A Geochemical Report on the RGS Property

submitted as Representation Work on the following quartz claims

Claims:

RGS 1-RGS 66: Grants YE1435-YE71500 (66) RGS 67-RGS 78: Grants YE71583-YE71594 (12) Total 78 quartz claims in the Dawson Mining District All claims recorded June 18, 2014 Owner: Gordon Richards

> Location 115P/06 Camp in centre of claims at UTM 377,500E, 7,028,540N, Elev 601 m UTM Zone 8, NAD 83

Field work performed by Gordon Richards & Jeff Mieras during the period June 19 to June 24, 2014

Report written by Gordon Richards September 10, 2014

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INTRODUCTION

The area of the RGS claims has been prospected with the aid of YMIP and YMEP grants in 2012, 2013 and 2014. The property is located on a gently westward slope in the headwaters of Robbed Creek, a tributary of Lake Creek, about 10 km southwest of Reid Lake and 50 km due west of Stewart Crossing within NTS map sheet 115P06. Access was made from the helicopter base at Mayo airport, 80 km distant.

The geology of the area has been described on Canadian Geoscience Map 7 of southwestern McQuesten and parts of northern Carmacks by Ryan, J.J., Colpron, M., and Hayward, N., 2010. The area is underlain by the Carboniferous aged Reid Lakes Batholith Complex, a weakly Kspar-porphyritic, medium-grained granite to quartz monzonite intruding its own volcanic pile. There are no outcrops in the area that was ultimately staked although outcrops of granite were located a km east of the property in 2012. Loess, about 25 cm thick, blankets most slopes.

Jeffrey Bond and Panya Lipovsky of the Yukon Geological Survey have recently provided a number of papers, maps and posters on the surficial geology of the pre-Reid glaciated area with descriptions related to exploration. In particular they noted that tills have largely been removed by weathering from hilltops and modest slopes leaving hillsides amenable to soil sampling with effectiveness believed to be similar to unglaciated terrain further west. This relationship is true in hilly terrain but on the gentle slopes encountered within the RGS claims loess is underlain primarily by tills and colluvium-till mixtures.

The McQuesten aeromagnetic survey by Kiss, F., and Cryle, M., 2009 is available as Geoscience Data Repository through Natural Resources Canada. Pacific Ridge Exploration (PEX) provided the writer with horizontal and tilt derivative maps derived from the raw aeromagnetic data. These derivatives show structures where magnetite destructive hydrothermal alteration has probably occurred and was used to provide targets for prospecting.

Regional Geochemical Data (RGS) is also published, readily available and shows geochemical data for numerous elements of stream sediments throughout the area and for several creeks draining the claims. A re-evaluation of the data by the writer using only those samples within pre-Reid glaciated terrain and underlain by Yukon Tanana Terrane provided Cu, Mo, Au and other elements with high (>80%) threshold values from creeks immediately down-ice from the area prospected.

The magnetic derivative maps and RGS data were used to identify broad prospecting targets. Very Few Minfile occurrences are known in the general area and none near the RGS Property. The RGS Property is a new prospect with no known previous exploration activity.

Work in 2012 produced a cluster of five MMI soils strongly anomalous for Cu, Au and Mo near the base of slope on a gentle west facing hillside associated with a horizontal derivative magnetic low.

Follow-up prospecting on a grid in 2013 produced four patterns of MMI soils that were strongly anomalous for several elements. Three of these patterns were of a shape and size that could be indicative of underlying porphyry mineralization. They measure 500 by 1000 m, 900 m by 900 m and 500 m by 700 m based on anomalous Cu, U, and Ni in MMI soil samples. Anomalous Mo forms somewhat smaller anomalous patterns within two of these Cu-U-Ni patterns. A fourth pattern of anomalous metals formed a linear pattern that was thought to be indicative of a structurally controlled mineralized source. The two southernmost porphyry targets were open to the west under adjacent very gently sloping muskeg where MMI soils were impossible to collect due to poor drainage with associated shallow frozen ground. The linear anomalous target in the north of the 2013 survey was open to the east and west.

In 2014, RGS 1-78 quartz claims were staked covering all four anomalous soil patterns. Claims were recorded June 18, 2014. Starting June 19, 2014 vegetative sampling on a grid west of the three previously identified porphyry sized geochemically anomalous targets and MMI sampling over and beyond the linear geochemically anomalous target was undertaken in an attempt to extend and define the geochemically anomalous targets. Sampling of black spruce twigs was used west of the porphyry sized targets. MMI sampling was used over the linear target where results indicate the target not to be linear as previously thought but to be 1000 m by 500 m (open to the north and east) and to have a multi-element anomalous response similar to the other three porphyry targets. Also several pits were dug down to frost on 2013 MMI samples anomalous for Cu, Mo, U, and Ni.

Although results of the black spruce twigs sampling were limited in defining additional targets, they should not be used to limit the extent of possible underlying mineralization. Twig samples collected over some of the previous anomalous MMI samples failed to yield anomalous results indicating that twig sampling is not a reliable method in this environment. Pits dug on 2013 anomalous MMI samples failed to reach bedrock but did find abundant angular chips of granite displaying leached sulphide and propylitic alteration in colluvium with a minor till component that was probably sourced uphill of the samples sites. MMI anomalies generally are indicative of immediately underlying mineralization so the source of the anomalous MMI soil patterns remains as porphyry style mineralization underlying the porphyry sized anomalous targets. Work described in this report will be used to extend the expiry date beyond June 18, 2015.

Recommended future work should involve additional MMI sampling over the target previously thought to be linear and an induced polarization survey to test for underlying chargeability/resistivity anomalies. This work could quickly lead to targets suitable for testing by diamond drilling.

HISTORY.

Results of reanalysis in 2011 of RGS samples collected in 1986 (OF 1650) using more sophisticated analytical techniques was released in Open File 2012-09. Geochemical data from 278 selected samples that are lying only within the pre-Reid glaciated area within Yukon Tanana Terrain were used to recalculate thresholds for 70th, 80th, 90th, 95th and 98th percentiles for a number of elements. It is believed that this data would provide a more representative data-set on which to evaluate exploration potential for the area. Recalculated threshold values \geq 70% for Cu, Mo, Au, As, Sb, Hg, Ba, and Pb from around the RGS Property are plotted on Figure 2. Note the three high Cu and Mo threshold values from the two north flowing creeks due west of and down-ice from the RGS Property. Pre-Reid Glaciation is towards 300 degrees based on prominent topographic grain seen on Google Maps.

The high thresholds for Cu and Mo in the RGS data provided encouragement for the 2012 and 2013 YMIP-funded prospecting for porphyry mineralization.

In 2012, five MMI soils collected about 800 m southeast of the 2013/2014 camp shown on the figures were variably anomalous for Cu, Mo, Au, and U.

In 2013, traverses were carried out using MMI analyses, a selective leach technique, because the area was known to have been glaciated in pre-Reid times and residual soils were believed to be very deep or absent. The MMI soils were collected at 100 m intervals on lines spaced 300 m apart centered on the cluster of five MMI soil samples anomalous for Cu, Mo, Au and U collected in 2012. Refer to Figures 3 to 11 for plots of Cu, Mo, U, Ni, Ag, Au, Ti, Zn, and Pb response ratios. Response ratios of 6 to 9 are shown in pink. Response ratios of 10-14 are shown in red and higher response ratios in purple. Actual response ratio values are provided on the maps for response ratios >9. Response ratios for each metal are multiples of background calculated by dividing the metal value by the background value where the background is the average of the lower quartile. A response ratio of 10 is considered highly anomalous and indicative of underlying mineralization.

A few bark samples of white spruce were also collected. Because all of these samples were collected within what proved to be the anomalous geochemical patterns described, no background values from samples collected outside the anomalous geochemical patterns were obtained making use of the results difficult to interpret and of little value.

Results of this 2013 work are described below. Four strong multi-element soil anomalies labeled A, B, C, and D on Figures 2 to 11 and 14 to 18 were highly encouraging for the occurrence of underlying porphyry style mineralization on Anomalies B, C, and D and for underlying structurally controlled mineralization on Anomaly A.

<u>Anomaly A.</u> This was a linear anomaly one km long and about 200 m wide that trended northwest andwas open on both ends. It is best defined by strongly anomalous Ag RRs of 9 to 25 and supported by anomalous RRs for Cu 13 to 32, Mo 13 and 16, U 13 to 199, Ni 11 and 28, and Au 14 and 14. No mineralized float was present in the area that might explain the source of the anomalies. Bedrock was considered to be Reid Lake Batholith quartz monzonite. Hand trenching was considered because of the occurrence of colluvium under many of the loess samples in this area. Because it formed a linear pattern a structurally controlled

zone of mineralization possibly enriched in Au and Ag was considered to be a distinct possibility.

<u>Anomaly B.</u> This is an irregularly shaped anomaly that is defined by strongly anomalous RRs for Cu (up to 17), Mo (up to 140), U (up to 137), and Ni (up to 20). Zn and Pb (Fig 10, 11) appear to be generally low over the anomaly and anomalous immediately outside the anomaly. Ti RRs are strong both over and around the main anomaly. There were no anomalous Ag RRs but three modest anomalous Au RRs. Size of the anomaly is about 500m by 1000m. Bedrock is certainly Reid Lake Batholith quartz monzonite. Colluvium occured in about half of those soil sample pits that penetrated the loess blanket making trenching a suitable test for explaining cause of the anomaly although depth of colluvium was unknown.

<u>Anomaly C.</u> This is a roughly circular anomaly, open to the west, measuring 900m by 900m as defined by RRs for Cu (up to 22), U (up to 30), and Ni (up to 24). Mo RRs (up to 26) form a somewhat smaller anomalous pattern measuring 600m by 400m lying within the Cu-U-Ni anomalies. There are no anomalous Ag RRs and few modest anomalous Au RRs. RRs for Ti, Zn, and Pb (Fig 9, 10, 11) are low over the anomaly but higher over immediately surrounding ground. Bedrock is certainly Reid Lake Batholith quartz monzonite but tills were common in those soil pits that penetrated the loess blanket so that trenching was considered not to be an effective prospecting tool.

<u>Anomaly D.</u> This anomaly is roughly 500m by 700m, open to the south and west, defined by RRs for Cu (up to 25), U (up to 69), and Ni (up to 24). There are no anomalous Mo RRs, Ag RRs and a few modest anomalous Au RRs. Bedrock is certainly Reid Lake Batholith quartz monzonite but tills are common in those soil pits that penetrated the loess blanket so that trenching was considered not to be an effective prospecting tool.

<u>2013 Rock Samples</u>. No outcrops were seen anywhere in the soil grid area. Large subround to subangular boulders of weakly Kspar porphyritic quartz monzonite were noted in the north third of the grid area from sample T87 to T97 and for up to 300 m either side of this soil line. Similar boulders were seen at T105 and T106.

These boulders could have been glacially transported or have been moved downslope by weathering processes.

Soil pits found about 25 cm of loess in all pits. Of 82 soil pits dug by Richards, 18 contained colluvium underlying loess less than 25 cm thick, 40 contained till underlying loess less than 25 cm thick, and 25 contained loess in excess of 25 cm thick so the underlying material was not encountered. Of the 58 samples that encountered till or colluvium, 31% were colluvium and 69% were till. Many of the colluvium samples occurred in the north half of the soil grid in samples between T87 to T100, T156 to T163, T126 to T128, T147 to T150, and at T117. All these colluvium samples contained at least minor round pebbles believed to come from incorporated till.

Chloritic altered rocks with some weak fracture limonite were found in several soil pits all outside the anomalous soil patterns. They could be derived from altered rocks peripheral to porphyry style mineralization.

Based on the results of the 2013 survey, a YMEP proposal was made to sample Target A more thoroughly and to sample west of Targets B, C, and D using vegetative analysis.

CLAIMS.

The following is a list of all claims forming the property. The claims lie in the Dawson Mining District. Claims were staked June 15, 16, and 17 and recorded June 18, 2014. The work described in this report was largely funded by two YMEP grants, #14-051 and #14-052 awarded to Jeff Mieras and Gordon Richards respectively. A few additional costs were paid for by Richards. The Registered Owner is Gordon G Richards. Title expiry dates will be extended by filing the work described in this report as representation work. Refer to Figure 12.

Claim Name	Grant No.	Expiry Date	Reg Owner	% Owned	NTS #s
RGS 1-66	YE71435-	2015/06/18	Gordon G	100.00	115P06
	YE71500		Richards		
RGS 67-78	YE71583-	2015/06/18	Gordon G	100.00	115P06
	YE71594		Richards		

Table 1	1. Claim	Status
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GEOLOGY.

Bedrock geology is best described on Canadian Geoscience Map 7 of *Southwestern McQuesten and Parts of Northern Carmacks* by Ryan, J.J., Colpron, M., and Hayward, N., 2010. See Figure 13. The claims area is shown to be underlain by compositionally monotonous, coarse-grained, massive, quartz-phyric, biotite monzogranite that forms part of the Yukon Tanana Terrain. No outcrop was seen on the property but sub-angular to sub-round boulders up to 3 m long have been seen locally throughout the claims and similar rock type was seen in 2012 on ridge tops east of the claims. All these outcrops and float have a similar texture that includes less than 5% somewhat diffuse phenocrysts of Kspar measuring 5 cm long. Small chips of similar rock type were noted in colluvium in many soil sample pits.

In the north of the claims in area A, soil pits exposed fine-grained muscovite bearing schists that could be a roof pendant or fault bound block of some other formation.

Glaciation is described as pre-Reid in age. Reid glaciation began 200,000 years ago and ended about 50,000 years ago. Younger McConnel Glaciation ended about 20,000 years ago. The glaciation across the general area of the RGS Property is described as much older than Reid, possibly older than 500,000 years (Jeff Bond, personal communication, 2012).

Uppermost soil is an organic soil from almost absent to less than one cm thick on dry now aspen-wooded slopes and in excess of 10 cm thick over birch and stunted spruce wooded slopes. Forest fires tend to destroy the organic soil particularly on dryer slopes so that it is continually being formed by the accumulation and decomposition of leaf and needle litter. On stunted spruce covered gentle slopes fires are less intense and therefore less destructive of the organic soil.

Loess occurs on all slopes, generally about 20 to 30 cm thick beneath the organic soil. This loess is believed to have formed during late McConnel Glacial periods. A few rocks do occur in the loess and have probably worked themselves up into the loess from underlying colluvium and till.

Till is commonly found beneath the loess although colluvium with a very minor content of round till-derived pebbles does occur in some areas, most notably much of Area B. Where colluvium is found, angular pebbles are of typical Reid Lakes Batholith quartz monzonite. In 2012 and 2013 till was found to be largely eroded from steeper slopes immediately east of and upslope from the claim area. Much of the till found in the claims is therefore probably re-worked till and older loess deposits from these steeper slopes with some admixed colluvium. Fire pits were dug in 2014 on MMI samples anomalous for several elements without encountering bedrock.

AEROMAG.

Figure 3 is an aeromagnetic horizontal derivative map showing numerous low and high anomalies within a portion of the Reid Lake Batholith that includes the four (A,B,C,D) 2013 RGS Property Target Areas. The lows shown in blue were used in part in the 2012 prospecting as targets to be prospected for Au. These types of lows are interpreted to represent zones of magnetite destruction and where they form linear patterns could be gold mineralized structures with magnetite destruction alteration as has been demonstrated in the White Gold District. Where the horizontal derivative lows form a more irregular shape they could represent areas of magnetite destruction that could be related to zones of porphyry style hydrothermal alteration.

GEOCHEMICAL SURVEY.

Survey Methods.

J. Mieras and G. Richards flew from Mayo to the property on June 19 to conduct MMI and vegetative samples across the property. Twelve man days were spent by Mieras and Richards from June 19 to June 24 collecting 246 black spruce twig samples and 41 MMI soil samples. All geochemical results are provided in Appendices. Samples west of Targets B, C, and D were all black spruce twig samples collected on east-west sample lines 300 m apart with a 100 m sample interval. This method was selected because most of this area was known from 2013 work to contain stunted black and white spruce trees growing on poorly drained gentle slopes with shallow frost. Samples collected over Target A were MMI samples where possible and black spruce twig samples where shallow frost was encountered. These samples were collected on north-south sample lines 400 and 600 m apart with a 50 m sample interval.

MMI analysis uses a weak partial extraction to improve the conventional geochemical response over buried ore deposits. The process measures the mobile metal ions from mineralization, which have moved toward the surface and are loosely attached to the surfaces of soil particles. Its effectiveness has been documented in over 1000 case histories on six continents and includes numerous commercial successes. The anomalies are sharply bounded and in most cases directly overlie and define the extent of the surface projection of buried primary mineralized zones. The MMI process is a proprietary method developed by Wamtech of Australia. SGS Minerals Services in Toronto purchased all rights to the method and provides analyses in Canada.

Watch and ring were removed prior to sampling. Pits were dug by shovel to a depth of 30 cm in order to expose the soil profile for sampling. The profile was scraped clean with a plastic scoop to remove any metal effect from the digging shovel. A continuous strip of soil was collected by plastic scoop over the interval of 10 to 20 cm below the top of true soil, placed in a pre-numbered ziplock baggie and placed in an 11 inch by 20 inch 2 mil plastic bag. Loess was present at nearly all sample sites and was the sample medium for most samples with a minor contribution from underlying colluvium or till in some samples. Samples were kept cool until they were shipped to SGS Minerals Services in Vancouver for analyses.

In the SGS Lab, samples are not dried or prepared in any way. The MMI process includes analyses of an unscreened 50-g sample using multi-component extractants. Metals are determined by ICP-MS in the parts per billion range.

Response Ratios were calculated for Cu, Mo, Au, Ag, Sb, As, Ti, Pb, and Zn. The average value for results of the lower quartile was calculated for each element. One-half of detection limit was used for those samples with values reported as less than detection limit. Then each result was divided by the lower quartile average to obtain its response ratio. A response ratio of 10 or more is considered very significant for indicating underlying mineralization. Lesser values of 5 to 10 can also be important particularly where more than one element has such a value. Response ratios can best be thought of as a multiple of background in interpreting results. Response ratios for Cu, Mo, Au and Ag have been plotted on Figures 14 to 17.

The following description of twig sampling that was used in the present survey is taken from: *Heberlein, D.R., Dunn, C.E. and Macfarlane, W. (2013): Use of organic media in the geochemical detection of blind porphyry copper-gold mineralization in the Woodjam property area, south-central British Columbia (NTS 093A/03, /06); in Geoscience BC Summary of Activities 2012, Geoscience BC, Report 2013-1, p. 47–62.*

Samples of black spruce twigs comprising the most recent two years of growth were snipped from around the circumference of a single tree. Black spruce was easily identified by observing with aid of a hand lens minute red hairs on the circumference of twigs of the past few years growth. In central Yukon, this amount of growth is typically about a hand-span in length, at which point, the twig diameter is 4–5mm. This diameter is quite critical because many trace elements concentrate in the bark part of the twig, whereas the woody tissue (the cortex) has lower concentrations of most elements. Consequently, unless there is a consistency in the diameters of the twigs that are collected, any analysis of twig tissue can result in variability among samples simply because of the differing ratios of woody tissue to twig bark. About ten black spruce twigs with needles were placed into porous polypropylene bags ('Hubco' Inc.'s Sentry II). The use of plastic bags was avoided to minimize the chance of moulds forming thereby losing sample integrity.

Analysis of the black spruce twig samples was carried out at Acme Analytical Laboratories Ltd. (Vancouver) using their VG101-EXT method. In the laboratory, twig samples were thoroughly dried at 60°C in an oven with a forcedair fan for 24 hours to remove moisture. The needles could then be separated from the twigs. In preparation for chemical analysis, each twig sample was then milled to a powder using a Wileymill. A 1 g split of milled material was digested in nitric acid then aqua-regia digestion, and analyzed by ICP-MS ultralow detection limits for 53 elements and selected REE.

Absolute values of Cu, Mo, Au, Ag, Cs, and Rb are plotted on Figures 14 to 17.6. Values of other elements were also plotted but lack of discernible patterns made presenting their results of no usefulness.

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ID	UTN83E	UTM83N	Ag	As	Au	Ca	Co	Cu	Fe	к	Mg	Mn	Мо	Ni	Pb	Ті	U	Zn
<mark>К108</mark>	378103	7030052	6	1	3	9	3	3	1	3	8	12	3	5	0	0	3	2
<mark>К109</mark>	378100	7030109	4	4	6	4	4	3	3	3	3	3	2	4	5	39	3	3
<mark>К110</mark>	378096	7030153	3	1	<mark>10</mark>	8	20	<mark>15</mark>	1	3	9	28	4	7	1	2	<mark>13</mark>	2
<mark>К111</mark>	378089	7030269	<mark>23</mark>	1	<mark>11</mark>	<mark>13</mark>	3	<mark>24</mark>	0	1	8	7	<mark>26</mark>	7	2	0	<mark>23</mark>	1
K112	378074	7030310	<mark>16</mark>	1	6	<mark>14</mark>	5	<mark>31</mark>	1	2	7	6	<mark>20</mark>	<mark>27</mark>	2	0	<mark>64</mark>	1
<mark>K113</mark>	378053	7030358	2	1	6	9	5	8	0	5	6	7	10	4	2	0	<mark>19</mark>	1
<mark>K114</mark>	378069	7030402	<mark>14</mark>	1	<mark>13</mark>	<mark>13</mark>	9	<mark>24</mark>	1	2	10	17	9	<mark>24</mark>	1	0	<mark>30</mark>	1
<mark>K115</mark>	378063	7030447	<mark>15</mark>	1	8	<mark>11</mark>	7	<mark>15</mark>	2	3	7	13	8	<mark>20</mark>	1	0	<mark>108</mark>	1
<mark>К116</mark>	378101	7030500	7	1	<mark>15</mark>	<mark>10</mark>	7	7	0	14	7	2	<mark>13</mark>	6	3	0	<mark>40</mark>	1
<mark>K117</mark>	377504	7030809	11	1	5	5	4	2	2	11	5	0	1	3	1	12	1	2
<mark>К118</mark>	377495	7030753	<mark>48</mark>	1	3	6	11	3	0	19	7	4	3	6	1	0	1	1
<mark>К119</mark>	377504	7030699	8	4	1	3	2	1	2	11	2	3	2	1	2	23	0	5
<mark>К120</mark>	377506	7030633	<mark>26</mark>	2	2	4	2	1	1	12	3	1	1	2	3	17	1	2
<mark>К121</mark>	377500	7030583	<mark>24</mark>	2	3	4	1	2	1	15	5	4	1	2	2	30	1	7
<mark>К122</mark>	377512	7030538	<mark>18</mark>	1	2	7	1	2	1	9	6	2	1	2	1	0	1	1
<mark>К123</mark>	377503	7030491	9	1	8	7	4	4	0	2	8	3	2	4	3	0	3	1
<mark>K124</mark>	377469	7030291	3	1	5	6	1	8	1	2	5	2	1	7	1	0	11	1
<mark>L127</mark>	379091	7029573	3	1	2	<mark>19</mark>	1	1	1	5	11	3	1	2	1	0	4	1
<mark>L128</mark>	379085	7029660	3	2	2	5	4	2	3	6	5	0	1	5	7	53	3	1
<mark>L129</mark>	379090	7029718	1	6	1	2	4	1	7	6	2	1	6	3	6	153	1	2
<mark>L130</mark>	379081	7029764	4	6	2	3	6	1	6	3	3	1	3	4	7	97	5	4
L131	379090	7029806	<mark>14</mark>	1	<mark>18</mark>	<mark>15</mark>	3	<mark>14</mark>	1	3	9	5	1	<mark>25</mark>	6	0	<mark>12</mark>	1
<mark>L132</mark>	379088	7029853	<mark>13</mark>	1	<mark>21</mark>	<mark>12</mark>	6	<mark>23</mark>	1	3	8	8	1	<mark>18</mark>	2	0	<mark>36</mark>	1
<mark>L133</mark>	379084	7029904	8	1	5	<mark>11</mark>	1	9	1	3	6	3	6	7	1	0	<mark>73</mark>	2
<mark>L134</mark>	379079	7029952	11	1	<mark>18</mark>	<mark>13</mark>	1	<mark>12</mark>	1	1	10	2	1	7	0	0	<mark>40</mark>	1
<mark>L135</mark>	379096	7030001	<mark>10</mark>	1	<mark>15</mark>	<mark>13</mark>	1	<mark>17</mark>	1	2	7	3	1	<mark>20</mark>	1	0	<mark>36</mark>	1
<mark>L136</mark>	379080	7030056	5	1	<mark>8</mark>	<mark>10</mark>	1	9	1	2	6	1	1	7	0	0	<mark>19</mark>	1
L137	379079	7030103	7	1	6	<mark>9</mark>	3	7	3	2	6	3	1	7	2	2	<mark>13</mark>	3
<mark>L138</mark>	379097	7030150	6	1	8	<mark>10</mark>	1	<mark>15</mark>	1	2	6	2	1	<mark>20</mark>	1	1	<mark>18</mark>	2
<mark>L139</mark>	379075	7030207	3	1	3	5	1	<mark>9</mark>	1	1	3	2	1	<mark>12</mark>	0	4	<mark>9</mark>	1
<mark>L143</mark>	378714	7030049	<mark>12</mark>	1	8	<mark>13</mark>	1	<mark>17</mark>	1	3	4	4	5	<mark>16</mark>	0	0	<mark>75</mark>	1
<mark>L144</mark>	378699	7030002	<mark>11</mark>	1	<mark>11</mark>	<mark>12</mark>	5	<mark>10</mark>	1	3	3	4	3	9	1	0	<mark>16</mark>	2
<mark>L145</mark>	378703	7029942	7	1	1	<mark>10</mark>	17	1	1	7	10	4	1	8	3	1	2	2
<mark>L146</mark>	378703	7029894	5	1	<mark>18</mark>	5	6	3	1	1	5	0	1	5	<mark>16</mark>	15	<mark>11</mark>	1
<mark>L147</mark>	378699	7029838	7	1	5	5	9	4	2	7	7	0	1	<mark>13</mark>	11	9	2	2
<mark>L148</mark>	378702	7029794	2	2	1	2	1	1	2	4	2	1	1	1	4	63	1	2
<mark>L149</mark>	378694	7029736	<mark>63</mark>	1	8	2	5	<mark>10</mark>	1	17	3	0	1	5	<mark>20</mark>	14	6	3
<mark>L150</mark>	378706	7029648	<mark>12</mark>	8	6	3	2	<mark>16</mark>	5	3	3	2	4	6	<mark>13</mark>	74	19	4

Table 2. Response Ratios for MMI samples on the Pirate Project. Yellow IDs arefrom Pirate West. Blue highlights are anomalous response ratios.

<mark>L151</mark>	378696	7029596	1	1	3	7	1	3	1	1	7	1	1	6	1	2	4	1
<mark>L152</mark>	378701	7029543	1	1	1	7	5	1	2	8	7	1	1	6	4	6	2	1

Figure 3. Black Spruce Twig Sample values in ppm (ppb for Ag and Au, & % for K) for RGS Property. Yellow IDs-Area A, Uncoloured IDs-West of Areas B, C, and D. Anomalous values: Red high; magenta mod; yellow low.

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ID	UTM83_E	UTM83_N	Мо	Cu	Pb	Zn	Ag	Ni	Mn	As	Au	Ва	к	Rb
<mark>B1</mark>	378100	7030206	0.005	1.27	0.06	36.5	<mark>49</mark>	0.2	1039	0.05	0.1	38	0.27	1.4
<mark>B2</mark>	378087	7030258	<mark>0.05</mark>	1.35	0.06	65.3	<mark>29</mark>	0.05	233	0.05	0.1	109.2	0.26	1.6
<mark>B3</mark>	378072	7030310	<mark>0.29</mark>	<mark>1.65</mark>	0.08	34.3	<mark>37</mark>	0.05	282	0.05	0.1	147.7	0.41	1.8
<mark>B4</mark>	378054	7030357	<mark>0.16</mark>	2.25	0.05	33	<mark>32</mark>	0.4	229	0.05	0.1	107.6	0.44	<mark>2.2</mark>
<mark>B5</mark>	377492	7030435	<mark>0.02</mark>	1.4	0.08	62.7	<mark>21</mark>	0.05	438	0.05	0.1	46.3	0.37	0.8
<mark>B6</mark>	377483	7030397	0.01	1.21	0.05	57	14	0.05	243	0.05	0.1	62.4	0.39	1.2
<mark>B7</mark>	377479	7030349	0.005	1.05	0.05	47.8	<mark>33</mark>	0.1	1262	0.05	0.1	49.1	0.26	<mark>1.9</mark>
<mark>B8</mark>	377467	7030289	0.005	<mark>1.63</mark>	0.07	34.2	<mark>53</mark>	0.5	860	0.05	0.1	174.4	0.38	<mark>3.8</mark>
<mark>B9</mark>	377486	7030249	0.005	<mark>1.58</mark>	0.04	25.4	17	0.2	1008	0.05	0.1	41.7	0.38	<mark>2.1</mark>
K24	376307	7028402	0.005	1.41	0.04	75	8	0.1	594	0.05	0.1	80.1	0.32	0.9
K25	376402	7028400	0.005	1.4	0.04	47.4	17	0.1	928	0.1	0.1	40.5	0.3	1.1
K26	376492	7028388	0.005	1.27	0.05	64.9	12	0.1	596	0.05	0.1	66.5	0.3	1.3
K27	376605	7028401	0.005	1.53	0.02	61.4	29	0.2	974	0.05	0.1	87.7	0.47	<mark>2.3</mark>
К28	376704	7028403	0.005	1.56	0.05	50.2	19	0.1	353	0.2	0.1	53	0.42	<mark>2.3</mark>
К29	376806	7028392	0.005	1.5	0.08	31.8	14	0.2	1037	0.05	0.1	72.9	0.35	<mark>4.7</mark>
К30	376898	7028396	<mark>0.04</mark>	1.4	0.05	63.4	5	0.2	1214	0.1	0.1	150.8	0.41	<mark>4.6</mark>
K31	377190	7028997	0.005	1.85	0.09	77.2	19	0.4	755	0.3	0.1	88.1	0.31	1.4
К32	377100	7028995	0.005	1.51	0.05	77.6	23	0.2	1750	0.05	0.1	97.7	0.33	1.2
К33	376994	7028999	0.005	1.42	0.03	50.1	19	0.1	1674	0.05	0.1	120.3	0.3	1.4
K34	376896	7028993	0.005	1.27	0.1	57.2	27	0.05	731	0.05	0.1	75.2	0.29	1.3
K35	376795	7029004	<mark>0.04</mark>	1.38	0.06	42.1	33	0.3	970	0.05	0.1	127.3	0.37	<mark>2.1</mark>
K36	376694	7029001	0.005	1.52	0.08	49.3	19	0.2	714	0.05	0.1	107.8	0.35	1.6
K37	376605	7029008	0.005	1.13	0.06	51.5	8	0.05	861	0.05	0.1	24.5	0.27	0.8
K38	376498	7029002	0.005	0.97	0.04	41.9	11	0.05	696	0.05	0.1	32.3	0.31	1.4
К39	376398	7029005	0.005	1.3	0.04	31	14	0.1	1614	0.05	0.1	60	0.27	1.2
К40	376295	7028992	0.005	1.28	0.05	79.2	11	0.1	620	0.1	0.1	89.9	0.34	0.8
K41	376195	7029006	0.005	1.36	0.06	45.1	9	0.1	942	0.1	0.1	51.2	0.31	1.1
К42	376088	7029009	0.005	1.36	0.1	53.4	17	0.2	206	0.05	0.1	181	0.39	0.9
K43	375994	7029005	0.005	1.46	0.07	53.6	11	0.1	547	0.05	0.1	228.8	0.29	<mark>2.9</mark>
K44	375902	7028997	0.005	1.64	0.06	91.4	6	0.1	567	0.2	0.1	78.6	0.36	<mark>3.6</mark>
K45	375791	7029001	0.005	1.34	0.07	53.5	11	0.05	1260	0.05	0.1	64.6	0.34	<mark>2.8</mark>
K46	375701	7029000	0.005	1.56	0.05	53.5	20	0.1	921	0.1	0.1	37.1	0.32	<mark>2.4</mark>
K47	375596	7029007	<mark>0.15</mark>	1.29	0.06	45.9	12	0.05	502	0.05	0.1	75.5	0.3	2

К48	375501	7028998	0.005	1.15	0.05	64.6	9	0.05	1116	0.05	0.1	56.7	0.28	<mark>1.9</mark>
K49	375490	7028898	<mark>0.02</mark>	1.41	0.05	51	11	0.05	1242	0.1	0.1	66.1	0.32	2.1
K50	375503	7028796	0.005	1.83	0.05	48	10	0.1	2038	0.05	0.1	44.2	0.26	2.1
K51	375496	7028695	<mark>0.02</mark>	1.45	0.07	91.3	12	0.1	920	0.1	0.1	75.9	0.32	1.5
K52	375596	7028706	0.005	1.15	0.06	56.8	18	0.1	576	0.05	0.1	40.4	0.24	1.7
K53	375696	7028703	0.005	1.38	0.05	44.8	13	0.2	576	0.1	0.1	23.2	0.34	<mark>2.4</mark>
K54	375816	7028697	0.005	1.53	0.06	74.2	14	0.2	2694	0.05	0.1	65.5	0.22	1.5
K55	375931	7028695	0.005	1.48	0.05	64.9	7	0.2	809	0.05	0.1	76.4	0.31	2
K56	376007	7028701	0.005	1.4	0.05	58.1	8	0.2	1369	0.05	0.1	47.8	0.28	0.8
K57	376111	7028693	0.005	1.23	0.08	104.1	16	0.1	1478	0.1	0.1	80.7	0.32	1.2
K58	376201	7028710	0.005	1.73	0.04	59	8	0.2	705	0.05	0.1	56.4	0.41	1.6
K59	376301	7028712	0.005	1.32	0.07	64.8	12	0.05	537	0.05	0.1	37.8	0.33	1.3
K60	376404	7028713	0.005	1.48	0.05	87.1	16	0.2	641	0.05	0.1	113	0.34	1
K61	376496	7028709	0.005	1.11	0.07	65	9	0.2	532	0.05	0.1	138.1	0.37	0.9
K62	376605	7028709	0.005	1.13	0.07	64.7	8	0.2	588	0.05	0.1	85.1	0.33	0.7
ID	UTM83_E	UTM83_N	Мо	Cu	Pb	Zn	Ag	Ni	Mn	As	Au	Ва	к	Rb
K63	376698	7028698	0.005	1.3	0.08	84.5	27	0.2	725	0.1	0.1	124.8	0.31	1
K64	376804	7028697	0.005	1.47	0.05	55.8	22	0.05	287	0.05	0.1	44.5	0.42	<mark>3.9</mark>
K65	376905	7028702	0.005	1.35	0.06	65.8	27	0.2	677	0.05	0.1	17.5	0.31	<mark>1.9</mark>
K66	376994	7028688	0.005	1.45	0.03	40.6	31	0.3	865	0.05	0.1	112.2	0.34	<mark>4</mark>
K67	377118	7028700	<mark>0.02</mark>	1.77	0.04	30.1	20	0.3	436	0.05	0.1	146.5	0.37	8
K68	377201	7028698	0.01	1.76	0.04	32.1	12	0.2	658	0.05	0.1	76.6	0.4	<mark>5.8</mark>
К69	376494	7029592	0.005	1.17	0.07	39.4	12	0.1	301	0.05	0.1	58.6	0.25	0.8
K70	376394	7029595	0.005	1.5	0.1	94.4	23	0.2	1449	0.1	0.1	76	0.22	0.7
K71	376296	7029603	0.005	1.33	0.05	90.7	14	0.1	384	0.05	0.1	101.1	0.38	1.1
К72	376198	7029585	0.005	1.38	0.04	61.2	8	0.05	413	0.05	0.1	57.7	0.35	<mark>1.9</mark>
K73	376088	7029597	0.01	1.94	0.06	29.4	23	0.7	1404	0.05	0.1	121.1	0.39	<mark>10.6</mark>
К74	375995	7029589	0.005	1.46	0.08	109.6	17	0.1	869	0.05	0.1	96	0.39	<mark>2.7</mark>
K75	375894	7029592	0.005	1.61	0.06	49.4	6	0.1	705	0.1	0.1	36.4	0.29	1.8
К76	375760	7029551	0.005	1.46	0.07	56.6	13	0.1	848	0.05	0.1	47.1	0.32	3
K77	375664	7029585	<mark>0.04</mark>	1.19	0.05	61.6	12	0.05	757	0.05	0.1	47.9	0.35	<mark>4.3</mark>
К78	375502	7029519	0.005	1.37	0.05	53.5	15	0.05	166	0.05	0.1	86.7	0.39	<mark>4.2</mark>
K79	375502	7029392	<mark>0.04</mark>	1.55	0.06	60.1	23	0.4	1418	0.05	0.1	145.7	0.39	<mark>4.8</mark>
K80	375499	7029292	0.005	1.77	0.05	70.6	10	0.1	1712	0.05	0.1	60.8	0.29	<mark>3.5</mark>
K81	375600	7029298	0.01	1.36	0.06	74	43	0.1	724	0.05	0.1	129.1	0.26	<mark>3.7</mark>
K82	375704	7029291	<mark>0.02</mark>	1.62	0.04	57.6	14	0.3	954	0.05	0.1	71.3	0.35	5
K83	375808	7029292	0.005	1.3	0.07	67.4	10	0.05	411	0.05	0.1	115.3	0.38	<mark>2.9</mark>
K84	375926	7029314	0.01	1.9	0.06	32.9	18	0.5	910	0.05	0.1	100.1	0.52	<mark>12.3</mark>
K85	376000	7029319	0.005	1.41	0.04	26	21	0.4	1059	0.05	0.1	65.7	0.34	<mark>6.3</mark>
K86	376103	7029332	0.005	1.59	0.05	78.6	11	0.1	574	0.05	0.1	51.7	0.35	1.3
K87	376204	7029334	0.005	1.55	0.05	52	5	0.1	1377	0.05	0.1	41.1	0.27	1.6

к88	376307	7029323	0.005	1.36	0.06	62.7	20	0.05	602	0.05	0.1	70.4	0.37	1.7
K89	376396	7029329	0.005	1.89	0.05	56.1	10	0.2	1709	0.05	0.1	43.1	0.27	3
К90	376507	7029315	0.01	1.82	0.04	112.3	21	0.2	1274	0.1	0.1	67.6	0.37	2.4
К91	376602	7029310	0.01	1.66	0.04	61.2	18	0.3	1532	0.05	0.1	60.4	0.31	<mark>4.1</mark>
К92	376704	7029312	0.005	1.23	0.08	56.4	9	0.2	767	0.1	0.1	99.5	0.15	1.2
К93	376798	7029309	0.005	1.6	0.05	73.9	19	0.2	1031	0.05	0.1	71.9	0.28	<mark>3.4</mark>
К94	376904	7029291	0.005	1.53	0.05	79.8	15	0.1	1384	0.05	0.1	73.8	0.25	<mark>2.9</mark>
К95	377000	7029305	0.005	1.54	0.07	72.9	19	0.2	1690	0.05	0.1	64	0.22	<mark>3.2</mark>
К96	377106	7029328	<mark>0.02</mark>	1.35	0.07	87.3	10	0.2	410	0.05	0.1	67.5	0.35	<mark>2.2</mark>
К97	377199	7029319	0.005	1.97	0.05	47.1	10	0.05	1405	0.05	0.1	63.2	0.23	1.6
К98	377320	7029318	<mark>0.12</mark>	1.77	0.04	40.5	7	0.3	387	0.05	0.1	113.2	0.47	1.4
К99	377405	7029316	<mark>0.02</mark>	1.4	0.03	26.7	7	0.2	475	0.05	0.1	118.2	0.42	1.4
K100	377519	7029313	0.005	1.74	0.04	44.5	41	0.2	1147	0.05	0.1	212.6	0.3	1.1
K101	377498	7029204	<mark>0.07</mark>	1.89	0.04	35.1	12	0.3	731	0.05	0.1	106.7	0.43	1.9
K102	377502	7029098	0.005	1.88	0.06	55.6	6	0.05	1054	0.05	0.1	35.1	0.31	1.4
ID	UTM83_E	UTM83_N	Мо	Cu	Pb	Zn	Ag	Ni	Mn	As	Au	Ва	к	Rb
K103	377507	7029001	0.01	1.64	0.08	61.8	12	0.1	315	0.05	0.1	72.9	0.36	1.5
K104	377499	7028898	0.005	1.32	0.09	82.4	28	0.2	334	0.05	0.1	112	0.33	0.5
K105	377501	7028802	0.005	1.71	0.08	59.7	12	0.3	955	0.05	0.1	111.1	0.26	0.9
K106	377500	7028692	0.005	1.48	0.07	61.8	17	0.1	554	0.05	0.1	26.8	0.34	0.7
K107	377517	7028580	<mark>0.02</mark>	1.54	0.06	30	12	0.3	506	0.05	0.1	133.5	0.43	<mark>2.9</mark>
L01	375604	7026005	<mark>0.07</mark>	1.17	0.12	77.9	17	0.2	135	0.05	0.1	85.7	0.3	1
L02	375696	7026001	0.005	1.74	0.11	81.7	22	0.2	1307	0.2	0.1	39.7	0.19	0.7
L03	375828	7026032	0.005	1.95	0.07	69.9	31	0.2	878	0.05	0.1	61.8	0.23	<mark>1.9</mark>
L04	375907	7026017	0.005	1.42	0.09	60.5	51	0.2	1635	0.05	0.1	45.8	0.22	1.1
L05	376024	7025999	0.01	1.55	0.11	78.6	19	0.2	928	0.05	0.1	49.8	0.22	1.4
L06	376125	7025976	<mark>0.03</mark>	1.24	0.1	62.9	34	0.2	1127	0.05	0.1	124.9	0.29	<mark>3.1</mark>
L07	376226	7025984	<mark>0.03</mark>	1.43	0.08	52.1	27	0.3	521	0.05	0.1	162.3	0.25	<mark>3.1</mark>
L08	376313	7025991	0.005	1.47	0.08	53.1	14	0.1	612	0.05	0.1	37.3	0.24	1.2
L09	376396	7025999	0.005	1.14	0.09	76.6	36	0.2	783	0.05	0.1	83.4	0.26	1
L10	376501	7026007	0.005	1.5	0.12	72.6	20	0.2	526	0.05	0.1	73.6	0.3	1.1
L11	376609	7026011	0.005	1.31	0.09	113.5	13	0.2	2313	0.05	0.1	95.7	0.21	1.6
L12	376709	7026001	<mark>0.14</mark>	1.33	0.06	48.2	23	0.3	1306	0.05	0.1	56.3	0.28	<mark>2.2</mark>
L13	376801	7025996	<mark>0.03</mark>	1.63	0.1	72.9	32	0.3	1167	0.05	0.1	95.7	0.25	1.8
L14	376910	7025991	<mark>0.02</mark>	1.47	0.11	86.6	16	0.3	1746	0.05	0.1	90.7	0.22	1.3
L15	377005	7025992	0.005	1.41	0.12	75.5	20	0.2	1139	0.05	0.1	94.3	0.19	1.6
L16	377088	7025996	<mark>0.03</mark>	1.67	0.11	52.8	25	0.2	1046	0.05	0.1	64.9	0.25	1.6
L17	377208	7026007	0.01	1.95	0.07	97.3	18	0.4	1469	0.05	0.1	93.7	0.29	<mark>2.4</mark>
L18	377303	7026001	<mark>0.03</mark>	1.78	0.09	76.2	11	0.3	1602	0.05	0.1	107.7	0.26	<mark>2.3</mark>
L19	377408	7026003	<mark>0.03</mark>	1.63	0.06	74.8	21	0.2	1058	0.05	0.1	46.1	0.2	1.5
L20	377502	7026001	<mark>0.03</mark>	1.37	0.05	64.2	24	0.3	1448	0.05	0.1	68.5	0.21	<mark>2.1</mark>

L21	377602	7025998	0.005	1.11	0.08	55.2	18	0.3	686	0.05	0.1	82.8	0.32	1.7
L22	377617	7026101	0.005	1.51	0.08	65.1	8	0.3	1082	0.05	0.1	150.2	0.28	2.4
L23	377607	7026218	0.005	1.35	0.07	76.6	13	0.2	908	0.05	0.1	70.1	0.28	2
L24	377609	7026298	0.005	1.41	0.08	61.8	22	0.2	588	0.05	0.1	81.9	0.26	1.4
L25	377606	7026412	0.01	1.82	0.08	66.4	19	0.3	1837	0.1	0.1	38.6	0.31	2.2
L26	377601	7026504	0.005	1.48	0.05	64.9	20	0.2	1225	0.05	0.1	65.2	0.3	2.2
L27	377613	7026604	0.005	3.95	0.07	69.4	20	0.8	852	0.05	0.1	66.3	0.22	1.3
L28	377593	7026708	0.005	1.72	0.1	108.3	24	0.2	458	0.05	0.1	106.7	0.25	1.5
L29	377594	7026814	0.005	1.53	0.05	60.9	9	0.05	686	0.05	0.1	92.1	0.39	1.3
L30	377614	7026893	0.005	1.55	0.05	97.4	34	0.1	520	0.05	0.1	108.2	0.3	0.5
L31	377612	7026987	0.005	1.63	0.08	84.9	12	0.1	1189	0.05	0.1	67.2	0.27	1.5
L32	376906	7026296	0.005	1.64	0.05	87.6	8	0.1	1633	0.1	0.1	60.3	0.25	1.8
L33	376800	7026294	0.005	1.9	0.04	59.6	10	0.3	947	0.05	0.1	74.7	0.29	<mark>2.8</mark>
L34	376699	7026292	0.005	1.38	0.07	71.6	43	0.1	788	0.05	0.1	60.8	0.3	<mark>2.3</mark>
L35	376592	7026292	0.005	1.28	0.07	60.9	13	0.1	930	0.05	0.1	43.8	0.28	1.1
ID	UTM83_E	UTM83_N	Мо	Cu	Pb	Zn	Ag	Ni	Mn	As	Au	Ва	к	Rb
L36	376500	7026305	0.005	1.27	0.05	61.7	9	0.2	1330	0.05	0.1	52.6	0.25	1.5
L37	376394	7026302	<mark>0.03</mark>	1.46	0.04	48.8	13	0.2	814	0.05	0.1	58.8	0.28	1.4
L38	376301	7026302	0.01	1.47	0.04	41.6	12	0.3	539	0.05	0.1	44.7	0.37	1.6
L39	376196	7026310	0.01	1.47	0.07	63.3	30	0.3	1141	0.05	0.1	122.7	0.24	<mark>3.6</mark>
L40	376092	7026294	0.005	1.75	0.05	45.7	29	0.4	1366	0.05	0.1	144.4	0.35	<mark>6.3</mark>
L41	375987	7026288	0.01	1.66	0.07	75.9	13	0.05	849	0.05	0.1	90.8	0.32	1.6
L42	375905	7026299	0.005	1.59	0.05	73.3	13	0.2	781	0.05	0.1	35.2	0.27	1.6
L43	375793	7026309	0.005	1.58	0.07	58.5	6	0.05	1048	0.05	0.1	51.2	0.26	1.4
L44	375700	7026300	0.005	1.31	0.08	84.3	17	0.1	1133	0.05	0.1	76.4	0.21	1.2
L45	375603	7026291	0.01	1.13	0.05	58.6	27	0.1	698	0.05	0.1	66.5	0.28	<mark>3.2</mark>
L46	375602	7026599	<mark>0.03</mark>	1.36	0.05	65.3	26	0.2	243	0.05	0.1	132.7	0.36	<mark>2.1</mark>
L47	375724	7026603	<mark>0.02</mark>	1.31	0.05	71	10	0.1	562	0.05	0.1	102.5	0.33	<mark>3.7</mark>
L48	375810	7026611	0.005	1.39	0.06	66.3	26	0.2	585	0.1	0.1	62	0.22	1.1
L49	375922	7026594	<mark>0.19</mark>	1.13	0.04	61.9	15	0.3	965	0.05	0.1	120.1	0.3	<mark>3.7</mark>
L50	376014	7026608	0.01	1.38	0.05	56.1	7	0.5	1316	0.05	0.1	127.9	0.32	<mark>5.1</mark>
L51	376117	7026591	<mark>0.05</mark>	1.53	0.03	64	20	0.4	932	0.05	0.1	165.2	0.33	<mark>5.1</mark>
L52	376202	7026588	0.01	1.26	0.07	47.8	37	0.6	1257	0.05	0.1	135.9	0.3	<mark>4.9</mark>
L53	376311	7026599	0.005	1.44	0.04	48.9	14	0.2	1058	0.05	0.1	45.9	0.25	1.8
L54	376388	7026597	0.005	1.25	0.07	80.4	18	0.1	1172	0.05	0.1	118.6	0.28	1.6
L55	376493	7026617	0.005	1.33	0.05	62.6	11	0.1	877	0.05	0.1	86.1	0.31	<mark>2.1</mark>
L56	376607	7026593	0.01	1.28	0.07	49.4	33	0.2	1508	0.05	0.1	84.3	0.28	2
L57	376710	7026602	0.005	1.44	0.07	87.2	31	0.2	1163	0.05	0.1	70	0.28	<mark>1.9</mark>
L58	376808	7026608	<mark>0.04</mark>	1.66	0.07	54.7	33	0.5	741	0.05	0.1	195.8	0.36	<mark>4.6</mark>
L59	376914	7026593	<mark>0.03</mark>	1.25	0.04	38.5	23	0.2	318	0.1	0.1	84.7	0.37	<mark>3.9</mark>
L60	376888	7026885	0.005	1.38	0.06	84.8	18	0.1	277	0.05	0.1	96.2	0.36	1.2

L61	376779	7026896	0.005	1.25	0.07	89	11	0.1	594	0.05	0.1	66.4	0.29	1
L62	376688	7026888	0.005	1.28	0.07	83.6	16	0.2	1045	0.05	0.1	104.7	0.23	2
L63	376591	7026902	0.01	1.31	0.08	63.6	26	0.2	583	0.05	0.1	73.2	0.31	1.6
L64	376500	7026898	0.005	1.15	0.07	65.9	25	0.2	1167	0.05	0.1	80.1	0.21	1.3
L65	376389	7026896	0.005	1.53	0.09	75.9	42	0.2	613	0.05	0.1	84.8	0.25	<mark>2</mark>
L66	376293	7026899	0.005	1.46	0.08	70.2	15	0.05	1194	0.05	0.1	47.8	0.28	<mark>2.6</mark>
L67	376195	7026903	0.005	1.41	0.07	64.9	7	0.1	825	0.1	0.1	34.4	0.23	1.1
L68	376103	7026908	0.005	1.67	0.05	43.9	10	0.2	1081	0.05	0.1	51	0.37	<mark>3.3</mark>
L69	375974	7026907	0.005	1.34	0.08	70.2	11	0.1	553	0.05	0.1	67.1	0.26	1.8
L70	375888	7026899	0.005	1.28	0.08	71.6	16	0.1	486	0.1	0.1	41.9	0.31	1.5
L71	375789	7026891	0.005	1.63	0.04	69.2	20	0.1	776	0.05	0.1	49.2	0.22	1.3
L72	375702	7026911	0.005	1.27	0.08	86.1	18	0.2	1430	0.05	0.1	67.9	0.25	<mark>1.9</mark>
L73	375600	7026899	0.01	1.67	0.03	60.6	6	0.05	616	0.05	0.1	58.4	0.33	<mark>2.5</mark>
L74	375608	7027200	0.005	1.71	0.06	81.5	14	0.2	1808	0.05	0.1	76.1	0.26	1.5
L75	375707	7027195	0.005	1.37	0.06	84	10	0.2	1662	0.05	0.1	71.3	0.3	1
ID	UTM83_E	UTM83_N	Мо	Cu	Pb	Zn	Ag	Ni	Mn	As	Au	Ва	к	Rb
L76	375815	7027190	0.005	1.23	0.06	103.9	21	0.05	1418	0.05	0.1	52.2	0.3	1.8
L77	375905	7027203	<mark>0.04</mark>	1.31	0.06	70.2	20	0.2	474	0.05	0.1	116.3	0.31	1.7
L78	376001	7027196	0.005	1.72	0.06	41.7	16	0.1	1293	0.05	0.1	32.3	0.27	<mark>2.7</mark>
L79	376103	7027203	0.005	1.41	0.04	52.4	21	0.2	476	0.05	0.1	85.8	0.28	1.8
L80	376218	7027208	0.005	1.26	0.06	57.5	15	0.3	397	0.05	0.1	100.5	0.3	0.8
L81	376323	7027203	0.005	2.13	0.14	56.9	14	0.2	893	0.05	0.1	49.5	0.3	1.4
L82	376398	7027198	<mark>0.05</mark>	1.42	0.09	73.8	15	0.2	556	0.05	0.1	112.8	0.28	1.2
L83	376502	7027198	<mark>0.03</mark>	1.41	0.06	42	17	0.6	1065	0.05	0.1	173.4	0.26	<mark>3.5</mark>
L84	376612	7027190	<mark>0.09</mark>	1.4	0.1	86.6	33	0.2	917	0.05	0.1	99	0.28	1.3
L85	376759	7027223	<mark>0.07</mark>	1.31	0.06	34.7	31	0.3	949	0.05	0.1	70.9	0.34	<mark>2.4</mark>
L86	376799	7027196	<mark>0.03</mark>	1.58	0.07	38.5	8	0.3	1060	0.05	0.1	132.6	0.43	<mark>1.9</mark>
L87	376913	7027182	0.02	1.61	0.05	39.6	16	0.3	725	0.05	0.1	163.4	0.34	<mark>6.6</mark>
L88	377607	7027505	<mark>0.07</mark>	1.43	0.04	51.9	10	0.2	158	0.05	0.1	85.9	0.29	<mark>2.4</mark>
L89	377496	7027503	0.005	1.79	0.04	32.8	19	0.2	1846	0.05	0.1	37	0.32	<mark>2.5</mark>
L90	377410	7027495	0.005	1.33	0.05	62.4	15	0.2	468	0.05	0.1	77.9	0.37	1.7
L91	377293	7027494	0.005	1.4	0.08	85.7	29	0.2	937	0.05	0.1	61.2	0.26	1.8
L92	377178	7027503	0.005	1.32	0.08	82.1	11	0.1	256	0.05	0.1	93.1	0.38	<mark>2.2</mark>
L93	377066	7027485	0.01	1.45	0.09	100	23	0.2	892	0.05	0.1	91.8	0.34	<mark>2.2</mark>
L94	376967	7027493	<mark>0.25</mark>	1.45	0.05	47.2	16	0.3	371	0.05	0.1	146.7	0.37	<mark>3.5</mark>
L95	376889	7027492	<mark>0.02</mark>	1.41	0.07	96	57	0.4	1829	0.05	0.1	238	0.25	<mark>3.9</mark>
L96	376801	7027488	0.005	1.28	0.05	46.4	21	0.5	1412	0.05	0.1	88.4	0.28	<mark>3.8</mark>
L97	376692	7027496	<mark>0.05</mark>	1.46	0.06	63.2	15	0.4	636	0.05	0.1	186.3	0.4	<mark>6.3</mark>
L98	376560	7027496	<mark>0.16</mark>	1.19	0.07	61.9	3	0.1	361	0.05	0.1	96.5	0.29	<mark>3.1</mark>
L99	376498	7027498	<mark>0.02</mark>	1.58	0.08	84	12	0.2	300	0.05	0.8	254.4	0.31	<mark>2.9</mark>
L100	376403	7027504	0.01	1.49	0.06	72.2	17	0.1	213	0.05	0.1	122.6	0.38	1.5

L101	376276	7027494	0.005	1.76	0.11	61.7	19	0.1	148	0.05	0.1	164.5	0.22	1.7
L102	376189	7027490	<mark>0.03</mark>	1.71	0.1	83.3	18	0.2	196	0.05	0.1	244.3	0.35	<mark>2.7</mark>
L103	376094	7027487	0.005	1.33	0.08	60.9	29	0.1	889	0.05	0.1	33.6	0.24	0.9
L104	376008	7027492	0.01	1.47	0.06	68.6	18	0.3	962	0.05	0.1	139.5	0.29	1.8
L105	375898	7027510	0.005	2.08	0.04	72.2	23	0.2	1676	0.05	0.1	60.3	0.25	<mark>2.2</mark>
L106	375782	7027506	0.005	1.63	0.05	61.6	7	0.05	1438	0.05	0.1	43.1	0.31	1.5
L107	375800	7027607	<mark>0.02</mark>	1.62	0.06	72.1	6	0.2	1210	0.1	0.1	80.2	0.29	1.8
L108	375801	7027697	0.005	1.73	0.05	86.4	7	0.1	1916	0.05	0.1	61.3	0.27	<mark>2.1</mark>
L109	375828	7027799	0.005	1.16	0.05	59.5	12	0.1	972	0.1	0.1	29.6	0.32	<mark>2.2</mark>
L110	375916	7027796	0.01	1.54	0.04	60.8	16	0.2	1130	0.05	0.1	29.6	0.25	<mark>2.2</mark>
L111	376009	7027807	0.005	1.79	0.09	73	13	0.2	1706	0.05	0.1	43.9	0.26	1.2
L112	376093	7027801	0.005	1.8	0.07	54	12	0.2	1038	0.05	0.1	60.9	0.24	1.1
L113	376214	7027792	<mark>0.17</mark>	1.37	0.06	67	13	0.2	332	0.05	0.1	122.9	0.38	0.8
L114	376430	7027805	<mark>0.08</mark>	1.47	0.08	70.6	13	0.4	888	0.05	0.1	64.8	0.31	1.5
L115	376505	7027790	0.005	1.44	0.05	63.5	14	0.3	929	0.05	0.1	88.7	0.27	1.8
ID	UTM83 E	UTM83 N	Мо	Cu	Pb	7		N.:	Mn	As	A	De		
	011005_L		IVIO	Cu	PD	Zn	Ag	Ni	IVIII	AS	Au	Ва	К	Rb
L116	376623	7027812	0.08	1.54	0.06	55.9	Ag 9	0.3	146	AS 0.05	Au 0.1	ва 140.7	к 0.32	Rb <mark>3.8</mark>
L116 L117	_													
	376623	7027812	<mark>0.08</mark>	1.54	0.06	55.9	9	0.3	146	0.05	0.1	140.7	0.32	<mark>3.8</mark>
L117	376623 376698	7027812 7027802	<mark>0.08</mark> 0.04	1.54 1.5	0.06 0.06	55.9 55.1	9 14	0.3 0.2	146 201	0.05 0.05	0.1 0.1	140.7 75.6	0.32 0.3	<mark>3.8</mark> 5.4
L117 L118	376623 376698 376799	7027812 7027802 7027802	0.08 0.04 0.005	1.54 1.5 1.89	0.06 0.06 0.07	55.9 55.1 96.6	9 14 23	0.3 0.2 0.2	146 201 608	0.05 0.05 0.05	0.1 0.1 0.1	140.7 75.6 80.9	0.32 0.3 0.33	<mark>3.8</mark> 5.4 1.9
L117 L118 L119	376623 376698 376799 376902	7027812 7027802 7027802 7027802 7027802	0.08 0.04 0.005 0.005	1.54 1.5 1.89 1.51	0.06 0.06 0.07 0.07	55.9 55.1 96.6 61.8	9 14 23 16	0.3 0.2 0.2 0.1	146 201 608 263	0.05 0.05 0.05 0.05	0.1 0.1 0.1	140.7 75.6 80.9 76.7	0.32 0.3 0.33 0.35	3.8 5.4 1.9 1.8
L117 L118 L119 L120	376623 376698 376799 376902 376997	7027812 7027802 7027802 7027802 7027802 7027811	0.08 0.04 0.005 0.005 0.005	1.54 1.5 1.89 1.51 1.75	0.06 0.06 0.07 0.07 0.05	55.9 55.1 96.6 61.8 70.9	9 14 23 16 15	0.3 0.2 0.2 0.1 0.2	146 201 608 263 658	0.05 0.05 0.05 0.05 0.05	0.1 0.1 0.1 0.1 0.1	140.7 75.6 80.9 76.7 93.7	0.32 0.3 0.33 0.35 0.32	3.8 5.4 1.9 1.8 1.2
L117 L118 L119 L120 L121	376623 376698 376799 376902 376997 377122	7027812 7027802 7027802 7027802 7027802 7027811 7027811	0.08 0.04 0.005 0.005 0.005	1.54 1.5 1.89 1.51 1.75 1.24	0.06 0.06 0.07 0.07 0.05 0.05	55.9 55.1 96.6 61.8 70.9 58.2	9 14 23 16 15 7	0.3 0.2 0.2 0.1 0.2 0.1	146 201 608 263 658 101	0.05 0.05 0.05 0.05 0.05 0.05	0.1 0.1 0.1 0.1 0.1 0.1	140.7 75.6 80.9 76.7 93.7 72	0.32 0.3 0.33 0.35 0.32 0.3	3.8 5.4 1.9 1.8 1.2 0.4
L117 L118 L119 L120 L121 L122	376623 376698 376799 376902 376997 377122 377213	7027812 7027802 7027802 7027802 7027802 7027811 7027811 7027801	0.08 0.005 0.005 0.005 0.005 0.19	1.54 1.5 1.89 1.51 1.75 1.24 1.54	0.06 0.07 0.07 0.05 0.05 0.06	55.9 55.1 96.6 61.8 70.9 58.2 93	9 14 23 16 15 7 10	0.3 0.2 0.1 0.2 0.1 0.2 0.1 0.2	146 201 608 263 658 101 659	0.05 0.05 0.05 0.05 0.05 0.05	0.1 0.1 0.1 0.1 0.1 0.1 0.1	140.7 75.6 80.9 76.7 93.7 72 138.6	0.32 0.3 0.33 0.35 0.32 0.3 0.26	3.8 5.4 1.9 1.8 1.2 0.4 0.6
L117 L118 L119 L120 L121 L122 L123	376623 376698 376799 376902 376997 377122 377123 377293	7027812 7027802 7027802 7027802 7027802 7027811 7027811 7027801 7027792	0.08 0.005 0.005 0.005 0.005 0.005 0.005	1.54 1.5 1.89 1.51 1.75 1.24 1.54	0.06 0.07 0.07 0.05 0.05 0.06 0.05	55.9 55.1 96.6 61.8 70.9 58.2 93 63.7	9 14 23 16 15 7 10 11	0.3 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.05	146 201 608 263 658 101 659 1244	0.05 0.05 0.05 0.05 0.05 0.05 0.05	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	140.7 75.6 80.9 76.7 93.7 72 138.6 25.7	0.32 0.3 0.33 0.35 0.32 0.3 0.26 0.27	3.8 5.4 1.9 1.8 1.2 0.4 0.6 1.3
L117 L118 L119 L120 L121 L122 L122 L123 L124	376623 376698 376799 376902 376907 377122 377213 377293 377413	7027812 7027802 7027802 7027802 7027802 7027811 7027811 7027801 7027792 7027798	0.08 0.005 0.005 0.005 0.005 0.005 0.005	1.54 1.5 1.89 1.51 1.75 1.24 1.54 1.54 1.74	0.06 0.07 0.07 0.05 0.05 0.06 0.05	55.9 55.1 96.6 61.8 70.9 58.2 93 63.7 81.6	9 14 23 16 15 7 10 11 17	0.3 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.05	146 201 608 263 658 101 659 1244 392	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	140.7 75.6 80.9 76.7 93.7 72 138.6 25.7 61.7	0.32 0.3 0.33 0.35 0.32 0.3 0.3 0.26 0.27 0.32	3.8 5.4 1.9 1.8 1.2 0.4 0.6 1.3 2.6
L117 L118 L119 L120 L121 L122 L123 L124 L125	376623 376698 376799 376902 376997 377122 377213 377293 377413 377498	7027812 7027802 7027802 7027802 7027802 7027811 7027811 7027811 7027801 7027792 7027792 7027798	0.08 0.005 0.005 0.005 0.005 0.005 0.005 0.005	1.54 1.5 1.89 1.51 1.75 1.24 1.54 1.54 1.74 1.74	0.06 0.07 0.07 0.05 0.05 0.06 0.06 0.06	55.9 55.1 96.6 61.8 70.9 58.2 93 63.7 81.6 60.5	9 14 23 16 15 7 10 11 17 15	0.3 0.2 0.1 0.2 0.1 0.2 0.1 0.05 0.05 0.1	146 201 608 263 658 101 659 1244 392 673	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	140.7 75.6 80.9 76.7 93.7 72 138.6 25.7 61.7 69.8	0.32 0.3 0.33 0.35 0.32 0.3 0.3 0.26 0.27 0.32 0.31	3.8 54 1.9 1.8 1.2 0.4 0.6 1.3 2.6 2.5

Survey Results.

Results are divided into an area west of Targets B, C, and D that was sampled with black spruce twig samples and Target A sampled with mainly MMI soil samples with minor black spruce twig samples.

West of Areas B, C, and D. Figures 14 to 17.6.

Interpretation of vegetative sampling is often not pronounced and difficult to interpret because of the selective nature of uptake by vegetation. The following description of interpreting white spruce bark and twig sampling is summarized from Heberlein, et al referred to above

"Whereas Cs, Rb and K are all alkali elements, which tend to show similar patterns in rocks and soils, they sometimes adopt different paths in vegetation. This is primarily because K is an essential structural element in plant tissues and Rb is required in trace amounts, whereas Cs has no known function. Consequently, Cs in plants is a better indicator of potassic alteration than K itself making Cs a surrogate for Rb and K. Cesium is an element that can occur in association with Au deposits. It occurs with Au deposits at Hemlo and Getchell, occurring primarily in the mineral galkhaite [(Cs,TI)(Hg,Cu,Zn)6(As,Sb)4Si2]. It has also been noted in vegetation peripheral to the Au-As-Sb mineralization at the top of Mount Washington, Vancouver Island, and in plants surrounding the hydrothermal pools on the North Island of New Zealand (Dunn, 2007).

Copper is another essential element for plant metabolism, which is why increased concentrations in plants growing over Cu-rich mineralization are generally quite subtle. Antimony tends to follow As."

Based on preliminary results over the Woodjam Cu- Au porphyry property, Haberlin et al concluded that several of the organic media (charcoal, spruce bark and spruce twigs) all exhibit elevated levels of several elements, which indicate both alteration (Cs, Rb) and mineralization (Cu, As, Sb and Au). It appears that the elevated concentrations of alkali metals may be reflecting a zone of potassic alteration, within which commodity (Cu and Au) and pathfinder (As and Sb) elements are relatively concentrated.

On the RGS Property there is a modest anomalous Mo pattern seen on three lines west of Target C that measures 600m by 1000m. This pattern could be identifying underlying porphyry mineralization. There are also coincident anomalous Cs and Rb patterns associated with this Mo pattern and in three other areas, one west of Area D, one west of Area B, and one in the northwest corner of the sample survey. These patterns could be representative of underlying potassic alteration as discussed above.

With the exception of the anomalous patterns for Mo, Cs and Rb described above, no other anomalous patterns exist over the survey area. For the purposes of comparison of the two sampling methods several twig sample lines were placed over anomalous portions of Areas C and D identified in 2013 by use of MMI analysis. No anomalous values were obtained from the twig sampling even over areas with strongly anomalous MMI samples. Twig sample results for Cu, Mo, Ag, Cs, and Rb are provided in Figures 14, 15, and 17, 17.5 and 17.6. Results for Zn, Ba, Ca, and Mn were plotted on the map but results showed no patterns of interest. Also, all other elements were examined on the geochemical data sheets for variability and clustering of elevated sample results again with no patterns of interest and often with only a monotonous background.

Area A. Figures 14-17.

In Pirate West Area a target was described based on 2013 prospecting results as a linear feature up to 200 m wide and a km long open at both ends. This target has now been identified as a much larger target with a similar geochemical response to the three porphyry targets found on the adjacent Lake Project that forms part of the RGS claim block. The target is 500 m north-south by 1000 m east-west open to the north and east and has MMI sample results strongly anomalous for Cu, Au, Ag, Ni, and U with anomalous Mo on one line forming a core to the other anomalous elements.

In drawing the limit of anomalous Cu, the black spruce twig sample results were ignored in samples L140 to L142 because they were collected on flat ground, which is known to be unresponsive for forming anomalous metal values. The strength of the anomalous MMI Cu response ratios is very encouraging with anomalous response ratios forming strong contiguous results up to a high of 31 and a low of 7.

Six anomalous Mo response ratios on the single line with anomalous values as shown on Figure 4 vary from 8 to 26 over a 300 m length open to the north. These are highly encouraging results. Angular chips up to 10 cm found in soil pits at K112 and K113 were described in the field as quartz muscovite schist but close inspection of samples returned to Vancouver raises the possibility they are sheared and quartz-sericite altered quartz monzonite. Chips were limonitic in K112. Similar rock ships, but not limonitic, were noted in K117, K119, and K120.

Anomalous Au response ratios shown on Figure 5 mimic the anomalous Cu results fairly closely. Gold response ratios vary from 3 to 21. See Table 1. Au and

Ag are particularly anomalous when compared to the three other porphyry targets on the Lake Project. This may be due to shallower overburden in the Pirate West Area. Ni and U response ratios are very strongly anomalous for the same samples anomalous for Cu and Au just as they were on the three adjacent Lake Project porphyry targets and on the Pirate East Area. Ni response ratios range up to a high of 27 and U response ratios to a high of 108. Anomalous Ca response ratios also mimic the anomalous values for the above discussed elements.

Anomalous Ag response ratios shown on Figure 6 also mimic the anomalous Cu results fairly closely but also extend onto the most westerly soil sample line. Ag response ratios range up to 63 with most in the 8 to 20 range. Pb and Zn response ratios are low in this Pirate East Area except for four high Pb values at the south end of one line in samples L146, L147, L149 and L150.

As can be seen on Table 1, Ti response ratios are low where Cu-Mo-Au-Ni-U-Ag response ratios are high and high elsewhere. Response ratio lows are generally zeros whereas highs range up to 323 with many values well in excess of 30. This may be reflecting a destruction of illmenite and removal of Ti by hydrothermal processes associated with whatever mineralization the anomalous metal values are related to. It is difficult to associate this Ti pattern to host rock type as bedrock is primarily Reid Lakes Batholith of quartz monzonite composition with the possible occurrence of schist in only a part of the survey area.

A single fist-size rock sample, R1, was collected from the soil pit at L148. It was a limonitic quartz fragment breccias with muscovite.

CONCLUSIONS

Four strong multi-element soil anomalies labeled A, B, C, and D on the accompanying figures are highly encouraging for underlying porphyry style mineralization. Refer to figures in the following discussions.

Anomaly A.

This anomaly is 1000 m long and about 500 m wide open to the north and south. It is best defined by strongly anomalous Cu RRs in MMI samples (up to 31) and supported by anomalous RRs for Mo (up to 26), Au (up to 21), Ag (up to 63), U (up to 199), and Ni (up to 25). Angular chips of quartz muscovite schist were

common in soil pits from the two westerly soil lines of the four lines sampled. The anomalous Mo as well as anomalous K occurs in the north half of the westerly of the two middle soil lines. The K anomalies may be related to the muscovitebearing chips. No mineralized float was present in the area that might explain the source of the anomalies with the exception of the single sample of quartzfragment breccias found in the soil pit at L148. Float on the two easterly soil lines was quartz monzonite. Additional soil and twig sampling could define the extent of the anomaly. It will take trenching or drilling to explain the source. Hand trenching should be considered because of the occurrence of colluvium under many of the loess samples in this area.

Anomaly B.

This is an irregularly shaped anomaly that is defined by strongly anomalous RRs for Cu (up to 17), Mo (up to 140), U (up to 137), and Ni (up to 20). Zn and Pb appear to be generally low over Target B and anomalous immediately outside the target. Ti is also anomalous around the Target with a few anomalous values within the target. There are no anomalous Ag RRs but three modest anomalous Au RRs. Size of the anomaly is about 500m by 1000m. Bedrock is probably Reid Lake Batholith quartz monzonite.

Colluvium occurs in about half of those soil sample pits that penetrated the loess blanket. Till occurs in the others. Two soil pits, P1 and P2 shown on Figures 14 to 17.6, were dug in 2014 at 2013 soil sample sites that were anomalous for Cu and Mo. P1 was dug to 70 cm and exposed colluvium with minor round pebbles indicating till has been mixed with the colluvium. Much of the colluvium was angular chips displaying limonite, epidote, and chlorite. P2 was dug to a 60 cm depth where it encountered frost. The pit was in loess under a 10 cm organic layer.

Anomaly C.

This is a roughly circular anomaly, open to the west, measuring 900m by 900m as defined by RRs for Cu (up to 22), U (up to 30), and Ni (up to 24). Mo RRs (up to 26) form a somewhat smaller anomalous pattern measuring 600m by 400m lying within the Cu-U-Ni anomalies. There are no anomalous Ag RRs and few modest anomalous Au RRs. RRs for Ti, Zn, and Pb are low over the anomaly but higher over immediately surrounding ground. Bedrock is probably Reid Lake

Batholith quartz monzonite but tills are common in soil pits and trenching unlikely to be an effective prospecting tool.

Soil pits exposed till under loess in most samples except in the east of the anomaly. Three pits, P3 to P5, were dug in 2014 on 2013 soil pits anomalous for Cu and Mo. P3 was dug on a 10 degree slope in birch forest. 20 cm of till at the base was overlain by 15 cm of slightly organic gritty loess and till which was overlain by 15 cm of organic material. Within the till most rock chips were less than one cm and round with a few round cobbles. At P4, 5 cm of frozen till was overlain by 50 cm of till and loess mixture which was overlain by 7 cm of organic material. Till pebbles were similar to those at P3. P5 was dug on a 10 degree slope in dry aspen forest. 25 cm of loess overlay 120 cm of washed gravel with a high degree of rounding.

Anomaly D.

This anomaly is roughly 500m by 700m, open to the south and west, and defined by RRs for Cu (up to 25), U (up to 69), and Ni (up to 24). There are no anomalous Mo RR or Ag RRs and a few modest anomalous Au RRs. Bedrock is probably Reid Lake Batholith quartz monzonite but tills are common in soil pits and trenching unlikely to be an effective prospecting tool.

West of Targets B, C, and D.

Horizontal derivative aeromagnetic lows derived from the government aeromagnetic survey provide large areas of lows that could represent magnetic destructive alteration associated with porphyry style mineralization. Figure 2.5. Three porphyry sized anomalous Cu-Mo-U-Ni MMI soil patterns, B, C, and D, are associated with known horizontal derivative aeromagnetic lows. These lows are part of a larger pattern of lows that extend up to four km further west and provided a target for additional geochemical sampling in 2014.

The area west of Targets B, C, and D was known to cover flat to very gentle slopes mainly covered in stunted spruce forest with shallow frost making the use of MMI soil sampling of little use. Black spruce twig vegetative sampling was used in an attempt to evaluate the porphyry potential of this large area.

Results of twig sampling were of some use. No Cu, Au, Ni, or U anomalous patterns were identified. The most promising anomaly was a pattern of anomalous Mo measuring 1000 m by 600 m due west and somewhat adjacent to

Target B. This pattern could be indicative of underlying Mo mineralization. However, twig samples were run over some of the 2013 Cu-Mo-Ni-U MMI soil anomalies but failed to produce positive results. This indicates that twig sampling is not reliably effective everywhere in this environment. The occurrence of a large Mo anomaly in twigs west of Target C but not in Target C emphasizes this problem. Cu is an essential element for plant metabolism, which is why increased concentrations of Cu in plants growing over Cu-rich mineralization are generally quite subtle. Absence of an anomalous pattern for Cu is therefore not unfavourable for the occurrence of underlying mineralization. Four patterns of anomalous Cs and Rb, considered surrogates for K, which is another essential element for plant metabolism, form large patterns as shown on Figures 17.5 and 17.6. These patterns could be indicative of underlying zones of potassic alteration associated with porphyry mineralization.

Summary.

All the anomalous MMI metal response ratio patterns are very strong. MMI anomalies often directly overlie causative mineralization. The location of the anomalous geochemical targets at the base of slope particularly for Targets B, C, and D could make interpretation of their occurrence as base of slope transported (false) geochemical anomalies. However the pattern of a central core of Mo (in Targets A, B, and C) within a larger Cu anomaly and all with a halo of anomalous Pb, Zn, and Ti is a strong indication that the targets are caused by underlying mineralization. The size, signature, and strength of the anomalies are most indicative of porphyry style mineralization. Peripheral anomalous Pb and Zn on targets A, B, C, and D is classic zoning around porphyry mineralization. The apparent Ti halo could be caused by destruction of illmenite, the principal mineral of titanium, in rocks underlying the anomalous metal patterns, by hydrothermal alteration associated with porphyry mineralization. Illmenite is probably a normal accessory mineral of the batholith. High gold response ratios occur only within Target A along with high Ag response ratios. It is interesting to note that Target A is the only target with abundant angular cobbles and pebbles in colluvium, which is probably indicative of shallow overburden. Deeper overburden in the other targets may be making the development of anomalous Au and Ag problematic in those areas.

The black spruce twig anomalies contain one large anomalous Mo pattern measuring 1000m by 600m west of Target B that could be indicative of underlying porphyry mineralization. As Cu is a required metal for plant metabolism, it is less reliable as a direct indicator of underlying mineralization. Absence of a Cu anomaly is therefore not unexpected. Cs and Rb, considered surrogates for K, form four large anomalous patterns that could be indicating underlying potassic alteration associated with porphyry mineralization. Their occurrence out to the limits of the survey and within the area of aeromagnetic horizontal derivative lows may be indicative of more widespread porphyry mineralization than just Targets A to D. The aeromagnetic horizontal derivative lows are possibly indicative of magnetite destructive hydrothermal alteration over an area of two km by four km or larger.

Clustering of four targets (five if the Pirate target further east is included) within the Reid Lakes Batholith, of Carboniferous age, is similar to the clustering of the Bethlehem, JA, Highmont, Lornex and Valley Cu-Mo porphyry deposits within the Guichon Creek Batholith, of Jurassic age, in southern BC. Both batholiths intrude their own volcanic pile and are of similar size.

RECOMMENDATIONS.

It is recommended that:

- i) Limits of Target A be defined by continuing MMI sampling to the north and east on 300 m spaced lines with a 100 m sample interval. Hand dug trenches are recommended on some of the higher valued metal anomalies.
- ii) An Induced Polarization Survey be conducted over the four targets and to the west as far as Robbed Creek in order to locate and define chargeability and resistivity anomalies associated with the geochemical anomalies.
- iii) Diamond drilling be considered based on the geochemical anomalies described and results of the Induced Polarization Survey.

STATEMENT OF COSTS 2014 RGS Property

Trans North Helicopters:		
#57439 Jun 19. Mob. Mayo to Property.		\$1459.20
#56869 Jun 25. Demob.		1945.60
Truck: Whs-Mayo-Whs. 900 km @ \$0.62/km		558.00
Mob/Demob time:		
G Richards 2 days @ \$500/day		1000.00
J Mieras 2 days @ \$300/day		600.00
Wages:		
Jeff Mieras Jun 19-24; 6 days @ \$300/da	ау	1800.00
Gord Richards Jun 19-24; 6 days @ \$500)/day	3000.00
Living Allowance: sample bags, food, sat phon 16 man days @ \$100/man day	e, radios, flagging, etc	1600.00
YWCB: paid Jun 12, 2014		282.42
Geochem:		
SGS 10796403 MMI sample assays		1635.90
Acme VAN1204485 twig samples		8269.17
Acme VAN1203541twig samples		461.37
Air North Freight: MMI samples to Vancouver		162.09
Report: 10% of above costs	(\$ 22,773.75)	2277.38
	TOTAL	\$25,051.13

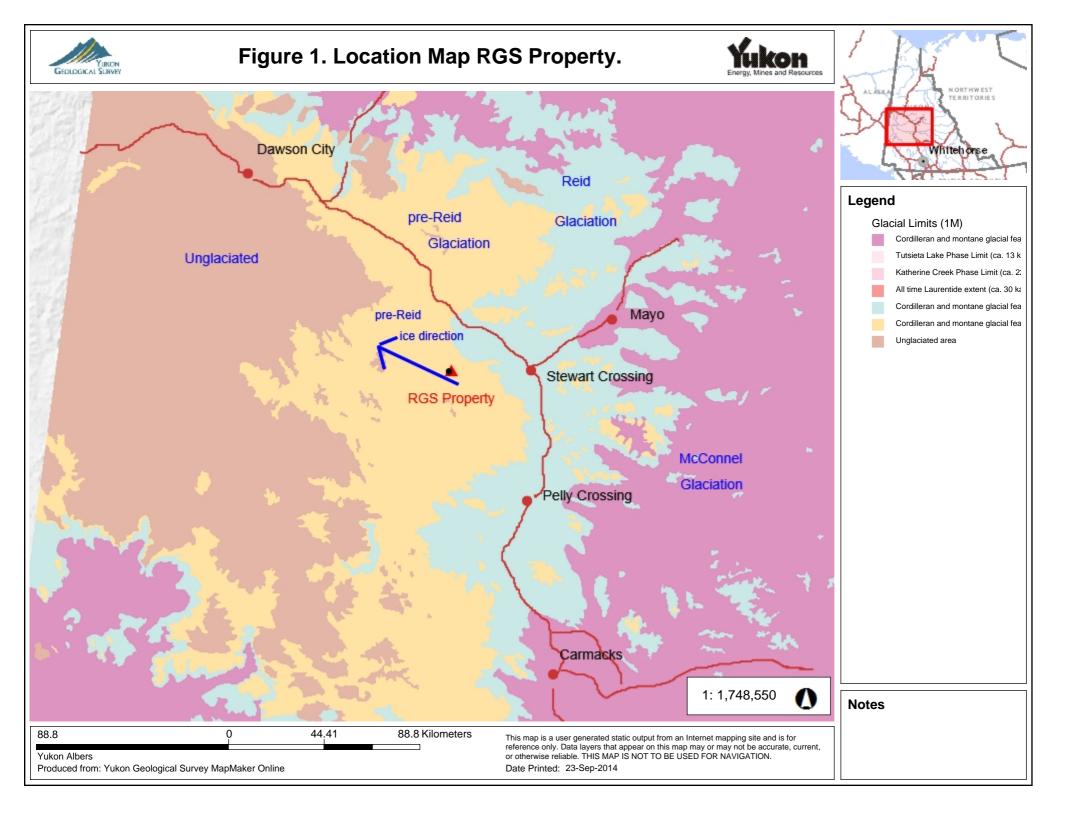
STATEMENT OF QUALIFICATIONS.

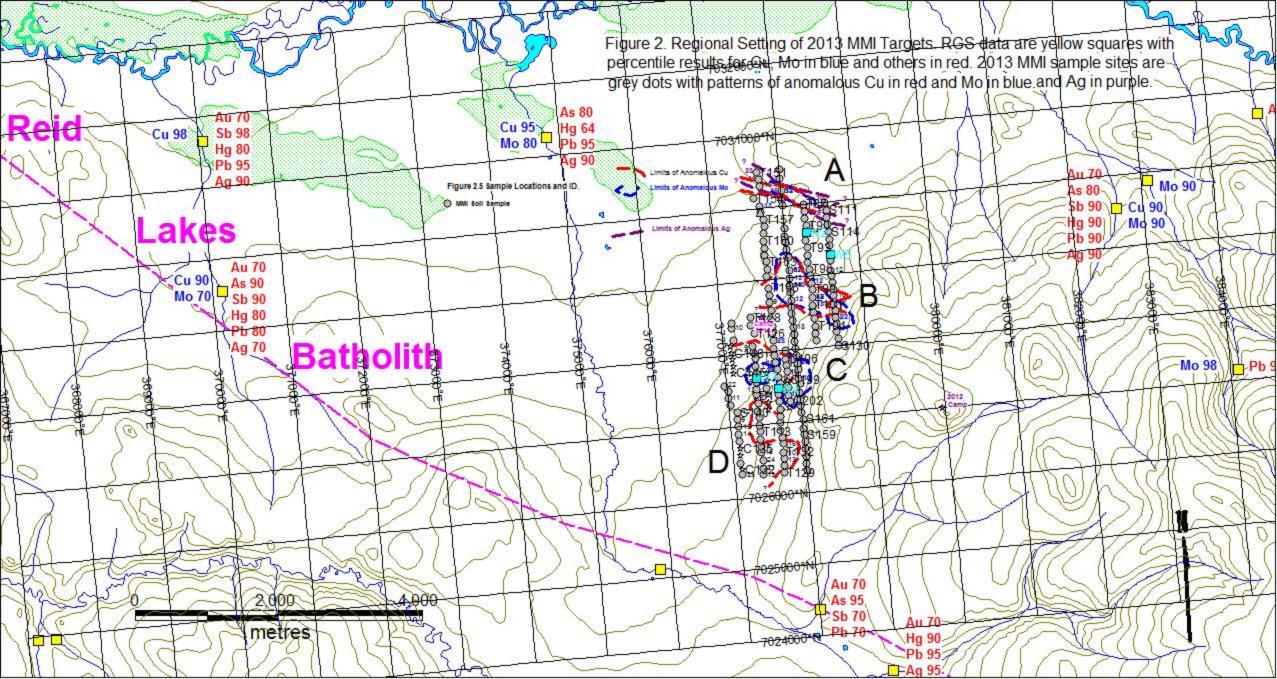
I, Gordon G Richards, with business address at 6410 Holly Park Drive, B.C., V4K 4W6, do hereby certify that:

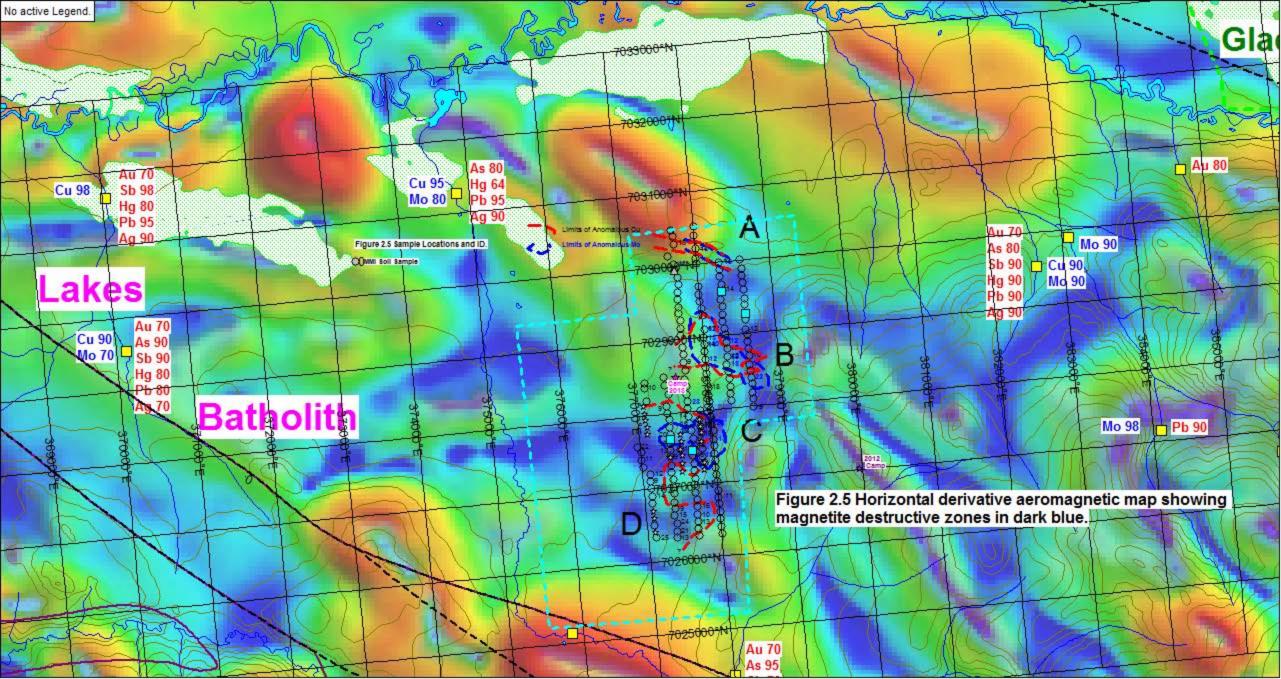
- I am a Professional Engineer, registration number 11,411 with the Association of Professional Engineers and Geoscientists of British Columbia.
- I hold a B.A.Sc. (1968) in Geology from The University of British Columbia, and an M.A.Sc. (1974) in Geology from The University of British Columbia.
- 3. I have been practicing my profession as a geologist for over 40 years and as a consulting geological engineer since 1985. I have work experience in western areas of the United States, Alaska, Canada, Mexico and Africa.
- 4. I have based this report on my field work and supervision of field work by Jeff Mieras during the period of June 19 to 24, 2014 and on the results generated by that field work.

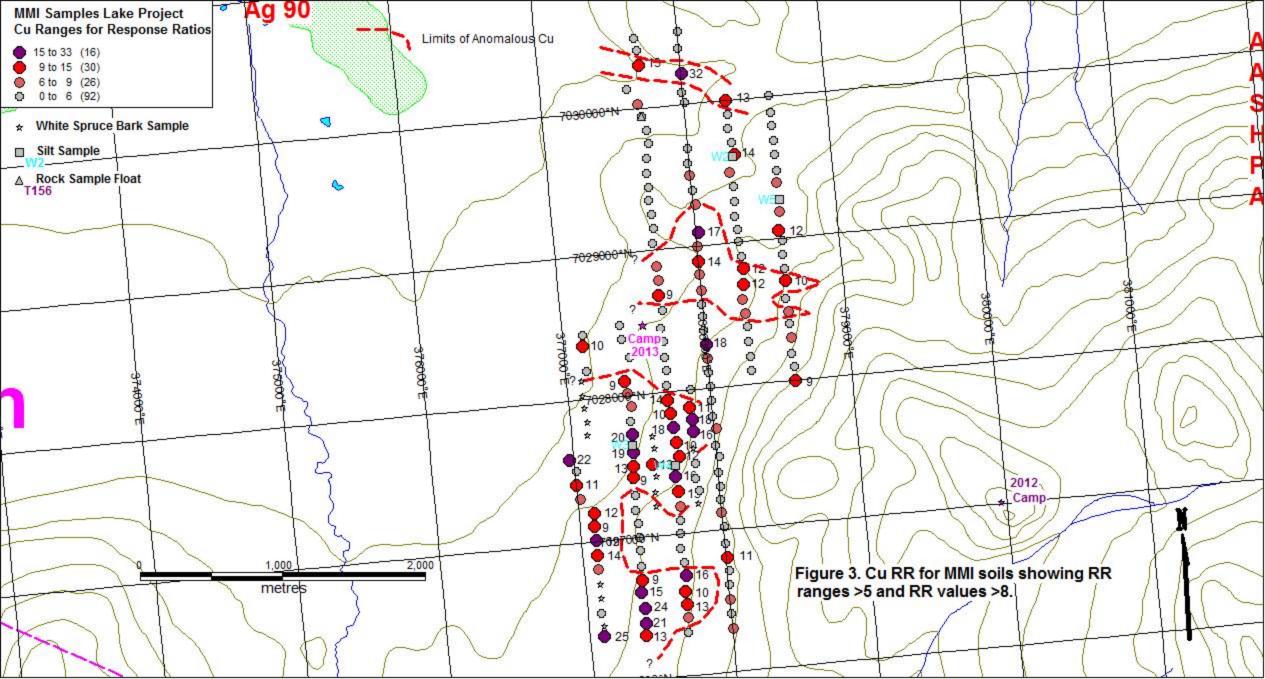
Respectfully submitted,

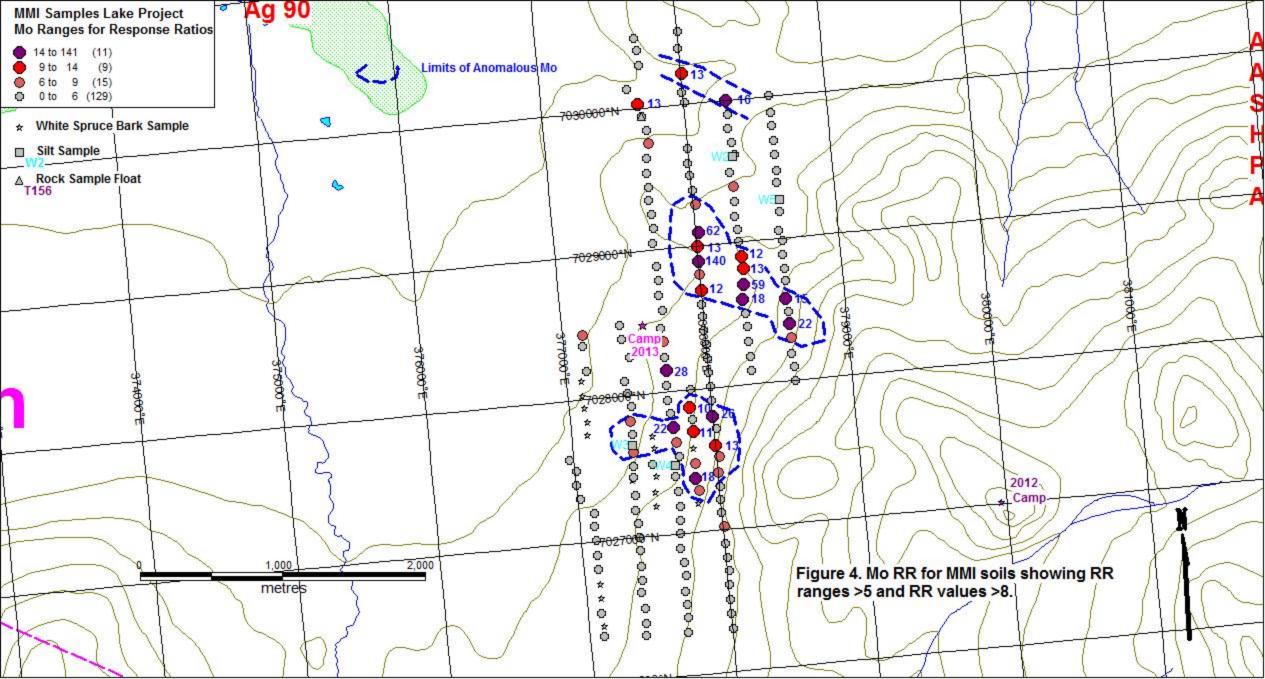
Gordon G Richards, P.Eng.

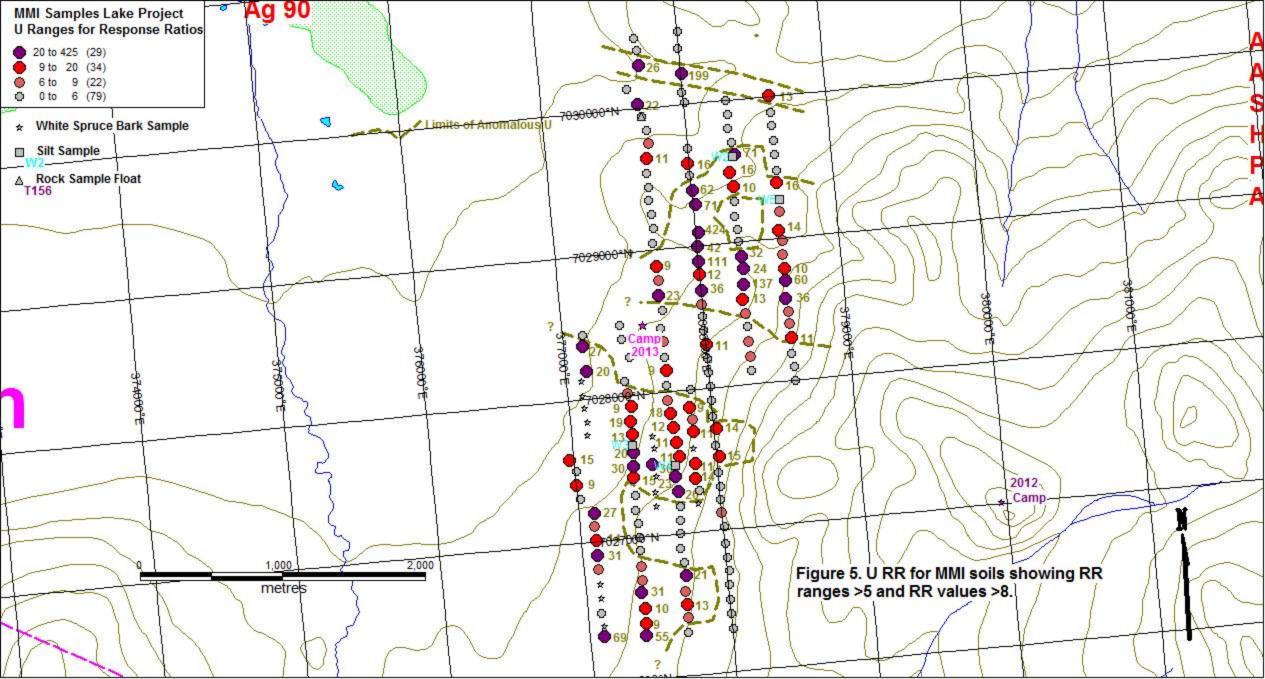


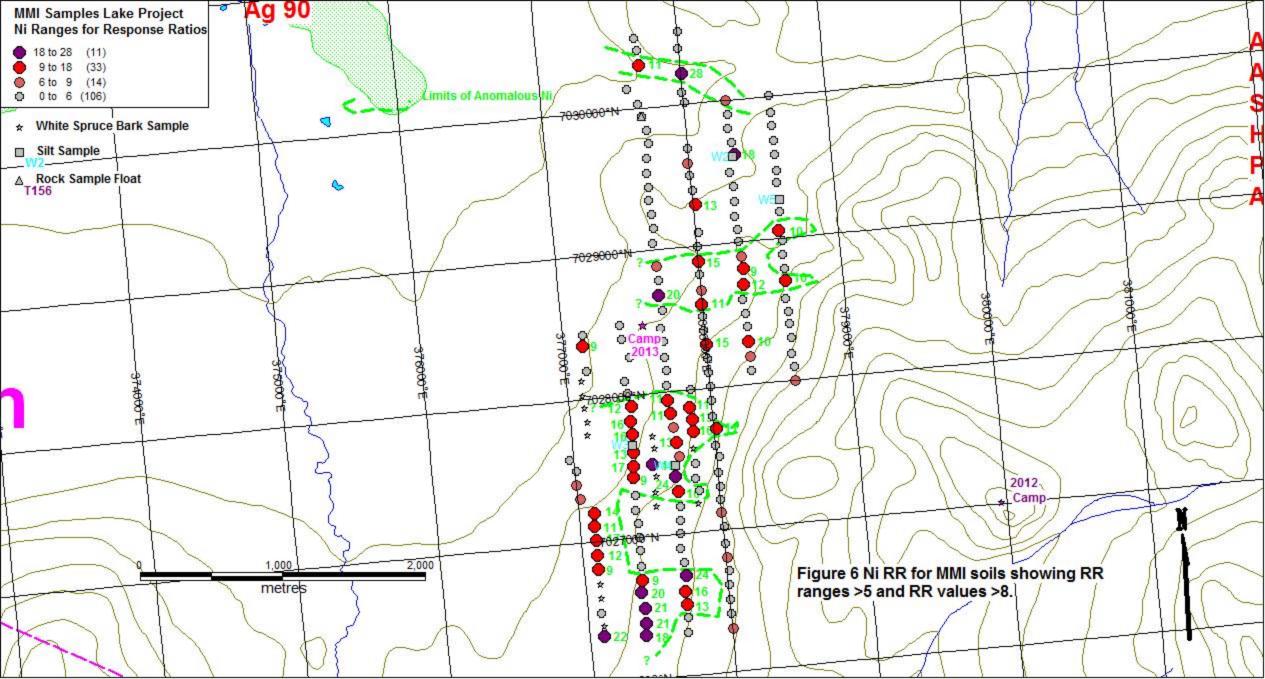


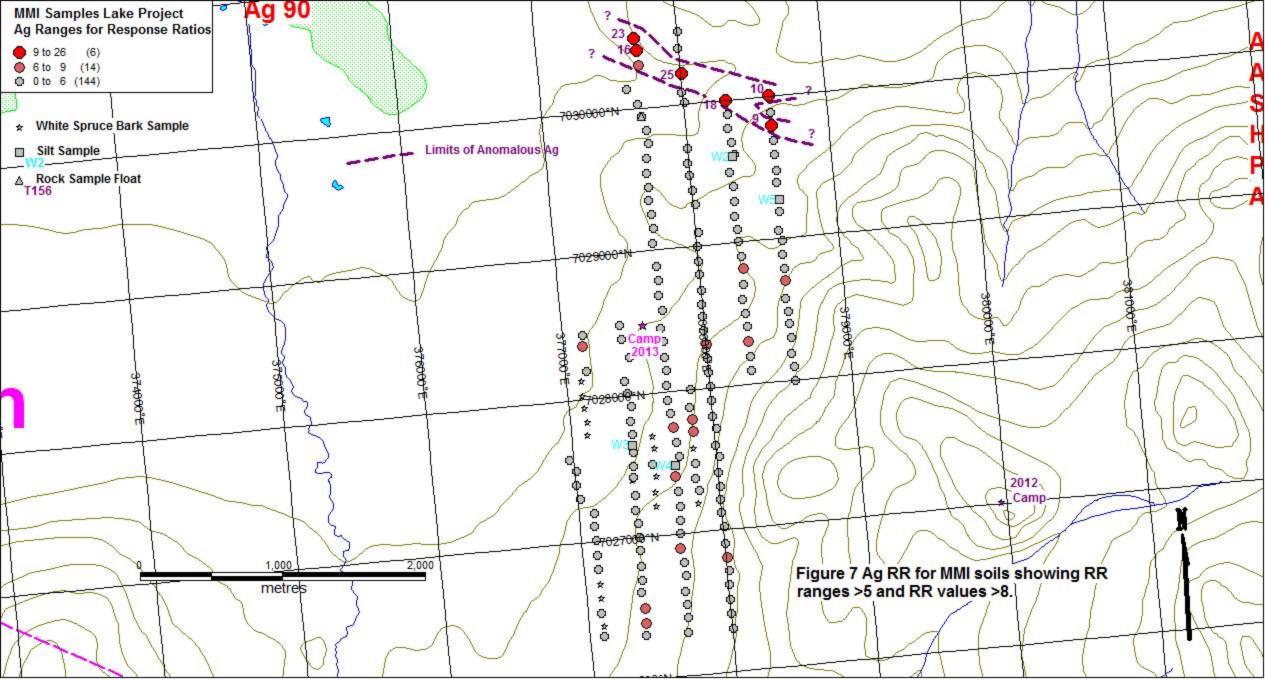


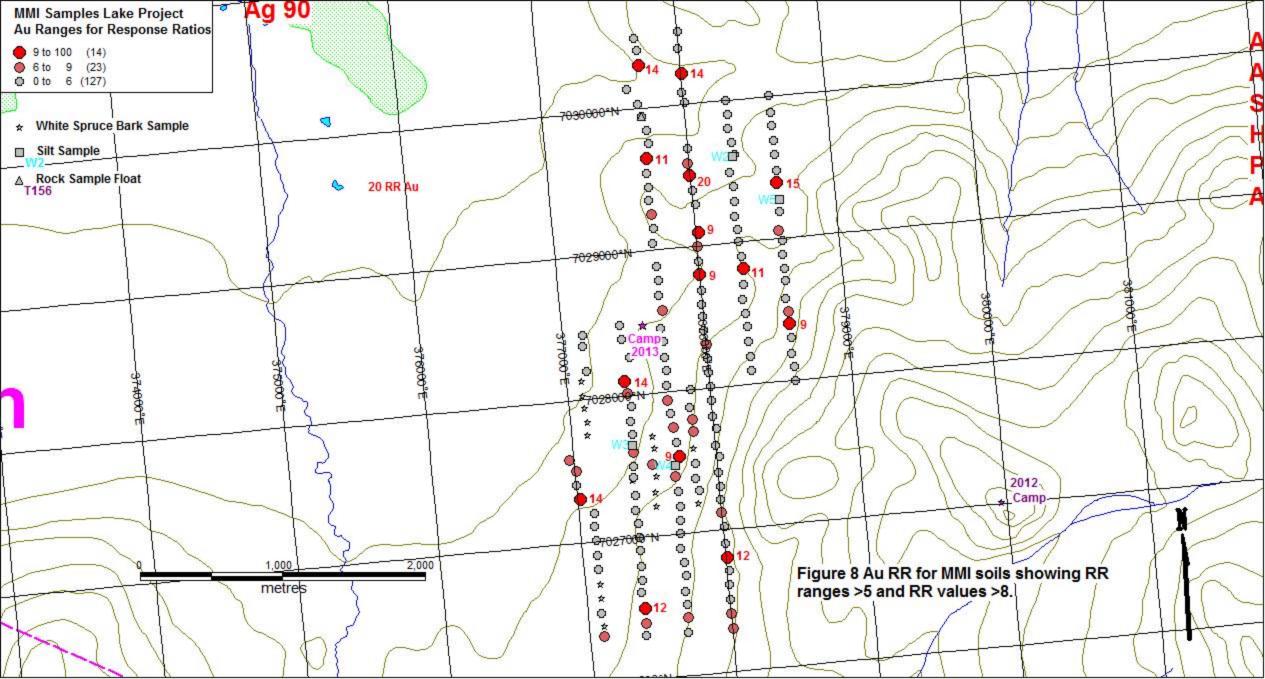


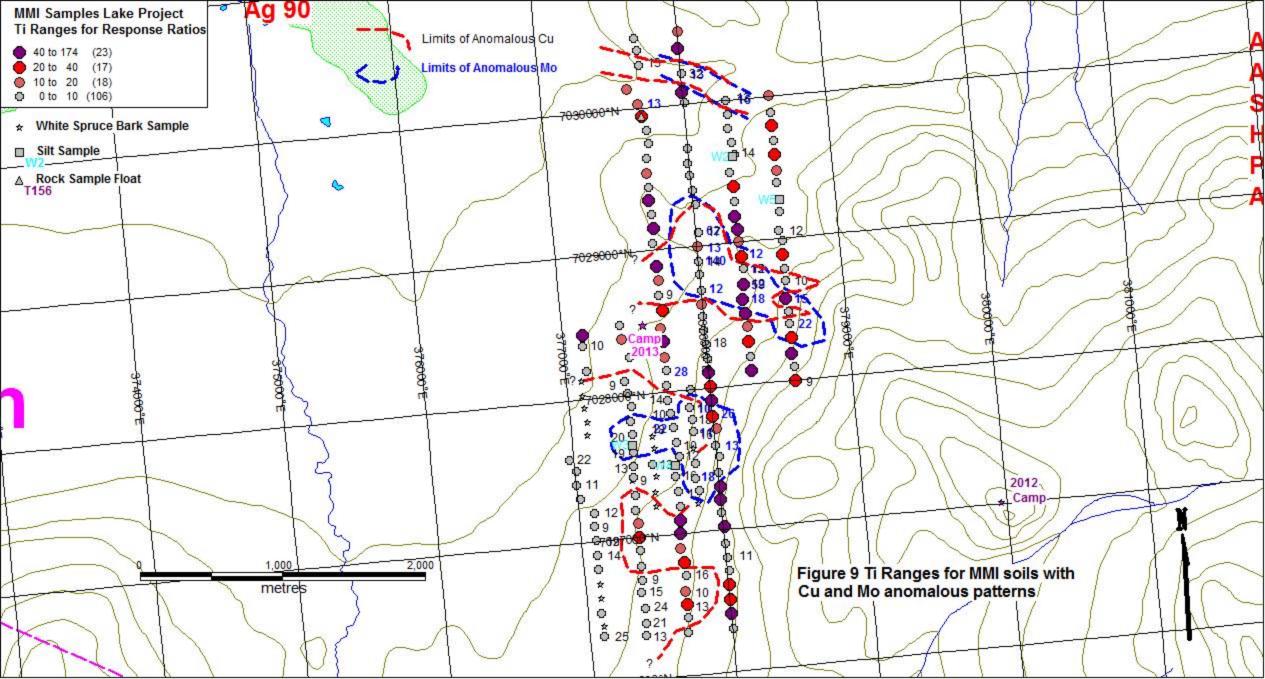


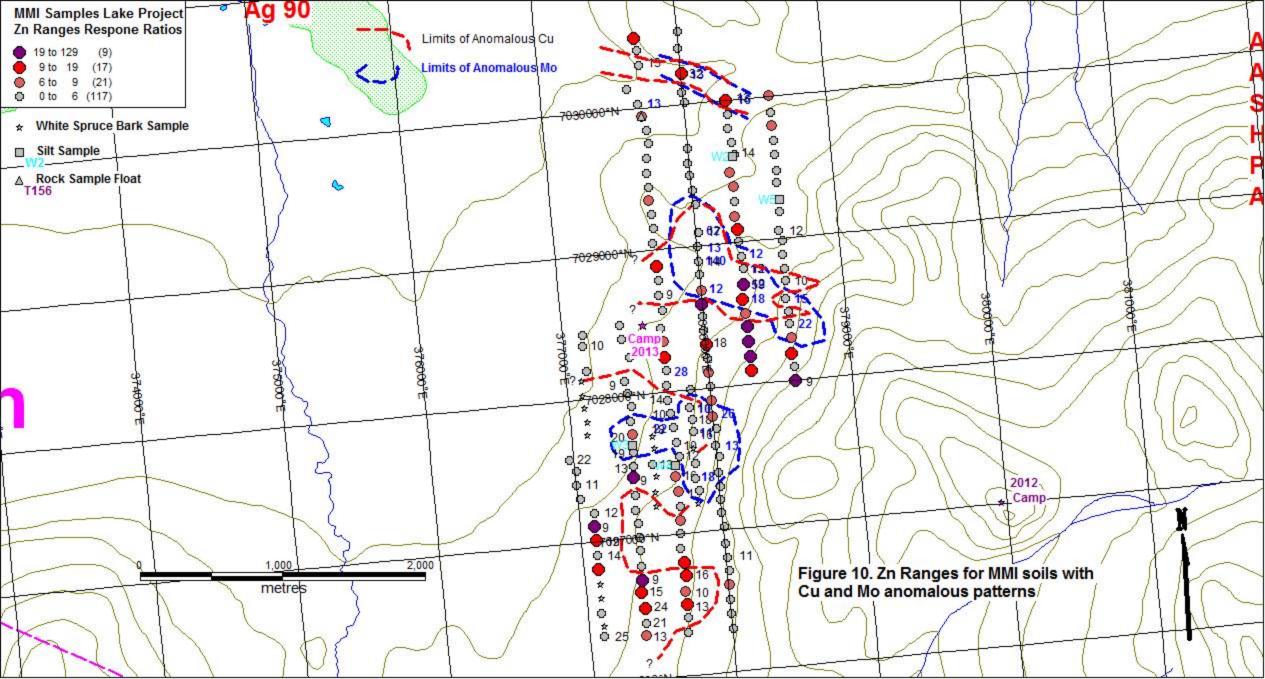


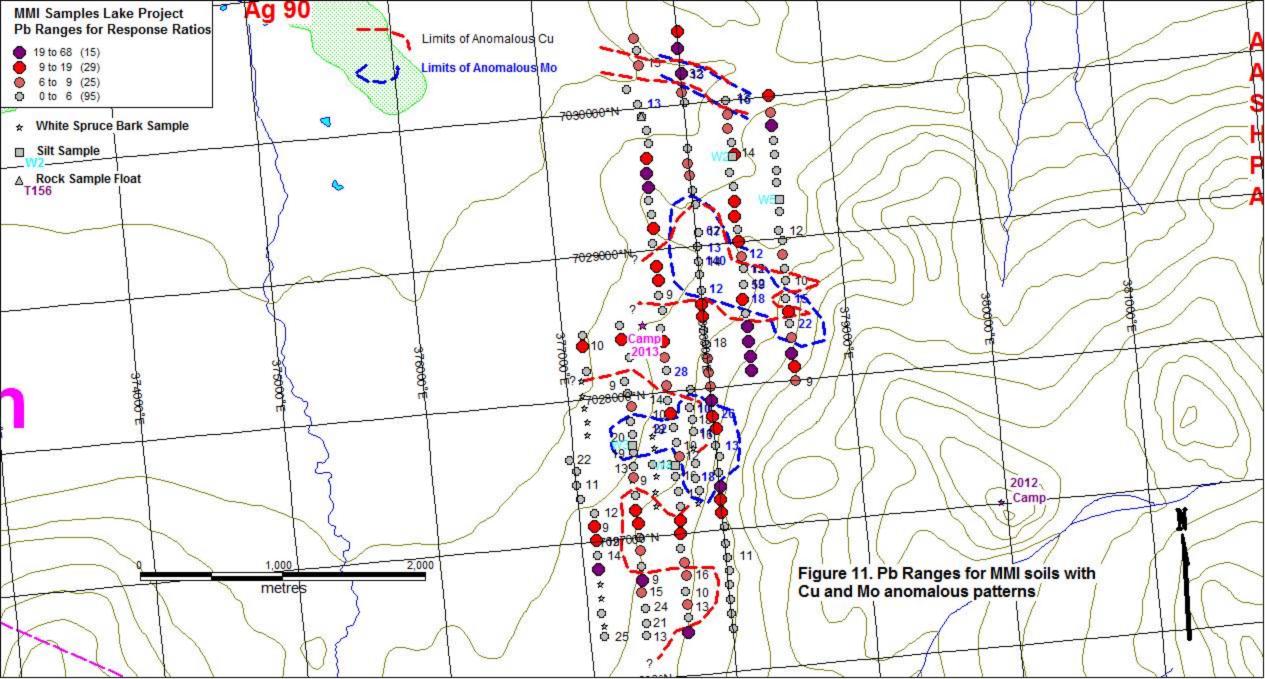


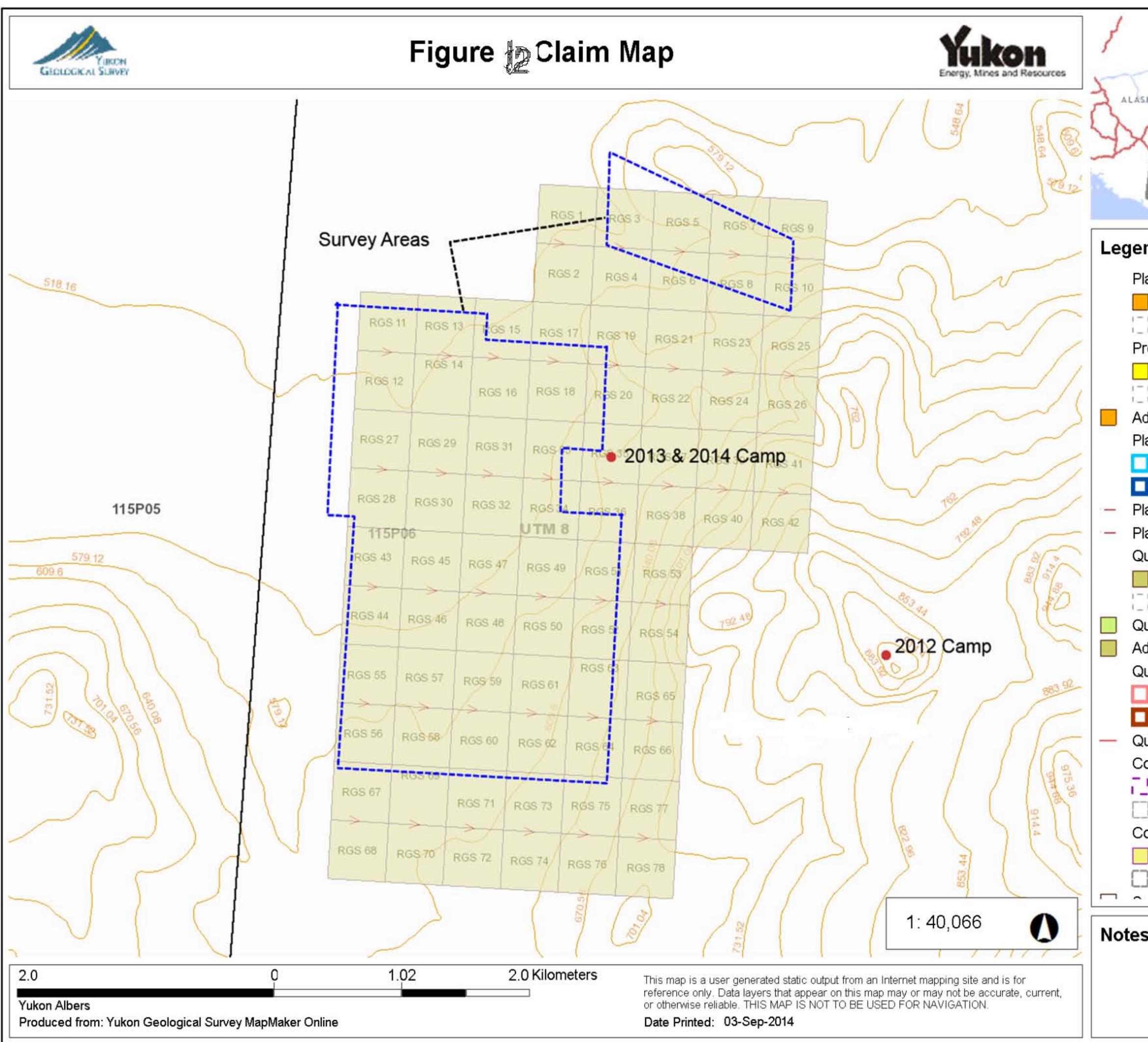












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YUKON GEOLOGICAL RESEARCH

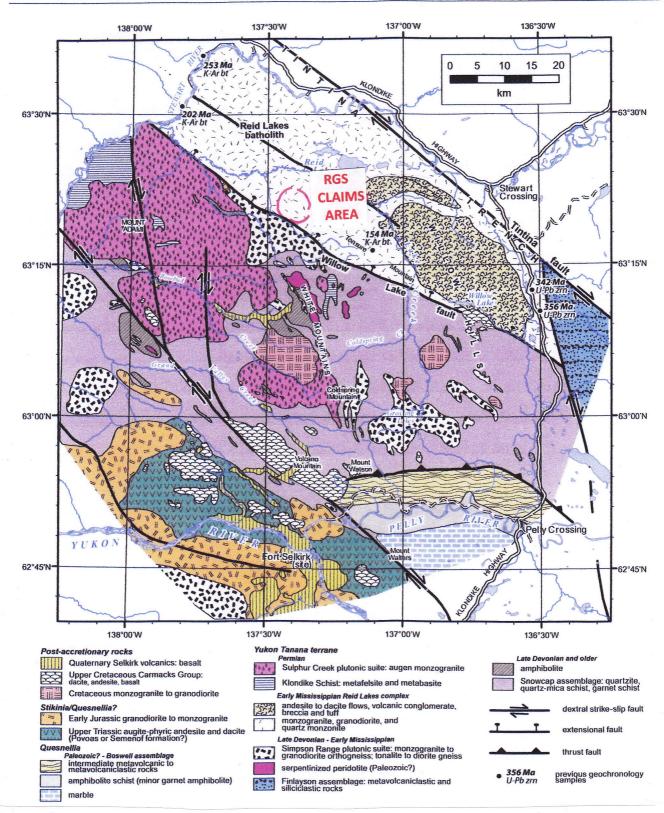


Figure 13. Simplified geological map of southwest McQuesten-northern Carmacks area (after J.J. Ryan, M. Colpron and N. Hayward). Willow Creek Fault separates relatively unmetamorphosed Reid Lakes Batholith from mid-amphibolite grade metamorphic rocks immediately south.

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