

# **Technical Report on the Spectrum Gold-Copper Property**

Liard Mining Division  
British Columbia  
Canada

Latitude 57° 41' N  
Longitude 130° 30' W

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for

**Skeena Resources Limited**  
Suite # 650 – 1021 West Hastings Street  
Vancouver, British Columbia  
V6E 0C3 Canada

by

Jacques R. Stacey, M.Sc., P.Geol.  
**NORTH MOUNTAIN GEOSCIENCES**  
Calgary, Alberta, Canada

and

Gary H. Giroux, P.Eng., M.A.Sc.  
**GIROUX CONSULTANTS LTD.**  
Vancouver, British Columbia, Canada

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## 1. Summary

This report is an independent technical review of the geology and mineralization of the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada, and presents a maiden resource estimate for the “Central Zone” of mineralization. The Spectrum Property, owned 100% by Skeena Resources Limited (“Skeena”), is located in northwestern BC and comprises ten contiguous mineral claims, centered on Latitude 57° 41’ N, Longitude 130° 30’ W (Figure i). The property contains a number of attractive gold-copper occurrences, one of which (the Central Zone) has been demonstrated to contain a significant Au-Cu resource.

The purposes of this report are: 1. to report on work performed on the property by Skeena Resources Ltd. in 2014 and 2015; 2. to provide a maiden independent resource estimate for gold and copper mineralization in the Central Zone of mineralization; 3. to present a new geological interpretation of gold and copper mineralization in the Central Zone; 4. to summarize prospective drill targets outside of the Central Zone, and; 5. to provide recommendations for future work on the Spectrum property.

At the request of Michael S. Cathro, VP Operations for Skeena, Jacques Stacey of North Mountain Geosciences (Calgary, AB) and Gary Giroux of Giroux Consultants Ltd. (Vancouver, BC) were commissioned to prepare this Independent Technical Report. Parts of this report have been sourced directly from the technical review completed in 2014 by J.R. Stacey and R. Chisholm of Taiga Consultants Ltd., entitled *Evaluation and Technical Report on the Spectrum Gold Property*, dated August 5, 2014. Mr. Stacey is the Qualified Person (QP) responsible for Chapters 1-13, 23, 24, and parts of Chapters 25-26 not related to the resource estimate. Mr. Giroux is the QP responsible for Chapter 14, parts of Chapters 25-26 related to the resource estimate, and Appendices 1 to 3.

The Spectrum property has seen sporadic exploration activity dating back to the discovery of the Hawk Vein (north of the Central Zone) in 1957. Prior to Skeena’s acquisition of the property in October 2014, drilling around the Central Zone took place in four main phases: in 1973 (Imperial Oil Ltd.); 1979-1980 (Consolidated Silver Ridge Mines Ltd.); 1989 (Cominco Ltd.); and 1990-1992 (Columbia Gold Mines Ltd.). A comprehensive property history is provided in Chapter 6, and is summarized briefly below.

The area of the Central Zone was staked in 1969 to cover the large gossan and porphyry-type copper occurrences that were noted there. After a series of geological, geochemical, and geophysical surveys, Imperial Oil Ltd. (“Imperial Oil”) drilled four BQ diamond drill holes under option in 1973. These holes intersected low-grade copper, but gold was not assayed at the time. The claims were allowed to lapse in 1973. The area was re-staked by the Racicot Syndicate in 1975 and named the “Red Dog” claims. The property was optioned to Consolidated Silver Ridge Mines Ltd. in 1977, which completed surface sampling, diamond drilling, and underground drifting and drilling on the Hawk Vein from 1977-1980. The option was relinquished in 1981. Cominco Ltd. (“Cominco”) optioned the property in 1984, and completed surface sampling, geophysics (VLF-magnetics), and diamond drilling in 1988 and 1989. The property was optioned by Columbia Gold Mines Ltd. (“Columbia”) in 1990. From 1990-1992,

Columbia completed surface sampling, trenching, and 7,042 m of diamond drilling in 50 drill holes, and calculated an initial resource estimate for the Central Zone (see Chapter 6.3).

Arkaroola Resources Ltd. purchased the property from Columbia in 1996, and commenced the process of lobbying the BC government to amend the Mount Edziza Provincial Park boundary to allow access and further mineral exploration work on the property. Seeker Resources Corp. (“Seeker”) took up ownership in 2002 and continued lobbying the BC government while maintaining the property in good standing by cash payments in lieu of exploration work. In 2009, Seeker applied for drilling and archaeological permits, and posted a \$20,000 bond to the BC government. Eilat Exploration Ltd. (“Eilat”) took over the property in 2011, with a 10% stake held by Keewatin Consultants Ltd., and completed an airborne magnetic survey in 2012.

Skeena acquired the property in 2014, following completion of the terms of the Acquisition Agreement with Eilat. Details of the Acquisition Agreement and current claim status are summarized in Chapter 4.2.



**Figure i: Spectrum Project location**

*Liard Mining Division, northwestern British Columbia, Canada*

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

In the period from September 2014 to October 2015, Skeena completed exploration work on the Spectrum Gold Property. The scope of work included: a geohazard assessment study;

archaeological investigations; geological mapping; prospecting; soil and rock geochemical sampling; GPS surveying; an airborne Lidar topographic survey; diamond drilling; core logging; and core sampling. Long-term environmental monitoring and engineering studies were initiated in 2015 and are ongoing. Skeena also commissioned bench-scale metallurgical test studies to determine gold recovery.

Since October 2014, Skeena has completed 73 diamond drill holes from 62 separate platforms, for a total of 19,758 m drilled. 18,608 m were completed in the Central Zone, and 689 m were completed on outlying targets. Additionally, three geotechnical holes totaling 461 m were completed in 2015 along a potential adit alignment. This brings the total number of drill holes on the property up to 165, for a cumulative total of 31,965 m drilled. A total of 28,321 m has been drilled in the Central Zone, and 3,644 m on outlying targets.

On April 25, 2016, Skeena announced a maiden resource estimate for the Spectrum gold-copper deposit. Within a conceptual open pit and at a 0.50 g/t gold equivalent (“AuEq”) NSR cut-off (Tables *i* and *ii* below), the Central Zone of the Spectrum deposit hosts an **Indicated Mineral Resource of 8.95 million tonnes grading 1.04 g/t Au, 6.58 g/t Ag and 0.11% Cu** and containing 290,000 ounces of gold, 1.82 million ounces of silver and 20.835 million pounds of copper. At the same cut-off, the deposit hosts an additional **22.63 million tonnes in the Inferred category, with average grades of 1.03 g/t Au, 3.85 g/t Ag and 0.11% Cu** and containing 750,000 ounces gold, 2.8 million ounces silver and 54.889 million pounds copper. Drilling to date shows that the Central Zone extends from surface to 400 m below surface and that it has lateral dimensions of approximately 1100 m (north-south) and 380 m (east-west). It remains open to the west, south, north and to depth. Mineralization comprises high-grade gold-bearing quartz-carbonate-sulphide veinlet stockworks cutting a broad zone of porphyry gold-copper mineralization (source: Skeena News Release dated April 25, 2016).

**Table i: Indicated Mineral Resource Within Conceptual Pit at Selected Cut-Off Grades**

NSR AuEq Cut-off (g/t)	Tonnes Cut-off (tonnes)	Grade>Cut-off				Contained Metal		
		Au (g/t)	Ag (g/t)	Cu (%)	NSR (g/t) AuEq	Au (oz)	Ag (oz)	Cu (lb)
0.25	26,610,000	0.56	3.4	0.1	0.52	480,000	2,910,000	58,675,000
0.3	21,010,000	0.64	3.88	0.1	0.58	430,000	2,620,000	46,327,000
<b>0.5</b>	<b>8,590,000</b>	<b>1.04</b>	<b>6.58</b>	<b>0.11</b>	<b>0.87</b>	<b>290,000</b>	<b>1,820,000</b>	<b>20,835,000</b>
0.7	4,610,000	1.39	8.82	0.11	1.13	210,000	1,310,000	11,182,000

**Table ii: Inferred Mineral Resource Within Conceptual Pit at Selected Cut-Off Grades**

NSR AuEq Cut-off (g/t)	Tonnes Cut-off (tonnes)	Grade>Cut-off					Contained Metal		
		Au (g/t)	Ag (g/t)	Cu (%)	NSR (g/t)	AuEq	Au (oz)	Ag (oz)	Cu (lb)
0.25	61,660,000	0.61	2.42	0.11	0.56		1,200,000	4,800,000	149,556,000
0.3	56,460,000	0.64	2.52	0.11	0.58		1,160,000	4,570,000	136,944,000
<b>0.5</b>	<b>22,630,000</b>	<b>1.03</b>	<b>3.85</b>	<b>0.11</b>	<b>0.85</b>		<b>750,000</b>	<b>2,800,000</b>	<b>54,889,000</b>
0.7	9,270,000	1.64	5.93	0.09	1.25		490,000	1,770,000	18,396,000

Gold equivalence (AuEq) was calculated using the following equations and inputs:

- $AuEq = [average\ gold\ grade\ (g/t) * plant\ recovery * (100\% - transit\ concentrate\ losses) * gold\ payable\ rate] + [average\ copper\ grade\ (%) * (unit\ revenue\ copper/unit\ revenue\ gold)] + [average\ silver\ grade\ (g/t) * (unit\ revenue\ silver/unit\ revenue\ gold)]$
- Unit Revenue gold =  $(1/31.1035) * plant\ recovery * (100\% - transit\ concentrate\ losses) * gold\ payable\ rate * unit\ gold\ price$
- Unit Revenue silver =  $(1/31.1035) * plant\ recovery * (100\% - transit\ concentrate\ losses) * silver\ payable\ rate * unit\ silver\ price$
- Unit Revenue copper =  $2204.6 * 0.01 * plant\ recovery * (100\% - transit\ concentrate\ losses) * copper\ payable\ rate * unit\ copper\ price$
- Assumed plant recoveries = 70% for gold, 75% for copper and 50% for silver
- Assumed refinery payable rates = 95% for gold, 96.5% for copper and 90% for silver
- Transit losses = 0.1% of metal content in concentrate
- Assumed metal prices = US\$1,200/oz for gold, US\$2.10/lb for copper and US\$14.50/oz for silver
- Assumed average exchange rate of US\$1.0 = C\$1.333.

Drilling by Skeena in 2014 and 2015 was conducted under the supervision of Jacques Stacey, M.Sc., P.Geol., and Colin Russell, P.Geo. A rigorous chain-of-custody and Quality Assurance and Quality Control (“QAQC”) program, the latter including the insertion of certified standard reference materials, duplicates and blanks, was applied to the NQ-diameter, split half-core samples. Sample preparation and analyses were completed at the Kamloops, BC, facility of Activation Laboratories Ltd. (2015 program) and the Vancouver, BC, laboratory of Bureau Veritas (2014 program). Gold grades were determined by either 50 gram fire assay applied to 800 gram splits, or by 800 gram screened metallic analysis if visible gold was observed or expected. Other elements were determined by an ICP (inductively coupled plasma) analysis following aqua regia digestion. In 2015, a four-acid digestion was employed for silver if values exceeded 100 g/t and for copper if values exceeded one per cent.

Sampling and analytical information for drilling completed from 1973 to 1980 is limited, and no information is available concerning the applied QAQC protocols. In the period from 1989-1992, QAQC was monitored via internal lab standards and blanks, and around 12% of the total drill samples were verified by re-assays of split reject material. In the QP’s opinion (Stacey), the historical analytical work was completed by reputable companies and laboratories, and it conformed to industry standards of the time.

The Central Zone is hosted by a thick package of Late Triassic (~220 Ma) Stuhini Group pyroclastic volcanic rocks that dip shallowly toward the west and northwest. Volcanic layers are gently folded around shallow southwest-plunging fold axes, and may be tilted toward vertical next to major faults. Syn-volcanic feldspar-porphyritic (FP) intrusions crosscut the volcanic stratigraphy and may represent the feeder system for the Stuhini volcanics. The volcanic package is intruded by Early Jurassic tabular monzonite intrusions which trend roughly north-south and dip moderately to the west. The entire bedrock package is unconformably overlain by flat-lying late Miocene (~7.5 Ma) volcanic flows of the Mount Edziza Volcanic Complex to the west. The Stuhini package is heavily faulted, with two main conjugate fault sets running N-S and NW-SE. Faults generally have a steep dip, though several low-angle faults have been identified through interpretation of outcrop and drill core.

Two main styles of gold mineralization are recognized in the Central Zone. High-grade gold (>4 grams per tonne Au) is structurally controlled, occurring in veins, fractures, and stockwork “crackle zones” proximal to faults and shear zones. Mineralization may be especially strong where these structures occur along the boundaries of monzonite intrusions. High-grade structures drilled to date generally trend north-south, with a steep dip to the east or west, and true widths range from less than 1 m to more than 5 m. High-grade gold mineralization has been intersected over a strike length of approximately 650 m, a width of up to 300 m, and to a depth of approximately 400 m below surface. The potential for more high-grade mineralization is open in all directions.

The high-grade structures are enveloped by a porphyry-style shell of lower grade gold and copper mineralization, which may have formed through an earlier mineralizing event based on cross-cutting relationships. Low-grade mineralization has currently been intersected over a width of 380 m and a strike length of approximately 1100 m, and to a depth of approximately 400 m below surface. Porphyry-style mineralization is open to the north, south, and to the west, as well as at depth.

In addition to the Central Zone, the Spectrum property contains at least 13 other prospective mineral showings, described in detail in Chapter 7.4. These outlying targets have received minimal attention compared to the Central Zone, with only 3,644 m out of a total 31,965 m drilled outside of the Central Zone. Several of these targets are nearly drill-ready, requiring only limited refinement through prospecting, detailed mapping, IP geophysics and trenching prior to drilling.

Recommendations for future exploration work, detailed in Chapter 26, include: continued exploration and definition drilling around the Central Zone (along strike and at depth); prospecting, mapping, soil sampling, trenching and drilling of outlying targets; and IP geophysics over the Central Zone. A \$2.0 million Phase 1 work program proposed for the 2016 field season comprises an initial ground investigation program, overlapping with and followed by a drill program totaling 4,000 metres. An additional 6000 m of drilling in Phase 2 is dependent on success of Phase 1. The program is expected to start in early June, 2016. Concurrent with exploration activities, Skeena has indicated that they will continue with ongoing

environmental and engineering studies geared toward future development options, as well as community engagement with local stakeholders.

## **2. Introduction and Terms of Reference**

### **2.1 Introduction**

This report is an independent technical review of the Spectrum Property (“Spectrum” or “the Property”), prepared by Jacques R. Stacey, MSc., P.Geol. and Gary Giroux, P. Eng., M.A. Sc., at the request of Mr. Michael S. Cathro, Vice President (Operations) of Skeena Resources Limited. (“Skeena”). This Independent Technical Report is compiled in the format of Canada’s National Instrument 43-101 Standards of Disclosure for Mineral Projects, and has been prepared in accordance with Form 43-101F1. Both Authors have read and understood National Instrument 43-101, Companion Policy 43-101CP, Form 43-101F1, and CIM Definition Standards for Mineral Resources and Mineral Reserves.

### **2.2 Scope of Work**

The purposes of this report are: 1. to report on work performed on the property by Skeena in 2014 and 2015; 2. to provide updated resource estimates for gold and copper mineralization in the Central Zone of mineralization; 3., to present a new geological interpretation of gold and copper mineralization in the Central Zone; 4. to summarize prospective outlying drill targets outside of the Central Zone, and; 5. to provide recommendations for future work on the Spectrum property.

### **2.3 Sources of Information**

The Authors have relied upon information made available to them by Skeena, which has included, in part, access to publicly-available assessment reports as well as historical electronic databases and files, internal technical memorandums and reports, drill logs, assay reports, etc. The majority of the data used for the preparation of this report, especially the new resource estimates, was collected by Skeena in 2014 and 2015.

Additional information from public domain sources were utilized to prepare this report. A complete bibliography of references cited in this report is provided in Chapter 27.

### **2.4 Authors' Qualifications and Responsibilities**

Jacques R. Stacey, MSc., P.Geol. has prepared most of the text in this report, and is the Qualified Person responsible for Chapters 1-13, 23, 24, and parts of Chapters 25-26 that are not related to the resource calculation. He is independent of Skeena, applying all of the tests in section 1.5 of National Instrument 43-101.

Gary H. Giroux, P. Eng., M.A. Sc. is the Qualified Person responsible for Chapter 14, parts of Chapters 25-26 that are related to the resource calculation, and Appendices 1 to 3. He is



independent of the company applying all of the tests in section 1.5 of National Instrument 43-101.

Both authors have considerable and successful exploration and drill development experience with porphyry- and vein-related mineralization in British Columbia. Mr. Giroux has extensive experience with resource calculations for these types of deposits.

## 2.5 Property Visit by Qualified Persons

Jacques R. Stacey, the primary author of this report, was present on the property from late June to mid-October, 2015, and oversaw all aspects of Skeena's exploration program in his position as Project Manager. Prior to Skeena's acquisition of the property in 2014, Mr. Stacey conducted a site visit on June 19, 2014, as summarized in Section 2.5 of Stacey & Chisholm (2014). Mr. Stacey also acted as Project Manager during Skeena's preliminary drill program in October 2014.

Gary Giroux has not conducted a site visit.

## 2.6 Terms of Reference

Throughout this report, the Spectrum Property is referred to as either "Spectrum" or "the Property". The Property contains a number of mineral "showings" and "prospects" where gold and copper "mineralization" has been observed either in surface rock samples, in trenches, or in drill core. No mineral "reserves" are currently recognized on the property, as defined in Section 1.3 of NI 43-101. The "resource" estimate presented in this report is separated into "indicated" and "inferred" categories, as defined in Section 1.2 of NI 43-101. These terms are explained in greater detail in Chapter 14.8, and are summarized in Table 2-1 below.

The regional coordinate system utilized is the Universal Transverse Mercator System ("UTM") projection. The Global Positioning System ("GPS") datum is North American Datum (NAD) 83, Zone 9. All units, unless expressed otherwise, are in the Metric System. All gold assay grades are expressed as grams per metric tonne (g/t) unless otherwise specified. Gold as contained metal is reported in troy ounces. Unless otherwise stated, monetary values are denominated in Canadian Dollars (\$CDN).

The following abbreviations and terminology are used throughout this report:

**Table 2-1: Definitions**

Abbreviation	Unit or Term
Ag	Silver
Au	Gold
Azi	Azimuth
BC	Province of British Columbia, Canada
Bi	Bismuth
Channel Sample	A surface rock sample composed of pieces of vein or mineral occurrence, collected as a series of chips across the width of the mineralized zone. Usually 5-10 cm wide, 2-5 cm depth. Length variable.
CIM	Canadian Institute of Mining, Metallurgy & Petroleum
Claim(s)	A block of land that has been staked by a company or individual in order to obtain the right to explore for mineral resources within the claim area. Also referred to as "Mineral Tenure"

Abbreviation	Unit or Term
Cu	Copper
DD, DDH	Diamond Drilling, Diamond Drill Hole
E, NE, SE	east, northeast, southeast
g/t	Grams per tonne
ha	Hectare (10,000m <sup>2</sup> )
Historical Estimate	An estimate of the quantity, grade, or metal or mineral content of a deposit that an issuer has not verified as a current mineral resource or mineral reserve, and which was prepared before the issuer acquiring, or entering into an agreement to acquire, an interest in the property that contains the deposit
Host Rock	A volume of rock containing some degree of metallic mineralization.
Indicated Resources	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. (CIM Definitions Standards, 2010)
Inferred Resources	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, pits, workings and drill holes. (CIM Definitions Standards, 2010)
kg	Kilogram(s)
km	Kilometre(s)
m	Metre(s)
mASL	Metres above sea level
Mt	Million tonnes
Measured Resource	A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity. (CIM Definitions Standards, 2010)
Mineralization	The process by which economically important metals (copper, gold, etc.) are deposited in a host rock from hydrothermal fluids. No implications of overall grade, width, or continuity of the occurrence are implied by the term "mineralization" alone.
Mineral Deposit	Denotes a mineral occurrence that is believed to have a high potential for becoming economically feasible; it could be considered uneconomic because of lack of sufficient information.
Mineral Prospect	Denotes a mineral occurrence, which has been drilled or investigated in some detail and is believed to have a moderate or small potential for becoming economically feasible.
Mineral Resource	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. (CIM Definitions Standards, 2010)
Mineral Reserve	A Mineral Reserve is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined. (CIM Definitions Standards, 2010)
Mineral Showing	Denotes a mineral occurrence, which has a significant concentration of ore minerals, but is believed to have no economic feasibility on its own
Mineral Tenure(s)	A block of land that has been staked by a company or individual in order to obtain the right to explore for mineral resources within the claim area. Also referred to as "Claim"
N	North
NI43-101	National Instrument 43-101 (Canada)
Oz, opt	Troy ounces (31.1035 g), troy ounces per ton (1 opt = 31.1035 grams per ton)
%	Per cent by weight
Pb	Lead
ppb	Parts Per Billion
ppm	Parts Per Million
Previous Operator	Any company or individual that conducted exploration work at Spectrum prior to Skeena's acquisition of the property.

Abbreviation	Unit or Term
QAQC	"Quality Assurance – Quality Control"
QP, Qualified Person	"Qualified Person" means an individual who:
	(a) is an engineer or geoscientist with at least five years of experience in mineral exploration, mine development or operations or mineral project assessment, or any combination of these;
	(b) has experience relevant to the subject matter of the mineral project and the technical report; and
	(c) is a member in good standing of a professional association
S	south
T or t	Metric tonne (2,204lbs)
\$C	Canadian Dollar
\$US	United States Dollar
°C	Degrees Celsius
W, NW, SW	west, northwest, southwest
Zn	Zinc

### **3. Reliance on Other Experts**

Citations can be found in Chapter 27: References.

#### **3.1 Agreements, Land Tenure, Surface Rights, Access & Permits**

With respect to Chapter 4.2 of this report, the Authors have only reviewed the status of the property by examining publicly available data published online by the Province of British Columbia at the Mineral Titles Online website (<https://www.mtonline.gov.bc.ca/mtov/home.do>). This information was accessed on May 5, 2016 by the primary author and Qualified Person by searching for tenures held by Skeena Resources within NTS Map Sheet 104G. The authors have relied wholly on the information provided by BC Mineral Titles Online to determine the status and good standing of mineral tenures on the Spectrum Property.

The authors have not researched in detail property ownership information such as claim ownership or status, joint venture agreements, surface access or mineral rights and, have not independently verified the legal status or ownership of the property. The authors therefore have relied on the published BC government data to establish the current status of the property.

#### **3.2 Environmental and Social Issues**

The Authors are not expert in the assessment of potential environmental liabilities associated with the properties and therefore have completed no work to identify or establish the level of environmental impairment or liability relating to previous historical or recent exploration and mining. As far as the Authors are aware no formal environmental assessments have been carried out on the property by past operators, and so information contained in Chapters 4.4 and 4.6 of this report, although believed to be complete and accurate, is provided as background information only.

#### **3.3 Geohazard Assessment**

The Authors are not expert in the field of geohazard assessment, so the information presented in Chapter 9.2 relies on reports submitted to Skeena by James L. Schwab, Eng.L. in 2015. Mr. Schwab is a geomorphologist with extensive geohazard assessment experience in northern BC.

#### **3.4 Archaeology**

The Authors are not expert in the field of archaeology, so the information presented in Chapter 9.3 relies on reports submitted to Skeena by Rescan-Tahltan Environmental Consultants Ltd. (“RTEC”) in 2015. RTEC has extensive experience providing archaeological impact assessment services in northern BC.

#### **3.5 Pit Design**

The Authors are not expert in the field of open-pit design, so the conceptual pit outlined in Chapter 14 was designed for the Spectrum Central Zone deposit by Scott Britton, C.Eng. Mr. Britton has extensive experience designing optimized pits for mineral extraction.

### **3.6 Hydrogeology and Geotechnical Logging**

The Authors are not expert in the field of hydrogeology and rock stability, so the information presented in Chapter 10.2 relies on a geotechnical report submitted to Skeena by Knight-Piésold Consulting Ltd. Knight-Piésold has extensive experience conducting geotechnical engineering work in northern BC.

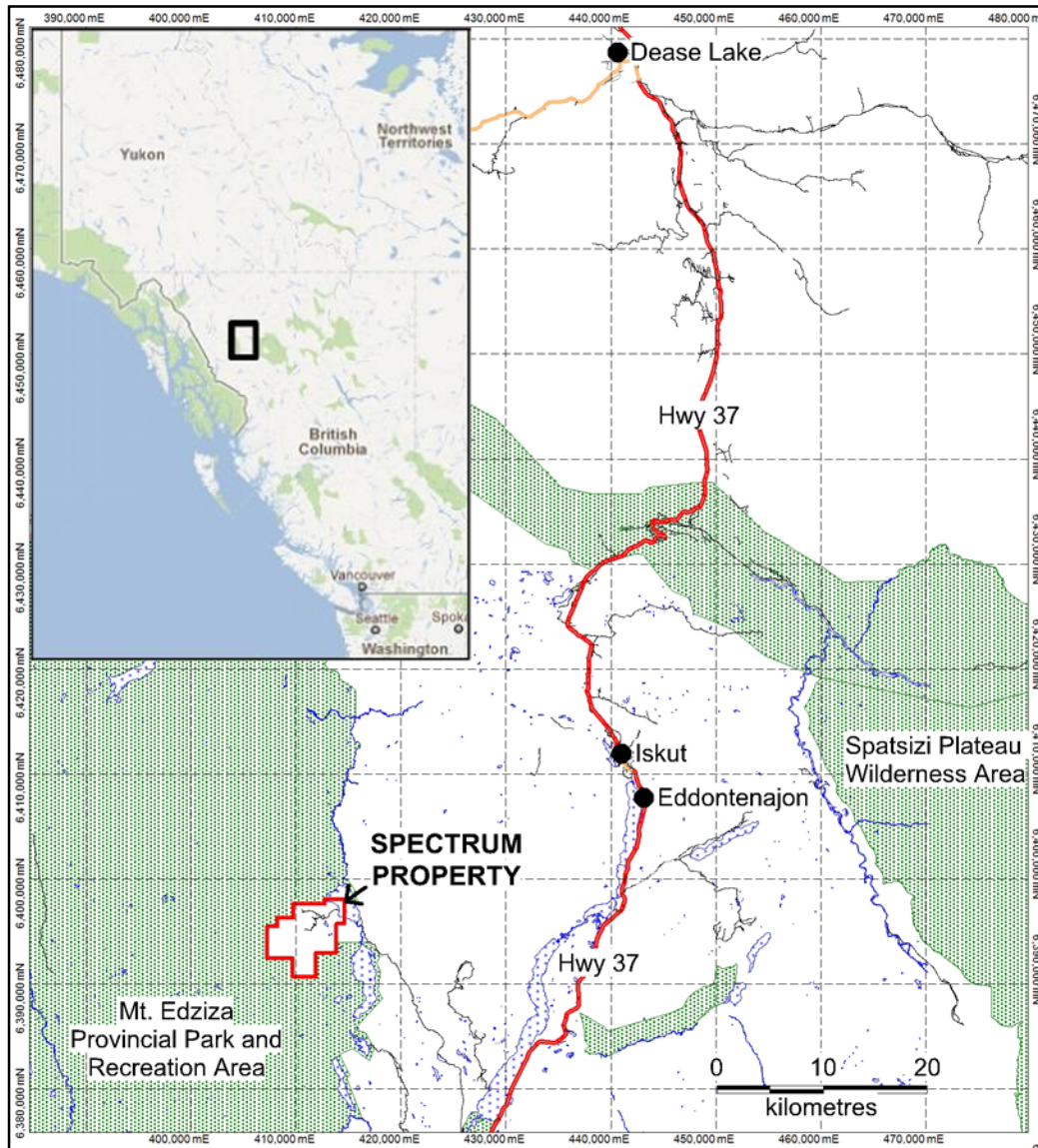
### **3.7 Data Verification**

Chapters 11 and 12, and the statistics presented therein, are compiled from a larger document submitted to Skeena Resources by Chris Gallagher, M.Sc, P.Geo. of Terralogic Exploration Inc. The memo submitted by Gallagher provides a detailed statistical analysis of Quality Assurance-Quality Control (QAQC) data generated by Skeena in 2014 and 2015. Mr. Gallagher has extensive experience calculating and interpreting statistical results of QAQC programs. The author and Qualified Person for this report (Stacey) has reviewed and verified the statistics and conclusions prior to their inclusion in this report. Both authors are satisfied that the drill database has been validated by statistical analysis, and that the assays presented therein are within acceptable tolerances of precision.

## **4. Property Description and Location**

### **4.1 Location**

The Spectrum property is located in Northwestern British Columbia, Canada, approximately centered on 130° 30' West longitude and 57° 41' North latitude. The property is located adjacent to the eastern boundary of Mount Edziza Provincial Park, approximately 25 km west of the community of Iskut and the Stewart-Cassiar Highway (Highway 37). Dease Lake, the closest community with an all-weather air strip is located 90 km to the north. See Figure 4-1.



**Figure 4-1: Spectrum Property Location Map.**

*UTM Zone 9 (NAD83).*

*The Property is surrounded on three sides by Mt. Edziza park, but is outside of the park boundary.*

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## 4.2 Property Ownership, Rights, and Obligations

On April 14, 2014, Skeena entered into a conditional asset purchase with Eilat Exploration Ltd. (“Eilat”) and Keewatin Consultants (2002) Inc. (“Keewatin”) with respect to the acquisition of a 100% interest in the Spectrum gold and copper exploration property in northwest British Columbia. Following completion of the terms of the Acquisition Agreement, Skeena was granted 100% ownership of the property on October 27, 2014. The Spectrum Property is comprised of 10 contiguous claims totaling 3667.588 hectares, as summarized in Table 4-1 below and shown in

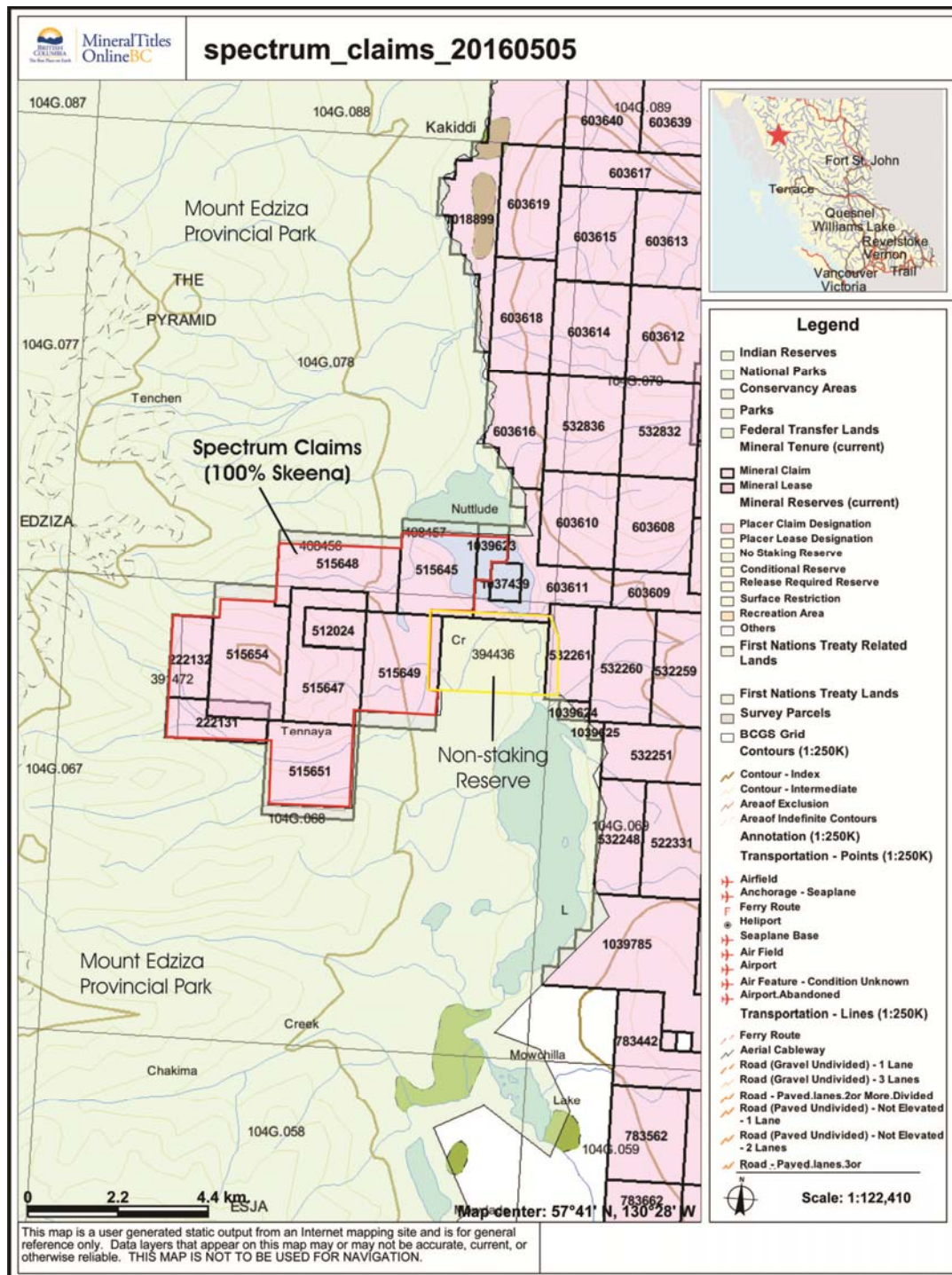
Figure 4-2. Details of the Acquisition Agreement presented below are sourced from a Skeena News Release dated October 27, 2014.

**Table 4-1: Spectrum Project Claims Summary**

Tenure Number	Claim Name	Owner (BC MTOOnline)	Tenure Type	Tenure Sub Type	Issue Date	Good To Date	Status	Area (ha)
222132	RED DOG #4	Skeena Resources Ltd.	Mineral	CLAIM	15-Jul-81	01-Jul-25	Good	200
222131	RED DOG #3	Skeena Resources Ltd.	Mineral	CLAIM	05-Aug-81	01-Jul-25	Good	250
512024		Skeena Resources Ltd.	Mineral	CLAIM	03-May-05	01-Jul-25	Good	138.374
515645		Skeena Resources Ltd.	Mineral	CLAIM	30-Jun-05	01-Jul-25	Good	432.263
515647		Skeena Resources Ltd.	Mineral	CLAIM	30-Jun-05	01-Jul-25	Good	467.111
515648		Skeena Resources Ltd.	Mineral	CLAIM	30-Jun-05	01-Jul-25	Good	466.838
515649		Skeena Resources Ltd.	Mineral	CLAIM	30-Jun-05	01-Jul-25	Good	519.031
515651		Skeena Resources Ltd.	Mineral	CLAIM	30-Jun-05	01-Jul-25	Good	519.355
515654		Skeena Resources Ltd.	Mineral	CLAIM	30-Jun-05	01-Jul-25	Good	588.173
1039623	NUT	Skeena Resources Ltd.	Mineral	CLAIM	29-Oct-15	28-Oct-16	Good	86.443
Total Area								<b>3667.588</b>

Source: <http://www.mtonline.gov.bc.ca>, Date: May 5, 2016





**Figure 4-2: Spectrum Tenure Map**

(source: BC MTOOnline web mapping service, May 5, 2016)

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Skeena acquired a 100% interest in the Spectrum property in exchange for the issuance of an aggregate of 80 million common shares of the Company (the “Consideration Shares”) at a



deemed issue price of \$0.06 per common share, of which 64 million Consideration Shares were issued to Eilat and 16 million Consideration Shares were issued to Keewatin.

## **Mineral Rights - Legislation**

Mineral claims are administered by the BC Government's Ministry of Energy and Mines according to the Mineral Tenure Act (1996). A mineral title holder is granted the right to use the surface of the claim for the exploration and development or production of minerals and all operations related to the business of mining.

To maintain a mineral claim, the holder must, on or before the expiry date ("good to date"), either:

- a) Perform, or have performed, exploration and development work on that claim and register such work online; or
  - b) Register a payment instead of exploration and development work activities (cash in lieu).
- Failure to maintain a claim results in automatic forfeiture at the end (midnight) of the expiry date; there is no notice to the claim holder prior to forfeiture.

All claim assessment requirements were reset to the first year when assessment fees were changed in 2012 (BC Regulation 89/2012). The new assessment work requirements are:

- \$5.00 per hectare for anniversary years 1 and 2;
- \$10.00 per hectare for anniversary years 3 and 4;
- \$15.00 per hectare for anniversary years 5 and 6; and
- \$20.00 per hectare for subsequent anniversary years.

## **4.3 Royalties and Encumbrances**

There are no mining royalties in British Columbia payable on metallic mines. However, the Mineral Tax Act of 1989 defines two taxes applicable to mining operation: Net Current Proceeds Tax; and Net Revenue Tax. Net Current Proceeds Tax (NCP) of 2 % applies to gross revenue minus operating expenses (not including exploration, capital costs and pre-production development costs) and non-capital reclamation costs. NCP is fully deductible against Net Revenue Tax of 13 %, which is applied to net current proceeds minus exploration and capital costs of development and production.

Net Smelter Return royalties ("NSRs") on the Spectrum property amount to 1.75% and are held by Sandstorm Gold Limited (1.65%), Troon Ventures Limited (0.05%), International Northair Mines Limited (0.03%), and Silver Standard Resources Incorporated (0.02%). The "Nut" claim, staked over Nuttlude Lake to provide access, is not subject to any NSR.

To the extent known by the Authors, no compensation agreements are in place for the property other than those outlined in the terms of the Acquisition Agreement.

## **4.4 Environmental Liabilities**

The property is at an early stage of exploration and it is believed that no production facilities have ever been established on the property. Such environmental liabilities that may exist are believed to be related to historical exploration and so, at minimum, consist of small scale trenching, drill pad construction, drill trail construction, completion of a short adit, and the provisioning of various camp sites.

As insurance against future environmental liabilities, Skeena posted a \$90,000 bond to the BC government before commencing field work in 2015. During the 2015 drill program, Skeena personnel cleaned up and burned all of the old camp materials, drill timbers, and a small amount of garbage that had been left on site by previous operators. All 2014-2015 drill sites were dismantled, cleaned up, and recontoured, except for 4 drill sites and 4 helipads that were left in place for future use in 2016. Skeena has indicated that these structures will be dismantled, cleaned, and recontoured following completion of work at the site.

## **4.5 Required Permits for Exploration Work**

Exploration, development, and mining on a claim must be carried out in compliance with the Mines Act and other applicable legislation. A Notice of Work (NoW) must be filed with the regional Inspector of Mines for any work that requires this under Section 10 of the Mines Act. No mechanical disturbance of the ground or any excavation can be carried out on a claim or lease without a valid Mines Act authorization.

In addition to the Mines Act permit, a Water Act Section 8, Short Term Use of Water approval document is required from the BC Ministry of Environment to draw water for camp and drill usage. An Occupant License to Cut (OLTC) from the BC Ministry of Forests, Lands, and Natural Resource Operations is required for the removal of up to 500 cubic metres of timber.

Work in 2014-2015 was carried out under Multi-Year Area-Based (MYAB) Permit Number Mx-1-813, issued to Skeena for "Mine Number" 0100702 and allowing drilling, trenching and other activities until March 31, 2019. Skeena was also issued a water license, an OLTC, and a Road Use Permit (RUP) for the Willow Creek Forest Service Road. In March 2016, Skeena applied to the Ministry of Energy and Mines amend its Mines Act permit, to allow additional drill pads and other physical work extending to March 31, 2019.

## **4.6 Other Significant Factors and Risks**

### **4.6.1 Mount Edziza Provincial Park**

The Property is bordered on three sides (north, south, and west) by the Mount Edziza Provincial Park. The claims were previously included within the Mount Edziza Recreation Area in the mid-1990s. According to the Stikine Country Protected Areas Management Plan (2003), the Recreation Area status has been rescinded over the property and the area is now designated as a Resource Management Zone. The Spectrum claims do not overlap with the park, and are

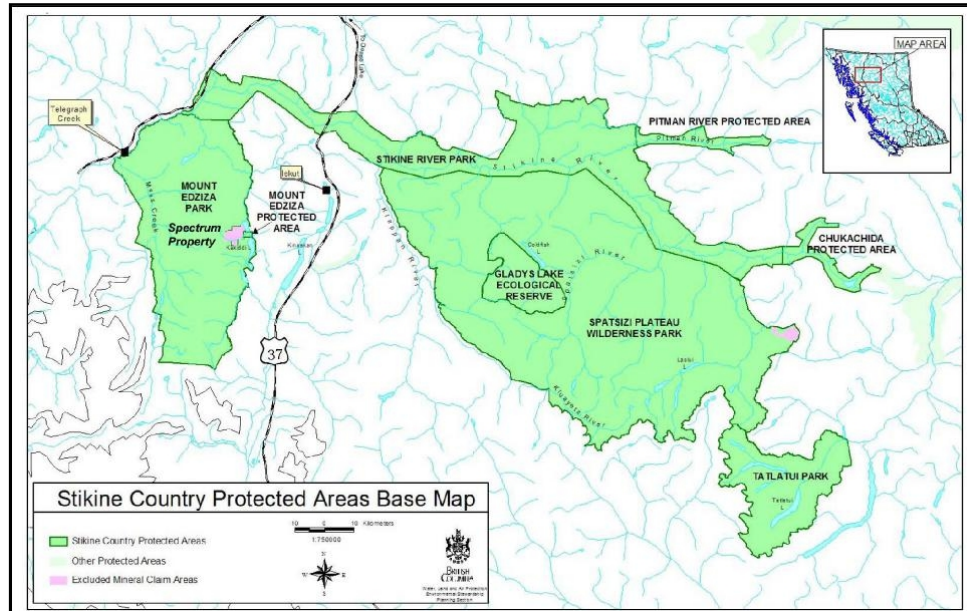
truncated by the park boundary. In addition, a block of ground east of the existing claims, is designated as a No Registration Reserve (#394436, Figure 4-2), which is set aside for possible future access to the Property from the east as described below.

The following is extracted from the Stikine Country Protected Areas Management Plan (2003):

*“The Cassiar Iskut-Stikine Land and Resource Management Plan (“LRMP”) also directed that a portion of Mount Edziza Provincial Park be converted to ELU Act protected area status to provide land access to mineral claims in the Mount Edziza Resource Management Zone (formerly the Mount Edziza Recreation Area) if required. If a road corridor is established, the balance of the protected area will be returned to Class A park status (non-staking reserve number 394436).*

*The Cassiar Iskut-Stikine LRMP also provides direction regarding two areas with high mineral potential that were recommended for eventual protected area status. The Mount Edziza Resource Management Zone covers the former Mount Edziza Recreation Area and includes the Spectrum property, a gold-copper prospect (Appendix 2). .... The intent is for those areas to eventually become part of Mount Edziza Provincial Park and Spatsizi Plateau Wilderness Provincial Park, respectively, at the end of 20 years following approval of the Cassiar Iskut-Stikine LRMP if mineral tenures have lapsed, or once mineral tenures lapse following 20 years.*

*Appendix 2: This area was formerly the Mount Edziza Recreation Area. The area is surrounded on three sides by Mount Edziza Provincial Park and includes the Spectrum property, a developed gold-copper prospect. The intent of this zone is to promote a cooperative approach to managing mineral exploration, development and reclamation adjacent to a park. While mineral development is currently allowed in this zone, the intent in the long term is for the area to become part of Mount Edziza Provincial Park. To this end, any development in this zone should be undertaken in consideration of its eventual park status.”*



**Figure 4-3: Mount Edziza Resource Management Zone (2003) showing Spectrum Property as “Excluded Mineral Claims Area”**

**Park boundaries were amended in 2003 to allow access to the Spectrum property.**

*(Source: BC Parks, 2003)*

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The Author’s belief is that proximity to Mt. Edziza Provincial Park is not a significant factor or risk that will affect access, title or the right or ability to perform work on the property. As previously pointed out by Lally (2012), other mines in British Columbia operate within, or close to, Provincial Parks without difficulty. As cited by Lally, Myra Falls Mine on Vancouver Island, for example, produces 1.4 million tonnes of zinc-copper-gold-silver ore annually and is surrounded by the Strathcona Provincial Park (<http://www.infomine.com>).

The Author and Qualified Person has not verified the resources, reserves, or geology of the Myra Falls Mine, and cautions that the resources, reserves, and geology of other deposits in the region or elsewhere are not necessarily indicative of the mineralization on the Property that is the subject of this technical report. The Author and Qualified Person has not verified the annual production figure quoted above for the Myra Falls Mine.

#### **4.6.2 Aboriginal Land Claims, Rights and Title**

The Property is within the asserted Traditional Territory of the Tahltan Nation, which claims Aboriginal Rights and Title to a large area including the Spectrum project, and which has not signed a treaty with Canada and British Columbia. Aboriginal Rights and Title is a complicated issue and the Authors are not an expert in this area; the information below, which is extracted from BC Government websites (e.g. <http://www2.gov.bc.ca/gov/topic.page?id=AA22BBB6335F43EE92ECE1FC84F9DA35>) and is provided for information purposes only, and so the information may not be complete, accurate or current.

Both Skeena and the Province of British Columbia have a duty to consult and, where required, accommodate First Nations whenever a decision or activity could impact Treaty rights or asserted or established Aboriginal Rights and Title. This duty stems from Canadian common law as expressed in court decisions. In the case of asserted Aboriginal Rights and Title, the scope of consultation is based on an assessment of the strength of the claim and the seriousness of potential impacts upon the asserted rights. In the case of proven Aboriginal Rights or Treaty Rights, the scope of consultation is based on the seriousness of the potential impact on those rights (source: British Columbia Environmental Assessment Office, 2013).

Procedural aspects of the consultation process involves:

- Providing information about the proposed project to First Nations early in the planning process;
- Obtaining and discussing information about specific Aboriginal interests that may be impacted with First Nations;
- Considering modifications to plans to avoid or mitigate impacts to Aboriginal Interests;
- Documenting engagement, specific Aboriginal Interests that may be impacted, and any modifications to address concerns; and
- Providing this documentation to local Aboriginal groups and the Environmental Assessment Office

As far as is known by the Authors, the Tahltan Nation, a tribal council-type organisation composed of the Iskut First Nation and Tahltan First Nation, is the primary claimant of native rights in the Spectrum Property area. The Tahltan Nation is also represented on rights and title matters by the Tahltan Central Government (TCG) with offices in Dease Lake. The Tahltan have a long history of cooperation with the mining and exploration sector and are an important source of both skilled and semi-skilled labour in the area. Skeena has established responsible exploration policies related to protection of wildlife, the environment and cultural heritage values, transparent communication of plans, hiring and training of local labour, and opportunities for local businesses to provide materials and services. Skeena has also indicated that they will be engaging the Tahltan and other communities and stakeholders on its project plans.

#### **4.7 Environmental Management Plan**

The Authors are not expert in the field of environmental management practices, and shall express no opinion in regard to the environmental management aspects of the project. However, Skeena Resources reports that it fully intends to comply with environmental laws, regulations and guidelines for exploration activities in British Columbia.

To this end, Skeena has developed Ungulate, Fish & Plant, and Waste Management plans, and has indicated that they intend to continue updating their Environmental Management Plan during future operations on the property. Skeena also commissioned Greenwood Environmental Inc.

(Vancouver, BC) to complete baseline environmental monitoring programs (water sampling, acid rock drainage studies) which started in the fall of 2015.

## **5. Accessibility, Climate, Local Resources, Infrastructure, and Physiography**

### **5.1 Topography**

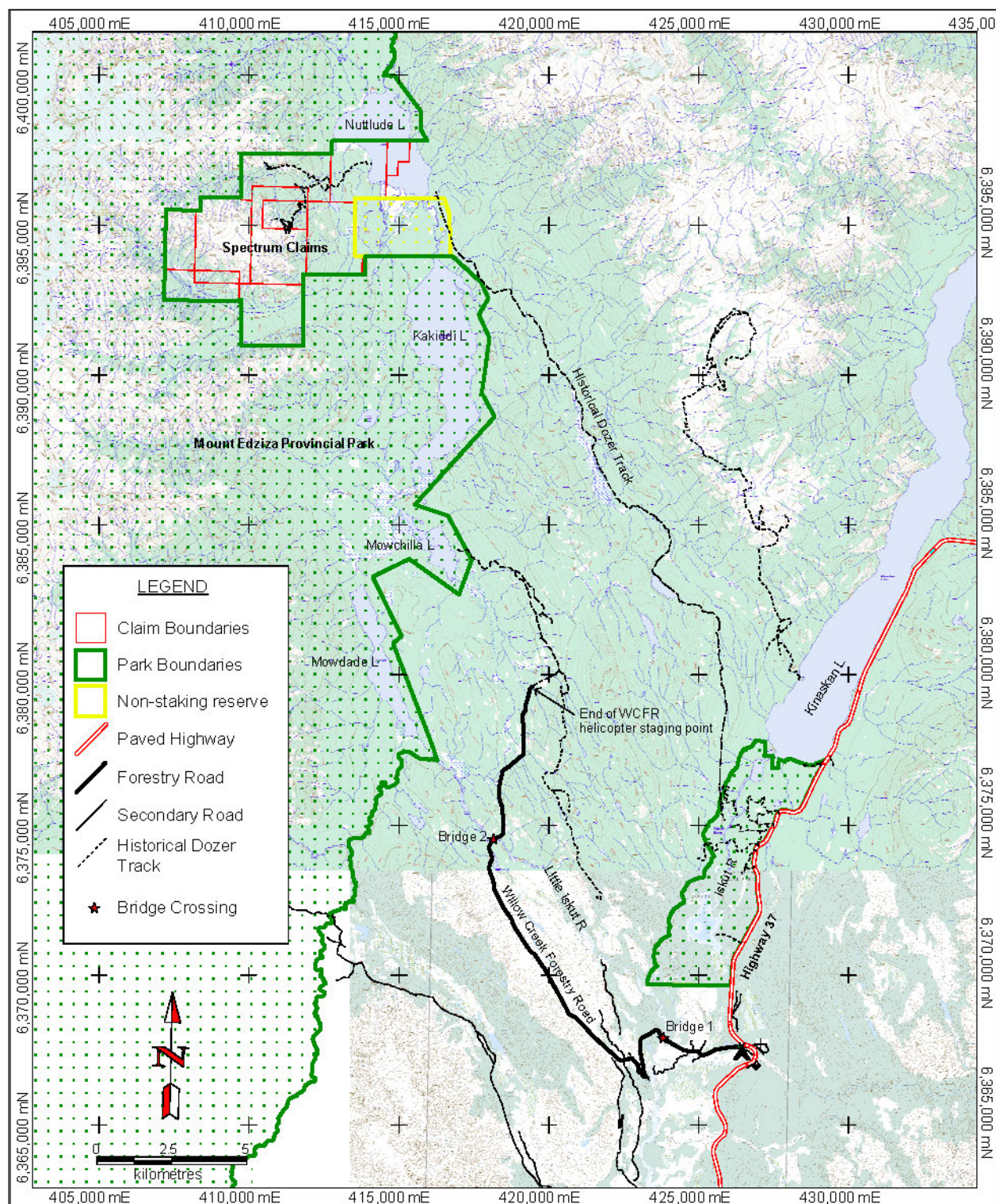
The property is moderately rugged with elevations ranging from 800 m ASL in the stream valleys to 2500 m on the mountain tops. The Central zone deposit is situated within this range at approximately 1550 m ASL. Vegetation varies from dense pine and spruce forests at the lower elevations to open alpine meadows, talus and barren ground at higher elevations and on some steep slopes. The property covers the eastern side of a small flat-topped mountain dissected by east- to northeast-flowing streams and their tributaries. Glaciers occur at higher elevations to the west of the property. The strike of the Central Zone mineralization is predominantly north-south parallel to the east slope of the mountain.

### **5.2 Access**

Historically, access was via a winter (dozer) trail from Highway 37 to the east of the property, helicopter or fixed-wing airplane on floats to Nuttlude Lake, or fixed-wing on wheels or skis to what is now an overgrown winter air strip adjacent to Nuttlude Lake. Current access is via helicopter or by float plane to Nuttlude Lake. During the summer months there is seasonal scheduled air service, twice weekly, to Dease Lake from Prince George. Charter aircraft, both helicopter and fixed wing, are available at Dease Lake.

The area south of Spectrum contains a complex network of old forestry roads, dozer trails, ATV trails, and cutlines, but most of them have not been used for over 20 years, and are currently overgrown. The Willow Creek Forest Service Road is the best access road in the area (Figure 5-1), with bridges across the Iskut River, 2.6 km west of Highway 37, and the Little Iskut River, 4.6 km west of the highway. Bridge crossings are indicated with red stars on Figure 5-1; small streams pass under the road via culverts.

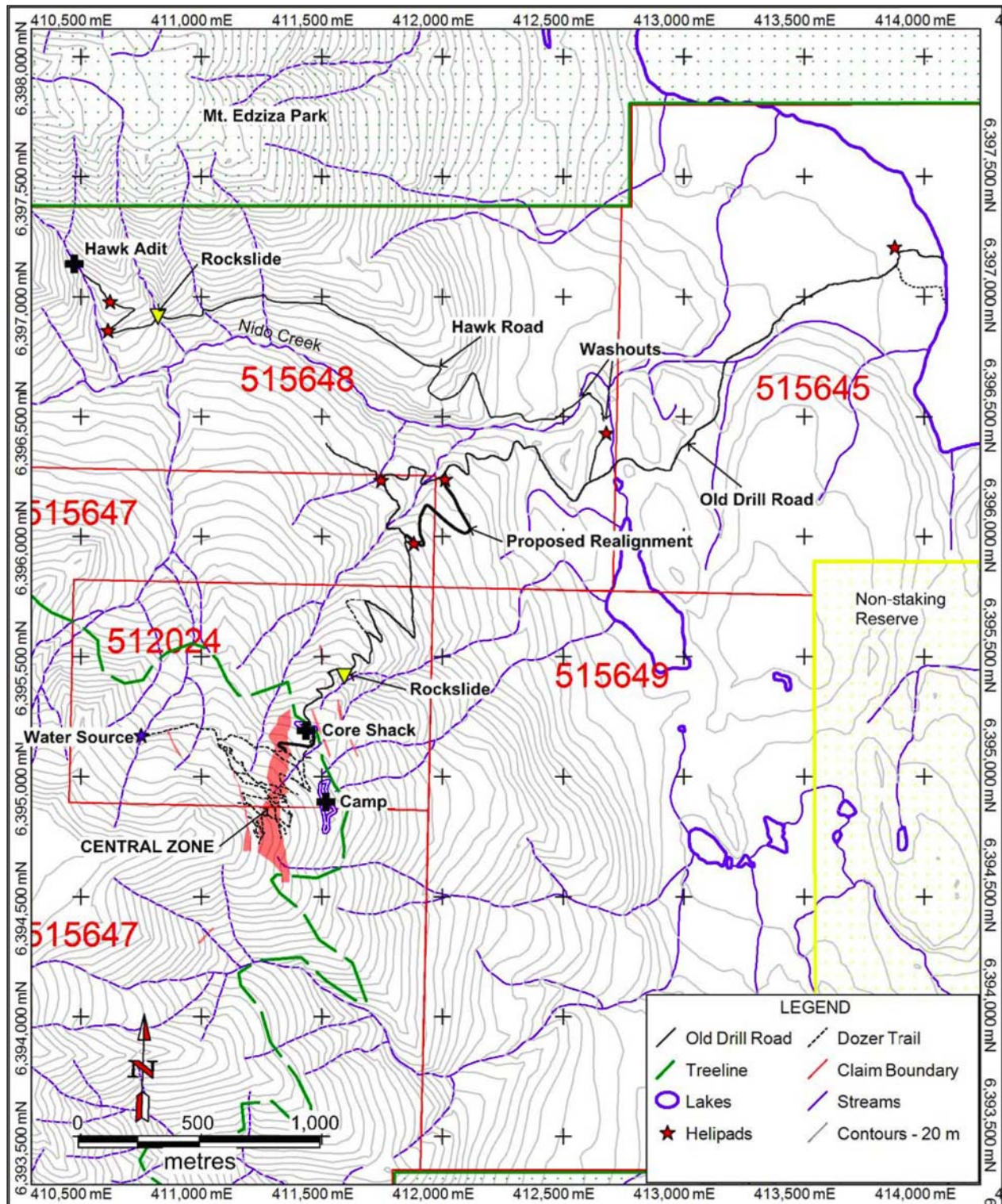




**Figure 5-1: Spectrum Property- Location and Road Access**

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**Figure 5-2: Old Drill Road from Nuttlude Lake to Central Zone and Hawk Adit**

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Within the property boundary, the old drill road (Figure 5-2) is in generally good condition, but requires some upgrading before it could be used for anything other than foot traffic. One 700 m section has been proposed for realignment, to avoid two creek crossings, which are washed out. Another short section 250 m NE of the core shack below treeline (Figure 5-2) has experienced a small slide since its construction, and will need to be rehabilitated for safe passage. The spur road to the Hawk Adit (Figure 5-2) is washed out in two sections and will need to be brushed out before it can be used effectively. Another rockslide was noted on and below the spur road about 420 m SE of the Hawk Adit near the East Creek showing. The main drill road from the camp to Nuttlude Lake was brushed out to a width of 2-3 m in 2015, and several helicopter landing areas were established along the route. This was done to improve pedestrian access to other parts of the property. If the road surface is upgraded, it could allow for four-wheel drive vehicle access (ATV, “side-by-side”, or similar) from the valley floor.

The historical dozer track extending from Nuttlude Lake to the termination of the Willow Creek Forest Road (see Figure 5-1) is fairly clear of brush and trees in some sections, though other sections are quite overgrown. It was determined that previous operators must have used this trail during the winter, as the track passes through several swamps that would likely be impassable after the spring thaw. The lack of a connector between the dozer track and the drill road further suggests that equipment was moved in to site in the winter over the frozen surface of Nuttlude Lake.

Skeena is evaluating the possibility of rehabilitating the trail to haul heavy supplies, for winter use only. This concept will require discussion with the Tahltan Nation and other land users. All-weather access has not been studied, but is likely feasible. Skeena has indicated that all-weather road access would not be considered until needed, for example if year-round operations were required to support advanced development and mining.

The Willow Creek Forest Service Road (Figures 5-1 and 5-3) is in good condition and has been brushed out to a staging point at the end (23.5 km). With minor maintenance, it is suitable for transport trucks.

Skeena has indicated that a helicopter and fuel staging area will be established in several clearings at the end of the road (Figures 5-1 and 5-4). This point is approximately 18 km from the Central Zone on the Spectrum Property.



**Figure 5-3: Overgrown section of Willow Creek Forest Road (Brushed out in 2015)**

*Photo by J. Stacey, June 19, 2014*

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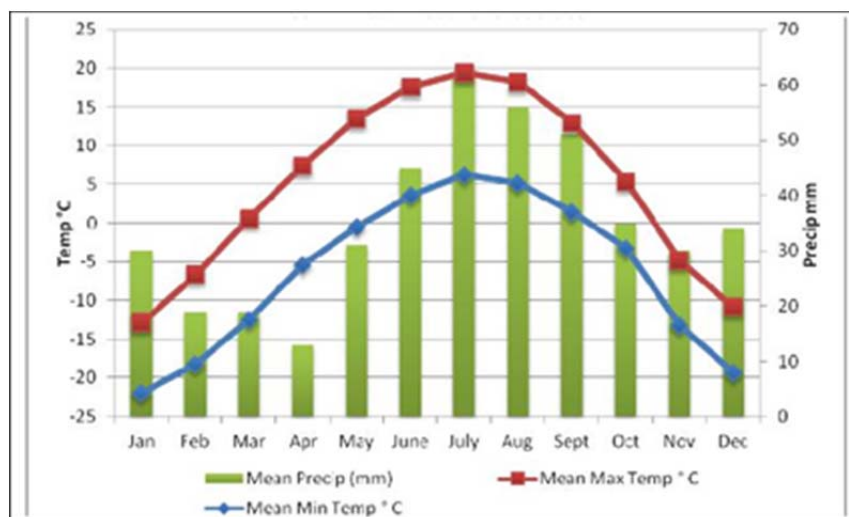
**Figure 5-4: Helicopter staging area at termination of Willow Creek Forest Road, 18 km from Central Zone (looking west).** *Photo by C. Russell, October 2015*

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The two major bridges on the Willow Creek Forest Road are located on the Iskut and Little Iskut Rivers. Both bridges are steel spans, are surfaced with timber (Iskut) or concrete (Little Iskut) roadbeds, and appear to be in good condition. Recent inspection reports are available.

### 5.3 Climate

Climate in northwestern British Columbia is subarctic, with temperatures ranging from daily averages of -18°C in winter to 13°C in summer (Figure 5-5). Rainfall is highest from May to September, averaging about 270 mm per year. Thick accumulations of snow are common, with snowfall from October to March averaging about 220 cm per year.



**Figure 5-5: Precipitation & temperature averages for Dease Lake, BC**

*(Source: The Weather Network)*

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Fieldwork can commence in early June and may continue until late October, when weather conditions at higher elevations become more difficult. The Spectrum property experiences somewhat less snowfall than other areas in the region as it lies with the snow shadow of Mount Edziza.

### 5.4 Local Resources & Infrastructure

The nearest road to the project area is Highway 37 (Stuart-Cassiar, or Dease Lake Highway), a two-lane paved highway that is the only arterial route through this part of British Columbia (Figure 4-1). The nearest settlement is the village of Iskut, 35 km east-northeast of the project area, which provides gasoline and diesel, plus basic services including a nursing station, a small grocery store and a school. Seasonal accommodation, meals, fuel, and telephone/fax services can be found at Tatogga Lake Resort, 25 km east of the project area and at Eddontenajon, 2 km south of Iskut. Helicopter staging facilities are available at both localities, and local services can expedite receipt/shipment of supplies and samples to and from Smithers and Terrace.

Dease Lake is a larger settlement of about 450 people (changes seasonally) and is located 90 km north of the project. It has an all-weather airstrip, seasonal commuter air service, a small air charter company, health centre and stores as well as the Tahltan Central Government office.

Until 2014, electricity supply in the area was from diesel generators located in communities. However, on 6th May 2011 federal environmental approval was granted to BC Hydro for a new 287 kV power transmission line (Northwest Transmission Line or “NTL”) planned to parallel Highway 37 from Terrace to Bob Quinn Lake. At a cost of C\$746 million, the NTL is intended to provide electricity for major mining projects in the region, such as Galore Creek and Red Chris. The NTL was completed to Bob Quinn Lake in July, 2014, and the northern extension to Red Chris and Iskut was completed in the fall of 2014. A substation is present at Tatogga Lake.

Unskilled labourers and skilled personnel trained at mines in the region (Red Chris, Eskay Creek, Snip, Golden Bear), are available in Iskut, Dease Lake and Telegraph Creek. Expediting services, drill contractors, and heavy equipment services can be sourced out of Smithers and Terrace, as well as through the Tahltan Nation Development Corporation (TNDC) based in Dease Lake.

## 6. History

### 6.1 Exploration & Mining History

Table 6-1 details the ownership and exploration history on the Spectrum property.

**Table 6-1. Summary of ownership and exploration history on Spectrum property claims.**

Year	Owner	Prospect	Description
1957	Torbit Silver Mines Limited	Hawk	Initial evaluation of Hawk vein at the north end of the property.
1967	Shawinigan Mining and Smelting Company Limited	Hawk	Re-staked Hawk claim, drilled x-ray holes on the Hawk vein.
1969	Spartan Explorations Limited	Spectrum	Staked claims to cover newly discovered “porphyry-type” copper occurrence south-west of Nuttlude Lake.
1970	Mitsui Mining and Smelting Co Limited	Spectrum	Geological, geochemical and geophysical surveys.
1971	Imperial Oil Limited	Spectrum	Optioned property and conducted geological mapping, additional geochemical and geophysical surveys.
1973	Imperial Oil Limited	Spectrum	4 BQ diamond holes for 463 m, defined low grade copper in monzonite with adjacent potassic altered volcanic. Gold not assayed. Claims allowed to lapse.
1975	Racicot Syndicate	Spectrum	Staked “Red Dog” claims, optioned them to Canex Placer who then relinquished the option.
1977	Consolidated Silver Ridge Mines Limited	Spectrum	Optioned property
1978	Cons. Silver Ridge Mines Limited	Spectrum	Added Pink and Red claims to property following geological mapping and surface geochemistry

Year	Owner	Prospect	Description
1978	Consolidated Silver Ridge Mines Limited	Hawk	Claims staked on Hawk. Carried out geological mapping and soil -sampling. 2 x 2.6 m exploration drift advanced 73 m along main Hawk vein.
1979	Consolidated Silver Ridge Mines Limited	Spectrum	Camp claim added to property to cover accommodation and airstrip area on side of Nuttlude Lake. 4x4 access road constructed from camp to centre of prospect. Drilled 10 BQ diamond holes for 832 m.
1980	Consolidated Silver Ridge Mines Limited	Hawk and Spectrum	Additional 240 m of drift and cross-cut Underground diamond drilling at Hawk. Drilled 18 BQ diamond holes totalling 2,427 m at Spectrum.
1984	Cominco Limited	Spectrum and Hawk	Optioned property, carried out soil sampling, ground magnetics and VLF surveys
1988-1989	Cominco Limited	Spectrum	Geological mapping, rock chip sampling, drilled 10 diamond holes for 1,199 m
1987-1989	Moongold Resources Limited	Hawk	Under option agreement carried out rock and soil sampling, VLF, magnetic and resistivity surveys
1990	Columbia Gold Mines Limited	Spectrum (Red Dog) and Hawk	Optioned both properties. Trenching and drilling of 20 BQ diamond holes for 2,363 m. Identified main mineralised zones at Spectrum.
1991	Columbia Gold Mines Limited, JV Eurys Resources Limited	Spectrum and Hawk	Diamond drilled 24 holes for 3,992m to define reserves on the Porphyry zones at Spectrum and explore peripheral zones. 2 holes on Boundary Zone at Hawk. "geological reserves" (resources) calculated on Spectrum.
1992	Columbia Gold Mines Limited	Spectrum and Hawk	Diamond drilled 6 holes for 710 m on the 500 Colour and East Creek Zones at Spectrum. Limited prospecting program for northerly extensions of Spectrum.
1996-2002	Arkaroola Resources Limited		Began process of lobby BC government to amend Provincial Park boundary
2002-2011	Seeker Resources Corporation	Spectrum	Environmental base line studies. Property optioned to Trans Pacific Mining, who re-estimated resources and undertook a petrographic study. Applied for drilling and archaeological permits in 2009.
2011	Eilat Exploration Limited	Spectrum	Exploration planning followed up drilling and archaeological permits.
2012 & 2013	Eilat Exploration Limited	Spectrum	Exploration planning followed up drilling and archaeological permits. 10% stake sold to Keewatin Consultants; Airborne Magnetic survey flown by Fugro in the fall of 2012. Report delivered in 2013.
2014	Skeena Resources Limited	Spectrum	Drilled 9 holes from 4 platforms; GPS surveying; limited prospecting, geological mapping, soil sampling
2015	Skeena Resources Limited	Spectrum	Drilled 63 holes from 58 platforms; prospecting, mapping, soil sampling, geohazard assessment; Lidar survey; enviro. monitoring

## 6.2 Previous Exploration

Previous exploration on the property, as outlined in Table 6-1, consisted of surface geochemistry, geological mapping, geophysics (IP) and several phases of diamond drilling by several different companies over about 20 years. Prior to Skeena's acquisition of the property, 92 drill holes had

been completed on the Spectrum deposit totalling 11,963 m, completed in three main phases by three different companies, as shown in Table 6-2.

**Table 6-2. Details of historic diamond drilling and assaying at Spectrum deposit.**

Period	Company	Metres drilled	Number of holes	Assay
1973	Imperial Oil	464	4	Cu only
1979-1980	Consolidated Silver Ridge Mines	3,259	28	Au by fire assay on all samples. Ag, Cu, Zn selective
1989	Cominco	1,199	10	Au, routine by AAS(?), Au by Fire Assay if >1000ppb, Cu, Fe, Mg, K (unknown assay technique)
1990-1992	Columbia Gold Mines	7,042	50	Au by AAS, Fire Assay and Screen Fire Assay (visible gold), Cu routine. Selected samples multi-element ICP
	<b>Total</b>	<b>11,963</b>	<b>92</b>	

Source: Lally (2012)

The basic drill data is well documented within previous reports and subsequently drill hole specifications, assay data and basic geological units were entered into a digital format by Skeena contractors in 2014 and 2015.

In all drill programs, sampling was accomplished by cutting half core along intervals marked by a geologist, with maximum sample widths of 2 or 3 metres. Details relating to the Cominco analytical methods (1989 drill holes) are limited, but the analyses were completed at the Cominco Exploration and Research Laboratory in Vancouver, BC. The Columbia Gold Mines Ltd. (“Columbia” or “CGM”) (1990-1992) assays were completed at Min-En Laboratories in Vancouver, BC. Gold was analyzed by Atomic Absorption (“AA”) following aqua regia digestion of five gram samples; samples reporting values greater than 1.0 g/t Au were re-analyzed by either 30 g fire assay or, in some cases, by metallic screen assay. Copper, silver, zinc and/or lead values were determined by AA following aqua regia digestion. Internal laboratory QAQC was completed by Min-En.

Sampling and analytical information for drilling completed from 1973 to 1980 is limited, and no information is available concerning the applied QAQC protocols. In the QP’s opinion (Stacey), the historical analytical work was completed by reputable companies and laboratories, and it conformed to industry standards of the time.

Many of the historic holes were not analyzed for copper or silver, which elements are considered by Skeena to be under-reported in the current Mineral Resource estimate. Skeena has indicated that this data gap will be progressively filled by means of re-assay where possible, hole twinning and additional drilling, as appropriate.

The area of the Central Zone was staked in 1969 to cover the large gossan and porphyry-type copper occurrences that were noted there. After a series of geological, geochemical, and geophysical surveys, Imperial Oil Ltd. (“Imperial”) drilled four BQ diamond drill holes under option in 1973. These holes intersected low-grade copper, but gold was not assayed at the time.



The claims were allowed to lapse in 1973. The area was re-staked by the Racicot Syndicate in 1975 and named the “Red Dog” claims. The property was optioned to Consolidated Silver Ridge Mines Ltd (“Silver Ridge”) in 1977, who completed surface sampling, diamond drilling, and underground drifting and drilling on the Hawk Vein from 1977-1980. The option was relinquished in 1981. Cominco Ltd. (“Cominco”) optioned the property in 1984, and completed surface sampling, geophysics (VLF-Mag), and diamond drilling in 1988 and 1989. The property was optioned by Columbia Gold Mines Ltd. in 1990. From 1990-1992, Columbia completed surface sampling, trenching, and 7,042 m of diamond drilling in 50 drill holes, and calculated an initial resource estimate for the Central Zone (see Chapter 6.3).

Arkaroola Resources Ltd. purchased the property from Columbia in 1996, and commenced the process of lobbying the BC government to amend the Mount Edziza Provincial Park boundary to allow access and further mineral exploration work on the property. Seeker Resources took up ownership in 2002 and continued lobbying the BC government while maintaining the property in good standing by cash payments in lieu of exploration work. In 2009, Seeker applied for drilling and archaeological permits, and posted a \$20,000 bond to the BC government. Eilat Exploration took over the property in 2011, with a 10% stake held by Keewatin Consultants Ltd., and completed an airborne magnetic survey in 2012.

Skeena Resources Ltd. acquired the property in October 2014, following completion of the terms of the Acquisition Agreement with Eilat Exploration Ltd. Skeena drilled 9 holes from 4 different platforms in 2014, for a total of 1940.65 m, and completed GPS surveying as well as limited prospecting, geological mapping, and soil sampling in the East Creek area. In 2015, Skeena mounted a more comprehensive exploration program of diamond drilling, mapping, prospecting, soil sampling, topographic survey, and geohazard assessment. A total of 17,817.3 m were drilled in 2015, including 61 exploration holes drilled from 58 separate platforms, and 3 geotechnical/hydrogeological holes drilled along a potential adit route east of the camp site.

### **6.3 Historical Resource Estimates**

Two historical estimates of the Central Zone deposit at Spectrum were completed in 1991, one by Columbia and another by Orcan Mineral Associates (“Orcan”), an independent engineering firm, for Columbia-Eurus Corporation in 1991. A subsequent report completed in 1994 by Orcan was never filed for assessment and so is presumed to be lost. Results of the known historical estimates are shown in Table 6-3. Historical estimates quoted in Table 6-3 below are sourced from the following reports:

- Kilby, Casselman, and Roberts (1991): Columbia internal resource calculation
- Saunders and Budinski (1991): resource calculation by Orcan Mineral Associates Ltd. for Columbia-Eurus Resource Corporation
- Mining Associates Pty Ltd. (2004): resource calculation by Mining Associates Pty Ltd. for Trans-Pacific Mining Ltd.

To the extent known by the Authors, the parameters and methods of the various historical resource estimates are as follows:

Columbia, 1991 (Source: Kilby, Casselman, and Roberts, 1991)

Cutting: no assays cut

Minimum Width: 1.5 metres

Cut-off Grade: 5.0 g/tonne Au

Projections: Maximum 25 metres, or half the distance between drill holes

Method: Sectional Block Method

Orcan, 1991 (Source: Saunders and Budinski, 1991)

Cutting: 50 g/tonne Au top-cut

Minimum Width: 1.5 metres

Cut-off Grade: 5.0 g/tonne Au

Projections: Maximum 50 metres

Method: Sectional Block Method

Mining Associates, 2003 (Source: Mining Associates Pty Ltd., 2004)

Cutting: 62 g/tonne Au top-cut

Minimum Width: 1.0 metres

Cut-off Grades: 5.0 and 1.0 g/tonne Au

Projections: Maximum 30 metres

Method: Sectional Block Method (10x10x1 metre blocks)

All of the historical estimates employed resource categories as described in Sections 1.2 and 1.3 of NI43-101. All historical estimates to date have been classified by the previous authors as “Inferred” resources for reasons of poor correlation of high-grade gold zones between sections. It should be kept in mind however that while the names of resource categories employed in these historical estimates may be the same as used in NI43-101 none of the historical estimates can currently be described as “inferred” or otherwise, as they do not meet the criteria of a current resource as defined in Sections 1.2 and 1.3 of NI43-101.

In 2003, Mining Associates (“MA”) was contracted by Trans-Pacific Mining Limited (“TPM”) to review the historic estimates and complete a new mineral resource estimate for Spectrum to JORC Code reporting standards. At the time TPM was considering listing on the Australian Stock Exchange, which requires resource estimates to be JORC compliant. JORC is recognised as a mineral resource reporting standard by most international financial institutions and is accepted by stock exchanges in Australia, London, Hong Kong and Canada (under some circumstances).

Mining Associates Pty Ltd. (2004) found that the Columbia 1991 historical estimate was affected by some calculation errors of vein true widths and grade and the lack of a grade top-cut. Grade estimated by MA was the same as Orcan, but tonnes were lower. MA’s historical estimate was classified as a JORC Inferred Resource because of poor correlation of high-grade zones between drill sections, and because the historic drill data was not validated.

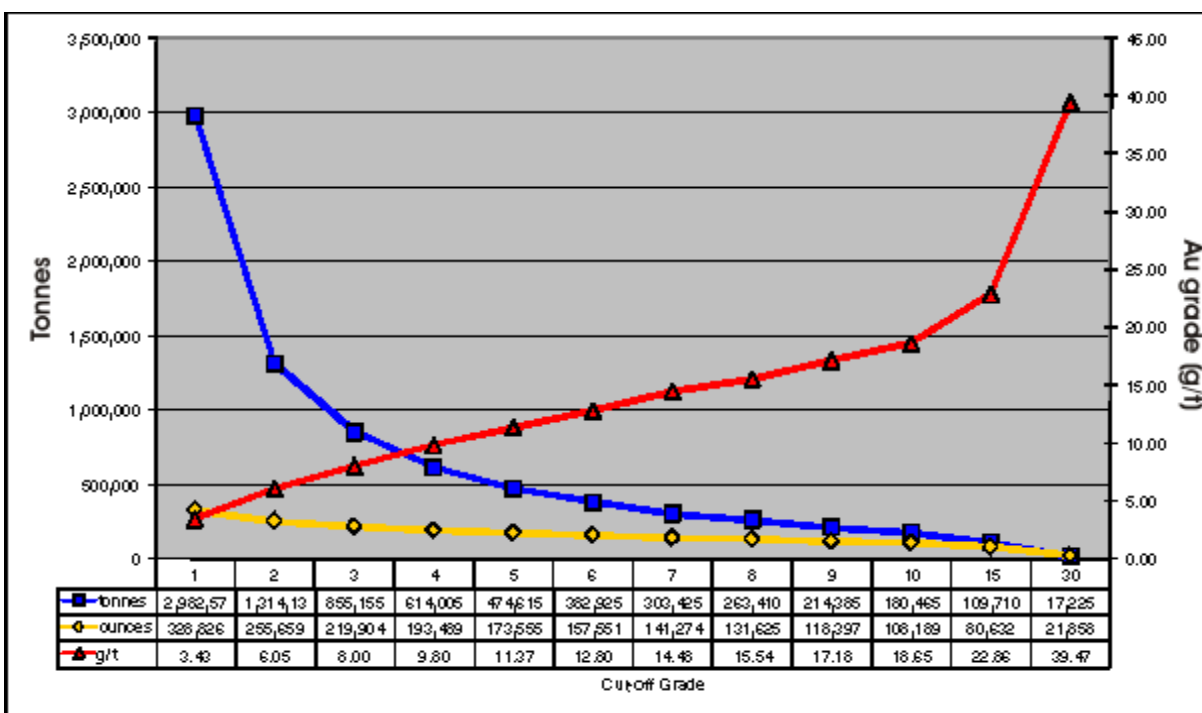


**Table 6-3: Historical resource estimates for the Spectrum Property**

Historical resource estimates, Spectrum Deposit. MA = Mining Associates				
Company	Tonnes	Cut-off grade Au g/t	Au grade g/t	Contained oz Au
1. Columbia 1991	614,000	5.0	12.3	243,600
2. Orcan 1991	593,000	5.0	11.3	215,000
3. MA 2003	474,615	5.0	11.4	173,500
3. MA 2003	2,982,575	1.0	3.43	328,826

Sources: 1. Kilby, Casselman, and Roberts, 1991; 2. Saunders & Budinski, 1991;  
3. Mining Associates Pty Ltd., 2004

MA reported also produced a grade-tonnage chart (Figure 6-1) to demonstrate the impact on resources of changes in cut-off grade. The chart shows that lowering the cut-off grade to 1 g/t Au increased resources to 2.98 million tonnes grading 3.43 g/t Au for a total of 328,000 ounces of gold.



**Figure 6-1: Grade vs. tonnage chart for MA 2004 historical resource estimate.**

Source: Mining Associates Pty Ltd. (2004)

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The figures quoted above are regarded as historical and are not classified in accordance with the categories set out in Sections 1.2 and 1.3 of NI 43-101. The QP has not done sufficient work to classify the historical estimates as current mineral resources, and Skeena is not treating the historical estimates as current mineral resources.

Drilling and geological interpretation completed by Skeena in 2014-2015 has shown that the geological models used by historical operators were somewhat over-optimistic with respect to the interpreted continuity of high-grade zones. Skeena's drill results indicate that high-grade intervals are less continuous and are not confined to five discrete mineralized panels as was interpreted by Columbia. Instead of a high-grade, narrow-vein deposit, the authors and Skeena believe Spectrum Central Zone is a bulk-tonnage, stockwork or porphyry-style occurrence, though one with a significant amount of high-grade material present. Skeena's new resource estimate, presented in Chapter 14, is at a lower grade and higher tonnage than historical estimates but contained ounces Au are much higher.

## 7. Geological Setting and Mineralization

### 7.1 Regional Geology

Spectrum lies within a northwest-trending belt about 1000 km long and 200 km wide of Palaeozoic to Lower Mesozoic-age volcanic, plutonic and sedimentary rocks known as the Stikine Terrane of the Canadian Cordillera. The Stikine Terrane is important as it, along with the Quesnel Terrane, is one of the two most prospective belts for porphyry related Cu-Au in British Columbia.

The Stikine Terrane is bounded to the west by the Coast Plutonic Complex and to the east by the Quesnel Terrane (Figure 7-1). Much of the central part of the terrane and its eastern contact are unconformably overlain by a thick succession of sedimentary rocks of the Middle Jurassic Bowser Basin. Rocks of the Stikine Terrane formed within an active continental margin setting, and four main episodes of arc volcanism have been recognised. Due to similarities in rock type and geologic history, the Stikine and Quesnel Terranes are widely considered to be segments of a single volcanic arc assemblage (Wernecke and Klepacki, 1988; Colpron et al., 2007) and are recognized to be well endowed with copper and gold mineralization.

The Stikine Terrane comprises basal sedimentary rocks overlain by a thick assemblage of andesitic to basaltic volcanics with minor sediments of the Upper Triassic Stuhini Group, followed by Lower Jurassic age mafic to intermediate volcanic and syn-volcanic alkaline intrusions of the Hazelton Group. Hazelton Group rocks are unconformably overlain by sedimentary rocks of the Middle to Upper Jurassic Bowser Lake Group. The Spectrum area is underlain primarily by Stuhini Group volcanics and sediments, and Hazelton rocks have not been identified on the property to date.

At higher elevations the Mesozoic sequence is unconformably overlain by Neogene volcanic flows of basaltic to trachytic composition. In the Spectrum area, this volcanic sequence is represented by the ca. 7.5 Ma Mount Edziza Volcanic Complex which occurs to the west and north.

Intrusive rocks of the region are fine to medium grained dykes, sills, and plutons with compositions ranging from diorite to granodiorite, monzodiorite, monzonite, and syenite. No age dating has yet been completed in the Spectrum area, but an intrusion on the Klastline Plateau to the east (the Groat Stock, GJ Property) has been dated to  $205.1 \pm 0.8$  Ma (U-Pb zircon date, Friedman and Ash, 1997). The same study provides a U-Pb age date of  $203.8 \pm 1.3$  Ma for the Red Stock, which hosts copper-gold mineralization at the producing Red Chris mine. Intrusions and related mineralization at Spectrum are likely to be contemporaneous with other intrusions in the region.

A younger suite of alkalic intrusive rocks coeval with felsic volcanics in the upper part of the Hazelton Group is not exposed in the Spectrum area, but has been dated elsewhere to  $180.0 \pm 1.0$  Ma (Ash et al., 1997b). The youngest intrusions in the area comprise mafic dykes associated with Tertiary to Recent Mount Edziza volcanism.

Within the northern part of the Stikine Terrane, Late Triassic to Early Jurassic island arc-type volcanic centres are concentrated in a regional structural domain known as the Stikine Arch (Figure 7-2). In this region, quartz-deficient alkalic and sub-alkalic intrusive rocks are associated with copper-gold porphyry and precious metal vein systems. Significant porphyry style deposits of British Columbia are shown in Figure 7-1.



**Figure 7-1: Mesozoic-Cenozoic arc terranes of British Columbia and locations of major porphyry-style deposits near Spectrum**

(Source: Logan and Schiarizza, 2011).

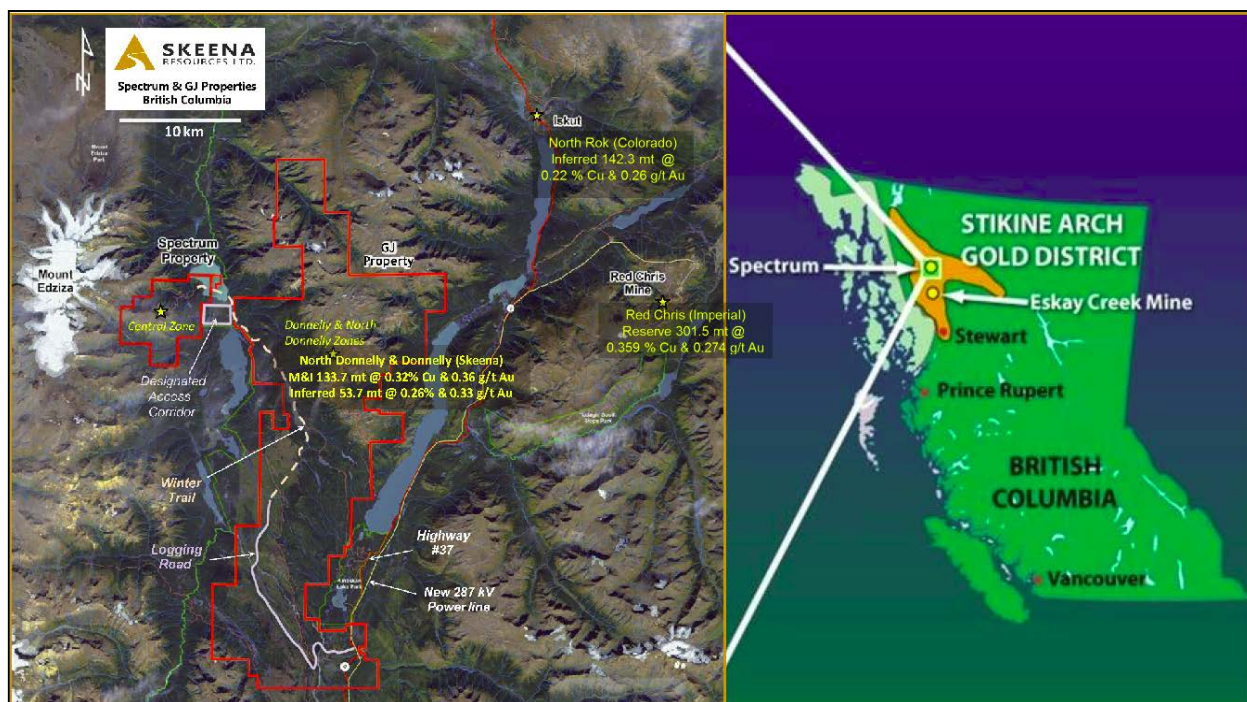
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The authors and Qualified Persons have not verified the resources, reserves, or geology of other deposits in the region, and cautions that the resources, reserves, and geology of other deposits in the region are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

As summarized by Micko et al. (2014), three metallogenic groups are present in the Stikine and Quesnel Terranes. These include:

- Late Triassic Calc-Alkaline plutonic complexes with associated Cu-Mo( $\pm$ Au) porphyry deposits (Schaft Creek, Highland Valley, and Gibraltar);
- Late Triassic to Early Jurassic alkalic diorite to monzonite intrusive complexes with associated Cu-Au porphyry deposits (Galore Creek, Red Chris, Afton/Ajax, Copper Mountain, and Mount Polley); and
- Early to Middle Jurassic alkalic intrusive complexes with associated Cu-Au porphyry deposits (Lorraine and Mount Milligan).

Most of the silica-undersaturated alkalic porphyry deposits were formed in the time period between 210-200 Ma, post-dating a period of widespread tholeiitic to transitional calc-alkaline magmatic activity (Mortensen et al., 1995; Logan and Mihalynuk, 2014).



**Figure 7-2: Stikine Arch gold district and Spectrum Gold Property**  
(image: courtesy of Skeena Resources Ltd., 2015)

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About 150 km south of Spectrum within the Stikine Terrane, similar types of alkalic to sub-alkalic intrusive rocks are associated with several different styles of mineralization including:

- Submarine exhalative Au-Ag-Zn-Pb-Cu (Eskay Creek)
- High-sulphidation epithermal Au (Treaty Glacier)
- Low-sulphidation epithermal Au-Ag (Brucejack Lake, Johnny Mountain)

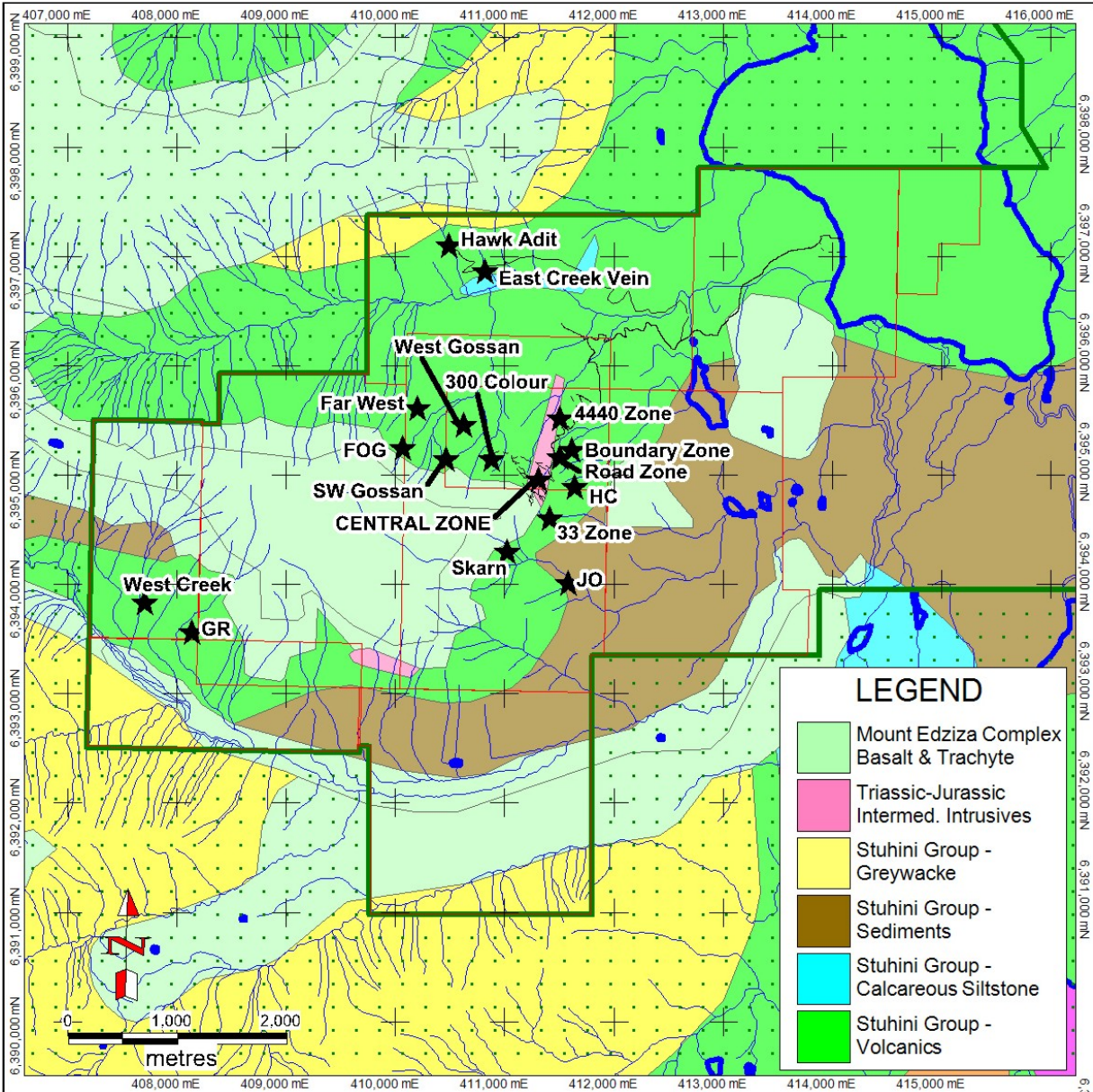
- Shear-hosted vein Au-Ag (Snip Mine)
- Porphyry Cu-Au±Mo (Kerr, Red Bluff, Snowfields, Sulphurets)
- Skarn Au (McLymont Creek)

The authors and Qualified Persons have not verified the resources, reserves, or geology of other deposits in the region, and cautions that the resources, reserves, and geology of other deposits in the region are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

## **7.2 Local Geology**

Over a 14-day period in late June and early July, the central core of the property was mapped in detail by Dr. James Oliver of Oliver Geoscience International Ltd. During this exercise, Oliver noted bedrock lithology, alteration, mineralization, and structural features at over 700 point locations within the study area. A series of 1:5000 scale maps were produced that were used, in part, to help direct exploration drilling and prospecting activities throughout the summer. Simplified property geology is shown in Figure 7-3 below along with significant mineralized occurrences on the property. Detailed geological and alteration maps of the Central Zone are shown in Figures 7-4 and 7-5.





**Figure 7-3: Simplified local geology and mineral occurrences of the Spectrum gold property.**

*(Source: British Columbia Geological Survey)*

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Oliver's mapping (Figure 7-4) shows that the Spectrum property is underlain by a Triassic volcanic sequence (the Stuhini Group) which varies from mafic volcanic and sedimentary rocks at its base, through a middle sequence of intermediate tuffaceous volcanics, and culminating in a calcareous sedimentary sequence with minor limestone at the top of the stratigraphic sequence. Four key units were recognized in the Triassic package, from top to bottom, as follows:



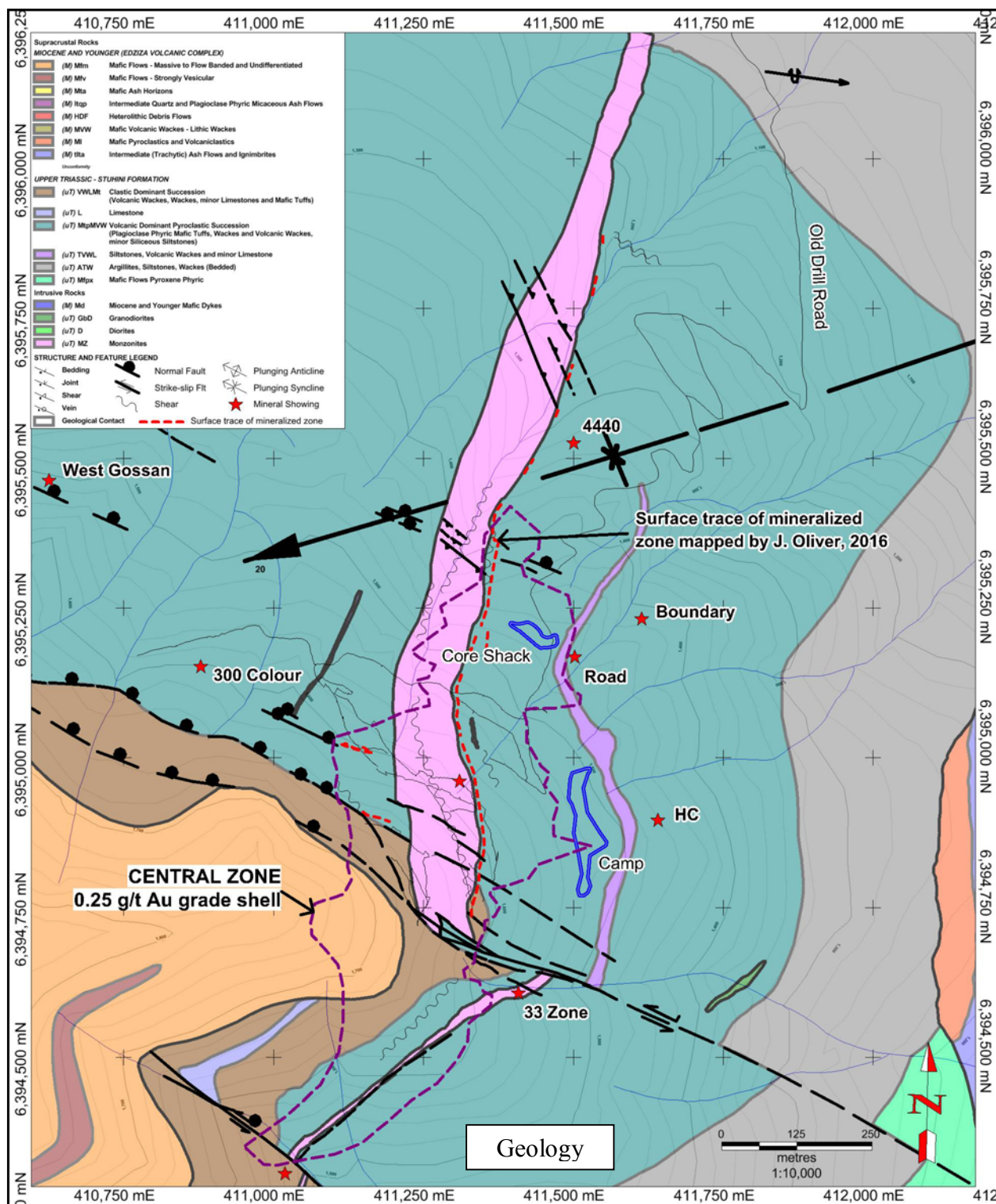
- Calcareous lithic wackes, volcanic wackes lesser limestones. Typically poorly bedded and transitional to fine grained plagioclase phryic flows near its lower stratigraphic contact. Clastic dominant sequence.
- Fine grained plagioclase phryic tuffs with occasional clastic interbeds. Volcanic dominant sequence (this is the main host to mineralization in the Central Zone)
- Finely bedded, well-stratified siltstones, argillites and sporadic ash tuffs.
- Pyroxene porphyritic mafic flows.

The Triassic stratigraphic package is estimated to be on the order of 1000-1500 m in thickness. The Stuhini volcanics are unconformably overlain to the west and north by Neogene volcanic rocks of the Mount Edziza Volcanic Complex. The Triassic package is gently folded around shallow southwest-plunging fold axes and dips shallowly to the west and northwest. Two fault trends are dominant, comprising north- to north-northeast-trending structures as exemplified by the Central Zone, and a west-northwest- to northwest-trending series of moderately to steeply north-dipping normal and strike-slip faults.

The volcanic rocks are intruded by north-trending Late Triassic to Early Jurassic monzonite bodies, which are likely emplaced along zones of structural weakness. Three intrusive phases have been mapped; monzonite, diorite and granodiorite, the oldest of which is thought to be the monzonite dike at the Central Zone.

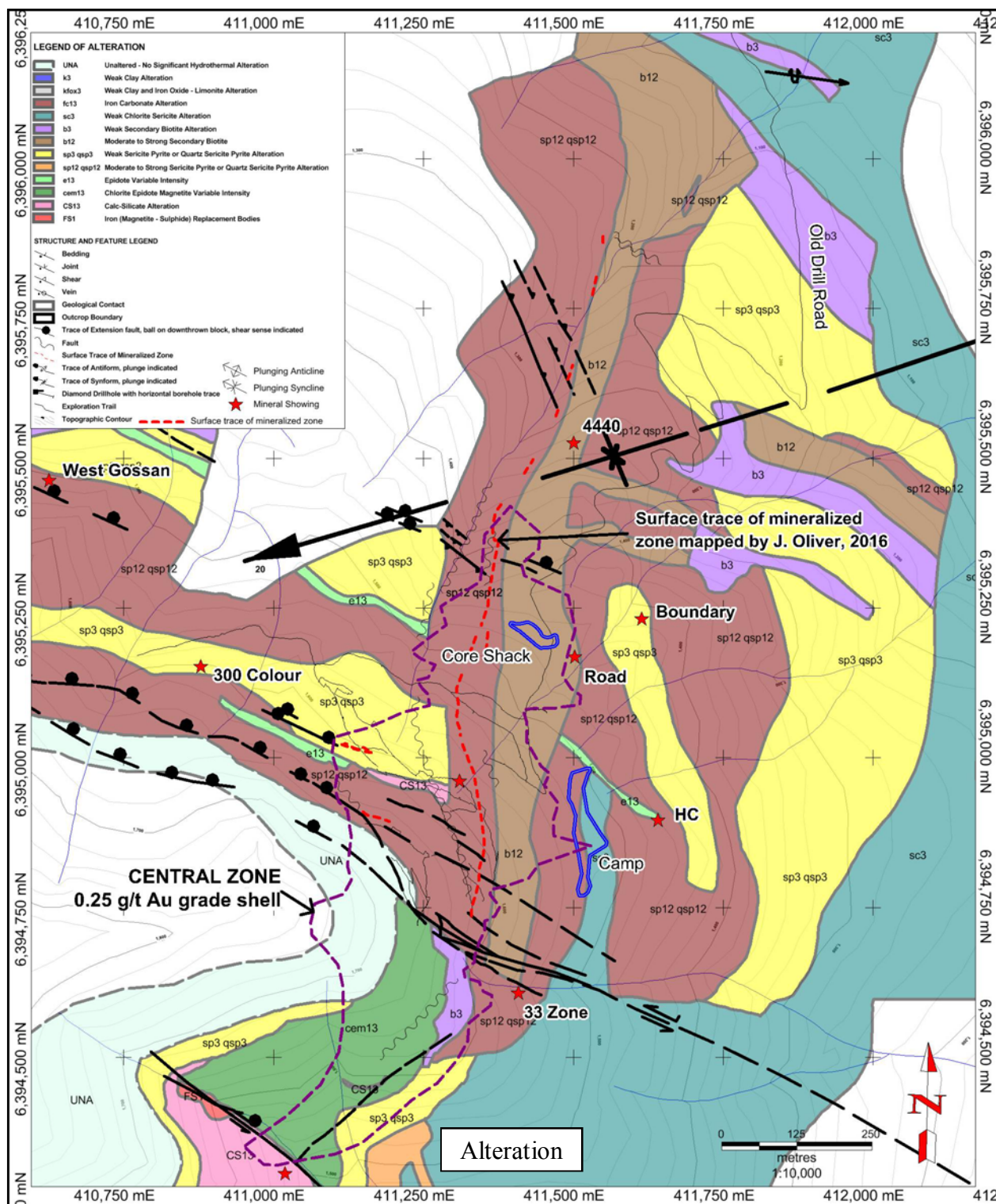
Mineralization is typically associated with altered monzonite and volcanic rocks along faults and shear zones (Figure 7-5). Key alteration assemblages include quartz-sericite±pyrite (QSP), biotite hornfels, potassium feldspar, chlorite-epidote-magnetite, iron carbonate, and silica. Oliver also made the following observations about alteration patterns:

- Alteration map patterns are slightly more complex than to be expected as changes in rock lithology and bulk rock composition in addition to hydrothermal gradients also affect the distribution of secondary mineral assemblages.
- Epidote bearing alteration assemblages may have a spatial relationship to the development of mineralized structural zones.
- Biotite hornfels is developed on the eastern contact of the monzonitic intrusion. The distribution of this mineral appears highly asymmetric with respect to the monzonite contact position.
- The broad zone of chlorite-magnetite epidote at the skarn occurrence is at least partially controlled by a northwest trending fault structure.
- Strong quartz-sericite-pyrite (QSP) alteration tracks the north dipping, west-northwest striking structural zone, which passes through the Fog mineral occurrence area.



**Figure 7-4: Geological Map of the Central Zone. Mapping by J. Oliver, 2016**

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**Figure 7-5: Alteration Map of the Central Zone. Mapping by J. Oliver, 2016**

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### 7.3 Property Structural Geology

Bedding in the Stuhini Group is gently folded around shallow southwest-plunging fold axes (Figure 7-4) and generally dips shallowly to the west or northwest. Adjacent to fault zones, bedding may be tilted steeply, subparallel to the fault.

Three main fault orientations cutting Stuhini Group rocks have been identified by mapping and lineament analysis (Figure 7-4), all of which are spatially associated with elevated gold and copper in soil and rock samples. These include:

- North-south (170°-180°) trending structural zones which have a significant spatial correlation to the development of mineralized zones. These structures do not appear to be cut or offset by the smaller and more numerous northwest trending fracture set, and extend over strike lengths of more than 500 metres. The Central Zone of mineralization is associated with a north-south structural zone and has been traced over a strike length of more than 650 metres.
- Northwest trending fracture sets oriented 300° to 320° form the most common fracture surfaces in the Spectrum area. Individual structures are on the order of a few tens to hundreds of metres in strike length, and dip moderately to steeply northeast and southwest. Strong gold in soil values are associated with northwest trending lineaments.
- East-west oriented structural zones form numerous short fracture sets a few 10s of metres in strike length with subvertical dips.

Flat-lying ramps and shears have also been identified in Stuhini rocks in the field and through lineament analysis, and likely form a sub-set of the more steeply dipping structural zones described above.

Faults in the Stuhini Group are representative of northwest-directed extensional surfaces and by north-south sinistral shear sets. East-west structures likely form part of a classical Reidel fracture array formed within the Spectrum rock environment. Maximum dilation will likely be associated with extensional arrays, particularly northwest and east-west oriented faults (Oliver & Walcott, 2016).

In the overlying Neogene Mount Edziza basalt cap, northeast and north trending faults define a conjugate fault set that may be related to east-west directed extension. Though no geochemical data is available over these faults, mapping suggests that they significantly post-date Spectrum gold mineralization.

### 7.4 Mineralization

Mineralization in the Central Zone (Figure 7-6) has been defined by historical and recent diamond drilling. Prior to Skeena's acquisition of the Spectrum property in 2014, historical operators had completed 92 drill holes totaling 11,937 metres. Eighty (80) of these holes were drilled in the Central Zone (88% of total historical drilling), with the remainder drilled on outlying targets at East Creek, 300 Colour, Boundary, and Fog (see Section 7.4: Outlying



Targets). Additionally, nine underground drill holes totaling 430.2 m were completed on the Hawk Vein by Newhawk Gold Mines in 1980.

From October 2014 to October 2015, Skeena completed another 70 exploration holes from 62 separate platforms (19,297 m) and 3 geotechnical holes totaling 461 m. Sixty-eight (68) of Skeena's holes were drilled in the Central Zone (total 18,608 m), one hole was drilled at the Boundary Zone (S15-065, 265 m), and two holes were drilled at the 300 Colour Zone (S15-066 & 068, 424 m). In total, 165 drill holes have been completed on the property to date, amounting to 31,965 metres drilled. These numbers do not include the 9 underground holes (430.2 m) drilled on the Hawk Vein.

Over 80% of Skeena's drill holes encountered high-grade mineralization exceeding 5 g/t Au over widths of 2 metres or more. Twenty-five (25) out of 61 exploration drill holes in 2015 were noted to contain varying amounts of visible gold (VG) over intervals of a few centimetres to several metres. Most of Skeena's drill holes intersected broad intervals of lower-grade porphyry-style Au-Cu mineralization, many of which were locally crosscut by higher-grade structures.

Two main styles of gold and copper mineralization are present on the Spectrum Property:

- Low-grade, disseminated porphyry-style gold and copper mineralization associated with monzonite intrusions and alteration zones composed of quartz-sericite-pyrite (QSP), biotite hornfels, potassium feldspar, silica, and clay alteration assemblages. Mineralization occurs as disseminated and fracture controlled chalcopyrite and pyrite within altered monzonite and volcanic wall rocks. Copper values average 0.11% Cu and gold values range from 0.1 g/t to 1.0 g/t Au in rocks with porphyry style mineralization only (no high-grade).
- Structurally-hosted high-grade gold zones (>4 g/t Au) associated with narrow fractures, or with pyrite, arsenopyrite, sphalerite, galena and chalcopyrite within thin quartz-carbonate veins hosted by altered volcanic units and monzonite dykes.

Drill results are discussed in greater detail in Chapter 10.

## **7.5 Central Zone**

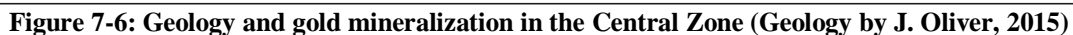
Central Zone mineralization (Figure 7-6) is hosted by intermediate volcanic and volcanoclastic rocks of the Stuhini Group and crosscutting north-trending monzonite intrusions. A large (1 km<sup>2</sup>) +200 ppb gold in soil anomaly defined from historic and recent soil geochemistry outlines the Central Zone deposit.

The Central Zone consists of a broad zone of low-grade porphyry gold-copper mineralization cut by at least 4 sub-parallel steeply dipping higher-grade gold mineralized structures (Figures 7-7 and 7-8), each of which vary from 3 to 10 metres wide, comprising fault gouge, silica, K-feldspar and carbonate alteration, plus quartz-carbonate-sulphide veins and veinlet stockworks. Porphyry style mineralization occurs in close proximity to the monzonite intrusion, and appears to have a westerly dip parallel to the intrusive body. Individual higher-grade structures have been modeled

over strike lengths of up to approximately 300 m and 350-400 m below surface. Drilling to date shows that the Central Zone extends from surface to 400 m below surface and that it has lateral dimensions of approximately 1100 m (north-south) and 380 m (east-west). Mineralization remains open along strike north and south and down dip to the west. A new resource estimate for the Central Zone is presented in Chapter 14.

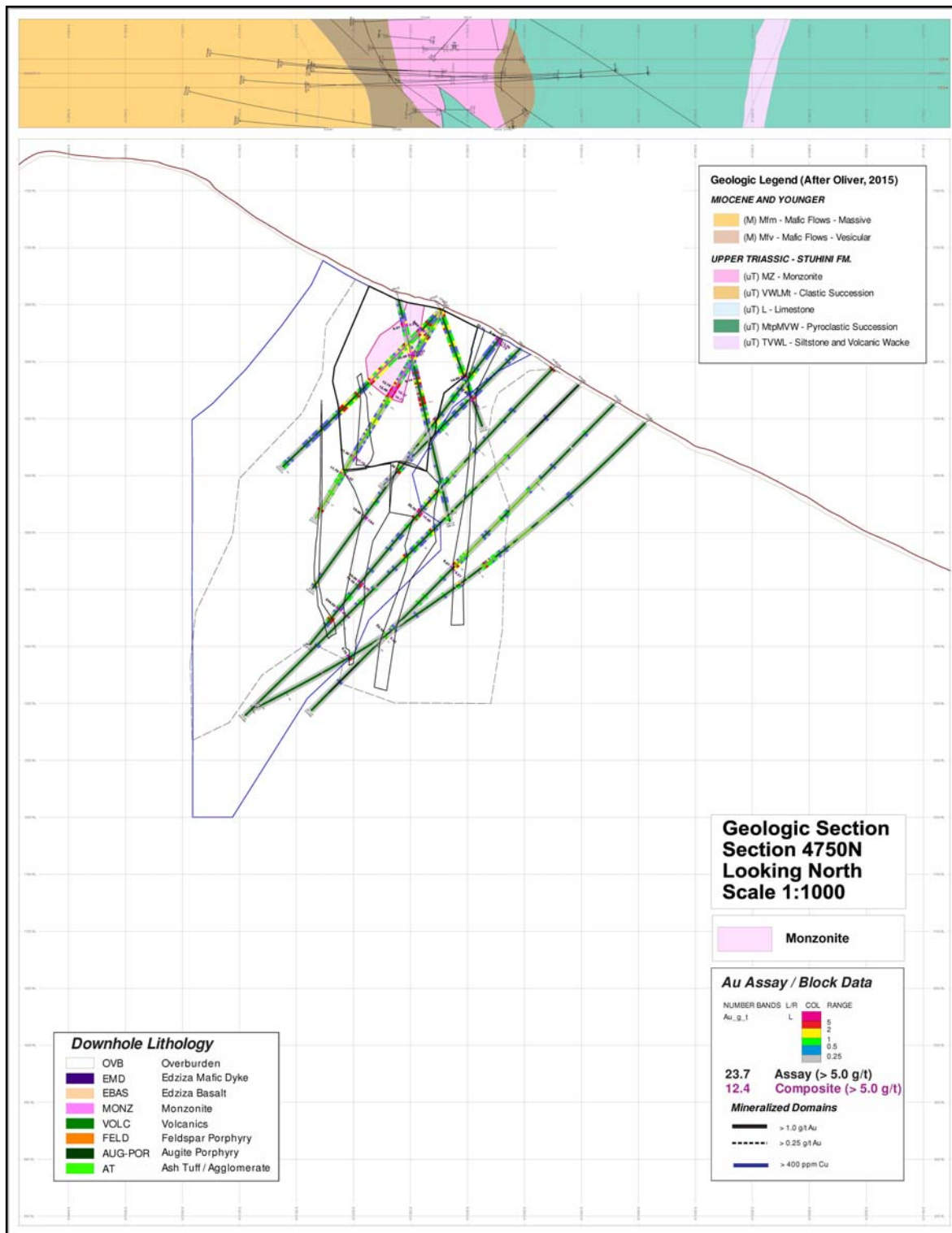
Representative cross sections (4750N and 5000 N) showing the geological interpretation of Central Zone mineralization are shown in Figures 7-7 and 7-8. Block models for gold on these sections are shown in Figure 7-9 and 7-10, and copper block models are shown in Figures 7-11 and 7-12. Full-sized cross sections used for block model verification are contained in Appendix 3.

Mineralization in the Central Zone was previously subdivided by Columbia Gold Mines into five higher-grade zones, comprising the Porphyry 1 & 2, QC 1 & 2, and 500 Colour Zones. The Porphyry and QC zones were interpreted as twinned, subparallel structures that carried high-grade gold through the center of the deposit. The 500 Colour Zone was interpreted as a similar structure, occurring to the west and oblique to the Porphyry and QC zones. Skeena's new drill results have shown that the higher-grade structures are less continuous than was interpreted by CGM geologists, and so the terminology has been abandoned and the whole area is now referred to simply as the Central Zone.



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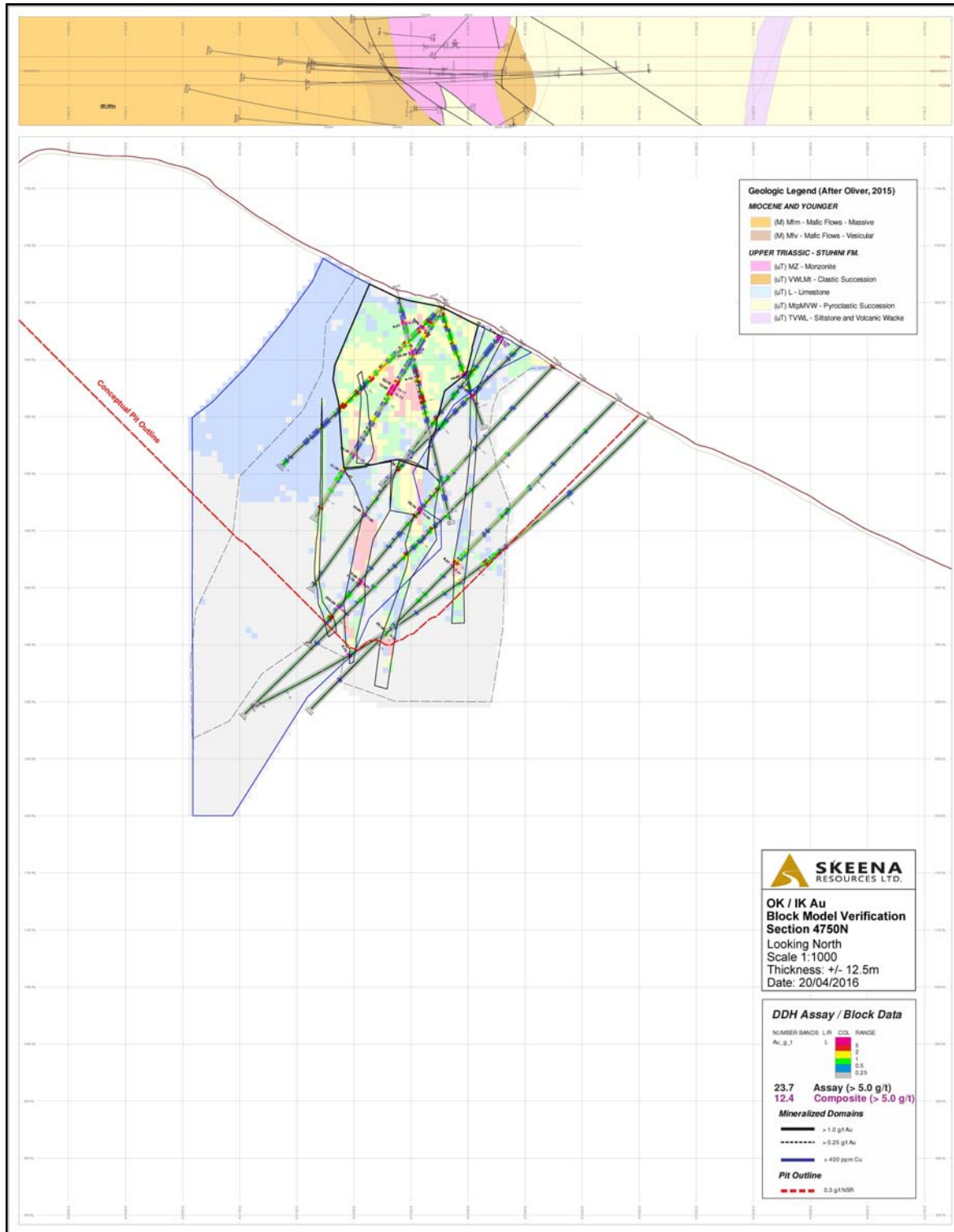




**Figure 7-7: Geological Interpretation, Central Zone, Section 4750N (looking north)**

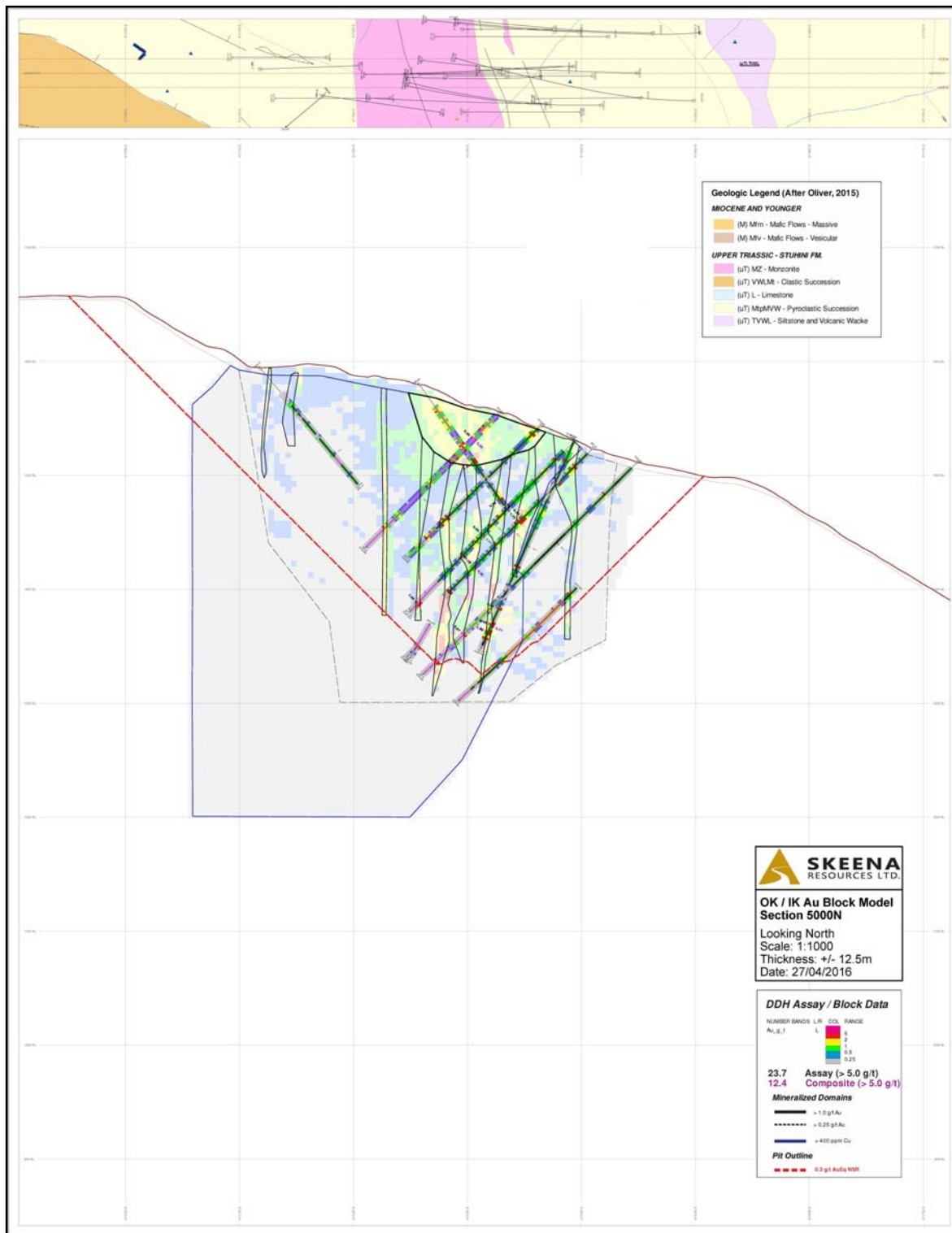
To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016





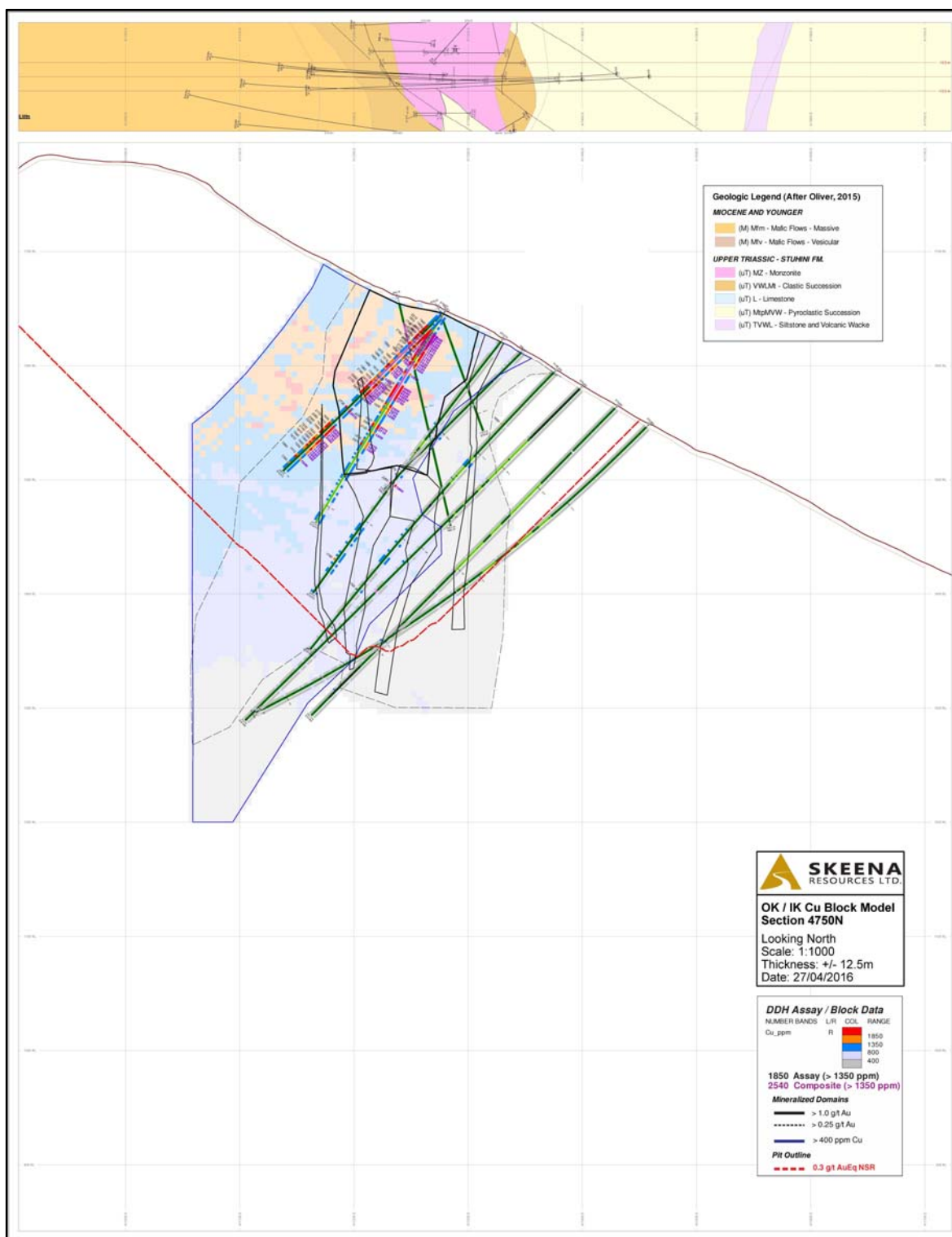
**Figure 7-9: Au block model, Central Zone, Section 4750N (looking north)**

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**Figure 7-10: Au block model, Central Zone, Section 5000N (looking north)**

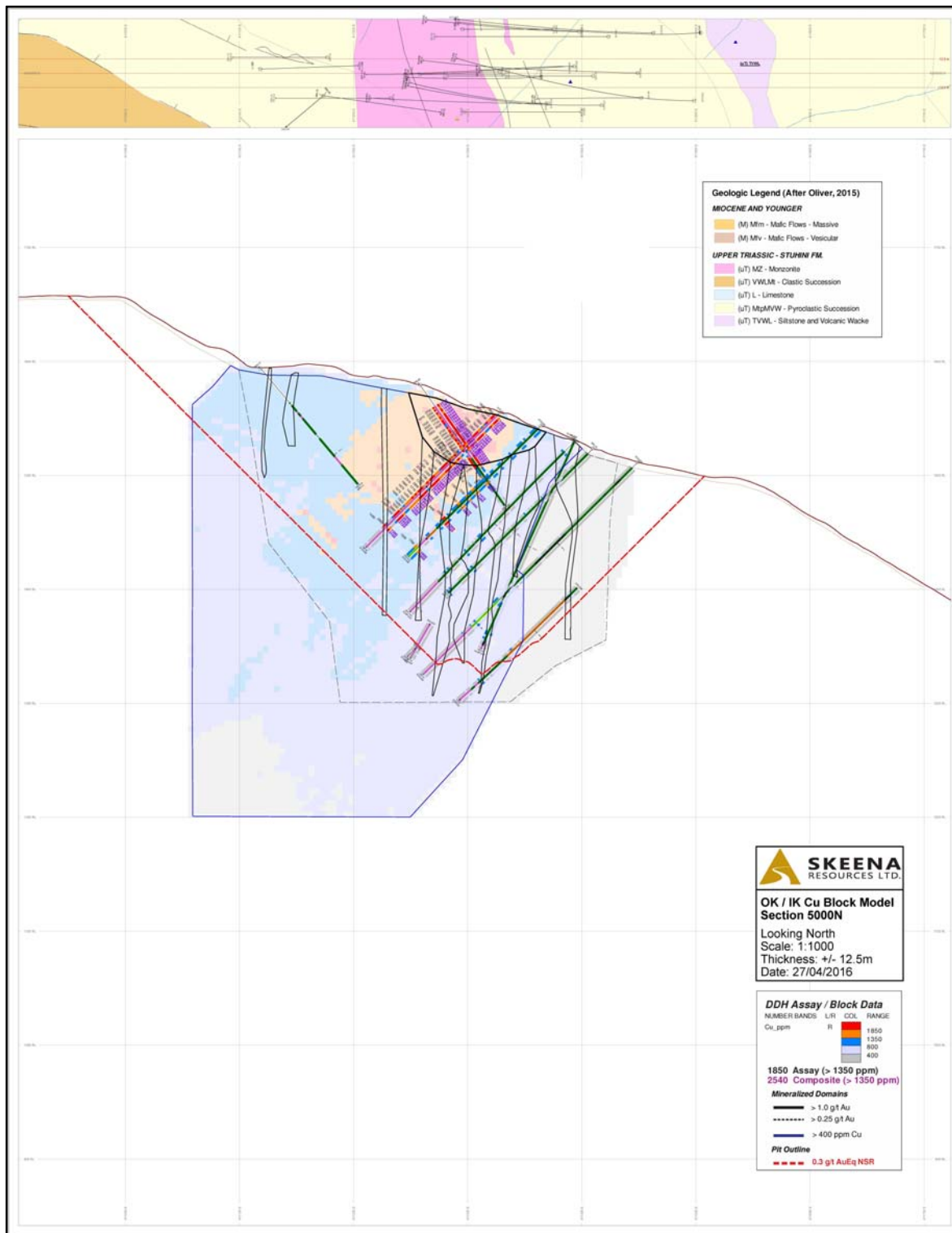
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**Figure 7-11: Cu block model, Central Zone, Section 4750N (looking north)**

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**Figure 7-12: Cu block model, Central Zone, Section 5000N (looking north)**

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## 7.6 Alteration

The earliest alteration assemblage is a strong biotite hornfels (Figure 7-5) that occurs only in volcanic and volcanoclastic rocks of the Stuhini Group. It is not seen in intrusive lithologies. Strong secondary biotite is characterized by an abundance of fine to medium grained dark brown to orange biotite as massive matrix replacements and mm to sub-mm scale lamellae. Biotite hornfels is overprinted by all other alteration types.

Strong secondary potassium feldspar alteration occurs as haloes around quartz-sulfide-calcite veins and as pervasive matrix replacement masses. Where present, potassium feldspar alteration overprints, destroys, and replaces early biotite hornfels. This type of alteration is typical of porphyry Au-Cu mineralization in the region, and strong potassic alteration zones at Spectrum have a significant probability of hosting strong gold-copper mineralization.

Secondary quartz-sericite-pyrite (QSP) and quartz-sericite-chlorite-pyrite alteration post-dates all other alteration assemblages and overprints both early biotite hornfels and mid-stage potassium feldspar alteration. The development of secondary chlorite is dependent on rock bulk composition and occurs in more mafic rocks like the pyroxene-phyric flows. QSP alteration is strongest in heavily fractured rocks and occurs as large-scale replacement masses. Fault zones in and around the Central Zone are strongly QSP altered. Gold and copper mineralization are frequently associated with QSP alteration at Spectrum.

Other alteration products include epidote, silica, clay, and iron carbonate. Epidote is commonly associated with faults and shear zones, and may accompany QSP alteration along these structures. Pervasive silica alteration is observed where rocks contain a greater abundance of quartz veins, typically around major structures. Clay minerals and iron carbonate are also associated with faults, typically with clay in the core of the fault and iron carbonate in veins subparallel to the structure. The development of clay minerals seems largely dependent on bulk rock composition, with the intrusive monzonites being more susceptible to clay alteration than the volcanic host rocks.

## 7.7 Structural Controls

Mineralization at Spectrum is strongly controlled by local structures. Three dominant structural trends are identified in the mineralized Stuhini package, comprising northwest-southeast, north-south, and east-west directed structures (see Section 7.3: Property Structural Geology). These structural lineaments are characterized by elevated gold and copper values in soil and rock samples, with the northwest-southeast and north-south trends exhibiting the strongest geochemical responses.

The Central Zone is controlled by a north-south fracture zone that likely provided a pre-existing corridor of structural weakness that was intruded by the Central Zone monzonite. Strong and widespread fracturing within the structural corridor provided pathways for hydrothermal fluids during subsequent mineralizing events. The distribution and orientation of porphyry-style



mineralization in the Central Zone is strongly influenced by this structural corridor, as suggested by the abrupt lateral termination of mineralization against faults in some parts of the deposit.

Porphyry-style mineralization in the Central Zone dips to the west, suggesting that the structural corridor also has a westerly dip. Low-grade mineralization is crosscut by north-south trending subvertical high-grade gold zones, indicating that a second period of faulting and mineralization occurred after the formation of the Central Zone porphyry deposit. The steep orientation of the high-grade structures compared to the porphyry body is evidence of a changing stress regime between the formation of the porphyry deposit and the emplacement of the high-grade veins.

The Central Zone is also transected by a large northwest trending fault which varies from a north-side-down normal fault in the northwest to a sinistral strike-slip fault in the southeast (Figure 7-6). This fault does not appear to offset mineralization in the Central Zone to any significant degree, and may be broadly contemporaneous with the later stages of mineralization.

The timing of east-west directed faulting is not clearly understood at present, but appears to be contemporaneous with or to post-date the waning stages of gold-copper mineralization at Spectrum. An east-west fault on Section 5080N (Figure 7-6) offsets high-grade gold mineralization in the Central Zone by about 15 m, but the fault itself is not mineralized. This suggests that the mineralizing event had largely ceased by the time the fault was emplaced.

The strongest target areas for exploration those that have the highest interpreted fracture density. These damage envelopes are directly linked to the strength of the underlying deformation zones and typically display the strongest gold and copper values in soil and rock samples. Target areas with abundant, short strike length fracture patterns may be more prospective for bulk-tonnage targets than high-grade targets. Long, single-strand fault zones may be more prospective for high-grade mineralization.

Fault intersections may play an important role in the localization of mineralization, in that fault intersections generally display intense fracturing that could be exploited by hydrothermal fluids. Mineralization around fault intersections is likely to form plunging high-grade “ore shoots”, the orientation of which will be controlled by the intersection line of the fault planes.

## **7.8 Dimensions & Continuity: Central Zone**

High-grade gold intercepts averaging greater than 4 g/t Au vary between 3 m and 10 m true width. Intercepts above 0.2 g/t Au envelop high-grade gold zones, creating a broader zone up to 350 m wide (Figure 7-6). The broad mineralised zone is associated with elevated copper values around 0.1% within monzonite and volcanics.

Higher-grade structures in the Central Zone were modeled by correlating gold grades, structural features, and alteration between cross sections and level plans. A cut-off grade of 1 g/t Au was statistically selected to represent higher-grade structures, as the 1 g/t Au envelopes displayed the best continuity between sections. A geologic three-dimensional solid model was then created for

the Central Zone. As shown in plan view in Figure 7-6, structures containing grades higher than 1 g/t Au occur over an area of 650 by 300 m.

Outcrop over the Central Zone is sparse and there is no well-defined geological control on mineralization, making a definitive correlation of high-grade (i.e. > 4 g/t Au) drill intercepts from section to section difficult. The 1 g/t Au envelopes are easier to define and correlate between sections. As indicated by petrography, mineralization is controlled by zones of fracturing rather than coherent massive veins, which makes correlation between sections challenging.

Mineralization has been intersected in drill holes to 400 m below surface to date (Figures 7-7 to 7-12). The majority of the resource estimate presented in this report is contained within the 1 g/t grade shells. The low-grade porphyry-style Au-Cu shell is defined by a 0.25 g/t Au and 400 ppm Cu cut-off and has dimensions of approximately 1100 m N-S, 380 m E-W, and to 400 m below surface. Porphyry-style mineralization is associated with the west-dipping monzonite body. The eastern margin of the porphyry-style Au-Cu mineralization is westerly dipping at 45-50 degrees. Orientation of the western margin is unknown, and is only defined by three holes on sections 4825N to 4925N. On these sections, the panel of porphyry mineralization is 130-200 m wide and appears to have a westerly dip. Where intersected, the western margin is abrupt and often faulted. There are no drill holes that transect the entire width of the porphyry style mineralization. Higher-grade gold-mineralized structures are subvertical and appear to crosscut the Au-Cu mineralization.

Mineralization of the Central Zone has not been adequately closed off along strike, and is open to the north, south, and down dip to the west. Three widely spaced historic drill holes between the Central Zone and the Skarn showing to the south intersected 30-50 m-wide zones of porphyry-style Au and Cu (averaging 0.7 g/t Au, 0.15% Cu), suggesting that at least the lower-grade material continues south and west of the Central Zone. High-grade material may be found by detailed drilling along this trend as well.

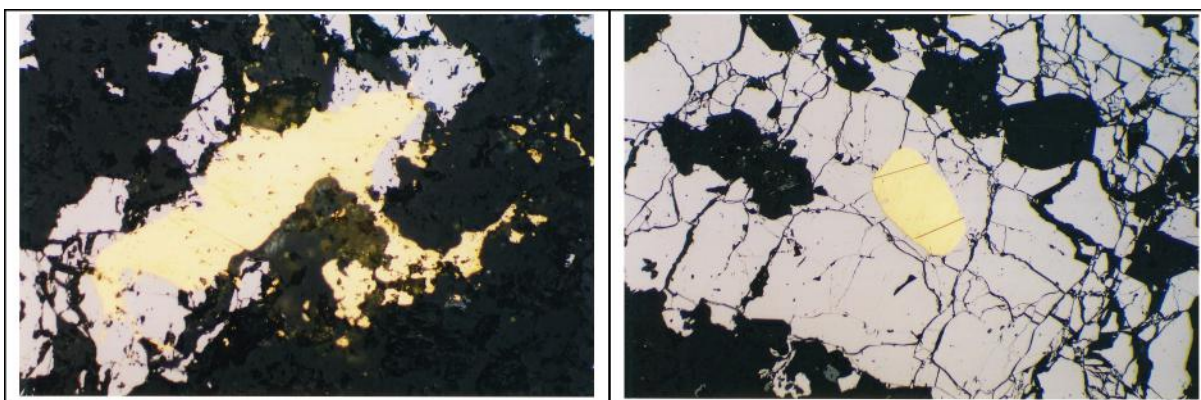
Anomalous soil geochemistry correlates well with underlying mineralization in the Central Zone (Hylands, 1990, this report). In general, the zone is surrounded by gold-in-soil values above 200 ppb Au, and high-grade structures are typically overlain by gold-in-soil values >500 ppb Au. A broad zone of anomalous gold values >200 ppb Au extends north from the Central Zone, suggesting that mineralization extends northward between the Central and East Creek Zones (Pauwels, 1984). Also, several strong soil geochemical anomalies occur to the west of the Central Zone, possibly indicating that additional mineralized zones occur in this area.

## **7.9 Petrography (Central Zone)**

In 2004, Trans-Pacific Mining commissioned a petrographic study (Mason, 2005) of drill core samples collected from the QC and Porphyry zones (Central Zone) intersected by Columbia drill hole S91-76. Hand specimen and thin section descriptions indicate that high grade gold mineralization is associated with intense K-feldspar-chlorite-sericite-carbonate-sulphide alteration of wall rock, and a network of thin veinlets of the same composition. Gold occurs

within veinlets and altered wall rock (Figure 7-8). High-grade mineralized zones are stockworks within fault zones, containing veinlets a few millimetres wide. No wider dilation veins were seen in the samples studied.

The petrographic study concluded that alteration and mineralization at Spectrum were driven by an early, hotter, metal-poor fluid which was overprinted by a cooler metal and sulphur-enriched fluid. They concluded that both of these hydrothermal events were likely derived from an intrusive body beneath the deposit. The monzonite porphyry dykes were considered to be a small part of this larger intrusive body that supplied significant volumes of hydrothermal fluids. Metal budget in the system ( $\text{Fe} > \text{Cu} > \text{Zn} > \text{W} > \text{Au}$ ) and alteration were considered consistent with a magmatic fluid of the type associated with porphyry-style mineralization.



**Figure 7-8 Photomicrographs of polished sections from “QC” zone (reflected light).**

*Gold (bright yellow) intergrown with arsenopyrite (off-white) within gangue of non-opaque minerals (K-feldspar, sericite).*

*Sample from Columbia drillhole 91-76. Image on left 0.6 mm across, image on right 1.2 mm. (Source: Mason, 2005)*

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## 7.10 Outlying Targets

Prospecting and soil sampling completed by Skeena personnel in 2015 have identified a number of other areas of mineralization on the property (see Figure 7-3), many of which were originally found by historical operators. Outside of the Central Zone, at least 13 mineralized occurrences were noted that merit follow-up investigation. These showings are tabulated in Table 7-1 and are described in detail below. No particular order of importance is implied by the list order.

**Table 7-1: Mineralized zones/showings on the Spectrum Property**

Name	Description (see map in Figure 7-3 for showing locations)
Central Zone	800x230 m Au-As-Cu soil anomaly; hosted by altered tuff and monzonite; high-grade Au bearing structures enveloped by lower-grade porphyry Cu-Au shell; dimensions ~1100 m N-S, 380 m E-W, surface to 400 m depth; mineral resource estimate presented in this report
33 Zone	South end of Central Zone, easterly trending fault and splay(?) from main monzonite dyke, intersected in one historical drill hole (8m @ 11 g/t Au). SKE drilling did not intersect significant Au; may have drilled parallel to zone?

Name	Description (see map in Figure 7-3 for showing locations)
Skarn	Calc-silicate altered limestone 500 m S of Central Zone; magnetite-Cu sulfides-Au assemblages; historic chip sample 20 m @ 2.9 g/t Au, 0.5% Cu; no historic drilling; may be related to a southern extension of the Central Zone, possibly further to the west
Boundary-Road Zones	high-grade and/or bulk tonnage target; 680x340 m Au-As-(Pb-Zn-Cu-Sb) soil anomaly; mineralized bedrock on surface; historic trenches with high-grade Au over narrow widths; 1 ddh @ Boundary North, 2 m @ 3.32 g/t Au and 1.14 m @ 10.5 g/t Au (S15-065); 2 historic ddh @ Boundary South, 9 m @ 1.36 g/t Au (S91-81)
4440 Zone	high-grade target; 400x180 m Au-As soil anomaly; no historic trenches or drilling; rock grabs to 9.47 g/t Au
HC Showing	possibly part of Boundary-Road system; 250x100 m Au-As-Sb-Zn soil anomaly; no historic trenches or drilling; two 2015 rock grabs 17.4 g/t Au and 52.5 g/t Au
JO Showing	possibly new showing in 2015; no historic trenching or drilling; 500x300 m Au-As-(Ag-Pb-Sb-Zn) soil anomaly; stacked quartz-sulfide veins dipping shallowly west over width of 2-3 m; 2015 rock grabs to 25.9 g/t Au, 63 g/t Ag, 0.92% Cu; high-grade target
300 Colour Zone	bulk tonnage target; 400x150 m Au-(Ag-As-Cu-Pb-Sb) soil anomaly; very strong with Au average 1343 ppb in soil; 1 historic trench 3m @ 29.45 g/t Au; 4 ddh, best result 52m @ 1.15 g/t Au (S15-068)
West Gossan	porphyry target; 560x230 m Au-Ag-Cu-As-Zn-Pb-Sb soil anomaly; historic trench 1 m @ 3.8 g/t Au; 2015 rock grabs: 0.25 m @ 37.2 g/t Au, 16.3 g/t Ag and 0.2 m @ 30 g/t Au, 544 g/t Ag, 0.82% Cu, 0.79%Pb, 15.1% Zn; no drilling completed
Southwest Gossan	small but strong Au-Cu soil anomaly, 110x110 m; likely continues under basalt cap; no historic trenching or drilling
Fog	bulk tonnage and/or high-grade target; 270x170 m Au-Cu-As-(Pb-Sb-Zn) soil anomaly, extends under basalt cap; 6 historic trenches, best result 0.76 m @ 7.62 g/t Au; 1 historic ddh, 40.8 m @ 1.03 g/t Au incl. 2 m @ 9.18 g/t Au; higher grade likely in NW trending, steeply N-dipping structures
Far West	new Cu-Mo soil anomaly; 2 lobes each approx. 700x200 m; no previous exploration; suggestive of buried porphyry Cu-Mo target
East Creek	High-grade target; NE-trending 5m wide silicified zone traced discontinuously at surface for ~400 m strike length. High grade gold with pyrite, arsenopyrite, chalcopyrite and sphalerite. Drill intercept of 2.6m @ 34.45 g/t Au, trench sample 2.6m @ 58.4 g/t Au; numerous high-grade grab samples on surface incl. 3 2015 samples @ 20.0 g/t Au, 22.9 g/t Au, and 35.1 g/t Au; high Pb, Zn, Ag in grabs
Hawk Vein	NW-trending narrow high-grade vein; 2-4 m wide, ~200 m strike length; underground adit constructed in 1978-80; gold grades > 1 oz. per ton on surface decreased in grade and width at depth; adit closed and exploration stopped by 1982; anomalous Cu in soil to west may be evidence of buried porphyry Cu-Au
West Creek - GR	4 km SW of Central Zone; 110x50 m Zn-Pb-Ag-Cu-Au soil anomaly; historic trench best result 0.76 m @ 202.7 g/t Au; several 2-3 m wide stacked quartz-sulfide veins; abundant Cu sulfide; 2015 rock grabs to 15.2 g/t Au, 5.58% Cu, 2.56% Zn; may be high-grade or bulk tonnage target; GR showing similar characteristics and dimensions, unknown if continuous with WC

### **33 Zone**

The 33 Zone is located just south of the Central Zone and appears to be associated with an east-trending fault and monzonite dyke, which may be a splay off of the main intrusive body. A 550 x 120 m soil and rock anomaly extends eastward down the drainage from the main showing. Historical trenching returned 9.25 g/t Au over 6.3 m, and one historical drill hole intersected 11 g/t Au over 8.8 m at the top of the hole (note very poor recovery in this interval). Two drill holes completed by Skeena in 2015 failed to intersect significant mineralization, but were highly altered and are now thought to have been drilled parallel to the zone.

### **Skarn**

The Skarn showing is a large outcropping of altered limestone at the head of a gully about 500 m SW of the southernmost limit of 2015 drilling at the Central Zone. The SE-trending gully was mapped by Jim Oliver as a left-lateral strike-slip fault that resulted in a 300 m displacement of bedded Stuhini units. Late movement on this fault was accompanied by intrusion of the Central Zone monzonite, as a narrow intrusive dyke was mapped on both sides of the fault with about 30 m of sinistral displacement. The difference in offset between the dyke and the older Stuhini rocks indicates that the fault was active before and after intrusion of the dyke, with approximately 270 m of left-lateral displacement that pre-dates the intrusion. The showing is overlain to the west by the Edziza basalt cap.

Mineralization in the Skarn area is dominated by magnetite and pyrite with subordinate copper sulfides, occurring as veins and masses in calc-silicate-altered limestone. Gold values in grab samples range from 0.2-5 g/t Au, with Cu values on the order of 0.4%. More strongly mineralized samples seem to be associated with faults and fractures. Soil samples from around the showing are strongly enriched in Cu and Au.

One historical drill hole (S89-40) tested the zone on the north side of the gully, intersecting a 17.7 m section of altered tuff that returned 1.1 g/t Au and 0.12% Cu. Skarnified limestone was not noted in the drill log.

The Skarn zone may indicate a larger intrusive body hidden below cover. The narrow monzonite dyke(s) mapped in the area probably did not have enough heat on their own to alter the limestone to the degree seen in outcrop, but these dykes may be connected with a larger intrusion at depth. Based on the example of the Central Zone, and with the presence of elevated Cu and Au in soils around the Skarn occurrence, it seems possible that blind porphyry-style Cu-Au mineralization may be found in the subsurface, possibly to the west.

Due to the general lack of outcrop, an IP geophysical survey is recommended over the Skarn showing, and chargeability anomalies should be followed up by drilling.

### **Boundary**

The Boundary area comprises two geochemical anomalies (Boundary North and South) centered on two NE-trending drainages about 250 m east of the Central Zone. The showings are about 150 m apart along a NNW-SSE trend. At this point it is unknown if the two showings are contiguous along this trend. Prospecting grab samples exceeding 5 g/t Au are clustered around exposed bedrock in the drainages, where several historical trenches were completed prior to 1992. Historical maps and recent prospecting observations indicate that individual quartz-carbonate-arsenopyrite-sphalerite veins in these areas trend  $\sim 340^{\circ}$ - $010^{\circ}$  and dip steeply to the east and west (predominantly  $60$ - $80^{\circ}$  west). However, it is unknown if these vein orientations are representative of the overall mineralized zone, or if they form an en-echelon or conjugate vein set within a structural corridor following some other trend. For example, the alignment of the Boundary North and South zones suggests a mineralized trend of  $\sim 340$ - $350^{\circ}$ , but topographic lineaments identified by Oliver and Walcott (2016) trend east to NE and may be suggestive of underlying fault geometry. Anomalous soil geochemistry also extends NE along these drainages, but this may be strongly influenced by down-slope dispersion of elements from the source in the steep gullies.

Careful mapping and trenching will be required to determine the optimal drill orientation. Past efforts at drilling on Boundary South (two holes in 1990 & 1991) failed to intersect mineralization of a similar tenor and grade to that noted in surface trenches. Likewise, 2015 drilling at Boundary North did intersect mineralization but over narrow intervals, e.g. 2 m grading 3.32 g/t Au and 1.14 m grading 10.5 g/t Au in hole S15-065. All three holes drilled at Boundary were targeted toward a surmised north-trending, steeply-dipping mineralized panel, and may not have been optimally oriented if mineralization is controlled by NE-trending, NW-dipping zones.

Host rocks may have a significant influence on the orientation of mineralized zones at Boundary. 2015 drilling intersected a significant volume of feldspar porphyry (FP) volcanic/dyke rock, situated between the Central Zone and the Boundary area, which seems to be largely unmineralized. The FP is silicified and significantly harder and more competent than the tuffs, and has not undergone the same degree of fracturing as its host. Mineralization may be influenced by the competency contrast between the rigid feldspar porphyry and the host tuffaceous volcanic rock, leading to the development of veins sets around the margins of the FP body.

In addition to narrower, high-grade zones, historical drilling and surface trenches indicate that Boundary has the potential to host lower-grade, bulk-tonnage mineralization over widths of at least 30-50 m. Both types of mineralization are more likely to occur in the tuffaceous volcanics east of the FP body than within it, though the contact zone is prospective for higher-grade gold.

## **Road Zone**

The Road Zone is located about 140 m east of the Central Zone, with the main showing appearing in the same gully as Boundary North just east of the old drill road. The showing is fairly well exposed in the gully, but could be improved with a little overburden removal. At least two historical trenches (#18 & 23) seem to have sampled the Road Zone north and south of the

gully, returning sporadic high-grade values and several wider intersections in the range of 1-2 g/t Au over several metres. One 2015 drill hole, S15-047, was specifically targeted beneath a number of quartz-arsenopyrite veins exposed in the south wall of the gully, but failed to intersect significant mineralization. The arsenopyrite veins were not seen in drill core, and the best result was 0.85 g/t Au over 2 m. However, on surface, grab and trench samples were recovered that assayed over 10 g/t Au. Additionally, soil geochemical results show a strong Au-As signature that seems to originate from the area around the showing.

Historical mapping suggests that the Road zone is underlain by ash tuffs and feldspar porphyry, and may occur along the western contact of the FP body. Currently, the showing is poorly understood, and it is unknown if it is part of a more contiguous mineralized zone. However, 2015 drillholes S15-035 and S15-037 may have intersected the top part of the Road zone in the near-surface, with moderate to strong gold values intersected from surface down to a depth of around 45 meters. S15-035 intersected 18 metres grading 0.54 g/t Au, including 2 m grading 2.55 g/t Au, and S15-037 intersected 20 metres grading 1.07 g/t Au, including 4 m grading 3.15 g/t Au.

Careful mapping and trenching will be required to determine the width and orientation of mineralized structures at the Road zone prior to drilling. As with the Boundary zone, the Road zone seems to trend around 340°-350° with a steep to westerly dip, but at this point it is unknown if there are any other controlling structures in the area, such as NE trending faults which may underlie gullies in the area.

#### **4440 Zone**

The 4440 showing is located about 200 m NE of the northernmost drilling at the Central Zone, in the prominent “Monzonite Creek” gully just north of the old drill road. The showing is about 300 m north of the core shack bench. Historical and 2015 prospecting grab samples returned consistently high gold values, ranging from 2 g/t Au to just under 20 g/t Au. The showing is largely covered by overburden that displays a strong Au-As in soil geochemical signature surrounding and extending downslope from the occurrence.

Other than limited mapping and prospecting, not a great deal of historical work was completed on the 4440 showing. No trenches were established, and no drilling was completed. The showing is briefly described as a series of NNW-trending quartz-arsenopyrite ± tetrahedrite veins that are intermittently exposed over a strike length of about 40 m. The width of the mineralized zone is not known, but it is likely to be a narrow, high-grade structure.

Geological mapping by Jim Oliver shows that the 4440 showing is situated just east of the monzonite contact, and is hosted in quartz-sericite-altered tuffaceous volcanic rocks. Several NW-trending faults were mapped in the gully walls that pass within 20 m of the showing; these structures are expressed as topographic lineaments, and may provide a structural context for mineralization in the area.

More work is needed before the 4440 showing can be drilled with confidence, but the geological and structural settings are favourable for high-grade gold mineralization associated with either



the monzonite contact or the NW-trending fault zones. Unlike the Central Zone, soil samples around the 4440 showing are not particularly rich in copper, and are dominated by Au and As. This suggests that underlying mineralization may be confined to narrow, high-grade quartz-sulfide veins.

The area should be mapped and trenched in 2016 to determine if it has the potential for economically significant mineralization.

## **HC Showing**

The HC target is located about 360 m east of the southern part of the Central Zone and 180 m east of the 2015 camp site. Bedrock exposure is poor, as the showing occurs in the middle of a scree slope, but overburden is thin and can be easily scraped away from near-surface outcrops. Despite its proximity to the historical camp, this showing does not seem to have been investigated in any great detail. There are no records of mineralization on historical maps, and no trenches were established in the immediate area.

Prospecting in 2015 uncovered several quartz-arsenopyrite veins in the area, but prospectors were unable to determine the orientation of these structures due to highly weathered, degraded rock at surface. Two grab samples taken from strongly mineralized vein material assayed 17.4 g/t Au and 52.5 g/t Au with > 1% As. 11 other grab and chip samples assayed 0.3-1.1 g/t Au. A strong Au-As-Sb(-Zn) soil anomaly extends downhill from the area of mineralization.

Bedrock geology is poorly understood, but the showing may be located near the eastern contact of the feldspar porphyry body that outcrops on the camp bench. The orientation of this contact is unknown at present. Grab samples collected in 2015 extend along a rough N-S axis, but this may be a function of bedrock exposure rather than true orientation. Weak lineaments in the area trend ENE to NE, and may be a surface expression of underlying faults. Careful bedrock mapping and trenching will be required to determine the extent of mineralization in the area, and whether it has the potential to extend beyond the area sampled in 2015.

## **JO Showing**

The J.O. zone is hosted in a bedded, siliceous siltstone that is exposed for about 8 to 10 m in length and 1.5 m in thickness. This area is weathered with a strong orange-red gossan that is atypical of any other outcropping in the entire canyon area. The J.O. zone is mineralized with a series of “stacked”, high grade quartz-arsenopyrite-chalcopyrite-galena-sphalerite veins that are concordant to the bedding of the sediment unit (strike about 250°, dip 40 NW). The veins, in the context of the outcrop, appear to occur along bedding planes of the sedimentary host. The veins vary in thickness from a maximum of 4 cm (hanging wall) to a minimum of 0.2 mm with the average being 2-3 cm in thickness. The mineralized vein material can be readily traced along the strike of the outcrop zone. The frequency of the veins varies, but on average they occur every 15 to 20 cm over widths of up to 1.5 metres. In addition, the outcrop in the mineralized zone is moderately fractured with a pervasive red oxide on the fracture planes. A strong fracture or joint

set near perpendicular to the bedding and vein attitudes was observed and measured to be 306/90 but these fractures did not contain any vein or sulphide material.

The unaltered sediment unit immediately above the showing area is more intensely fractured but not gossanous and is barren of quartz veining or sulphide mineralization. The gossanous zone that hosts the quartz veins is truncated by overburden on both to the SW and NE portions of the exposure and is bounded by the creek a few meters downslope to the S.E. Lineament analysis identified a linear structure running ENE along this creek which may be a fault related to mineralization.

Grab and chip samples collected from the JO showing in 2015 returned assay values ranging from 2.14 to 25.9 g/t gold, 15.7 to 63.0 g/t silver, and 2150 to 9200 ppm copper. All samples returned arsenic values over 1% As.

The soil geochemical signature around the JO showing is dominated by Au and As, with subordinate Pb-Sb-Zn. The anomaly is about 400 x 120 m in area and is oriented roughly NE-SW. The presence of anomalous Au and As in soils up-slope from the showing suggest that other mineralized veins may occur beneath the overburden.

### **300 Colour**

The 300 Colour zone is located about 400 m west of the Central Zone, with the main outcropping area occurring along an old road. Limited mapping in 2015 indicates that mineralization occurs as quartz-arsenopyrite veins enclosed in heavily sheared and altered tuffaceous volcanic rocks. Rock fabrics in the area trend about 150°-160° and dip moderately to steeply west. The roadcut contains a 5 m-wide west-dipping monzonite dyke, with mineralized veins above and below the dyke. Strong topographic lineaments were noted on Lidar images by Oliver and Walcott (2016), which trend subparallel to the measured local fabric.

Soil sampling has shown that the 300 Colour zone is one of the strongest geochemical anomalies on the property, with consistently high Au-Ag-As-Sb-Pb values over an area of about 400 x 150 m. Elevated soil values extend downslope from the mineralized area, and are obscured by the Edziza basalt cap to the south, where it seems likely that the mineralized trend continues southward below young volcanic cover.

Historical trenching uncovered a broad zone of mineralization, with trench T-06 returning an uncut composite of 4.27 g/t Au over 19 m. This included three 1 m intervals that assayed 7.25 g/t, 11.8 g/t, and 52.4 g/t Au, with the remaining 16 samples assaying between 0.1-2.37 g/t Au. Copper was not assayed. Historical drilling beneath the trench (S90-44) returned two high-grade intervals of 5.59 g/t Au over 2.1 m and 29.45 g/t Au over 0.35 m. These high-grade intervals are contained within a broad low-grade Au halo averaging 0.92 g/t Au over 36.4 m, inclusive of the higher values.

2015 drill hole S15-068 was collared about 60 m SW of S90-44 and drilled a section about 50 m down-dip of S90-44. S15-068 intersected the same broad low-grade interval as that seen in S90-

44, though at a lower grade of 0.5 g/t Au over 22 m. Closer to surface, and to the west of S90-44, the 2015 drill hole intersected a second broad zone of mineralization averaging 1.15 g/t Au over 52 m. Copper assays are generally low, suggesting that the 300 Colour Zone is a gold-dominated system.

The 300 Colour zone has good potential for a bulk-tonnage gold resource. The mineralized trend on surface is obscured to the south by the Edziza basalt cap, but seems likely to continue beneath cover. IP geophysics may be the best method of generating drill targets along this trend, as conventional geochemical methods are unable to see beneath the basalt cap.

## **West Gossan**

The West Gossan area is located 350 m west of the 300 Colour zone and 800 m west of the Central Zone. The showing is located on a steep, rusty ridge that extends northwards from the edge of the basalt cap. Soil sampling in 2015 identified a strong Au-Cu-Ag-As-Pb-Sb-Zn geochemical anomaly in the area that measures about 630 by 230 m.

Historical work, including prospecting and trenching, was completed in 1989 and 1990 by Cominco and Columbia Gold Mines. Three trenches (T-01, 02, and 03) were established to determine the source of high gold values in “talus fine” soil samples collected down-slope. All three trenches intersected gold mineralization, though the highest assay (from T-03) was 3.8 g/t Au over 1 m. Trenches T-02 and T-03 returned values of 0.42 g/t Au over 13 m and 0.61 g/t Au over 34 m, respectively. Trench mapping indicates that veins are oriented 155°-175°, dipping 50°-80° SW. Cross fractures trend roughly E-W and dip 50°-60° north. The host rock seems to be largely composed of weathered pyritic tuff. No drilling has yet been completed in this area.

Prospecting in 2015 identified a number of quartz-carbonate veins along the ridge, though most returned gold values < 0.1 g/t Au. However, on the NE side of the ridge, a cluster of higher grade samples were collected in the hangingwall of a NW-trending normal fault mapped by Jim Oliver. Six samples from this area returned assay values ranging from 1.29 g/t Au to 37.2 g/t Au. All of the higher-grade samples were obtained from quartz-carbonate veins that contain > 10% sulfide material by volume.

The West Gossan may have potential to host bulk-tonnage mineralization, but more work is needed before the area can be drilled with confidence. Initial work in 2016 should include detailed follow-up prospecting and geological mapping, with special attention paid to alteration assemblages, veining and structure. An IP geophysical survey should be considered prior to drilling.

## **Southwest Gossan**

The Southwest Gossan forms the southerly extension of the West Gossan and has a different geochemical signature dominated by Au and Cu. The small anomaly (110 by 110 m) likely extends beneath the young basalt cap to the south. No significant prospecting or mapping has been completed in this area, though it is noted as “Anomaly B” on historical Columbia Gold

Mines maps. The strength of the gold in soil anomaly (average 1202 ppb Au) may be an indication of a buried high-grade vein in this area that is worthy of follow-up investigation.

## **Fog**

The Fog showing is located about 400 m west of the West Gossan and 1200 m west of the Central Zone. The showing is exposed on a series of steep, strongly gossanous outcrops which are situated in the hangingwall of a WNW-trending normal fault mapped by Jim Oliver. Geochemically, the Fog showing is characterized by a relatively small (350 by 200 m) but strong Au-As-Pb-Sb-Zn soil anomaly that extends to the Edziza basalt cap to the south.

Several trenches were excavated in 1990 by Columbia Gold Mines (T-35 to T-40). Assay results were generally < 0.1 g/t Au, with the best result being 7.62 g/t Au over 0.76 m in T-35. Few details of trench mapping are recorded in historical reports, but higher-grade intervals seem to be associated with altered fracture zones oriented at roughly 130°-150°, and dipping 65°-80° SW.

One drill hole was completed at the Fog showing by Cominco in 1989. Lithological logs for S89-38 indicate that bedrock is composed of a mixed package of ash and crystal tuffs intruded by narrow monzonite dykes. One major fault zone with associated alteration and vein mineralization was intersected at a depth of about 89 m. Assays over this structural zone returned values of 40.8 m grading 1.03 g/t Au including 2 m @ 9.18 g/t Au. Alteration is characterized by increased silica and K-feldspar, comparable to higher-grade intervals in the Central Zone. Interestingly, drill logs show an increase in biotite hornfels alteration away from the mineralized interval, which is also a characteristic of the Central Zone.

Unlike the Central Zone, though, no broad, low-grade porphyry-style Cu-Au mineralization has yet been identified in the Fog area, and the copper signature of soil samples is relatively weak compared to the Central Zone. This may indicate that the Fog showing is more of a narrow, high-grade target than a bulk-tonnage target. Based on the evidence from trenching and drilling, mineralization may be confined to the north-dipping normal faults mapped by Jim Oliver, and splays thereof.

## **Far West**

The Far West area is a recent discovery identified through soil geochemistry in 2015. The area is characterized by two large lobes containing elevated Mo and Cu in soils (30-437 ppm Mo, 200-1080 ppm Cu). The eastern lobe is about 180 m NW of the Fog showing, and the western lobe is another 250 m further west. Both lobes are around 700 by 200 m in area and extend southerly towards the Edziza basalt cap to the south, where they are cut off. Rocks are mapped as Stuhini volcanics with moderate quartz-sericite alteration.

Only 3 rock samples have been collected in this area, and one of these had weakly anomalous Cu (459 ppm). No drilling or trenching was completed by historical operators.

The soil geochemistry of Far West is unique on the property in that it is dominated by Cu and Mo, with little to no Au. The anomaly may be indicative of a buried Cu-Mo porphyry. Detailed mapping and prospecting should be completed.

## **East Creek**

In 1991, Columbia discovered the East Creek Zone 400 m southeast of the Hawk vein and drilled 3 diamond holes (Figure 7-13). The best result from this drilling was 2.6 m grading 34.45 g/t Au in one hole, but grades in the other two holes were significantly lower with the next highest value being 2.58 g/t Au over 0.2 m in hole S92-88 (Norman, 1992). East Creek was considered to be an offset strike extension of the Central Zone mineralization at Spectrum, but continuity was not proven. Several high-grade outcrop and boulder samples were collected by historical prospecting, which exceeded 40 g/t Au; all of these grab samples were recovered from higher elevations to the north of the drilled area. Skeena prospectors recovered three outcrop samples exceeding 20 g/t Au north of the drilled area in 2015, where they coincide with a NW-dipping fault. Historical soil sampling identified an area to the northeast of the East Creek zone which contains patchy elevated gold in soil values > 200 ppb Au, but these values will need to be verified by modern soil sampling before they can be followed up on.

## **Hawk Vein**

The main outcropping vein at Hawk (Figure 7-13) is a narrow mineralized structure exposed on surface over a strike length of approximately 200 metres and ranging in width from 0.5-1.5 metres. Historical surface sampling across the zone (Torbrit Silver Mines Ltd., 1957) returned average values of 25.7 g/t gold and 53.6 g/t silver, with maximum values of 426 g/t Au and 389 g/t Ag. Individual mineralized veins are reported to range from less than 10 cm to approximately 1.2 m in width.

A small exploration drift was constructed in the late 1970's to test the depth extents of veins found on surface. Mineralization in the drift was about 70% lower grade than seen at surface and narrowed to widths of less than a metre. Mineralization was considered too narrow and low-grade to warrant further work and there has been no drilling on the vein since 1980. A single historical soil line with anomalous Cu and Au in soil occurs about 600 m west of the Hawk Vein, and may be indicative of vein or porphyry Cu-Au mineralization. More work is needed to determine the prospectivity of the area.

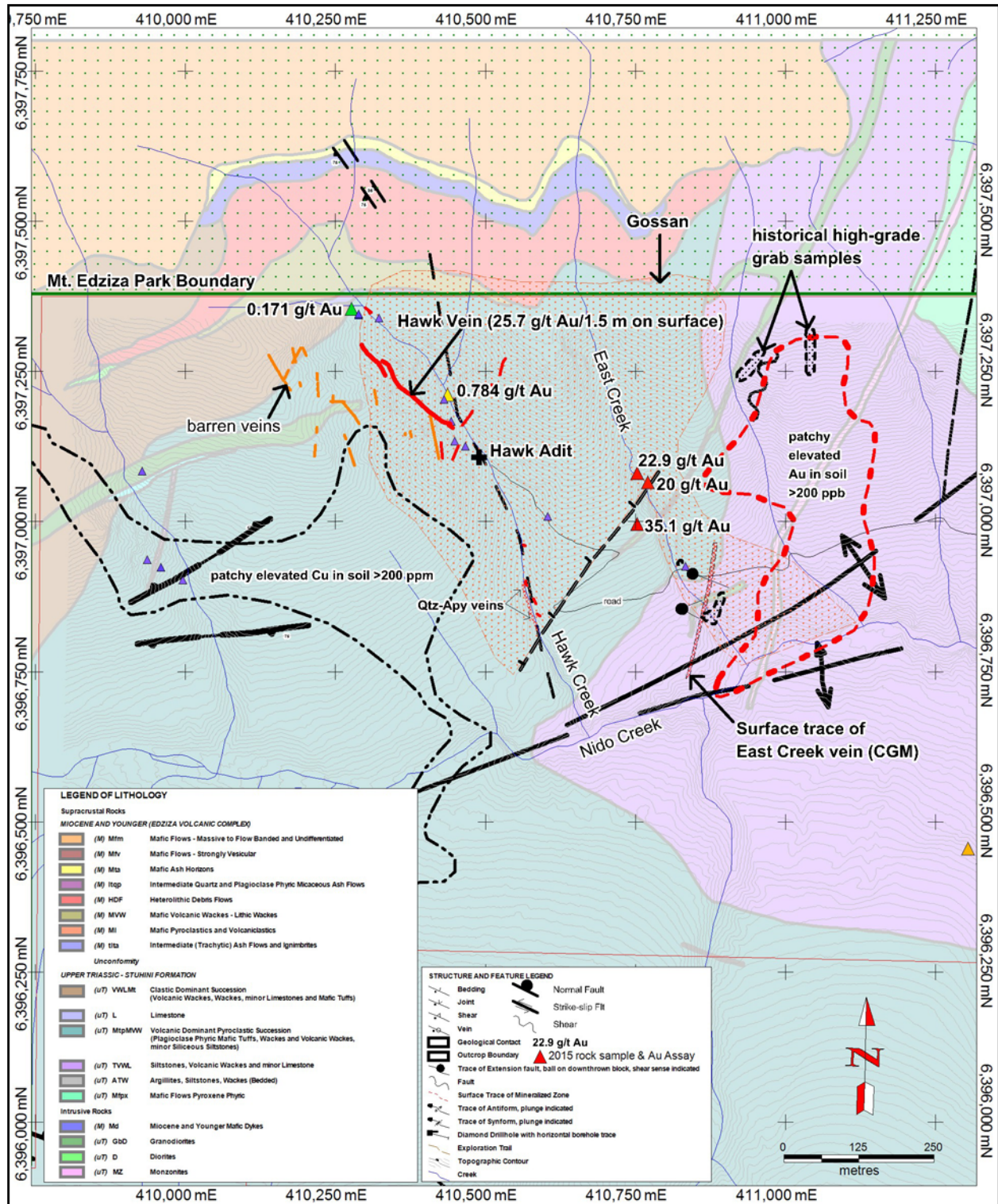
## **West Creek-GR**

West Creek is located about 3.7 km SW of the Central Zone, on the north side of Tennaya Creek and south of the Edziza basalt cap. The showing is poorly exposed, occurring only in a narrow exposed section along a steep gully. Topography is quite rugged. The GR showing occurs another 470 m to the east.

Limited work was completed historically in the area, including soil sampling, prospecting, and the excavation of one short trench in 1990 (T-46). One sample from this trench returned an assay

of 202.7 g/t Au over a 0.76 m shear zone. Historical and 2015 prospecting notes indicate that mineralization at West Creek is related to a series of E-W trending fracture or shear zones that dip moderately to steeply north. Individual zones range from < 1 m to several metres in width. Grab and chip samples taken in 2015 assay up to 5.5% Cu and 15 g/t Au, over an area that may be 30-50 m in width. Due to poor exposure, the lateral extent of these mineralized structural zones is unknown at present, as is the continuity between the West Creek and GR showings.

A small soil grid comprising 98 samples was completed over the West Creek showing in 2015. Results show some elevated Zn, Pb, Ag, Cu, and Au in soil. A compilation of soil results indicates a SE-trending band of elevated Cu values between the West Creek and GR showings, possibly indicating continuity between the two showings. Additional prospecting, soils and geological mapping is recommended.



**Figure 7-9: Hawk Veins and East Creek Zone (Geology after J. Oliver, 2015).**

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016



## 7.11 Discussion of Mineralization

It is the opinion of the authors that characteristics of alteration style and the close association of gold with known intermediate-felsic intrusive bodies indicate that an intrusion-related porphyry-mesothermal model is applicable to the Spectrum deposit. There appears to be a broad structural-lithological control on the high-grade parts of the Central Zone, which are thought to be roughly parallel to the contact of monzonite and country rock volcanics. The contact is interpreted to be a zone of structural weakness, either due to the competency contrast between intrusive and volcanic rocks, or because the intrusive was emplaced along a pre-existing fault. In either case, brittle to ductile fracturing of the contact zone likely allowed ingress of hydrothermal fluids sourced from an underlying intrusive body (Mason, 2005), resulting in the observed intense potassic alteration and sulphide-gold mineralization.

Significant mineralization has currently been defined along a strike length of about 650 metres to a depth of ~400 metres below surface, and remains open in all directions. With some infill drilling, historical results suggest that the zone could be extended another 600 m further south toward the Skarn showing. Due to the similarities between the Spectrum Property and other significant Cu-Au resources in the area (e.g. Red Chris, GJ, Schaft Creek, among others), the Authors interpret mineralization at Spectrum to represent the upper part of a composite porphyry-mesothermal vein hydrothermal system. The presence of numerous alteration zones elsewhere on the property accompanied by elevated soil geochemistry suggests that the Central Zone is merely one small part of a large property-scale magmatic-hydrothermal system.

The author and Qualified Person has not verified the resources, reserves, or geology of other deposits in the region (e.g. Red Chris, GJ, Schaft Creek, etc.), and cautions that the resources, reserves, and geology of other deposits in the region are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

## 8. Deposit Types

Mineralization at Spectrum is considered to be a “porphyry-style” occurrence with associated gold-rich high-sulfidation mesothermal or “lode” veins that crosscut earlier, lower-grade Au-Cu mineralization. Mineralization is spatially and genetically related to a Late Triassic to Early Jurassic monzonite intrusion of alkaline affinity. Currently, the primary exploration targets comprise the low-grade porphyry-type Cu-Au zones, as well as the narrower high-grade veinlet stockworks associated with and in some cases peripheral to porphyry mineralization.

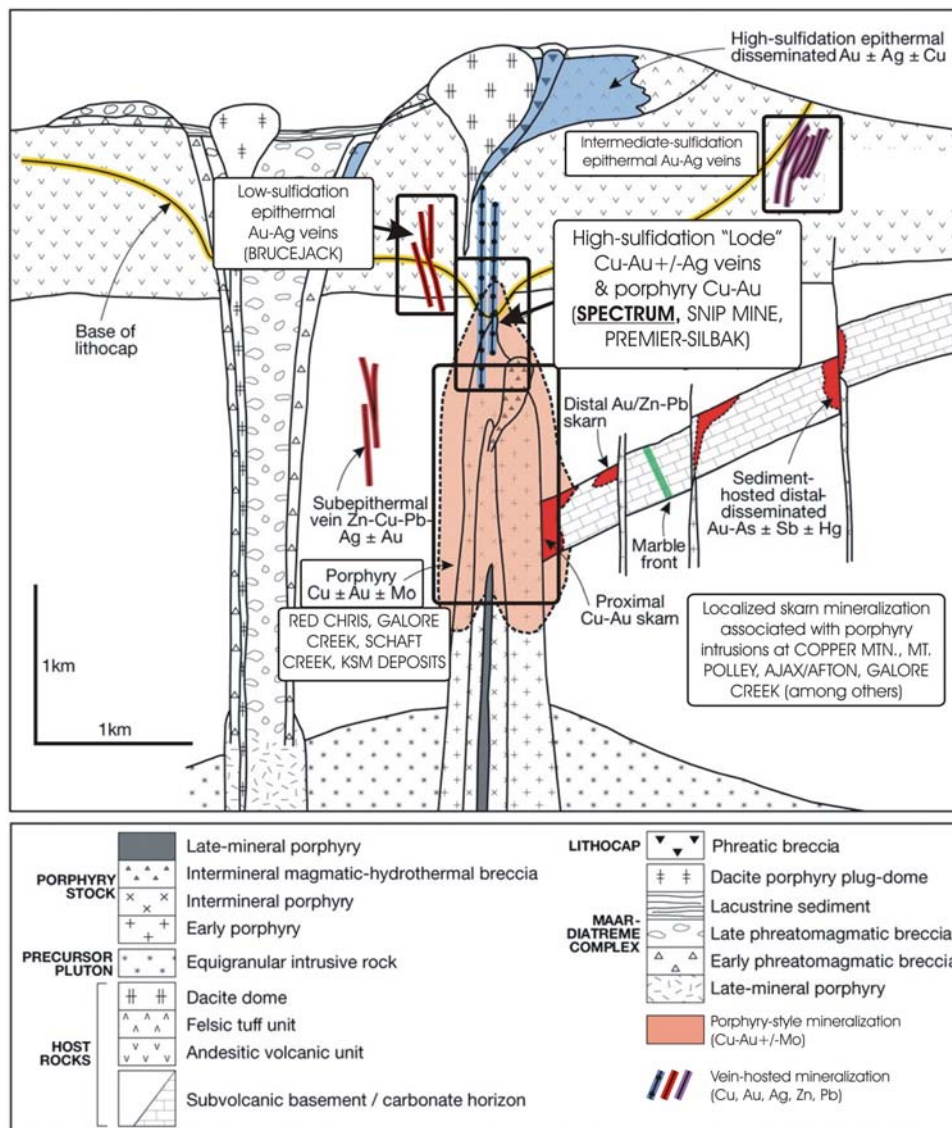
Porphyry deposits are typically large, low- to medium-grade deposits in which primary ore minerals are dominantly structurally controlled, and which are genetically and spatially related to felsic-intermediate porphyritic intrusions (Figure 8-1). They differ from other granite-related deposits such as skarns and mantos in their large size and distribution of ore minerals in stockworks, veins/vein sets, fractures, and in breccia (Sinclair, 2007), rather than as irregular replacement masses. The range of primary commodities present in porphyry deposits includes Cu, Mo, Au, Ag, and Sn.

Porphyry deposits typically contain hundreds of millions of tonnes of ore, and range in size from tens of millions to billions of tonnes. Ore grades are generally less than 1%, and can vary considerably but production grades in B.C. are typically less than 0.5% Cu. For example, porphyry Cu deposits world wide range from approximately 0.2% to over 1% Cu and porphyry Mo deposits range from 0.07% to 0.3% Mo (Sinclair, 2007). However, these figures are skewed somewhat by production from supergene resources. Deposits in B.C. are unlikely to exhibit sufficient weathering to form supergene deposits of significance. In porphyry Cu-Au deposits, Au grades range from 0.2 g/t to 2 g/t Au. Despite their low grade, individual orebodies can measure hundreds to thousands of metres in three dimensions (Sinclair, 2007), leading to extremely large deposits containing very large quantities of metal, and as a rule are economically desirable because grade can be relatively consistent and reliable.

The overall morphology of individual porphyry deposits is highly variable, and may form irregular, oval, “solid”, or “hollow” cylindrical and inverted cup shapes around the tops of porphyry intrusions (Sinclair, 2007; references therein). Orebodies usually occur as isolated masses within larger porphyry districts, but they may also be composed of two or more superimposed or stacked zones of mineralization within a single deposit. When porphyry systems are superimposed, ore grades are markedly higher than in isolated systems due to the fact that multiple pulses of mineralization occur over time in the same volume of rock. Porphyry deposits are commonly zoned in three dimensions, often with barren cores and roughly concentric metal zones that are surrounded by barren pyritic haloes, with or without peripheral base- and/or precious-metal veins.

As depicted in Figure 8-1, porphyry-style mineralization tends to be concentrated around the top (or “cupola”) of sub-volcanic intrusions that are ultimately sourced from a larger magmatic body at depth. The tops of these intrusions are emplaced at mid- to upper crustal levels, and the intrusive body usually extends several kilometres downwards where it may or may not be contiguous with the parent pluton or batholith. Fractional crystallization in the parent magma

causes incompatible metallic elements such as Cu, Au, Ag, Mo, Sn, Zn, and Pb (among others) to be concentrated in hydrothermal fluids that collect in the cupola of the high-level intrusions. Brittle deformation (e.g. fracturing) causes a release of these metal-charged fluids into the surrounding rock, resulting in the formation of mineralized breccias, stockworks, and vein sets around and within the host intrusion. Brittle deformation may occur as a result of local- to regional-scale tectonic deformation (e.g. faulting or shearing) or through fluid overpressure (hydrofracturing) in the cupola of the intrusion. Regardless of the mechanics of brittle fracturing, metallic minerals are likely deposited due to a sudden loss of confining pressure, which in most cases greatly reduces the solubility of metals in hydrothermal fluids.



**Figure 8-1: Model diagram of an ideal porphyry-epithermal system indicating the setting of various mineral deposits in northwestern British Columbia.**

*Modified from Figure 6 of Sillitoe (2010).*

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

The author and Qualified Person has not verified the resources, reserves, or geology of other deposits in the region, and cautions that the resources, reserves, and geology of other deposits in the region are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

The various types of mesothermal to epithermal vein-hosted deposits (Figure 8-1) are intimately associated with porphyry systems, in that the fluids that form these high level veins are ultimately sourced from the same intrusions responsible for porphyry mineralization at deeper crustal levels (Taylor, 2007). In the case of high-sulphidation “Lode-type” mesothermal veins, mineralization may be peripheral to, or superimposed upon, older and lower-grade porphyry style mineralization. These veins are often zoned in the vertical dimension, in that they contain relatively more precious metals at higher structural levels and relatively more base metals at deeper levels (Taylor, 2007). Intermediate- and high-sulphidation epithermal veins occur at higher structural levels above the porphyry system and tend to be enriched in precious metals relative to low-sulphidation veins.

The emplacement of lode-style and epithermal veins is controlled by local structures such as faults, shears, and fracture zones, which are typically located along zones where bedrock undergoes a change in rock competency. Competency contrasts usually exist along lithological boundaries (e.g. bedding, dykes) or altered areas such as zones of silicification. These structures may have formed prior to, or contemporaneous with the emplacement of the porphyry intrusion(s) and their orientations are likely controlled largely by local stress regimes.

In terms of tectonic setting, mineralization style and alteration assemblages, Spectrum is similar in nature to lower-grade Cu-Au alkali porphyry deposits in the same geological region such as GJ, Red Chris, and Galore Creek. As drilling to date has shown, Spectrum seems to have a higher ratio of gold to copper than those deposits, but may nonetheless be considered part of a similar mineralising system. Figure 8-1 shows a schematic of the styles and setting of mineralization related to alkali magmatism, with the possible position of Spectrum and other deposit in the region indicated. The author and Qualified Person has not verified the resources, reserves, or geology of other deposits in the region, and cautions that the resources, reserves, and geology of other deposits in the region are not necessarily indicative of the mineralization on the Property that is the subject of this technical report. The main inference from this diagram is that Spectrum could conceptually be the upper part of a larger porphyry-style system at depth, and as such has good potential both for deep extensions of known gold zones and for a significant low-grade porphyry-style Cu-Au resource.

## **9. Exploration**

In the period from September 2014 to October 2015, Skeena Resources Ltd. completed exploration work on the Spectrum Gold Property. The scope of work included: a geohazard assessment study; archaeological investigation; geological mapping; prospecting; soil and rock geochemical sampling; GPS surveying; an airborne Lidar topographic survey; diamond drilling; core logging; and core sampling. Long-term environmental monitoring and engineering studies

were initiated in 2015 and are ongoing. Skeena also commissioned bench-scale metallurgical test studies to determine gold recovery (see Chapter 13).

This section presents the results of ground investigations not including drilling. Drill results are summarized in Chapter 10.

## **9.1 Geohazard Assessment**

In June 2015, Skeena Resources commissioned J. W. Schwab, P. Geo, Eng. L. to complete a geohazard assessment study of the property. Mr. Schwab observed and reported a number of terrain stability hazards on the property, including debris-flow channels, rockslides, slump-slides, and snow avalanches. Terrain features suggest that the majority of these mass-wasting events occurred in the distant past; however, snow avalanches are a persistent hazard in winter and slope stability can be drastically reduced by intense rainfall events. Schwab made several recommendations to ensure safety of workers and equipment on site.

## **9.2 Archaeological Impact Assessments**

Archaeological Impact Assessments (AIAs) of selected areas on the Spectrum Property were completed in June and September, 2015, by Rescan-Tahltan Environmental Consultants Ltd. (RTEC), with offices in Vancouver and Dease Lake. The purpose of the AIAs was to clear areas for future work. The main areas designated for AIA included the camp and core shack benches, the drill area, the old drill road, and potential laydown/campsite areas in the valley closer to Nuttlude Lake. Three minor archaeological sites were previously known on the site, comprising small areas of obsidian chips. These occur away from the mineralized zones and are avoided by surface work.

No archaeological materials were identified within the proposed work areas in and around the Central Zone, and Skeena was cleared to begin construction work and drill operations by late June, 2015. All work was completed under the direction of an archaeological chance find procedures (CFP). No artifacts or other archaeological sites were recognized by Skeena personnel in 2015.

## **9.3 Prospecting**

Prospectors and geologists were tasked with identifying and locating surface expressions of mineralization, including gossans, veins, and mineralized float. In their field notebooks, they recorded GPS coordinates and described the salient features of the mineralized occurrence. Where possible, a grab sample or chip sample was obtained for assay.

For clarity the word “grab sample” refers to prospecting samples, collected in a random or irregular manner, of rock, which appears to the sampler to be prospective. “Chip” samples comprise small pieces of rock taken from across the width of a mineralized outcrop. Assays for chip samples are reported as “grade over interval”, e.g.  $x$  g/t Au over  $y$  metres. Chip samples can range from less than a metre to several metres in length. Implicit in these types of samples is that

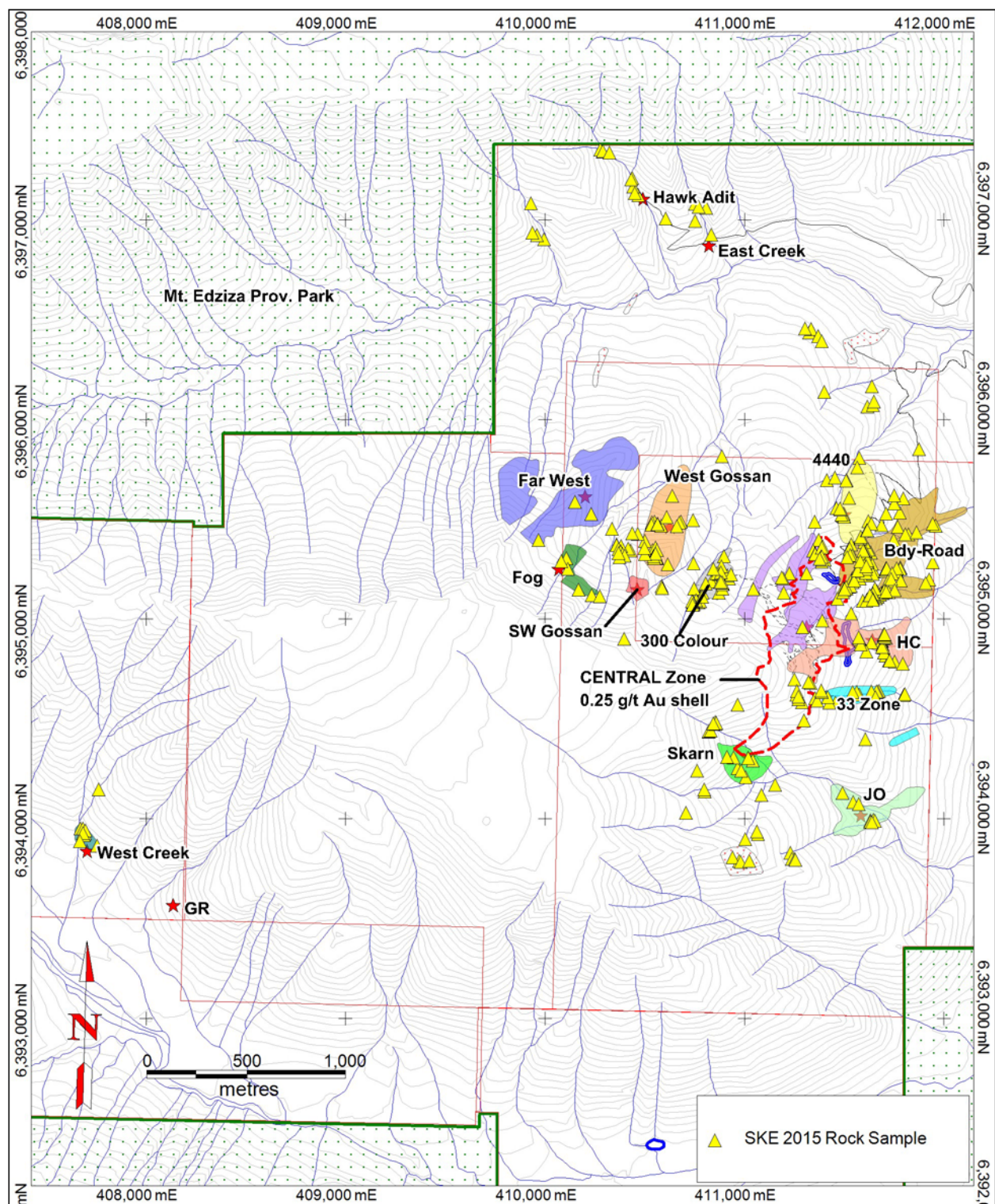
they may not be indicative in analysis or grade of the overall grade of the body being sampled. They are collected merely to establish if the elements of interest are present or not. There is no attempt in their collection to establish overall grade, width or continuity of the occurrence being sampled and so there is no guarantee that these results can be inferred for the whole mineral occurrence or body of rock being sampled. The samples typically weigh between 1 and 5 kg and are broken off of mineralized outcrop or subcrop with a hammer. No standards or duplicates were inserted into the grab sample stream, but internal laboratory QAQC results indicate no issues with the analyses.

An area of approximately 4.5 km<sup>2</sup> was prospected around the Central Zone, between June and October 2015, including all of the showings detailed in Chapter 7.4: Outlying Targets. A total of 379 grab and chip samples were collected from mineralized bedrock, subcrop, and float material, the distribution of which is shown in Figure 9-3. A table summarizing the results of rock sampling around the various showings is presented in Table 9-1 below.

Samples were analysed for gold via 50-gram Fire Assay (FA) and other elements were determined by inductively coupled plasma-atomic absorption spectrometry (ICP-AAS) analysis following aqua regia (AR) digestion. Analyses were completed by Activation Laboratories Limited (ActLabs) in Kamloops, British Columbia.

Prospecting during the 2015 season was successful in confirming and locating the historical showings described in assessment reports, and identified a number of new showings that are worthy of follow-up investigation. Rock sampling at these sites has resulted in a better understanding of the mineral assemblages and metal ratios of mineralization outside of the Central Zone. Several of these showings have been designated as high-priority targets for follow-up due to their potential for bulk-tonnage Au-Cu mineralization. These targets are largely drill-ready, requiring only some trenching and detailed mapping prior to drilling.





**Figure 9-3: 2015 Rock Sample Locations and Areas of Interest**

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

**Table 9-1: 2015 Rock Sample Statistics by Showing**

Showing	# Rock Samples	Au Max ppm	Ag Max ppm	Cu Max ppm	Au Avg ppm	Ag Avg ppm	Cu Avg ppm
Central Zone	37	20.7	141	6630	2.03	12	1152
33 Zone	17	5.04	19.9	1230	0.35	3.04	303
Skarn	16	5.16	143	38900	0.65	20.7	3420
Boundary-Road	110	42.3	126	2810	3.56	6.9	260
4440 Zone	15	9.47	56.2	1730	1.16	7.1	514
HC Showing	28	52.5	8.8	431	2.86	1.1	199
JO Showing	7	25.9	63	9200	16.8	26.7	3981
300 Colour Zone	32	19.8	4.2	413	0.76	0.38	124
West Gossan	43	37.2	544	8170	1.87	19.2	424
Southwest Gossan	none						
Fog	6	0.3	2.3	199	0.1	0.57	128
Far West	3	nil	nil	459	nil	nil	228
East Creek	5	35.1	187	753	15.6	67	378
Hawk Vein	5	0.78	7.7	296	0.16	1.7	167
West Creek - GR	9	15.2	470	55800	4.2	105	15706

## 9.4 Soil Sampling

Soil sampling took place from late June to mid-October, 2015. In total, 2982 soil samples were collected over an area of approximately 3.75 km<sup>2</sup>. The sampling program was designed to confirm historical results and fill in sampling gaps.

Soil grids were designed using a GIS mapping program (MapInfo-Discover) in order to generate “ideal” UTM grid coordinates for each sample. Grid lines were drawn in the E-W direction, with optimum sample spacing of 25 m and a line spacing of 50 m. These points were then uploaded to a hand-held GPS so that field workers could navigate to the location on site.

Soil samples were obtained by removing the top 10-30 cm of overburden using a shovel or mattock. The “B” soil horizon just below the loose scree cover was the targeted sampling material. Samplers scooped up a couple of handfuls of B-horizon soil and, after removing larger pebbles, the finer soil (“talus fines”) and a sample ID tag were sealed in Kraft paper soil sample bags. The outside of the bag was labeled with its unique sample number. In their field notebooks, the samplers recorded information such as grid station number, UTM coordinates, sample depth, soil colour and composition, moisture content, and vegetative cover. At the end of the day, all samples were hung up in camp to air-dry and, once dry, were packed into large poly sample bags and sealed for shipment to the analytical laboratory.

Samples were analysed at ActLabs in Kamloops. Gold was determined by 30-gram Fire Assay (FA). Other elements were determined by ICP-OES analysis following aqua regia digestion.

The soil sampling program was successful in that it defined geochemical anomalies associated with the various known showings on the property, and identified a number of new anomalies for

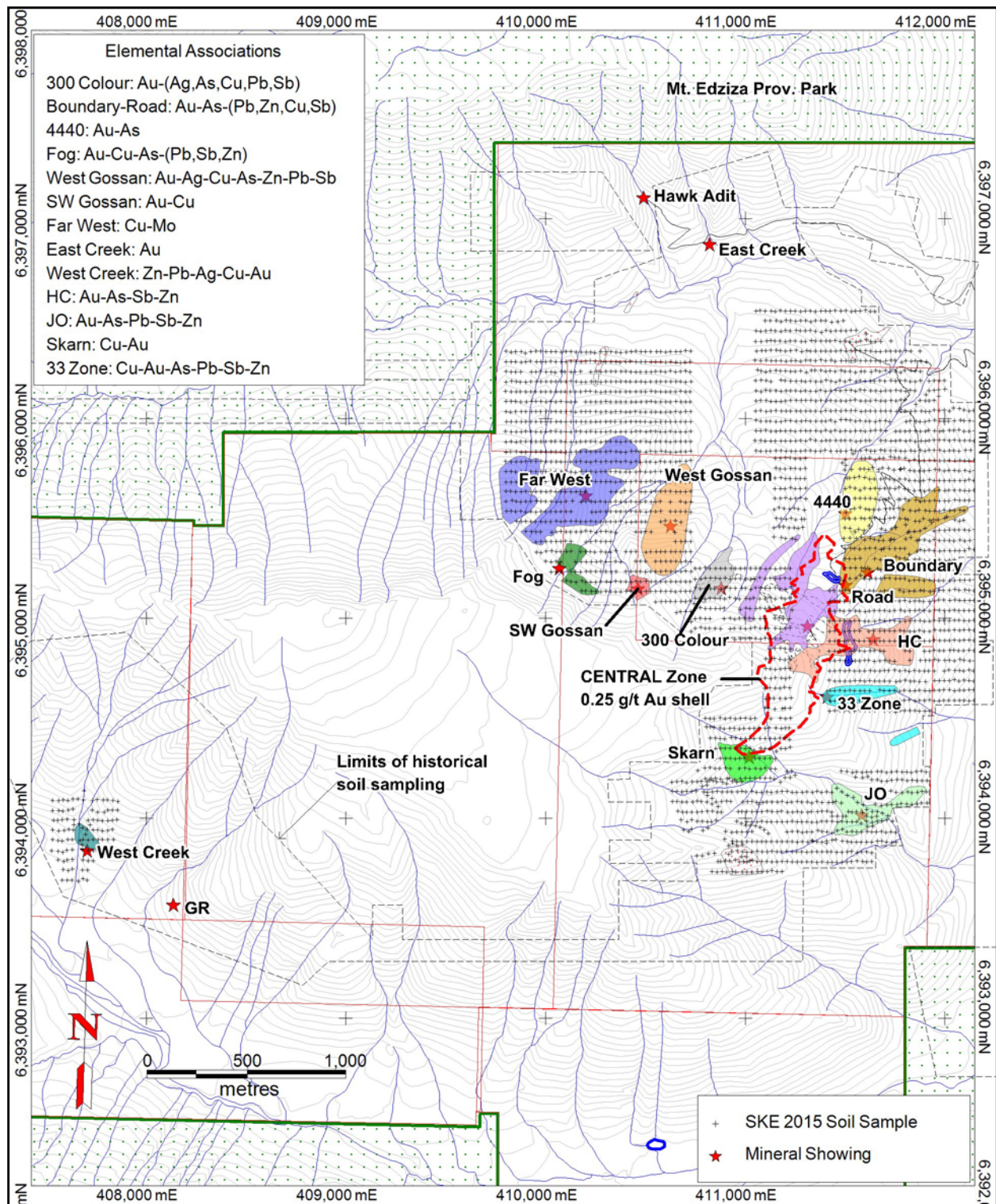
follow-up in 2016. Modern multi-element soil geochemistry has provided better information about metal ratios in soils, and has been useful for determining the type of mineralization that may underlie anomalous areas (e.g. porphyry Au-Cu, porphyry Cu-Mo, polymetallic veins). Additional soil sampling is recommended for future exploration programs, with the goal of filling in gaps and expanding on the current limits of sampling.

Summary statistics of the combined historical and 2015 soil results are presented in Table 9-2 below, grouped by showing. Including historical work, approximately 6854 soil samples have been taken to date on the property. A map showing the 2015 soil sample sites and elemental signatures of the various showings is presented in Figure 9-4.

**Table 9-2: Combined Soil Sample Statistics by Showing**

Showing	# Soil Samples	Au Max ppb	Ag Max ppm	Cu Max ppm	Mo Max ppm	Au Avg ppb	Ag Avg ppm*	Cu Avg ppm**	Mo Avg ppm*
Central Zone	160	64000	39.1	5930	31	1290	0.54	334	2.75
33 Zone	68	1565	20.5	8880	17	134	0.85	420	2.5
Skarn	37	2500	3.6	3490	53	417	0.96	944	9.3
Boundary-Road	170	19500	6.8	1270	60	700	0.96	248	4.9
4440 Zone	79	1850	4.7	830	26	358	0.5	138	2.9
HC Showing	103	2730	39.1	1820	16	403	1.6	246	3.2
JO Showing	50	1520	4.7	605	7	200	1.3	168	2.8
300 Colour Zone	88	>10000	11.1	397	8	1343	0.75	89	1.3
West Gossan	127	2960	12	785	31	408	1.07	191	4.4
Southwest Gossan	19	3700	2.4	445	24	1202	0.8	185	6.3
Fog	34	2400	6	667	19	735	1	215	2.5
Far West	218	681	1.9	1080	437	51	0.5	334	36
East Creek**	285	910	0.6	336	10	80	0.03	41	1.5
Hawk Vein	none								
West Creek - GR	37	1120	50.8	3360	5	82	2.3	177	2.3
* most historical soil samples only assayed for Au and Cu; Ag, Mo averages artificially low due to non-values for historical samples									
**historical East Creek soils only assayed for Au									





**Figure 9-4: 2015 Soil Sample Locations, Areas of Interest, and elemental associations. 2015 soil samples represented by small crosses.**

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

## 9.5 Lidar Survey and Lineament Analysis

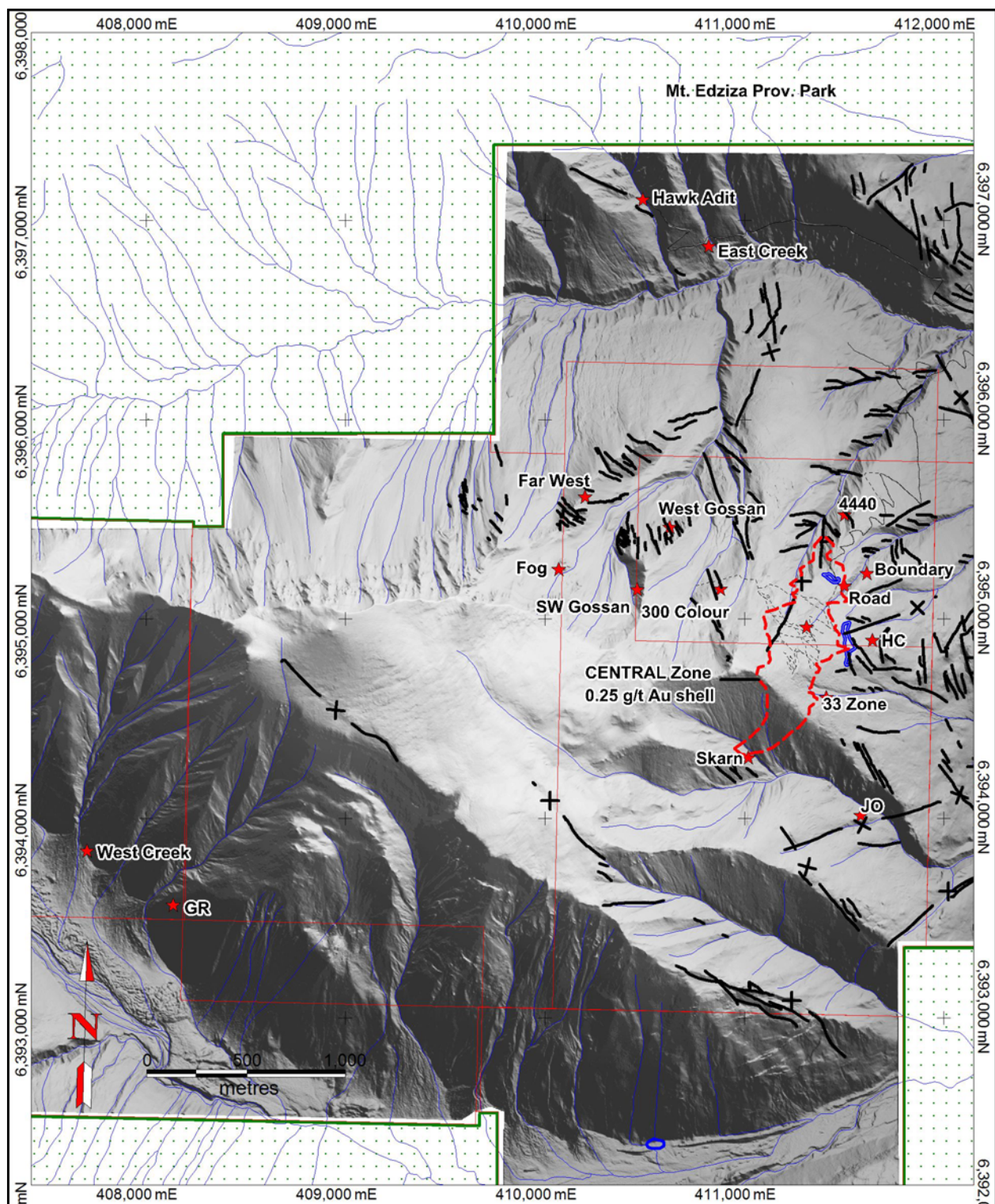
An airborne Lidar™ survey was flown by Eagle Mapping Limited of Port Coquitlam, BC on October 3, 2015. Lidar, short for Light Detection and Ranging, is a topographic survey method that maps the ground surface to a few centimetres accuracy. The survey area included the entirety of the Spectrum property as well as a strip extending southward along a potential access route to Highway 37.

Prior to the Lidar survey, the most up-to-date topographic maps for the property were comparatively crude with contour intervals of 20 m at best. With such a large contour interval, many of the cliffs and other topographic features were not visible. This has an impact on exploration targeting, as topographic variations frequently reflect underlying structural features which may be mineralized. With the new Lidar data, Skeena contractors were able to complete a lineament analysis over the Central Zone and surrounding areas, identifying a number of structures that are associated with the underlying fault geometry of the property (Figure 9-5, Oliver and Walcott, 2016).

Key findings of the lineament analysis include:

- determining the dominant lineament trends associated with mineralization and elevated gold in soil values in Triassic Stuhini Group rocks (northwest-southeast, north-south, and east-west lineaments),
- identifying lineaments that post-date the mineralization event and are therefore not prospective for gold-copper mineralization (northeast trending faults of Neogene age), and
- the interpretation that Triassic fault structures associated with mineralization formed under sinistral transtensional conditions, and that these structures correspond to the classical Reidel model of brittle failure. Transtensional conditions allowed for maximum dilation along northwest-southeast, north-south, and east-west trending structures, which were subsequently exploited by monzonite intrusions and hydrothermal fluids.





**Figure 9-5: Shaded topography from Lidar survey, showings, and interpreted lineaments (heavy black lines)**  
 To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by  
 Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016



## 10. Drilling

Prior to Skeena's acquisition of the Spectrum property in 2014, historical operators had completed 92 drill holes totaling 11,937 metres. Eighty (80) of these holes were drilled in the Central Zone (88% of total historical drilling), with the remainder drilled on outlying targets at East Creek, 300 Colour, Boundary, and Fog. Additionally, nine underground drill holes totaling 430.2 m were completed on the Hawk Vein by Newhawk Gold Mines in 1980.

From October 2014 to October 2015, Skeena completed another 70 exploration holes from 62 separate platforms (19,297 m) and 3 geotechnical holes totaling 461 m. Sixty-eight (68) of Skeena's holes were drilled in the Central Zone (total 18,608 m), one hole was drilled at the Boundary Zone (S15-065, 265 m), and two holes were drilled at the 300 Colour Zone (S15-066 & 068, 424 m). In total, 165 drill holes have been completed on the property to date, amounting to 31,965 metres drilled. These numbers do not include the 9 underground holes (430.2 m) drilled on the Hawk Vein. A map showing the location of drill holes in the Central Zone is presented in Figure 10-1.

The various drill programs are summarized in Table 10-1 below.

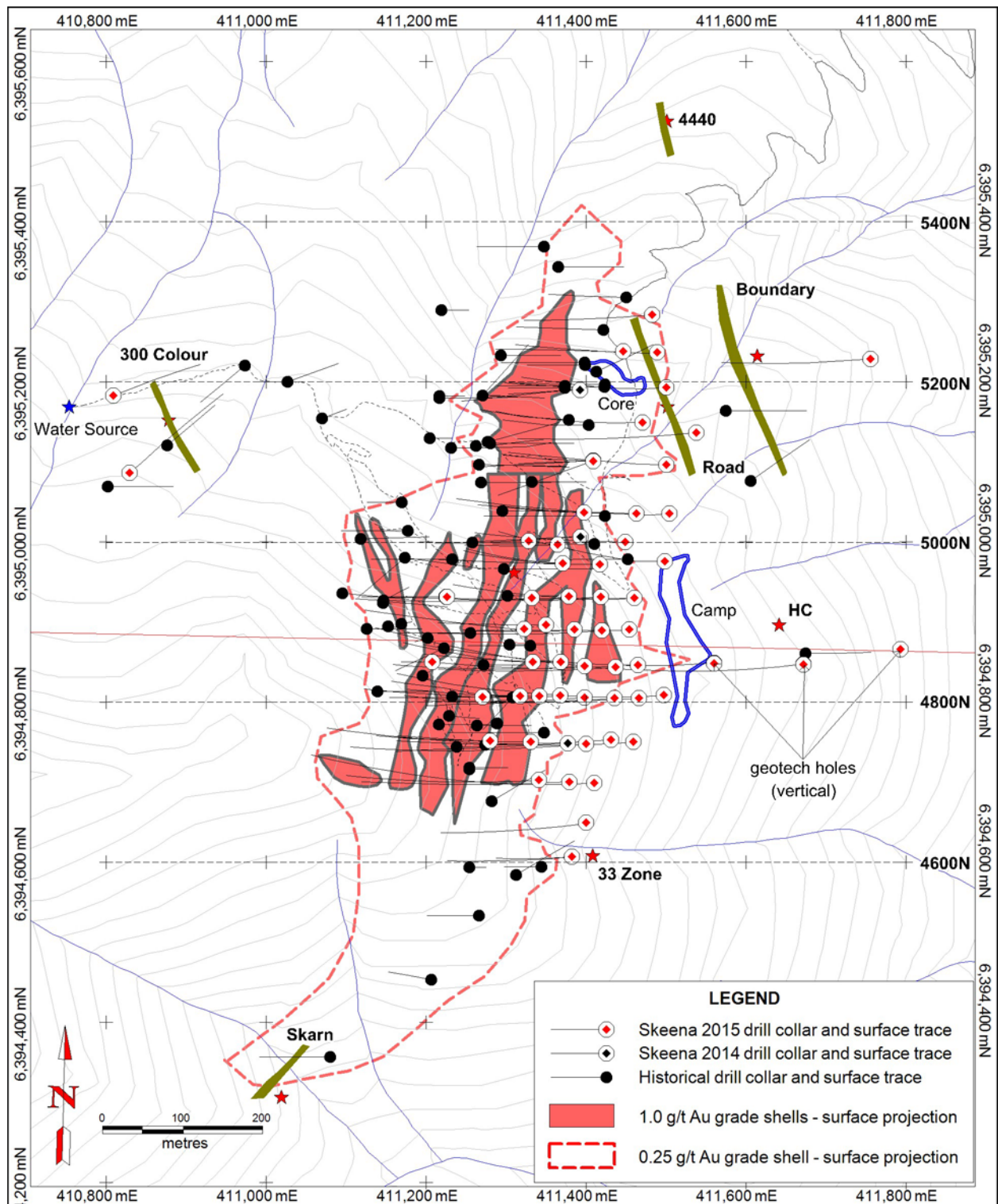
**Table 10-1: Spectrum Drill Summary, Central Zone and Outlying Targets\***

Operator	Year	# Holes Drilled	Metres Drilled
Imperial Oil	1976	4	463
Silver Ridge Mines	1979	10	832
Silver Ridge Mines	1980	18	2400
Cominco	1989	10	1200
Columbia Gold Mines	1990	20	2364
Columbia Gold Mines	1991	24	3968
Columbia Gold Mines	1992	6	710
Skeena Resources	2014	9	1940.65
Skeena Resources	2015	64	17817.3
<b>Total</b>		<b>165</b>	<b>31694.95</b>

*\*not including Hawk Vein*

### 10.1 Exploration Drilling

Skeena's drill programs were focused almost exclusively on the Central Zone, with the aim of filling in gaps in historical drilling and expanding the resource area along strike and down dip. The drill pattern was designed to pierce the higher-grade structures of the Central Zone on 50 m centres horizontally and vertically. By the end of October 2015, Skeena had drilled off an area extending 650 m N-S, 360 m E-W, and 400 m below surface (Figure 10-1). Table 10-2 below provides collar locations, azimuth, inclination, and total depth for all Skeena drill holes to date.



**Figure 10-1: Central Zone Drill Collars**

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

**Table 10-2: Skeena Drill Collars 2014-2015**

DDH ID	Section	Zone	Length_m	Azimuth	Dip	Easting	Northing	Elev_m
14-SP-001	5195N	Central	205.1	270.00	-45	411392.517	6395189.852	1481.33
14-SP-002	5195N	Central	210.3	270.00	-65	411392.517	6395189.852	1481.33
14-SP-003	5195N	Central	153	280.00	-50	411392.517	6395189.852	1481.33
14-SP-004	5095N	Central	213.4	270.00	-45	411408.874	6395101.461	1498.23
14-SP-005	5095N	Central	225.25	270.00	-65	411408.874	6395101.461	1498.23
14-SP-006	5095N	Central	201.17	250.00	-50	411408.874	6395101.461	1498.23
14-SP-007	5010N	Central	207.26	270.00	-45	411393.182	6395006.074	1529.35
14-SP-008	5010N	Central	199.03	270.00	-67	411393.182	6395006.074	1529.35
14-SP-009	4750N	Central	326.14	270.00	-45	411377.309	6394748.206	1596.32
S15-010	4750N	Central	278	270.00	-52	411330.63	6394750.57	1623.45
S15-011	4810N	Central	223.5	270.00	-45	411317.17	6394807.87	1622.07
S15-012	4810N	Central	251	270.00	-55	411317.17	6394807.87	1622.07
S15-013	4750N	Central	200	270.00	-45	411280.24	6394751.75	1648.14
S15-014	4750N	Central	217.5	270.00	-58	411280.24	6394751.75	1648.14
S15-015	4850N	Central	259	270.00	-50	411368.38	6394850.19	1586.49
S15-016	4810N	Central	179	270.00	-48	411270.23	6394806.26	1645.34
S15-017	5100N	Central	193	270.00	-55	411409.05	6395100.73	1498.28
S15-018	5035N	Central	302	270.00	-45	411462.6	6395035.44	1500.13
S15-019	4890N	Central	215	270.00	-50	411349.92	6394896.76	1584.66
S15-020	5095N	Central	258	270.00	-45	411500.26	6395096.72	1477.9
S15-021	4850N	500 Colour	60.5	270.00	-50	411207.4	6394850.26	1654.19
S15-022	4975N	Central	254	270.00	-50	411417.33	6394971.91	1528.26
S15-023	4975N	Central	223	270.00	-45	411370.79	6394973.31	1550.74
S15-024	4975N	Central	244	270.00	-60	411370.79	6394973.31	1550.74
S15-025	5035N	Central	181	270.00	-45	411397.62	6395036.54	1517.2
S15-026	5150N	Central	260	266.00	-48	411470.21	6395149.54	1475.23
S15-027	5195N	Central	262	266.00	-48	411500.47	6395192.97	1463.28
S15-028	4850N	Central	254	270.00	-50	411333.4	6394849.87	1605.59
S15-029	5235N	Central	219	266.00	-45	411446.53	6395238.42	1457.51
S15-030	5000N	Central	265	270.00	-45	411449.05	6395000.26	1511.61
S15-031	4890N	Central	283	270.00	-45	411322.19	6394891.42	1599.51
S15-032	4975N	Central	294.6	270.00	-45	411498.54	6394975.91	1505.09
S15-033	4930N	500 Colour	117	270.00	-45	411225.13	6394931.43	1612.18
S15-034	4930N	Central	196	270.00	-57	411225.71	6394931.21	1612.19
S15-035	5235N	Central	242.5	265.00	-45	411489.09	6395236.66	1456.02
S15-036	4930N	Central	209	265.00	-45	411378.15	6394931.83	1560.5
S15-037	5285N	Central	220	265.00	-45	411482.75	6395283.96	1441.43
S15-038	5285N	Central	163.5	265.00	-45	411364.28	6394997	1543.7

DDH ID	Section	Zone	Length_m	Azimuth	Dip	Easting	Northing	Elev_m
S15-039	5000N	Central	166	270.00	-45	411327.92	6395001.19	1554.69
S15-040	5035N	Central	299	265.00	-45	411504.24	6395035.64	1493.51
S15-041	4890N	Central	214	265.00	-50	411385.23	6394890.54	1569.04
S15-042	4810N	Central	388	265.00	-55	411341.64	6394807.74	1608.54
S15-043	4690N	Central	362	265.00	-45	411379.02	6394700.42	1589.25
S15-044	4930N	Central	319	265.00	-45	411332.3	6394930.29	1580.83
S15-045	4750N	Central	416	265.00	-45	411400.22	6394747.73	1582.18
S15-046	4930N	Central	266	265.00	-45	411418.1	6394931.32	1539.7
S15-047	5140N	Central	320	265.00	-45	411537.66	6395136.49	1466.29
S15-048	4810N	Central	149.4	265.00	-55	411367.83	6394807.91	1594.68
S15-049	4810N	Central	272	265.00	-45	411398.23	6394805.95	1580.86
S15-050	4890N	Central	338	265.00	-50	411419.95	6394889.43	1555.68
S15-051	4850N	Central	385	265.00	-50	411398.23	6394845.07	1574.3
S15-052	4810N	Central	365	265.00	-46	411435.32	6394805.03	1563.38
S15-053	4890N	Central	341	265.00	-50	411453.72	6394890.44	1539.72
S15-054	4645N	33 Zone	256	252.00	-45	411399.94	6394649.21	1561.99
S15-055	4750N	Central	381.3	265.00	-45	411430.82	6394752.78	1564.88
S15-056	4850N	Central	365	265.00	-50	411436.79	6394843.81	1555.94
S15-057	4810N	Central	395	265.00	-46	411465.94	6394804.93	1546.68
S15-058	4690N	33 Zone	212	265.00	-45	411382.44	6394606.68	1573.77
S15-059	4690N	33 Zone	214.3	265.00	-65	411382.44	6394606.68	1573.77
S15-060	4930N	Central	422	265.00	-45	411460.15	6394930.44	1522.54
S15-061	4690N	Central	317	265.00	-45	411340.89	6394702.7	1610.34
S15-062	4850N	Central	740	263.00	-45	411671.9	6394847.71	1454.66
S15-063	4690N	Central	447.2	265.00	-45	411410.39	6394699.18	1570.98
S15-064	4750N	Central	473	265.00	-45	411458.83	6394750.21	1548.94
S15-065	5220N	Boundary Zone	265	265.00	-45	411755.84	6395228.6	1364.21
S15-066		300 Colour	182	70.00	-50	410808.58	6395183.05	1571
S15-067	4850N	Central	404	270.00	-50	411464.5	6394846.5	1541.51
S15-068		300 Colour	242	50.00	-50	410828.78	6395086.42	1640
S15-069	4810N	Central	467	270.00	-45	411560.01	6394848.72	1512.01
S15-070	4850N	Central	449	265.00	-46	411496.93	6394808.69	1529.41
S15-071		geotech	211	0.00	-90	411560	6394848	1512.13
S15-072		geotech	90	0.00	-90	411793	6394866	1375.56
S15-073		geotech	160	0.00	-90	411672	6394847	1454.77

Over 80% of Skeena's drill holes encountered high-grade mineralization exceeding 5 g/t Au over widths of 2 metres or more. Twenty-five (25) out of 61 exploration drill holes in 2015 were noted to contain varying amounts of visible gold (VG) over intervals of a few centimetres to

several metres. Most of Skeena's drill holes intersected broad intervals of lower-grade porphyry-style Au-Cu mineralization, many of which were locally crosscut by higher-grade structures.

High-grade (uncut) intersections from the 2014 and 2015 drill programs are tabulated in Table 10-3 below. Bulk-tonnage intersections calculated for the integrated drill database (historical and recent drilling) can be found in Table 10-4 below. The updated resource estimate presented in Chapter 14 was calculated using all available assay data from the integrated drill database.

**Table 10-3: Skeena High-Grade Au Intersections 2014-2015**

DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
<b>14-SP-001</b>	270	-45	205.1	43.00	51.00	8.00	2.45		
				63.00	71.00	8.00	1.45		
including				65.00	66.00	1.00	3.64		
				111.00	113.00	2.00	4.76		
				118.60	120.70	2.10	1.50		
				136.00	138.00	2.00	3.30		0.11
<b>14-SP-002</b>	270	-65	210.3	66.00	68.00	2.00	2.05		
				94.00	99.00	5.00	2.24	10.2	
				147.00	149.00	2.00	2.31	8.0	
				154.00	156.00	2.00	7.80		0.10
				173.90	174.80	0.90	3.78		
<b>14-SP-003</b>	280	-50	153	78.00	84.50	6.50	23.84	6.0	
including				79.50	83.00	3.50	40.43	11.0	
				94.00	100.00	6.00	2.00		
<b>14-SP-004</b>	270	-45	213.4	106.00	133.00	27.00	10.63		
including				111.40	113.40	2.00	66.00	12.0	
including				119.00	121.00	2.00	20.40		
including				121.00	123.00	2.00	9.20		
including				126.00	127.00	2.00	8.00		
including				131.00	133.00	2.00	22.70		
				151.00	153.00	2.00	4.51		
				161.80	169.70	7.90	2.86		
<b>14-SP-005</b>	270	-65	225.25	80.00	82.00	2.00	18.60		
				90.00	96.00	6.00	2.48		
				144.00	146.00	2.00	7.32		
				162.00	164.00	2.00	6.88		
<b>14-SP-006</b>	250	-50	201.17	123.00	125.20	2.20	2.83		
				139.00	141.00	2.00	1.19		
				177.00	179.00	2.00	1.04		0.11
				195.00	197.00	2.00	43.80		

DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
<b>14-SP-007</b>	270	-45	207.26	22.00	24.00	2.00	2.31		
				36.00	38.00	2.00	1.40		
				54.00	56.00	2.00	1.04		
				58.00	62.00	4.00	1.49		
				88.00	90.00	2.00	1.49		
				103.00	105.00	2.00	3.22		
				113.00	117.00	4.00	5.26		
including				113.00	115.00	2.00	9.50	5.0	
				136.00	140.00	4.00	1.44		
OR				103.00	140.00	37.00	1.38		
				158.00	160.00	2.00	1.65		
				195.00	198.00	3.00	3.82	5.3	
including				196.00	197.00	1.00	7.60	10.0	
<b>14-SP-008</b>	270	-67	199.03	11.00	13.00	2.00	1.18	9.0	
				17.00	19.00	2.00	1.24		
				65.00	69.00	4.00	1.40		
				119.00	123.00	4.00	2.32		
including				119.00	121.00	2.00	3.30		
				155.00	157.00	2.00	1.53		
				159.00	161.00	2.00	2.22		
				173.00	190.00	17.00	3.41		
including				175.00	184.00	9.00	4.58		
including				175.00	177.00	2.00	8.50		
AND				182.00	184.00	2.00	8.42		
AND				186.00	190.00	4.00	3.05		
<b>14-SP-009</b>	270	-45	326.14	151.00	153.00	2.00	1.68		
				157.00	159.00	2.00	1.07		
				173.00	177.00	4.00	13.67		
including				173.00	175.00	2.00	5.24		
AND				175.00	177.00	2.00	22.10	5.0	
				181.00	183.00	2.00	1.79	8.0	
				255.00	257.00	2.00	10.00		
				259.00	260.00	1.00	11.10	6.0	0.18
				285.00	287.00	2.00	254.50	18.0	
				295.00	301.00	6.00	3.12	7.0	
<b>S15-010</b>	270	-52	278	3.40	7.00	3.60	<b>16.4</b>		
including				5.00	7.00	2.00	<b>22.1</b>		
				94.30	96.00	1.70	4.19		
				145.00	147.00	2.00	2.92		0.11
				199.00	200.40	1.40	<b>15.9</b>		



DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
<b>S15-011</b>	270	-45	223.5	6.00	12.00	6.00	7.86		
				20.00	21.60	1.60	<b>8.56</b>		
				48.00	84.00	36.00	1.04	3.0	0.10
including				50.00	55.00	5.00	2.00		
and				62.00	64.00	2.00	3.28		0.11
and				71.00	72.35	1.35	2.40	13.6	0.62
				110.00	117.38	7.38	1.79	5.6	0.13
				130.00	142.00	12.00	3.62	5.2	0.16
including				140.00	142.00	2.00	<b>9.5</b>	9.0	0.24
<b>S15-012</b>	270	-55	251	35.00	73.00	38.00	1.28		
				102.00	108.60	6.60	<b>10.59</b>	3.1	0.19
including				105.50	106.90	1.40	<b>37.8</b>		
				140.00	146.00	6.00	2.07	15.0	
				197.60	216.00	18.40	6.40	8.8	
including				197.60	201.50	3.90	<b>25.27</b>	59.5	0.33
including				199.60	201.50	1.90	<b>49.8</b>	118.0	0.63
				212.00	216.00	4.00	2.86	8.8	
				234.00	238.00	4.00	7.08	17.5	0.12
<b>S15-013</b>	270	-45	200	3.00	130.00	127.00	1.26	5.2	0.15
including				20.00	33.00	13.00	3.38	7.7	0.24
and				27.20	29.40	2.20	<b>9.6</b>	11.5	0.36
and				31.00	33.00	2.00	4.50	13.8	0.31
and				48.00	50.00	2.00	2.22		
and				78.00	80.00	2.00	2.27	5.9	0.16
and				108.00	110.00	2.00	2.90		0.11
and				120.00	130.00	10.00	2.30	5.3	0.14
<b>S15-014</b>	270	-58	217.5	3.00	7.00	4.00	3.18		
				19.00	21.00	2.00	2.43		
				30.00	35.00	5.00	2.25		0.22
				51.00	55.00	4.00	1.60		0.24
				77.00	93.95	16.95	4.95	20.5	0.70
including				83.00	90.00	7.00	7.95	35.5	0.93
				153.00	155.00	2.00	<b>21.3</b>	6.3	
				171.00	172.75	1.75	<b>11.7</b>		
				208.00	210.00	2.00	2.81	7.2	0.11
<b>S15-015</b>	270	-50	259	28.00	30.00	2.00	2.94		
				38.00	40.00	2.00	2.88		
				163.85	190.00	26.15	<b>8.21</b>		
Including				163.85	173.00	9.15	4.73		

DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
And				163.85	166.00	2.15	<b>8.83</b>		
And				167.50	169.00	1.50	6.13		
And				171.00	173.00	2.00	5.87		
And				180.50	184.00	3.50	<b>44.2</b>	7.5	
Including				182.00	184.00	2.00	<b>74.5</b>	8.5	
<b>S15-016</b>	270	-48	179	34.00	95.00	61.00	1.62		0.14
Including				34.00	36.00	2.00	2.38		
And				48.00	52.00	4.00	5.63	9.6	0.22
Including				48.00	50.00	2.00	<b>9.18</b>	11.0	0.22
And				65.00	71.00	6.00	1.99		0.12
And				87.00	89.00	2.00	2.47		0.11
And				93.00	95.00	2.00	2.14	5.5	0.14
<b>S15-017</b>	270	-55	193	103.15	104.00	0.85	<b>9.79</b>	430.0	
				128.00	136.00	8.00	<b>10.46</b>	8.3	
including				128.00	130.30	2.30	<b>33.33</b>	26.7	0.13
				157.40	161.00	3.60	<b>11.68</b>		
				180.00	182.75	2.75	2.79	5.4	0.10
S15-018	270	-45	302	139.00	141.30	2.30	<b>11.1</b>		
				183.00	185.00	2.00	6.13		0.10
				221.00	227.00	6.00	5.44	23.4	
Including				225.00	227.00	2.00	<b>13.2</b>	63.8	
				251.00	253.00	2.00	2.37		
<b>S15-019</b>	270	-50	215	19.00	31.00	12.00	1.55		
including				19.00	21.00	2.00	2.43		
And				27.00	31.00	4.00	3.06		
				96.00	117.00	21.00	0.90		0.10
				159.00	172.50	13.50	2.78		
Including				163.00	165.00	2.00	6.97		
<b>S15-020</b>	270	-45	258	236.00	238.00	2.00	2.51		
<b>S15-021</b>	270	-50	60.5	Hole abandoned in fault. Poor recovery. No significant values.					
<b>S15-022</b>	270	-50	254	150.00	152.00	2.00	7.86		

DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
				168.00	170.00	2.00	<b>13.5</b>		
				174.10	189.00	14.90	<b>8.97</b>		
Including				174.10	177.00	2.90	<b>38.51</b>	5.4	
Including				174.10	175.62	1.52	<b>34.7</b>		
And				175.62	177.00	1.38	<b>42.7</b>	8.1	
<b>S15-023</b>	270	-45	225	60.00	85.90	25.90	0.77		0.11
Including				80.00	82.00	2.00	4.58		0.12
				165.00	167.00	2.00	2.43		0.10
				193.00	196.60	3.60	5.61	10.3	
Including				193.00	194.60	1.60	<b>9.17</b>	13.5	
				208.00	210.00	2.00	2.11	8.5	
<b>S15-024</b>	270	-60	244	32.00	34.00	2.00	2.93		
				76.00	80.00	4.00	3.59		
				136.25	137.16	0.91	6.41	24.0	
				170.20	172.20	2.00	3.14	5.1	
				183.00	192.64	9.64	6.81	20.7	0.09
Including				187.00	188.70	1.70	<b>14.1</b>	20.4	0.14
<b>S15-025</b>	270	-45	181	11.00	13.00	2.00	3.14		
				41.00	49.00	8.00	4.14		
Including				41.00	42.15	1.15	<b>17.2</b>	9.8	0.15
				111.00	134.00	23.00	1.43		
Including				111.00	113.00	2.00	2.76		
And				128.00	130.00	2.00	5.31		
<b>S15-026</b>	270	-45	260	8.00	10.00	2.00	4.77	12.2	
				122.50	124.50	2.00	2.24		
				148.70	152.70	4.00	3.12		
				182.50	190.50	8.00	5.67		0.15
Including				182.50	184.50	2.00	<b>8.9</b>	8.0	0.27
And				188.50	190.50	2.00	<b>10.1</b>		0.14
<b>S15-027</b>	266	-48	266	194.00	196.00	2.00	2.51		
<b>S15-028</b>	270	-50	254	5.00	49.00	44.00	1.12		
Including				11.00	13.00	2.00	2.54		
And				35.00	36.50	1.50	<b>12.2</b>		
				166.00	167.00	1.00	<b>8.79</b>		
				198.00	204.00	6.00	5.55	5.4	
<b>S15-029</b>	266	-45	219	147.40	149.00	1.60	4.11		0.11
				205.00	207.00	2.00	7.35	59.10	

DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
<b>S15-030</b>	270	-45	265	214.50	215.50	1.00	5.87	25.20	
				247.00	249.00	2.00	2.13		
<b>S15-031</b>	270	-45	283	5.50	230.00	224.50	0.60	5.1	0.22
Including				29.00	31.00	2.00	2.56		0.13
And				93.00	97.00	4.00	2.71	5.8	0.21
And				109.00	111.00	2.00	2.83		0.13
And				135.00	136.00	1.00	8.29	6.7	0.11
And				193.00	195.00	2.00	4.73	14.5	0.32
And				217.00	218.35	1.35	5.82	22.8	4.35
<b>S15-032</b>	270	-45	294.3	No Significant Values					
<b>S15-033</b>	270	-45	117	No Significant Values					
<b>S15-034</b>	270	-57	196	No Significant Values					
<b>S15-035</b>	265	-45	242.5	29.00	31.00	2.00	2.55		
				159.00	161.00	2.00	2.78		
				167.50	169.00	1.50	6.70	71.3	0.84
				230.20	231.30	1.10	6.48	74.1	
<b>S15-036</b>	265	-45	209	4.50	152.00	147.50	0.42	2.2	0.08
Including				142.15	146.75	4.60	1.80	7.5	
<b>S15-037</b>	265	-45	220	37.00	41.00	4.00	3.15	5.4	
				169.00	171.00	2.00	2.24		0.11
<b>S15-038</b>	265	-45	163.5	2.00	161.00	159.00	0.52	3.0	0.10
Including				10.00	12.00	2.00	3.34		
And				114.00	124.00	10.00	1.84	8.2	0.18
<b>S15-039</b>	270	-45	166	3.00	143.50	140.50	0.82	4.3	0.17
Including				17.00	61.00	44.00	1.40	6.8	0.17
Including				31.00	33.00	2.00	6.26		0.14
<b>S15-040</b>	265	-45	299	169.00	183.00	14.00	1.90		
Including				169.00	170.00	1.00	7.04	7.7	

DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
And				174.00	175.10	1.10	5.82	10.8	
				205.70	207.80	2.10	4.46	12.6	0.23
				232.80	239.30	6.50	1.36		
				232.80	233.50	0.70	5.30	25.9	0.41
<b>S15-041</b>	265	-50	214	85.00	87.00	2.00	5.86	7.8	
				145.70	155.00	9.30	3.95		
Including				145.70	147.00	1.30	18.6		
And				153.00	155.00	2.00	4.27		
				190.50	192.00	1.50	9.95	53.3	
				213.00	214.00	1.00	5.92	6.1	
<b>S15-042</b>	265	-55	388	5.60	211.40	205.80	0.94	1.9	0.05
Including				25.00	42.00	17.00	1.79		
Including				25.00	27.00	2.00	6.83	5.3	
				113.30	115.00	1.70	9.67		
				165.00	176.00	11.00	3.10		
Including				167.10	169.30	2.20	5.56		
				192.00	198.00	6.00	5.44	11.1	
				196.00	198.00	2.00	10.2	29.0	
				207.00	208.50	1.50	4.56		
<b>S15-043</b>	265	-45	362	197.00	201.00	4.00	24.24		
Including				199.00	201.00	2.00	44.8		
				210.60	222.00	11.40	16.73		
Including				216.00	218.00	2.00	81.8	5.6	
				230.00	234.00	4.00	26.59		
Including				230.00	232.00	2.00	46.5		
<b>S15-044</b>	265	-45	319	6.00	178.00	172.00	0.60	4.0	0.14
Including				57.00	59.00	2.00	6.62	6.8	0.27
And				141.00	143.00	2.00	3.27	5.4	0.13
				202.00	249.73	47.73	0.49	3.0	0.13
<b>S15-045</b>	265	-45	275	185.00	187.00	2.00	2.13		
				217.00	219.00	2.00	2.35		
<b>S15-046</b>	265	-45	266	40.00	44.00	4.00	3.06		
				159.00	161.00	2.00	4.19		
				192.00	196.00	4.00	16.97	10.0	
Including				194.00	196.00	2.00	29.8	15.0	0.15
<b>S15-047</b>	265	-45	320	122.00	124.00	2.00	2.33		
				254.95	256.35	1.40	15.4	21.0	0.11

DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
<b>S15-048</b>	265	-55	149.8	Abandoned Before Zone - No Significant Values					
<b>S15-049</b>	265	-45	269	125.00	127.00	2.00	2.31		
				185.00	193.00	8.00	5.36		
Including				187.00	189.00	2.00	12.0		
				211.00	225.00	14.00	7.82		0.11
Including				215.00	217.00	2.00	35.0	7.9	0.22
				235.00	237.00	2.00	7.56		
				243.00	245.00	2.00	5.90		
<b>S15-050</b>	265	-50	338	288.00	290.00	2.00	9.83		
<b>S15-051</b>	265	-50	385	28.00	30.00	2.00	2.22		
				90.30	92.50	2.20	2.07		
				219.50	221.50	2.00	2.86	11.7	0.13
				237.50	239.50	2.00	2.22		
<b>S15-052</b>	265	-46	365	225.75	228.00	2.25	2.20		
				296.50	298.00	1.50	4.51		
<b>S15-053</b>	256	-46	341	No Significant Values					
<b>S15-054</b>	252	-45	256	No Significant Values					
<b>S15-055</b>	265	-45	381.3	200.00	206.00	6.00	3.09		
Including				204.60	206.00	1.40	8.27		
				286.50	287.50	1.00	23.10		
<b>S15-056</b>	265	-50	365	256.00	258.00	2.00	2.25		
				313.00	315.00	2.00	4.76		
				359.00	360.00	1.00	26.7		
<b>S15-057</b>	265	-46	395	217.00	219.00	2.00	2.36	37.1	
				302.00	304.00	2.00	2.51		
				328.00	330.00	2.00	8.32	12.7	0.38



DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
<b>S15-058</b>	265	-45	212	No Significant Values					
<b>S15-059</b>	265	-65	214.30	No Significant Values					
<b>S15-060</b>	265	-45	422	207.00	213.00	6.00	3.27		
Including				211.00	213.00	2.00	5.89		
				252.00	270.00	18.00	6.13		0.08
Including				258.00	259.00	1.00	11.0		0.10
And				264.00	265.00	1.00	30.0	5.2	0.06
And				268.30	270.00	1.70	30.6		0.19
				304.00	306.00	2.00	2.10		
<b>S15-061</b>	265	-45	317	180.00	182.00	2.00	3.35		
				188.00	190.00	2.00	2.34		
				224.00	300.00	76.00	1.13	2.4	0.06
including				224.00	226.00	2.00	2.08		
And				246.00	248.00	2.00	2.47		
And				264.00	282.00	18.00	2.69		
Including				264.00	266.00	2.00	5.78	6.3	
And				280.00	282.00	2.00	11.90		
				298.00	300.00	2.00	2.06	8.4	
<b>S15-062</b>	263	-45	740	No Significant Values					
<b>S15-063</b>	265	-45	447.2	219.30	221.30	2.00	4.85	64.2	0.53
				236.00	238.00	2.00	2.73		
				284.00	286.00	2.00	4.05		
				396.00	420.00	24.00	1.87		
Including				396.00	404.00	8.00	4.04		
Including				402.00	404.00	2.00	8.75		
				418.00	420.00	2.00	2.89		
<b>S15-064</b>	265	-45	473	191.00	193.00	2.00	3.25	106.0	
				336.00	338.00	2.00	5.75		
<b>S15-065 (Boundary)</b>	265	-45	265	28.00	30.00	2.00	3.32		
				126.86	128.00	1.14	10.50		

DDH #	Azimuth	Dip	Total Depth (m)	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %
<b>S15-066 (300 Colour)</b>	70	-50	182	32.00	34.00	2.00	4.64		
<b>S15-067</b>	270	-50	404	No Significant Values					
<b>S15-068 (300 Colour)</b>	50	-50	242	50.00	102.00	52.00	1.15		
Including				52.00	68.00	16.00	1.87		
				132.00	134.00	2.00	2.31		
<b>S15-069</b>	270	-45	470	56.00	58.10	2.10	2.93	10.1	
				64.00	66.00	2.00	2.66		
				298.65	300.05	1.40	5.94	7.9	
				420.00	422.00	2.00	2.53		0.10
				425.80	426.80	1.00	10.20	117.0	0.24
<b>S15-070</b>	270	-46	449	336.00	338.00	2.00	4.60		
				393.40	396.00	2.60	10.18	6.60	0.21
				411.10	412.00	0.90	8.04		0.11

**Table 10-4: Central Zone Bulk Intersections**

*\*Some historical drill holes not assayed for Cu*

Hole	Zone	Hole Length (m)	From (m)	To (m)	Interval Length (m)	Au g/t (high values cut to 10 g/t)	Au g/t	Cu %
S79-01	Central	161.2	21.5	144	122.5	1.057	1.06	0.04
S79-02	Central	115.5	8.8	75.7	66.9	1.142	1.25	
S79-06	Central	121.9	4.179	120	115.818	0.64	0.64	
S80-11	500 Colour	132.9	39.6	52.8	13.2	0.44	0.44	
S80-13	500 Colour	160	55.5	136.8	81.3	0.723	0.72	
S80-16	Central	107	45.5	87.5	42	1.235	1.24	
S80-17	Central	135.9	9.1	70	60.9	1.162	1.43	
S80-18	Central	206.3	27	102	75	1.574	1.96	
S80-19	Central	171.2	33.5	117	83.5	1.244	1.27	
S80-20	Central	151.5	8.2	43	34.8	0.82	0.82	
S80-21	Central	203.3	10.5	53.5	43	1.146	1.15	
S80-23	500 Colour	115.8	25.5	90.5	65	0.409	0.41	
S80-24	Central	106.4	45	94.5	49.5	0.487	0.49	

Hole	Zone	Hole Length (m)	From (m)	To (m)	Interval Length (m)	Au g/t (high values cut to 10 g/t)	Au g/t	Cu %
S80-25	Central	106.1	62	88	26	0.641	0.64	
S80-26	Central	106.7	8	106.7	98.7	0.904	0.9	
S80-27	Central	106.4	4.6	49	44.4	0.789	0.79	
S80-28	Central	81.1	6.4	49	42.6	1.402	1.54	
S89-33	33 Zone	65.2	0.6	27.1	26.5	3.55	3.58	
S89-33	33 Zone	65.2	40	65.2	25.2	0.47	0.47	
S89-34	Central	170.4	52	84.5	32.5	0.77	1.18	
S89-34	Central	170.4	92.1	102.9	10.8	0.62	0.62	
S89-34	Central	170.4	148.8	153.6	4.8	2.49	2.49	
S89-35	Central	124.7	1.5	92	90.5	0.789	0.79	0.16
S89-36	Central	136.8	6.65	59	52.35	1.576	1.58	0.09
S89-39	33 Zone	50	5.2	50	44.8	0.41	0.41	0.12
S89-40	Skarn Zone	125	30.6	65.5	34.9	0.607	0.61	0.17
S89-41	33 Zone	92	10.1	21	10.9	0.993	0.99	0.13
S89-41	33 Zone	92	35.4	92	56.6	0.821	0.82	0.17
S89-42	33 Zone	95.4	62.7	95.4	32.7	0.559	0.56	0.13
S90-45	500 Colour	108.2	25.6	79.2	53.6	0.64	0.9	0.1
S90-46	Central	182.9	30.3	36.25	5.95	0.404	0.4	0.12
S90-46	Central	182.9	43.4	59.4	16	2.727	4.19	0.24
S90-46	Central	182.9	89	154.9	65.9	0.762	2.25	0.04
S90-47	Central	182.9	46	150.9	104.9	1.569	1.72	0.13
S90-48	500 Colour	30.5	10.7	27.4	16.7	0.309	0.31	0.14
S90-50	Central	109.1	25.6	62.5	36.9	0.741	0.74	0.07
S90-51	Boundary Zone	126.5	24.4	97.5	73.1	0.44	0.44	
S90-52	Central	169.5	39.6	59.4	19.8	0.492	0.49	0.15
S90-52	Central	169.5	73.2	100.6	27.4	0.361	0.36	0.24
S90-52	Central	169.5	118.9	150.9	32	0.728	0.73	0.1
S90-53	Central	44.2	25.9	44.2	18.3	0.508	0.51	0.26
S90-55	Central	115.82	16.4	23.3	6.9	2.91	2.91	
S90-55	Central	115.82	42	53	11	0.59	0.59	
S90-56	Central	137.2	12.2	30.5	18.3	1.236	1.31	0.12
S90-56	Central	137.2	64	106.7	42.7	1.738	1.86	0.06
S90-58	Central	149.4	18.3	84.2	65.9	0.478	0.48	0.14
S90-59	Central	152.4	12.2	51.2	39	0.62	0.62	0.16
S90-59	Central	152.4	64.9	78.5	13.6	1.45	3.73	0.12
S90-59	Central	152.4	96	140.2	44.2	2.177	3.74	0.06
S90-60	Central	129.54	22.9	94.5	71.6	1.078	1.08	0.21
S91-63	Central	177.8	30.48	144.5	114.02	1.224	2.23	0.14

Hole	Zone	Hole Length (m)	From (m)	To (m)	Interval Length (m)	Au g/t (high values cut to 10 g/t)	Au g/t	Cu %
S91-64	Central	152.09	27.43	125.3	97.87	0.601	0.6	0.14
S91-65	Central	221.4	52.09	76.5	24.41	0.403	0.4	0.17
S91-65	Central	221.4	88	107	19	0.225	0.23	0.24
S91-65	Central	221.4	124	141.1	17.1	0.83	0.83	0.14
S91-65	Central	221.4	174.4	187.3	12.9	1.022	1.02	0.11
S91-66	Central	187.44	41.5	92.5	51	0.515	0.52	0.21
S91-66	Central	187.44	110.6	131	20.4	0.691	3.57	0.08
S91-66	Central	187.44	136.5	186	49.5	1.258	1.93	0.06
S91-67	Central	63.09	39.62	63.09	23.47	0.293	0.29	0.14
S91-68	Central	227.67	112.5	125.8	13.3	0.498	0.5	0.18
S91-68	Central	227.67	155.5	194	38.5	0.721	0.72	0.06
S91-69	Central	161.8	44.5	65	20.5	0.244	0.24	0.2
S91-69	Central	161.8	74	78	4	1.643	1.64	0.12
S91-69	Central	161.8	86.7	126.8	40.1	1.306	2.13	0.06
S91-70	Central	229.2	35	59	24	0.461	0.46	0.2
S91-70	Central	229.2	83	87.5	4.5	0.149	0.15	0.09
S91-70	Central	229.2	108.2	166	57.8	0.388	0.39	0.05
S91-70	Central	229.2	181.5	209.5	28	0.893	0.98	0.04
S91-71	Central	175.86	104	159	55	0.837	2.44	0.07
S91-72	Central	183.5	93.7	96.9	3.2	1.07	1.07	
S91-72	Central	183.5	122.5	127	4.5	1.18	1.18	
S91-73	Central	179.5	21.5	45.5	24	0.958	0.96	0.04
S91-73	Central	179.5	65.5	159.1	93.6	1.027	1.25	0.05
S91-74	Central	146.9	30.5	118.4	87.9	1.305	2.86	0.07
S91-75	Central	156	101.7	125.4	23.7	0.884	0.88	0.07
S91-76	Central	119.5	18.9	112.4	93.5	1.701	3.34	0.12
S91-77	Central	140.21	15.3	61.5	46.2	1.571	2.07	0.06
S91-77	Central	140.21	72.5	134.7	62.2	0.493	0.49	0.07
S91-78	Central	154.5	76	108.4	32.4	0.828	0.83	0.05
S91-79	Central	141.12	90	113	23	0.47	0.47	
S91-81	Boundary Zone	142.3	100	124.5	24.5	0.71	0.71	
S91-82	Central	213.96	86.5	103.5	17	1.092	4.42	0.04
S91-82	Central	213.96	142	200	58	0.88	1.15	0.05
S91-83	Central	180.44	17	36.5	19.5	0.4	0.4	
S91-84	Central	132.89	88	109.5	21.5	0.66	0.66	
S91-85	Central	157.57	36.3	111	74.7	1.032	1.24	0.06
S91-86	Central	180.43	71	157.9	86.9	1.513	3.89	
S92-90	500 Colour	129.84	47.55	106.98	59.43	0.4	0.4	0.11

Hole	Zone	Hole Length (m)	From (m)	To (m)	Interval Length (m)	Au g/t (high values cut to 10 g/t)	Au g/t	Cu %
S92-91	500 Colour	131.37	57.61	88.5	30.89	0.777	0.78	
S92-92	500 Colour	125.27	78.5	125.27	46.77	0.684	0.68	0.18
14-SP-001	Central	205.1	95	138	43	0.872	0.87	0.08
14-SP-002	Central	210.3	79.4	102	22.6	0.821	0.82	0.06
14-SP-002	Central	210.3	147	174.8	27.8	0.986	0.99	0.07
14-SP-003	Central	153	14	63.5	49.5	0.264	0.26	0.07
14-SP-003	Central	153	76	143	67	1.142	2.73	0.08
14-SP-004	Central	213.4	81	169.7	88.7	2.158	3.94	0.05
14-SP-005	Central	225.25	80	187	107	0.901	1.06	0.05
14-SP-006	Central	201.17	111	199	88	0.575	1.34	0.06
14-SP-007	Central	207.26	11.8	140	128.2	0.774	0.77	0.05
14-SP-008	Central	199.03	119	190	71	1.182	1.18	0.06
14-SP-009	Central	326.14	149	301	152	0.906	4.29	0.05
S15-010	Central	278	3.4	72	68.6	0.87	1.22	0.03
S15-010	Central	278	94.3	104.25	9.95	1.22	1.22	0.07
S15-011	Central	223.5	3	206	203	0.96	0.96	0.12
S15-012	Central	251	2.5	238	235.5	0.91	1.24	0.07
S15-013	Central	200	3	198	195	0.93	0.93	0.15
S15-014	Central	217.5	3	212	209	1.04	1.21	0.18
S15-015	Central	259	12	62	50	0.7	0.7	0.03
S15-015	Central	259	103.8	192.1	88.3	1.23	2.79	0.05
S15-016	Central	179	11.3	176	164.7	0.98	0.98	0.15
S15-017	Central	193	72	182.75	110.75	1	1.34	0.06
S15-018	Central	302	136	168	32	0.82	0.82	0.05
S15-018	Central	302	205	227	22	1.41	1.46	0.06
S15-019	Central	215	13	39	26	1.12	1.12	0.07
S15-019	Central	215	86	123	37	0.64	0.64	0.09
S15-019	Central	215	138.5	182.1	43.6	1.04	1.04	0.06
S15-020	Central	258	171	192	21	0.57	0.57	0.04
S15-020	Central	258	218	239.5	21.5	0.75	0.75	0.07
S15-021	500 Colour	60.5	3	50	47	0.28	0.28	

Hole	Zone	Hole Length (m)	From (m)	To (m)	Interval Length (m)	Au g/t (high values cut to 10 g/t)	Au g/t	Cu %
S15-022	Central	254	6.8	46	39.2	0.47	0.47	0.02
S15-022	Central	254	146	189	43	2.16	5.11	0.05
S15-023	Central	223	4.3	20	15.7	0.48	0.48	0.08
S15-023	Central	223	46	90	44	0.67	0.67	0.1
S15-023	Central	223	167	210	43	0.9	0.9	0.09
S15-024	Central	244	3	192.64	189.64	0.8	0.82	0.06
S15-025	Central	181	11	166	155	0.64	0.67	0.06
S15-026	Central	260	120.5	220.95	100.45	0.88	0.88	0.06
S15-027	Central	262	190	220	30	0.46	0.46	
S15-028	Central	254	5	49	44	0.84	0.84	0.06
S15-028	Central	254	112	206	94	0.76	0.86	0.07
S15-029	Central	219	103.45	161	57.55	0.46	0.46	
S15-030	Central	265	169.3	215.5	46.2	0.43	0.43	0.06
S15-031	Central	283	5.5	230	224.5	0.57	0.57	0.23
S15-034	Central	196	8.5	52	43.5	0.36	0.36	0.15
S15-035	Central	242.5	13	39	26	0.47	0.47	
S15-035	Central	242.5	150.25	187	36.75	1.03	1.03	
S15-036	Central	209	4.5	152	147.5	0.42	0.42	0.08
S15-037	Central	220	33	61	28	0.87	0.87	
S15-037	Central	220	150.5	173	22.5	0.69	0.69	
S15-038	Central	163.5	2	46	44	0.73	0.73	0.08
S15-038	Central	163.5	68.3	161	92.7	0.52	0.52	0.11
S15-039	Central	166	3	143.5	140.5	0.8	0.8	0.17
S15-040	Central	299	167	247	80	0.87	0.87	0.06
S15-041	Central	214	29	214	185	0.63	0.69	0.04
S15-042	Central	388	5.6	211.4	205.8	0.94	0.96	0.05
S15-043	Central	362	158.2	234	75.8	1.67	5.23	0.04
S15-044	Central	319	6	178	172	0.6	0.6	0.15
S15-045	Central	416	181.6	221	39.4	0.56	0.56	
S15-046	Central	266	5.7	87.6	81.9	0.54	0.54	0.03
S15-046	Central	266	149	198	49	1.28	2.1	0.05
S15-049	Central	272	143.35	245	101.65	1.59	2.19	0.05
S15-051	Central	385	191.65	243.5	51.85	0.65	0.65	0.07
S15-052	Central	365	213.4	247	33.6	0.76	0.76	0.05
S15-055	Central	381.3	187.25	206	18.75	1.47	1.47	0.03
S15-056	Central	365	244	279	35	0.64	0.64	0.06
S15-056	Central	365	303	327	24	0.94	0.94	0.06



Hole	Zone	Hole Length (m)	From (m)	To (m)	Interval Length (m)	Au g/t (high values cut to 10 g/t)	Au g/t	Cu %
S15-057	Central	395	209	233	24	0.66	0.66	
S15-057	Central	395	300	330	30	0.98	0.98	
S15-060	Central	422	205	277.8	72.8	1.23	1.79	0.07
S15-061	Central	317	76	142	66	0.42	0.42	0.04
S15-061	Central	317	180	194	14	1.07	1.07	0.08
S15-061	Central	317	220	306	86	0.89	0.94	0.06
S15-063	Central	447.2	201	244	43	0.74	0.74	0.07
S15-063	Central	447.2	278	297.6	19.6	0.96	0.96	0.05
S15-063	Central	447.2	374	436	62	0.99	0.99	0.05
S15-064	Central	473	174	194.5	20.5	0.82	0.82	
S15-069	Central	467	42	66	24	0.75	0.75	
S15-069	Central	467	152	168	16	0.48	0.48	
S15-069	Central	467	194	201.1	7.1	0.86	0.86	
S15-069	Central	467	295	300.05	5.05	3.21	3.21	
S15-069	Central	467	401	426.8	25.8	0.65	0.65	
S15-070	Central	449	265	283.9	18.9	0.54	0.54	
S15-070	Central	449	371	396	25	1.16	1.56	

## 10.2 Geotechnical Drilling

In October of 2015, three geotechnical holes totaling 461 metres were drilled east of the camp site along a potential adit alignment (Figure 10-1). Drilling, geotechnical logging, packer hydraulic conductivity testing, and the installation of Vibrating Wire Piezometers (VWPs) to collect water level data was supervised by engineers of Knight-Piésold Consulting Ltd. of Vancouver, BC. The following summary of findings is sourced from a geotechnical report submitted to Skeena by Knight-Piésold on April 27, 2016.

Geotechnical data collected during drilling was used to describe the rock mass condition using a Rock Mass Rating (RMR). The data indicates the rock mass at drillholes S15-071 and S15-073 is predominantly of FAIR quality (i.e., RMR values ranging from 40 to 60). Rock encountered in drillhole S15-072 was predominantly described as broken or POOR quality (i.e., RMR values ranging from 20 to 40).

Results of packer hydraulic conductivity testing ranged from less than  $1 \times 10^{-8}$  m/s to  $2 \times 10^{-6}$  m/s. Water circulation losses during drilling were encountered in drillholes S15-071 and S15-073 and were associated with intervals described as rubble or broken zones. Circulation was maintained throughout drillhole S15-072 despite the broken quality of the rock observed in the drillhole.

Multi-point VWPs were installed in each drillhole. The data was downloaded several days after the sensors were grouted into the drillhole and the pore pressures are expected to still be

equilibrating with natural formation pressure as a result of the short data record available. Preliminary results indicate groundwater flow at the site is to the east and a downward hydraulic gradient exists at the three drillholes. The deepest VWP installed in S15-071 reports a water level that is significantly depressed with respect to other water levels in this drillhole. This preliminary VWP data is consistent with water level data collected during packer testing in this lower interval of the drillhole and may indicate that the fault zone encountered near this depth is a permeable feature.

Data collected during this hydrogeologic site investigation can be used to develop an understanding of the groundwater regime in the vicinity of the proposed adit in support of permitting. The next phase of work to characterize the groundwater regime includes:

- Develop a simple conceptual hydrogeologic model (a qualitative understanding) of groundwater
- flow in the vicinity of the proposed adit that takes into consideration:
- Hydraulic conductivity test results
- Water level data, after additional VWP data has been collected
- An updated geologic model (by Skeena)
- Available stream flows to assess groundwater discharge to surface
- Calculate groundwater inflows to the proposed adit

The physical characterization data presented in this data report can be used to design a groundwater quality monitoring network to collect groundwater quality data in support of the permitting process. (Knight- Piésold, 2016)

### **10.3 Drill Summary**

The 2014-2015 drill programs by Skeena Resources were successful in delineating mineralization at the Spectrum Central Zone over a strike length of 650 m, a width of up to 350 m, and a depth of 400 m below surface. During this time period, Skeena drilled a total of 19,758 metres in 73 holes, of which 3 holes (461 m) were drilled primarily for geotechnical and hydrology purposes. The remainder were for exploration or resource definition.

Drilling to date has shown that the Central Zone comprises a broad, low-grade porphyry-style shell of Cu-Au mineralization, crosscut by faults and fracture zones, which typically carry higher Au grades. The entire area is pervasively altered to biotite hornfels, QSP, potassic, argillic, and silicic assemblages proximal to the Central Zone and propylitic alteration further afield. Higher-grade zones may be accompanied by Cu, Ag, and base metals. Mineralization at both high and low grades is fracture controlled, occurring in veins, fractures, and breccias around faults and shear zones. Mineralization consists of gold-bearing pyrite, native gold, arsenopyrite, chalcopyrite and sphalerite, and remains open along strike to the north and south, and down dip to the west.

## 11. Sample Preparation, Analyses, and Security

### 11.1 Sample Preparation

All sample preparation was conducted by ActLabs of Kamloops, BC where drill core samples, consisting of 1/2 split core, were crushed to 75% passing 2mm with 800g being pulverized to 95% passing 200 mesh. Rock samples were prepared in a similar manner. Soil samples were dried at 60° Celsius and then screened at -80 mesh. All coarse rejects and master pulps were retained at the facility for the duration of the program.

### 11.2 Analyses

Sample analysis was completed at Activation Laboratories Kamloops, BC facility where core and rock samples were analyzed via the following methodology:

- 1E3 – 0.5g Aqua Regia (AR) digestion / Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) multi-element analysis;
  - if over detection limit (ODL) for Pb, Zn, Cu or Ag run via Code8 - 4 acid digestion / Atomic Absorption Spectrometry (AAS);
- 1A2-50 - 50g Fire Assay (FA) / AAS Au analysis;
  - if ODL run via 1A3-50 - 50g FA / Gravimetric (GRAV) Au analysis;
- selected 1A4-800 – 800g Screen Metallic 50g FA / GRAV from original pulp;
- selected 1A4-1000 – 1000g Screen Metallic 50g FA / GRAV from coarse reject.

Additional analysis was performed on 2014 core at Bureau Veritas Mineral Laboratories (BV) at their main lab in Vancouver, BC. Analytic techniques included:

- AQ370 – 1.0g AR / ICP-OES multi-element (including gold);
  - if ODL run via FA530 – 30g FA / GRAV Au analysis;
- AQ115IGN – 15g AR digestion (ignited at 550 Celcius) / ICP-MS Au anlaysis;
- FA450 – 50g FA / AAS Au analysis;
  - if ODL run via FA550 – 50g FA / GRAV Au analysis;
- selected FS652 1000g Screen Metallic 50g FA / GRAV Au analysis.

Check sample analysis were completed on 2015 pulps at ALS Geochemistry's North Vancouver, BC laboratory. Analytic packages included:

- ICP41 - AR / ICP-OES multi-element analysis
  - if ODL for Pb, Zn, Cu or Ag run via AA62 - 4 acid / AAS
- Au-AA24 - 50g FA / AAS Au analysis;
  - if ODL run via Au-GRA22 - 50g FA / GRAV Au analysisAA62 (4 acid / AAS for ODL Ag, Cu, Pb, Zn)

Specific Gravity was determined via two different methodologies: in camp on split core via the Archimedes method and at Actlabs where SG was calculated via package RX-17 (pycnometer method) on pulverized core.

The Calculation of specific gravity via the Archimedes method is as follows:

$$\text{SG @ } 23\text{ }^{\circ}\text{C} = a/(a+w-b)$$

Where:

a = apparent mass of specimen, without wire or sinker in air

b = apparent mass of specimen (and of sinker, if used) completely immersed in water.

w = apparent mass of totally immersed sinker if used and wire.

### **ActLabs RX-17 SG Analysis**

Specific gravity was also determined from pulverized sample material following the ASTM D854 standard for material passing through a 4.75mm sieve utilizing a water pycnometer.

Specific gravity (Gs) is calculated using the following equation:

$$G_s = M_o / [M_o + (M_a - M_b)]$$

Where:

M<sub>o</sub> = mass of dry solid in air

M<sub>a</sub> = mass of flask and water without dry solid

M<sub>b</sub> = mass of flask, water, and dry solid after vacuum

A temperature correction is applied to the calculation to derive the final specific gravity.

### **11.3 Sample Security**

All samples were sealed in labeled poly sample bags, sorted, and stored at the core logging facility in camp prior to shipping. At all times the samples were under the supervision and control of Skeena employees or contractors, and detailed records were kept of where and when samples were shipped. ActLabs also catalogued all samples on receipt to ensure a complete chain of custody throughout the analytical process. Samples were transported every day or two via helicopter from camp to the staging area on Highway 37. Samples were stored in a locked shipping container while awaiting transport to the Bandstra shipping facility in Smithers, BC. Samples were back-hauled to Smithers by Skeena's expeditors several times a week.

Samples were shipped to the lab in polyfiber rice bags, each containing five samples, and weighing 10-15 kg. The rice bags were indelibly labeled with the destination address, sender's address, and sample numbers contained, and were doubly sealed with heavy duty wire ties. Rice bags were labeled "1 of n", "2 of n", etc. to keep track of the number of bags in each shipment. Complete sample lists and laboratory requisition forms for a given shipment were inserted into "Bag 1 of n" and this bag was clearly identified with brightly-coloured flagging tape tied around the top.

Rice bags were stacked on palettes and secured with plastic wrap at the Bandstra Transportation Systems Ltd. depot in Smithers, BC. From there, the palettes went via transport truck to the

Actlabs facility in Kamloops, BC. All reject materials and pulps are in secure storage in Kamloops in case of future need.

## **12. Data Verification**

The 2015 drill program included insertion of external control samples including field duplicates, blanks and multiple standard reference materials (SRM) into the sample chain of custody with a frequency of approximately 12%. Field duplicates, consisting of 1/4 core, were inserted approximately every 50 samples. Blank material was sourced from the local Miocene Edziza Basalt and consisted of > 2 inch fragments with a mass averaging 2 kg, inserted every 40 samples. External standards, supplied by CDN Resource Labs, were inserted into the sample chain of custody every 20 samples. A total of 5 different standard reference materials (SRM) were inserted – all of which were certified for Au and one of which was certified for Cu.

In addition to the external control samples submitted by Skeena, ActLabs maintained an internal QAQC program consisting of prep duplicates (resplits), pulp duplicates (repeats), standards and blanks that were monitored by a certified assayer. Internal QAQC data was reviewed along with all external data on a regular basis.

Skeena also completed check sample analysis of historic core sampled from the core storage facility on the property. Additional check analysis on 2014 and 2015 core was completed at Bureau Veritas Commodities Canada Ltd. (BV) and ALS Minerals Ltd. (ALS) in Vancouver, BC.

Analysis of the QAQC data has shown that Activation Labs, of Kamloops, BC operated well within industry standard parameters for accuracy and precision. QAQC data was monitored on a weekly basis during the program duration and verified prior to any news release; any issues identified were followed up at the lab and resolved immediately.

Jacques Stacey, the author and Qualified Person for this report, has reviewed the QAQC data and statistical analysis, and is satisfied that the results presented in this report are sufficiently accurate and precise for the purposes of a resource calculation. The author is confident that Skeena operated within the guidelines of industry best practice procedures and that the resource calculation presented in this report has been validated by the QAQC results.

### **12.1 Blank Analysis**

A total of 314 blanks were submitted for analysis by Fire Assay for Au and multi-element ICP-MS. Assay results were monitored for spikes / elevated values of key economic elements including Au, Cu and Ag and compared to the method specific lower detection limit (LDL). Results of the 2015 blank QAQC analysis are consistent with no economically significant cross-contamination for Au, Cu and Ag.

The average value returned for Au was 6.7 ppb Au – well below any value of economic interest. Smear chart analysis shows no correlation between elevated Au values in blanks and the grade of

the preceding sample. The average value returned for Cu was 65 ppm – well below any threshold of economic interest, but above 10 times the lower detection limit. This is attributed to slightly elevated background Cu values in the Edziza basalt used as a blank, indicating that this material is not an ideal blank for copper. However, Cu was not a primary commodity of interest at the beginning of the program. Regardless, smear chart analysis shows no correlation between elevated Cu values in blanks and the grade of the preceding sample.

## **12.2 Field Duplicates**

A total of 189 duplicates were submitted by Fire Assay for Au and multi-element ICP-MS. Field duplicate data was compared to the original sample value via XY and absolute relative difference (ARD) plots to determine total sampling + preparation + analytic error. Overall field duplicates showed a relatively high degree of variability for gold, consistent with typical nugget effect in high-grade Au deposits, while both Cu and Ag correlated very well with the original sample values. Resplits (n=286) and repeats (n=629) of prep and pulp duplicates naturally showed a much higher degree of correlation for Au than the quarter-core field duplicates. Cu and Ag in resplits and repeats showed close to a 1:1 correlation with original values.

## **12.3 Standards**

Results for external standards for Au and Cu were plotted vs accepted values on Stoddart charts with the warning value of +/- 1 SD and failure value of +/- 2 SD indicated. Table 12-1 summarizes results for all standards analyzed for Au and Cu during the course of the analytic program. Results for each SRM averaged well within 5% of the accepted value.

Two results failed for Au standard GS-2P, but values were only 20 ppb over the upper failure limit and were not deemed significant enough to warrant reanalysis of the batch. One standard failed for CM-23 – returning a value of 6200 ppm Cu – well above the upper failure limit of 4710; internal lab QAQC data showed no erroneous data and it was decided to not reanalyze the batch.

Overall, results of the external SRM data is consistent with the laboratory accuracy being well within industry standard accepted values.



**Table 12-1: External Standard QAQC Summary**

Standard	Lab	Accepted Value Au (g/t)	Average Value Au (g/t)	% Difference	Total	Pass	Warning	Fail
CM-23	ActLabs	0.549	0.549	0.00	43	34	9	0
GS-2P	ActLabs	1.99	2.004	0.70	181	159	20	2
GS-4E	ActLabs	4.19	4.119	1.69	159	144	15	0
GS-22	ActLabs	22.94	22.983	0.19	94	90	4	0
GS-50	ActLabs	50.5	49.397	2.18	36	32	4	0
Standard	Lab	Accepted Value Cu (ppm)	Average Value Cu (ppm)	% Difference	Total	Pass	Warning	Fail
CM-23	ActLabs	4710	4824	2.42	47	30	15	2
CM-31	ALS	820	828	0.98	9	9	0	0

## 12.4 Check Samples

Check sample analysis was completed at ActLabs on historic core during the 2014 and 2015 exploration programs; in addition, selected 2014 pulps were reanalyzed via fire assay technique at Bureau Veritas, and 2015 sample pulps were submitted to ALS for check sample analysis.

Original 2014 AQ115 Au data correlates well with reanalyzed 2015 FA450 fire assay data and shows no evidence of systematic bias. Finally, 435 check samples submitted to ALS in 2015 correlate very well with the original 2015 sample population for Au.

## 12.5 Specific Gravity

A number of samples were analyzed for SG via both the classic Archimedes method in camp using drill core, and via water on sample rejects by pycnometer at ActLabs (See Section 14.6 for additional details). The average specific gravity via camp methodology was 2.79 and the average specific gravity via water pycnometer was 2.65 – the two datasets agree within approximately 1.5%. There is a slight negative bias in the ActLabs dataset vs the camp derived data. The minor difference can be attributed to different methodologies used in camp versus the laboratory.

## 12.6 Historical QAQC

In 2014 and 2015, Skeena re-sampled selected intervals of historical core from programs completed by Cominco Ltd. (1989) and Columbia Gold Mines Ltd. (1990-1992). Although most of the high-grade intervals had been removed by previous operators, the remaining half or whole core was in relatively good condition with recognizable labels and could be sampled with confidence. A total of 367 samples representing 454.9 m of historic core was re-sampled by Skeena and analyzed at Actlabs in Kamloops using the protocols described above.

Although there is a significant scatter in the data, on average, Au and Cu values are comparable to those reported by previous operators, indicating that these historical assays can be used with a reasonable degree of confidence.

Details on the Cominco analytical methods (1989 drill holes) are limited, but they were completed at the Cominco Exploration and Research Laboratory in Vancouver. The CGM (1990-1992) assays were completed at Min-En Laboratories in Vancouver. Gold was analyzed by Atomic Absorption (AA) following an aqua regia digestion of a 5 g sample, and samples reporting greater than 1 g/t Au were re-analyzed by 30 g fire assay, and in some cases by metallic screen assay. Cu, Ag, Zn, and/or Pb were determined by AA following an aqua regia digestion. Internal lab QAQC was completed by Min-En. Sampling and analytical information for drilling completed in the period 1973 to 1980 is limited, and no information is available on QAQC. In the QP's opinion (Stacey), the historical sampling and analytical work was completed by reputable companies and laboratories, conformed to industry standards of the time.

Many of the historic holes were not analyzed for copper or silver, which elements are considered by Skeena to be under-reported in the current Mineral Resource. Skeena has indicated that this data gap will be progressively filled, by means of re-assay where possible, hole twinning and additional drilling, as appropriate.

## **12.7 Conclusions - QAQC**

Results of the 2015 QAQC data analysis indicate that ActLabs performed well within industry standard tolerances for accuracy and precision. The following major conclusions can be drawn:

- Blank material showed no evidence of economically significant cross-contamination. Due to the slightly elevated background values of Cu in the Edziza basalt used as a blank in 2015, it is advised that a different source of blank material be obtained for future programs.
- Field duplicates show some variability in gold values, indicative of a mild nugget effect for gold. Copper in field duplicates correlates very well with original values. Prep and Pulp duplicates correlate very well with original values for gold and copper.
- External standards for Au and Cu, with the exception of 3 results, all returned values within +/- 2 standard deviations of the accepted value for the Standard Reference. This is consistent with acceptable accuracy by the lab and no reruns were requested. Unfortunately none of the Standard Reference Standards utilized were certified for silver, and so reliance on internal lab standards is required for this element.
- Historic check samples analyzed in 2014 and 2015 were generally comparable to historical values indicating that historical assays can be used with a reasonable degree of confidence.
- 2015 Check sample results from ALS correlated well with the original Actlabs analytical results for Au, Cu and Ag; confirming there is no bias between the two laboratories.
- Although the relatively high sample variability identified in the field and prep duplicates is consistent with the presence of coarse gold, screen metallic analysis does not appear to result

in any bias compared to the standard 50 g fire assay Au analysis that was used in the 2015 program. It appears that the relatively high variability resulting from the presence of coarse gold masks any more subtle bias that might be present in the data.

- Results from internal specific gravity QAQC data analysis are consistent with the RX-17 methodology being acceptably accurate and precise.

In the opinion of the Qualified Person for this report (Stacey), Skeena Resources acted well within industry standard guidelines in the design and implementation of their QAQC program in 2015. The data is considered to be sufficiently precise and accurate for the purposes of completing resource calculations for the area drilled to date.

### **13. Mineral Processing and Metallurgical Testing**

In March 2015, Skeena commissioned Michael Yakimchuk, P.Eng. to perform bench-scale metallurgical testing on two composite samples from the “Porphyry” and “QC” zones (outdated terminology for higher-grade intervals within the Central Zone). A total of 58 metres of core from seven of Skeena’s 2014 drill holes were sent to Saskatchewan Research Council (SRC) in Saskatoon, Saskatchewan for the bench-scale tests. Gravity recovery, cyanide leaching, and flotation were tested to determine the optimal recovery process. Readers should be aware that the 2015 metallurgical tests are preliminary, and that calculated head grades and recoveries may change following the completion of additional metallurgical testing in 2016.

The following results of gravity and cyanide leaching and flotation are sourced from Yakimchuk’s metallurgical report dated July 13, 2015:

#### **Gravity-Cyanide:**

##### **QC Zone:**

- The composite head feed sample was calculated to be 13.96 g/t Au as compared to the weighted average of the drill core samples of 13.50 g/t Au
- Gravity recovery gold test yielded a gold recovery 56.4%
- An overall gold recovery of 98.8% when both gravity and subsequent cyanide leaching were performed.

##### **Porphyry Zone:**

- The composite head feed sample was calculated to be 8.76 g/t Au as compared to the weighted average of the drill core samples of 10.55 g/t Au
- Gravity recovery gold test yielded a gold recovery 24.6%
- An overall gold recovery of 91.6% when both gravity and subsequent cyanide leaching were performed.

## Flotation:

When evaluating the viability of flotation of both the QC and Porphyry zones the following was observed:

- Both zones are amenable to flotation when milled to 100% passing 106 microns
- The QC zone may be suitable for flotation at a coarser grind
- Multiple collectors were effective in the recovery of gold for both zones.
- The use of an activator may improve selectivity and concentrate grade. Further test would be required to confirm this.
- A grind of 100% passing 106 microns, a pH of 8.0 – 8.5 and the use of the collector Aero@Maxgold 900 was used as a basis for evaluation various scenarios.
- When this scenario was repeated three times for the QC Zone the gold recoveries were 64.4%, 95.63% and 95.19%, with an average concentrate grade 22.83 g/t
- When this scenario was repeated three times for the PY (Porphyry) Zone the gold recoveries were 89.3%, 95.37% and 93.73%, with an average concentrate grade 36.40 g/t
- Both zones are suitable for flotation operation with purpose of recovering gold.
- It is highly likely that the ore from the two zones can be blended and successfully floated.
- Flotation along with gravity concentration operations can be very successful for the purpose of recovering gold in a concentrate form.
- It is unknown if performing a gravity concentration operation on the flotation concentrate will be effective in terms of gold recovery.
- Gravity concentration test were performed on a size fraction of (+) 74 microns (200 Mesh) with positive recovery results observed in both zones.

Initial tests indicate that high-grade gold mineralization in the Central Zone is amenable to recoveries greater than 90% under a variety of gravity, flotation and cyanide leach conditions.

Copper recoveries and low-grade Cu-Au intervals were not studied in 2015, so the metallurgical behaviour of these materials is unknown at present. Skeena has indicated that metallurgical studies are ongoing in 2016, and include a variety of mineralized rock from 2015 drilling at different cut-off grades.

## 14. Mineral Resource Estimates

At the request of Rupert Allan, VP Explorations for Skeena Resources Limited, (“SKE”) Giroux Consultants Ltd. was retained to produce a resource estimate on the Spectrum gold-copper Project in northwestern B.C. The effective date for this estimate is December 2, 2015, the day the data was received. A press release detailing the new resource estimate was published by Skeena Resources Limited on April 25, 2016.

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 the company applying all of the tests in section 1.5 of National Instrument 43-101. Mr. Giroux has not visited the property.

There appear to be no issues or factors that could materially affect the Mineral Resource Estimate. This includes no issue involved with environmental permitting, legal, title, taxation, socio-economic, marketing, political, mining, metallurgy or infrastructure.

### 14.1 Geologic Solid Model

Skeena geologists, using a series of cross-sections and level plans, have produced a geologic three dimensional solid model to constrain the resource estimate on the Central zone. The mineralization at Spectrum is spatially associated with steeply dipping fracture zones contained within a broad area of propylitic, silica, carbonate and potassic altered Stuhini Group intermediate volcanics and volcanoclastic rocks at the contact zone of a dyke like monzonite intrusion of Jurassic age.

The Central Zone mineralization consists of a broad zone of low-grade porphyry gold-copper mineralization cut by at least 4 sub-parallel vertically dipping gold-mineralized structures, each of which vary from 3 to 10 metres wide, comprising fault gouge, silica, k-feldspar and carbonate alteration, plus quartz-carbonate-sulphide veins and veinlet stockworks. The Central Zone has been drill tested for over 650 metres of strike length to a depth of approximately 400 metres within a larger altered zone. Mineralization consists of gold-bearing pyrite, native gold, arsenopyrite, chalcopyrite and sphalerite, and remains partially open along strike and down dip.

The twelve domains that have been modelled for estimation consist of:

AU25N – a low grade 0.25 g/t Au grade shell that encompasses the higher grade structures north of an east-west fault

AU25S – a low grade 0.25 g/t Au grade shell that encompasses the higher grade structures south of an east-west fault

AU10N – a higher grade 1.0 g/t Au grade shell north of the fault

AU10S\_M - a higher grade 1.0 g/t Au grade shell south of the fault (Main Structure)

AU10S\_SE - a higher grade 1.0 g/t Au grade shell south of the fault (Structure East)

AU10S\_SW - a higher grade 1.0 g/t Au grade shell south of the fault (Structure West)

AU10S\_FE - a higher grade 1.0 g/t Au grade shell south of the fault (Feeder East)

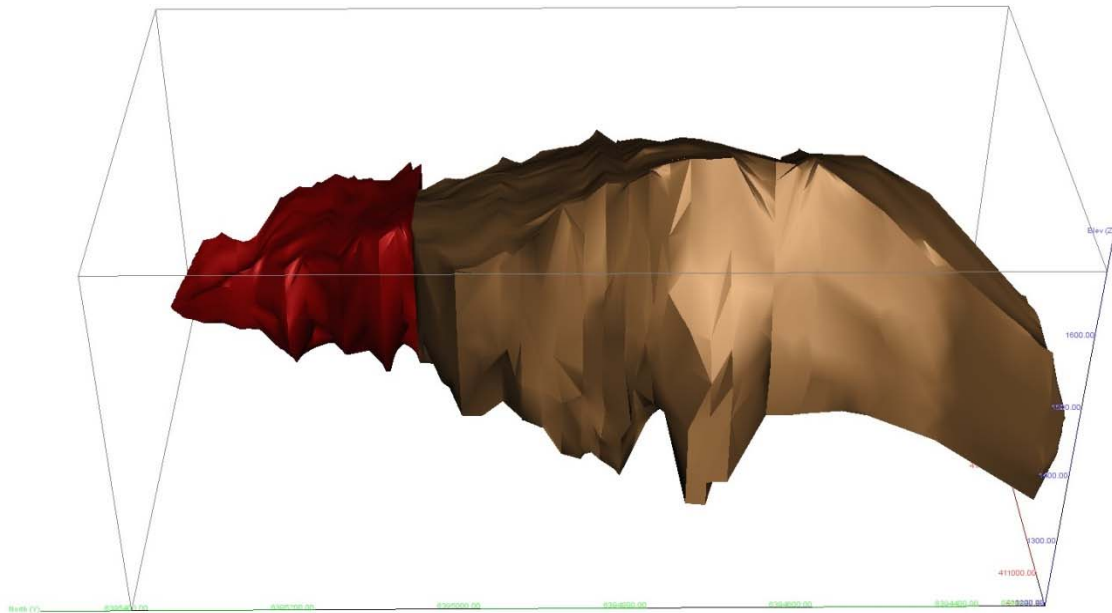
AU10S\_FW - a higher grade 1.0 g/t Au grade shell south of the fault (Feeder West)

AU10S\_W – internal waste within the South higher grade shells

AU10N\_W – internal waste within the North higher grade shells

CU400 – a 0.04% Cu shell

CU400\_W – material outside the 0.04% Cu Shell considered waste



**Figure 14-2: Isometric view looking east showing higher grade shells AU10N in red, AU10S\_FE in magenta, AU10S\_FW in purple, AU10S\_M in blue and AU10S\_SE in green.**

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

## 14.2 Data Analysis

Skeena Resources provided data on 165 diamond drill holes containing 517 down hole surveys and 16,410 assays. Early drill holes completed in 1973 (Imperial Oil Enterprises Limited) and 1979-1980 (Consolidated Silver Ridge Ltd.) were only assayed for Au with a few intervals assayed for Ag and Cu. Holes drilled in 1989 (Cominco Ltd.) and 1990-1992 (Columbia Gold Mines Ltd.) were assayed for Au and most intervals were assayed for Cu. Holes drilled by Skeena Resources Limited in 2014 and 2015 were assayed for Au, Ag and Cu. Eight gold assays reported as blank were set to 0.001 g/t Au. Samples not assayed for copper and silver were left blank. A total of 34 gaps in the from-to record were identified and values of 0.001 g/t Au were inserted. If surrounding samples were assayed for Cu the gap was filled with 0.001 % Cu and if surrounding samples had silver assays a value of 0.1 g/t Ag was inserted.

The drill holes were compared to the geologic solids and the point each hole entered and left each solid was recorded. Individual assays were then back coded with a gold and copper domain code. Of the supplied drill holes 145 were within the Central zone and were used in the resource estimate. Appendix 1 lists the supplied drill holes and highlights the drill holes used in the study.

The assay statistics are listed below sorted by domain. Note the AU10N\_W domain was combined with external waste into AU\_WASTE for statistical analysis.

**Table 14-1: Assay Statistics sorted by Domain**

Domain	Variable	Number	Mean	Standard Deviation	Minimum Value	Maximum Value	Coefficient of Variation
AU10N	Au (g/t)	1,420	2.46	14.40	0.001	350.69	5.86
	Ag (g/t)	368	3.77	22.94	0.3	430.0	6.08
AU10S_M	Au (g/t)	1,637	1.01	2.35	0.001	50.98	2.32
	Ag (g/t)	764	3.75	4.52	0.1	53.5	1.20
AU10S_SE	Au (g/t)	615	1.10	4.19	0.001	73.52	3.80
	Ag (g/t)	423	3.43	18.82	0.1	252.0	5.49
AU10S_SW	Au (g/t)	300	1.71	6.07	0.001	80.90	3.55
	Ag (g/t)	251	4.01	11.23	0.1	118.0	2.75
AU10S_FE	Au (g/t)	349	1.65	4.72	0.002	50.88	2.87
	Ag (g/t)	266	1.53	4.40	0.1	64.2	2.88
AU10S_FW	Au (g/t)	430	3.11	14.51	0.002	254.5	4.66
	Ag (g/t)	388	2.74	6.44	0.1	63.8	2.34
AU25N	Au (g/t)	1,788	0.27	0.75	0.001	15.40	2.77
	Ag (g/t)	645	1.37	4.79	0.1	74.1	3.49
AU25S	Au (g/t)	5,936	0.22	0.85	0.001	54.23	3.80
	Ag (g/t)	4,416	1.16	5.17	0.1	227.5	4.47
AU WASTE	Au (g/t)	4,422	0.17	1.14	0.001	59.75	6.54
	Ag (g/t)	2,633	0.61	1.60	0.1	43.9	2.64
CU400	Cu (%)	8,436	0.08	0.09	0.001	4.35	1.16
CU WASTE	Cu (%)	6,528	0.02	0.02	0.001	0.94	1.12



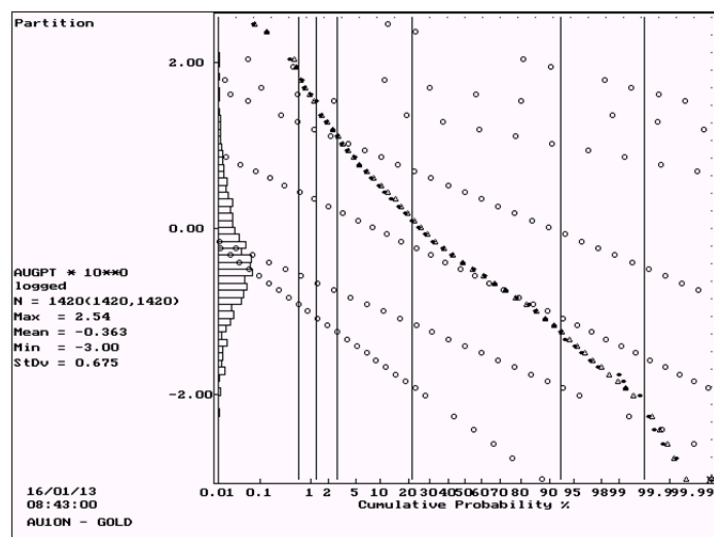
On first review high values were found within the 0.25 g/t Au shell and sample codes were checked on sections and adjusted to match the intended solids. These errors in coding resulted from a few drill holes not “snapped to” and holes that were very close to solid boundaries. The high values for Au, Ag and Cu that are still within the low grade shells and waste were isolated values that could not be modelled with the existing mineralized solids.

The grade distributions for gold and copper were evaluated in each of the domains. In all cases variables showed skewed distributions and were converted to lognormal cumulative frequency plots. The procedure used is explained in a paper by Dr. A.J. Sinclair titled Applications of probability graphs in mineral exploration (Sinclair, 1974). In short the cumulative distribution of a single normal distribution will plot as a straight line on probability paper while a single lognormal distribution will plot as a straight line on lognormal probability paper. Overlapping populations will plot as curves separated by inflection points. Sinclair proposed a method of separating out these overlapping populations using a technique called partitioning. In 1993 a computer program called P-RES was made available to partition probability plots interactively on a computer (Bentzen and Sinclair, 1993). Each variable was examined with the populations broken out and thresholds selected for capping if required.

For example in domain AU10N a lognormal probability plot shown below as Figure 14.3 shows 7 overlapping lognormal populations. These are shown on the plot as lines of open circles. The original distribution is shown as open triangles and the inflection points as vertical lines. When the interpretation is recombined and plotted as solid black points it matches the original distribution well. The seven populations are shown below in Table 14-2.

**Table 14-2: Gold populations in Domain AU10N**

Population	Mean Au (g/t)	Percentage of Total Data	Number of Samples
1	166.80	0.61 %	9
2	46.46	0.64 %	9
3	16.98	1.46 %	21
4	2.74	18.57 %	264
5	0.30	71.30 %	1,011
6	0.04	7.09 %	101
7	0.004	0.34 %	5



**Figure 14-3: Lognormal Cumulative Frequency Plots for Gold in Domain AU10N**

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Populations 1 and 2 represent erratic high grade outliers and should be capped. A threshold of 2 standard deviations above the mean of population 3 would effectively cap 16 gold assays at 38 g/t Au. Populations 3, 4 and 5 represent the main mineralization in the north higher grade domain while populations 6 and 7 represent internal waste. Within this domain 5 silver assays were capped at 20 g/t Ag.

A similar procedure was completed on each of the other domains. The cap levels and the number of samples capped are tabulated below.

**Table 14-3: Capping levels and number of assays capped sorted by Domain**

Domain	Variable	Cap Level	Number Capped
AU10N	Au (g/t)	38 g/t	16
	Ag (g/t)	20 g/t	5
AU10S_M	Au (g/t)	26 g/t	2
	Ag (g/t)	33 g/t	2
AU10S_SE	Au (g/t)	34 g/t	2
	Ag (g/t)	40 g/t	3
AU10S_SW	Au (g/t)	17 g/t	4
	Ag (g/t)	28 g/t	2
AU10S_FE	Au (g/t)	24 g/t	3
	Ag (g/t)	13 g/t	2
AU10S_FW	Au (g/t)	45 g/t	5
	Ag (g/t)	30 g/t	4
AU25N	Au (g/t)	7 g/t	4
	Ag (g/t)	13 g/t	5
AU25S	Au (g/t)	7 g/t	4
	Ag (g/t)	31 g/t	8
AU_WASTE	Au (g/t)	1.1 g/t	69
	Ag (g/t)	12 g/t	5

CU400	Cu (%)	1.0 %	7
CU400_WASTE	Cu (%)	0.11 %	83

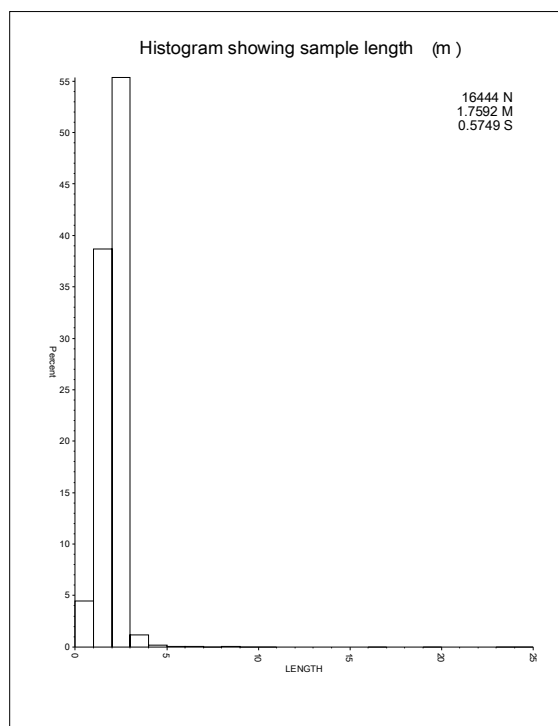
The results of capping a relatively few number of samples are shown in the statistics for capped values (see Table 14-4). While the mean grade has been reduced slightly the standard deviation and as a result the coefficient of variation has been significantly reduced in most cases.

**Table 14-4: Capped Assay Statistics sorted by Domain**

Domain	Variable	Number	Mean	Standard Deviation	Minimum Value	Maximum Value	Coefficient of Variation
AU10N	Au (g/t)	1,420	1.69	4.91	0.001	38.0	2.91
	Ag (g/t)	368	2.36	3.04	0.3	20.0	1.29
AU10S_M	Au (g/t)	1,637	0.99	1.98	0.001	26.0	2.00
	Ag (g/t)	764	3.71	4.12	0.1	33.0	1.11
AU10S_SE	Au (g/t)	615	1.00	2.64	0.001	34.0	2.65
	Ag (g/t)	423	2.16	5.14	0.1	40.0	2.38
AU10S_SW	Au (g/t)	300	1.34	2.72	0.001	17.0	2.03
	Ag (g/t)	251	3.29	4.75	0.1	28.0	1.44
AU10S_FE	Au (g/t)	349	1.47	3.29	0.002	24.0	2.23
	Ag (g/t)	266	1.29	1.79	0.1	13.0	1.39
AU10S_FW	Au (g/t)	430	2.45	6.87	0.002	45.0	2.80
	Ag (g/t)	388	2.50	4.61	0.1	30.0	1.84
AU25N	Au (g/t)	1,788	0.25	0.56	0.001	7.0	2.20
	Ag (g/t)	645	1.08	1.70	0.1	13.0	1.57
AU25S	Au (g/t)	5,936	0.21	0.35	0.001	7.0	1.65
	Ag (g/t)	4,416	1.04	2.23	0.1	31.0	2.15
AU WASTE	Au (g/t)	4,422	0.13	0.21	0.001	1.1	1.61
	Ag (g/t)	2,633	0.58	1.13	0.1	12.0	1.96
CU400	Cu (%)	8,436	0.08	0.07	0.001	1.0	0.93
CU WASTE	Cu (%)	6,528	0.02	0.01	0.001	0.11	0.70

### 14.3 Composites

Assay sample lengths ranged from 0.1 m to 24 m with a mean of 1.75 and a median of 2.0 m (see Figure 14.4). A composite length of 2.5 m was chosen to best match the median value and be an even multiple of the 5 m block height. Uniform down hole composites were formed to honour the domain boundaries. Samples at the boundaries that were less than 1.25 m were combined with adjoining samples, while those more than 1.25 m, were left intact. In this manner, a uniform support of  $2.5 \pm 1.25$  m was achieved. The composite statistics are presented below in Table 14-5.



**Figure 14-4: Histogram of Sample Lengths**

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**Table 14-5: 2.5 m Composite Statistics sorted by Domain**

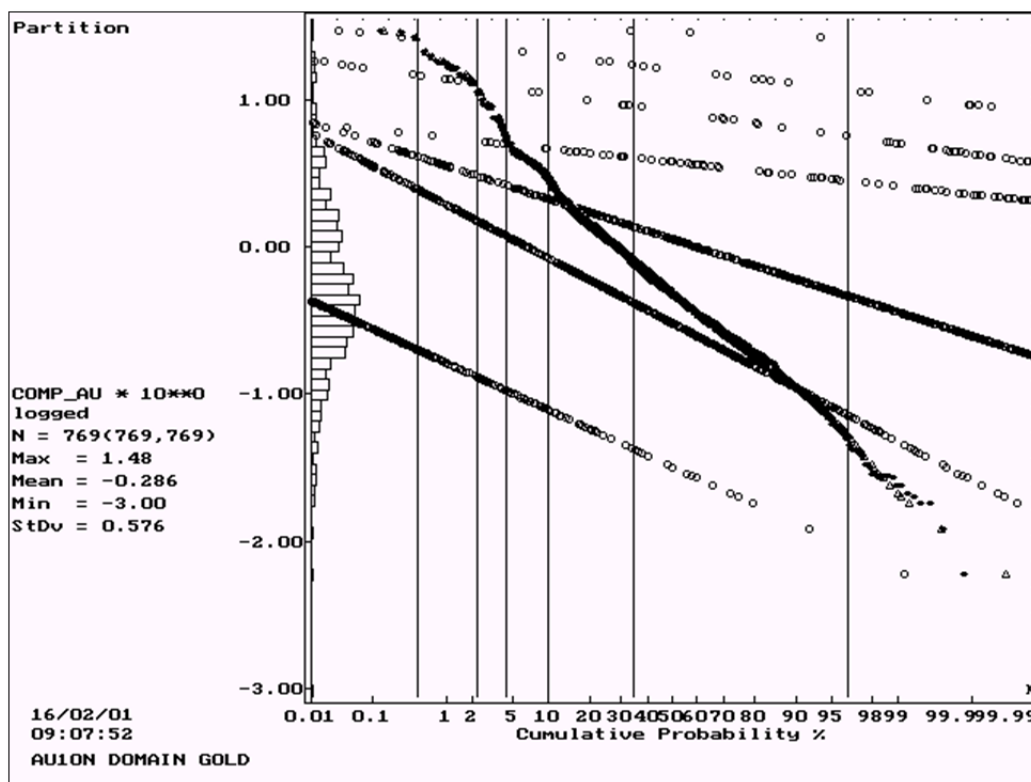
Domain	Variable	Number	Mean	Standard Deviation	Minimum Value	Maximum Value	Coefficient of Variation
AU10N	Au (g/t)	769	1.36	3.03	0.001	30.0	2.23
	Ag (g/t)	264	2.23	2.31	0.5	17.5	1.03
AU10S_M	Au (g/t)	1,203	0.95	1.51	0.001	18.9	1.58
	Ag (g/t)	586	3.73	3.78	0.1	33.0	1.01
AU10S_SE	Au (g/t)	432	0.87	1.47	0.005	13.9	1.68
	Ag (g/t)	321	2.03	4.08	0.1	33.4	2.01
AU10S_SW	Au (g/t)	230	1.18	1.93	0.001	13.5	1.64
	Ag (g/t)	194	3.13	3.75	0.1	21.3	1.20
AU10S_FE	Au (g/t)	243	1.38	2.23	0.007	15.3	1.62
	Ag (g/t)	199	1.23	1.41	0.1	10.2	1.15
AU10S_FW	Au (g/t)	303	2.33	5.37	0.002	45.0	2.31
	Ag (g/t)	280	2.42	3.68	0.1	23.5	1.52
AU25N	Au (g/t)	1,160	0.24	0.42	0.002	6.0	1.74
	Ag (g/t)	507	1.03	1.32	0.1	10.3	1.28
AU25S	Au (g/t)	4,388	0.20	0.27	0.001	7.0	1.24
	Ag (g/t)	3,418	1.02	1.87	0.1	26.3	1.82
AU WASTE	Au (g/t)	3,183	0.12	0.18	0.001	1.4	1.46
	Ag (g/t)	2,064	0.56	1.02	0.1	11.2	1.81
CU400	Cu (%)	5,647	0.08	0.06	0.001	1.0	0.82
CU WASTE	Cu (%)	4,849	0.02	0.01	0.001	0.11	0.65

The AU10N and AU10S\_M mineralized domains showed multiple higher grade intersections that, unlike the lower structures and feeder zones, could not be easily joined together. For each of these domains lognormal cumulative frequency plots were produced for gold in 2.5 m Composites.

The gold distribution within 2.5 m composites in the AU10N domain showed 7 multiple overlapping lognormal populations as tabulated below. Populations 1 to 4 totalling a combined 10% of the data represent higher grade populations that might be related to structures. Populations 5 and 6 represent the main mineralizing event while population 7 represents internal waste. A threshold to separate the high grade populations from the lower grade main style of mineralization would be at 2 standard deviations above the mean of population 5, a value of 3.0 g/t Au.

**Table 14-6: Gold populations for composites within the AU10N Domain**

Population	Mean Au (g/t)	Percentage of Total Data	Number of Samples
1	29.25	0.44 %	3
2	16.23	1.79 %	14
3	8.39	2.14 %	17
4	3.80	5.69 %	44
5	1.14	24.46 %	187
6	0.30	61.97 %	477
7	0.003	3.52 %	27



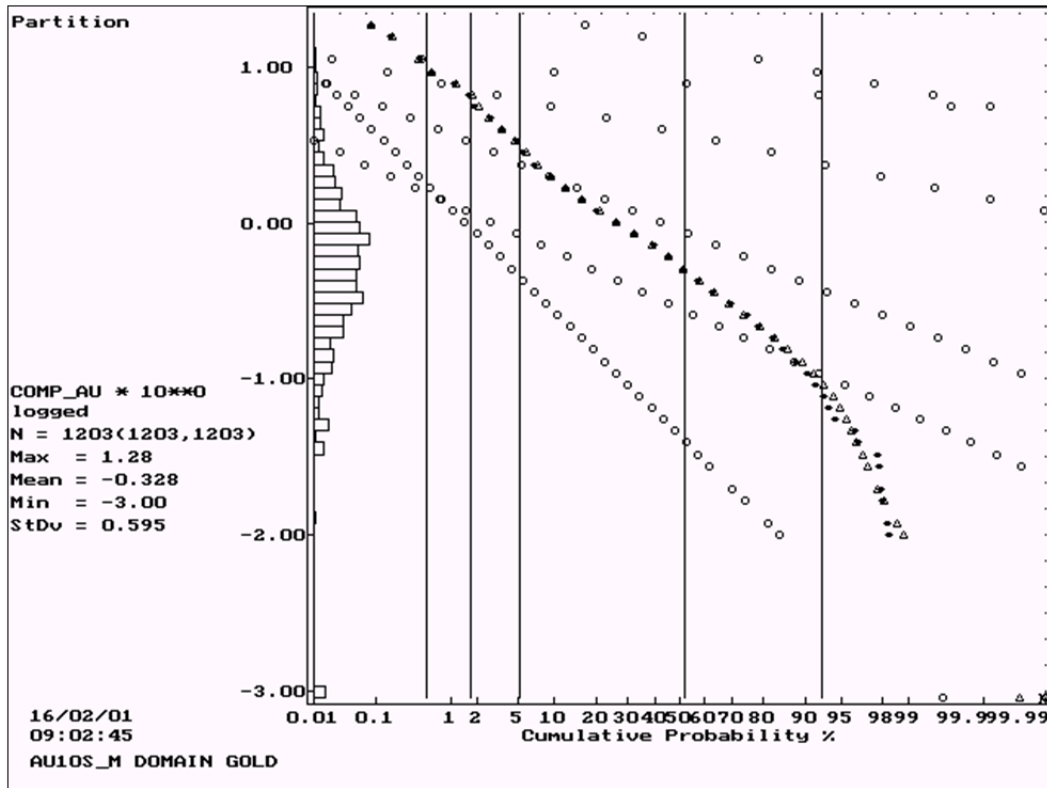
**Figure 14-5: Lognormal Cumulative Frequency Plot for Au in AU10N Composites**

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A similar exercise was completed for gold composites within the AU10S\_M domain. A total of six overlapping lognormal populations were identified (see Figure 14.6) and are tabulated below in Table 14-7. In domain AU10S\_M populations 1 to 3 representing a combined 5.2 % of the composites could possibly represent high grade structures that are not possible to model at this time. Populations 4 and 5 would represent the main mineralizing event while population 6 would represent internal waste. A threshold of 2 standard deviations above the mean of population 4, a value of 3.0 g/t Au would effectively separate the higher populations.

**Table 14-7: Gold populations for composites within the AU10S\_M Domain**

Population	Mean Au (g/t)	Percentage of Total Data	Number of Samples
1	14.12	0.50 %	6
2	8.01	1.18 %	14
3	3.77	3.51 %	42
4	0.90	46.80 %	563
5	0.28	40.58 %	488
6	0.004	7.42 %	89



**Figure 14-6: Lognormal Cumulative Frequency Plot for Au in AU10S\_M Composites**

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For gold estimation within these two domains of AU10N and AU10S\_M an indicator approach was used. In both domains composites  $\geq 3.0$  g/t were assigned an indicator value of 1 while all other composites were assigned an indicator value of 0.

IND = 1 if Au  $\geq 3.0$  g/t  
IND = 0 if Au < 3.0 g/t

In this manner the data is simplified to try and model the higher grade structures.

#### 14.4 Variography

Pairwise relative semivariograms were used to model Au and Ag within the nine gold domains and Cu within the two copper domains. In most cases nested spherical models were fit to the experimental data. In most cases the anisotropy observed in gold also applied to silver.

For the domains AU10N and AU10S\_M semivariograms were produced for the gold indicator value and for the low grade population with the high grades removed.



The results are tabulated below for each variable within each domain. The semivariograms for gold and copper are shown in Appendix 2.

**Table 14-6: Semivariogram Parameters for all Domains**

Domain	Variable	Az / Dip	C <sub>0</sub>	C <sub>1</sub>	C <sub>2</sub>	Short Range (m)	Long Range (m)
AU10N	Au Low Grade	0 / 0	0.20	0.35	0.17	30.0	200.0
		270 / 0				10.0	30.0
		0 / -90				15.0	80.0
	Au HG IND	0 / 0	1.75	0.05	0.14	20.0	100.0
		270 / 0				5.0	20.0
		0 / -90				10.0	60.0
	Ag	140 / 0	0.10	0.35			50.0
		50 / 0					60.0
		0 / -90					20.0
AU10S_M	Au Low Grade	135 / 0	0.20	0.25	0.28	15.0	90.0
		45 / -55				30.0	70.0
		225 / -35				15.0	30.0
	Au HG IND	0 / 0	1.60	0.25	0.15	35.0	180.0
		270 / 0				5.0	20.0
		0 / -90				30.0	50.0
	Ag	135 / 0	0.10	0.45			60.0
		45 / -55					30.0
		225 / -35					80.0
AU10S_SE	Au	165 / 0	0.30	0.37	0.20	22.0	140.0
		75 / 0				30.0	48.0
		0 / -90				46.0	80.0
	Ag	165 / 0	0.20	0.40	0.20	50.0	120.0
		75 / 0				20.0	40.0
		165 / 0				50.0	80.0
AU10S_SW	Au	190 / 0	0.40	0.40	0.50	30.0	40.0
		100 / 0				10.0	20.0
		0 / -90				40.0	60.0
	Ag	190 / 0	0.30	0.40			84.0
		100 / 0					20.0
		0 / -90					40.0
AU10S_FE	Au	195 / 0	0.20	0.20	0.38	20.0	50.0
		105 / 0				10.0	20.0
		0 / -90				30.0	68.0
	Ag	195 / 0	0.20	0.25			40.0
		105 / 0					20.0
		0 / -90					30.0
AU10S_FW	Au	195 / 0	0.35	0.30	0.35	30.0	50.0
		105 / 0				10.0	20.0
		0 / -90				15.0	40.0
	Ag	195 / 0	0.20	0.35			70.0
		105 / 0					20.0
		0 / -90					60.0
AU25N	Au	0 / 0	0.15	0.47	0.20	30.0	150.0
		270 / 0				30.0	40.0
		0 / -90				50.0	100.0
	Ag	0 / 0	0.18	0.10	0.42	15.0	80.0
		270 / 0				15.0	60.0
		0 / -90				15.0	40.0
AU25S	Au	158 / 0	0.28	0.18	0.12	30.0	120.0

Domain	Variable	Az / Dip	C <sub>0</sub>	C <sub>1</sub>	C <sub>2</sub>	Short Range (m)	Long Range (m)
	Ag	68 / 0	0.20	0.06	0.39	15.0	90.0
		0 / -90				40.0	70.0
		158 / 0				30.0	100.0
		68 / 0				20.0	90.0
		0 / -90				15.0	46.0
CU400	Cu	12 / 0	0.06	0.26	0.10	10.0	90.0
		282 / -45				90.0	110.0
		102 / -45				60.0	70.0
WASTE	Au	Omni Directional	0.20	0.18	0.32	15.0	140.0
	Ag	Omni Directional	0.15	0.12	0.27	12.0	100.0
	Cu	Omni Directional	0.05	0.10	0.16	16.0	150.0

## 14.5 Block Model

A block model with blocks 10 m north-south, 5 m east-west and 5 m vertical was superimposed over all the mineralized solids. For each block the percentage of the block below surface topography, below the bedrock surface and within each of the mineralized solids was recorded. The percentage waste was determined by subtracting all the mineralized solid percentages from the amount below the bedrock surface. The block model origin is shown below.

### Lower left Corner

<u>Easting</u>	410925.0	<u>Column size = 5 m</u>	<u>136 Columns</u>
<u>Northing</u>	6394270.0	<u>Row size = 10 m</u>	<u>118 Rows</u>

### Top of Model

<u>Elevation</u>	1850.0	<u>Level size = 5 m</u>	<u>134 Levels</u>
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### No Rotation

## 14.6 Bulk Density

During the 2015 field season a total of 569 specific gravity determinations were made in the field by Skeena staff. The Archimedes method using weight in air and weight in water was used. Of these measurements 3 were within the same from – to sample interval and for these three intervals the two specific gravity measurements were averaged leaving a total of 566. In addition 373 specific gravity measurements were taken at ActLabs using the ASTM D854 methodology on crushed material passing through a 4.75 mm sieve. This method is described as follows:

### Procedure

- Take approximately 60 g of dry soil and take exact weight measurement ( $M_0$ ).
- Fill the flask up to the etch line with distilled water and measure weight ( $M_a$ ).
- Pour half of the water out of the flask and place the soil in the flask with a funnel.
- Wash the soil down the inside neck of the flask.
- Connect the flask to the vacuum source with the hose and stopper and apply vacuum for 30 minutes, occasionally agitating the mixture.
- Fill the flask to the etch line with distilled water and weigh it ( $M_b$ ).
- Record the water temperature in the flask.

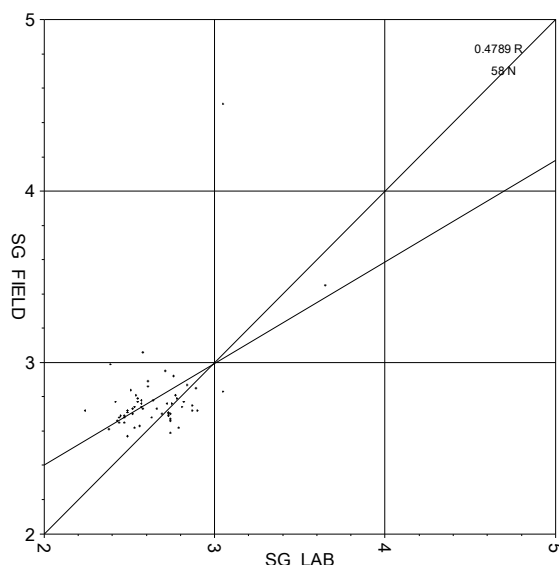
### Calculations

Calculate specific gravity ( $G_s$ ) using the following equation.

$$G_s = \frac{M_0}{M_0 + (M_a - M_b)}$$

Of the total specific gravity measurements 58 sample intervals were tested both in the field and in the lab. Considering the samples were not on exactly the same section of core and the majority of Lab analysis were on pulps as opposed to core the comparison is reasonable (see Figure 14.5).

Scatter Plot - Specific Gravity



**Figure 14-7: Scatter plot for Specific Gravity comparing Field and Lab duplicates**

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

For samples with both a field and Lab analysis the field SG was used. This resulted in a total of 881 specific gravity measurements with a low of 2.34 a high of 3.76 and a mean of 2.74.

The 881 SG measurements are sorted by mineralized domain in Table 14-6.

**Table 14-6: Specific Gravity Determinations sorted by Domain**

Domain	Number	Min. SG	Max. SG	Average SG
AU10N	23	2.52	3.24	2.76
AU10S_M	100	2.34	3.45	2.73
AU10S_SE	67	2.48	3.41	2.76
AU10S_SW	45	2.44	3.43	2.75
AU10S_FE	51	2.48	2.98	2.68
AU10S_FW	82	2.45	3.26	2.71
AU25N	22	2.43	3.23	2.69
AU25S	291	2.45	3.76	2.75
WASTE	200	2.48	3.43	2.74

The results were also sorted by gold grade in Table 14-7. There appears to be no correlation between gold grades and specific gravity.

**Table 14-7: Specific Gravity Determinations sorted by Gold Grades**

Gold Grade	Au Average g/t	Number	Min. SG	Max. SG	Average SG
Au > 0.0 < 0.5 g/t	0.11	492	2.34	3.76	2.74
Au ≥ 0.5 < 1.0 g/t	0.69	77	2.43	3.01	2.70
Au ≥ 1.0 < 2.0 g/t	1.40	88	2.43	3.41	2.70
Au ≥ 2.0 < 4.0 g/t	2.72	108	2.45	3.32	2.74
Au ≥ 4.0 < 6.0 g/t	4.92	37	2.48	3.45	2.79
Au ≥ 6.0 < 8.0 g/t	6.81	21	2.53	3.23	2.70
Au ≥ 8.0 g/t	19.66	58	2.46	3.43	2.74

As a result a specific gravity was assigned to each block based on Domain. For blocks containing more than one domain a weighted average specific gravity was determined.

## 14.7 Grade Interpolation

Grades for gold, silver and copper were interpolated into blocks by Ordinary Kriging (OK). The kriging exercise was completed in a series of 4 passes for each mineralized domain and for each variable using in each case the appropriate composites for the domain being estimated. The search ellipsoid dimensions and orientation were determined by the semivariogram for the domain and variable being estimated. In all cases the first pass ellipsoid dimensions were set to ¼ of the semivariogram range in each direction. A minimum of 4 composites were required to estimate a block with a maximum of 3 allowed from any single drill hole. In this manner each block was estimated using a minimum of 2 drill holes. For blocks not estimated in Pass 1, a second pass using ½ the semivariogram ranges was completed. A third pass using the full range and a fourth pass using twice the range completed the kriging. In all cases the maximum number of composites allowed was set at 12 and if more than 12 were found within the search ellipsoid the closest 12 were used.

For the domains AU10N and AU10S\_M a combination of Ordinary Kriging and Indicator Kriging (IK) was used since high grade structures were present but were not abundant enough to model. The kriging procedure in these two domains was as follows. First low grade was estimated into all blocks in both domains using composites less than 3.0 g/t Au by OK as described above. Next the 0 or 1 high grade indicator value was kriged into all blocks indicating the probability of the block containing high grade. This resulted in a number between 0 and 1. Again Ordinary Kriging was used in a series of four passes with the dimensions and orientation of the search ellipse a function of the high grade indicator semivariogram. Finally, for blocks with a kriged indicator value greater than zero, a high grade gold value was estimated from composites within the mineralized domain greater than or equal to 3.0 g/t Au. A similar four pass estimate was made with the search ellipse dimensions a function of the high grade gold indicator variogram. The final grade for each block was a weighted average of the two styles of mineralization.

$$\text{Au Total} = (\text{LG Au} * (1.0 - \text{IND})) + (\text{HG Au} * \text{IND})$$

Where:

Au Total is the weighted average grade for the block;

LG Au is the grade of the low grade portion of block;

HG Au is the grade for the high grade portion of block; and  
IND is the probability between zero and one that high grade exists in the block.

The domains were estimated in the order shown in Table 14-8. Blocks with more than one domain present were estimated for each but classified based on the first domain estimated.

For all blocks estimated with mineralized domains present, that also had some percentage of internal or external waste present, grades for gold, silver and copper were estimated for the waste using composites from outside all the mineralized domains.

The search parameters, orientation of the ellipsoid and number of blocks estimated within each pass are tabulated below for gold.

**Table 14-8: Kriging Parameters for Gold**

Domain	Pass	Number Estimated	Az / Dip	Dist. (m)	Az / Dip	Dist. (m)	Az / Dip	Dist. (m)
AU10N	1	79	140 / 0	10.5	50 / 0	5.0	0 / -90	3.75
	2	1,187	140 / 0	21.0	50 / 0	10.0	0 / -90	7.5
	3	3,766	140 / 0	42.0	50 / 0	20.0	0 / -90	15.0
	4	2,562	140 / 0	84.0	50 / 0	40.0	0 / -90	30.0
AU10S_M	1	1,381	135 / 0	17.5	45 / -55	17.5	225 / -35	5.0
	2	6,762	135 / 0	35.0	45 / -55	35.0	225 / -35	10.0
	3	6,613	135 / 0	70.0	45 / -55	70.0	225 / -35	20.0
	4	931	135 / 0	140.0	45 / -55	140.0	225 / -35	40.0
AU10S_SE	1	1,458	165 / 0	35.0	75 / 0	12.0	0 / -90	20.0
	2	5,696	165 / 0	70.0	75 / 0	24.0	0 / -90	40.0
	3	1,911	165 / 0	140.0	75 / 0	48.0	0 / -90	80.0
	4	268	165 / 0	280.0	75 / 0	96.0	0 / -90	160.0
AU10S_SW	1	27	190 / 0	10.0	100 / 0	5.0	0 / -90	15.0
	2	326	190 / 0	20.0	100 / 0	10.0	0 / -90	30.0
	3	2,899	190 / 0	40.0	100 / 0	20.0	0 / -90	60.0
	4	3,219	190 / 0	80.0	100 / 0	40.0	0 / -90	120.0
AU10S_FE	1	64	195 / 0	12.5	105 / 0	5.0	0 / -90	17.0
	2	818	195 / 0	25.0	105 / 0	10.0	0 / -90	34.0
	3	4,567	195 / 0	50.0	105 / 0	20.0	0 / -90	68.0
	4	592	195 / 0	100.0	105 / 0	40.0	0 / -90	136.0
AU10S_FW	1	25	195 / 0	12.5	105 / 0	5.0	0 / -90	10.0
	2	495	195 / 0	25.0	105 / 0	10.0	0 / -90	20.0
	3	4,126	195 / 0	50.0	105 / 0	20.0	0 / -90	40.0
	4	2,315	195 / 0	100.0	105 / 0	40.0	0 / -90	80.0
AU25N	1	4,651	0 / 0	37.5	270 / 0	10.0	0 / -90	25.0
	2	19,275	0 / 0	75.0	270 / 0	20.0	0 / -90	50.0
	3	4,405	0 / 0	150.0	270 / 0	40.0	0 / -90	100.0
	4	1,304	0 / 0	300.0	270 / 0	80.0	0 / -90	200.0
AU25S	1	15,525	158 / 0	30.0	68 / 0	22.5	0 / -90	17.5
	2	63,426	158 / 0	60.0	68 / 0	45.0	0 / -90	35.0
	3	64,450	158 / 0	120.0	68 / 0	90.0	0 / -90	70.0
	4	31,680	158 / 0	240.0	68 / 0	180.0	0 / -90	140.0
WASTE	1	6,834	Omni Directional			35.0		
	2	22,802	Omni Directional			70.0		
	3	40,403	Omni Directional			140.0		
	4	42,838	Omni Directional			280.0		

## 14.8 Classification

Based on the study herein reported, delineated mineralization from the Spectrum Deposit is classified as a resource according to the following definitions from National Instrument 43-101 and from CIM (2014):

*“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 (May 2014) 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 (2014) as follows:

*“A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.”*

*“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 Modifying 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. The Qualified Person should consider and clearly state the basis for determining that the material has reasonable prospects for eventual economic extraction. Assumptions should include estimates of cut-off grade and geological continuity at the selected cut-off, metallurgical recovery, smelter payments, commodity price or product value, mining and processing method and mining, processing and general and administrative costs. The Qualified Person should state if the assessment is based on any direct evidence and testing. Interpretation of the word ‘eventual’ in this context may vary depending on the commodity or mineral involved. For example, for some coal, iron, potash deposits and other bulk minerals or commodities, it may be reasonable to envisage ‘eventual economic extraction’ as covering time periods in excess of 50 years. However, for many gold deposits, application of the concept would normally be restricted to perhaps 10 to 15 years, and frequently to much shorter periods of time.”*

### Inferred Mineral Resource

*“An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.”*

*“An ‘Inferred Mineral Resource’ is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine*



*plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.”*

*“There may be circumstances, where appropriate sampling, testing, and other measurements are sufficient to demonstrate data integrity, geological and grade/quality continuity of a Measured or Indicated Mineral Resource, however, quality assurance and quality control, or other information may not meet all industry norms for the disclosure of an Indicated or Measured Mineral Resource. Under these circumstances, it may be reasonable for the Qualified Person to report an Inferred Mineral Resource if the Qualified Person has taken steps to verify the information meets the requirements of an Inferred Mineral Resource.”*

## **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 are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.”*

*“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 recognise 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.”*

## **Measured Mineral Resource**

*“A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.”*

*“Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade or quality of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.”*

## **Modifying Factors**

*“Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.”*

The Spectrum Deposit has reasonably well defined geologic continuity based on surface mapping and diamond drill interpretation. A geologic model, outlining a number of higher grade structurally controlled mineralized domains within lower grade shells, was developed from cross sections and level plans to constrain the resource estimate. Semivariograms within each of the mineralized domains were used to quantify grade continuity and were used to construct and orient the search ellipsoids used in the interpolation exercise. Blocks estimated in Pass 1 or Pass 2 using a maximum of ½ the semivariogram range were classified as Indicated. The remaining blocks were classified as Inferred.

A conceptual pit was optimized using Maptek™ Vulcan software by QP Scott Britton, C.Eng., based on the following assumptions derived from other open pit operations in the general project area.

**Pit Optimization Parameters for Preliminary Mineral Resource Estimation - 30,000 +/- 5,000 tpd production (milled)**

Parameter	Estimates	Comments
<b>Unit Prices &amp; Rates</b>		
Copper Price	US\$2.10/lb	
Gold Price	US\$1,200 /oz	
Silver Price	US\$14.50 / oz	
Exchange rate	US\$1.0=C\$1.333	
<b>Unit Costs</b>		
Direct Mining Cost	C\$1.25 /t mined	For drilling, blasting, mucking & hauling from first bench only, ore & waste
Incremental Direct Mining Costs	C\$0.05 /t mined	For drilling, blasting, mucking & hauling on/from each successive bench below first bench, ore & waste
General Mine Cost & Processing	C\$6.30/t milled	For equipment operation & maintenance, stope stability, drainage, processing to concentrate, etc.
G&A	C\$1.75/t milled	
<b>Pit Configuration</b>		
Overall Average Pit Slope Angles	45°	Average angle inclusive of ramps, berms, etc.
Bench Height	15 m	Standard truck & shovel operation
<b>Process Plant</b>		
Copper Recovery	75%	Discounted from average for similar deposits/projects for low copper grades, metallurgical testing required
Gold Recovery	70 %	Average, based on results for similar deposits/projects. Metallurgical testing required
Silver Recovery	50 %	Average, based on results for similar deposits/projects. Metallurgical testing required
<b>Concentrate Grades &amp; Costs</b>		
Moisture Content	8%	
Transport to Refinery	US\$100.50/wmt	Including insurance
Transit Concentrate Losses	0.10 %	
<b>Refining Charges &amp; Factors</b>		
Concentrate Treatment Charge	US\$65/dmt	Including penalty allowance
Copper Refining Charge	US\$0.06/lb	Rate for payable copper
Copper Pay Factor	96.5 %	
Gold Refining Charge	US\$5.00/oz Au	Rate for payable gold
Gold Average Pay Factor	95.0 %	

Parameter	Estimates	Comments
Silver Refining Charge	US\$0.35/oz Ag	Rate for payable silver
Silver Pay Factor	90.0 %	

Grade equivalence

$$\text{AuEq} = (\text{average Au grade (g/t)} * \text{plant recovery} * (100\% - \text{transit concentrate losses}) * \text{Au payable rate}) +$$

$$(\text{average Cu grade (\%)} * (\text{unit revenue Cu/unit revenue Au}) +$$

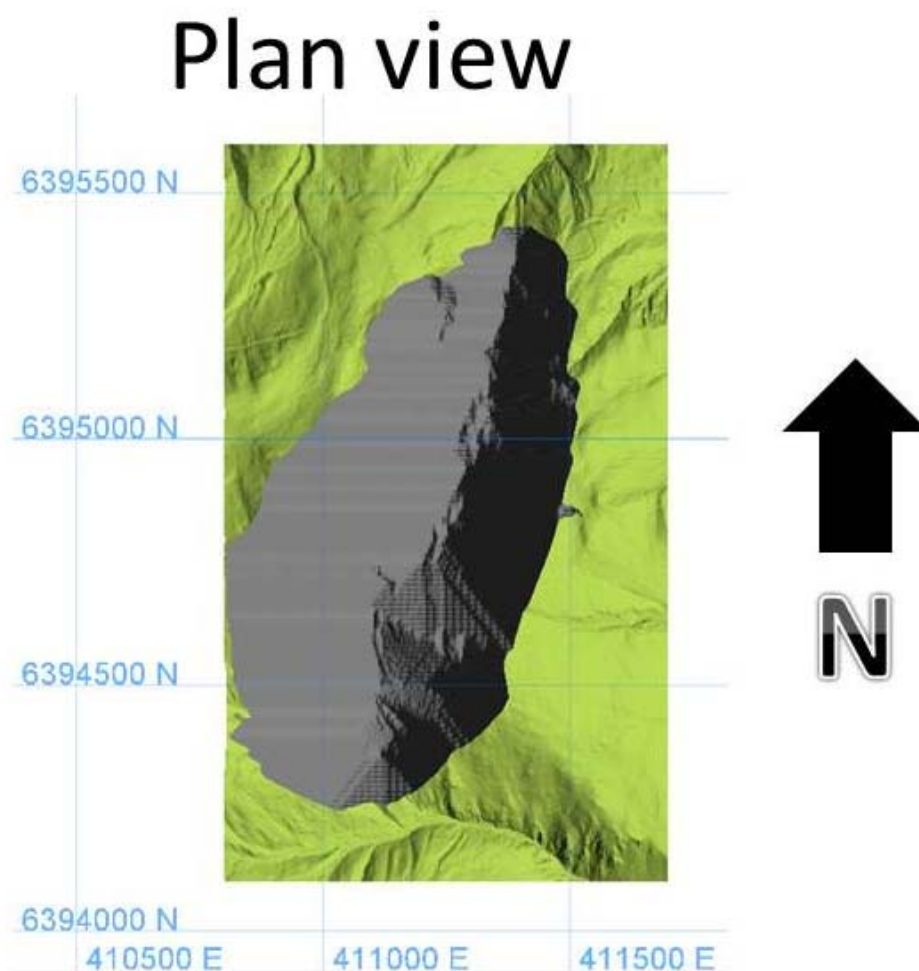
$$(\text{average Ag grade (g/t)} * (\text{unit revenue Ag/unit revenue Au}))$$

Where

unit revenue Au =  $(1/31.1035) * \text{plant recovery} * (100\% - \text{transit concentrate losses}) * \text{Au payable rate} * \text{unit Au price}$

unit revenue Cu =  $(2204.6 * 0.01) * \text{plant recovery} * (100\% - \text{transit concentrate losses}) * \text{Cu payable rate} * \text{unit Cu price}$

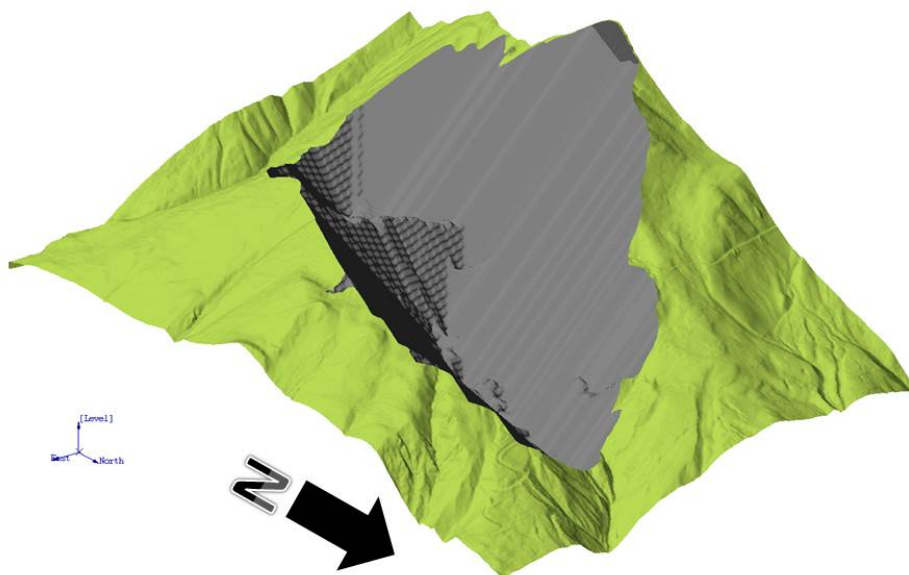
unit revenue Ag =  $(1/31.1035) * \text{plant recovery} * (100\% - \text{transit concentrate losses}) * \text{Ag payable rate} * \text{unit Ag price}$



**Figure 14-8: Plan view of conceptual pit shell**

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

## Isometric



**Figure 14-9: Isometric view of conceptual pit**

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

The results are presented in two tables (14-8 & 14-9 below) for Indicated and Inferred resources within the conceptual pit. A 0.3 g/t NSR AuEq cut-off is highlighted as the concentration of minerals that would produce a profit given the current economic assumptions.

**Table 14-8: Indicated Resource within Conceptual Pit**

NSR AuEq Cut-off (g/t)	Tonnes > Cut-off (tonnes)	Grade>Cut-off				Contained Metal		
		Au (g/t)	Ag (g/t)	Cu (%)	NSR AuEq (g/t)	Au (oz)	Ag (oz)	Cu (lb)
0.20	33,290,000	0.49	2.97	0.09	0.46	520,000	3,180,000	66,064,000
0.25	26,610,000	0.56	3.40	0.10	0.52	480,000	2,910,000	58,675,000
<b>0.30</b>	<b>21,010,000</b>	<b>0.64</b>	<b>3.88</b>	<b>0.10</b>	<b>0.58</b>	<b>430,000</b>	<b>2,620,000</b>	<b>46,327,000</b>
0.40	10,500,000	0.93	5.82	0.11	0.80	310,000	1,960,000	25,468,000
0.50	8,590,000	1.04	6.58	0.11	0.87	290,000	1,820,000	20,835,000
0.60	6,140,000	1.22	7.99	0.11	1.01	240,000	1,580,000	14,893,000
0.70	4,610,000	1.39	8.82	0.11	1.13	210,000	1,310,000	11,182,000
0.80	3,580,000	1.56	8.63	0.11	1.24	180,000	990,000	8,683,000
0.90	2,780,000	1.73	8.06	0.11	1.35	150,000	720,000	6,743,000
1.00	2,210,000	1.88	8.32	0.11	1.45	130,000	590,000	5,360,000
1.20	1,340,000	2.22	9.54	0.11	1.68	100,000	410,000	3,250,000
1.30	1,040,000	2.39	10.71	0.11	1.81	80,000	360,000	2,523,000
2.00	220,000	3.82	5.62	0.10	2.70	30,000	40,000	485,000
2.50	100,000	4.89	3.07	0.10	3.38	20,000	10,000	221,000

**Table 14-9: Inferred Resource within Conceptual Pit**

NSR AuEq Cut-off (g/t)	Tonnes > Cut-off (tonnes)	Grade>Cut-off				Contained Metal		
		Au (g/t)	Ag (g/t)	Cu (%)	NSR AuEq (g/t)	Au (oz)	Ag (oz)	Cu (lb)
0.20	66,370,000	0.58	2.34	0.10	0.53	1,230,000	4,990,000	146,346,000
0.25	61,660,000	0.61	2.42	0.11	0.56	1,200,000	4,800,000	149,556,000
<b>0.30</b>	<b>56,460,000</b>	<b>0.64</b>	<b>2.52</b>	<b>0.11</b>	<b>0.58</b>	<b>1,160,000</b>	<b>4,570,000</b>	<b>136,944,000</b>
0.40	31,150,000	0.87	3.30	0.11	0.75	880,000	3,300,000	75,554,000
0.50	22,630,000	1.03	3.85	0.11	0.85	750,000	2,800,000	54,889,000
0.60	13,070,000	1.37	5.10	0.10	1.08	580,000	2,140,000	28,819,000
0.70	9,270,000	1.64	5.93	0.09	1.25	490,000	1,770,000	18,396,000
0.80	7,530,000	1.82	6.02	0.09	1.37	440,000	1,460,000	14,943,000
0.90	6,150,000	2.00	5.94	0.09	1.49	400,000	1,170,000	12,205,000
1.00	5,000,000	2.19	5.92	0.09	1.61	350,000	950,000	9,923,000
1.20	3,360,000	2.59	5.84	0.08	1.86	280,000	630,000	5,927,000
1.30	2,780,000	2.78	6.25	0.08	1.99	250,000	560,000	4,904,000
2.00	910,000	4.08	8.89	0.08	2.86	120,000	260,000	1,605,000
2.50	470,000	5.00	7.15	0.07	3.46	80,000	110,000	725,000

## 14.9 Block Model Verification

A comparison of average grades from 2.5 m composites with average grade of estimated blocks was made for each of the geologic domains and is shown in Table 14-10. The comparison is good with no bias indicated.

Cross sections were produced and compared to drill hole composite data to verify the block model. The model appears to be unbiased and high grade zones match well with high grade composites. Some examples of cross sections are shown in Appendix 3.

**Table 14-10: Comparison of Composite Grades with Estimated Grades, sorted by Domain**

Domain	Variable	2.5 m Composites			Estimated Blocks		
		Number	Mean	Standard Deviation	Number	Mean	Standard Deviation
AU10N	Au (g/t)	769	1.36	3.03	7,594	1.48	1.14
	Ag (g/t)	264	2.23	2.31	7,594	2.29	1.14
AU10S_M	Au (g/t)	1,203	0.95	1.51	15,685	1.00	0.58
	Ag (g/t)	586	3.73	3.78	15,685	4.20	2.30
AU10S_SE	Au (g/t)	432	0.87	1.47	9,333	0.84	0.76
	Ag (g/t)	321	2.03	4.08	9,333	2.04	2.34
AU10S_SW	Au (g/t)	230	1.18	1.93	6,603	1.19	0.79
	Ag (g/t)	194	3.13	3.75	6,603	3.52	2.27
AU10S_FE	Au (g/t)	243	1.38	2.23	6,040	1.46	0.96
	Ag (g/t)	199	1.23	1.41	6,040	1.35	0.78
AU10S_FW	Au (g/t)	303	2.33	5.37	6,978	2.10	1.88
	Ag (g/t)	280	2.42	3.68	6,978	2.33	1.59
AU25N	Au (g/t)	1,160	0.24	0.42	20,635	0.25	0.20
	Ag (g/t)	507	1.03	1.32	20,635	1.12	0.70
AU25S	Au (g/t)	4,388	0.20	0.27	175,081	0.24	0.16
	Ag (g/t)	3,418	1.02	1.87	175,081	1.04	0.01
AU WASTE	Au (g/t)	3,183	0.12	0.18	217,664	0.13	0.13
	Ag (g/t)	2,064	0.56	1.02	217,664	0.80	0.95
CU400	Cu (%)	5,647	0.08	0.06	336,023	0.08	0.04
CU WASTE	Cu (%)	4,849	0.02	0.01	82,480	0.02	0.01

## **15. 15.0 to 22.0 – Not Applicable**

Chapters 15 to 22 inclusive are not applicable for this report.

## **23. Adjacent Properties**

The Spectrum Property is located in the “Golden Triangle” of northwestern British Columbia, a prolific mineral belt, which contains numerous deposits, advanced projects, and significant prospects. The region is characterized by a suite of Late Triassic to Early Jurassic alkaline intrusive bodies which in many areas are associated with porphyry-style and/or epithermal Cu-Au-Ag mineralization. According to the BC Geological Survey Minfile database, there are more than 900 documented mineral occurrences within the Golden Triangle, of which some 67 have documented historical mineral resources. Numerous small to large past-producing mines (primarily gold mines) have operated in the region, dating back to the early 1900s. Early production in the region was primarily from small, very high-grade gold mines such as the Premier Mine near Stewart, BC. In the last few decades, the focus of exploration and development has shifted towards the Cu-Au porphyry deposits in the region. These deposits have significantly lower grades than the past producers, but enormous tonnages, such that their total contained metal endowments far outstrip any historical resources.

Several selected porphyry and epithermal deposits of the region are described briefly below and are summarized in Table 23-1. Maps illustrating the regional distribution of selected deposits are shown in Figures 23-1 & 23-2. Most of these deposits are associated with alkaline intrusive bodies and hosted by Stuhini Group sedimentary and volcanic rocks within the Stikine Terrane. These deposits, although sharing several geological characteristics, are not necessarily indicative of the style, grade, and size of mineralization of the Spectrum property.



**Table 23-1: Selected mineral deposits in the Golden Triangle region of northwestern BC**

Deposit Name	Owner	Resource Category	Million Tonnes	Grade
Red Chris	Imperial Metals Corp	Meas + Ind	1,218	0.33% Cu, 0.33 g/t Au
		Inferred	1,216	0.27% Cu, 0.29 g/t Au
Schaft Creek	Copper Fox/Teck	Meas + Ind	1,035	0.27% Cu, 0.18 g/t Au, 0.017% Mo
		Inferred	301	0.24% Cu, 0.14 g/t Au, 0.011% Mo
GJ	Skeena Resources	Meas + Ind	133.67	0.32% Cu, 0.37 g/t Au
		Inferred	53.69	0.26% Cu, 0.33 g/t Au
North Rok	Colorado Resources	Inferred	142.3	0.22% Cu, 0.26 g/t Au
Premier (Big Missouri & Martha Ellen)	Ascot Resources	Indicated	89.42	0.77 g/t Au, 5.3 g/t Ag
		Inferred	20.489	0.67 g/t Au, 4.5 g/t Ag
Brucejack - Valley of the Kings	Pretium	Meas + Ind	15.3	17.6 g/t Au, 14.3 g/t Ag
		Inferred	5.9	25.6 g/t Au, 20.6 g/t Ag
Brucejack - West Zone	Pretium	Meas + Ind	4.9	5.85 g/t Au, 267 g/t Ag
		Inferred	4	6.44 g/t Au, 82 g/t Ag
KSM	SeaBridge Gold	Meas + Ind	2,779.9	0.21% Cu, 0.55 g/t Au, 2.9 g/t Ag, 55 ppm Mo
		Inferred	1,127.2	0.17% Cu, 0.41 g/t Au, 3.0 g/t Ag, 50 ppm Mo
Reserves				
Red Chris	Imperial Metals Corp	Meas + Ind	8.8 billion lbs Cu, 12.8 million oz Au, and 43.6 million oz Ag	
Schaft Creek	Copper Fox/Teck	Proven & Probable	5.6 billion lbs Cu, 5.8 million oz Au, 363.5 million lbs Mo, and 51.7 million oz Ag	
Premier (Big Missouri & Martha Ellen)	Ascot Resources	Indicated & Inferred	Indicated: 2.204 million oz Au, 15.339 million oz Ag; Inferred: 443,000 oz Au, 2.947 million oz Ag	
Brucejack	Pretium	Proven & Probable	7.3 million oz Au and 35.5 million oz Ag	
KSM	SeaBridge Gold	Proven & Probable	9.888 billion lbs Cu, 38.2 million oz Au, 191 million oz Ag, 213 million lbs Mo	
Historic Production (from BC Minfile)				
Snip Mine Historic Production	Cominco	Approximately 1 million oz Au from 1 Mt ore @ 12 g/t cutoff; average recovered grade 24.5 g/t Au		

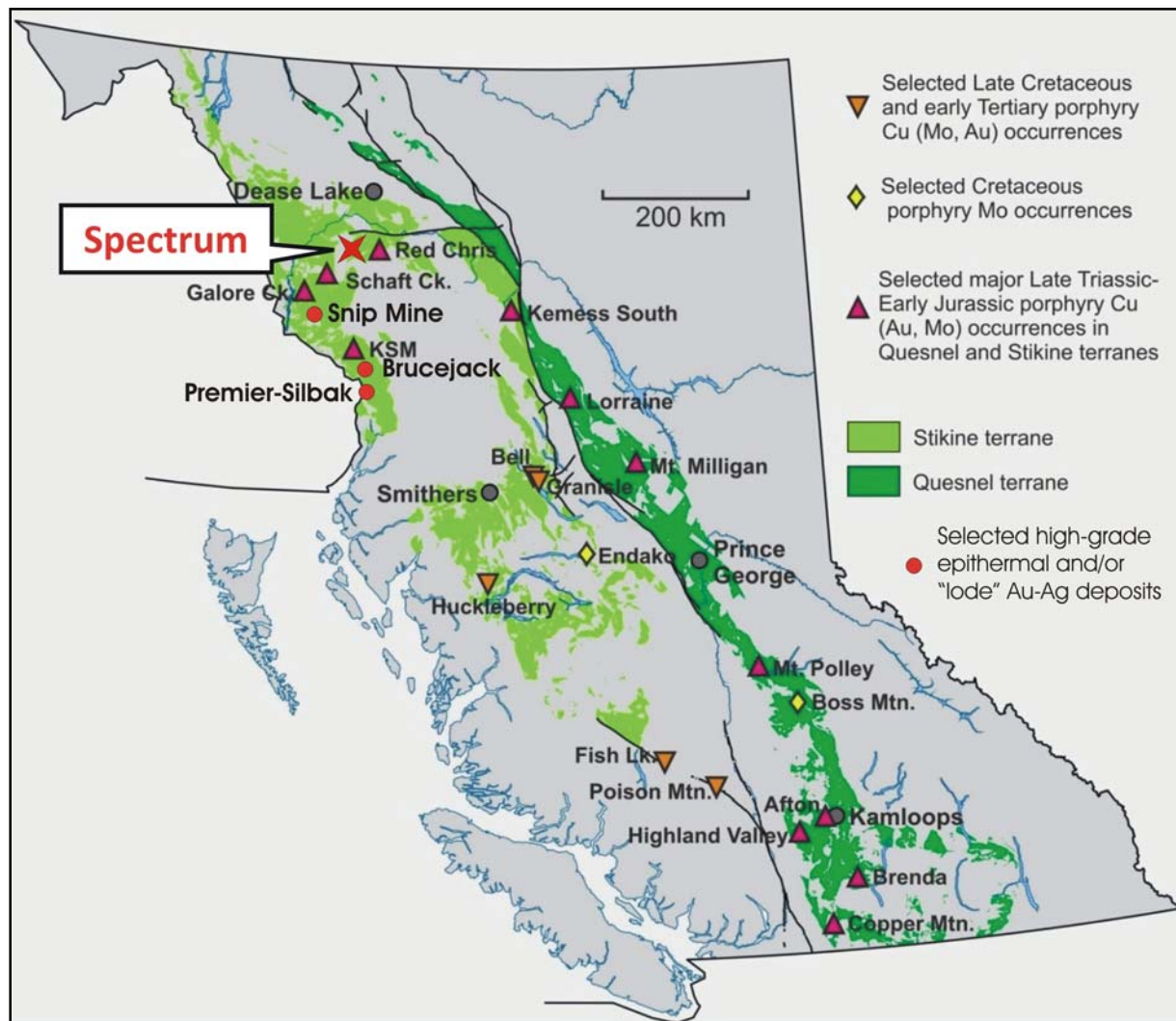
The author and Qualified Person has not verified the resources, reserves, or geology of other deposits in the region, and cautions that the resources, reserves, and geology of other deposits in the region are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

The figures quoted above are sourced from current NI43-101 Technical Reports found on the SEDAR website ([www.sedar.com](http://www.sedar.com)). The author and Qualified Person has not done any additional work to verify the figures quoted above, and those resources, reserves and geology are not necessarily indicative of the mineralization on the Property that is the subject of this technical report. However, all resource calculations quoted above were sourced from NI43-101 Technical Reports that were prepared by Qualified Persons and the author and Qualified Person has no reason to believe that the resource calculations are erroneous or misleading.

NI43-101 Technical Reports, Feasibility and Pre-Feasibility Studies quoted in the figures above are as follows (see Section 19: References for complete citations):

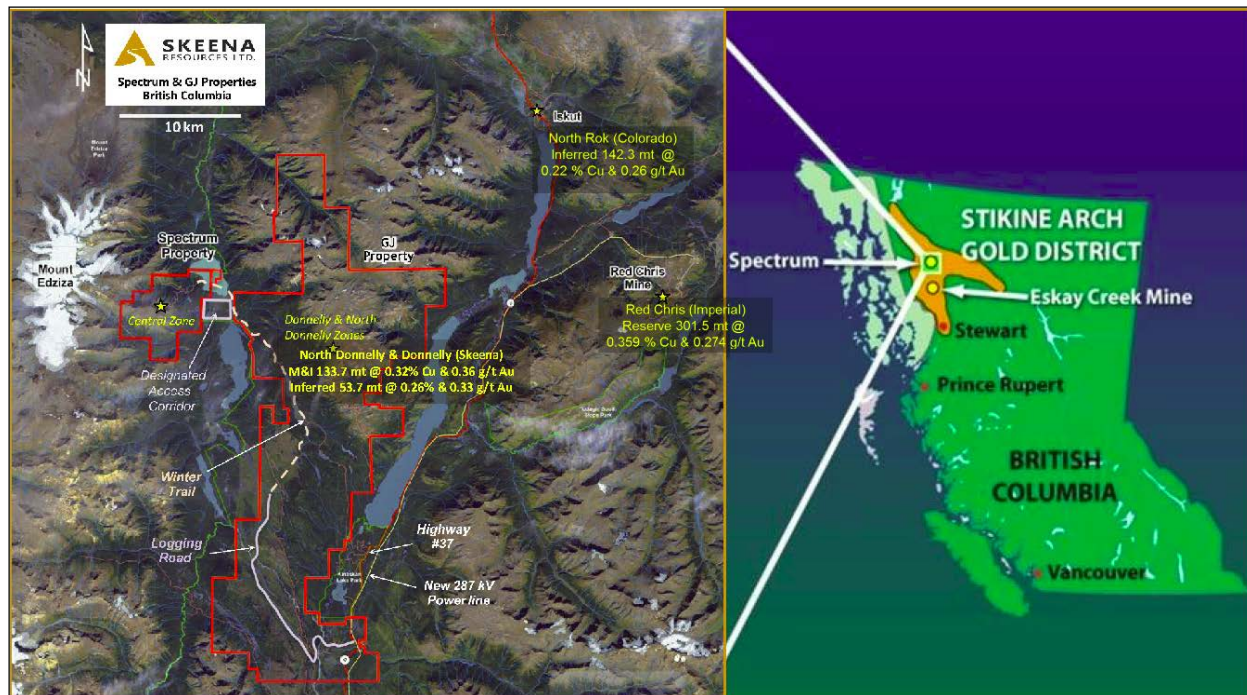
Red Chris: Gilstrom, Anand, and Robertson, 2012 (NI43-101 Technical Report)

Schaft Creek: Farah et al., 2013 (NI43-101 Feasibility Study), and  
 GJ Deposit: Peatfield, Giroux, and Cathro, 2016 (NI43-101 Technical Report)  
 North ROK: Giroux and Rebagliati, 2014 (NI43-101 Technical Report)  
 Premier: Simpson, 2014 (NI43-101 Technical Report)  
 Brucejack: Jones, 2013 (NI43-101 Technical Report)  
 Galore Creek: Gill et al., 2011 (NI43-101 Pre-Feasibility Study)  
 KSM: Huang et al., 2012 (NI43-101 Pre-Feasibility Study)



**Figure 23-1: Selected Au±Cu deposits in the Stikine and Quesnel Terranes,**  
 Spectrum Property shown as red star.

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by  
 Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016



**Figure 23-2: Properties adjacent to Spectrum containing significant Cu-Au resources.**

To accompany Technical Report on the Spectrum Gold-Copper Property, Liard Mining Division, British Columbia, Canada by Jacques R. Stacey, MSc., P.Geol. and Gary H. Giroux, P.Eng., M.A.Sc. dated May 31, 2016

The author and Qualified Person has not verified the resources, reserves, or geology of other deposits in the region, and cautions that the resources, reserves, and geology of other deposits in the region are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

The following deposit summaries are sourced mainly from the British Columbia Geological Survey Minfile database (<http://minfile.gov.bc.ca>) and from current NI43-101 Technical Reports found on the SEDAR website ([www.sedar.com](http://www.sedar.com)). Taiga has not performed any additional work to confirm and verify the information supplied by the Minfile database, but is confident that the information contained therein is reasonably accurate.

### 23.1 Red Chris

*Source: Imperial Metals Corporation (Gilstrom, Anand, and Robertson, 2012)*

The Red Chris porphyry copper-gold deposit lies approximately 11 kilometres east of Highway 37 and 82 kilometres south of Dease Lake, in the highly dissected and rolling terrain of the Tanzilla Plateau.

The deposit is hosted by the Red Stock, an east-northeast elongated intrusive body of pervasively quartz-sericite-ankerite-pyrite (phyllitic) altered, and faulted sub-volcanic, hornblende monzonite porphyry intrusion. The stock intrudes and alters Upper Triassic Stuhini Group massive volcanic

wackes, siltstone and augite-porphyritic basalt in the southwestern area of the Todagin Plateau. The southern margin of the stock is faulted against Middle Jurassic sedimentary rocks of the Bowser Lake Group. R.M. Friedman has reported a new uranium-lead zircon crystallization age determination for the Red Stock of 203.8 +/- 1.3 Ma or Upper Triassic.

Chalcopyrite and localized concentrations of bornite are commonly associated with zones of quartz stockwork and sheeted quartz veining. The quartz stockwork forms a steeply dipping, high grade core zone associated with intense and pervasive carbonatization that is surrounded by and gradational into barren to weakly mineralized, phyllic (quartz-sericite-ankerite-pyrite) altered host stock. Quartz stockwork zones dip steeply to the north and parallel the long axis of the Red Stock.

Prominent east-northeast trending structures have controlled the orientation of the Red Stock and the zone of mineralization. Faults identified as active, either before or during the mineralizing event, are generally healed and associated with intense silicification. The fault orientation has been defined as striking 060° to 090° and dipping approximately 75° to the south. These are normal faults with dominantly dip-slip movement. Fault gouge zones produced by reactivation of earlier structures vary from several centimetres to 50 metres in width and are a prominent feature throughout the drill core. The gouge material contains rounded centimetre-sized fragments of altered and mineralized (pyrite-chalcopyrite) Red Stock in a matrix of clay, quartz and carbonate. As emphasized by Newell and Peatfield (CIMM Special Volume 46), disruption of the mineralized zone by faulting is an important aspect of the deposit but difficult to characterize on sections due to uncertainty in correlating the many fault zones from drill hole to drill hole.

The author and Qualified Person has not verified the Red Chris resources, reserves and geology, and those resources, reserves and geology are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

## 23.2 Schaft Creek

*Source: Copper Fox Metals Inc. (Farah et al., 2013)*

The Schaft Creek porphyry copper-molybdenum deposit is located on the western flank of a complex belt of rocks up to 10 kilometres wide and 50 kilometres long between Mess and Schaft creeks. This belt is overlain east of Mess Creek by a broad north trending belt of Cenozoic volcanics, while west of Schaft Creek three different intrusive units have formed another broad north trending belt. The deposit occurs near the eastern margin of one of these units, the Middle(?) Triassic-Middle Jurassic aged Hickman batholith, a crudely zoned complex with a core of pyroxene diorite grading outward to biotite granodiorite composition at the margins. North of this batholith is a massive Tertiary-Cretaceous quartz monzonite, which intrudes both the batholith, and a Juro-Cretaceous intrusion of granodiorite to quartz diorite composition.

Major north-striking faults occupy the valley of Mess and Schaft creeks near the boundaries of the belt. The terrain between the creeks is underlain by complex stratigraphy composed mainly of Upper Triassic andesitic tuffs, flows, breccia's and derived sediments. The oldest rocks in the



belt are Permian limestones that appear to be in fault contact with the volcanic rock. Upper Triassic basaltic augite porphyry occurs as large dyke-like bodies cutting the volcanic pile. Quartz monzonite and dioritic rock related to the three intrusions, form small stocks and tabular bodies throughout this belt. Souther (Geological Survey of Canada Map 11-1971) also describes an area of Lower Jurassic conglomerate a few kilometres to the north of this occurrence. Rhyolite and diabase dykes of probable Cenozoic age are also numerous.

Mineralization occurs partly within a basin-like structure of fragmental and undivided green andesite volcanics, 900 metres in diameter. The basin is intruded by augite porphyry basalt and by vertical north-striking quartz diorite dykes. A breccia cuts the western edge of the basin and trends north for at least 2700 metres. Post-mineralization mafic dykes are common. Later flat-lying fragmental purple andesite units unconformably overlie the northeastern part of the deposit (Canadian Institute of Mining and Metallurgy June 1975).

In general, pyrite, chalcopyrite, bornite and molybdenite occur predominantly in fractured andesite. Less than 10 per cent of the mineralization occurs in felsic intrusives. Pyrite and bornite are mutually exclusive and most of the main deposit occurs within the bornite zone, with pyrite on the periphery. A barren zone, which contains no sulphides, conformably underlies the main deposit. The main deposit is generally conformable with the lithological basin, but cuts its northern wall. A core of low-grade mineralization occurs in the northern half of the deposit. Two much smaller, but somewhat higher grade deposits are associated with the breccia.

The distribution of most sulphide minerals is fracture-controlled. Sulphides occur in dry fractures or combined with quartz or quartz-calcite veinlets within the andesitic volcanics. The sulphides within the felsic intrusives are usually disseminated and seem to have replaced the mafic minerals. Trace amounts of covellite, chalcocite, tetrahedrite and native copper have been identified. Minor amounts of galena and sphalerite occur in the breccia zone and in small calcite veins. Gold and silver are associated with the sulphides and average 0.34 grams per tonne and 1.71 grams per tonne, respectively.

The author and Qualified Person has not verified the Schaft Creek resources, reserves and geology, and those resources, reserves and geology are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

### **23.3 GJ**

*Source: Skeena Resources Ltd. (Peatfield, Giroux, and Cathro, 2016)*

The GJ Property is located on and adjacent to the southern end of the Klastline Plateau in the Stikine River region of north-western British Columbia, approximately 200 kilometres (“kms”) north of Stewart and 75 kms south of Dease Lake. It includes the GJ copper-gold porphyry system, wherein the Donnelly, North Donnelly, GJ, Wolf and North copper-gold porphyry zones have been the principal exploration targets within the 83 mineral tenure (approximately 38,375 hectare) property. ]

The rocks underlying the property have been mapped as Upper Triassic, Stuhini Group (basic volcanic flows, volcanoclastics and sedimentary rocks), unconformably overlain by Lower Jurassic, Hazelton Group andesitic to felsic flows and volcanoclastic rocks. Intruding the sequence throughout the property are numerous small, quartz deficient plugs, sills and dykes of Late Triassic or Early Jurassic age, of diorite to monzodiorite and monzonite composition. The largest of these is the south-west striking Groat Stock which is at least 10 kms long and up to 1.5 kms wide, and is off-set by numerous, north- south striking faults. Within and adjacent to the Groat stock, porphyry copper-gold mineralization occurs in several areas, most notably the Donnelly, North Donnelly, GJ, North and Wolf zones.

On January 14, 2016, Skeena Resources Ltd. released an updated resource estimate for the Donnelly and North Donnelly deposits. The following excerpt was sourced from a Skeena news release dated January 14, 2016:

“The Donnelly and North Donnelly deposits host an updated measured and indicated resource, using a 0.2% copper cut-off, of 133.67 million tonnes grading 0.32% copper and 0.36 grams per tonne gold for a total of 940.23 million pounds of copper and 1.56 million troy ounces of gold. In addition, 53.69 million tonnes grading 0.26% copper and 0.33 grams per tonne gold has been estimated in the inferred category, using a 0.2% copper cut-off, for a total of 312.53 million pounds of copper and 0.57 million troy ounces of gold.” (Skeena, 2016)

The GJ resources, reserves and geology have been verified by the author and Qualified Person Gary Giroux, P.Eng., M.A.Sc., but are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

## **23.4 North Rok**

*Source: Colorado Resources Ltd. (Giroux & Rebagliati, 2014)*

The North ROK property is underlain by volcanic and sedimentary rocks of the Upper Triassic, Stuhini Group to Lower Jurassic, Hazelton Group, that are intruded by Upper Triassic to Early Jurassic stocks and dykes. Auriferous pyrite-chalcopyrite mineralization is associated with the intrusive rocks. The North ROK Property contains four historical copper  $\pm$  gold BC Minfile occurrences: HI or “Klappan Rose”, Plateau, Mabon, and Edon.

Exploration defined the principle characteristics and features of the North ROK porphyry copper-gold deposit located within the extensive Mabon mineralized alteration zone (Mabon Zone). The Mabon Zone represents an Late Triassic alkalic porphyry copper-gold system, where mineralization is predominately hosted in an elongate, 3000 m x 1000 m fine-grained, quartz deficient plagioclase phyrlic monzodiorite intrusion, the Mabon Stock, dated at 215.8  $\pm$  3 Ma. The Mabon Stock and enclosing volcanic rocks are imprinted by a well-defined zoned hydrothermal and contact metamorphic alteration assemblage. The alteration zones from: (high temperature) potassic alteration to quartz-pyrite (phyllitic) to epidote to chlorite (low temperature).

A well-developed early biotite hornfels alteration assemblage is documented in the volcanic rocks along the northeastern flank of Mabon Stock. Copper and gold mineralization, as disseminated and vein-hosted chalcopyrite, has been identified by diamond drilling over a strike length of 900 m at the Mabon Zone.

Highlights of the 29 hole, 11,448 m drilling program completed in 2013 include 333 m of 0.51 % Cu and 0.67 g/t Au (NR13-001: 2 m-335 m); 402.2 m of 0.28 % Cu and 0.27 g/t Au (NR13-013: 162.6 m-564.8 m); and 177.1 m of 0.30 % Cu and 0.39 g/t Au (NR13-017: 272 m - 449.1 m). Note that intercept lengths are core lengths and may not be indicative of true thicknesses.

A mineral resource has been estimated for the North ROK deposit using 18 of the 29 holes that intersect the mineralized solid over a strike length of 700 m. The Inferred Mineral Resource using a 0.20 % Copper Equivalent cut-off is 142.3 million tonnes averaging 0.22 % Copper and 0.26 g/t Gold which contain 690.30 million pounds of copper and 1.19 million ounces of gold (Source: Colorado Resources Ltd. NI43-101 Technical Report, January 27, 2014).

The North ROK resources, reserves and geology have been verified by the author and Qualified Person Gary Giroux, P.Eng., M.A.Sc., but are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

## **23.5 Galore Creek**

*Source: NovaGold Resources Inc. (Gill et al., 2011)*

Twelve alkalic porphyry copper-gold deposits are known to occur within the Galore Creek syenite complex. This complex comprises a series of Late Triassic to Early Jurassic orthoclase-porphyry syenitic bodies which have intruded coeval Upper Triassic Stuhini Group volcanic rocks and related sediments. Faults which offset and segment the intrusive rocks and a sub-horizontal fracture cleavage are the two main structural elements in the syenite complex. The complex is roughly 5 by 2.5 kilometres in area.

The deposits are hosted primarily by highly altered potassium- enriched volcanic rocks and pipe-like breccias adjacent to syenite dikes and stocks. Typically, the deposits are manto-shaped and have a north to northeast trend related to the syenite contacts and zones of structural weakness.

The syenite complex is made up of four intrusive phases that are most closely associated with the copper deposits. Six other phases are recognized but are peripheral to the Galore Creek Central zone deposit. The copper-bearing rocks near the syenite intrusion are extensively metasomatized, recrystallized and locally brecciated. These may include pyroclastic and intrusive breccia, trachyte, phonolite, lithic tuff, crystal tuff, pyroxene basalt, pyroxene andesite and minor sediments. These rocks have been converted to skarns and fenitic "porphyroids" so that original rock types are unclear. The term "hornfels" was frequently applied to these meta-volcanic rocks in the early stages of exploration.

The Central zone is by far the largest of the Galore Creek deposits, measuring greater than 1700 metres in length along a strike of 015°. The zone is up to 500 metres wide and dips steeply to the



west to a depth of at least 450 metres. The deposit is centred on an elongate, steeply dipping breccia pipe, the long axis of which is parallel to the trend of the deposit. The deposit is roughly tabular in shape and is composed of several parallel en echelon copper zones. Abundant post-mineral faulting has occurred but displacement appears small.

The author and Qualified Person has not verified the Galore Creek resources, reserves and geology, and those resources, reserves and geology are not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

## **24. Other Relevant Data and Information**

All relevant data and information regarding the Spectrum Property and exploration in Northern BC is included in other sections of this report.

## **25. Interpretation and Conclusions**

Field work completed by Skeena Resources in 2014 and 2015 has demonstrated that the Spectrum property is a property of merit, and warrants additional work in 2016. Drilling has been successful in defining a preliminary resource at the Central Zone, which remains open along strike and at depth. Compilation of the historical and recent drill data has identified areas of the Central Zone that require additional infill drilling, mainly where historical core was not assayed for Cu, Ag, and base metals. Property-scale geological mapping, prospecting, and soil sampling has identified other high-priority drill targets outside of the Central Zone which require only minor trenching and geological mapping to make them drill-ready. Outlying targets on the property are under-explored, having received only about 11% of the total drilling on the property to date.

Within a conceptual open pit and at a cut-off grade of 0.5 g/t gold equivalent (“AuEq”) NSR, the Spectrum Central Zone hosts an Indicated Mineral Resource of 8.95 million tonnes grading 1.04 g/t Au, 6.58 g/t Ag, and 0.11% Cu, and containing 290,000 ounces of gold, 1.82 million ounces of silver and 20.835 million pounds of copper. At the same cut-off, the deposit hosts an additional 22.63 million tonnes in the Inferred category, with average grades of 1.03 g/t Au, 3.85 g/t Ag and 0.11% Cu and containing 750,000 ounces gold, 2.8 million ounces silver and 54.889 million pounds copper (see Chapter 14). The deposit has currently been modeled over a strike length of 1100 m (N-S), a width of 380 m (E-W), and to a depth of 400 m below surface. To date, high-grade mineralization has been intersected over a strike length of 650 m (N-S), a width of 300 m (E-W), and to a depth of 400 m below surface.

The resource numbers quoted above have been validated by a rigorous QAQC program implemented during Skeena drill operations, as well as a thorough review and validation of the historical database. Historical drill operations were completed by reputable companies and their QAQC procedures conformed to industry standards of the time. The Qualified Persons responsible for this report are satisfied that the integrated drill database used for resource calculations contains all available data from the Spectrum property and is complete and accurate.

Preliminary bench-scale metallurgical testing for gold has returned positive results from high-grade zones drilled in 2014. Using a combination of gravity concentration and cyanide leaching, up to 98.8% of the contained gold was recovered from the test sample. Flotation methods were similarly successful, resulting in a maximum of 95.19% gold recovery after a 3-stage flotation and collection circuit. Skeena has indicated that metallurgical testing is ongoing.

Geological models of the Central Zone were interpreted by Skeena geologists using detailed cross sections and level plans of the deposit. Modeling shows that the Central Zone is hosted mainly by a thick (>400 m) Triassic package of tuffaceous volcanic rocks underlain by mafic flows, and intruded by late Triassic-early Jurassic monzonite intrusions. The top of the deposit is eroded, and is unconformably overlain to the west by mafic flows of the Mt. Edziza Volcanic Complex. The deposit comprises a broad zone of low-grade porphyry-style Au-Cu mineralization (averaging about 1 g/t Au, 0.1% Cu), crosscut by higher-grade structurally-controlled Au zones (> 4 g/t Au). Higher-grade structures trend north-south and dip steeply toward the west or east. Drill results indicate that the tenor of porphyry-style mineralization improves to the west, providing an exploration vector for future drill programs. It seems likely that additional high-grade structures will be found during expansion drilling of the porphyry body.

Geological mapping, prospecting, and soil sampling have identified a number of high-priority drill targets outside of the Central Zone. In particular, the 300 Colour Zone and Boundary-Road zones are essentially drill-ready, requiring only minor trenching and mapping prior to drilling. These areas have significant potential to host both high-grade and bulk-tonnage gold mineralization. Other bulk-tonnage targets include the West Gossan and Far West areas, which have good potential for porphyry-style Au-Cu and Cu-Mo mineralization, respectively.

Other high-grade targets include the 4440 Zone, Fog, JO, SW Gossan, East Creek, and West Creek areas. High-grade mineralization on the property is strongly controlled by local faults and shear zones, and the size of a given mineralized area is likely to be dependent on the continuity of these structures. Additionally, fault intersections may play an important role in localizing high-grade mineralization, leading to the formation of cigar-shaped plunging “ore shoots”. Though of limited areal extent, these high-grade zones may prove to contain significant gold. However, more ground work is needed to bring these showings to a state of drill readiness.

Conventional soil geochemistry has proven highly effective in identifying underlying mineralization where Triassic rocks are exposed at surface, but has been less successful in identifying mineralization beneath the Miocene Mt. Edziza basalt cap and scree coming off its cliffs. The thickness of the basalt (>30 m) masks any mineralization that may be present beneath the basalt cap. Studies by Geoscience BC (Heberlein, 2010) have shown that selective leach of the humus (Ah) soil layer can “see through” deep cover. A few test lines are warranted to test this method. In addition, induced polarization geophysics should be used to follow porphyry copper-gold mineralization beneath the basalt cover.

The primary author is not aware of any significant risks or uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information or mineral resource estimates presented in this report.

## **26. Recommendations**

Based on the success of Skeena's exploration programs in 2014 and 2015, additional work is recommended for the Spectrum property. A two-phase work program is recommended, starting with prospecting, mapping and ground surveys, overlapping with and followed drilling. Induced-Polarization (IP) geophysics should be run concurrently with the ground investigation program.

Phase one would include:

- approximately 30 line-kilometres of IP geophysics over the Central Zone and extending outward to include the outlying targets. Chargeability anomalies identified by this type of survey are likely to be caused by disseminated sulfide material associated with porphyry-style mineralization. Survey lines should be oriented east-west.
- detailed geological mapping, prospecting, trenching, and infill soil sampling over all of the outlying targets described in this report. Special attention should be given to identifying structural orientations associated with mineralization in order to determine optimal drill angles.
- continued prospecting of areas not covered during the 2015 season, especially the broad area between the Central Zone and the West Creek showing 4 km to the southwest.
- infill soil sampling over areas previously covered by historical soils only. Modern multi-element geochemistry may identify areas of interest not noted in historical surveys.
- One or two orientation Ah-Horizon soil lines across the basalt cap, for selective leach extraction, to see if Au, Cu and other elements can be detected beneath the basalt.
- 3000 metres of expansion and infill drilling on the Central Zone, with the goal of extending the resource area along strike to the north and south, and down-dip to the west. Infill drilling should concentrate on gaps where historical drill assays lack Cu, Ag, and base metals, thereby boosting the Cu and Ag endowment of the Central Zone. Expansion drilling for a porphyry-style resource could be conducted at a wider spacing (100 to 200 m) than that used to define high-grade veins.
- 1000 metres of exploration drilling on high-priority outlying targets, specifically the 300 Colour, Boundary-Road, 4440, Fog, and Far West areas. These targets are considered highest-priority at present, but this may change following detailed examinations.

Phase two would be an additional 6000 m of drilling on the Central Zone and the more promising outlying targets identified during phase one.

Additional, ongoing activities should include continued environmental monitoring, archaeological studies, and engineering studies geared toward possible future development, metallurgical studies, and community engagement.

A budget of approximately \$2.24 million (including 10% contingency) is proposed for the 2016 season to complete this work, detailed in Table 26-1 below:

**Table 26-1: Proposed Phase 1 budget for Spectrum, 2016-2017**

Category	Spectrum Units	Unit price	Spectrum Total
<b>Assays and Analysis</b>			
Drill core assays, SG, # samples	2000	\$20	\$40,000
Prospecting rocks, soils, # samples	1000	\$20	\$20,000
<b>Drilling</b>			
Extensions of Spectrum to W, N, S (8 x 375 m ddh) - per m	3000	\$130	\$390,000
Outlying targets (5 x 200 m holes - per m	1000	\$130	\$130,000
Drill pads and reclamation	10	\$10,000	\$100,000
<b>Environmental and Archaeology</b>			
Water sampling \$11,000 month avg			\$132,000
Archaeology / cultural studies			\$20,000
Ungulate / wildlife studies			\$10,000
Misc studies (plants, etc)			\$10,000
<b>Field Supplies</b>			
Consumables			\$30,000
<b>Equipment Rental</b>			
Small back-hoe (mountain trail, trenching) - rental			\$8,000
Can-dig - heli-portable excavator (trenching) - incl storage			\$4,500
Generators - incl storage and de-mob			\$22,500
Misc (survey instruments, first aid, safety etc) - per month			\$6,000
<b>Camp and logistics</b>			
Construction, wiring and lumber - new camp			\$50,000
Consolidate camps to new camp and set-up			\$40,000
Rent / Purchase new equipment, kitchen, heating etc.			\$75,000
Camp crew and food	45	\$3,500	\$157,500
Expediting and driving / shuttle			\$22,500
Misc			\$10,000
<b>Fuel (and fuel storage/trucking but not heli)</b>			
Jet fuel	165	\$300	\$49,500
Fuel for camp and gensets	135	\$300	\$40,500
Fuel for drills			\$20,400
Fuel storage - tank/bladder rental			\$10,000
<b>Helicopter and fixed wing - not incl fuel</b>			
A-star B2 or similar - est 3 hrs/day	135	\$1,600	\$216,000
205 - Medium lift - beginning and end	16	\$2,500	\$40,000

<b>Geology, geochem, geophysics, prospecting</b>			<b>\$40,000</b>
<b>Core-logging</b>			<b>\$30,000</b>
<b>Core-techs and splitting</b>			<b>\$30,000</b>
<b>Soils - 2 person crew, per day</b>			<b>\$20,000</b>
<b>IP - 6 man crew incl help &amp; equipment</b>			<b>\$100,000</b>
<b>Geophysics - interp / inversions</b>			<b>\$10,000</b>
<b>Maps and reports</b>			
<b>Drafting, QAQC etc</b>			<b>\$40,000</b>
<b>Assessment Report</b>			<b>\$10,000</b>
<b>Engineering</b>			
<b>Met work for Cu + Au</b>			<b>\$30,000</b>
<b>Acid Rock Drainage - Metal Leaching</b>			<b>\$25,000</b>
<b>Update 43-101 resource estimate</b>			<b>\$40,000</b>
<b>Permits and Legal</b>			
<b>Amendment - More drill pads (&amp; camp, mountain trail at Spectrum)</b>			<b>\$5,000</b>
<b>SUBTOTAL</b>			<b>\$2,034,400</b>
<b>10% Contingency</b>			<b>\$203,440</b>
<b>GRAND TOTAL</b>			<b>\$2,237,840</b>

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## 28. Statements of Qualifications

### 28.1 Jacques R. Stacey, MSc., P.Geol.

I, Jacques Rémi Stacey, of 1036 1st Avenue NW in the City of Calgary in the Province of Alberta, do hereby certify that:

- I am a self-employed Consulting Geologist with the firm of North Mountain Geosciences, registered in the province of Alberta with offices at 1036 1<sup>st</sup> Avenue NW, Calgary, Alberta, Canada T2N 0A7.
- I am the primary author of the report entitled “Technical Report on the Spectrum Gold Property”, dated May 31, 2016.
- I am a graduate of Saint Francis Xavier University, BSc. Geology (1999), and the University of Calgary, MSc. Geology (2006), and I have practiced my profession continuously since graduation.
- Over the last eleven (11) years, I have acquired considerable experience with porphyry and vein-hosted gold, silver, copper, molybdenum, and other commodities in British Columbia, Nunavut, and Argentina. During the last seven (7) years I have designed and supervised numerous exploration programs, including, but not limited to: geochemical and geophysical surveys, geological and structural mapping programs, and diamond drilling programs.
- I am registered as a Professional Geologist (P.Geol.) in good standing with the Association of Professional Engineers and Geoscientists of Alberta (APEGA) and the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). Due to my experience, qualifications, and independence from Skeena Resources Ltd. I am considered to be a “Qualified Person” for the purposes of National Instrument 43-101.
- I completed a site visit to the Spectrum Gold Property from late June to mid-October 2015. During this time I oversaw all aspects of Skeena’s exploration program in my position as Project Manager.
- I have read and I am responsible for Chapters 1-13, 23, 24, and parts of Chapters 25-26 of the technical report to which this certificate is appended, and have read National Instrument 43-101 for standards of disclosure for mineral projects and Form 43-101F1. This technical report has been prepared in compliance with this Instrument.
- I am independent of the Issuer, Skeena Resources Ltd., and the Spectrum Gold Property as set out in Section 1.5 of NI 43-101, and currently own no shareholding in the company. I do not expect to receive any interest (direct, indirect, or contingent) in the property described herein nor in the securities of or any related companies in respect of services rendered in the preparation of this report.

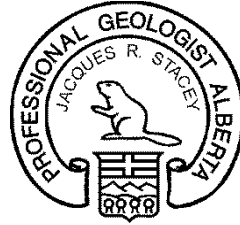
- In my position as Project Manager, I was involved with the Spectrum Gold Property prior to the commencement of the assembly of this technical report.
- As of May 31, 2016, the effective date of this technical report, to the best of my knowledge, information, and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

DATED at Calgary, Alberta, this 31st day of May, AD 2016.

Respectfully submitted,



Jacques R. Stacey, MSc., P.Geol.

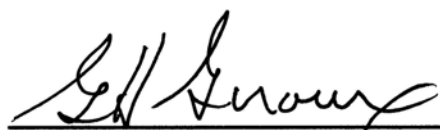


## 28.2 Gary H. Giroux, P.Eng., M.A.Sc.

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

- 1) I am a consulting geological engineer with an office at 982 Broadview Drive, North Vancouver, British Columbia, V7H 2G1.
- 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 (Reg. # 8814).
- 4) I have practiced my profession continuously since 1970. I have had 40 years' experience estimating mineral resources. I have previously completed resource estimations on a number of gold-copper deposits both in B.C. and around the world, many similar to that found on the property (the "Spectrum Property") that is the subject of the Technical Report (as defined below).
- 5) I have read the definition of "qualified person" set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects, ("NI 43-101") and certify that by reason of my education, past relevant work experience and affiliation with a professional association (as defined in NI 43-101), I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- 6) I am responsible for Section 14 and the relevant parts of Sections 1 and 25 in the technical report titled "Technical Report on the Spectrum Gold Property" (the "Technical Report"), dated and made effective as of May 31, 2016, prepared for Skeena Resources Ltd. (the "Issuer"). I have not visited the Property.
- 7) Prior to being retained by the Issuer to prepare the Technical Report, I have had no prior involvement with the property that is the subject of the Technical Report.
- 8) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.
- 9) I am independent of the Issuer applying all of the tests in section 1.5 of NI 43-101.
- 10) I have read NI 43-101, and the portions of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.

Dated this 31<sup>st</sup> day of May, 2016.



Gary H. Giroux, P. Eng., M.A. Sc.





## Appendix 1: Listing of Drill Holes

The holes used in the Resource Estimate are highlighted.

HOLE	EASTING	NORTHING	ELEVATION	LENGTH	YEAR	ZONE
14-SP-001	411392.52	6395189.85	1481.33	205.10	2014	Central
14-SP-002	411392.52	6395189.85	1481.33	210.30	2014	Central
14-SP-003	411392.52	6395189.85	1481.33	153.00	2014	Central
14-SP-004	411408.87	6395101.46	1498.23	213.40	2014	Central
14-SP-005	411408.87	6395101.46	1498.23	225.25	2014	Central
14-SP-006	411408.87	6395101.46	1498.23	201.17	2014	Central
14-SP-007	411393.18	6395006.07	1529.35	207.26	2014	Central
14-SP-008	411393.18	6395006.07	1529.35	199.03	2014	Central
14-SP-009	411377.31	6394748.21	1596.32	326.14	2014	Central
S1	411219.13	6395289.28	1475.94	70.10	1976	Central
S15-010	411330.63	6394750.57	1623.45	278.00	2015	Central
S15-011	411317.17	6394807.87	1622.07	223.50	2015	Central
S15-012	411317.17	6394807.87	1622.07	251.00	2015	Central
S15-013	411280.24	6394751.75	1648.14	200.00	2015	Central
S15-014	411280.24	6394751.75	1648.14	217.50	2015	Central
S15-015	411368.38	6394850.19	1586.49	259.00	2015	Central
S15-016	411270.23	6394806.26	1645.34	179.00	2015	Central
S15-017	411409.05	6395100.73	1498.28	193.00	2015	Central
S15-018	411462.60	6395035.44	1500.13	302.00	2015	Central
S15-019	411349.92	6394896.76	1584.66	215.00	2015	Central
S15-020	411500.26	6395096.72	1477.90	258.00	2015	Central
S15-021	411207.40	6394850.26	1654.19	60.50	2015	500 Colour
S15-022	411417.33	6394971.91	1528.26	254.00	2015	Central
S15-023	411370.79	6394973.31	1550.74	223.00	2015	Central
S15-024	411370.79	6394973.31	1550.74	244.00	2015	Central
S15-025	411397.62	6395036.54	1517.20	181.00	2015	Central
S15-026	411470.21	6395149.54	1475.23	260.00	2015	Central
S15-027	411500.47	6395192.97	1463.28	262.00	2015	Central
S15-028	411333.40	6394849.87	1605.59	254.00	2015	Central
S15-029	411446.53	6395238.42	1457.51	219.00	2015	Central
S15-030	411449.05	6395000.26	1511.61	265.00	2015	Central
S15-031	411322.19	6394891.42	1599.51	283.00	2015	Central
S15-032	411498.54	6394975.91	1505.09	294.60	2015	Central
S15-033	411225.13	6394931.43	1612.18	117.00	2015	500 Colour

HOLE	EASTING	NORTHING	ELEVATION	LENGTH	YEAR	ZONE
S15-034	411225.71	6394931.21	1612.19	196.00	2015	Central
S15-035	411489.09	6395236.66	1456.02	242.50	2015	Central
S15-036	411378.15	6394931.83	1560.50	209.00	2015	Central
S15-037	411482.75	6395283.96	1441.43	220.00	2015	Central
S15-038	411364.28	6394997.00	1543.70	163.50	2015	Central
S15-039	411327.92	6395001.19	1554.69	166.00	2015	Central
S15-040	411504.24	6395035.64	1493.51	299.00	2015	Central
S15-041	411385.23	6394890.54	1569.04	214.00	2015	Central
S15-042	411341.64	6394807.74	1608.54	388.00	2015	Central
S15-043	411379.02	6394700.42	1589.25	362.00	2015	Central
S15-044	411332.30	6394930.29	1580.83	319.00	2015	Central
S15-045	411400.22	6394747.73	1582.18	416.00	2015	Central
S15-046	411418.10	6394931.32	1539.70	266.00	2015	Central
S15-047	411537.66	6395136.49	1466.29	320.00	2015	Central
S15-048	411367.83	6394807.91	1594.68	149.40	2015	Central
S15-049	411398.23	6394805.95	1580.86	272.00	2015	Central
S15-050	411419.95	6394889.43	1555.68	338.00	2015	Central
S15-051	411398.23	6394845.07	1574.30	385.00	2015	Central
S15-052	411435.32	6394805.03	1563.38	365.00	2015	Central
S15-053	411453.72	6394890.44	1539.72	341.00	2015	Central
S15-054	411399.94	6394649.21	1561.99	256.00	2015	33 Zone
S15-055	411430.82	6394752.78	1564.88	381.30	2015	Central
S15-056	411436.79	6394843.81	1555.94	365.00	2015	Central
S15-057	411465.94	6394804.93	1546.68	395.00	2015	Central
S15-058	411382.44	6394606.68	1573.77	212.00	2015	33 Zone
S15-059	411382.44	6394606.68	1573.77	214.30	2015	33 Zone
S15-060	411460.15	6394930.44	1522.54	422.00	2015	Central
S15-061	411340.89	6394702.70	1610.34	317.00	2015	Central
S15-062	411671.90	6394847.71	1454.66	740.00	2015	Central
S15-063	411410.39	6394699.18	1570.98	447.20	2015	Central
S15-064	411458.83	6394750.21	1548.94	473.00	2015	Central
S15-065	411755.84	6395228.60	1364.21	265.00	2015	Boundary Zone
S15-066	410808.58	6395183.05	1571.00	182.00	2015	300 Colour
S15-067	411464.50	6394846.50	1541.51	404.00	2015	Central
S15-068	410828.78	6395086.42	1640.00	242.00	2015	300 Colour
S15-069	411560.01	6394848.72	1512.01	467.00	2015	Central
S15-070	411496.93	6394808.69	1529.41	449.00	2015	Central
S15-071	411560.00	6394848.00	1512.13	211.00	2015	

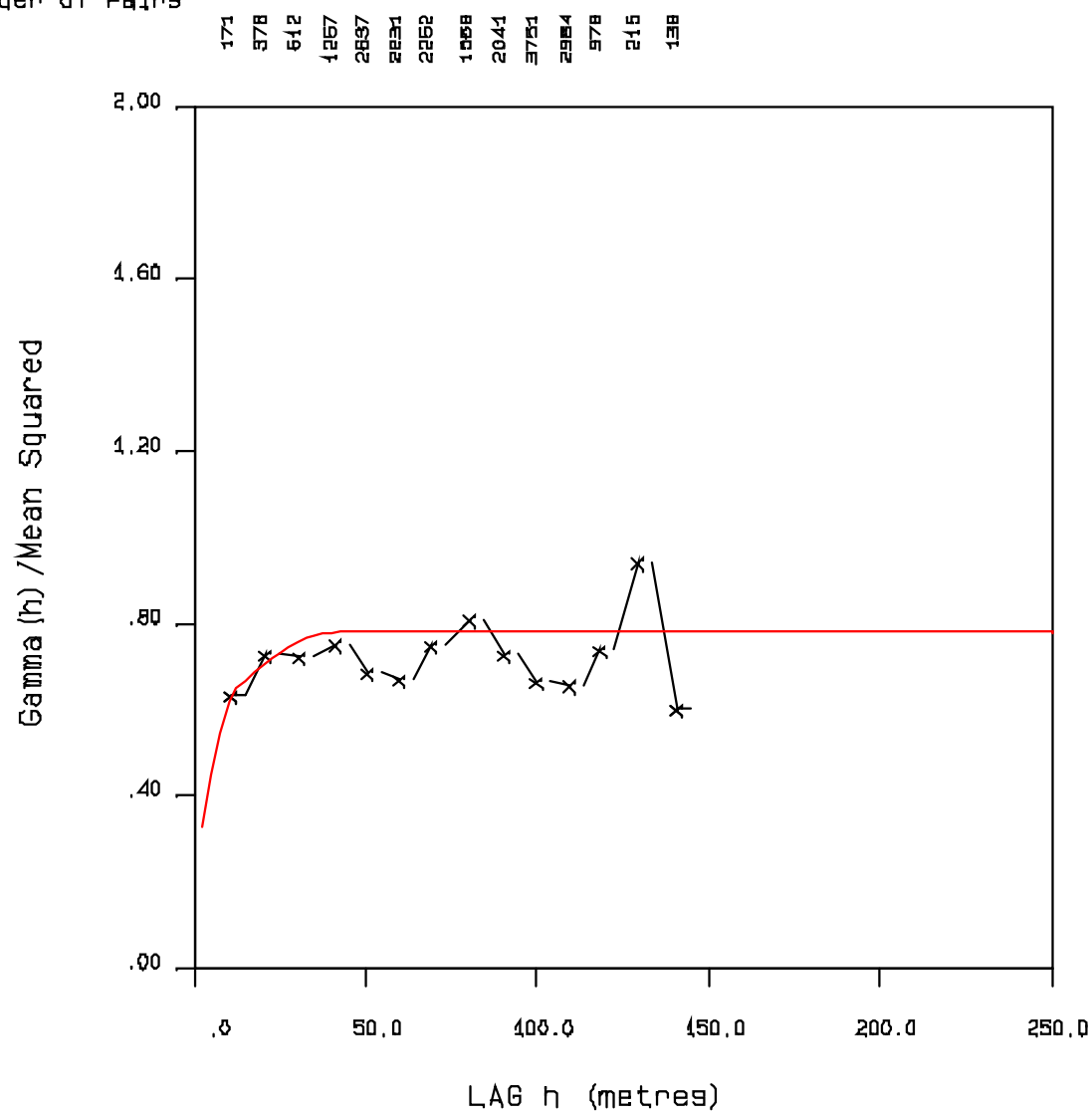
HOLE	EASTING	NORTHING	ELEVATION	LENGTH	YEAR	ZONE
S15-072	411793.00	6394866.00	1375.56	90.00	2015	
S15-073	411672.00	6394847.00	1454.77	160.00	2015	
S2	411262.17	6395120.02	1531.52	244.45	1976	Central
S3	411288.37	6394773.22	1643.14	12.95	1976	Central
S4	411288.87	6394773.22	1642.83	135.94	1976	Central
S79-01	411273.28	6394807.22	1645.04	161.20	1979	Central
S79-02	411273.53	6394746.77	1651.60	115.50	1979	Central
S79-03	411307.65	6394805.75	1627.54	94.80	1979	Central
S79-04	411168.94	6394897.61	1647.21	21.30	1979	500 Colour
S79-05	411152.40	6394894.42	1651.83	39.60	1979	500 Colour
S79-06	411330.03	6394870.64	1601.49	121.90	1979	Central
S79-07	411202.07	6394879.80	1642.22	22.60	1979	500 Colour
S79-08	411146.19	6394925.79	1635.45	123.40	1979	500 Colour
S79-09	411145.94	6394923.81	1635.62	65.50	1979	500 Colour
S79-10	411146.68	6394926.78	1635.41	66.40	1979	500 Colour
S80-11	411118.30	6395003.63	1594.17	132.90	1980	500 Colour
S80-12	411176.92	6395013.96	1589.92	129.50	1980	500 Colour
S80-13	411173.44	6394980.24	1604.66	160.00	1980	500 Colour
S80-14	411232.49	6394978.09	1591.75	175.90	1980	Central
S80-15	411169.19	6395049.44	1577.24	66.40	1980	500 Colour
S80-16	411228.38	6394782.73	1661.75	107.00	1980	Central
S80-17	411263.39	6394771.00	1651.21	135.90	1980	Central
S80-18	411238.17	6394743.80	1660.64	206.30	1980	Central
S80-19	411232.23	6394806.74	1655.73	171.20	1980	Central
S80-20	411301.72	6394932.59	1587.05	151.50	1980	Central
S80-21	411296.77	6394966.01	1576.51	203.30	1980	Central
S80-22	411412.50	6395212.87	1468.41	137.50	1980	Central
S80-23	411222.05	6394867.09	1639.37	115.80	1980	500 Colour
S80-24	411253.75	6394718.09	1655.17	106.40	1980	Central
S80-25	411253.75	6394716.11	1654.76	106.10	1980	Central
S80-26	411271.59	6394846.24	1631.76	106.70	1980	Central
S80-27	411271.59	6394846.24	1631.76	106.40	1980	Central
S80-28	411304.03	6394871.64	1611.15	81.10	1980	Central
S89-33	411343.90	6394594.40	1594.70	65.20	1989	33 Zone
S89-34	411347.44	6394762.07	1612.49	170.40	1989	Central
S89-35	411255.23	6394886.60	1619.61	124.70	1989	Central
S89-36	411331.75	6395074.89	1532.82	136.80	1989	Central
S89-37	410801.87	6395069.03	1648.38	142.30	1989	300 Colour

HOLE	EASTING	NORTHING	ELEVATION	LENGTH	YEAR	ZONE
S89-38	410030.40	6395262.00	1690.00	197.20	1989	Fog Zone
S89-39	411253.90	6394593.70	1644.59	50.00	1989	33 Zone
S89-40	411080.17	6394356.59	1541.49	125.00	1989	Skarn Zone
S89-41	411266.11	6394533.01	1629.01	92.00	1989	33 Zone
S89-42	411206.52	6394453.27	1591.39	95.40	1989	33 Zone
S90-43	410973.16	6395220.65	1558.40	101.80	1990	300 Colour
S90-44	410875.88	6395120.42	1626.03	121.90	1990	300 Colour
S90-45	411173.44	6394980.24	1604.66	108.20	1990	500 Colour
S90-46	411279.63	6395123.38	1528.80	182.90	1990	Central
S90-47	411215.85	6394772.24	1669.18	182.90	1990	Central
S90-48	411195.67	6394833.25	1663.44	30.50	1990	500 Colour
S90-49	411312.11	6394584.19	1610.20	121.92	1990	33 Zone
S90-50	411281.69	6394676.30	1634.30	109.10	1990	Central
S90-51	411605.86	6395076.50	1445.71	126.50	1990	Boundary Zone
S90-52	411270.57	6395183.20	1501.69	169.50	1990	Central
S90-53	411270.57	6395183.20	1501.69	44.20	1990	Central
S90-54	411347.47	6395369.02	1380.69	118.90	1990	Central
S90-55	411364.78	6395343.80	1389.14	115.82	1990	Central
S90-56	411295.40	6395038.63	1553.83	137.20	1990	Central
S90-57	411204.23	6395129.46	1540.49	48.80	1990	Central
S90-58	411293.31	6395232.90	1469.28	149.40	1990	Central
S90-59	411268.53	6395074.37	1550.32	152.40	1990	Central
S90-60	411257.99	6394999.15	1579.66	129.54	1990	Central
S90-61	411026.30	6395199.77	1561.79	118.30	1990	None
S90-62	411069.65	6395154.53	1562.78	94.50	1990	None
S91-63	411276.80	6395125.07	1528.80	177.80	1991	Central
S91-64	411270.57	6395183.20	1501.69	152.09	1991	Central
S91-65	411231.28	6395117.45	1534.75	221.40	1991	Central
S91-66	411231.28	6395117.45	1534.75	187.44	1991	Central
S91-67	411216.42	6395182.46	1517.02	63.09	1991	Central
S91-68	411216.42	6395179.49	1517.54	227.67	1991	Central
S91-69	411266.26	6395096.38	1544.56	161.80	1991	Central
S91-70	411266.26	6395096.38	1544.56	229.20	1991	Central
S91-71	411423.38	6395196.55	1470.61	175.86	1991	Central
S91-72	411422.81	6395193.80	1470.74	183.50	1991	Central
S91-73	411409.91	6394997.58	1523.70	179.50	1991	Central
S91-74	411397.80	6395223.92	1466.51	146.90	1991	Central
S91-75	411398.40	6395221.03	1467.27	156.00	1991	Central

HOLE	EASTING	NORTHING	ELEVATION	LENGTH	YEAR	ZONE
S91-76	411373.21	6395194.75	1484.21	119.50	1991	Central
S91-77	411373.18	6395192.14	1484.66	140.21	1991	Central
S91-78	411421.84	6395264.68	1448.26	154.50	1991	Central
S91-79	411449.83	6395305.22	1434.96	141.12	1991	Central
S91-80	411674.60	6394860.64	1452.85	142.33	1991	None
S91-81	411574.70	6395163.53	1453.02	142.30	1991	Boundary Zone
S91-82	411423.34	6395032.13	1510.76	213.96	1991	Central
S91-83	411461.17	6394929.18	1522.32	180.44	1991	Central
S91-84	411451.88	6394978.35	1515.67	132.89	1991	Central
S91-85	411378.07	6395152.26	1492.92	157.57	1991	Central
S91-86	411402.94	6395146.36	1488.91	180.43	1991	Central
S92-87	410828.08	6396854.86	1138.79	103.94	1992	East Creek
S92-88	410826.41	6396854.63	1138.79	120.70	1992	East Creek
S92-89	410845.24	6396913.17	1152.65	99.21	1992	East Creek
S92-90	411095.04	6394935.70	1642.29	129.84	1992	500 Colour
S92-91	411125.34	6394891.11	1659.30	131.37	1992	500 Colour
S92-92	411138.82	6394813.14	1693.99	125.27	1992	500 Colour

## Appendix 2: Semivariograms for Gold

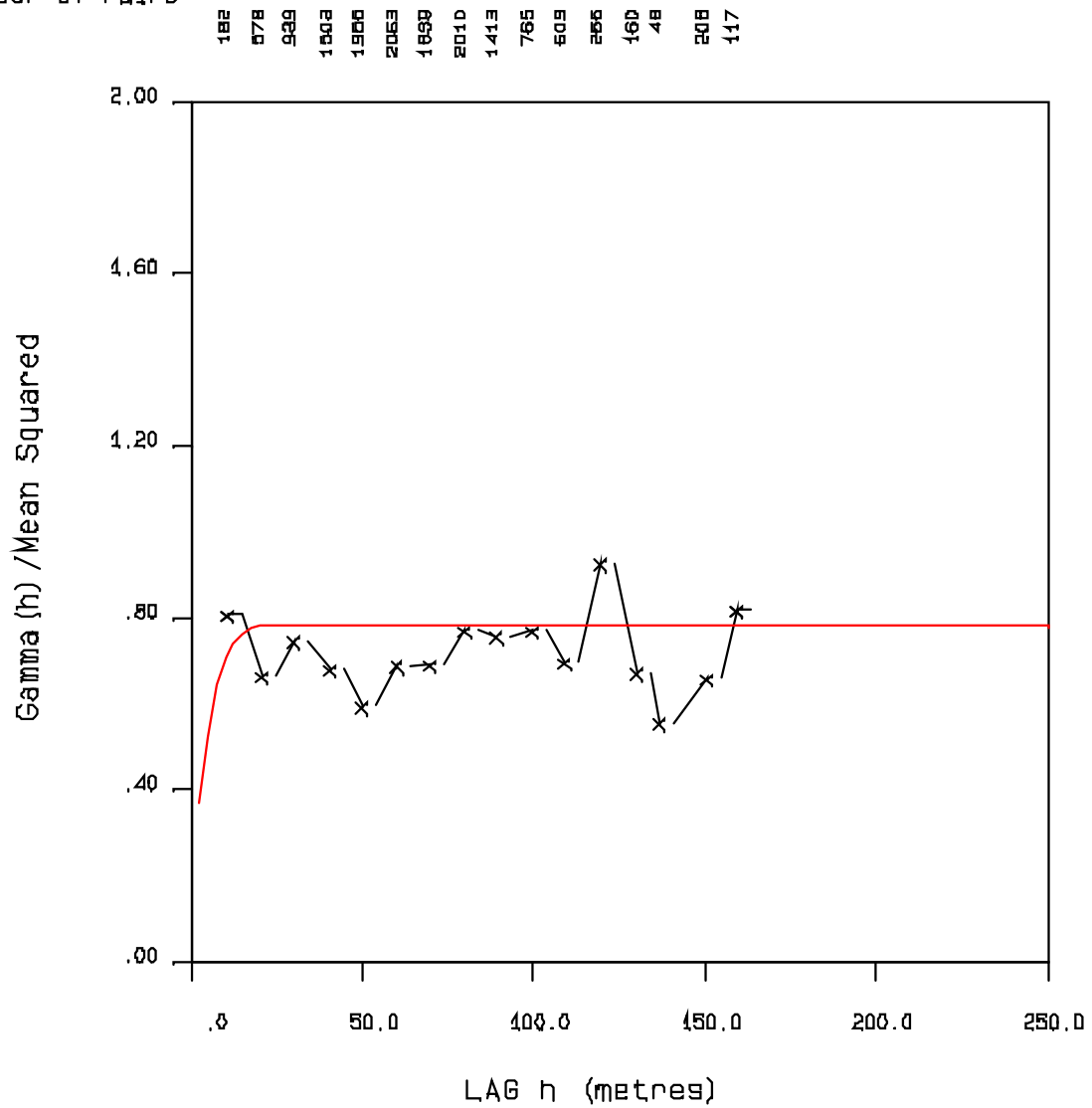
```
C0 = .200
C1 = .350
C2 = .230
A1 = 12.0
A2 = 42.0
```



AU10N DOMAIN - AU - AZ 140 DIP 0

C0 = .200  
 C1 = .350  
 C2 = .230  
 A1 = 10.0  
 A2 = 20.0

Number of Pairs

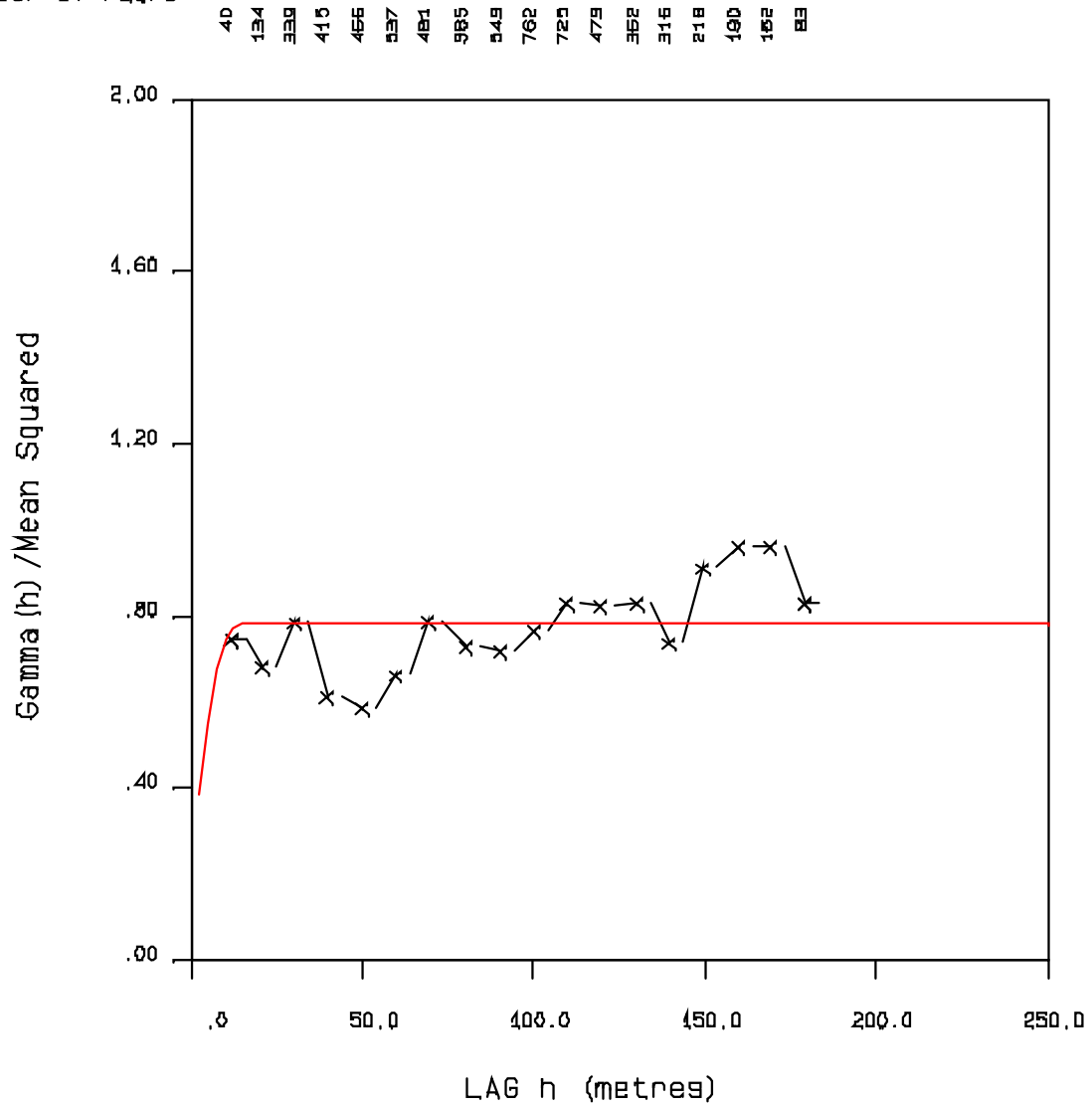


AU10N DOMAIN - AU - AZ 50 DIP 0



C0 = .200  
 C1 = .350  
 C2 = .230  
 A1 = 10.0  
 A2 = 15.0

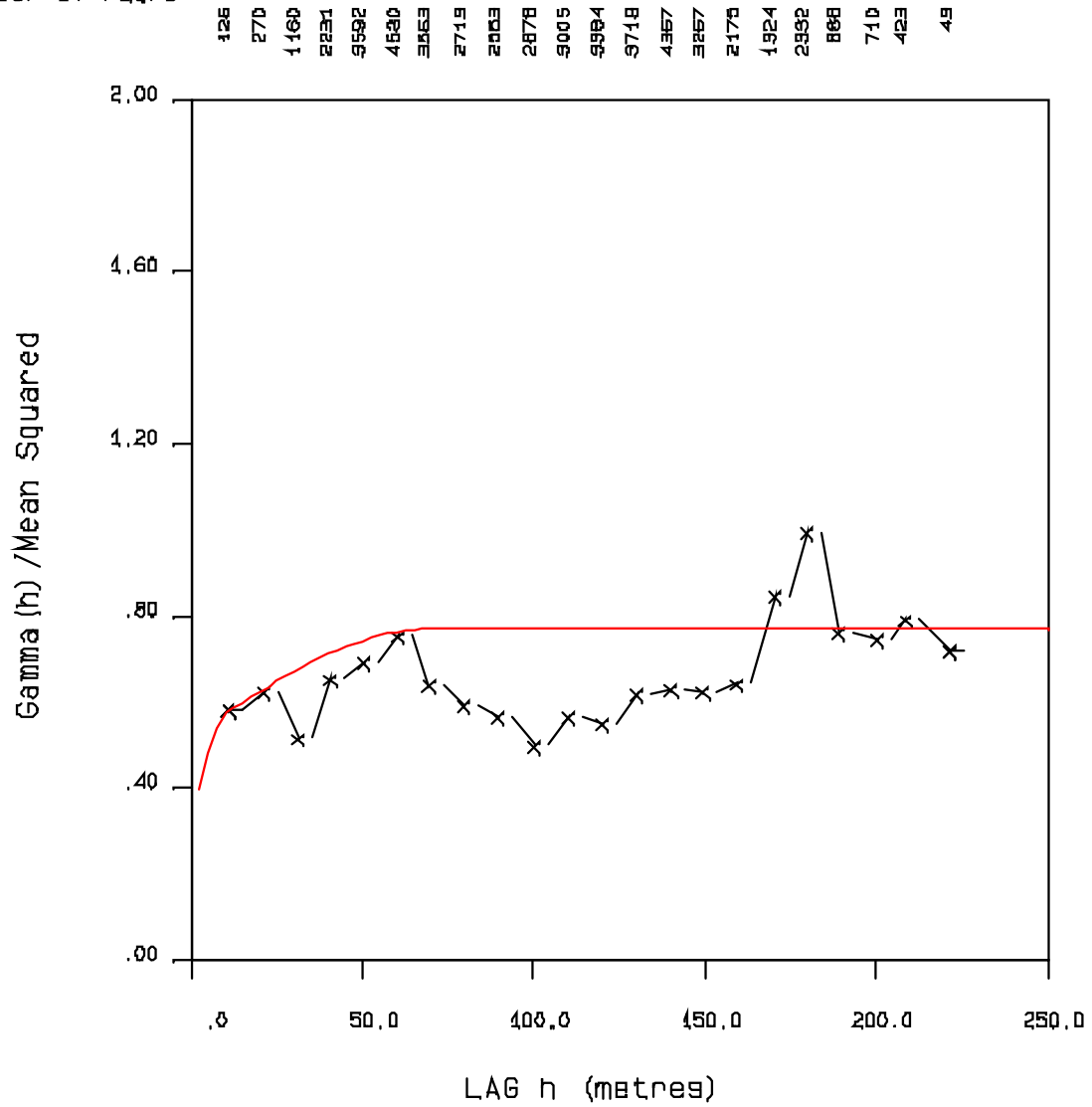
Number of Pairs



AU10N DOMAIN - AU - AZ 0 DIP -90

C0 = .300  
 C1 = .220  
 C2 = .250  
 A1 = 10.0  
 A2 = 70.0

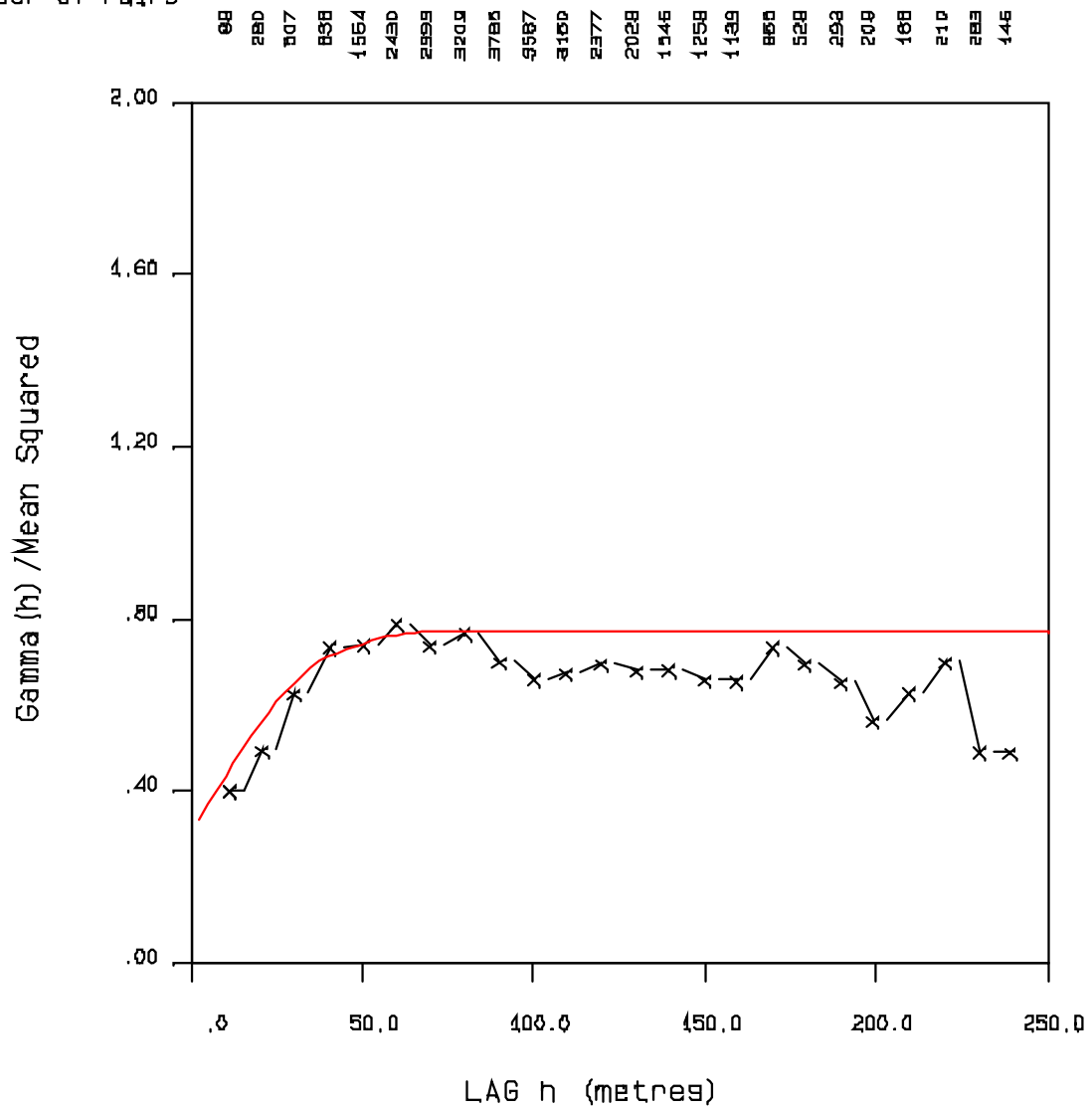
Number of Pairs



AU10S\_M DOMAIN - AU - AZ 135 DIP 0

C0 = .300  
 C1 = .220  
 C2 = .250  
 A1 = 40.0  
 A2 = 70.0

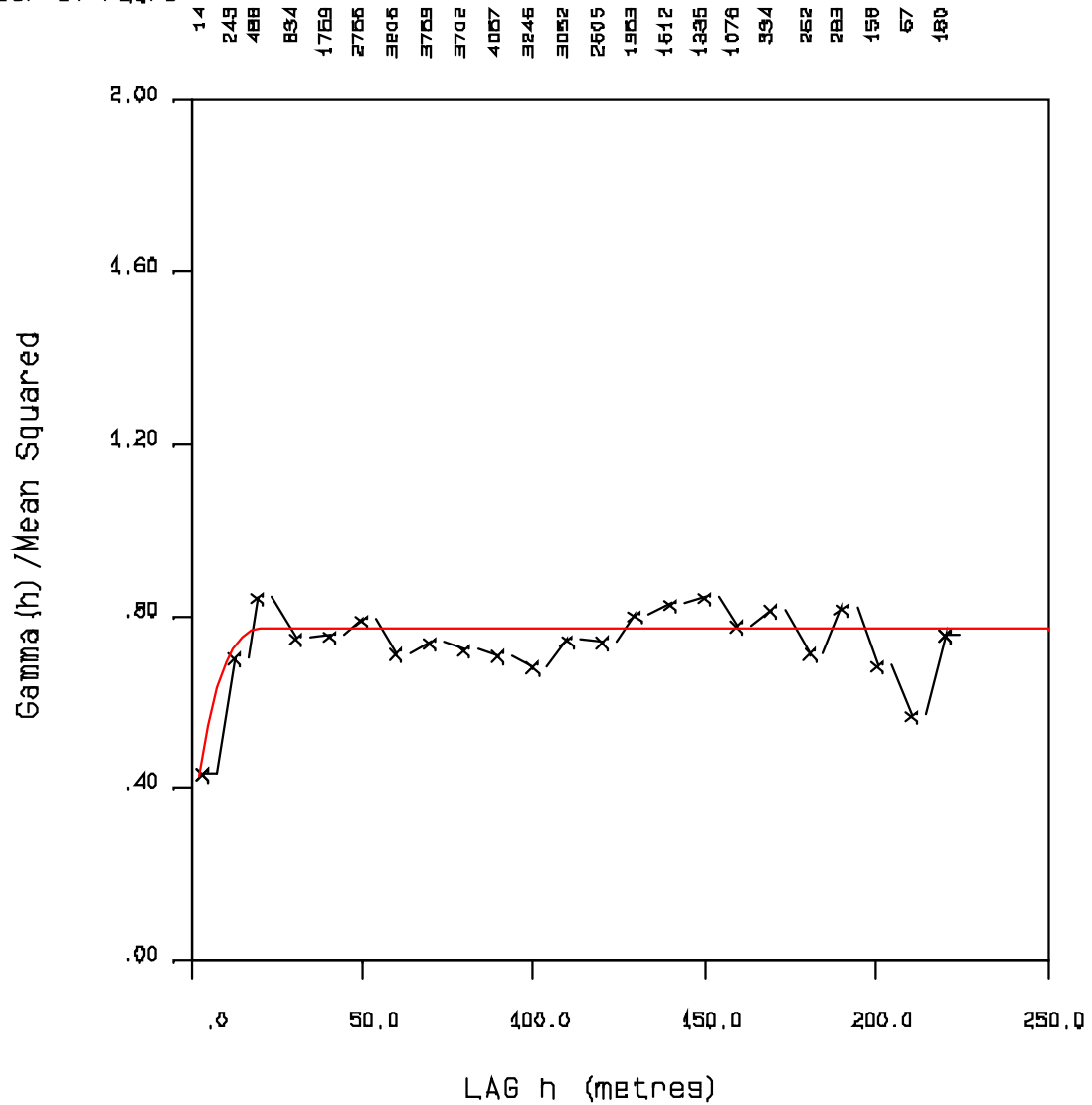
Number of Pairs



AU10S\_M DOMAIN - AU - AZ 45 DIP -55

C0 = .300  
 C1 = .220  
 C2 = .250  
 A1 = 10.0  
 A2 = 20.0

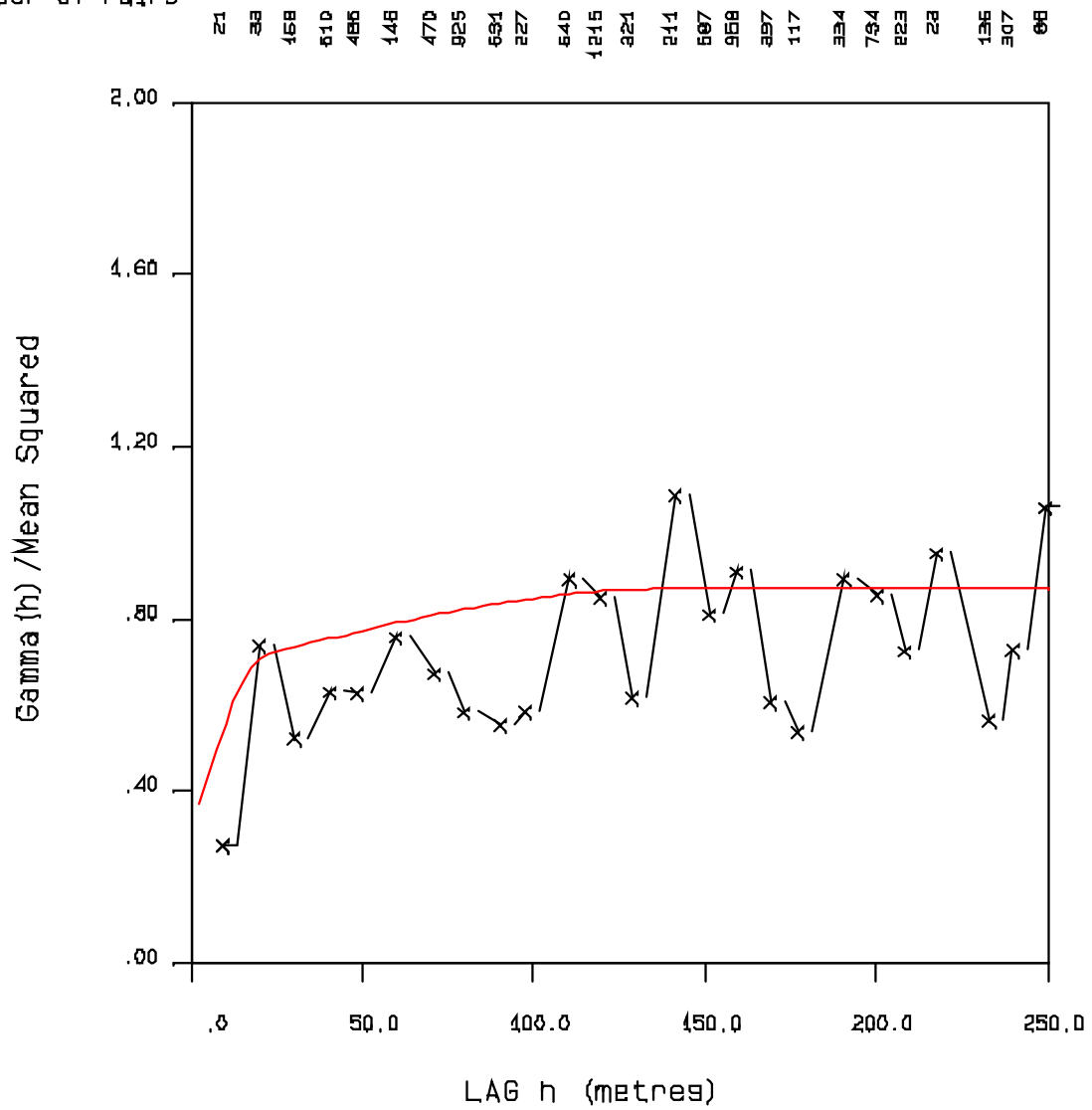
Number of Pairs



AU10S\_M DOMAIN - AU - AZ 225 DIP -35

C0 = .300  
 C1 = .370  
 C2 = .200  
 A1 = 22.0  
 A2 = 140.0

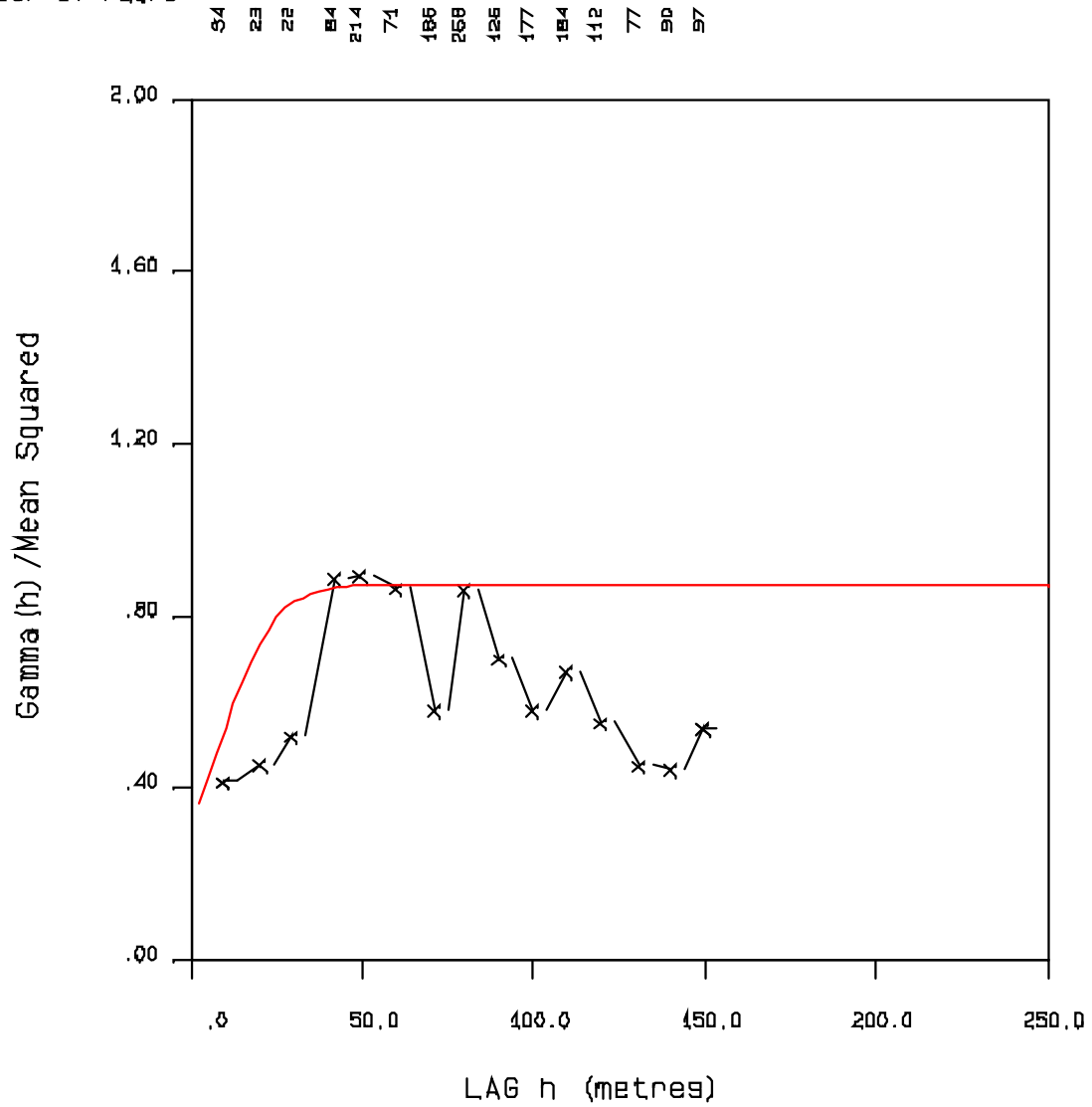
Number of Pairs



AU10S\_SE DOMAIN - AU - AZ 165 DIP 0

C0 = .300  
 C1 = .370  
 C2 = .200  
 A1 = 30.0  
 A2 = 48.0

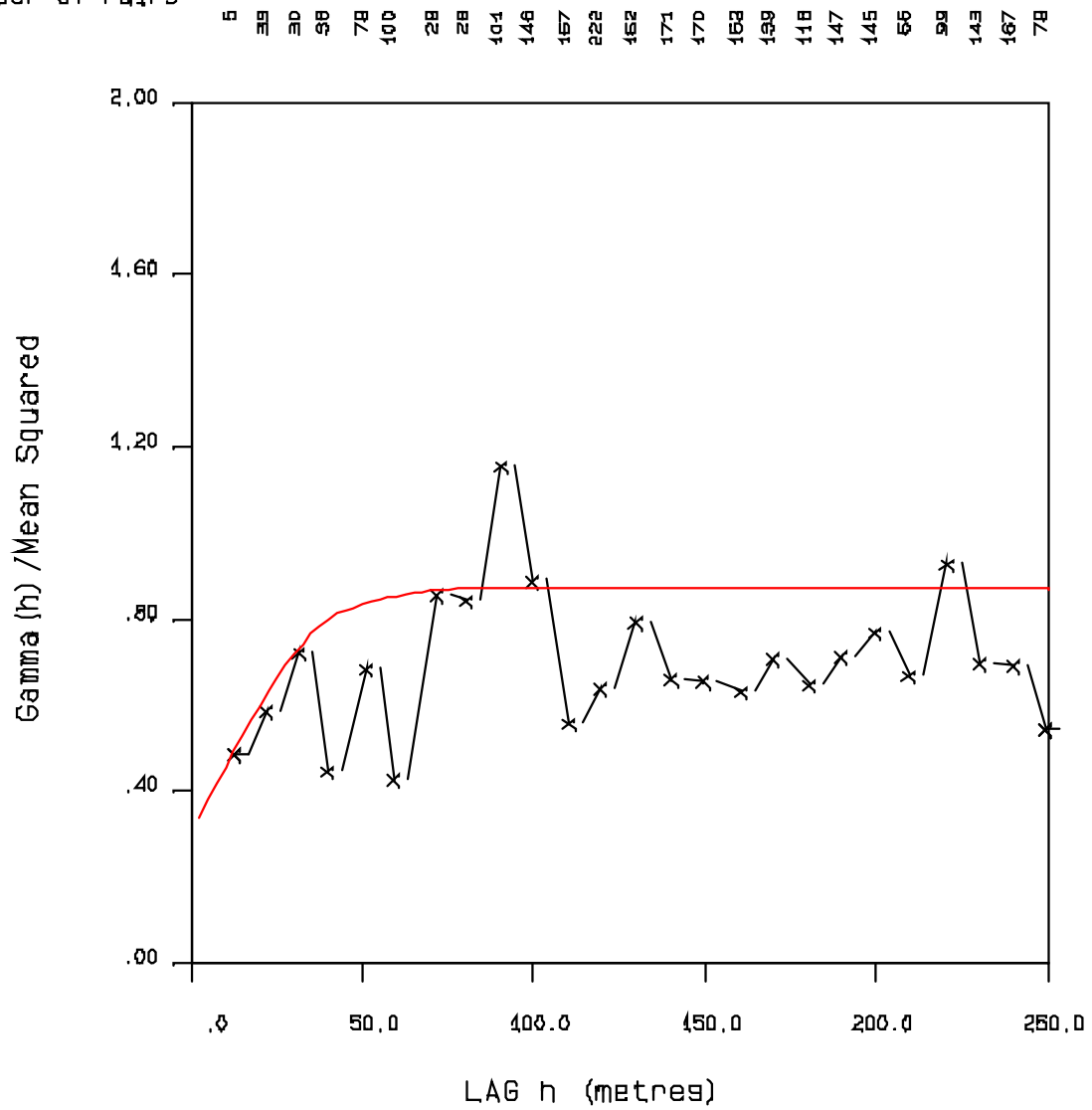
Number of Pairs



AU10S\_SE DOMAIN - AU - AZ 75 DIP 0

C0 = .300  
 C1 = .370  
 C2 = .200  
 A1 = 46.0  
 A2 = 80.0

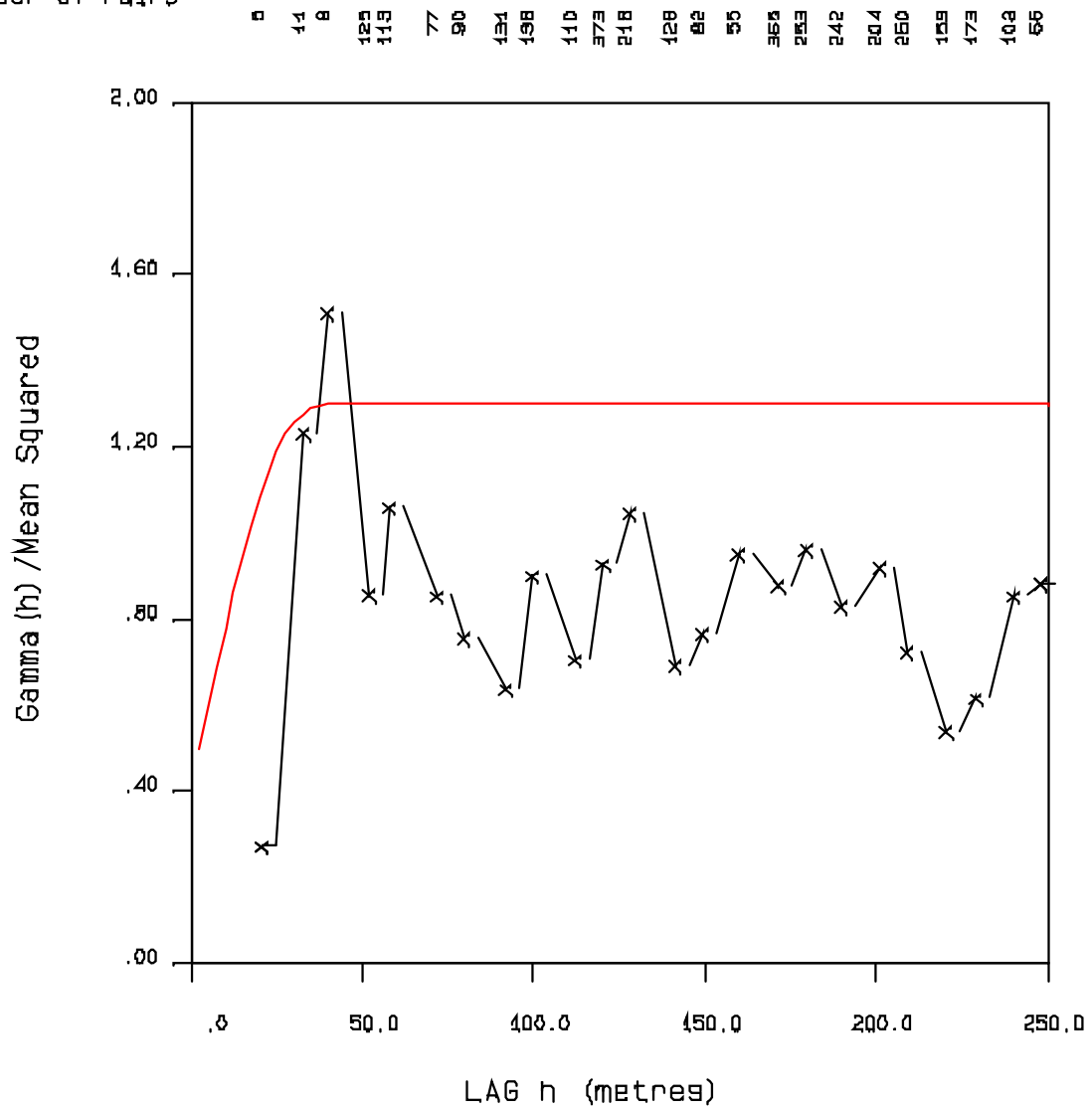
Number of Pairs



AU10S\_SE DOMAIN - AU - AZ 0 DIP -90

C0 = .400  
 C1 = .400  
 C2 = .500  
 A1 = 30.0  
 A2 = 40.0

Number of Pairs



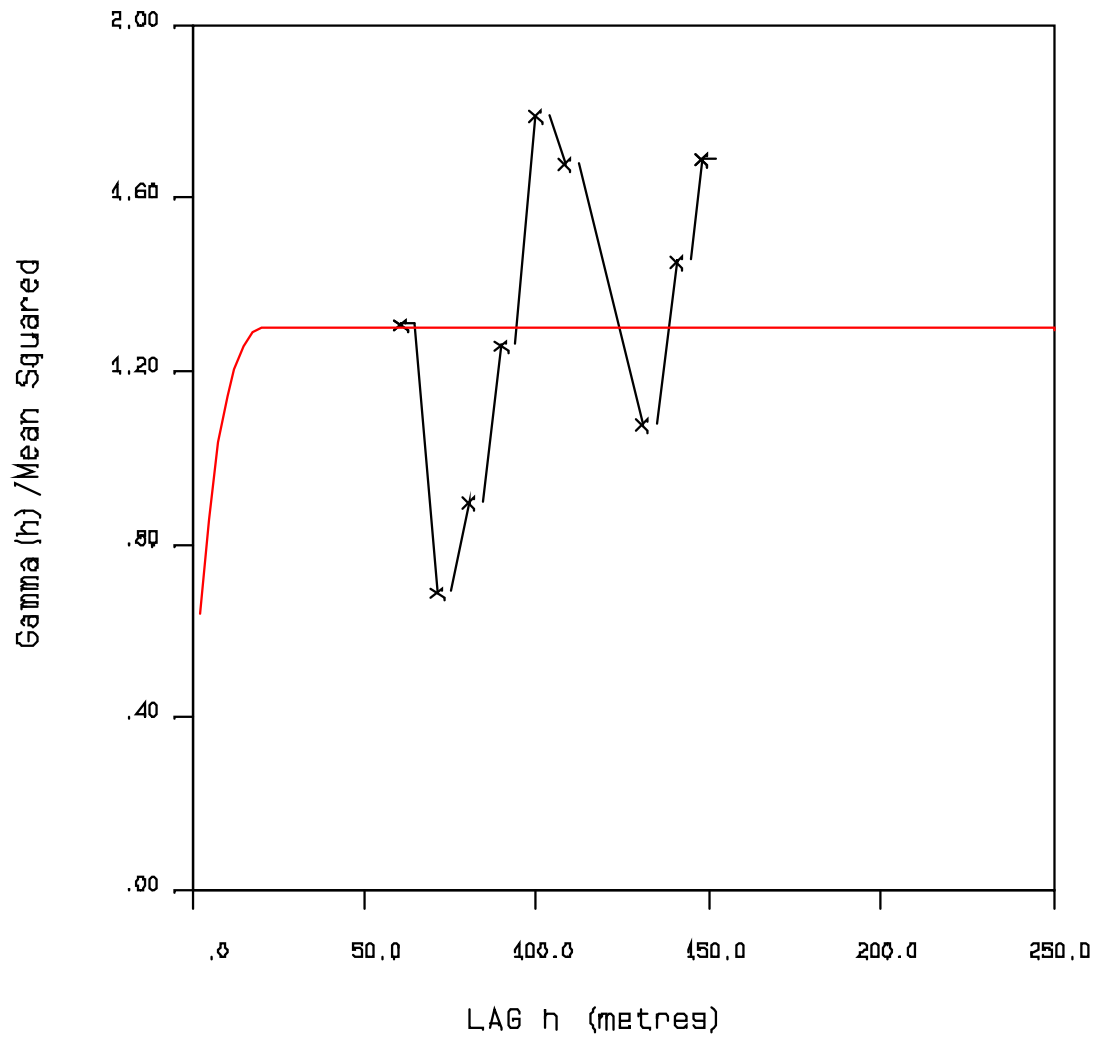
AU10S\_SW DOMAIN - AU - AZ 190 DIP 0



C0 = .400  
 C1 = .400  
 C2 = .500  
 A1 = 10.0  
 A2 = 20.0

Number of Pairs

8 23 44 65 86 107 128 149 170 191 212 233 254

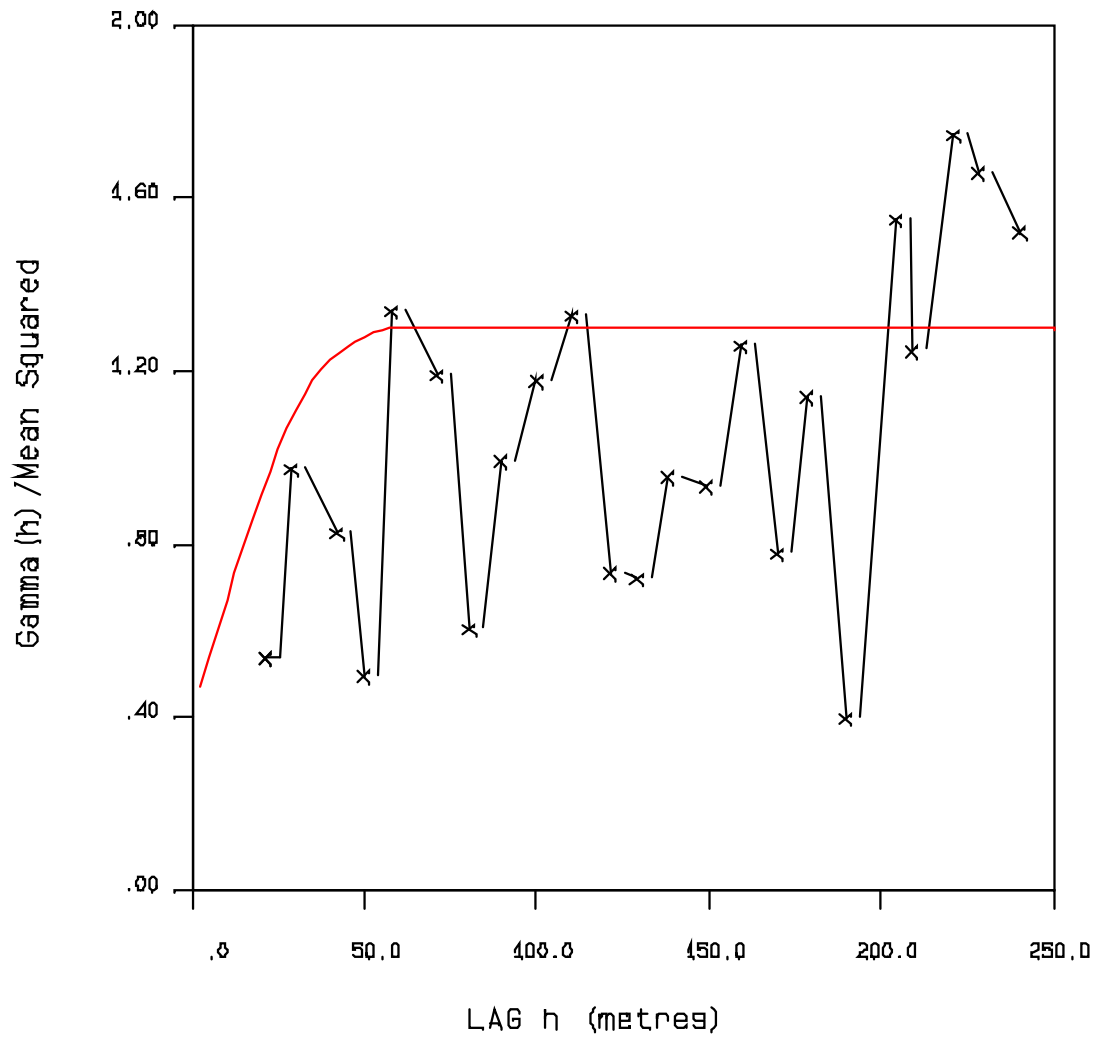


AU10S\_SW DOMAIN - AU - AZ 100 DIP 0

C0 = .400  
 C1 = .400  
 C2 = .500  
 A1 = 40.0  
 A2 = 60.0

Number of Pairs

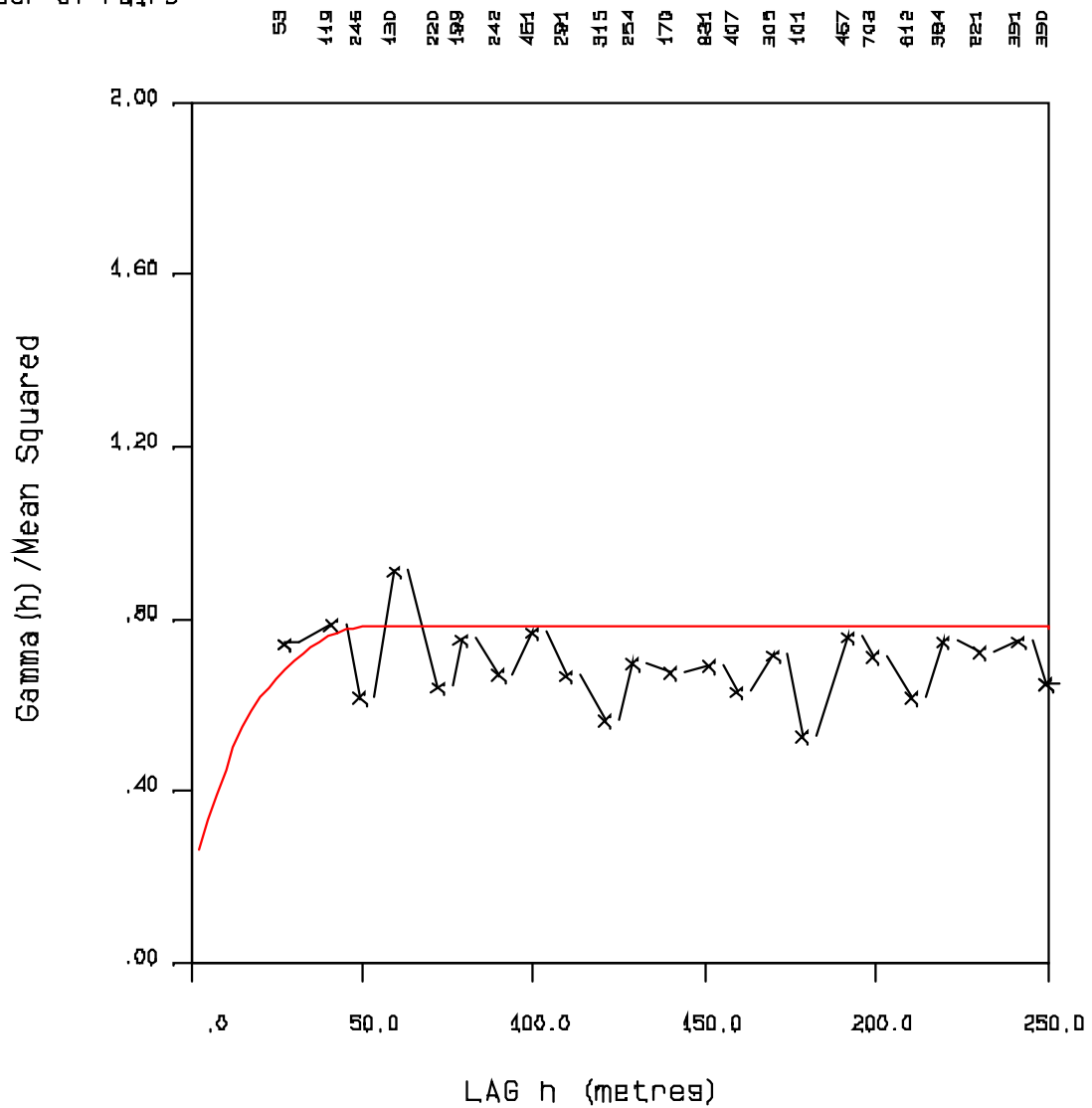
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22



AU10S\_SW DOMAIN - AU - AZ 0 DIP -90

C0 = .200  
 C1 = .200  
 C2 = .380  
 A1 = 20.0  
 A2 = 50.0

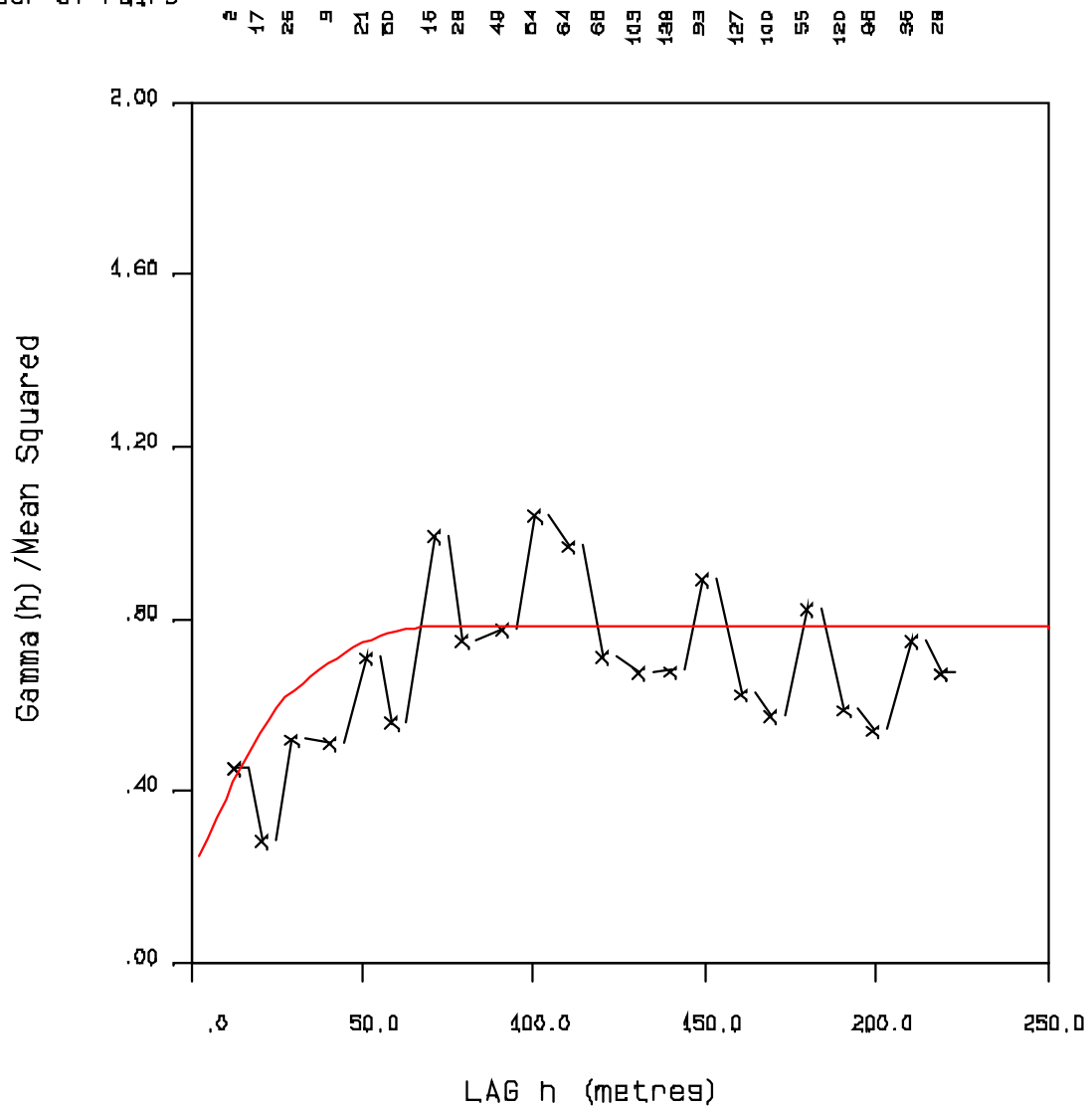
Number of Pairs



AU10S\_FE DOMAIN - AU - AZ 195 DIP 0

C0 = .200  
 C1 = .200  
 C2 = .380  
 A1 = 30.0  
 A2 = 68.0

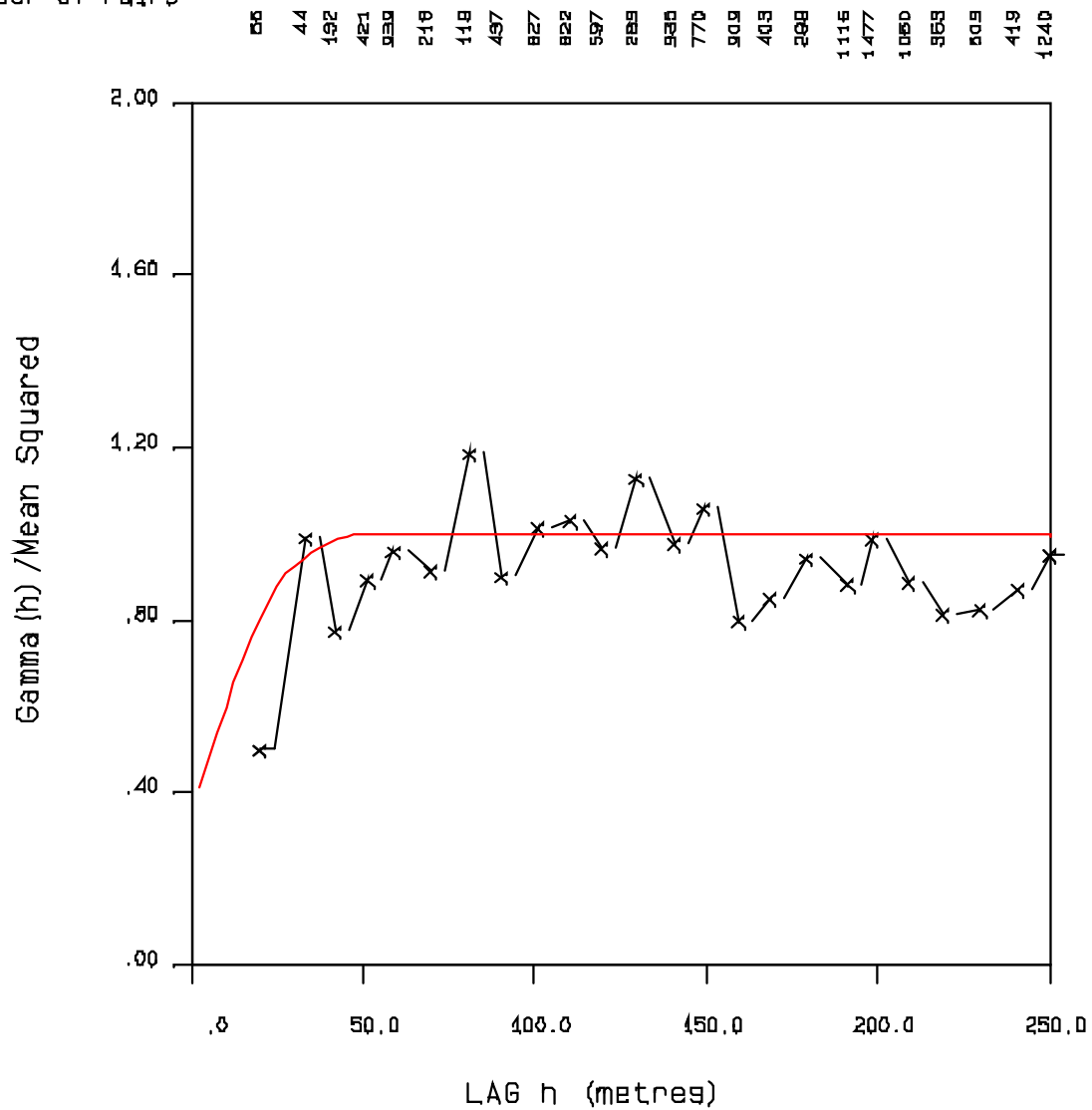
Number of Pairs



AU10S\_FE DOMAIN - AU - AZ 0 DIP -90

C0 = .350  
 C1 = .300  
 C2 = .350  
 A1 = 30.0  
 A2 = 50.0

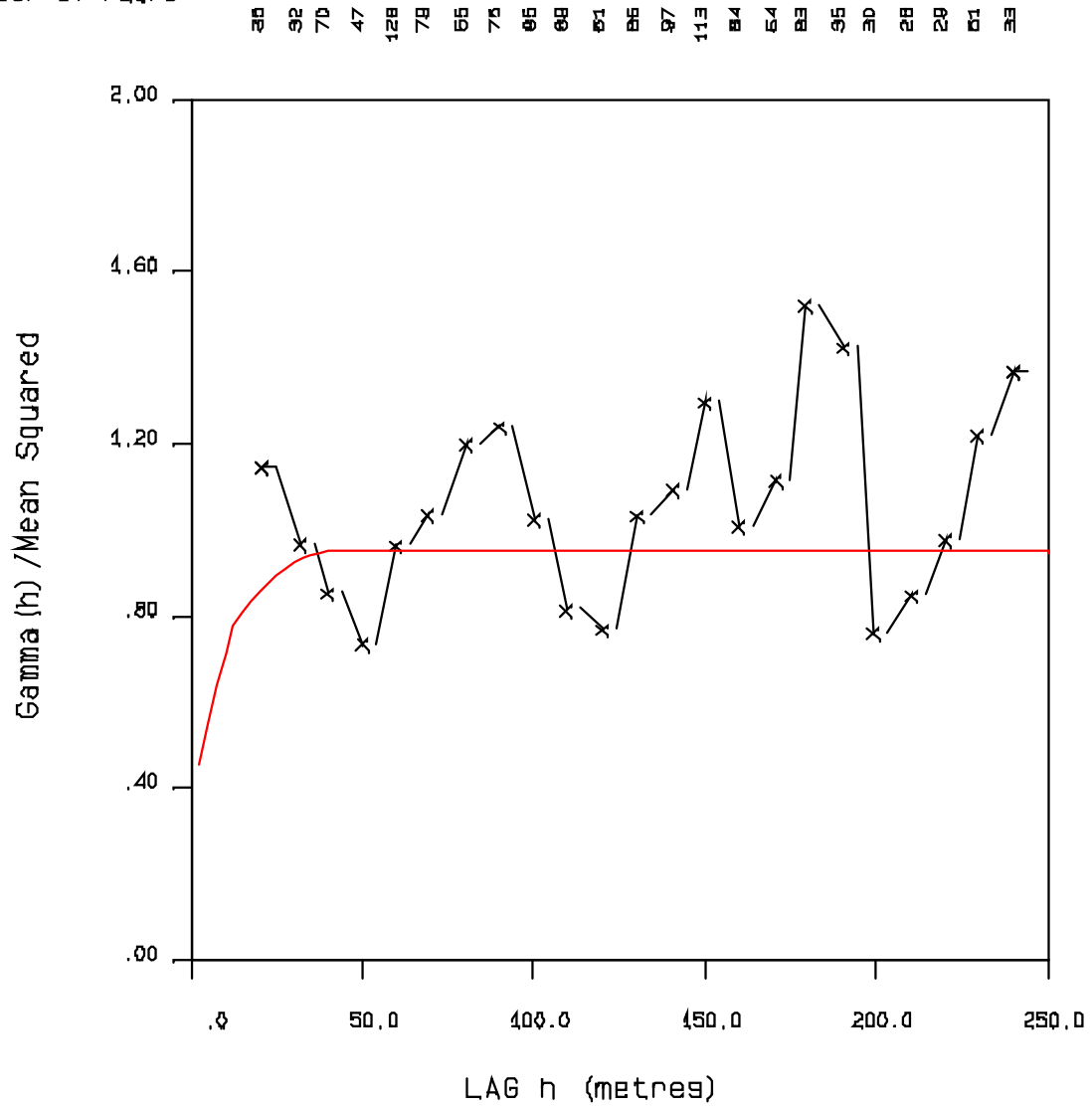
Number of Pairs



AU10S\_FW DOMAIN - AU - AZ 195 DIP 0

C0 = .350  
 C1 = .300  
 C2 = .300  
 A1 = 15.0  
 A2 = 40.0

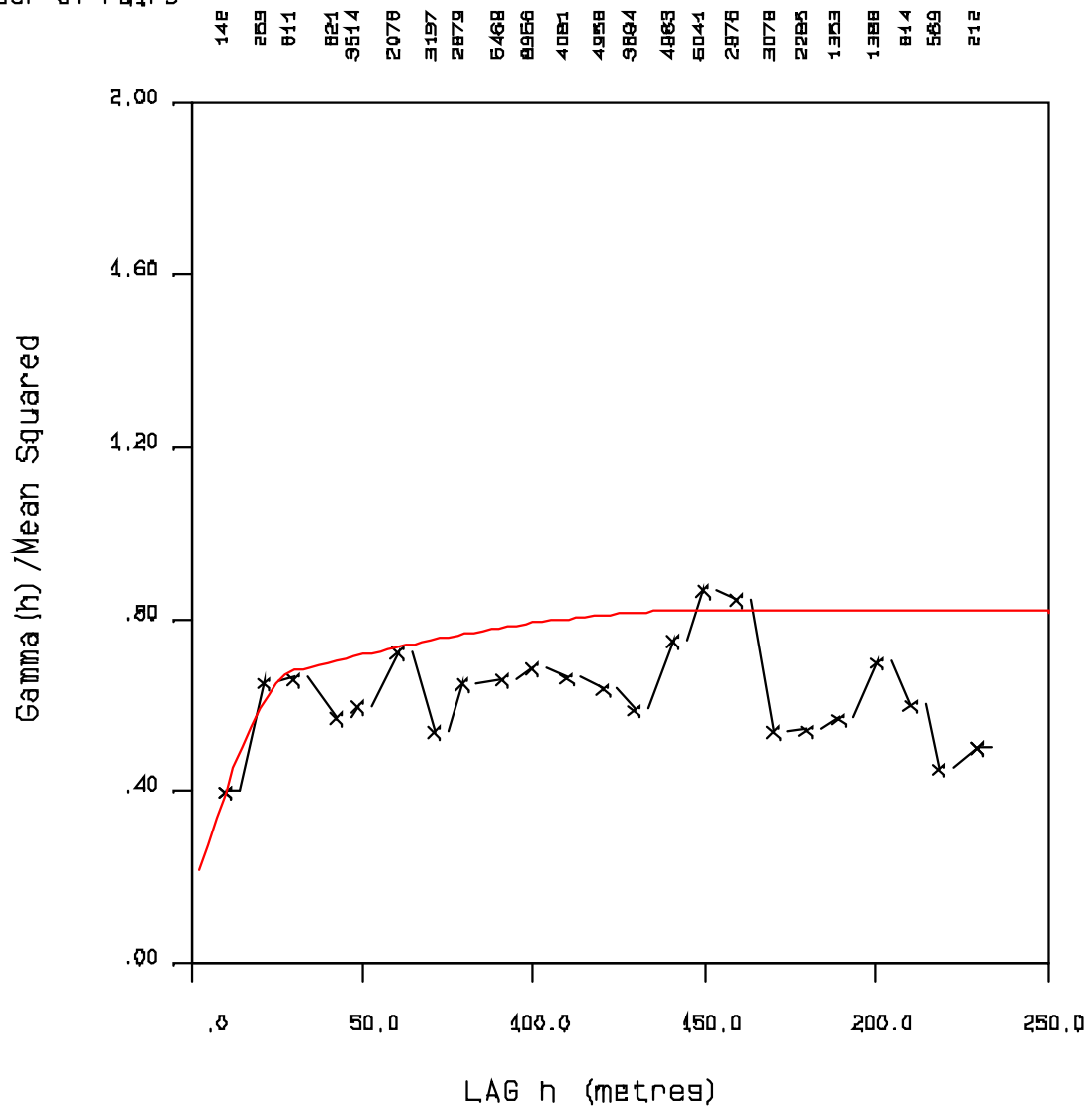
Number of Pairs



AU10S\_FW DOMAIN - AU - AZ 0 DIP -90

C0 = .150  
 C1 = .470  
 C2 = .200  
 A1 = 30.0  
 A2 = 150.0

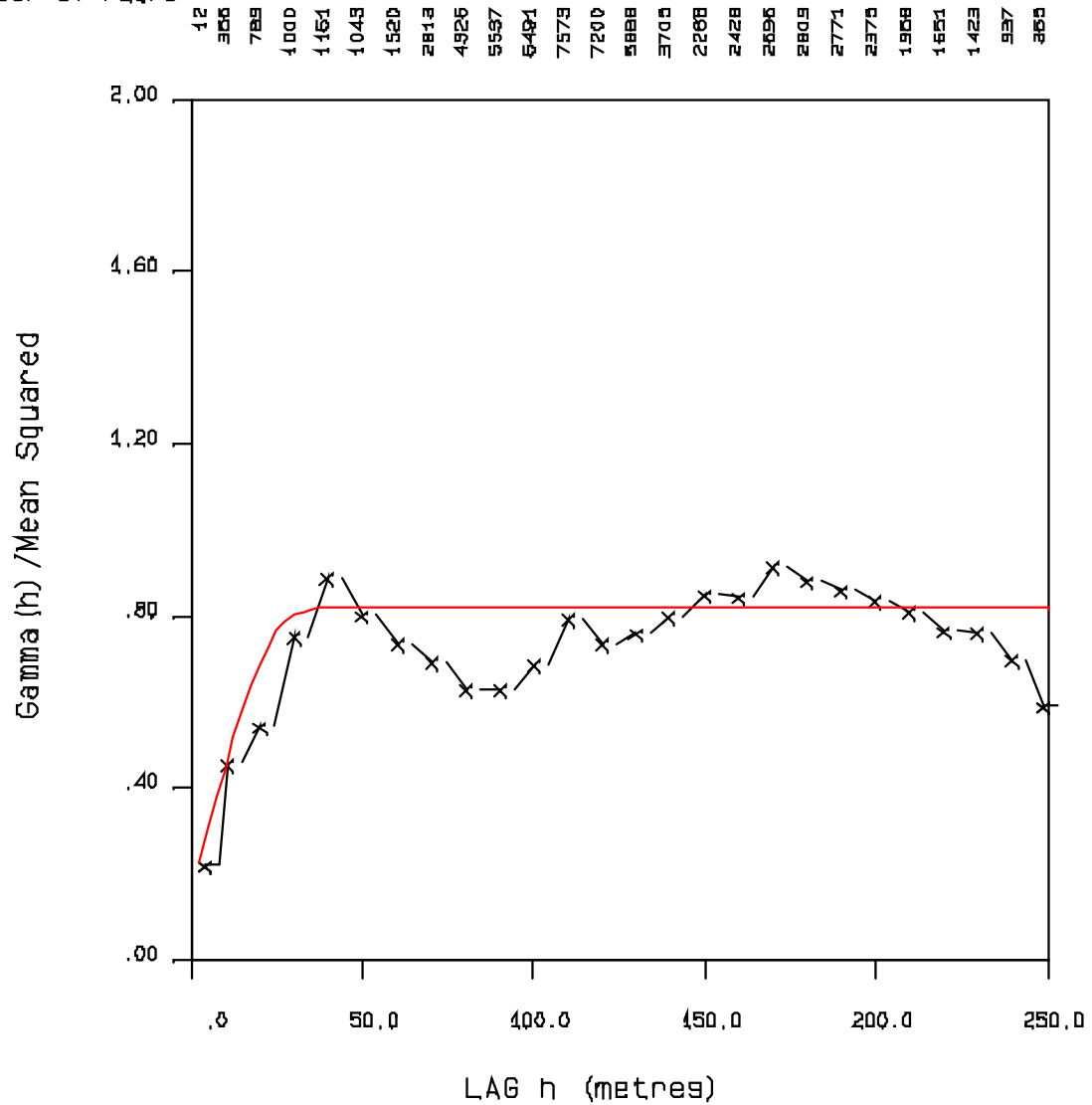
Number of Pairs



AU25N DOMAIN - AU - AZ 0 DIP 0

C0 = .150  
 C1 = .470  
 C2 = .200  
 A1 = 30.0  
 A2 = 40.0

Number of Pairs

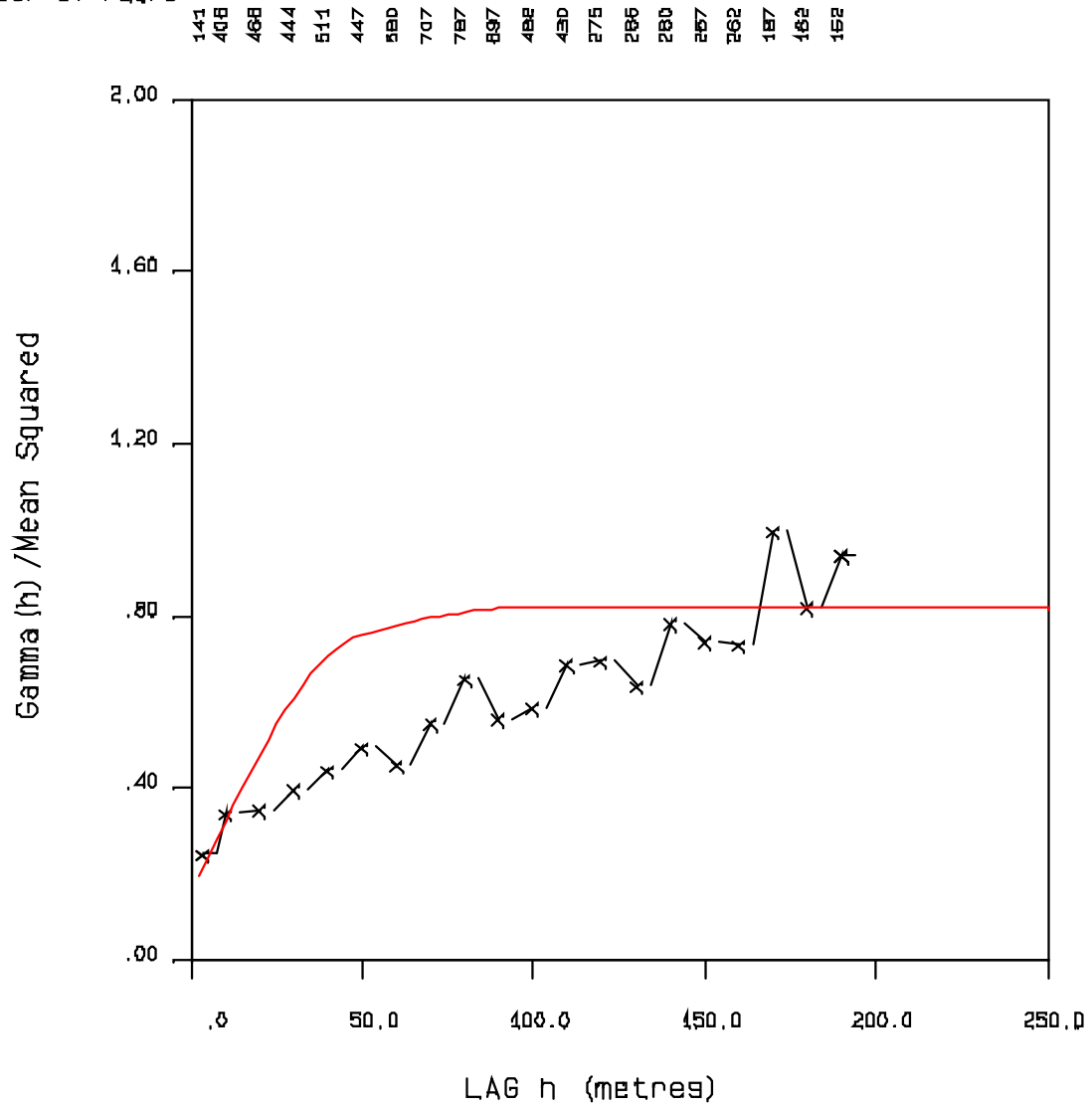


AU25N DOMAIN - AU - AZ 90 DIP 0



C0 = .150  
 C1 = .470  
 C2 = .200  
 A1 = 50.0  
 A2 = 100.0

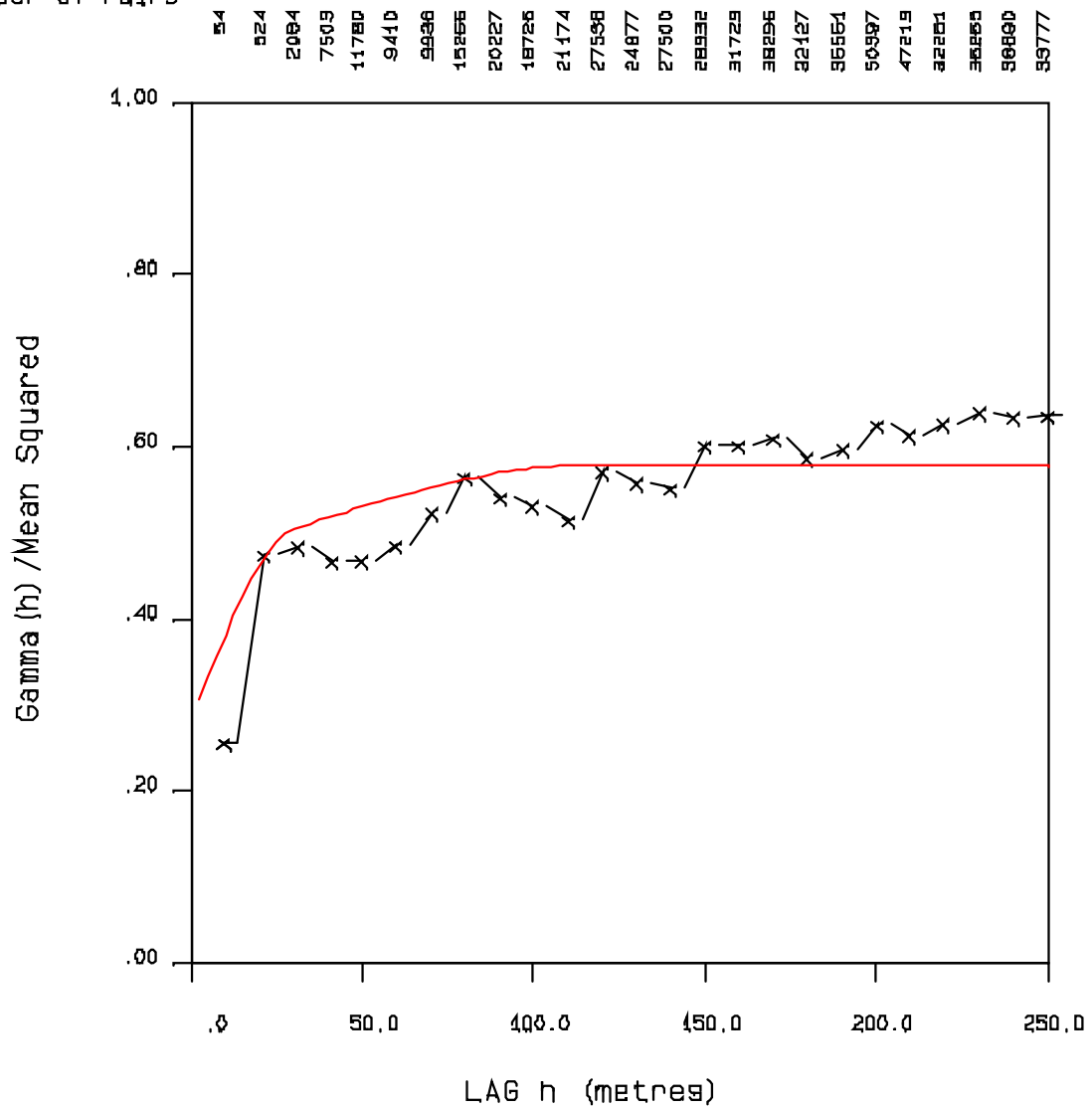
Number of Pairs



AU25N DOMAIN - AU - AZ 0 DIP -90

C0 = .280  
 C1 = .180  
 C2 = .120  
 A1 = 30.0  
 A2 = 120.0

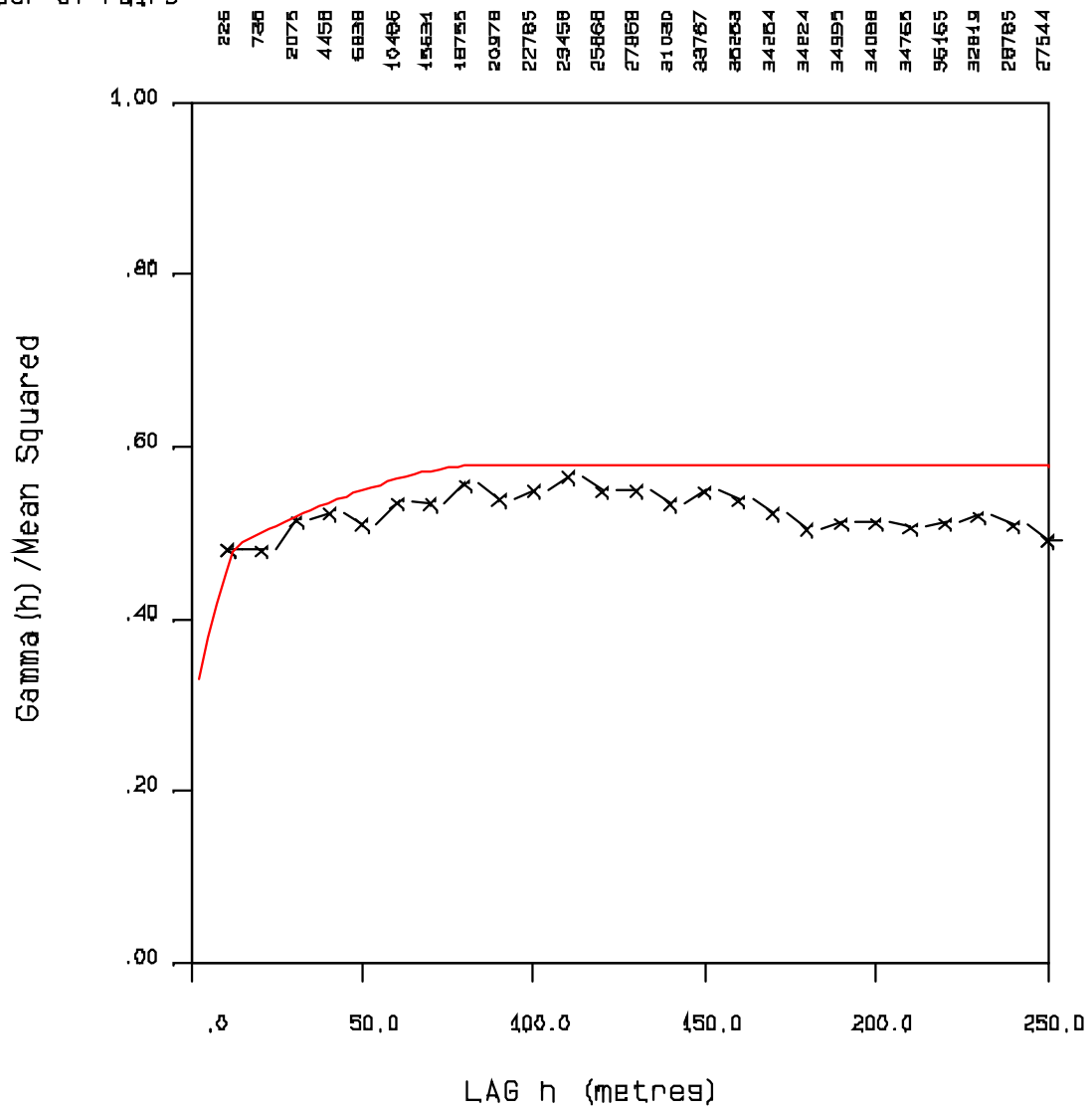
Number of Pairs



AU25S DOMAIN - AU - AZ 158 DIP 0

C0 = .280  
 C1 = .180  
 C2 = .120  
 A1 = 15.0  
 A2 = 90.0

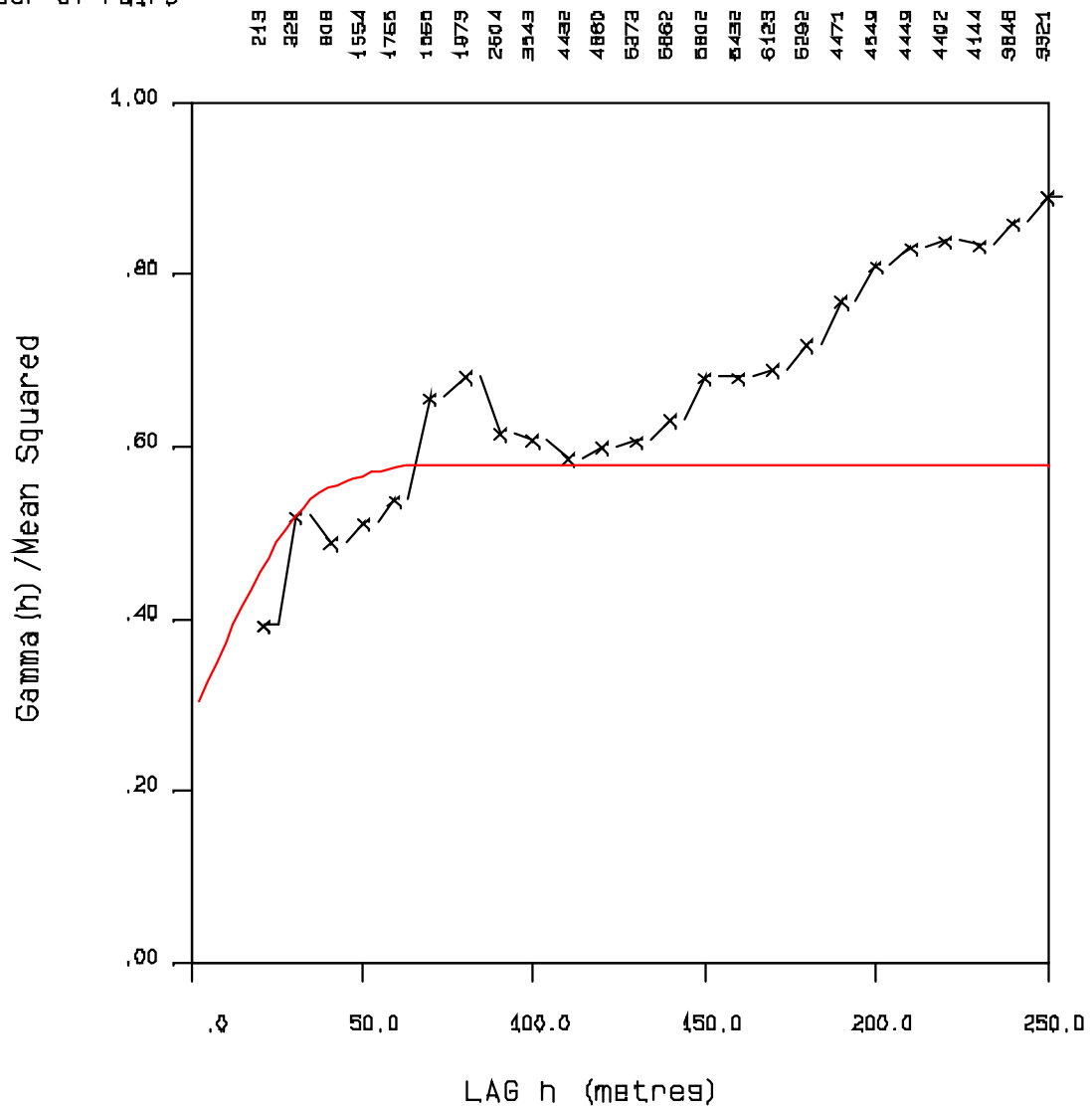
Number of Pairs



AU25S DOMAIN - AU - AZ 68 DIP 0

C0 = .280  
 C1 = .180  
 C2 = .120  
 A1 = 40.0  
 A2 = 70.0

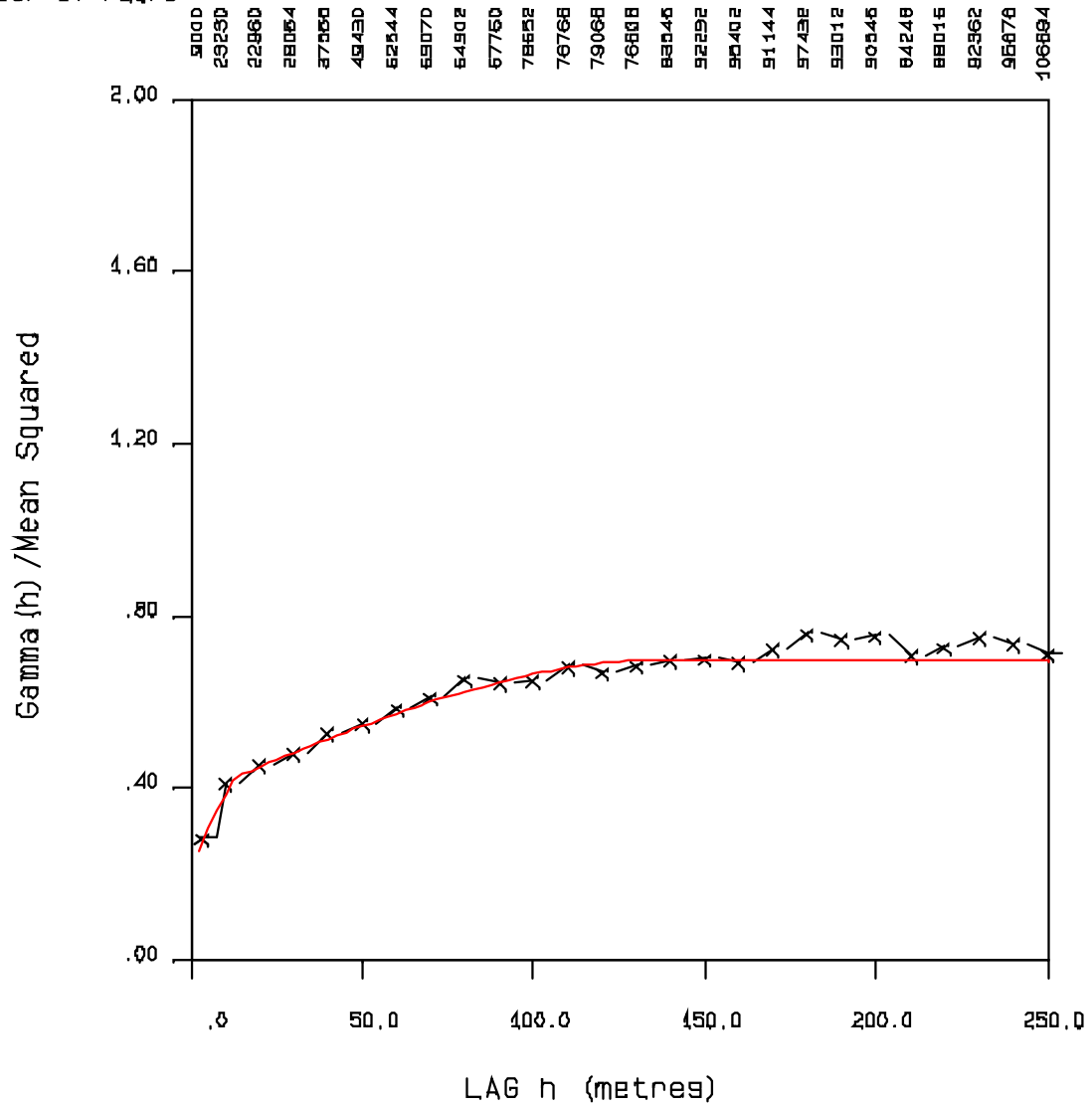
Number of Pairs



AU25S DOMAIN - AU - AZ 0 DIP -90

C0 = .200  
 C1 = .180  
 C2 = .320  
 A1 = 15.0  
 A2 = 140.0

Number of Pairs



WASTE - AU - OMNI DIRECTIONAL

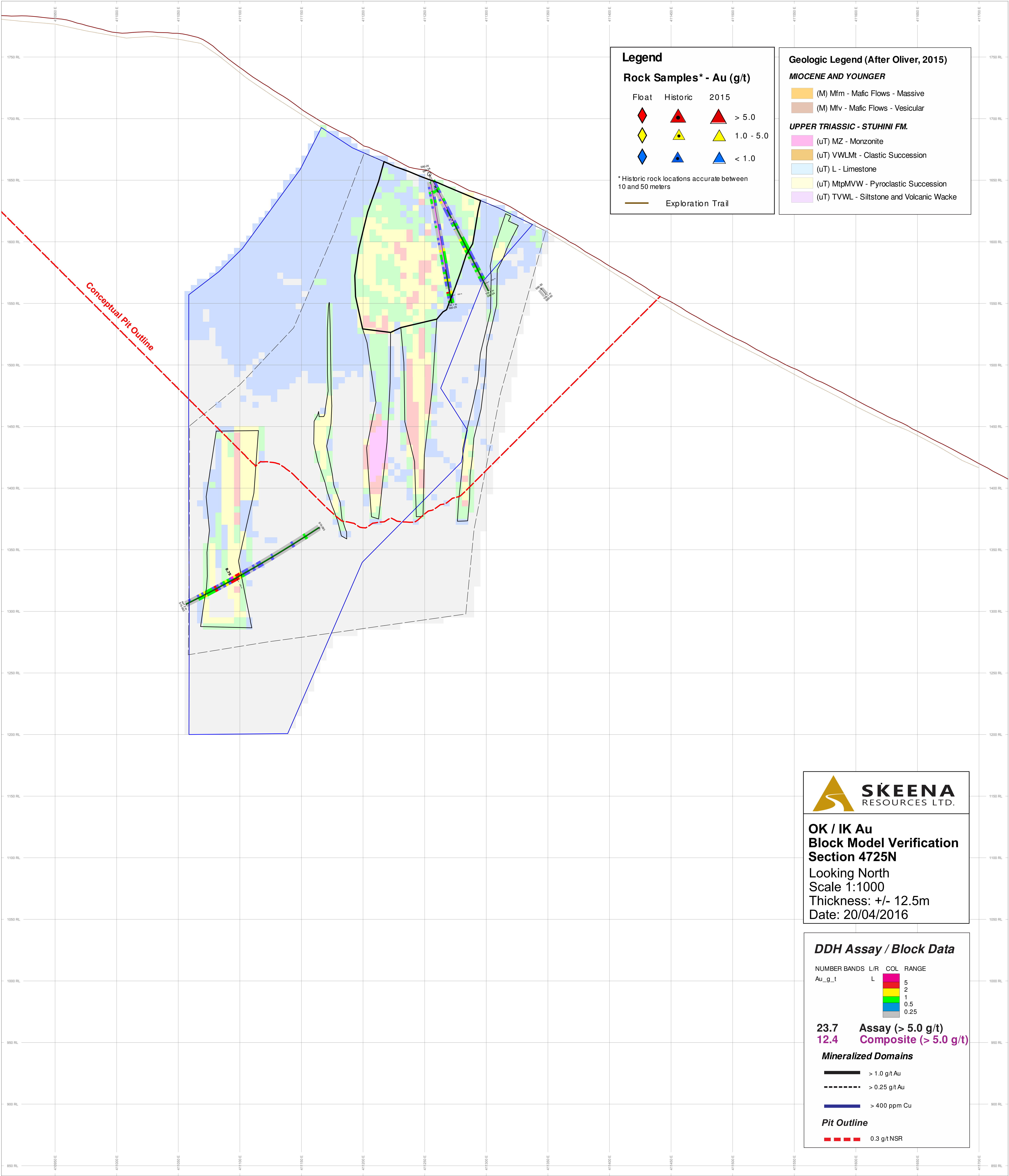
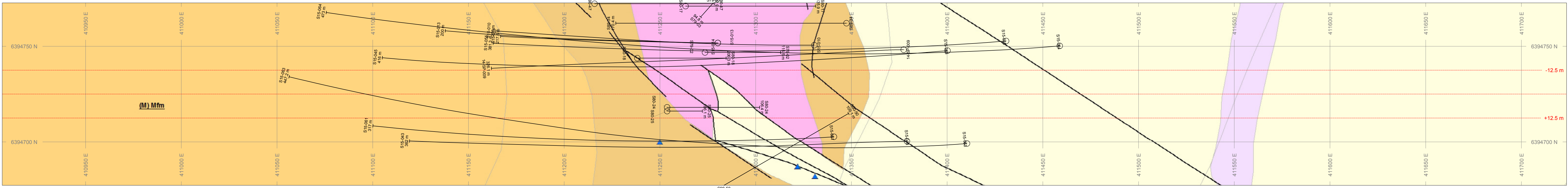
### **Appendix 3: Cross Sections showing Au in estimated blocks compared to assay data**

Cross sections contained:

- S6394700N\_ExtBMAu – Cross Section 4700N Gold Block Model with Drill Assays
- S6394725N\_ExtBMAu – Cross Section 4725N Gold Block Model with Drill Assays
- S6394750N\_ExtBMAu – Cross Section 4750N Gold Block Model with Drill Assays
- S6394775N\_ExtBMAu – Cross Section 4775N Gold Block Model with Drill Assays







**Legend**

**Rock Samples\* - Au (g/t)**

Float

Historic

2015

> 5.0

1.0 - 5.0

< 1.0

\* Historic rock locations accurate between 10 and 50 meters

Exploration Trail

**Geologic Legend (After Oliver, 2015)**

**MIOCENE AND YOUNGER**

(M) Mfm - Mafic Flows - Massive

(M) Mfv - Mafic Flows - Vesicular

**UPPER TRIASSIC - STUHINI FM.**

(uT) MZ - Monzonite

(uT) VWLMt - Clastic Succession

(uT) L - Limestone

(uT) MtpMVW - Pyroclastic Succession

(uT) TVWL - Siltstone and Volcanic Wacke

**OK / IK Au**

**Block Model Verification**

**Section 4725N**

Looking North

Scale 1:1000

Thickness: +/- 12.5m

Date: 20/04/2016

**DDH Assay / Block Data**

NUMBER BANDS

L/R

COL

RANGE

Au\_g\_t

L

5  
2  
1  
0.5  
0.25

23.7

Assay (> 5.0 g/t)

12.4

Composite (> 5.0 g/t)

**Mineralized Domains**

> 1.0 g/t Au

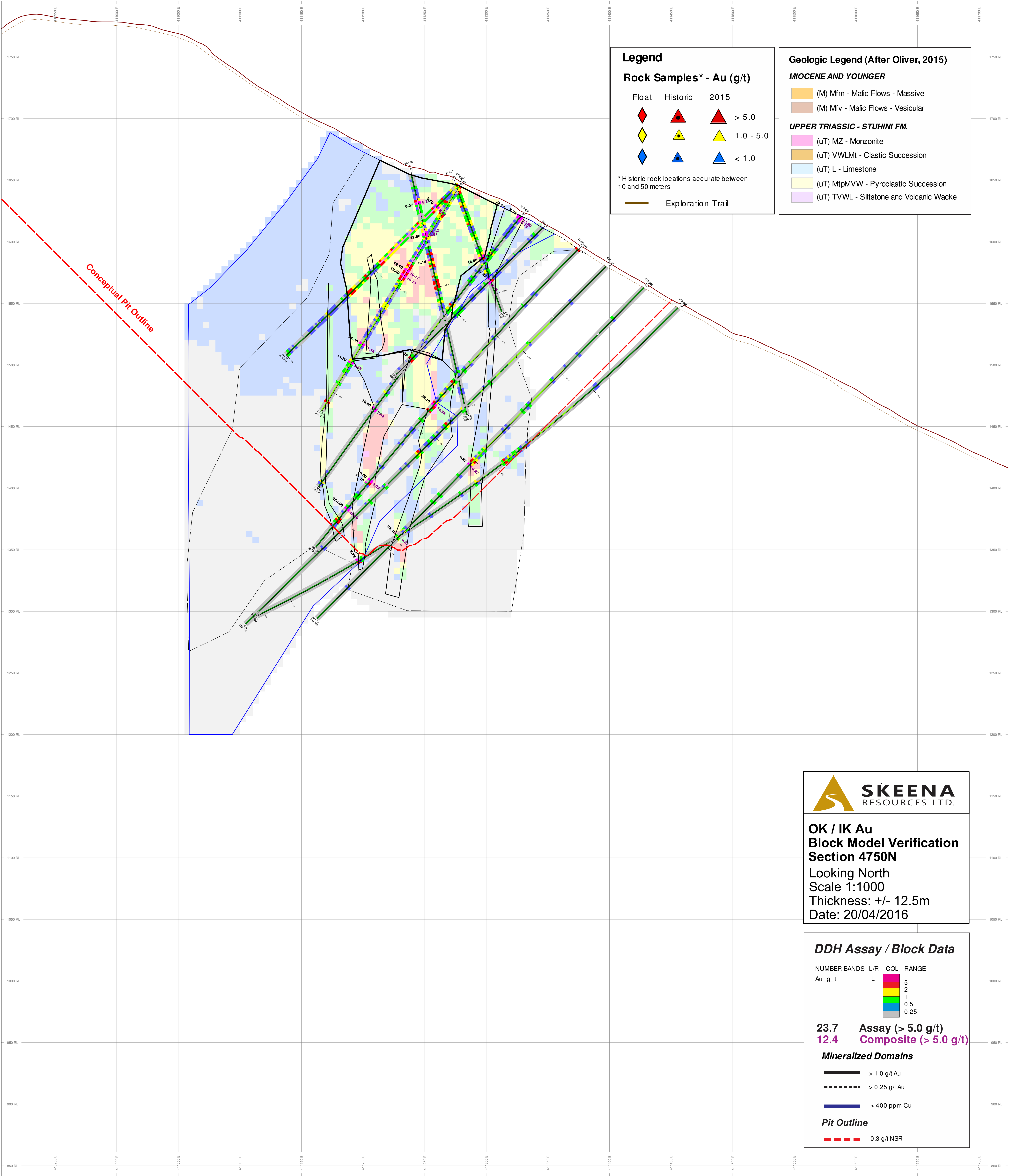
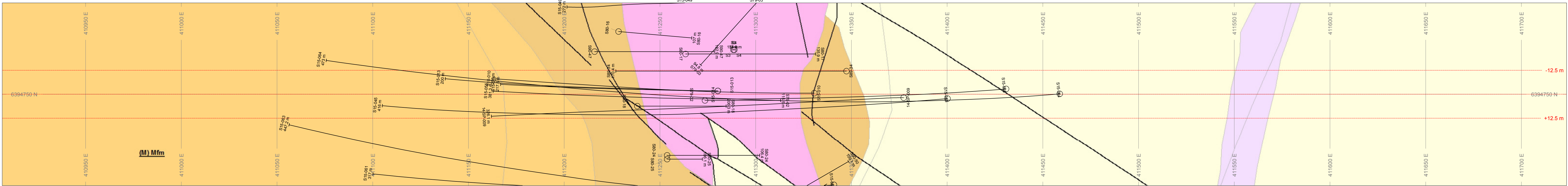
> 0.25 g/t Au

> 400 ppm Cu

**Pit Outline**

0.3 g/t NSR





**Legend**

**Rock Samples\* - Au (g/t)**

Float

Historic

2015

> 5.0

1.0 - 5.0

< 1.0

\* Historic rock locations accurate between 10 and 50 meters

Exploration Trail

**Geologic Legend (After Oliver, 2015)**

**MIOCENE AND YOUNGER**

(M) Mfm - Mafic Flows - Massive

(M) Mfv - Mafic Flows - Vesicular

**UPPER TRIASSIC - STUHINI FM.**

(uT) MZ - Monzonite

(uT) VWLMt - Clastic Succession

(uT) L - Limestone

(uT) MtpMVW - Pyroclastic Succession

(uT) TVWL - Siltstone and Volcanic Wacke

**OK / IK Au**

**Block Model Verification**

**Section 4750N**

Looking North

Scale 1:1000

Thickness: +/- 12.5m

Date: 20/04/2016

**DDH Assay / Block Data**

NUMBER BANDS

L/R

COL

RANGE

Au\_g\_t

5

2

1

0.5

0.25

23.7

Assay (> 5.0 g/t)

12.4

Composite (> 5.0 g/t)

**Mineralized Domains**

> 1.0 g/t Au

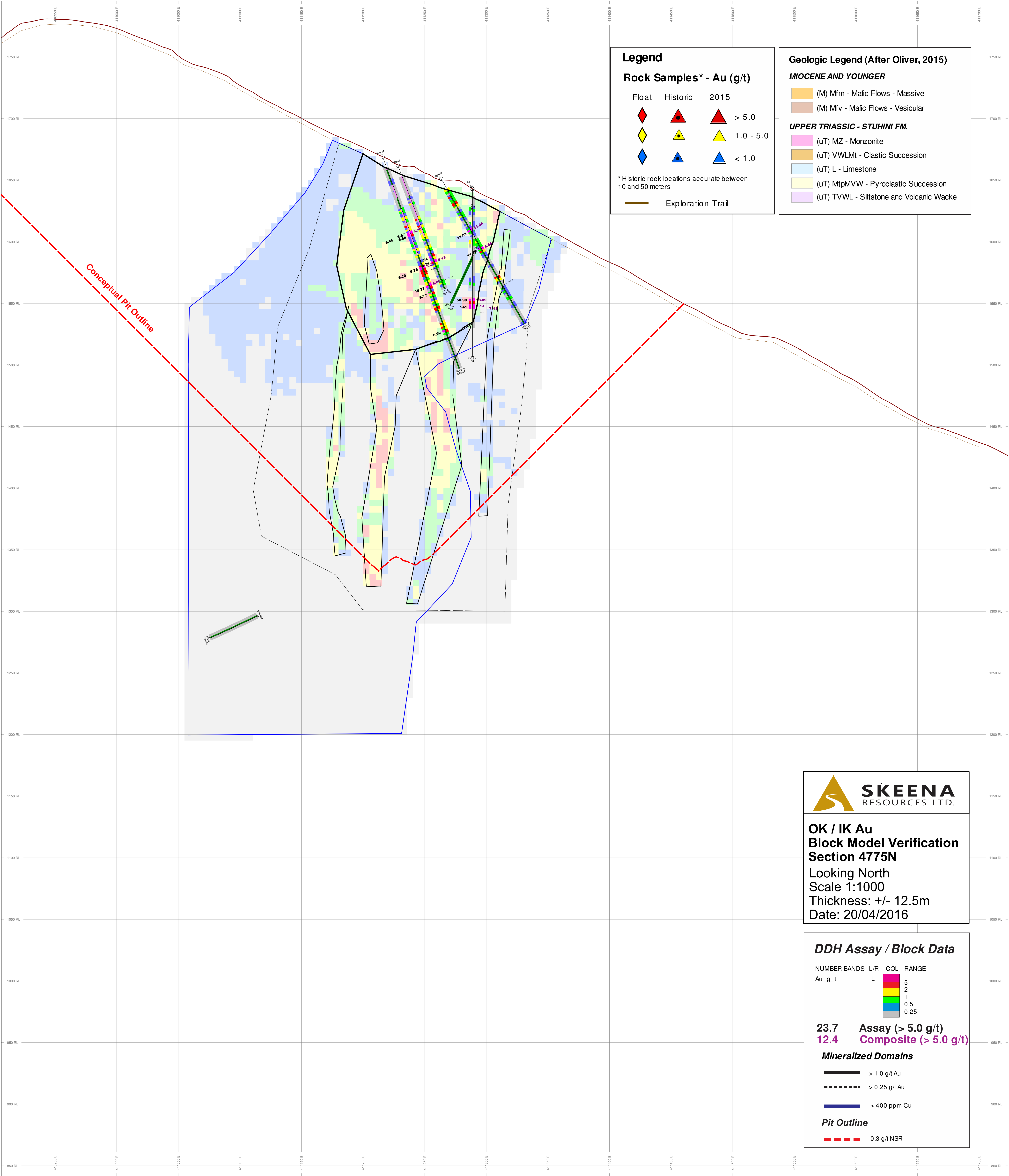
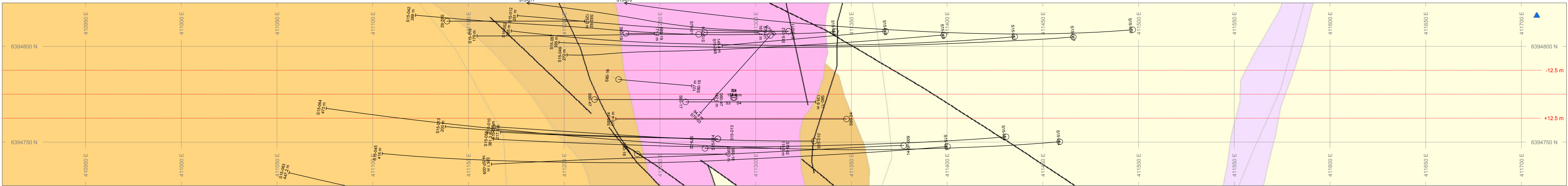
> 0.25 g/t Au

> 400 ppm Cu

**Pit Outline**

0.3 g/t NSR





**Legend**

**Rock Samples\* - Au (g/t)**

Float

Historic

2015

> 5.0

1.0 - 5.0

< 1.0

\* Historic rock locations accurate between 10 and 50 meters

Exploration Trail

**Geologic Legend (After Oliver, 2015)**

**MIOCENE AND YOUNGER**

(M) Mfm - Mafic Flows - Massive

(M) Mfv - Mafic Flows - Vesicular

**UPPER TRIASSIC - STUHINI FM.**

(uT) MZ - Monzonite

(uT) VWLMt - Clastic Succession

(uT) L - Limestone

(uT) MtpMVW - Pyroclastic Succession

(uT) TVWL - Siltstone and Volcanic Wacke

**OK / IK Au**

**Block Model Verification**

**Section 4775N**

Looking North

Scale 1:1000

Thickness: +/- 12.5m

Date: 20/04/2016

**DDH Assay / Block Data**

NUMBER BANDS

L/R

COL

RANGE

Au\_g\_t

L

5

2

1

0.5

0.25

23.7

12.4

Assay (> 5.0 g/t)

Composite (> 5.0 g/t)

**Mineralized Domains**

> 1.0 g/t Au

> 0.25 g/t Au

> 400 ppm Cu

**Pit Outline**

0.3 g/t NSR