

BC Geological Survey  
Assessment Report  
32956

**GEOLOGICAL AND GEOCHEMICAL  
ASSESSMENT REPORT  
FOR THE  
INTERNATIONAL/TIN CITY PROPERTY**

Southeast British Columbia  
Centred at 5,596,000N and 505,000E (NAD 83)

Owner/Operator:  
**Rainbow Resources Inc.**

**December 10, 2012**

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## 1.0 Summary

In May 2011, Moose Mountain Technical Services (MMTS) was retained by Rainbow Resources Inc. (Rainbow) to review the geology of their International/Tin City Property, and recommend further exploration programs.

The International/Tin City Property is comprised of eleven contiguous claims and nine Crown Granted Mineral claims (the Crown Grants are all within the mineral claims), with a total area of 4,703.91 hectares. The property is approximately 115km north of Nelson, on the eastern side of Duncan Lake just north of Howser Creek.

Access to the property is by Highway 3A from Nelson to Kaslo then north on Highway 31 for a distance of approximately 35km to the turnoff at Copper Creek. A forest service road along Duncan Lake to the claims provides access to the property, a distance of approximately 45km. Rainbow has an agreement to use the logging road maintained by Meadow Creek Cedar Ltd. In 1989, the road on the claims was opened for use with an ATV.

Exploration on the property area has been cyclic, focussing on base metals and silver. Over the years the property has been known by several different names (International, Riverside and Southern Pacific) depending on which claims work was focussed. The Minister of Mines report of 1918 records that a sample taken from a small streak of galena, about 10cm wide and 4.6m long, assayed 445.72g/t (13.0oz/ton) silver, 37.7% lead and 1.2% zinc. The first report of the property came from Blue Lake Consolidated Mining Company in 1918. They reported that there were already previous workings on the site consisting of a 7.6m drift and several open cuts. In 1918, Blue Lake was driving a crosscut to tap the vein at depth. Work is reported on the property in 1924-26 by John Noihl. In 1926, Porcupine Goldfields Development and Finance Co. Ltd. took a sample across 0.9m of the east drift which returned 384g/t (11.2oz/ton) silver and 30% lead (Starr, 1926).

In 2007, Braveheart added one more claim to the property. Between 2007 and 2009, Braveheart carried out three exploration programs consisting of prospecting, soil sampling (a total of 485 samples to the end of 2010) and rock sampling (a total of 12 samples to the end of 2010).

Rainbow's West Kootenay properties lie in and close to a transitional zone between two of the major geologic-physiographic belts of the Canadian Cordillera: the Rocky Mountain Belt to the east and the Omineca Crystalline Belt to the west. This transitional zone is called the Kootenay Arc and is a narrow, elongated, curving belt of highly deformed and metamorphosed rocks stretching from Revelstoke in the north across the Canada-U.S.A. border, in the general area of Salmo and Trail, into northeastern Washington.

The Kootenay Arc straddles the boundary between rocks that formed on the ancestral North American continental margin in the Proterozoic-early Paleozoic and those that formed in oceanic and back-arc environments to the west of ancestral North America during the late Paleozoic-early Mesozoic. The International/Tin City Property lies on the western edge of the Rocky Mountain Belt. The topographic expression of the change from the Rocky Mountain Belt to the Kootenay Arc terrain is a valley system with Kootenay Lake in the south and Duncan Lake farther north.

The Horsethief Creek Group underlies the property and outcrops as highly deformed and decomposed quartz mica schist. The principle rock types include amphibolites (which may be meta-volcanic), dolomitic limestones and marbles, quartz muscovite schists, quartzites, and micaceous phyllites.

The International showing is a quartz vein up to 2.5m thick that has been exposed for approximately 80m along strike by a road cut. Mineralization within the vein occurs as irregular massive sulphide bodies of galena, pyrite, and rare sphalerite. The exposed vein appears to be conformable to the layering of the host schists with a strike of approximately 290° and dips ranging from 5° to 20° to the north. Historically, it is reported that the “vein” has been traced over a strike length of more than 1,200m and tested with numerous adits. Fieldwork to 2011 has located three of the old adits, though the continuity between the adits has not been verified.

Work in 2011 included prospecting, as well as rock and soil sampling. A total of seven rock samples and 114 soil samples were collected. Rock samples indicate grades over 1,147.8ppm (33.48oz/ton) silver and lead values greater than 68% lead. Zinc values are up to 1% while arsenic and antimony are also anomalous. The results from the rock samples were used to help direct the assessment of the soil sampling program by identifying elements that may be indicators of mineralization. The average of twelve grab samples collected in 2008 assayed 562.3g/t silver (39.2oz/ton) and 39.2% lead, fairly typical of historic assays. In 2011, three representative channel samples across the vein showed an average silver assay of 0.28oz/ton and an average lead assay of 0.85%. A single sample from the immediate footwall of the vein assayed 0.25ppm silver and 443ppm lead, while a single sample from the immediate hanging wall of the vein assayed 0.25ppm silver and 65ppm lead.

Soil samples from around the International showing are highly anomalous in lead, zinc, arsenic, and boron. Silver and gold values do not exceed detection limits with any of our soil samples. Detailed soil sampling above and below (down the access road) the exposed vein, highlights the mineralized zone with zinc values as high as 3087ppm, lead values as high as 24,160ppm, arsenic values as high as 173ppm and boron values as high as 245ppm. Soil sampling above the showing produced no anomalous results. Of most interest is the fact that below the exposed vein there is mineralized debris in the access road cut and distinctly gossanous soils that are highly anomalous in multiple elements. As well as the anomalous soil samples around the International showing there are numerous individual samples scattered around the property that will be checked.

Proposed follow-up exploration for 2012 includes opening the known adits and prospecting along the indicated trend of the vein, follow-up sampling around all anomalous soil samples, and drilling at least four diamond drillholes from above the International showing. The proposed drilling will be designed to test strata below the showing to investigate potential duplications of the vein system.

## 2.0 Introduction

In May 2011, Moose Mountain Technical Services (MMTS) was retained by Rainbow Resources Inc. to inspect the International/Tin City Property and to recommend a follow-up exploration program.

Mr. Robert J. Morris completed site visits on the International Property on the 11<sup>th</sup> of July and the 16<sup>th</sup> and 17<sup>th</sup> of September 2011. Access to the property was confirmed as well as recent activities, including road and trail up-grades. As well, preliminary sampling of the exposed vein was completed and a soil sampling program was carried out during September by Jaclyn Galbraith, B.A.Sc, EIT, and Glen Stockey, B.Sc.

Mr. Robert J. Morris was unable to make a site visit to the Tin City Property in 2011 because access to the property has not been upgraded. Upgrading access to the property will be a top priority in 2012.

### 3.0 Property Description and Land Location

The International claims are located 115km north of Nelson, B.C. on the eastern side of Duncan Lake just north of Howser Creek. The property lies within the Purcell Mountains on NTS map sheet 82K/10 and is centred at 504,562E and 5,559,859N (Figures 3-1 and 3-2).

The International Property consists of nine Crown Granted Mineral Claims (123.08ha) (Table 3-1 and Figure 3-3), and eight more recently acquired mineral claims (3,883.03ha) (Table 3-2). The Crown Grants are contained within mineral claims 559903 and 559966.

Rainbow optioned the Crown Grants from Sakua Developments Ltd. by making a series of cash payments and by completing \$150,000 of exploration and development work by October 8, 2008 to earn a 100% undivided interest. There is no area of common interest beyond the Crown Grants. David W. Johnston holds the cell claims for Rainbow in trust. The crown grants were issued in 1934 and were staked just before they were granted. They have not been relocated with current technology. None of the old claim posts or survey markers has been seen in the field.

The more recently acquired mineral claims were staked under the terms of the Mineral Tenure Act (RSBC 1996 – Chapter 292) as amended in the Mineral Tenure Amendment Act 2004 and Mineral Tenure Act Regulations (B.C. Reg. 529/2004 [including amendments up to B.C. Reg. 187/2005]). The regulations require that the recorded holder of a mineral claim shall perform, or have performed, exploration and development work (assessment work) on the claim to a per hectare value of \$4 in each of the first three years and \$8 in the fourth and subsequent years. Recording fees of \$0.40 per hectare per annum are also required in order to file assessment work. Cash in lieu of work may also be paid on a monthly basis. All of the International claims require assessment work of \$8 per hectare per annum. The Crown Granted Mineral Claims are fee simple requiring only modest yearly tax payments and no assessment work. The Crown Grants also include surface rights.

The eight mineral claims making up the International Property (Figure 3-2) are claims whose boundaries are determined by map co-ordinates. They were acquired by online map staking under regulations that came into force in January 2005. The area of the Crown Grants is covered by the mineral claims but the Crown Grants have prior rights.

**Table 3-1: International Crown Granted Mineral Claims**

Name	District Lot #	Area (hectares)
Forgotten	DL14941	20.8
Jiant	DL14358	15.69
Howser	DL14259	12.38
Portland	DL14940	12.20
Chisholm	DL14360	9.38
Southern	DL14361	15.83
Brennan	DL14363	12.85
Poole	DL14362	18.13
Cabin Fraction	DL14942	5.82
		<b>123.08</b>

**Table 3-2: International Mineral Claims**

Tenure Number	Claim Name	Hectares	Issue Date	Good To Date
536272	Craig's	513.76	06-Jun-26	11-Dec-18
536281	Remy	513.75	06-Jun-26	11-Dec-18
536286	Pea Gun	513.67	06-Jun-26	11-Dec-18
536707	AM Flight	513.60	06-Jul-07	11-Dec-18
536713	Better Day	513.34	06-Jul-07	11-Dec-18
559903	Duncan 1	513.47	07-Jun-05	11-Dec-18
559966	Duncan 2	390.25	07-Jun-06	11-Dec-18
572148	Duncan 3	411.19	07-Dec-18	11-Dec-18
<b>Total</b>		<b>3,883.03</b>		

The Tin City Property is located immediately north of the west end of International's Better Day mineral claim (tenure 536713) and is approximately 213km north of Nelson, on the east side of Duncan Lake. The property lies within the Purcell Mountains on NTS map sheet 82K/10 and is centred at 501,476E and 5,601,859N (Figures 3-1 and 3-2).

The Tin City Property consists of 3 mineral claims (Table 3-3). Figure 3-2 shows the property (in green) at the north end of the International Property.

**Table 3-3: Tin City Mineral Claims**

Tenure Number	Claim Name	Hectares	Issue Date	Good To Date
855447	Dunn	205.27	11-May-24	12-Dec-31
842051	Duncan Harvey Klatt	225.73	10-Dec-31	12-Dec-31
842058	DD	389.88	10-Dec-31	12-Dec-31
<b>Total</b>		<b>820.88</b>		

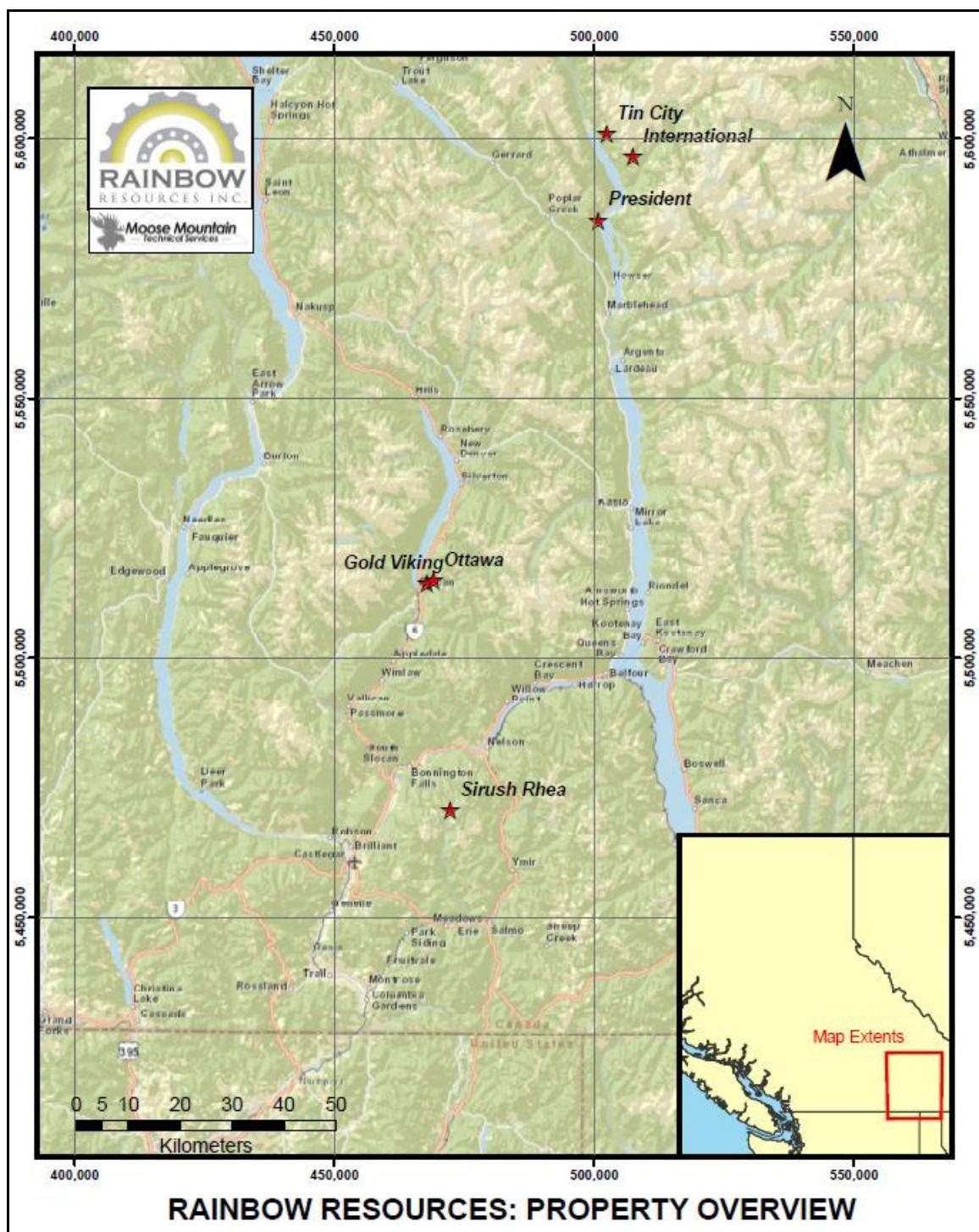
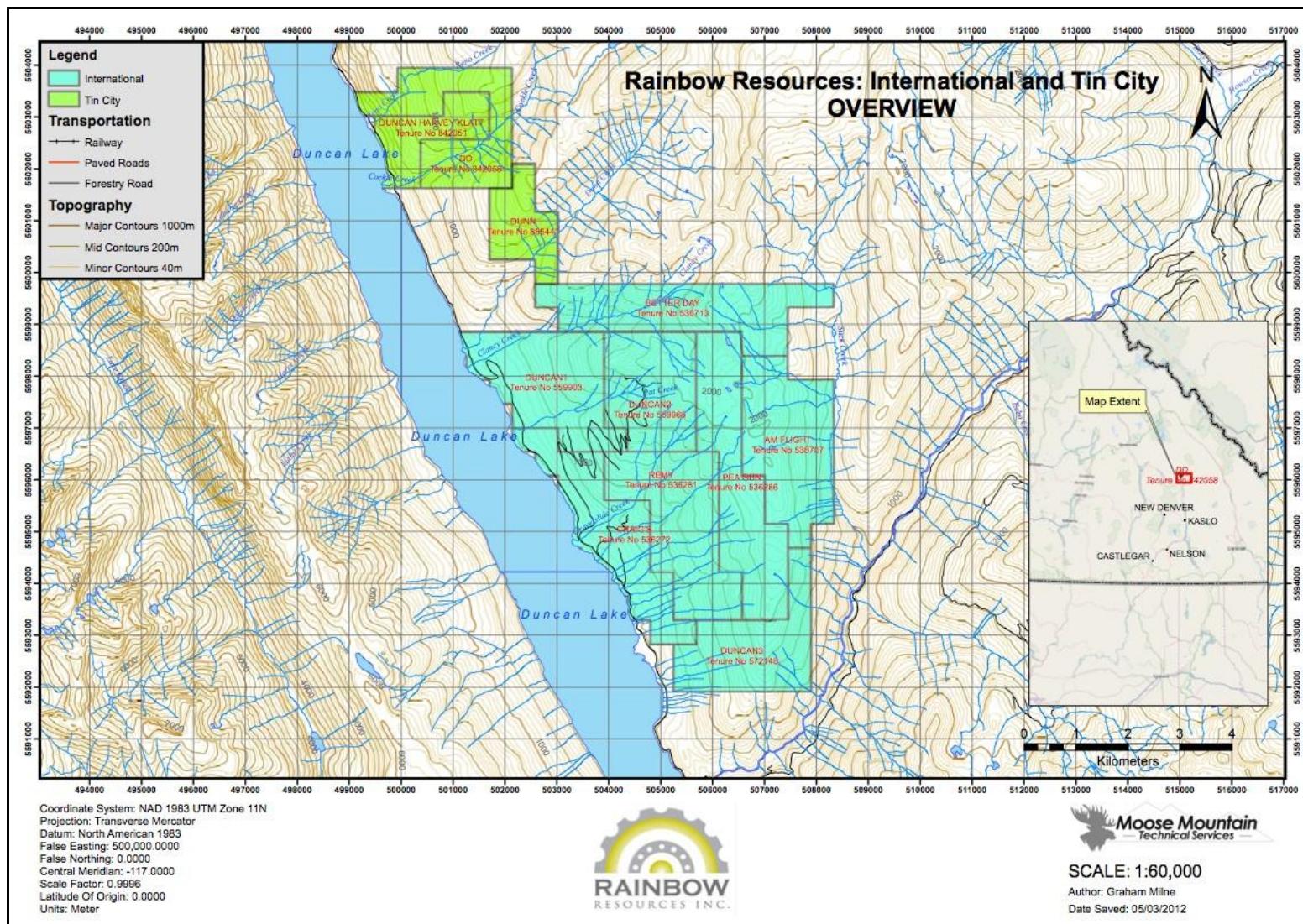


Figure 3-1: Rainbow Resources West Kootenay Properties Overview Map



**Figure 3-2: International and Tin City Properties - Claim Locations**

## 4.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

### 4.1 International

The International claims are on the east side and approximately two thirds of the way along Duncan Lake from its south end. The area, located in the southern part of the Lardeau District southeast British Columbia, is 115km north of Nelson and 92km north of Kaslo (Figure 3-1). It is at the western edge of the Purcell Mountains adjacent to the Purcell trench. The Purcell trench is a topographic depression that trends northerly for about 320km between the Purcell Mountains to the east and the Selkirk Mountains to the west. It includes the southerly flowing Duncan River which drains into Kootenay Lake. To the east, the Purcell Mountains rise steeply from the trench and are deeply incised by several creeks. One of the larger creeks is Howser Creek which is immediately south of the International Property. From south to north, the major creeks on the International Property are Gravelslide, Pat, and Clancy Creeks.

Access to the property is by Highway 3A from Nelson to Kaslo for a distance of 68km; then north on Highway 31 for a distance of 35km to the Duncan Lake turnoff at Cooper Creek. Leaving the paved highway, the claims are 45km northeast along the Duncan Lake forestry road. Rainbow has an agreement to use the logging road maintained by Meadow Creek Cedar Ltd. In 1989, the road on the claims was opened for use with an ATV.

The climate of the property can be described as cool continental. In alpine areas snow sometimes persists until mid-July. Heavy snowfalls in early fall are not uncommon. The average yearly snowfall for the Kaslo area, 65km south, is 221cm, while the average yearly rainfall is 664mm, for a cumulative yearly precipitation of 886mm. The average high temperature for Kaslo is 25°C and the average low temperature is -6°C. South facing slopes open first in the spring. Snow slides are common in the area during spring break up. By mid-September weather becomes less certain with dropping temperatures and overcast skies. The exploration season ranges from May to mid-September. Duncan Lake does not freeze over during the winter.

The main supply centre for the region is the town of Nelson. The closest community of any reasonable size is Kaslo, which is about two and a quarter hours south of the property by road. Food and accommodation are available at Meadow Creek, which is about an hour and a half south of the property.

On the property no mining infrastructure or equipment remains.

The International Property is located in the Purcell Mountains physiographic region of British Columbia. Elevations on the property range from 576m to 2133m, while tree line is at 1980m. Vegetation varies from alpine on the upper elevations to mixed coniferous forest in the valley bottoms. Most of the property was clear-cut logged and is now covered with light scrub and regenerating forest. The Crown Grants remain as old growth forest.

The Duncan River Valley is a “U” shaped, northerly trending valley occupied largely by Duncan Lake. Duncan Lake is a storage reservoir built in 1967 by B.C. Hydro as a result of the Columbia River Treaty. The earthen filled Duncan Dam has no powerhouse but improves the amount and timing of power generation downstream and also provides flood control benefits in Canada and

the USA. The dam has increased the level of Duncan Lake about 29.8m resulting in flooding the upper reaches of the Duncan River. The valley bottom below the property is one of these flooded areas.

#### **4.2 Tin City**

The Tin City Property is on the east side of Duncan Lake near its north end and adjoining the north end of the International Property. It is 213km north of Nelson and 100km north of Kaslo. By road it is 50km from Howser. The creeks which cross the Tin City Property are, from south to north, the Dunn, Cockle and Reno Creeks. Elevations on the property range from 583m on Duncan Lake to 2049m up the slope from the lake.

The rest of the details about accessibility, etc. for Item 5 are the same as those given for the International Property immediately to the south of Tin City.

## 5.0 History

### 5.1 International

Exploration in the property area has been cyclic, focussing on base metals and silver. The Kootenay Lake area has a long and colourful history of exploration and mining. A number of discoveries were made in the Duncan Lake area between 1890 and 1900. Several of these properties produced small amounts of high-grade lead ore with important values of silver. Most of these properties were to the south of the International Property. At that time, access into the area was restricted largely to steamships operating on Kootenay Lake. Several railway links from Kootenay Lake to the outside were also completed. There was renewed interest in the area in the 1920's and 1930's.

Over the years the property has been known by several different names (International, Riverside and Southern Pacific) depending on which claims work was focused. Over time, some claims lapsed and then re-staked under different names. For the purpose of this report the larger Property (Crown Grants and Mineral Claims) will be referred to as the International Property.

The Minister of Mines report of 1918 records that a sample taken from a small streak of galena, about 10cm wide and 4.6m long, assayed 445.72g/t (14.3opt) Ag, 37.7% Pb and 1.2% Zn.

The first report of the property came from Blue Lake Consolidated Mining Company in 1918. They reported that there were already previous workings on the site consisting of a 7.6m drift and several open cuts. In 1918, Blue Lake was driving a crosscut to tap the vein at depth.

Work is reported on the property from 1924-1926 by John Noihl. In 1926, Porcupine Goldfields Development and Finance Co. Ltd. took a sample across 0.9m of the east drift, which returned 384g/t (12.3opt) Ag and 30% Pb (Starr, 1926).

In 1927, the property was known as the Riverside Group. It consisted of the Riverside, Giant, Joint, Howser, and Portland crown grants and was owned by Noihl, Mulholland and Sturgeon. At this time the property workings included two shallow inclined shafts, open cuts, and stripping areas (MEM&PR, 2007).

In 1928, the Riverside Property was taken over by Omo Mines Corporation of Spokane and a large number of claims covering the southern extension of the vein were acquired. In 1929, a cross cut was driven, by Omo Mines, a little south of the older workings in order to test the southern extension of the vein (MEM&PR, 2007). This cross cut is likely the Riverside Lower Adit. Braveheart now calls this cross cut the Havelock #1 Adit. It was also reported that on the Southern Pacific group, about 1.2km to the south, several shallow workings (short cross cut tunnels and open cuts) also existed on what was believed to be the same vein. The claims were surveyed in 1933-1934.

In 1942, Kaslo Mines Corporation issued a prospectus covering the Crown Grants. They reported that the main working tunnel was 142m long, and had a 30m drift at the 122m point (Kaslo, 1942) in the tunnel. This tunnel is likely the Riverside lower adit.

In 1972, Kaslo Mines Limited of Kaslo constructed a road to the showings. Some prospecting and reopening of the workings were also completed.

Mr. Wally Fulkco acquired the nine Crown Grants in 1978. An improved access road was completed to the property in 1989. An evaluation report was done on the property in February 1999 (Snell, 1999). "It was determined in 1998 that metal prices at that time were too low and that an increase in metal prices would be required in order to attract exploration and development capital." (Snell, 2007)

Between 1999 and 2006, Sakua Developments Ltd. acquired the Crown Grants. In 2006, Braveheart Resources Canada Inc. acquired an option on the Crown Grants. In addition, they acquired seven mineral claims which include the nine Crown Grants. In 2007, Braveheart added one more claim to the property. Between 2007 and 2009, Braveheart carried out three exploration programs consisting of prospecting, soil sampling and rock sampling. They did not finish analyzing all the samples from their 2009 program due monetary constraints.

In 2010, Braveheart engaged G. Salazar S. & Associates Ltd. to update the work done up to 2009 and to get the remaining soil and rock samples analyzed. Salazar states that five rock samples and 313 soil samples that were in storage from the work carried out by Hawkins in 2009 were assayed at Loring Labs in Calgary. As these numbers do not coincide with the numbers of rock and soil samples in Hawkins' 2009 report (one rock sample and 318 soil samples remaining unanalyzed) presumably the extra five samples in Hawkins' report were actually rock samples. However, this theory does not account for the one rock sample that Hawkins mentions.

## 5.2 Tin City

The Tin City mineral claims are contiguous with the International Property at its north end and because of their past emphasis on tin and tungsten mineralization and exploration are dealt with separately from International in this report. The area near the north end of present day Duncan Lake, was first explored in the 1920's when three short adits, an inclined shaft and some open cuts were driven into galena- and sphalerite-bearing quartz veins. At that time the property was known as the Dary and Dismuth claims.

In 1945, the Tin City Group of claims was staked over a tin showing, called Tin City, on the north side of Cockle Creek about 500m from present day Duncan Lake. The showing also contained some scheelite and beryllium. Sipald Resources re-staked the area in 1983 and did limited prospecting, rock, and soil sampling. Soil geochemistry outlined several copper, lead, zinc and tungsten anomalies and rock samples varied from 0.35% to 2.21% tungsten.

In 1984, Newmont Exploration of Canada optioned the property, which extended from Beartrap Creek near the north end of present day Duncan Lake, 8km south to the Clancy Creek area. The southern part of Newmont's 1984 Property is a part of Braveheart's current International Property. Newmont's 1984 exploration program consisted of soil and rock chip sampling and geological mapping along a 26.3km grid plus silt sampling along creeks. Minor trenching was performed on promising showings and prospecting for scheelite was carried out with an ultra-violet lamp.

Newmont's recommendations for follow up work included diamond drilling and a magnetometer survey in addition to more detailed geochemical sampling. There is no assessment report for this follow up work in the B.C. ministry's EMPR database but the Minfile Detail Report for Tin City states that Newmont drilled thirteen diamond holes in 1985 and ran a magnetometer survey.

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In 2006, Roca Mines did some prospecting in the general vicinity of the Tin City Property. Their focus was on tungsten as past reported tin values seemed very low. In 2007 Roca carried out a program of geochemical soil sampling, mapping and prospecting.

Roca followed up their exploration with two diamond drillholes in 2008.

## 6.0 Geological Setting and Mineralization

### 6.1 Geological Setting

Rainbow's West Kootenay properties lie in and close to a transitional zone between two of the major geologic-physiographic belts of the Canadian Cordillera: the Rocky Mountain Belt to the east and the Omineca Crystalline Belt to the west. This transitional zone is called the Kootenay Arc and is a narrow, elongated, curving belt of highly deformed and metamorphosed rocks stretching from Revelstoke in the north across the Canada-U.S.A. border in the general area of Salmo and Trail, into northeastern Washington.

The Kootenay Arc straddles the boundary between rocks that formed on the ancestral North American continental margin in the Proterozoic-early Paleozoic and those that formed in oceanic and back-arc environments to the west of ancestral North America during the late Paleozoic-early Mesozoic. All but one of the Rainbow properties lies in Kootenay Arc terrane while the other Property lies on the western edge of the Rocky Mountain Belt. The topographic expression of the change from the Rocky Mountain Belt to the Kootenay Arc terrane is valley system with Kootenay Lake in the south and Duncan Lake farther north.

Figure 6-1 shows the stratigraphy of the Kootenay Arc, and the regional geology for the Rainbow properties.

Underlying the rocks of the Kootenay Arc and found in the Rocky Mountain Belt is the Neoproterozoic Horsethief Creek Group of the Windermere Supergroup. The Horsethief Creek Group consists of sandstone, conglomerate, limestone, shale, and minor volcanics.

The overlying Neoproterozoic-Lower Cambrian Hamill Group is dominated by quartz-rich metasedimentary rocks with minor amphibolites and calc-silicate. A regional unconformity developed in the Hamill Group, separating units deposited in fault bounded basins during rifting, from an upper part distinguished by laterally continuous units deposited in a shallow marine setting. This unconformity is interpreted to record the change from active continental rifting to thermal subsidence on a passive margin, between 549 and 520Ma.

The Upper Hamill Group is conformably overlain by the Mohican and Badshot Formations. The Mohican Formation is a transitional unit comprising interlayered siliciclastic and carbonate metasedimentary rocks. It is overlain by Archaeocyathid-bearing calcite and dolomite marble of the late Lower Cambrian Badshot Formation. The Badshot Formation forms a laterally continuous marker unit and is interpreted to have been deposited on a tectonically quiescent, shallow-marine shelf. It hosts a number of carbonate-hosted sulphide deposits in the Kootenay Arc terrane.

The Badshot Formation is followed in conformable succession by the lower Paleozoic Lardeau Group, a varied sequence, comprising siliciclastic metasedimentary rocks, mafic metavolcanic rocks, and carbonate and calc-silicate rocks. The lowest part of the Lardeau Group is a fine-grained black metapelitic that records deposition under deep water, anoxic conditions. Its contact with the Badshot Formation is interpreted to mark the point when the rate of carbonate production could no longer keep pace with subsidence. A return to active rifting is recorded by metavolcanic rocks and coarse grits of upper parts of the Lardeau Group.

Lardeau Group formations include the mainly fine grained schists of the Index Formation, the grey and black quartzite and argillite of the Triune Formation, the massive grey quartzite of the Ajax Formation and the dark grey to black argillite of the Sharon Creek Formation. The Broadview Formation is part of the Upper Lardeau Group. It includes a grey, green and black phyllite, calcareous phyllite and limestone, siliceous argillite, gritty sandstone, and schistose mafic volcanic rocks (Pinset, 2004).

The Lardeau Group is unconformably overlain by a sequence comprising upper Paleozoic-Mesozoic rocks of the Milford, Kaslo, and Slocan groups. These rocks, which include metamorphosed limestone, argillite, sandstone, conglomerate, and mafic volcanic rocks, are generally interpreted to record deposition in back-arc environments to the west of ancestral North America, prior to Cordilleran shortening.

Rocks of the Kootenay Arc were deformed and subjected to regional metamorphism in the middle Jurassic to early Cretaceous during the Laramide orogeny. The rocks were intruded by large scale plutons like the Nelson and Kuskanax batholiths in the middle Jurassic and again in the middle Cretaceous. The monzonites to diorites and porphyries of this period are the mineralizing events. In this setting, all rocks older than upper Mesozoic can be considered as potential hosts of mineralization in fault-prepared ground.

#### 6.1.1 International

The International Property is not in the Kootenay Arc terrane as most of the Braveheart properties are. Rather, it is located in the Rocky Mountain Belt near its western edge in the Purcell Mountains. It is on the western margin of the northerly plunging Purcell Anticlinorium

The Horsethief Creek Group underlies the property and outcrops as highly deformed and decomposed quartz mica schist. Figure 6-2 shows the regional geology for the International Property.

#### 6.1.2 Tin City

Like the International Property, Tin City is not in the Kootenay Arc terrane but rather in the Purcell Mountains at the western edge of the Purcell Anticlinorium. The property is underlain by sequence of Late Proterozoic, meta-sedimentary, clastic rocks. The principal rock types on the Tin City Property include amphibolites (which may be meta-volcanic), dolomitic limestones and marbles, quartz muscovite schists, quartzites, and micaceous phyllites of the Horsethief Creek group. The meta-sediments strike northwest-southeast, with the amphibolite unit outcropping as a concordant unit within the schistose rocks. The limestones and marbles form narrow but extensive bands interlayered within the schists. Scheelite-bearing skarn lenses and horizons are found within, or proximal to, the amphibolite unit. It has been postulated that the skarn may be associated with the intrusion of the Bugaboo Batholith 15km north of the property. The regional geology for the Tin City Property is shown in Figure 6-2.

Previous drilling and geological mapping has speculated that folding and faulting may play an important role in controlling the tungsten mineralization on the property. A predominant zone of flexure is apparent just north of Cockle Creek, where the regional trend changes from a  $330^{\circ}$  strike and  $70^{\circ}$  dip to the southwest, to a  $275^{\circ}$  strike and  $45^{\circ}$  to  $75^{\circ}$  dip to the north. The most significant structural feature is a uniform fracture system striking  $330^{\circ}$  with a  $40^{\circ}$  to  $70^{\circ}$  dip to the southeast. The fractures were probably developed from tension build-up within the arcuate

flexure. No faults have been mapped on the property, although some shearing related to mineralization occurs in the Dary-Dismuth workings.

## 6.2 Mineralization

The Kootenay Arc is a narrow, curvilinear, metamorphosed and polydeformed transitional zone between the Rocky Mountain Belt to the east and the Omineca Crystalline Belt to the west. It is metallogenically very significant.

There are several types of occurrence of the silver-lead-zinc deposits that occur in the mining camps of the West Kootenays. The two main types are deposits that are associated with rocks of neoproterozoic to Cambrian age sediments and deposits that are associated with Cretaceous age granitic intrusives.

### 6.2.1 International

Mineralization on the property is hosted by black, carbonaceous, siliceous schist and decomposed mica schist. A bed of conglomerate lies above the dark schist and forms the hanging wall of a quartz vein. The International showing is a quartz vein up to 2.5m thick that has been exposed for approximately 80m along strike by a road cut. Mineralization within the vein occurs as irregular massive sulphide bodies of galena, pyrite, and rare sphalerite. The exposed vein appears to be conformable to the layering of the host schists with a strike of approximately 290° and dips ranging from 5° to 20° to the north.

Historically, it is reported that the “vein” has been traced over a strike length of more than 1200m and tested with numerous adits. Fieldwork to 2011 has located three of the old adits though the continuity between the adits has not been verified.

### 6.2.2 Tin City

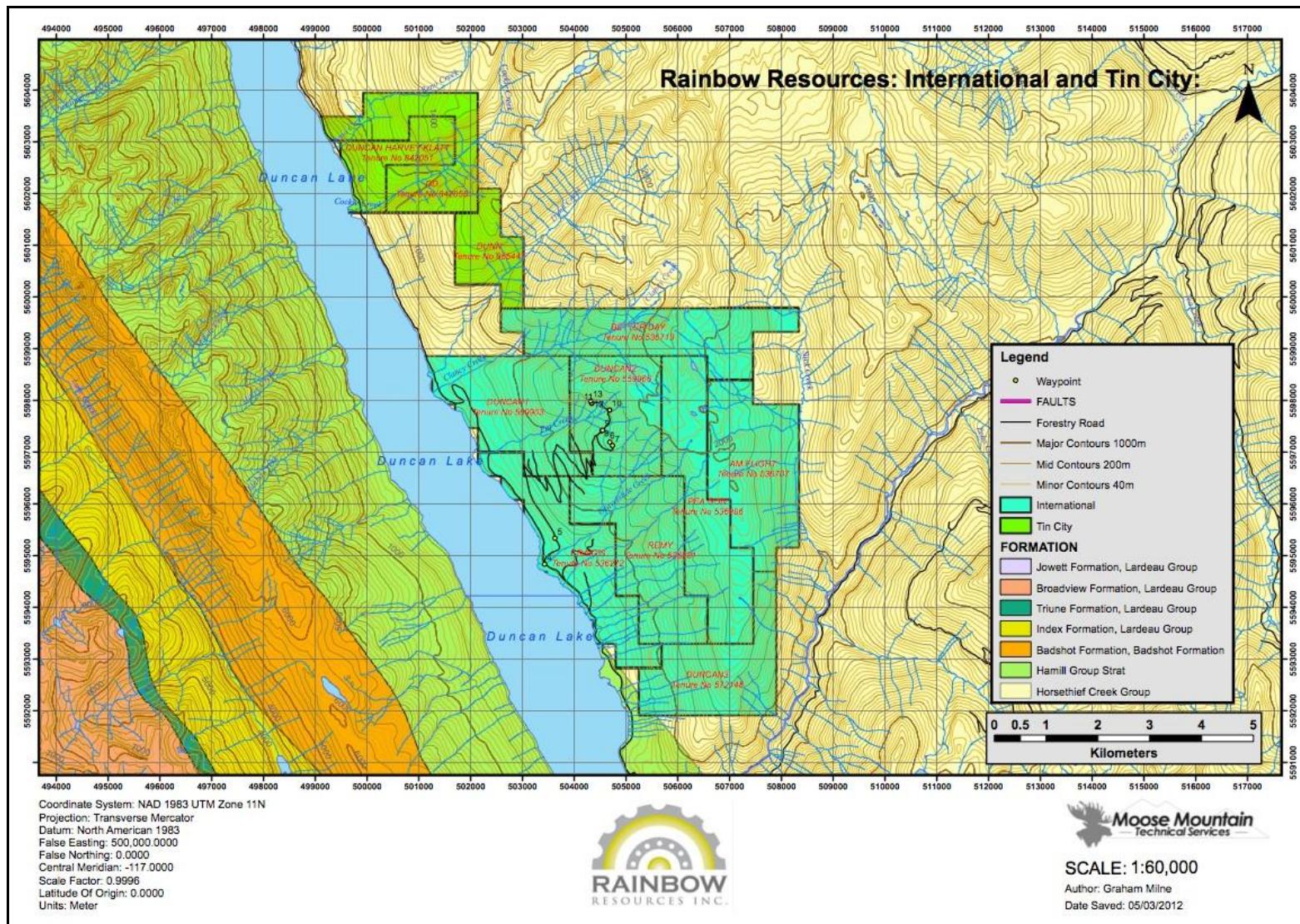
There are two types of tungsten showings on the Tin City Property: skarn related and vein related. Both types of mineralization are within or in close proximity to an amphibolite unit and its contact with limestone. At the Tin City showing, fine to coarse grained scheelite is found throughout the matrix of a skarn-altered tourmalinized rock associated with the limestone-amphibolite contact. One sample assayed 1.12% WO<sub>3</sub> (tungsten oxide) over two metres. At the same showing, very fine to coarse grained scheelite occurs in widely spaced, fracture related, quartz-feldspar-tourmaline veinlets, mostly in the amphibolite unit.

At the Main showing, 500m north of the Tin City showing, masses of fine to coarse scheelite crystals are disseminated throughout the skarn matrix. Assays from one metre interval, mineralized samples returned 0.173 to 0.762% WO<sub>3</sub> (tungsten oxide). Tin assays from the same samples varied from 15 to 45ppm.

Minor galena has been associated with the scheelite in some showings. Newmont’s 1984 geochemical surveys found a tungsten anomaly associated with the amphibolite unit.

Jurassic-Cretaceous		Igneous	Plutons					
Jurassic	Upper	Rossland Group- mafic volcanic rocks and associated clastic rocks		Hall Formation- clastic				
	Middle							
	Toarcian							
	Pliensbachian				Elise Formation- volcanic and epiclastic			
	Sinemurian				Archibald Formation- clastic			
	Hettangian				Ymir Group			
Triassic		Slocan Group – grey argillite and phyllite, light grey to black limestone		Mount Roberts Formation				
Permian		Kaslo Group – Greenstone, amphibolites, chert						
Carboniferous	Penn-sylvanian	Milford Group – Siliceous argillite, schist, grey marble, chert, quartzite, conglomerate						
Devonian					Trail Gneiss			
Silurian								
Ordovician		Lardeau Group – politic and semi-pelitic schist, amphibolites, calc-silicate, marble, conglomerate		Laib Formation	Active Member			
Cambrian					Nelway Member			
					Reeves Member			
		Hamill Group – micaceous quartzite, white quartzite, micaschist, amphibolites, calc-silicate, marble						
Proterozoic		Neoproterozoic	Horsethief Creek Group – metapelite, quartzite, limestone, amphibolite		Windermere Supergroup			
		Meso-proterozoic						
		Paleo-proterozoic						

**Figure 6-1: Stratigraphic Column for Rainbow Properties Region**  
*(Modified from Moynihan and Pattison, 2011, Fyles, 1964, and Hoy and Dunne, 1997)*



**Figure 6-2: International and Tin City Properties, Geology Map**

## 7.0 Deposit Types

Rainbow's West Kootenay properties have a variety of potential deposit types. The deposit types for the International/Tin City Property are as follows:

### 7.1 International

The deposit type that has been suggested (by Meredith-Jones, 2007) for the International Property is a hydrothermal, epigenetic polymetallic vein containing silver, lead, and zinc, with possible gold. Based on work done by MMTS, the International showing is a quartz vein up to 2.5m thick that has been exposed for approximately 80m along strike by a road cut. Mineralization within the vein occurs as irregular massive sulphide bodies of galena, pyrite, and rare sphalerite.

### 7.2 Tin City

There are two types of tungsten occurrence in the showings on the Tin City Property. One is associated with skarn and has several of the characteristics of a skarn associated deposit type, including: mineralogy (scheelite with some tourmaline and minor galena), deposit form (stratiform) and associated rock types (limestone). However, there is no granite with which many tungsten skarn deposits are associated.

The other possible type of deposit is a tungsten vein deposit. Such deposits in other parts of the world are associated with quartz-wolframite veins. There is no wolframite associated with any of the Tin City showings.

## 8.0 Exploration

### 8.1 International

In 2011, an orientation soil sampling program was completed by MMTS over the International showing. The purpose of the work was to determine if soil samples could identify the known mineralization and to determine which elements could be used as indicators of mineralization. A total of 114 soil samples and seven rock samples were collected by MMTS on the International Property in 2011. Figures 8-1 through 8-5 are photographs of features on the present International Property.

#### 8.1.1 International Rock Sampling

MMTS collected seven rock samples from the International showing near the central part of the property. In total there have been nineteen rock samples collected since 2008, all from the International showing area.

Univariate statistics on the nineteen samples are shown in Table 8-1.

**Table 8-1: International Showing, Rock Samples, and Univariate Statistics**

	Ag (ppm)	As (ppm)	Au (ppb)	B (ppm)	Pb (ppm)	W (ppm)	Zn (ppm)
<b>Number</b>	15	8	14	7	15	8	19
<b>Minimum</b>	0.3	2.5	0.5	10	65	0.3	167
<b>Maximum</b>	1,148	46	49	39	680,700	11	10,500
<b>Average</b>	416	15	19	29	262,737	4	1,367
<b>St. Dev.</b>	388	14	18	10	276,829	4	2,605
<b>C.V.</b>	0.9	0.9	0.9	0.3	1.1	1.0	1.9

*Note: 1) C.V. is the coefficient of variation (standard deviation/mean). CV values greater than two indicate a large range in values.*

While many of the older rock samples were “grab” samples, MMTS collected three samples from the International showing that represent true vein thickness and grade (at that sample site). The three representative samples from 2011 were across a two metre interval, as well as a one metre and 0.6m interval of the vein. The average assay values from the three 2011 samples is 10ppm silver and 0.85% lead. A single sample from the immediate footwall of the vein, a black carbonaceous schist, assayed 0.25ppm silver and 443ppm lead, while a single sample from the immediate hanging wall of the vein assayed 0.25ppm silver and 65ppm lead.

The results are listed in Table 28-1 in Appendix A. The results from the rock samples were used to help direct the assessment of the soil sampling program by identifying elements that may be indicators of mineralization.

#### 8.1.2 International Soil Sampling

In 2011 Rainbow collected 114 soil samples from the property. The samples were collected from road cuts and represent the soil horizon above the bedrock but below the organic layer, as there is typically poor soil development.

In total 599 soil samples have been collected from the International Property. Of this total Rainbow has been able to find complete data for 550 of the samples (representing all of the 2011 samples and most of the 2009 samples). Table 8-2 lists univariate statistics for various elements. In Appendix A, Table 28-2 lists results for all the soil samples. An overview of the sampling

sites on the International Property is shown in Figure 8-6, and more detailed views are shown in Figures 8-7 through 8-14.

**Table 8-2: International, All Soil Samples, Univariate Statistics**

Element	Threshold Value (ppm)	Minimum Value (ppm)	Maximum Value (ppm)	Average Value (ppm)	Stand. Dev.	C.V.
As	11	0	81	5	5.9	1.1
B	68	1	245	29	39.2	1.4
Ba	275	1	460	128	72.8	0.6
Bi	6	1	31	3	5.2	1.6
Cu	44	1	84	24	10.2	0.4
Mo	3	1	41	1	1.9	1.3
Pb	40	0	447	28	41.8	1.5
Sb	5	1	60	2	3.1	1.8
W	10	1	164	4	12.5	3.1
Zn	235	1	2380	92	142.8	1.6

*Note:* The threshold value, the value, above which we call anomalous values, is determined as the mean plus one standard deviation.

The intent of the soil sampling around the International showing was to establish baseline data for the showing and to explore for similar mineralization on the ridge below the showing. The baseline data establishes the elements that are elevated in the soils around the showing and level of the anomalies.

The sampling indicates that soils over and near the International showing are highly anomalous in many elements, including arsenic (As), boron (B), lead (Pb), and zinc (Zn). Silver and gold values do not exceed detection limit with any of our sampling.

Random anomalies occur throughout the sampled area and should be followed-up. Table 8-3 lists the individual anomalies.

**Table 8-3: International, Soil Samples, Other Anomalies**

Element	Sample Grid Area	Proposed follow-up
As	1, one sample	Hand trenching, sampling
	2, 2-3 areas	Hand trenching, sampling
	4, see above	Trenching along road
	7, one sample	Hand trenching, sampling
B	1, one sample	Hand trenching, sampling
	2, numerous areas	Hand trenching, sampling
	4, see above	Trenching along road
Pb	2, 2-3 areas	Hand trenching, sampling
	4, see above	Trenching along road
W	1, two samples	Hand trenching, sampling
	4, see above	Trenching along road
	5, four samples	Hand trenching, sampling
	7, one sample	Hand trenching, sampling
	5, four samples	Hand trenching, sampling
Zn	4, see above	Trenching along road

## 8.2 Tin City

MMTS has not accessed the Tin City Property as of the present time, and has not conducted any exploration on the property yet.



**Figure 8-1: International Vein (with one metre scale)**

The vein is quartz with irregular massive sulphide bodies of galena, pyrite, and rare sphalerite.



**Figure 8-2: Black, Carbonaceous Schist, in the Footwall of the International Vein (with one metre scale)**



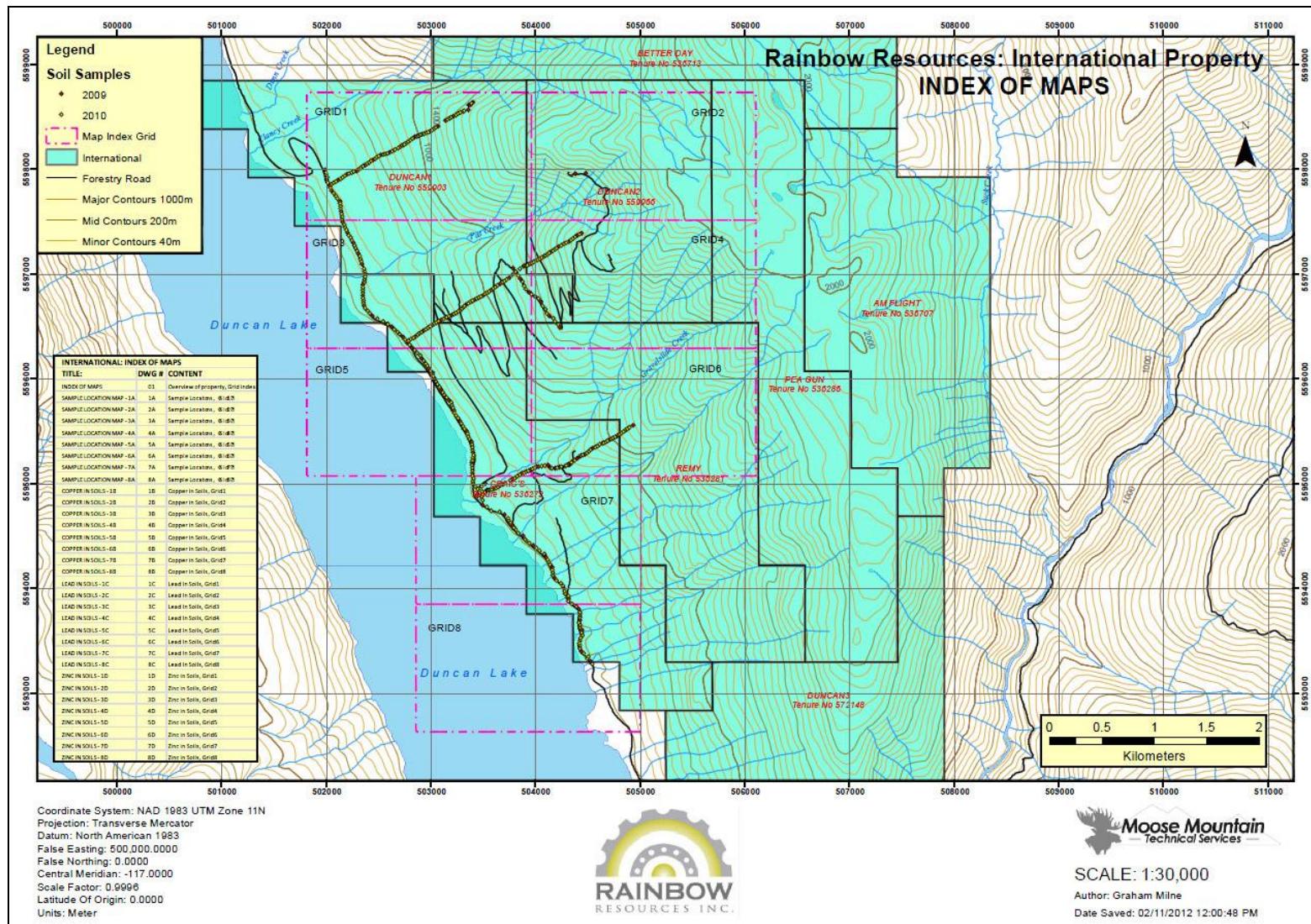
**Figure 8-3: The International Vein, looking to the North along the Road Cut Exposure**



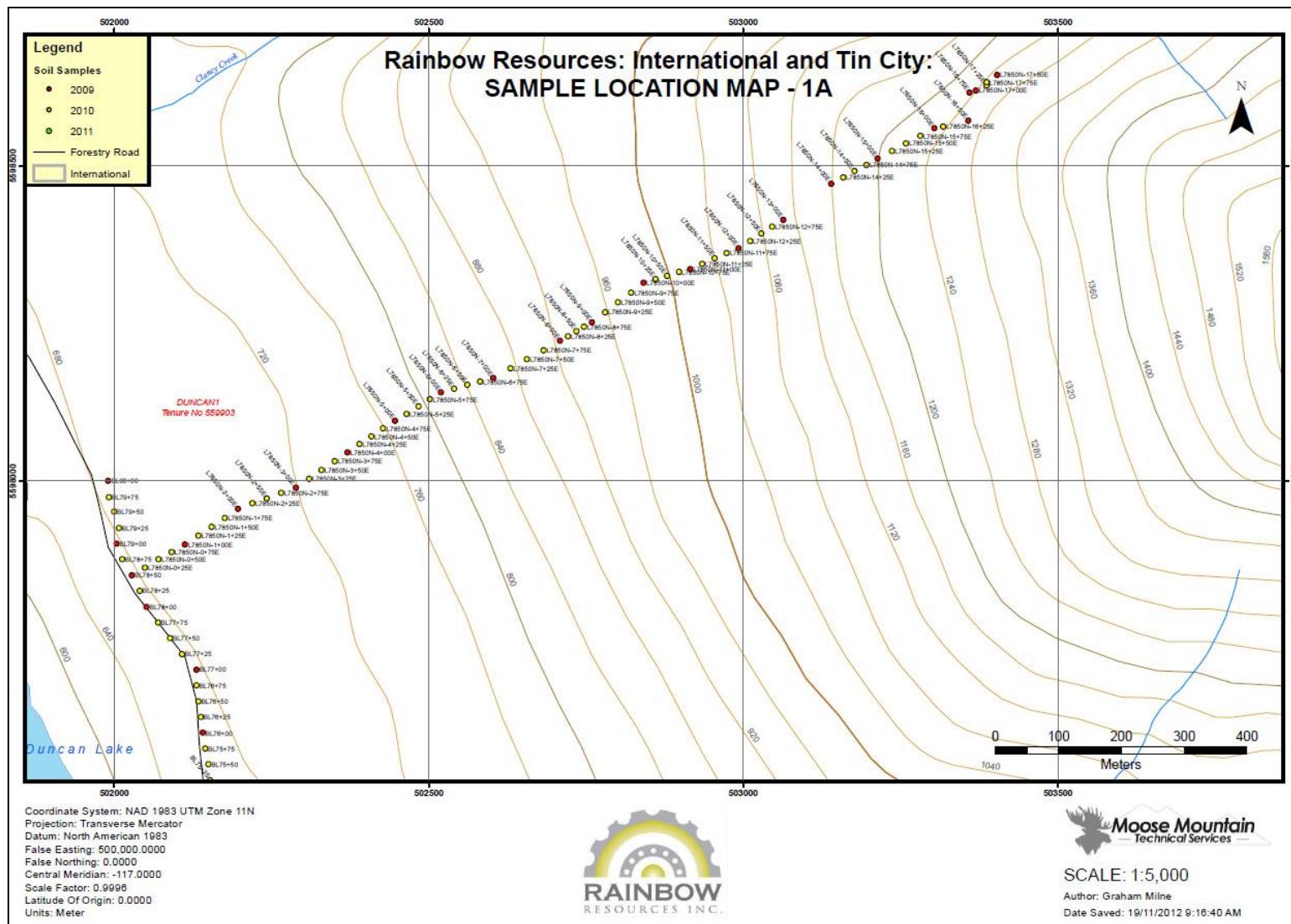
**Figure 8-4: The International Vein as viewed from near the Forgotten Adit**  
The International showing is on the far ridgeline above the slope failure scar.



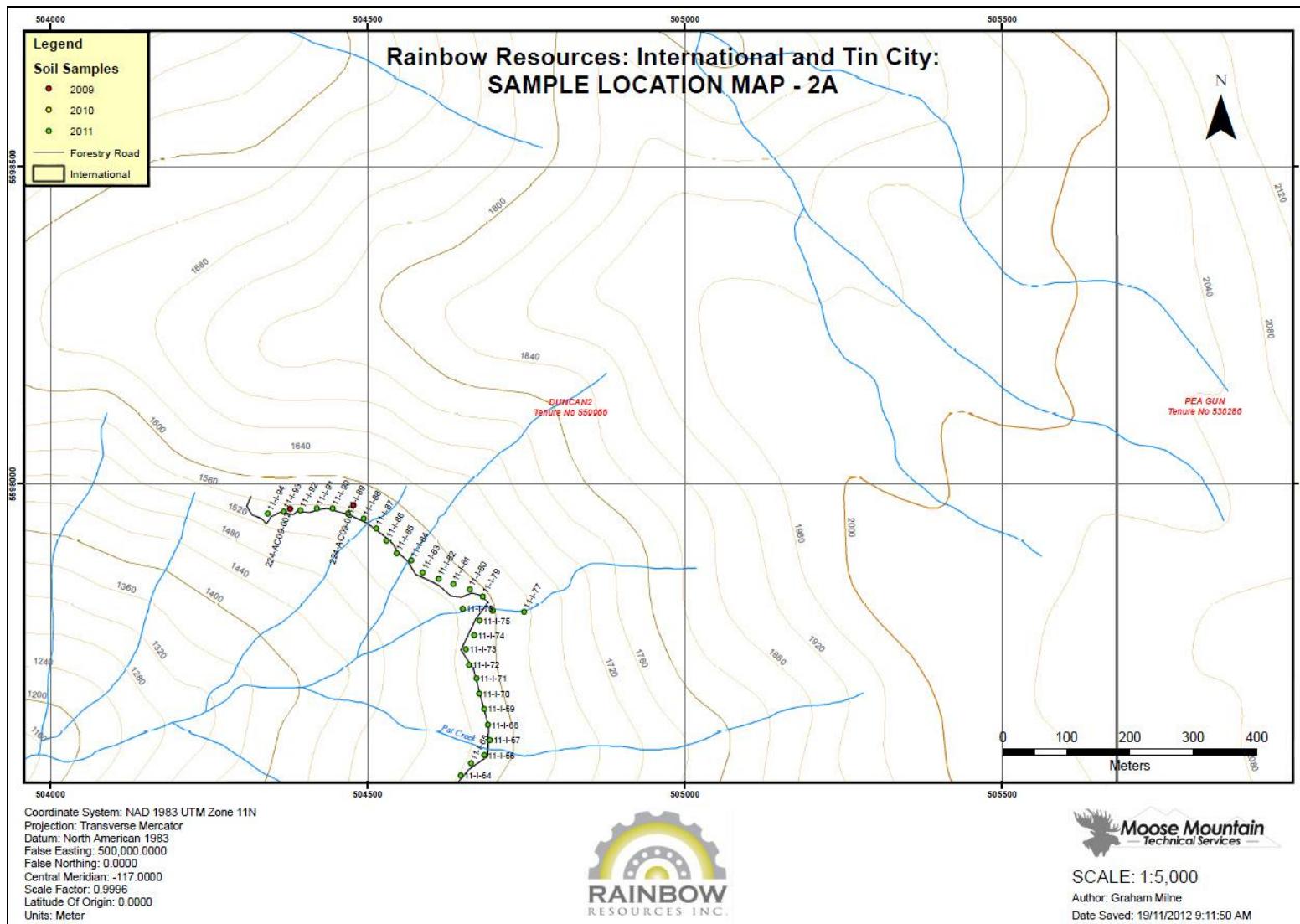
**Figure 8-5: The Forgotten Adit Site**



**Figure 8-6: Overview of Sampling Sites on the International Property**



**Figure 8-7: Sampling Sites, Grid 1 Area of the International Property**



**Figure 8-8: Sampling Sites, Grid 2 Area of the International Property**

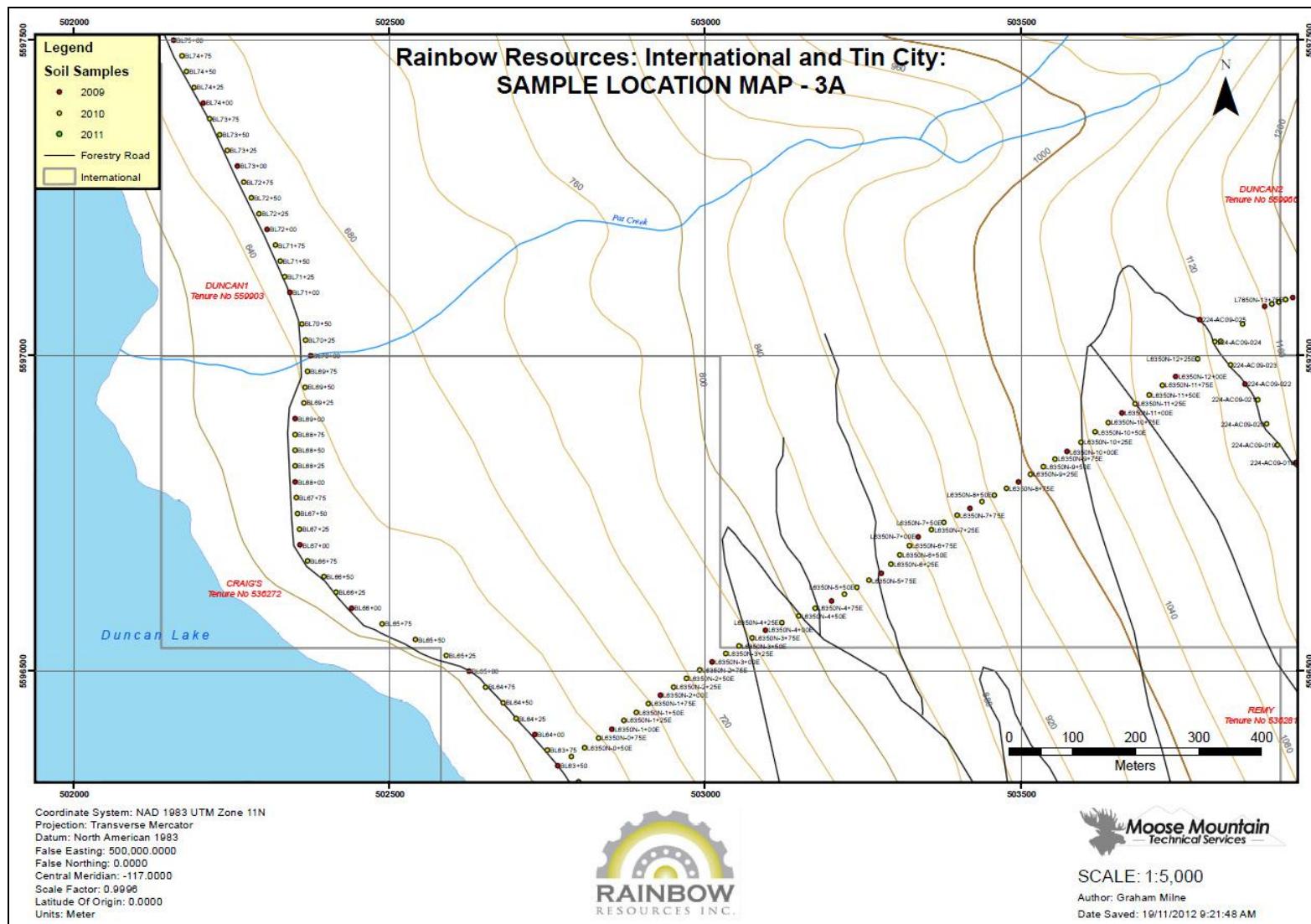


Figure 8-9: Sampling Sites, Grid 3 Area of the International Property

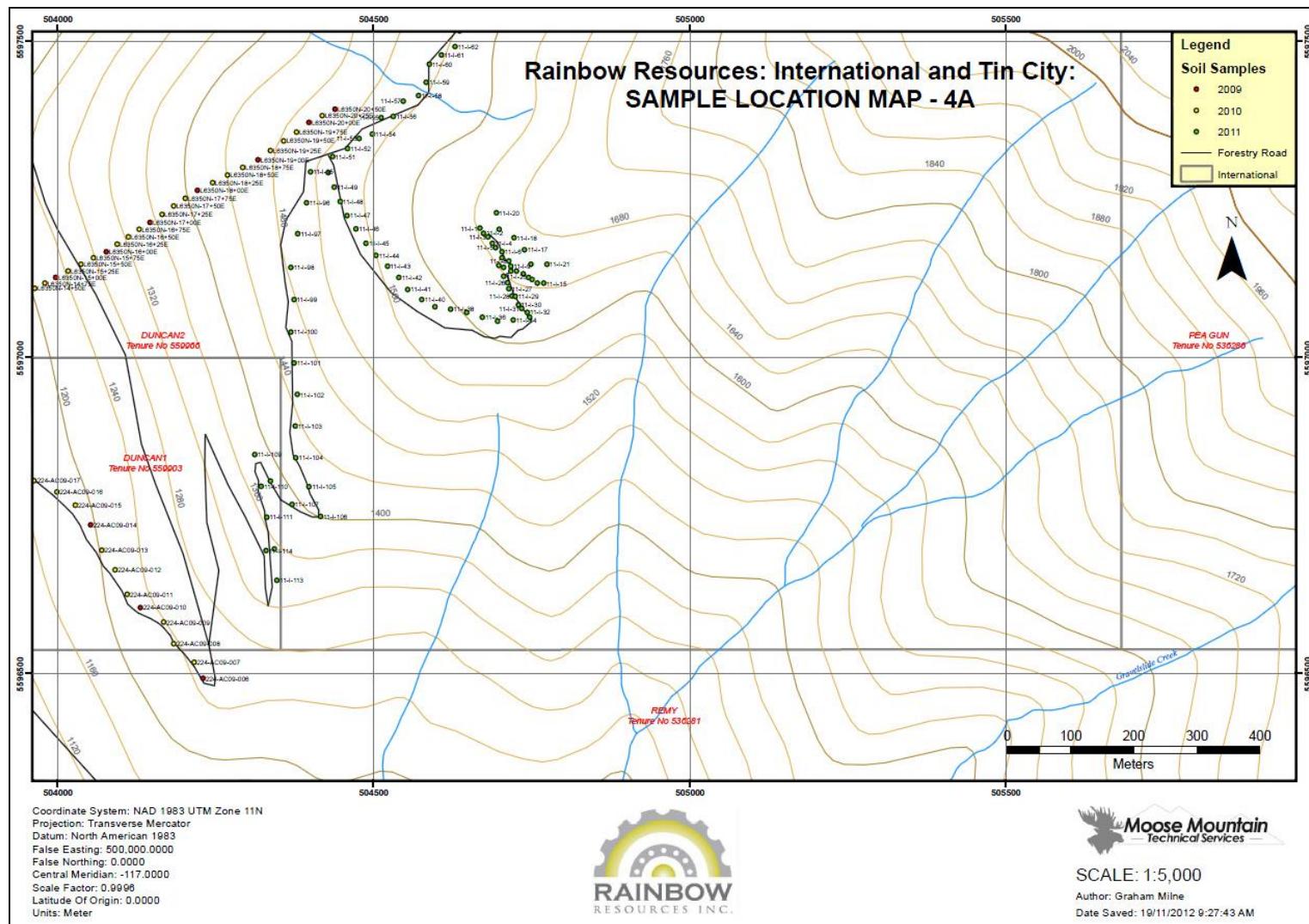


Figure 8-10: Sampling Sites, Grid 4 Area of the International Property (main showing area)

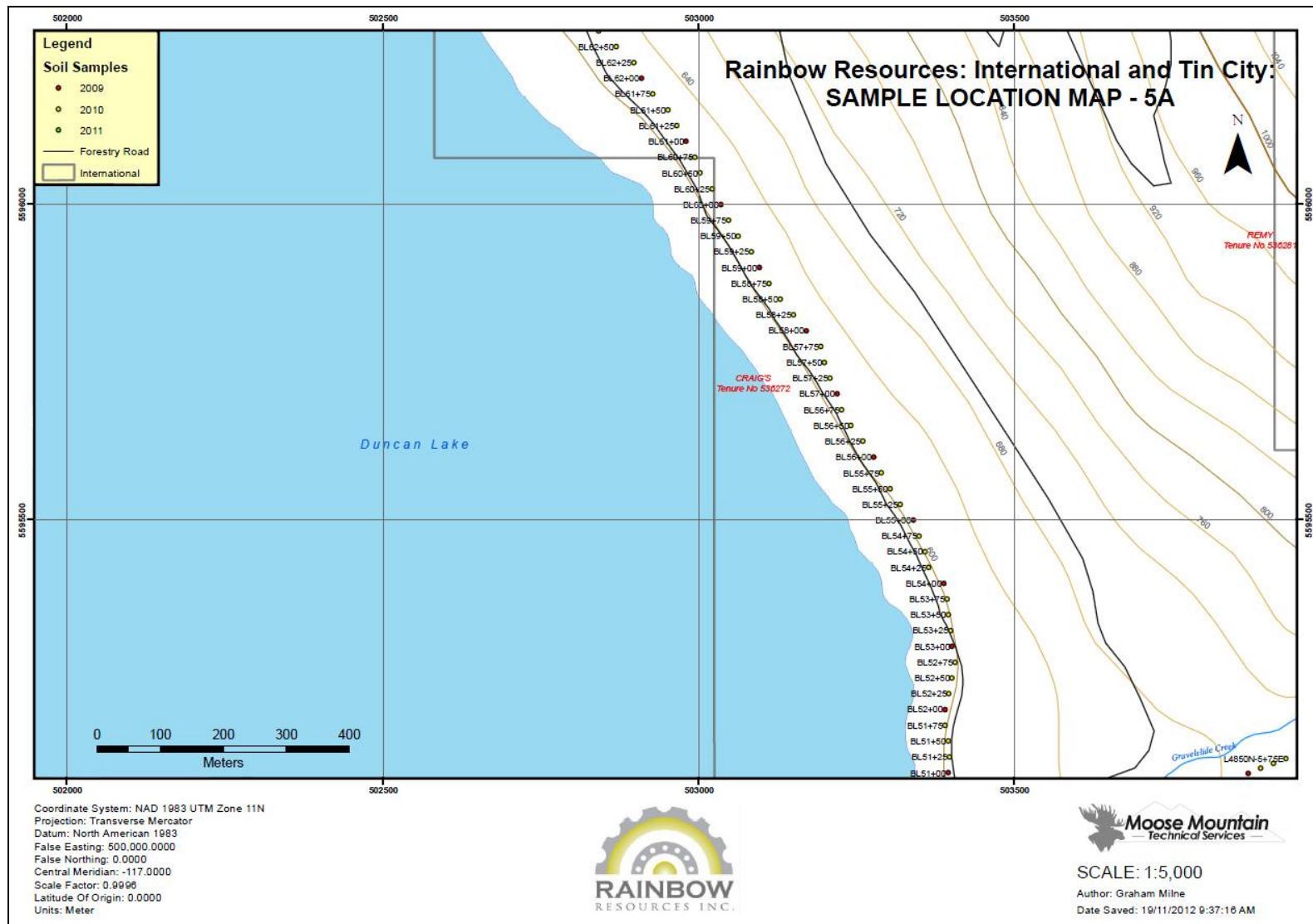
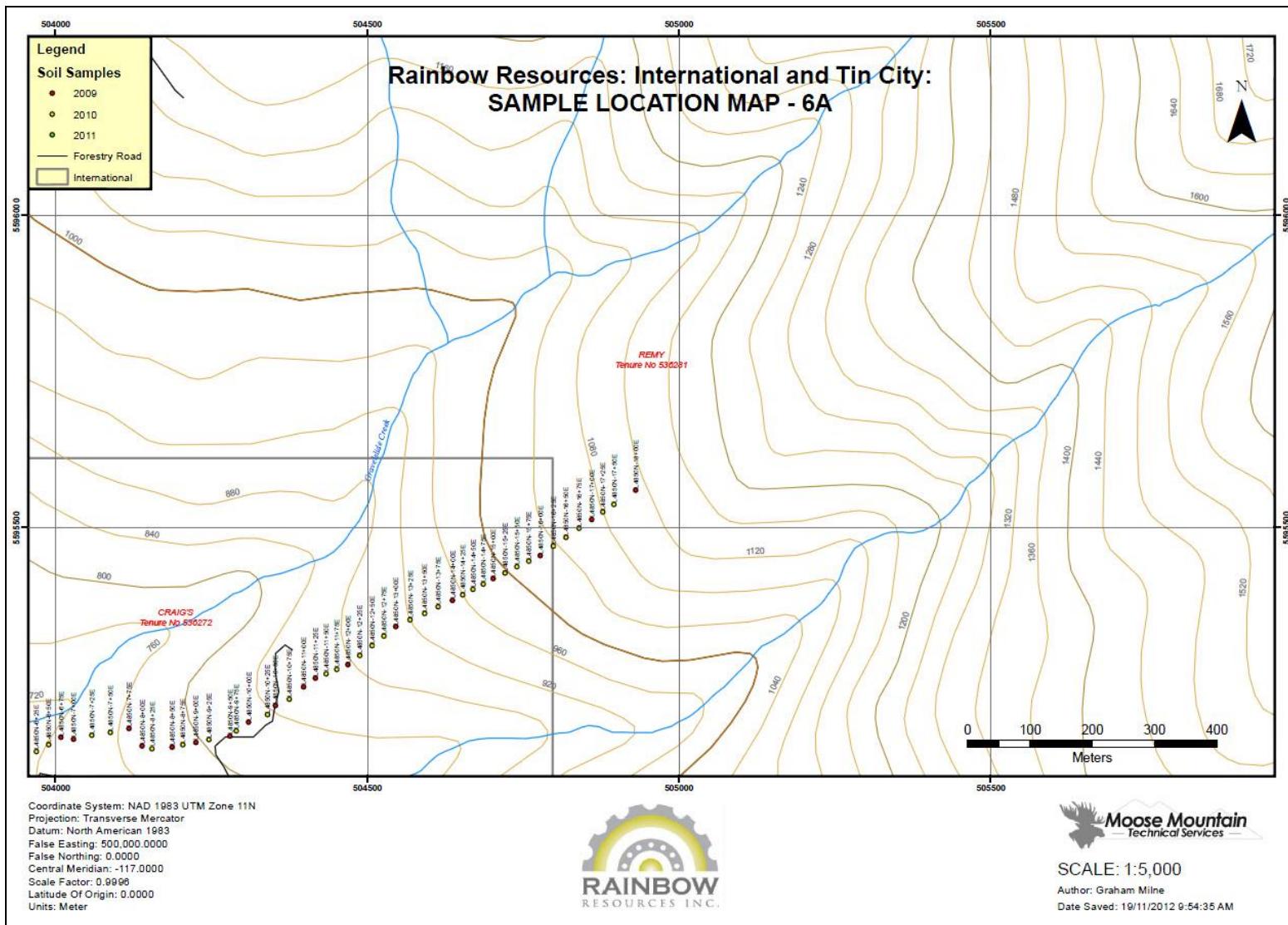


Figure 8-11: Sample Sites, Grid 5 Area of the International Property



**Figure 8-12: Sampling Sites, Grid 6 Area of the International Property**

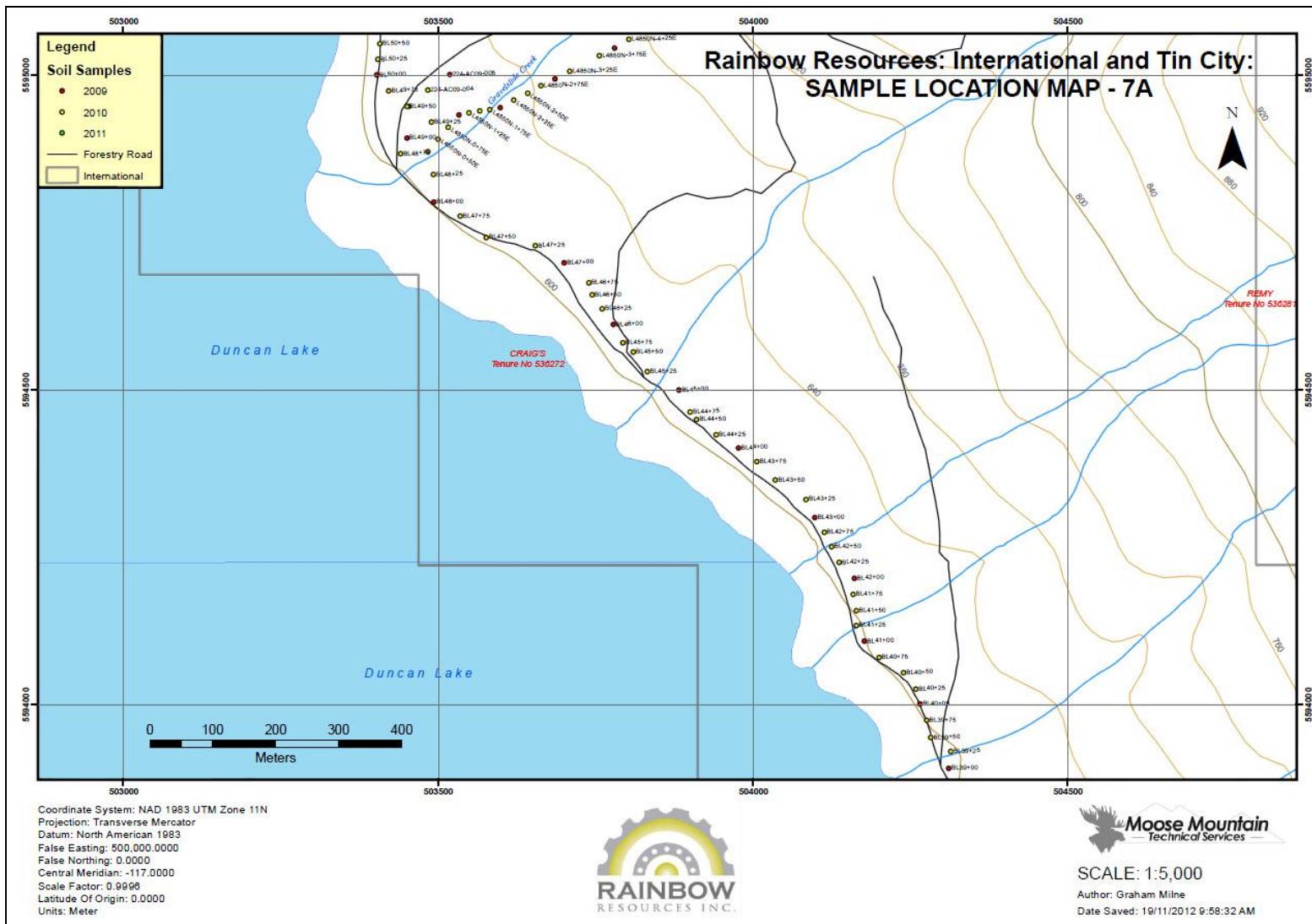


Figure 8-13: Sampling Sites, Grid 7 Area of the International Property

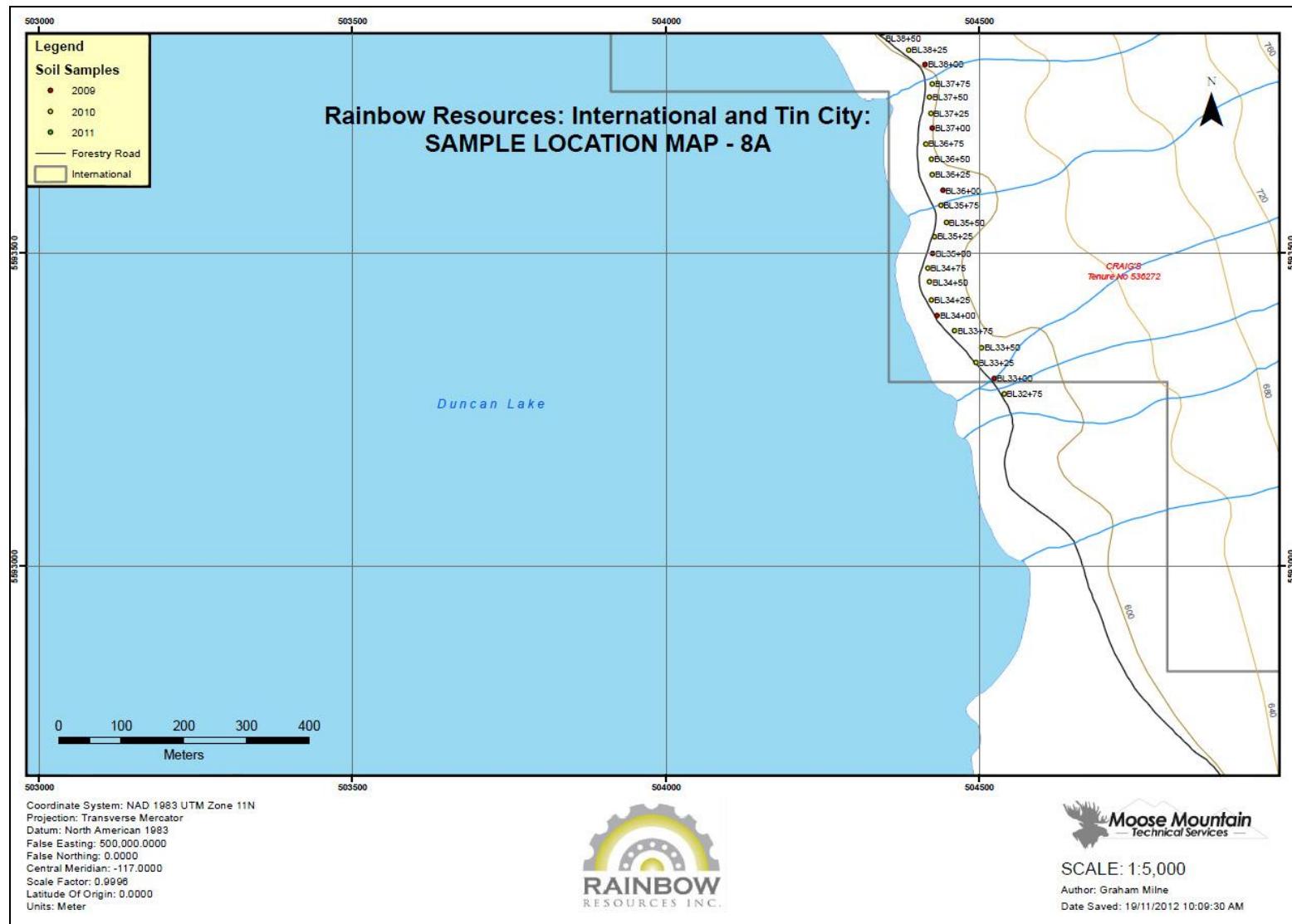


Figure 8-14: Sampling Sites, Grid 8 Area of the International Property

## 9.0 Drilling

Historic drilling on each of the Rainbow properties is discussed in the following sections.

### 9.1 International

There has been no drilling on the International Property.

### 9.2 Tin City

There have been two drill programs on the Tin City Property. The first was carried out by Newmont Exploration of Canada Limited in 1985 when 13 diamond holes were drilled. There is no assessment report by Newmont on this drilling but later work by Roca says that four of the Newmont holes were drilled in the vicinity of the Main Showing between Reno and Cockle Creeks, approximately 250m from Duncan Lake. These holes established that the mineralization did not extend to depth in that area. There were only anomalous tungsten assays, in the 250ppm W range. The other nine holes were drilled close to the B showing, also between Reno and Cockle Creek but 1.7km up the slope, east of Duncan Lake. With few exceptions, the tungsten grades were generally low in the Newmont holes.

Hy-Tech Drilling drilled two diamond holes for Roca in 2008, one near the Tin City Showing close to Cockle Creek and the other one kilometre south of the present Tin City Property. A total of 208 samples were taken from drill core. Although these holes were helpful in delineating the amphibolite unit at depth, assay values were generally disappointing, with only a few anomalous tungsten values. Table 9-1 gives the location and sample details of the two Roca holes.

**Table 9-1: Location and Sample Details of Roca's 2008 Diamond Drillholes**

Hole Number	Northing	Easting	Azimuth	Dip	Number of samples	Total Depth(m)
TC08-01	5,601,971	499,750	060	-55°	109	405
TC08-02	5,600,574	500,465	065	-55°	99	348

## 10.0 Sample Preparation, Analyses and Security

### 10.1 International

Rock samples collected in 2011 by MMTS were chip samples taken from outcrops, and the main international showing. Samples were placed in plastic sample bags with a portion of the sample tag, and sealed with a zip-tie. Soil samples were collected from road cuts along and up to the showing, and from above the showing. Soil samples taken from road cuts represent the soil horizon above the bedrock but below the organic layer, as there is typically poor soil development. Soil samples taken above the International showing are from holes typically 30cm deep. Soil samples were scooped with a grub hoe, hand sifted to eliminate the majority of organic material and rocks, and then placed into Kraft soil sample bags. The tops of the bags were folded and then tied with twine. The samples were then shipped to Loring Laboratories in Calgary, AB (629 Beaverdam Road N.E.) for analysis. At the lab, soil samples were dried and screened to pass 80 Mesh. Both rock and soil samples were digested with Aqua Regia at 95° C for one hour and bulked to 20mL with distilled water, analysis was by ICP. Dissolution was partial for aluminum, boron, barium, calcium, chromium, iron, potassium, lanthanum, magnesium, manganese, sodium, phosphorus, strontium, titanium, and tungsten. Samples were analyzed by 30 element inductively coupled plasma. Two rock samples from R.J. Morris' first site visit were sent to Acme Analytical Laboratories in Vancouver (1020 Cordova St. East). The rock samples were crushed, split and 250g of rock was pulverized to 200 mesh. Samples were then digested with a 1:1:1 Aqua Regia digestion followed by ICP-MS analysis. Acid Digestion Analysis by ICP-ES/ICP-MS and Acid digestion ICP-ES analysis was also conducted. Acme Labs carried out their own quality assurance-quality control protocols, running standards, blanks and duplicates with the samples sent my MMTS.

There were no QA/QC measures applied in 2011 because of the preliminary nature of the sampling by MMTS.

### 10.2 Tin City

No sampling completed at Tin City.

## **11.0 Data Verification**

Because of the preliminary nature of the sampling in 2011 MMTS did not apply any QA/QC measures or conduct any verification work other than preliminary site visits and sampling as noted.

## **12.0 Mineral Processing and Metallurgical Testing**

No mineral processing or metallurgical testing has been completed on any of the properties.

## **13.0 Mineral Resource Estimates**

No mineral resource estimates have been completed for any of the properties at this time.

## **14.0 Mineral Reserve Estimates**

No mineral reserve estimates have been completed for any of the properties at this time.

## **15.0 Mining Methods**

Mining methods have not been considered at this time on any of the properties.

## **16.0 Recovery Methods**

Recovery methods have not been considered at this time on any of the properties.

## **17.0 Project Infrastructure**

Preliminary infrastructure is discussed in Item 5, while detailed infrastructure has not been determined at this time for any of the properties.

## **18.0 Market Studies and Contracts**

Marketing and contracts have not been considered at this time for any of the properties.

## **19.0 Environmental Studies, Permitting and Social or Community Impact**

Environmental studies and social or community impacts have not been considered at this time. The permitting process for the proposed drill program has not started at this time.

## **20.0 Capital and Operating Costs**

Capital and Operating costs have not been considered at this time for any of the properties.

## **21.0 Economic Analysis**

Economic analysis has not been completed at this time for any of the properties.

## **22.0 Adjacent Properties**

### **22.1 International**

Rainbow Resources' Tin City Property abuts the International Property at the north end of International (tenure 536713). To the west of tenure 536713 and north of tenure 559903 lies the Kootenay Belle claim, belonging to George Sipos and Agoston Morvay. Immediately south of the property, are six claims belonging to various owners: 503932 owned by Norman Tribe, good to July 12 2012; 897229, owned by Barry Kreutz, good to September 13 2012; 342333 owned by Ronald Saafeld, good to December 3 2012; 851899 owned by Ronal Saafeld, good to April 17 2012; 603434 owned by Richard Cyr, good to April 26 2012 and 917269 owned by Carl Kwasnicki, good to October 17 2012.

The old Bluebell lead-zinc Mine site is located 97km south of the International deposit.

### **22.2 Tin City**

Rainbow Resources' International Property abuts the Tin City Property at the south end of Tin City (north end of International). The Kootenay Belle claim (tenure 534859) lies between the Duncan Harvey Klatt claim (tenure 842051) and D.D. claim (tenure 842058) of the Tin City Property to the north, and the Duncan 1 claim (tenure 559903) of the International Property to the south, along the east side of Duncan Lake. The Kootenay Belle claim hosts the Old Glory, Cyclone, Erbeck and Dunn Creek showings as well as the Dunn and Kootenay Belle workings.

## **23.0 Other Relevant Data and Information**

MMTS does not believe there is additional technical data available for any of the properties.

## 24.0 Interpretation and Conclusions

### 24.1 International

The International Property is one of merit and follow-up exploration is proposed. All of the exploration to date has been confined to surface with the exception of numerous short adits and trenches. More recently numerous rock and soil samples have been collected from the property. Work in 2011 included the collection of seven rock samples and 114 soil samples. Rock samples indicate grades over 1,100ppm silver and 68% lead. Zinc values are up to 1% while arsenic and antimony are also anomalous. The results from the rock samples were used to direct the assessment of the soil sampling program. Soil samples from around the International showing are highly anomalous in lead, zinc, arsenic, and boron. Silver and gold values do not exceed detection limits with any of our soil samples. Soil sampling below the showing highlights the mineralized zone with zinc values as high as 3,087ppm lead values as high as 24,160ppm, arsenic values as high as 173ppm and boron values as high as 245ppm. Anomalous zones should be checked with further sampling and trenching.

### 24.2 Tin City

The Tin City Property has not been accessed by MMTS at this time. Historic reports suggest that this property has potential. Access to the property should be re-established in order for MMTS personnel to complete a site visit, and establish a basis to recommend further work. Reports from prospectors in the area suggest that historic access exists, however it has thoroughly grown over.

## 25.0 Recommendations

### 25.1 International

Proposed follow-up exploration for 2012 includes opening the known adits and prospecting along the indicated trend of the vein, follow-up sampling around all anomalous soil samples, and drilling at least four diamond drillholes from above the International showing. The proposed drilling will be designed to test strata below the showing to investigate potential duplications of the vein system.

### 25.2 Tin City

It is recommended that access to the Tin City Property is opened up to allow for MMTS to conduct a site visit, from which further recommendations for exploration work can be made.

## 26.0 References

### 26.1 International

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## 27.0 Statement of Costs

**Table 27-1: Statement of Costs**

<b>Summary Statement of Costs 2011</b>	
<b>MMTS</b>	
Personnel*	\$ 41,983.75
Expenses*	
• Hotel	\$ 129.70
• Travel	\$ 3,549.84
• Meals	\$ 149.10
• Supplies/ATV	\$ 862.57
• Lab	\$ 50.60
• Shipping	\$ 27.44
<b>Total MMTS</b>	<b>\$ 46,753.00</b>
<b>Braveheart</b>	
Personnel*	\$ 11,400.00
Expenses*	
• Hotel	\$ 2,590.00
• Travel	\$ 2,252.22
• Meals	\$ 1,161.65
• Supplies/ATV	\$ 8,979.31
• Lab	\$ 482.15
• Shipping	\$ 26.74
<b>Total Braveheart</b>	<b>\$ 26,892.07</b>
<b>Total Personnel &amp; Expenses</b>	<b>\$ 73,645.07</b>

\*see charts below for more detailed description of personnel hours and expense costs

*Detailed Cost Breakdown for MMTS										*Detailed Cost Breakdown for Braveheart							
PERSONNEL	Morris	Molnar	Milne	Galbraith	Stockey	R. Berdusco	J. Berdusco		Stockton	Bilski	Davis	D. A. Johnston					
June	11.5		10	20					10			40					
July	20.5		3						50	60		80					
August	1.5					2	12					30					
September	56	2.5		94.25	92.5		33			40	60	130					
Total hours** =	89.5	2.5	13	114.25	92.5	2	45		60	100	60	280					
Rate =	\$200	\$80	\$55	\$85	\$85	\$210	\$115	Total Personnel MMTS	\$20	\$20	\$20	\$25	Total Personnel Braveheart				
<b>Total \$ =</b>	<b>\$17,900.00</b>	<b>\$200.00</b>	<b>\$715.00</b>	<b>\$9,711.25</b>	<b>\$7,862.50</b>	<b>\$420.00</b>	<b>\$5,175.00</b>	<b>\$41,983.75</b>	<b>\$1,200.00</b>	<b>\$2,000.00</b>	<b>\$1,200.00</b>	<b>\$7,000.00</b>	<b>\$11,400.00</b>				
EXPENSES	Hotel	Travel	Meals	Supplies/ATV	Lab	Shipping		Expenses	Hotel	Travel	Meals	Supplies/ATV	Lab	Shipping			
June		\$772.20						June	\$280.00	\$485.45	\$591.35	\$335.58					
July		\$537.55		\$200.00		\$27.44		July	\$810.00	\$838.78	\$299.62	\$1,774.07					
August					\$50.60			August				\$231.99	\$202.25				
September	\$129.70	\$2,240.09	\$149.10	\$662.57			Total Expenses MMTS	September	\$1,500.00	\$927.99	\$270.68	\$6,637.67	\$279.90	\$26.74	Total Expenses Braveheart		
<b>Total =</b>	<b>\$129.70</b>	<b>\$3,549.84</b>	<b>\$149.10</b>	<b>\$862.57</b>	<b>\$50.60</b>	<b>\$27.44</b>	<b>\$4,769.25</b>	<b>Total =</b>	<b>\$2,590.00</b>	<b>\$2,252.22</b>	<b>\$1,161.65</b>	<b>\$8,979.31</b>	<b>\$482.15</b>	<b>\$26.74</b>	<b>\$15,492.07</b>		
<b>Expenses and Personnel</b>							<b>MMTS</b>	<b>\$46,753.00</b>							<b>Braveheart</b>	<b>\$26,892.07</b>	

\*\*See following chart for further detailed hourly breakdown



**MMTS Personnel Hourly Breakdown								**Braveheart Personnel Hourly Breakdown			
Date	Morris	Molnar	Milne	Galbraith	Stockey	R.Berdusco	J.Berdusco	Stockton	Bilski	Davis	D. A. Johnston
June											
12				3							
13	1			3							
14				4							
19	2				10						
20	8				10						
21	0.5										
24											5
25											5
July											
6											10
7											10
8											10
9											10
10											10
11	10										10
12	5										10
13	2										10
14	0.5										10
17	2										10
24	1										10
August											
2								1			
3								1			
5								2			
7								1			
8				1							
9							2				
11				1							
14								2			
15	1							2			
21				1							
22								1			
29								2			



Date	Morris	Molnar	Milne	Galbraith	Stockey	R.Berdusco	J.Berdusco
<b>30</b>							
<b>31</b>	0.5						
<b>September</b>							
<b>7</b>	4						
<b>8</b>	2						2
<b>9</b>							
<b>10</b>	2						
<b>11</b>	2						
<b>13</b>	4						
<b>14</b>	2						
<b>15</b>	5			6	6		
<b>16</b>	9			10	10		
<b>17</b>	10			10	10		
<b>18</b>	5			10	10		
<b>19</b>	4			10	10		
<b>20</b>				10	10		
<b>21</b>				10	10		
<b>22</b>				10	10		
<b>23</b>				10	10		
<b>24</b>				7	6.5		
<b>26</b>				0.25			
<b>27</b>	4	1		0.5			4
<b>28</b>	1	1.5		0.5			14
<b>29</b>							13
<b>30</b>	2						
	Morris	Molnar	Milne	Galbraith	Stockey	R.Berdusco	J.Berdusco
Total Hrs	89.5	2.5	13	114.25	92.5	2	45

Stockton	Bilski	Davis	D. A. Johnston
			10
			10
			10
			10
			10
			10
		10	10
		10	10
		10	10
		10	10
		10	10
		10	10
		10	10
		10	10
		10	10
	Stockton	Bilski	Davis
	60	100	60
			280

**Statement of Qualifications – ROBERT J. MORRIS****I, Robert J. Morris, M.Sc., P.Geo., of Fernie B.C. do hereby certify that:**

1. I am a Principal Geologist with Moose Mountain Technical Services.
2. I graduated with a Bachelor of Science degree in geology from the University of B.C. in 1973 and a Master of Science degree in geology from Queen's University in 1978.
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (#18301).
4. I have worked as a Geologist for 39 years since my graduation from university. My experience in mineral exploration includes extensive work in both southeast and southwest B.C. and Argentina.
5. I have prepared the entire Assessment Report titled "**Geological and Geochemical Assessment Report for the International/Tin City Property**" dated 10 December 2012. I am responsible the entire Technical Report.
6. I have had no prior involvement with the properties.

**Dated this 10<sup>th</sup> day of December 2012.***"Signed and sealed"*

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Signature of Qualified Person**Robert J. Morris, M.Sc., P.Geo.**

Print Name of Qualified Person

**Appendix A - International Assay Results**

Sample No.	Ag ppm	Ag (oz/ton)	As ppm	Au ppb	B ppm	Pb ppm	Pb (%)	W ppm	Zn ppm
Specimen	1147.78	33.48	8	27	22	10000	1.0	1	10500
12551	0.25		9	0.5	35	117		4	220
12552	0.25		20	0.5	30	65		7	747
12553	0.25		46	0.5	33	443		11	742
12554	12.5		11	0.5	39	9927		2	200
12555	9.5		9	0.5	36	6439		4	432
0727	644.23	18.79		30		504100	50.41		1170
0729	685.71	20.0		49		551500	55.15		368
0730	878.06	25.61		18		680700	68.07		551
0731	638.40	18.62		38		527800	52.78		720
0732	591.77	17.26		31		482300	48.23		1210
0733	595.89	17.38		37		478700	47.87		2690
0734	726.51	21.19		27		579700	57.97		167
BH-R-01	6.8		10.6	0.6	10	9256.4		0.8	209
BH-R-02	>300		2.5				51.71	0.25	584
224-AC-05		9.99					36.31		2710
224-AC-06		4.30					17.93		7180
224-AC-07		2.75					10.92		70
224-AC-07 2 <sup>nd</sup> Adit left		7.38					23.20		2480

## Appendix B - International Soil Sample Locations

Sample No.	Easting	Northing	Sample No.	Easting	Northing	Sample No.	Easting	Northing
BL48+00	503493	5594798	L4850N-13+00E	504546	5595341	L4850N-15+25E	504721	5595427
BL47+00	503700	5594702	L4850N-14+00E	504637	5595383	L4850N-15+50E	504740	5595437
BL46+00	503778	5594604	L4850N-15+00E	504702	5595418	L4850N-15+75E	504759	5595446
BL45+00	503882	5594500	L4850N-16+00E	504778	5595455	L4850N-16+25E	504799	5595470
BL44+00	503977	5594408	L4850N-17+00E	504860	5595513	L4850N-16+50E	504819	5595484
BL43+00	504098	5594297	L4850N-18+00E	504931	5595560	L4850N-16+75E	504840	5595499
BL42+00	504161	5594201	224-AC09-001	504478	5597967	L4850N-17+25E	504878	5595525
BL41+00	504177	5594101	224-AC09-002	504378	5597961	L4850N-17+50E	504896	5595537
BL40+00	504265	5594001	224-AC09-003	503453	5594950	L6350N-0+25E	502788	5596365
BL39+00	504311	5593899	224-AC09-005	503518	5595001	L6350N-0+50E	502809	5596379
BL38+00	504414	5593801	224-AC09-006	504230	5596493	L6350N-0+75E	502831	5596394
BL37+00	504425	5593699	224-AC09-010	504131	5596605	L6350N-1+25E	502871	5596422
BL36+00	504442	5593600	224-AC09-014	504052	5596736	L6350N-1+50E	502891	5596435
BL35+00	504426	5593499	224-AC09-018	503936	5596831	L6350N-1+75E	502910	5596449
BL34+00	504433	5593400	224-AC09-022	503855	5596955	L6350N-2+25E	502950	5596475
BL33+00	504524	5593300	224-AC09-025	503783	5597057	L6350N-2+50E	502970	5596489
BL80+00	501991	5598000	L4850N-0+25E	503483	5594878	L6350N-2+75E	502991	5596502
BL79+00	502004	5597900	L4850N-0+50E	503500	5594898	L6350N-3+25E	503032	5596528
BL78+50	502028	5597850	L4850N-0+75E	503516	5594917	L6350N-3+50E	503053	5596540
BL78+00	502052	5597800	L4850N-1+25E	503549	5594940	L6350N-3+75E	503074	5596553
BL77+00	502131	5597700	L4850N-1+50E	503566	5594943	L6350N-4+25E	503121	5596577
BL76+00	502141	5597600	L4850N-1+75E	503582	5594945	L6350N-4+50E	503148	5596588
BL75+00	502158	5597500	L4850N-2+25E	503620	5594960	L6350N-4+75E	503174	5596600
BL74+00	502205	5597400	L4850N-2+50E	503642	5594971	L6350N-5+25E	503220	5596622
BL73+00	502259	5597300	L4850N-2+75E	503663	5594983	L6350N-5+50E	503240	5596633
BL72+00	502306	5597200	L4850N-3+25E	503709	5595006	L6350N-5+75E	503259	5596644
BL71+00	502342	5597100	L4850N-3+75E	503756	5595031	L6350N-6+25E	503294	5596670
BL70+00	502375	5597000	L4850N-4+25E	503803	5595057	L6350N-6+50E	503308	5596684
BL69+00	502350	5596900	L4850N-4+50E	503825	5595071	L6350N-6+75E	503323	5596699
BL68+00	502350	5596800	L4850N-4+75E	503848	5595085	L6350N-7+25E	503358	5596724
BL67+00	502358	5596700	L4850N-5+25E	503890	5595107	L6350N-7+50E	503378	5596736
BL66+00	502440	5596600	L4850N-5+50E	503910	5595115	L6350N-7+75E	503399	5596747
BL65+00	502626	5596500	L4850N-5+75E	503930	5595122	L6350N-8+25E	503438	5596769
BL64+00	502730	5596400	L4850N-6+25E	503969	5595141	L6350N-8+50E	503458	5596779
BL63+50	502766	5596350	L4850N-6+50E	503989	5595152	L6350N-8+75E	503477	5596790
BL63+00	502820	5596300	L4850N-7+25E	504058	5595167	L6350N-9+25E	503515	5596812
BL62+00	502909	5596200	L4850N-7+50E	504088	5595172	L6350N-9+50E	503535	5596824
BL61+00	502980	5596100	L4850N-8+25E	504155	5595146	L6350N-9+75E	503554	5596836
BL60+00	503035	5596000	L4850N-8+75E	504204	5595152	L6350N-10+25E	503595	5596863
BL59+00	503096	5595900	L4850N-9+25E	504246	5595160	L6350N-10+50E	503617	5596879
BL58+00	503170	5595800	L4850N-9+75E	504290	5595174	L6350N-10+75E	503638	5596894
BL57+00	503219	5595700	L4850N-10+25E	504340	5595200	L6350N-11+25E	503681	5596924
BL56+00	503277	5595600	L4850N-10+75E	504375	5595225	L6350N-11+50E	503703	5596938
BL55+00	503340	5595500	L4850N-11+50E	504434	5595266	L6350N-11+75E	503724	5596953
BL54+00	503388	5595400	L4850N-11+75E	504451	5595273	L6350N-12+25E	503780	5596995
BL53+00	503401	5595300	L4850N-12+25E	504488	5595295	L6350N-12+50E	503816	5597023
BL52+00	503390	5595200	L4850N-12+50E	504508	5595311	L6350N-12+75E	503851	5597050
BL51+00	503395	5595100	L4850N-12+75E	504527	5595326	L6350N-13+25E	503897	5597082
BL50+00	503402	5595000	L4850N-13+25E	504569	5595352	L6350N-13+50E	503908	5597085
BL49+00	503450	5594900	L4850N-13+50E	504592	5595362	L6350N-13+75E	503919	5597089
L6350N-1+00E	502852	5596408	L4850N-13+75E	504614	5595373	L6350N-14+25E	503947	5597101
L6350N-2+00E	502929	5596462	L4850N-14+25E	504653	5595392	L6350N-14+50E	503964	5597110
L6350N-3+00E	503011	5596515	L4850N-14+50E	504670	5595401	L6350N-14+75E	503980	5597118
L6350N-4+00E	503095	5596565	L4850N-14+75E	504686	5595409	L6350N-15+25E	504017	5597137



Sample No.	Easting	Northing	Sample No.	Easting	Northing	Sample No.	Easting	Northing
L6350N-15+50E	504037	5597148	L7850N-13+75E	503919	5597089	BL67+75	502352	5596775
L6350N-15+75E	504057	5597158	L7850N-14+25E	503159	5598481	BL68+25	502350	5596825
L6350N-16+25E	504094	5597180	L7850N-14+50E	503177	5598491	BL68+50	502350	5596850
L6350N-16+50E	504112	5597191	L7850N-14+75E	503196	5598501	BL68+75	502350	5596875
L6350N-16+75E	504129	5597203	L7850N-15+25E	503237	5598523	BL69+25	502364	5596925
L6350N-17+25E	504165	5597227	L7850N-15+50E	503259	5598535	BL69+50	502366	5596950
L6350N-17+50E	504184	5597240	L7850N-15+75E	503282	5598547	BL69+75	502370	5596975
L6350N-17+75E	504202	5597252	L7850N-16+25E	503318	5598562	BL70+25	502367	5597025
L6350N-18+25E	504245	5597277	L7850N-17+25E	503387	5598627	BL70+50	502361	5597050
L6350N-18+50E	504269	5597289	L7850N-17+75E	503387	5598632	BL71+25	502334	5597125
L6350N-18+75E	504293	5597301	BL52+25	503396	5595225	BL71+50	502327	5597150
L6350N-19+25E	504337	5597328	BL52+50	503401	5595250	BL71+75	502319	5597175
L6350N-19+50E	504358	5597343	BL52+75	503406	5595275	BL72+25	502293	5597225
L6350N-19+75E	504378	5597357	BL53+25	503399	5595325	BL72+50	502281	5597250
L6350N-20+25E	504419	5597383	BL53+50	503395	5595350	BL72+75	502269	5597275
L7850N-0+25E	502049	5597862	BL53+75	503393	5595375	BL73+25	502243	5597325
L7850N-0+50E	502071	5597875	BL54+25	503364	5595425	BL73+50	502231	5597350
L7850N-0+75E	502092	5597887	BL54+50	503358	5595450	BL73+75	502215	5597375
L7850N-1+25E	502134	5597913	BL54+75	503349	5595475	BL74+25	502190	5597425
L7850N-1+50E	502155	5597927	BL55+25	503319	5595525	BL74+50	502178	5597450
L7850N-1+75E	502176	5597941	BL55+50	503303	5595550	BL74+75	502171	5597475
L7850N-2+25E	502220	5597964	BL55+75	503289	5595575	BL75+25	502153	5597525
L7850N-2+50E	502243	5597972	BL56+25	503260	5595625	BL75+50	502150	5597550
L7850N-2+75E	502266	5597981	BL56+50	503241	5595650	BL75+75	502145	5597575
L7850N-3+25E	502310	5598003	BL56+75	503226	5595675	BL76+25	502138	5597625
L7850N-3+50E	502330	5598017	BL57+25	503208	5595725	BL76+50	502134	5597650
L7850N-3+75E	502351	5598031	BL57+50	503199	5595750	BL76+75	502131	5597675
L7850N-4+25E	502390	5598058	BL57+75	503193	5595775	BL77+25	502108	5597725
L7850N-4+50E	502409	5598070	BL58+25	503150	5595825	BL77+50	502089	5597750
L7850N-4+75E	502428	5598083	BL58+50	503129	5595850	BL77+75	502070	5597775
L7850N-5+25E	502465	5598106	BL58+75	503111	5595875	BL78+25	502041	5597825
L7850N-5+50E	502484	5598118	BL59+25	503083	5595925	BL78+75	502013	5597875
L7850N-5+75E	502502	5598129	BL59+50	503062	5595950	BL79+25	502008	5597925
L7850N-6+25E	502541	5598146	BL59+75	503047	5595975	BL79+50	502000	5597951
L7850N-6+50E	502562	5598152	BL60+25	503021	5596025	BL79+75	501992	5597974
L7850N-6+75E	502582	5598157	BL60+50	503002	5596050	BL32+75	504540	5593275
L7850N-7+25E	502630	5598178	BL60+75	502994	5596075	BL33+25	504495	5593325
L7850N-7+50E	502656	5598193	BL61+25	502965	5596125	BL33+50	504504	5593349
L7850N-7+75E	502683	5598207	BL61+50	502951	5596150	BL33+75	504461	5593376
L7850N-8+25E	502722	5598229	BL61+75	502927	5596175	BL34+25	504424	5593425
L7850N-8+50E	502735	5598237	BL62+25	502897	5596225	BL34+50	504421	5593454
L7850N-8+75E	502747	5598244	BL62+50	502869	5596250	BL34+75	504418	5593476
L7850N-9+25E	502781	5598267	BL62+75	502841	5596275	BL35+25	504429	5593526
L7850N-9+50E	502801	5598283	BL63+25	502799	5596325	BL35+50	504448	5593549
L7850N-9+75E	502822	5598298	BL63+75	502750	5596375	BL35+75	504439	5593576
L7850N-10+25E	502861	5598320	BL64+25	502700	5596425	BL36+25	504425	5593625
L7850N-10+50E	502879	5598325	BL64+50	502680	5596450	BL36+50	504424	5593650
L7850N-10+75E	502898	5598331	BL64+75	502652	5596475	BL36+75	504415	5593674
L7850N-11+25E	502935	5598344	BL65+25	502590	5596525	BL37+25	504423	5593723
L7850N-11+50E	502955	5598353	BL65+50	502541	5596550	BL37+50	504421	5593749
L7850N-11+75E	502974	5598361	BL65+75	502488	5596575	BL37+75	504425	5593770
L7850N-12+25E	503011	5598380	BL66+25	502415	5596625	BL38+25	504388	5593824
L7850N-12+50E	503029	5598392	BL66+50	502396	5596650	BL38+50	504346	5593851
L7850N-12+75E	503046	5598403	BL66+75	502370	5596675	BL38+75	504313	5593876
L7850N-13+25E	503897	5597082	BL67+25	502357	5596725	BL39+25	504314	5593926
L7850N-13+50E	503908	5597085	BL67+50	502354	5596750	BL39+50	504282	5593948



Sample No.	Easting	Northing	Sample No.	Easting	Northing	Sample No.	Easting	Northing
BL39+75	504276	5593975	11-I-5	504693	5597174	11-I-60	504588	5597464
BL40+25	504259	5594025	11-I-6	504703	5597168	11-I-61	504607	5597479
BL40+50	504239	5594051	11-I-7	504703	5597158	11-I-62	504629	5597492
BL40+75	504200	5594075	11-I-8	504714	5597153	11-I-63	504636	5597517
BL41+25	504164	5594126	11-I-9	504717	5597145	11-I-64	504647	5597541
BL41+50	504164	5594149	<b>11-I-10</b>	504726	5597137	11-I-65	504663	5597560
BL41+75	504159	5594175	11-I-11	504737	5597133	11-I-66	504684	5597573
BL42+25	504137	5594226	<b>11-I-12</b>	504745	5597127	11-I-67	504693	5597597
BL42+50	504125	5594251	<b>11-I-13</b>	504751	5597124	11-I-68	504690	5597621
BL42+75	504113	5594274	11-I-14	504759	5597118	11-I-69	504684	5597646
BL43+25	504084	5594326	11-I-15	504769	5597118	11-I-70	504676	5597670
BL43+50	504035	5594357	11-I-16	504749	5597148	11-I-71	504672	5597694
BL43+75	504006	5594386	11-I-17	504739	5597171	11-I-72	504660	5597715
BL44+25	503941	5594429	11-I-18	504722	5597190	11-I-73	504655	5597740
BL44+50	503910	5594453	11-I-19	504699	5597203	11-I-74	504668	5597762
BL44+75	503900	5594465	11-I-20	504694	5597229	11-I-75	504677	5597785
BL45+25	503832	5594529	11-I-21	504774	5597148	11-I-76	504697	5597801
BL45+50	503810	5594560	<b>11-I-22</b>	504717	5597137	11-I-77	504747	5597799
BL45+75	503793	5594575	11-I-23	504706	5597143	11-I-78	504650	5597804
BL46+25	503760	5594629	11-I-24	504698	5597146	11-I-79	504682	5597823
BL46+50	503744	5594651	11-I-25	504706	5597129	11-I-80	504661	5597834
BL46+75	503739	5594670	11-I-26	504712	5597119	11-I-81	504635	5597843
BL47+25	503654	5594729	11-I-27	504714	5597109	11-I-82	504612	5597851
BL47+50	503576	5594742	11-I-28	504719	5597098	11-I-83	504587	5597861
BL47+75	503535	5594776	11-I-29	504724	5597097	11-I-84	504569	5597880
BL48+25	503492	5594842	11-I-30	504729	5597084	11-I-85	504546	5597891
BL48+75	503440	5594875	11-I-31	504734	5597078	11-I-86	504530	5597911
BL49+25	503489	5594925	11-I-32	504743	5597072	11-I-87	504514	5597930
BL49+50	503450	5594950	11-I-33	504747	5597064	11-I-88	504494	5597946
BL49+75	503421	5594975	11-I-34	504721	5597060	11-I-89	504469	5597954
BL50+25	503404	5595025	11-I-35	504696	5597058	11-I-90	504445	5597962
BL50+50	503407	5595050	11-I-36	504672	5597064	11-I-91	504420	5597962
BL50+75	503398	5595075	11-I-37	504647	5597072	11-I-92	504394	5597959
BL51+25	503397	5595125	11-I-38	504622	5597077	11-I-93	504368	5597957
BL51+50	503395	5595150	11-I-39	504597	5597081	11-I-94	504343	5597954
BL51+75	503390	5595175	11-I-40	504576	5597092	11-I-95	504400	5597294
224-AC09-004	503483	5594976	11-I-41	504554	5597108	11-I-96	504394	5597245
224-AC09-007	504216	5596519	11-I-42	504540	5597127	11-I-97	504380	5597196
224-AC09-008	504184	5596548	11-I-43	504522	5597145	11-I-98	504369	5597143
224-AC09-009	504168	5596582	11-I-44	504504	5597162	11-I-99	504374	5597092
224-AC09-011	504110	5596626	11-I-45	504488	5597181	11-I-100	504369	5597041
224-AC09-012	504091	5596665	11-I-46	504472	5597204	11-I-101	504374	5596992
224-AC09-013	504070	5596696	11-I-47	504458	5597225	11-I-102	504379	5596942
224-AC09-015	504028	5596767	11-I-48	504447	5597247	11-I-103	504376	5596892
224-AC09-016	503999	5596788	11-I-49	504438	5597270	11-I-104	504377	5596842
224-AC09-017	503963	5596806	11-I-50	504428	5597293	11-I-105	504398	5596796
224-AC09-019	503906	5596858	11-I-51	504435	5597318	11-I-106	504416	5596749
224-AC09-020	503889	5596892	11-I-52	504459	5597331	11-I-107	504371	5596768
224-AC09-021	503875	5596930	11-I-53	504477	5597347	11-I-108	504337	5596805
224-AC09-023	503832	5596985	11-I-54	504498	5597354	11-I-109	504312	5596847
224-AC09-024	503807	5597022	11-I-55	504512	5597380	11-I-110	504322	5596797
11-I-1	504668	5597205	11-I-56	504531	5597382	11-I-111	504331	5596748
<b>11-I-2</b>	504674	5597197	11-I-57	504547	5597406	11-I-112	504343	5596698
11-I-3	504681	5597191	11-I-58	504571	5597415	11-I-113	504347	5596648
<b>11-I-4</b>	504688	5597181	11-I-59	504583	5597436	11-I-114	504330	5596695

## Appendix C - International Lab Results

		Loring Laboratories(Alberta) Ltd.																													
		609 Beaverton Road N.E., Calgary Alberta T2K 4W7 Tel: 403-274-2777 Fax: 403-275-0541 loringlabs@telus.net																													
		FILE: 54732 DATE: October 24, 2010 Sample: Rocks																													
		TO: BRAVEHEART RESOURCES CANADA INC. 2520 - 16 Street NW Calgary, AB T2M 3R2																													
		ATTN: David Johnston																													
		<u>30 ELEMENT ICP ANALYSIS</u>																													
Sample No.		Ag ppm	Al %	As ppm	Au ppm	B ppm	Ba ppm	Bl ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K ppm	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sr ppm	Tl ppm	U ppm	V ppm	W ppm	Zn ppm	
12551		<0.5	0.05	9	<1	35	2	3	0.05	<1	2	66	72	0.67	<0.01	<1	0.04	38	1	<0.01	3	<0.01	117	2	<1	5	<0.01	<1	3	4	220
12552		<0.5	0.31	20	<1	30	51	11	0.04	6	10	44	39	2.94	0.15	4	0.08	448	1	<0.01	27	0.03	65	3	2	30	<0.01	<1	7	7	747
12553		<0.5	0.10	46	<1	33	15	18	0.03	6	7	12	88	4.05	0.04	<1	0.04	26	2	<0.01	25	0.02	443	6	3	36	<0.01	<1	4	11	742
12554		12.5	0.03	11	<1	39	3	12	0.02	2	1	135	15	0.71	<0.01	<1	0.03	26	<1	<0.01	5	<0.01	8927	7	4	6	<0.01	<1	<1	2	200
12555		9.5	0.02	9	<1	36	3	7	0.01	5	3	83	14	0.76	<0.01	<1	0.03	44	<1	<0.01	4	<0.01	6439	7	2	6	<0.01	<1	1	4	432
Dup. 12551		<0.5	0.06	8	<1	34	2	3	0.05	<1	2	70	73	0.68	<0.01	<1	0.05	38	1	<0.01	3	<0.01	120	2	<1	5	<0.01	<1	2	3	223
Blank		<0.5	<0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.01	<0.01	<1	<0.01	<1	<1	<0.01	<1	<1	<1	<1	<1	<1	<1			

\* Sample is digested with Aqua Regia at 95C for one hour and bulked to 20 ml with distilled water.  
Partial dissolution for Al, B, Ba, Ca, Cr, Fe, K, La, Mg, Mn, Na, P, Sr, Ti and W.

Certified by: \_\_\_\_\_

Sample received on October 04, 2011

Page 1 of 1



ISO9001:2008 Certified

## Loring Laboratories(Alberta) Ltd.

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loringlabs@telus.net

TO: BRAVEHEART RESOURCES CANADA INC.  
2520 - 16 Street NW  
Calgary, AB  
T2M 3R2

ATTN: David Johnston

### 30 ELEMENT ICP ANALYSIS

FILE: 54732  
DATE: October 24, 2010  
Sample: Soil

Sample No.	Ag ppm	Al %	As ppm	Au ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo %	Na ppm	Ni %	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Ti ppm	U %	V ppm	W ppm	Zn ppm
111-1	<0.5	2.23	3	<1	159	92	11	0.19	5	12	31	19	3.10	0.32	6	1.40	1096	2	0.01	27	0.07	81	3	7	28	0.12	<1	36	3	154
111-2	<0.5	1.76	6	<1	169	63	14	0.05	5	10	22	19	3.29	0.19	6	0.87	701	2	0.02	25	0.07	1001	4	3	29	0.09	<1	32	5	365
111-3	<0.5	0.53	62	<1	245	19	23	0.04	11	8	8	34	5.15	0.07	5	0.06	286	2	0.01	36	0.09	377	11	10	43	0.01	<1	13	17	1892
111-4	<0.5	0.86	23	<1	145	18	15	0.03	5	11	12	59	2.78	0.08	8	0.22	314	2	0.01	22	0.05	898	5	23	26	0.01	<1	11	8	727
111-5	<0.5	1.49	22	<1	178	29	15	0.08	7	10	16	29	3.61	0.10	12	0.29	741	2	0.01	29	0.08	199	3	4	35	0.02	<1	17	20	2380
111-6	<0.5	1.71	4	<1	147	30	11	0.02	4	10	22	19	2.98	0.10	7	0.80	485	1	0.02	28	0.04	38	2	3	26	0.05	<1	21	2	154
111-7	<0.5	1.73	6	<1	125	35	14	0.03	4	10	25	21	3.23	0.13	7	0.76	586	1	0.01	30	0.06	50	2	4	28	0.05	<1	22	3	206
111-8	<0.5	1.95	7	<1	106	55	11	0.04	4	10	26	20	2.88	0.14	7	0.84	778	1	0.02	26	0.07	77	2	4	24	0.10	<1	32	2	212
111-9	<0.5	1.49	10	<1	106	39	11	0.05	4	9	18	15	2.83	0.09	6	0.59	586	1	0.01	20	0.06	244	3	5	24	0.08	<1	28	3	227
111-10	<0.5	1.14	97	<1	136	78	15	0.12	7	8	29	32	3.60	0.14	3	0.56	1523	2	0.01	23	0.10	1454	6	7	29	0.08	<1	29	7	677
111-11	<0.5	1.65	30	<1	123	72	13	0.10	6	9	26	28	3.31	0.18	5	0.71	702	2	0.02	23	0.13	447	4	7	28	0.09	<1	31	6	445
111-12	<0.5	2.08	173	<1	224	55	46	0.19	11	21	25	189	5.54	0.30	22	1.10	1003	5	0.01	48	0.09	24160	11	8	50	0.06	<1	30	29	3087
111-13	<0.5	2.95	102	<1	176	74	24	0.10	9	17	84	69	4.66	0.46	9	1.66	683	3	0.01	67	0.06	2939	7	7	41	0.11	<1	43	11	1173
111-14	<0.5	3.64	4	<1	91	172	9	0.05	4	12	34	6	2.58	0.93	10	3.40	941	1	<0.01	27	0.02	122	2	2	23	0.13	<1	46	2	131
111-15	<0.5	3.06	4	<1	116	63	12	0.13	5	14	29	17	3.23	0.12	7	1.69	2473	2	0.01	25	0.11	120	2	6	27	0.14	<1	42	2	157
111-16	<0.5	1.95	3	<1	117	115	12	0.04	5	12	23	14	3.28	0.11	6	0.84	3042	1	0.02	23	0.07	65	2	4	27	0.12	<1	41	2	124
111-17	<0.5	0.75	4	<1	72	70	9	0.09	3	5	12	12	2.27	0.07	7	0.13	623	1	0.02	15	0.06	45	2	7	19	0.06	<1	30	2	65
111-18	<0.5	1.21	5	<1	108	85	13	0.15	4	7	16	15	3.18	0.08	5	0.25	750	1	0.02	20	0.09	137	2	10	26	0.09	<1	36	3	110
111-19	<0.5	1.28	3	<1	86	143	10	0.26	4	9	14	16	2.64	0.07	6	0.20	2628	1	0.02	22	0.07	47	2	19	23	0.08	<1	30	4	144
111-20	<0.5	1.10	10	<1	106	42	12	0.20	5	8	13	25	3.14	0.07	7	0.30	460	2	0.02	29	0.07	86	3	15	28	0.04	<1	21	2	115
111-21	<0.5	1.16	23	<1	115	57	14	0.09	5	11	14	19	3.35	0.08	7	0.24	1369	2	0.02	23	0.10	65	3	8	29	0.08	<1	32	3	124
111-22	<0.5	1.94	64	<1	132	45	16	0.08	7	11	19	38	3.78	0.11	6	0.51	814	2	0.01	27	0.10	1586	6	12	32	0.06	<1	25	6	655

\* Sample is digested with Aqua Regia at 95C for one hour and bulked to 20 ml with distilled water.

Partial dissolution for Al, B, Ba,Ca, Cr,Fe,K,La,Mg,Mn,Na,P,Sr,Ti and W.

\* Pb( 111-12 ) Assay with AA finish.

Sample received on October 04, 2011

Certified by: \_\_\_\_\_



ISO9001:2008 Certified

## Loring Laboratories(Alberta) Ltd.

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loringlabs@telus.net

TO: BRAVEHEART RESOURCES CANADA INC.  
2520 - 16 Street NW  
Calgary, AB  
T2M 3R2

ATTN: David Johnston

### 30 ELEMENT ICP ANALYSIS

FILE: 5 4 7 3 2  
DATE: October 24, 2010  
Sample: Soil

Sample No.	Ag ppm	Al %	As ppm	Au ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo %	Na ppm	Ni %	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Ti ppm	U %	V ppm	W ppm	Zn ppm
111-23	<0.5	4.21	12	<1	88	460	10	0.15	6	12	30	<1	2.62	1.23	9	4.96	964	1	0.01	21	0.05	104	2	5	26	0.11	<1	38	7	520
111-24	<0.5	3.23	7	<1	87	73	10	0.11	6	10	17	3	2.57	0.13	5	0.97	1058	2	0.02	20	0.08	109	2	5	24	0.07	<1	26	7	571
111-25	<0.5	3.85	16	<1	118	91	13	0.14	8	9	20	12	3.32	0.11	6	0.48	586	2	0.03	19	0.09	353	3	8	30	0.12	<1	36	6	362
111-26	<0.5	3.36	7	<1	142	58	15	0.09	6	13	46	11	3.85	0.18	4	2.35	233	1	0.01	31	0.04	98	3	4	33	0.15	<1	56	4	159
111-27	<0.5	2.43	2	<1	126	71	14	0.05	5	10	22	27	3.58	0.23	6	0.68	228	2	0.02	37	0.04	79	2	3	32	0.07	<1	26	3	120
111-28	<0.5	1.51	4	<1	108	50	12	0.04	4	7	16	28	3.13	0.18	9	0.46	329	1	0.01	23	0.06	48	2	3	29	0.05	<1	20	2	88
111-29	<0.5	2.27	8	<1	150	46	18	0.11	6	13	30	34	4.10	0.18	9	1.13	642	2	0.01	39	0.07	137	3	6	39	0.06	<1	30	7	189
111-30	<0.5	1.83	3	<1	107	60	14	0.06	5	9	18	25	3.22	0.11	8	0.29	723	2	0.03	18	0.07	130	2	5	28	0.12	<1	36	4	123
111-31	<0.5	1.69	4	<1	103	63	11	0.03	4	9	22	19	3.05	0.16	8	0.56	401	1	0.01	25	0.03	51	2	3	29	0.05	<1	23	7	120
111-32	<0.5	1.32	5	<1	128	55	13	0.03	5	7	20	16	3.46	0.12	7	0.37	192	1	0.02	18	0.07	58	2	4	31	0.08	<1	33	7	96
111-33	<0.5	1.69	5	<1	102	64	12	0.07	4	8	21	18	3.04	0.14	9	0.47	598	2	0.02	22	0.06	62	2	6	28	0.07	<1	28	6	92
111-34	<0.5	2.11	4	<1	119	67	13	0.05	4	13	29	40	3.32	0.28	19	0.81	373	1	0.01	40	0.03	53	2	4	38	0.05	<1	21	12	84
111-35	<0.5	2.11	5	<1	109	59	12	0.04	4	11	28	27	3.24	0.20	10	0.85	249	2	0.01	40	0.04	59	2	4	31	0.06	<1	26	6	88
111-36	<0.5	1.97	6	<1	110	67	12	0.03	4	11	25	31	3.15	0.25	16	0.68	225	1	0.01	36	0.03	62	2	3	33	0.05	<1	20	10	113
111-37	<0.5	2.50	11	<1	127	86	14	0.03	5	12	28	37	3.64	0.26	10	0.94	312	1	0.01	42	0.04	44	2	4	38	0.05	<1	24	4	132
111-38	<0.5	2.53	6	<1	129	74	14	0.03	5	12	23	42	3.65	0.13	8	0.64	498	2	0.02	32	0.08	53	2	5	34	0.06	<1	29	5	99
111-39	<0.5	1.95	32	<1	164	79	24	0.04	6	15	21	37	4.39	0.20	24	0.54	898	1	0.02	43	0.04	178	3	3	43	0.04	<1	20	69	134
111-40	<0.5	2.49	5	<1	114	126	12	0.04	4	17	24	28	3.28	0.25	17	0.66	898	2	0.02	37	0.05	61	2	5	33	0.07	<1	27	12	110
111-41	<0.5	2.94	4	<1	141	115	14	0.06	5	21	99	35	3.90	0.43	17	1.57	411	2	0.01	56	0.04	72	3	6	37	0.11	<1	60	7	129
111-42	<0.5	2.18	24	<1	160	88	21	0.05	6	15	28	31	4.36	0.29	21	0.55	926	2	0.01	37	0.05	223	3	4	46	0.07	<1	28	38	210
111-43	<0.5	1.98	5	<1	107	61	13	0.04	4	11	26	29	3.15	0.29	13	0.83	245	1	0.01	32	0.03	63	2	4	33	0.06	<1	22	11	87
111-44	<0.5	2.54	4	<1	96	74	31	0.04	4	10	27	20	2.97	0.19	9	0.66	465	1	0.02	27	0.06	77	2	4	28	0.07	<1	31	164	81

\* Sample is digested with Aqua Regia at 95C for one hour and bulked to 20 ml with distilled water.  
Partial dissolution for Al, B, Ba,Ca, Cr,Fe,K,La,Mg,Mn,Na,P,Sr,Ti and W.

Certified by: \_\_\_\_\_

Sample received on October 04, 2011

Page 1 of 1



ISO9001:2008 Certified

## Loring Laboratories(Alberta) Ltd.

629 Beaverdam Road N.E.,  
Calgary Alberta T2K 4W7  
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loringlabs@telus.net

TO: BRAVEHEART RESOURCES CANADA INC.  
2520 - 16 Street NW  
Calgary, AB  
T2M 3R2

ATTN: David Johnston

### 30 ELEMENT ICP ANALYSIS

FILE: 5 4 7 3 2  
DATE: October 24, 2010  
Sample: Soil

Sample No.	Ag ppm	Al %	As ppm	Au ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Ti ppm	U %	V ppm	W ppm	Zn ppm
111-45	<0.5	1.95	4	<1	95	53	12	0.06	4	10	27	21	2.95	0.15	8	0.76	416	1	0.02	30	0.06	41	2	5	27	0.06	<1	27	7	85
111-46	<0.5	1.98	7	<1	105	41	12	0.10	4	12	27	41	3.18	0.17	9	0.87	295	1	0.01	47	0.06	42	2	6	30	0.05	<1	23	4	77
111-47	<0.5	2.13	3	<1	108	67	12	0.02	4	10	19	31	3.17	0.25	16	0.54	350	1	0.02	30	0.04	46	2	3	36	0.05	<1	19	14	80
111-48	<0.5	2.85	4	<1	107	90	13	0.02	4	13	22	23	3.30	0.18	11	0.54	731	2	0.03	28	0.09	53	2	4	31	0.08	<1	31	8	117
111-49	<0.5	2.17	5	<1	97	66	13	0.03	4	10	20	17	3.02	0.14	9	0.47	480	1	0.02	24	0.05	44	2	4	28	0.06	<1	29	8	86
111-50	<0.5	1.97	4	<1	114	51	13	0.04	4	10	34	18	3.38	0.20	9	0.60	560	2	0.01	30	0.10	51	2	4	31	0.07	<1	30	14	87
111-51	<0.5	2.13	7	<1	148	55	14	0.03	4	11	27	24	3.42	0.14	9	0.74	712	2	0.02	31	0.04	51	2	3	32	0.06	<1	27	3	77
111-52	<0.5	1.98	81	<1	104	100	10	0.04	4	13	17	26	3.15	0.53	32	0.46	554	1	0.01	27	0.03	50	1	4	42	0.09	<1	19	10	96
111-53	<0.5	2.44	6	<1	124	102	14	0.04	5	18	51	30	3.55	0.51	34	0.85	482	2	0.01	38	0.03	71	2	4	41	0.10	<1	31	38	111
111-54	<0.5	2.08	26	<1	108	73	14	0.04	4	13	21	24	3.25	0.34	17	0.58	279	1	0.01	33	0.04	63	2	4	33	0.07	<1	22	28	152
111-55	<0.5	2.49	17	<1	111	88	15	0.08	5	28	19	33	3.37	0.32	33	0.62	879	2	0.01	59	0.06	239	2	5	39	0.06	<1	19	45	353
111-56	<0.5	1.97	5	<1	111	45	14	0.10	4	13	25	27	3.40	0.13	12	0.86	495	1	0.01	37	0.07	48	2	6	34	0.04	<1	22	6	82
111-57	<0.5	3.06	4	<1	76	351	9	1.58	6	12	38	16	2.57	1.10	<1	3.51	756	1	0.01	27	0.06	217	2	18	23	0.12	<1	52	3	265
111-58	<0.5	2.67	4	<1	64	186	8	0.65	4	10	26	2	2.30	0.74	3	2.79	1076	<1	<0.01	17	0.07	75	2	13	20	0.12	<1	38	2	102
111-59	<0.5	2.08	10	<1	120	46	13	0.40	5	15	21	34	3.69	0.11	17	0.66	963	1	0.02	43	0.11	53	2	18	36	0.05	<1	22	2	87
111-60	<0.5	1.42	9	<1	132	40	15	0.28	5	15	17	33	3.98	0.06	17	0.57	1447	1	0.01	46	0.11	51	2	18	38	0.02	<1	15	2	84
111-61	<0.5	1.65	7	<1	101	31	12	0.07	4	12	23	28	3.27	0.13	17	0.89	500	<1	0.02	36	0.08	44	2	5	30	0.06	<1	22	1	73
111-62	<0.5	2.16	8	<1	106	82	13	0.52	5	14	34	26	3.36	0.31	12	1.84	929	1	0.01	40	0.07	64	2	21	32	0.08	<1	32	2	97
111-63	<0.5	1.78	1	<1	138	83	20	0.04	5	13	19	25	4.04	0.41	19	0.50	515	2	0.01	30	0.05	59	2	3	43	0.08	<1	21	46	79
111-64	<0.5	1.90	11	<1	125	42	15	0.06	5	12	23	33	3.78	0.23	13	0.69	373	1	0.02	34	0.06	55	2	5	37	0.07	<1	33	17	74
111-65	<0.5	2.11	8	<1	127	29	15	0.08	5	12	28	27	3.86	0.12	13	0.73	604	1	0.01	33	0.14	53	2	6	36	0.05	<1	24	4	63
111-66	<0.5	2.35	8	<1	134	28	14	0.09	5	14	50	31	3.99	0.15	16	1.01	654	1	0.02	42	0.09	60	2	7	41	0.07	<1	35	3	70

\* Sample is digested with Aqua Regia at 95C for one hour and bulked to 20 ml with distilled water.  
Partial dissolution for Al, B, Ba,Ca, Cr,Fe,K,La,Mg,Mn,Na,P,Sr,Ti and W.

Certified by: \_\_\_\_\_

Sample received on October 04, 2011



ISO9001:2008 Certified

## Loring Laboratories(Alberta) Ltd.

629 Beaverdam Road N.E.,  
Calgary Alberta T2K 4W7  
Tel: 403-274-2777 Fax: 403-275-0541  
loringlabs@telus.net

TO: BRAVEHEART RESOURCES CANADA INC.  
2520 - 16 Street NW  
Calgary, AB  
T2M 3R2

ATTN: David Johnston

### 30 ELEMENT ICP ANALYSIS

Sample No.	Ag ppm	Al %	As ppm	Au ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Ti ppm	U %	V ppm	W ppm	Zn ppm
114-67	<0.5	1.95	7	<1	109	30	13	0.12	4	11	24	28	3.47	0.17	9	0.68	447	1	0.01	39	0.11	49	2	9	33	0.04	<1	19	2	74
114-68	<0.5	1.75	15	<1	118	27	13	0.15	4	12	21	34	3.54	0.11	11	0.71	453	1	0.01	44	0.07	48	2	9	35	0.02	<1	13	2	80
114-69	<0.5	1.60	4	<1	92	22	12	0.31	4	15	21	46	2.98	0.13	10	0.90	1115	<1	0.01	50	0.08	35	2	19	30	0.03	<1	14	1	82
114-70	<0.5	1.75	3	<1	106	28	13	0.30	4	17	20	49	3.42	0.13	15	0.84	1316	<1	0.01	50	0.10	48	2	18	34	0.03	<1	15	1	91
114-71	<0.5	1.90	4	<1	123	24	15	0.07	5	12	22	42	3.84	0.11	13	0.56	824	1	0.02	30	0.11	50	2	6	37	0.06	<1	21	<1	66
114-72	<0.5	2.14	8	<1	120	34	14	0.08	5	13	27	38	3.81	0.07	14	0.94	764	1	0.02	44	0.07	46	2	7	37	0.02	<1	17	<1	66
114-73	<0.5	2.03	10	<1	120	24	11	0.07	5	19	26	62	3.73	0.06	30	1.06	669	1	0.02	57	0.05	45	2	6	40	0.01	<1	13	<1	64
114-74	<0.5	2.13	7	<1	123	23	14	0.11	5	18	30	50	3.76	0.08	25	1.22	785	1	0.02	57	0.04	40	2	8	38	0.02	<1	15	<1	70
114-75	<0.5	1.79	14	<1	38.5	44	13	0.43	4	17	23	36	3.57	0.22	15	0.89	816	2	0.05	55	0.06	21	2	26	25	<0.01	<1	12	2	62
114-76	<0.5	1.55	20	<1	36.8	40	11	0.40	4	17	22	33	3.36	0.20	9	0.80	779	2	0.04	53	0.07	22	2	24	23	0.01	<1	12	2	62
114-77	<0.5	1.38	32	<1	33.2	38	12	0.35	4	15	20	31	3.41	0.19	7	0.71	704	1	0.03	56	0.07	21	2	23	23	0.01	<1	11	1	78
114-78	<0.5	1.43	26	<1	36.2	40	13	0.33	4	15	28	30	3.34	0.20	8	0.76	680	1	0.04	59	0.07	19	2	23	23	0.01	<1	11	1	78
114-79	<0.5	1.60	7	<1	37.4	51	17	0.37	6	18	29	42	4.43	0.26	11	0.89	1097	2	0.05	65	0.06	24	2	28	30	0.01	<1	14	3	102
114-80	<0.5	1.68	12	<1	34.5	48	12	0.36	4	15	23	32	3.64	0.24	16	0.79	766	1	0.04	55	0.06	19	2	26	24	<0.01	<1	12	1	74
114-81	<0.5	1.97	4	<1	33.9	54	16	0.26	5	19	30	34	4.28	0.26	12	1.06	1100	1	0.05	65	0.06	19	2	29	28	0.02	<1	16	2	78
114-82	<0.5	2.07	5	<1	36.2	73	11	0.10	4	13	26	22	3.29	0.33	7	0.76	578	1	0.05	37	0.05	19	2	13	28	0.04	<1	24	3	60
114-83	<0.5	2.00	6	<1	33.3	84	14	0.04	5	15	36	29	3.67	0.40	9	1.21	619	1	0.07	52	0.03	21	2	15	30	0.03	<1	24	1	77
114-84	<0.5	2.30	5	<1	34.8	70	12	0.16	4	15	32	37	3.48	0.38	12	1.02	746	1	0.06	56	0.06	21	2	16	30	0.03	<1	18	1	87
114-85	<0.5	3.44	11	<1	30.1	142	16	0.09	6	24	40	62	4.47	0.61	7	1.58	1113	2	0.08	61	0.07	67	3	30	48	0.10	<1	44	2	144
114-86	<0.5	3.55	7	<1	31.6	146	14	0.18	5	16	38	30	3.93	0.62	12	2.65	1062	2	0.05	40	0.04	26	3	14	45	0.11	<1	44	1	75
114-87	<0.5	2.58	5	<1	30.9	103	16	0.40	5	18	32	39	4.15	0.42	13	1.62	1222	2	0.05	57	0.06	36	2	27	35	0.05	<1	29	2	93
114-88	<0.5	1.42	3	<1	32.2	51	15	0.27	5	16	26	33	4.17	0.23	10	0.73	982	2	0.04	58	0.07	21	2	23	27	0.01	<1	14	1	84

\* Sample is digested with Aqua Regia at 95°C for one hour and bulked to 20 ml with distilled water.  
Partial dissolution for Al, B, Ba,Ca, Cr,Fe,K,La,Mg,Mn,Na,P,Sr,Ti and W.

Certified by: \_\_\_\_\_

Sample received on October 04, 2011



ISO9001:2008 Certified

### Loring Laboratories(Alberta) Ltd.

629 Beaverdam Road N.E.,  
Calgary Alberta T2K 4W7  
Tel: 403-274-2777 Fax: 403-275-0541  
loringlabs@telus.net

TO: BRAVEHEART RESOURCES CANADA INC.  
2520 - 16 Street NW  
Calgary, AB  
T2M 3R2

ATTN: David Johnston

FILE: 54732  
DATE: October 24, 2010  
Sample: Soil

#### 30 ELEMENT ICP ANALYSIS

Sample No.	Ag ppm	Al %	As ppm	Au ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Tl %	U ppm	V ppm	W ppm	Zn ppm
11-I-89	<0.5	1.91	6	<1	30	60	14	0.38	5	17	26	32	3.93	0.29	11	0.94	769	1	0.05	54	0.07	25	2	26	29	0.02	<1	19	2	84
11-I-90	<0.5	2.59	14	<1	28	61	14	0.24	5	19	37	39	4.15	0.40	21	1.33	944	2	0.06	63	0.05	24	2	22	35	0.04	<1	28	1	63
11-I-91	<0.5	2.60	28	<1	29	167	12	2.49	4	14	33	26	3.24	0.56	2	3.56	1282	1	0.03	37	0.05	84	2	38	36	0.10	<1	37	1	70
11-I-92	<0.5	2.91	8	<1	26	101	15	0.45	5	18	38	38	4.06	0.39	20	1.87	888	1	0.05	56	0.04	22	2	26	36	0.06	<1	34	1	81
11-I-93	<0.5	1.96	20	<1	31	83	15	0.60	5	15	22	27	3.92	0.33	3	1.27	1531	2	0.04	39	0.07	35	3	40	30	0.04	<1	23	2	82
11-I-94	<0.5	3.15	4	<1	26	138	16	0.42	6	27	47	41	4.13	0.48	<1	2.62	794	2	0.04	63	0.02	94	2	11	52	0.13	<1	53	8	119
11-I-95	<0.5	2.12	4	<1	26	88	16	0.06	5	11	24	27	3.70	0.31	<1	0.57	360	2	0.06	31	0.08	32	2	9	30	0.04	<1	27	18	112
11-I-96	<0.5	2.51	3	<1	29	102	15	0.04	5	13	25	42	3.81	0.46	5	0.90	335	2	0.05	34	0.04	26	2	7	36	0.06	<1	54	8	99
11-I-97	<0.5	2.63	2	<1	30	127	15	0.06	4	14	26	32	3.60	0.63	<1	0.84	413	1	0.05	31	0.03	136	2	5	42	0.11	<1	68	6	220
11-I-98	<0.5	2.44	6	<1	30	129	13	0.07	4	13	31	21	3.13	0.57	6	0.63	432	1	0.05	31	0.04	29	2	7	39	0.10	<1	31	12	99
11-I-99	<0.5	2.32	5	<1	30	110	12	0.06	4	13	32	25	3.13	0.55	2	0.72	340	1	0.04	33	0.03	22	2	7	38	0.10	<1	36	5	88
11-I-100	<0.5	2.19	7	<1	32	126	12	0.07	3	13	22	32	2.68	0.44	7	0.48	524	1	0.05	30	0.04	25	2	8	32	0.07	<1	24	11	77
11-I-101	<0.5	2.17	3	<1	22	145	12	0.04	4	8	27	25	3.48	0.65	37	0.55	232	2	0.08	27	0.03	304	2	14	41	0.09	<1	25	3	77
11-I-102	<0.5	1.86	7	<1	30	115	9	0.04	3	9	23	25	2.72	0.36	9	0.61	229	1	0.04	31	0.02	23	1	7	27	0.06	<1	25	5	81
11-I-103	<0.5	1.96	4	<1	30	110	10	0.04	3	10	30	23	2.70	0.38	6	0.65	285	1	0.04	37	0.02	21	2	6	28	0.06	<1	22	3	67
11-I-104	<0.5	2.29	7	<1	32	123	11	0.05	4	13	19	32	3.08	0.64	20	0.55	402	2	0.03	34	0.03	30	2	5	43	0.10	<1	22	6	129
11-I-105	<0.5	1.92	12	<1	30	136	8	0.03	3	12	35	26	2.21	0.39	7	0.34	375	2	0.04	59	0.03	51	1	5	29	0.05	<1	17	7	101
11-I-106	<0.5	2.02	6	<1	31	126	9	0.06	3	12	28	22	2.67	0.41	7	0.72	476	1	0.04	36	0.02	27	1	9	27	0.06	<1	26	3	76
11-I-107	<0.5	1.73	5	<1	28	78	10	0.08	3	11	26	27	2.78	0.36	7	0.79	269	1	0.03	36	0.03	20	2	7	28	0.05	<1	26	3	61
11-I-108	<0.5	2.52	7	<1	28	121	13	0.07	4	14	33	30	3.36	0.40	4	0.98	450	1	0.05	49	0.05	27	2	10	32	0.07	<1	34	2	92
11-I-109	<0.5	2.69	2	<1	25	126	11	0.06	4	14	46	22	3.27	0.56	8	0.78	771	1	0.05	46	0.04	25	2	7	39	0.09	<1	34	2	93
11-I-110	<0.5	2.66	6	<1	26.2	140	11	0.12	4	12	29	21	3.13	0.36	4.1	0.83	746	2	0.06	36	0.07	30	2	15	32	0.07	<1	33	3	107

\* Sample is digested with Aqua Regia at 95°C for one hour and bulked to 20 ml with distilled water.  
Partial dissolution for Al, B, Ba,Ca, Cr,Fe,K,La,Mg,Mn,Na,P,Sr,Ti and W.

Certified by: \_\_\_\_\_

Sample received on October 04, 2011

Page 1 of 1



ISO9001:2008 Certified

### Loring Laboratories(Alberta) Ltd.

629 Beaverdam Road N.E.,  
Calgary Alberta T2K 4W7  
Tel: 403-274-2777 Fax: 403-275-0641  
loringlabs@telus.net

FILE: 5 4 7 3 2  
DATE: October 24, 2010  
Sample: Soil

TO: BRAVEHEART RESOURCES CANADA INC.  
2520 - 16 Street NW  
Calgary, AB  
T2M 3R2

ATTN: David Johnston

#### 30 ELEMENT ICP ANALYSIS

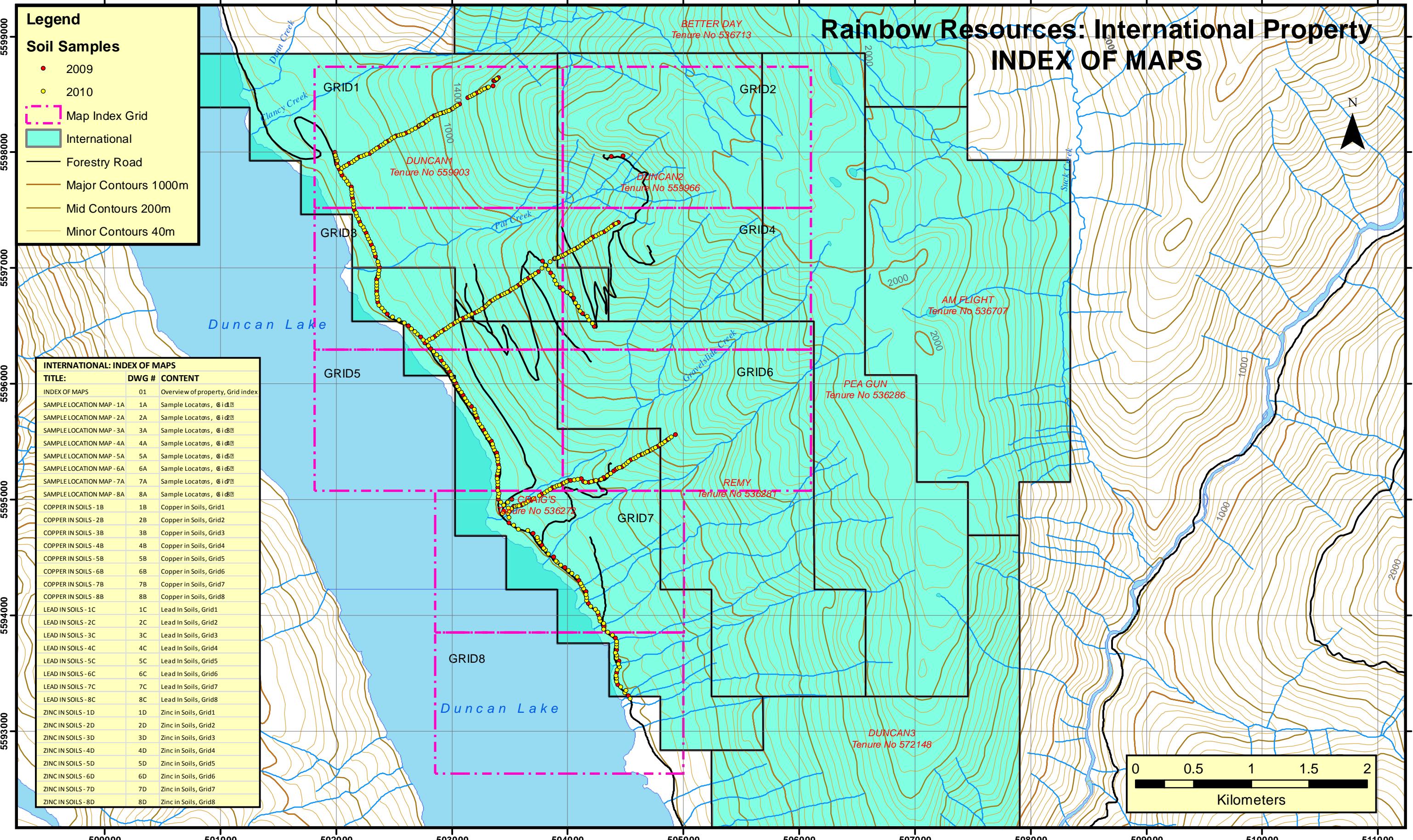
Sample No.	Ag ppm	Al %	As ppm	Au ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Ti ppm	U %	V ppm	W ppm	Zn ppm
11I-111	<0.5	2.76	6	<1	25	127	12	0.06	4	14	34	26	3.33	0.43	9	0.86	498	2	0.05	43	0.04	26	2	12	36	0.07	<1	34	2	102
11I-112	<0.5	1.50	5	<1	23	50	8	0.07	3	9	23	23	2.56	0.27	13	0.74	196	1	0.03	31	0.02	17	2	10	25	0.04	<1	21	2	51
11I-113	<0.5	2.12	3	<1	26	105	10	0.06	4	11	50	22	3.02	0.36	6	0.97	255	1	0.04	38	0.02	19	2	11	28	0.05	<1	31	2	69
11I-114	<0.5	1.97	4	<1	25	83	10	0.11	3	12	28	25	2.96	0.32	6	0.94	268	2	0.04	46	0.04	21	2	13	28	0.05	<1	28	2	59
Dup. 11I-112	<0.5	1.55	5	<1	24	52	9	0.07	3	9	22	24	2.63	0.28	13	0.76	198	1	0.03	31	0.02	18	1	10	25	0.04	<1	21	2	48
Blank	<0.5	<0.01	<1	<1	<1	<1	<0.01	<1	<1	<1	<1	<1	<0.01	<0.01	<1	<0.01	<1	<1	<0.01	<1	<0.01	<1	<1	<1	<1	<1	<1	<1	<1	

\* Sample is digested with Aqua Regia at 95C for one hour and bulked to 20 ml with distilled water.  
Partial dissolution for Al, B, Ba,Ca, Cr,Fe,K,La,Mg,Mn,Na,P,Sr,Ti and W.

Certified by: \_\_\_\_\_

Sample received on October 04, 2011

# Rainbow Resources: International Property INDEX OF MAPS



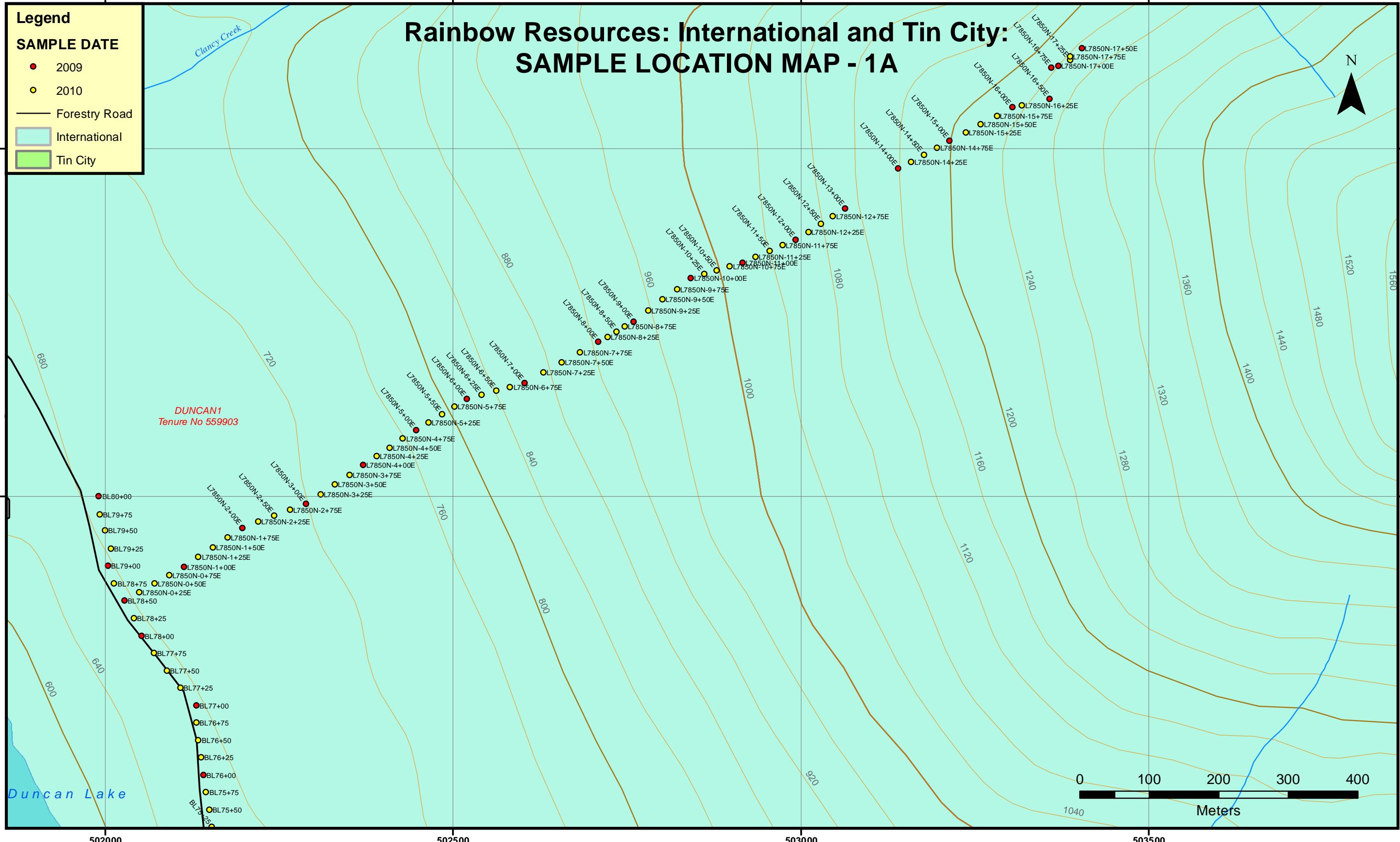
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 Projection: Transverse Mercator  
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 Central Meridian: -117.0000  
 Scale Factor: 0.9996  
 Latitude Of Origin: 0.0000  
 Units: Meter



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Author: Graham Milne  
 Date Saved: 02/11/2012 12:00:48 PM

# Rainbow Resources: International and Tin City: SAMPLE LOCATION MAP - 1A

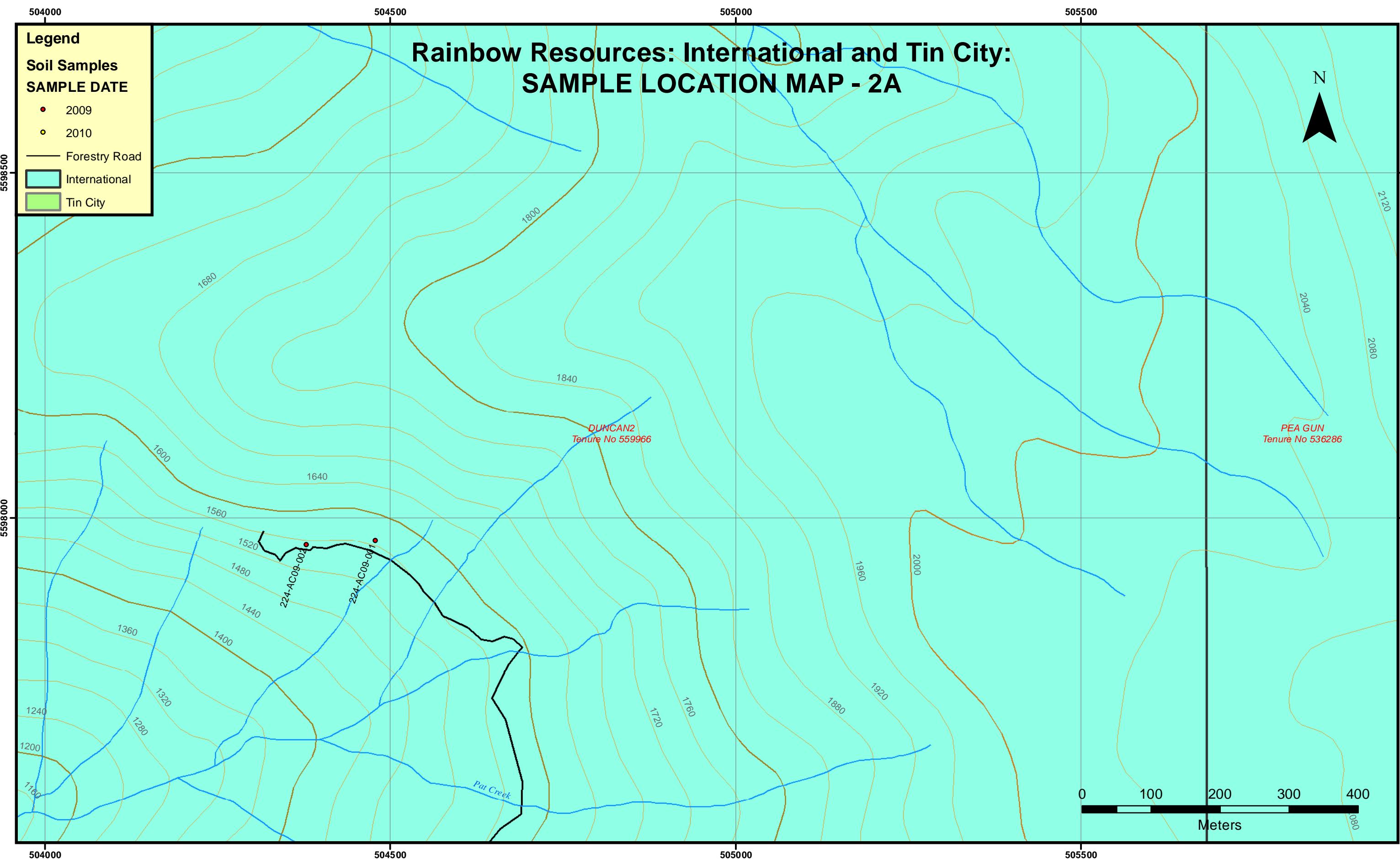


Coordinate System: NAD 1983 UTM Zone 11N  
 Projection: Transverse Mercator  
 Datum: North American 1983  
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Author: Graham Milne  
 Date Saved: 31/10/2012 3:52:26 PM

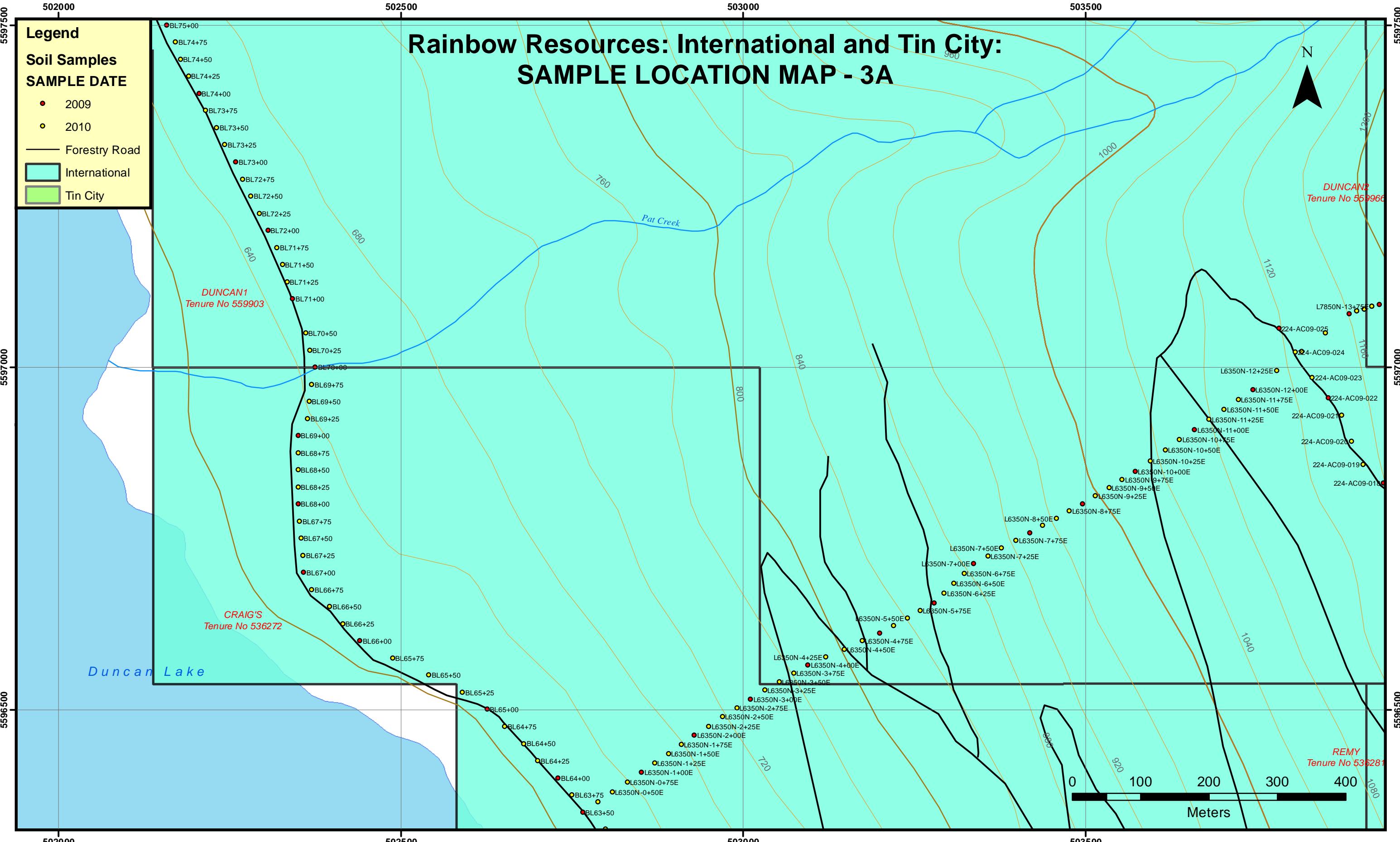


Coordinate System: NAD 1983 UTM Zone 11N  
 Projection: Transverse Mercator  
 Datum: North American 1983  
 False Easting: 500,000.0000  
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 Scale Factor: 0.9996  
 Latitude Of Origin: 0.0000  
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Author: Graham Milne  
 Date Saved: 31/10/2012 3:53:03 PM

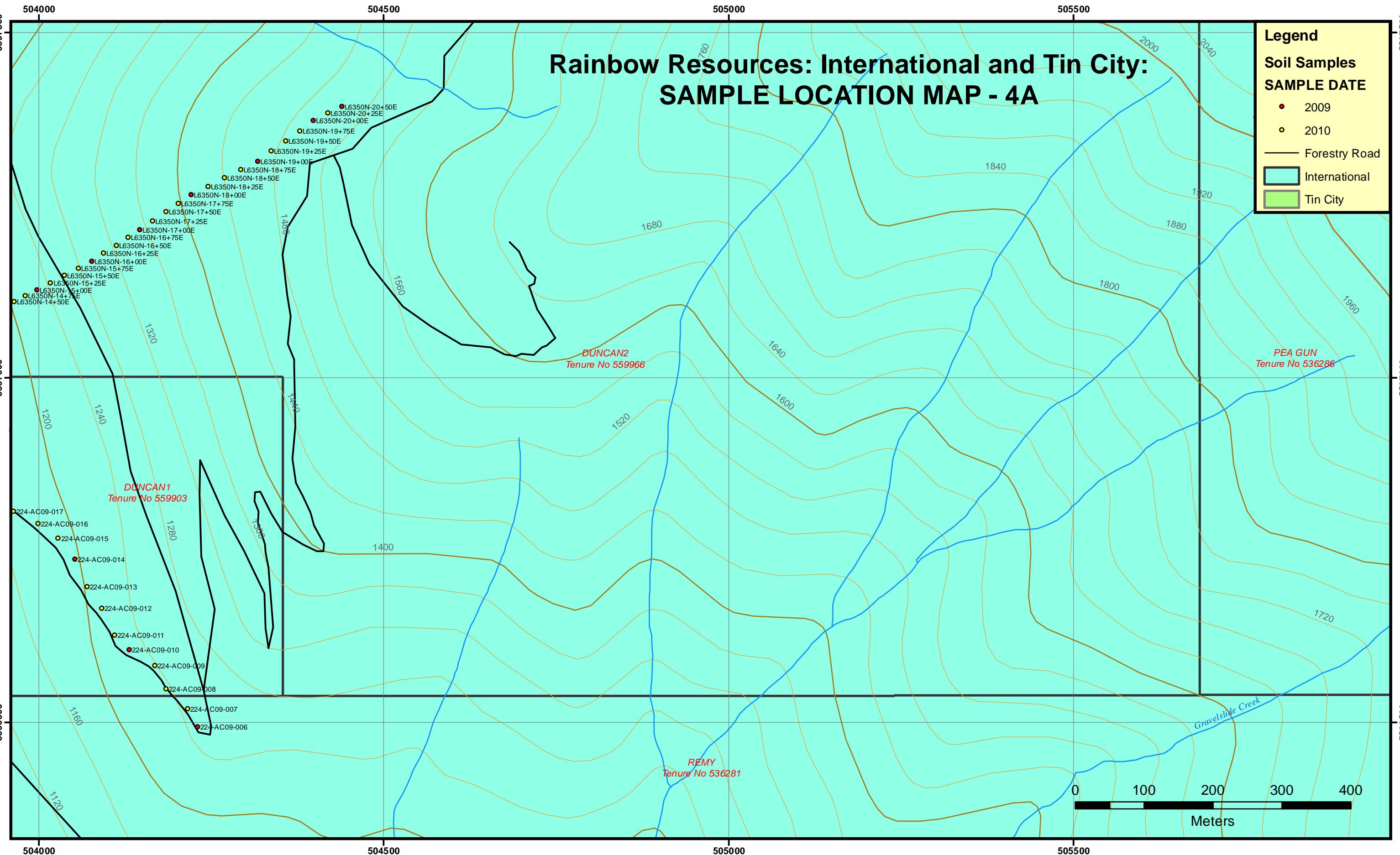


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**SCALES: 1:5,000**  
 Author: Graham Milne  
 Date Saved: 31/10/2012 3:54:59 PM



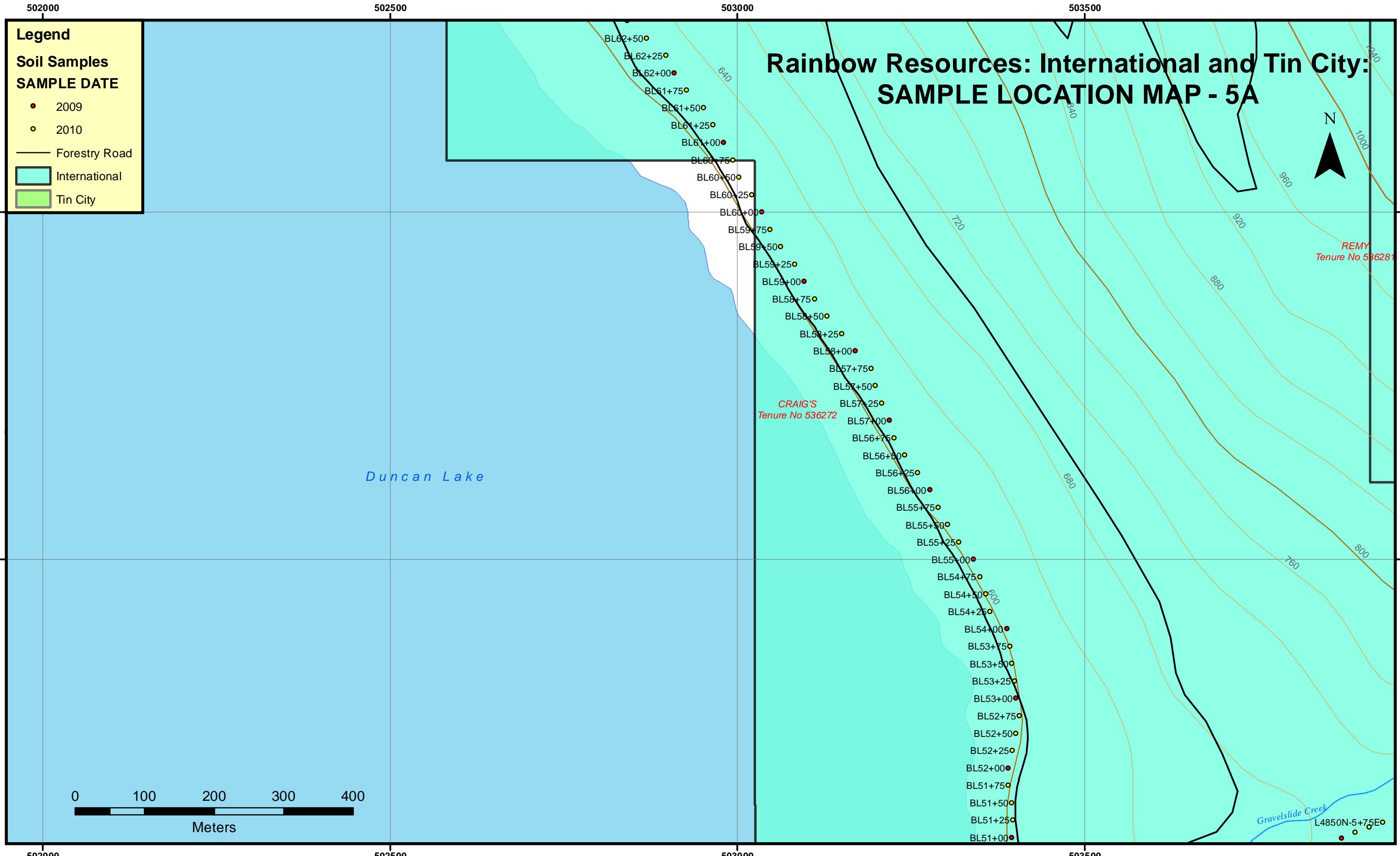


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SCALE: 1:5,000

Author: Graham Milne  
 Date Saved: 31/10/2012 3:56:38 PM

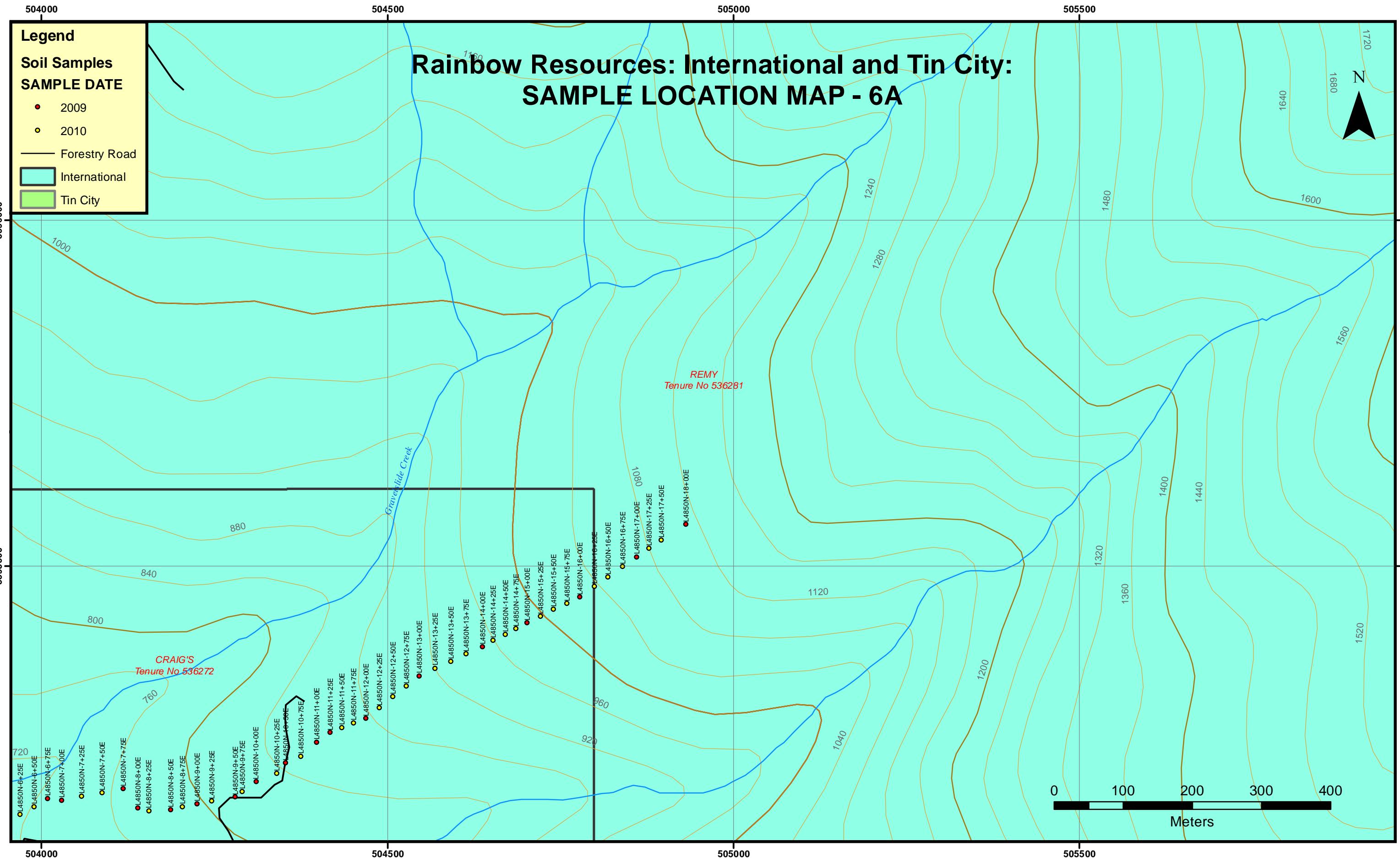


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**SCALE: 1:5,000**  
 Author: Graham Milne  
 Date Saved: 31/10/2012 4:00:32 PM

**Moose Mountain**  
Technical Services

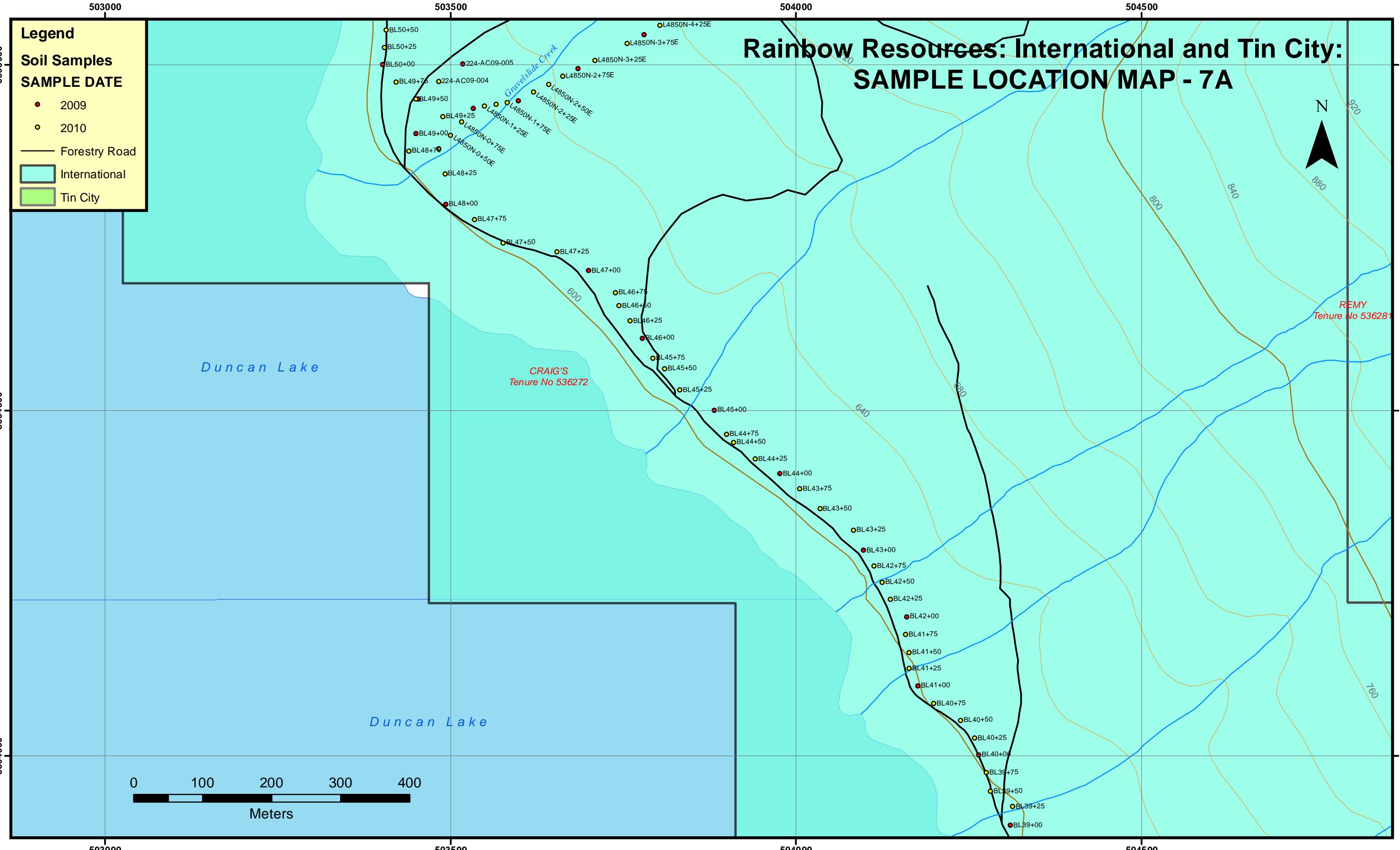


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SCALE: 1:5,000

Author: Graham Milne  
 Date Saved: 31/10/2012 4:01:36 PM

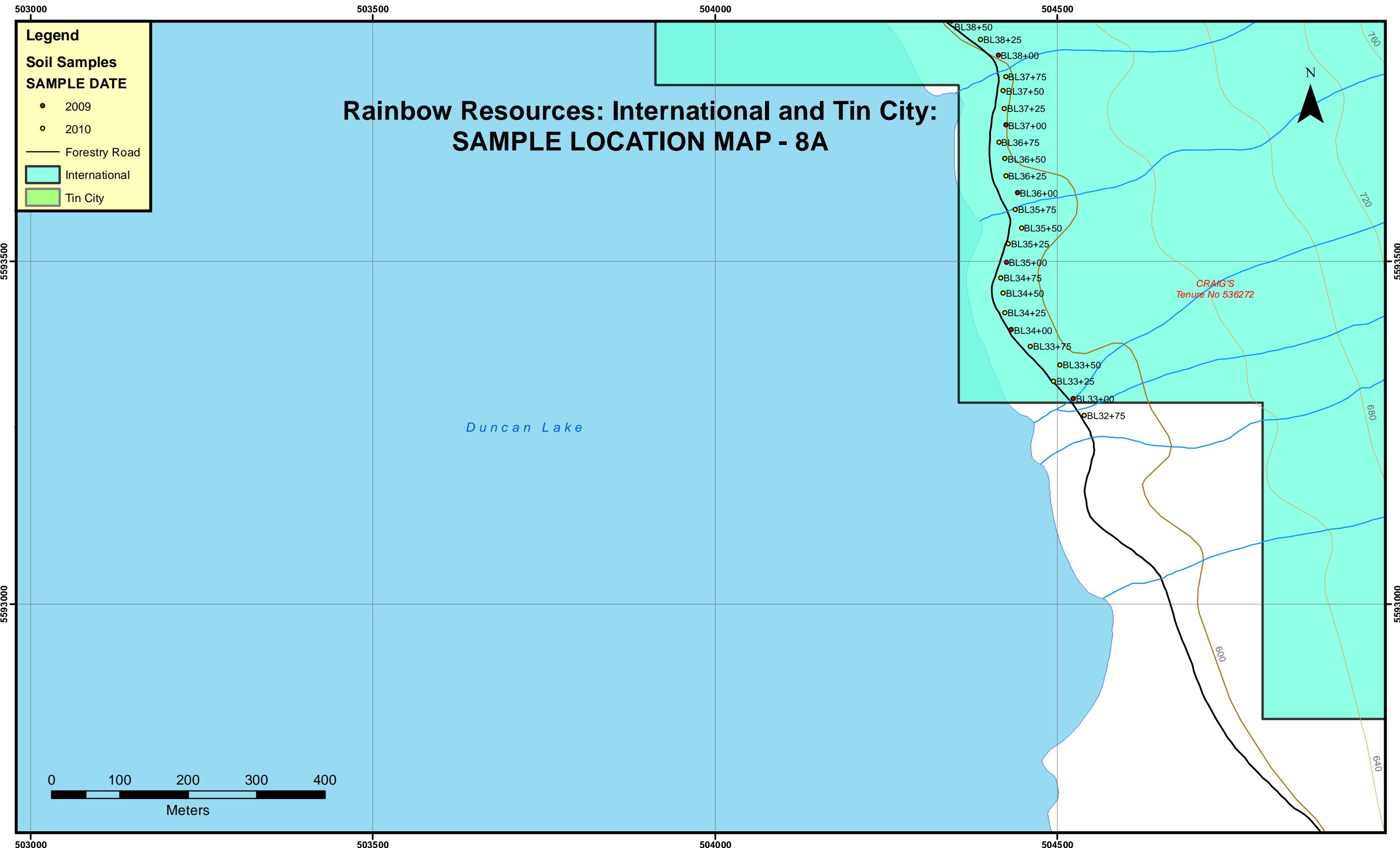


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SCALE: 1:5,000

Author: Graham Milne  
 Date Saved: 31/10/2012 4:02:56 PM



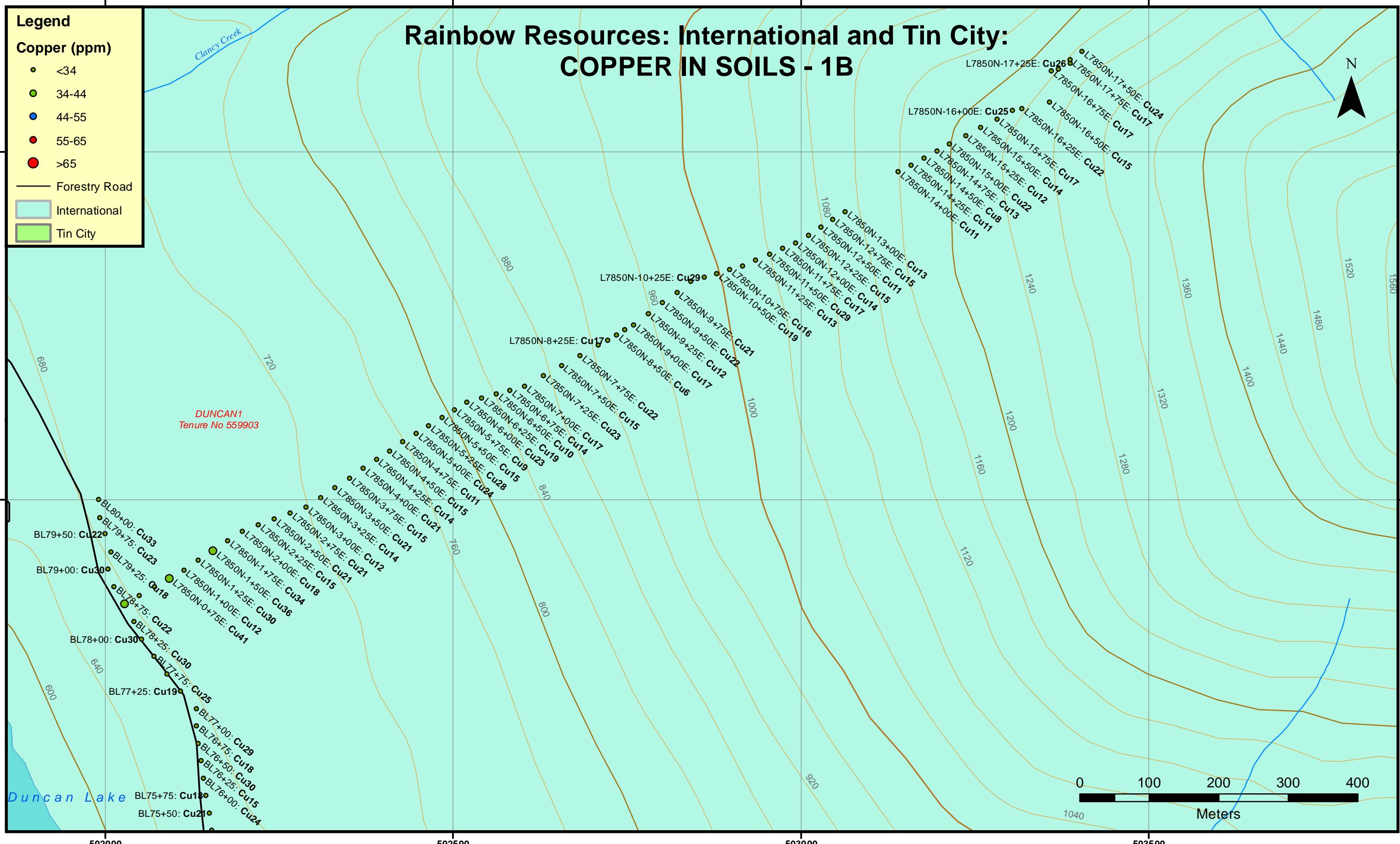
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SCALE: 1:5,000

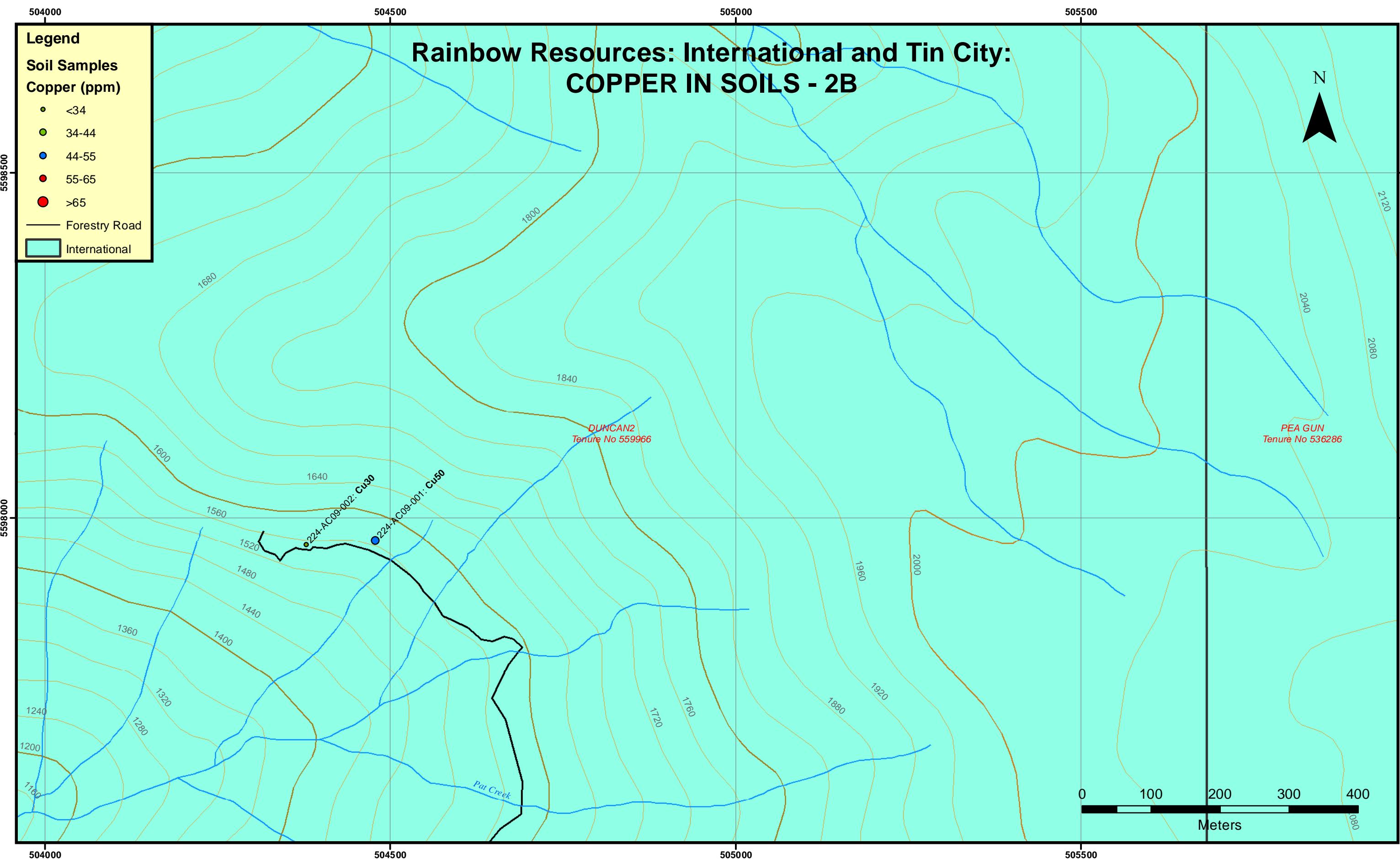
Author: Graham Milne  
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# Rainbow Resources: International and Tin City: COPPER IN SOILS - 1B



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Author: Graham Milne  
 Date Saved: 31/10/2012 3:26:35 PM

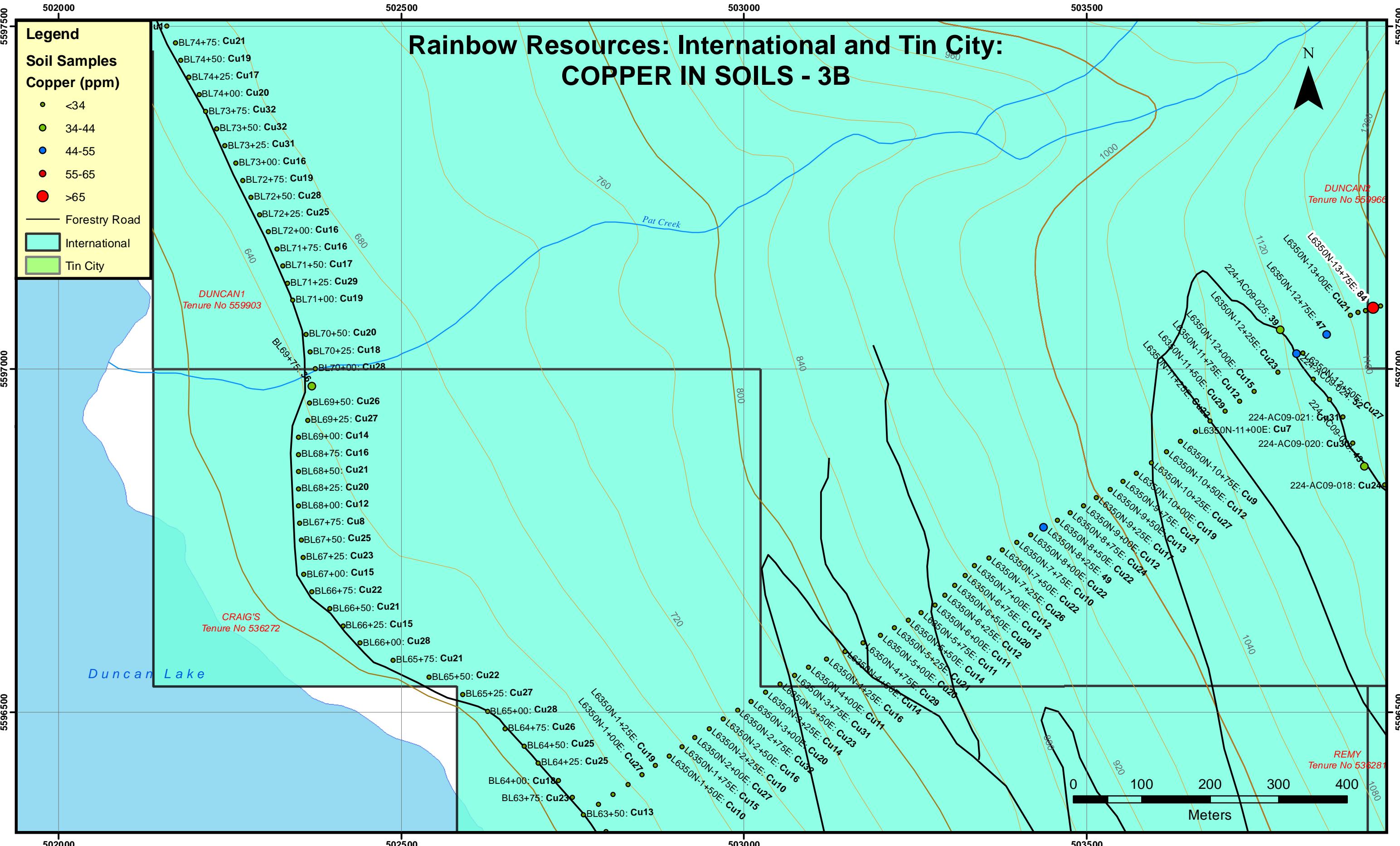


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**Moose Mountain**  
Technical Services

**SCALE: 1:5,000**  
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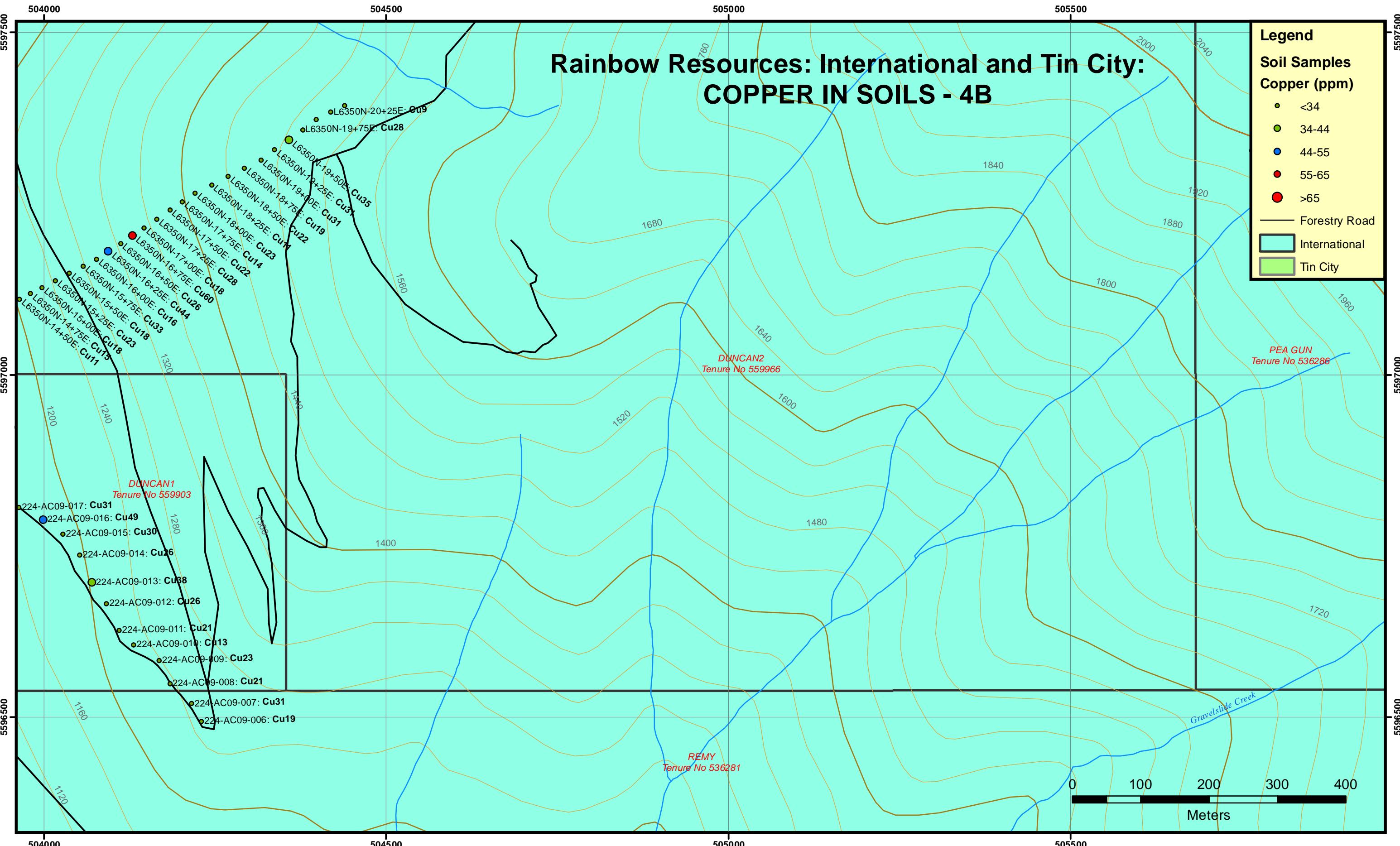


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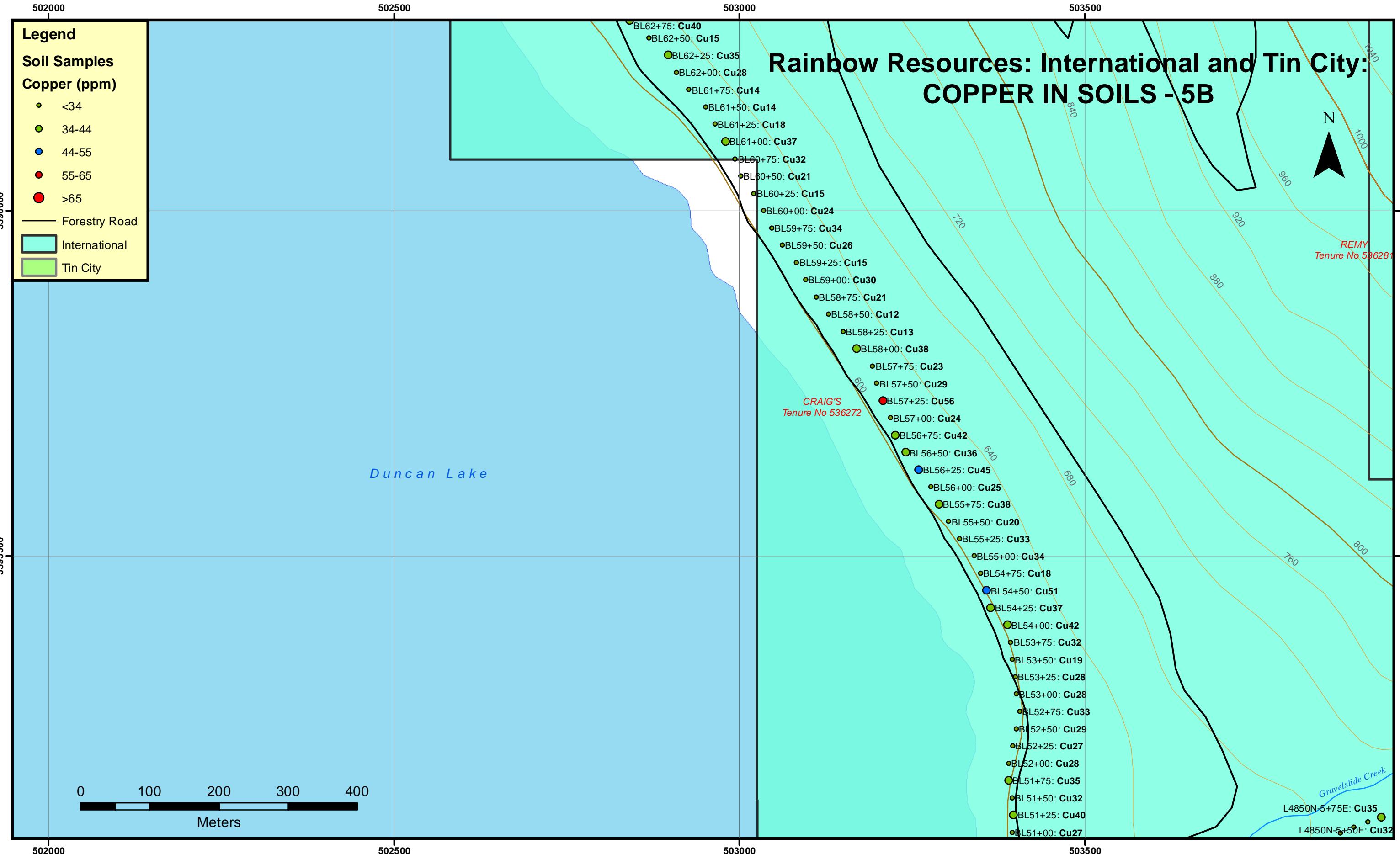
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SCALE: 1:5,000

Author: Graham Milne  
 Date Saved: 31/10/2012 3:38:20 PM

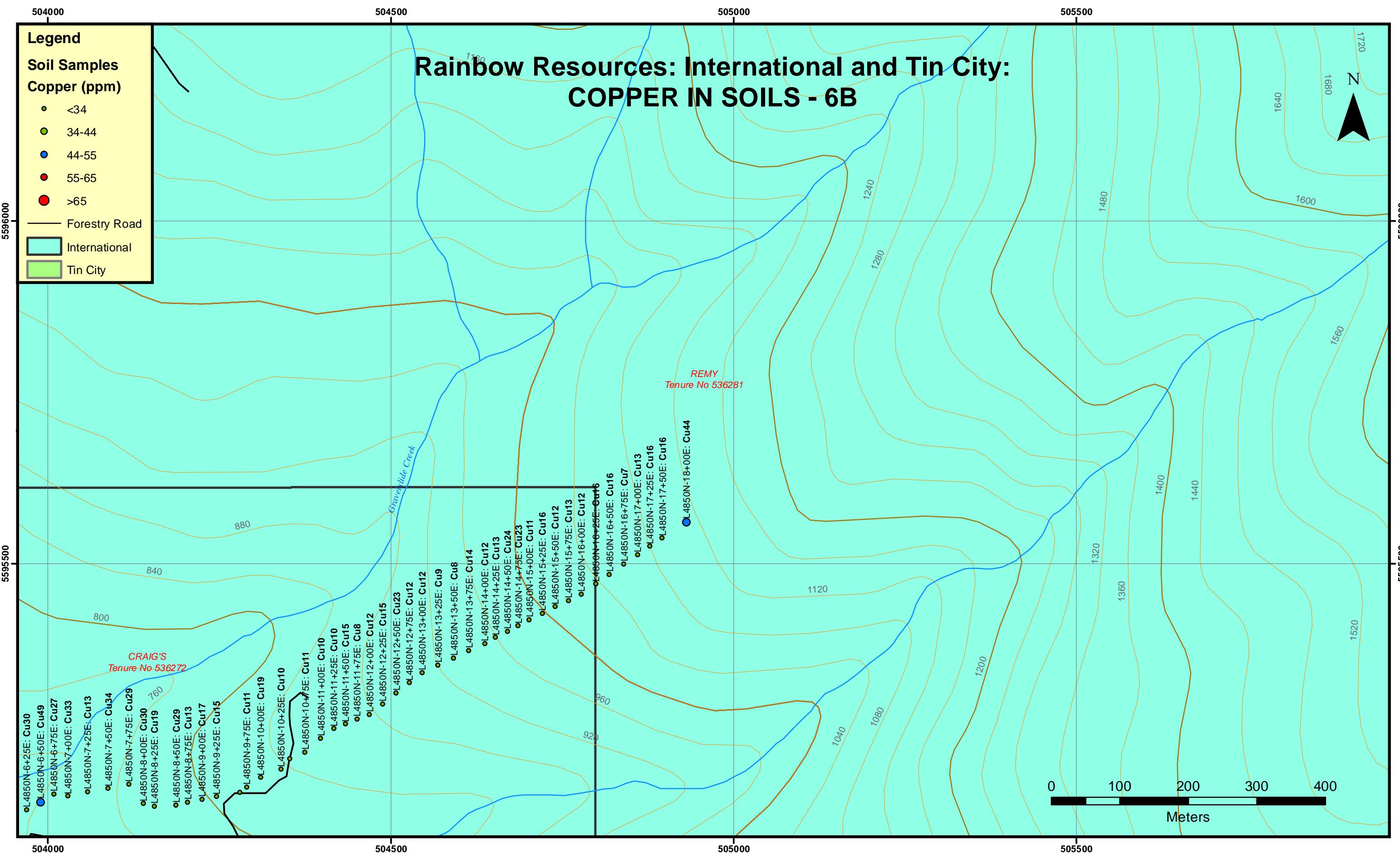


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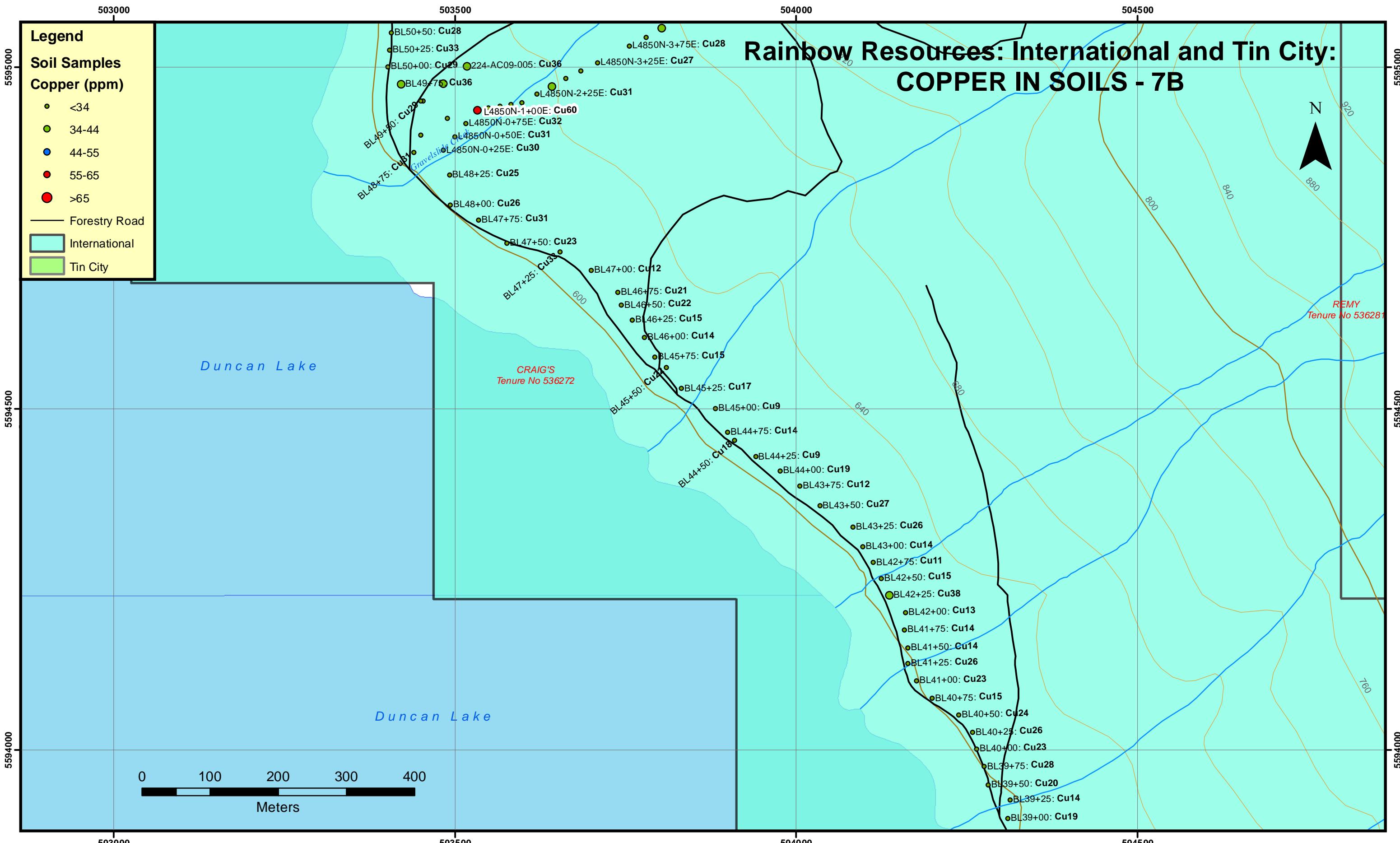
Author: Graham Milne  
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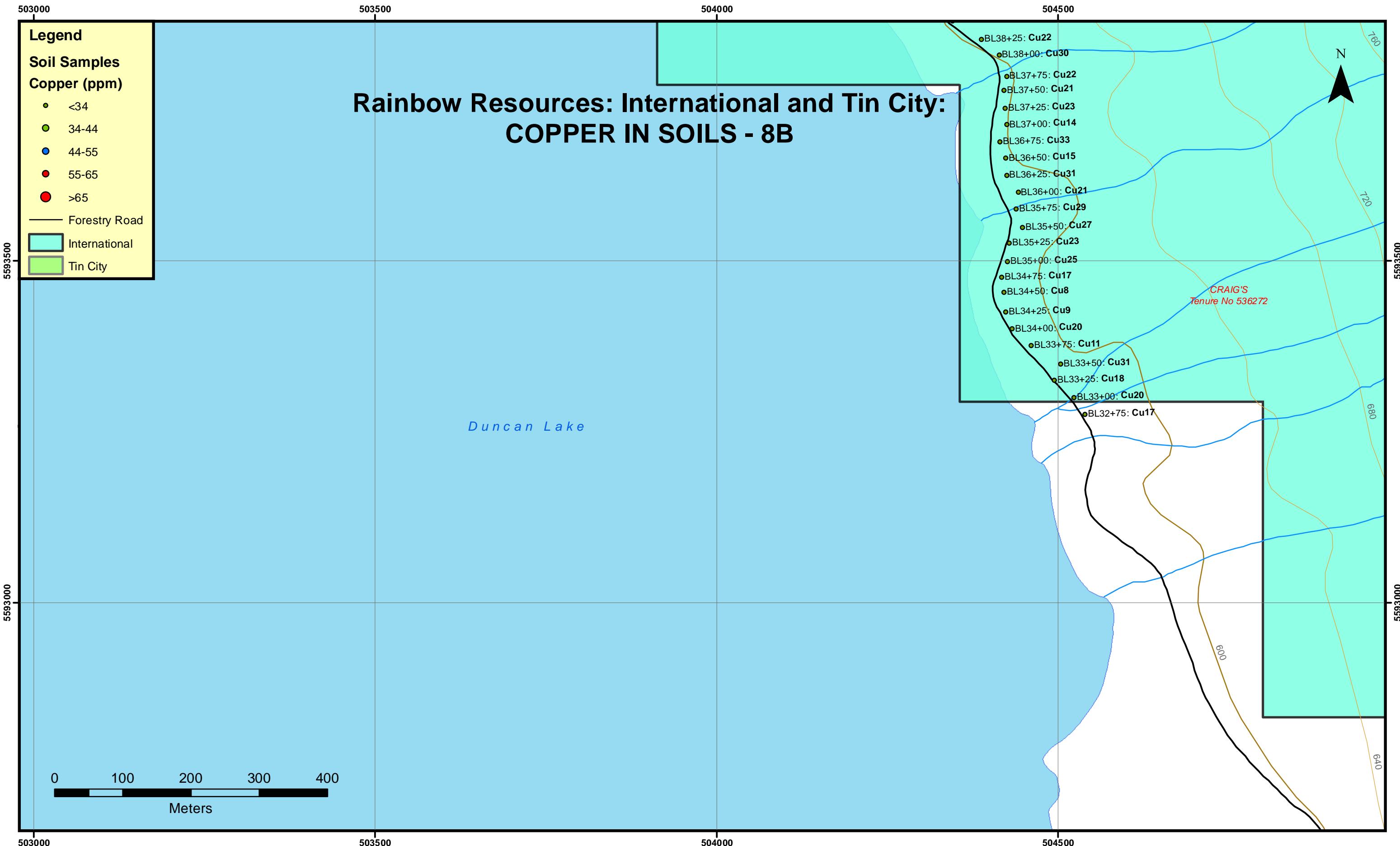
The logo for Moose Mountain Technical Services. It features a detailed silhouette of a moose's head and antlers on the left. To the right of the moose, the words "Moose Mountain" are written in a large, bold, serif font. Below "Moose Mountain", the words "Technical Services" are written in a smaller, sans-serif font. The background of the logo includes stylized mountain peaks.



Coordinate System: NAD 1983 UTM Zone 11N  
Projection: Transverse Mercator  
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Latitude Of Origin: 0.0000  
Units: Meter



The logo for Moose Mountain Technical Services. It features a detailed black silhouette of a moose's head and antlers on the left. To the right of the moose, the words "Moose Mountain" are written in a large, bold, sans-serif font. Below "Moose Mountain", the words "Technical Services" are written in a smaller, italicized sans-serif font. The background of the logo includes stylized white outlines of mountain peaks.



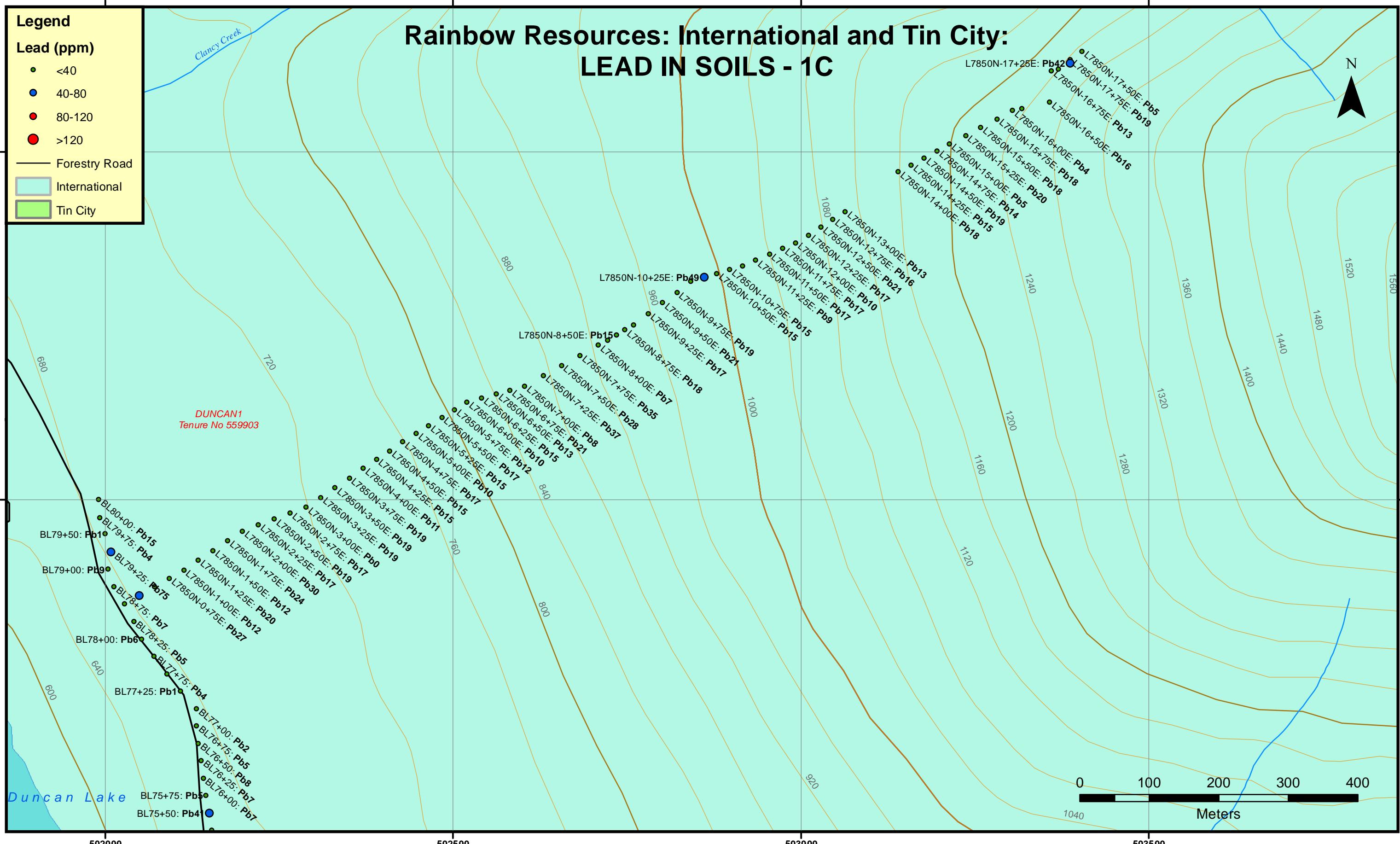
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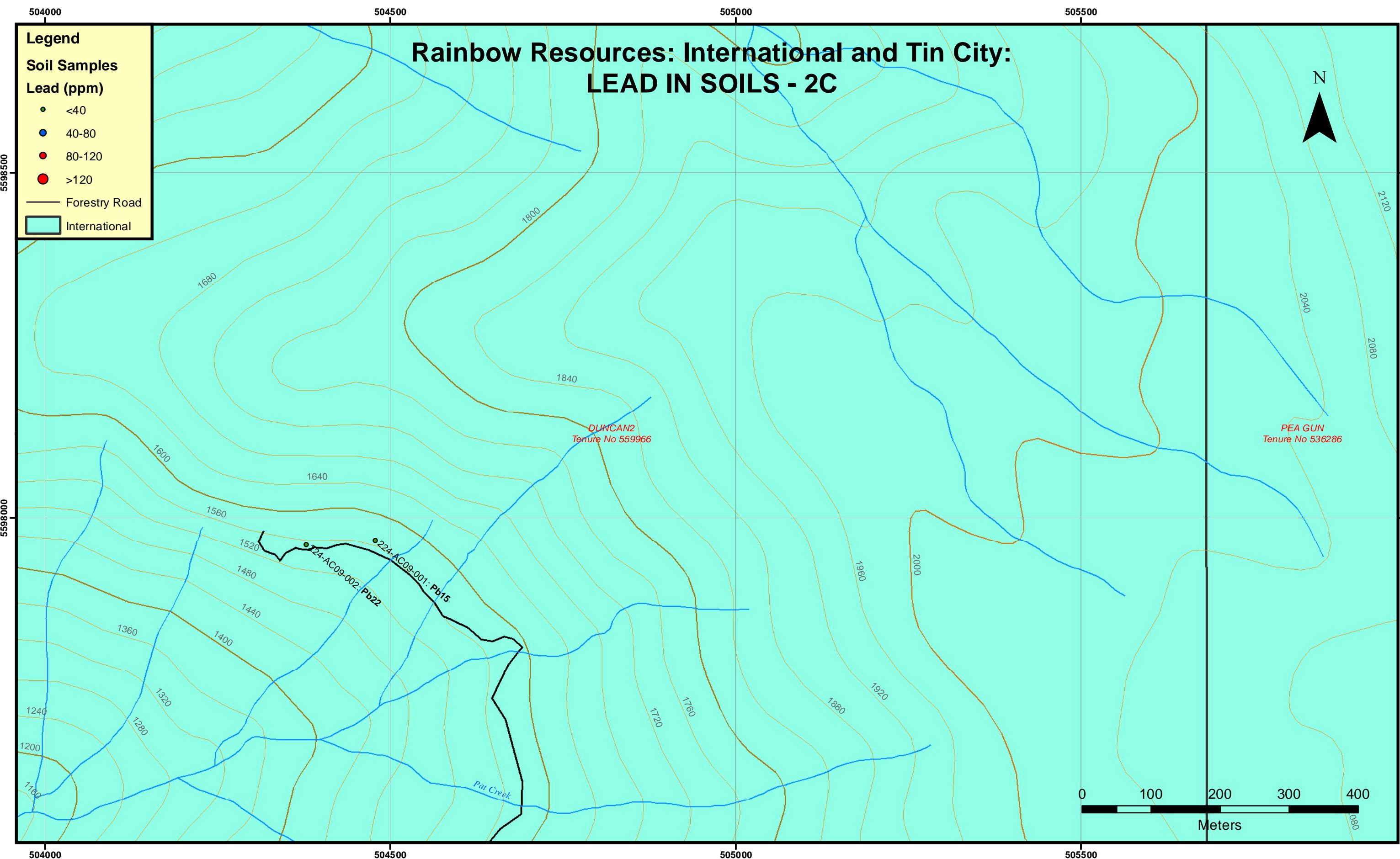


Moose Mountain  
Technical Services

SCALE: 1:5,000  
 Author: Graham Milne  
 Date Saved: 31/10/2012 3:16:52 PM

# Rainbow Resources: International and Tin City: LEAD IN SOILS - 1C



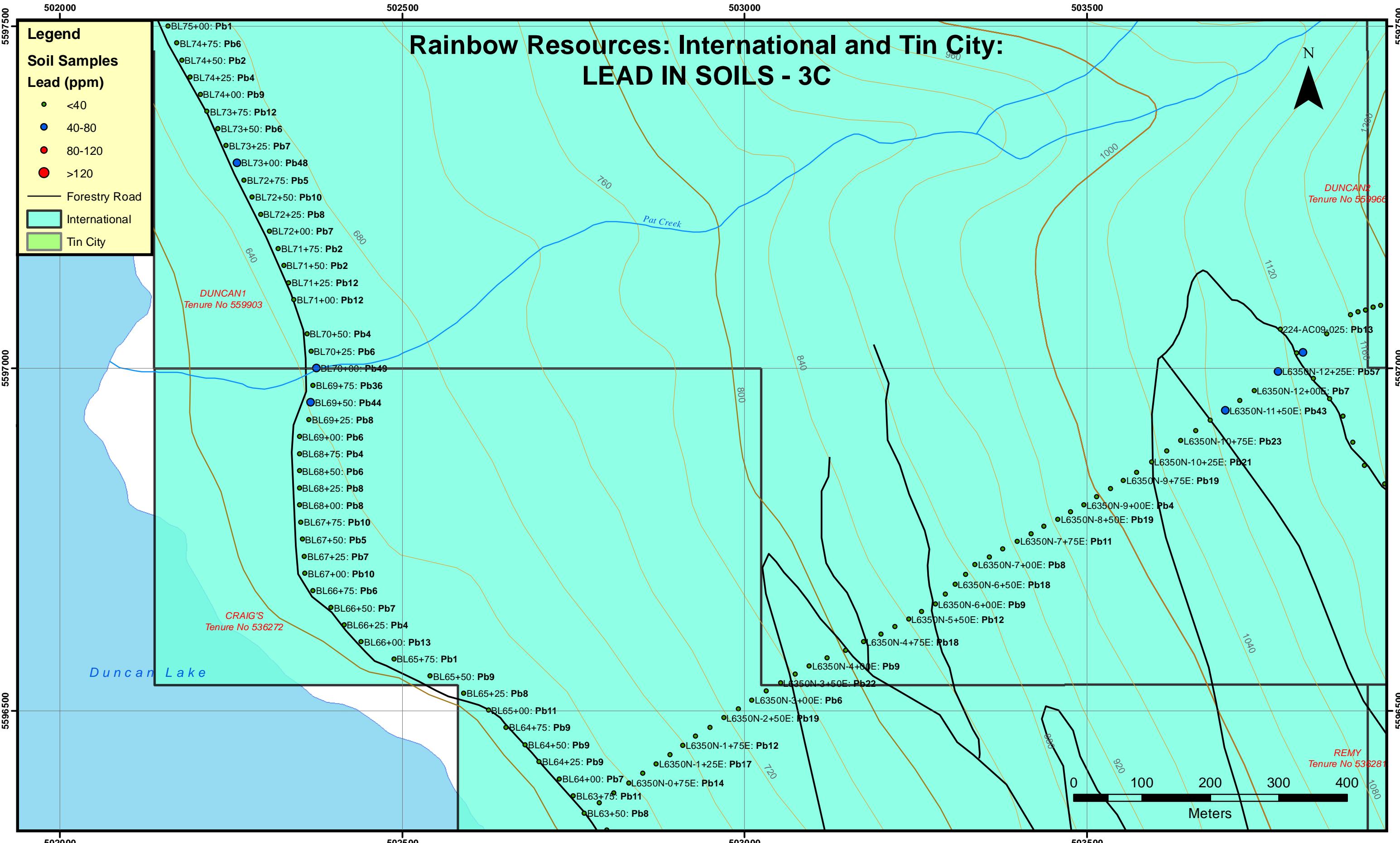


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SCALE: 1:5,000

Author: Graham Milne  
 Date Saved: 02/11/2012 10:21:26 AM

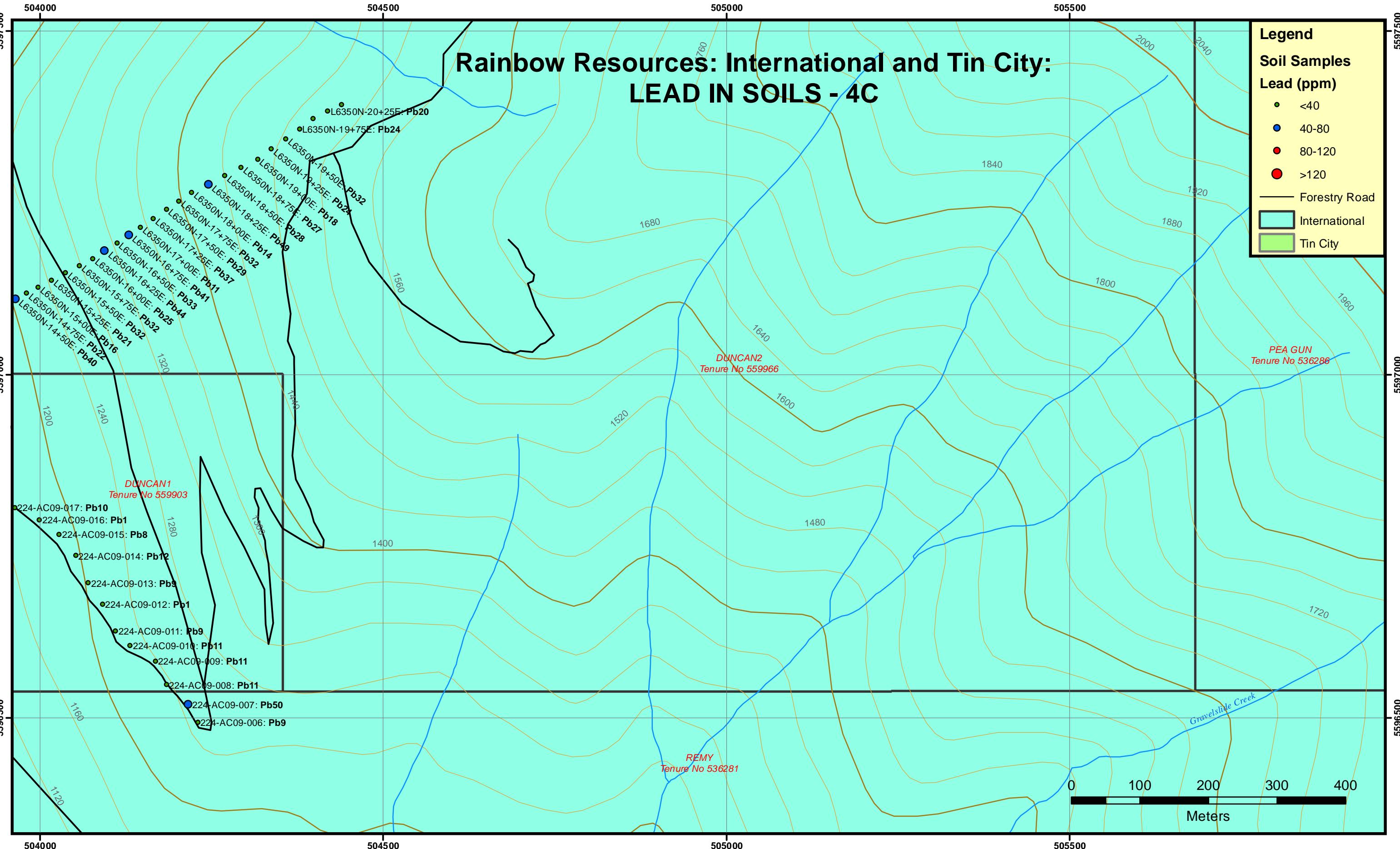


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**SCALE: 1:5,000**  
 Author: Graham Milne  
 Date Saved: 02/11/2012 10:24:35 AM



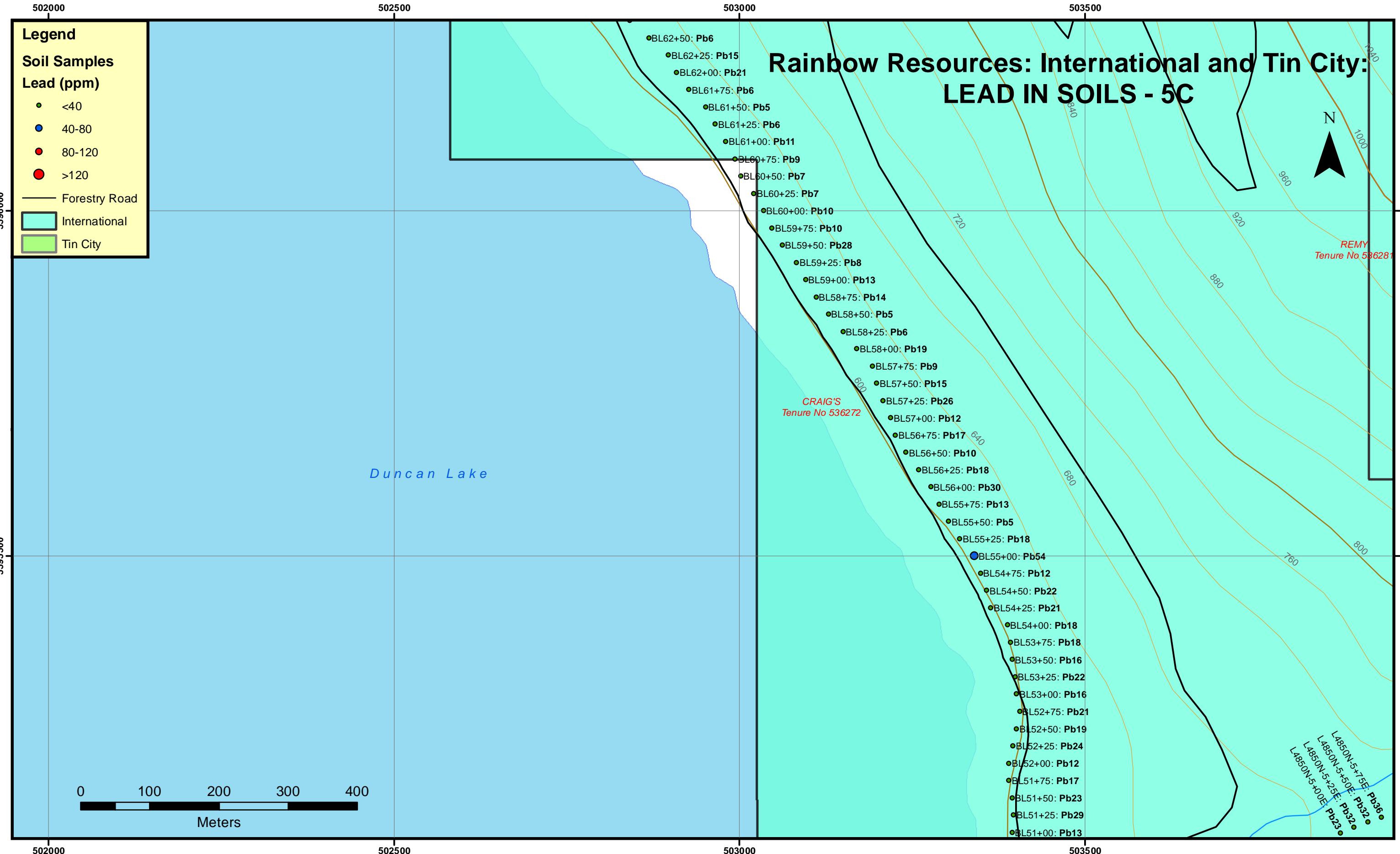


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**SCALE: 1:5,000**  
 Author: Graham Milne  
 Date Saved: 02/11/2012 10:31:53 AM

**Moose Mountain Technical Services**

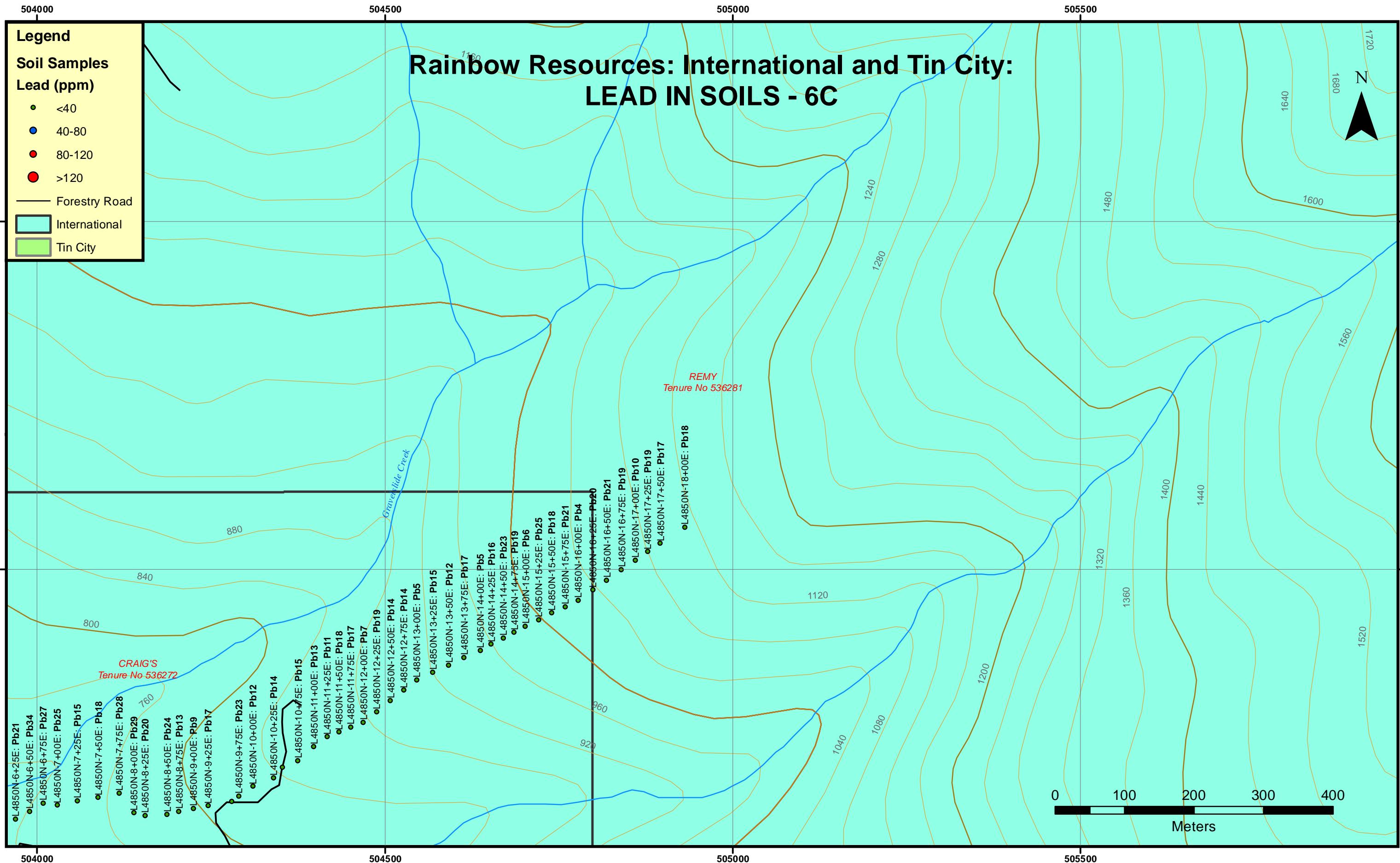


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SCALE: 1:5,000

Author: Graham Milne  
 Date Saved: 02/11/2012 10:34:44 AM

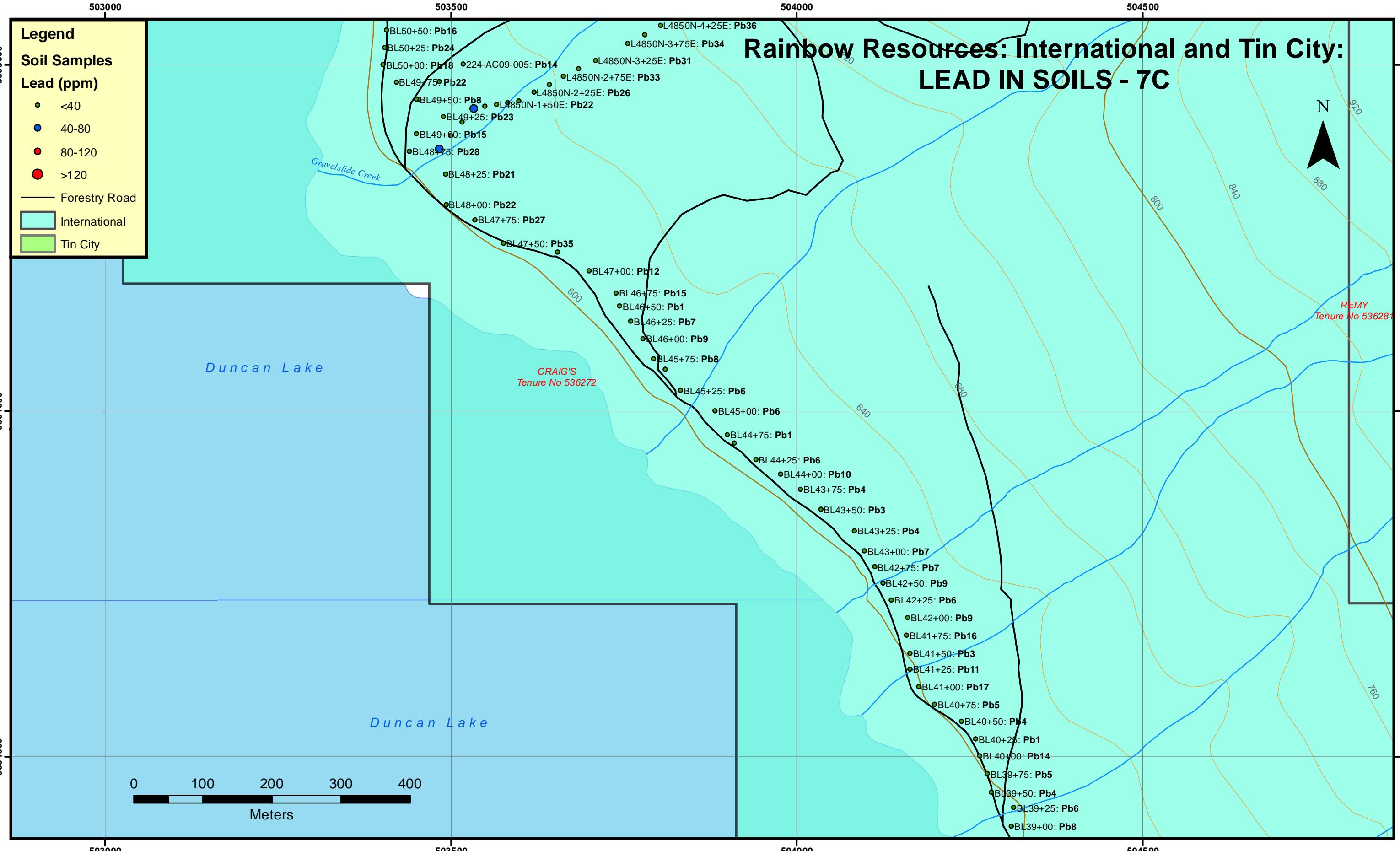


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SCALE: 1:5,000

Author: Graham Milne  
 Date Saved: 02/11/2012 10:37:33 AM

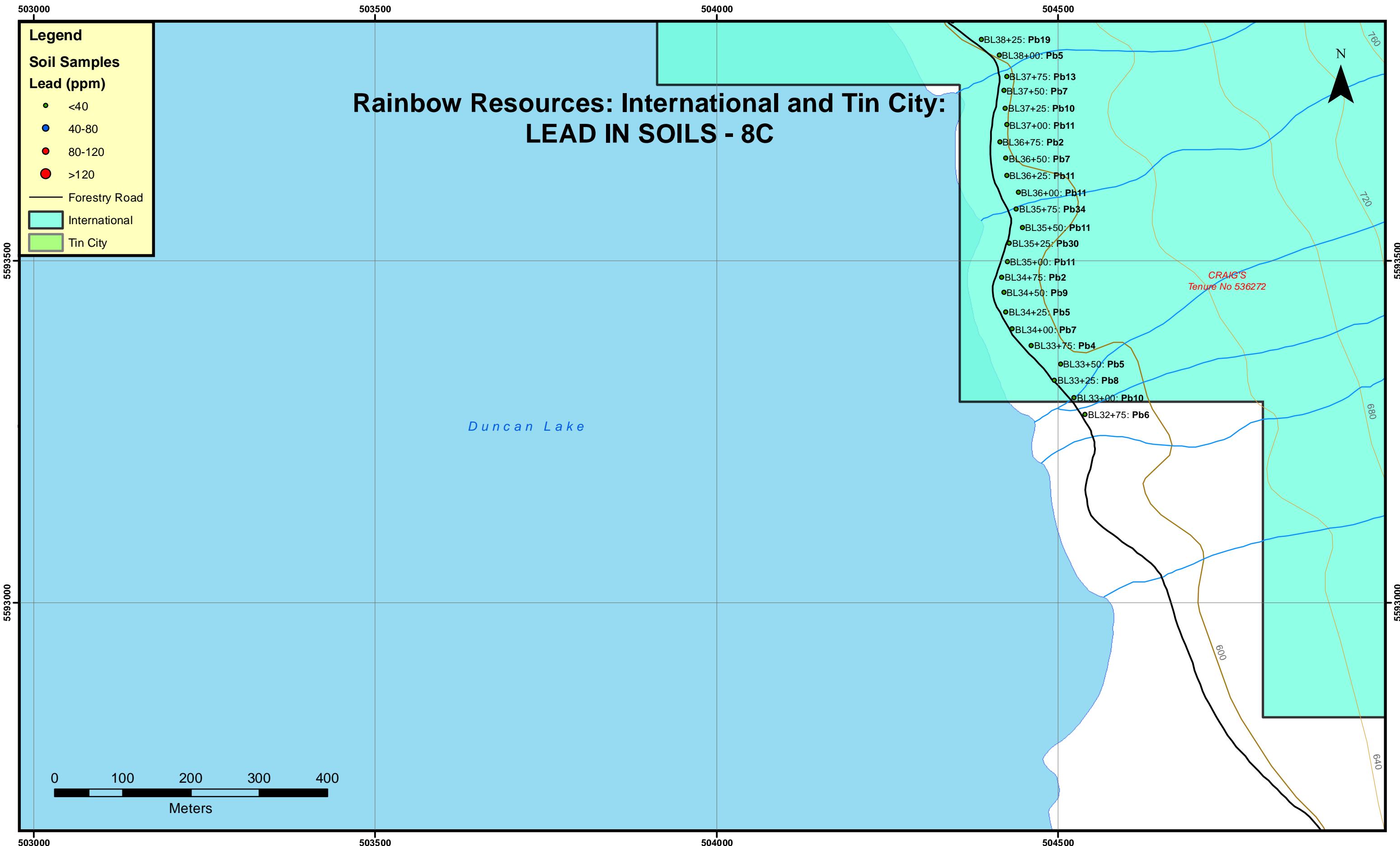


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Moose Mountain  
Technical Services

SCALE: 1:5,000  
 Author: Graham Milne  
 Date Saved: 02/11/2012 10:40:06 AM

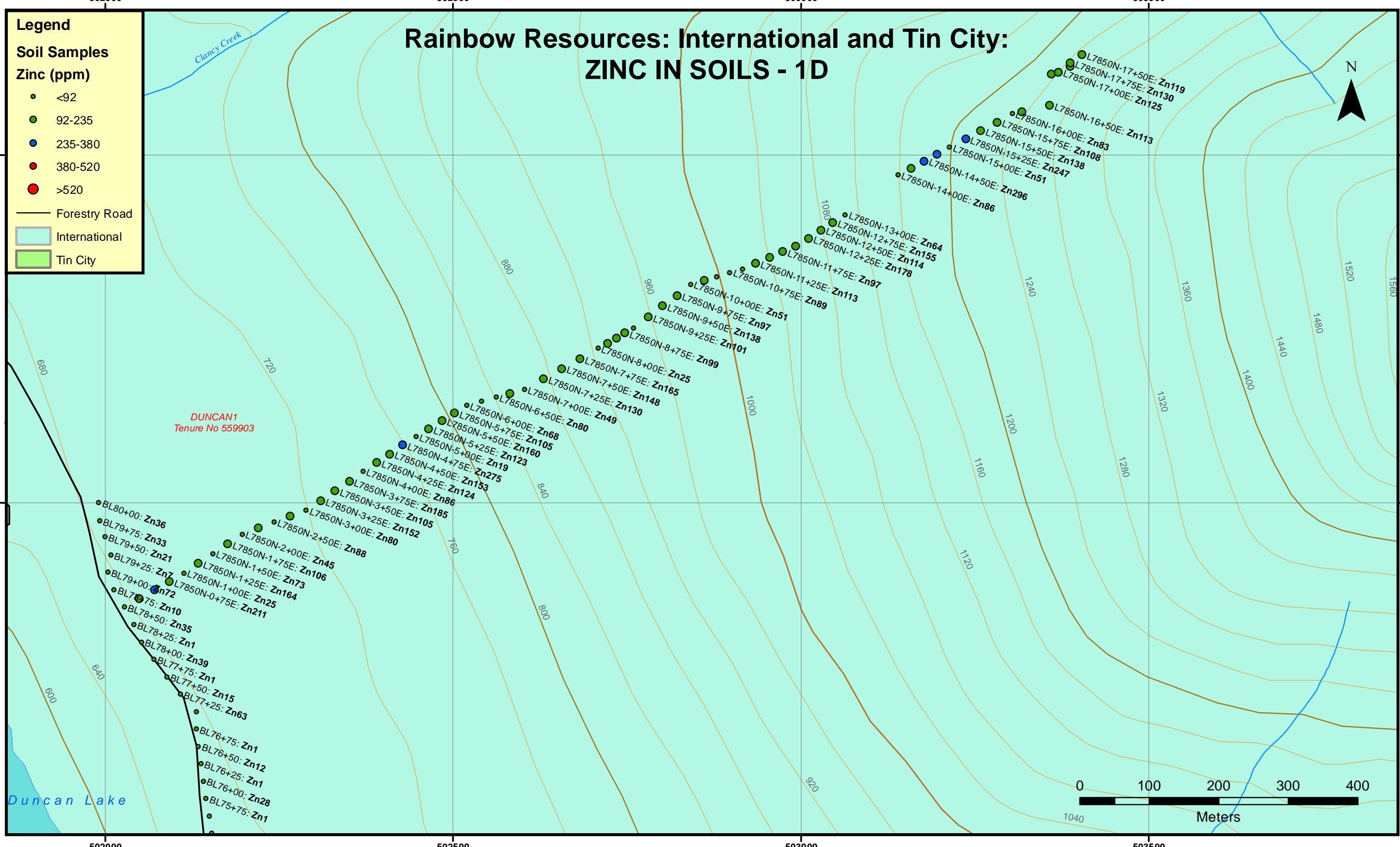


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Moose Mountain  
Technical Services

SCALE: 1:5,000  
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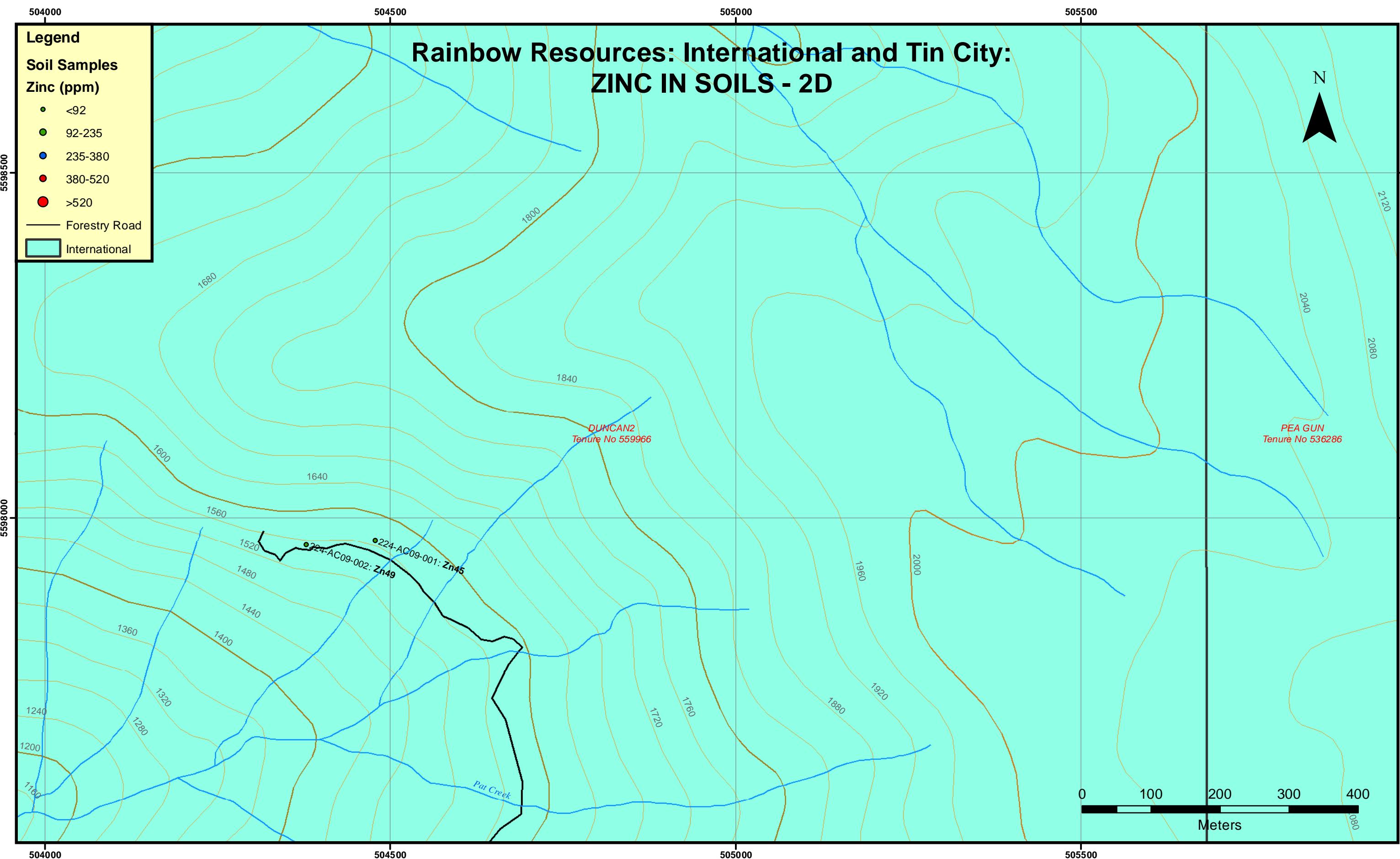


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**Moose Mountain**  
Technical Services

**SCALE: 1:5,000**  
 Author: Graham Milne  
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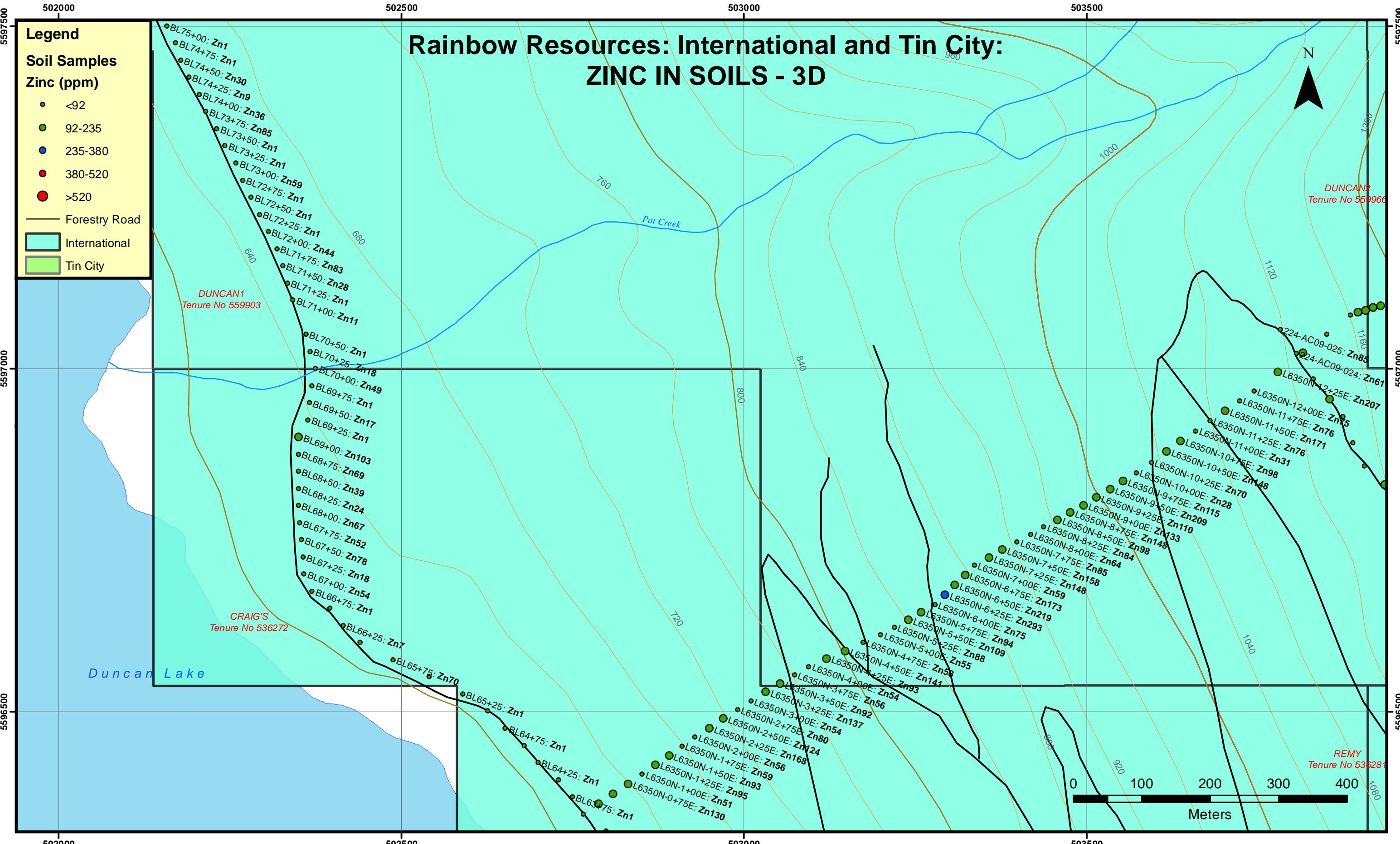


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SCALE: 1:5,000

Author: Graham Milne  
 Date Saved: 02/11/2012 11:10:03 AM

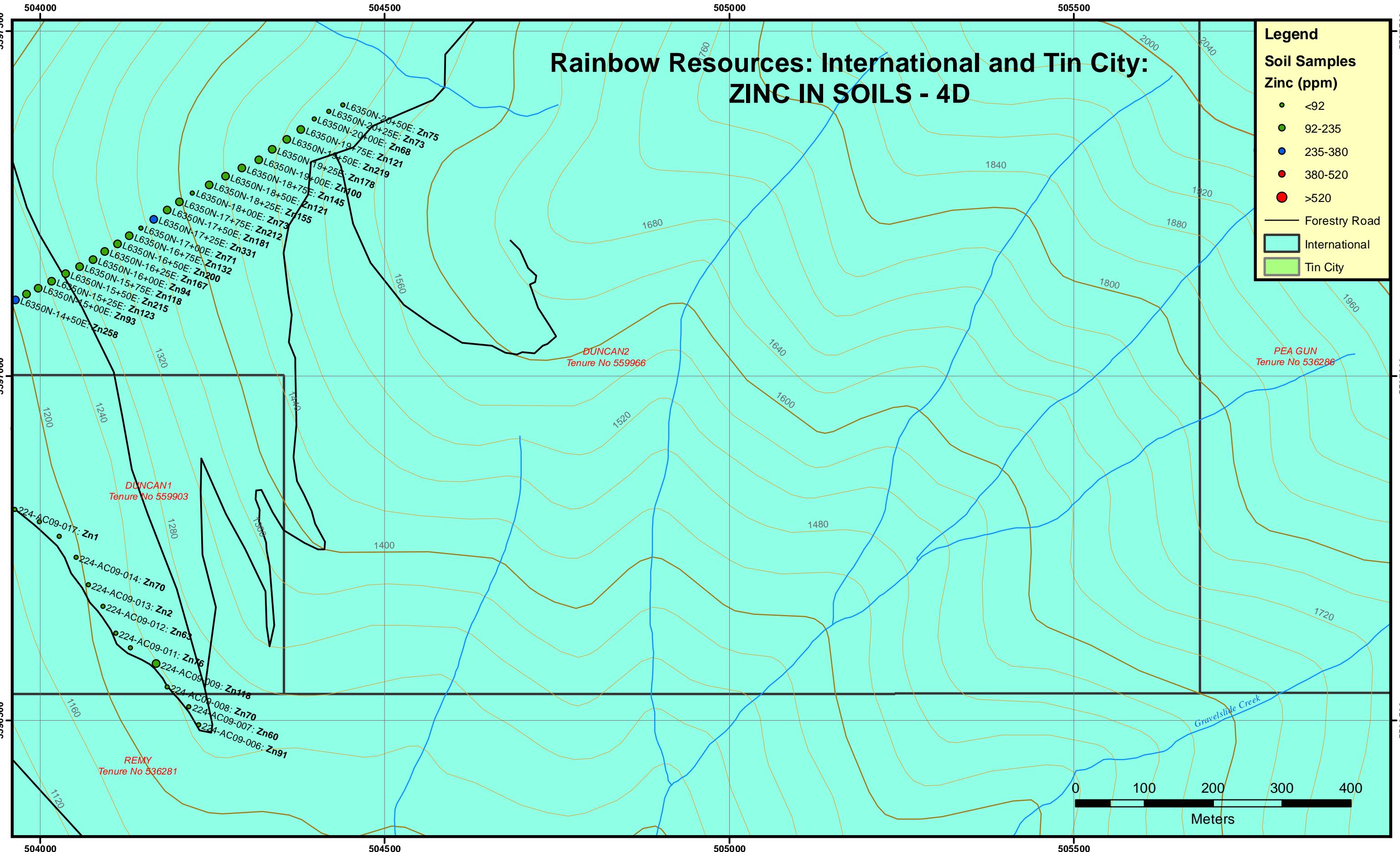


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 Date Saved: 02/11/2012 11:12:41 AM



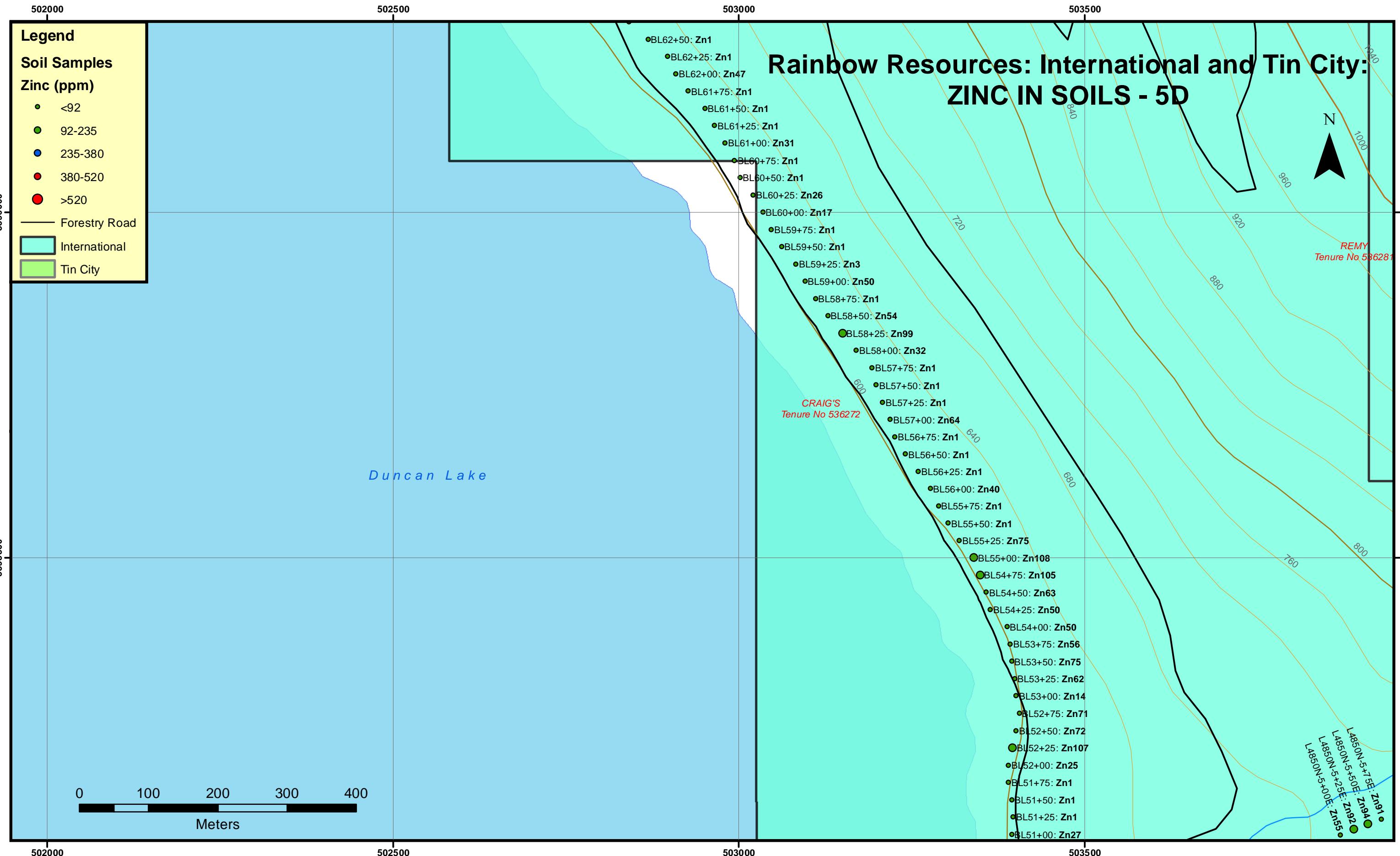


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Author: Graham Milne  
 Date Saved: 02/11/2012 11:14:38 AM

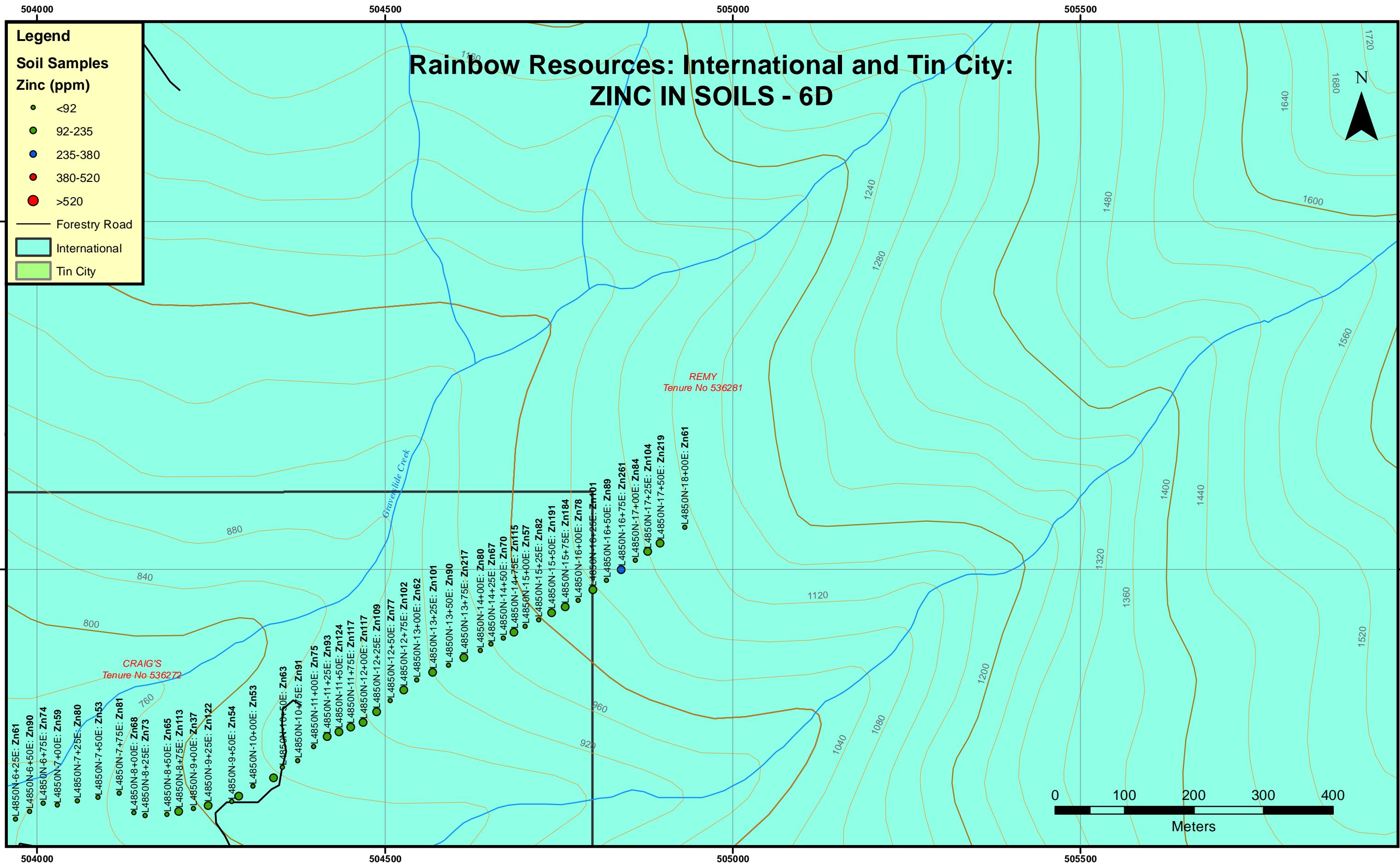


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Author: Graham Milne  
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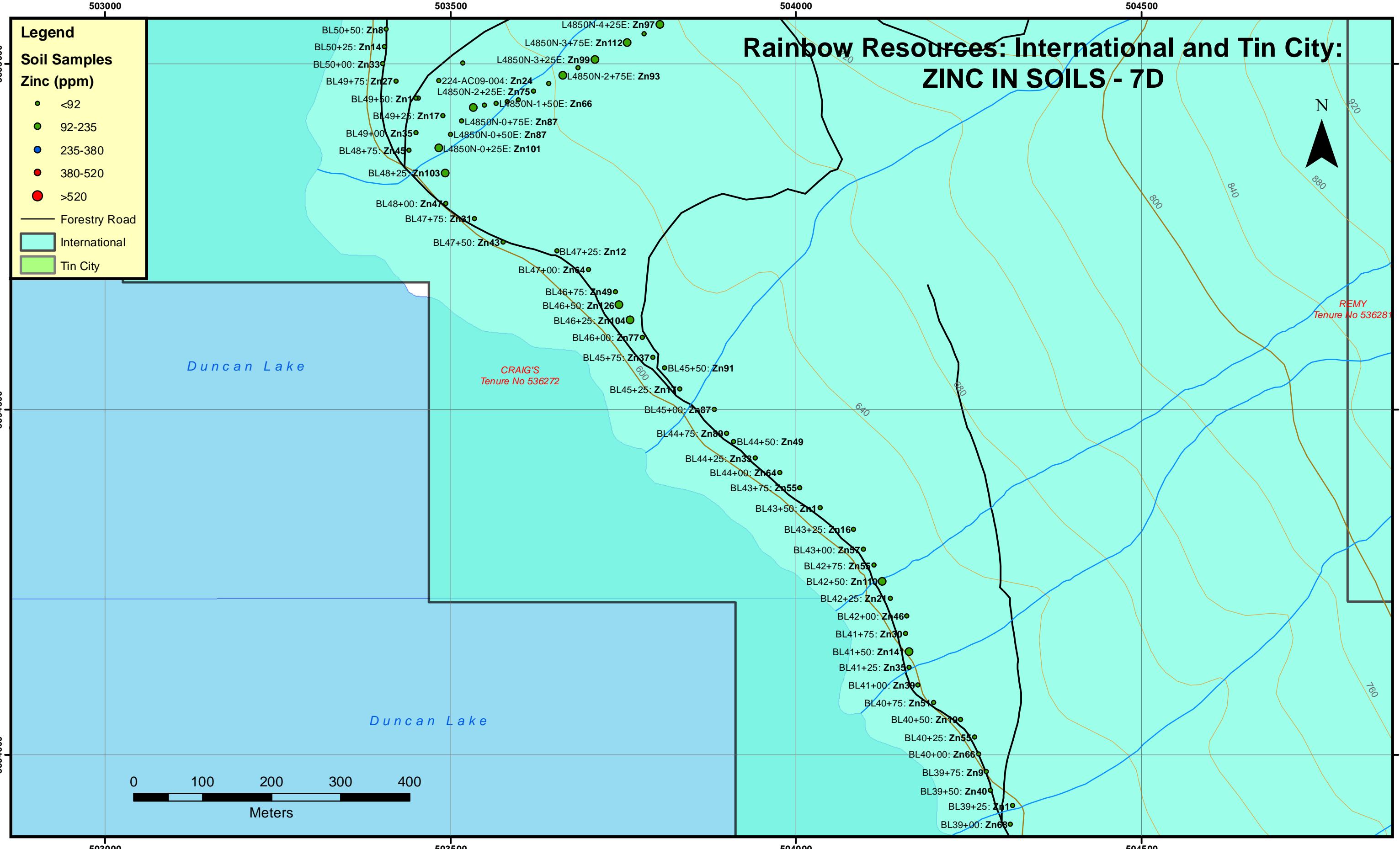
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SCALE: 1:5,000

Author: Graham Milne

Date Saved: 02/11/2012 11:18:07 AM

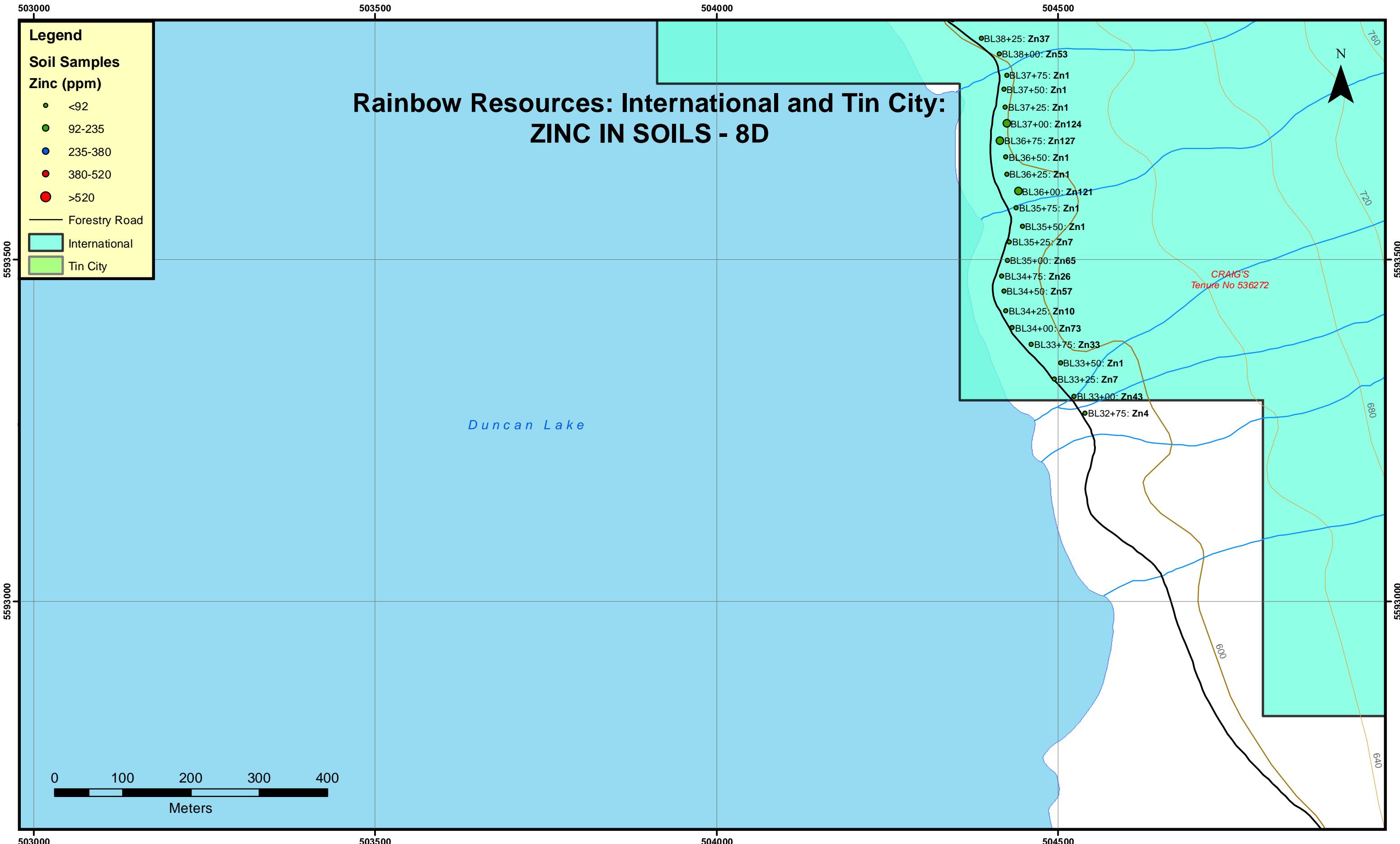


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Author: Graham Milne  
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**SCALED: 1:5,000**  
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**Moose Mountain  
Technical Services**