Final Technical Report YMEP#15-073

Targeted Regional Exploration Program on the Jakes Claims and Adjacent Regions, Southwest Yukon

Marsh Lake Area, NTS: 105C 05

Whitehorse Mining District, Yukon Territory

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Submitted to:

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Yukon Geological Survey

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Introduction

The scope of the 2015 targeted regional exploration program includes the Jakes claims near Squanga Lake and area north to the McClintock River (Map 1). The Jakes claims are situated within 100 km of Whitehorse, Yukon, and 180 km by highway to the international deep water port in Skagway, Alaska. Jakes claims are readily accessible by ATV track, situated only 1.5 km from the Alaska Highway and power. The 32 Jakes claims are in good standing and currently held in partnership between Yukon prospector Bill Harris and applicant Nicolai Goeppel.

The area of interest is underlain by the lithologies of the Cache Creek terrane. This unit is an exotic accreted terrane consisting of an ophliolite oceanic sequence of ultramafic, volcanic and sedimentary rocks. Historically the unit is known as the "gold series" rocks by due to a strong association with gold in placer deposits. The Cache Creek terrane is attributed to multiple placer fields and lode gold occurrences in British Columbia including; in the Atlin, Dease lake, and Cassiar regions. In addition, there has been notable Jade production in BC particularly the Dease Lake area, sourced from units of the Cache Creek terrane. More recently this package of rocks has been investigated as a potential source of nickel (Ni) in the form of nickel alloy or Awaruite. Spear heading exploration for this unique style of mineralization is First Point Minerals Corp. This includes their Flagship Decar project, which as of January 2013 had an indicated resource of 1,159,510,000 tonnes at 0.124% Ni and an additional 870,400,000 tonnes at 0.125% Ni inferred.

The 2015 exploration program targeted Awaruite, Jade and lode gold mineralization within the area of interest. The program entailed trenching, prospecting, and limited mapping. This led to the discovery of several areas with favourable serpentinite horizons, granitic intrusions, and listwanite alteration. As a result 23 rock samples were taken analyzed by a Niton XRF and by Acme Labs using a 37 element package with PGM. Assays returned nine samples with over 1000 ppm Ni, and four samples with over 2000 ppm Ni; additionally samples returned several strong Cr, Co, and Cu values as well as anomalous Au, Pd and Pt values. In turn 38 additional claims were staked in fall 2015.

Location and Access

The area of interest is located east of Marsh Lake along the Alaska Highway with good accessibility off the highway via atv track. The Jakes claims are located is southern Yukon, approximately 87 km south of the City of Whitehorse (Figure 1). Specifically, the project is situated 20 km to the west of Squanga Lake and is adjacent to the Alaska Highway. The property is located in the Whitehorse Mining District in NTS map sheet 105C05. The project is approximately 5 km from the Alaska Highway and 180 km west of the international port of Skagway, Alaska. Claims are centered on Latitude 60°22' N, and Longitude 133°54' W. The area is largely above treeline ranging in altitude from 800-1700 m (2625-5577 feet). Bedrock outcrop in the area is moderately consistent above the timberline.

The Jakes claims are easily accessible. Access is off the Alaska Highway by old cat road for approximately 5 km. The southern boundary of the claim block is within 1.5km of the highway and power. The easy access and good infrastructure makes for cost-effective exploration on the property and good feasibility if any significant discoveries are made.

Previous History

Earliest recorded work in the area dates back to the early 1950's, involving hand and bulldozer trenching, in pursuit of asbestos. Access from the Alaska Highway was established during this early asbestos exploration. Trenching by bulldozer opened several large exposures of serpentinized ultramafics greater than 100 m long. Minor soil sampling during this time returned up to 646 ppm Ni.

An exploration program conducted by Dodgex Ltd in 1986 examined altered peridotite for PGE potential and located a chromite-rich zone in dunite with layer widths up to 5m. Chip sampling across the zone assayed 52.2% chromium oxide, 145 ppb platinum and 2 ppb palladium. Replicated sample collected by Gordon McLeod in fall 2002 returned a total PGE value of 1740 ppb; this sample was tested using nickel fusion followed by ICP-MS analysis and returned anomalous PGE values: 683 ppb Ru, 417 ppb Ir, 406 ppb Os, 159 ppb Pt, 70 ppb Rh and 5 ppb Pd. The combined PGE assay yielded 39% ruthenium (light PGE) and 56% osmium, iridium and platinum (heavy PGEs). Alternate grab sample form McLeod in 2002 returned peak values of 105ppm Co, 953ppm Cr, and 2293ppm Ni, with 13 out of 14 grabs from assaying over 1400 ppm Ni. During prospecting McLeod used liquid dimethyl-glyoxime (nickel-zap) to test for presence of Ni, of 13 various samples tested, 12 returned positive (Beauregard, 2002).

The Tonnes of Gold (TOG) showing approximately 7 km southeast is the first recorded gold listwanite occurrence in the area; grab samples from the prospect returned peak values of 49.9% chromium oxide and 1422.2 g/t gold, >50 ppm silver, 7128 ppm lead and 3938 ppm zinc. Gold is hosted in translucent smoky quartz veins in shear zones and areas of graphitic alteration.

Recent Work

In 2011 First Point Minerals Ltd staked the Mich property in the same trend. The work that has been since conducted led to the discovery of awaruite within serpentinized ultramafics of the Cache Creek terrane. Currently, on the Mich property, through geological mapping and rock sampling First Point has delineated a 2km long northwest trending zone averaging over 0.111% nickel-in-alloy, with mineralization open to the south. Preliminary metallurgical tests have proven the nickel-in-alloy mineralization along with magnetite, ferrichromite, and trace sulphur to be recoverable using conventional, low-risk, two-stage grinding, magnetic separation and gravity recovery to produce a ferronickel concentrate grading 13.5% nickel, 45-50% iron and about 2% chromium. In addition, on average recoveries have been 21% higher than in other Davis Tube nickel-in-alloy extractions. Based on the positive metallurgical test, First Point Minerals Ltd has designated the Mich property as their highest priority. In 2014 First Point Minerals Corp. drilled 873 m, results include 156 metres averaging a grade of 0.096% Davis Tube magnetically recovered ("DTR") nickel from 3.0 to 159.1 metres in hole 1, and the entire 453.6 metre length of hole 2 averaging 0.087% DTR nickel from 2.7 to 456.3 metres.

Work conducted by the author has led to identifying the strong regional association between the spatial distribution of the Cache Creek ultramafics, the regional total magnetic field from airborne geophysics, and elevated Ni and Co values from government regional stream sediment sampling (Figures 3-4), prior to First Point Mineral's land acquisition in the area. Prospecting in the area identified multiple areas where disseminated Ni-alloy mineralization can be traced for over hundreds of meters in various bedrock exposures. In addition, a small 50-soil sample line in close proximity to the fore mentioned asbestos trenches yielded up to 1870ppm Ni, 111ppm Co, and 870ppm Cr, and with seven samples having over 1000ppm Ni. The outlined target area contains variably serpentinized, harzburgites, dunites, and peridotites. Contacts and structures act as fluid conduits to serpentinizing and mineralizing fluids. Pervasive serpentinization is widespread with most units entirely replaced with little or no remnant features, and with increasing serpentinization and steatzation towards structures and contacts. Several contacts and structures show extreme alteration from immense fluid flow.

Further work done by the author includes petrographic thin sections taken from Cache Creek serpentinite and altered peridotite; thin sections indicate complete breakdown and replacement of nickeliferous silicates; specifically, olivine and pyroxene by serpentine and that values of 1699, 1950, 3117ppm Ni are attributed to alloy or sulphide host. Furthermore, specific samples locally contained minor amounts of native copper which is indicative of alloy forming conditions. The same thin section returned trace Pt and Pd up to 11ppb.

Placer testing of drainages within the target area yielded concentrates containing magnetic and non-magnetic silvery native metal, interpreted as awaruite and possibly native platinum along with magnetite and gold. Native platinum occurs with gold in placers located on Wolverine Creek and Moose Brook approximately 20km to the southwest. Fore mentioned samples are pending to be tested and identified through Scanning Electron Microscope (SEM) at Memorial University of Newfoundland.

Prospecting in the region during 2014 season, lead to a new jade discovery (Figure 5), a 10m x 50m zone of stock work veining showing multiple pules and cross-cutting veins, and disseminated nickel alloy mineralization in several bedrock exposures for approximately 500 m. Rodingite was also found in proximity to the jade occurrence, and is known as a jade indicator. These new showings lead to staking of the Jakes claims and will be evaluated during the 2015 season.

Project

The project is situated in the Yukon's southwestern extent of the Tintina Gold Belt, a zone of gold mineralization between the Tintina and Denali faults. The property is positioned within 150km radius of four past producing mines. To the west of the property, Mount Skukum low sulphidation epithermal Au and Ag mine and historic Conrad Au, Ag epithermal mine; to the south across the high grade epithermal Au and Ag Engineer mine in British Columbia and to the north of property the Whitehorse Copper mine. Both the epithermal mineralization at Engineer and Mount Skukum are linked to the Laramide structural event. Many of the encountered structures and contact zones exposed on the property show signs of intense hydrothermal alteration. The project will be targeting for three different styles of mineralization; awaruite, jade and lode gold mineralization. Based on the mode in which these different styles of mineralization occur, exploration will be targeting zones of primary fluid flow. This includes transition zones, fault and shear zones, and lithological contacts.

Nickel in form of alloy is generated in sequence following serpentinization of ultramafic lithologies. Dunite, harzburgite and peridotite are most favoured host rocks. Nickel content is primarily magmatic in source with little remobilization during ore genesis. Nickel content would have originated as magmatic sulphide or hosted in nickeliferous silicates olivine and pyroxene. Ni, Ti, and Fe are liberated during the serpentinization process through low temperature (<500^{o}c), low sulphur fugacity, and high oxygen fugacity fluids. Formation of alloy occurs early in serpentinization as fluids are still rich in Fe and in presence of a reducing agent such as graphite, carbonaceous material, or nascent hydrogen; however, alloy forms following precipitation of serpentine (Franklin, et al, 1992). Texturally Ni-alloy will occur as fracture fill in intergranular spaces within serpentinites and within serpentine and chromite veins. Lithological transition zones, contacts and structures are favourable sites for mineralization. Ore can form extensive pervasive disseminations, with higher concentrations in fractures. In the case where a magmatic Cu-Ni sulphide deposit has been infiltrated by the fluids, sites of depositions are the same as those for magmatic Cu-Ni deposits including feeder zones, towards the base of lithological units, and areas in which cumulate textures are evident.

Nephrite jade is produced by either Ca-metasomatism in serpentinite at contacts with silica-rich rocks, or replacement of dolomite by silicic fluids. In turn this requires steatzation of the ultramafic and infiltration of silica-rich, <300 °C temperature fluids. In known jade occurrences, silica originates from inclusions of ribbon chert and where serpentinites are in contact with quartz rich units; for instance, along felsic dykes and fault contacts juxtaposing silica-rich sediments against serpentinite. Several possible sources of silica are present including cross-cutting intermediate dykes and large inclusions of chert within the ultramafic package.

Lode gold in the form of listwanite quartz-carbonate veins are interpreted and recorded through BC as characteristically similar to greenstone hosted quartz-carbonate veins (GQC) a mesothermal style of mineralization and as distal intrusion related hydrothermal veins. Depending on origin of mineralization fluids, whether they are closer associated to serpentinizing or intrusion related fluids would greatly vary the encountered geochemistries and mineral precipitation. GQC are often encountered in subductile-brittle shears, in embayment zones or intersection points with other structures for greater dilation. Ore zones are typically best where Cu or Fe rich horizons are intersected by faults. Vein hosted gold is structurally hosted, occupying zones of weakness such as contacts, transition zones and in faults and shears.

Work Program

Summary

The 2015 exploration program consisted of trenching, prospecting, and ultimately staking. The scope of the program was vast; however, surprisingly accessible by 4x4 and atv. The close proximity to Whitehorse removed the need for camp mob in and relinquished associated costs allow for a flexible program to be carried out intermittently during the summer. In order to maximize coverage as efficiently and cost-effectively as possible; prior to exploration areas of interest where determined by compiling government and past industry geological data, and prioritised through use of satellite imagery to determine ready-accessible sites. All samples were analysed with a Niton XRF and submitted for assay at Acme Labs. Samples were prepped using a partial acid digestion and 37 element package with PGMs.

A full acid digestion would likely offer stronger results from dissolving and liberating Ni from silicates like olivine; therefore a partial digestion would represent the fraction hosted in sulphide or alloy form.

The initial phase of exploration was done on the Jakes claims and neighbouring area within Target A in Figure 2. Secondary phase entailed looking at existing mineral occurrences within Target A; due to placer exploration in the Judas Creek area that suggest a local source of gold considerable exploration was done around the tributaries and headwater areas. Phase three looked at the area south of the McClintock River and in potential sources of previously recorded high grade gold values from float. The daily logs, sample descriptions, analytical results, and XRF values are tabulated in Appendix 1.

Phases of Exploration – Findings and Results

Phase 1 – *Jakes Claims*

Access to the Jakes claim was put in in the early 50s with for asbestos exploration, located off the Alaska Highway at Mile 828, and then by old cat road for approximately 5 km (Figure 7). The 5 day exploration program entailed trenching and prospecting. Initial focus was to locate and inspect trenches associated with Minfile occurrence 105C 010. The trenches are situated at or above treeline and generally persist for over 100m in length and penetrate the shallow overburden, which is 2.5m at its thickest. Nine samples were taken from the Jakes claims, five samples were taken from various trenches.

Lithological units encountered in trenches include; harzburgite, serpentinite, and altered greenstone. Beyond the limits of trenching the same units are encountered in addition to pyroxenite, andesitic dykes, rodingite and strongly serpentinized dunite. Structures include steeply dipping subductile faulting and shearing occurring within altered greenstone and serpentinite; northeast-northwest trending high angle brittle faults are also common forming local horst and grabens, and particularly common along contacts. Many of these brittle and sub-brittle structures show indication of later hydrothermal activity and alteration. Encountered listwanite float and presence of serpentinites suggests infiltration of mesothermal fluids and potential mineralization. Internal folding is common within the serpentinite unit, likely from expansion and contraction occurring from dehydration/hydration during serpentinization. Contacts are irregular and variable due to massive nature of units and are most prominent sites of hydrothermal alteration and generally faulted.

Phase 1 - *Lithologies and Associated Mineralization*

The harzburgite expanses the northern portions of the claim block. It is characterized by a pale brown-yellow weathering, with brown green fresh surface (Figure 8). Harzburgite commonly contains large <1cm serpentinite books and crosscutting veins of chromite, awaruite or pyrrhotite, and magnesite +/- serpentinite or chrysotile. Veining locally resembles door and window texture; characteristic of serpentinization and agree with association of chromite and awaruite and serpentinization. Veins are consistent through exposures and generally greater than 1cm and up to 5cm thick. Values returned from sample 15NI04 from the harzburgite unit returned 2167.5ppm Ni, 100.8 ppm Co, 477.7ppm Cr, 4ppb Pt, and 2.8ppb Au.

Serpentinite occurs in several localities on the claim block. The serpentinite is the primary target for potential jade. The unit shows signs of steatzation required for Ca-metasomatism required to produce nephrite. Seams of nephrite were observed with one sample greater than 2cm thick with Tremolite (Figure 5); samples were found in rubble near the serpentinite and harzburgite contact.

Rodingite occurs in contact with serpentinite and altered greenstone; in proximity to andesitic dyke. Rodingite consists of lizardite with distinctive white weathering and dark olive green fresh surface containing fractures and disseminations of magnetite, chromite, and lesser awaruite. Rodingite is a known jade indicator; however, due to excessive overburden the prospective area around the rodingite could not be observed. Sample 15NI05 of the unit returned 2089.5ppm Ni, 71.1ppm Co, 311.4ppm Cr, and 3ppb Pt.

The most sampled and explored unit on the claim block is the altered greenstone and may represent altered peridotite. The unit is pervasively silicified and commonly contains blebs of phyrrotite and other sulphide within a ductile flowing texture (Figure 9). Disseminated sulphide can be traced over 1 km within the altered greenstone and may present a low grade bulk tonnage potential. Samples 15NI01 to 15NI03 and 15NI06 were taken of sulphide and potential awaruite. Sample 15NI06 was taken from the harzburgite-greenstone contact and returned higher values including 951.7ppm Ni, 52.6ppm Co, 115.9ppm Cr, and 3.8ppb Au. Alternate samples 15NI01 to 15NI03 of the greenstone returned around 50ppm Cu, 0.4% Ti, 3.0% Al, 10ppm Ga, and 130ppm V; sample 15NI01 also returned 3ppb Pt. In addition, within the greenstone unit a zone of intense silicification and stock work veining was found. The exposure of strong veining persists for 75m in strike and approximately 3m in width. Veining displays multiple generation with cross cutting veins and veinlets. Lithic fragments within veining consist of intensively silicified greenstone; the intense silicification in the greenstone is observed at various sites and a likely precursor to later developed stockwork veining. Sample 15NI08 was taken from the exposure.

Phase 2 – *Target A, west of Jakes Claims*

Phase 2 focused on the Jakes Corner and Judas Creek areas where recent placer activity during 2015 by the author indicated locally sourced gold in river gravels. 8 days of prospecting was spent in the area looking for potential sources to the placer gold and 16 rock samples were submitted for assay. Exploration in phase 2 initiated with prospecting the area around occurrences 105D 178, 105C 049, and 105C 055. The occurrences are readily accessible by old cat road with surrounding areas transected by wood cutting trails. Exploration then continued with Judas Creek and tributaries by prospecting the length of the drainages to the headwaters (Figure 7).

Phase 2 - *Lithologies and Associated Mineralization*

Occurrences 105C 049 and 105C 055 are located east of Jakes Corner, north of the Alaska Highway are hosted within the altered peridotite/greenstone unit. The unit exhibits a ductile flowing texture and commonly contains magnetic pyrrhotite or potentially awaruite. Occurrence 105C 049 consists of several trenches, one in particular exposes a 15-30cm wide steeply dipping vein with associated listwanite alteration in the foot wall with magnesite and fuchsite. The vein itself displays bands of, quartz, chalcedonic quartz, calcite (locally bladed), and minor barite. In fact many of the textures and minerals observed in this vein and alternate veins resemble unique boiling textures typical of low-sulphidation epithermal systems. In addition, intense silicification of the greenstone is present and has been observed in several localities. The high degree of silicification results in a chert-like appearance in the rock, and is often associated with topographical linear or gully. Silicification is also seen as peripheral alteration to veins; due to the recessive weathering in the mafic and ultramafic rocks core of alteration and ore zones are partially removed and obscured by overburden, leaving only the more resistive peripheral silicification.

Minfile 105D 178 occurs north of the fore mentioned occurrences. The occurrence consists of a trenched out contact between limestone, chert, and serpentinite. Primary trenching dug 3-4m into the chert – limestone contact; oxidization in the overburden and reference to a spring during trenching suggest the structure was still active for hydrothermal activity, and may have resulted in leaching of minerals present. Graphitic alteration occurs with kaolinite veins in trench walls; sample 15NI14 was taken from one such vein and resembles geyserite (Figure 10) an epithermal feature. Two other samples were taken from this location; 15NI07 and 15NI14. Sample 15NI14 was taken from the chert near the trench where the unit was altered into a pale grey colour with graphitic veinlets and yellow/orange clay. 15NI07 was taken from a nearby exposure of partially serpentinized harzburgite with minor asbestos veinlets and serpentinite books; the sample returned 2137.8ppm Ni, 101.5ppm Co, 1918.3ppm Cr, and 7ppb Pt. Limestone and chert was also encountered as inclusions within the serpentinite unit several km south of the occurrence. Alternate samples from silicified serpentinite include samples 15NI22 and 15NI23. Sample 15NI22 from a minor fault returned 17.77ppm Mo, 128.20ppm Cu, 10.28ppm Pb, 137.2ppm Zn, 15.9ppm As, 134ppm V, 10ppm La, 3ppb Pt, and 14ppb Pd. Similar elevated elements were returned from sample 15NI23 and suggest infiltration of intrusion related fluids.

Hornblende granodiorite was encountered during prospecting; the unit was observed as small intrusions several hundred meters wide or as dykes intruding into serpentinite. The unit was typically fine to medium grained, locally with minor clay alteration and slight oxidization. During prospecting of the granodiorite sample 15NI18 was taken from a set of two paralleling listwanite veins cross-cutting the granodiorite (Figure 11). Veins have orange-brown weathered surface, consisting of a pale green fuchsite with minor magnetite and white chalcedonic veinlets. The unusual circumstance of listwanite within a granodiorite is seen in literature about the Elk property of the Blackdome mining camp in British Columbia; in which case, high gold values are found in quartz veins that cut or are beneath listwanite veins or envelopes.

In proximity to the intrusions an alternate listwanite breccia was located at the contact of serpentinite and greenstone. The contact and mineralization is primarily obscured by incision of a small creek; one locality (Sample 15NI17) due to a bend in the drainage a large 20m exposure of listwanite alteration was still intact (Figure 12). The exposure consisted of typical listwanite alteration in the wall rock and quartz-carbonate vein breccia towards the inferred contact. Vein material displays comb texture, bladed calcite, and lesser white chalcedonic quartz.

Samples 15NI20 and 15NI21 were taken from a conglomerate and angular breccia from two separate sites outcropping in a tributary to Judas Creek (Figure 13 and 14). The samples are taken from an area that returned high Au values from placer testing. The unit occurs as an in-basin fill restricted only to the drainage bottom and as outcrops in the lower hillsides. The unit may represent a Quaternary gravel as it occurs beneath the till blanket and unconsolidated perglacial gravel and may represent a potential paleo placer. Similar in-basin fill is seen in and around the Indian River area (McKinnon Creek conglomerate) in the Dawson district and is interpreted as a potential source to placer gold in the area. Investigation of the gravel shows it varies from rounded pebble to cobble clasts to an angular breccia cemented with carbonate and fine to coarse sand. Sample 15NI20 yielded 86.4ppb Au, 35.16ppm Cu, 421ppm Ni, 74ppm V, 4.4ppm Ga, 1.6ppm U, and 4ppb Pt. Sample 15NI21 returned 1671ppm Ni, 1180.1ppm Cr, 2.2ppm U, and 4ppb Pt.

Phase 3 – *McClintock River Area and Staking*

During data compilation of the work completed within the scope of the project, Minfile occurrence 105D 154, located south of the McClintock River proved to be of particular interest. The occurrence is a record of high grade gold values obtained by local prospector Brian Carter. The samples collected included 141.42 g/t Au and multiple assays greater than 1 g/t Au; however, samples were of float and no in situ source was found. After collaborating with Brian Carter and by reinvestigating the information he gathered combined with new regional data a potential source to the Au-rich float emerged. Figure an old geophysics paper displays a significant linear low in proximity to where Brian Carter collected his samples and a potential source to the high grade Au values.

Phase 3 consists of several failed attempts to reach and prospect the geophysical anomaly (Figure 15). Efforts were made using quads to get as close to the anomaly as possible and then hiking the remaining distance; attempts were made via existing trails along the McClintock River and from the south by Grayling Creek. Unfortunately, due to short days in the fall and formidable bush that lay in-between to the anomaly - it was not reached, and would require a helicopter to do so.

A helicopter was chartered out of Whitehorse in November to investigate the anomaly. In order to remain cost-effective as possible, staking of the 24 Carter claims was also completed. However, due to snow cover prospecting was unsuccessful. In addition based on findings from Phase 2 of the exploration Snowblind 1-14 was staked covering potential paleo placer (samples 15NI21 and 15NI22) and Minfile occurrence 105D 178.

Expenditures

Personnel

Task	Day Rate	Number of Days	Total
Prospector	$350	16	$5600.00
Assistant/Labourer	$275	14	$3850.00
XRF Technician	$350	3	$1050.00
Staker	$275	3	$825.00
Report Preparation	$350	3	$1050.00
		Subtotal	**$12375.00**

Gear and Transportation

Task	Rate	Number of Days	Total
Helicopter	$1670.00 per hr (wet)	2.1 hours	$3682.35
Truck	$50.00 per day	17	$850.00
Quad	$40.00 per day per quad	15 days X 2 quads 1 day x 1 quad	$1240.00
Fuel (general, quads, trucks, etc)	By receipt	17	$1190.04
Quad trailer	$16 per day	16	$256.00
Chainsaw	$10 per day	16	160.00
Daily expenses	$100 per day per person	33	$3300.00
XRF rental	$110 per day	3	$330.00
		Subtotal	**$11008.39**

Analytical

Sample Type	Number of Samples	Cost per sample
Rock with PGE	23	$41.21
	Subtotal	**$947.94**

Total Costs

Personnel	$12375.00
Gear and Transportation	$11008.39
Analytical	$947.94
Total	**$24331.33**

Total expenditures for the 2015 targeted regional exploration program are $24331.33.

Conclusion and Recommendations

The 2015 regional exploration program was carried out on a small budget, but it led to the discovery of several new potential areas of jade, lode Au, and nickel mineralization. Eight samples yielded over 1000ppm Ni and 3 over 2000ppm Ni from various ultramafic lithologies from the Cache Creek terrane, and helped delineate potential lithologies. Listwanite alteration was encounter in several localities during the project scope; much of the vein material displayed unique vein features and banding similar to epithermal boiling textures. More work is needed to determine triggers of mineralization and where economic concentrations may lie in a mineralized structure. Vertical zonation may be more prominent than previously interpreted similar to epithermal veins rather than typical GQC veins. This mineralization may result from intrusion-related fluids in a shallow depth based on observations rather than mesothermal fluids. Such veins are the likely source to placer gold which occurs in the creek gravels in the area; similar to the Dease Lake area alternate sites in the Cassiar, and Atlin. The presence of Quaternary conglomerates may also offer insight into potential sources as a paleo placer. Jade occurs in the Cache Creek ultramafics on the Jakes claims and opens a new potential immediately outside of Whitehorse, Yukon. The area is underexplored despite good accessibility.

Future work will require further prospecting, mapping, and mechanical trenching. Mechanical trenching would be needed to further the Jakes Claims and determine extent of nephrite jade mineralization and whether a sizable deposit exists. Ground geophysics combined with trenching should be carried out over the newly acquired Carter claims to test the geophysics anomaly and determine a potential host for previously recorded high grade float. In the area of the Snowblind claims overlaying present placer activity; therefore, trenching and rock sampling can be carried out cheaply in conjunction with continuing placer exploration to determine value of potential paleo placer. In order to fully comprehend the lode mineralization in the area drilling would be required, following trenching and ground geophysics. Several occurrences of listwanite and large quartz veins were encountered; however, Au is typically seen in alternate camps as occurring in cross cutting veins or beneath alteration, for this reason drilling would be needed. Furthermore, knowing which ultramafic lithologies yield strong Ni values, further sampling and prospecting should be carried out to determine extent of lithologies and continuity of grade.

Statement of Qualifications

Nicolai Goeppel is a local Yukon prospector and owner of Higher Ground Exploration Services inc. Born and raised in the Yukon with placer roots in the Freegold Mountain area near Carmacks. Recent involvement in geology includes two field seasons with the Yukon Geological Survey and three years as senior project manager at All-In explorations. In addition, he has run multiple placer and hard rock projects for Midnight Mining Services and alternate exploration companies. This includes work in Newfoundland, where Nicolai recently completed a BSc in Earth Sciences at Memorial University in January 2014.

Appendix

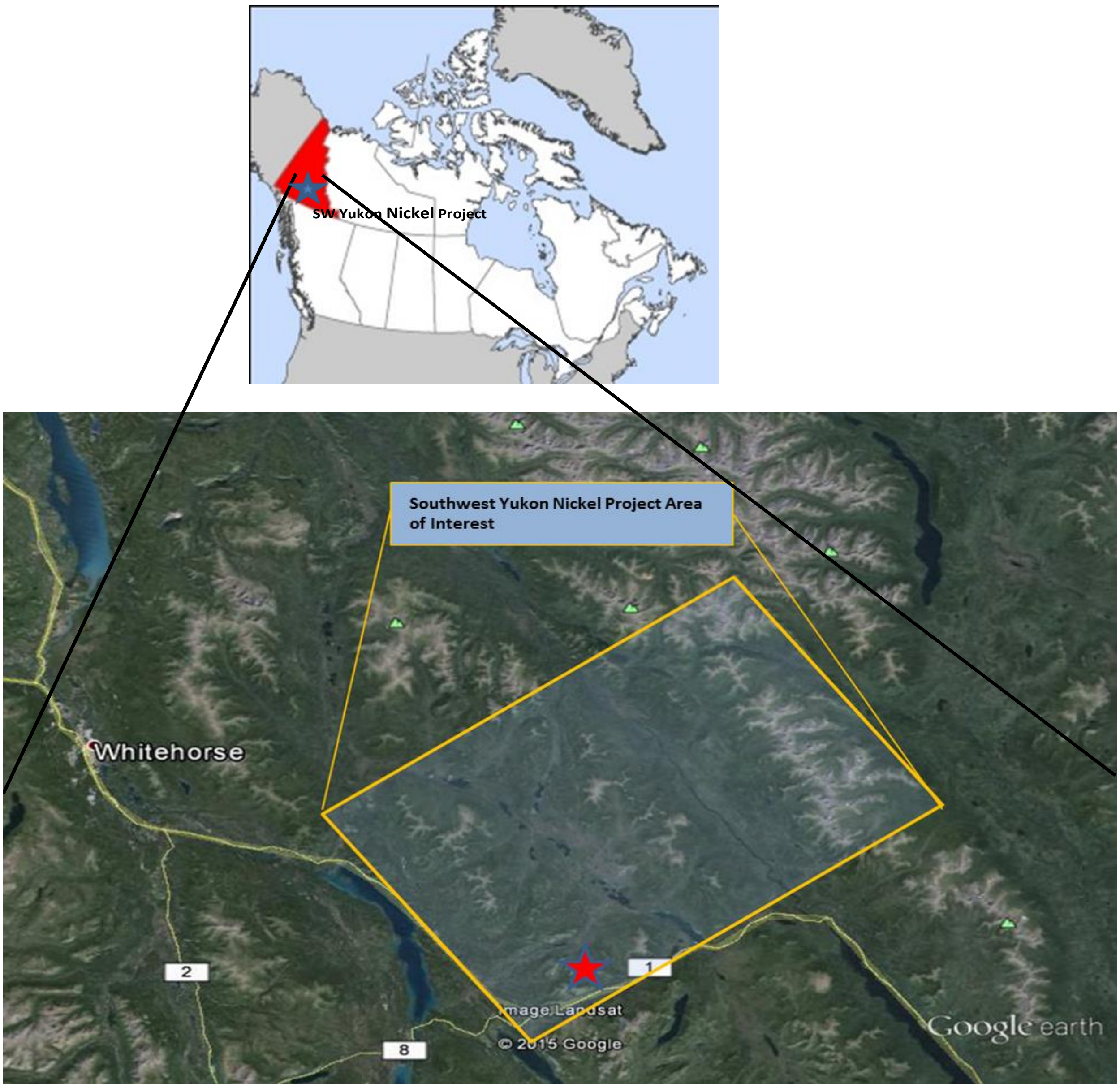

Figure 1. Location

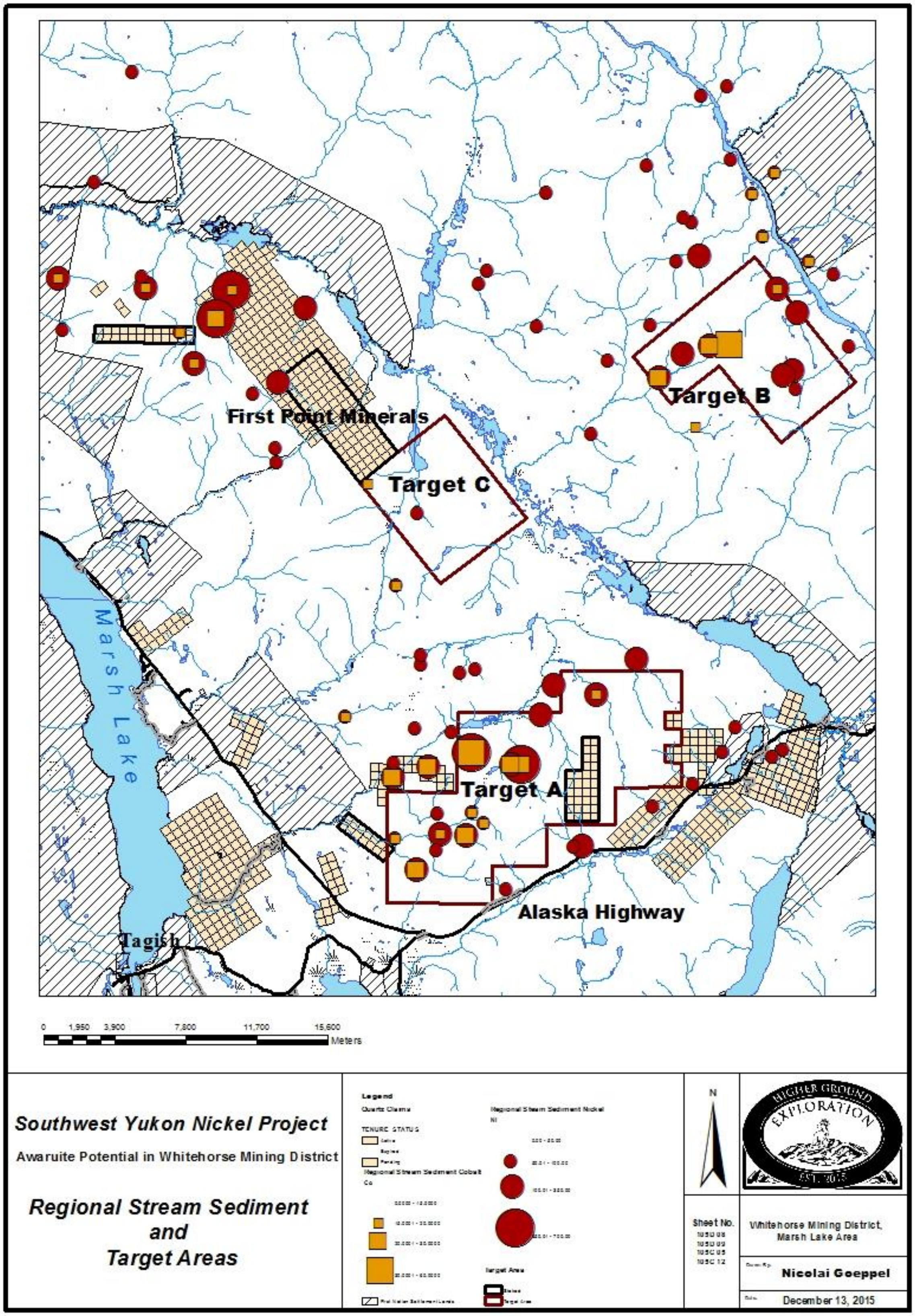

Figure 2. Ni and Co RGS and target areas

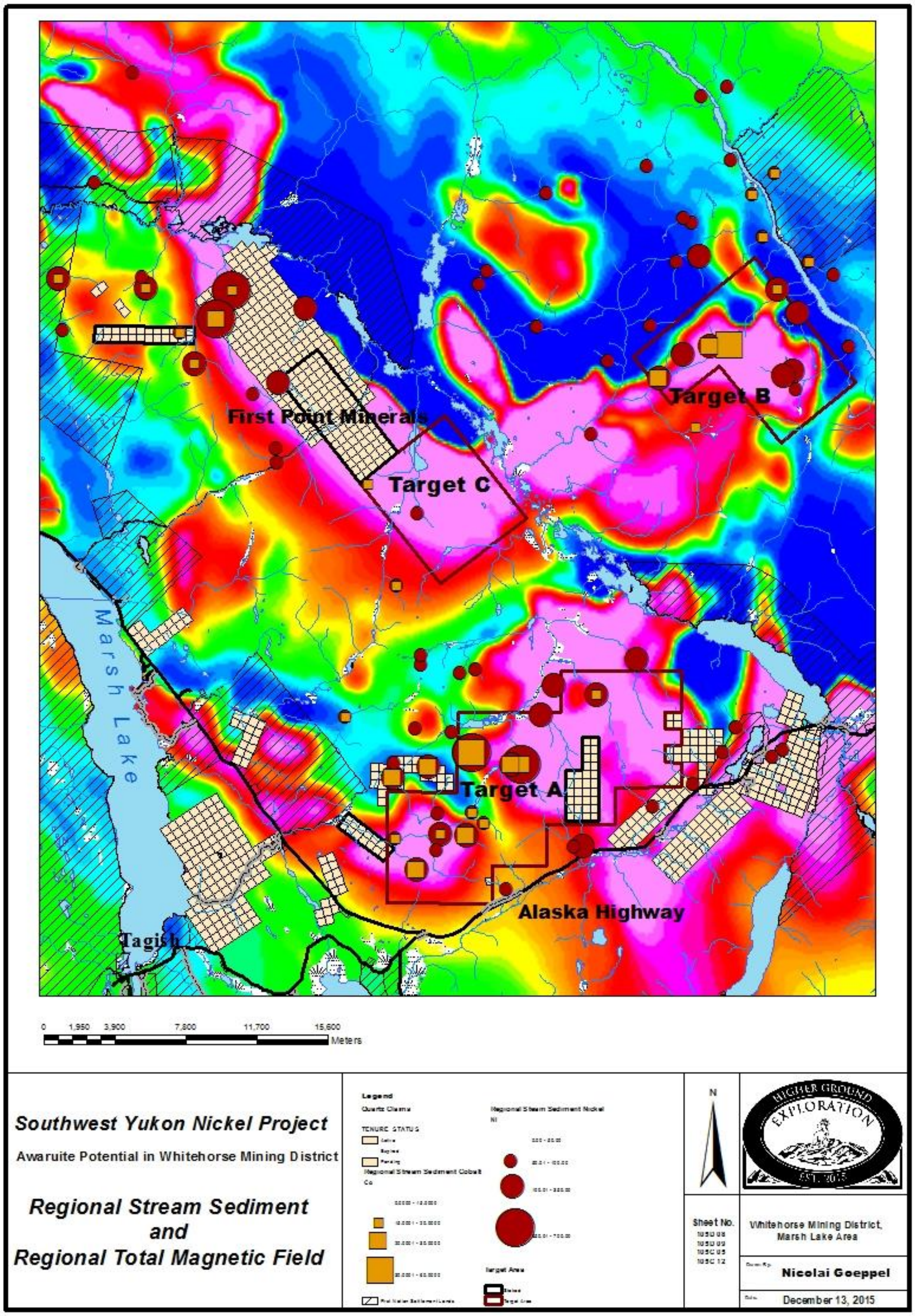

Figure 3. Total magnetic field with Ni and Co RGS

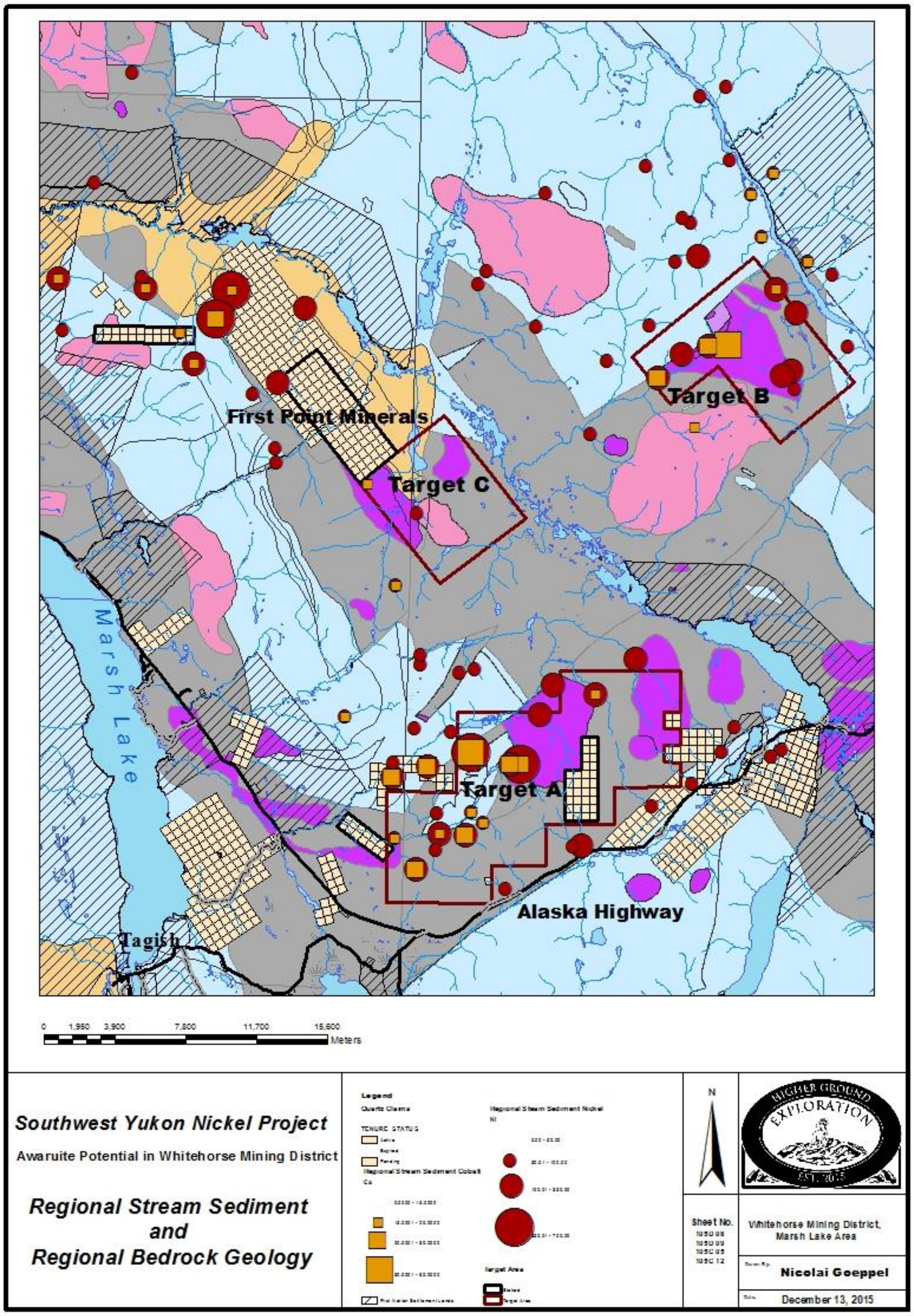

Figure 4. Geology with Ni and Co RGS and target areas

Figure 5. Sample of Jade found in 2014, asbestos veinlet transitioning into chrysotile and eventually swells and transitions to jade towards the top of the image.

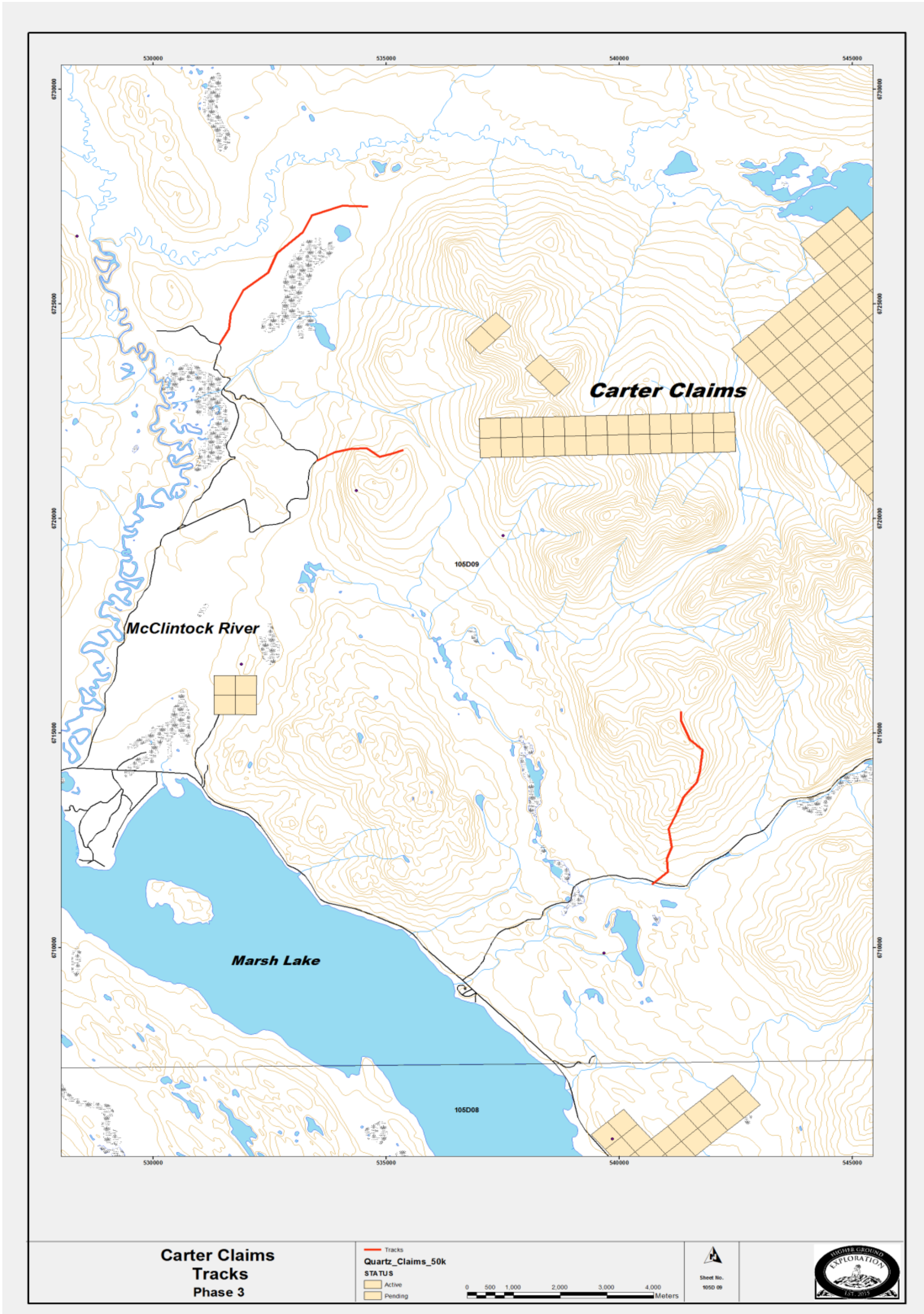

Figure 6. Phase 3 tracks and Carter Claims

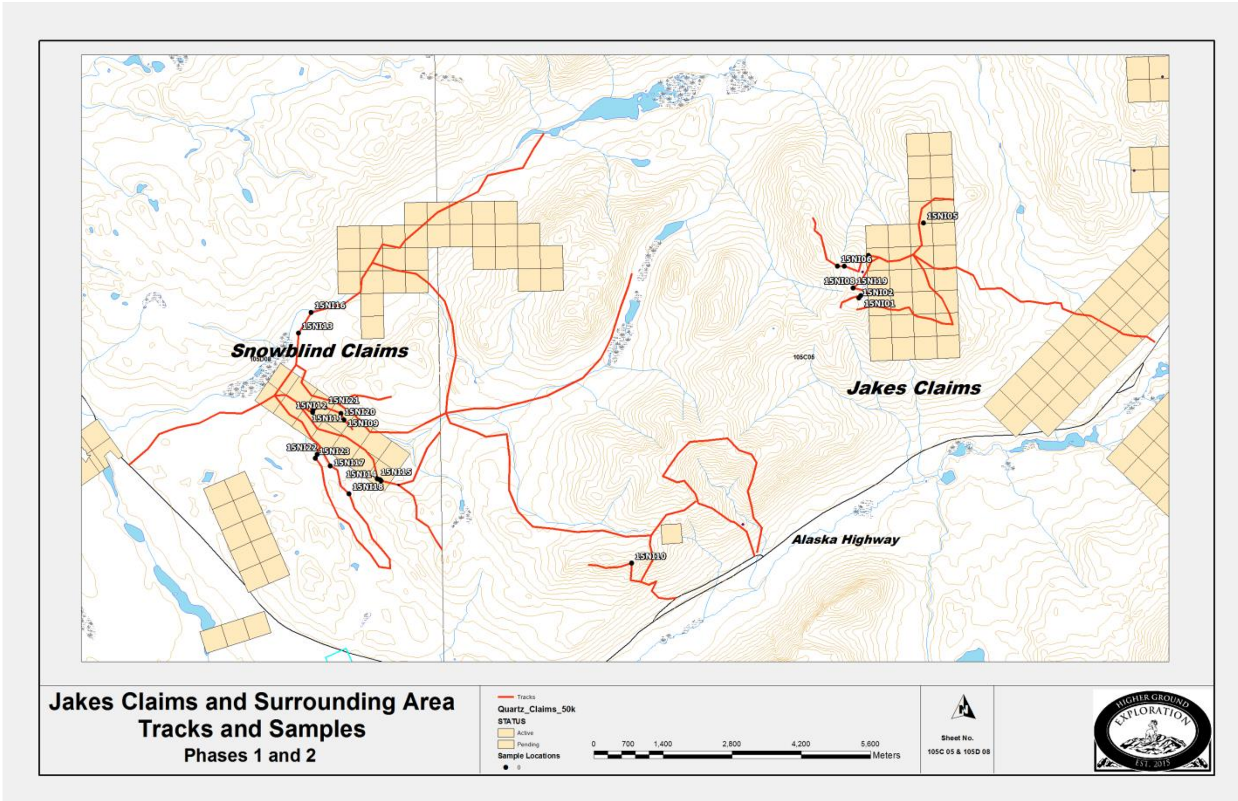

Figure 7. Jakes and Snowblind claims, tracks, and access

Figure 8. Harzburgite with chromite veins

Figure 9. Commonly seen pyrrhotite blebs in altered peridotite, greenstone

Figure 10. Geyserite

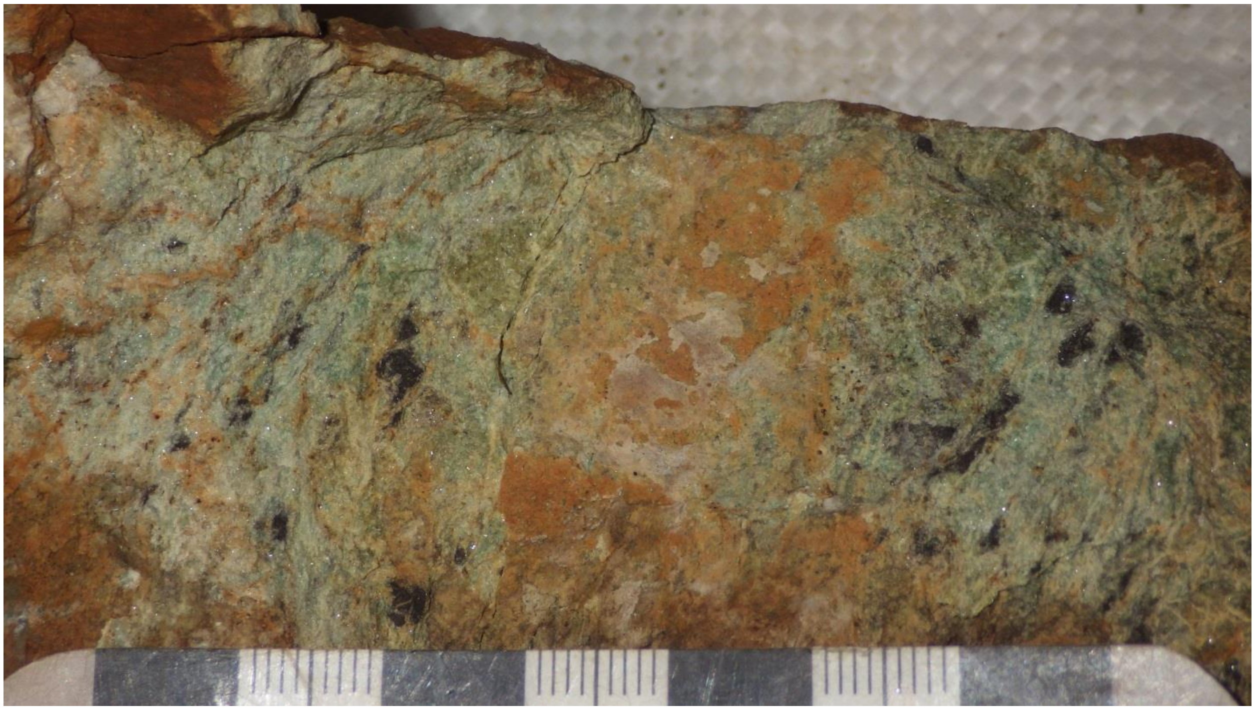

Figure 11. Listwanite from hornblende granodiorite

Figure 12. Listwanite alteration and quartz-calcite breccia

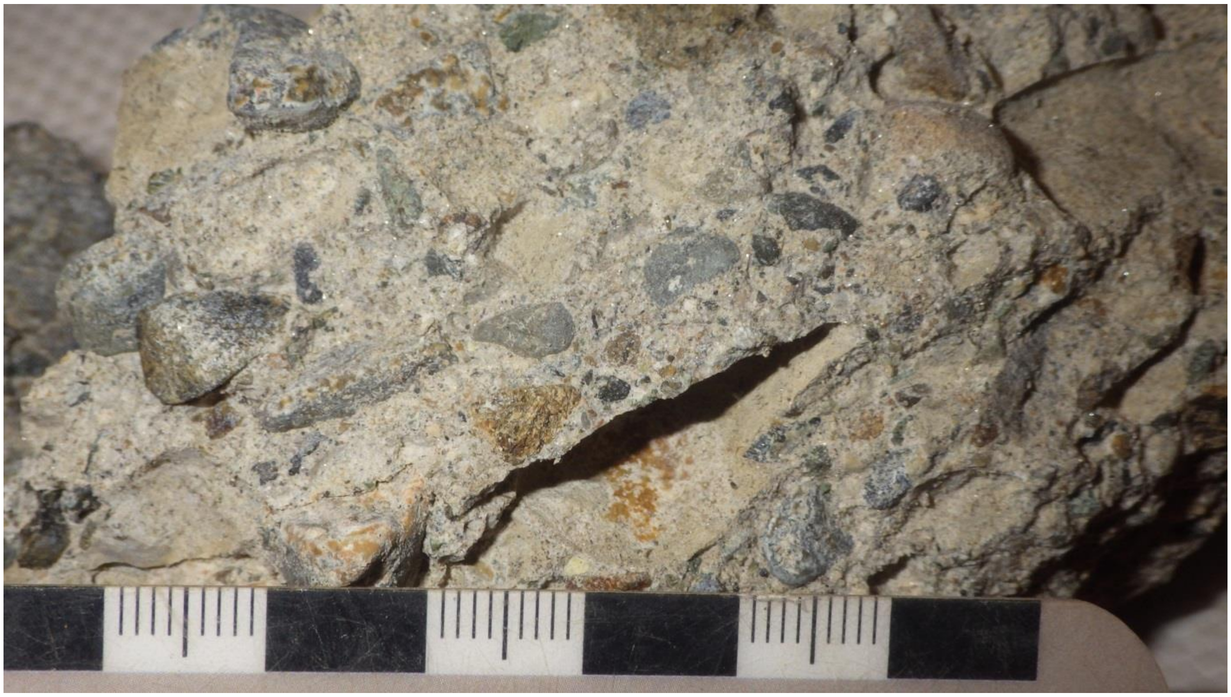

Figure 13. Conglomerate

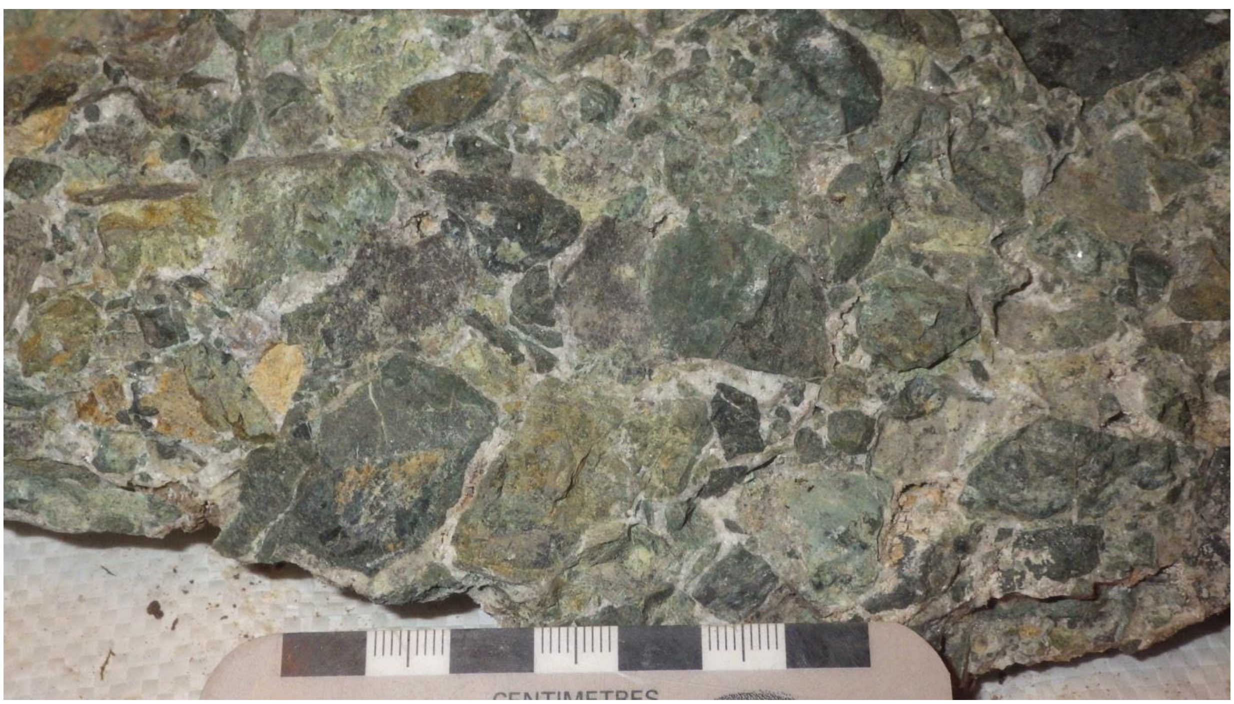

Figure 14. Angular breccia

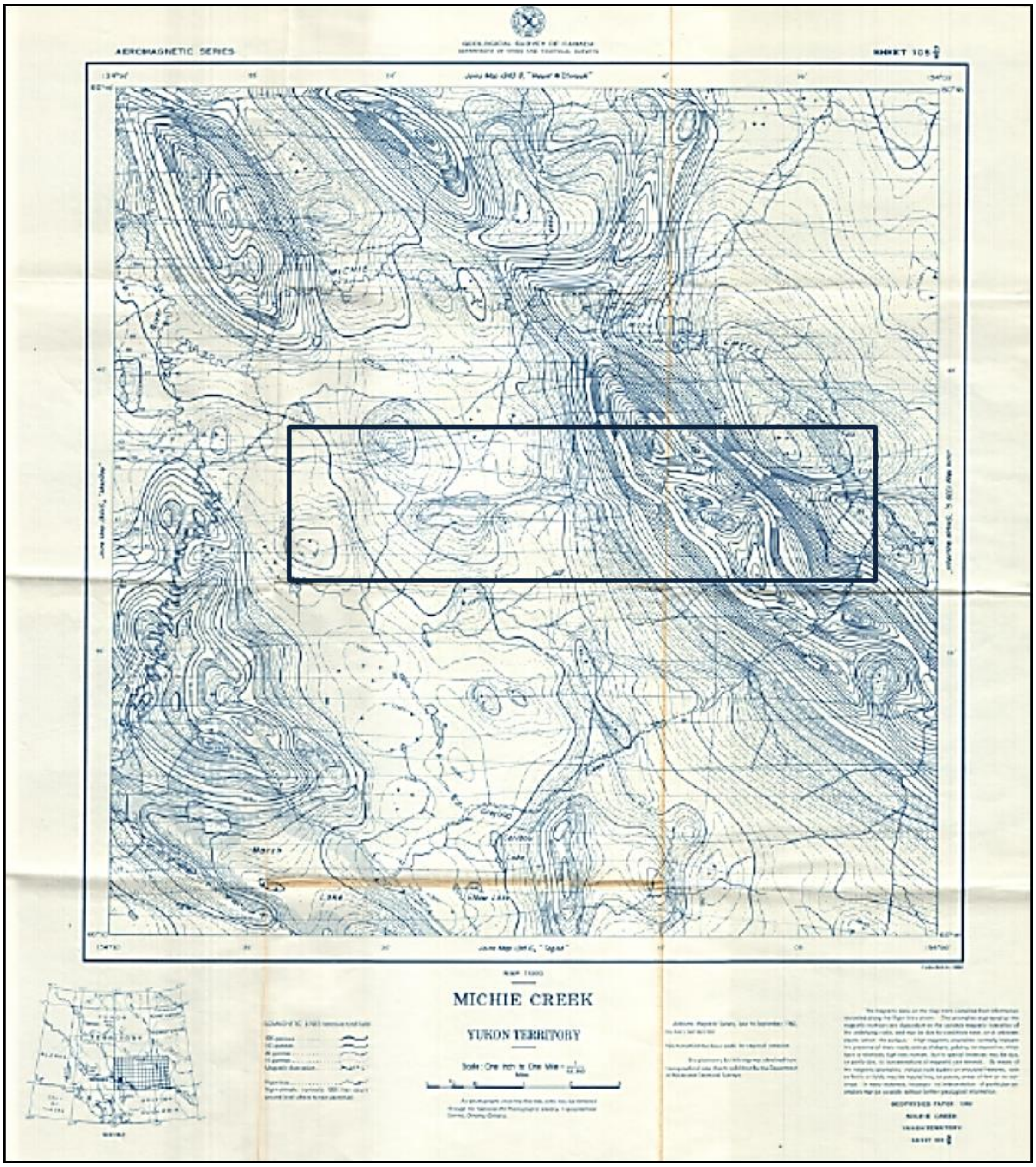

Figure 15. Geophysics outlining potential structure

Figure 16. Sample 15NI12 banded vein

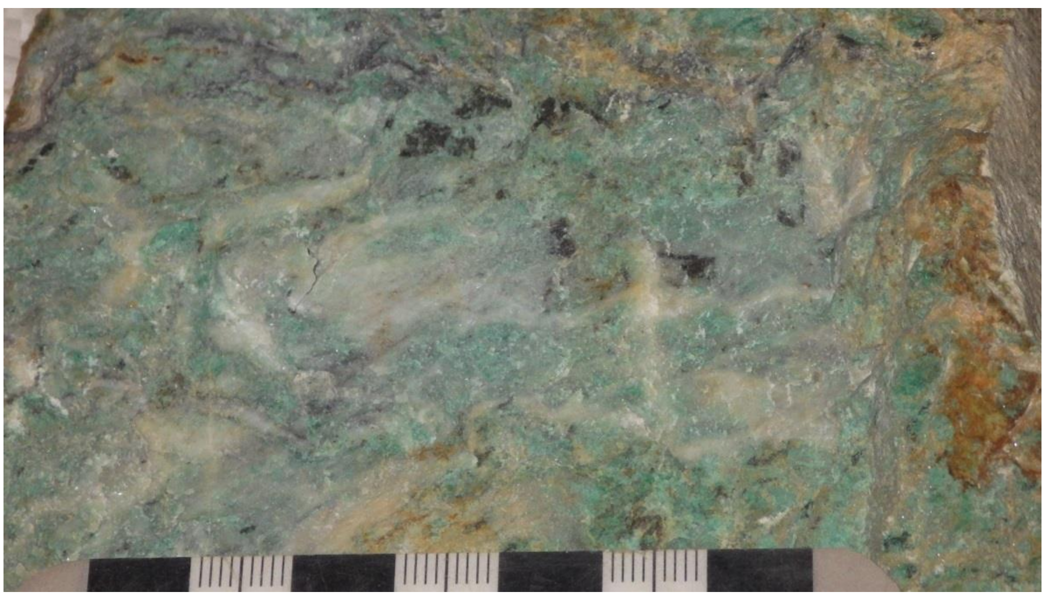

Figure 17. Sample 15NI13 intense listwanite alteration

Figure 18. Sample 15NI14 altered chert with graphitic veinlets

Sample Descriptions				
NAD 83	**Zone 8V**			
Sample ID	**Zone**	**Easting**	**Northing**	**Description**
15NI01	8V	563643	6697464	greenstone - altered peridotite; pervasively silicified containing blebs of phyrrotite or awaruite within a ductile flowing texture
15NI02	8V	563611	6697416	greenstone - altered peridotite; pervasively silicified containing blebs of phyrrotite or awaruite within a ductile flowing texture
15NI03	8V	563312	6698057	greenstone - altered peridotite; pervasively silicified containing blebs of phyrrotite or awaruite within a ductile flowing texture
15NI04	8V	563804	6698277	a pale brown-yellow weathering, with brown green fresh surface harzburgite; commonly contains large <1cm serpentinite books and crosscutting veins of chromite, awaruite or pyrrhotite, and magnesite +/- serpentinite or chrysotile. Veining locally resembles door and window texture characteristic of serpentinization and agree with association of chromite and awaruite and serpentinization. Veins are consistent through exposures and generally greater than 1cm and up to 5cm thick
15NI05	8V	564916	6698931	Rodingite consists of lizardite with distinctive white weathering and dark olive green fresh surface containing fractures and disseminations of magnetite, chromite, and lesser awaruite

15NI06	8V	56317 7	6698060	greenstone - altered peridotite; pervasively silicified containing blebs of phyrrotite or awaruite within a ductile flowing texture
15NI07	8V	55393 1	6693707	partially serpentinized harzburgite with minor asbestos veinlets and serpentinite books
15NI08	8V	56349 3	6697616	multiple generation cross cutting veins and veinlets. Lithic fragments within veining consist of intensively silicified greenstone
15NI09	8V	55317 6	6694944	Limonitic chalcedonic vein material (float)
15NI10	8V	55900 4	6692047	greenstone - altered peridotite; pervasively silicified containing blebs of phyrrotite or awaruite within a ductile flowing texture
15NI11	8V	55255 9	6695158	silicified listwanite alteration with minor quartz carbonite veinlets. Fuchsite, magnesite, and magnetite present
15NI12	8V	55254 3	6695095	banded chalcedonic quartz and calcite vein 1cm wide in altered ultramafic
15NI13	8V	55225 8	6696698	intense listwanite alteration and silicification, fuchsite and minor pyrite and arsenopyrite
15NI14	8V	55390 9	6693737	chert altered into a pale grey colour with graphitic veinlets and yellow/orange clay
15NI15	8V	55385 3	6693753	geyserite, nodules of banded quartz from kaolinite altered vein
15NI16	8V	55251 2	6697119	strongly silicified and oxidized rock with banded quartz - carbonate vein breccia
15NI17	8V	55290 0	6694015	orange brown weathering listwanite alteration in the wall rock and quartz-carbonate vein breccia. Bladed calcite and comb texture veins
15NI18	8V	55328 1	6693444	listwanite vein from hornblende granodiorite
15NI19	8V	56349 3	6697616	banded quartz - carbonate vein in magnesite altered serpentinite
15NI20	8V	55311 5	6695071	rounded pebble to cobble clasts to cemented with carbonate and fine to coarse sand
15NI21	8V	55278 9	6695198	an angular breccia cemented with carbonate and fine to coarse sand
15NI22	8V	55263 9	6694245	oxidized silicified serpentinite, orange brown weathering from minor fault
15NI23	8V	55259 9	6694166	strongly silicified serpentinite to chert-like appearance

Figure 19. Sample descriptions and locations

	Phase 1	
Day	**Personnel**	**Description**
1	N. Goeppel & D. Ricard	Drove from Whitehorse to staging area off the Alaska Highway. Took quads and chainsaws removing any deadfall off the trail on the 5 km stretch to the claims and located old bulldozer trenches.
2	N. Goeppel & D. Ricard	Returned to trenches, reopened and sampled promising areas.
3	N. Goeppel & D. Ricard	prospected area around trenched exposures
4	N. Goeppel & D. Ricard	prospected area west of trenches
5	N. Goeppel & D. Ricard	Prospecting of trenched area and prospecting east of trenches
	Phase 2	
Day	**Personnel**	**Description**
1	N. Goeppel & D. Ricard	Left in morning from Whitehorse, to dirt road cut-off and drove in with quads to old trenched mineral occurrence. Examined the trench reopened portions and prospected surrounding area. Returned to Whitehorse.
2	N. Goeppel & D. Ricard	Drove from Whitehorse to staging area, arrived at tributary of Judas Creek and began prospecting up the drainage. Found tertiary conglomerates, potential paleo placer? Returned to Whitehorse.
3	N. Goeppel & D. Ricard	Drove from Whitehorse to staging area, arrived at tributary of Judas Creek and continued prospecting up the drainge for more conglomerates. Returned to Whitehorse.
4	N. Goeppel & D. Ricard	Drove from Whitehorse to staging area and began up Judas creek valley to Cabin Lake. Returned to Whitehorse.
5	N. Goeppel & D. Ricard	Returned to Judas Creek valley and traversed alternate tributary to Southeast.
6	N. Goeppel & T. Schwenk	Left in morning from Whitehorse to area around occurrence 105C 049 and 105C 055 investigated occurrences. Returned to whitehorse
7	N. Goeppel & T. Schwenk	Left in morning from Whitehorse to area around occurrence 105C 049 and 105C 055 prospected imediately to north and east. Returned to whitehorse
8	N. Goeppel & T. Schwenk	Left in morning from Whitehorse to area around occurrence 105C 049 and 105C 055 prospected drainage to north a tributary of Judas Creek.
	Phase 3	

Day	Personnel	Description
1	N. Goeppel & T. Schwenk	Left Whitehorse for trail on Grayling Creek and attempted to hike into area of present Carter Claims
2	N. Goeppel & T. Schwenk	Left Whitehorse for McClintock River and attempted to hike into area of present Carter Claims

Figure 20. Summary of daily activities

SAMPLE	Units	Sigma Value	INSPECTOR	Cu	As	Fe	Zn	Mo	Zr	Sr	Rb	Se	Pb	Ni	Co	Mn	Th
15NI01	ppm	2	N.GOEPPEL	< LOD	< LOD	93857.37	94.88	< LOD	140.91	72.84	< LOD	< LOD	< LOD	< LOD	< LOD	1831.84	< LOD
15NI01	ppm	2	N.GOEPPEL	< LOD	< LOD	97450.48	72.03	< LOD	131.91	52.47	< LOD	< LOD	< LOD	242.16	< LOD	1698.89	< LOD
15NI02	ppm	2	N.GOEPPEL	< LOD	< LOD	106562.9	58.81	< LOD	67.95	83.8	20.95	< LOD	< LOD	170.56	< LOD	1041.24	< LOD
15NI02	ppm	2	N.GOEPPEL	< LOD	< LOD	169725.1	97.91	< LOD	97.72	30.41	< LOD	< LOD	< LOD	229.94	< LOD	1813.47	< LOD
15NI02	ppm	2	N.GOEPPEL	104.83	< LOD	116016.8	122.71	< LOD	187.74	65.11	< LOD	< LOD	< LOD	273.94	< LOD	3107.36	< LOD
15NI04	ppm	2	N.GOEPPEL	93.5	< LOD	88323.05	72.09	< LOD	101.24	102.41	< LOD	< LOD	< LOD	131.74	< LOD	1421.61	< LOD
15NI04	ppm	2	N.GOEPPEL	89.47	< LOD	105468.2	56.18	< LOD	179.18	92.81	7.3	< LOD	< LOD	212.68	< LOD	1112	< LOD
15NI04	ppm	2	N.GOEPPEL	< LOD	< LOD	89052.98	87.71	< LOD	186.05	69.57	< LOD	< LOD	17.54	< LOD	< LOD	1112.2	< LOD
15NI04	ppm	2	N.GOEPPEL	< LOD	< LOD	49086.47	37.34	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	1436.83	< LOD	722.87	< LOD
15NI04	ppm	2	N.GOEPPEL	< LOD	< LOD	20676.82	23.42	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	2050.12	< LOD	757.01	< LOD
15NI04	ppm	2	N.GOEPPEL	< LOD	< LOD	26725.45	23.06	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	1773.85	< LOD	635.81	< LOD
15NI05	ppm	2	N.GOEPPEL	< LOD	< LOD	30393.64	21.23	< LOD	< LOD	262.32	< LOD	< LOD	< LOD	1968.57	< LOD	555	< LOD
15NI05	ppm	2	N.GOEPPEL	< LOD	< LOD	54537.4	24.64	< LOD	< LOD	104.81	< LOD	< LOD	< LOD	2116.37	369.92	458.36	< LOD
15NI05	ppm	2	N.GOEPPEL	< LOD	< LOD	35222.12	< LOD	< LOD	< LOD	65.43	< LOD	< LOD	< LOD	1959.37	< LOD	327.52	< LOD
15NI06	ppm	2	N.GOEPPEL	< LOD	< LOD	46407.98	72.73	< LOD	< LOD	25.7	< LOD	< LOD	< LOD	963.58	< LOD	284.07	< LOD
15NI06	ppm	2	N.GOEPPEL	< LOD	< LOD	244557.1	< LOD	< LOD	134.15	114.65	< LOD	< LOD	26.53	261.57	< LOD	433.42	< LOD
15NI06	ppm	2	N.GOEPPEL	< LOD	< LOD	89966.09	105.2	< LOD	< LOD	21.25	< LOD	< LOD	< LOD	740.85	< LOD	615.91	< LOD
15NI07	ppm	2	N.GOEPPEL	< LOD	< LOD	41168.8	22.91	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	1024.85	< LOD	671.6	< LOD
15NI07	ppm	2	N.GOEPPEL	< LOD	< LOD	44642.82	20.01	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	505.02	< LOD	816.01	< LOD
15NI07	ppm	2	N.GOEPPEL	< LOD	< LOD	25876.61	24.01	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	1347.26	< LOD	379.53	< LOD
15NI08	ppm	2	N.GOEPPEL	< LOD	< LOD	1245.14	< LOD	< LOD	< LOD	< LOD	6.07	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
15NI08	ppm	2	N.GOEPPEL	< LOD	< LOD	4044.31	< LOD	< LOD	18.6	42.84	50.92	< LOD	< LOD	< LOD	< LOD	161.52	< LOD
15NI08	ppm	2	N.GOEPPEL	< LOD	< LOD	9181.55	22.22	< LOD	8.63	7.47	6.94	< LOD	< LOD	72.17	< LOD	250.59	< LOD
15NI08	ppm	2	N.GOEPPEL	< LOD	< LOD	7264.23	25.12	< LOD	20.18	14.69	6.57	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
15NI09	ppm	2	N.GOEPPEL	< LOD	< LOD	4885.73	< LOD	< LOD	8.93	8.84	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
15NI09	ppm	2	N.GOEPPEL	48.21	< LOD	5926.28	< LOD	< LOD	9.81	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
15NI09	ppm	2	N.GOEPPEL	< LOD	< LOD	1396.02	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
15NI10	ppm	2	N.GOEPPEL	< LOD	< LOD	62996.24	35.06	< LOD	102.24	113.84	< LOD	< LOD	< LOD	< LOD	< LOD	1371.5	< LOD
15NI10	ppm	2	N.GOEPPEL	77.91	< LOD	51865.43	66.41	< LOD	89.5	122.82	< LOD	< LOD	< LOD	< LOD	< LOD	1049.23	< LOD
15NI10	ppm	2	N.GOEPPEL	< LOD	< LOD	54366.57	52.38	< LOD	111.9	154.57	< LOD	< LOD	< LOD	< LOD	< LOD	1121.13	< LOD
15NI11	ppm	2	N.GOEPPEL	< LOD	< LOD	41059.76	41.1	< LOD	< LOD	325.13	9.55	< LOD	< LOD	3264.48	< LOD	1263.69	< LOD
15NI11	ppm	2	N.GOEPPEL	< LOD	< LOD	28784.13	< LOD	< LOD	< LOD	676.65	< LOD	< LOD	< LOD	787.79	< LOD	631.82	< LOD
15NI11	ppm	2	N.GOEPPEL	< LOD	< LOD	14034.26	< LOD	< LOD	< LOD	466.43	< LOD	< LOD	< LOD	1461.62	< LOD	965.46	< LOD
15NI12	ppm	2	N.GOEPPEL	< LOD	< LOD	6461.71	< LOD	< LOD	< LOD	31.79	< LOD	< LOD	< LOD	< LOD	< LOD	902.05	< LOD
15NI12	ppm	2	N.GOEPPEL	< LOD	< LOD	11642.08	< LOD	< LOD	< LOD	131.46	< LOD	< LOD	< LOD	< LOD	< LOD	1412.72	< LOD
15NI12	ppm	2	N.GOEPPEL	< LOD	< LOD	8242.6	< LOD	< LOD	< LOD	64.6	< LOD	< LOD	< LOD	202.7	< LOD	7076.75	< LOD
15NI12	ppm	2	N.GOEPPEL	< LOD	18.36	33213.12	< LOD	< LOD	< LOD	2357.54	< LOD	< LOD	< LOD	987.48	< LOD	543.56	< LOD
15NI12	ppm	2	N.GOEPPEL	< LOD	15.46	33815.22	< LOD	< LOD	< LOD	2508.31	< LOD	< LOD	< LOD	1447.73	< LOD	708.28	< LOD
15NI12	ppm	2	N.GOEPPEL	< LOD	15.08	31690.88	127.15	< LOD	< LOD	2195.12	< LOD	< LOD	< LOD	418.93	< LOD	973.95	< LOD
15NI14	ppm	2	N.GOEPPEL	< LOD	26.09	45617.38	113.55	< LOD	21.2	15.44	17.52	< LOD	< LOD	< LOD	< LOD	180.45	< LOD
15NI14	ppm	2	N.GOEPPEL	< LOD	< LOD	7246.88	< LOD	< LOD	8.57	8.35	13.11	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
15NI14	ppm	2	N.GOEPPEL	< LOD	< LOD	2040.64	< LOD	< LOD	42.9	41.91	35.83	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
15NI15	ppm	2	N.GOEPPEL	< LOD	< LOD	5772.01	54.65	< LOD	169.02	5.11	137.39	< LOD	56.05	< LOD	< LOD	140.95	12.93
15NI16	ppm	2	N.GOEPPEL	< LOD	20.21	74034.84	47.91	< LOD	< LOD	315.6	< LOD	< LOD	< LOD	1545.5	< LOD	1483.96	< LOD
15NI16	ppm	2	N.GOEPPEL	< LOD	< LOD	20565.3	< LOD	< LOD	< LOD	23.49	< LOD	< LOD	< LOD	807.46	< LOD	274.37	< LOD
15NI16	ppm	2	N.GOEPPEL	< LOD	13.55	75451.56	27.85	< LOD	< LOD	281.24	< LOD	< LOD	< LOD	1265.29	< LOD	1318.96	< LOD
15NI17	ppm	2	N.GOEPPEL	< LOD	< LOD	33262.89	< LOD	< LOD	< LOD	128.83	< LOD	< LOD	< LOD	156.11	< LOD	1027.51	< LOD
15NI17	ppm	2	N.GOEPPEL	< LOD	< LOD	54156.53	< LOD	< LOD	< LOD	224.51	< LOD	< LOD	< LOD	1530	< LOD	844.93	< LOD
15NI17	ppm	2	N.GOEPPEL	< LOD	< LOD	18868.75	< LOD	< LOD	< LOD	139.96	< LOD	< LOD	< LOD	272.58	< LOD	513.43	< LOD
15NI18	ppm	2	N.GOEPPEL	< LOD	< LOD	44015.35	74.5	< LOD	< LOD	332.01	< LOD	< LOD	< LOD	975.03	< LOD	705.6	< LOD
15NI18	ppm	2	N.GOEPPEL	107.98	< LOD	32827.73	116.07	< LOD	< LOD	191.69	< LOD	< LOD	< LOD	962.61	< LOD	503.94	< LOD
15NI18	ppm	2	N.GOEPPEL	< LOD	< LOD	19472.03	< LOD	< LOD	< LOD	314.26	< LOD	< LOD	< LOD	4146.14	< LOD	409.3	< LOD
15NI19	ppm	2	N.GOEPPEL	< LOD	< LOD	8417.91	< LOD	< LOD	< LOD	409.85	< LOD	< LOD	< LOD	< LOD	< LOD	219.02	< LOD
15NI19	ppm	2	N.GOEPPEL	< LOD	< LOD	52275.45	91.92	< LOD	226.36	185.7	23.47	< LOD	< LOD	282.95	< LOD	1029.57	< LOD
15NI19	ppm	2	N.GOEPPEL	< LOD	< LOD	12682.94	23.54	< LOD	< LOD	499.21	< LOD	< LOD	< LOD	178.44	< LOD	350.02	< LOD
15NI20	ppm	2	N.GOEPPEL	< LOD	< LOD	15202.81	40.61	< LOD	174.71	886.35	20.28	< LOD	19.82	167.41	< LOD	255.42	< LOD
15NI20	ppm	2	N.GOEPPEL	< LOD	< LOD	18563.36	28.69	< LOD	86.62	813.83	15.36	< LOD	< LOD	268.79	< LOD	461.2	< LOD
15NI20	ppm	2	N.GOEPPEL	< LOD	< LOD	20353.44	32.54	< LOD	70.61	287.11	17.11	< LOD	< LOD	403.55	< LOD	367.11	< LOD
15NI21	ppm	2	N.GOEPPEL	< LOD	< LOD	35475.23	39.59	< LOD	< LOD	332.76	< LOD	< LOD	< LOD	1318.86	< LOD	833.07	< LOD
15NI21	ppm	2	N.GOEPPEL	< LOD	< LOD	29973.18	< LOD	< LOD	< LOD	177.58	< LOD	< LOD	< LOD	1434.83	< LOD	525.2	< LOD
15NI21	ppm	2	N.GOEPPEL	< LOD	< LOD	32868.91	39.57	< LOD	17.39	284.72	< LOD	< LOD	< LOD	1131.16	< LOD	756.24	< LOD
15NI22	ppm	2	N.GOEPPEL	84.03	< LOD	41978.22	66.51	< LOD	30.7	101.96	< LOD	< LOD	< LOD	< LOD	< LOD	2165.76	< LOD
15NI22	ppm	2	N.GOEPPEL	88.61	< LOD	76793.41	363.75	< LOD	< LOD	25.3	< LOD	< LOD	< LOD	421.86	< LOD	1471.62	< LOD
15NI22	ppm	2	N.GOEPPEL	< LOD	15.31	39179.91	42.31	22.25	80.75	90.51	< LOD	< LOD	< LOD	< LOD	< LOD	484.68	< LOD
15NI23	ppm	2	N.GOEPPEL	< LOD	< LOD	9225.24	39.64	< LOD	44.68	12.55	< LOD	< LOD	< LOD	< LOD	< LOD	1166.09	< LOD
15NI23	ppm	2	N.GOEPPEL	< LOD	< LOD	19999.35	35.6	< LOD	86.8	17.76	< LOD	< LOD	< LOD	< LOD	< LOD	2999.07	< LOD
15NI23	ppm	2	N.GOEPPEL	< LOD	< LOD	4655.3	27.74	< LOD	11.46	25.54	< LOD	< LOD	< LOD	< LOD	< LOD	649.34	< LOD

Figure 21. XRF values