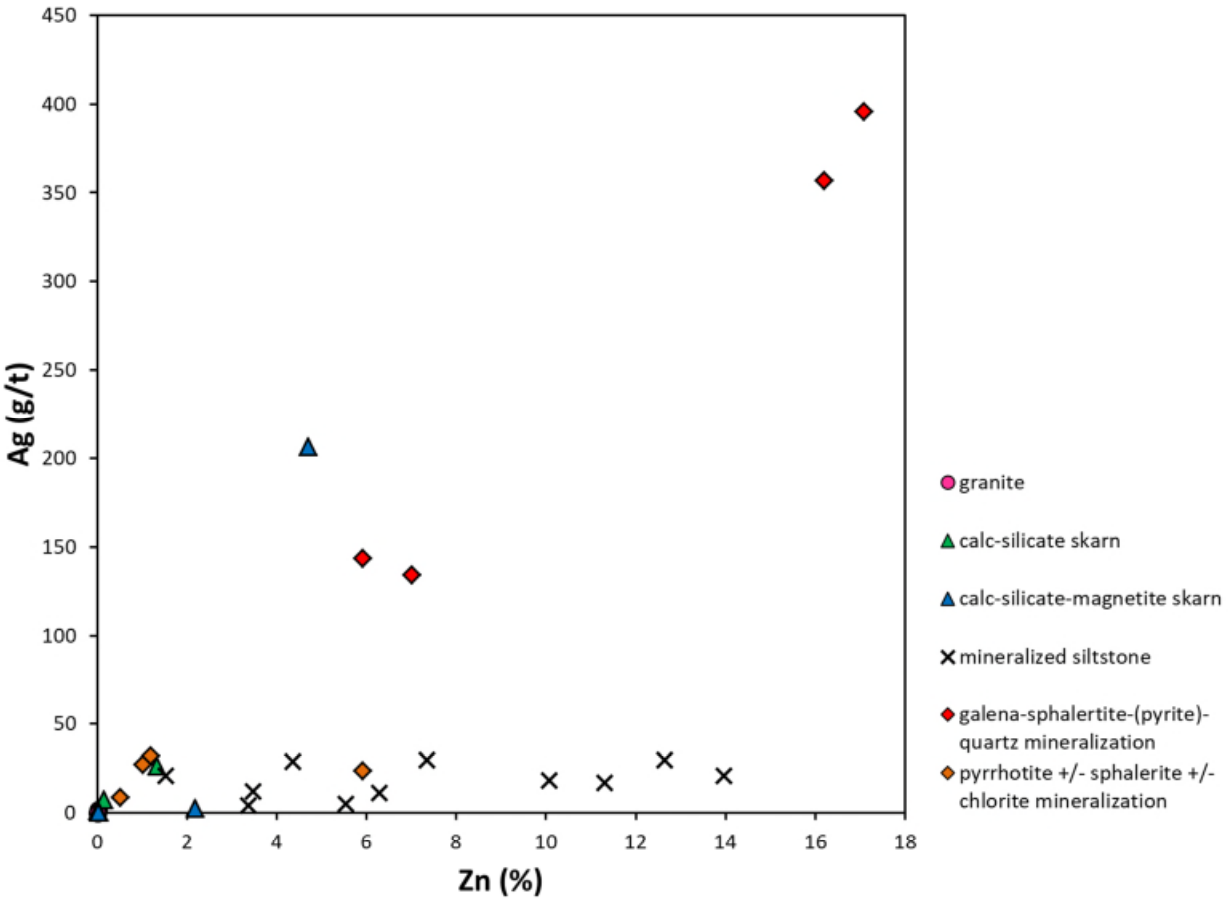

Figure 33. Binary plot of Zn versus Ag showing 2019 data for six sample types (values in weight percent and grams/tonne). The galena–sphalerite–(pyrite)–quartz mineralization samples are from Trench 3. The calc-silicate–magnetite skarn sample with over 200 g/t Ag is from the Partridge occurrence area.

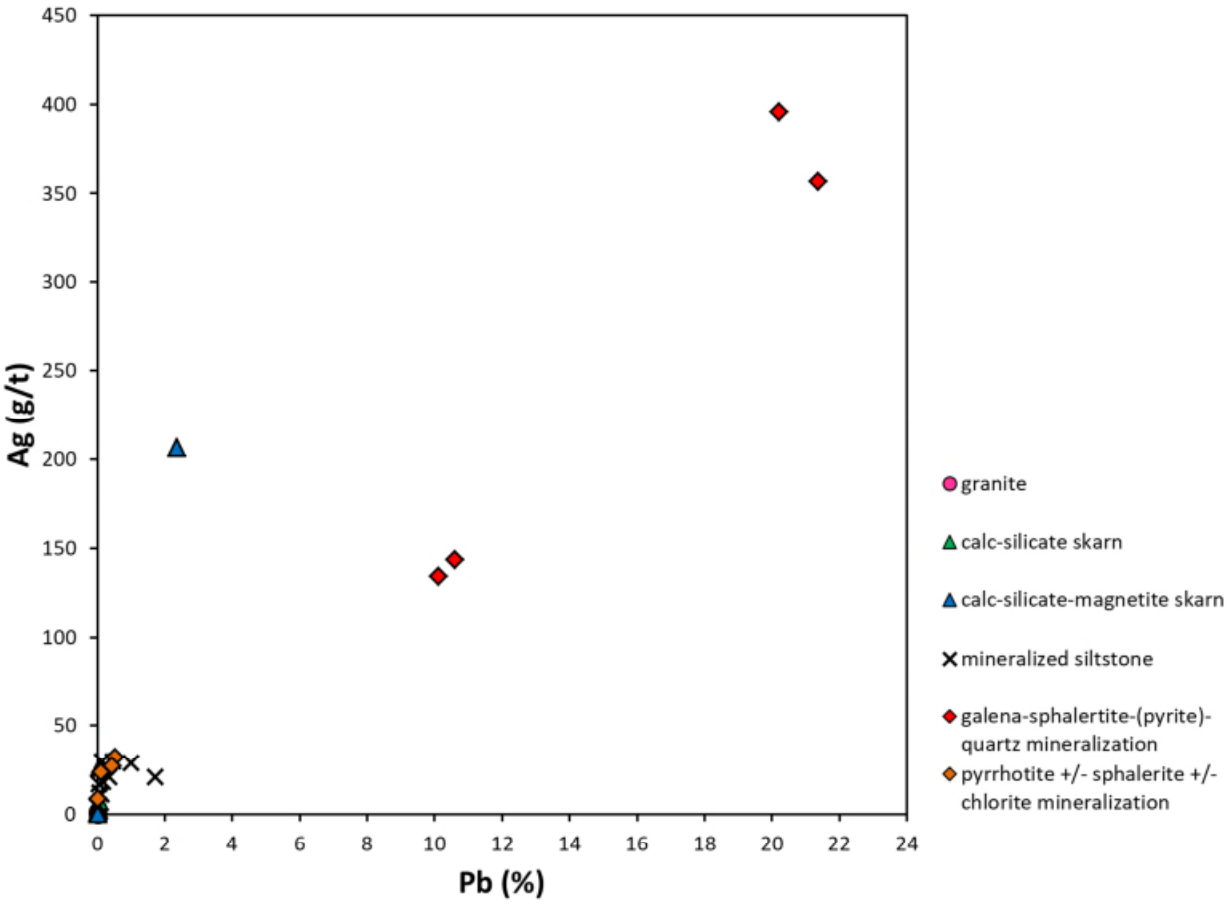

Figure 34. Binary plot of Pb versus Ag showing 2019 data for six sample types (values in weight percent and grams/tonne). The galena–sphalerite–(pyrite)–quartz mineralization samples are from Trench 3. The calc-silicate–magnetite skarn sample with over 200 g/t Ag is from the Partridge occurrence area.

Partridge Occurrence Area

The location of rock samples in the Partridge occurrence area are shown in Figure 35 along with the location of the SG 1 to SG 4 claims (Seagull property).

Partridge Area – Skarn Samples

Samples SR502 and SR510 were collected from boulders of calc-silicate–magnetite skarn. These samples returned 1.04% and 3.97% Sn along with elevated values of W (0.08% and 0.37%) As (>10,000 ppm and 151.9 ppm), B (414 ppm and >2000 ppm), Sb (17.7 and 22.3 ppm), Be (144 and 584 ppm) and Fe (13.75 and 47.95%). Sample SR502 also returned elevated Ba (809 ppm) and Bi (212.5 ppm) values. Sample SR502 was collected from the angular talus/rubble at the Partridge occurrence. Sample SR510 was collected from a large, angular talus boulder about 1 km west of the Partridge occurrence.

Sample 503 was collected from sphalerite and galena-bearing calc-silicate–magnetite skarn (angular talus/rubble) at the Partridge occurrence. The sample returned 4.70% Zn, 2.34% Pb, 206.9 g/t Ag, 529.5 ppm Bi, >1% Mn, 43.3 ppm Se, 124 ppm Be and 740 ppm Sn.

Samples SR505 (rubble/scree) and SR509 (talus) are of calc-silicate skarn with little or no magnetite. The samples were collected 600 m to 1000 m west of the Partridge occurrence. Both samples are somewhat enriched in Sn (328 and 403 ppm Sn). Sample SR505 also returned elevated values of La (495 ppm), Sb (19.9 ppm), Be (117 ppm) and Y (254 ppm). Sample SR509 also returned elevated values for Au (812.8 ppb), Cu (572.3 ppm) and Se (9.7 ppm).

Partridge Area – Granite Samples

Samples SR508 and SR511 were collected from granitic boulders (talus/rubble) with high field radioactivity measurements. TSL Laboratories returned values of 51 and 47 ppm U, 270 and 343 ppm Th, and 4.35 and 4.29 ppm K for these samples (four acid–ICP-AES). Two other granitic samples characterized by essentially background radioactive values were also collected. Sample SR506 is a sample of unaltered granite outcrop and sample SR507 is a sample of granite with limonitic Fe-oxide alteration. These samples returned <20 ppm U, 76 and 49 ppm Th, and 3.85 and 3.88% K (TSL Laboratories four acid–ICP-AES). These results indicate that the increased radioactivity of samples SR508 and SR511 is due mainly to increases in U and Th. The two radioactive samples also returned values of 441 and 446 ppm Nb (TSL Laboratories four acid–ICP-AES), which are strongly anomalous.

Pulps from two radioactive granite boulders (SR508 and SR511) and of the fresh granite outcrop (SR506) were sent to ALS Canada Ltd. to obtain results by lithium borate fusion followed by ICP-MS determinations. Samples SR508 and SR511 returned 48.1 and 49.6 ppm U, 264 and 332 ppm Th, 5.53 and 5.43% K_2O, 577 and 562 ppm Nb, and 27.7 and 25.6 ppm Ta. The unaltered granite outcrop sample

(SR506) returned 12.6 ppm U, 83 ppm Th, 4.79 ppm K_2O, 86.2 ppm Nb and 10.3 ppm Ta. The Nb values of the radioactive samples convert to 825 ppm and 804 ppm Nb_2O_5 (or 0.083% and 0.080% Nb_2O_5).

The Nb values are of borderline economic interest, which is enhanced because they were obtained from relatively nondescript granitic boulders that would not have been sampled except for their radioactivity (the boulders may contain somewhat more biotite than average). For comparison, the Nb_2O_5 grade at the Niobec Mine in Quebec is about 0.4%.

In addition to the granitic samples mentioned above, sample SR504 was collected from a subround boulder noted during stream sediment sampling. The boulder has a limonitic coating and contains a 3 to 4 cm wide quartz veins with a biotite-rich selvage. Both the vein and selvage contain 1 to 3% arsenopyrite. A sample containing about 25% veins and selvage material and 75% wallrock granite returned 4610 ppm As.

Partridge Area – Tourmaline Vein Sample

A sample of tourmaline vein talus/rubble (15 cm thick) was sampled at the Partridge occurrence (a similar vein was noted in outcrop a short distance uphill). The sample (SR511) returned 2.85% B and a somewhat elevated Zn value of 303 ppm.

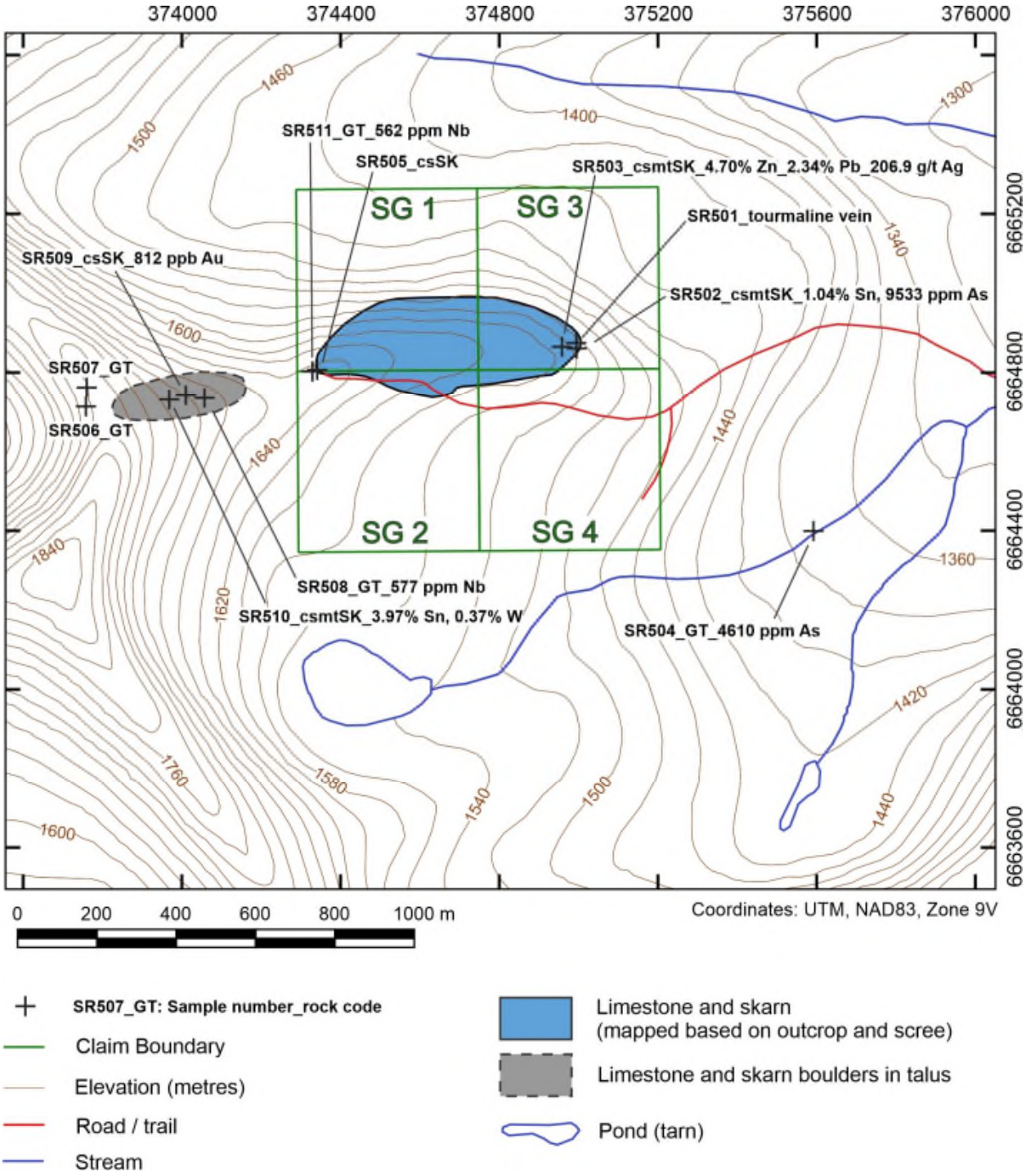

Figure 35. Map showing locations of 2019 rock samples collected from the Partridge occurrence (SR501 to SR503) and nearby area along with selected analytical results. Also shown are (i) the mapped extent of the limestone pendant (within granite) based on mapping by Goad (1980), Liverton and Mann (2014) and 2019 field observation, and (ii) the area where limestone and skarn boulders were observed to occur within the dominantly granitic talus. Rock codes: csSK = calc-silicate skarn, csmtSK = calc-silicate–magnetite skarn, GT = granite.

Rock Geochemistry: Element Relationships

A binary plot of aluminum versus calcium is presented in Figure 36. The diagram clearly differentiates the skarn samples by their high Ca and low to moderate Al values. Their Al contents, which vary from 0.87% to 4.76%, suggest that their protoliths may have had a siliciclastic component (e.g. shaley carbonate or silty carbonate).

The 11 samples of mineralized siltstone exhibit low Ca contents and moderate to relatively high Al contents (3.21% to 9.23% with an average of 6.57%). All K and Na values for the mineralized siltstones are <0.01%. These data are consistent with a siltstone protolith interpretation.

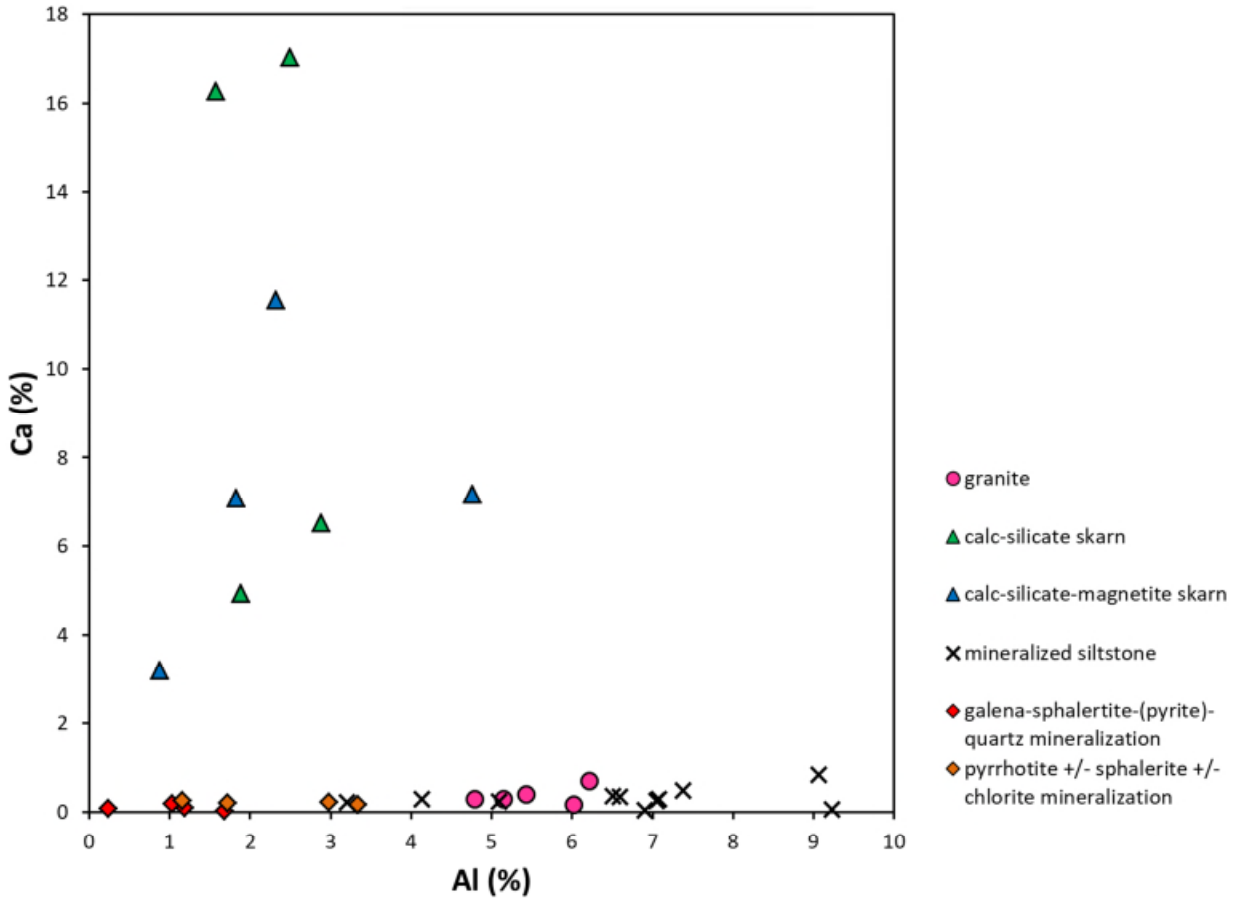

Figure 36. Binary plot of Al (aqua regia–ICP-MS) versus Ca (four acid–ICP-AES) showing 2019 data for six sample types (values in weight percent).

A binary plot of Ca determined by aqua regia–ICP-MS versus Ca determined by four acid–ICP-AES is presented n Figure 37. The data indicate that less than half of the calcium bearing minerals in the calc-silicate–magnetite skarn samples are digested by aqua regia. Interestingly, this is not the case for the magnetite-bearing skarn samples.

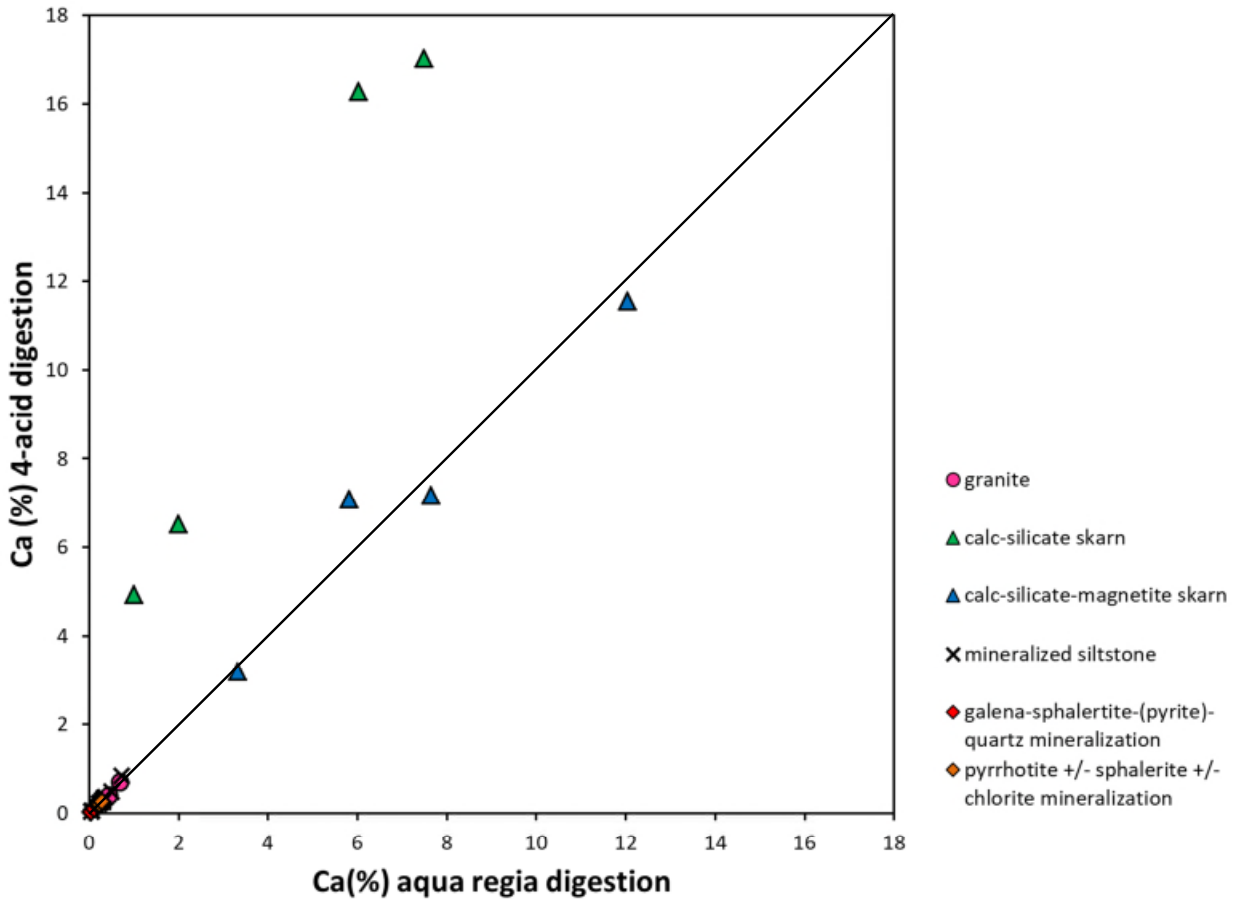

Figure 37. Binary plot of Ca (aqua regia–ICP-MS) versus Ca (four acid–ICP-AES) showing 2019 data for six sample types (values in weight percent).

A binary plot of sulphur versus iron is presented in Figure 38. Sulphur contents in the skarn samples is variable from <0.05% to >10%. The sulphur in the sulphide-rich sample (SR411) occurs as pyrrhotite. The skarn samples exhibit high iron values in both magnetite-rich and magnetite-poor varieties with one sample of calc-silicate–magnetite skarn containing 47.95% Fe. The high iron contents of calc-silicate skarn samples lacking magnetite (and having relatively low S contents) suggests calc-silicate minerals containing both Ca and Fe such as hedenbergite ($CaFeSi_2O_6$) or actinolite ($Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$). Three samples contain >1% Mg (to a maximum of 7.82%) so some samples could contain a diopside component as well.

The siliceous galena-sphalerite-(pyrite) samples obtained from Trench 3 rubble boulders contain from 5.89% to 15.06% Fe and 6.78% to 9.99% S. Some of this Fe is from black, Fe-rich sphalerite (marmatite) and some occurs in pyrite.

Four samples were collected from chlorite pyrrhotite ± sphalerite mineralization. All of these samples returned >10% S along with high Fe values (24.44% to 37.25%) consistent with their mineralogy.

The mineralized siltstone samples contain sphalerite ± galena with generally only minor amounts of pyrite and little of no pyrrhotite. None of these samples contain magnetite. However, the samples all returned high values of iron with the 11 samples having an average of 25.54% Fe. Many of these samples exhibit a very weak reaction to HCl. The rocks are aphanitic and light grey to light green to medium green and commonly exhibit a mottled appearance suggestive of alteration. It seems likely that these rocks have undergone pervasive Fe-carbonate (siderite) alteration. The greenish colouration may be due to minor component of calc-silicate minerals. Most of these samples are from the ST5 area.

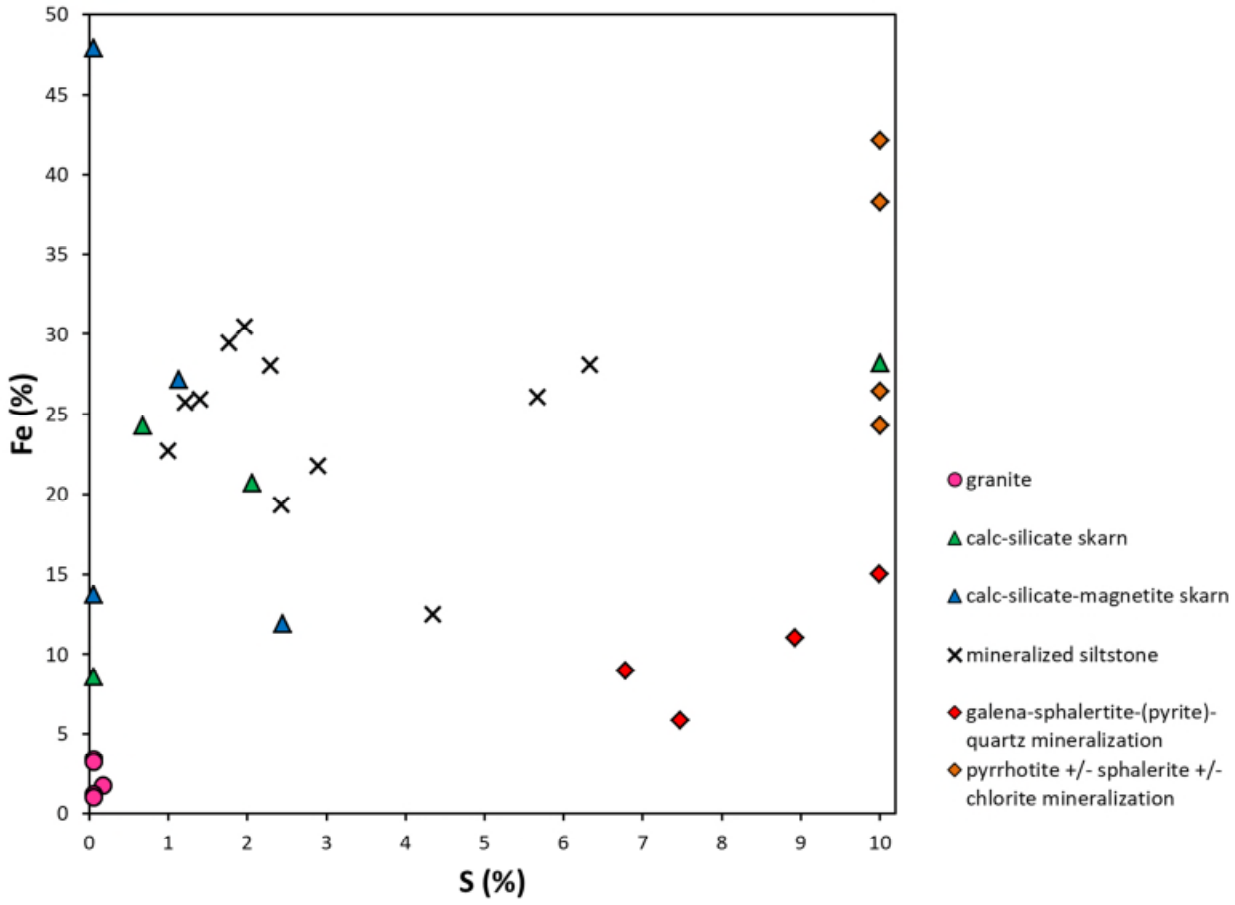

Figure 38. Binary plot of S (aqua regia–ICP-MS) versus Fe (four acid–ICP-AES) showing 2019 data for six sample types (values in weight percent). Samples shown to contain 10% S actually contain >10% S (the upper detection limit for S is 10%).

Scintillometer Survey

Two scintillometer survey traverses were completed west of the Partridge occurrence in areas underlain primarily by granitic talus and granitic outcrop (Figure 39). The first traverse was completed in a roughly west-southwest direction and crossed about 60 m of limestone scree (including a minor amount of calc-silicate skarn) and limestone outcrop at the east-northeast end followed by about 315 m dominated by granitic talus. Two strongly radioactive granitic boulders were located with reading of up to 975 counts/second and 1000 counts per second (compared to typical values of 300 to 500 counts/second in these granitic rocks). Samples of these boulders (SR508 and SR511) returned elevated values of U and Th as well as up to 577 ppm Nb.

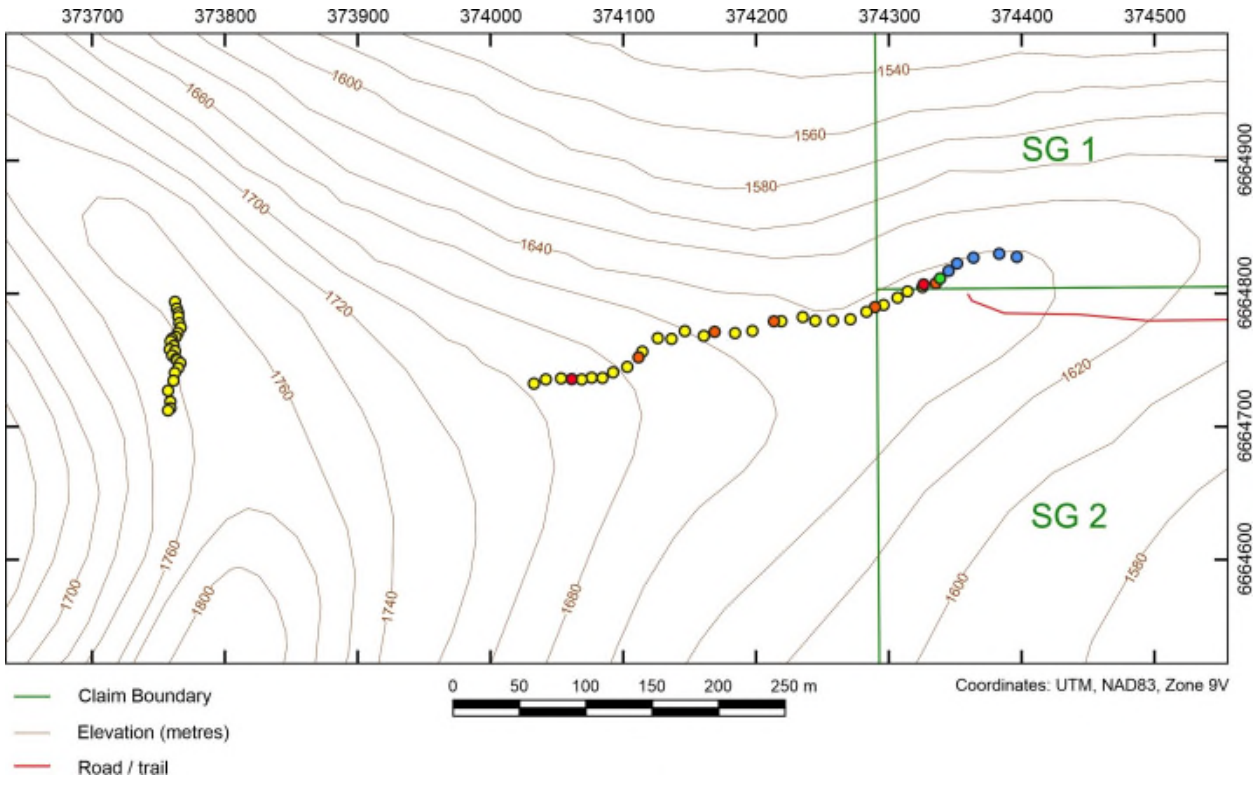

Figure 39. SPP2 scintillometer survey traverses west of the SG claims (Seagull property).

The second (western) traverse competed in a southerly direction along the top of the granitic ridge west of the SG claims. The traverse crossed a pronounced gossanous zone in the granite (Figure 40). No anomalous radioactivity was detected.

Figure 40. Photo showing location of western scintillometer traverse (along skyline below black bar). Horizontal field of view is about 100 m. Photo taken at 373970E, 6664717N to 280° (UTM NAD83 Zone 9V).

Discussion and Conclusions

Rusty Valley Area

The 2019 program identified several types of mineralization in the Rusty Valley area (within the Strata property) and highlighted two areas where economic accumulations of base metals and silver may exist (the ST 5 area and the Trench 3 area).

ST 5 Area

Prospecting and sampling was undertaken in the area near the northern post of the ST 5 claim – an area of steep talus below outcrop cliffs along the northeast side of Strata Ridge. A large number of coarse talus blocks were found to be mineralized with base metal sulphides. The most common type of mineralization consisted of sphalerite ± galena mineralization generally accompanied by little to no Fe-sulphide and hosted by aphanitic, light grey to light green to medium green siltstones that appear to have undergone pervasive Fe-carbonate (siderite) alteration. Geochemical characteristics of the nine samples of this mineralization type from the ST 5 area include average values of 7.80% Zn, 0.44% Pb, 19.09 g/t Ag, 23.99% Fe and 2.62% S with values of up to 13.97% Zn, 1.73% Pb and 29.6 g/t Ag. The high Fe/S ratio and a lack of magnetite support the interpretation of Fe-carbonate alteration. The next most abundant type of mineralization in the ST5 area is skarn mineralization, which occurs in both calc-silicate skarn (lacking magnetite) and calc-silicate–magnetite skarn. The highest values obtained from three skarn samples from the ST5 area are 2.17% Zn, 0.06% Pb and 26.5 g/t Ag. Examples of semi-massive pyrrhotite associated with chlorite alteration were also observed in the talus. Two samples submitted for geochemical analyses returned up to 1.01% Zn, 0.43% Pb and 27.3 g/t Ag.

A line of talus fine-fraction sampling, which passed through the ST 5 area, was completed along talus slope on the northeast side of Strata Ridge at elevations between 1510 m and 1680 m (GPS field readings). The talus fine-fraction results indicate that the zinc anomaly, with values commonly exceeding 1000 ppm Zn, extends over a northwest-southeast distance of over one km. The talus fine-fraction values range up to 4416 ppm Zn, 1180 ppm Pb and 6.7 g/t Ag.

The limestone horizon on the northeast flank of Strata Ridge was observed in outcrop at 374450E, 6669762N (UTM NAD83, Zone 9V) at the north end of Strata Ridge with a bedding attitude of 098/68°S (Figure 41). Bedding measurements on siliciclastic units farther south on Strata Ridge have moderate to shallow dips towards the south and southwest (Figure 27). These attitudes indicate that the limestone unit and other strata exposed on the northeastern flank of Strata Ridge should also be present on the southwest side of Strata Ridge (at least near the northern end of the ridge). This geometry at the north end of Strata Ridge is also suggested by the map of Liverton and Casselman (2018).

Figure 41. Photo showing bedding in limestone outcrop at the north end of Strata Ridge. Hammer handle is 70 cm long with markings 10 cm apart. Photo taken at 374450E, 6669762N toward 094° (UTM NAD83 Zone 9V).

Trench 3 Area

Trench 3 is located about 300 m northwest of Mun Pass, which is the height of land separating northerly drainage into Munson Creek and southerly drainage into Rusty Valley. The trench lies in the northeastern part of the MU 1 claim of the Strata property. The floor of Trench 3 is covered in rubble and only a small amount of bedrock is exposed in the southwestern trench wall. Several blocks of rubble containing abundant galena and sphalerite, generally accompanied by pyrite (and lacking pyrrhotite) were located near the northwest end of Trench 3. The sulphides occur within very siliceous rock that may represent veins and/or zones of intense silica flooding. Results for four samples of this mineralization (SR424, SR425, SR426 and SR428) range from 10.10% to 21.37% Pb, 5.92% to 17.07% Zn and 134.5 to 395.8 g/t Ag. These lead and silver values are far higher than those of other rock samples from the project.

Pyrrhotite also occurs in the Trench 3 area. A sample of trench rubble containing heavily disseminated pyrrhotite in a chloritic siltstone (SR407) returned 1.19% Zn, 0.52% Pb and 32.0 g/t Ag.

An angular rubble boulder located downslope from the exploration road (and/or trench) about100 m northwest of Trench 3 contains pyrrhotite and sphalerite with no galena observed. The host rock is composed primarily of very fine quartz grains that may represent a siliceous sedimentary rock and/or a zone of intense silica flooding. A sample (SR427) returned 5.91% Zn, 0.11% Pb, 23.5 g/t Ag, 24.29% Fe and >10% S.

Partridge Occurrence Area

Three samples of calc-silicate–magnetite skarn were collected from the general Partridge occurrence area. Two of these samples returned tin values of 1.04% and 3.97% (SR502 and SR510). These samples also contain elevated values of tungsten (0.08% and 0.37% W), arsenic (414 and >2000 ppm As), antimony (17.7 and 22.3 ppm Sb), beryllium (144 and 584 ppm Be) and iron (13.75 and 47.95% Fe). The third calc-silicate–magnetite skarn sample (SR503) returned low tin and tungsten values of 0.074% Sn and <0.0004% W. However, the sample contains sphalerite and galena and returned 4.70% Zn, 2.34% Pb, 206.9 g/t Ag, 529.5 ppm Bi, 43.3 ppm Se and 124 ppm Be.

Two samples of calc-silicate skarn without magnetite returned somewhat elevated tin values (328 and 403 ppm Sn in samples SR505 and SR509). In addition, sample SR509 returned 802.8 ppb Au and 572.3 ppm Cu. Sample SR505 returned 495 ppm La.

Two samples of radioactively anomalous granite collected west of the Partridge occurrence returned 577 and 562 ppm Nb.

Exploration efforts on the Partridge occurrence by previous workers have been hampered by the apparent limited size of the limestone pendant, which limits the tonnage potential of the associated skarn mineralization. Previous mapping suggested that the limestone only had an east-west extent of about 700 m. However, the western limit of exposed (and previously mapped) limestone outcrop occurs where if becomes covered by granitic talus that has been shed eastward (downhill) from a steep ridge to the west. Work in 2019 west of the previously mapped limestone revealed a significant component of the talus consists of limestone and subordinate calc-silicate ± magnetite skarn with some blocks being quite large (Figures 27 and 42). The observation suggest that the limestone (and skarn) extend westward beneath the talus for at least another 500 m making the overall east-west of the limestone (and skarn) at least 1200 m. A sample of from a large talus block of calc-silicate–magnetite skarn located about 380 m west of the previously mapped extent of the limestone pendant returned 3.97% Sn and 0.37% W (sample SR510).

Figure 42. Photo showing limestone talus boulders west of (and uphill from) the previously mapped limit of limestone in the Partridge occurrence area. The limestone boulder near the centre of the photo is about 2 m tall. The ridge and associated talus in the background are composed of granite. Photo taken at 374007E, 6664747N to 270° (UTM NAD83 Zone 9V).

Recommendations

Rusty Valley (Strata Property) Area

During 2019 numerous talus blocks mineralized with disseminated and blebby sphalerite and galena were located and sampled in the ST 5 area of Strata Ridge and the nature of the mineralization suggests a stratigraphic rather than structural control. These samples returned up to 13.97% Zn, 1.73% Pb and 29.6 g/t Ag.

The 2019 talus fine-fraction survey was highly successful in detecting base metal and silver mineralization on the northeastern side of Strata Ridge (values of up to 4416 ppm Zn, 1180 ppm Pb and 6.7 g/t Ag). However, it is unclear if the 1.5 km of sampling traverse extended beyond the limits of the anomalous zone (especially in a northwesterly direction). It is recommended that talus fine-fraction sample coverage be extended.

Zinc–lead–silver mineralization identified in talus on the northeast flank of Strata Ridge is interpreted to be stratabound (± stratiform) based on (i) the style mineralization observed in the ST 5 area (disseminated to blebby sphalerite and galena hosted within altered siltstone and calc-silicate ± magnetite skarn), (ii) the length of the talus fine-fraction geochemical anomaly (>1 km), and (iii) similarity to other mineral zones to the east that are better exposed and documented (e.g. Munson and Mod zones). Geological observations strongly suggest that stratabound mineralization on the northeast flank of Strata Ridge should also occur on the southwest side of Strata Ridge (where there is no record of previous exploration work). Prospecting and talus fine-fraction geochemical surveying should be extended to the southwest side of Strata Ridge.

Geological mapping of the Strata property (ST and MU claims) and adjacent ground to the north and west, accompanied by additional prospecting, is recommended to better understand stratigraphic and structural relationships to aid in the discovery of additional mineralization.

The high silver, lead and zinc values obtained from the structurally controlled galena–sphalerite– pyrite–silica mineralization of Trench 3 (up to 21.37% Pb, 17.07% Zn and 395.8 g/t Ag) warrant further investigation. The Trench 3 area should be mapped in detail to gain an understanding of structural controls on mineralization. In addition, prospecting should be undertaken to the northwest of Trench 3 in a search for similar high grade mineralization.

Partridge Occurrence (Seagull Property) Area

Previous exploration efforts at the Partridge occurrence have focused primarily on the discovery of tin and tungsten. However, a 2019 sample from the Partridge occurrence in returned 206.9 g/t Ag, in addition to 4.70% Zn and 2.34% Pb, from calc-silicate–magnetite skarn containing sphalerite and galena. More sampling is needed to evaluate the silver potential of the skarn mineralization.

Locally abundant limestone (and subordinate skarn) blocks in talus west of, and uphill from, the previously mapped extend of limestone in the Partridge occurrence area significantly increases the area of skarn mineralization potential. A large talus block of calc-silicate–magnetite skarn from this area returned 3.97% Sn and 0.37% W. Additional work recommended for this area includes prospecting, talus fine-fraction sampling and geological mapping. If results are encouraging a second phases of exploration that incorporates magnetic surveying (either ground or airborne) could be undertaken to trace the magnetic mineralization beneath cover to aid in the identification of trenching and/or drilling targets.

Prospecting with the aid of a scintillometer on the talus slope west of the Partridge occurrence led to the identification and sampling of two radioactive granitic boulders. These returned values of 562 ppm and 577 ppm Nb as well as elevated U and Th. A limited amount of additional prospecting within the granite may be warranted.

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Statement of Qualifications

I, Glen Prior, of 793 Birch Avenue, Sherwood Park, Alberta do hereby declare:

- That I am a self-employed geologist.
- That I am a Professional Geologist registered with the Association of Professional Engineers and Geoscientists of Alberta (Member Number M73587).
- That I graduated from Laurentian University in Sudbury, Ontario, with a B.Sc. (Honours) degree in geology in 1982, from Laurentian University in Sudbury, Ontario, with a M.Sc. degree in geology in 1987 and from Carleton University in Ottawa, Ontario, with a Ph.D. degree in geology in 1996.
- That I practiced my profession full-time from 1986 to 1991 and continuously since 1996 including 5 years with Norwin Geological Ltd. (Vice President), 5 years with Aur Resources Inc. (holding the positions of Senior Project Geologist and Senior Geologist) and 12 years with the Alberta Geological Survey (holding the positions of Geologist, Senior Geologist and Section Leader).
- Work on the Swift River project was completed between August 8 and September 19 of 2019.

January 27, 2020

Sherwood Park, Alberta

Glen Prior

Appendix 1

Stream Silt Sample and Heavy Mineral Concentrate Sample Descriptions

Location Coordinates: UTM Zone 9V, NAD83

Silt Sample	HMC Sample	Date	East	North	Elev (m)	Stream Width (m)	Stream Depth (cm)	Stream Flow Rate	Stream Flow Direction	HMC Sample Site Information	HMC Sample Panning Material Description	Silt Sample Description	HMC Initial Pan Weight (kg)	HMC Sample Weight (g)	Silt Sample Weight (g)
SR601	**SR701**	2019_08_28	376236	6665434	1260	8	25	fast	60°	abundant boulders (granitic); boulder trap	~50% light and 50% dark sand grains	~75% moss mat and 25% medium brown silt to very coarse sand (behind boulders)	3.04	127	198
SR602	**SR702**	2019_08_28	375960	6664628	1311	4	20	fast	15°	abundant boulders (granitic); boulder trap and between boulders near side of stream ~50 cm from east bank	~75% light and 25% dark sand grains	moss mat (100%)	3.2	171	238
SR603		2019_08_28	375608	6663803	1407	2	20	moderate to fast	20°			moss mat (100%); locally multiple channels; abundant boulders (granitic)			65
SR604	**SR704**	2019_08_28	375687	6664021	1386	4	20	very fast	355°	abundant boulders (granitic); excellent boulder trap (behind 2x2x1 m midstream boulder)	~60% light and 40% dark sand grains	moss mat (100%)	2.8	197	218
SR605	**SR705**	2019_08_28	375753	6664278	1353	8	20	very fast	55°	abundant boulders (granitic); boulder trap at downstream end of small island	~60% light and 40% dark sand grains	moss mat (100%)	2.4	159	235
SR606	**SR706**	2019_08_28	375592	6664402	1352	12	10	fast	55°	abundant boulders and cobbles (granitic); midstream boulder trap	~60% light and 40% dark sand grains	moss mat (100%); note: largest of several small streams near centre of valley in this area	2.8	159	315
SR607		2019_08_29	375239	6665146	1408	0.7	5	fast	40°			~70% moss mat and 30% medium brown silt to very coarse sand; abundant granitic boulders, cobbles, pebbles and gravel			276

Silt Sample	HMC Sample	Date	East	North	Elev (m)	Stream Width (m)	Stream Depth (cm)	Stream Flow Rate	Stream Flow Direction	HMC Sample Site Information	HMC Sample Panning Material Description	Silt Sample Description	HMC Initial Pan Weight (kg)	HMC Sample Weight (g)	Silt Sample Weight (g)
SR608	**SR708**	2019_08_29	375161	6665577	1355	8	15	very fast	80°	boulder trap; abundant boulders and cobbles; dominantly granitic, <1% diorite; 1 magnetic skarn boulder noted	~75% light and 25% dark grains	~75% moss mat and 25% medium brown silt to very coarse sand	3.4	166	220
SR609		2019_08_29	374760	6665563	1382	4	10	very fast	135°	abundant boulders and cobbles (granitic)		moss mat (contains abundant silt); this is a southeast flowing branch about 100 m from main stream; 2 main channels (combined width ~4 m - material from both included in sample)			179
SR610	**SR710**	2019_08_29	374548	6665460	1411	12	5	fast	70°	boulder trap; abundant granitic boulders, cobbles, pebbles and gravel; <1% dark grey, aphanitic, rusty weathering siltstone; <1% fine grained diorite; <1% limestone	~80% light and 20% dark grains; very minor amount of magnetite noted	~80% moss mat and 20% medium brown silt to very coarse sand; northwest fork of stream; wide area of stream in gently sloping part of valley	3	144	212
SR611		2019_08_29	374607	6665397	1405	10	15	fast	360°	abundant granitic boulders and cobbles; <1% limestone		~80% moss mat and 20% medium brown silt to very coarse sand; south fork of stream			133
SR612	**SR712**	2019_08_29	375951	6664695	1311	3	20	very fast	110°	boulder trap; abundant granitic boulders	~80% light and 20% dark grains	~50% moss mat and 50% silt to very coarse sand (medium brown)	2.8	201	332
SR613		2019_09_08	374945	6664199	1478	1	15	fast to very fast	35°			moss mat (100%); granitic boulders			40

Silt Sample	HMC Sample	Date	East	North	Elev (m)	Stream Width (m)	Stream Depth (cm)	Stream Flow Rate	Stream Flow Direction	HMC Sample Site Information	HMC Sample Panning Material Description	Silt Sample Description	HMC Initial Pan Weight (kg)	HMC Sample Weight (g)	Silt Sample Weight (g)
SR614		2019_09_08	374658	6663962	1509	3	10	moderate to slow	80°			~20 m downstream from tarn outlet; streams flows below boulders downstream; granitic boulders			73
SR615	**SR715**	2019_09_11	376434	6669010	1308	2	25	very fast	115°	bolder trap; siliclastic boulders and cobbles common; at base of V-shaped gully with boulder-rich gravel bank; nearby siliciclastic outcrop at stream level		moss mat (100%)	3.04	191	85

Appendix 2

Soil Sample and Talus Fine-Fraction Sample Descriptions

Location Coordinates: UTM Zone 9V, NAD83

Sample	Date	East	North	Elev (m)	Depth (cm)	Colour	Soil Horizon	Comment	Gravel In Soil (%)	Roots (%)	Vegetation	Slope
SR201	2019_08_18	375500	6669395	1507	25	medium reddish brown	B-C	Silt to very coarse sand. Very stony. Beneath 15 cm light grey leached zone. Near base of exposed coarse talus slope.	20	0.5 to 1	Moss, lichen, ground hugging juniper. Stunted balsam nearby.	gentle south
SR202	2019_08_18	375507	6669353	1501	25	dark reddish brown	B-C	Silt to very coarse sand. Very stony.	25	0.5 to 1	Lichen, moss, ground hugging juniper. Nearby stunted balsam.	gentle south
SR203	2019_08_18	375509	6669302	1497	30	medium brown	B-C	Silt to very coarse sand. Very stony.	30	1 to 2	Lichen, moss (uncommon), ground hugging juniper, sparse grass. Stunted balsam and deciduous shrubs nearby.	gentle south
SR204	2019_08_18	375500	6669264	1487	30	medium brown	B-C	Silt to very coarse sand. Very stony.	25	0.5 to 1	Lichen, ground hugging juniper. Nearby stunted balsam and shrubs.	moderate south
SR205	2019_08_18	375495	6669196	1483	25	dark brown	B-C	Silt to very coarse sand. Very stony. On top of small knoll. Coarse talus slope located ~20 m south.	50	0.5 to 1	Lichen, ground hugging juniper, few stunted shrubs.	moderate east
SR206	2019_08_18	375399	6669291	1482	20	dark brown	B-C	Silt to very coarse sand. Very stony. Coarse talus slope (north facing) located ~25 m south.	50	0.5 to 1	Lichen, sparse grass. Stunted shrubs nearby.	moderate south
SR207	2019_08_18	375408	6669351	1500	20	dark brown	B-C	Silt to very coarse sand. Very stony.	40	0.5 to 1	Lichen, ground hugging juniper. Stunted balsam nearby.	gentle south
SR208	2019_08_18	375398	6669406	1504	25	medium brown	B-C	Silt to very coarse sand. Very stony.	40	0.5 to 1	Lichen, ground hugging juniper, sparse grass. Stunted balsam nearby.	gentle east
SR209	2019_08_18	375393	6669457	1516	25	medium brown	B-C	Silt to very coarse sand. Very stony.	30	0.5 to 1	Lichen, moss. Stunted balsam nearby.	locally gentle north (overall moderate south)
SR210	2019_08_20	375301	6669498	1531	30	medium brown	B-C	Silt to very coarse sand. Very stony.	25	1 to 2	Lichen, ground hugging juniper, sparse grass. Stunted balsam nearby.	steep south
SR211	2019_08_20	375304	6669467	1516	30	medium brown	B-C	Silt to very coarse sand. Very stony.	40	0.5	Lichen, ground hugging juniper, sparse grass.	moderate south

Sample	Date	East	North	Elev (m)	Depth (cm)	Colour	Soil Horizon	Comment	Gravel In Soil (%)	Roots (%)	Vegetation	Slope
SR212	2019_08_20	375298	6669432	1506	20	medium brown	B-C	Silt to very coarse sand. Very stony.	40	0.5 to 1	Moss, sparse grass. Stunted shrubs nearby.	moderate south
SR213	2019_08_20	375300	6669402	1503	30	medium brown	B-C	Silt to very coarse sand. Moderately stony.	25	1 to 2	Lichen, moss, grass.	moderate south
SR214	2019_08_20	375301	6669362	1496	25	medium brown	B-C	Silt to very coarse sand. Very stony.	40	1 to 2	Moss, lichen. Stunted balsam nearby.	gentle south
SR215	2019_08_20	375300	6669327	1487	25	medium brown	B-C	Silt to very coarse sand. Very stony. Near southern limit of soil. South sloping talus/colluvium extends to south for ~25 to base of steep north sloping talus slope.	40	1 to 2	Lichen, moss, sparse grass.	moderate south
SR216	2019_08_20	375206	6669417	1495	25	medium brown	B-C	Silt to very coarse sand. Very stony. Near southern limit of soil. ~40 m of level to gentle south sloping talus/colluvium to base of steep north facing talus slope.	40	1 to 2	Moss, lichen, sparse grass.	gentle south
SR217	2019_08_20	375210	6669437	1492	30	dark brown	B-C	Silt to very coarse sand. Very stony.	40	0.5 to 1	Lichen, moss, sparse grass, cranberries.	moderate south
SR218	2019_08_20	375202	6669471	1504	25	medium brown	B-C	Silt to very coarse sand. Very stony.	50	0.5 to 1	Moss, lichen, sparse grass. Stunted balsam nearby.	moderate south
SR219	2019_08_20	375198	6669519	1521	20	medium brown	B-C	Silt to very coarse sand. Very stony. Near outcrop.	50	0.5 to 1	Moss, sparse grass.	gentle south
SR220	2019_08_20	375209	6669565	1542	30	medium brown	B-C	Silt to very coarse sand. Very stony. Mineral soil overlain by 1 to 2 cm of organic matter (Ah horizon) which is typical for this area. 5 m north of (and uphill from) road.	50	0.5 to 1	Lichen, cranberries, sparse grass, minor juniper.	moderate south
SR221	2019_08_22	375243	6669609	1574	35	dark brown	B-C	Silt to very coarse sand. Very stony. 4 cm thick organic layer (Ah).	40	1 to 2	Moss, lichen, ground hugging juniper, sparse grass. Stunted balsam about 25 m away (near upper elevation limit of balsam).	moderate to steep south

Sample	Date	East	North	Elev (m)	Depth (cm)	Colour	Soil Horizon	Comment	Gravel In Soil (%)	Roots (%)	Vegetation	Slope
SR222	2019_08_22	375247	6669569		30	medium brown	B-C	Silt to very coarse sand. Very stony. 3 cm organic layer (Ah).	50	~1	Moss, lichen, sparse grass.	moderate to steep south
SR223	2019_08_22	375251	6669529	1532	50	medium brown (very slightly orangey)	B-C	Silt to very coarse sand. Very stony. 5 cm organic layer (Ah). At top of road cut bank ~4 m north of (uphill from) road	40	~0.5	Lichen, moss, grass.	moderate to steep south
SR224	2019_08_22	375254	6669494	1530	25	medium brown	B-C	Silt to very coarse sand. Very stony. 3 cm organic layer (Ah).	30	1 to 2	Moss, lichen, grass.	moderate south
SR225	2019_08_22	375249	6669454	1516	30	medium (orangey) brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah).	30	<0.5	Moss, lichen, sparse grass.	moderate south
SR226	2019_08_22	375255	6669410	1504	30	medium brown	B-C	Silt to very coarse sand. Very stony. 2 cm organic layer (Ah).	40	0.5	Moss, lichen, sparse grass.	gentle south
SR227	2019_08_22	375252	6669367	1493	15	medium brown (very slightly orangey)	B-C	Silt to very coarse sand. Very stony. 1 cm organic layer (Ah). Beneath sample depth gravel content increases. ~10 m from low point of valley (in traverse direction) with steep north facing talus slope beyond.	60	0.5 to 1	Sparse grass, minor lichen, small ground plant (~ 3 cm high).	gentle south
SR228	2019_08_22	375351	6669295	1483	20	medium brown	B	Clayey silt. No sand. 8 cm organic layer (Ah). ~20 m wide valley bottom (trending 280º) at edge of steep north facing talus slope. Area of moss and grass with boulders sticking through. Abundant boulders and cobbles (angular to subangular). Possibly a pond at some point in past.	1 to 5 (angular)	1 to 2	Moss, grass.	~ flat
SR229	2019_08_22	375348	6669336.5		30	medium brown	B-C	Silt to very coarse sand. Very stony. 3 cm organic layer (Ah).	50	0.5 to 1	Lichen, moss, few cranberries. Stunted shrubs nearby.	moderate to steep south

Sample	Date	East	North	Elev (m)	Depth (cm)	Colour	Soil Horizon	Comment	Gravel In Soil (%)	Roots (%)	Vegetation	Slope
SR230	2019_08_22	375345	6669378	1499	20	medium brown	B-C	Silt to very coarse sand. Very stony. 2 cm organic layer (Ah).	50	0.5 to 1	Lichen, soars grass, ground hugging juniper. Stunted balsam and stunted deciduous shrubs nearby.	moderate south
SR231	2019_08_22	375351	6669412	1513	30	medium brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah).	50	0.5 to 1	Lichen, (moss). Stunted balsam nearby.	gentle south
SR232	2019_08_22	375357	6669464	1522	30	dark brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah). ~5 m uphill from road.	40	0.25 to 0.5	Lichen, juniper. Stunted shrubs nearby.	moderate south
SR233	2019_08_22	375355	6669507	1544	40	medium to dark brown	B-C	Silt to very coarse sand. Very stony. 3 cm organic layer (Ah).	50	0.25 to 0.5	Lichen, moss, cranberries, sparse grass. Stunted balsam about 20 m away.	moderate to steep south
SR234	2019_08_22	375349	6669545	1567	20	medium brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah).	20	0.5 to 1	Lichen, (moss), cranberries	steep south
SR235	2019_08_22	375454	6669506	1551	35	medium brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah).	35	0.25 to 0.5	Lichen (white, crumbly), moss, ground hugging juniper, sparse grass. Stunted balsam nearby.	moderate to steep south
SR236	2019_08_22	375450	6669480	1544	30	medium brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah).	50	0.25 to 0.5	Moss. Nearby stunted balsam.	moderate to steep south
SR237	2019_08_22	375452	6669456	1522	35	medium brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah).	50	0.25 to 0.5	Moss, lichen, sparse grass. Nearby stunted balsam and stunted shrubs.	steep south
SR238	2019_08_22	375457	6669397	1505	35	dark brown	B-C	Silt to very coarse sand. Very stony. 1 to 3 cm organic layer (Ah).	40	0.25 to 0.5	Lichen, ground hugging juniper, sparse grass. Stunted balsam nearby.	gentle south to level
SR239	2019_08_22	375451	6669343	1498	20	medium brown (slightly rusty brown)	B-C	Silt to very coarse sand. Very stony. 2 to 3 cm organic layer (Ah).	60	0.5 to 1	Lichen, cranberries, few blueberries.	moderate south
SR240	2019_08_22	375448	6669298	1487	25		middle B	Silt to fine sand. 2 cm organic layer (Ah). Profile: 0-2 cm = Ah, 2-30 cm = silt to fine sand, 30-50 cm = gravel and cobbles. At top of road bank about 4 m north of (above) road.	3 to 5	1 to 2	Lichen, ground hugging juniper, sparse grass.	moderate south

Sample	Date	East	North	Elev (m)	Depth (cm)	Colour	Soil Horizon	Comment	Gravel In Soil (%)	Roots (%)	Vegetation	Slope
SR241	2019_08_22	375451	6669238	1481	25	medium brown (very slightly orangey)	B	Silt to very coarse sand. Very stony. 2 to 3 cm organic layer (Ah). At top of road bank ~4 m south of (above) road. Vegetated part of north facing talus slope near toe of talus. ~ level unvegetated coarse talus for ~25 m to south with steep talus slope beyond.	60	1 to 2	Lichen, cranberries, moss, sparse grass. Stunted shrubs nearby.	gentle north
SR242	2019_08_23	375464	6669164	1487	5 to 10	medium brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah). Small vegetated area on talus slope. Fine material decreases with depth. Near base of talus slope.	80	1 to 2	Moss, lichen, sparse grass.	moderate north
SR243	2019_08_23	375433	6669186	1489	5 to 15		B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah). Small vegetated area on talus slope. Near base of talus slope.	70	1 to 2	Moss, lichen, sparse grass.	moderate north
SR244	2019_08_23	375396	6669218	1490	5 to 20	medium brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah). Small vegetated area on talus slope. Near base of talus slope.	70	1 to 2	Moss, lichen, sparse grass.	moderate north
SR245	2019_08_23	375368	6669251	1482	10 to 20	medium brown	B-C	Silt to very coarse sand. Very stony. 1 to 2 cm organic layer (Ah). Small vegetated area on talus slope. Near base of talus slope.	70	1 to 2	Moss, lichen, sparse grass.	moderate north
SR246	2019_08_23	375319	6669272	1474	5 to 20	medium brown	C	Silt to very coarse sand. Very stony. No Ah. ~3 m wide (parallel to slope) zone of finer talus within coarse talus slope. Near base of talus slope.	80	0	Nil.	gentle north

Sample	Date	East	North	Elev (m)	Depth (cm)	Colour	Soil Horizon	Comment	Gravel In Soil (%)	Roots (%)	Vegetation	Slope
SR247	2019_08_23	375292	6669278	1479	5 to 20	medium brown	C	Silt to very coarse sand. Very stony. No Ah. Very coarse talus to west for ~100 m. Near base of talus slope.	80	0	Nil.	gentle north
SR248	2019_08_23	375173	6669397	1498	5 to 20	medium brown	C	Silt to very coarse sand. Very stony. No Ah. Near base of talus slope.	80	0	Nil.	gentle northeast
SR249	2019_08_30	374917	6669383	1581	0 to 20	medium brown		Talus fine-fraction sample. Area of coarse talus with ~5% material finer than gravel. Near middle of talus slope.		0	Nil.	steep northeast
SR250	2019_08_30	374942	6669349	1575	0 to 15	medium brown		Talus fine-fraction sample. ~5% of material is finer than gravel.		0	Nil.	steep northeast
SR251	2019_08_30	374967	6669316	1571	0 to 10	medium brown		Talus fine-fraction sample. ~50% of material is finer than gravel.		0 to 0.25	Sparse tufts of grass.	steep northeast
SR252	2019_08_30	375007	6669295	1568	0 to 15	medium brown		Talus fine-fraction sample. ~25% of material is finer than gravel.		0 to 0.25	Sparse tufts of grass.	steep northeast
SR253	2019_08_30	375032	6669271	1566	0 to 15	medium brown		Talus fine-fraction sample. ~50% of material is finer than gravel.		0	Nil.	steep northeast
SR254	2019_08_30	375087	6669258	1563	0 to 15	medium brown		Talus fine-fraction sample. ~25% of material is finer than gravel.		0	Nil.	steep northeast
SR255	2019_08_30	375129	6669222	1560	0 to 15	medium brown		Talus fine-fraction sample. ~50% of material is finer than gravel.		0		steep northeast
SR256	2019_08_30	375179	6669203	1555	0 to 20	medium brown		Talus fine-fraction sample.		0 to 0.25	Very minor moss, very sparse grass, seasonal small leafy plant.	steep northeast
SR257	2019_08_31	375233	6669170	1540	0 to 20	medium brown		Talus fine-fraction sample. ~20% of material is finer than gravel.		0	Very sparse tufts of grass.	steep northeast
SR258	2019_08_31	375282	6669149	1541	0 to 25	medium brown		Talus fine-fraction sample. ~10% of material is finer than gravel.		0 to 0.25	Very sparse moss, very sparse tufts of grass, very sparse small leafy plants.	steep northeast
SR259	2019_08_31	375322	6669127	1543	0 to 25	medium brown		Talus fine-fraction sample. ~10% of material is finer than gravel.		0	Nil.	steep northeast

Sample	Date	East	North	Elev (m)	Depth (cm)	Colour	Soil Horizon	Comment	Gravel In Soil (%)	Roots (%)	Vegetation	Slope
SR260	2019_08_31	375377	6669111	1543	0 to 20	medium brown		Talus fine-fraction sample. ~40% of material is finer than gravel.		0 to 0.5	Local sparse clumps of moss, sparse tufts of grass, sparse small leafy plants.	steep northeast
SR261	2019_08_31	375412	6669079	1546	0 to 15	medium brown		Talus fine-fraction sample. ~60% of material is finer than gravel. Near northwest end of large outcrop.		0.25 to 0.5	Local moss, tufts of grass, small leafy plants.	steep northeast
SR262	2019_08_31	375460	6669062	1537	0 to 30	medium brown		Talus fine-fraction sample. ~30% of material is finer than gravel. About 2 m below outcrop.		0.25 to 0.5	Few clumps of moss, small leafy plants, sparse tufts of grass.	steep northeast
SR263	2019_08_31	375487	6669029	1527	0 to 30	medium brown		Talus fine-fraction sample. ~40% of material is finer than gravel. About 1 m below large outcrop.		0.5 to 1	Local moss, small leafy plants.	steep northeast
SR264	2019_08_31	375537	6668981	1517	0 to 25	medium brown		Talus fine-fraction sample. ~20% of material is finer than gravel.		0 to 0.25	Sparse grass, small leafy plants.	steep northeast
SR265	2019_08_31	375563	6668958	1513	0 to 25	medium brown		Talus fine-fraction sample. ~30% of material is finer than gravel.		0.25 to 0.5	Nearby moss, sparse tufts of grass.	steep northeast
SR266	2019_08_31	375593	6668924	1516	0 to 30	medium brown		Talus fine-fraction sample. ~20% of material is finer than gravel.		0.25 to 0.5	Sparse tufts of grass, clusters of small leafy plants. A few stunted balsams in area.	steep northeast
SR267	2019_08_31	375621	6668886	1520	0 to 25	medium brown		Talus fine-fraction sample. ~20% of material is finer than gravel.		0 to 0.25	Nearby clumps of moss, scattered small leafy plants and other ground hugging vegetation.	steep northeast
SR268	2019_08_31	375657	6668820	1523	0 to 25	medium brown		Talus fine-fraction sample. ~20% of material is finer than gravel.		0.25 to 0.5	Nearby clumps of moss, clusters of small leafy plants and other ground hugging vegetation.	steep northeast
SR269	2019_08_31	375693	6668770	1521	0 to 20	medium brown		Talus fine-fraction sample. ~10% of material is finer than gravel.		0.25 to 0.5	nearby isolated clumps of moss, sparse ground hugging plants (some leafy).	steep to moderate northeast
SR270	2019_08_31	375746	6668724	1525	0 to 25	medium brown		Talus fine-fraction sample. ~5% of material is finer than gravel. Area of very coarse talus with abundant boulders.		0 to 0.25	Very sparse tufts of grass, patches of small leafy plants nearby.	steep northeast

Sample	Date	East	North	Elev (m)	Depth (cm)	Colour	Soil Horizon	Comment	Gravel In Soil (%)	Roots (%)	Vegetation	Slope
SR271	2019_09_09	374878	6669412		10 to 30	medium brown		Talus fine-fraction sample. ~20% of material is finer than gravel.		0 to 0.25	Nearby moss, grass tufts, small (ground hugging) leafy plants.	steep northeast
SR272	2019_09_09	374839	6669440		5 to 15	medium brown		Talus fine-fraction sample/soil. ~60% of material is finer than gravel. Small area of finer material within coarse talus. Outcrop nearby. Numerous carbonate talus boulders nearby.		0.5 to 1	Moss and tufts of grass nearby.	steep northeast
SR273	2019_09_09	374789	6669465		10 to 30	medium brown		Talus fine-fraction sample. ~20% of material is finer than gravel. ~50 m from base of outcrop cliff at top of talus slope.		0.25-0.5	Nearby tufts of grass.	steep northeast
SR274	2019_09_09	374748	6669496		0 to 20	medium brown		Talus fine-fraction sample. ~10% of material is finer than gravel. Few carbonate talus boulders.		0 to 0.25	Scattered ground hugging leafy plants nearby.	steep northeast
SR275	2019_09_09	374697	6669520	1661	0 to 15	medium brown		Talus fine-fraction sample. ~30% of material is finer than gravel. ~ 20 m from base of outcrop cliff at top of talus slope. Carbonate boulders common locally.		0	Nil.	steep northeast
SR276	2019_09_09	374672	6669543	1675	0 to 20	medium brown		Talus fine-fraction sample. ~20% of material is finer than gravel. ~50 m from base of outcrop cliff at top of talus slope.		0 to 0.25	Few ground hugging leafy plants nearby.	steep northeast
SR277	2019_09_09	374653	6669580	1676	0 to 25	medium brown		Talus fine-fraction sample. ~30% of material is finer than gravel.		0 to 0.25	Nearby small, leafy plants, minor moss.	steep northeast
SR278	2019_09_09	374678	6669644	1667	0 to 20	medium brown		Talus fine-fraction sample. ~30% of material is finer than gravel.		0.25 to 0.5	Nearby ground hugging leafy plants and moss	steep northeast

Appendix 3

Rock Sample Descriptions

Location Coordinates: UTM Zone 9V, NAD83

(Weight column lists weight of sample sent to laboratory)

Sample	Date	East	North	Elev (m)	Description	Weight (g)
SR401	2019_08_23	375463	7E+06	1480	Subangular float ~20x20x10 cm. Breccia. Angular, dark green to black, intensely chloritized wallrock fragments surrounded by quartz-carbonate matrix (mainly quartz). About 60% matrix and 40% wallrock fragments. Some medium to coarse grained coxcomb quartz. Trace amount of fine grained, disseminated galena.	709
SR402	2019_08_23	375335	7E+06	1476	Subangular boulder ~30x30x20 cm. Quartz vein stockwork with ~50% wallrock fragments. Stockwork contains 1-2% calcite. Wallrock fragments are aphanitic, weakly to moderately chloritic (pervasive). 1% to locally 5% blebby pyrrhotite (magnetic, some coarse grained). Pyrrhotite hosted by quartz. One 2 cm bleb of chalcopyrite noted.	587
SR403	2019_08_25	374991	7E+06	1585	Poorly exposed, strongly Fe-oxide stained rock (possible outcrop, possible boulder). About 30 cm wide exposure (surrounded by talus/felsenmeer) consisting of aphanitic to very fine grained, light greenish-grey to white, moderately to strongly siliceous rock. 30 cm chip sample (approximately north-south). ~70% aphanitic (mainly) to coarse grained, white to yellowish stained quartz (minor amount of coxcomb quartz with minor open space). ~30% very fine to fine grained blebby to interconnected "bands" of magnetite. Trace amount of disseminated pyrrhotite. Very strong, dark rusty brown, goethitic Fe-oxide alteration along fractures and as surface stain.	1352
SR404	2019_08_25	375147	7E+06	1542	Angular rubble ~10x10x7 cm on south side of road at base of cut bank. Aphanitic, light grey, somewhat "mottled" appearing rock with overall hardness of 4 to 5. Generally nil dilute HCl reaction (even when powdered) but l**ocally very weak HCl reaction** on some hairline fractures. 1-2% dark brown to black sphalerite and 1-2% pyrite. Both sulphides occur along fractures and in small blebs. Moderate amount of dark brown Fe-oxide stain. Not magnetic. Mineralized siltstone.	801
SR405	2019_08_25	375147	7E+06	1542	Angular rubble ~8x5x5 cm on south side of road at base of road cut (~2 m south of SR404). Aphanitic, light grey, locally weakly "mottled" appearance with overall hardness of 4 to 5. Very weak reaction to dilute HCl when powdered and also locally when not powdered. 5-10% very dark brown to black, blebby sphalerite - some is coarse grained. Trace amount of disseminated pyrite. Moderate to strong, dark brown goethitic surface stain. Rock is not magnetic. Similar pieces of sphalerite-bearing rubble nearby. Mineralized siltstone.	436
SR406	2019_08_25	375151	7E+06	1552	Outcrop (sampled with hammer and chisel) near base of cut bank on south side of road. Lens/pod 10 to 20 cm wide exposed over a length of ~40 cm at base of exposure (buried below at base and terminates against unmineralized rock above). Sample contains ~5% dark brown, blebby sphalerite that occurs within aphanitic, siliceous rock. Moderate dark brown Fe-oxide alteration - fracture controlled and surface stain. Wallrock is aphanitic to very fine grained and siliceous. Similar altered lens/pod occurs about 30 cm higher in outcrop - probably fracture controlled along a strike of 045º and a dip of 80º NW.	161
SR407	2019_08_25	374968	7E+06	1519	Angular trench rubble ~55x45x30 cm from trench 3. Sample taken from one side of boulder that is well mineralized. ~25% of boulder is well mineralized. Sample consists of 5 to 25% blebby and fracture controlled pyrrhotite (magnetic) - some is coarse grained and striated. 1 to 3% black, blebby sphalerite (associated with pyrrhotite). Host is aphanitic and dark green with moderate pervasive chlorite alteration. Overall moderately magnetic.	1203

Sample	Date	East	North	Elev (m)	Description	Weight (g)
SR408	2019_08_30	374925	7E+06	1575	Angular talus ~10x5x2 cm. Surface is coated mainly by black Mn stain with ~20% medium brown Fe-oxide stain. Fresh is aphanitic, mainly light greyish green (90%) - this gives very weak dilute HCl reaction. Remaining 10% consists of aphanitic, black material that occurs as spotty blebs to interconnected, multidirectional veinlets - possibly Mn oxide. This material gives the rock a mottled appearance. 1-5% dark brown, blebby to fracture controlled sphalerite. Not magnetic. Mineralized siltstone.	231
SR409	2019_08_30	374947	7E+06	1576	Angular talus ~20x15x15 cm. Weathering surface is ~70% medium to dark brown (goethitic) Fe-oxide coating and 30% Mn-oxide coating. About 50% of boulder is white to light green to medium rusty brown quartz vein. Vein is disrupted by abundant, multidirectional veinlets of Fe-oxide and Mn-oxide. Trace amount to 1% blebby pyrrhotite. Trace amount of sphalerite (dark brown, blebby). Other 50% of boulder is medium green, aphanitic rock (possibly altered siltstone). Powdered material gives very weak HCl reaction. ~5-10% blebby pyrrhotite (blebs up to 5 mm across; non-magnetic). Trace to 2% disseminated to blebby sphalerite (dark brown; very locally to 5%). Trace to 0.25% disseminated to blebby galena. Most sulphide mineralization occurs within a few cm's of vein. Sample consists of about 75% mineralized wallrock and 25% vein material.	896
SR410	2019_08_30	374955	7E+06	1572	Angular talus ~15x10x10 cm. Weathered surface coating is ~90% dark brown Fe-oxide (goethitic) and 10% Mn-oxide. Fresh rock is aphanitic, light grey to medium green. No reaction to dilute HCl (even when powdered). Not magnetic. 3-7% dark brown, fracture controlled to blebby sphalerite. Trace disseminated pyrite. 1-3% irregular, Fe-stained quartz veins up to 1 cm wide. A small part of rock is relatively unmineralized. Mineralized siltstone.	704
SR411	2019_08_30	375072	7E+06	1564	Angular talus ~15x10x5 cm. Dark rusty brown (goethitic) Fe-oxide stain. Very fine grained, dark green, possibly pyroxene rich. 5 to 10% disseminated to blebby pyrrhotite (nil to very weak magnetism). Overall rock is not noticeably magnetic. Calc-silicate skarn.	619
SR412	2019_09_02	374894	7E+06	1595	Angular talus ~20x15x10 cm. Weathered surface has a heavy coating of ~75% Mn-oxide and 25% dark brown Fe-oxide. Fresh rock is aphanitic, light green to light greyish green with very weak dilute HCl reaction (only where rock is powdered). 5 to 10% unknown, amorphous black mineral in patches up to 5 mm across. Weak hairline fracture controlled Fe-oxide and Mn-oxide. No quartz veining. 3-7% dark brown to black sphalerite in lensoidal blebs up to 15 mm long by 5 mm across. Sphalerite is approximately evenly distributed throughout rock. Not magnetic. Mineralized siltstone.	854
SR413	2019_09_02	374925	7E+06	1583	Angular talus ~40x25x15 cm. Weathered surface is ~90% dark brown, goethitic Fe-oxide coating and 10% Mn-oxide coating. Rock is light green and aphanitic with no dilute HCl reaction (even when powdered) and is not magnetic. Very strongly fractured (multidirectional) with dark brown goethitic Fe-oxide along the hairline fractures making it difficult to break a fresh/unaltered surface. Trace to 2% galena (disseminated and blebby with blebs up to 4 mm across). Trace to 0.5% disseminated and blebby sphalerite (blebs up to 3 mm across). Trace to 0.5% disseminated and fracture controlled pyrite. Mineralization is approximately evenly distributed throughout rock. Mineralized siltstone.	812

Sample	Date	East	North	Elev (m)	Description	Weight (g)
SR414	2019_09_02	374927	7E+06	1588	Angular talus ~30x25x12 cm. The boulder is divided compositionally into two approximately equal parts perpendicular to the short axis. Part A is light grey to white, aphanitic and siliceous with rare (one noted) round quartz eyes and weak Fe-oxide stain. This is in sharp contact with Part B. Part B is semi-massive to heavily disseminated/blebby to locally massive pyrrhotite. Matrix is aphanitic and dark green with strong pervasive chlorite. Strongly magnetic. Strong, dark brown Fe-oxide stain. Trace to 1% blebby to fracture controlled pyrite. Trace to 0.5% dark brown to black, blebby sphalerite that tends to occur near pyrite. Only part B included in sample.	1275
SR415	2019_09_02	374924	7E+06	1589	Angular talus ~25x15x10 cm. Strong surface coating of dark brown Fe-oxide and black Mn-oxide. Rock is light to medium green to greyish green and aphanitic. Somewhat mottled appearance. No dilute HCl reaction (even when powdered). Not magnetic. Weak, fracture controlled brown Fe-oxide. ~10% of rock consists of irregular calcite veins up to 1 cm across (some very coarse grained, subhedral calcite crystals). 10 to 20% dark brown to black, blebby sphalerite in blebs up to 1 cm across and mainly in wallrock (5 to 10% disseminated/blebby sphalerite in veins). Trace amount of blebby pyrrhotite. About 95% of rock is mineralized. Mineralized siltstone.	950
SR416	2019_09_02	374926	7E+06	1600	Angular talus ~20x20x15 cm. Weathered surface is black. Moderately well layered with 5-15 mm thick magnetite layers separated by 1-5 mm thick, vitreous, light green, calc-silicate (epidote rich?) layers. 0.5-2% dark brown sphalerite in irregular lenses up to 4 mm thick that do not follow layering. Strongly magnetic. Calc-silicate-magnetite skarn.	810
SR417	2019_09_10	374929	7E+06	1579	Angular talus ~10x10x5 cm. Outer surface is dark rusty brown (goethitic) Fe-oxide. Rock consists of ~20% white quartz veins with trace to 0.25% fine grained, disseminated, dark brown to black sphalerite. ~80% semi-massive **pyrrhotite**, moderately magnetic with trace disseminated galena, trace to 0.25% dark brown, blebby sphalerite and trace to 2% disseminated to blebby pyrite. 50-70% of this unit is dark green to black, aphanitic silicate.	577
SR418	2019_09_10	374927	7E+06	1581	Angular talus ~40x20x20 cm. Weathered surface has dark rusty brown (goethitic) Fe-oxide coating. Rock is dark green and aphanitic to very fine grained. Trace to 1% very fine grained galena (disseminated and blebby). 1-5% dark brown to black, blebby sphalerite. Trace disseminated pyrite. Rock is not magnetic. Mineralized siltstone.	981
SR419	2019_09_10	374903	7E+06	1595	Angular talus ~10x5x5 cm. Weathered surface has dark brown (goethitic) Fe-oxide coating. Rock is aphanitic and medium to dark green. Weak fracture controlled rusty brown (goethitic) Fe-oxide. 5-10% dark brown to black, fine to coarse grained sphalerite (blebby and in lenses up to 2 cm thick). Trace to 1% blebby pyrrhotite. Trace to 0.5% disseminated pyrite. Trace disseminated galena. Rock is not magnetic. Mineralized siltstone.	505
SR420	2019_09_10	374893	7E+06	1599	Angular talus ~15x15x10 cm. Weathered surface has black Mn-oxide coating with ~10% dark rusty brown Fe-oxide. Rock is aphanitic, mottled on millimetre scale between dark green and light greenish grey areas. Light greyish green areas give weak to moderate HCl reaction (without powdering). Trace disseminated to blebby pyrite. 5-15% dark brown to black, fine to coarse grained, heavily disseminated to blebby sphalerite. Strong, fracture controlled to blebby, light rusty brown (limonitic) Fe-oxide alteration. Mineralized siltstone.	764

Sample	Date	East	North	Elev (m)	Description	Weight (g)
SR421	2019_09_10	374883	7E+06	1610	Angular talus ~30x25x20 cm. Weathered surface is a coating of about 80% dark rusty brown (goethitic) Fe-oxide and 20% black Mn-oxide. Rock is aphanitic and light green. No reaction to dilute HCl. Not magnetic. Moderate fracture controlled, light rusty brown (limonitic) Fe-oxide. Entire boulder is mineralized but sulphides concentrations vary. 5-20% dark brown, fine to coarse grained sphalerite (blebby, fracture controlled and in lenses up to 2 cm across). 1-5% pyrite (blebby, disseminated and fracture controlled). Trace blebby pyrrhotite. More mineralized part of boulder sampled. Mineralized siltstone.	1115
SR422	2019_09_10	374881	7E+06	1614	Angular talus ~50x35x20 cm. Weathered surface is dark green to dark rusty brown (goethitic Fe-oxide). Rock is medium green, fine grained, composed mainly of medium green, elongate silicate (possible actinolite). 1-3% dark brown to black sphalerite (disseminated and in small blebs). Sphalerite does not occur in all parts of boulder - sphalerite bearing rock sampled. Calc-silicate skarn.	535
SR423	2019_09_10	374867	7E+06	1633	Angular talus >40x~30x~20 cm. Weathered surface has a coating of ~80% dark brown, rusty Fe-oxide and 20% black Mn-oxide. Rock is medium to dark green and aphanitic. Not magnetic. 5-20% dark brown to black, fine to coarse grained, blebby sphalerite. Trace to 2% disseminated to blebby pyrrhotite. Extremely weak reaction to dilute HCl when powdered. At base of talus "chute" in outcrop cliff. Mineralized siltstone.	694
SR424	2019_09_11	374948	7E+06	1517	Angular trench rubble ~30x25x15 cm. Weathered surface has a rusty brown coating. The boulder consists of two rock types divided perpendicular to the short axis. Wallrock (~5 cm thick) is white, very fine grained (sugary appearing), hard, siliceous rock composed almost entirely of very fine quartz grains. Remainder (~10 cm thick) is semi-massive to massive sulphide consisting of 40-50% coarse grained, subhedral to euhedral galena and 5-10% blebs of black sphalerite. Matrix to sulphides is clear to white, irregularly distributed quartz. Not magnetic (both rock types). Sulphides are probably a vein with only one contact with wallrock preserved in boulder. Contact with wallrock is very sharp. Some broken surfaces of vein have a distinct peacock blue sheen but no coper mineral noted. Where the boulder is not coated by Fe-oxide the galena weathers black. Sulphide-rich part of boulder sampled. Trench 3.	825
SR425	2019_09_11	374953	7E+06	1523	Angular trench rubble ~30x30x22 cm. Weathered surface has a medium to dark, rusty brown coating. Rock is aphanitic, light grey to light greenish grey and very siliceous - possible vein or zone of silica flooding. Local semi-massive sulphide - mainly galena. Overall boulder contains about 5-10% galena (concentrated in bands up to 2 cm thick (with sphalerite). Some of the galena is coarse grained and euhedral. 1-5% black sphalerite (commonly near galena). 1-5% disseminated to blebby pyrite. Rock is not magnetic. Trench 3.	1612
SR426	2019_09_11	374955	7E+06	1523	Angular trench rubble ~15x10x5 cm. Weathered surface consists of ~70 medium rusty brown coating and 30% black, weathered galena. Massive sulphide (no wallrock). ~80% galena, fine to coarse grained, subhedral to euhedral. 5-10% black, blebby sphalerite. 10-15% white, matrix quartz. Not magnetic. ~3 m southeast of sample site SR425. Trench 3.	766

Sample	Date	East	North	Elev (m)	Description	Weight (g)
SR427	2019_09_12	374845	7E+06	1526	Angular rubble ~55x30x20 cm on downslope side of road near edge. ~75% of boulder is well mineralized. Weathered surface has ~95% dark rusty brown (goethitic) Fe-oxide coating and ~5% Mn-oxide coating. Unmineralized rock is light grey to white, very fine grained, very siliceous and appears to be composed of very fine grained quartz grains (appears siliciclastic but may be silica flooded rock). Mineralized rock is 10-20% dark brown to black, very coarse grained sphalerite in irregular lenses up to 1.5 cm wide + blebby + disseminated. 1-5% moderately magnetic pyrrhotite (fracture controlled, blebby, disseminated and as rims (halos) up to 1 mm wide around circular cavities up to 2 mm across). Matrix is same as unmineralized wallrock. Mineralized part of boulder sampled. Additional mineralized rubble boulders occur downslope (below road) in material pushed during road construction (some with very strong Mn-oxide coatings).	960
SR428	2019_09_12	374944	7E+06	1523	Angular trench/rock rubble ~80x55x55 cm. Weathered surface consists of medium to dark rusty brown Fe-oxide coating with about 5% Mn-oxide. Unmineralized wallrock is light grey to white, weakly foliated, very fine grained, very siliceous and appears to be composed entirely of very fine quartz grains (sugary appearance). This unmineralized rock forms a zone 10 to 20 cm wide perpendicular to one of the 55 cm axes (i.e. forms about 25% of the boulder). Mineralized rock (about 75% of boulder) divided into 3 parts (A, B and C). Part A (forming 1-5% of mineralized rock) consists of heavily disseminated to semi-massive zones of pyrite (25-50%) with an aphanitic, light grey to white, quartz matrix. Part B (forming 45-50% of mineralized rock) consists of heavily disseminated (to locally semi-massive) sphalerite and galena with 15-20% black sphalerite, 5-10% galena (fine to coarse grained, subhedral to euhedral) and 0.5 to 2% disseminated to blebby pyrite. Part C (forming 45-50% of mineralized rock) consists of lenses (and/or very irregular veins) up to 1 cm thick of coarse grained, euhedral galena with 10-20% white quartz matrix. No part of boulder is magnetic. Beside road close to trench 3.	898
SR501	2019_08_26	374994	7E+06	1524	Subround talus/rubble ~45x35x15 cm. Tourmaline vein material. ~95% black, well striated tourmaline crystals up to 45 x 8 mm, euhedral, most aligned ~parallel but some crystals at angles to others. Hexagonal cross sections. ~5% quartz - some in veins ~perpendicular to the long axes of most tourmaline crystals and some in between tourmaline crystals. One main quartz vein is 10 mm wide. Not magnetic. No anomalous radioactivity (checked with SPP2 scintillometer). Probably from a vein (15 cm thick) with majority of black tourmaline oriented perpendicular to vein margins. Several similar pieces of rubble noted nearby. A tourmaline vein consisting of very similar material outcrops uphill within magnetite-bearing skarn at 374983E, 6664862N at an elevation of 1531 m. This vein is up to 15 cm wide and is oriented ~east-west with a vertical dip (compass not accurate due to abundant nearby magnetite skarn). Partridge skarn main showing area.	404

Sample	Date	East	North	Elev (m)	Description	Weight (g)
SR502	2019_08_26	374995	7E+06	1529	Angular talus/rubble ~15x10x10 cm. Area upslope may have been blasted. Aphanitic to very fine grained, dark green to black calc-silicate and magnetite skarn. Magnetite (5-20%) is very fine grained and disseminated ~equally throughout rock. 1 to 5% very fine grained, light brown to silvery disseminated mica (phlogopite?). 5 to 10% light-medium green, poddy and fracture controlled mica (sericite?). Trace to 2% disseminated and blebby arsenopyrite (not evenly distributed)- some subhedral and up to 3 m long. One arsenopyrite bleb is 7 mm across. Trace disseminated pyrite. Moderately to strongly magnetic. Partridge skarn main showing area.	491
SR503	2019_08_26	374958	7E+06	1541	Partridge skarn main showing area. Angular talus/rubble ~15x10x10 cm. Aphanitic to very fine grained magnetite-bearing calc-silicate skarn. Nil to strongly magnetic. Dark green to black, possibly chloritic. 1-5 very fine grained silvery mica (sericite?). One small area of coarse grained, dark green radiating crystals (dark green - possibly actinolite). Trace to very locally 2% very fine to fine grained galena. Trace to very locally 0.5% very fine to fine grained yellow-brown to reddish brown, somewhat resinous sphalerite. Galena and sphalerite tend to occur together. Both are disseminated but local concentration suggests possible overall fracture control. Limestone-skarn contact is about 10 m west (uphill). Partridge skarn main showing area.	805
SR504	2019_08_28	375592	7E+06	1353	Subround boulder ~20x15x12 cm. Midstream. White to light grey leucocratic fine grained granite. Light brown limonitic weathering and locally pervasive limonite in rind up to 2 cm thick. Cut by 3 to 4 mm quartz vein with ~1 cm wide, symmetric black selvage containing abundant very fine to fine grained black biotite. Vein and inner selvage contain 1 to 3% fine grained arsenopyrite. Sample selected for vein and selvage (sample is ~25% vein and selvage and 75% wallrock granite).	596
SR505	2019_09_01	374341	7E+06	1627	Angular rubble/scree on top of ridge ~10x8x5 cm. Medium green, very fine to medium grained calc-silicate skarn. The dominant green mineral is a 'glassy' medium green - some is subhedral, tabular and elongate (2:1 to 4:1) - possibly diopside or hedenbergite. The rock is not magnetic. No reaction to dilute HCl. 1 to 5% disseminated purple fluorite commonly 0.5 to 2 mm subhedral crystals up to 3 mm across. 1 to 5% pale yellow to pale amber-yellow, anhedral mineral, generally poorly formed, hardness ~5, disseminated and in a poorly defined band up to 1 cm thick (possibly grossular garnet). The rock also contains about 1% of an unidentified black mineral (hardness ~4, white streak, occurs disseminated and in aggregates). Several pieces of similar rubble nearby.	786
SR506	2019_09_03	373758	7E+06	1712	Massive outcrop near top of ridge. Granite. White, white weathering, equigranular, well jointed. ~70% white, subhedral to euhedral feldspar commonly up to 7x2 mm. ~25% light grey, anhedral quartz commonly up to 3 mm across. ~5% biotite up to 3 mm across. SPP2 scintillometer reading of 450 counts per second.	422
SR507	2019_09_03	373760	7E+06	1761	Outcrop. Granite similar to SR506 except no biotite present. Light rusty brown, weakly to moderately limonitic weathering. Weak to moderate, hairline fracture to pervasive, light brown, limonitic Fe-oxide alteration. Has 'crumbly' appearance (friable). Nearby SPP2 scintillometer reading of 475 counts per second.	561

Sample	Date	East	North	Elev (m)	Description	Weight (g)
SR508	2019_09_03	374057	7E+06	1666	Subangular talus ~100x50x20(+) cm. Granite. Fresh colour is orangey white. Weathers light orangey rusty brown. 60-70% white to orangey brown (stained) subhedral feldspar commonly up to 5x2 mm. 20-25% light grey, anhedral quartz commonly up to 3 mm across. 10-15% distinct (fresh appearing) black, subhedral to euhedral biotite commonly up to 5 mm across with distinct edges. SPP2 scintillometer reading of area sampled was 750 counts per second (local readings of up to 975 counts/second but this part of boulder could not be broken for sample).	346
SR509	2019_09_03	374010	7E+06	1683	Angular talus ~15x15x10 cm. Calc-silicate skarn. Weathers dark rusty brown (Fe-oxide coating). Fresh surface is dark green. Very fine grained composed mainly of dark green silicate (possibly diopside or hedenbergite). 5-10% very fine grained, disseminated, vitreous, amber brown mineral (possibly garnet). ~5% disseminated pyrrhotite. Trace disseminated chalcopyrite. Pyrrhotite rich zones are very weakly magnetic. Talus boulders in area are about 80% granite and the rest are mainly limestone with some calc-silicate ± magnetite skarn.	600
SR510	2019_09_03	373968	7E+06	1700	Angular talus boulder ~100x100x100 cm. Strong coating of dark rusty brown (goethitic) Fe oxide (~80%) and Mn oxide (~20%). Fresh surface is black to very dark green and generally fine grained. Weakly banded. ~75% magnetite and ~20% dark green silicate. Locally rock is dominated by dark green, bladed/lathlike crystals up to 5 mm long by 1 mm across (suggesting silicate phase may be mainly actinolite). ~5% yellow to amber brown, very fine to fine grained, vitreous mineral in irregular blebs and lenses (garnet?). Not magnetic (very locally) to strongly magnetic.	1107
SR511	2019_09_03	374329	7E+06	1634	Angular boulder (rubble/felsenmeer) ~140x100x80 cm. Granite. Weathers light pinkish white to white. Fresh surfaces are mainly white. 55-65% white, subhedral feldspar commonly up to 5x2 mm. 20-25% light grey, anhedral quartz commonly up to 3 mm across. 15-20% subhedral, fresh appearing, biotite commonly up to 5 mm across. SPP2 scintillometer reading taken on boulder was ~1000 counts/second.	318

Appendix 4

Scintillometer Readings

Saphymo Stel SPP2 Scintillometer (Series 23, No. 3119)

Location Coordinates: Latitude and Longitude, NAD83

Latitude	Longitude	Altitude (m)	Counts per Second	Exposure	Lithology
60.100886	-131.260652	1626	380	boulder	granite
60.100931	-131.260520	1627	390	boulder	granite
60.100964	-131.260320	1629	525	boulder	granite
60.100982	-131.260306	1628	1000	boulder	granite
60.100993	-131.260141	1629	700	boulder	granite
60.101026	-131.260085	1628	210	boulder	skarn
60.101079	-131.259974	1631	110	boulder	skarn
60.101131	-131.259863	1631	100	outcrop	limestone
60.101174	-131.259644	1631	90	boulder	limestone
60.101206	-131.259297	1630	105	boulder	limestone
60.101189	-131.259057	1628	95	boulder	limestone
60.100834	-131.260838	1627	300	boulder	granite
60.100818	-131.260953	1627	600	boulder	granite
60.100784	-131.261067	1629	350	boulder	granite
60.100730	-131.261281	1628	325	boulder	granite
60.100717	-131.261518	1627	275	boulder	granite
60.100712	-131.261756	1627	300	boulder	granite
60.100734	-131.261927	1628	400	boulder	granite
60.100701	-131.262215	1630	350	boulder	granite
60.100699	-131.262315	1630	625	boulder	granite
60.100629	-131.262602	1635	375	boulder	granite
60.100610	-131.262836	1637	375	boulder	granite
60.100614	-131.263112	1639	725	boulder	granite
60.100584	-131.263257	1642	400	boulder	granite
60.100612	-131.263516	1644	425	boulder	granite
60.100556	-131.263693	1647	400	boulder	granite
60.100558	-131.263879	1649	350	boulder	granite
60.100464	-131.264082	1654	375	boulder	granite
60.100424	-131.264131	1656	600	boulder	granite
60.100357	-131.264279	1660	350	boulder	granite
60.100317	-131.264469	1661	375	boulder	granite
60.100277	-131.264610	1662	325	boulder	granite
60.100276	-131.264756	1663	350	boulder	granite
60.100262	-131.264890	1667	425	boulder	granite
60.100262	-131.265024	1673	975	boulder	granite
60.100264	-131.265169	1674	500	boulder	granite - pegmatitic
60.100254	-131.265375	1678	350	boulder	granite
60.100223	-131.265534	1679	325	boulder	granite

Latitude	Longitude	Altitude (m)	Counts per Second	Exposure	Lithology
60.100691	-131.270430	1776	400	outcrop	granite
60.100645	-131.270403	1776	350	boulder	granite
60.100617	-131.270382	1776	450	boulder	granite
60.100592	-131.270378	1774	375	boulder	granite
60.100548	-131.270362	1771	375	boulder	granite
60.100519	-131.270341	1770	350	boulder	granite
60.100482	-131.270379	1767	350	boulder	granite
60.100455	-131.270403	1764	400	boulder	granite
60.100441	-131.270453	1763	450	outcrop	granite
60.100424	-131.270472	1761	500	outcrop	granite
60.100394	-131.270428	1757	425	boulder	granite
60.100369	-131.270479	1756	475	boulder	granite
60.100359	-131.270408	1757	475	boulder	granite
60.100328	-131.270442	1759	500	outcrop	granite
60.100305	-131.270390	1761	450	boulder	granite
60.100299	-131.270374	1760	450	outcrop	granite
60.100279	-131.270329	1763	500	outcrop	granite
60.100245	-131.270357	1766	425	outcrop	granite
60.100212	-131.270400	1769	425	outcrop	granite
60.100159	-131.270414	1771	475	outcrop	granite
60.100090	-131.270483	1773	375	outcrop	granite
60.100017	-131.270447	1773	425	outcrop	granite
60.099973	-131.270443	1773	450	outcrop	granite
60.099957	-131.270474	1770	450	outcrop	granite

Appendix 5

TSL Laboratories Inc. Geochemical Results

TSL LABORATORIES
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Company:	Mr. Glen Prior	TSL Report:	S57220
Geologist:	G. Prior	Date Received:	Nov 13, 2019
Project:	SR	Date Reported:	Nov 28, 2019
Purchase Order:		Invoice:	77460

Sample Type:	Number	Size Fraction	Sample Preparation
Soil	78	-80 mesh	Dry, Screen

ICP-MS Aqua Regia Digestion HCl-HNO_3

The Aqua Regia Leach digestion liberates most of the metals except those marked with an asterisk where the digestion will not be complete.

Element Name	Lower Detection Limit	Upper Detection Limit
Ag	0.1 ppm	100 ppm
Al *	0.01 %	10 %
As	0.5 ppm	10000 ppm
Au	0.5 ppb	100 ppm
B *	1 ppm	2000 ppm
Ba *	1 ppm	1000 ppm
Bi	0.1 ppm	2000 ppm
Ca *	0.01%	40 %
Cd	0.1 ppm	2000 ppm
Co	0.1 ppm	2000 ppm
Cr *	1 ppm	10000 ppm
Cu	0.1 ppm	10000 ppm
Fe *	0.01%	40 %
Ga *	1 ppm	1000 ppm
Hg	0.01 ppm	100 ppm
K *	0.01%	10 %
La *	1 ppm	10000 ppm
Mg *	0.01%	30 %

Element Name	Lower Detection Limit	Upper Detection Limit
Mn *	1 ppm	10000 ppm
Mo	0.1 ppm	2000 ppm
Na *	0.001%	10 %
Ni	0.1 ppm	10000 ppm
P *	0.001%	5 %
Pb	0.1 ppm	10000 ppm
S	0.05 %	10 %
Sb	0.1 ppm	2000 ppm
Sc	0.1 ppm	100 ppm
Se	0.5 ppm	1000 ppm
Sr *	1 ppm	10000 ppm
Te	1 ppm	2000 ppm
Th *	0.1 ppm	2000 ppm
Ti *	0.001%	10 %
Tl	0.1 ppm	1000 ppm
U *	0.1 ppm	2000 ppm
V *	2 ppm	10000 ppm
W *	0.1 ppm	100 ppm
Zn	1 ppm	10000 ppm

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan. S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 78 Soil

Report No: S57220
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS

Aqua Regia Digestion

Element / Sample	Ag ppm	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %
SR201	2	2.97	122.2	18.7	<20	90	6	0.13	0.5	7.8	60	90.4	4.19	8	0.09	0.22	13	0.77	475	4.6	0.006	27.5	0.097
SR202	0.3	2.04	119.4	20.1	<20	85	4.2	0.14	0.5	13.1	48	60.2	4.04	7	0.03	0.24	12	0.66	666	4	0.004	24.3	0.102
SR203	0.4	2.4	141.6	4.5	<20	101	4.9	0.1	0.4	6.6	62	46.7	5.68	13	0.1	0.23	10	0.68	795	5.3	0.006	17.5	0.107
SR204	0.8	2.15	181.9	5.9	<20	92	6.1	0.08	0.4	12.6	42	63	3.76	9	0.07	0.22	9	0.57	1017	4.4	0.005	17.4	0.085
SR205	1.4	3.71	168.4	9.8	<20	156	5.8	0.16	1	32.1	49	109.3	4.21	10	0.14	0.23	13	0.68	1793	4.8	0.008	28.1	0.15
SR206	0.5	2.03	215	9.7	<20	99	6	0.07	0.8	8	51	60.5	5.01	12	0.08	0.3	10	0.61	815	5.3	0.005	19.4	0.1
SR207	0.6	1.32	191	18.5	<20	73	8.2	0.09	0.2	3.8	35	38.7	3.25	11	0.04	0.11	11	0.34	252	3.4	0.004	13.1	0.076
SR208	0.3	1.79	107.3	3.5	<20	180	4.5	0.08	0.9	11.2	42	42.8	3.37	11	0.03	0.29	12	0.56	1908	8.2	0.005	17.5	0.079
SR209	1.1	2.89	222.3	6.9	<20	119	13.7	0.08	1	17.5	54	162.1	5.24	9	0.05	0.33	14	0.89	852	5.4	0.007	38	0.091
SR210	0.8	2.24	188.1	8.7	<20	83	6.3	0.08	1.9	19.7	37	87.6	3.99	8	0.04	0.22	12	0.67	1027	5	0.006	31.3	0.068
SR211	0.8	3.06	148.7	12.1	<20	85	5.1	0.08	0.6	30.3	43	109	4.37	9	0.03	0.39	12	0.96	1296	5.4	0.006	48.6	0.06
SR212	0.3	2.16	164.2	6.5	<20	102	6.4	0.18	0.8	26.4	50	163.7	5.85	8	0.02	0.26	17	0.75	1166	20.8	0.005	28.9	0.198
SR213	1.4	2.06	143.5	54.5	<20	97	5.5	0.13	0.7	16.5	38	85.4	3.03	7	0.03	0.22	12	0.64	943	3.5	0.006	31.6	0.111
SR213 Re	1.4	2.14	154.2	10.6	<20	98	5.7	0.14	0.7	17.3	39	89.2	2.99	7	0.03	0.23	13	0.66	1001	3.7	0.007	31.5	0.117
SR214	0.3	2.49	99.3	5.7	<20	71	5.8	0.05	0.6	17.4	54	73.2	4.28	8	0.03	0.18	11	0.76	1383	2.5	0.004	32.1	0.063
SR215	0.5	3.66	161.4	33.5	<20	131	9.4	0.22	2	31.9	47	168.8	4.94	10	0.02	0.31	14	1.06	1446	5.5	0.008	74.2	0.099
SR216	0.1	2.5	50.1	1.4	<20	45	1.7	0.08	0.7	19.3	37	78.9	3.88	9	0.01	0.16	14	0.94	1011	4.9	0.003	58.5	0.055
SR217	1.5	1.93	134.1	4.2	<20	70	4.8	0.1	0.5	7.8	39	82.7	4.16	8	0.08	0.19	11	0.53	688	3.6	0.006	20.7	0.097
SR218	0.2	2.83	49.2	7	<20	57	1.3	0.02	0.2	35	47	171	5.01	9	0.02	0.31	10	1.1	2148	3	0.003	44.4	0.075
SR219	0.3	2.89	94.8	10.4	<20	87	5.6	0.12	0.4	8.2	53	86.3	5.62	13	0.04	0.36	13	1.07	665	4	0.006	23	0.131
SR220	0.9	2.85	93.3	12.2	<20	93	3.6	0.12	0.6	31.7	47	134.2	4.71	9	0.06	0.32	13	0.79	1322	6.7	0.006	32.6	0.115
SR221	0.7	2.48	116	4.3	<20	102	5.6	0.08	0.9	35.9	44	126.6	4.79	8	0.07	0.24	11	0.75	1811	5.8	0.006	43.6	0.07
SR222	1.5	2.93	114.1	8.9	<20	89	4.4	0.11	0.8	23.4	55	130.2	4.73	10	0.08	0.32	13	0.99	991	5.9	0.006	46.7	0.073
SR223	0.5	2.71	114	11	<20	73	4	0.12	1.1	31.7	38	157.2	4.69	8	0.01	0.36	14	0.94	1417	4.4	0.004	49.5	0.076
SR224	0.5	1.89	157.9	6.2	<20	89	5	0.11	0.8	16.4	38	74.3	3.67	7	0.02	0.25	14	0.65	1021	4	0.005	22.1	0.097
SR225	1.3	2.22	181.8	12.2	<20	82	5	0.09	0.4	18.1	44	200.4	4.86	8	0.04	0.31	13	0.76	812	6.6	0.005	35.9	0.11
SR226	0.7	2.67	150.4	4.3	<20	84	4.7	0.1	0.6	15.5	41	107.6	4.21	8	0.04	0.24	12	0.81	802	4.4	0.005	36.3	0.086
SR227	0.7	2.17	183.3	8	<20	103	4.8	0.16	0.5	33.2	34	126.1	4.01	6	0.02	0.28	12	0.79	978	5.6	0.006	53.9	0.073
SR228	2.5	3.62	76.2	27.1	<20	199	4.7	0.63	9.5	42.1	45	130.1	6.26	10	0.02	0.23	30	1.18	2013	3.8	0.019	57.7	0.085
SR229	1.2	1.7	205	7.4	<20	70	4.7	0.14	0.6	14.4	30	93.2	3.08	5	0.05	0.15	16	0.65	613	3.2	0.005	41.4	0.057
SR230	1.8	3.07	521.2	15.7	<20	119	10	0.14	0.6	12.4	58	109.8	5.35	11	0.08	0.33	13	0.93	764	7.4	0.006	26.6	0.105
SR231	1.4	2.14	292.9	8.3	<20	85	7.7	0.09	0.6	25.3	36	96.8	3.48	6	0.05	0.17	12	0.62	1104	4	0.005	29.1	0.068
SR232	0.7	2.21	142.2	31.6	<20	94	7.1	0.07	0.7	13.6	41	94.9	3.78	8	0.06	0.22	12	0.67	999	3.7	0.006	25.3	0.074
SR233	2.1	2.44	270.9	6	<20	121	14.1	0.12	1	22.6	43	183	4.81	7	0.04	0.3	14	0.79	1339	5	0.008	37.7	0.084
SR234	0.7	3.8	20.1	5.3	<20	138	1.1	0.04	0.2	6.1	62	164.3	10.3	15	0.06	1.84	4	1.81	1525	1.4	0.013	12.8	0.086
SR235	1	2.7	274.8	8.7	<20	146	19.4	0.07	3.3	25	57	180.4	5.84	8	0.02	0.41	15	1.03	1162	5	0.006	38.8	0.101
SR236	2.4	2.69	221	20.3	<20	134	10.9	0.12	2.1	27.6	55	253.2	5.37	9	0.03	0.36	19	1.05	1325	4.6	0.008	58.2	0.069
SR237	1.1	2.58	149.4	7.7	<20	101	7.3	0.09	1.3	26.9	42	190.8	4.33	7	0.02	0.29	14	0.89	1162	3.8	0.005	52.3	0.061
SR238	0.4	1.23	79.6	6.3	<20	73	3.4	0.07	0.7	6.4	26	33	2.37	5	0.05	0.11	10	0.28	380	2.5	0.004	11.5	0.042
SR239	1.1	3.39	182.4	5	<20	68	4.7	0.09	0.4	12.7	49	80.6	3.83	6	0.13	0.13	11	0.5	560	4.3	0.004	22.2	0.115

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
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Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 78 Soil

Report No: S57220
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS

Aqua Regia Digestion

Element Sample	Ag ppm	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %
SR240	0.4	1.24	88.4	3.9	<20	67	3.1	0.12	0.6	17.1	21	74.8	2.01	3	0.02	0.13	11	0.48	574	2.2	0.005	27.7	0.055
SR241	1.4	2.11	296	8.6	<20	69	5.4	0.15	0.6	19.1	32	115.6	3.39	5	0.08	0.16	11	0.52	709	3.8	0.006	36.5	0.072
SR242	1	3.24	47.1	6.8	<20	230	3.2	0.47	4.2	24	31	94.2	4.72	9	0.02	0.17	16	1.05	1042	2.3	0.011	39.8	0.077
SR243	2.3	3.92	85.8	13.8	<20	299	6	0.52	4.1	30	40	148.7	6.25	11	0.04	0.2	25	1.28	1404	4	0.018	56.1	0.096
SR244	1.3	3.39	59.9	10.6	<20	248	4.4	0.55	2.9	19.4	35	106.7	4.93	9	0.03	0.2	17	1.06	936	3.7	0.015	45.4	0.094
SR245	1.1	3.16	65.9	8.3	<20	238	3.7	0.43	2.2	20.3	25	86.6	5.26	8	0.03	0.19	13	0.95	1045	2.1	0.007	33.4	0.085
SR246	1.8	3.31	74	20.8	<20	269	4.1	0.75	5.7	29.6	25	89.9	5.63	8	<0.01	0.25	16	1.02	1316	2	0.02	31.7	0.071
SR247	2.2	3.05	65.3	27.3	<20	244	2.6	0.86	10.2	19.3	21	71.3	5.05	7	<0.01	0.2	16	0.99	1172	1.5	0.019	25.2	0.06
SR248	2.1	2.69	53.4	15.2	<20	197	3.3	0.62	10.3	22.1	25	83.7	5.64	7	<0.01	0.19	18	0.85	1937	1.6	0.013	29.9	0.065
SR249	2.3	2.69	67.6	5.8	<20	89	2.8	0.56	15.1	42.1	36	89.5	5.23	7	0.04	0.17	47	0.74	1808	2.2	0.01	47.3	0.081
SR249 Re	2.3	2.78	68.2	6.8	<20	92	1.9	0.58	15.6	43.5	35	94.4	5.48	8	0.05	0.17	47	0.78	1863	2.1	0.01	47.5	0.088
SR250	6.7	2.77	53.1	21	<20	159	9.6	0.51	11.8	47.1	42	142	7.04	8	0.05	0.22	30	0.82	1966	2.3	0.014	40.1	0.082
SR251	1.7	2.58	63.1	13.2	<20	178	3	0.39	5.5	26.2	26	89.6	5.65	7	0.02	0.19	17	0.8	1801	1.8	0.012	30.1	0.069
SR252	2.2	2.7	55.5	16.2	<20	200	3	0.62	9.1	25.1	28	88.9	5.73	7	<0.01	0.19	18	0.87	1999	1.9	0.012	31.4	0.07
SR253	3.7	3.23	44.6	10.5	<20	227	4.9	0.74	13.5	25.5	24	101.1	5.77	7	<0.01	0.18	18	0.86	2180	2.2	0.019	28.5	0.064
SR254	2.7	3.15	44.3	9.8	<20	222	4.3	0.68	4.9	26.3	20	97.8	6	7	0.02	0.18	14	0.84	1701	1.7	0.022	24.9	0.066
SR255	1.4	3.35	99.3	22.3	<20	231	2.9	0.91	4.5	28.6	22	77.2	5.11	8	0.01	0.25	16	0.89	1139	1.7	0.023	31.2	0.063
SR256	1.9	3.02	84.3	42.2	<20	213	3.2	0.87	10.8	21.7	23	78.4	5.19	7	<0.01	0.19	15	0.94	1164	1.7	0.018	28.7	0.056
SR257	1.6	3.29	72	12.9	<20	272	4	0.66	4.8	29.4	25	86.5	5.26	8	0.01	0.25	14	0.97	1112	2.2	0.02	32.3	0.066
SR258	1.5	3.42	71.3	11.9	<20	253	3.7	0.67	3.3	32.8	25	91.3	5.71	9	0.01	0.24	16	0.97	1299	2.3	0.019	30.8	0.075
SR259	0.9	3.43	111.4	20.5	<20	193	5.4	0.73	3.3	30.7	40	154.9	4.99	10	0.02	0.25	31	1.3	814	3.4	0.027	76	0.083
SR260	1.4	3.86	90	17.5	<20	234	4.7	0.86	5.2	44.9	41	188.2	5.74	11	0.03	0.29	27	1.27	1134	4.9	0.026	85.9	0.082
SR261	1.3	3.44	49.1	14.8	<20	219	4.1	0.58	4	23.6	36	103.4	4.91	10	0.02	0.2	22	1.19	991	4	0.018	44.4	0.073
SR262	2.5	3.48	54.2	10.4	<20	173	6.6	0.61	5.9	29.6	48	115.9	4.57	10	0.04	0.17	24	1.18	1155	4	0.023	56.2	0.082
SR263	1.5	3.78	73.7	6	<20	191	7	0.71	3.1	32.2	47	109.2	4.64	12	0.03	0.23	22	1.14	1026	4	0.018	52.2	0.098
SR264	0.6	3.08	109.6	7.6	<20	241	3.7	0.41	1.7	36.4	33	90.1	4.88	8	0.02	0.24	21	0.95	943	1.9	0.011	45.9	0.094
SR265	0.6	2.8	90.7	4.7	<20	139	3	0.19	0.9	25.6	26	75.7	4.25	7	0.02	0.14	17	0.66	814	1.8	0.008	43	0.076
SR266	0.9	2.87	86.6	7.2	<20	253	5.3	0.4	4.4	22.9	19	68.8	5.11	7	<0.01	0.14	13	0.89	987	1.5	0.008	27.2	0.055
SR267	1.5	3.68	50.6	8.2	<20	210	4.6	0.26	1.6	20.3	21	65.3	5.69	8	0.04	0.1	13	0.7	1059	2.3	0.011	27.2	0.111
SR268	0.6	3.35	51.9	5.1	<20	202	3	0.38	1.3	17.6	18	55.8	4.62	8	0.02	0.11	13	0.73	978	1.5	0.011	22.1	0.088
SR269	0.6	3.28	236.5	23.7	<20	143	5.5	0.54	2.3	25.7	31	103.9	5.51	9	0.04	0.23	16	0.84	797	2.9	0.017	39.5	0.091
SR270	0.9	3.08	224.1	12.6	<20	132	11.6	0.43	1.3	32.8	36	99.5	4.54	8	0.03	0.19	18	0.74	738	2.4	0.016	59.4	0.1
SR271	1.1	4.14	40.8	8.9	<20	58	6.4	0.86	4.5	41.7	59	188.5	5.68	13	0.02	0.34	24	1.59	1387	3.2	0.02	62.4	0.088
SR272	0.7	4.23	64.8	7.6	<20	86	3	0.61	2.5	59.3	47	181.8	5.38	12	0.05	0.33	25	1.2	1812	8.1	0.016	125	0.134
SR273	0.6	2.59	46.1	7.7	<20	192	1.2	0.59	1.6	34.6	38	50.3	4.85	8	0.01	0.24	21	0.78	1218	1.2	0.012	33.3	0.075
SR274	1	3.75	21.4	7.2	<20	375	1.2	1	5.2	33.6	47	52.8	5.85	11	0.02	0.48	19	1.43	1895	1.1	0.032	24.2	0.086
SR275	3.5	3.14	27	14.4	<20	159	4.5	0.71	21.3	33.7	32	84.3	5.27	9	0.02	0.25	32	0.96	3293	2.2	0.01	33.5	0.079
SR276	1.1	3.52	31.7	8.9	<20	150	1	0.95	3.2	44.9	52	82.9	5.95	9	0.02	0.45	30	0.99	1578	1.6	0.021	38.3	0.109
SR277	0.8	4.09	22.9	4.6	<20	223	0.7	1.39	2.6	40.4	45	93.5	4.92	10	<0.01	0.58	32	1.42	1299	2	0.019	44.6	0.11
SR278	1	3.58	216.2	11.7	<20	226	4.6	0.49	1.5	27.9	69	163.7	5.98	10	0.02	0.48	21	1.01	1037	6.5	0.022	47.2	0.135

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.

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Mr. Glen Prior
Attention: G. Prior
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Sample: 78 Soil

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Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS

Aqua Regia Digestion

Element Sample	Ag ppm	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %
STD OREAS262	0.4	1.2	35	77	<20	238	0.9	2.81	0.7	26.8	41	116	3.3	4	0.15	0.29	17	1.06	547	0.6	0.062	59.1	0.039
STD DS11	1.7	1.23	41.8	62.3	<20	417	11.4	1.07	2.5	14.1	61	145.6	3.12	5	0.25	0.4	18	0.86	1020	15.5	0.072	83	0.07
STD OREAS262	0.5	1.31	35.9	79.4	<20	263	1	2.94	0.6	28.9	45	114.1	3.43	4	0.17	0.33	17	1.2	560	0.7	0.068	67.9	0.039
STD DS11	1.6	1.1	44	84.7	<20	387	10.9	1.02	2.4	12.9	56	147.3	3.07	5	0.25	0.4	18	0.81	994	13.6	0.067	74.1	0.076
STD OREAS262	0.5	1.28	37.6	82.9	<20	253	1	2.99	0.7	28	42	115.2	3.42	4	0.15	0.31	16	1.19	547	0.6	0.067	61.4	0.045
STD OREAS262	0.4	1.2	35	77	<20	238	0.9	2.81	0.7	26.8	41	116	3.3	4	0.15	0.29	17	1.06	547	0.6	0.062	59.1	0.039
BLK	<0.1	<0.01	<0.5	<0.5	<20	<1	<0.1	<0.01	<0.1	<0.1	<1	<0.1	<0.01	<1	<0.01	<0.01	<1	<0.01	<1	<0.1	<0.001	<0.1	<0.001
BLK	<0.1	<0.01	<0.5	<0.5	<20	<1	<0.1	<0.01	<0.1	<0.1	<1	<0.1	<0.01	<1	<0.01	<0.01	<1	<0.01	<1	<0.1	<0.001	<0.1	<0.001
BLK	<0.1	<0.01	<0.5	<0.5	<20	<1	<0.1	<0.01	<0.1	<0.1	<1	<0.1	<0.01	<1	<0.01	<0.01	<1	<0.01	<1	<0.1	<0.001	<0.1	<0.001
BLK	<0.1	<0.01	<0.5	<0.5	<20	<1	<0.1	<0.01	<0.1	<0.1	<1	<0.1	<0.01	<1	<0.01	<0.01	<1	<0.01	<1	<0.1	<0.001	<0.1	<0.001

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: ____________
Mark Acres - Quality Assurance

TSL LABORATORIES INC.
2 - 302 48th Street East, Saskatoon, Saskatchewan. S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 78 Soil

Report No: S57220
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS
Aqua Regia Digestion

Element	Pb	S	Sb	Sc	Se	Sr	Te	Th	Ti	Tl	V	W	Zn
Sample	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
SR201	72.4	<0.05	1	4.4	1.4	10	0.2	2.4	0.072	0.5	70	3.1	260
SR202	83.2	<0.05	1	4.4	0.8	9	0.2	5.1	0.076	0.4	72	5.4	276
SR203	73.4	<0.05	0.8	4.2	1	9	<0.2	1.8	0.119	0.6	132	2.5	165
SR204	146.9	0.06	1	2.8	0.9	9	<0.2	1.2	0.069	0.6	80	4.4	194
SR205	168.5	0.06	0.9	3	1.9	19	<0.2	0.8	0.054	0.7	82	3	261
SR206	85.5	0.07	1.2	3.2	0.9	9	0.2	1.2	0.107	0.6	109	6.2	200
SR207	71.8	<0.05	0.9	2	0.9	9	<0.2	1	0.088	0.4	101	5.7	138
SR208	77.6	0.06	1	2.9	<0.5	12	0.2	0.8	0.085	0.7	86	2.1	207
SR209	104.3	0.09	2.1	5.1	1.9	14	0.4	2.9	0.082	1	79	7.4	526
SR210	121.4	<0.05	1.6	3.5	1	12	0.3	1.9	0.054	0.4	61	4.2	504
SR211	114.6	<0.05	2	5.5	1.2	10	0.3	4.5	0.083	0.7	71	5	488
SR212	137	0.06	1.7	4	2	12	0.4	3	0.045	0.7	187	5.5	252
SR213	105.2	0.06	1	2.3	0.7	11	0.2	1.1	0.049	0.6	58	4.1	352
SR213 Re	108.2	0.06	1.1	2.5	1	12	<0.2	1.2	0.052	0.6	62	4.3	358
SR214	124.5	<0.05	1.4	4.3	0.6	7	0.2	2.4	0.049	0.5	69	7.2	524
SR215	142.5	<0.05	2.3	5.2	1.7	61	0.4	3.3	0.093	0.6	87	25.8	1016
SR216	33.9	<0.05	0.9	4.8	0.9	9	<0.2	2	0.066	0.5	51	6.6	1165
SR217	214.6	0.05	1.2	2.9	0.8	12	0.2	1.2	0.056	0.5	64	3.8	272
SR218	38.4	<0.05	1.1	5.3	1.5	2	0.2	3	0.036	0.9	73	12.8	178
SR219	96.6	<0.05	0.8	5.4	1.1	8	0.2	2.3	0.144	0.9	83	2.1	237
SR220	113.2	0.09	1.3	3.9	1.6	22	0.2	1.4	0.071	0.7	91	1.5	322
SR221	102.2	0.07	1.6	3.8	1.1	13	0.2	2	0.081	0.6	70	1.6	395
SR222	101.3	<0.05	1.5	5.2	1.3	18	0.2	2.3	0.085	0.6	85	1.9	465
SR223	175.4	<0.05	2.3	5.1	1.1	17	0.3	6.4	0.068	0.5	64	2.3	694
SR224	98.6	0.06	1	3.1	0.8	12	0.2	1.4	0.067	0.5	73	3.5	236
SR225	189.2	0.05	1.2	4.5	1.8	9	0.2	3.9	0.077	0.9	71	4.7	321
SR226	130.5	<0.05	1.2	4.7	1.2	15	<0.2	3.9	0.074	0.6	62	6.5	503
SR227	158.8	<0.05	1.8	4.3	1.1	18	0.2	9.8	0.07	0.5	51	5.2	408
SR228	529.2	<0.05	1.9	9.2	1.6	77	0.2	8.2	0.033	0.5	74	0.6	3142
SR229	135.9	<0.05	1.3	3.1	0.8	10	<0.2	7.5	0.049	0.3	43	10.8	399
SR230	241.9	<0.05	1.4	6.2	1.7	14	0.4	5.4	0.117	0.8	120	19.8	291
SR231	154.6	<0.05	1.2	3.7	1.2	10	<0.2	4.1	0.069	0.5	54	6	352
SR232	82.7	0.05	1.4	3.9	1.1	11	0.2	1.9	0.068	0.8	71	5.3	353
SR233	128.4	0.11	2.2	4.1	1.4	21	0.5	1.9	0.068	1.3	72	6.1	559
SR234	19.1	0.75	0.6	10.3	2.1	9	<0.2	2.4	0.231	1.5	86	1.4	151
SR235	135.1	0.12	2.6	5.1	1.9	15	0.5	2.3	0.083	1.3	83	5.3	747
SR236	119.7	0.06	2	7.6	1.4	21	0.4	5.9	0.097	1	82	6.3	812
SR237	104.4	<0.05	1.8	5	1.2	13	0.3	4.5	0.072	0.7	69	3.9	699
SR238	29.2	<0.05	0.8	2.2	0.5	7	<0.2	2.1	0.05	0.4	51	3.6	141
SR239	96.5	<0.05	0.9	3.9	1.5	7	<0.2	2.5	0.049	0.3	48	4.7	178

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan. S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 78 Soil

Report No: S57220
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS

Aqua Regia Digestion

Element	Pb	S	Sb	Sc	Se	Sr	Te	Th	Ti	Tl	V	W	Zn
Sample	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
SR240	84.1	<0.05	0.9	2.5	0.6	8	<0.2	10.5	0.042	0.3	34	4.3	253
SR241	129.2	<0.05	1.3	3.9	1.5	10	0.2	6	0.056	0.4	46	3.9	323
SR242	163.9	<0.05	1.3	7.4	0.7	74	<0.2	6.8	0.039	0.4	70	1.6	1256
SR243	269.5	<0.05	1.6	8.9	1.5	82	0.2	6.3	0.043	0.6	84	0.8	2055
SR244	175.1	<0.05	1.4	7.6	0.9	86	<0.2	5.9	0.039	0.5	72	0.8	1424
SR245	213.3	<0.05	1.6	6.5	1.4	73	0.2	5.9	0.017	0.4	68	0.5	1286
SR246	308.8	<0.05	1.7	7.8	1.9	111	0.3	6.8	0.025	0.4	72	0.5	1528
SR247	286.6	<0.05	1.6	7.5	1	115	0.2	6.8	0.016	0.3	66	0.1	1658
SR248	519.1	<0.05	1.4	7.4	1.6	94	0.3	8.3	0.015	0.4	62	<0.1	1715
SR249	245.1	<0.05	2.3	5.2	1.4	54	<0.2	16.9	0.021	0.3	40	0.2	2395
SR249 Re	250	<0.05	2.3	5.6	1.3	55	<0.2	17.3	0.02	0.3	40	0.3	2571
SR250	422.3	0.11	2.1	8	2.7	77	<0.2	14.6	0.021	0.5	49	0.2	2463
SR251	551.5	<0.05	1.7	7.5	1.8	84	0.3	8	0.016	0.5	64	0.4	1303
SR252	613	<0.05	1.7	7.6	1.5	96	0.3	7.7	0.014	0.4	62	0.2	1690
SR253	1179.8	<0.05	2.1	7.2	1.9	108	0.4	7.8	0.017	0.3	64	0.2	2833
SR254	755.7	<0.05	1.7	6.5	2.1	131	0.3	6.9	0.02	0.4	62	0.2	1444
SR255	202.5	<0.05	1.4	7	1.7	152	<0.2	7.1	0.016	0.4	61	0.1	1033
SR256	315	<0.05	1.6	6.8	1.3	120	0.2	6.8	0.015	0.3	65	0.2	1828
SR257	241.6	<0.05	1.4	7.1	1.8	131	0.3	7.1	0.021	0.4	65	0.2	1395
SR258	258.4	<0.05	1.6	7.9	1.8	114	0.3	7.4	0.022	0.4	69	0.4	1266
SR259	99.9	<0.05	1.6	7.5	1.2	97	<0.2	10.5	0.061	0.5	72	4.8	897
SR260	203.2	<0.05	1.7	7.9	1.4	83	<0.2	11.3	0.07	0.6	75	1.6	1562
SR261	145.9	<0.05	1.4	7.8	1.7	77	<0.2	8	0.053	0.4	71	1.6	1453
SR262	182.1	<0.05	1.4	6.4	1.3	64	<0.2	6.8	0.065	0.5	69	3.2	1402
SR263	179.5	<0.05	1.4	7.3	0.9	81	<0.2	7.5	0.061	0.5	72	1.3	907
SR264	105.2	<0.05	1.5	7.7	1.2	81	<0.2	10.3	0.067	0.5	66	1.6	476
SR265	128	<0.05	1.5	3.6	1.1	55	<0.2	4.8	0.031	0.3	48	1.6	433
SR266	183	<0.05	1.8	6.4	1.2	91	0.3	6.1	0.014	0.3	59	0.5	1467
SR267	301	0.08	1.7	4.9	1.9	93	0.3	4.9	0.023	0.3	62	0.8	1181
SR268	274.7	<0.05	1.3	6.1	1.1	90	0.2	4.9	0.009	0.4	64	2.8	597
SR269	127.7	0.05	2.8	6.8	1.6	69	0.3	5	0.063	0.5	75	2.8	455
SR270	149.8	<0.05	3.6	6	1.8	48	0.8	7.5	0.062	0.4	58	2.2	544
SR271	83.2	0.13	1.5	9.4	1.7	90	<0.2	23.2	0.055	0.6	100	0.6	1142
SR272	104.7	0.07	1.9	6.4	2	59	<0.2	9.7	0.08	0.6	76	1	792
SR273	111.3	<0.05	1.3	8.3	0.7	85	<0.2	6.5	0.024	0.4	49	0.2	371
SR274	311.6	<0.05	1.2	11.2	0.5	113	<0.2	6.1	0.058	0.6	71	0.2	1262
SR275	940.9	<0.05	1.6	7.6	1.3	72	<0.2	10.1	0.023	0.4	51	0.4	4416
SR276	293.9	<0.05	1.1	9.3	1.2	99	<0.2	11.7	0.04	0.5	66	0.2	760
SR277	227	<0.05	1	7.9	0.9	105	<0.2	13.6	0.075	0.5	71	0.2	480
SR278	156.1	0.29	4.3	5.7	1.9	82	0.3	9.5	0.077	0.8	74	1.4	506

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.
2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 78 Soil

Report No: S57220
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS
Aqua Regia Digestion

Element	Pb	S	Sb	Sc	Se	Sr	Te	Th	Tl	Tl	V	W	Zn
Sample	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
STD OREAS262	55.5	0.23	3.8	3.4	<0.5	33	0.2	10.4	0.003	0.5	23	0.1	142
STD DS11	131.7	0.28	7.4	3.1	2.2	66	4.7	8.4	0.094	4.9	51	2.5	344
STD OREAS262	53.5	0.27	3.1	3.3	0.6	34	<0.2	8.8	0.003	0.5	23	0.1	153
STD DS11	133.4	0.26	8.6	3.3	2.3	65	4.9	8.4	0.09	5	48	3.1	331
STD OREAS262	58.4	0.24	4.7	3.3	<0.5	35	0.2	10.8	0.003	0.5	22	0.2	148
STD OREAS262	55.5	0.23	3.8	3.4	<0.5	33	0.2	10.4	0.003	0.5	23	0.1	142
BLK	<0.1	<0.05	<0.1	<0.1	<0.5	<1	<0.2	<0.1	<0.001	<0.1	<2	<0.1	<1
BLK	<0.1	<0.05	<0.1	<0.1	<0.5	<1	<0.2	<0.1	<0.001	<0.1	<2	<0.1	<1
BLK	<0.1	<0.05	<0.1	<0.1	<0.5	<1	<0.2	<0.1	<0.001	<0.1	<2	<0.1	<1
BLK	<0.1	<0.05	<0.1	<0.1	<0.5	<1	<0.2	0.2	<0.001	<0.1	<2	<0.1	<1

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES
2 - 302 48th Street • Saskatoon, SK • S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company:	Mr. Glen Prior	TSL Report:	S57220
Geologist:	G. Prior	Date Received:	Nov 13, 2019
Project:	SR	Date Reported:	Nov 28, 2019
Purchase Order:		Invoice:	77460

Sample Type:	Number	Size Fraction	Sample Preparation
Soil	30	-80 mesh	Dry, Screen

ICP-ES Multiacid Digestion HNO_3-$HClO_4$-HF-HCl

The Multiacid digestion liberates most metals that are not completely dissolved with Aqua Regia. Dissolution may not be complete for Cr and Ba minerals(*). Some loss of Au, As, S and Sb may occur.(†)

Element Name	Lower Detection Limit	Upper Detection Limit	Element Name	Lower Detection Limit	Upper Detection Limit
Ag	0.5 ppm	200 ppm	Na	0.001 %	10 %
Al *	0.01%	20 %	Nb	2 ppm	2000 ppm
As †	5 ppm	10000 ppm	Ni	2 ppm	10000 ppm
Ba *	1 ppm	10000 ppm	P	0.002 %	5 %
Be	1 ppm	1000 ppm	Pb	5 ppm	10000 ppm
Bi	5 ppm	4000 ppm	S=	0.1 %	10 %
Ca	0.01%	40 %	Sb †	5 ppm	4000 ppm
Cd	0.4 ppm	4000 ppm	Sc	1 ppm	200 ppm
Co	2 ppm	4000 ppm	Sn *	2 ppm	2000 ppm
Cr *	2 ppm	10000 ppm	Sr	2 ppm	10000 ppm
Cu	2 ppm	10000 ppm	Th	2 ppm	4000 ppm
Fe *	0.01%	60 %	Ti	0.01 %	10 %
K	0.01%	10 %	U	20 ppm	4000 ppm
La	2 ppm	2000 ppm	V	2 ppm	10000 ppm
Mg	0.01 %	30 %	W	4 ppm	200 ppm
Mn *	5 ppm	10000 ppm	Y	2 ppm	2000 ppm
Mo	2 ppm	4000 ppm	Zn	2 ppm	10000 ppm
			Zr *	2 ppm	2000 ppm

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 30 Soils

Report No: S57220
Date: November 28, 2019

MULTIELEMENT ICP-AES ANALYSIS

Multiacid Digestion

Element / Sample	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	P %	Pb ppm	S %
SR249	2.8	7.84	82	665	3	<5	0.88	15.7	48	82	102	6.18	2.99	56	1.12	2211	2	0.37	15	57	0.088	284	<0.1
SR250	7.1	7.48	56	861	3	8	0.89	11.4	49	82	160	7.51	2.47	38	1.23	2356	<2	0.56	11	46	0.086	434	0.1
SR251	3.3	7.36	70	1351	2	<5	0.51	5.4	28	43	93	6.24	2.34	19	1.06	2200	<2	0.34	8	34	0.071	599	<0.1
SR252	2.5	7.84	57	1444	2	<5	0.76	9.7	26	44	90	6.19	2.28	21	1.16	2496	<2	0.41	9	36	0.071	681	<0.1
SR253	4.2	7.79	50	1449	2	<5	0.84	13.9	27	35	111	6.48	2.27	21	1.11	2694	2	0.4	9	33	0.065	1259	<0.1
SR254	3.2	7.35	47	1339	2	<5	0.87	4.9	28	34	98	6.35	2.09	21	1.03	2111	<2	0.46	10	30	0.068	818	<0.1
SR255	1.7	7.74	110	1293	2	<5	1.08	4.4	31	38	88	5.72	2.11	20	1.19	1503	<2	0.63	10	39	0.068	224	<0.1
SR256	2.2	7.78	85	1321	2	<5	1.01	11	22	36	79	5.61	2.21	19	1.15	1448	<2	0.41	10	31	0.061	330	<0.1
SR257	2	7.78	77	1341	2	<5	0.96	4.6	32	43	94	5.91	2.16	19	1.29	1469	2	0.63	9	40	0.069	261	<0.1
SR258	1.9	7.58	75	1258	2	<5	1.07	3.1	34	40	98	6.15	1.98	21	1.32	1687	<2	0.72	9	37	0.079	285	<0.1
SR259	1.2	6.97	115	927	3	5	1.99	3.4	33	70	170	5.74	1.94	39	1.87	1394	3	0.72	14	91	0.089	111	<0.1
SR260	1.7	7.15	89	999	3	<5	1.88	5.2	44	66	200	6.2	1.92	33	1.81	1575	5	0.82	12	96	0.083	210	<0.1
SR261	1.6	7.1	51	1053	3	5	1.72	4.1	26	62	108	5.84	1.74	38	1.73	1583	4	0.96	17	54	0.084	160	<0.1
SR262	2.9	6.82	55	845	3	7	1.55	5.9	32	80	124	5.3	1.81	37	1.74	1504	4	0.8	13	66	0.098	198	<0.1
SR263	1.8	7.43	77	799	3	6	1.59	2.9	35	74	124	5.36	2.01	35	1.79	1455	4	0.81	10	62	0.111	191	<0.1
SR264	0.8	7.11	111	901	3	<5	0.88	1.3	38	62	95	5.29	2.2	31	1.34	1159	<2	0.76	10	52	0.099	116	<0.1
SR265	0.8	6.57	91	852	2	<5	0.54	0.5	27	59	76	4.72	2.19	27	0.89	1041	<2	0.52	10	47	0.088	131	<0.1
SR266	1.1	7.28	90	1408	3	<5	0.62	4.7	24	35	76	5.68	1.91	20	1.12	1266	<2	0.41	9	33	0.06	200	<0.1
SR267	1.7	6.86	51	1082	2	<5	0.59	1	22	38	75	6.05	1.47	19	0.94	1257	<2	0.55	8	34	0.121	314	<0.1
SR268	0.7	7.68	54	1841	3	<5	0.6	0.9	18	30	61	5.14	1.94	17	0.99	1162	<2	0.56	12	26	0.095	293	<0.1
SR269	0.8	6.62	252	943	3	<5	1.03	2.1	27	51	113	5.88	1.67	31	1.19	1152	2	0.92	16	46	0.103	132	<0.1
SR270	1.1	6.64	238	899	2	11	1.03	0.9	33	69	109	5.16	1.94	28	1.17	993	<2	0.96	13	65	0.107	166	<0.1
SR271	1.4	7.6	41	414	3	6	2.16	4.2	43	86	191	5.95	2.4	37	2.25	1722	3	0.25	12	69	0.092	92	0.2
SR272	0.9	7.17	63	484	4	<5	1.35	2.1	59	70	195	5.68	1.99	34	1.63	2107	7	0.41	13	134	0.15	108	<0.1
SR273	0.9	7.54	51	1066	3	<5	1.05	1.2	37	79	60	5.96	2.24	25	1.38	1686	<2	0.81	14	42	0.094	124	<0.1
SR274	1.3	7.56	22	1127	2	<5	1.6	4.5	35	72	55	6.51	1.83	22	1.9	2525	<2	1.26	16	29	0.095	317	<0.1
SR275	3.9	7.56	29	910	3	<5	1.2	18.8	35	56	91	5.88	2.25	42	1.35	3608	2	0.54	20	37	0.095	947	<0.1
SR276	1.3	7.89	33	951	3	<5	1.42	2.7	45	81	90	6.5	2.7	39	1.29	1925	<2	0.46	20	42	0.117	309	<0.1
SR277	0.9	7.61	23	752	3	<5	3.42	2	40	66	102	5.67	2.18	50	2.43	1829	<2	0.39	15	49	0.123	236	<0.1
SR278	1.2	6.87	214	1295	2	<5	2.2	1.2	28	105	173	6.63	2.2	34	1.83	2273	6	0.24	12	51	0.142	163	0.3
STD OREAS45E	0.6	6.67	13	246	<1	<5	0.06	<0.4	60	1010	764	25	0.35	11	0.15	550	<2	0.06	6	475	0.035	20	<0.1
STD OREAS25A-4A	<0.5	8.62	9	146	<1	<5	0.27	<0.4	7	114	33	6.54	0.5	20	0.32	491	2	0.14	18	48	0.05	28	<0.1
BLK	<0.5	<0.01	<5	<1	<1	<5	<0.01	<0.4	<2	<2	<2	<0.01	<0.01	<2	<0.01	<5	<2	<0.01	<2	<2	<0.002	<5	<0.1
BLK																							

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 30 Soils

Report No: S57220
Date: November 28, 2019

MULTIELEMENT ICP-AES ANALYSIS

Multiacid Digestion

Element Sample	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
SR249	6	14	15	88	16	0.49	<20	104	<4	22	2948	99
SR250	<5	16	20	112	13	0.39	<20	103	<4	19	2739	89
SR251	5	18	13	111	6	0.36	<20	156	<4	14	1470	77
SR252	5	18	14	127	6	0.37	<20	150	<4	17	1883	78
SR253	6	18	16	143	5	0.34	<20	143	<4	18	3306	79
SR254	<5	17	15	165	<2	0.38	<20	141	<4	16	1732	68
SR255	<5	17	11	192	7	0.35	<20	139	<4	16	1317	69
SR256	<5	18	12	154	5	0.36	<20	150	<4	16	2031	65
SR257	5	17	12	168	7	0.35	<20	144	<4	15	1715	69
SR258	<5	17	11	160	24	0.34	<20	138	<4	16	1531	64
SR259	5	15	20	158	10	0.41	<20	125	20	25	1055	68
SR260	<5	15	20	138	9	0.39	<20	132	<4	23	1729	70
SR261	<5	15	24	137	12	0.45	<20	126	25	19	1657	75
SR262	<5	14	26	132	13	0.36	<20	109	<4	20	1662	76
SR263	<5	15	22	141	11	0.35	<20	114	<4	19	1124	70
SR264	<5	15	9	148	11	0.37	<20	120	<4	17	582	70
SR265	<5	12	10	98	11	0.34	<20	101	5	12	532	64
SR266	5	16	15	139	6	0.38	<20	142	<4	15	1795	58
SR267	<5	14	13	137	7	0.31	<20	112	<4	14	1699	54
SR268	6	14	19	128	5	0.36	<20	121	5	13	828	56
SR269	6	13	10	144	8	0.35	<20	110	7	18	546	62
SR270	6	13	8	158	9	0.33	<20	114	4	20	617	74
SR271	<5	15	12	132	19	0.36	<20	155	6	20	1236	84
SR272	<5	12	8	106	13	0.34	<20	111	<4	22	928	76
SR273	<5	18	5	133	7	0.44	<20	95	<4	19	447	78
SR274	<5	19	6	162	7	0.54	<20	105	<4	19	1365	64
SR275	<5	16	12	113	12	0.43	<20	97	<4	23	4641	92
SR276	<5	19	7	139	11	0.47	<20	123	<4	23	879	103
SR277	<5	15	8	146	16	0.37	<20	114	<4	24	542	122
SR278	8	15	12	131	11	0.39	<20	146	<4	17	573	94
STD OREAS45E	<5	92	<2	16	12	0.51	<20	328	<4	8	44	93
STD OREAS25A-4A	<5	13	6	43	14	0.96	<20	161	<4	10	44	155
BLK	<5	<1	<2	<2	<2	<0.01	<20	<2	<4	<2	<2	<2
BLK												

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES
2 - 302 48th Street • Saskatoon, SK • S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company:	Mr. Glen Prior	TSL Report:	S57223
Geologist:	G. Prior	Date Received:	Nov 13, 2019
Project:	SR	Date Reported:	Nov 28, 2019
Purchase Order:		Invoice:	77463

Sample Type:	Number	Size Fraction	Sample Preparation
Rock	39	Reject ~ 70% at –10 mesh (1.70 mm) Pulp ~ 95% at –150 mesh (106 µm)	Crush, Riffle Split, Pulverize
Pulp	0		None

ICP-MS Aqua Regia Digestion HCl-HNO_3

The Aqua Regia Leach digestion liberates most of the metals except those marked with an asterisk where the digestion will not be complete.

Element Name	Lower Detection Limit	Upper Detection Limit
Ag	0.1 ppm	100 ppm
Al *	0.01 %	10 %
As	0.5 ppm	10000 ppm
Au	0.5 ppb	100 ppm
B *	1 ppm	2000 ppm
Ba *	1 ppm	1000 ppm
Bi	0.1 ppm	2000 ppm
Ca *	0.01%	40 %
Cd	0.1 ppm	2000 ppm
Co	0.1 ppm	2000 ppm
Cr *	1 ppm	10000 ppm
Cu	0.1 ppm	10000 ppm
Fe *	0.01%	40 %
Ga *	1 ppm	1000 ppm
Hg	0.01 ppm	100 ppm
K *	0.01%	10 %
La *	1 ppm	10000 ppm
Mg *	0.01%	30 %
Mn *	1 ppm	10000 ppm
Mo	0.1 ppm	2000 ppm
Na *	0.001%	10 %
Ni	0.1 ppm	10000 ppm
P *	0.001%	5 %
Pb	0.1 ppm	10000 ppm
S	0.05 %	10 %
Sb	0.1 ppm	2000 ppm
Sc	0.1 ppm	100 ppm
Se	0.5 ppm	1000 ppm
Sr *	1 ppm	10000 ppm
Te	1 ppm	2000 ppm
Th *	0.1 ppm	2000 ppm
Ti *	0.001%	10 %
Tl	0.1 ppm	1000 ppm
U *	0.1 ppm	2000 ppm
V *	2 ppm	10000 ppm
W *	0.1 ppm	100 ppm
Zn	1 ppm	10000 ppm

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 39 Rock

TSL LABORATORIES INC.
2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Report No: S57223
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS

Aqua Regia Digestion

Element / Sample	Ag ppm	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %
SR401	4.4	2.58	28.6	4	<20	3	7.7	0.56	3	6	150	24.2	6.45	8	<0.01	<0.01	5	0.5	2484	0.6	<0.001	9.4	0.008
SR402	0.8	3.26	<0.5	0.9	<20	29	0.5	1.91	7.2	23.9	132	145.1	6.15	6	<0.01	0.02	3	0.55	371	0.9	0.091	27.1	0.014
SR403	6.6	0.5	1	15.8	<20	6	11.5	0.04	11	2	103	118.4	23.23	5	<0.01	<0.01	2	0.09	117	0.4	<0.001	5.1	0.004
SR404	11.9	1.37	263.4	17.4	<20	13	10.6	0.34	253.3	38.5	30	97.2	25.95	6	0.02	<0.01	1	1.59	4458	0.4	0.001	49.4	0.024
SR405	10.9	1.44	22.6	7	<20	12	21.5	0.29	476	39.7	24	79	23.83	6	0.02	<0.01	2	1.7	5099	0.2	<0.001	18.7	0.002
SR405 Re	10.4	1.43	19.9	4.7	<20	13	21.5	0.29	507.1	41.7	25	82.4	23.74	6	0.02	<0.01	2	1.7	5066	0.2	<0.001	19.3	0.003
SR406	20	0.73	121.5	13.5	<20	4	9.8	0.14	320.8	28	119	405	12.05	3	0.04	<0.01	<1	0.47	844	0.9	<0.001	19.4	0.001
SR407	32	2.41	131.8	49.4	<20	7	13.2	0.24	51.6	46.6	34	847.7	34.63	13	0.02	<0.01	11	1	3492	2.1	<0.001	33.3	0.063
SR408	4.9	5.64	<0.5	<0.5	<20	3	1.4	0.74	649.5	37.9	50	103.3	22.4	16	<0.01	<0.01	44	1.39	>10000	1.6	<0.001	33.1	0.004
SR409	10.9	0.96	7	81.2	<20	1	2.9	0.13	80.2	23.5	62	202.7	20.83	4	<0.01	<0.01	16	0.24	8103	1.1	<0.001	13.4	0.011
SR410	16.6	1.56	80.3	19.6	<20	3	8.1	0.23	1297.3	62.7	105	267.5	12.54	5	0.03	<0.01	31	0.36	5586	5.2	0.001	23.7	0.017
SR411	7.3	0.69	<0.5	5.3	<20	26	13.4	0.99	12.7	48.5	12	559.1	16.35	3	<0.01	0.1	<1	0.17	1059	0.1	0.034	15.3	0.134
SR412	4	4.47	<0.5	1.4	<20	4	1.2	0.5	418.1	28.5	55	65.7	21.77	11	<0.01	<0.01	49	1.07	>10000	1.9	<0.001	25	0.005
SR413	20.6	9.28	<0.5	2	<20	2	0.6	0.07	119.3	20.6	37	67.6	26.28	30	<0.01	<0.01	5	2.04	>10000	1.2	<0.001	28.5	0.023
SR414	8.9	3.17	2	0.6	<20	1	0.5	0.19	50.9	12.4	64	575.2	37.25	14	<0.01	<0.01	127	0.78	4003	2.4	<0.001	17.8	0.017
SR415	7.3	2.68	<0.5	3	<20	7	2.4	12.54	1024	43.6	15	135.2	12.35	8	0.02	<0.01	13	0.39	9632	0.3	<0.001	10.7	0.005
SR416	2.7	0.55	15.3	11.2	<20	165	13.5	5.8	157.1	14.2	54	9.5	23.84	2	<0.01	0.04	5	0.1	>10000	0.3	0.002	7.6	0.015
SR417	27.3	1.72	36.9	37	<20	2	35.8	0.22	95.7	30.6	90	618.4	24.71	9	<0.01	<0.01	5	0.33	2189	4.3	<0.001	18	0.004
SR418	28.4	8.78	<0.5	483.4	<20	3	46.6	0.31	356.7	23.6	16	129.9	29.87	30	0.01	<0.01	3	1.06	9041	2.6	<0.001	9	0.002
SR419	29.2	8.24	6	25.1	<20	2	54.5	0.05	612.6	36.9	28	155.3	27.96	27	0.02	<0.01	3	1	8103	2.1	<0.001	15	0.003
SR420	29.6	1.44	<0.5	24.5	<20	1	44.2	0.24	924.3	48.5	18	176.6	17.88	4	0.02	<0.01	3	0.35	>10000	0.9	<0.001	14.1	0.001
SR421	20.7	2.47	2.2	24.5	<20	4	9.9	0.31	1508.4	87.2	20	328.2	24.97	9	0.03	<0.01	4	0.78	7970	0.8	<0.001	12.5	0.015
SR422	26.5	1.36	<0.5	35	<20	510	63.7	1.99	94.7	9.4	18	13.2	9.69	4	<0.01	0.33	9	0.14	3437	<0.1	0.037	5.8	0.019
SR423	17.8	4.01	2.7	43.2	<20	4	1.7	0.36	955.3	50.8	39	477	20.19	14	0.03	<0.01	174	1.46	8050	1.6	<0.001	18.9	0.013
SR424	>100.0	0.05	7.1	40.5	<20	4	7.9	0.07	729.2	36.8	70	2659.5	5.66	<1	0.11	<0.01	<1	0.03	400	0.4	<0.001	6.4	0.004
SR425	>100.0	0.31	72.5	609.9	<20	6	3.2	0.18	216.6	59.4	111	1181.2	11.33	1	0.31	<0.01	3	0.41	986	1.1	<0.001	24.3	0.029
SR426	>100.0	0.27	30.1	167.1	<20	8	184.8	0.04	881.7	47.1	51	2460	9.39	2	0.27	<0.01	<1	0.15	960	1.4	<0.001	4.8	0.002
SR427	23.5	0.32	160.1	104.1	<20	13	16.1	0.28	336.5	16.3	84	100.7	24.44	1	0.03	<0.01	<1	0.38	>10000	2.3	<0.001	9.7	0.015
SR428	>100.0	0.32	64.9	278.2	<20	5	10.6	0.1	241.9	53.8	99	1068.5	15.29	2	0.27	<0.01	3	0.54	918	2.4	<0.001	25.7	0.013
SR501	0.3	1.32	13.9	1.7	176	8	0.3	0.28	1	0.6	186	4.8	2.61	13	<0.01	0.19	<1	0.61	413	0.3	0.021	3.6	<0.001
SR502	0.5	4.19	>10000.0	186.6	414	781	212.5	7.64	0.2	34.3	20	22.1	13.69	32	*	4.24	12	7.01	565	0.3	0.06	4.3	0.021
SR503	>100.0	1.41	<0.5	16.6	<20	73	529.5	12.03	192.7	1.3	31	35.8	11.35	4	<0.01	0.42	8	0.47	>10000	0.2	0.492	0.7	0.003
SR504	1.5	0.64	4610.3	1.2	<20	37	42.1	0.3	1.6	1.2	147	7.5	0.83	5	<0.01	0.37	62	0.02	85	1.6	0.043	3.1	<0.001
SR505	0.4	2.24	47.7	6.3	69	5	10.6	7.49	2.1	2.5	63	2.7	3.1	2	<0.01	0.1	455	0.91	579	0.2	0.076	6.4	0.033
SR506	<0.1	0.69	68.2	<0.5	<20	5	1.6	0.27	0.1	0.5	153	4.2	1.22	8	<0.01	0.5	98	0.04	107	0.9	0.075	3.1	0.002
SR507	0.1	0.6	11	0.7	<20	3	0.2	0.44	<0.1	0.4	124	2.5	0.98	4	0.02	0.3	78	0.03	29	2.9	0.071	2.3	<0.001
SR508	<0.1	1.36	3.5	<0.5	<20	10	0.1	0.15	<0.1	0.5	134	3	3.45	20	<0.01	0.97	33	0.08	255	1.6	0.052	2.9	0.002
SR509	1.2	1.14	<0.5	812.8	<20	16	18.5	6.01	0.6	5.6	83	572.3	7.51	8	<0.01	0.02	16	0.04	660	0.6	0.011	6.6	0.081
SR510	<0.1	0.83	151.9	2	>2000	12	3.4	3.32	0.1	0.6	11	1.1	>40.00	3	*	0.29	3	0.34	2932	1.1	0.075	7.8	0.025
SR511	<0.1	1.23	3	<0.5	91	5	<0.1	0.69	<0.1	0.5	129	2.8	3.13	17	<0.01	1.03	90	0.08	270	0.8	0.148	2.2	0.001

120

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan. S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 39 Rock

Report No: S57223
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS
Aqua Regia Digestion

Element / Sample	Ag ppm	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %
SR405	10.9	1.44	22.6	7	<20	12	21.5	0.29	476	39.7	24	79	23.83	6	0.02	<0.01	2	1.7	5099	0.2	<0.001	18.7	0.002
STD DS11	1.8	1.26	45.4	47.1	<20	444	13	1.11	2.5	14.4	65	163.8	3.2	5	0.24	0.43	20	0.88	1064	15.2	0.078	82.1	0.077
STD OREAS262	0.4	1.22	36.4	56.9	<20	254	1	3	0.7	27.9	43	123.2	3.27	4	0.14	0.31	17	1.15	505	0.6	0.067	62.6	0.041
STD OREAS262	0.4	1.42	37.9	61.6	<20	265	1.1	3.02	0.8	28.3	49	128.1	3.28	4	0.16	0.35	19	1.21	556	0.7	0.07	66.6	0.043
BLK	<0.1	<0.01	<0.5	<0.5	<20	<1	<0.1	<0.01	<0.1	<0.1	<1	<0.1	<0.01	<1	<0.01	<0.01	<1	<0.01	<1	<0.1	<0.001	<0.1	<0.001
BLK	<0.1	<0.01	<0.5	<0.5	<20	<1	<0.1	<0.01	<0.1	<0.1	<1	<0.1	<0.01	<1	<0.01	<0.01	<1	<0.01	<1	<0.1	<0.001	<0.1	<0.001

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 39 Rock

Report No: S57223
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS

Aqua Regia Digestion

Element	Pb	S	Sb	Sc	Se	Sr	Te	Th	Ti	Tl	V	W	Zn
Sample	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
SR401	1311.3	<0.05	0.6	5.1	1.2	3	<0.2	1	0.005	<0.1	39	<0.1	902
SR402	130.2	3.16	0.2	5.3	5.6	105	<0.2	1.8	0.042	<0.1	52	0.7	1250
SR403	561.1	0.3	1	2.1	0.7	<1	<0.2	0.5	0.004	<0.1	24	0.4	1887
SR404	688.9	6.33	3.8	9.5	3.7	6	<0.2	2.4	<0.001	0.3	102	1.5	>10000
SR405	1218.2	1.4	1	9.8	2.9	4	<0.2	1.9	<0.001	<0.1	96	0.5	>10000
SR405 Re	1172.7	1.37	0.8	10.1	2.8	4	<0.2	2	<0.001	<0.1	93	0.5	>10000
SR406	2985.2	4.54	2.5	4.5	5.8	1	<0.2	0.7	<0.001	<0.1	33	0.7	>10000
SR407	5223.8	>10.00	5.1	4.3	4.8	2	<0.2	2	0.018	1.9	91	0.8	>10000
SR408	121.1	1.22	0.1	8.1	8.4	4	<0.2	11.4	0.006	<0.1	94	<0.1	>10000
SR409	8144.7	9.56	5.3	2.1	8.6	<1	<0.2	5	0.001	1.3	19	0.2	>10000
SR410	607.6	4.35	1.2	5	13.9	2	<0.2	17.3	0.003	0.1	40	<0.1	>10000
SR411	525.2	>10.00	0.9	1.4	8.4	6	0.2	0.8	0.024	0.2	13	<0.1	1508
SR412	64.1	1	0.8	8.4	6.4	7	<0.2	14	0.004	<0.1	58	<0.1	>10000
SR413	>10000.0	2.29	4.4	9.7	9.6	<1	<0.2	13.7	0.012	0.1	58	<0.1	>10000
SR414	164.6	>10.00	1.1	4	4.8	2	<0.2	14.2	0.006	0.2	36	1.9	5049
SR415	220.4	1.76	0.5	5.1	9.8	174	<0.2	2.4	0.003	<0.1	27	<0.1	>10000
SR416	297.5	1.13	3.5	1.3	3	14	<0.2	3.4	0.051	0.2	19	5.9	>10000
SR417	4254.9	>10.00	3.2	2.1	10	2	<0.2	2.9	0.004	0.2	17	<0.1	9691
SR418	>10000.0	1.97	1.1	4.3	14	10	<0.2	6.2	0.011	<0.1	52	<0.1	>10000
SR419	4612.2	1.77	0.4	6	12.6	2	<0.2	7.3	0.011	<0.1	45	<0.1	>10000
SR420	1534.3	2.43	0.5	4.6	9.9	1	0.8	7.5	0.001	0.1	39	0.2	>10000
SR421	3501.9	5.67	1.2	8.2	7.4	3	<0.2	0.6	0.003	0.3	53	0.3	>10000
SR422	588.3	0.67	1.8	1.4	1.5	23	<0.2	6.2	0.061	2.2	15	0.3	>10000
SR423	1612.6	2.9	0.6	4.9	4.4	4	<0.2	13.7	0.003	<0.1	55	<0.1	>10000
SR424	>10000.0	7.47	287.7	0.5	22.4	2	0.4	0.4	<0.001	0.3	4	0.6	>10000
SR425	>10000.0	8.92	75.4	1.9	22.9	2	0.3	1.4	0.001	0.5	16	0.8	>10000
SR426	>10000.0	6.78	125	2.4	63.7	2	1.8	1.2	0.001	0.4	17	1.5	>10000
SR427	1072.6	>10.00	6.5	2	4.9	4	<0.2	0.9	<0.001	0.9	15	1.1	>10000
SR428	>10000.0	9.99	70.9	2.3	12	2	<0.2	1.7	<0.001	0.6	27	0.7	>10000
SR501	94	<0.05	0.2	4.6	<0.5	10	<0.2	0.4	0.001	0.8	1	<0.1	303
SR502	75.9	<0.05	17.7	5.7	1.7	25	1.6	70.1	0.008	10.1	11	>100.0	325
SR503	>10000.0	2.44	3.2	0.8	43.3	261	1.3	1.4	0.009	27.7	15	11.7	>10000
SR504	158.4	0.17	8.6	1.6	4.4	9	<0.2	77.5	0.001	0.6	<1	1.8	266
SR505	34.3	<0.05	19.9	1.9	<0.5	22	<0.2	48.8	0.079	<0.1	17	0.7	492
SR506	36.9	<0.05	0.6	3.9	<0.5	2	<0.2	101.6	0.053	1	2	2.1	50
SR507	24.1	<0.05	0.3	1.7	<0.5	3	<0.2	58.3	0.001	0.4	<1	0.6	44
SR508	19.4	<0.05	0.5	5.3	<0.5	1	<0.2	346.2	0.154	2	3	0.8	86
SR509	28.9	2.06	0.9	1.3	9.7	1	0.8	7.6	0.042	0.1	30	0.7	137
SR510	11.6	<0.05	22.3	3.3	0.8	3	0.7	5.2	0.013	1	14	>100.0	642
SR511	23.4	<0.05	1	6.1	<0.5	2	<0.2	405.5	0.161	2	3	9.9	105

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.
2 - 302 48th Street East, Saskatoon, Saskatchewan. S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 39 Rock

Report No: S57223
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS
Aqua Regia Digestion

Element Sample	Pb ppm	S %	Sb ppm	Sc ppm	Se ppm	Sr ppm	Te ppm	Th ppm	Ti %	Tl ppm	V ppm	W ppm	Zn ppm
SR405	1218.2	1.4	1	9.8	2.9	4	<0.2	1.9	<0.001	<0.1	96	0.5	>10000
STD DS11	145.2	0.29	7.1	3.3	2.4	72	4.9	7.9	0.1	5.3	52	3.1	322
STD OREAS262	58.5	0.26	2.8	2.8	<0.5	35	0.2	10.5	0.003	0.4	22	<0.1	147
STD OREAS262	64.2	0.26	1.8	3.5	<0.5	39	0.2	10.6	0.003	0.5	24	<0.1	159
BLK	<0.1	<0.05	<0.1	<0.1	<0.5	<1	<0.2	<0.1	<0.001	<0.1	<1	<0.1	1
BLK	<0.1	<0.05	<0.1	<0.1	<0.5	<1	<0.2	0.5	<0.001	<0.1	<1	<0.1	<1

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES
2 - 302 48th Street • Saskatoon, SK • S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company:	Mr. Glen Prior	TSL Report:	S57223
Geologist:	G. Prior	Date Received:	Nov 13, 2019
Project:	SR	Date Reported:	Nov 28, 2019
Purchase Order:		Invoice:	77463

Sample Type:	Number	Size Fraction	Sample Preparation
Rock	39	Reject ~ 70% at –10 mesh (1.70 mm) Pulp ~ 95% at –150 mesh (106 µm)	Crush, Riffle Split, Pulverize
Pulp	0		None

ICP-ES Multiacid Digestion HNO_3-$HClO_4$-HF-HCl

The Multiacid digestion liberates most metals that are not completely dissolved with Aqua Regia. Dissolution may not be complete for Cr and Ba minerals(*). Some loss of Au, As, S and Sb may occur.(†)

Element Name	Lower Detection Limit	Upper Detection Limit	Element Name	Lower Detection Limit	Upper Detection Limit
Ag	0.5 ppm	200 ppm	Na	0.001 %	10 %
Al *	0.01%	20 %	Nb	2 ppm	2000 ppm
As †	5 ppm	10000 ppm	Ni	2 ppm	10000 ppm
Ba *	1 ppm	10000 ppm	P	0.002 %	5 %
Be	1 ppm	1000 ppm	Pb	5 ppm	10000 ppm
Bi	5 ppm	4000 ppm	S=	0.1 %	10 %
Ca	0.01%	40 %	Sb †	5 ppm	4000 ppm
Cd	0.4 ppm	4000 ppm	Sc	1 ppm	200 ppm
Co	2 ppm	4000 ppm	Sn *	2 ppm	2000 ppm
Cr *	2 ppm	10000 ppm	Sr	2 ppm	10000 ppm
Cu	2 ppm	10000 ppm	Th	2 ppm	4000 ppm
Fe *	0.01%	60 %	Ti	0.01 %	10 %
K	0.01%	10 %	U	20 ppm	4000 ppm
La	2 ppm	2000 ppm	V	2 ppm	10000 ppm
Mg	0.01 %	30 %	W	4 ppm	200 ppm
Mn *	5 ppm	10000 ppm	Y	2 ppm	2000 ppm
Mo	2 ppm	4000 ppm	Zn	2 ppm	10000 ppm
			Zr *	2 ppm	2000 ppm

TSL LABORATORIES INC.

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Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 39 Rock

Report No: S57223
Date: November 28, 2019

MULTIELEMENT ICP-AES ANALYSIS

Multiacid Digestion

Element / Sample	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	P %	Pb ppm	S %
SR401	4.7	2.63	27	27	<1	6	0.6	3.3	6	211	21	6.81	<0.01	5	0.52	2459	<2	<0.01	<2	9	0.008	1314	<0.1
SR402	1	3.63	<5	63	<1	<5	2.28	7.1	24	194	144	6.94	0.05	5	0.62	485	<2	0.11	3	29	0.014	136	2.2
SR403	6.9	0.61	<5	15	5	9	0.04	10.6	<2	157	109	23.23	0.01	5	0.09	166	<2	<0.01	<2	5	0.004	560	0.3
SR404	12.9	6.6	241	20	2	6	0.34	257.7	39	41	96	28.07	<0.01	20	1.76	4446	<2	<0.01	2	53	0.03	689	7.9
SR405	11.8	7.08	23	13	2	13	0.28	500.1	41	31	94	25.9	<0.01	14	1.86	5040	<2	<0.01	2	19	0.004	1234	2.6
SR406	21.2	2.91	112	8	<1	8	0.15	305.1	28	179	406	12.25	<0.01	3	0.49	911	<2	<0.01	<2	20	<0.002	3062	5
SR407	33.4	2.97	42	10	1	7	0.23	45.9	48	42	960	38.35	<0.01	42	1.11	3373	<2	<0.01	9	34	0.07	5283	>10.0
SR408	5.6	9.07	<5	2	2	<5	0.83	653.4	37	48	105	25.73	<0.01	166	1.59	>10000	<2	<0.01	3	34	0.017	104	2.2
SR409	11.1	2.08	7	12	<1	<5	0.13	78.6	22	104	199	21.71	<0.01	21	0.26	8179	<2	<0.01	<2	14	0.013	8130	9.5
SR410	16.7	3.21	48	10	<1	<5	0.22	1208.6	61	126	261	12.45	<0.01	91	0.36	5220	4	<0.01	6	24	0.023	563	6.1
SR411	8	1.88	<5	13	<1	11	4.92	12.4	52	20	651	28.19	0.21	2	1.24	6375	<2	0.11	3	17	0.154	503	>10.0
SR412	4.2	7.38	<5	3	1	<5	0.47	392.4	27	54	59	22.71	<0.01	54	1.1	>10000	<2	<0.01	3	24	0.008	54	1.1
SR412 Re	4.1	7.68	<5	3	1	<5	0.48	385.7	26	53	58	22.9	<0.01	64	1.12	>10000	<2	<0.01	3	24	0.008	54	1.4
SR413	22.5	9.23	<5	<1	1	<5	0.06	116.5	20	35	78	28.02	<0.01	8	2.26	>10000	<2	<0.01	2	30	0.025	>10000	2.7
SR414	10.3	3.33	<5	3	<1	<5	0.18	46.1	12	64	619	42.2	<0.01	344	0.86	3813	<2	<0.01	6	19	0.036	166	>10.0
SR415	8.1	3.62	<5	8	<1	36	11.05	945.7	43	17	147	12.51	<0.01	15	0.41	9066	<2	<0.01	<2	13	0.005	217	4.2
SR416	3.3	1.82	8	149	2	20	7.09	137.7	16	74	10	27.2	0.06	12	0.21	>10000	<2	0.01	3	10	0.016	286	1.2
SR417	28.4	1.72	20	6	<1	34	0.22	79.9	31	113	619	26.43	<0.01	7	0.34	2091	3	<0.01	<2	18	0.005	4510	>10.0
SR418	29.6	7.05	<5	3	<1	54	0.25	334	25	16	143	30.47	<0.01	2	0.98	8402	<2	<0.01	<2	9	0.003	>10000	2.7
SR419	32.8	6.91	<5	3	<1	73	0.03	629.6	38	26	215	29.45	<0.01	2	0.97	7822	<2	<0.01	2	16	0.004	4934	3.7
SR420	28.3	5.1	<5	<1	<1	74	0.23	926.5	44	18	206	19.3	<0.01	6	0.35	9631	<2	<0.01	<2	15	0.002	1485	4.1
SR421	22	4.14	<5	4	1	55	0.29	1406.6	87	25	350	26.06	<0.01	4	0.8	7862	<2	<0.01	<2	14	0.016	3613	9.2
SR422	25.5	2.88	<5	466	4	56	6.53	75	16	29	14	24.29	0.48	14	0.38	8423	<2	0.13	5	15	0.018	504	0.6
SR423	19.3	6.51	<5	5	<1	31	0.36	910.3	51	40	597	21.75	<0.01	170	1.52	7809	<2	<0.01	3	20	0.016	1666	4.8
SR424	>200.0	0.23	12	7	<1	70	0.08	681.7	37	90	3657	5.89	<0.01	<2	0.03	468	<2	<0.01	<2	7	0.005	>10000	>10.0
SR425	152.2	1.03	75	23	<1	22	0.19	199.5	60	129	1250	11.04	0.01	8	0.42	1083	<2	<0.01	<2	25	0.029	>10000	9.7
SR426	>200.0	1.68	40	13	<1	238	0.04	865.1	48	57	3326	8.99	0.01	2	0.16	968	<2	<0.01	<2	6	0.002	>10000	>10.0
SR427	24	1.15	147	20	1	30	0.26	306.3	17	98	94	24.29	<0.01	3	0.4	>10000	<2	<0.01	<2	9	0.015	1106	>10.0
SR428	145.5	1.18	62	18	<1	30	0.1	232.2	57	113	1165	15.06	<0.01	31	0.56	969	2	<0.01	<2	27	0.016	>10000	>10.0
SR501	<0.5	6.73	13	10	13	<5	0.27	0.4	<2	207	4	6.94	0.3	<2	0.76	525	<2	0.65	<2	4	<0.002	83	<0.1
SR502	0.7	4.76	9533	809	144	238	7.18	0.5	30	22	23	13.75	4.5	13	7.82	551	<2	0.07	40	5	0.02	73	<0.1
SR503	>200.0	2.32	<5	89	124	515	11.57	185.1	<2	30	34	11.93	0.7	11	0.52	>10000	<2	1.05	<2	2	0.002	>10000	2.6
SR504	1.5	4.79	4284	39	2	36	0.3	1.3	<2	137	7	1.76	2.39	68	0.03	188	<2	1.79	69	3	<0.002	166	0.2
SR505	<0.5	2.49	36	5	117	10	17.04	2.4	3	71	2	8.59	0.13	495	4.45	1873	<2	0.1	4	11	0.028	36	<0.1
SR506	<0.5	5.14	63	22	6	<5	0.3	<0.4	<2	124	3	1.2	3.85	94	0.03	104	<2	2.32	80	3	0.003	53	<0.1
SR507	<0.5	5.43	14	31	5	<5	0.41	<0.4	<2	105	2	1.05	3.88	84	0.04	35	5	2.08	75	3	<0.002	42	<0.1
SR508	<0.5	6.02	<5	17	7	<5	0.17	<0.4	<2	158	2	3.43	4.35	31	0.07	251	<2	2.26	441	3	0.003	32	<0.1
SR509	1	1.57	<5	15	9	16	16.28	0.9	8	99	566	20.73	0.03	20	0.42	2599	<2	0.03	43	7	0.069	33	1.9
SR510	0.7	0.87	146	9	584	30	3.21	1.5	3	9	4	47.95	0.32	4	0.41	2705	<2	0.14	6	6	0.026	14	<0.1
SR511	<0.5	6.21	7	7	2	<5	0.71	<0.4	<2	141	2	3.21	4.26	84	0.07	270	<2	2.49	446	2	<0.002	35	<0.1

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 39 Rock

Report No: S57223
Date: November 28, 2019

MULTIELEMENT ICP-AES ANALYSIS

Multiacid Digestion

Element Sample	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	P %	Pb ppm	S %
STD OREAS25A-4A	<0.5	8.49	9	139	<1	<5	0.27	<0.4	7	108	31	6.22	0.48	20	0.31	470	<2	0.13	17	46	0.048	27	<0.1
STD OREAS45H	<0.5	7.94	16	326	<1	<5	0.14	<0.4	87	639	755	20.35	0.21	13	0.24	388	<2	0.09	12	434	0.023	13	<0.1
STD OREAS45E	0.7	7.09	16	269	<1	<5	0.06	<0.4	59	1036	812	25.9	0.36	11	0.16	570	<2	0.06	6	483	0.036	16	<0.1
STD OREAS25A-4A	<0.5	9.66	10	154	<1	<5	0.32	<0.4	7	108	32	6.85	0.52	22	0.33	510	<2	0.14	20	48	0.052	26	<0.1
BLK	<0.5	<0.01	<5	<1	<1	<5	<0.01	<0.4	<2	<2	<2	<0.01	<0.01	<2	<0.01	<5	<2	<0.01	<2	<2	<0.002	<5	<0.1
BLK	<0.5	<0.01	<5	<1	<1	<5	<0.01	<0.4	<2	<2	<2	<0.01	<0.01	<2	<0.01	<5	<2	<0.01	<2	<2	<0.002	<5	<0.1

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.
2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Report No: S57223
Date: November 28, 2019

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 39 Rock

MULTIELEMENT ICP-AES ANALYSIS
Multiacid Digestion

Element / Sample	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
SR401	<5	5	23	6	<2	0.03	<20	39	<4	5	1010	10
SR402	<5	9	9	124	<2	0.14	<20	72	<4	8	1323	15
SR403	<5	1	23	<2	<2	0.01	<20	20	<4	3	2026	4
SR404	<5	9	104	23	6	0.05	<20	115	20	5	>10000	37
SR405	<5	9	99	6	3	0.06	<20	104	*	4	>10000	34
SR406	5	4	161	2	<2	0.01	<20	36	<4	<2	>10000	10
SR407	<5	4	404	3	<2	0.16	<20	91	<4	11	>10000	38
SR408	<5	8	118	4	14	0.08	<20	93	*	20	>10000	72
SR409	<5	2	95	2	5	0.02	<20	17	<4	9	>10000	12
SR410	12	4	69	3	16	0.19	<20	38	<4	9	>10000	96
SR411	<5	7	326	16	<2	0.1	<20	42	<4	10	1659	21
SR412	<5	7	88	6	10	0.09	<20	53	4	12	>10000	66
SR412 Re	<5	7	88	6	11	0.1	<20	52	<4	14	>10000	65
SR413	7	9	70	<2	8	0.07	<20	54	5	4	>10000	64
SR414	<5	4	308	3	20	0.22	<20	31	<4	20	5566	136
SR415	9	5	35	155	<2	0.03	<20	26	<4	39	>10000	10
SR416	13	3	665	61	<2	0.1	<20	20	<4	8	>10000	30
SR417	<5	2	20	2	<2	0.02	<20	13	<4	4	>10000	11
SR418	<5	4	72	8	<2	0.04	<20	46	<4	2	>10000	28
SR419	7	5	80	<2	2	0.06	<20	39	<4	<2	>10000	37
SR420	13	4	151	<2	8	0.02	<20	33	<4	5	>10000	34
SR421	16	8	86	3	<2	0.03	<20	53	<4	6	>10000	3
SR422	9	4	634	50	3	0.15	<20	29	<4	9	>10000	43
SR423	10	5	173	4	11	0.11	<20	52	<4	23	>10000	73
SR424	288	<1	95	2	<2	<0.01	<20	3	<4	<2	>10000	3
SR425	88	2	423	5	<2	0.04	<20	19	<4	5	>10000	15
SR426	164	1	256	4	<2	<0.01	<20	16	<4	<2	>10000	3
SR427	18	2	45	5	<2	0.01	<20	12	<4	5	>10000	6
SR428	89	2	141	3	<2	0.02	<20	26	<4	4	>10000	10
SR501	<5	23	33	14	<2	<0.01	<20	<2	<4	5	417	<2
SR502	27	4	>2000	26	57	<0.01	<20	9	>200	20	758	4
SR503	11	<1	740	366	<2	<0.01	<20	14	<4	7	>10000	<2
SR504	10	8	41	9	63	0.02	24	<2	11	107	280	86
SR505	20	5	328	29	35	0.09	<20	22	<4	254	887	33
SR506	<5	3	5	4	76	0.06	<20	<2	5	122	51	105
SR507	<5	3	10	7	49	0.05	<20	<2	<4	87	50	116
SR508	<5	6	10	2	270	0.19	51	3	12	77	84	383
SR509	<5	2	403	5	<2	0.06	<20	41	<4	130	596	38
SR510	166	1	>2000	4	2	0.01	<20	8	>200	7	685	6
SR511	<5	6	20	3	343	0.18	47	3	23	340	106	336

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.
2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 39 Rock

Report No: S57223
Date: November 28, 2019

MULTIELEMENT ICP-AES ANALYSIS
Multiacid Digestion

Element / Sample	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
STD OREAS25A-4A	5	13	6	43	14	0.9	<20	151	<4	10	44	149
STD OREAS45H	<5	58	3	27	6	0.86	<20	264	<4	11	47	122
STD OREAS45E	<5	99	<2	17	12	0.53	<20	329	<4	9	45	92
STD OREAS25A-4A	<5	14	5	49	15	0.96	<20	163	<4	11	44	155
BLK	<5	<1	<2	<2	<2	<0.01	<20	<2	<4	<2	<2	<2
BLK	<5	<1	<2	<2	<2	<0.01	<20	<2	<4	<2	<2	<2

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES
2 - 302 48th Street • Saskatoon, SK • S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company:	Mr. Glen Prior	TSL Report:	S57221
Geologist:	G. Prior	Date Received:	Nov 13, 2019
Project:	SR	Date Reported:	Nov 28, 2019
Purchase Order:		Invoice:	77462

Sample Type:	Number	Size Fraction	Sample Preparation
Soil	15	-80 mesh	Dry, Screen

ICP-MS Aqua Regia Digestion HCl-HNO_3

The Aqua Regia Leach digestion liberates most of the metals except those marked with an asterisk where the digestion will not be complete.

Element Name	Lower Detection Limit	Upper Detection Limit
Ag	0.1 ppm	100 ppm
Al *	0.01 %	10 %
As	0.5 ppm	10000 ppm
Au	0.5 ppb	100 ppm
B *	1 ppm	2000 ppm
Ba *	1 ppm	1000 ppm
Bi	0.1 ppm	2000 ppm
Ca *	0.01%	40 %
Cd	0.1 ppm	2000 ppm
Co	0.1 ppm	2000 ppm
Cr *	1 ppm	10000 ppm
Cu	0.1 ppm	10000 ppm
Fe *	0.01%	40 %
Ga *	1 ppm	1000 ppm
Hg	0.01 ppm	100 ppm
K *	0.01%	10 %
La *	1 ppm	10000 ppm
Mg *	0.01%	30 %

Element Name	Lower Detection Limit	Upper Detection Limit
Mn *	1 ppm	10000 ppm
Mo	0.1 ppm	2000 ppm
Na *	0.001%	10 %
Ni	0.1 ppm	10000 ppm
P *	0.001%	5 %
Pb	0.1 ppm	10000 ppm
S	0.05 %	10 %
Sb	0.1 ppm	2000 ppm
Sc	0.1 ppm	100 ppm
Se	0.5 ppm	1000 ppm
Sr *	1 ppm	10000 ppm
Te	1 ppm	2000 ppm
Th *	0.1 ppm	2000 ppm
Ti *	0.001%	10 %
Tl	0.1 ppm	1000 ppm
U *	0.1 ppm	2000 ppm
V *	2 ppm	10000 ppm
W *	0.1 ppm	100 ppm
Zn	1 ppm	10000 ppm

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 15 Soil

Report No: S57221
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS

Aqua Regia Digestion

Element	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P
Sample	ppm	%	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	%
SR601	0.4	2.97	81.5	1.8	<20	59	0.9	0.61	3.6	4.5	25	13.1	1.13	3	0.06	0.11	114	0.39	766	2.2	0.01	16.3	0.058
SR602	0.7	4.64	218.3	0.8	<20	61	1.2	0.27	1.6	3.3	34	12.8	1.66	5	0.13	0.11	78	0.11	268	2.8	0.008	14.3	0.068
SR603	1.3	2.13	250.7	<0.5	<20	58	2.5	0.51	2.1	2.2	30	24	2.29	8	0.28	0.15	249	0.13	210	9	0.014	9.1	0.111
SR604	1.1	4.83	372.8	3.7	<20	62	2.1	0.26	1.6	7.3	40	26.3	2.09	6	0.19	0.12	96	0.17	872	5.2	0.008	17.4	0.099
SR604 Re	1.1	4.74	358.3	2.7	<20	61	2	0.26	1.6	7.1	38	25.9	2.1	6	0.18	0.12	93	0.17	830	5.3	0.009	16.6	0.097
SR605	0.6	3.66	198.6	1.4	<20	57	1.1	0.21	1.1	4	30	13.9	1.45	5	0.09	0.12	77	0.13	357	2.4	0.008	12.8	0.051
SR606	0.3	2.25	144.2	0.9	<20	39	0.9	0.2	1.1	6	20	8.2	2.1	5	0.05	0.12	114	0.11	895	2	0.008	10.6	0.042
SR607	1.1	2.81	122.4	1.9	<20	133	4.1	0.93	4.2	4.4	60	22.1	1.79	6	0.08	0.15	192	0.29	622	4.8	0.01	20.8	0.101
SR608	0.6	3.79	139.8	1.7	<20	46	1.1	0.4	3.1	2.6	25	13	0.94	4	0.09	0.11	139	0.37	345	1.6	0.009	10.9	0.056
SR609	0.6	4.51	216.1	3.3	<20	74	1.4	0.46	1.8	5.4	28	15.7	1.36	5	0.06	0.11	92	0.28	430	2.4	0.012	16.6	0.071
SR610	0.6	4.4	205.8	<0.5	<20	39	1.2	0.27	1.1	1.5	23	10	0.87	4	0.09	0.09	124	0.75	144	1.1	0.007	10.4	0.049
SR611	1.4	6.66	308.5	2.7	<20	45	1.7	0.39	1.7	2.4	21	16	1.09	5	0.18	0.11	136	0.33	188	2.3	0.013	10.2	0.107
SR612	0.5	3.03	121.8	1.1	<20	41	1.1	0.29	1.1	3.6	17	6.8	1.41	5	0.05	0.11	93	0.08	602	1.2	0.006	8.4	0.032
SR613	0.6	5.19	128.7	6.3	<20	29	0.6	0.41	2.3	1.4	41	13.6	0.54	3	0.11	0.41	87	0.06	395	1.9	0.095	7.4	0.092
SR614	0.4	4.5	226.3	1.9	<20	32	1.2	0.37	1.4	3.5	35	19.8	1.14	3	0.24	0.1	146	0.07	1003	2.5	0.008	7.5	0.077
SR615	0.9	1.66	63.4	6.7	<20	85	3.7	0.48	8	16.8	49	85.2	2.78	5	0.03	0.5	21	0.58	1069	2.6	0.009	48.7	0.08
STD DS11	1.7	1.23	41.8	62.3	<20	417	11.4	1.07	2.5	14.1	61	145.6	3.12	5	0.25	0.4	18	0.86	1020	15.5	0.072	83	0.07
STD OREAS262	0.5	1.31	35.9	79.4	<20	263	1	2.94	0.6	28.9	45	114.1	3.43	4	0.17	0.33	17	1.2	560	0.7	0.068	67.9	0.039
BLK	<0.1	<0.01	<0.5	<0.5	<20	<1	<0.1	<0.01	<0.1	<0.1	<1	<0.1	<0.01	<1	<0.01	<0.01	<1	<0.01	<1	<0.1	<0.001	<0.1	<0.001

130

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.
2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 15 Soil

Report No: S57221
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS
Aqua Regia Digestion

Element	Pb	S	Sb	Sc	Se	Sr	Te	Th	Ti	Tl	V	W	Zn
Sample	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
SR601	23.5	0.11	0.6	2.3	8.7	23	<0.2	22.8	0.03	0.3	15	1.8	277
SR602	35.4	0.08	0.6	2.7	7	11	<0.2	25.7	0.034	0.3	14	1.4	254
SR603	118.4	0.23	0.7	2.1	13.2	13	<0.2	7.4	0.019	0.4	12	1.4	165
SR604	73.2	0.09	0.7	2.7	10.1	9	<0.2	18.6	0.038	0.5	19	1.2	308
SR604 Re	73.9	0.08	0.8	3	9.3	10	<0.2	19.7	0.039	0.5	19	1.2	326
SR605	35.4	<0.05	0.6	2.7	5.1	9	<0.2	29.8	0.039	0.3	15	1.7	281
SR606	29.4	<0.05	0.6	2.5	4.2	8	<0.2	33.8	0.036	0.3	18	2.2	348
SR607	146.6	0.12	0.9	2.8	9.6	22	<0.2	10.4	0.026	0.4	20	1.6	863
SR608	25.6	0.06	0.6	2.5	9.7	14	<0.2	44.5	0.028	0.3	11	3.1	355
SR609	24.8	0.09	0.6	2.8	7.3	22	<0.2	19.2	0.04	0.3	21	2.9	168
SR610	26.6	0.07	0.5	2.6	7.8	10	<0.2	55.7	0.024	0.3	8	5.7	237
SR611	53.3	0.11	0.6	2.6	11.7	17	<0.2	47.2	0.028	0.4	13	1.5	785
SR612	27	<0.05	0.5	2.4	5.2	9	<0.2	39.5	0.027	0.3	11	1.6	285
SR613	27.5	0.14	0.5	1.8	11.4	12	<0.2	17	0.013	0.3	5	0.8	329
SR614	92.8	0.21	0.4	2.5	10.5	12	<0.2	25.6	0.014	0.3	9	0.8	337
SR615	140.5	0.06	1.5	3.4	2.5	22	<0.2	2.8	0.032	0.4	42	6.6	1111
STD DS11	131.7	0.28	7.4	3.1	2.2	66	4.7	8.4	0.094	4.9	51	2.5	344
STD OREAS262	53.5	0.27	3.1	3.3	0.6	34	<0.2	8.8	0.003	0.5	23	0.1	153
BLK	<0.1	<0.05	<0.1	<0.1	<0.5	<1	<0.2	0.2	<0.001	<0.1	<2	<0.1	<1

131

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES
2 - 302 48th Street • Saskatoon, SK • S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company:	Mr. Glen Prior	TSL Report:	S57221
Geologist:	G. Prior	Date Received:	Nov 13, 2019
Project:	SR	Date Reported:	Nov 28, 2019
Purchase Order:		Invoice:	77462

Sample Type:	Number	Size Fraction	Sample Preparation
Soil	15	-80 mesh	Dry, Screen

ICP-ES Multiacid Digestion HNO_3-$HClO_4$-HF-HCl

The Multiacid digestion liberates most metals that are not completely dissolved with Aqua Regia. Dissolution may not be complete for Cr and Ba minerals(*). Some loss of Au, As, S and Sb may occur.(†)

Element Name	Lower Detection Limit	Upper Detection Limit	Element Name	Lower Detection Limit	Upper Detection Limit
Ag	0.5 ppm	200 ppm	Na	0.001 %	10 %
Al *	0.01%	20 %	Nb	2 ppm	2000 ppm
As †	5 ppm	10000 ppm	Ni	2 ppm	10000 ppm
Ba *	1 ppm	10000 ppm	P	0.002 %	5 %
Be	1 ppm	1000 ppm	Pb	5 ppm	10000 ppm
Bi	5 ppm	4000 ppm	S=	0.1 %	10 %
Ca	0.01%	40 %	Sb †	5 ppm	4000 ppm
Cd	0.4 ppm	4000 ppm	Sc	1 ppm	200 ppm
Co	2 ppm	4000 ppm	Sn *	2 ppm	2000 ppm
Cr *	2 ppm	10000 ppm	Sr	2 ppm	10000 ppm
Cu	2 ppm	10000 ppm	Th	2 ppm	4000 ppm
Fe *	0.01%	60 %	Ti	0.01 %	10 %
K	0.01%	10 %	U	20 ppm	4000 ppm
La	2 ppm	2000 ppm	V	2 ppm	10000 ppm
Mg	0.01 %	30 %	W	4 ppm	200 ppm
Mn *	5 ppm	10000 ppm	Y	2 ppm	2000 ppm
Mo	2 ppm	4000 ppm	Zn	2 ppm	10000 ppm
			Zr *	2 ppm	2000 ppm

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 15 Soils

Report No: S57221
Date: November 28, 2019

MULTIELEMENT ICP-AES ANALYSIS

Multiacid Digestion

Element / Sample	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	P %	Pb ppm	S %
SR601	<0.5	5.54	75	206	21	<5	1.07	3.1	4	27	13	1.34	1.81	137	0.55	788	<2	1.15	44	16	0.062	34	<0.1
SR602	0.7	6.91	203	205	27	<5	0.46	1.3	3	34	13	1.88	1.63	124	0.17	315	3	0.9	36	15	0.079	47	<0.1
SR603	1.4	3.65	236	129	9	<5	0.59	1.8	2	32	25	2.38	0.72	245	0.18	230	10	0.27	23	10	0.148	134	0.2
SR604	1.1	6.48	344	249	24	<5	0.51	1.1	7	44	26	2.36	1.11	97	0.28	858	5	0.67	21	17	0.116	75	0.1
SR605	0.7	6.3	194	253	25	<5	0.45	0.8	4	38	14	1.69	1.97	94	0.23	422	2	1.12	43	14	0.066	44	<0.1
SR606	<0.5	5.7	126	205	14	<5	0.45	0.7	5	27	7	2.11	2.64	163	0.19	826	<2	1.56	115	11	0.05	40	<0.1
SR607	1.4	4.95	119	321	14	<5	1.2	4	5	67	23	2.05	1.57	193	0.44	659	5	0.89	35	22	0.14	155	0.2
SR608	0.8	5.63	133	174	30	<5	0.77	2.5	3	32	12	1.17	1.88	153	0.54	374	<2	1.15	63	12	0.063	37	<0.1
SR609	0.7	5.95	212	273	16	<5	0.8	1.5	6	37	17	1.68	1.49	94	0.47	492	2	1.01	27	18	0.088	32	0.1
SR610	0.8	5.38	187	130	29	<5	0.69	0.9	<2	25	10	1.06	1.87	132	0.99	189	<2	1.18	67	12	0.055	36	<0.1
SR610 Re	0.7	5.45	196	134	30	<5	0.66	0.8	<2	26	10	1.1	1.91	140	0.99	187	<2	1.2	102	12	0.059	36	0.1
SR611	1.5	5.85	296	134	41	<5	0.51	1.3	2	24	17	1.27	0.89	111	0.47	207	2	0.53	29	11	0.121	62	0.1
SR612	<0.5	5.12	110	160	22	<5	0.36	0.9	3	22	6	1.51	2.63	136	0.13	563	<2	1.46	99	9	0.042	40	<0.1
SR613	0.8	4.63	123	53	26	<5	0.39	2	<2	40	14	0.65	0.57	88	0.08	376	<2	0.17	8	8	0.097	37	0.1
SR614	0.7	4.81	243	63	21	<5	0.39	1.2	4	39	23	1.38	0.32	146	0.09	1120	3	0.12	7	9	0.099	113	0.3
SR615	1	3.98	65	510	3	<5	0.78	7.4	17	78	91	3.3	1.62	29	0.78	1596	3	0.34	9	50	0.099	155	<0.1
STD OREAS25A-4A	<0.5	8.21	9	143	<1	<5	0.25	<0.4	7	115	31	6.45	0.49	18	0.31	484	2	0.13	18	47	0.05	29	<0.1
STD OREAS45H	<0.5	7.65	14	326	<1	<5	0.13	<0.4	89	658	769	20.42	0.21	10	0.24	398	<2	0.09	13	448	0.024	10	<0.1
STD OREAS45E	0.6	6.67	13	246	<1	<5	0.06	<0.4	60	1010	764	25	0.35	11	0.15	550	<2	0.06	6	475	0.035	20	<0.1
BLK	<0.5	<0.01	<5	<1	<1	<5	<0.01	<0.4	<2	<2	<2	<0.01	<0.01	<2	<0.01	<5	<2	<0.01	<2	<2	<0.002	<5	<0.1
BLK	<0.5	<0.01	<5	<1	<1	<5	<0.01	<0.4	<2	<2	<2	<0.01	<0.01	<2	<0.01	<5	<2	<0.01	<2	<2	<0.002	<5	<0.1

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 15 Soils

Report No: S57221
Date: November 28, 2019

MULTIELEMENT ICP-AES ANALYSIS

Multiacid Digestion

Element Sample	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
SR601	<5	4	5	58	50	0.12	100	25	4	304	281	153
SR602	<5	5	3	44	62	0.12	54	22	14	205	275	152
SR603	<5	6	4	27	79	0.08	144	17	<4	720	179	47
SR604	<5	6	2	58	58	0.14	98	33	<4	314	321	54
SR605	<5	5	3	55	56	0.15	61	24	4	186	299	239
SR606	<5	5	4	52	67	0.14	61	25	11	177	336	323
SR607	<5	8	6	68	83	0.14	416	30	7	575	948	82
SR608	<5	4	6	40	65	0.11	126	18	6	363	379	172
SR609	<5	6	5	67	46	0.16	50	32	7	267	183	101
SR610	<5	4	7	29	94	0.09	100	13	12	309	261	234
SR610 iRe	<5	4	7	29	115	0.09	102	14	11	321	267	209
SR611	<5	4	5	33	108	0.11	275	19	<4	356	863	62
SR612	<5	4	4	35	64	0.11	82	16	9	201	276	274
SR613	<5	2	<2	15	27	0.03	208	8	<4	351	349	17
SR614	<5	4	<2	17	61	0.04	300	12	<4	561	395	26
SR615	<5	9	8	57	6	0.2	<20	67	8	21	1240	42
STD OREAS25A-4A	6	13	5	41	13	0.95	<20	160	<4	10	42	156
STD OREAS45H	<5	55	3	25	6	0.89	<20	275	<4	9	38	126
STD OREAS45E	<5	92	<2	16	12	0.51	<20	328	<4	8	44	93
BLK	<5	<1	<2	<2	<2	<0.01	<20	<2	<4	<2	<2	<2
BLK	<5	<1	<2	<2	<2	<0.01	<20	<2	<4	<2	<2	<2

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES
2 - 302 48th Street ◦ Saskatoon, SK ◦ S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company:	Mr. Glen Prior	TSL Report:	S57224
Geologist:	G. Prior	Date Received:	Nov 13, 2019
Project:	SR	Date Reported:	Nov 28, 2019
Purchase Order:		Invoice:	77464

Sample Type:	Number	Size Fraction	Sample Preparation
Conc	9	Pulp ~ 95% at –150 mesh (106 µm)	Riffle Split, Pulverize
Pulp	0		None

ICP-MS Aqua Regia Digestion HCl-HNO_3

The Aqua Regia Leach digestion liberates most of the metals except those marked with an asterisk where the digestion will not be complete.

Element Name	Lower Detection Limit	Upper Detection Limit
Ag	0.1 ppm	100 ppm
Al *	0.01 %	10 %
As	0.5 ppm	10000 ppm
Au	0.5 ppb	100 ppm
B *	1 ppm	2000 ppm
Ba *	1 ppm	1000 ppm
Bi	0.1 ppm	2000 ppm
Ca *	0.01%	40 %
Cd	0.1 ppm	2000 ppm
Co	0.1 ppm	2000 ppm
Cr *	1 ppm	10000 ppm
Cu	0.1 ppm	10000 ppm
Fe *	0.01%	40 %
Ga *	1 ppm	1000 ppm
Hg	0.01 ppm	100 ppm
K *	0.01%	10 %
La *	1 ppm	10000 ppm
Mg *	0.01%	30 %

Element Name	Lower Detection Limit	Upper Detection Limit
Mn *	1 ppm	10000 ppm
Mo	0.1 ppm	2000 ppm
Na *	0.001%	10 %
Ni	0.1 ppm	10000 ppm
P *	0.001%	5 %
Pb	0.1 ppm	10000 ppm
S	0.05 %	10 %
Sb	0.1 ppm	2000 ppm
Sc	0.1 ppm	100 ppm
Se	0.5 ppm	1000 ppm
Sr *	1 ppm	10000 ppm
Te	1 ppm	2000 ppm
Th *	0.1 ppm	2000 ppm
Ti *	0.001%	10 %
Tl	0.1 ppm	1000 ppm
U *	0.1 ppm	2000 ppm
V *	2 ppm	10000 ppm
W *	0.1 ppm	100 ppm
Zn	1 ppm	10000 ppm

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 9 Conc

Report No: S57224
Date: November 28, 2019

MULTIELEMENT ICP-MS ANALYSIS

Aqua Regia Digestion

Element Sample	Ag ppm	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %
SR701	0.1	0.71	35.5	5.2	51	49	0.6	0.31	0.6	2.7	230	8.4	1.54	3	<0.01	0.16	56	0.24	223	1.2	0.038	10.1	0.014
SR702	<0.1	0.49	21.5	4.1	28	25	0.3	0.12	0.1	1.6	160	5.5	0.8	2	<0.01	0.12	63	0.1	96	1.1	0.029	6.4	0.009
SR704	<0.1	0.77	36.1	0.5	<20	50	0.2	0.2	0.2	3.9	158	8.2	1.24	3	<0.01	0.13	30	0.23	243	1.1	0.027	12	0.02
SR705	<0.1	0.51	24.5	1.4	<20	25	0.2	0.12	<0.1	1.6	167	5.8	0.84	2	<0.01	0.13	37	0.1	89	1.1	0.033	6.9	0.008
SR706	<0.1	0.46	20.6	<0.5	<20	19	0.3	0.12	0.2	2	163	3.9	0.91	2	<0.01	0.14	55	0.09	203	0.8	0.034	5.4	0.009
SR708	0.1	0.59	29.1	2.2	<20	29	1	0.26	0.4	1.7	185	6.7	1.18	2	<0.01	0.14	98	0.2	199	1.3	0.032	7	0.011
SR710	<0.1	0.53	36.9	<0.5	<20	14	0.6	0.17	0.1	0.9	186	4.2	0.8	2	<0.01	0.13	51	0.23	107	0.8	0.034	5.3	0.005
SR712	<0.1	0.55	30.4	<0.5	<20	15	0.4	0.09	0.2	1.3	141	4	0.67	2	<0.01	0.11	42	0.06	144	0.9	0.028	4.7	0.005
SR715	0.6	1.84	65.1	6.3	<20	94	4.7	0.28	3.5	15.6	128	68.7	3.63	6	<0.01	0.34	16	0.68	1338	2.8	0.011	37.2	0.059
STD OREAS262	0.4	1.42	37.9	61.6	<20	265	1.1	3.02	0.8	28.3	49	128.1	3.28	4	0.16	0.35	19	1.21	556	0.7	0.07	66.6	0.043
BLK	<0.1	<0.01	<0.5	<0.5	<20	<1	<0.1	<0.01	<0.1	<0.1	<1	<0.1	<0.01	<1	<0.01	<0.01	<1	<0.01	<1	<0.1	<0.001	<0.1	<0.001

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.
2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Report No: S57224
Date: November 28, 2019

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 9 Conc

MULTIELEMENT ICP-MS ANALYSIS
Aqua Regia Digestion

Element Sample	Pb ppm	S %	Sb ppm	Sc ppm	Se ppm	Sr ppm	Te ppm	Th ppm	Ti %	Tl ppm	V ppm	W ppm	Zn ppm
SR701	19.3	<0.05	1.3	1.8	<0.5	9	<0.2	27.1	0.041	0.2	14	14.5	98
SR702	9.1	<0.05	0.5	1.2	<0.5	5	<0.2	36.9	0.023	0.1	9	9.3	59
SR704	15.3	<0.05	0.4	1.9	<0.5	11	<0.2	17.2	0.048	0.1	18	2.1	96
SR705	9.3	<0.05	0.4	1.1	<0.5	5	<0.2	20.2	0.024	0.1	9	3.1	49
SR706	10.6	<0.05	0.6	1.2	<0.5	6	<0.2	31.7	0.024	0.2	8	4.7	76
SR708	31.6	<0.05	1.2	1.5	<0.5	5	<0.2	43	0.028	0.3	9	36.5	109
SR710	13.3	<0.05	0.8	1	<0.5	3	<0.2	27.8	0.016	0.2	4	7.3	74
SR712	10.2	<0.05	0.4	0.8	<0.5	3	<0.2	21.1	0.014	0.1	5	4.7	69
SR715	92	<0.05	2	4	0.5	9	<0.2	7.9	0.062	0.5	53	23.7	676
STD OREAS262	64.2	0.26	1.8	3.5	<0.5	39	0.2	10.6	0.003	0.5	24	<0.1	159
BLK	<0.1	<0.05	<0.1	<0.1	<0.5	<1	<0.2	0.5	<0.001	<0.1	<1	<0.1	<1

A 0.5 g sample is digested with 3:1 HCl-HNO3 at 95C for 1 hour and diluted with DI H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES
2 - 302 48th Street · Saskatoon, SK · S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company:	Mr. Glen Prior	TSL Report:	S57224
Geologist:	G. Prior	Date Received:	Nov 13, 2019
Project:	SR	Date Reported:	Nov 28, 2019
Purchase Order:		Invoice:	77464

Sample Type:	Number	Size Fraction	Sample Preparation
Conc	9	Pulp ~ 95% at –150 mesh (106 µm)	Riffle Split, Pulverize
Pulp	0		None

ICP-ES Multiacid Digestion HNO_3-$HClO_4$-HF-HCl

The Multiacid digestion liberates most metals that are not completely dissolved with Aqua Regia. Dissolution may not be complete for Cr and Ba minerals(*). Some loss of Au, As, S and Sb may occur.(†)

Element Name	Lower Detection Limit	Upper Detection Limit	Element Name	Lower Detection Limit	Upper Detection Limit
Ag	0.5 ppm	200 ppm	Na	0.001 %	10 %
Al *	0.01%	20 %	Nb	2 ppm	2000 ppm
As †	5 ppm	10000 ppm	Ni	2 ppm	10000 ppm
Ba *	1 ppm	10000 ppm	P	0.002 %	5 %
Be	1 ppm	1000 ppm	Pb	5 ppm	10000 ppm
Bi	5 ppm	4000 ppm	S=	0.1 %	10 %
Ca	0.01%	40 %	Sb †	5 ppm	4000 ppm
Cd	0.4 ppm	4000 ppm	Sc	1 ppm	200 ppm
Co	2 ppm	4000 ppm	Sn *	2 ppm	2000 ppm
Cr *	2 ppm	10000 ppm	Sr	2 ppm	10000 ppm
Cu	2 ppm	10000 ppm	Th	2 ppm	4000 ppm
Fe *	0.01%	60 %	Ti	0.01 %	10 %
K	0.01%	10 %	U	20 ppm	4000 ppm
La	2 ppm	2000 ppm	V	2 ppm	10000 ppm
Mg	0.01 %	30 %	W	4 ppm	200 ppm
Mn *	5 ppm	10000 ppm	Y	2 ppm	2000 ppm
Mo	2 ppm	4000 ppm	Zn	2 ppm	10000 ppm
			Zr *	2 ppm	2000 ppm

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan. S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 9 Conc

Report No: S57224
Date: November 28, 2019

MULTIELEMENT ICP-AES ANALYSIS

Multiacid Digestion

Element Sample	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	P %	Pb ppm	S %
SR701	<0.5	3.88	29	210	10	<5	1.04	<0.4	3	217	7	1.84	2.46	56	0.53	315	<2	1.24	34	10	0.014	31	<0.1
SR702	<0.5	3.82	23	189	5	<5	0.24	<0.4	<2	142	5	1.01	2.83	77	0.13	143	<2	1.2	50	7	0.01	17	<0.1
SR704	<0.5	4.02	34	348	4	<5	0.46	<0.4	4	146	8	1.48	2.48	31	0.34	288	<2	1.3	25	13	0.02	23	<0.1
SR705	<0.5	4.11	27	207	5	<5	0.27	<0.4	<2	167	6	0.99	2.85	44	0.16	128	<2	1.31	27	8	0.01	20	<0.1
SR706	<0.5	3.89	24	157	7	<5	0.26	<0.4	2	159	4	1.1	2.94	68	0.14	256	<2	1.3	38	7	0.01	19	<0.1
SR708	<0.5	3.89	27	158	11	<5	0.89	<0.4	<2	163	6	1.44	2.74	98	0.46	269	<2	1.33	70	8	0.011	42	<0.1
SR710	<0.5	3.82	40	95	9	<5	0.54	<0.4	<2	172	4	0.97	3.04	62	0.38	158	<2	1.42	50	6	0.007	21	<0.1
SR710 Re	<0.5	3.87	40	96	9	<5	0.54	<0.4	<2	165	4	0.99	3.08	59	0.39	158	<2	1.44	62	6	0.007	21	<0.1
SR712	<0.5	4.39	34	141	7	<5	0.2	<0.4	<2	124	4	0.77	3.22	48	0.08	171	<2	1.41	35	5	0.008	21	<0.1
SR715	0.8	4.41	63	569	3	<5	0.6	2.9	15	165	62	4.2	1.81	25	0.88	4179	3	0.31	14	38	0.062	93	<0.1
STD OREAS25A-4A	<0.5	8.49	9	139	<1	<5	0.27	<0.4	7	108	31	6.22	0.48	20	0.31	470	<2	0.13	17	46	0.048	27	<0.1
STD OREAS45H	<0.5	7.94	16	326	<1	<5	0.14	<0.4	87	639	755	20.35	0.21	13	0.24	388	<2	0.09	12	434	0.023	13	<0.1
BLK	<0.5	<0.01	<5	<1	<1	<5	<0.01	<0.4	<2	<2	<2	<0.01	<0.01	<2	<0.01	<5	<2	<0.01	<2	<2	<0.002	<5	<0.1

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Mr. Glen Prior
Attention: G. Prior
Project: SR
Sample: 9 Conc

Report No: S57224
Date: November 28, 2019

MULTIELEMENT ICP-AES ANALYSIS

Multiacid Digestion

Element Sample	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
SR701	<5	4	42	41	20	0.1	<20	26	13	26	109	78
SR702	<5	2	4	31	35	0.09	<20	16	12	25	63	187
SR704	<5	4	3	69	16	0.12	<20	36	5	19	96	52
SR705	<5	2	2	35	22	0.08	<20	17	7	18	57	88
SR706	<5	2	3	29	33	0.07	<20	15	6	25	93	99
SR708	<5	3	31	25	37	0.08	<20	18	24	39	125	166
SR710	<5	2	16	13	29	0.04	<20	8	6	30	95	122
SR710 Re	<5	2	18	13	27	0.05	<20	8	10	32	99	133
SR712	<5	2	3	23	22	0.05	<20	9	7	31	79	83
SR715	<5	10	18	44	7	0.31	<20	99	39	15	729	57
STD OREAS25A-4A	5	13	6	43	14	0.9	<20	151	<4	10	44	149
STD OREAS45H	<5	58	3	27	6	0.86	<20	264	<4	11	47	122
BLK	<5	<1	<2	<2	<2	<0.01	<20	<2	<4	<2	<2	<2

A 0.25 g sample is digested with HClO4, HNO3, HCl, HF and diluted to 10 ml with D.I. H2O.

Signed: _____
Mark Acres - Quality Assurance

Appendix 6

TSL Laboratories Inc. Assay Results

SAMPLE #	Au g/t	Ag g/t	Pb %	Zn %	File Name
SR404				3.48	S57447
SR405				6.29	S57447
SR406				4.07	S57447
SR407				1.19	S57447
SR408				5.54	S57447
SR409				1.18	S57447
SR410				11.32	S57447
SR412				3.38	S57447
SR413			1.73	1.54	S57447
SR415				10.08	S57447
SR416				2.17	S57447
SR417				1.01	S57447
SR418			1.01	4.36	S57447
SR419				7.35	S57447
SR420				12.65	S57447
SR421				13.97	S57447
SR422				1.32	S57447
SR423				10.08	S57447
SR424	<0.03	356.8	21.37	16.19	S57447
SR425	0.62	143.8	10.59	5.92	S57447
SR426	0.14	395.8	20.19	17.07	S57447
SR427				5.91	S57447
SR428	0.62	134.5	10.10	7.00	S57447
SR503	<0.03	206.9	2.34	4.70	S57447
GS-7E	7.82				S57447
SQ88		160.8			S57447
ME-8			1.96	1.91	S57447

Appendix 7

ALS Canada Ltd. Geochemical Results

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
www.alsglobal.com/geochemistry

To: GLEN PRIOR
793 BIRCH AVENUE
SHERWOOD PARK AB T8A 1X2

Finalized Date: 12-JAN-2020
This copy reported on
13-JAN-2020
Account: PRIGLE

CERTIFICATE VA19322548

Project: SR

This report is for 6 Pulp samples submitted to our lab in Vancouver, BC, Canada on 19-DEC-2019.

The following have access to data associated with this certificate:

GLEN PRIOR

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP06	Whole Rock Package - ICP-AES	ICP-AES
OA-GRA05	Loss on Ignition at 1000C	WST-SEQ
ME-MS81	Lithium Borate Fusion ICP-MS	ICP-MS
TOT-ICP06	Total Calculation for ICP06	
ME-4ACD81	Base Metals by 4-acid dig.	ICP-AES
Sn-XRF10	Fusion XRF - Sn Ore Grade	
ME-ICP82b	B/Li - Na2O2 Fusion - ICP High Grade	ICP-AES
ME-XRF10	Fusion XRF - Ore Grade	XRF
OA-GRA06	LOI for ME-XRF06	WST-SIM
W-XRF10	Fusion XRF - W Ore Grade	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
www.alsglobal.com/geochemistry

To: GLEN PRIOR
793 BIRCH AVENUE
SHERWOOD PARK AB T8A 1X2

Project: SR

CERTIFICATE OF ANALYSIS VA19322548

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	Sn-XRF10 Sn % 0.01	W-XRF10 W % 0.01	S-IR08 S % 0.01	ME-MS81 Ba ppm 0.5	ME-MS81 Ce ppm 0.1	ME-MS81 Cr ppm 10	ME-MS81 Cs ppm 0.01	ME-MS81 Dy ppm 0.05	ME-MS81 Er ppm 0.03	ME-MS81 Eu ppm 0.03	ME-MS81 Ga ppm 0.1	ME-MS81 Gd ppm 0.05	ME-MS81 Hf ppm 0.2	ME-MS81 Ho ppm 0.01
SR501		0.22														
SR502		0.22	1.04	0.08	0.08											
SR506		0.22				22.5	219	230	18.35	19.65	12.85	0.04	30.5	15.00	9.5	4.20
SR508		0.22				18.6	73.6	200	31.2	14.15	10.85	<0.03	38.5	8.48	23.7	3.27
SR510		0.20	3.97	0.37												
SR511		0.22				6.6	203	180	16.85	57.8	39.3	0.03	37.4	37.3	23.7	12.40

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
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To: GLEN PRIOR
793 BIRCH AVENUE
SHERWOOD PARK AB T8A 1X2

Project: SR

CERTIFICATE OF ANALYSIS VA19322548

Sample Description	Method	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	La	Lu	Nb	Nd	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th	Tm	U	V
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.1	0.01	0.2	0.1	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05	0.01	0.05	5
SR501																
SR502																
SR506		111.5	1.92	86.2	74.1	22.7	685	16.15	9	4.4	10.3	2.96	83.0	2.12	12.60	<5
SR508		35.4	1.54	577	30.1	8.16	857	7.52	13	2.2	27.7	1.86	264	1.71	48.1	<5
SR510																
SR511		89.7	4.32	562	98.4	24.1	723	31.1	50	3.3	25.6	7.79	332	5.53	49.6	<5

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: GLEN PRIOR
793 BIRCH AVENUE
SHERWOOD PARK AB T8A 1X2

Finalized Date: 12-JAN-2020
Account: PRIGLE

Project: SR

CERTIFICATE OF ANALYSIS VA19322548

Sample Description	Method / Analyte / Units / LOD	ME-MS81 W ppm 1	ME-MS81 Y ppm 0.1	ME-MS81 Yb ppm 0.03	ME-MS81 Zr ppm 2	ME-ICP06 SiO2 % 0.01	ME-ICP06 Al2O3 % 0.01	ME-ICP06 Fe2O3 % 0.01	ME-ICP06 CaO % 0.01	ME-ICP06 MgO % 0.01	ME-ICP06 Na2O % 0.01	ME-ICP06 K2O % 0.01	ME-ICP06 Cr2O3 % 0.002	ME-ICP06 TiO2 % 0.01	ME-ICP06 MnO % 0.01	ME-ICP06 P2O5 % 0.01
SR501																
SR502																
SR506		6	122.5	13.50	199	77.5	11.85	1.74	0.47	0.06	3.32	4.79	0.033	0.10	0.01	0.02
SR508		17	71.8	11.55	630	71.3	12.70	4.80	0.22	0.11	3.23	5.53	0.028	0.31	0.03	0.02
SR510																
SR511		29	339	33.3	572	71.2	12.70	4.53	1.05	0.12	3.57	5.43	0.025	0.30	0.03	0.02

***** See Appendix Page for comments regarding this certificate *****

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793 BIRCH AVENUE
SHERWOOD PARK AB T8A 1X2

Finalized Date: 12-JAN-2020
Account: PRIGLE

Project: SR

CERTIFICATE OF ANALYSIS VA19322548

Sample Description	Method / Analyte / Units / LOD	ME-ICP06 SrO % 0.01	ME-ICP06 BaO % 0.01	OA-GRA05 LOI % 0.01	TOT-ICP06 Total % 0.01	ME-4ACD81 Ag ppm 0.5	ME-4ACD81 As ppm 5	ME-4ACD81 Cd ppm 0.5	ME-4ACD81 Co ppm 1	ME-4ACD81 Cu ppm 1	ME-4ACD81 Li ppm 10	ME-4ACD81 Mo ppm 1	ME-4ACD81 Ni ppm 1	ME-4ACD81 Pb ppm 2	ME-4ACD81 Sc ppm 1	ME-4ACD81 Tl ppm 10
SR501																
SR502																
SR506		<0.01	<0.01	0.41	100.30	<0.5	72	<0.5	<1	4	220	1	6	46	4	<10
SR508		<0.01	<0.01	0.97	99.25	<0.5	<5	<0.5	3	4	360	2	7	22	6	<10
SR510																
SR511		<0.01	<0.01	0.88	99.86	<0.5	<5	<0.5	2	4	200	1	12	24	5	<10

***** See Appendix Page for comments regarding this certificate *****

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To: GLEN PRIOR
793 BIRCH AVENUE
SHERWOOD PARK AB T8A 1X2

Finalized Date: 12-JAN-2020
Account: PRIGLE

Project: SR

CERTIFICATE OF ANALYSIS VA19322548

Sample Description	Method	ME-4ACD81	ME-ICP82b
	Analyte	Zn	B
	Units	ppm	%
	LOD	2	0.02
SR501			2.85
SR502			
SR506		52	
SR508		86	
SR510			
SR511		102	

***** See Appendix Page for comments regarding this certificate *****

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CERTIFICATE OF ANALYSIS VA19322548

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:			
LOG-24	ME-4ACD81	ME-ICP06	ME-ICP82b
ME-MS81	ME-XRF10	OA-GRA05	OA-GRA06
S-IR08	Sn-XRF10	TOT-ICP06	WEI-21
W-XRF10			