

**Updated Resource Report  
for the  
Hushamu Deposit,  
Northern Vancouver Island,  
British Columbia, Canada**

NTS Map Sheet: 092L12  
Latitude 50°40.5'N  
Longitude 127°51'W

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August 27, 2012

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## 1.0 SUMMARY

This report is written at the request of Northisle Copper and Gold Inc. (Northisle) to update the resource estimate of the Hushamu Deposit at the north end of Vancouver Island. A resource estimate was first completed for the deposit in 1993, prior to the inception of NI43-101. In 2005, Lumina Copper Corp. produced a resource estimate utilizing NI43-101 standards, which was updated in 2008 by IMA Exploration Inc. Since 2008, Northisle has completed an additional 5,839 m of drilling in 18 holes, re-logged the available historic drill core (approximately 80%), re-sampled selected portions of 107 historic drill holes, collecting a total of 5,837 samples, and completed a re-interpretation the deposit geology. This work was completed with rigorous Quality Assurance / Quality Control (QAQC) controls in place and this updated resource estimate incorporates the new and historic data.

Northisle Copper and Gold Inc. was created in October of 2011, when it was spun out of Western Copper Corporation by Plan of Arrangement. Pursuant to the Plan of Arrangement, Western Copper transferred 100% interest in the Island Copper property and \$2.5 million in cash to Northisle.

The Island Copper Property is located 15 kilometres (km) south of Port Hardy, BC along the north shore of Holberg Inlet on northern Vancouver Island. The Property consists of two separate claim blocks, referred to as the West Block and East Block. These two blocks are separated by mining leases which cover the site of the past producing Island Copper Mine, and other mineral claims, both held by other companies or individuals. The Property covers at least 7 known mineral prospects of porphyry or related style mineralization, mostly on the western block. The most advanced of these prospects is the Hushamu Deposit.

The Hushamu Deposit is a porphyry Cu-Au-Mo-Re deposit which is similar to the past producing Island Copper Mine in size, metal content and grade. At a 0.30% copper equivalent cut-off, the Hushamu Deposit has an Indicated Mineral Resource of 304,270,000 tonnes grading 0.21% copper (Cu), 0.29 g/t gold (Au), 0.10% molybdenum (Mo) and 0.55 g/t rhenium (Re) for a copper equivalent grade\* of 0.45% Cu. This translates into a contained metal content of 1.4 billion lbs of Cu, 2.8 million ounces of Au, 65.7 million lbs of Mo and 167,400 kg of Re.

In addition to the Indicated Mineral Resource, the deposit contains an Inferred Mineral Resource of 205,620,000 tonnes grading 0.18% Cu, 0.26 g/t Au, 0.008% Mo and 0.38 g/t Re for a copper equivalent grade of 0.39% Cu. This

translates into an additional 0.8 billion lbs of Cu, 1.7 million ounces of Au, 34.9 million lbs of Mo and 78,100 kg of Re.

Recommendations for the project are to conduct a Preliminary Economic Assessment (PEA) including initiating a metallurgical study. A budget of \$1,000,000 is estimated for the PEA and metallurgical work.

Should the PEA be positive the project will then be ready for environmental baseline studies and additional drilling to bring the Indicated and Inferred Resources into the Measured and Indicated categories. It is estimated that an additional 20 to 30,000 m of drilling will be required for this.

*\* Copper equivalent calculated using US\$2.50/lb Cu, US\$1100/oz Au and US\$14.00/lb Mo. Rhenium values have not been used in the cutoff grade or Cu Equivalent calculations*

## 2.0 INTRODUCTION

On October 12, 2011, Western Copper Corporation (Western Copper) completed a plan of arrangement involving Western Copper and two of its wholly-owned subsidiaries: NorthIsle Copper and Gold Inc. (NorthIsle) and Copper North Mining Corp. (Copper North) and Pursuant to the Arrangement, Western Copper transferred 100% interest in the Island Copper property and \$2.5 million in cash to NorthIsle and 100% interest in the Carmacks Copper Project, 100% interest in the Redstone Project, and \$2 million in cash to Copper North in consideration for common shares of each respective company. Western Copper then changed its name to Western Copper and Gold Corp. (“Western Gold”) and distributed the shares of NorthIsle and Copper North to its shareholders.

The Island Copper Project site is located 15 kilometres (km) south of Port Hardy, BC or 29 km west of the past producing Island Copper Mine. There are 7 known porphyry-related mineral occurrences on the property, the most advanced of which is the Hushamu Deposit.

In 2005, Lumina Copper Corp. commissioned Giroux Consulting Ltd. and Nanoose Geroservices to prepare a NI43-101 report on resource estimation for the Hushamu Copper-Gold Deposit. In 2008, IMA Exploration Inc. engaged Giroux Consultants Ltd. and Equity Engineering Ltd. to update the resource estimate (Baldys, et. al., 2009).

Since 2009, Western Copper and NorthIsle have conducted a significant amount of additional work on the property and re-interpreted the geology. This work has led to the updated resource estimate contained in this report.

In this report, all dollar amounts are expressed in Canadian currency unless otherwise specified.

## **2.1 TERMS OF REFERENCE**

Northisle has commissioned Giroux Consultants Ltd and Casselman Geological Services Ltd. to prepare an updated resources estimate utilizing the NI43-101 standard for the Hushamu Copper-Gold Deposit, on northern Vancouver Island. The effective date for this Resource is June 6, 2012. This update is based on an additional 18 diamond drill holes completed on the Hushamu deposit during 2012 and a new alteration based geologic model.

G.H. Giroux is the qualified person responsible for the resource estimate (section 13.0) and co-author of sections 16.0 and 17.0. Mr. Giroux is a qualified person by virtue of education, experience and membership in a professional association. He is independent of both the issuer and the vendor applying all of the tests in section 1.5 of National Instrument 43-101. Mr. Giroux has not visited the property.

Scott Casselman, B.Sc., P.Geo., of Casselman Geological Services Ltd is the qualified person responsible for sections 1.0 through 12.0, 14.0, 15.0 and co-author of sections 16.0 and 17.0 of this report. Mr. Casselman is independent of Northisle applying all of the tests in Section 1.5 of National Instrument 43-101. He has visited the property February 23 to 25, 2011 and June 19 and 20, 2012.

### **3.0 RELIANCE ON OTHER EXPERTS**

This report relies on information and data gathered from existing reports prepared by other consultants and companies. This report relies primarily on information contained in the most recent claim assessment report prepared by Halle Geological Services Ltd (Halle and Halle, 2012) and by IMA Exploration Inc. (Baldys, et. al., 2009). The authors have no reason to doubt the reliability of these reports.

The authors relied on data provided by Northisle for geological interpretation, drill data, assay data, environmental studies and permitting. The authors have no reason to doubt the reliability of this data.

The information regarding mineral tenure was obtained from Northisle and verified on the BC Government online website, Mineral Titles Online (<http://webmap.em.gov.bc.ca>).

### **4.0 PROPERTY DESCRIPTION AND LOCATION**

The Island Copper Project is located on Northern Vancouver Island on NTS map sheets 92L12 and 102I/09 centered at latitude 50°40'N and longitude 127°45'W, 20 km south of Port Hardy, BC as shown on Figure 4.1. The Project occurs on two claim blocks; the East Block located east of Holberg Inlet; and the West Block, which occurs along the northern shore of Holberg Inlet. Both blocks are in the Nanaimo Mining Division. The Hushamu Deposit occurs fully within the West Block.

The West Block consists of 196 mineral claims measuring 29,920 hectares, as shown on Figure 4.2. A list of claims is included in Appendix 1. The claims are 100% owned by North Island Mining Corp., a 100% owned subsidiary of Northisle Copper and Gold Inc. This information has been verified from the BC Government Mineral Titles Online website (<http://webmap.em.gov.bc.ca>), which states that all claims are in good standing. This information is current as of August 10, 2012.

The property is located on Crown Land and the surface rights are unencumbered. The East Block of the property is within the region of the Kwakiutl First Nation, while the West Block is within the region of the Quatsino First Nation and Tlatlasikwala First. The authors are not aware of any existing environmental liabilities on the property.





Figure 4.1 Property Location Map

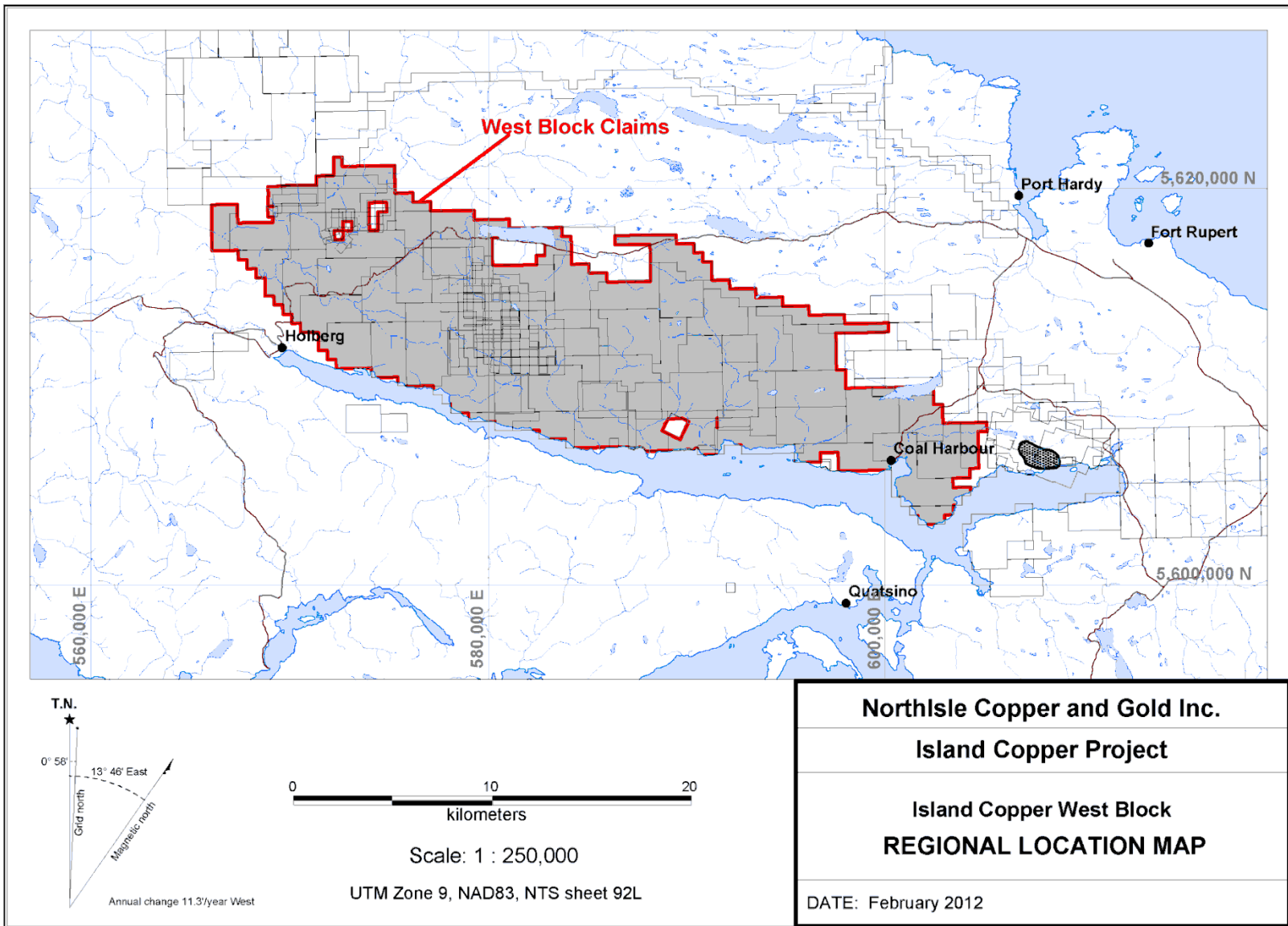


Figure 4.2 Claim Map

## **5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

The project site is accessible by way an extensive network of radio controlled logging roads. The Hushamu Deposit is accessed from Port Hardy by a sealed road to Coal Harbour and the well maintained logging roads Coal Harbour Main Rd, the Wanokana Rd, and the Hushamu Rd., which extend to the mouth of the Hushamu Valley. Lesser-used North and North-West sections of Hushamu Main Road lead to Hushamu Lake and Hepler Creek. The top of the Hushamu Mountain is accessed via Clesklagh Rd and the decommissioned (semi-permanent in WFP classification) CL130 road.

Logging activity has occurred throughout the majority of the property for several decades and is active at present. Approximately 50% of the West Block has been clear cut. Western Forest Products is the main forestry tenure holder. The vegetation throughout the deposit area consists of predominantly second-growth fir, hemlock, spruce and cedar.

The topography of the West Block is characterized by north and north-west trending ridgelines with broad intervening valleys that typically contain small streams or rivers. Elevations range from sea level, at Holberg Inlet, to 720 m. above sea level. Ridges typically reach 100 to 300 m above valley floors. The Hushamu Deposit is situated in a northwest trending valley with Hushamu Lake in the valley bottom. The deposit occurs under the lake and the hillside of Hushamu Mountain south of the lake. The highest peak at Hushamu Mountain is at 690 m.

The climate in the region is typical of coastal areas of British Columbia with an annual precipitation in Coal Harbour of 1,987 mm, and a daily average temperature of 8.8°C (Environment Canada, 1971-2000). Winters are very wet, with 75% of the annual precipitation occurring from October to March, mostly as rainfall at lower elevation (Coal Harbour is at 57 m elevation), but with significantly increasing percentage of snowfall accumulation above 300 m elevation. Generally, exploration and development work is possible for most of the year, allowing for a long exploration field season.

The Port Hardy area has a long history of mining from the Island Copper mine, which ceased operations in 1995. The area also has a long history of heavy industry from the logging operations. Port Hardy has sufficiently established infrastructure that would be able to provide for development of a mining operation. The region also has well established road and power network, much of which is a legacy of the Island Copper Mine.

## 6.0 HISTORY

In 1962, the British Columbia Department of Mines and the Geological Survey of Canada jointly flew an airborne magnetic survey covering the northern part of Vancouver Island. This survey delineated a belt of north-westerly-trending magnetic highs north of Holberg and Rupert Inlets. The results prompted an exploration rush, mostly focused for skarn-type iron deposits (Muntanion and Witherley, 1982).

In 1965, local prospector, Gordon Melbourne, staked a magnetic anomaly at Bay Lake near the eastern end of Rupert Inlet and discovered chalcopyrite in float. Utah Construction and Mining Co. (Utah) optioned the property in January, 1966 and conducted geological mapping, soil sampling and ground geophysics, followed by diamond drilling. The discovery hole – the eighty-second hole of the program – was drilled in February, 1967 and intersected 88 m grading 0.45% Cu. This discovery resulted in the development of the Island Copper Mine, with production beginning in October, 1971 and continuing through December, 1995. In 1984, BHP Minerals acquired Utah to form BHP-Utah Mines Ltd (BHP-Utah), which then operated the mine. Over the life of the operation the mine produced 345 million metric tonnes of ore with average grades of 0.41% copper, 0.017% molybdenum, 0.19 g/t gold and 1.4 g/t silver (Perelló et al., 1995). The Island Copper mine is located about 29 kilometers east of the Hushamu Deposit.

The Hushamu Deposit was originally discovered in 1968. Between 1966 and 1977, Utah conducted numerous exploration programs and drilled 146 diamond drill holes in the Hushamu and Hep Creek valleys. Highlights of the work on Hushamu include:

- Eight drill holes, 557 metres in 1968. Hole EC-19 returned between 0.10 and 0.42% Cu throughout its length. Due to difficult ground conditions and small core diameter, four holes were lost.
- Nine drill holes, 873 metres in 1969.
- Six drill holes, 1,077 metres, in 1971
- Eight drill holes, 1,112 metres in 1972
- Nineteen drill holes at Hushamu; two drill holes at South Hushamu, for a total of 3,106 metres in 1973.
- Nineteen drill holes, 3,885 metres in 1974.
- Seven drill holes, 885 metres in 1976/77 at Hushamu and South-east Hushamu (also known as South-East McIntosh Mountain).

In 1975, Utah estimated the Hushamu deposit to contain 52.9 Mt grading 0.32% Cu, 0.008% Mo and 0.41 g/t Au (not 43-101 compliant), with a stripping ratio of 2.21:1 (BHP, 1975).

In 1980, Utah examined the epithermal gold potential of Hushamu Mountain and Pemberton Hills (7 km ESE of Hushamu) alteration systems. Between 1980 and 1985, Utah and BHP conducted detailed soil surveys, extensive rock sampling, ground geophysical surveys and drilled an additional 12 drill holes, 10 of which were at Hushamu and South-east Hushamu for a total of 1,454 m.

In 1987, BHP-Utah optioned the Expo Property, including the Hushamu area, to Moraga Resources Ltd. (Moraga). In 1991, the shares of Moraga were purchased by Jordex Resources Inc. From 1987 to 1994 numerous phases of exploration were conducted and the option agreement was vested.

During this period Moraga/Jordex focused their drilling efforts on the Hushamu Deposit and nearby McIntosh Mountain area completing 45 holes for 13,668 m (Giroux and Pawliuk, 2003). From 1991 to 1993, Jordex conducted a number of advance studies on the deposit including initiating a metallurgical study (Melis and Cron, 1992), a study of ore transport alternatives (Fernie, 1991), a preliminary mining study (Graham, 1993) and a resources calculation (Giroux, 1993). The resource was up-graded to NI 43-101 compliance in 2003 (Giroux and Pawliuk, 2003). At the time, the Hushamu Deposit was estimated to contain 231 Mt measured and indicated resource grading 0.28% Cu and 0.31 g/t Au.

Just prior to closure of the Island Copper Mine, in 1994 and 1995, Jordex sought partners to provide capital to bring the Hushamu Deposit into production and utilize the Island Copper mill (Jordex Correspondence, 1994-1996). Ultimately, no partner was found and the mill was decommissioned as scheduled. In the following few years, Jordex continued to examine the potential of the Expo Property (Fingler, 1996; Roscoe and Cargill, 1996) and flew a 156km helicopter-borne geophysical survey (Woolham, 1997).

Lumina Copper Corp. purchased Jordex in 2003 to acquire the core Hushamu claim holdings. In 2005, the company was re-organized to Lumina Resources Corp. (Lumina). Lumina carried out property-wide exploration in 2005 consisting of historic data compilation, 2,687 line-km of helicopter-borne geophysical survey over the entire property, core re-logging, diamond drilling at Hushamu and NW Expo (18 holes, 3,155.2 m), geological mapping, prospecting and soil sampling (Baker, 2005a).

In 2007, Western Copper Corporation (Western Copper) acquired Lumina and its interests in the Hushamu property. From February through April of that year, Western Copper drilled 15 holes totalling 4,360.3 metres at the NW Expo and Cougar areas.

In 2008, IMA Exploration Inc. (IMA) optioned the property from Western Copper and completed a drilling program consisting of 2 holes for 513 m at Hushamu and 11 holes for 4,610 m at NW Expo. The drilling at Hushamu was designed to confirm the grade continuity of the core portion of the mineralized

zone and to specifically test for rhenium and molybdenum, which had never been systematically evaluated. The 2 holes at Hushamu returned:

HI08-03 - 179.3 m @ 0.471 g/t Au, 0.423% Cu, 0.011% Mo, 0.436 g/t Re

HI08-08 – 164.0 m @ 0.505 g/t Au, 0.303% Cu, 0.007% Mo and 0.419 g/t Re

## **7.0 GEOLOGICAL SETTING**

### **7.1 REGIONAL GEOLOGY**

The most recent description of the regional geology of the Rupert area is given by Nixon et al. (2006). The following summary is taken predominantly from Nixon's paper and references therein. Figure 7.1 shows the bedrock geology of northern Vancouver Island.

Vancouver Island is underlain by Upper Paleozoic to Lower Mesozoic rocks of Wrangellia – a tectonostratigraphic terrane that occurs discontinuously northward as far as central Alaska. This terrane was amalgamated to the Alexander Terrane of the Alaskan Panhandle (together comprising the Insular Superterrane) by Late Carboniferous time. Subsequently, these terranes were accreted to North America between the Middle Jurassic and the mid-Cretaceous. Thus, Vancouver Island records an early allochthonous history, and a later history with commonality to the North American margin.

The pre-accretion history of Wrangellia is represented by the Paleozoic Sicker Group and the Middle Triassic Karmutsen Formation. The Sicker Group comprises marine Devonian to Early Permian volcanic and sedimentary rocks that host VMS deposits such as at Myra Falls. The Karmutsen Formation is up to 6,000 m thick, conformably overlies the Sicker Group, and comprises basaltic and minor sedimentary rocks. The Karmutsen is in turn conformably overlain by the Quatsino Formation which consists predominantly of limestone and represents a period of quietude.

The Bonanza Arc (DeBari et al., 1999) formed along the length of Vancouver Island during accretion of Wrangellia. The Arc consists of the West Coast Crystalline Complex, Island Intrusions and the Bonanza Group volcanic rocks. Intrusive rocks of the Island Intrusions are responsible for porphyry copper mineralization on Vancouver Island.



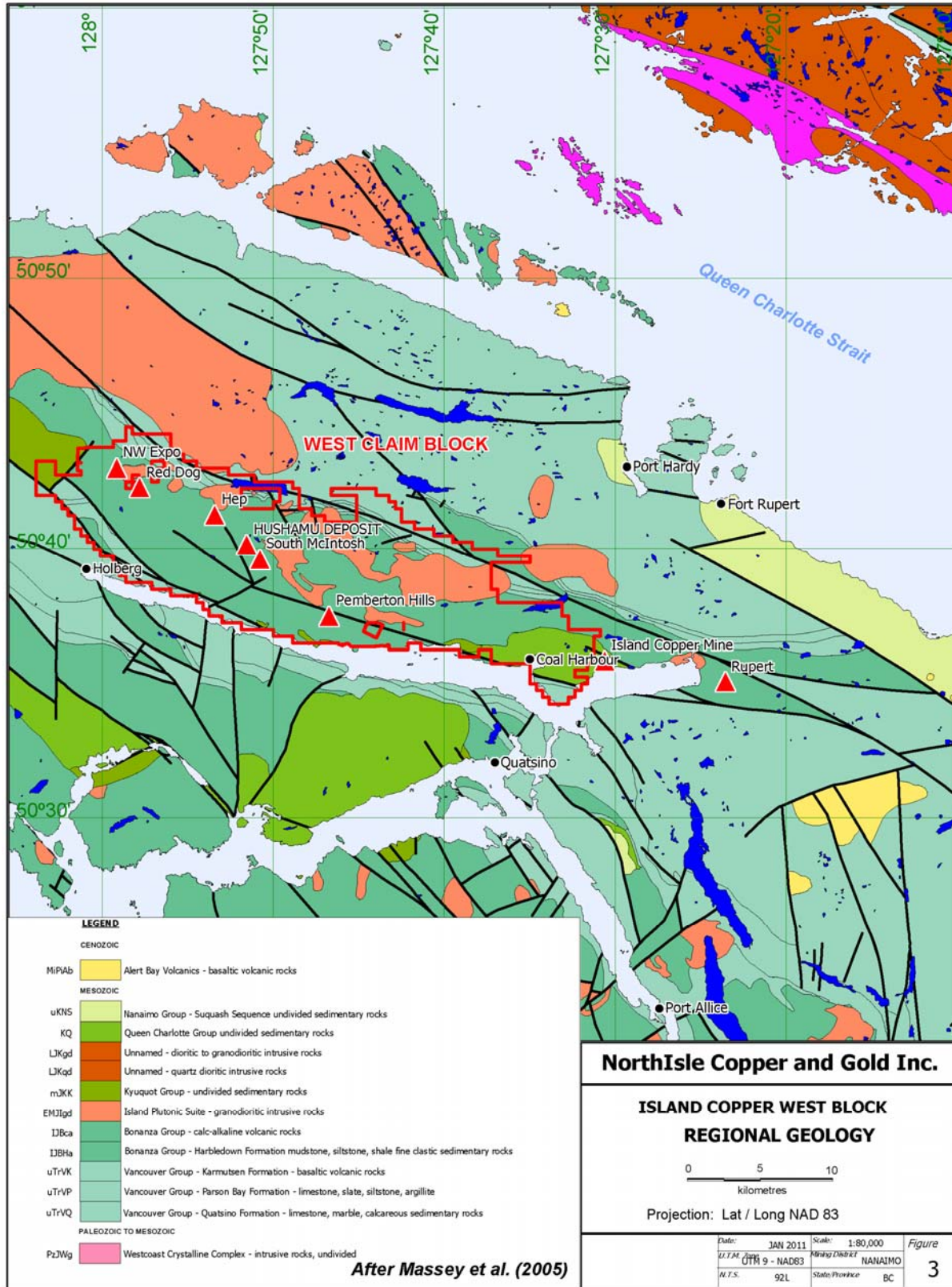


Figure 7.1 Hushamu Area Geology

## 7.2 PROPERTY GEOLOGY

In the vicinity of the Hushamu Deposit the dominant rocks are from the early to mid-jurassic Bonanza Group volcanics and the Mid-Jurassic Island Plutonic Suite. Five major lithologic units are noted on the Hushamu Property: massive andesite, diorite, quartz-feldspar porphyry, hydrothermal breccia, and late breccia. The massive andesite can be further broken down into an amygdaloidal unit, a feldspar-phyric unit and a tuffaceous unit and is the host rock to the majority of the porphyry alteration and mineralization (Halle and Halle, 2012).

Of particular importance to the mineralizing event is the amygdaloidal unit of the andesite. It contains coarse phenocrysts of a combination of locally shattered, altered pyroxenes and, more rarely, feldspars. Coarse, ovate, often mafic-cored quartz grains are currently termed amygdules, but these may be devitrification features. Halle and Halle (2012) believe this unit has been historically mistaken as quartz-feldspar porphyry or monzonite though some did recognize the shattered grains and called it “hybridized quartz-feldspar porphyry”. This unit is of importance as it is the primary host for Cu-Mo mineralization, possibly due to its porosity and/or mafic content, and it is frequently overprinted by silica-clay alteration.

The feldspar-phyric unit of the andesite is rarer and occurs primarily in the top 100 metres of the silica cap of the deposit. It is possible that this unit is a silica-clay altered version of the amygdaloidal unit and, as such, may be the dominant volcanic sub-type of the silica cap (Halle and Halle, 2012).

These rocks were subsequently intruded by diorite and a quartz-feldspar porphyritic sub-volcanic intrusive of the Hushamu Creek Pluton. The Hushamu Creek Pluton diorite is a large, northwest-trending, fine- to medium-grained, diorite to quartz diorite, sometimes displaying weak feldspar porphyritic textures. It is largely un-mineralized. East of Hushamu Mountain, on regional geology maps, the intrusion reduces to a series of narrow dikes that run parallel to the Hushamu valley.

The quartz-feldspar porphyry sub-volcanic occurs as dikes and irregular bodies occurring at the southern edge of the northwest-trending diorite stocks and can be traced northwest along the Hushamu valley, where they are truncated by the West Fault. They are characterized by coarse, subhedral quartz and feldspar phenocrysts set in a very fine grained matrix, often with diorite and/or andesite inclusions. The unit is weakly altered, pyritized, and locally mineralized. This unit was historically believed to be co-magmatic with Bonanza Group volcanics and thus responsible for porphyry Cu-Au mineralization (Nixon, 2006); the re-logging lacks evidence to support this assertion (Halle and Halle, 2012).



The Bonanza Volcanic rocks in the deposit area have undergone intense hydrothermal fluid brecciation that has completely altered and/or obliterated the original rock textures. The resultant hydrothermal breccia was cross-cut by a later, vertically oriented, decimeter-scale phreato-magmatic intrusive breccia bodies. The resultant silica-clay alteration assemblages from both events are observed in drill core to overprint earlier chlorite-magnetite alteration. The juxtaposition of this advanced argillic alteration phase onto an earlier chloritic phase can be explained by a 'telescoping model' suggested by Perello (1992), occurring during uplift and erosion of active hydrothermal systems. The most extreme and texturally destructive variety of this alteration/lithology appears to dip shallowly to the northeast.

The late breccia units tend to have steep contacts with the hydrothermal host, typically in excess of 60 to 70 degrees. On surface, these relatively narrow bodies appear to strike 45 to 70 degrees. The breccia matrix is mainly zunyite (highly aluminous alteration mineral) and/or massive pyrite, locally grading from one to the other; or displaying sharp, re-brecciated contacts. These units are estimated to account for 5% of Hushamu Deposit geology.

In the Hushamu area, three dominant deformational events have been described (Nixon et al., 1994). The first event resulted in E- to NE-directed compression, resulting in NW-trending thrust faulting. These structures are noted to be the primary control on the emplacement of mineralizing porphyry bodies of the Island Plutonic Suite. In the area around the Hushamu Deposit the Nahwitti Fault and possibly the Hushamu Fault are examples of this.

The second event is a north-directed compressional event, resulting in west-northwest-trending strike-slip faulting. An interpreted fault west of Hushamu Mountain, forming part of the Hepler Creek drainage, is a result of this event and is locally called the Hepler Fault. This event may have offset some of the porphyry systems, and in the Hushamu area a strike-slip offset on the order of thousands of metres is likely.

The third and last event was a north- to north-northwest extensional event resulting in northeast to east-northeast-striking normal faults. These structures offset earlier-emplaced porphyry systems. The Mead Creek-West Fault and the Hushamu Creek Pluton Fault are examples of these structures.

### **7.3 ALTERATION**

There are four main alteration styles in the Hushamu Deposit: silica-clay-pyrite, silica-clay-zunyuite, chlorite-magnetite, and propylitic. Phyllic and advanced argillic alterations (as well as vuggy silica) have also been locally observed on the property, but are not dominant (Halle and Halle, 2012).

This Silica-Clay-Pyrite (SCP) alteration is found mainly on Hushamu Mountain and consists of quartz, kaolinite and/or pyrophyllite and/or dickite. Pyrite typically comprises 10 to 20% of the rock. SCP alteration is texturally destructive and is locally overprinted by Silica-Clay-Zunyuite (SCZ) alteration. Apart from pyrite content, these two alteration types are similar in mineralogical make-up and can grade from one to the other over a short distance. The SCZ is pyrite poor (generally less than 1%) and can have appreciable amounts of zunyuite. It is believed that the copper-destructive SCZ 'overprint' is somewhat related to the late breccia intrusive bodies. SCZ zones are currently limited to Hushamu Mountain and may also be related to a minor vuggy-silica style alteration, previously noted by Perello (1992).

The intense silica-clay alteration overprints earlier chloritic alteration of the andesite including the copper-bearing chlorite-magnetite alteration and the weakly mineralized, peripheral, propylitic alteration. The dark-green chlorite-magnetite typically displays abundant cross-cutting quartz stock-work veins that may include magnetite, chalcopyrite, lesser bornite, molybdenite, and minor pyrite. The chlorite-magnetite alteration grades outward into lighter green propylitic alteration. The propylitic alteration is characterized by locally abundant epidote and cross-cutting magnesium carbonate veins. Propylitic alteration is most common in the Hushamu shear zone footwall to the northwest.

Phyllic alteration is observed in the northwest of the Hushamu Deposit and is characterized by abundant sericite and disseminated pyrite. This alteration zone is believed to be structurally controlled.

### **7.4 MINERALIZATION**

Three mineralized zones have been recognized in the Hushamu Deposit; Leached Zone, Supergene Zone and Hypogene Zone (Halle and Halle, 2012).

The Leached Zone is typical of evolved porphyry systems, where the leached cap has not been removed by erosion and/or glacial processes. The rock is generally bleached, the majority of sulphide minerals have been removed, abundant clay minerals formed by the leaching process and silica-rich minerals remaining. This zone generally occurs at the top of the deposit, however there are minor, discontinuous, leached zones throughout Hushamu

Mountain. Copper has been completely to partially removed but molybdenite and gold remain.

The Supergene Zone is characterized by very weak supergene enrichment of copper in the form of chalcocite +/- covellite. The zone generally occurs from 60 m depth to 90 metres depth below surface. In one hole, hole EC-187, supergene mineralization was noted at 200 metres depth in fractured rocks proximal to the west fault.

In the Hypogene Zone copper mineralization occurs as blebby and vein chalcopyrite and lesser bornite. The copper grade is highest in chlorite-magnetite altered volcanics with lesser copper in silica-clay-pyrite alteration. Molybdenite and related rhenium concentrations are highest in the silica altered rocks, however molybdenite is also present in quartz veins in the chlorite-magnetite altered rocks. Sulphide mineralization decreases where silica flooding is extreme; in the late, verticle breccias (and surrounding rocks), and in propylitized units.

Sulphide mineralization in historical core that has been exposed to the elements has been by intensely oxidized and leached by weathering processes. Abundant chalcantite, brocanthite, and other sulfates are observed as precipitates on the core.

## 7.5 DEPOSIT TYPES

The Hushamu Deposit hosts porphyry copper-gold-molybdenum-rhenium mineralization and is similar to the past producing Island Copper Mine, located 29 km to the east. Over the life of the operation Island Copper produced 345 million metric tonnes of ore with average grades of 0.41% copper, 0.017% molybdenum, 0.19 g/t gold and 1.4 g/t silver (Perelló et al., 1995).

Porphyry deposits are important producers of copper, gold, molybdenum and silver. These well studied deposits are directly related to mesozonal to epizonal intrusions that vary widely in composition and tectonic settings. British Columbia examples include Island Copper, Galore Creek, Highland Valley, Kemess, Mt. Milligan, Afton and Endako, while important worldwide deposits include Ok Tedi, Bingham Canyon, Grasberg, Pebble and Oyu Tolgoi. These deposits are typically located in orogenic belts at convergent plate boundaries and are associated with subduction-related magmatism. The deposits are directly related to epizonal stocks of widely variable composition that intrude coeval volcanic piles or other country rock. The causative intrusions are commonly multi-episodal and range from fine- to coarse-grained equigranular to porphyritic stocks, dike complexes, and breccias (Giroux and Pawliuk, 2005).

Mineralization is hosted within the intrusive rocks and/or the host rocks and consists of quartz stockworks, veinlets, disseminations and replacements within large hydrothermally altered systems. Metallic mineralization is comprised of chalcopyrite, pyrite, bornite, molybdenite, magnetite, hematite and chalcocite. The large, up to 10km<sup>2</sup> hydrothermal systems are marked by distinctive alteration assemblages. The core of the systems are comprised of potassic alteration mineral assemblages including potassium feldspar, biotite, magnetite, and locally, anhydrite, diopside and garnet. The cores of the systems commonly host the strongest copper-gold mineralization as chalcopyrite and bornite. Peripheral to the potassic core are large zones of propylitic alteration consisting of albite, chlorite, epidote, calcite, diopside, actinolite and pyrite. These alteration assemblages are commonly overprinted by phyllic (sericite, pyrite, clay, carbonate) alteration, argillic alteration and, in the uppermost parts of the deposits, advanced argillic alteration (Giroux and Pawliuk, 2005).

Several other styles of mineralization can be related to these systems, including skarn, low and high sulphidation epithermal gold±silver, and auriferous and polymetallic quartz±carbonate veins. These other styles of mineralization, in particular the polymetallic veins, form above and peripheral to the main-stage copper mineralization and can be used to vector towards copper-gold mineralization (Giroux and Pawliuk, 2005).

## 8.0 EXPLORATION

Northisle took over exploration activities on the property in the fall of 2011. A considerable amount of historical exploration and drilling, dating back to 1965, has been carried out on the property prior to Northisles involvement, as documented in the History section of the report.

Since taking over the project, Northisle (and Western Copper) completed a re-logging of 107 of the pre-2008 drill holes. This historic core had been in storage outdoors and many of the boxes were in poor condition. The process of re-logging first required careful re-establishing of core boxes labels by determining the hole numbers, core box numbers, footage block depth, sample numbers, sample starting and ending points. At all times during this process, the observations were corroborated and confirmed with the historical drill log geology and sample information. The re-labeled boxes were then organized and stacked in newly erected, covered, core racks in chronological in preparation for re-logging and sampling. If unable to ascertain sufficient information to conclusively identify a hole, box, or sample interval, these boxes were not included in the re-log and not sampled. Approximately 75.6% of the historical samples were deemed suitable for re-sampling, amounting to some 5,800 re-samples.

The re-logging involved logging observations of rock type, alteration and mineralization. Re-sample intervals were then laid out remaining true to the original sample intervals. A new, unique sample number was assigned. The core was then photographed. The re-sampling involved cutting the remaining half core with a core saw to collect a quarter sample.

The re-logging program provided an opportunity to apply consistent logging descriptions to the somewhat varied, and sometimes conflicting, historical observations.

In February of 2012, Northisle commenced a drill program on the deposit. The results of this program will be discussed in the Drilling section of the report.

## 9.0 DRILLING

Prior to drilling in 2012 by Northisle, a total of 126 drill holes, amounting to approximately 26,832.88 m of drilling, were completed in the exploration of the deposit. In 2012, Northisle drilled 18 holes for a total of 5,438.74 m of HQ-size core. The location, elevation and hole depth of all holes used in the resource calculation are included in Appendix 2, including the 2012 drill holes (H-12-01 to H-12-18).

Drill core prior to mid-1973 was all BQ size (36.5 mm); all core after mid-1973 and up to Northisles drilling was NQ size (47.6 mm). Historic drill core exhibited signs of intense weathering and oxidation due to being stored outdoors in the humid environment of northern Vancouver Island. This core will be of limited value for future metallurgical testing due to this oxidation.

The objective of the 2012 drill program was to fill gaps in the historic drill pattern and to delineate the margins of the deposit in the south and north.

In 2012, down-hole orientation surveys were completed on all holes using Reflex Instruments EZ Shot system. Two holes drilled in the deposit in 2008, HI08-03 and HI08-08, have also had down-hole orientation surveys using the Reflex Instruments Maxibor II system. All other historic holes have not been systematically surveyed with by down-hole orientation surveys. Certain of these holes have had acid tests taken at the bottom of the hole to determine the dip at that location, but there is no azimuth information. Drill holes generally deviated to varying degrees and the deeper the hole, generally the greater the deviation. In general, holes tend to flatten out and swing to the right, although they can deviate in any direction. The direction and amount of deviation is depend on a number of factors such as the clockwise rotation of the drill rods, anisotropic characteristics of the rock, underground cavities, and the pressure put on the drill head when drilling.

Only the collars of the 2008 drill holes HI08-03 and HI08-08 have been surveyed professionally; all other drill hole collars have not been professionally surveyed. Collar locations for these holes have been surveyed using a hand-held GPS. Off the shelf, modern hand held GPS units can generally be expected to return accuracy in the x-y direction on the order of 2 to 5 m. Elevation accuracy, however, is much less accurate and probably >5 m.

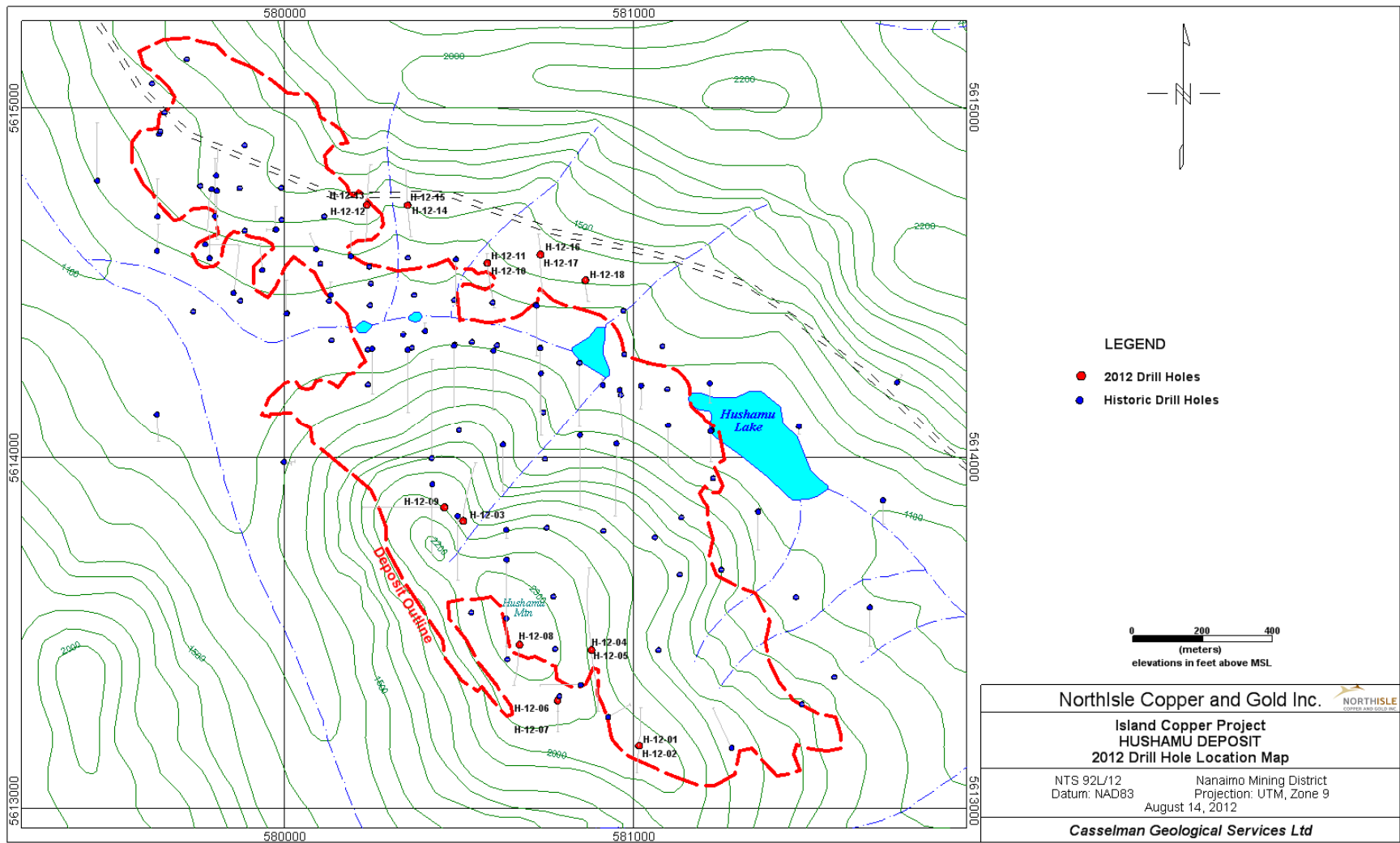


Figure 9.1 2012 Drill Hole Location Map

## 10.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Drill core prior to 1985 was sampled generally in 10-foot (3.05 m) intervals, although geological and metallurgical zone boundaries were respected. From 1985 to the present sample intervals were nominally 3.0 m, with the exception of the 2 holes in 2008, which were sampled a 2.0 m intervals, while still respecting geological and metallurgical zone boundaries.

Throughout the history of the drilling at Hushamu, geochemical analyses have been performed at Chemex Labs, and later ALS Chemex Labs. All samples collected by Northisle in 2011 and 2012 were analyzed at ALS Chemex Laboratories Ltd. (ALS Chemex) in North Vancouver, B.C., as the primary lab and duplicate samples were sent to Acme Analytical Labs Ltd. (Acme Labs) in Vancouver, B.C., as the secondary lab.

For the 2012 program, drill core sample intervals were marked by the geologist and the holes were sampled in their entirety from top to bottom. A total of 2,146 samples were collected in 2012. The geologists recorded core logging information using a Microsoft Access based program called GeoSpark Logger created by GeoSpark Consulting Inc. The core was then cut in half using a core saw with one half remaining in the box, onsite and the other half sent to ALS Chemex for analysis. Every 20<sup>th</sup> sample of core was further quartered for "Duplicate Samples" with one quarter going to ALS Chemex, one quarter going to Acme Laboratories and half remaining in the box on the onsite.

Each sample was placed in a poly ore sample bag with the uniquely-numbered sample tag and secured with nylon zip tags. Sample bags were then placed in rice bags. Sample shipments were delivered by a Northisle representative to Van Kam Freightways Ltd, where they were palletized and shrink-wrapped for delivery to the appropriate lab in Vancouver.

At ALS Chemex, all samples were dried and weighed, then crushed to better than 70% minus < 2mm. An appropriate split (generally 250 grams) was then pulverized to >85% was <75um. Copper and molybdenum were analyzed by ALS Chemex process ME-OG62. This process involved a four acid digestion and analysis by Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) with results reported in percent (%). Gold was analyzed by ALS Chemex process Au-AA25, which involved fire assay of a 30 gram sample of the pulp and an atomic absorption (AA) finish to a 0.01 ppm detection limit; results were reported in parts per million (ppm). Rhenium was analyzed by process Re-OG62, which involved four acid digestion and ICP-mass spectroscopy (ICP-MS) finish; results were reported in ppm.



For the duplicate sample checks sent to Acme Labs the sample was crushed and pulverized and the pulps were analyzed by multi-element procedure 1EX. This process involved four acid digestion and ICP-MS finish to capture 46 elements. Samples were analyzed for gold by fire assay and AA finish on a 30 gm sample, according to Acme procedure 3B. Copper and molybdenum were also assayed by four acid digestion and ICP-ES finish according the Acme procedure 7TD.

For the 2011 and 2012 programs a set of 4 sample standards and one blank were included with each of the sample shipments to Chemex and Acme. The standards were prepared and certified by WCM Minerals of Burnaby, BC.

Conventional sample handling practices of the era were used on the property in work prior to Western Coppers' work in 2007. No special security precautions were noted in the sampling, shipping, and analysis of the samples from the deposit. No irregularities were found in the historical data, and some check assays were performed.

ALS Chemex and Acme Labs are independent of Northisle. Both labs are ISO 9001 accredited. The 2011 and 2012 sampling and shipping procedure appears to have been handled in a secure manner. There has been no indication from either of the labs that samples or shipments had been tampered with.

## 11.0 DATA VERIFICATION

In the 2011 re-logging program by Northisle, 11 drill holes were re-sampled in their entirety to verify historic analytical results (Halle and Halle, 2011). Five holes were selected from the drill campaigns by Moraga Resources from 1988 to 1993, and 6 holes were chosen from drilling efforts by Utah Mines Inc., from 1971 to 1982. The holes were selected to represent an even distribution throughout the Hushamu Deposit. A summary of the results is included below:

Table 11.1 Drill hole re-sampling comparison

Hole	Historic Values			2011 Re-Sample		
	Au ppm	Cu ppm	Mo ppm	Au ppm	Cu ppm	Mo ppm
EC-069	0.150	2907	195	0.323	3172	144.6
EC-070	0.049	789	144.9	0.091	479.8	169.7
EC-084	0.379	2540	71.7	0.352	2269	76.2
EC-095	0.081	304.5	48.2	0.042	232.1	58.1
EC-108	0.120	1275	61.9	0.156	1086	62.6
EC-137A	0.042	1108	27.8	0.057	1128	33.6
EC-159	0.010	195	7.02	0.014	184	8.20
EC-160	0.117	1563	25.6	0.114	1406	35.8
EC-186	0.219	2294	25.8	pending	2356	29.3
EC-198	0.170	740.2	88.6	0.168	567.2	80.76
EC-206	0.244	1204	77.9	0.227	962.7	80.1

In general, geochemical results from re-assaying correlate well with the historical results. Certain discrepancies are observed in the six older holes and are explained by a few samples not analyzed in the historic programs and by higher detection limits at the labs historically, resulting in not being able to accurately detect very low grade samples. More complete data sets of the five more recent drill holes returned better correlations. In general, molybdenum and gold values correlated very well with the historical dataset. Halle and Halle (2011) attributed the lower copper values in the re-sampling of certain holes to oxidation of copper sulphide to copper sulphate and removal of the copper sulphate.

For the 2012 drill program quality control (QC) was maintained on site by the project geologists sampling and logging the core. A QC sample insertion rate of 1/20 each for blanks, duplicates and standards was maintained throughout the sampling stream. Blank material consisted of a limestone material collected at a site approximately 50 km from the Hushamu Deposit. Duplicate core samples were quartered onsite with one quarter sent directly to ALS Chemex and the other quarter sent directly to Acme Labs, as noted above. Two separate standards were purchased from WCM Minerals: CU 181 and CU 184. These were inserted into each batch of 20 in an alternating manner. Analysis of the QAQC data was performed by H. Brown of Northisle (Brown, 2012). The charts created by Brown are included in Appendix 2 and here memo is summarized below.

Table 11.2: Summary of QAQC sampling for 2012 Hushamu drilling

<b>Sample Type</b>	<b>Number of Samples</b>	<b>% of Samples</b>
QC - Blanks	117	4.7
QC - Duplicates	117	4.7
QC - Standards	114	4.6
ORIG - Core	2146	86.0
<b>Total Samples</b>	<b>2494</b>	<b>100</b>

### **Blanks**

Blank samples were analyzed in two ways: Failure Charts showing blank sample values for each element of interest plotted with a “Failure Line” at three times the detection limit of each element, and in Smear Charts plotting blank samples paired with the samples directly preceding them.

Overall, blank samples showed good performance with respect to testing the labs procedures and analytical techniques. Blanks were 100% passing for gold (Au), 95% passing for copper (Cu), 98.3% passing for molybdenum (Mo) and 93.2% passing for rhenium (Re). There is no contamination visible in the Smear Chart for Mo as evidenced by the horizontal plot line of the paired data. There is slight smear visible for Au and Re, due to two higher grade preceding values (e.g.; for Au, a 2.31 ppm sample has elevated the blank to 0.02 ppm) and minor to moderate levels of smear visible for Cu. The highest grade of Cu reported in a blank sample is 78.7 ppm, still well below even low grade ore values.

The few blank samples that showed smear effects from preceding samples were well below low grade ore values for each element. Erratic values in the blank samples could be due to contamination during the core cutting and sample bagging procedures as the core cutters were initially using the same gloves to insert blanks as they had been using to cut core.

### **Standards**

Two Certified Reference Materials (CRM’s) were used during the 2012 Hushamu drilling program: CU 181 and CU 184. Brown (2012) created Control Charts for the Standards for each of the elements, Cu, Au and Mo. The charts included the Best Value (BV), taken from the certificate of analysis provided by the manufacturer, WCM Minerals, and lower and upper warning limit, LWL and UWL respectively, representing a warning range of +/- two standard deviations and a

lower and upper control limit, LCL and UCL respectively, representing a control range of +/- three standard deviations.

### **CU 181**

There were 56 samples of CU 181 used for the 2012 Hushamu drilling program. CU 181 is certified for Au, Ag, Cu and Mo, but since Ag was not consistently assayed throughout the program and is not a potential resource material for this project. Analysis was done for Au, Cu and Mo only.

Overall, CU 181 showed good precision and decent accuracy for gold, with only two values plotting outside the acceptable range of three standard deviations. One of the samples, N232590, failed for all the elements of interest and appears to have been mis-labeled as CU 181 and should in fact be CU 184. Four other samples plotted just outside the warning range of two standard deviations. No areas of high or low bias were visible.

Copper values for CU 181 showed similar behavior to the gold values as described above. Again, two samples plotted outside the acceptable range of three standard deviations, one being the incorrectly labeled standard, N232590 and the other being an anomalous high value for N233970. Only one other sample returned a value close to the lower warning limit of two standard deviations, but still within an acceptable range. Overall, there is a slightly low bias of copper values in comparison to the best value of the standard listed on the certificate of analysis, indicating a slight problem with the accuracy of the standard for copper.

Most molybdenum values for CU 181 were well within acceptable limits and behaved similar to the copper values above. There was the same failure for N232590 (mis-labeled as CU 181) and one other failure as with copper above; an anomalous high Mo value for sample N233970. Two samples plotted just within or right at the upper and lower control limits. Six other samples plotted just outside or right at the warning limit range of two standard deviations, but within the acceptable range of three standard deviations. As with copper, there is a slightly low bias of molybdenum values compared to the Best Value.

### **CU 184**

There were 59 samples of CU 184 used for the 2012 Hushamu drilling program. CU 184 is certified for Au, Ag, Cu and Mo, but since Ag was not consistently assayed throughout the program and is not a potential resource material for this project. Analysis was done for Au, Cu and Mo only.

Gold values for CU 184 had decent accuracy and precision; with slightly more variation overall, but within the acceptable limits. There were no failures outside the control limit range of three standard deviations and only four samples plotted just outside the warning limits of two standard deviations. No visible bias in the values was visible.

Copper values for CU 184 also had good correlation with the Best Value for the standard, with no visible high or low bias. There were two failures that plotted outside the control limits of three standard deviations: N233630 and N252105. Eight samples plotted outside the warning limits of two standard deviations, but were still within the acceptable range.

Molybdenum values for CU 184 had good precision overall, but with a somewhat low bias when compared to the Best Value. The same two samples that failed for Cu also failed for Mo: N233630 and N252105, indicating a possible issue with the ore grade assays for those samples in particular. Three other samples plotted at or just over the warning range of two standard deviations.

Table 11.3: Summary of Hushamu CRM Performance for 2012

Standard	Certified Element	Best Value (BV)	Average Value	+/- 3 Standard Deviations	# Failures	+/- 2 Standard Deviations	# Warnings
CU 181	Au (ppm)	0.59	0.59	0.68/0.5	2	0.65/0.53	4
CU 181	Cu (%)	0.59	0.578	0.65/0.53	2	0.63/0.55	1
CU 181	Mo (%)	0.084	0.081	0.092/0.076	2	0.089/0.079	8
CU 184	Au (ppm)	0.19	0.194	0.234/0.146	0	0.219/0.161	4
CU 184	Cu (%)	0.192	0.192	0.204/0.18	2	0.2/0.184	8
CU 184	Mo (%)	0.04	0.038	0.046/0.034	2	0.044/0.036	3

### **Duplicates**

The results from quartered coarse duplicate samples sent to two different labs were analyzed using Max-Min Charts showing each duplicate pair plotted as maximum and minimum values with a 20% Pass/Fail (P/F) line and as Q-Q scatterplots showing each sample as a pair plotted about a line,  $Y=X$ .

The Max-Min pairs showed good correlation with only a small amount, less than ten percent plotting above the 20% P/F line for each element, Au, Cu, Mo and Re respectively. The Q-Q scatterplots also showed good correlation of the original sample and the duplicate sample. The best correlation was shown by Cu, the worst by Re, but still within acceptable limits.

## **12.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

In 1992, Melis Engineering (Melis) conducted a metallurgical study on behalf of Moraga Resources Ltd. Melis completed five preliminary scoping flotation tests on drill core composites to quantify potential copper and gold recovery to a copper/gold flotation concentrate (Melis and Cron, 1992). Two different approaches were used: bulk sulphide flotation followed by copper-pyrite separation and cleaner flotation; and a fine grind/selective copper-gold float at elevated pH to effectively suppress pyrite in the front-end rougher flotation stage.

Based on these five tests Melis concluded that: “These preliminary scoping tests indicate that a copper recovery of close to 90% and a gold recovery of 70% to 75%, into a copper/gold concentrate assaying 25% Cu and 34 g Au/tonne, would be achievable for the higher grade composite (calculated head grade of 0.58% Cu and 1.16 g Au/tonne). For the lower grade composite (0.17% Cu and 0.38 g Au/tonne) achievable recoveries appear to be approximately 75% for copper and in the range of 50% to 55% for gold into a copper/gold concentrate assaying 24% Cu and 24 g Au/tonne. These recovery expectations are only based on preliminary tests, more extensive flotation testing will be required to better quantify copper and gold recoveries for the Hushamu deposit and to determine what recovery improvements can be made.”

There are no known records available for any metallurgical testing for recoveries of molybdenum and rhenium from the Hushamu Deposit.

## 13.0 MINERAL RESOURCE ESTIMATE

At the request of Northisle, Giroux Consultants Ltd. was retained to produce a resource update for the Hushamu Copper-Gold Deposit, on northern Vancouver Island. The effective date for this Resource is June 6, 2012. This update is based on an additional 18 diamond drill holes completed on the Hushamu deposit during 2012 and a new alteration based geologic model.

G.H. Giroux is the qualified person responsible for the resource estimate. Mr. Giroux is a qualified person by virtue of education, experience and membership in a professional association. He is independent of both the issuer and the vendor applying all of the tests in section 1.5 of National Instrument 43-101. Mr. Giroux has not visited the property.

### 13.1 DATA ANALYSIS

A total of 136 drill holes testing 31,580 m within the mineralized area were supplied by Northisle. A list of these holes is supplied as Appendix 3. As a test for vertical structures the assays from vertical drill holes were compared to assays from angled holes throughout the deposit.

Table 13.1: Comparison of assays from vertical holes with assays from angled holes

Domain	Variable	Number of Assays	Mean Grade	Standard Deviation	Minimum Value	Maximum Value	Coef. Of Variation
Vertical Holes	Cu (%)	4,795	0.129	0.150	0.0010	1.48	1.17
	Au (g/t)	4,629	0.170	0.263	0.0010	11.50	1.55
	Mo (%)	4,630	0.007	0.008	0.0001	0.12	1.21
	Re (ppm)	3,861	0.360	0.500	0.0010	10.20	1.41
Angled Holes	Cu (%)	5,673	0.112	0.139	0.0010	1.90	1.24
	Au (g/t)	5,312	0.158	0.200	0.0010	2.31	1.27
	Mo (%)	5,366	0.007	0.008	0.0001	0.11	1.10
	Re (ppm)	4,571	0.400	0.650	0.0010	22.50	1.60

Based on these results there appears to be no sampling bias between vertical and angled holes with somewhat similar grades from both data sets.

A three dimensional geologic model was built by Northisle Geologists using Gemcom Software. The model was based on a combination of lithology and alteration features. The 4 domains modelled were as follows:

- LEA - Leached Cap
- QFPP – Quartz Feldspar porphyry intrusive
- SCP – Silica-Clay-Py–Argillic overprint alteration
- CMG-PRO – Includes Chlorite-Magnetite, Potassic, Hornfels and Propylitic alteration

The drill holes were “passed through” these domain solids and assays were back tagged with a Domain code. Table 13.2 shows the assay statistics sorted by Domain.

Table 13.2: Assay statistics sorted by Domain

Domain	Variable	Number of Assays	Mean Grade	Standard Deviation	Minimum Value	Maximum Value	Coef. Of Variation
LEA	Cu (%)	1,907	0.033	0.067	0.001	1.00	2.01
	Au (g/t)	1,826	0.126	0.298	0.003	11.50	2.37
	Mo (%)	1,803	0.011	0.009	0.0001	0.12	0.88
	Re (ppm)	1,657	0.52	0.71	0.001	10.20	1.38
QFPP	Cu (%)	276	0.020	0.020	0.001	0.13	1.01
	Au (g/t)	229	0.008	0.007	0.003	0.05	0.89
	Mo (%)	253	0.001	0.001	0.0001	0.01	1.20
	Re (ppm)	198	0.02	0.03	0.005	0.27	1.26
SCP	Cu (%)	2,562	0.136	0.155	0.001	1.90	1.13
	Au (g/t)	2,510	0.225	0.225	0.001	2.40	1.00
	Mo (%)	2,530	0.010	0.009	0.0001	0.09	0.85
	Re (ppm)	2,219	0.65	0.56	0.002	4.27	0.87
CMG-PRO	Cu (%)	5,723	0.146	0.149	0.001	1.48	1.03
	Au (g/t)	5,376	0.154	0.204	0.001	2.50	1.33
	Mo (%)	5,410	0.004	0.005	0.0001	0.11	1.27
	Re (ppm)	4,358	0.21	0.48	0.001	22.50	2.28

The distribution of grades for each variable within each domain was examined to determine if capping was required and if so at what level. Lognormal cumulative frequency plots were produced for each variable within each domain. Multiple overlapping lognormal populations were observed for each variable within each domain. Cap levels were chosen to reduce the effects of erratic outliers in each domain. Table 13.3 lists the cap level and number of assays capped in each domain.



Table 13.3: Assay cap levels sorted by Domain

Domain	Variable	Cap Level	Number Capped
LEA	Cu (%)	0.63 %	4
	Au (g/t)	1.30 g/t	2
	Mo (%)	0.07 %	5
QFPP	Cu (%)	0.14 %	0
	Au (g/t)	0.07 g/t	0
	Mo (%)	0.04 %	0
SCP	Cu (%)	1.1 0%	2
	Au (g/t)	2.75 g/t	0
	Mo (%)	0.11 %	0
CMG-PRO	Cu (%)	1.05 %	3
	Au (g/t)	2.50 g/t	0
	Mo (%)	0.13 %	0

In all domains only one Re assay was capped (22.5 ppm capped at 7 ppm). The results of capping are shown below in Table 13.4.

Table 13.4: Capped assay statistics sorted by Domain

Domain	Variable	Number of Assays	Mean Grade	Standard Deviation	Minimum Value	Maximum Value	Coef. Of Variation
LEA	Cu (%)	1,907	0.033	0.062	0.0010	0.63	1.88
	Au (g/t)	1,826	0.120	0.132	0.0030	1.30	1.11
	Mo (%)	1,803	0.011	0.009	0.0001	0.07	0.84
QFPP	Cu (%)	276	0.020	0.020	0.0010	0.13	1.01
	Au (g/t)	229	0.008	0.007	0.0030	0.05	0.89
	Mo (%)	253	0.001	0.001	0.0001	0.01	1.20
SCP	Cu (%)	2,562	0.136	0.151	0.0010	1.10	1.11
	Au (g/t)	2,510	0.225	0.225	0.0010	2.40	1.00
	Mo (%)	2,530	0.010	0.009	0.0001	0.09	0.85
CMG-PRO	Cu (%)	5,723	0.145	0.149	0.0010	1.05	1.02
	Au (g/t)	5,376	0.154	0.204	0.0010	2.50	1.33
	Mo (%)	5,410	0.004	0.005	0.0001	0.11	1.27

## 13.2 COMPOSITES

Uniform down hole 5 m composites were produced for each domain, honouring the domain boundaries. Small intervals at the domain boundaries, less than 2.5 m were combined with adjoining samples. In this manner a uniform support of  $5 \pm 2.5$  m was achieved. The composite statistics are shown below.

Table 13.5: 5 m composite statistics sorted by Domain

Domain	Variable	Number of Assays	Mean Grade	Standard Deviation	Minimum Value	Maximum Value	Coef. Of Variation
LEA	Cu (%)	980	0.034	0.054	0.0010	0.52	1.62
	Au (g/t)	971	0.116	0.114	0.0030	0.90	0.98
	Mo (%)	958	0.011	0.008	0.0002	0.050	0.77
	Re (ppm)	871	0.52	0.63	0.0030	6.780	1.21
QFPP	Cu (%)	208	0.016	0.018	0.0010	0.12	1.11
	Au (g/t)	140	0.008	0.006	0.0030	0.04	0.80
	Mo (%)	171	0.001	0.001	0.0001	0.007	0.97
	Re (ppm)	122	0.02	0.02	0.0050	0.144	0.99
SCP	Cu (%)	1,504	0.132	0.129	0.0010	0.96	0.98
	Au (g/t)	1,492	0.217	0.196	0.0010	1.79	0.90
	Mo (%)	1,499	0.010	0.008	0.0001	0.060	0.80
	Re (ppm)	1,340	0.64	0.51	0.0030	3.400	0.79
CMG-PRO	Cu (%)	3,177	0.144	0.138	0.0010	1.01	0.96
	Au (g/t)	2,992	0.147	0.185	0.0010	1.31	1.26
	Mo (%)	3,007	0.004	0.005	0.0001	0.090	1.14
	Re (ppm)	2,502	0.20	0.310	0.0010	5.230	1.56

To test the various domains contact plots were produced for each variable. A contact plot looks at the average grade for samples in two different domains at expanding distances away from the contact. If the average grades are similar on both sides of the contact a soft boundary is warranted with blocks able to see composites on both sides of the boundary. If, on the other hand, there is a sharp difference between grades along the contact a hard boundary should be placed with blocks on one side of the contact not able to use composites on the other side.

As would be expected the boundary between the leached cap and the SCP alteration showed much higher Cu, Au and Mo grades on the SCP side of the contact and this boundary should be hard. A similar relationship existed along the CMG – QFP boundary with grades for Cu, Au and Mo higher on the CMG side. Again a hard boundary should be used.

The boundary between SCP and CMG showed vertically no difference along the contact so for the estimation of blocks in these two domains a soft boundary was used.

### 13.3 VARIOGRAPHY

Pairwise relative semivariograms were produced for each variable within each domain. The main direction of anisotropy was established along Azimuth 150°. For each variable within the CMG, SCP and LEA Domains nested spherical models were fit to each of the three principal anisotropic directions. Within the QFP Domain, there was insufficient data to prove anisotropy so a nested spherical isotropic model was fit to each variable. The model parameters are tabulated below.

Table 13.6: Semivariogram model parameters

Domain	Variable	Az / Dip	C <sub>0</sub>	C <sub>1</sub>	C <sub>2</sub>	Short Range (m)	Long Range (m)
CMG	Cu	150 / 0	0.08	0.10	0.25	40.0	200.0
		60 / -50	0.08	0.10	0.25	30.0	100.0
		240 / -40	0.08	0.10	0.25	40.0	80.0
	Au	150 / 0	0.08	0.18	0.34	60.0	240.0
		60 / -50	0.08	0.18	0.34	30.0	100.0
		240 / -40	0.08	0.18	0.34	60.0	90.0
	Mo	150 / 0	0.10	0.25	0.13	70.0	220.0
		60 / -50	0.10	0.25	0.13	40.0	100.0
		240 / -40	0.10	0.25	0.13	60.0	80.0
SCP	Cu	150 / 0	0.15	0.30	0.30	40.0	150.0
		60 / 0	0.15	0.30	0.30	40.0	100.0
		0 / -90	0.15	0.30	0.30	40.0	120.0
	Au	150 / 0	0.05	0.20	0.25	15.0	40.0
		60 / 0	0.05	0.20	0.25	15.0	20.0
		0 / -90	0.05	0.20	0.25	30.0	120.0
	Mo	150 / 0	0.05	0.10	0.53	30.0	180.0
		60 / 0	0.05	0.10	0.53	15.0	40.0
		0 / -90	0.05	0.10	0.53	25.0	150.0
QFP	Cu	Omni Directional	0.16	0.09	0.10	40.0	100.0
	Au	Omni Directional	0.05	0.06	0.05	20.0	100.0
	Mo	Omni Directional	0.10	0.10	0.10	40.0	100.0
LEA	Cu	150 / 0	0.10	0.20	0.28	15.0	80.0
		60 / 0	0.10	0.20	0.28	12.0	30.0
		0 / -90	0.10	0.20	0.28	12.0	60.0
	Au	150 / 0	0.10	0.05	0.20	20.0	80.0
		60 / 0	0.10	0.05	0.20	15.0	30.0
		0 / -90	0.10	0.05	0.20	15.0	70.0
	Mo	150 / 0	0.08	0.08	0.16	20.0	80.0
		60 / 0	0.08	0.08	0.16	15.0	40.0
		0 / -90	0.08	0.08	0.16	12.0	70.0

## 13.4 BLOCK MODEL

A block model with blocks 20 x 20 x 5 m in dimension was superimposed over the mineralized solids. For each block in the model the percentage below surface topography and the percentage within each of the mineralized solids was recorded. As the CMG domain was not modeled the percentage in CMG was equal to the Percent below surface topography minus the percentage of all other solids. The block model origin is shown below.

Lower Left corner of Model

579600 E                      Column size = 20 m                      106 columns  
5613040 N                      Row size = 20 m                      106 rows

Top of Model

700 Elevation                      Level size = 5 m                      226 levels

No Rotation

Level Plans are included in Appendix 4 and are measured in metres above the base level of 0 m.

## 13.5 BULK DENSITY

A total of 351 specific gravity measurements were provided spanning all rock types. The measurements were completed on 2012 drill core in the field using the weight in air / weight in water method. The results are tabulated below sorted by alteration types and domains.

Table 13.7: Specific gravity determinations for Hushamu

DOMAIN	ALTERATION	NUMBER	MIN SG	MAX SG	AVE. SG
CMG	ARG	24	2.29	2.88	2.65
	CMG	36	2.09	2.90	2.65
	HFL	36	2.42	2.85	2.66
	POT	7	2.68	2.95	2.77
	PRO	23	2.15	2.91	2.72
<b>CMG TOTAL</b>		<b>126</b>	<b>2.09</b>	<b>2.95</b>	<b>2.67</b>
SCP	DIC	8	2.68	2.95	2.79
	PHY	28	2.60	2.98	2.74
	SCP	73	1.76	3.27	2.67
<b>SCP TOTAL</b>		<b>109</b>	<b>1.76</b>	<b>3.27</b>	<b>2.70</b>
<b>LEA</b>	<b>LEA</b>	<b>91</b>	<b>2.28</b>	<b>2.90</b>	<b>2.60</b>
<b>QFP</b>	<b>QFPP</b>	<b>7</b>	<b>2.55</b>	<b>2.71</b>	<b>2.60</b>
OVERBURDEN	CASE	5	2.09	2.79	2.54
	OVb	9	2.42	2.89	2.66
<b>OVb TOTAL</b>		<b>14</b>	<b>2.09</b>	<b>2.89</b>	<b>2.62</b>
	VQZ	4	2.71	2.78	2.74
<b>TOTAL</b>		<b>351</b>			

For tonnage conversion the SG for the Domains CMG, SCP, LEA, QFP and OVB will be used. Blocks overlapping domains will have a weighted average SG.

## 13.6 GRADE INTERPOLATION

Grades for Cu, Au and Mo were interpolated into blocks, with some percentage of the various domains, by Ordinary Kriging. The kriging exercise was completed in a series of 4 passes with the search ellipse for each pass a function of the semivariogram range for the variable being estimated. In the first pass the search ellipse dimensions were set to  $\frac{1}{4}$  of the semivariogram range. A minimum of 4 composites were required to estimate a block with a maximum of 3 from any single drill hole. For blocks not estimated in the first pass, the search ellipse was expanded to  $\frac{1}{2}$  the semivariogram range and the exercise was repeated. A third pass using the full range and a fourth pass using twice the range were then completed. Due to some blocks containing more than one domain a fifth pass was sometimes necessary to estimate a variable into a block that was estimated for one domain but not the second. In all cases the maximum number of composites used was set to 16. If more than 16 were found the closest 16 were used.

A rhenium value for each block was estimated by inversed distance squared using the search ellipse for molybdenum in each domain.

The search parameters are shown for Cu in the following Table.

Table 13.8: Kriging Parameters for Cu

Domain	Variable	Pass	Az / Dip	Dist. (m)	Az / Dip	Dist. (m)	Az / Dip	Dist. (m)
CMG	Cu	1	150 / 0	50.0	60 / -50	25.0	240 / -40	20.0
		2	150 / 0	100.0	60 / -50	50.0	240 / -40	40.0
		3	150 / 0	200.0	60 / -50	100.0	240 / -40	80.0
		4	150 / 0	400.0	60 / -50	200.0	240 / -40	160.0
SCP	Cu	1	150 / 0	37.5	60 / 0	25.0	0 / -90	30.0
		2	150 / 0	75.0	60 / 0	50.0	0 / -90	60.0
		3	150 / 0	150.0	60 / 0	100.0	0 / -90	120.0
		4	150 / 0	300.0	60 / 0	200.0	0 / -90	240.0
QFP	Cu	1	Omni Directional			25.0		
		2	Omni Directional			50.0		
		3	Omni Directional			100.0		
		4	Omni Directional			200.0		
LEA	Cu	1	150 / 0	20.0	60 / 0	15.0	0 / -90	35.0
		2	150 / 0	40.0	60 / 0	30.0	0 / -90	70.0
		3	150 / 0	80.0	60 / 0	60.0	0 / -90	140.0
		4	150 / 0	160.0	60 / 0	120.0	0 / -90	280.0

## 13.7 CLASSIFICATION

Based on the study herein reported, delineated mineralization of the Hushamu Cu-Au-Mo Deposit is classified as a resource according to the following definitions from National Instrument 43-101 and from CIM (2005):

*“In this Instrument, the terms "mineral resource", "inferred mineral resource", "indicated mineral resource" and "measured mineral resource" have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council, as those definitions may be amended.”*

The terms Measured, Indicated and Inferred are defined by CIM (2005) as follows:

*“A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal and industrial minerals in or on the Earth’s crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.”*

*“The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase ‘reasonable prospects for economic extraction’ implies a judgement by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable. These assumptions must be presented explicitly in both public and technical reports.”*

### ***Inferred Mineral Resource***

*“An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on*

*limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, workings and drill holes.”*

*“Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.”*

### **Indicated Mineral Resource**

*“An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.”*

*“Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions.”*

Geologic continuity has been established through diamond drilling over a number of drill campaigns and surface mapping. Grade continuity can be quantified by semivariogram analysis for copper. In general blocks estimated in the first two passes using search dimensions up to ½ the semivariogram range were classified as Indicated. All other blocks at this time are classified as Inferred.

The results are presented in grade-tonnage tables at a series of copper cut-offs in Tables 13.9 and 13.10.

Table 13.9: Indicated Resource within mineralized solids

<b>Cut-off</b>	<b>Tonnes</b>	<b>Grade &gt; Cut-off</b>			
<b>Cu (%)</b>	<b>(x1000)</b>	<b>Cu (%)</b>	<b>Au (g/t)</b>	<b>Mo (%)</b>	<b>Re (ppm)</b>
0.05	533,990	0.16	0.21	0.008	0.48
0.10	399,430	0.19	0.24	0.008	0.49
0.15	258,850	0.23	0.27	0.008	0.47
0.20	152,510	0.27	0.32	0.008	0.47
0.25	85,680	0.31	0.36	0.008	0.47
0.30	41,900	0.35	0.41	0.008	0.48
0.35	17,620	0.40	0.46	0.008	0.46
0.40	6,900	0.45	0.50	0.008	0.44
0.45	2,420	0.50	0.55	0.009	0.47
0.50	850	0.55	0.56	0.010	0.55

Table 13.10: Inferred Resource within mineralized solids

<b>Cut-off</b>	<b>Tonnes</b>	<b>Grade &gt; Cut-off</b>			
<b>Cu (%)</b>	<b>(x1000)</b>	<b>Cu (%)</b>	<b>Au (g/t)</b>	<b>Mo (%)</b>	<b>Re (ppm)</b>
0.05	1,015,730	0.11	0.12	0.005	0.24
0.10	498,410	0.15	0.16	0.006	0.27
0.15	211,980	0.19	0.21	0.006	0.29
0.20	64,700	0.23	0.26	0.007	0.30
0.25	14,690	0.29	0.32	0.006	0.31
0.30	3,880	0.34	0.38	0.007	0.37
0.35	1,320	0.39	0.45	0.007	0.37
0.40	430	0.44	0.52	0.007	0.33
0.45	120	0.48	0.58	0.007	0.35
0.50	20	0.54	0.69	0.007	0.38

Since this is a multi-element deposit and all elements carry economic significance a Cu Equivalent value has been determined for each block based on the following assumptions.

Cu price of \$2.50 /pound

Au price of \$1,100 / oz

Mo price of \$14.00 / pound

Since no recent metallurgy has been completed on this project and no metallurgy on molybdenum or rhenium, 100% recovery is assumed. The reader is cautioned that this is never the case but for this stage it allows for a Cu equivalent to be determined. The copper equivalent is then calculated as follows:



$$\text{CuEQ} = \frac{(\text{Cu}\% \times 22.0462 \times 2.50) + (\text{Au g/t} \times 1100.00 / 31.1035) + (\text{Mo}\% \times 22.0462 \times 14.00)}{(22.0462 \times 2.50)}$$

Table 13.11: Indicated Resource for Cu Equiv. within mineralized solids

Cut-off	Tonnes	Grade > Cut-off				
(CUEQ)	(x1000)	Cu (%)	Au (g/t)	Mo (%)	Re (ppm)	CuEq (%)
0.05	604,880	0.15	0.20	0.008	0.48	0.32
0.10	568,820	0.16	0.21	0.009	0.50	0.34
0.15	520,380	0.16	0.22	0.009	0.52	0.36
0.20	460,400	0.18	0.24	0.009	0.54	0.38
0.25	385,430	0.19	0.26	0.010	0.55	0.41
0.30	304,270	0.21	0.29	0.010	0.55	0.45
0.35	229,080	0.23	0.32	0.010	0.56	0.49
0.40	168,110	0.25	0.35	0.010	0.56	0.53
0.45	120,450	0.28	0.38	0.010	0.55	0.57
0.50	85,060	0.30	0.41	0.010	0.55	0.62

Table 13.12: Inferred Resource for Cu Equiv. within mineralized solids

Cut-off	Tonnes	Grade > Cut-off				
(CUEQ)	(x1000)	Cu (%)	Au (g/t)	Mo (%)	Re (ppm)	CuEq (%)
0.05	1,372,540	0.09	0.11	0.004	0.23	0.18
0.10	1,036,400	0.11	0.13	0.005	0.27	0.22
0.15	725,750	0.13	0.16	0.006	0.32	0.26
0.20	494,740	0.14	0.19	0.007	0.36	0.30
0.25	320,860	0.16	0.22	0.007	0.37	0.35
0.30	205,620	0.18	0.26	0.008	0.38	0.39
0.35	126,770	0.20	0.29	0.008	0.38	0.43
0.40	69,640	0.21	0.33	0.008	0.38	0.47
0.45	34,720	0.23	0.37	0.008	0.37	0.52
0.50	16,040	0.26	0.42	0.008	0.38	0.57

## 14.0 ADJACENT PROPERTIES

There are several mineral occurrences on northern Vancouver Island, adjacent to Northisle's Island Copper Property and in the vicinity of the Hushamu Deposit. The most significant occurrences are the past producing Island Copper Mine, which produced 345 million metric tonnes of ore with average grades of 0.41% copper, 0.017% molybdenum, 0.19 g/t gold and 1.4 g/t silver (Perelló et al., 1995) and the Red Dog deposit, which hosts reserves of 25 million tonnes grading 0.35 per cent copper, 0.44 gram per tonne gold and 0.006 per cent molybdenum (BC Minfile, 2012). Both of these deposits are porphyry Cu-Mo-Au occurrences.

There are a number of other porphyry Cu-Mo-Au occurrences in the region, although they are much less developed. They are:

- Yankee Girl prospect - Fe, Cu (Minfile 092L062)
- Bay 21 prospect - Cu, Ag, Au (Minfile 092L099)
- Bay 4 prospect - Fe, Cu, Au, Ti (Minfile 092L136)
- Bay 29 prospect - Fe, Cu (Minfile 092L139)
- Bay 56 prospect - Cu, Mo (Minfile 092L135)
- Road prospect - Cu, Mo, Fe (Minfile 092L160)

There are also a number of skarn-type occurrences in the region, which are also not well developed. They are:

- Rainbow 1-4 prospect - Cu, Zn, Ag, Pb, Au, Magnetite (Minfile 092L159)
- South prospect - Cu, Ag, Au, Magnetite, Fe (Minfile 092L318)
- Cranberry prospect - Cu, Ag, Au (Minfile 092L315)
- Swamp prospect - Cu, Ag, Au, Magnetite, Fe (Minfile 092L317)
- Caledonia prospect - Zn, Ag, Cu, Pb, Au (Minfile 092L061)
- HPH1 prospect - Ag, Pb, Zn, Cu, Au, Magnetite, Fe (Minfile 092L069)
- Dorlon prospect - Au, Zn, Ag, Cu, Pb, Cd, Magnetite, Fe (Minfile 092L076)
- South Shore prospect - Ag, Pb, Zn, Cu (Minfile 092L074)
- South Shore (Ras 4) prospect - Zn, Ag, Cu, Pb, Cd (Minfile 092L244)
- South Shore (HSW 3) prospect - Ag, Zn, Pb, Cu (Minfile 092L245)

There is also one epithermal Au-Ag-Cu high sulphidation occurrence, the Knob prospect which contains Cu, Zn, Pb, Au, Ag, Mo.

## 15.0 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information available that has not been included in this report.

## 16.0 INTERPRETATION AND CONCLUSIONS

The 2012 drilling program and the 2011 core re-logging program by Northisle on the Hushamu deposit was managed by consulting project geologists Emily Halle and Jesse Halle. They maintained a rigorous QAQC program and secure sampling procedure. Analysis of the QAQC results shows acceptable results for blanks, duplicates and standards.

The results of the 2011 and 2012 programs have furthered Northisles understanding of the Hushamu Deposit. Northisle has re-interpreted the geology, alteration and mineral association. These findings have been incorporated into the update resource estimate presented here. Work carried out in 2011 and 2012 concluded that both the historical and current drilling databases were of sufficient quality for the purpose of resource estimation.

The Hushamu Deposit is a porphyry Cu-Au-Mo-Re deposit which is similar to the past producing Island Copper Mine in size, metal content and grade. At a 0.30% copper equivalent cut-off, the Hushamu Deposit has an Indicated Mineral Resource of 304,270,000 tonnes grading 0.21% copper (Cu), 0.29 g/t gold (Au), 0.10% molybdenum (Mo) and 0.55 g/t rhenium (Re) for a copper equivalent grade\* of 0.45% Cu. This translates into a contained metal content of 1.4 billion lbs of Cu, 2.8 million ounces of Au, 65.7 million lbs of Mo and 167,400 kg of Re.

In addition to the Indicated Mineral Resource, the deposit contains and Inferred Mineral Resource of 205,620,000 tonnes grading 0.18% Cu, 0.26 g/t Au, 0.008% Mo and 0.38 g/t Re for a copper equivalent grade of 0.39% Cu. This translates into an additional 0.8 billion lbs of Cu, 1.7 million ounces of Au, 34.9 million lbs of Mo and 78,100 kg of Re.

*\* Copper equivalent calculated using US\$2.50/lb Cu, US\$1100/oz Au and US\$14.00/lb Mo. Rhenium values have not been used in the cutoff grade or Cu Equivalent calculations*

## **17.0 RECOMMENDATIONS**

The Hushamu Deposit is a significant deposit that warrants significant further work. Recommendations for the project are to conduct a Preliminary Economic Assessment (PEA) to determine the economics of such a project in this location, at this time. The company should consider initiating a metallurgical study to complement the PEA. The estimated budget for the metallurgical work and PEA is \$1,000,000.

Should the PEA indicate a viable project, the project will then warrant the initiation of environmental baseline studies and additional drilling to bring the Indicated and Inferred Resources into the Measured and Indicated categories. It is estimated that an additional 20 to 30,000 m of drilling will be required to accomplish this.

It is also recommended that all hole collar locations be professionally surveyed.

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## **19.0 CERTIFICATES OF QUALIFIED PEOPLE**

I, Scott Casselman of Whitehorse Yukon, do hereby certify as author of this “Updated Resource Report for the Hushamu Deposit, Northern Vancouver Island, British Columbia, Canada”, dated August 27, 2012, make the following statements:

- I am a consulting geologist, employed by Casselman Geological Services Ltd, 33 Firth Road, Whitehorse, Yukon, Y1A 4R5.
- I have a B.Sc. in Geology from the Carleton University of Ottawa, obtained in 1985.
- I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia, License #20032.
- I have practiced my profession in mineral exploration continuously since 1985. I have over twenty six years of experience in mineral exploration.
- I have read the definition of “qualified person” set out in National Instrument 43-101 (NI 43-101) and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purpose of NI 43-101.
- I am responsible for all sections with the exception of section 14.0 of the Technical Report.
- I have visited the Island Copper Property from February 23 to 25, 2011 and June 19 and 20, 2012.
- As of the date of this Certificate, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
- I am independent of the Issuer as described in Section 1.5 NI 43-101.
- I have read NI 43-101 and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

Signed and dated this 27<sup>th</sup> day of August, 2012 at Whitehorse, Yukon.

*“signed and sealed”*

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Scott Casselman, P.Geo.  
Geologist  
Casselman Geological Services Ltd

## CERTIFICATE

I, G.H. Giroux, of 982 Broadview Drive, North Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geological engineer with an office at #1215 - 675 West Hastings Street, Vancouver, British Columbia.
- 2) I am a graduate of the University of British Columbia in 1970 with a B.A. Sc. and in 1984 with a M.A. Sc., both in Geological Engineering.
- 3) I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 4) I have practised my profession continuously since 1970. I have had over 30 years of experience estimating mineral resources, in particular porphyry copper deposits such as Kemess, Schaft Creek, Red Chris, Casino, Fish Lake among others.
- 5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in National Instrument 43-101.
- 6) I am responsible for the preparation of the Resource Section 13 and co-responsible for Sections 16 and 17 of the technical report titled "**Updated Resource Report for the Hushamu Deposit, Northern Vancouver Island, British Columbia, Canada**", dated **August 27, 2012** (the "Technical Report") relating to the Hushamu project. I have not visited the property.
- 7) I have had prior involvement with the property completing earlier geostatistical studies in 1992 and 1993 as described in the Bibliography.
- 8) As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
- 9) I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.
- 10) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Dated this 27 day of August, 2012

"G. H. Giroux"

G. H. Giroux, P.Eng., MASc.

## **APPENDIX 1 – Claim Status**

Tenure Number	Claim Name	Issue Date	Good To Date	Area (ha)
229789	EXPO 1013 FR.	1983/aug/22	2014/jan/12	25.00
229790	EXPO 1014 FR.	1983/aug/22	2014/jan/12	25.00
229791	EXPO 1015 FR.	1983/aug/22	2014/jan/12	25.00
231651	HEP #36	1966/sep/20	2014/jan/12	25.00
231667	HEP #54	1966/sep/20	2014/jan/12	25.00
231668	HEP #55	1966/sep/20	2014/jan/12	25.00
231669	HEP #56	1966/sep/20	2014/jan/12	25.00
231671	HEP #58	1966/sep/20	2014/jan/12	25.00
231672	HEP #59	1966/sep/20	2014/jan/12	25.00
231933	EXPO 190	1967/oct/10	2014/jan/12	25.00
231934	EXPO 191	1967/oct/10	2014/jan/12	25.00
231961	EXPO 218	1967/oct/10	2014/jan/12	25.00
231963	EXPO 220	1967/oct/10	2014/jan/12	25.00
231965	EXPO 222	1967/oct/10	2014/jan/12	25.00
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231968	EXPO 225	1967/oct/10	2014/jan/12	25.00
231980	EXPO 227	1967/oct/19	2014/jan/12	25.00
231982	EXPO 229	1967/oct/19	2014/jan/12	25.00
231984	EXPO 231	1967/oct/19	2014/jan/12	25.00
231990	EXPO 237	1967/oct/19	2014/jan/12	25.00
231991	EXPO 238	1967/oct/19	2014/jan/12	25.00
231995	EXPO 242	1967/oct/19	2014/jan/12	25.00
231997	EXPO 244	1967/oct/19	2014/jan/12	25.00
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232005	EXPO 252	1967/oct/19	2014/jan/12	25.00
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377240	APPLE BAY TWO	2000/may/17	2014/jan/12	500.00
394718	APPLE BAY NINETEEN	2002/jul/05	2014/jan/12	500.00
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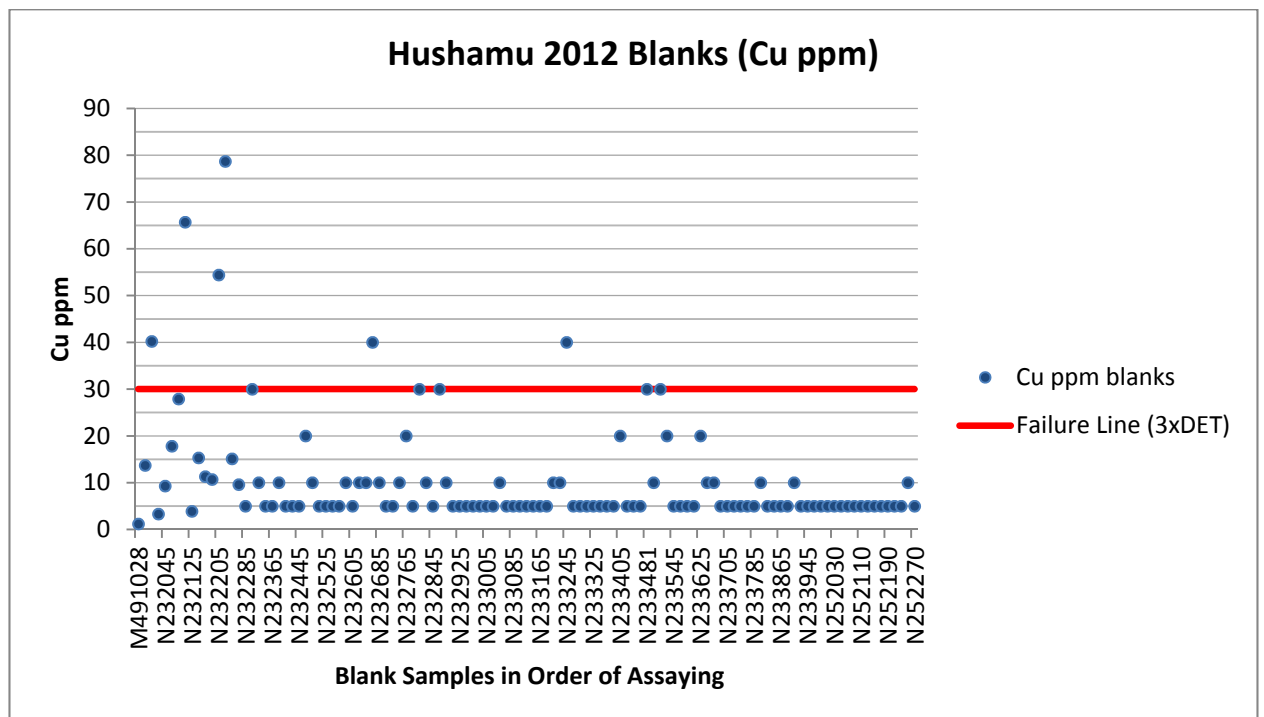
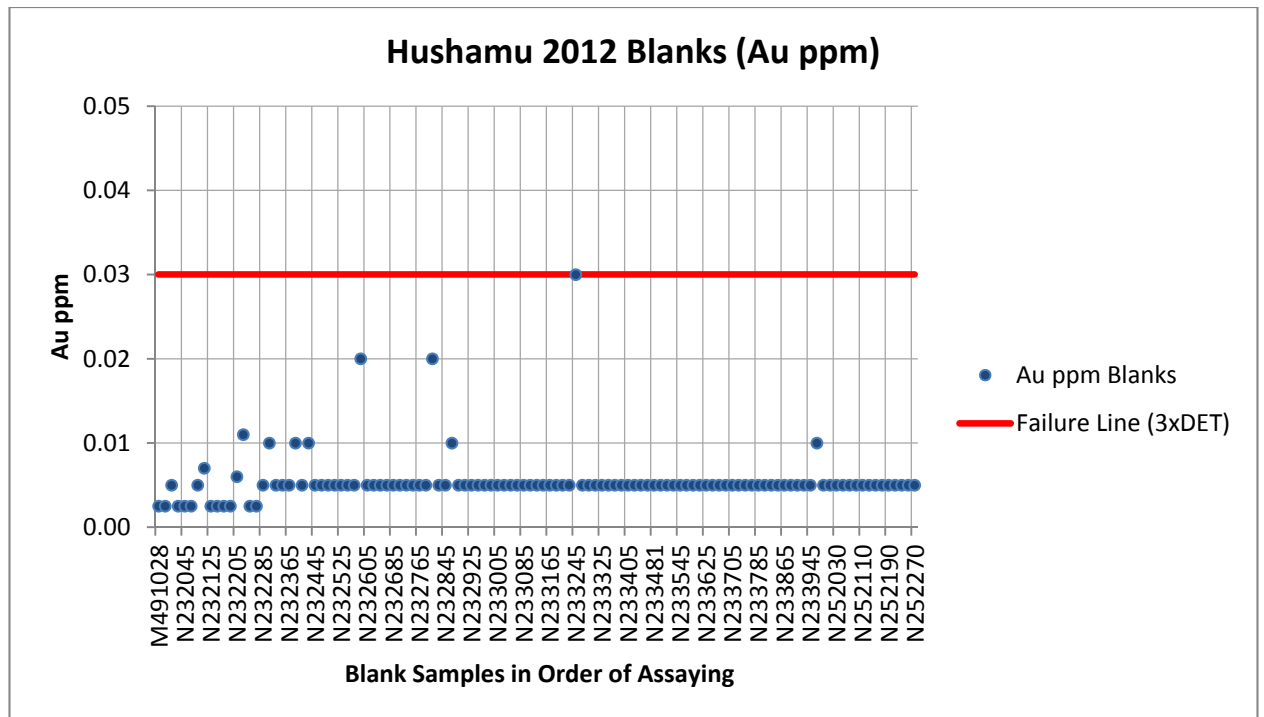
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517213	HOLBERG	2005/jul/12	2014/jan/12	143.52
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517541	APPLE BAY TEN	2005/jul/12	2014/jan/12	20.51
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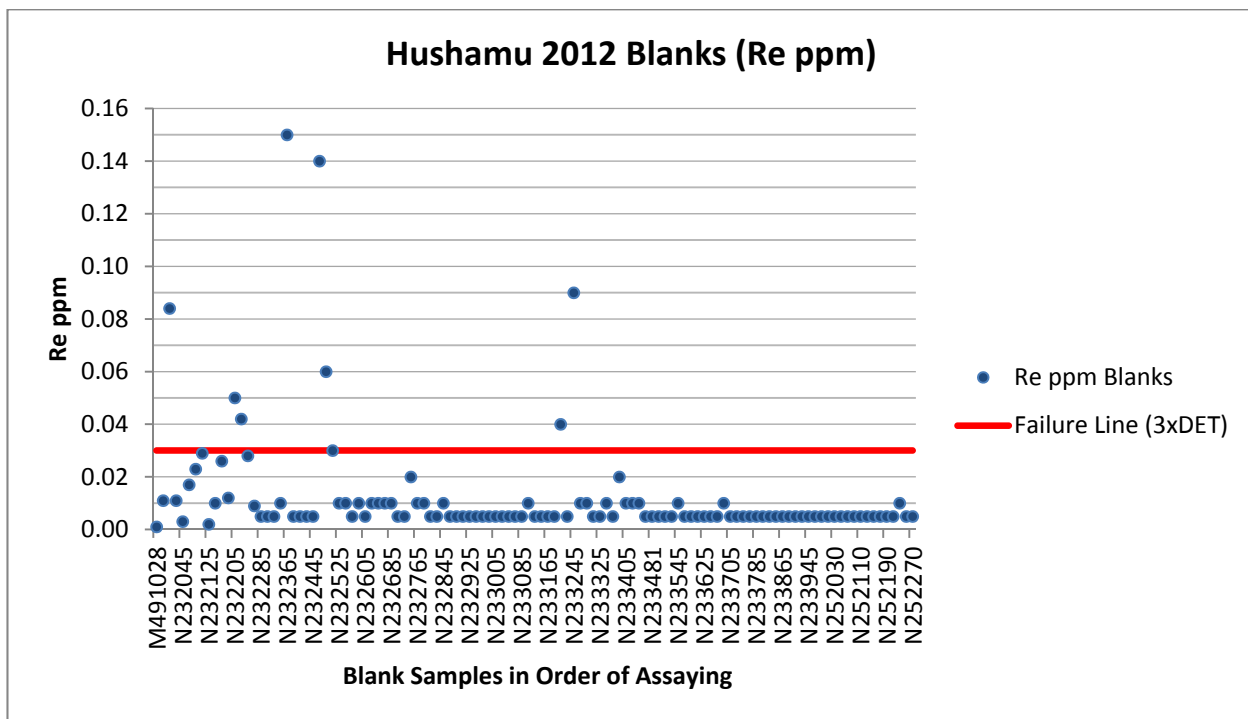
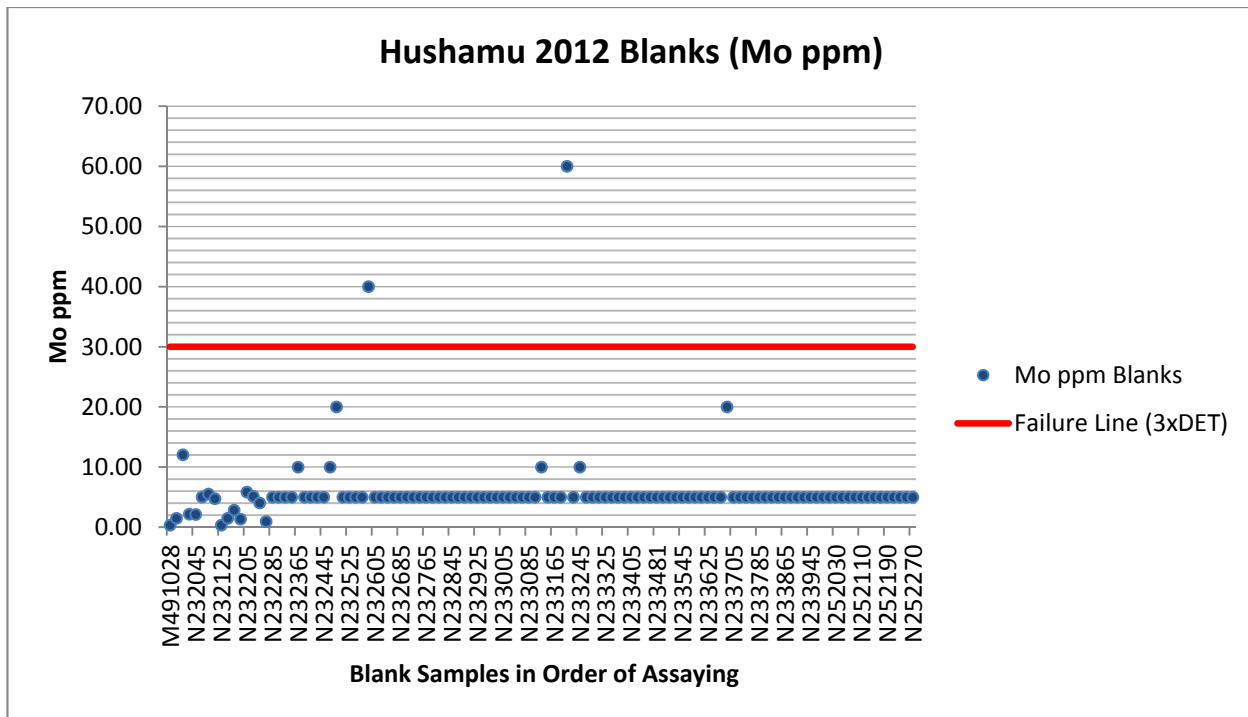
\*Claim data current to August 10, 2012 (source <http://webmap.em.gov.bc.ca>)



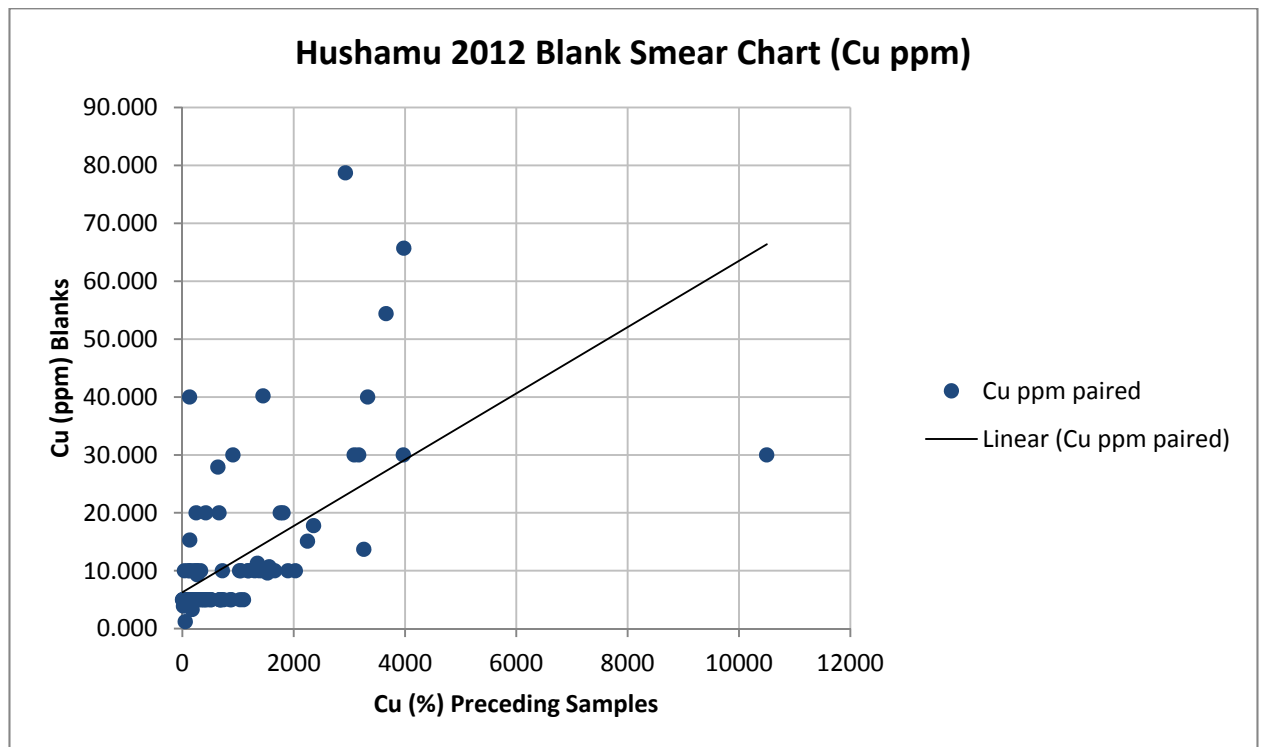
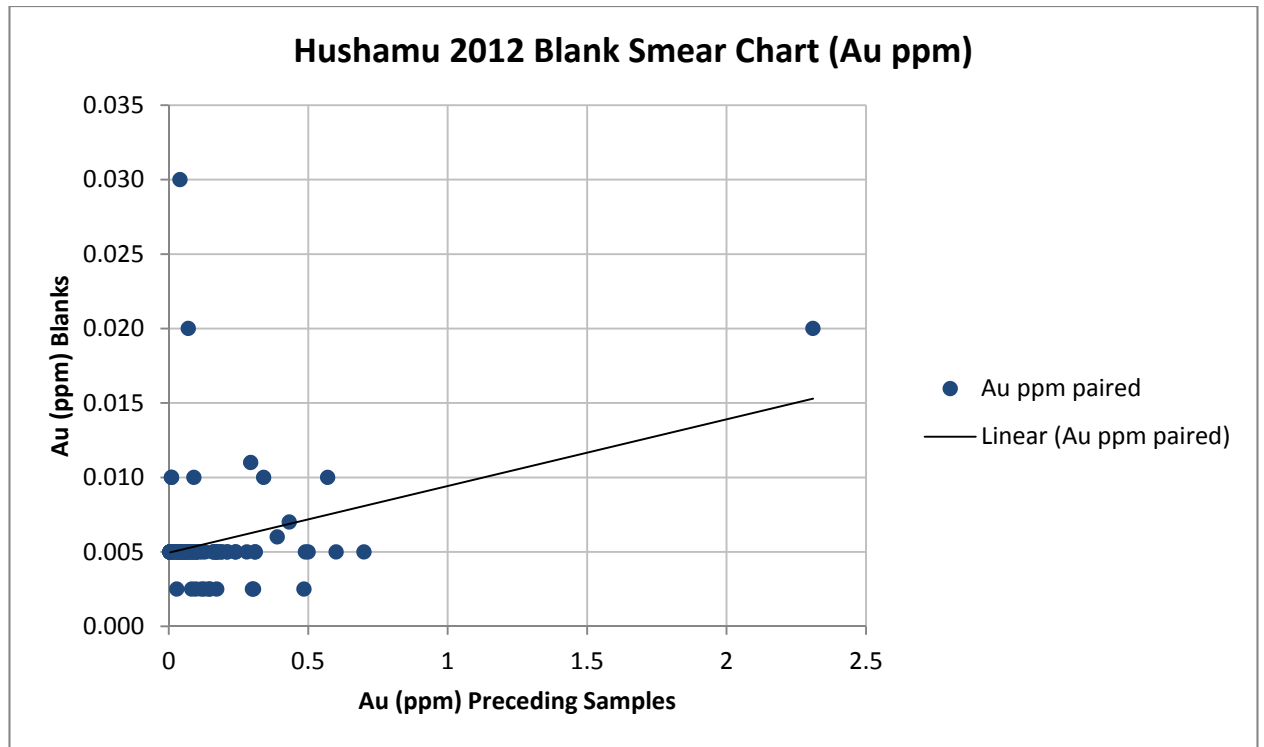
## **APPENDIX 2 – Data Verification QA/QC Charts (from Brown, 2012)**

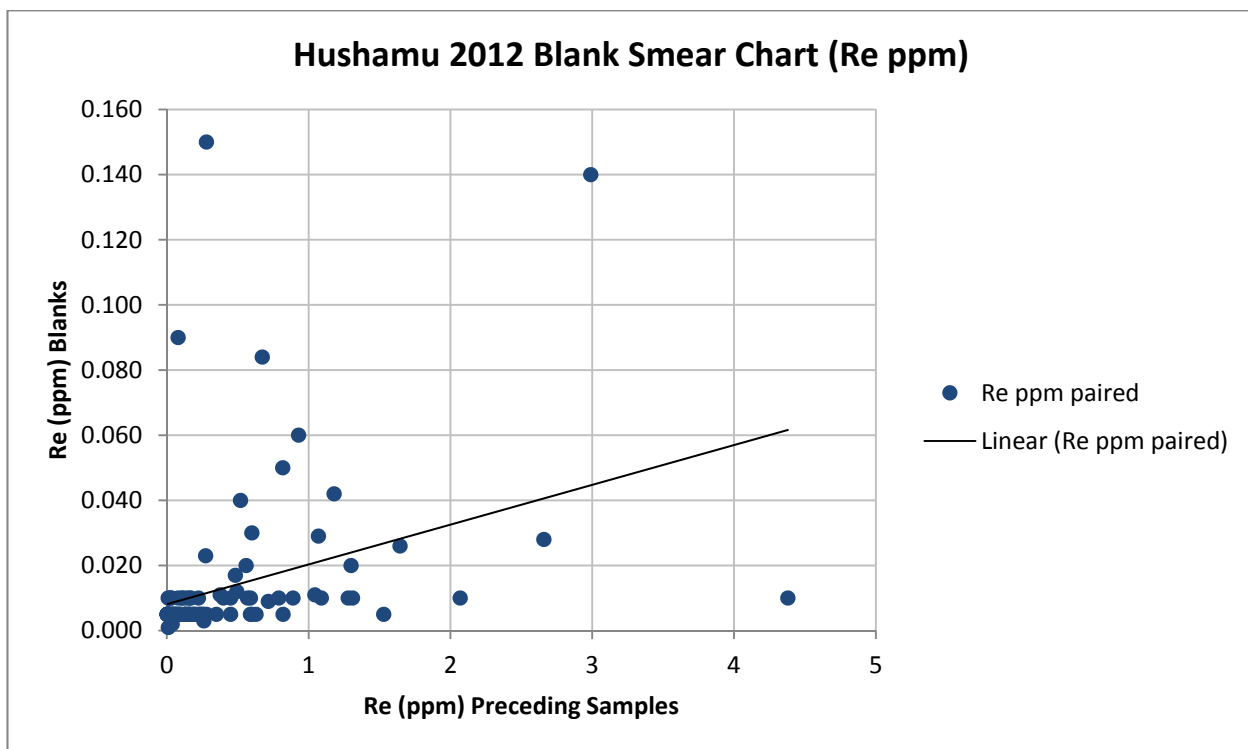
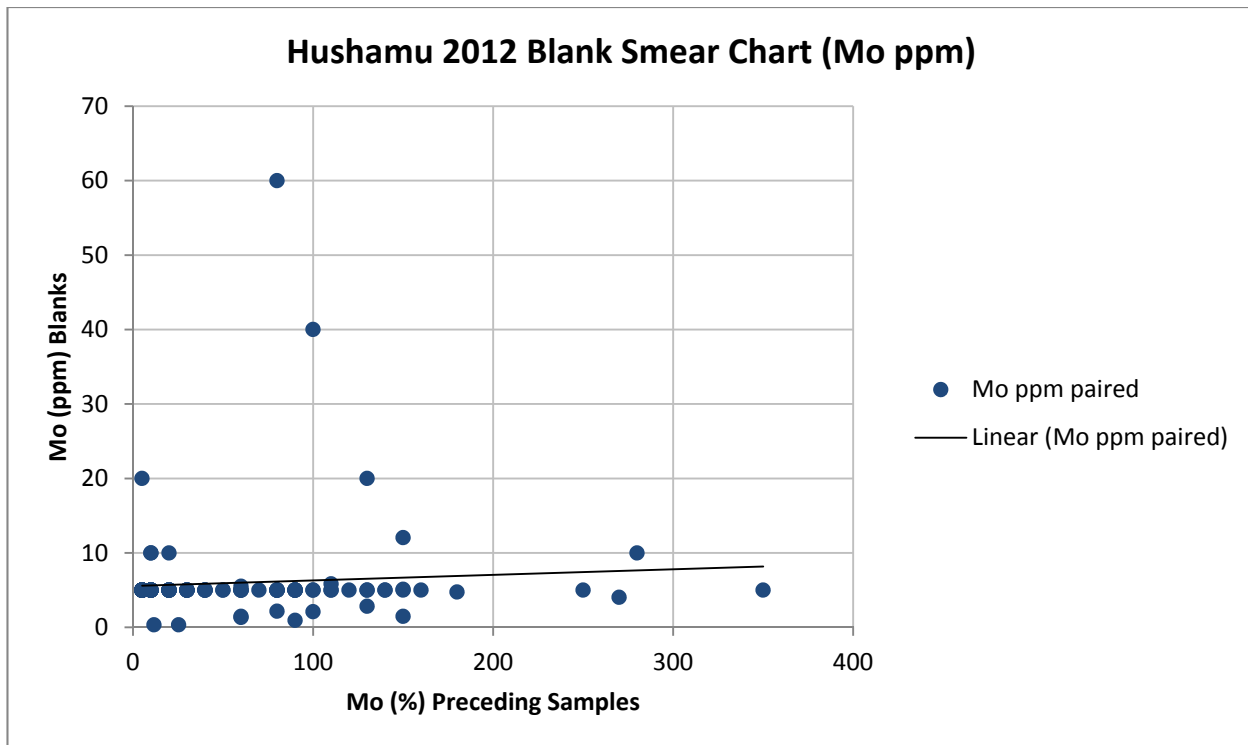
Failure Charts



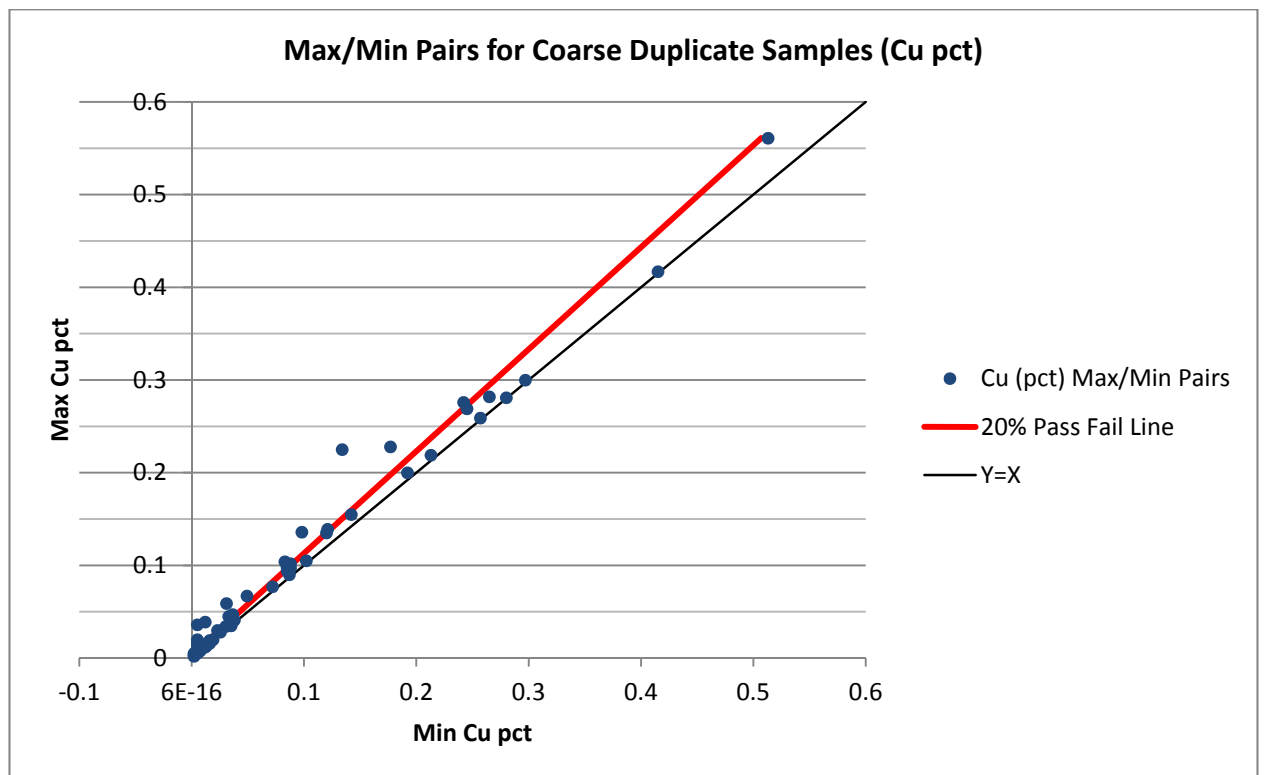
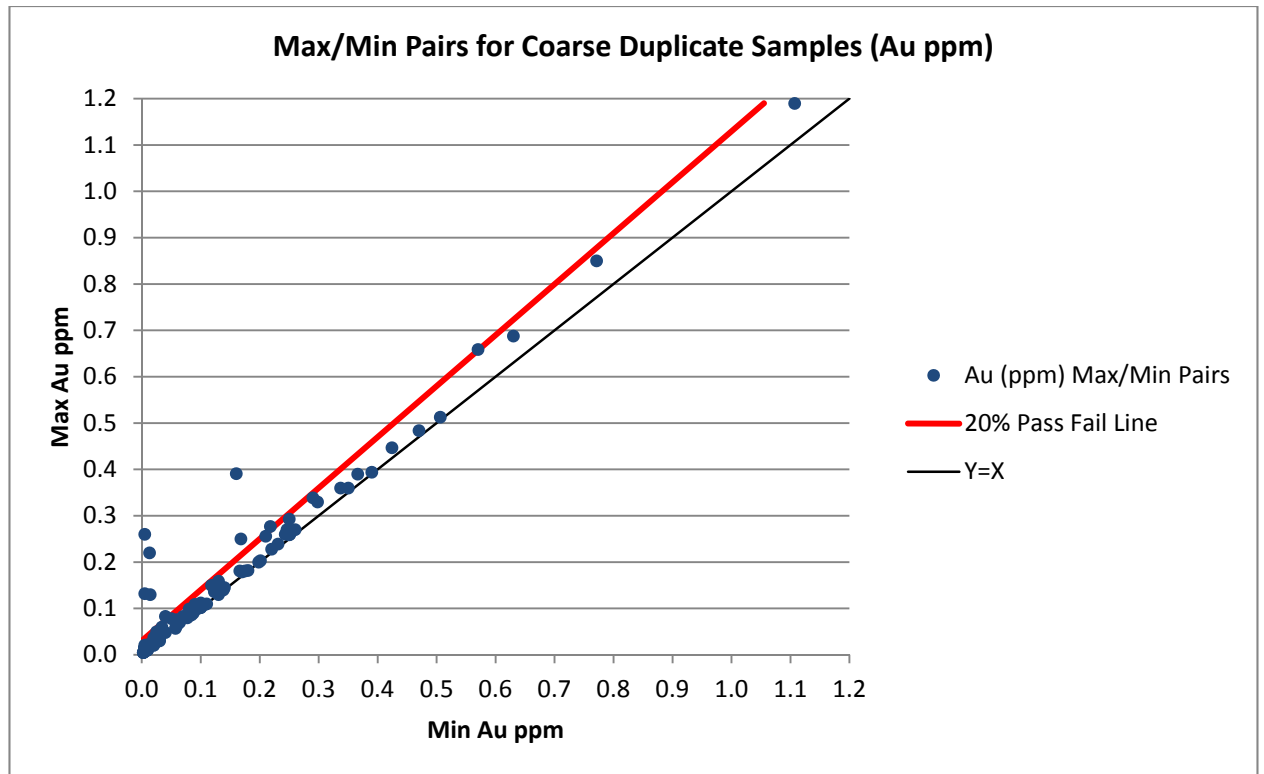


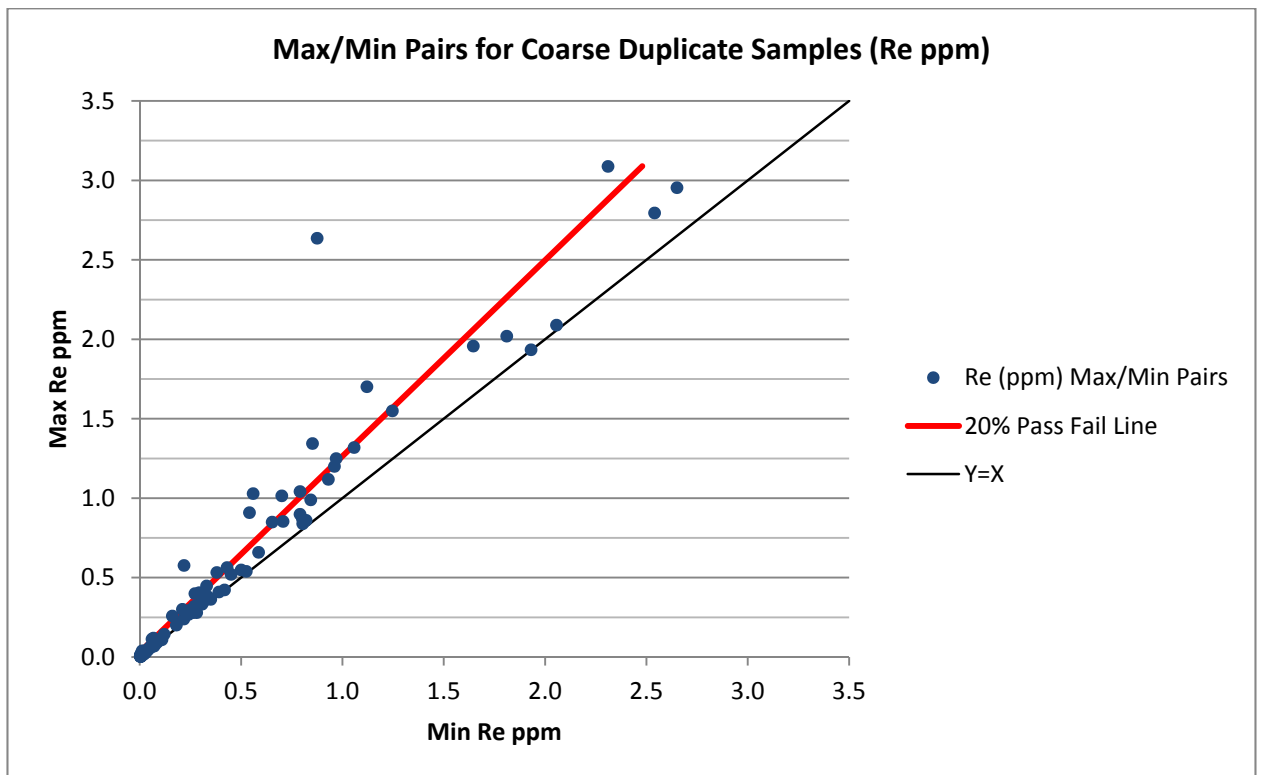
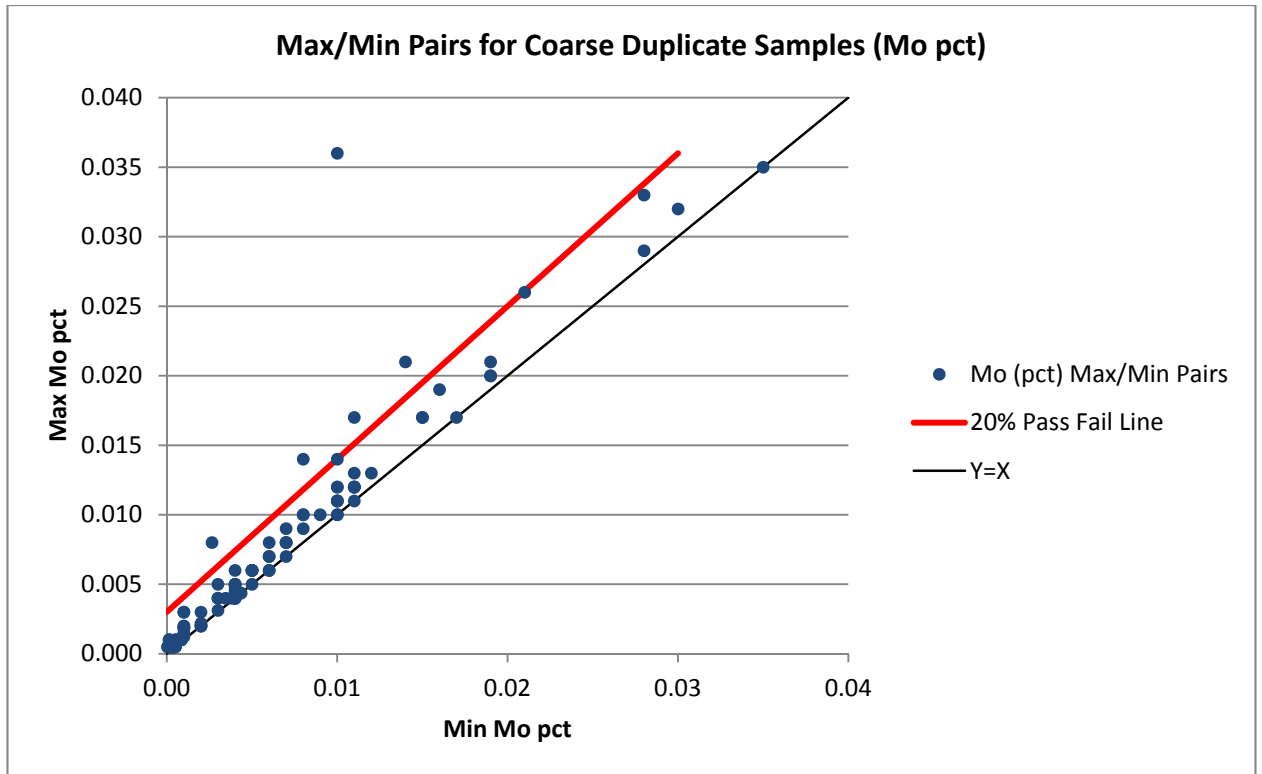
Smear Charts



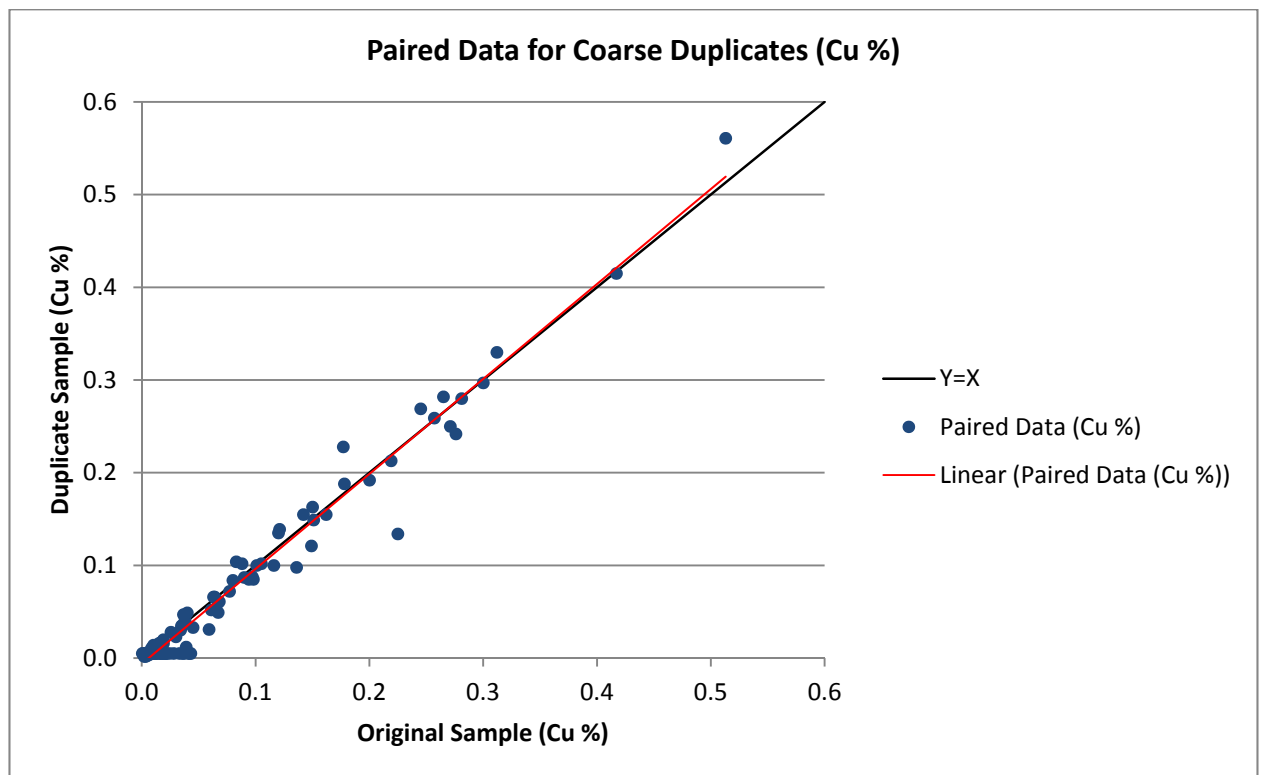
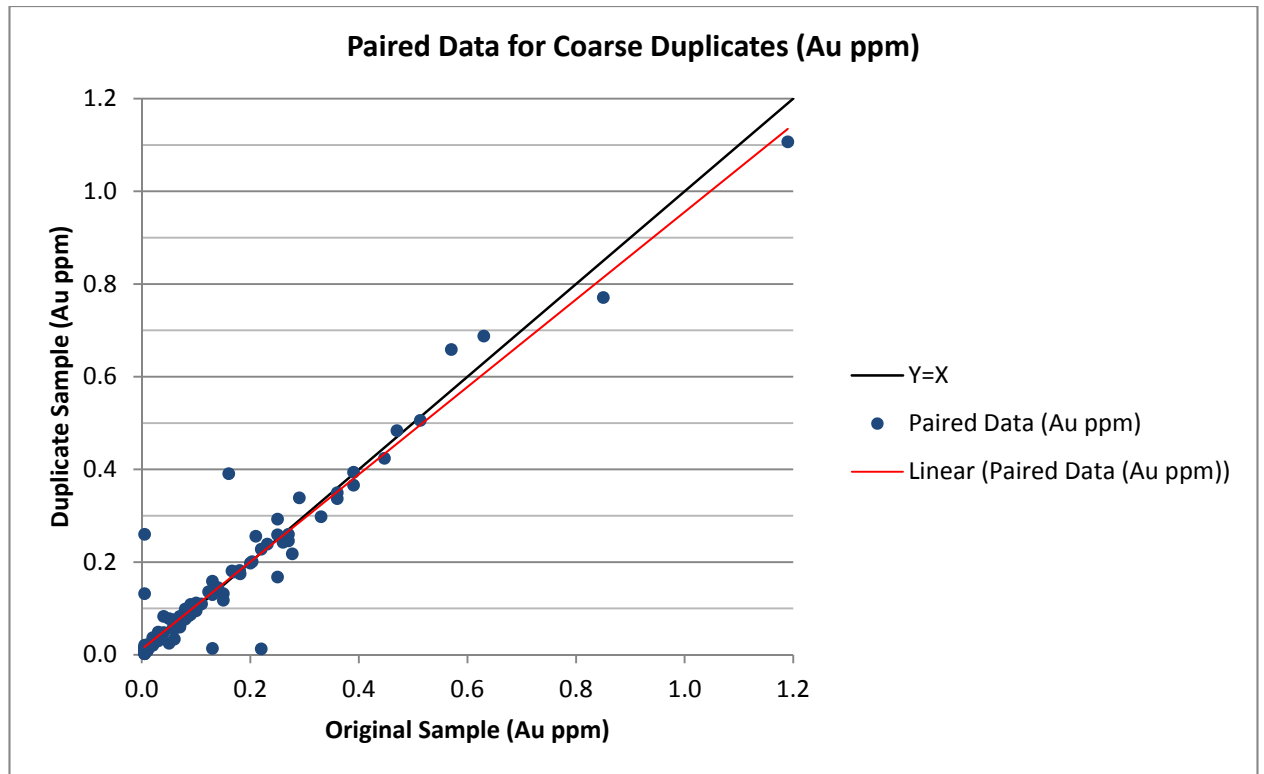


Max-Min Charts

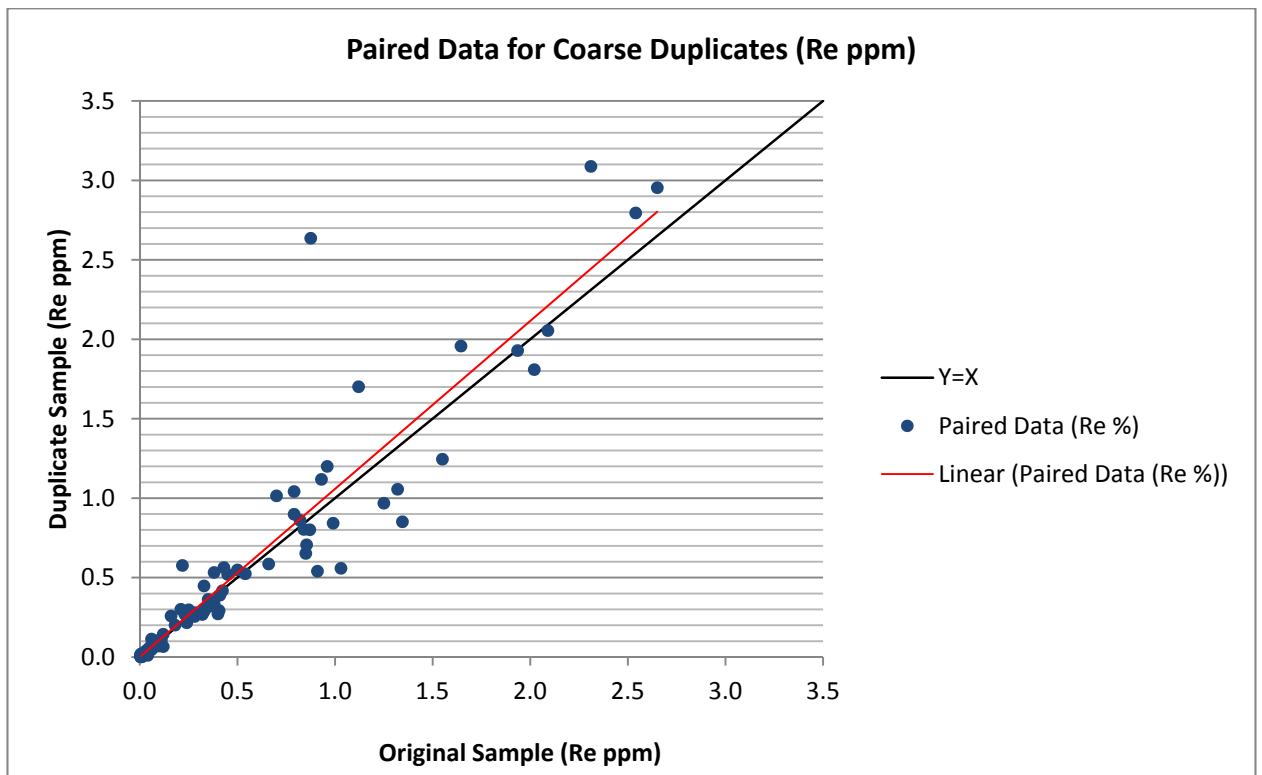
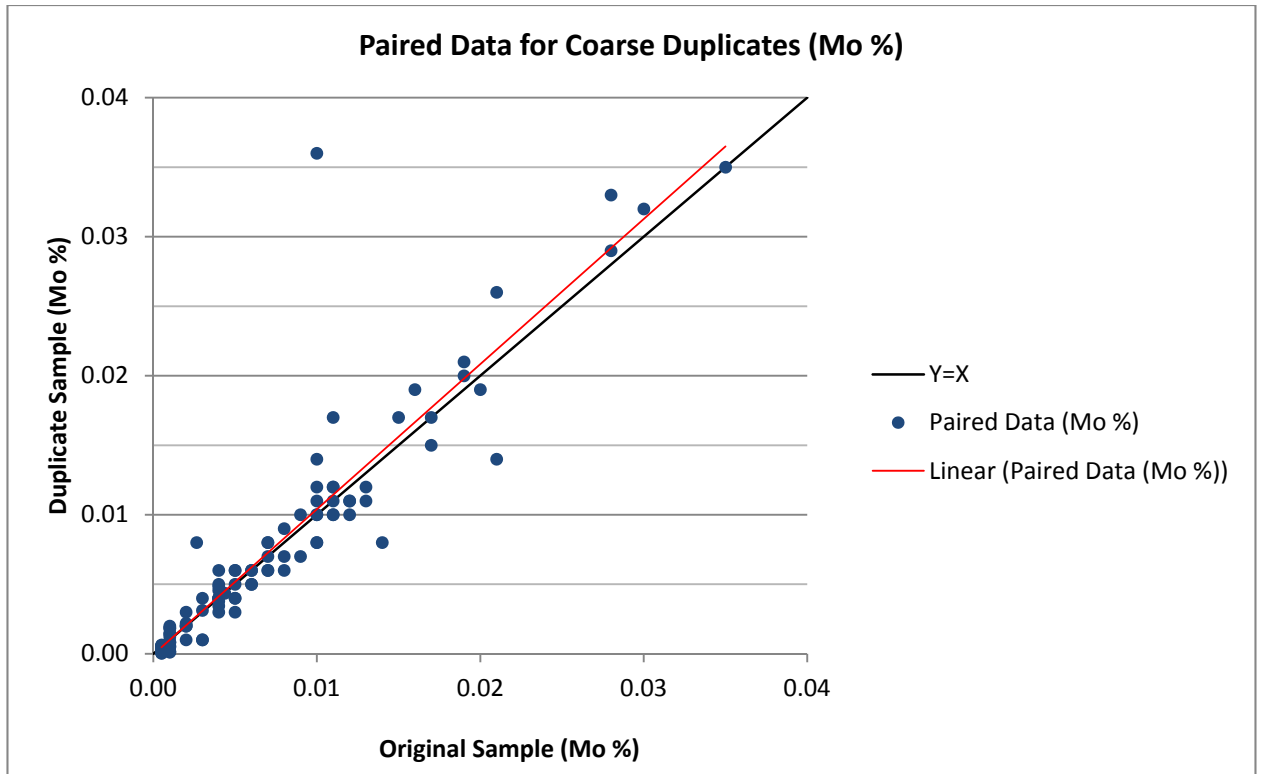




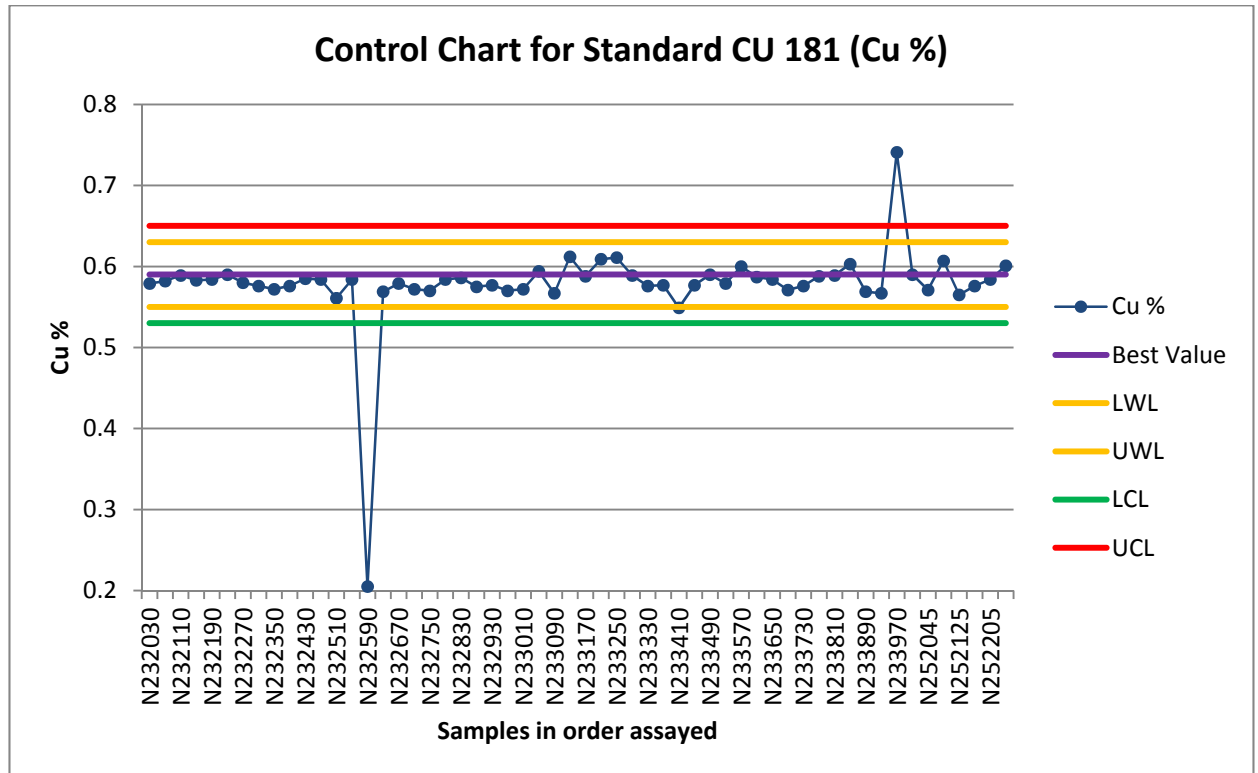
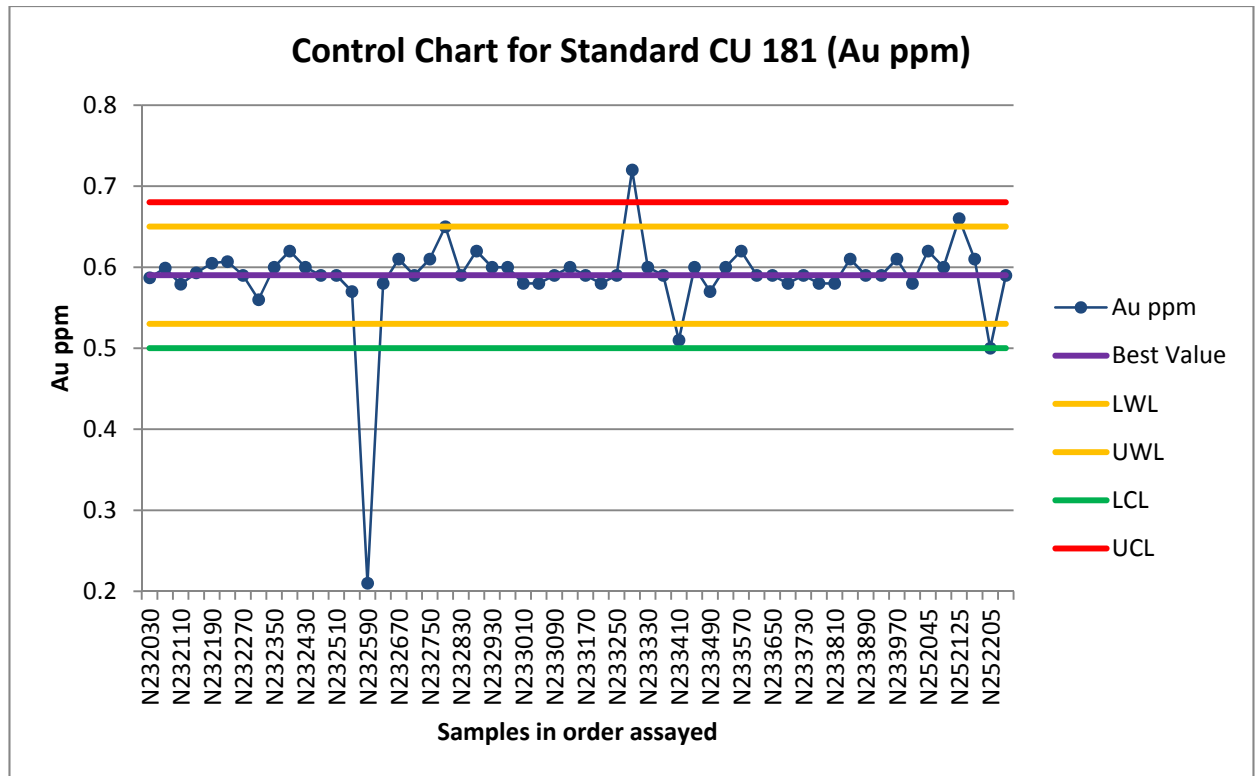
Q-Q Scatterplots

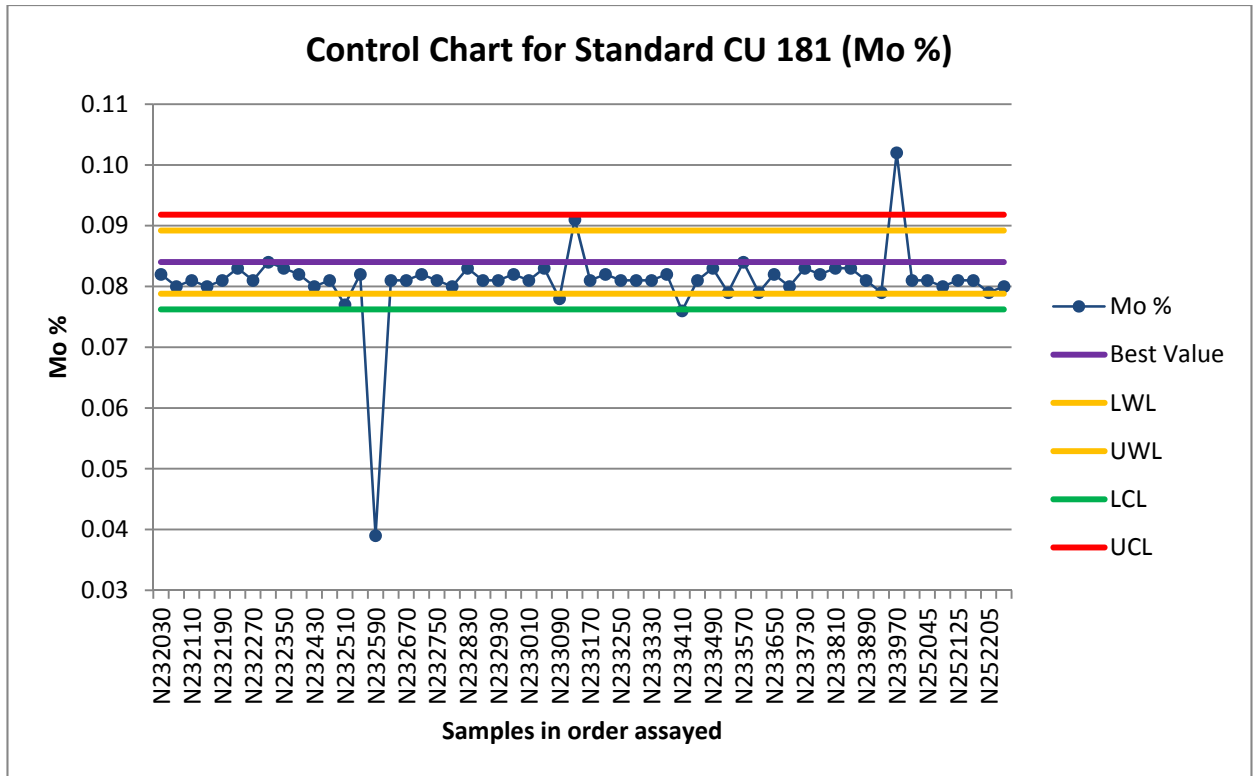




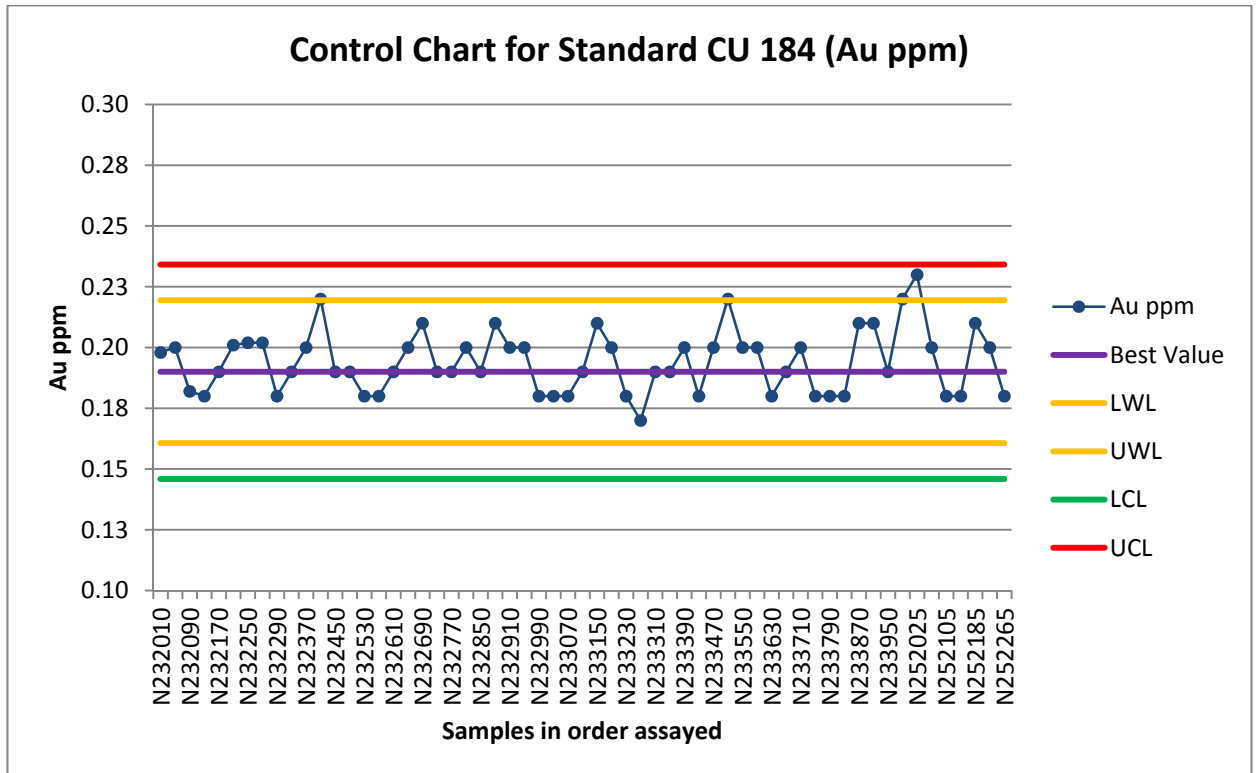


CU 181

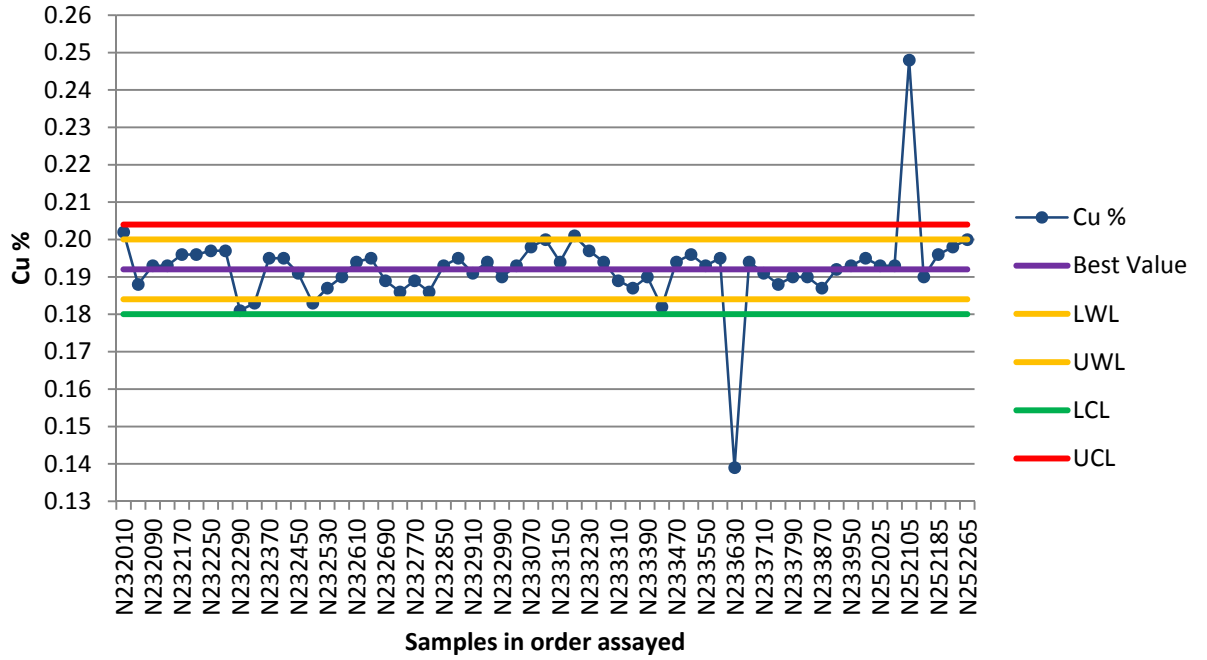




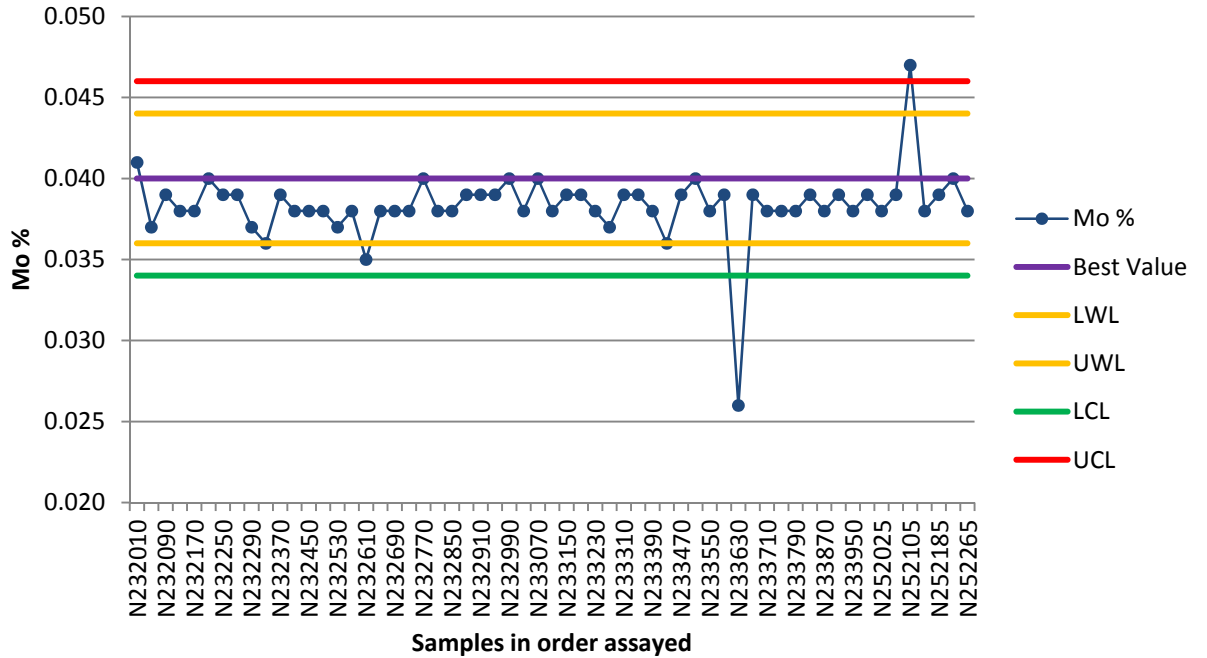
**CU 184**



**Control Chart for Standard CU 184 (Cu %)**



**Control Chart for Standard CU 184 (Mo %)**



### Appendix 3 - Listing of Drill holes used in the Resource Estimate

HOLE	EASTING	NORTHING	ELEVATION	HOLE LENGTH
EC-018	579635.91	5614592.88	294.44	111.25
EC-019A	580091.15	5614597.65	362.71	75.29
EC-021	579635.36	5614125.08	317.51	111.25
EC-022a	579998.91	5613987.54	394.72	30.78
EC-058	579974.30	5614654.02	364.24	92.96
EC-059	580190.47	5614577.32	349.30	99.36
EC-060	579786.44	5614571.70	308.46	92.35
EC-061	579802.23	5614691.37	367.28	232.56
EC-062	579641.58	5614926.36	387.10	46.02
EC-063	579657.23	5614988.12	411.48	46.33
EC-064	579621.40	5615070.85	414.53	47.24
EC-065	579805.27	5614807.83	414.53	105.77
EC-066	579937.13	5614537.42	335.28	110.03
EC-067	579873.67	5614450.04	303.58	165.81
EC-068	580135.11	5614337.06	310.90	163.98
EC-069	580487.58	5614324.32	355.09	244.45
EC-070	580741.24	5614130.79	429.77	163.07
EC-073	580127.99	5614449.85	309.65	187.45
EC-074	580486.51	5614451.70	324.61	152.40
EC-075	580608.10	5614322.77	351.43	152.40
EC-076	580731.79	5614315.96	320.04	152.70
EC-077A	580972.50	5614296.57	319.13	142.65
EC-078	580365.17	5614316.01	343.51	152.40
EC-079	580962.74	5614180.94	316.99	152.40
EC-080A	580719.52	5614438.00	354.48	152.40
EC-081	580595.70	5614445.21	333.45	175.26
EC-082	580970.00	5614420.96	326.14	152.40
EC-083	581081.91	5614319.65	352.04	98.76
EC-084	580731.82	5614314.13	320.04	256.64
EC-085	581095.71	5614197.01	323.09	124.05
EC-086	580926.71	5613259.50	641.91	212.45
EC-087A	580491.37	5614568.79	341.38	130.15
EC-088	581279.86	5613171.20	533.40	178.92
EC-089	580238.77	5614310.69	324.61	153.62
EC-092	581097.99	5614092.82	326.14	152.40
EC-093	580485.17	5614321.55	356.62	245.36

EC-094	580371.42	5614466.33	323.09	178.00
EC-095	580239.18	5614210.13	380.70	137.46
EC-096	580245.33	5614437.25	316.99	143.56
EC-097	581226.77	5613940.61	365.76	152.40
EC-098	580959.82	5614194.62	315.47	202.69
EC-099	580114.61	5614691.22	391.67	152.40
EC-100	580843.28	5614273.23	316.38	259.08
EC-101	581222.82	5614078.61	313.03	60.35
EC-102	581219.51	5614076.13	313.64	125.27
EC-103	580721.69	5614435.59	354.48	336.19
EC-104	579637.37	5614690.73	313.33	152.40
EC-105	580845.12	5614272.95	316.38	195.38
EC-106	581464.07	5613601.19	397.46	198.42
EC-107	579887.20	5614649.83	345.95	215.19
EC-108	581097.99	5614092.82	326.14	159.11
EC-109	580243.27	5614547.54	339.85	179.22
EC-110	580491.38	5614568.18	341.38	306.02
EC-111	580733.98	5614242.54	366.37	253.59
EC-112	581355.70	5613846.62	351.43	163.37
EC-113	580103.59	5614555.46	349.00	230.43
EC-114	581356.03	5613844.49	351.74	152.40
EC-115	579872.47	5614771.41	413.00	298.09
EC-116	579759.34	5614778.27	386.79	243.23
EC-117	579991.33	5614772.79	431.90	170.08
EC-118	579886.42	5614894.23	454.46	186.84
EC-123	581217.38	5614214.16	329.18	161.85
EC-124	581217.38	5614214.16	320.00	73.36
EC-127	581712.46	5613877.82	307.85	135.94
EC-128	581675.03	5613572.58	323.09	223.72
EC-136	579739.69	5614418.71	301.75	151.49
EC-137A	580353.26	5614573.06	347.47	136.25
EC-138	580007.92	5614414.62	310.90	165.51
EC-154	580775.10	5613453.86	677.69	452.93
EC-155	580635.57	5613540.49	676.72	156.06
EC-159	579854.79	5614472.03	301.75	274.34
EC-160	580132.19	5614466.54	318.52	75.59
EC-161	579977.36	5614653.45	364.24	37.49
EC-162	579773.73	5614611.15	329.18	187.15
EC-163	580006.42	5614413.08	310.90	188.06
EC-171	580536.36	5614332.34	352.04	290.78
EC-172	580769.64	5613603.24	636.00	459.33

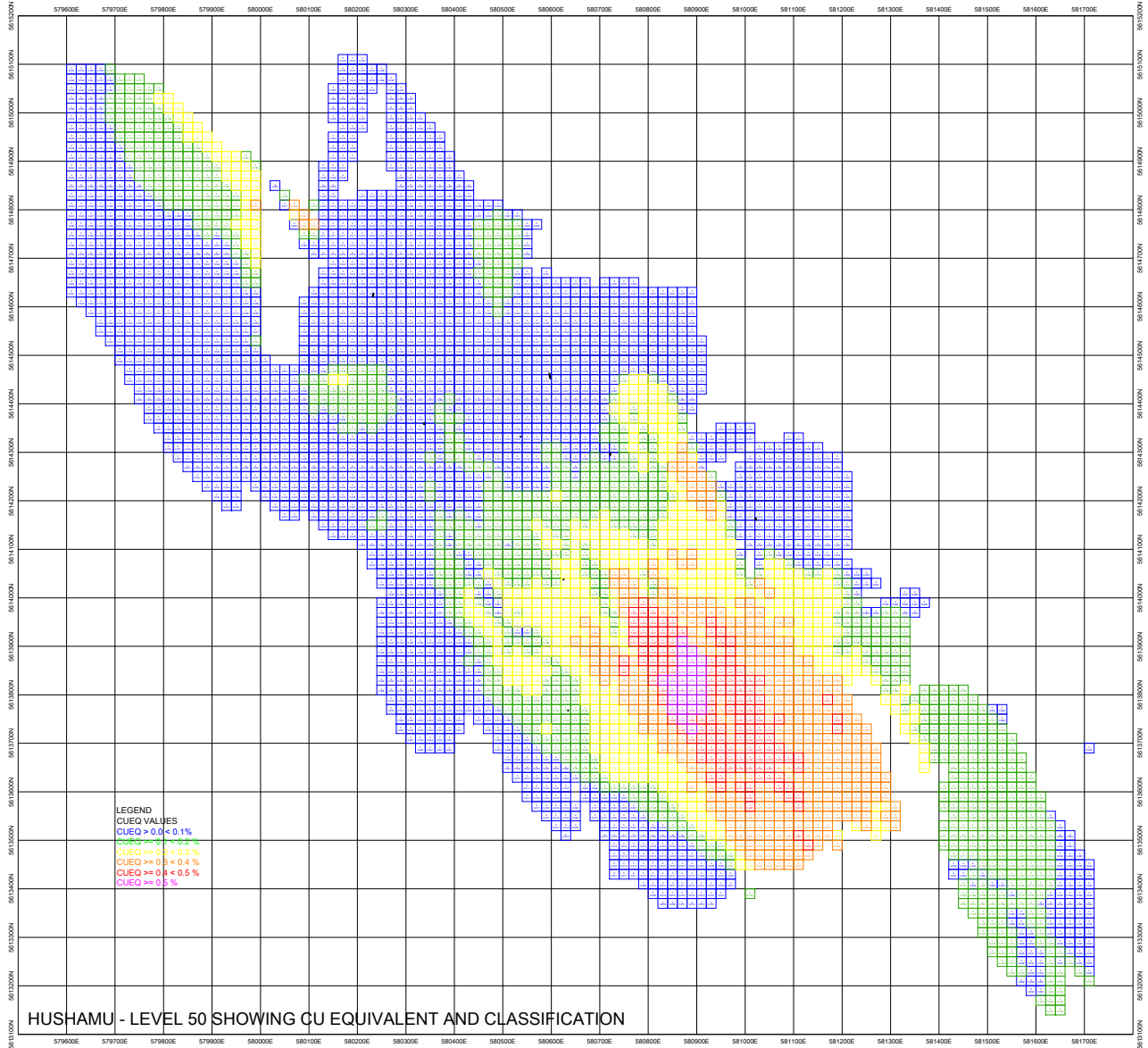
EC-173	580750.62	5613799.92	608.47	456.29
EC-174	580787.05	5613319.23	677.78	90.53
EC-175	580848.20	5613350.84	675.28	338.33
EC-176	580352.91	5614310.12	343.69	256.03
EC-177	579807.22	5614764.18	396.58	275.84
EC-178	580598.64	5614307.50	360.43	242.01
EC-179	580421.41	5613998.22	587.62	495.91
EC-180	580421.41	5613998.22	587.62	465.12
EC-181	579465.06	5614792.99	298.70	233.48
EC-182	580625.28	5614037.71	494.45	438.00
EC-183	580625.28	5614037.71	494.45	393.19
EC-184	580251.54	5614312.69	324.61	183.49
EC-185	579645.75	5614934.03	393.19	200.25
EC-186	579992.53	5614681.38	382.52	194.16
EC-187	580845.88	5614064.66	428.91	332.23
EC-188	580845.88	5614064.66	428.91	372.16
EC-189	580248.03	5614499.02	320.65	157.58
EC-190	580950.15	5614039.98	414.59	213.36
EC-191	580950.15	5614039.98	414.59	294.74
EC-192	581573.39	5613373.63	434.00	267.31
EC-198	580912.72	5613790.50	596.49	523.04
EC-199	580499.96	5614078.25	560.83	495.60
EC-200	580634.74	5613793.55	605.03	544.37
EC-201	580746.06	5613996.15	472.44	361.49
EC-202	581060.15	5613772.33	518.16	337.11
EC-203	580423.66	5613923.95	601.98	495.60
EC-204	581070.48	5613450.34	568.45	379.78
EC-205	581480.89	5613295.74	480.06	291.39
EC-206	580635.86	5613708.84	627.28	413.00
EC-206A	580635.86	5613708.84	627.28	20.42
EC-207	581131.65	5613666.00	539.50	343.20
EC-208	580495.87	5613832.87	606.55	364.54
EC-211	580535.12	5613557.44	670.56	271.58
EC-212	581250.11	5613679.82	457.20	204.83
EC-213	580637.77	5613424.20	670.56	129.84
EC-214	581135.64	5613828.72	487.68	365.76
EC-215	581021.00	5614207.00	324.92	410.60
EC-216	580340.00	5614354.00	331.01	394.11
EC-217	579792.00	5614769.00	395.94	299.00
H-12-01	581015.00	5613178.00	660.00	323.20
H-12-02	581015.00	5613178.00	660.00	235.20

H-12-03	580512.00	5613819.00	587.00	485.07
H-12-04	580879.00	5613451.00	670.00	548.13
H-12-05	580879.00	5613451.00	670.00	539.13
H-12-06	580782.00	5613307.00	670.00	60.00
H-12-07	580782.00	5613307.00	670.00	179.13
H-12-08	580672.00	5613466.00	691.00	245.75
H-12-09	580458.00	5613858.00	616.00	468.63
H-12-10	580581.00	5614558.00	338.00	384.10
H-12-11	580581.00	5614558.00	338.00	60.10
H-12-12	580236.00	5614724.00	393.00	371.10
H-12-13	580236.00	5614724.00	393.00	296.10
H-12-14	580353.00	5614723.00	368.00	302.10
H-12-15	580353.00	5614723.00	368.00	249.00
H-12-16	580733.00	5614582.00	351.00	241.00
H-12-17	580733.00	5614582.00	351.00	227.00
H-12-18	580861.00	5614509.00	341.00	222.00
HI-03	580911.50	5614209.10	319.10	197.21
HI-08	580402.60	5614363.60	325.20	316.15
TOTAL				31579.70

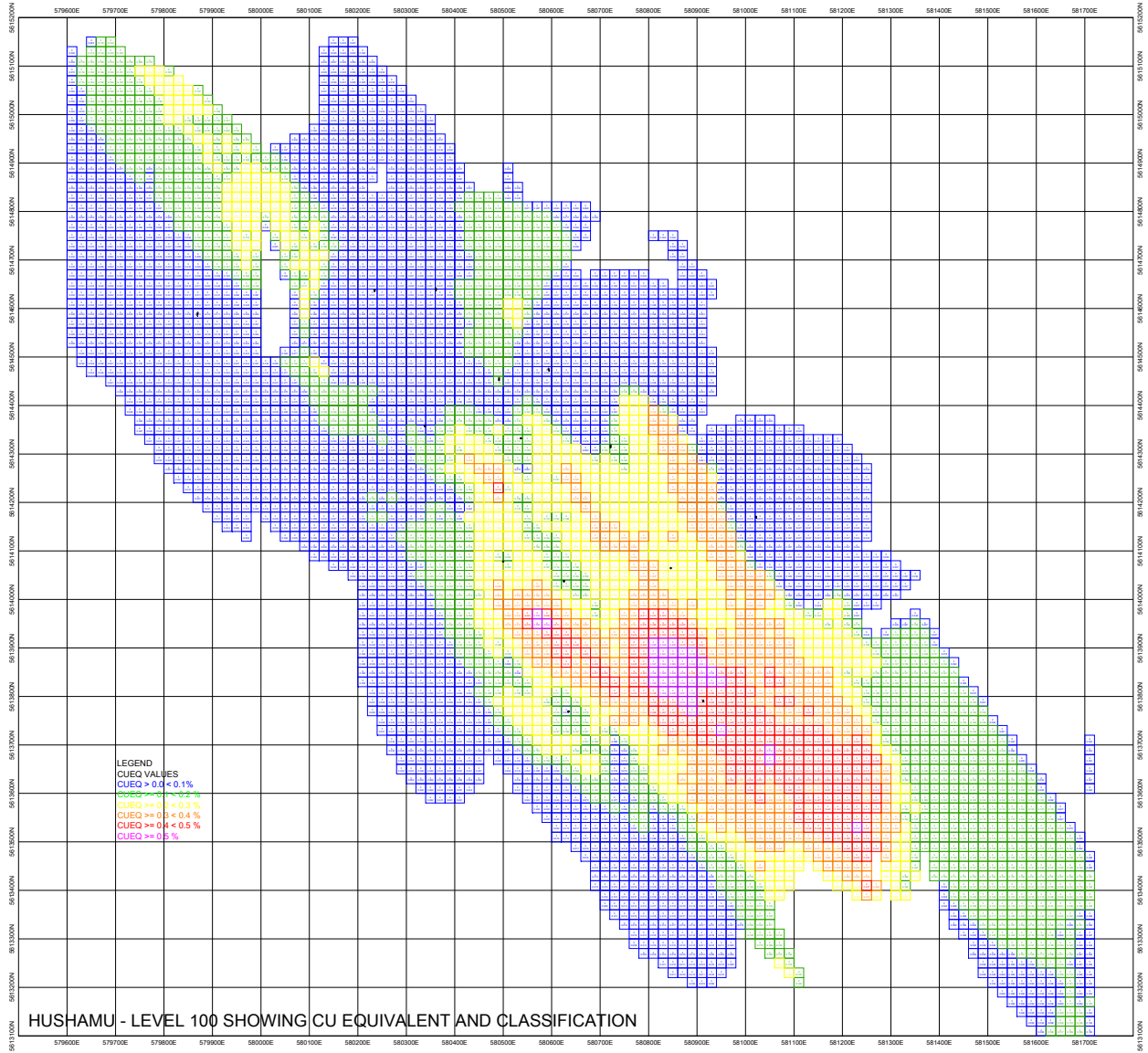


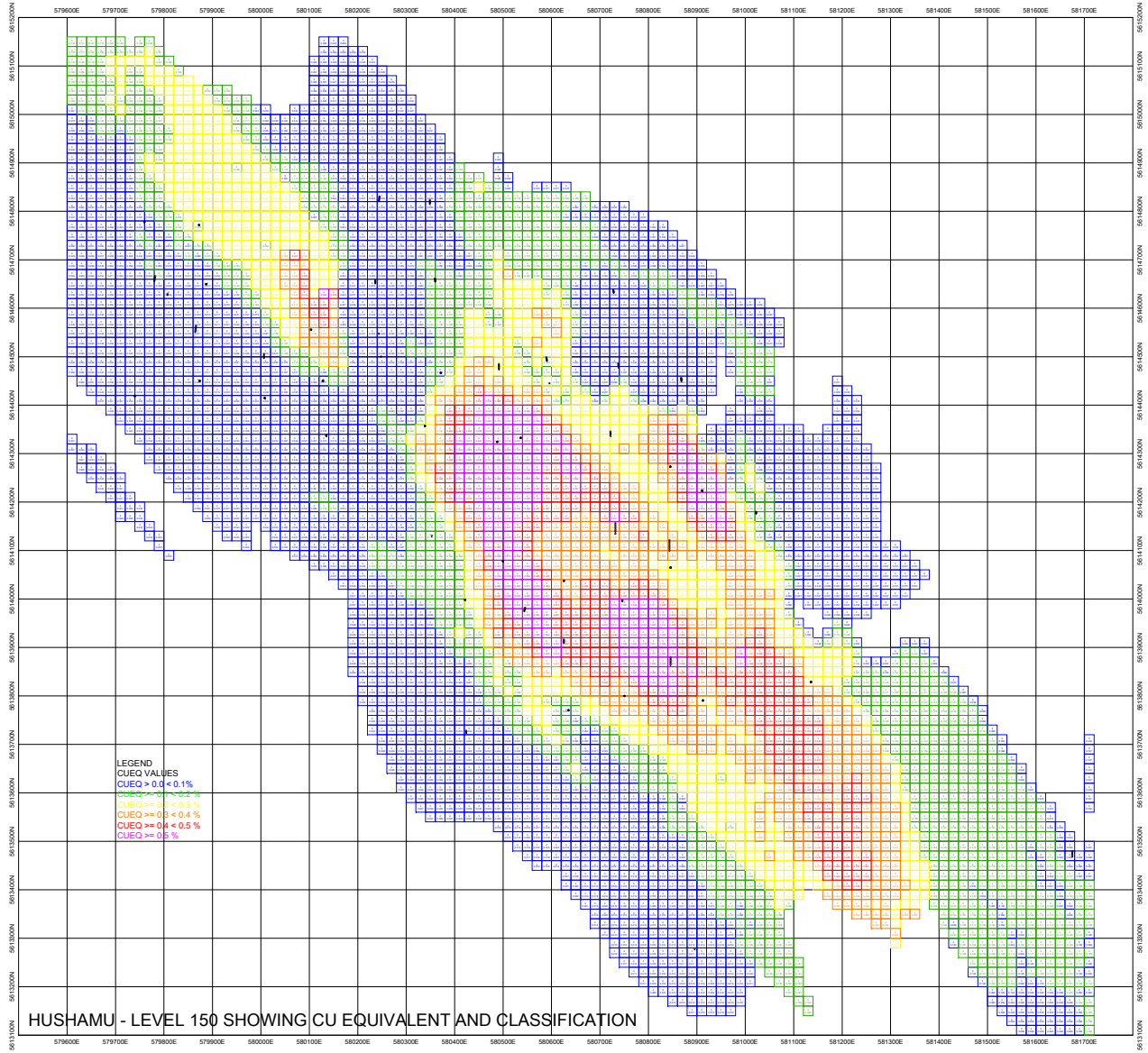
**APPENDIX 4 – LEVEL PLANS**

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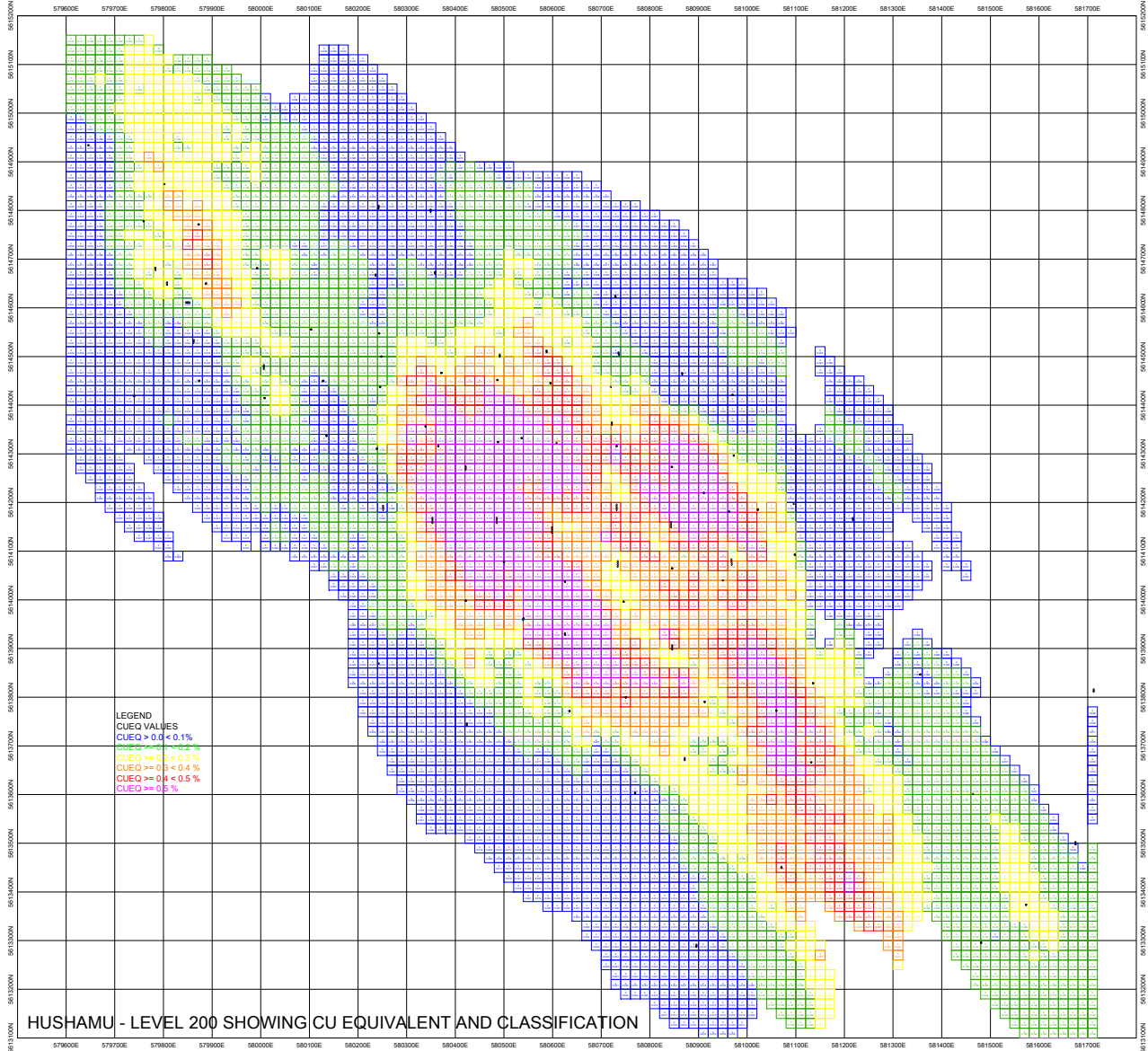


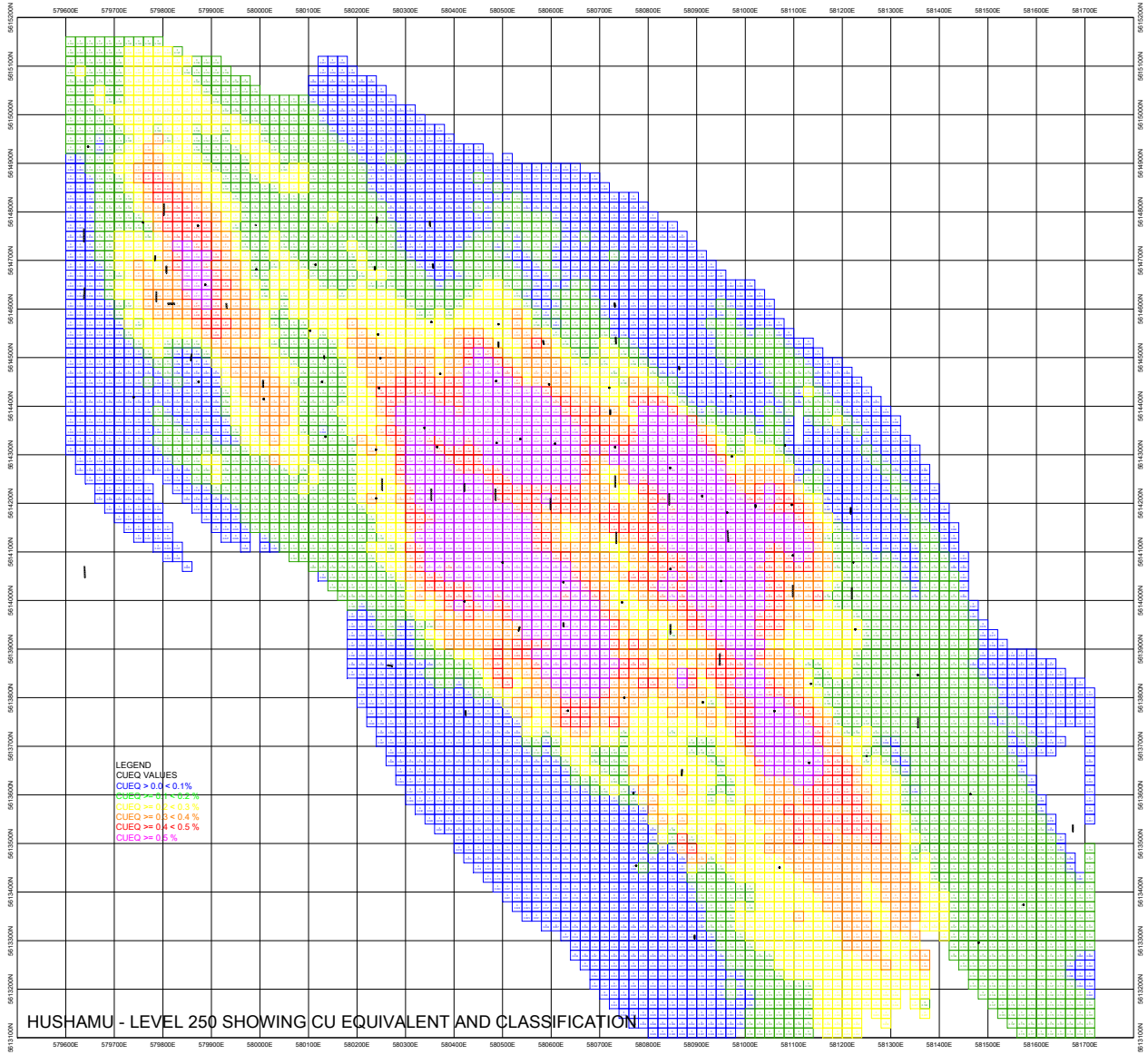
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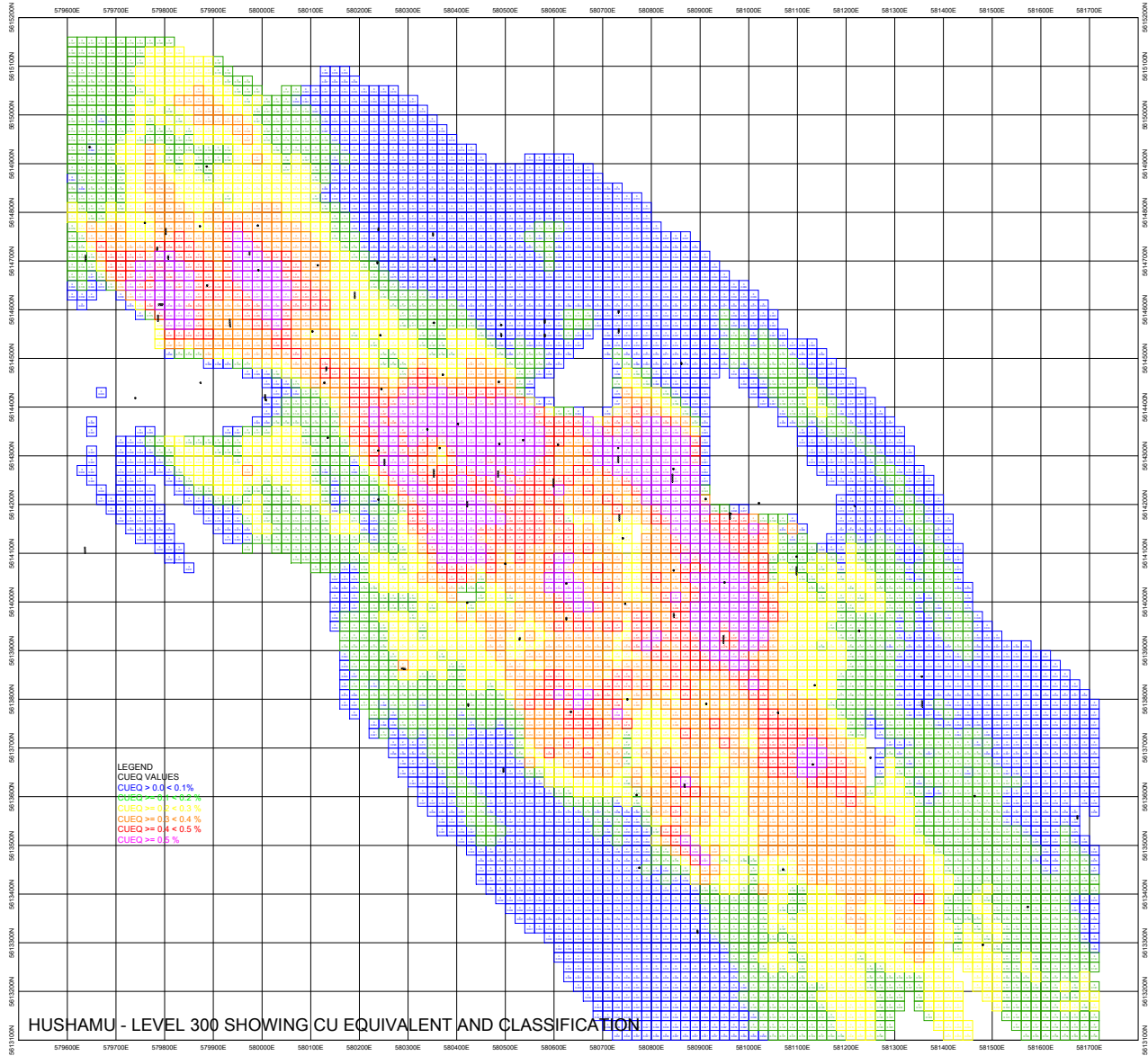




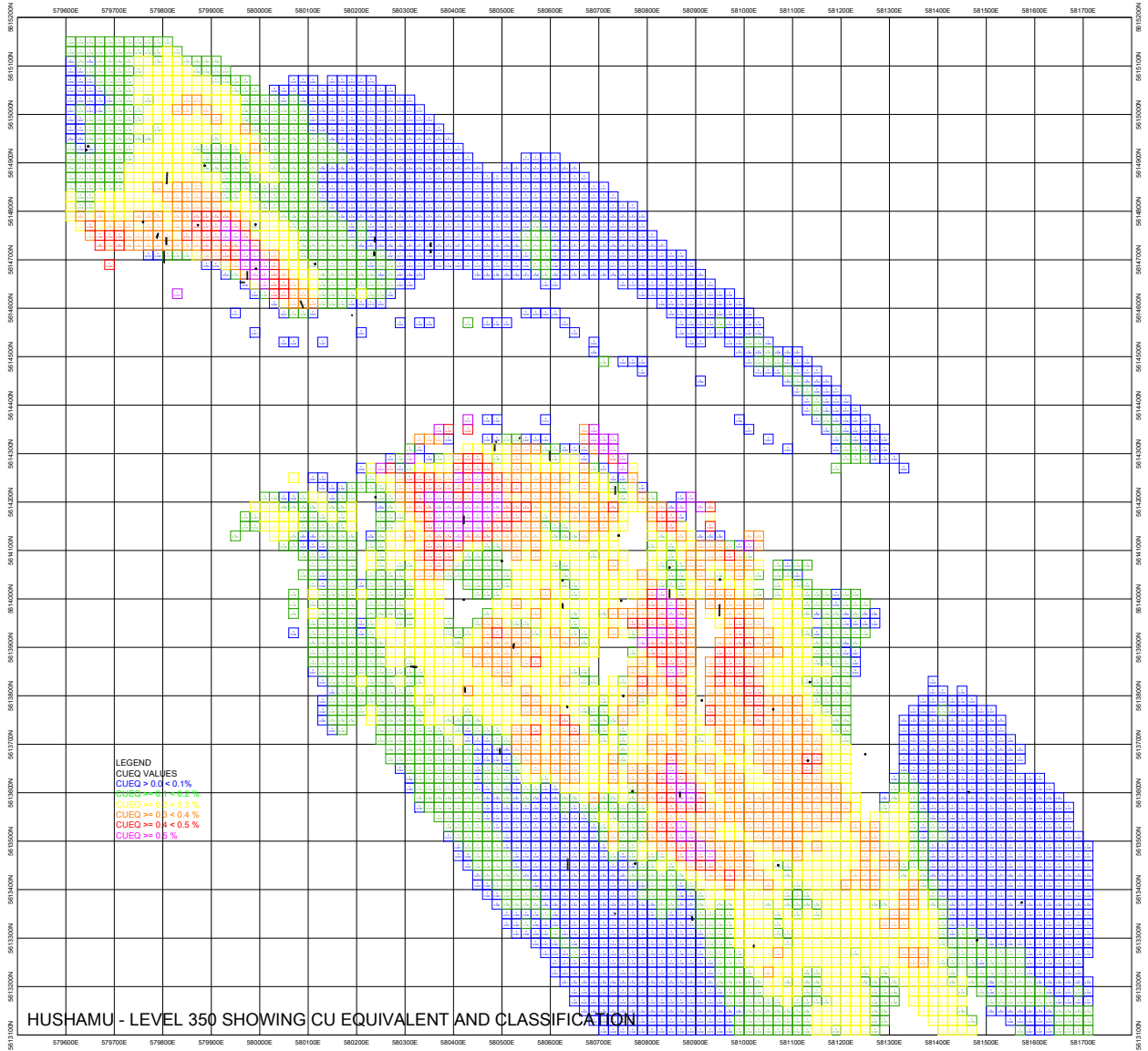
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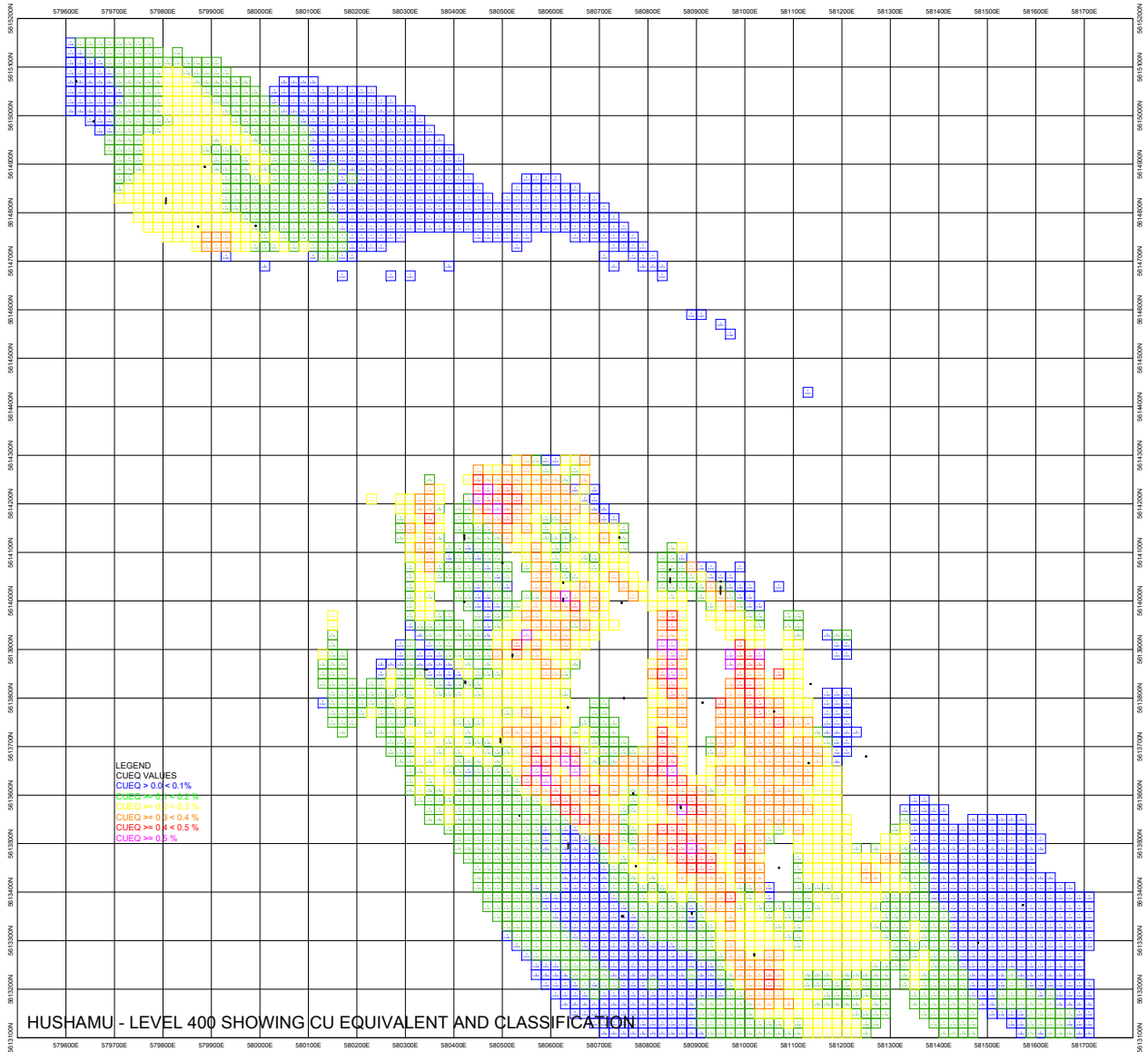


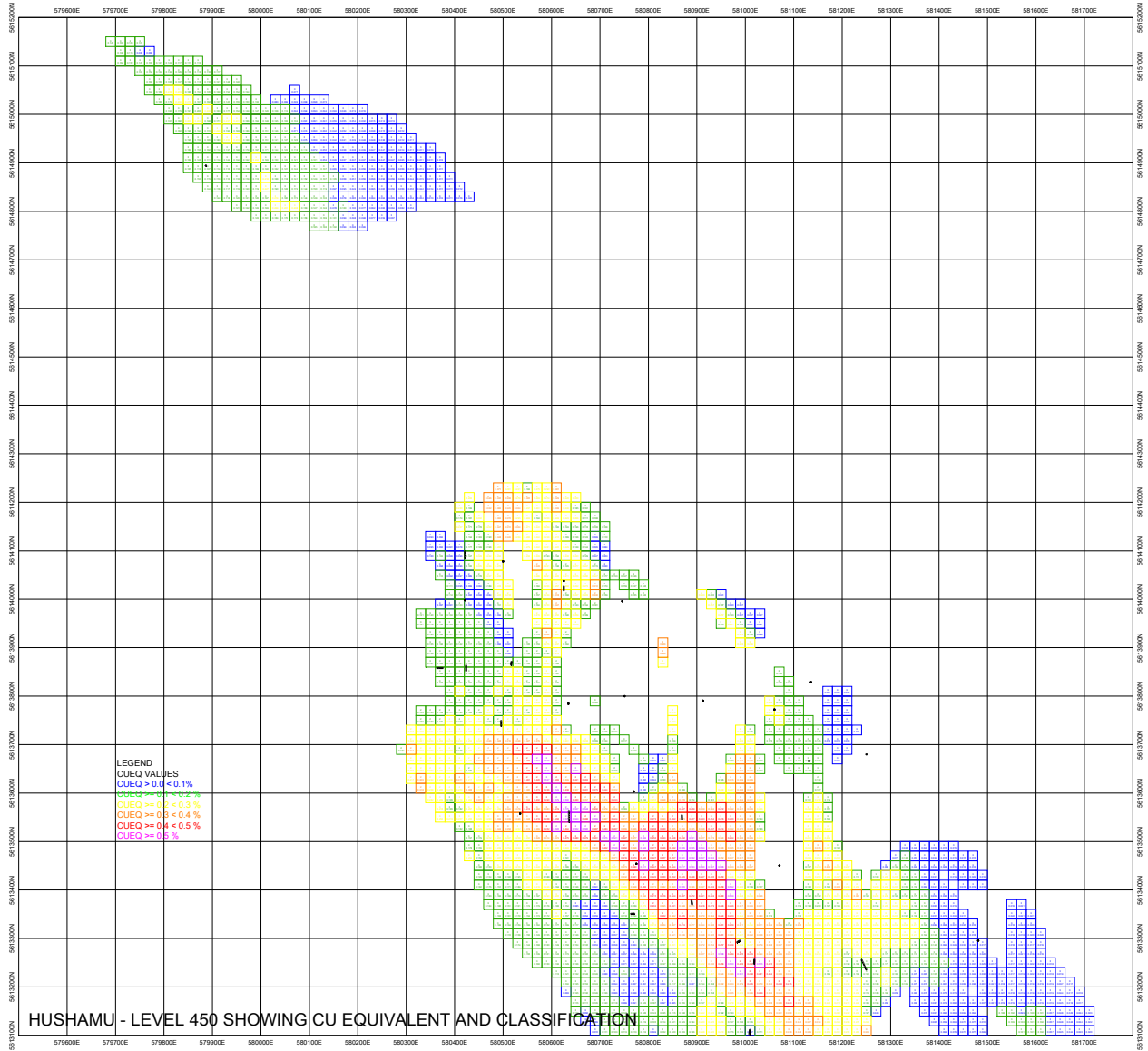
**NORTHISLE COPPER AND GOLD INC.**



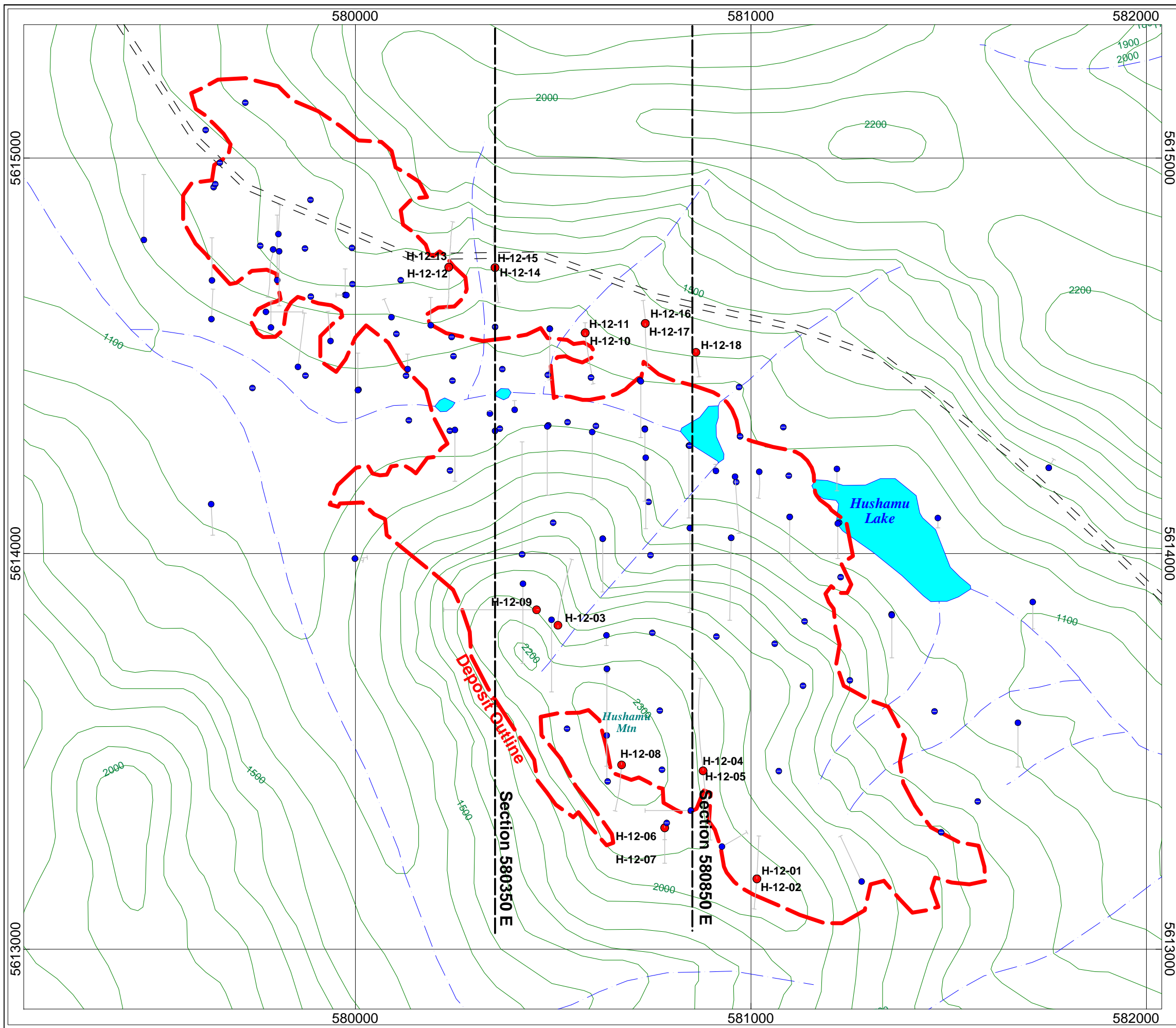


**NORTHISLE COPPER AND GOLD INC.**





## APPENDIX 5 – DEPOSIT CROSS SECTIONS



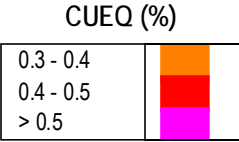
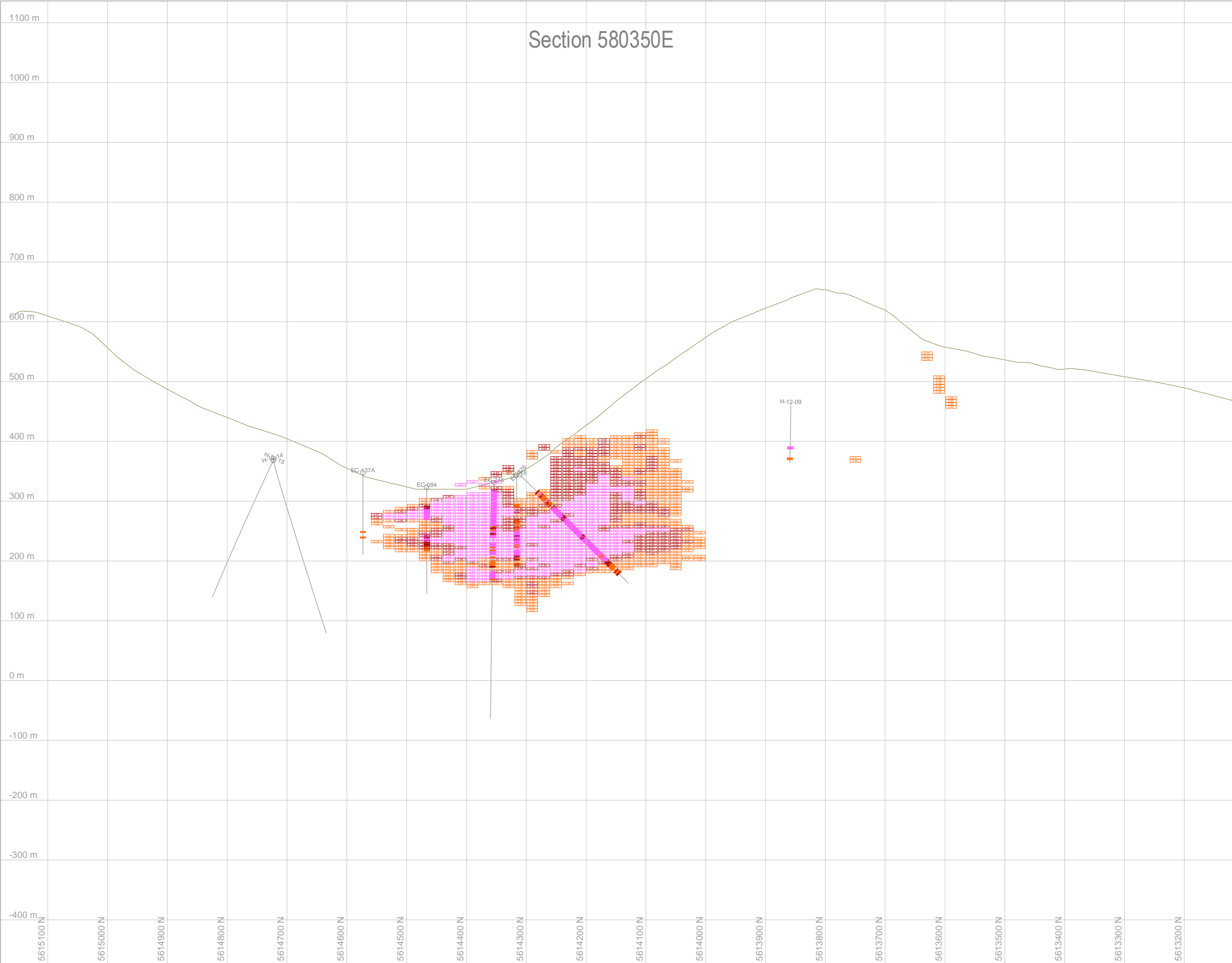
**LEGEND**

- 2012 Drill Holes
- Historic Drill Holes

0 200 400  
 (meters)  
 elevations in feet above MSL

NorthIsle Copper and Gold Inc.	
<b>Island Copper Project          HUSHAMU DEPOSIT          Cross Section Location</b>	
NTS 92L/12 Datum: NAD83	Nanaimo Mining District Projection: UTM, Zone 9 August 27, 2012
<b>Casselman Geological Services Ltd</b>	

Section 580350E



### Hushamu Project

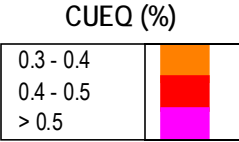
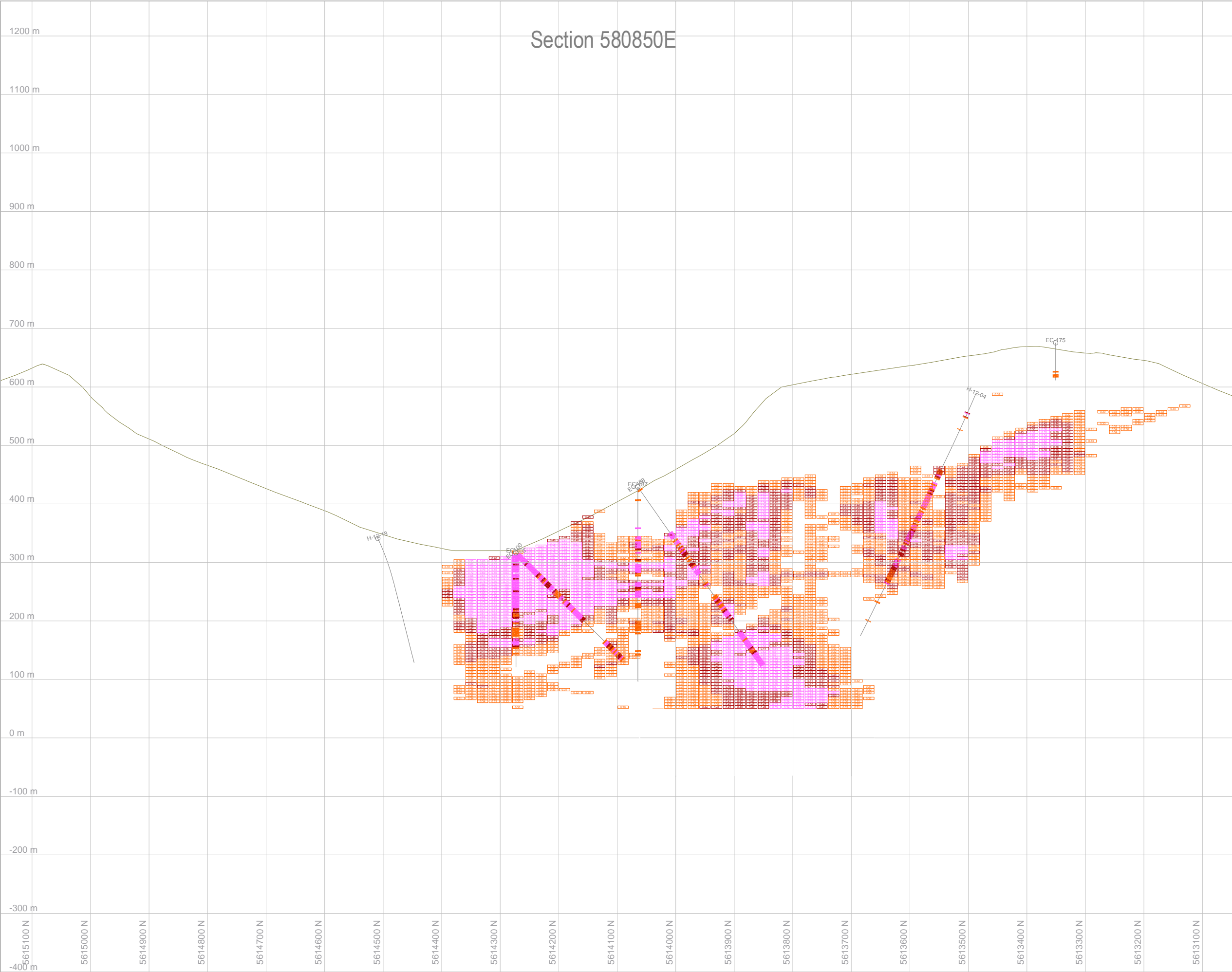
Blocks do not reflect resource classification

Vertical N-S Cross Sections  
Viewing East

Coordinate System: UTM, Zone 9N

Drawn By: H. Brown  
Date: August 29, 2012

Section 580850E



### Hushamu Project

Blocks do not reflect resource classification

Vertical N-S Cross Sections  
Viewing East

Coordinate System: UTM, Zone 9N

Drawn By: H. Brown  
Date: August 29, 2012