

Report to:



**Technical Report and Resource Estimation of the  
Riscos de Oro Deposit, Borosi Concessions,  
Región Autónoma del Atlántico Norte, Nicaragua**

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Report to:



# TECHNICAL REPORT AND RESOURCE ESTIMATION OF THE RISCOS DE ORO DEPOSIT, BOROSI CONCESSIONS, REGIÓN AUTÓNOMA DEL ATLÁNTICO NORTE, NICARAGUA

EFFECTIVE DATE: OCTOBER 9, 2012

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## GLOSSARY

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### UNITS OF MEASURE

above mean sea level.....	amsl
acre.....	ac
ampere.....	A
annum (year).....	a
billion.....	B
billion tonnes.....	Bt
billion years ago.....	Ga
British thermal unit.....	BTU
centimetre.....	cm
cubic centimetre.....	cm <sup>3</sup>
cubic feet per minute.....	cfm
cubic feet per second.....	ft <sup>3</sup> /s
cubic foot.....	ft <sup>3</sup>
cubic inch.....	in <sup>3</sup>

cubic metre .....	m <sup>3</sup>
cubic yard.....	yd <sup>3</sup>
Coefficients of Variation .....	CVs
day .....	d
days per week.....	d/wk
days per year (annum).....	d/a
dead weight tonnes.....	DWT
decibel adjusted .....	dBa
decibel.....	dB
degree.....	°
degrees Celsius .....	°C
diameter.....	∅
dollar (American).....	US\$
dollar (Canadian) .....	Cdn\$
dry metric ton .....	dmt
foot.....	ft
gallon .....	gal
gallons per minute (US) .....	gpm
Gigajoule.....	GJ
gigapascal.....	GPa
gigawatt.....	GW
gram.....	g
grams per litre .....	g/L
grams per tonne.....	g/t
greater than.....	>
hectare (10,000 m <sup>2</sup> ) .....	ha
hertz.....	Hz
horsepower .....	hp
hour.....	h
hours per day .....	h/d
hours per week .....	h/wk
hours per year.....	h/a
inch .....	in
kilo (thousand) .....	k
kilogram .....	kg
kilograms per cubic metre.....	kg/m <sup>3</sup>
kilograms per hour .....	kg/h
kilograms per square metre .....	kg/m <sup>2</sup>
kilometre .....	km
kilometres per hour .....	km/h
kilopascal .....	kPa
kilotonne.....	kt
kilovolt.....	kV
kilovolt-ampere.....	kVA
kilovolts .....	kV
kilowatt.....	kW
kilowatt hour.....	kWh
kilowatt hours per tonne.....	kWh/t
kilowatt hours per year.....	kWh/a
less than.....	<
litre .....	L

litres per minute .....	L/m
megabytes per second .....	Mb/s
megapascal .....	MPa
megavolt-ampere .....	MVA
megawatt .....	MW
metre .....	m
metres above sea level .....	masl
metres Baltic sea level .....	mbsl
metres per minute .....	m/min
metres per second .....	m/s
microns .....	µm
milligram .....	mg
milligrams per litre .....	mg/L
millilitre .....	mL
millimetre .....	mm
million .....	M
million bank cubic metres .....	Mbm <sup>3</sup>
million bank cubic metres per annum .....	Mbm <sup>3</sup> /a
million tonnes .....	Mt
minute (plane angle) .....	'
minute (time) .....	min
month .....	mo
ounce .....	oz
pascal .....	Pa
centipoise .....	mPa·s
parts per million .....	ppm
parts per billion .....	ppb
percent .....	%
pound(s) .....	lb
pounds per square inch .....	psi
revolutions per minute .....	rpm
second (plane angle) .....	"
second (time) .....	s
short ton (2,000 lb) .....	st
short tons per day .....	st/d
short tons per year .....	st/a
specific gravity .....	SG
square centimetre .....	cm <sup>2</sup>
square foot .....	ft <sup>2</sup>
square inch .....	in <sup>2</sup>
square kilometre .....	km <sup>2</sup>
square metre .....	m <sup>2</sup>
three-dimensional .....	3D
tonne (1,000 kg) (metric ton) .....	t
tonnes per day .....	t/d
tonnes per hour .....	t/h
tonnes per year .....	t/a
tonnes seconds per hour metre cubed .....	ts/hm <sup>3</sup>
troy ounce .....	ozt
volt .....	V
week .....	wk

weight/weight .....	w/w
wet metric ton.....	wmt

## ABBREVIATIONS AND ACRONYMS

Alder Resources Ltd. ....	Alder Resources
atomic absorption spectroscopy .....	AAS
atomic emission spectroscopy .....	AES
B2Gold Corp. ....	B2Gold
Calibre Mining Corp. ....	Calibre
fire assay .....	FA
global positioning system.....	GPS
gold equivalent.....	Aueq
inductively coupled plasma .....	ICP
International Electrotechnical Commission .....	IEC
International Organization for Standardization .....	ISO
light detection and ranging.....	LiDAR
Ministerio de Foment, Industria y Comercio.....	MIFIC
National Instrument 43-101.....	NI 43-101
net smelter return.....	NSR
North American Datum .....	NAD
polyvinyl chloride .....	PVC
preliminary economic assessment.....	PEA
quality assurance/quality control .....	QA/QC
rock quality designation .....	RQD
Secretaria de Recursos Natural .....	SERNEA
standard reference material .....	SRM
Tetra Tech Wardrop.....	Tetra Tech
the Borosi Concessions .....	the Property
the Riscos de Oro Project.....	the Project
Toronto Stock Exchange.....	TSX
Universal Transverse Mercator .....	UTM
Yamana Gold Inc. ....	Yamana

## 1.0 SUMMARY

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The Borosi Concessions (the Property) are located in the “Mining Triangle” of north central Nicaragua in the Siuna and Rosita municipalities of the Región Autónoma del Atlántico Norte and are currently 100% owned by CXB Nicaragua, S.A., which is a wholly-owned subsidiary of Calibre Mining Corp. (Calibre). The “Mining Triangle” of Nicaragua is estimated to have had historical production totalling more than 5 Moz of gold, 4 Moz of silver, 158,000 st of copper, and 106,000 st of zinc (Arengi, et al. 2003).

The Property is centred at 14° 00' north latitude and 84° 30' west longitude and consists of six exploration and five exploitation concessions. This technical report deals with two of the concessions, Riscos de Oro (an exploitation concession) and Rosita H-2 (an exploration concession), which are owned 100% by Calibre and are not subject to an option agreement between Calibre and B2Gold Corp. (B2Gold) or Calibre and Alder Resources Ltd. (Alder Resources).

In December 2010, Calibre commissioned Tetra Tech Wardrop (Tetra Tech) to complete a resource estimate and technical report on the Riscos de Oro Project (the Project) upon completion of their diamond drill program in 2011. The resource estimation was based on diamond drillholes completed up to the end of 2011. This technical report complies with disclosure and reporting requirements set forth in National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects, Companion Policy 43-101CP, and Form 43-101F.

### 1.1 GEOLOGY

The Property is regionally underlain by the Chortis Block, which consists of phyllites and mica schists. The Chortis Block is unconformably overlain by Mesozoic stratigraphy represented by limestone, mudstone, greywacke, and calcareous mudstone, with lesser andesite tuff and flows, of the Early Cretaceous Todos Santos Formation. Cenozoic aged volcanic rocks of calc-alkaline, high-alumina basalts, and basaltic andesites composition, are extensively exposed in the vicinity of the concessions. The Cenozoic volcanics are overlain by regionally extensive Miocene ignimbrites and by mid-Miocene to Pliocene mafic flows.

A series of intrusive bodies extend northeasterly through northeastern Nicaragua, including the concession areas. Age dating of the intrusions suggests ages from Cretaceous to Tertiary. The intrusives consist of fine- to medium-grained diorite, granodiorite, syenite, monzonite and alaskite stocks, plugs and dykes.

### 1.1.1 RISCOS DE ORO

The Riscos de Oro vein system is hosted in a sequence of andesite tuffs and porphyritic andesites. The system generally trends 225° and dips to the northwest at 45 to 80°. The interpreted strike length of the system totals 665 m and to a depth of approximately 350 m vertical. The top 85 m of the Upper Zone has been mined by open pit and underground mining methods.

A weak to moderate propylitic alteration in the form of chlorite, sericite, clay, rare epidote and calcite observed outside of the vein and breccia system. Weak to strong silicification is generally restricted to fragments of andesite contained within the vein and in a narrow zone less than 2 to 3 m wide about the vein.

Chalcedonic to porcelanic and locally comb-textured veins (5 to 15 mm) and vein arrays are commonly with Riscos de Oro system. A typical vein intersection consists of several discrete low sulphidation style epithermal veins separated by short intervals of quartz stockwork brecciated and silicified flow facies andesite. Individual veins range from 0.95 to 4.25 m wide and in combination with associated silicified stockwork zones can reach widths up to 25 m.

The presence of other epithermal veins or a feeder system has not been identified within the concession. This is likely due to the orientation of the drilling and the lack of outcrop exposure.

The resource estimate for the Project is supported by 37 diamond drillholes.

## 1.2 CONCLUSIONS

The Property comprises a land package in the historical Bonanza, La Luz, and Rosita mining camps of northeast Nicaragua. The Project displays classic low sulphidation epithermal characteristics. The geological dataset generated by Calibre, consisting of data derived from diamond drilling conducted by several operators, has been deemed suitable to support geological interpretation and resource estimation at both Riscos de Oro.

The Riscos de Oro mineral resource was developed on two parallel, gold-bearing zones at a gold equivalent (Aueq) cut-off grade of 0.6 g/t gold, and contains an Inferred Resource of approximately 2.2 Mt with an average grade of 3.20 g/t gold and 59.67 g/t silver (Table 1.1).

**Table 1.1 Riscos de Oro Inferred Resource Summary**

Cut-off	Zone	Tonnes (t)	Au (g/t)	Ag (g/t)	Aueq (g/t)	Au (oz)	Ag (oz)
0.6	Upper	1,539,000	2.45	64.42	3.46	121,178	3,187,640
0.6	Lower	620,000	5.07	47.87	5.82	101,116	954,198
-	<b>Total</b>	<b>2,159,000</b>	<b>3.20</b>	<b>59.67</b>	<b>4.14</b>	<b>222,294</b>	<b>4,141,838</b>

Note: Gold equivalent is based on a gold price of US\$1,264/oz and a silver price of US\$19.78/oz.

## 1.3 RECOMMENDATIONS

It is Tetra Tech's opinion that additional exploration expenditures are warranted. Two separate exploration programs are proposed. Each can be carried out concurrently and independently of each other, and neither is contingent on the results of the other.

### 1.3.1 PHASE 1 RISCOS DE ORO EXTENSION

Phase 1 is designed primarily to expand the current resource for the Project by testing the strike and dip extension of the deposit. This will entail diamond drilling with additional work on metallurgical testing, rock mechanics, and surveying.

The drilling campaign should be designed to target the potential strike extensions of the Project, particularly the northeast. Drillhole spacing should continue at approximately 50 m along section and 50 to 75 m vertically on section in order to support an Inferred Resource.

The proposed budget for Phase 1 is estimated at \$950,000.

### 1.3.2 PHASE 2 RISCOS DE ORO DELINEATION

Phase 2 is designed to delineate the resource for the Project by infilling of the deposit and providing the level of detail to conduct a preliminary economic assessment (PEA). This will entail a diamond drilling program, addition metallurgical testing, other technical studies, and environmental base lining.

The proposed budget for Phase 2 is estimated at \$2.5 million.

### 1.3.3 OTHER RECOMMENDATIONS

The following recommendations will assist in moving the Project forward:

- The insertion location of the quality assurance/quality control (QA/QC) blanks should be adjusted to allow the control samples to be placed within or immediately after mineralized intervals. This will be a better use of the control samples as they are designed to monitor the preparation facility.

- For future drilling programs, collect specific gravity measurements for the various rock types and alteration styles. Approximately 4 to 5% of the database should have a specific gravity measurement. This will allow for a more accurate calculation of the tonnage in the subsequent resource estimate.
- Consider conducting a preliminary metallurgical test using drill core or course rejects, to determine the global recoveries that maybe expected from the deposit.
- Establish a method in which to drill test the upper portion of the Lower Zone that is hidden by the mined out section of the Upper Zone.
- Explore for additional vein swarms with in the concession, as low-sulphidation epithermal vein systems rarely occur as individual veins.

## 2.0 INTRODUCTION

---

The Property is located in north central Nicaragua in the Rosita municipality of the Región Autónoma del Atlántico Norte and is currently 100% owned by CXB Nicaragua, S.A., a wholly-owned subsidiary of Calibre.

In December 2010, Calibre commissioned Tetra Tech to complete a resource estimate and technical report on the Riscos de Oro concession upon completion of their diamond drill program in 2011. The resource estimation was based on diamond drillholes completed on the Property to the end of 2010.

The object of the technical report is to:

- compile historical work and activities on the Property
- generate a resource estimate on the Riscos de Oro deposit
- summarizing all land tenures, exploration history, drilling, and resource estimates
- provide recommendations and budget for additional work on the Project.

This report has been compiled in accordance with NI 43-101, Companion Policy 43-101CP, and Form 43-101F1.

All the data files that were reviewed for the report were provided by Calibre in digital format, and access to paper reports and logs was granted when requested. Calibre made its own work available and compiled historical work conducted by previous operators on the Project.

The primary author of this report is Todd McCracken, P. Geo., who is a Professional Geologist with 20 years of experience in exploration and operations, including several years working in epithermal and replacement gold deposits. Mr. McCracken visited the Project from February 7 to 11, 2011 inclusive and was accompanied by Mr. Adrian Newton, Senior Project Geologist for Calibre. Mr. McCracken again visited the Property from August 8 to 11, 2012 inclusive and was accompanied by Mr. Marc Cianci, Project Geologist for Calibre.

## 3.0 RELIANCE ON OTHER EXPERTS

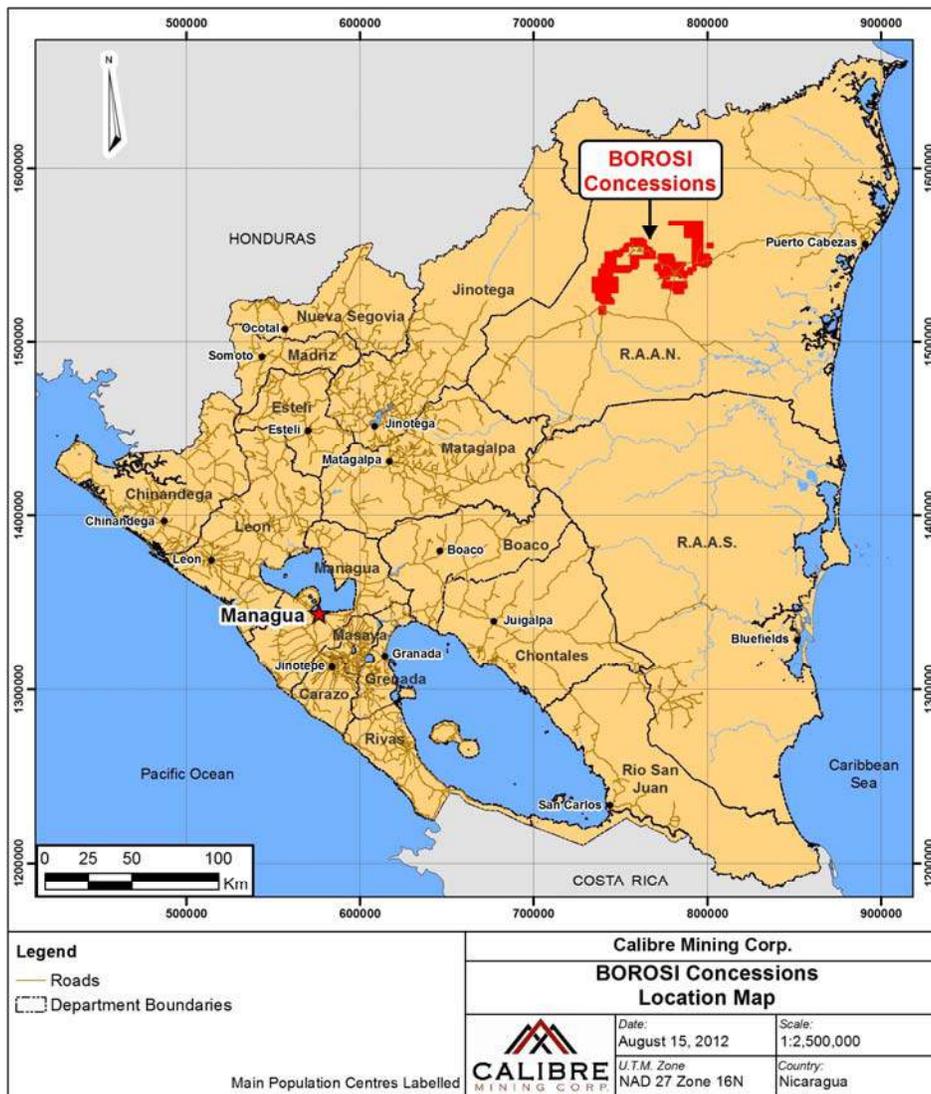
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Tetra Tech has relied on third party information prepared by non-qualified persons relating to environmental, permitting and legal aspects of the Property. This information has been provided by Calibre and is disclosed in Section 4.0.

# 4.0 PROPERTY DESCRIPTION AND LOCATION

The Property is located in north-central Nicaragua, in the Siuna, Rosita and Bonanza municipalities of the Región Autónoma del Atlántico Norte (Figure 4.1). The Property is centred at 14° 00' north latitude and 84° 30' west longitude and consists of six exploration and five exploitation concessions. This technical report deals with two concessions in this Borosi Concession package as summarized in Table 4.1 and displayed in Figure 4.2.

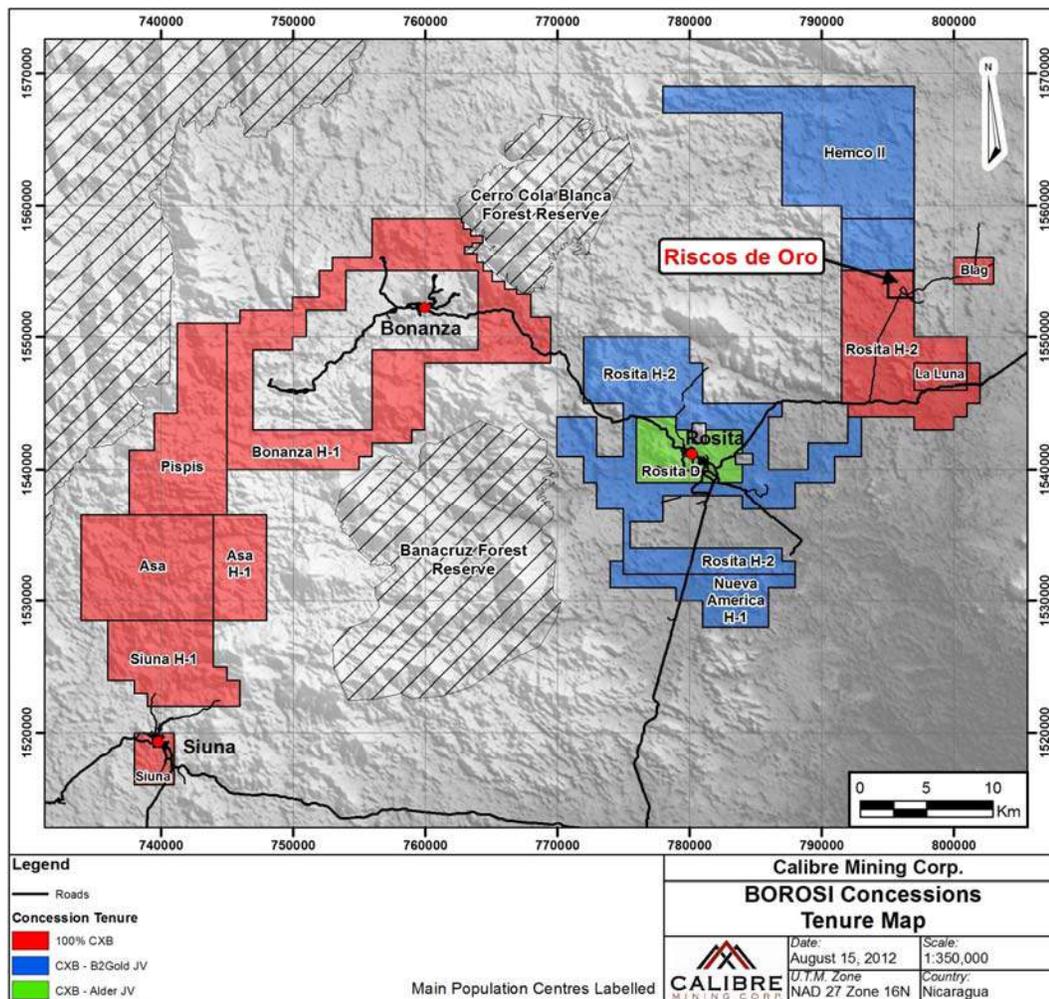
**Figure 4.1 Location Map**



**Table 4.1 Concession Details**

Concession Name	Ministerial Accord No.	Size (ha)	Type	Status	Grant Date	Valid Through	Holding Cost (US\$/ha/a)
Riscos de Oro	59-DM-42-2007	400.00	Exploitation	Granted	10-Jun-94	09-Jun-44	8
Rosita H-2	81-DM-62-2007	24,484.50	Exploration	Granted	29-Jul-02	28-Jul-27	12

**Figure 4.2 Concession Map**



In Nicaragua, concessions are demarcated by east-west and north-south lines as defined by Universal Transverse Mercator (UTM) coordinates (North American Datum (NAD)-27). Annual payments are required for maintenance of exploration and mining concessions. Prior to enactment of Nicaragua’s Law 387 of 2001, both exploration and exploitation concessions were granted by the government; after 2001, mineral concessions with rights for both exploration and exploitation were granted. For mineral concessions granted after 2001, the annual payments are

US\$0.25/ha in Year 1, US\$0.75/ha in Year 2, US\$1.50/ha in Years 3 and 4, US\$3.00/ha in Years 5 and 6, US\$4.00/ha in Years 7 and 8, US\$8.00/ha in Years 9 and 10 and US\$12.00/ha for every year thereafter. Exploitation concessions, which predate Nicaragua's Law 387 of 2001, require payments of US\$2.00/ha in Years 1 and 2, US\$4.00/ha in Years 3 and 4 and US\$8.00/ha for every year thereafter. Both exploitation and mineral concessions are granted for a term of 25 years and can be renewed for an additional 25 years. Artisanal miners are permitted to conduct hand mining on concessions held by others, but artisanal miners not already active by 2001 are limited to a maximum of 1% of the concession area and their activities are regulated by the Ministerio de Fomento, Industria y Comercio (MIFIC).

The concessions that comprise the Property are held by CXB Nicaragua, S.A., and Calibre Mining Nicaragua, S.A., wholly owned subsidiaries of Calibre. In May 2009, Calibre purchased the NEN concessions (later named Borosi) from Yamana Gold Inc. (Yamana) for a price of Cdn\$7.0 million, consisting of 12 million shares of Calibre and Cdn\$4.42 million in cash. Calibre is obligated until July 2014 to make a bonus payment of Cdn\$5 per gold equivalent ounce to Yamana, capped at Cdn\$3.5 million, for newly-reported NI 43-101 Measured or Indicated Resources outlined within the original NEN concession boundaries. The bonus payment, at Calibre's discretion, may be paid in cash or shares of Calibre. Yamana also received five million Calibre warrants exercisable at Cdn\$0.50/share and five million Calibre warrants exercisable at Cdn\$1.00/share until July 2014; these warrants will only be exercisable if Calibre delineates at least 2.5 million gold equivalent ounces in a NI 43-101-compliant Measured and Indicated Resource. Also included in the Property area, but are not subject to these purchase terms, are the Asa and Pispis concessions that were granted to Calibre in 2010. On May 10, 2012 Calibre amended the terms of the share purchase agreement with Yamana. Under the terms of the Amending Agreement, Calibre is no longer required to pay the bonus payment and in return Calibre agreed to apply to the Toronto Stock Exchange (TSX) Venture Exchange for a re-pricing of the bonus warrants to \$0.25 per share. In addition, Calibre agreed to remove the vesting condition and all the bonus warrants shall be immediately exercisable. The Property is not subject to any royalties or back-in rights, other than the 3% net smelter return (NSR) royalty payable to the Nicaraguan government, as dictated by law.

In June 2009, Calibre granted an option to B2Gold to earn a 51% interest in all of the Property concessions by completing Cdn\$8 million in exploration expenditures by July 1, 2012. In October 2010, after exploration expenditures of Cdn\$2.9 million, the option agreement with B2Gold was revised to cover 322 km<sup>2</sup> from the original 710 km<sup>2</sup> concession area. B2Gold may earn a 51% interest in the Property that remain in the option agreement by completing Cdn\$8 million in exploration expenditures by July 2014. B2Gold may elect to carry an individual prospect within the amended concession area through to a prefeasibility study for an additional 14% interest in the prospect. Calibre retains a 100% interest in concessions that fall outside the area of this agreement, including the Riscos de Oro exploitation and Rosita H-2 exploration concessions that host the Riscos de Oro deposit.

Alder Resources signed an option agreement with Calibre in August 2011 to earn a 65% interest in the Rosita D concession by expending \$4 million on exploration and issuing Calibre 1 million common shares of Alder Resources over four years. Alder Resources was designated as operator for the Project. Calibre retains a 100% interest in concessions that fall outside the area of this agreement, including the Riscos de Oro exploitation and Rosita H-2 exploration concessions that host the Riscos de Oro deposit.

Calibre owns surface rights to several parcels of land within the Property, covering the inactive pits and sites of some of the surface infrastructure related to the La Luz (Siuna) and Rosita (Santa Rita and R-13) mines. Since the nationalization of the La Luz and Rosita mines in 1979, the towns of Siuna and Rosita have grown up around the former mine sites, and surface rights formerly controlled by the mines have gradually passed into private hands. Surface rights throughout the remainder of the Property are privately held, with the exception of a few indigenous communities which hold their land communally. The Property borders two Forest Reserves, Cerro Cola Blanca to the north and Banacruz to the south (Figure 4.2).

There has been significant surface disturbance by past mining activities in several parts of the Property. It is believed that Calibre, as the current concession owner, is not liable for the effects of mining and exploration prior to the privatization of the concessions in 1994. This liability has been accepted by the government of Nicaragua. Calibre is only responsible for any environmental disturbances generated through the exploration activities conducted by Calibre.

Prior to any type of mineral exploration, an environmental permit is required from the Región Autónoma del Atlántico Norte. An exploration plan with proposed field work, time-line and cost estimate must be submitted to the Secretaria de Recursos Natural (SERENA) of the Región Autónoma del Atlántico Norte. An independent environmental impact study and public consultations are required for programs with significant ground disturbance, such as trenching or drilling. Tetra Tech has been informed that the Riscos de Oro exploitation concession and the Rosita H-2 exploration concession are currently permitted to allow for additional drilling and trenching (Table 4.2).

**Table 4.2 Exploration Permits**

Concession Name	SERENA Environmental Permit No.	Type	Status	Grant Date	Valid Through
Riscos de Oro	004-2010	Exploration	Granted	23-Feb-10	23-Feb-13
	21-072011 (Addendum)	Exploration	Granted	13-Jul-11	23-Feb-13
Rosita H-2	004-2010	Exploration	Granted	23-Feb-10	23-Feb-13
	21-072011 (Addendum)	Exploration	Granted	13-Jul-11	23-Feb-13

Note: Permits allow for a full range of work as outlined in the BOROSI ESTE environmental impact study submitted by Calibre to SERENA and includes collection of rock and soil samples, manual trenching, geophysical work and drilling.

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

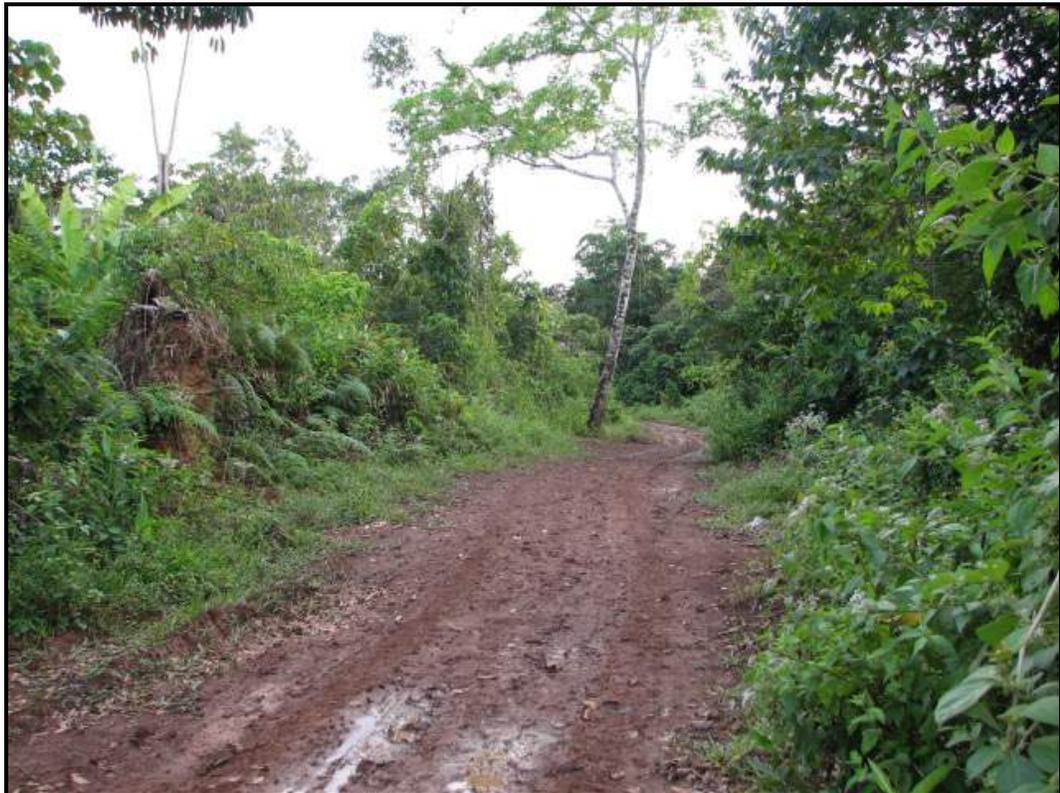
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### 5.1 SITE TOPOGRAPHY, ELEVATION AND VEGETATION

The Property lies within Nicaragua's Atlantic coastal plain and is characterized by flat to hummocky terrain reaching an elevation of 50 to 100 masl and is crossed by numerous dirt trails and roads. Small subsistence type farms are common through the area and separated by heavy second-growth jungle and swamps. Numerous small creeks which cross the area provide seasonal water for drilling and eventually feed into the much larger Okonwas River to the west.

Northeast Nicaragua is covered by lowland humid tropical forest, much of which has been converted to pasture land on the Property (Figure 5.1).

**Figure 5.1 Tropical Forest**



## 5.2 ACCESS

The Property is located 230 air kilometres northeast of Managua and 100 air kilometres west of the Caribbean port town of Puerto Cabezas. There are two main population centres within the concession, Siuna and Rosita. A third town, Bonanza, lies near the centre of the Property, but not within it.

Each of these towns has a population of 10,000 to 20,000. Ground access to the area and each of the three towns is provided by unpaved roads from the south, east and west. The southern and western access roads connect Siuna to Matagalpa, Nicaragua's fifth-largest city, a distance of approximately 140 km.

Currently, it takes about seven hours to drive from Managua to Siuna. From Siuna, this road extends eastward through Rosita to Puerto Cabezas on the Caribbean Sea. Another road connects Rosita and Bonanza. Aside from the principal unpaved roads, the area is traversed by a series of dirt tracks and footpaths, some accessible by four-wheel drive truck, that connect outlying villages and farms.

All three communities have daily scheduled flights to Managua with La Costeña, a commercial airline.

The Project is located 20 km northeast of the town of Rosita and is accessed by an all-weather road with a one-way travel time of approximately one hour. Following the principal road 15 km east from Rosita towards Puerto Cabezas, the village of Empalme de Wasminona demarks the entrance for the local toll road to Riscos de Oro. The local communities maintain this road and charge a toll of 20 Cordobas per round trip, charged when exiting at the Empalme de Wasminona gate access. The area surrounding the historic Riscos de Oro mine is accessible by all-wheel drive vehicle during the dry season and by foot on numerous trails through the rest of the year.

## 5.3 CLIMATE

The area undergoes a dry season from December to May and a rainy season from June to November. The transition between the two seasons varies slightly from year to year and across the Property. The rainy season is marked by generally clear mornings and daily cloudbursts in the afternoon. Fieldwork is possible throughout the year, with access generally being easier from November to June.

## 5.4 INFRASTRUCTURE

The towns of Siuna, Bonanza and Rosita have municipal water systems serviced by reservoir, although water for industrial use and drilling is limited in the dry season. Abundant water for drilling purposes at the Project can be obtained year round from the flooded pit at the historic Riscos de Oro mine.

Siuna, Bonanza and Rosita have recently been connected to the national electricity grid. Intermittent power failures are common, and generator backups are recommended. A hydroelectric facility on the Río Way at El Salto, approximately 25 km northeast of Siuna, provided ample power for the La Luz and Rosita mines and communities before failing in 1968 due to heavy rain fall.

Telephone service is provided by landline to Siuna, Bonanza and Rosita through the national telephone company, ENEL. A number of companies also currently provide cellular and satellite communication services across the Property.

Aside from mining, the principal economic activities in the area are logging, small-scale farming, ranching and service industries. The towns were built to support the formerly active mines, and their population would provide a good supply of unskilled and semi-skilled labour, as well as heavy equipment and supplies.

## 6.0 HISTORY

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The exploration and mining history are summarized from Arengi (2003) and Hendrickson (1995).

The recorded history of the region is not well documented as numerous records were destroyed initially in the early 1980s during the Nicaraguan Civil war and secondly by a fire at the Yamana office in Siuna in 2008.

### 6.1 HISTORY OF THE RISCOS DE ORO DEPOSIT

Over the last 90 years, Riscos de Oro has sustained a variety of exploration and exploitation programs, highlighted by one main period of production followed by erratic exploration. Historical records indicate that the mine has produced over 36,200 oz gold and 2,402,000 oz silver (0.551 Mt at 2.49 g/t gold and 164.62 g/t silver).

Table 6.1 summarizes the exploration and production history of the region.

**Table 6.1 History**

Year	Company	Activities
1917	Tonopah Mining Company	Initial investigation and sampling of the nearby Guapinol prospect (1.5 km southeast of Riscos de Oro).
1946	La Luz Mining Ltd.	Several exploration drifts driven into Riscos de Oro hill. No further work due to inaccessibility of the area.
1969-1971	La Luz Mining Ltd.	Construction of ballasted road from Rosita to Riscos de Oro area opens area up to first systematic exploration. Regional magnetic and soil surveys completed. Churn drilling and diamond drilling prove sufficient tonnage to warrant open pit mining; underground resources not confirmed.
1972	La Luz Mining Ltd.	Open pit starts production in April and produces more than 50,000 st of ore averaging 0.09 oz gold and 3 to 5 oz silver per ton before sale to Rosario Resources Corp.
1973	Rosario Resources Corp.	Acquires the properties of La Luz Mining Ltd., continues work with the open pit operation.
1973-1974	Rosario Resources Corp.	Diamond drilling program to test the underground potential of the vein.

*table continues...*

Year	Company	Activities
1975	Rosario Resources Corp.	Preparation for underground mining begins with sinking of a single vertical shaft to 450 ft depth. Production drifts developed at the 150 ft and 300 ft levels.
1975-1976	Rosario Resources Corp.	Rosario Resources Corp. exploration program consisting of 71 churn and diamond drillholes (4,020.26 m) completed.
1979	Rosario Resources Corp.	As of the end of February, Rosario Resources Corp. reportedly mined 52,000 st of ore grading 0.094 oz gold and 7.869 oz silver per ton from the underground workings. Total production from the open pit was reported as 348,280 st grading 0.072 oz gold and 4.85 oz silver per ton. Additional production of lower grade ore from the pit included 50,000 st grading 0.036 oz gold and 2.073 oz silver per ton.
1979	Corporacion Nicaraguense de Minas	Rosario Resources Corp. assets nationalized.
1979-1982	Corporacion Nicaraguense de Minas	Intermittent underground mining until October 1981. Production information not available due to loss of data. Workings abandoned in March 1982. Ernest Lehman Associates contracted to review the project in 1981; Ernest Lehman Associates collects 528 soil samples, completes 165 m trenching and 11 diamond drillholes (1,828.50 m).
1990	HEMCO	A joint venture between Bunker Hill and the McGregor family acquire a majority of the concessions in the region from the Corporacion Nicaraguense de Minas.
1997	Greenstone Resources Corp.	Options concessions from HEMCO. Regional scale magnetic and radiometric surveys flown by Terraquest over the entire region.
2001	Greenstone Resources Corp.	Files for bankruptcy.
2001	HEMCO	Greenstone options are returned to HEMCO.
2003	RNC Gold Inc.	Acquires 80% of the concessions from HEMCO.
2004	RNC Gold Inc.	Acquires the remaining 20% of the concessions from HEMCO.
2006	Yamana Gold Inc.	Purchases RNC Gold Inc. and all their assets.
2007-2009	Yamana Gold Inc.	Completes limited surface exploration including collection of 51 surface rock samples, 55 soil samples, and excavation of 18 trenches (310.50 m).
2009	Calibre Mining Corp.	Acquires concessions from Yamana Gold Inc.
2009-2012	Calibre Mining Corp.	Completes geological mapping (114 point lithology stations), collects 36 rock samples, 720 soil samples, excavates 6 trenches (86.90 m) and completes three phases of diamond drilling in 37 holes (9,494.05 m). A light detection and ranging (LiDAR) topographic survey was also flown over the region providing high accuracy topographic control.

The reader is cautioned that Table 6.1 discloses historical resources and reserves. The current author considers the preceding historical estimate to be relevant but not necessarily reliable. It is not known what the equivalent Canadian Institute of Mining, Metallurgy, and Petroleum (CIM) resource categories would be in each case.

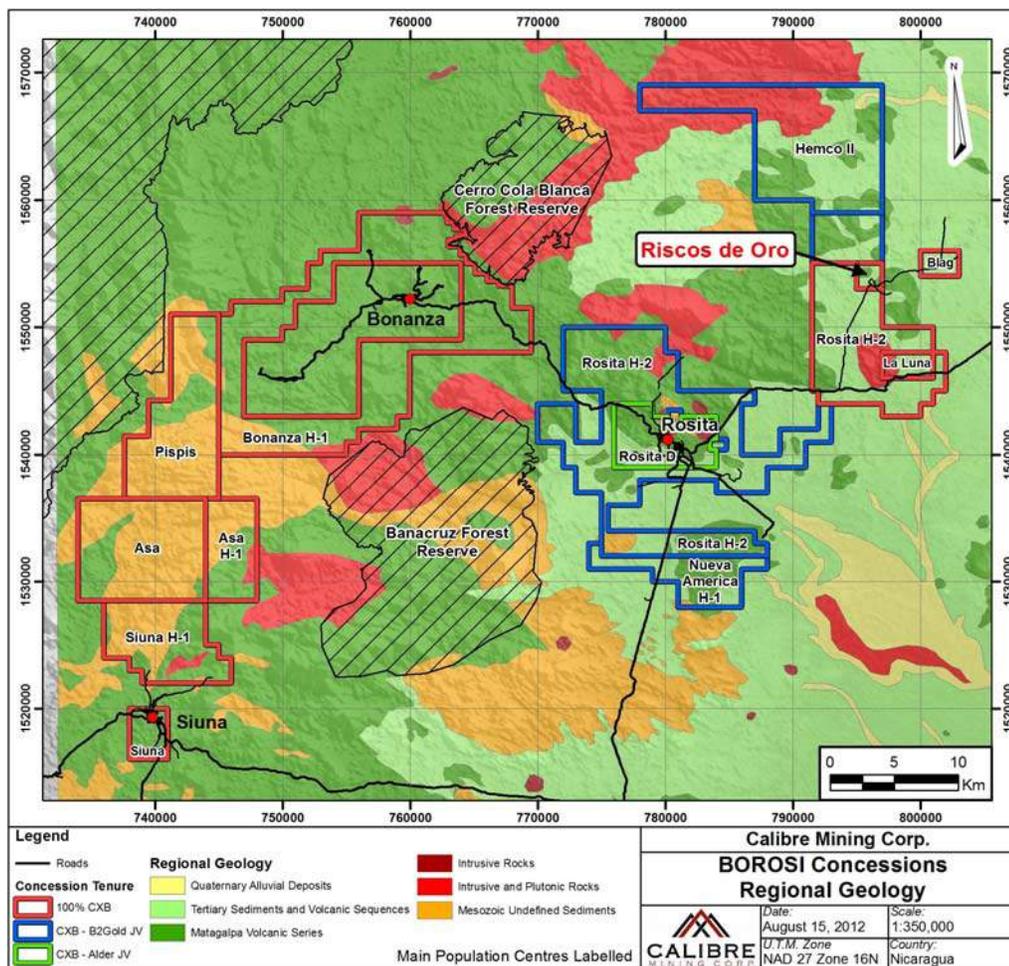
These historic estimates would require a verification program of drillhole twinning, and re-sampling to upgrade or verify the historical estimate as a current mineral resource. A qualified person has not done sufficient work to classify the historical estimates as current mineral resources or mineral reserves. Calibre is not treating the historical estimates as current mineral resources or mineral reserves.

## 7.0 GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 REGIONAL GEOLOGY

Nicaragua is underlain by the Chortis block of the Caribbean plate. Basement rocks in the Chortis block are dominantly phyllites and mica schists which are unconformably overlain by Mesozoic stratigraphy (Sundblad 1991). The Mesozoic stratigraphy is represented by limestone, mudstone, greywacke and calcareous mudstone, with lesser andesite tuff and flows, of the Early Cretaceous Todos Santos Formation. Around the projects, the Todos Santos Formation is exposed as a series of northeast trending isolated windows within pre-Tertiary and Tertiary volcanics and intrusives (Arengei 2003) (Figure 7.1).

**Figure 7.1 Regional Geology**



Subduction of the Farallon and later the Cocos plates beneath the Caribbean plate along the Middle America Trench, southwest of Nicaragua, resulted in extensive accumulation of Cenozoic volcanic rocks (Donnelly 1990). The volcanic rocks are dominated by calc-alkaline, high-alumina basalts and basaltic andesites, with locally important ignimbrites of rhyolitic to andesitic composition. The Matagalpa Formation is a widespread, but poorly defined Oligocene to mid-Miocene volcanogenic formation composed of rhyodacite and rhyolite flows and tuffs, andesitic flows and tuffs, basalt and lesser epiclastic material, and is extensively exposed in the vicinity of the Project. The Matagalpa Formation is overlain by regionally extensive Miocene ignimbrites (Tamarindo Formation) and by mid-Miocene to Pliocene mafic flows of the Coyol Group; these are exposed mainly in a northwest-trending band east of Lake Nicaragua. Pliocene and younger volcanism has shifted southwest toward the Pacific coastline, where several volcanoes are currently active.

A series of intrusive bodies extend northeasterly through northeastern Nicaragua, including the Project areas. Limited age dating suggests the oldest of these are Cretaceous; however there is field evidence that some of them are Tertiary in age. The intrusives consist of fine- to medium-grained diorite, granodiorite, syenite, monzonite and alaskite stocks, plugs and dykes. Most of these intrusives occur along a northeast trend similar to the distribution of the sedimentary rocks (Arengi 2003).

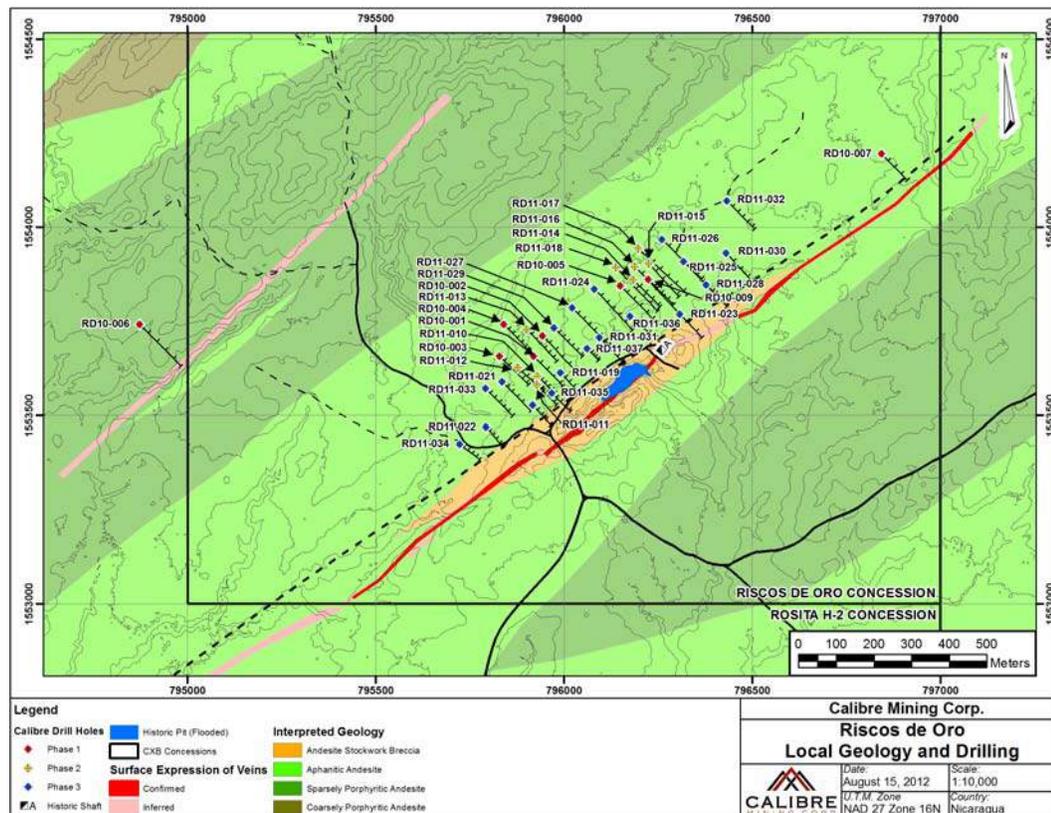
Northeastern Nicaragua has been subjected to a variety of compressional and extensional events. One of the earliest structural elements is folding about north-trending axes in the Cretaceous sediments. Tertiary-age extensional tectonics produced numerous northeast-trending faults, veins and magnetic/ topographic lineaments on the Project.

## 7.2 PROPERTY GEOLOGY

### 7.2.1 GEOLOGY

The Riscos de Oro vein system is hosted within a repeated sequence of Matagalpa Group andesite volcanics which contains seven distinct units. Based on drilling data, the stratigraphic sequence appears to be repeated between six to ten times through the tested part of the vein system. The sequence transitions from fragmental dominant facies near surface and towards the northwest through to coherent flow facies at greater depths. Deeper sections most recently drill tested by Calibre are dominantly composed of vent-proximal flows with some interspersed hypabyssal intrusions reflective of a main locus of magmatism. The contacts within the sequence are gradational and often blend subtly into one another. Low topographic relief and thus poor surface exposure through the area means many of these units have not been observed at surface. The encountered units are described below and shown in Figure 7.2.

Figure 7.2 Property Geology



### COARSELY PORPHYRITIC ANDESITE (DIKES)

The unit is medium grey to maroon in colour and is characterized by up to 70% plagioclase phenocrysts to 2 cm long set in an aphanitic andesite matrix. Calcite-filled vugs and amygdaloids to 1 cm are common and often have fine chlorite rims. Sharp chill margins are always observed over 5 to 10 cm. Data show that the unit is always intersected near the bottom of drillholes and proximal to the main vein system. The lack of intersections with this unit at shallower levels suggests it may indeed lie parallel to the volcanic strata (sill?) and could be used as a marker unit.

### ANDESITE VOLCANIC (FLOW TOP) BRECCIA

A very poorly-sorted, clast-supported unit characterized by angular to sub-angular pebbles and cobbles (with rare boulders) of porphyritic ± amygdaloidal andesite set in a fine-grained hematitic ash matrix. Hematite alteration in clasts ranges from moderate on surfaces to weak/trace within several centimetres of the clast surface. The hematitic character is believed to be a product of de-gassing of the volcanic pile as it cooled in a sub aerial environment. The lower contact appears gradational and blends subtly in an andesite scoria flow breccias.

## ANDESITE SCORIACEOUS FLOW BRECCIA

A moderately sorted, clast-supported breccia unit characterized by sub-angular pebbles and cobbles (with rare boulders) of porphyritic  $\pm$  amygdaloidal andesite and scoria set in a scoriaceous/porphyritic andesite matrix. Small cavities are common in the matrix and are usually filled with calcite. Although the unit is common, it is not present in every volcanic sequence encountered in drilling. The upper and lower contacts are gradational.

## PORPHYRITIC $\pm$ AMYGDALOIDAL ANDESITE

The unit is medium grey-green-brown and is characterized by plagioclase phenocrysts 1 to 15 mm long and 5 to 20% abundance set in a fine-grained groundmass of andesitic composition. Alignment of plagioclase phenocrysts through sections of the unit provides pseudo-bedding information. Parts of the unit can be weakly to moderately hematized, especially in areas of abundant fracturing. The contacts of the unit are usually gradational over less than a metre but are sharp in some instances.

In close proximity to major faults and the vein system, the unit commonly contains elongate 0.5 to 10 mm amygdaloids of 5 to 15% abundance filled with calcite or quartz. Chlorite is a common alteration product contained within or as rims about the amygdaloids. The presence of amygdaloids within a flow unit has proven to be a good indicator of proximity to the vein system/areas of concentrated fluid flow.

## APHANITIC ANDESITE

The unit is medium-dark grey in colour, fine-grained of uniform texture and can contain hornblende phenocrysts to 1 mm in diameter and 3% abundance. Fractures commonly have hematitic halos that extend 2 to 4 cm into the surrounding rock. Stratigraphically, the unit lies beneath the porphyritic andesites at the bottom of the volcanic sequence. The unit is not always observed but likely represents the most central and coherent phase of flow volcanism.

## RE-WORKED ANDESITE TUFF

A poorly sorted, clast-supported unit characterized by pebble to cobble-sized sub-rounded to rounded clasts of intermediate to mafic composition set in a fine-grained tuffaceous matrix. The clasts are dominantly andesitic in composition and range from medium to dark grey-green aphanitic to green-brown equigranular porphyritic with plagioclase phenocrysts 2 to 3 mm and 10%; rare clasts are hematitic. Occasional light grey dacitic clasts containing 4% plagioclase to 2 mm have also been observed. The matrix is medium grey-green in colour and composed of fine-grained andesite tuff containing minor plagioclase crystals to 1 mm and 1 to 2%. There is no apparent stratification of the clasts or the matrix material. The upper contact of the unit is poorly defined and often coincident with zones of fracturing or faulting while the lower contact is usually quite sharp.

## ANDESITE ASH

A well-sorted unit characterized by very fine-grained volcanic ash of andesitic composition displaying massive to laminated textures. The unit is maroon to dark grey in colour and on occasion contains rare small andesite volcanic fragments to 1 cm diameter. The unit is generally encountered at the bottom of the stratigraphic sequence beneath the re-worked andesite tuff unit. Historic reports suggest this unit has also been encountered interspersed within units the volcanic sequence described above; this has not been observed by Calibre personnel to date.

### 7.2.2 STRUCTURE

Historic data from surface and underground development at the Riscos de Oro mine shows that the vein has an average orientation of 233/60 through the length of the workings and follows a well-defined fault system. Over short distances, the vein is oriented towards 225°, apparently a result of interaction with numerous faults that dip 45 to 80° towards the northwest resulting in more complex styles of mineralization (Lehman 1981). The overall orientation agrees well with strike measurements taken from small veins located at surface near the old open pit. The system has been traced over a 2 km strike length on the Riscos de Oro concession and to a depth of 300 m below surface using drilling (still open along strike and down dip).

Based on measurements of contacts and bedding surfaces in drill core and on cross section interpretation, lithologic units appear to roughly parallel the vein system, striking to the southwest and dipping 50° to 60° towards the northwest. Although it is unusual to see an epithermal vein parallel stratigraphic units there exists the possibility that a perpendicular feeder vein system remains as of yet unidentified. Historic and recent drillholes have been oriented in such a manner that they would not have tested for a potential feeder vein system with northwest trend.

### 7.2.3 ALTERATION

Surface mapping indicates that the Riscos de Oro mine area is dominated by deep weathering with associated goethite, limonite, hematite and manganese oxide in addition to strong argillic (kaolinite/illite) alteration. Relict fresh feldspar phenocrysts are sericite-altered, although for the most part, the secondary sericite is replaced by clay. Immediately northwest of the mine area, weathering is less pronounced in subcrop and float, and alteration is characterized by chloritization of hornblende and silicification of groundmass material. Hematite is also noted in groundmass material as is trace epidote and pyrite.

In drill core, weak to moderate propylitic alteration is most common with chlorite, sericite, clay, rare epidote and calcite observed. Pervasiveness and intensity appear largely controlled by fracturing and faulting with weaker units containing stronger and more widespread alteration. The andesite flow breccia and scoria breccia units are more frequently altered than are the more coherent porphyritic and aphanitic units. Chlorite alteration is characterized by discontinuous fracture fillings, halos about

veinlets and rims about vugs and amygdales. Sections of more concentrated fluid flow contain more continuous styles of alteration to sericite and clay but again are mostly restricted to fractures and faulted zones. Calcite is noted in the more permeable matrix portions of units and as fillings of vesicles and vugs. Propylitic altered rocks generally do not contain notable mineralization.

Weak to strong silicification is generally restricted to fragments of andesite contained within the vein and in a narrow zone less than 2 to 3 m wide about the vein. Quartz stockwork veining is commonly observed for several metres about the vein and is more intense in the footwall. Moderate to strong hematite alteration of andesite fragments has also been observed within the breccia and stock work zones that surround the veins. Silicified rocks within and about the vein contain elevated geochemical signatures but are generally uneconomic.

### 7.3 MINERALIZATION

Chalcedonic to porcelanic and locally comb-textured veins (5 to 15 mm) and vein arrays are commonly observed near the surface projection of the Riscos de Oro vein. Due to overall poor surface exposure, most observations regarding the character of veins and style of mineralization have been obtained from drill core. A typical vein intersection consists of several discrete low sulphidation style epithermal veins separated by short intervals of quartz stockwork brecciated and silicified flow facies andesite. Individual veins range from 0.95 to 4.25 m wide and in combination with associated silicified stockwork zones can reach widths up to 25.30 m (RD10-009).

Quartz is fine-grained to microcrystalline and ranges from white to light grey to light green in colour. Grey colouration is a result of very-fine grained disseminated sulphides (pyrite) while green colouration is related to the presence of fine-grained chlorite. Observed textures include: massive, saccharoidal, drusy, banded and colloform. Brecciation is common, particularly in sections with banded and colloform quartz; late quartz infill shows there were at least two episodes of veining in the system (Figure 7.3). The banded and colloform styles of veining are the most significant in the system.

Sulphide concentration through the veins is generally less than 5%. Disseminated pyrite ( $\text{FeS}_2$ ), banded sulphosalts and rare sphalerite ( $(\text{Zn}, \text{Fe})\text{S}$ ) and galena ( $\text{PbS}$ ) have been observed. Two narrow sections of vein also contained native gold and electrum (RD10-001, RD10-009). Euhedral grains of native copper have been observed in several narrow, high-level quartz-epidote veins (RD10-005, RD10-009) and may represent a separate vein event than is observed in the main workings. Workers from Lehman (1981) also report encountering chalcopyrite ( $\text{CuFeS}_2$ ), bornite ( $\text{Cu}_5\text{FeS}_4$ ), pyrrargyrite ( $\text{Ag}_3\text{SbS}_3$ ), argentite ( $\text{Ag}_2\text{S}$ ) and native silver through much of the underground mine.

Figure 7.3 Example of Brecciated Mineralization



## 8.0 DEPOSIT TYPE

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### 8.1 LOW SULPHIDATION EPITHERMAL

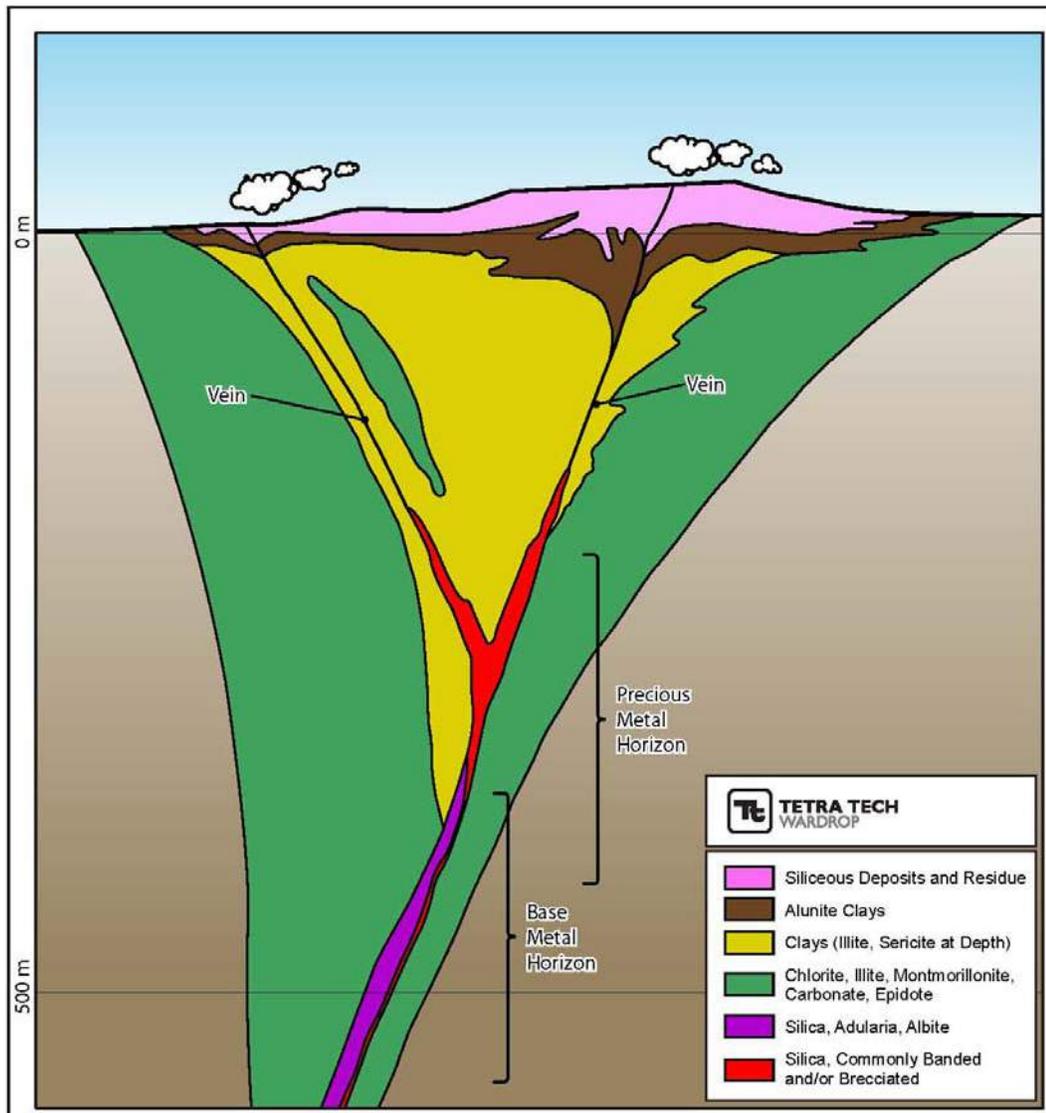
Low sulphidation epithermal deposits are precious metal-bearing quartz veins, stockworks and breccias which formed from boiling of volcanic-related hydrothermal systems (Figure 8.1). Emplacement of mineralization is generally restricted to within 1 km of the paleosurface (Panteleyev 1996). Veins typically have strike lengths in the range of hundreds to thousands of metres; productive vertical extent is seldom more than a few hundred metres. Vein widths vary from a few centimetres to metres or tens of metres.

Gangue mineralogy is dominated by quartz and/or chalcedony, accompanied by lesser and variable amounts of adularia, calcite, pyrite, illite, chlorite and rhodochrosite.

Vein mineralogy is characterized by gold, silver, electrum and argentite with variable amounts of pyrite, sphalerite, chalcopyrite, galena, tellurides, rare tetrahedrite and sulphosalt minerals. Crustiform banded quartz veining is common, typically with interbanded layers of sulphide minerals, adularia and/or illite.

Regional structural control is important in localization of low sulphidation epithermal deposits. Higher grades are commonly found in dilational zones, in faults, at flexures, splays and in cymoid loops.

Figure 8.1 Low-Sulphidation Epithermal Model



## 9.0 EXPLORATION

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### 9.1 RISCOS DE ORO

Calibre has completed several phases of exploration work on the Project including geologic mapping, the collection of 36 rock samples and 720 soil samples, excavation of trenches and the flying of a high-resolution LiDAR topographic survey.

Mapping and rock sampling was initially completed by Calibre personnel late in 2009. Following this, a soil-sampling program was completed along the strike length of the Riscos de Oro vein system in early 2011. A regional soil investigation was completed in outlying areas in mid-2012 following up on LiDAR generated targets.

#### 9.1.1 *ROCK SAMPLING*

Samples are taken either by chip or grab sampling styles, and placed inside the bags, which are then sealed with plastic ties.

When chip sampling, small chips are taken evenly from the entire outcrop. In the case where a defined structure is found, the sample is taken across the structure, at an angle perpendicular to the structure trend.

When grab sampling, larger sample pieces are taken randomly from the areas of greater interest (or greater potential for mineralization) in the outcrop.

#### 9.1.2 *SOIL SAMPLING*

Soil samples are taken using an auger device. Depending on the deposit model target, soil lines are typically spaced between 100 to 200 m apart and samples are spaced 20 to 100 m apart.

Whenever possible, the sample is taken at a maximum depth of 1.2 m, from the last three auger loads. These are placed in two separate paper bags, which are attached to each other by a pre-labeled flagging tape. Each sample is then put inside a new, plastic bag and sealed in the same way as rock samples. Samples are identified with a combination of Line No + Station No.

The auger is thoroughly cleaned after each sample to avoid contamination.

All soil and rock sample locations and descriptions are collected in the field using mobile mapper units. The trench data is recorded manually in paper formats, and it is later entered by the sampling geologist into an online access database template.

The mobile mapper data is downloaded every day to the office server. All the data is checked for accuracy, which are readily corrected in ArcMap or in the Microsoft Access<sup>®</sup> database. After checking the data, the database manager exports it to Datashed<sup>™</sup>, where the master database is stored and managed.

### 9.1.3 TRENCHING

Six trenches totalling 86.90 m were excavated during November and December of 2009 testing an inferred epithermal vein system located 300 m northwest of and parallel to the Riscos de Oro vein system. The accompanying table summarizes the details and results of the trenching program (Table 9.1).

**Table 9.1 Trench Details**

Trench ID	Easting	Northing	Elevation (m)	Length (m)	Azimuth (°)	Dip (°)	Comments
BTR09-001	795000	1553603	140	18.00	300	-20	No Significant Results
BTR09-002	795210	1553755	140	20.00	305	-12	No Significant Results
BTR09-003	795233	1553720	141	1.90	0	0	No Significant Results
BTR09-004	795670	1554059	143	15.00	292	-16	No Significant Results
BTR09-005	794948	1553616	128	17.00	305	13	No Significant Results
BTR09-006	795572	1554125	158	15.00	324	3	No Significant Results

The trenches were hand dug to an average depth of 1 to 2 m and a width of 2 m. Chip samples were taken by chiseling a continuous channel on the trench wall approximately 10 to 20 cm from the floor. The minimum sampling interval was 0.5 m and the maximum was 1.9 m. A similar QA/QC program as applied in the diamond drilling program was used during the trenching program. All trenches were fully reclaimed in early 2010.

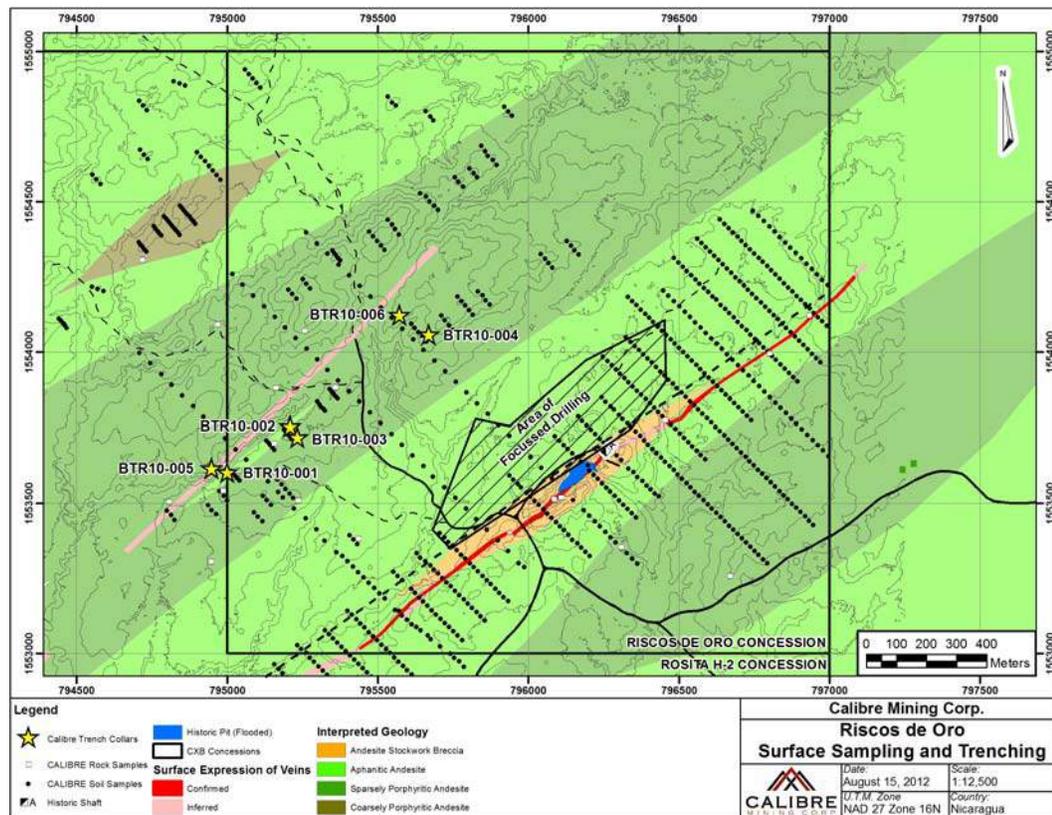
Chip channel samples are taken by chiseling a channel on the northern trench wall, 10 to 20 cm from the floor. The minimum sampling interval is 0.5 m and the maximum interval is 1.5 m. The sample intervals are previously marked, trying to zone veins, structures, of mineralized ore bodies intercepted by the trench.

In the case of saw channel sampling, a channel is “cut” on the floor of the trench, perpendicular to the main structure, or any mineralized zone with a defined trend. The rock saw is thoroughly cleaned after each sample to avoid contamination.

For all rock and trench duplicate samples, a larger amount of material is taken for each sample, which is split in half and the split is placed in a separate bag. Duplicate samples are labeled with a consecutive higher number relative to the original sample.

Figure 9.1 shows the location of the collected rock and soil samples as well as the trench locations.

Figure 9.1 Surface Exploration Work



#### 9.1.4 SURFACE SAMPLE HANDLING AND SAMPLING PROCEDURES

For all surface and trench samples, sample IDs are clearly written on each sample bag prior to going to the field. The sample IDs are also written on flagging tape tags which are inserted in each sample bag. All bags are new, transparent plastic bags.

Sample shipments are prepared and sent to Managua once a week. In the case of soils, samples are organized based on the Line/Station No sequence, and then they are randomized and a Sample ID is assigned to each sample using the format B12S#####. In the case of rocks, the sample IDs are the same as those recorded during sampling.

All sample bags are placed in order of numbered sequence and placed into rice bags. Each rice bags holds approximately 25 kg of weight, and it is previously labeled with the sample range, customs broker information, laboratory name, and addresses.

The laboratory submittal form is completed by the QA/QC supervisor and authorized by the Project Manager, or the person designated for this purpose. The laboratory is given instruction to notify Calibre of any missing or damaged bag, as well as any

missing security seal. The submittal form is put in a plastic bag and placed in the first rice bag of the shipment. Each rice bag is secured with two plastic ties and a uniquely numbered non-re-sealable security strap. The security tag number is recorded in the sample shipment tracking log.

The rice bags are delivered directly from the Rosita office to Calibre's Managua office in a company truck the same day.

When shipping to ALS Minerals, the samples are picked up at the Calibre office by courier personnel (UPS) and shipped by airfreight to ALS Minerals in Vancouver where the samples are prepared and analysed.

When shipping to Inspectorate, the samples are delivered by Calibre personnel to the Inspectorate preparation laboratory located in Managua. The samples are received by Inspectorate personnel where they are subsequently prepared. Inspectorate then ships pulps of the samples by airfreight to their lab located in Vancouver.

While on the site, all the samples are stored in a secure warehouse, only accessible to key Calibre personnel.

## 10.0 DRILLING

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### 10.1 HISTORIC DRILLING

La Luz Mines Ltd. initiated the first documented drilling program on the Property in 1969 which was comprised of shallow churn drilling and deeper diamond drilling. Results from churn drilling reportedly defined sufficient tonnage to justify the development of an open pit operation which started production in early 1972. Details from this first period of drilling have not been located to date.

Rosario Resources Corp. subsequently purchased the Property in 1973 and continued work, eventually completing 71 churn and diamond drillholes (4,020.26 m) by the end of 1976. Partial drill logs from some of these holes are available and a set of sections from Rosario Resources Corp. showing the approximate locations of all drillholes with limited geologic data and significant assay results have been located.

Following the nationalization of the Property in 1979, no further drilling was completed until 1981 when Ernest Lehman Associates was contracted by the Corporacion Nicaraguense de Minas to evaluate the project with the goal of defining additional areas for mineral extraction. Ernest Lehman Associates completed 11 diamond drillholes (1,828.50 m) testing mostly at depth beneath the 300 ft level workings. Detailed drill logs, assay results and photocopied assay certificates for this work have been located.

Where historic data exists, every effort has been made to incorporate it into Calibre's database of historic work for the Project.

### 10.2 CALIBRE 2010-2011 DIAMOND DRILLING

Calibre completed three campaigns of drilling at Riscos de Oro during the period 2010 to 2011. The first phase of drilling (nine holes – 2,160.60 m) was designed to test areas proximal to and beneath historic drillholes that reported significant results. These holes were largely successful and confirmed the presence of two high-grade ore shoots within the more extensive Riscos de Oro vein system. Two holes were also completed at shallower depths in untested areas along strike of the vein system. The phase two drill program followed-up and expand upon the more robust vein intersections returned from phase one and consisted of 2,466.25 m in nine holes. The third phase of drilling consisted of 4,867.20 m in 19 holes filling in the gaps between the two high-grade ore shoots and testing the along strike extension of the vein system. As a result, the Riscos de Oro vein has been confirmed over a strike length of 665 m and to a depth of 350 m below surface.

All drilling for Calibre was completed by Rodio Swissboring Guatemala, S.A (Figure 10.1). All holes were drilled in HQ size and drill runs were 3.05 m in length.

**Figure 10.1 Diamond Drill Rig**



Initial surveying of diamond drillholes was completed using a Magellan Mobile Mapper 6 handheld global positioning system (GPS) unit; collar azimuths were determined using a handheld compass. Following completion of the drill programs, a surveyor was contracted to accurately locate the drillhole collars using a Trimble R3 differential GPS unit. Additional surveying work performed as part of the high-resolution LiDAR topographic survey in March 2012 confirmed the accuracy and elevations of the drillhole collars (Table 10.1).

Downhole survey readings were collected at approximately 50 m intervals using a Tropari survey tool; a Reflex E-Z Shot camera was used later in the program.

Each of the drillholes was sealed with a cement pad and a concrete filled 3” polyvinyl chloride (PVC) pipe was installed in the orientation of the drill casing. Upon pouring of the cement, the drillhole number was scribed into the cement pad for ease of identification in the future (Figure 10.2).

**Table 10.1 Diamond Drill Collars**

Phase	Hole ID	Easting	Northing	Elevation (m)	Depth (m)	Azimuth (°)	Dip (°)
1 (April to July 2010)	RD10-001	795920.07	1553657.46	72.78	221.00	135	-60
	RD10-002	795943.33	1553711.60	72.34	240.00	135	-60
	RD10-003	795829.17	1553657.23	73.85	324.30	135	-72
	RD10-004	795840.93	1553741.24	68.79	390.55	135	-72
	RD10-005	796150.40	1553844.45	75.54	277.35	137	-62
	RD10-006	794872.47	1553741.23	70.90	244.05	135	-50
	RD10-007	796843.99	1554195.00	73.41	200.70	135	-60
	RD10-008	796223.14	1553862.55	73.48	68.55	135	-60
	RD10-009	796224.55	1553861.14	73.49	194.10	135	-60
2 (February to May 2011)	RD11-010	795930.00	1553603.93	71.79	254.60	135	-75
	RD11-011	795928.76	1553580.89	72.34	234.35	135	-70
	RD11-012	795877.47	1553625.88	72.13	275.85	135	-72
	RD11-013	795901.93	1553728.44	70.21	346.05	135	-70
	RD11-014	796184.36	1553859.91	73.88	215.00	135	-60
	RD11-015	796225.75	1553902.61	74.52	214.75	135	-60
	RD11-016	796188.76	1553895.14	74.42	295.05	135	-60
	RD11-017	796197.77	1553943.72	75.65	324.90	135	-60
	RD11-018	796138.53	1553892.43	75.85	305.70	135	-60

*table continues...*

Phase	Hole ID	Easting	Northing	Elevation (m)	Depth (m)	Azimuth (°)	Dip (°)
3 (August to December 2011)	RD11-019	795991.07	1553612.59	73.42	222.75	135	-70
	RD11-020	795916.97	1553526.89	73.58	211.10	135	-70
	RD11-021	795835.56	1553588.70	69.31	290.15	135	-70
	RD11-022	795792.68	1553469.89	68.10	265.20	135	-75
	RD11-023	796307.97	1553768.61	71.26	135.55	135	-50
	RD11-024	796081.32	1553835.81	76.25	313.55	135	-60
	RD11-025	796318.35	1553908.74	73.16	257.50	135	-60
	RD11-026	796260.79	1553967.88	74.00	301.30	135	-60
	RD11-027	796022.21	1553785.93	75.63	331.30	135	-65
	RD11-028	796377.59	1553847.02	70.09	155.65	135	-60
	RD11-029	795973.85	1553732.31	72.61	317.10	135	-70
	RD11-030	796431.45	1553931.47	70.29	219.60	135	-55
	RD11-031	796094.88	1553706.98	79.67	279.60	135	-70
	RD11-032	796432.95	1554070.72	73.49	273.55	135	-65
	RD11-033	795791.59	1553571.11	68.87	303.40	135	-70
	RD11-034	795723.36	1553424.24	66.58	243.05	135	-75
	RD11-035	795968.13	1553558.55	81.76	222.75	135	-72
RD11-036	796175.76	1553763.22	81.15	248.00	135	-64	
RD11-037	796061.59	1553677.60	77.63	276.10	135	-80	

**Figure 10.2 Casing Markers**



Table 10.2 highlights some of the significant intersections encountered in the drilling campaign. Figure 10.3 illustrates a typical drill section through the Riscos de Oro Zone.

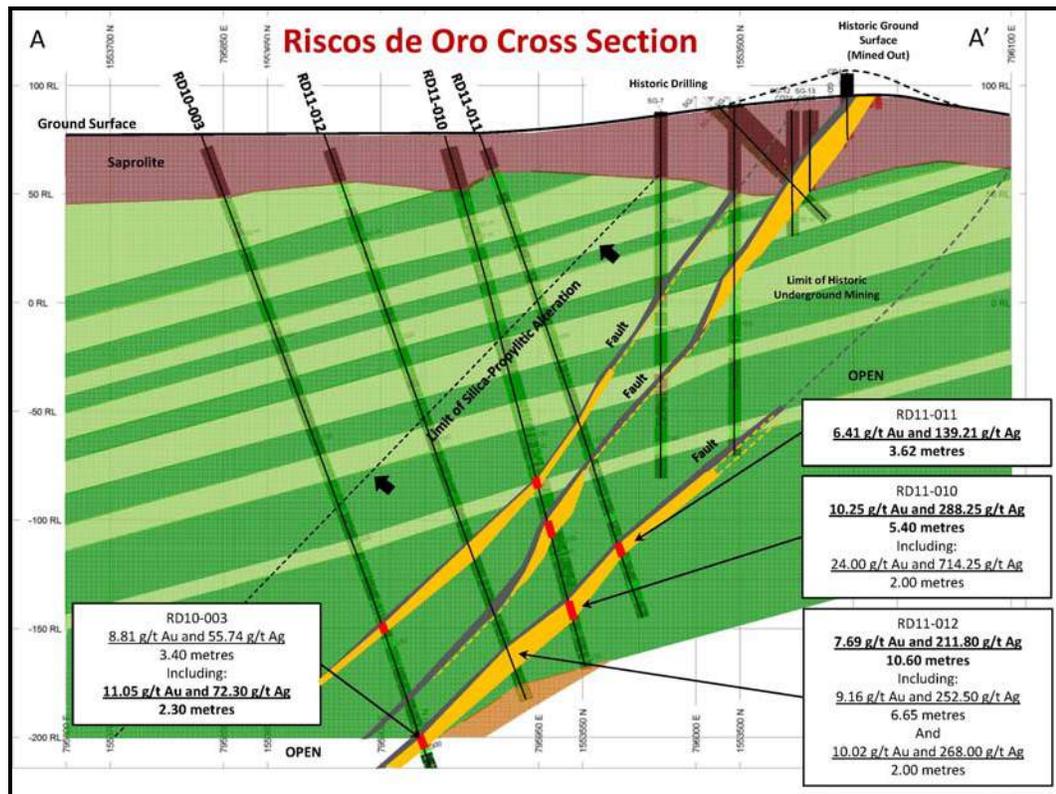
**Table 10.2 Calibre Drill Results**

Hole ID	Zone	From (m)	To (m)	Interval (m)	Gold (g/t)	Silver (g/t)
RD10-001	Upper	177.60	183.40	5.80	2.44	292.60
	including	177.60	178.40	0.80	14.05	1990.00
	Middle	186.10	190.25	4.15	1.01	4.85
RD10-002	Upper	205.40	210.30	4.90	0.97	28.72
	including	207.40	209.40	2.00	1.77	56.40
RD11-003	Lower	296.30	299.70	3.40	8.81	55.74
	including	297.40	299.70	2.30	11.05	72.30
RD10-004	No significant results					
RD10-005	Lower	242.91	247.05	4.14	9.04	30.02
	including	244.75	245.83	1.08	13.30	37.80
RD10-006	No significant results					
RD10-007	No significant results					
RD10-008	Hole lost					
RD10-009	Upper	160.70	169.23	8.53	4.23	384.86
	including	160.70	161.80	1.10	4.10	99.00
	and	162.53	163.80	1.27	9.22	217.00
	and	164.70	166.00	1.30	1.76	113.00
	and	168.28	169.23	0.95	17.85	2810.00
	and	172.20	173.87	1.67	1.53	32.10
RD11-010	Upper	167.10	168.60	1.50	5.98	9.10
	Middle	187.40	191.60	4.20	2.50	5.16
	Lower	223.00	228.40	5.40	10.25	288.25
	including	224.50	226.50	2.00	24.00	714.25
RD11-011	Lower	198.38	202.00	3.62	6.41	139.21
RD11-012	Lower	249.30	259.90	10.60	7.69	211.87
	including	249.30	255.95	6.65	9.16	252.50
	and	257.90	259.90	2.00	10.02	268.00
RD11-013	Lower	318.04	323.12	5.08	0.82	2.76
RD11-014	Upper	187.87	190.90	3.03	1.54	46.30
RD11-015	Upper	182.00	184.20	2.20	5.44	405.55
RD11-016	Upper	198.50	205.60	7.10	2.72	287.65
	including	201.92	205.60	3.68	3.61	518.44
	Lower	249.42	253.71	4.29	3.20	13.30
	including	249.42	250.42	1.00	12.35	47.00
RD11-017	Upper	223.60	227.50	3.90	9.31	336.06
	including	224.96	226.33	1.37	18.70	752.00
RD11-018	Lower	273.03	274.42	1.39	9.11	14.33
	and	287.65	289.81	2.16	1.79	5.93

table continues...

Hole ID	Zone	From (m)	To (m)	Interval (m)	Gold (g/t)	Silver (g/t)
RD11-019	Upper	121.15	126.95	5.80	9.37	64.80
	including	125.15	126.95	1.80	13.82	132.10
	and	131.50	133.00	1.50	3.05	48.50
RD11-020	No significant results					
RD11-021	Upper	187.74	191.60	3.86	0.24	3.31
	Lower	241.80	250.44	8.64	4.40	24.12
	including	241.80	244.06	2.26	8.71	29.87
RD11-022	No significant results					
RD11-023	No significant results					
RD11-024	Lower	287.05	289.40	2.35	7.75	15.49
	and	291.62	293.19	1.57	2.65	4.60
RD11-025	Upper	136.82	139.77	2.95	4.23	449.80
	Lower	220.10	221.50	1.40	0.18	1.60
	and	225.93	227.08	1.15	0.11	1.90
RD11-026	Upper	208.84	211.42	2.58	8.74	120.50
	Middle	229.47	230.34	0.87	1.22	27.50
	Lower	283.10	284.05	0.95	2.48	6.50
RD11-027	Lower	299.00	303.60	4.60	2.28	11.56
	including	301.00	302.50	1.50	5.81	26.50
RD11-028	No significant results					
RD11-029	Lower	282.52	284.97	2.45	10.30	56.71
	including	282.52	283.97	1.45	16.30	90.10
RD11-030	No significant results					
RD11-031	Upper	148.50	151.15	2.65	3.33	11.22
	including	148.50	149.60	1.10	6.06	14.90
	Lower	219.06	223.60	4.54	2.03	12.18
	including	221.10	222.10	1.00	7.25	15.80
RD11-032	No significant results					
RD11-033	Upper	211.00	219.00	8.00	2.38	2.28
	including	214.00	219.00	5.00	3.66	2.32
	Lower	272.87	274.45	1.58	1.94	6.90
RD11-034	No significant results					
RD11-035	Upper	117.75	119.43	1.68	0.19	1.40
RD11-036	Upper	134.63	138.00	3.37	0.22	10.06
RD11-037	Lower	250.39	254.60	4.21	8.66	37.57
	including	251.79	252.98	1.19	24.74	84.60

Figure 10.3 Riscos de Oro Cross-section



## 10.3 SAMPLING METHOD AND APPROACH

The following description of the sampling methodology was provided by Adrian Newton, the Senior Project Geologist for the Project and is also available in a formal document. Drilling was not underway when Tetra Tech conducted either site visit. Field observations made during the site visits conclude that the logging and sampling methodology describe by Mr. Newton are to industry standards, and are acceptable to support a resource estimate.

### 10.3.1 CORE PICK-UP

Core boxes are picked-up from the drill site by Calibre personnel, at a regular schedule. The full boxes are stacked orderly on a pallet in the back of the company's truck. A wooden lid is put on top of all boxes and everything is secured to the pallet with ratchet straps. Care is taken so that the core boxes do not slide within the truck, and they are transported at slow speed back to the core facility in Rosita.

### 10.3.2 CORE DELIVERY

Once the boxes are in the core facility, the drillhole numbers and box numbers are checked and reported to the logging geologists in order to confirm the correct core bench where the core will be transferred.

The boxes are laid out on the core bench maintaining numeric continuity. The core is cleaned to remove any drill grease or additive.

### 10.3.3 GEO-TECHNICAL LOGGING

These are the steps to record geotechnical data for the core:

- Load core boxes on logging benches in numerical order with box numbers increasing down rows and left to right. Check with the logging geologist beforehand to ensure correct placement.
- Carefully inspect the new core, reconstructing blocky intervals wherever possible. Visually check that the meters written on the drill blocks increase down row, and left to right, and are in intervals of no more than 3.05 m. These intervals will be used as From-To intervals in the subsequent measurements below. Alert logging geologists of any discrepancies.
- Take recovery length and rock quality designation (RQD) measurements.
  - Recovery Length: Measure length of core in core boxes between From-To intervals in meters. Enter the result into LogChief - "Geotech". With broken/rubbly core, record the best estimate of recovery by reconstructing, and measuring, competent pieces, while visualizing rubbles zones as whole core.
  - RQD: Measure the total length of solid core pieces (>10 cm) measured along the centerline of the core between From-To intervals. Record the result in LogChief - "Geotech" (in meters).
- Measure magnetic susceptibility between From-To intervals with KT-10 magnetic susceptibility meter. Take five measurements within each From-To interval. Record average calculated by unit in LogChief - "Mag Sus/Spec Grav".
- Mark meter intervals on core. Use drill blocks for reference. Use core recovery for intervals in which there is a discrepancy between blocks and meter intervals. Look for obvious breaks/fault zones, and signs of grinding/rounding from drilling, to account for missing core. Alert logging geologists of any discrepancies.
- Label core boxes with individual "From-To" intervals in the top left, and bottom right corners, using a permanent black felt marker. "From" equals the depth at start of box (top left corner) and "To" equals the depth at end of box (bottom right corner).

- Staple aluminum box tag to left end of box. Tag should include drillhole number (e.g. BB10-001), box number (e.g. BX 12), and “From-To” core box interval.
- Wash core using bristle brush and hose. Core should be free of drill mud and dirt. Rock textures should be clearly visible. Scrub only solid, competent pieces of core. Care should be taken in fault gouge intervals, and in rubble zones, in order to preserve mineralization and maintain contact orientations. When in doubt consult logging geologist before washing.

#### 10.3.4 CORE LOGGING

Core is logged in detail and all the data about lithology, alteration, mineralization, veining and structure is recorded digitally in the appropriate LogChief data entry forms (Figure 10.4)

Sample lengths are variable, 20 cm minimum sample length; 2 m maximum sample length and the samples do not cross lithological boundaries.

A daily back-up of the drill hole data is created by the logging geologist, and it is transferred to the main office server using a memory data stick.

The data is exported to excel files which are then imported to Datashed™. This procedure is done by the database manager every 2 to 3 days.

**Figure 10.4 Core Logging Facility**



### 10.3.5 CORE PHOTOS

The core boxes are transferred to the photo station in numerical order. Three boxes are photographed at a time, using the Canon EOS Utility on logging laptop computers (Figure 10.5). Core photos are backed-up daily on the main office server by the logging geologist.

**Figure 10.5 Example of Core Photo**



### 10.3.6 CORE SAMPLING

From the core station, core is transferred to pallets located outside the core cutting facility (Figure 10.6).

**Figure 10.6 Core Cutting Facility**



Sample intervals are transferred to a sample booklet with pre-printed sample numbers.

One box of core is loaded to the core-cutting bench at the time, and the interval of core to be sampled is cut in half using a top-mounted core saw with three stage decanted water. One-half of the core is placed in a clean transparent bag, which has been previously labeled, and a pre-printed sample tag is placed inside of the bag.

The bag is then sealed with a plastic tie strap and placed on the floor in an orderly manner for easy tracking. The core-cutting bench and saw are thoroughly cleaned after each sample to avoid contamination.

The remaining half of the core is put back in the core box, and it is transferred to covered storage racks where it will be kept future reference (Figure 10.7).

QA/QC samples are inserted into the sample stream (see Section 11.0 for details).

**Figure 10.7 Core Storage Facility**



The logging geologist is responsible for monitoring the sample progress and checking for sampling mistakes. He/she will inform the core cutter of any irregular sample intervals.

While on site, all the samples are stored in a secure warehouse, only accessible to key Calibre personnel

### 10.3.7 *SAMPLE SHIPPING*

Sample shipments are prepared and sent to Managua once a week. All sample bags are placed in order of numbered sequence and put into rice bags. Each rice bags holds approximately 25 kg of weight, and it is previously labeled with the sample range, customs broker, and laboratory name and addresses.

The laboratory submittal form is filled by logging geologist and authorized by the Project Manager, or the person designated for this purpose. The laboratory is given instruction to notify Calibre of any missing or damaged bag, as well as any missing security seals. The submittal form is put in a plastic bag and placed in the first rice bag of the shipment. Each rice bag is secured with two plastic tie straps and a uniquely numbered non-re-sealable security strap. The security tag number is recorded in the sample shipment tracking log.

The rice bags are delivered directly from the Rosita office to Calibre's Managua office in a company truck the same day.

When shipping to ALS Minerals the samples are picked up at the Calibre office by courier personnel (UPS) and shipped by airfreight to ALS Minerals in Vancouver where the samples are prepared and analysed.

When shipping to Inspectorate, the samples are delivered by Calibre personnel to the Inspectorate preparation laboratory located in Managua. The samples are received by Inspectorate personnel where they are subsequently prepared.

## 11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

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Calibre has sent all samples from the Project to ALS Minerals in Vancouver via the described chain of custody process until July 2011. As Inspectorate laboratories had opened a preparation laboratory in Managua several months previous to this, a decision was made to use their services as significant cost savings could be achieved through reduced shipping costs; the Inspectorate preparation laboratory subsequently sends the sample pulps to their laboratory in Vancouver for analysis.

ALS Minerals is accredited to international quality standards through the International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 17025 (ISO/IEC 17025 includes ISO 9001 and ISO 9002 specifications) with CAN-P-1579 (Mineral Analysis).

Inspectorate is accredited to international quality standards through ISO; the analytical laboratory in Vancouver is ISO 9001:2008 certified.

### 11.1 SAMPLE PREPARATION

#### 11.1.1 *ALS MINERALS SOIL PREPARATION*

All samples are processed using the sample preparation package PREP-41:

- dry
- sieve sample to -180  $\mu\text{m}$  (80 mesh)
- retain both fractions.

#### 11.1.2 *ALS MINERALS ROCK AND DRILL CORE PREPARATION*

All samples are processed using both jaw crushers and ring mill pulverizes. Samples received by the laboratory are processed using the sample preparation package PREP-31:

- dry, crush (<5 kg) 70% -8 mesh (2 mm)
- split (250 g)
- pulverize (to 85% -75  $\mu\text{m}$ ).

#### 11.1.3 *INSPECTORATE SOIL PREPARATION*

All samples are processed using the sample preparation package SP-SS-1K:

- dried
- sieve sample to -180  $\mu\text{m}$  (80 mesh)
- riffle split.

#### 11.1.4 INSPECTORATE ROCK AND DRILL CORE PREPARATION

All samples are processed using both jaw crushers and ring mill pulverizes. Samples received by the laboratory are processed using the sample preparation package SP-RX-2K:

- dry, crush (<2 kg) 70% -10 mesh (2 mm)
- split (250 g)
- pulverize (to 85% -200 mesh -74  $\mu\text{m}$ ).

### 11.2 SAMPLE ANALYSES

All samples are analyzed for gold by 30 g fire assay (FA)/inductively coupled plasma (ICP)-atomic emission spectroscopy (AES) technique in soils, and by 30 g FA/atomic absorption spectroscopy (AAS) technique in rock or drill core. Multi-element analysis is completed for 36 elements, using Aqua Regia/ICP-AES.

ALS Minerals codes are Au-ICP21 and ME-ICP41m, for soils; and Au-AA25 and ME-ICP41m, for rocks.

Corresponding Inspectorate codes are Au-1AT-ICP and 30M-AR-TR, for soils; and Au-1AT-AA and 30M-AR-TR, for rocks.

The gold assay methodology used a standard FA with AAS finish technique on a 30 g aliquot taken from the 250 g pulp. Samples that returned assays greater than 10 g/t gold re-run used a standard FA with gravimetric finish technique on a 30 g aliquot collected from the original 250 g pulp.

### 11.3 QA/QC PROGRAM

#### 11.3.1 CALIBRE QA/QC PROGRAM

Calibre has a well-documented QA/QC program in place, managed by the Supervisor of Quality Control.

QA/QC samples, including pulp duplicates, crush duplicates, standard reference materials (SRM), and blanks were inserted in a predetermined sequence every 30<sup>th</sup> sample. This ensures that there is a least one of each QA/QC sample typed submitted in the assay batch:

- pulp duplicate – every 30<sup>th</sup> sample starting at the 10<sup>th</sup> sample
- SRM – every 30<sup>th</sup> sample starting at the 15<sup>th</sup> sample
- crush duplicate – every 30<sup>th</sup> sample starting at the 20<sup>th</sup> sample
- blank – every 30<sup>th</sup> sample starting at the 25<sup>th</sup> sample.

The SRMs were purchased from CDN Resource Laboratories Ltd. of Vancouver. The blanks consisted of small pieces of volcanic scoria, collected from Masaya volcano, near Managua. Table 11.1 summarizes the SRMs used during the 2010 drilling campaign.

**Table 11.1 SRM Certificate Summary**

Standard ID	Element	Method	Units	Mean	SD	-2SD	+2SD	-3SD	+3SD
CGS-19*	Cu	AR/ICPES	%	0.132	0.005	0.122	0.142	0.117	0.147
CGS-19*	Au	FA/AAS	ppm	0.740	0.035	0.670	0.810	0.635	0.845
CGS-20*	Cu	AROG/ICPES	%	3.360	0.085	3.190	3.530	3.105	3.615
CGS-20*	Au	FA/AAS	ppm	7.750	0.235	7.280	8.220	7.045	8.455
CM-6	Cu	AR/ICPES	%	0.737	0.020	0.698	0.776	0.679	0.796
CM-6	Au	FA/AAS	ppm	1.430	0.045	1.340	1.520	1.295	1.565
CM-8	Cu	AR/ICPES	%	0.364	0.012	0.340	0.388	0.328	0.400
CM-8	Au	FA/AAS	ppm	0.910	0.055	0.800	1.020	0.745	1.075
GS-1E*	Au	FA/AAS	ppm	1.160	0.030	1.100	1.220	1.070	1.250
GS-1F	Au	FA/AAS	ppm	1.160	0.065	1.030	1.290	0.965	1.355
GS-3G	Au	FA/AAS	ppm	2.590	0.090	2.410	2.770	2.320	2.860
GS-4C	Au	FA/AAS	ppm	4.260	0.110	4.040	4.480	3.930	4.590
GS-7A*	Au	FA/AAS	ppm	7.200	0.300	6.600	7.800	6.300	8.100
GS-7B	Au	FA/AAS	ppm	6.420	0.230	5.960	6.880	5.730	7.110
GS-P7B	Au	FA/AAS	ppm	0.710	0.035	0.640	0.780	0.605	0.815
GS-P8*	Au	FA/AAS	ppm	0.780	0.030	0.720	0.840	0.690	0.870

Note: \*Used in Phase I program (2010).

Only field duplicates are used for quality control in soil samples. Samples are taken randomly in every soil line (one in a group of 30 samples). The duplicates are taken at the same location of the original sample, and the suffix “A” is added to the sample ID.

All data is reported in .csv files which are directly imported into Datashed™. The results for quality control were reviewed as soon as a certificate is received.

The following criteria were used by Calibre to determine pass or fail of an assay batch:

- SRM with gold values  $\pm 3$  standard deviations was considered a failure and the whole batch re-assayed
- two adjacent SRM for gold are  $\pm 2$  standard deviation on the same side of the mean was considered a failure and an indication of bias.
- blanks more than three times the detection limit are considered a failure.

All the failures are logged in a table for failures, as well as the action taken to solve the issues.

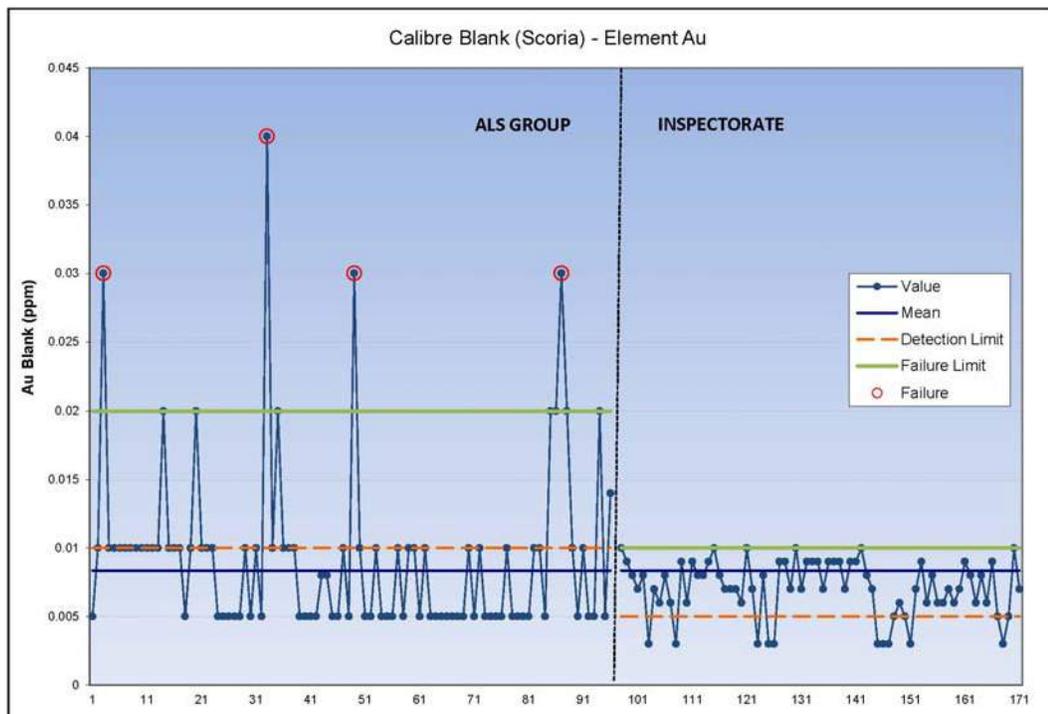
### 11.3.2 BLANK QA/QC

The material used for the Calibre blank was scoria sourced from Masaya volcano outside of Managua. This is not certified blank, yet historically has been void of gold.

Over the course of the three phases of diamond drilling a total of 171 samples were submitted. Calibre used a failure limit of three times detection limit, while Tetra Tech plotted the blanks using two times detection limit as a failure.

Failures constituted four samples or 2% at the beginning of the Project. A break line indicating the change from ALS Minerals to Inspectorate explains the change on the chart (Figure 11.1).

**Figure 11.1 Calibre Blank QA/QC**



### 11.3.3 FIELD DUPLICATE QA/QC

Field duplicates are generated by quarter cutting the drill core and submitting as a separate sample. A total of 28 field duplicate samples were submitted. As would be expected in a gold-bearing system, the failure rate of the field duplicate is extremely high (less than 21%). Two charts were created to display the disparity between duplicates (Figure 11.2 and Figure 11.3). Based in the results of the limited number of field duplicate submitted, Tetra Tech recommends that Calibre discontinue the practice of submitting field duplicates for the QA/QC program.

**Figure 11.2 Field Duplicate X-Y Graph**

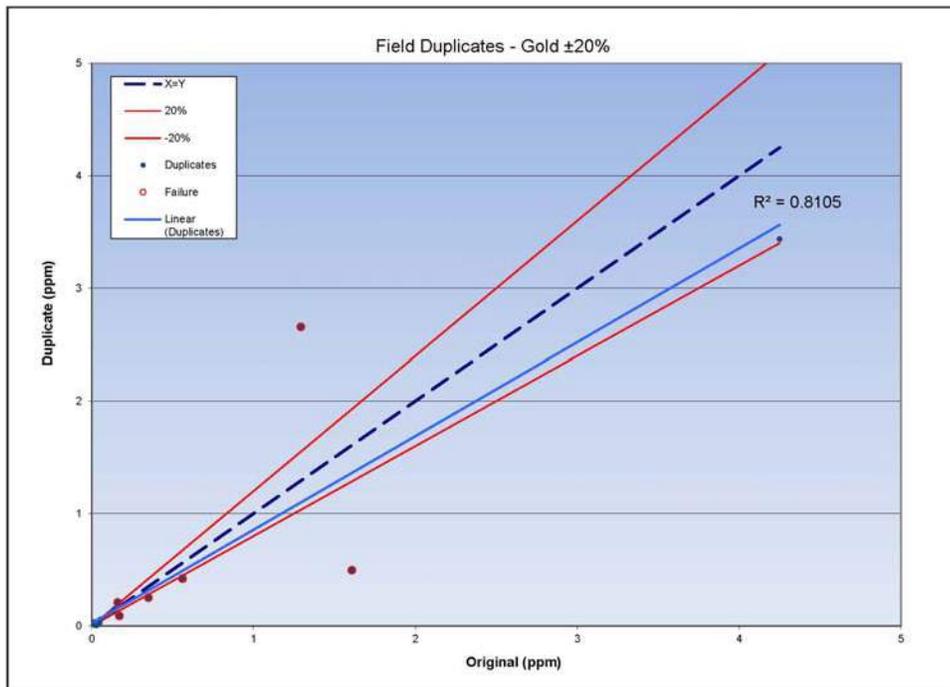
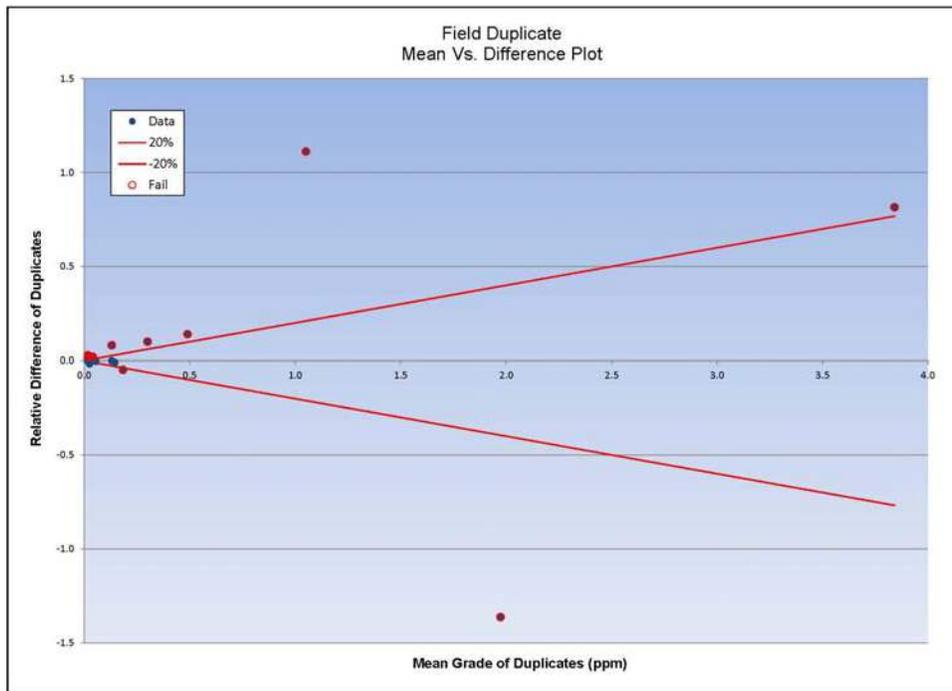


Figure 11.3 Field Duplicate Mean vs. Relative Difference



#### 11.3.4 COARSE REJECT DUPLICATE QA/QC

Course duplicates were created by generating a second pulp from the course reject material. Course reject duplicates were submitted every 30<sup>th</sup> sample starting at the 20<sup>th</sup> sample. A total of thirty-two course duplicates were submitted and a significantly lower numbers of failures occur (9%) (Figure 11.4 and Figure 11.5). The course duplicates indicate that the reproducibility of the material is improved with sample hominization. With an  $R^2$  of 0.995, there is a strong correlation between the original and the duplicates.

Figure 11.4 Coarse Duplicate X-Y Graph

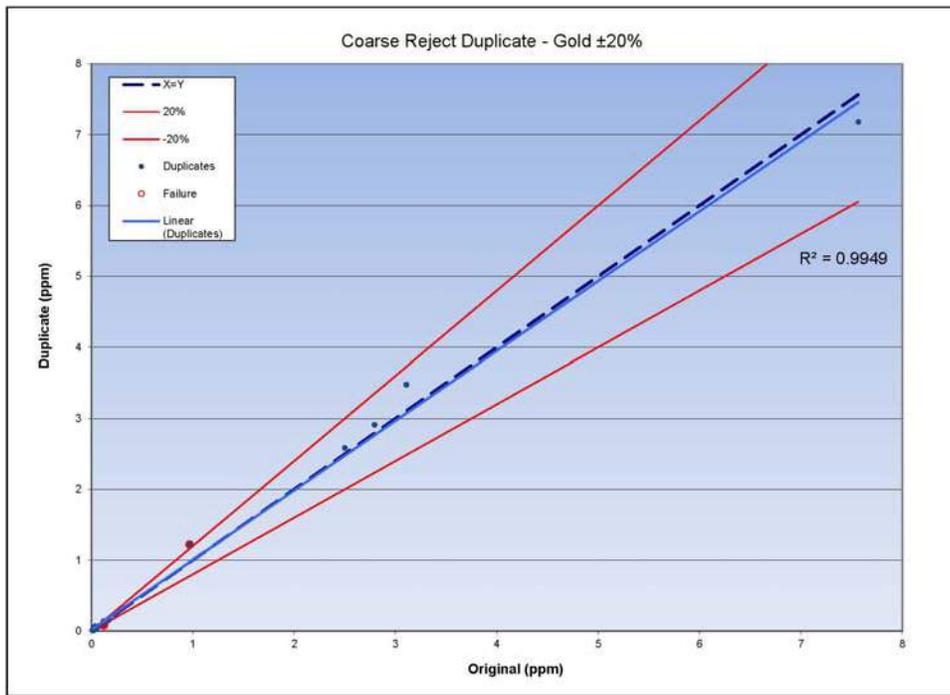
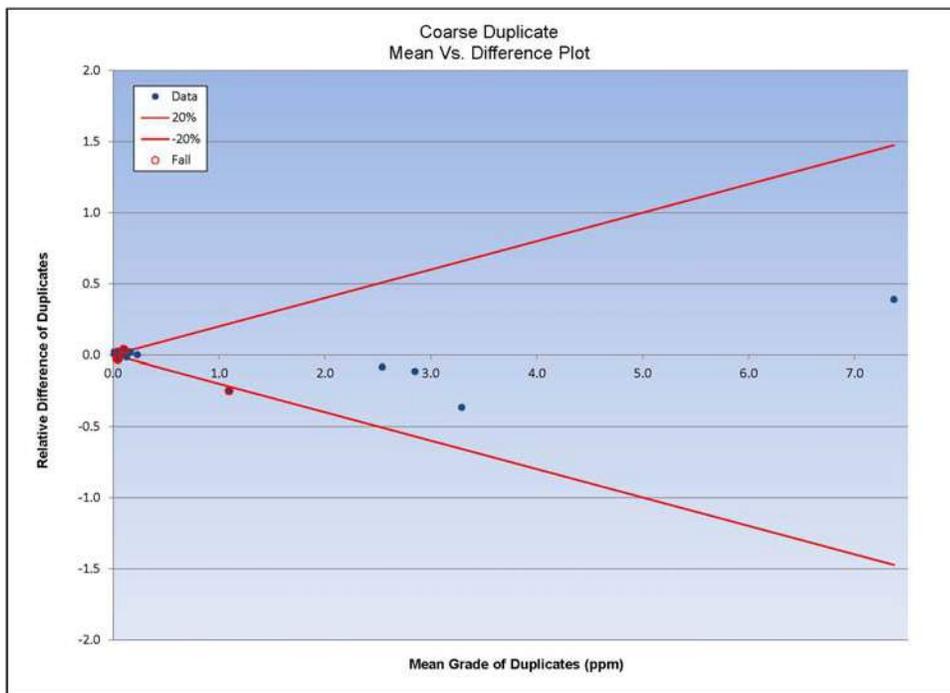


Figure 11.5 Coarse Duplicate Mean vs. Relative Difference



### 11.3.5 PULP DUPLICATE QA/QC

The pulp duplicates were created by analysing a second pulp. Pulp duplicates were submitted every 30<sup>th</sup> sample starting at the 10<sup>th</sup> sample. A total of 42 pulp duplicate samples were submitted and the failure rate was within the acceptable industry rate of 2% (Figure 11.6 and Figure 11.7).

**Figure 11.6 Pulp Duplicate X-Y Graph**

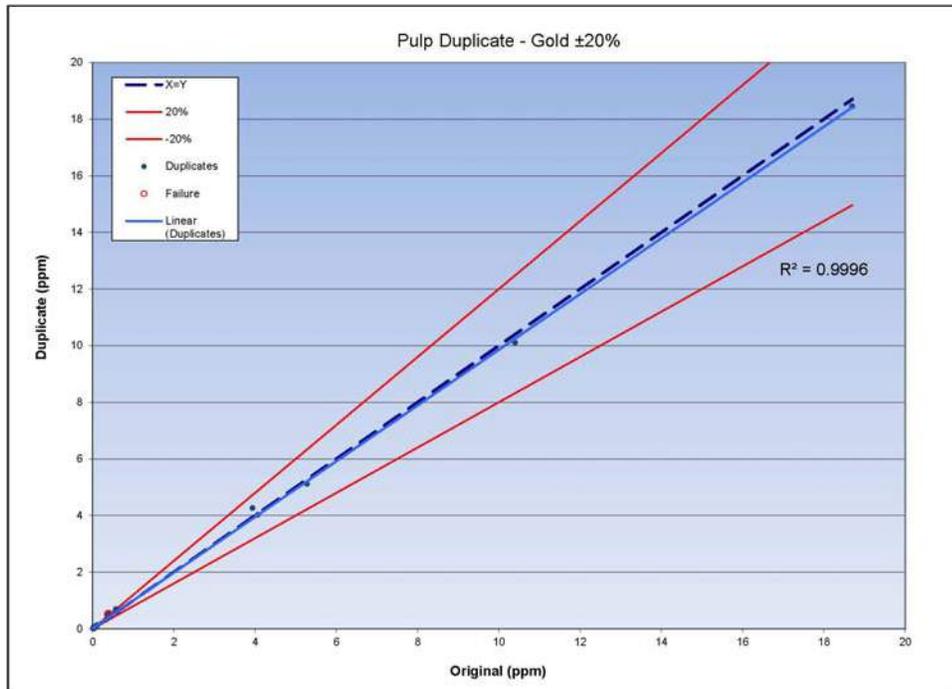
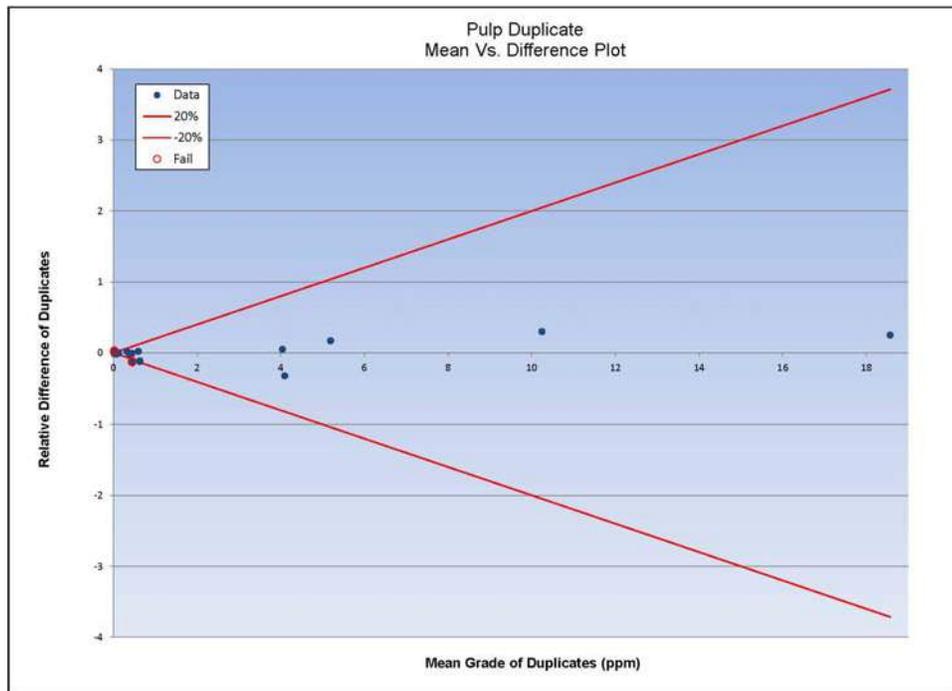


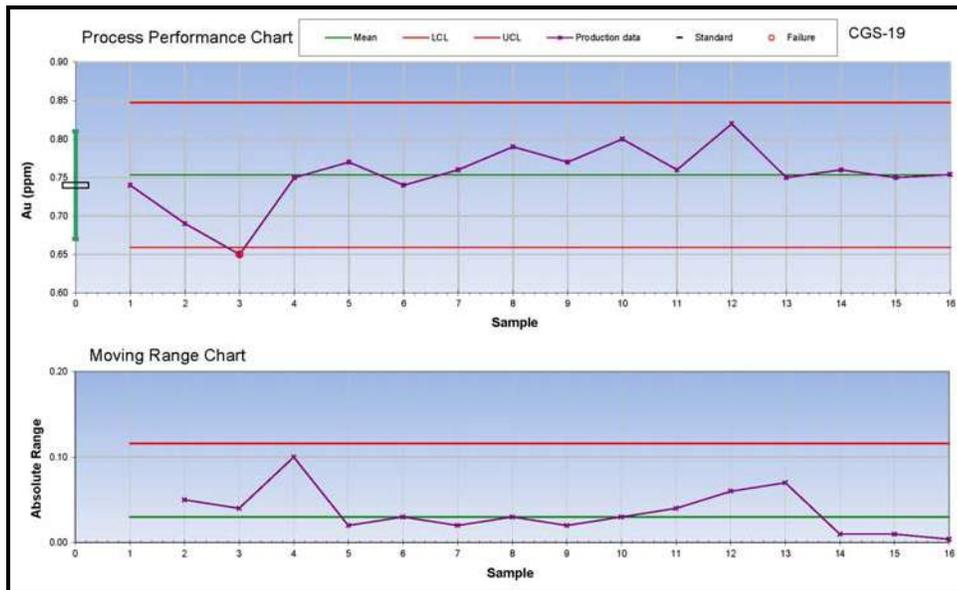
Figure 11.7 Pulp Duplicate Mean vs. Relative Difference



### 11.3.6 STANDARD REFERENCE MATERIAL CGS-19

The standard reference material CGS-19 has an expected value of 0.74 g/t gold. The 16 samples submitted by Calibre during the 2010 drilling campaign averaged 0.75 g/t gold with only one sample (#3) exceeding the accuracy threshold. As the one sample deemed a failure is at the beginning of the drill campaign and the remaining samples are well within the control limits, no action is required (Figure 11.8).

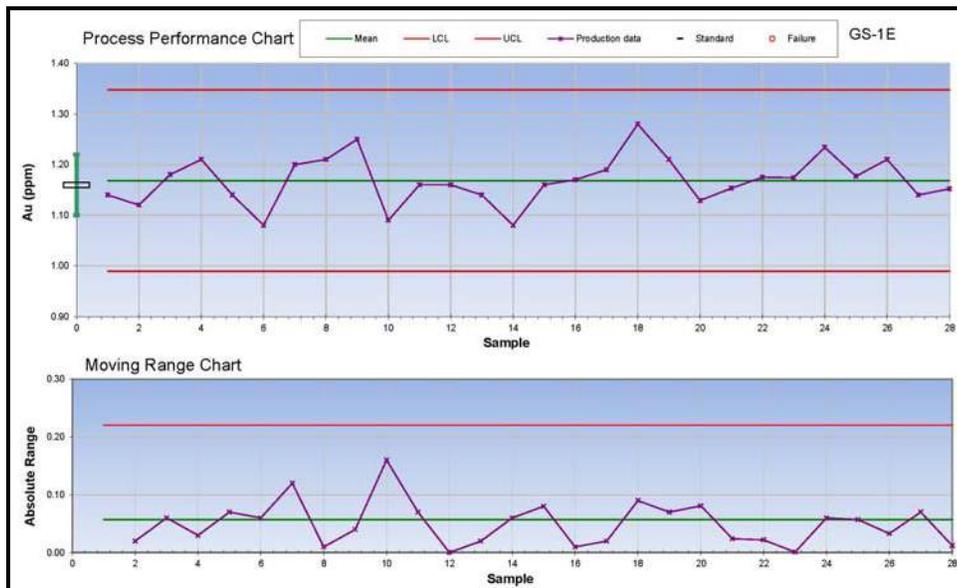
Figure 11.8 CGS-19 Control Chart



11.3.7 STANDARD REFERENCE MATERIAL GS-1E

The standard reference material GS-1E has an expected value of 1.16 g/t gold. The 28 samples submitted by Calibre during the 2010 drilling campaign averaged 1.17 g/t gold with no samples exceeding the accuracy thresholds (Figure 11.9).

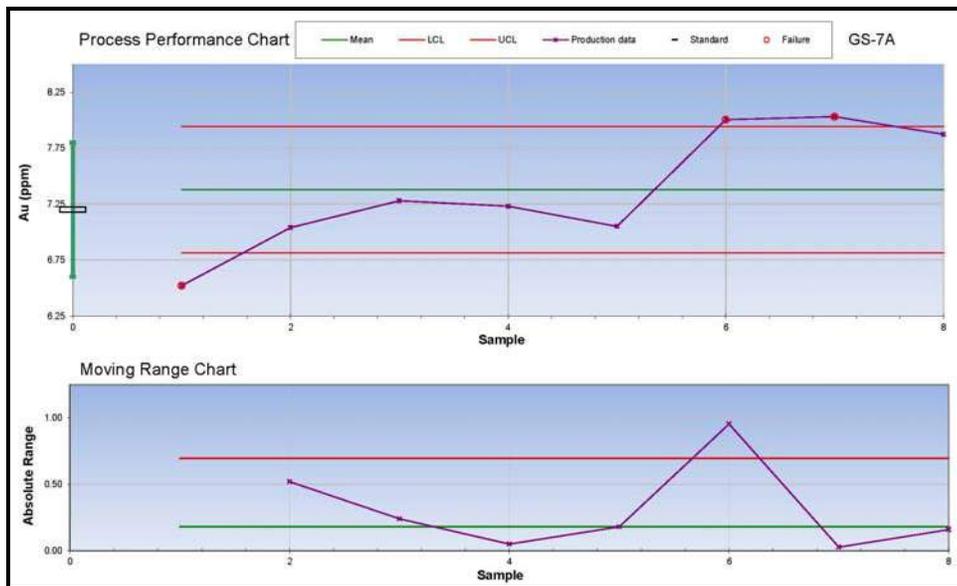
Figure 11.9 GS-1E Control Chart



### 11.3.8 STANDARD REFERENCE MATERIAL GS-7A

The standard reference material GS-7A has an expected value of 7.2 g/t gold. The eight samples submitted by Calibre during the 2010 drilling campaign averaged 7.38 g/t gold. Several of the samples exceeded the accuracy thresholds (Figure 11.10), yet this might be due to the small sample subset. Of particular concern would be samples #6 and #7 which exceed the upper threshold and yet have a small relative difference.

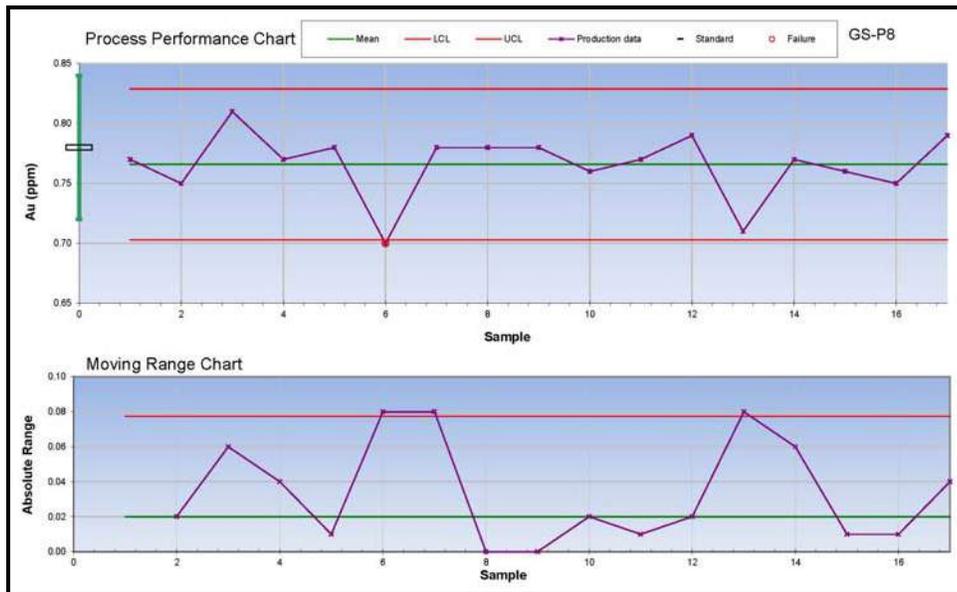
**Figure 11.10 GS-7A Control Chart**



### 11.3.9 STANDARD REFERENCE MATERIAL GS-P8

The standard reference material GS-P8 has an expected value of 0.78 g/t gold. The 17 samples submitted by Calibre during the 2010 drilling campaign averaged 0.77 g/t gold with only one sample exceeding the accuracy thresholds (Figure 11.11). The certificate results are based on fire assay gravimetric finish, which differs from the methodology used by Calibre. No course of action is required

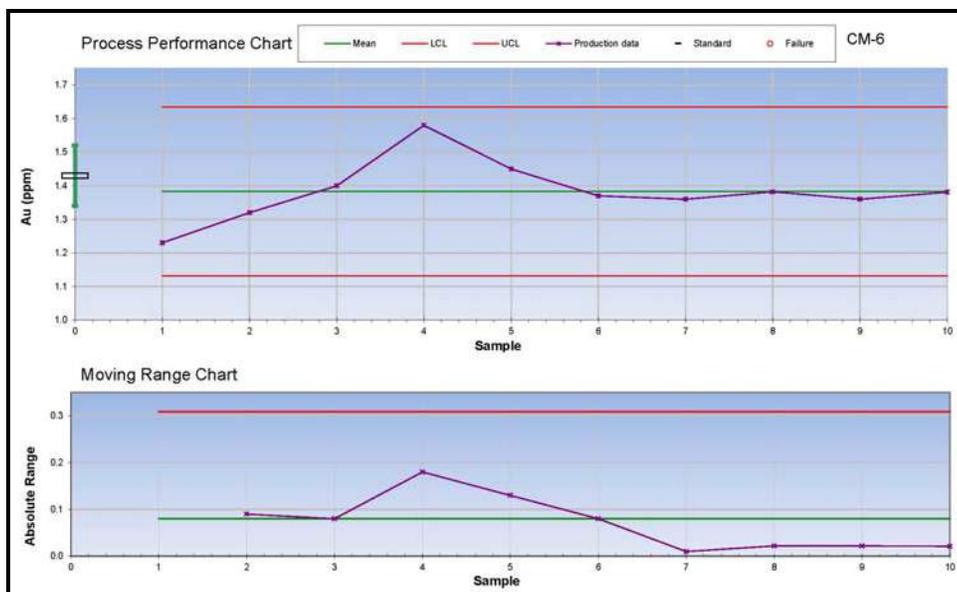
Figure 11.11 GS-P8 Control Chart



11.3.10 STANDARD REFERENCE MATERIAL CM-6

The standard reference material CM-6 has an expected value of 1.43 g/t gold. The 10 samples submitted by Calibre during the 2011 drilling campaigns averaged 1.38 g/t gold with no samples exceeding the accuracy thresholds (Figure 11.12). Although there is a 4% lower average than the expected value, all the result fall within the control limits and no action is required.

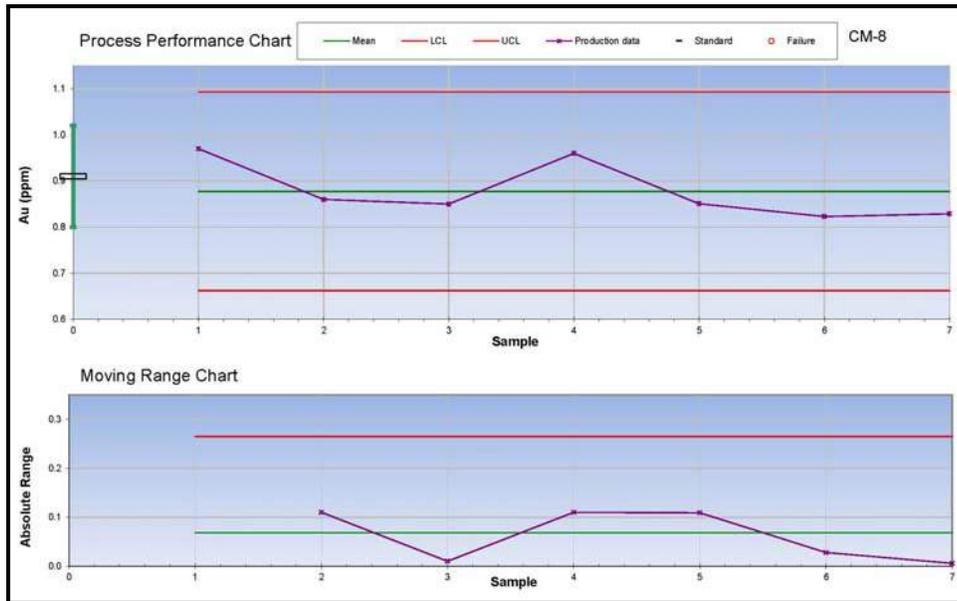
Figure 11.12 CM-6 Control Chart



### 11.3.11 STANDARD REFERENCE MATERIAL CM-8

The standard reference material CM-8 has an expected value of 0.91 g/t gold. The seven samples submitted by Calibre during the 2011 drilling campaigns averaged 0.88 g/t gold with no samples exceeding the accuracy thresholds (Figure 11.13).

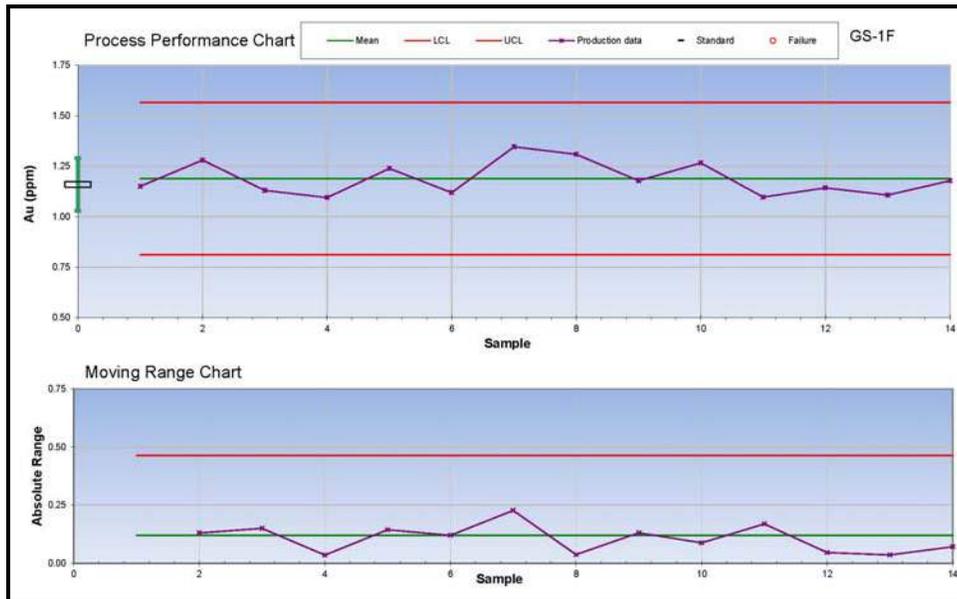
**Figure 11.13 CM-8 Control Chart**



### 11.3.12 STANDARD REFERENCE MATERIAL GS-1F

The standard reference material GS-1F has an expected value of 1.16 g/t gold. The 14 samples submitted by Calibre during the 2011 drilling campaigns averaged 1.19 g/t gold with no samples exceeding the accuracy thresholds (Figure 11.14).

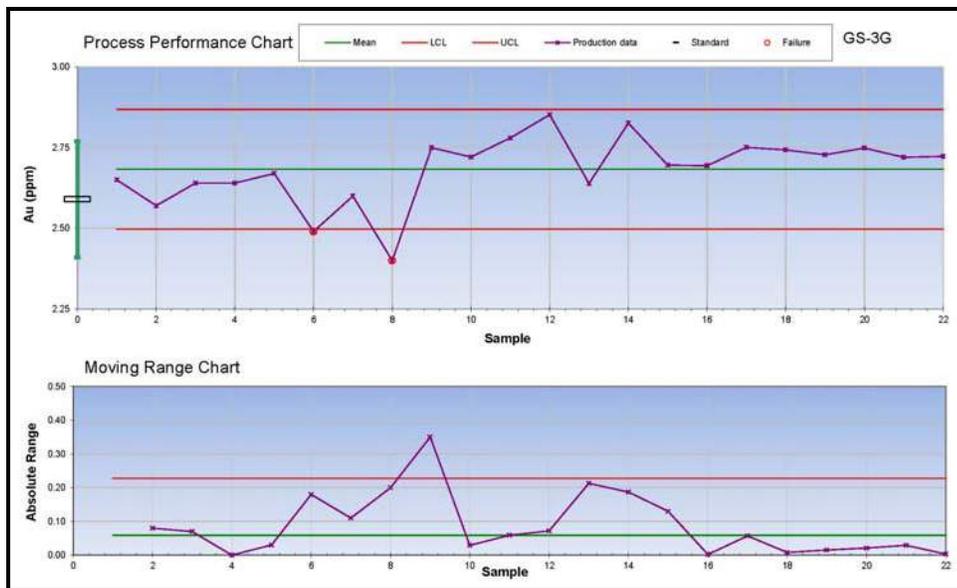
Figure 11.14 GS-1F Control Chart



### 11.3.13 STANDARD REFERENCE MATERIAL GS-3G

The standard reference material GS-3G has an expected value of 2.59 g/t gold. The 22 samples submitted by Calibre during the 2011 drilling campaigns averaged 2.68 g/t gold. There is quite a bit of variation in the results earlier in the program. The laboratory appears to settle down after sample #15. This may be related to the change from ALS Minerals to Inspectorate (Figure 11.15).

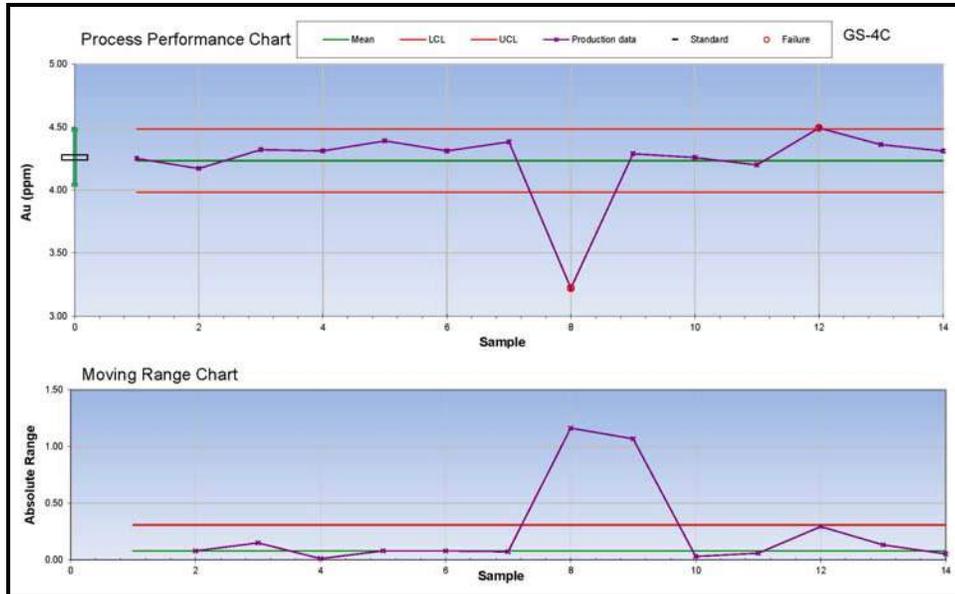
Figure 11.15 GS-3G Control Chart



### 11.3.14 STANDARD REFERENCE MATERIAL GS-4C

The standard reference material GS-4C has an expected value of 4.26 g/t gold. The 14 samples submitted by Calibre during the 2011 drilling campaigns averaged 4.23 g/t gold. Sample #8 should be reviewed to ensure there is not a samples swap as there are no SRM's in the 3.25 g/t range used in the Calibre QA/QC program (Figure 11.16).

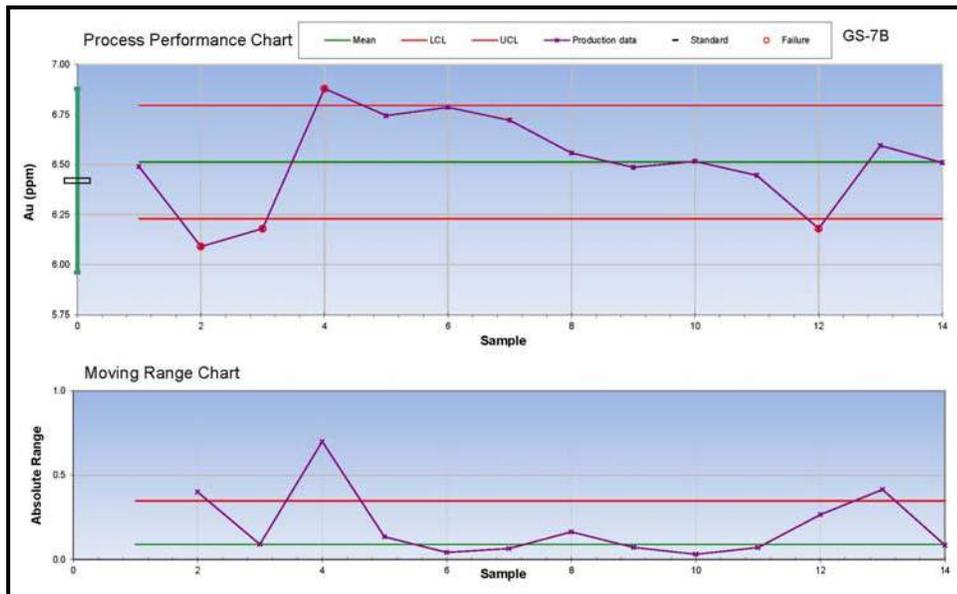
**Figure 11.16 GS-4C Control Chart**



### 11.3.15 STANDARD REFERENCE MATERIAL GS-7B

The standard reference material GS-7B has an expected value of 6.42 g/t gold. The 14 samples submitted by Calibre during the 2011 drilling campaigns averaged 6.51 g/t gold. The first four samples appear to have issues, yet after sample #4 there appears to be a gradual drift of the instrument. In addition, the precision of the AA instrument above 3 g/t is not as tight as below 3 g which may also explain some of the results (Figure 11.17).

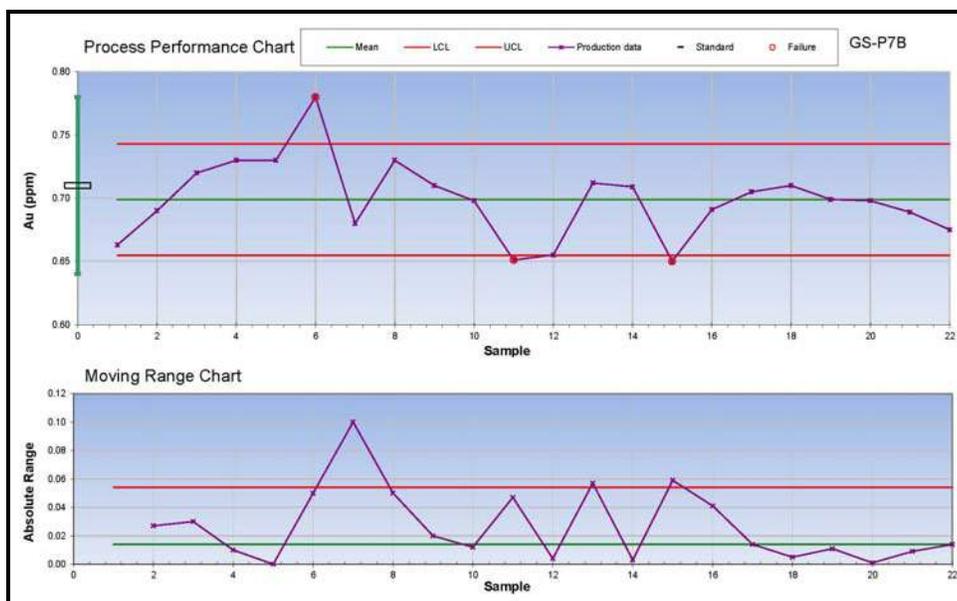
Figure 11.17 GS-7B Control Chart



11.3.16 STANDARD REFERENCE MATERIAL GS-P7B

The standard reference material GS-P7B has an expected value of 0.71 g/t gold. The 22 samples submitted by Calibre during the 2011 drilling campaigns averaged 0.70 g/t gold. The broad variation in both the accuracy chart and precision chart is difficult to understand considering the results of CGS-19 and CM-8, both of which are standards with similar expected grades show good results. Calibre should investigate why the result of GS-P7B differ so much (Figure 11.18).

Figure 11.18 GS-P7B Control Chart



## 11.4 TETRA TECH OPINION

In Tetra Tech's opinion, the sample preparation and security are acceptable during the drilling program and are suitable to support resource estimation.

The QA/QC program conducted by Calibre during the drilling program was done appropriately and meeting industry standards.

Copies of the SRM certificates are located in Appendix A.

## 12.0 DATA VERIFICATION

Tetra Tech carried out an internal validation of the diamond drillhole file against the original drillhole logs and assay certificates. The validation of the data files was completed on twenty of the 159 drillholes in the total database or 12.5% of the dataset. Data verification was completed on collar co-ordinates, end-of-hole depth, down-the-hole survey measurements, “From” and “To” intervals. No errors were encountered. A total of 25% of the assays data was validated against the original assay certificate. The error rate from this validation was 0.4% and all errors were corrected in the database and the errors provided back to Calibre in order to allow Calibre to correct their database.

All assays entered as zeros (0) were converted to half the detection limit and were not considered to be errors in the data.

The drillhole data was imported into the Datamine™ program, which has a routine that checks for duplicate intervals, overlapping intervals and intervals beyond the end of hole. The errors identified in the routine were checked against the original logs and corrected.

Tetra Tech confirmed the locations of eleven surface drillhole collars during the two site visits. Tetra Tech collected the collar locations using a Garmin GPSMAP 60Cx handheld GPS unit. Table 12.1 displays the results of the collar validation.

**Table 12.1 Drill Collar Validation**

Borehole ID	Calibre Coordinate			Tetra Tech Coordinate		
	X	Y	Z	X	Y	Z
RD10-001	795925	1553660	82	795917	1553650	90
RD10-002	795940	1553710	78	795940	1553703	93
RD10-004	795845	1553740	77	795837	1553738	81
RD10-005	796226	1553863	81	796142	1553841	78
RD10-008	796228	1553864	81	796222	1553855	90
RD11-019	795991	1553613	73	795990	1553616	100
RD11-020	795917	1553527	74	795916	1553533	99
RD11-024	796081	1553836	76	796083	1553833	106
RD11-025	796318	1553909	73	796319	1553914	105
RD11-029	795974	1553732	73	795975	1553732	96
RD11-035	795968	1553559	82	795968	1553571	96

Sixteen independent samples of mineralized split drill core (quarter core) were collected for check assaying representing different mineralization grade ranges. The

samples were bagged, sealed on site and delivered to ALS Minerals in Sudbury, Ontario. The samples were prepared in Sudbury and the pulps were shipped by ALS Minerals to Vancouver, British Columbia for analysis.

ALS Minerals is accredited to international quality standards through the ISO/IEC 17025 (ISO/IEC 17025 includes ISO 9001 and ISO 9002 specifications) with CAN-P-1579 (Mineral Analysis).

The sixteen samples were analyzed for gold and silver using analysis package Au-AA25 which is a FA with an AAS finish and Ag-OG46 (Table 12.2).

Of the samples collected, only one sample had a result with greater than 50% absolute difference when comparing the gold values. The check samples confirm the presence of gold and silver in the system. As would be expected in a gold bearing system, the grades display an erratic nature even at a short range of a distribution of quartered core.

**Table 12.2 Assay Check Samples**

	Borehole ID	From	To	Calibre			Tetra Tech		
				Sample No.	Au (g/t)	Ag (g/t)	Sample (No.)	Au (g/t)	Ag (g/t)
Riscos de Oro	RD10-001	175.7	176.2	B10C2092	1.40	41.7	40325	1.05	19.0
Riscos de Oro	RD10-001	182.0	183.4	B10C2098	0.69	7.1	40326	0.80	9.0
Riscos de Oro	RD10-002	208.4	209.4	B10C2248	1.31	72.3	40327	0.95	56.0
Riscos de Oro	RD10-002	209.4	210.3	B10C2249	0.61	13.6	40328	0.48	11.0
Riscos de Oro	RD10-003	299.7	301.0	B10C2462	0.19	5.0	40329	0.79	4.0
Riscos de Oro	RD10-003	302.2	302.9	B10C2464	1.00	3.7	40330	0.24	5.0
Riscos de Oro	RD11-012	251.80	252.85	B10C4510	5.84	44.0	J350921	4.79	46.0
Riscos de Oro	RD11-015	183.00	184.20	B11C0449	2.14	50.0	J350922	1.85	429.0
Riscos de Oro	RD11-016	201.92	203.15	B11C0579	5.28	591.0	J350923	4.83	581.0
Riscos de Oro	RD11-019	122.15	124.10	B11C1051	9.19	10.9	J350924	4.93	11.0
Riscos de Oro	Blank	-	-	-	0.01	1.0	J350925	0.01	<1
Riscos de Oro	RD11-021	241.80	243.00	B11C1409	7.57	18.0	J350926	7.70	16.0
Riscos de Oro	RD11-037	250.34	251.79	B10C3339	3.94	19.2	J350927	5.18	17.0
Riscos de Oro	CDN-GS-1E	-	-	-	1.16	-	J350928	1.06	1.0
Riscos de Oro	RD11-033	218.00	219.00	B11C3067	5.30	1.2	J350929	0.07	<1
Riscos de Oro	RD11-025	136.82	138.20	B11C1708	5.87	75.1	J350930	1.94	38.0

## 12.1 TETRA TECH OPINION

The Riscos de Oro data set is deemed to be valid and is acceptable for the use in a resource estimate.

## 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

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Calibre has not conducted any metallurgical testing on material from Riscos de Oro.

Historic mineral processing or metallurgical results of the mining at Riscos de Oro by La Luz Mining Ltd. in 1972 or Rosario Resources Corp. from 1973 to 1979 are not available.

## 14.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

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### 14.1 DATABASE

Calibre maintains all drillhole data in a Datashed™ database. The headers, survey, lithology, assays tables were exported to .csv format then transferred to Tetra Tech. The .csv files were created in June 2012.

All resource estimations were conducted using Datamine™ Studio 3 v. 3.20.

A total of 155 holes and are present at Riscos de Oro. However, only 84 drillholes within the areas of interest and with exploration potential were included in the resource estimate. The remaining holes were either outside the immediate area of interest or were older boreholes completed with a percussion drill and could not be validated.

Table 14.1 summarizes the statistics of the entire Riscos de Oro drillhole database.

**Table 14.1 Riscos de Oro Drill Data set**

Field	No. of Samples	Minimum	Maximum	Mean	Standard Deviation
Length	6233	0.01	167.24	2.63447297	6.08833456
Au_ppm	5225	0	77.86	0.32337033	2.09541232
Ag_ppm	5225	0	2,810	11.32607656	86.13701874

### 14.2 SPECIFIC GRAVITY

There is currently no specific gravity data available on the Project.

Tetra Tech used a specific gravity factor of 2.65 for the Riscos de Oro mineral resource estimate. This is comparable to other epithermal deposits.

Tetra Tech would recommend that Calibre collect specific gravity measurements from various rock types in order to build up the data set. A minimum of 2% of the data set should have a specific gravity measurement. This would mean that the Riscos de Oro data set should have at least 104 specific gravity measurements.

## 14.3 GEOLOGICAL INTERPRETATION

### 14.3.1 GOLD EQUIVALENT FORMULA

A gold equivalent value was assigned to all estimated blocks within the resource model. The gold equivalent value is based on a long-range pricing index updated quarterly. At the time the resource models were completed the following commodity prices were used:

- gold = \$US1264/ozt
- silver - \$US19.78/ozt.

The equation for the gold equivalent value is as follows;

$$Aueq = \frac{[Au \text{ grade} \times Au \text{ price} \times 0.029167] + [Ag \text{ grade} \times Ag \text{ price} \times 0.029167]}{(Au \text{ price} \times 0.029167)}$$

### 14.3.2 GEOLOGICAL WIREFRAMES

Three-dimensional wireframe models of mineralization was developed for the deposit based on a gold equivalent cut-off of greater than 0.2 g/t and a minimum 2 m horizontal width.

Topographic digital terrain model was generated using LiDAR topographic data provided by Calibre.

Sectional interpretations were digitized in Datamine™ Studio version 3.19.3638.0 software, and these interpretations were linked with tag strings and triangulated to build three-dimensional solids. Table 14.2 summarizes the solids and associated volumes. The solids were validated in Datamine™ and no errors were found.

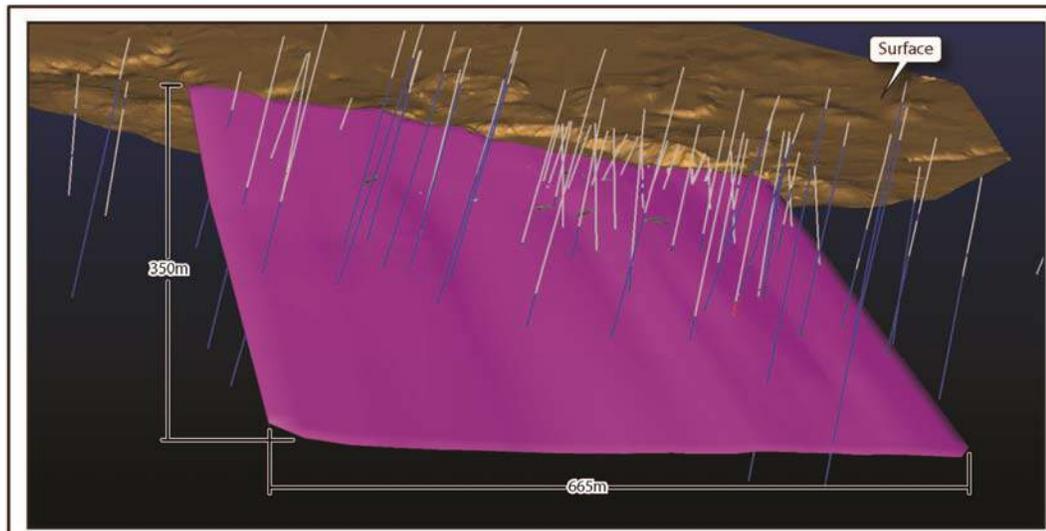
The zones of mineralization interpreted for each area were generally contiguous; however, due to the nature of the mineralization there are portions of the wireframe that have grades less than 0.2 g/t gold equivalent, yet are still within the mineralizing trend (Figure 14.1 and Figure 14.2).

The non-assayed intervals were assigned void (-) value. Tetra Tech believes that non-assayed material should not be assigned a zero value, as this does not reflect the true value of the material.

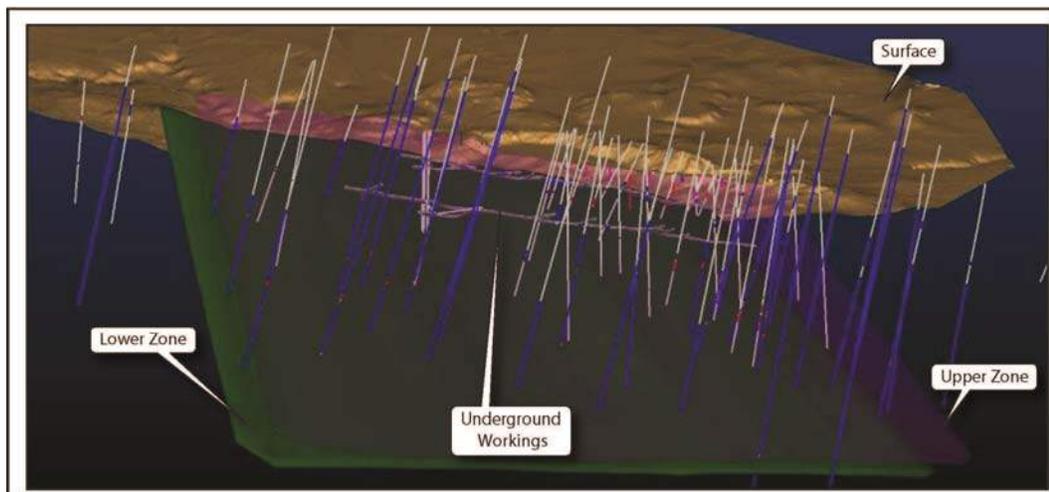
**Table 14.2 Wireframe Dimensions**

Zone	Minimum X	Maximum X	Minimum Y	Maximum Y	Minimum Z	Maximum Z	Volume (m <sup>3</sup> )
Upper (1)	795777.98	796429.47	1553383.54	1553970.27	-238.15	95.55	1,575,956.15
Lower (2)	795807.14	796488.97	1553316.85	1553924.43	-245.52	83.11	1,022,512.68

**Figure 14.1 Riscos de Oro Upper Zone (Oblique view not to scale)**



**Figure 14.2 Riscos de Oro Lower Zone (Oblique view not to scale)**



## 14.4 EXPLORATORY DATA ANALYSIS

### 14.4.1 ASSAYS

The portion of the deposit included in the mineral resource was sampled by a total of 262 assays (Table 14.3). Assay information was provided for gold and silver plus partial assays for 34 other elements.

**Table 14.3 Resource Drillhole Statistics**

Zone	Field	No. of Samples	Minimum	Maximum	Mean	Standard Deviation
1	Length	480	0.01	8.39	1.16	0.81
	Au_ppm	470	0.00	77.86	2.22	5.10
	Ag_ppm	470	0.00	2810.00	83.89	205.28
2	Length	94	0.01	2.00	1.11	0.39
	Au_ppm	94	0.00	27.40	4.05	6.19
	Ag_ppm	94	0.05	1380.00	51.86	186.27
All	Length	575	0.01	8.39	1.15	0.75
	Au_ppm	565	0.00	77.86	2.51	5.33
	Ag_ppm	565	0.00	2810.00	78.63.2	202.56

#### 14.4.2 GRADE CAPPING

Raw assay data was examined to assess the amount of metal that is at risk from high-grade assays. The Datamine™ Decile function was used to determine if grade capping was required for gold or silver in the total data set. Tetra Tech uses a combination of the Parrish analysis, cumulative histograms (Figure 14.3 and Figure 14.4) and spatial distribution to assist if and where to apply a top cut to the grades. Parrish analysis (Parrish 1997) indicates that if the metal content in the ninetieth (90<sup>th</sup>) decile exceeded 40%, capping may be required. Based on the analysis, Table 14.4 shows a summary of the top cuts that were applied to the Riscos de Oro dataset. Table 14.5 summaries the results of the grade capping on the statistics.

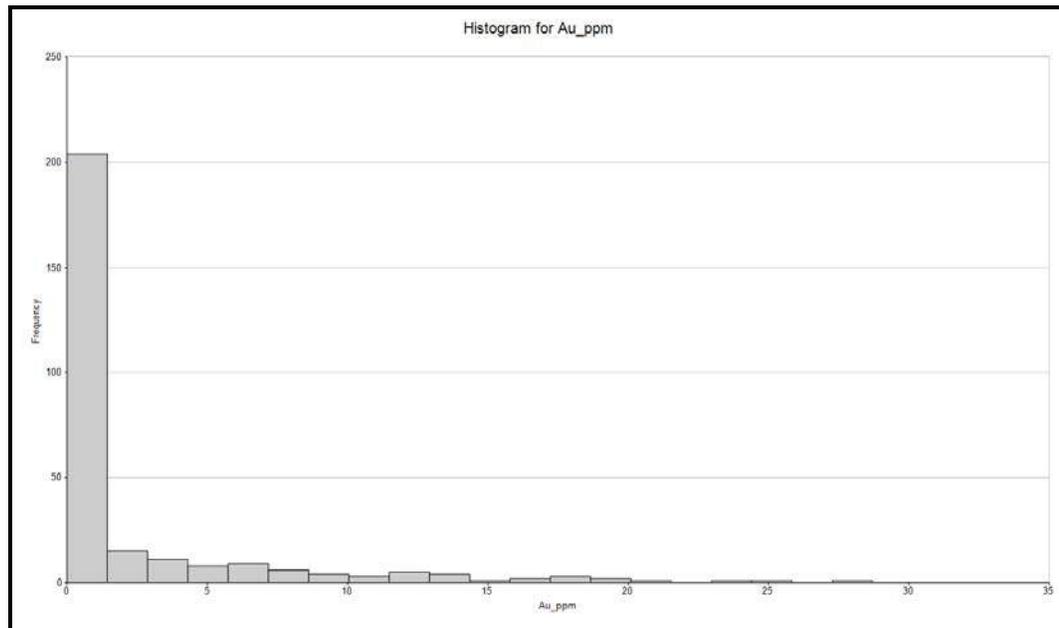
**Table 14.4 Grade Capping Strategy**

Element	No. of Samples in Dataset	No. of Samples Capped	Grade Range Capped	Capping Value	Capped (%)
Gold	262	0	N/A	N/A	0
Silver	262	7	591 - 2810	591	2.7

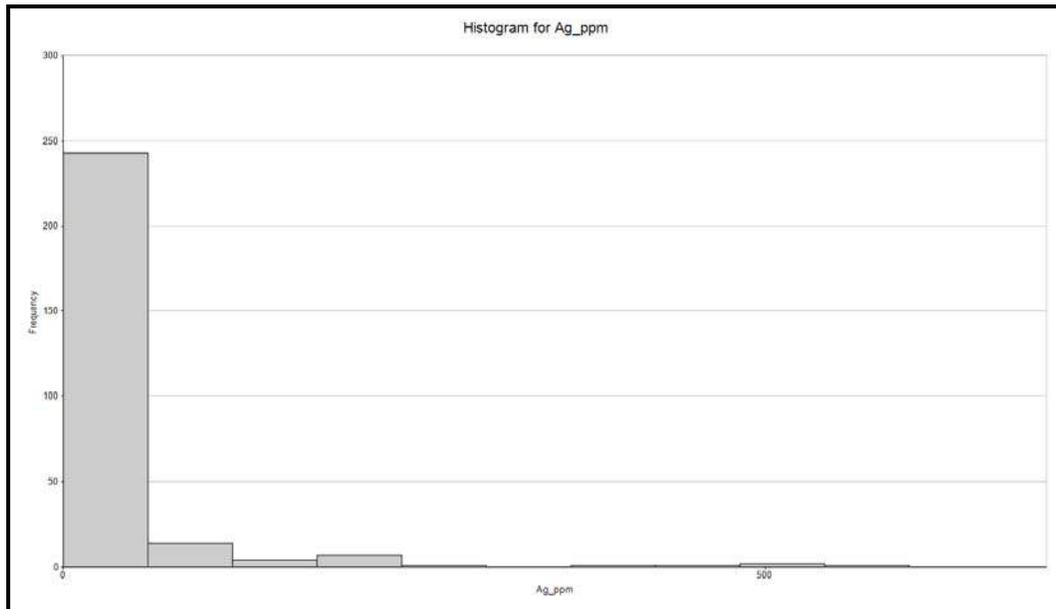
**Table 14.5 Capped Drillhole Assay Statistics**

Zone	Field	No. of Samples	Minimum	Maximum	Mean	Standard Deviation
1	LENGTH	480	0.010	8.39	1.16	0.81
	Au_ppm	470	0.003	77.86	2.19	5.69
	Ag_ppm	448	0.050	591.00	72.97	142.01
2	LENGTH	95	0.010	2.00	1.11	0.39
	Au_ppm	95	0.003	27.40	4.29	6.33
	Ag_ppm	94	0.050	591.00	40.33	98.22
All	LENGTH	575	0.010	3.39	1.15	0.75
	Au_ppm	565	0.003	77.86	2.54	5.85
	Ag_ppm	542	0.050	591.00	67.17	135.89

**Figure 14.3 Gold Assay Frequency Plot**



**Figure 14.4 Silver Assay Frequency Plot**



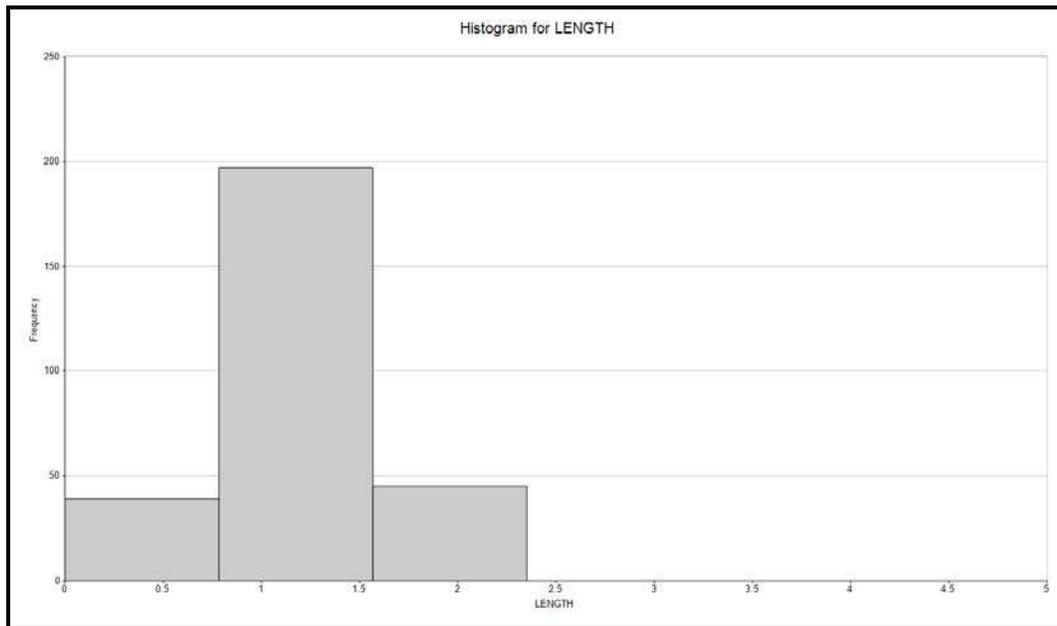
**14.4.3 COMPOSITES**

Gold and silver assay data were composited into 1 m downhole intervals honouring the interpreted geological solids. A 1 m composite length was selected as a majority of the assays are in the 1 m range for length (Figure 14.5), and it corresponds to approximately a half to a third the cell size in the shortest dimension to be used in the modelling process. The backstitching process was used in the compositing routine to ensure all captured sample material was included. The backstitching routine adjusts the composite lengths for each individual drillhole in order to compensate for the last sample interval. Composites were complete separately for the north zone and south zone. Table 14.6 summarizes the statistics of the boreholes after capping and compositing.

**Table 14.6 Drillhole Composites**

Zone	Field	No. of Samples	Minimum	Maximum	Mean	Standard Deviation
1	Length	554	0.500	1.13	1.00	0.05
	Au_ppm	548	0.003	35.91	2.24	4.52
	Ag_ppm	532	0.050	591.00	76.40	133.85
2	Length	107	0.860	1.23	0.98	0.07
	Au_ppm	107	0.003	22.60	4.00	5.32
	Ag_ppm	107	0.050	534.68	37.73	83.28
All	Length	661	0.500	1.23	1.00	0.05
	Au_ppm	655	0.003	35.91	2.50	4.70
	Ag_ppm	639	0.050	591.00	69.74	127.49

**Figure 14.5 Core Length Histogram**

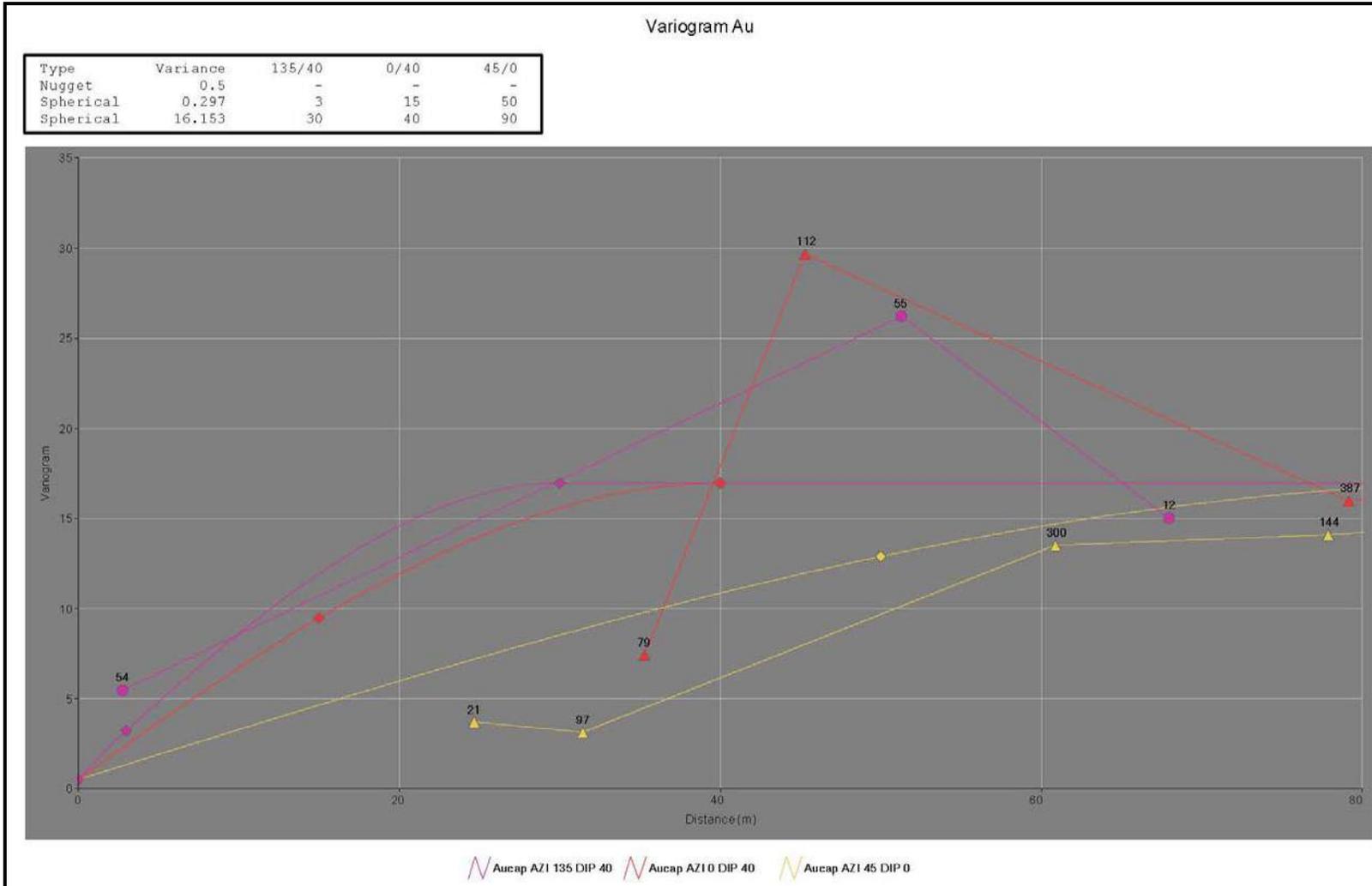


## 14.5 SPATIAL ANALYSIS

Due to the low density of drillholes at Riscos de Oro, Tetra Tech feels that the variography could not be completed to a level that would support kriging. The variogram that was created for gold was used to assist with the generation of the search ellipse (Figure 14.6)

Search ellipse where based on the general orientation of the mineralized zones and one-third the range of the variograms.

Figure 14.6 Riscos de Oro Gold Variogram



## 14.6 RESOURCE BLOCK MODEL

A single block model was established in Datamine™ for the Upper and Lower Zones using one parent model as the origin. The model was not rotated.

Drillhole spacing varies with the majority of the drilling spaced at approximately 100 to 150 m in the north and 40 to 800 m in the south. A block size of 20 m x 20 m x 5 m in the X/Y/Z directions was selected in order to accommodate the nature of the mineralization.

Sub-celling of the block model on a 2 x 2 x 2 allows the parent block to be split once in each direction to more accurately fill the volume of the wireframes, thus more accurately estimate the tonnes in the resource.

Table 14.7 summarizes details of the parent block model.

**Table 14.7 Riscos de Oro Parent Model Parameters**

Origin			Cell Size			Number of Cells		
X Origin	Y Origin	Z Origin	XINC	YINC	ZINC	NX	NY	NZ
795600	1553100	-400	20	20	5	50	50	200

The interpolation of the model was completed using the estimation methods: nearest neighbour (NN) and inverse distance squared (ID<sup>2</sup>). The estimations were designed for three passes. In each pass a minimum and maximum number of samples were required as well as a maximum number of samples from a borehole in order to satisfy the estimation criteria. Table 14.8 and Table 14.9 summarizes the interpolation criteria and search criteria for the Riscos de Oro resource model.

**Table 14.8 Estimation Parameters**

Description	Estimation Ref No.	VALUE_IN	VALUE_OUT	Search Ref No.	NUMSAM_F	SVOL_F	Estimation Method	POWER
auz1idall	1	Auall	Auidall	1	NUMSAMAL	SVOLALL	ID (2)	2
agz1idall	2	Agall	Agidall	1	-	-	ID (2)	2
auz1nnall	3	Auall	Aunnall	1	-	-	NN (1)	2
agz1nnall	4	Agall	Agnnall	1	-	-	NN (1)	2
auz2idall	1	Auall	Auidall	1	NUMSAMAL	SVOLALL	ID (2)	2
agz2idall	2	Agall	Agidall	1	-	-	ID (2)	2
auz2nnall	3	Auall	Aunnall	1	-	-	NN (1)	2
agz2nnall	4	Agall	Agnnall	1	-	-	NN (1)	2

**Table 14.9 Search Parameters**

ELEMENT	SREFNUM	Search Method	Search Dist - Along Strike (X)	Search Dist - Down Dip (Z)	Search Dist - Across Strike (Y)	Z Axis Rotation	Y Axis Rotation	X Axis Rotation
Au	1	ellipse	45	30	13	45	-40	57.2
Ag	1	ellipse	45	30	13	45	-40	57.2
SVOLFAC1	Minimum No. of Samples	Maximum No. of Samples	SVOLFAC2	Minimum No. of Samples	Maximum No. of Samples	SVOLFAC3	Minimum No. of Samples	Maximum No. of Samples
1	10	25	2	10	25	3.5	8	20
Octant Method	Minimum No. of Octant	Minimum/Octant	Maximum/Octant	Maximum Samples/ Borehole/Octant				
1	2	1	5	4				

## 14.7 RESOURCE CLASSIFICATION

Several factors are considered in the definition of a resource classification:

- NI 43-101 requirements
- Canadian Institute of Mining, Metallurgy and Petroleum guidelines
- authors experience with epithermal gold deposits
- spatial continuity of the assays within the drillholes.

No environmental, permitting, legal, title, taxation, socio-economic, marketing or other relevant issues are known to the authors that may affect the estimate of mineral resources. Mineral reserves can only be estimated on the basis of an economic evaluation that is used in a preliminary feasibility study or a feasibility study of a mineral project; thus, no reserves have been estimated. As per NI 43-101, mineral resources, which are not mineral reserves, do not have to demonstrate economic viability.

## 14.8 MINERAL RESOURCE TABULATION

The resource reported as of September 2012 has been tabulated in terms of a gold equivalent cut-off grade. A gold equivalent value was assigned to each block based on the estimated gold and silver for the block.

The mineral resource for Riscos de Oro is tabulated in Table 14.10 and Table 14.11 for the Inferred Resources in the Upper and Lower Zones, respectively. The resources are tabulated using various gold equivalent cut-off grades up to an upper boundary of greater than 2.0 g/t gold equivalent. Figure 14.7 and Figure 14.8 are the grade tonnage curves for the Upper and Lower Zones, respectively. Tonnages and contained metal have been rounded to reflect the level of confidence in the estimation.

**Table 14.10 Riscos de Oro Grade Tonnage Upper Zone**

<b>Aueq Cut-off</b>	<b>TONNES (t)</b>	<b>Aueq</b>	<b>Auid</b>	<b>Agid</b>
0.4	1,622,000	3.31	2.34	61.70
0.6	1,539,000	3.46	2.45	64.42
0.8	1,433,000	3.66	2.60	68.10
1.0	1,329,000	3.88	2.75	72.03
1.2	1,233,000	4.09	2.90	76.15
1.4	1,139,000	4.32	3.06	80.80
1.6	1,053,000	4.55	3.22	85.56
1.8	982,000	4.76	3.35	90.22
2.0	928,000	4.93	3.46	93.63

**Table 14.11 Riscos de Oro Grade Tonnage Lower Zone**

Aueq Cut-off	TONNES (t)	Aueq	Auid	Agid
0.4	633,000	5.71	4.97	46.96
0.6	620,000	5.82	5.07	47.87
0.8	604,000	5.95	5.18	48.90
1.0	588,000	6.09	5.30	50.01
1.2	574,000	6.21	5.41	51.03
1.4	557,000	6.36	5.54	52.23
1.6	542,000	6.50	5.66	53.35
1.8	531,000	6.59	5.74	54.12
2.0	523,000	6.66	5.81	54.71

**Figure 14.7 Riscos de Oro Grade – Tonnage Curve Upper Zone**

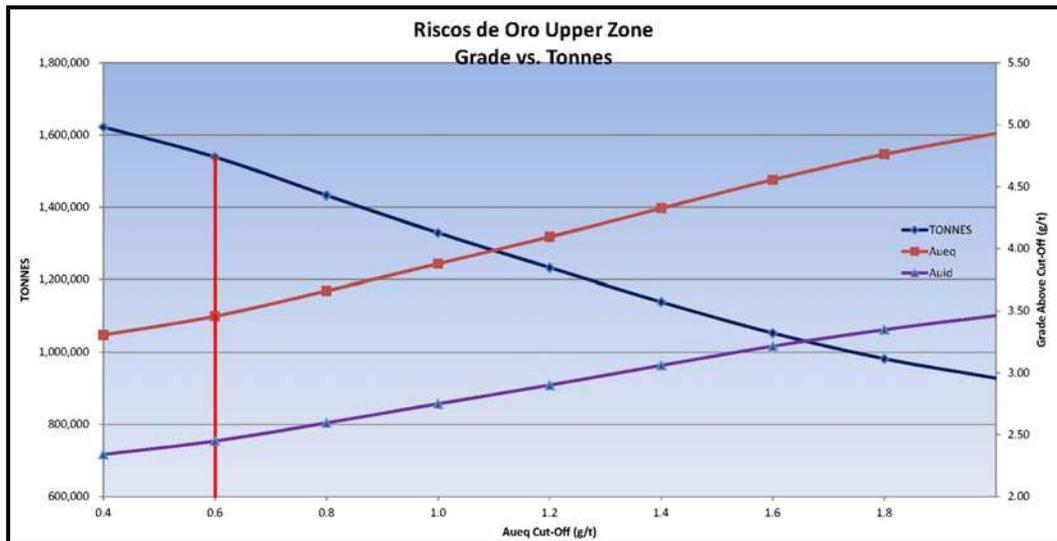
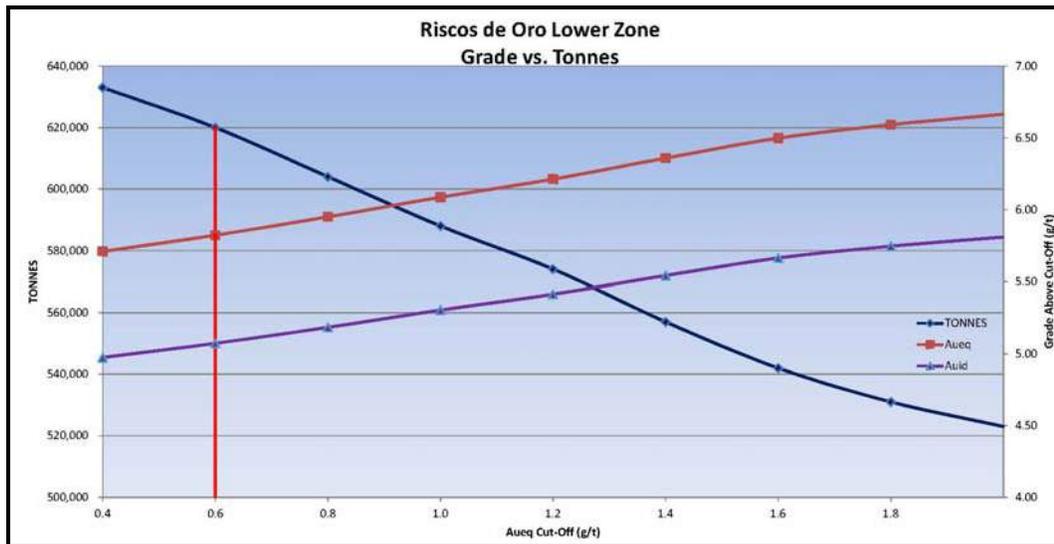


Figure 14.8 Riscos de Oro Grade – Tonnage Curve Lower Zone



Based on the results of similar gold operation located in Nicaragua, a 0.6 g/t gold equivalent cut-off was used to tabulate the total for the Riscos de Oro deposit. This based on the following parameters:

- selective mining open pit operation
- operating cost of \$20/t
- gold price of \$US1,264/ozt
- US\$ to Cdn\$ conversion of 1.01
- gold recovery of 94%.

Table 14.12 summaries the resource estimate at the 0.6 g/t gold equivalent cut-off for Riscos de Oro.

Table 14.12 Riscos de Oro Resource Summary

Cut-off	Zone	Tonnes (t)	Au (g/t)	Ag (g/t)	Aueq (g/t)	Au (oz)	Ag (oz)
0.6	Upper	1,539,000	2.45	64.42	3.46	121,178	3,187,640
0.6	Lower	620,000	5.07	47.87	5.82	101,116	954,198
-	<b>Total</b>	<b>2,159,000</b>	<b>3.20</b>	<b>59.67</b>	<b>4.14</b>	<b>222,294</b>	<b>4,141,838</b>

Note: Gold equivalent is based on a gold price of US\$1,264/oz and silver price of US \$19.78/oz

## 14.9 VALIDATION

The Riscos de Oro model was validated by three methods:

- visual comparison of colour-coded block model grades with composite drillhole grades on section
- comparison of the global mean block grades for inverse distance squared, nearest neighbour and composites
- swath plots.

#### 14.9.1 VISUAL COMPARISON

The visual comparisons of block model grades with composite grades for the deposit show a reasonable correlation between the values. No significant discrepancies were apparent from the sections, yet grade smoothing is apparent (Figure 14.9 and Figure 14.10).

**Figure 14.9 Block Model Comparison with Cross-section RD11-016**

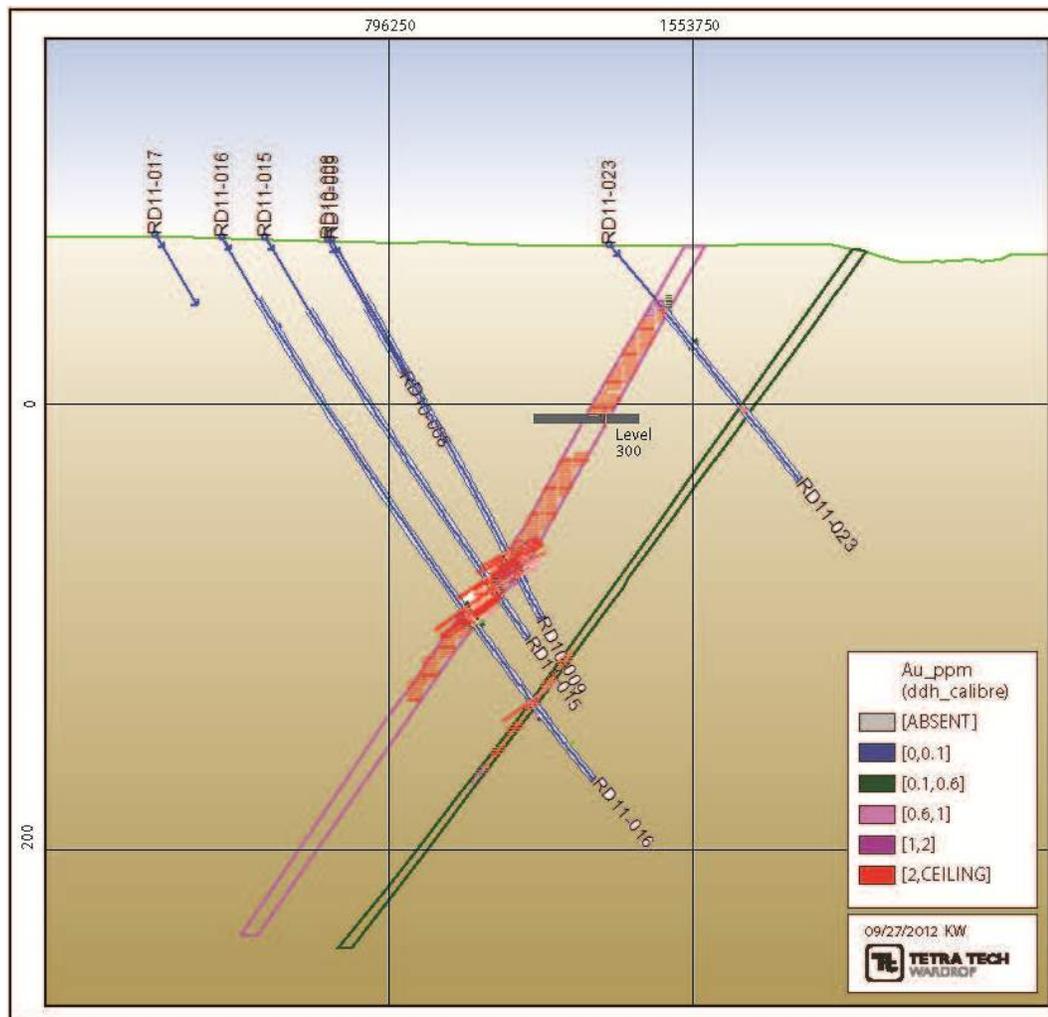
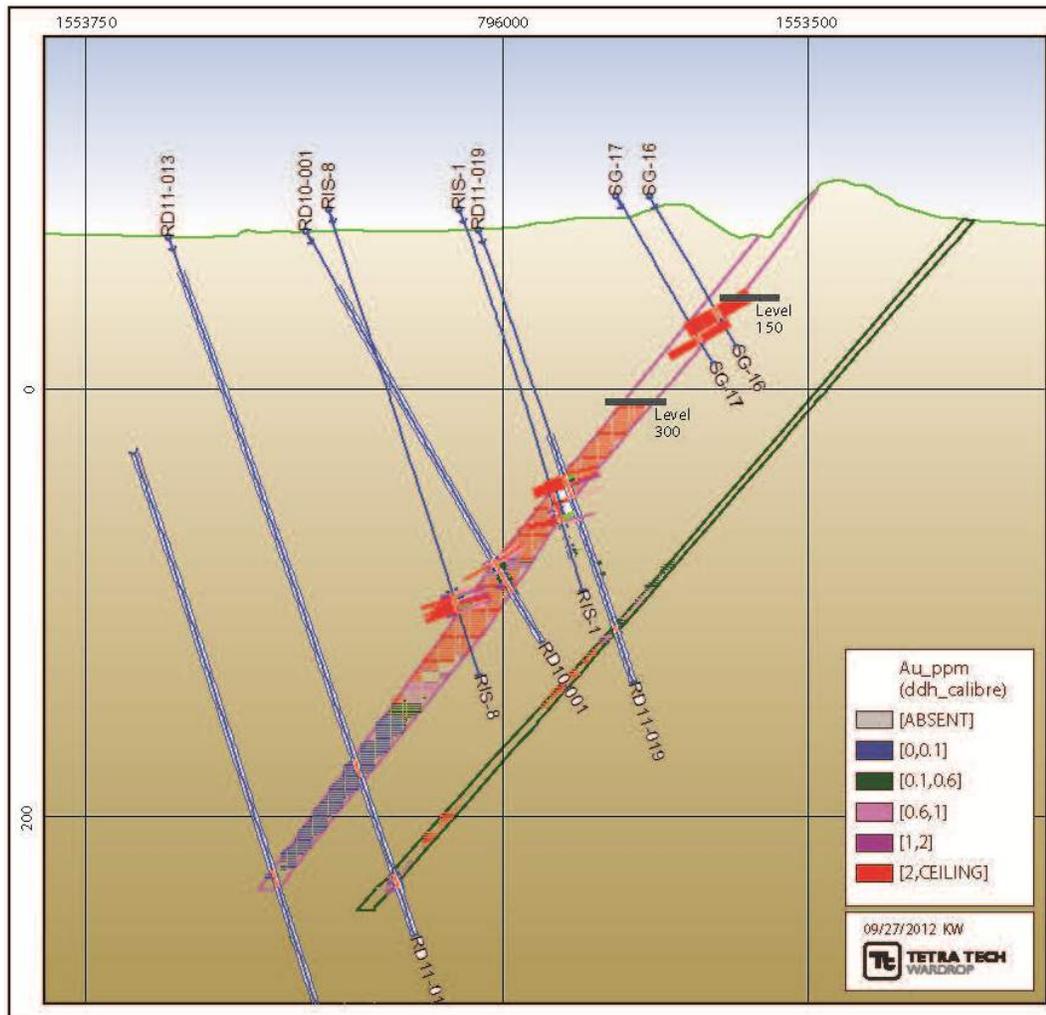


Figure 14.10 Block Model Comparison with Cross-section RD11-019



### 14.9.2 GLOBAL COMPARISON

The global block model statistics for the ID<sup>2</sup> interpolation were compared to the global nearest neighbour interpolation as well as the composite capped drillhole data. Table 14.13 shows this comparison of the global estimates for the two estimation method calculations. In general, there is agreement between the models. Larger discrepancies are reflected as a result of lower drill density in some portions of the model. There is a degree of apparent smoothing when compared to the diamond drill statistics. Comparisons were made using all blocks at a 0 g/t gold equivalent cut-off.

**Table 14.13 Global Model Statistics**

	Upper Zone			Lower Zone			Riscos de Oro Global		
	Au - ID <sup>2</sup>	Au - NN	Au - DDH	Au - ID <sup>2</sup>	Au - NN	Au-DDH	Au - ID <sup>2</sup>	Au - NN	Au-DDH
Minimum	0.003	0.003	0.003	0.005	0.003	0.003	0.003	0.009	0.003
Maximum	15.12	35.91	35.91	12.91	22.60	22.60	17.65	35.91	35.91
Mean	1.62	1.33	2.24	4.40	3.56	4.00	2.75	2.47	2.50
Standard Deviation	1.91	1.98	4.52	2.94	4.68	5.32	2.72	4.12	4.7
	Ag - ID <sup>2</sup>	Ag - NN	Ag - DDH	Ag - ID <sup>2</sup>	Ag - NN	Ag - DDH	Ag - ID <sup>2</sup>	Ag - NN	Ag - DDH
Minimum	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Maximum	522.02	591.00	591.00	231.37	534.68	534.68	550.24	591.00	591.00
Mean	45.00	42.08	76.40	38.32	28.65	37.73	65.07	61.87	69.74
Standard Deviation	67.13	104.25	133.85	41.51	59.21	83.28	79.94	118.45	127.49

In addition to the global statistical comparison, a review of the number of samples and boreholes used to generate the inverse distance estimation indicates that a suitable number of samples from more than one borehole were used to generate the estimation (Table 14.14).

**Table 14.14 BHID and Sample Count used for Block Estimation**

	Upper Zone		Lower Zone		Riscos de Oro Global	
	No of Borehole ID's	No. of Samples	No of Borehole ID's	No. of Samples	No of Borehole ID's	No. of Samples
Minimum	2	8	2	8	2	8
Maximum	18	25	6	20	18	28
Mean	5	13	3	11	5	13

### 14.9.3 SWATH PLOTS

A series of swath plot were generated to compare the distribution of the grades in the ID<sup>2</sup> method to the NN method. The swaths are generated in elevation, easting and northing orientations. The plots are separated by the Upper and Lower Zones (Figure 14.11 to Figure 14.16).

**Figure 14.11 Upper Zone Elevation Swath Plot**



**Figure 14.12 Lower Zone Elevation Swath Plot**

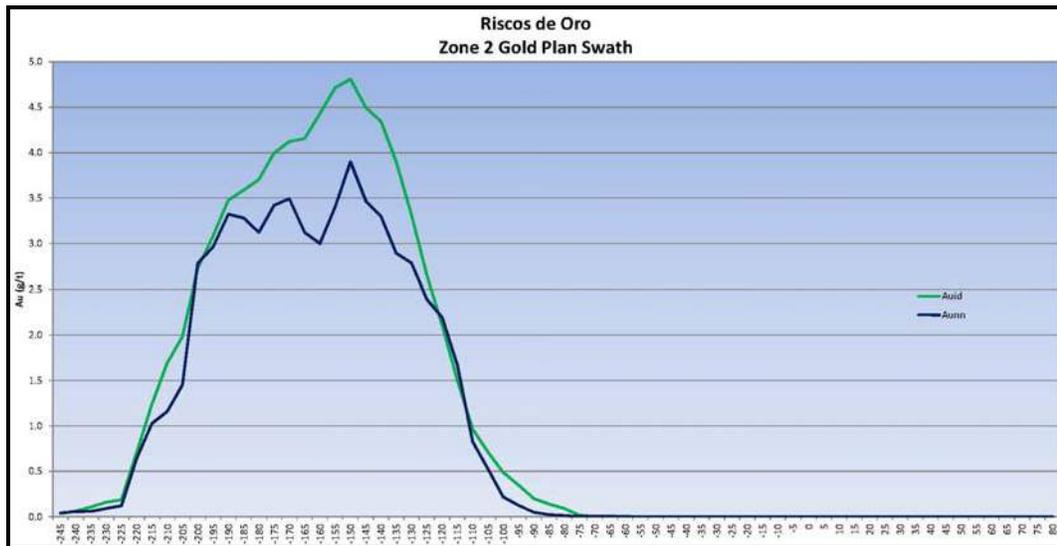


Figure 14.13 Upper Zone Easting Swath Plot

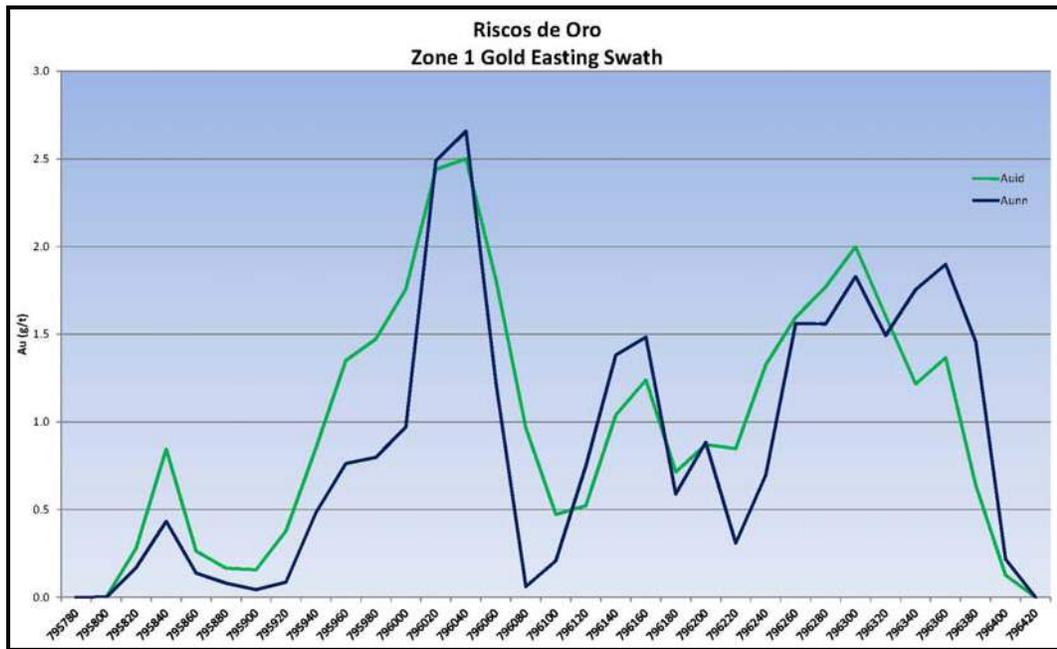


Figure 14.14 Lower Zone Easting Swath Plot

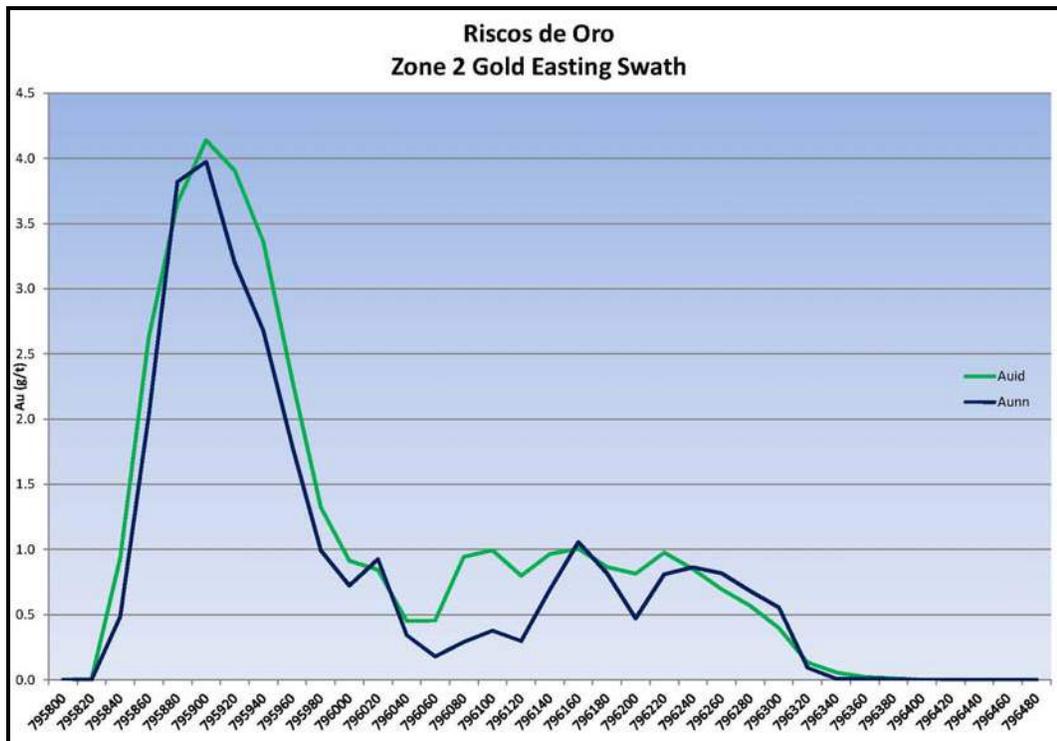


Figure 14.15 Upper Zone Northing Swath Plot

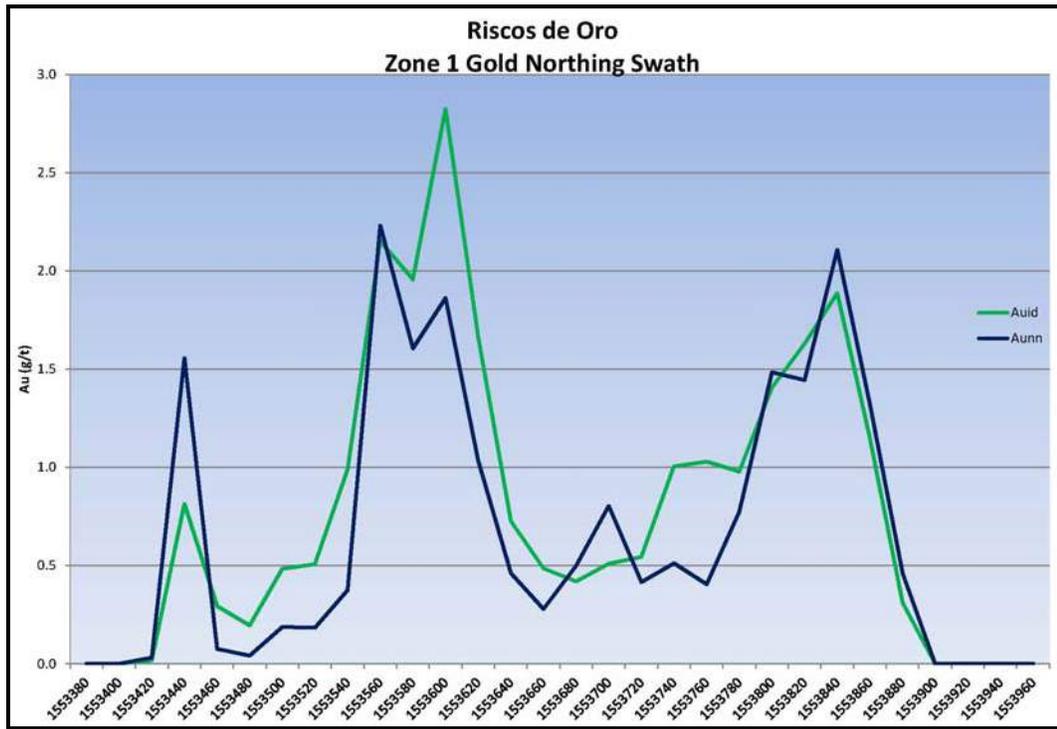
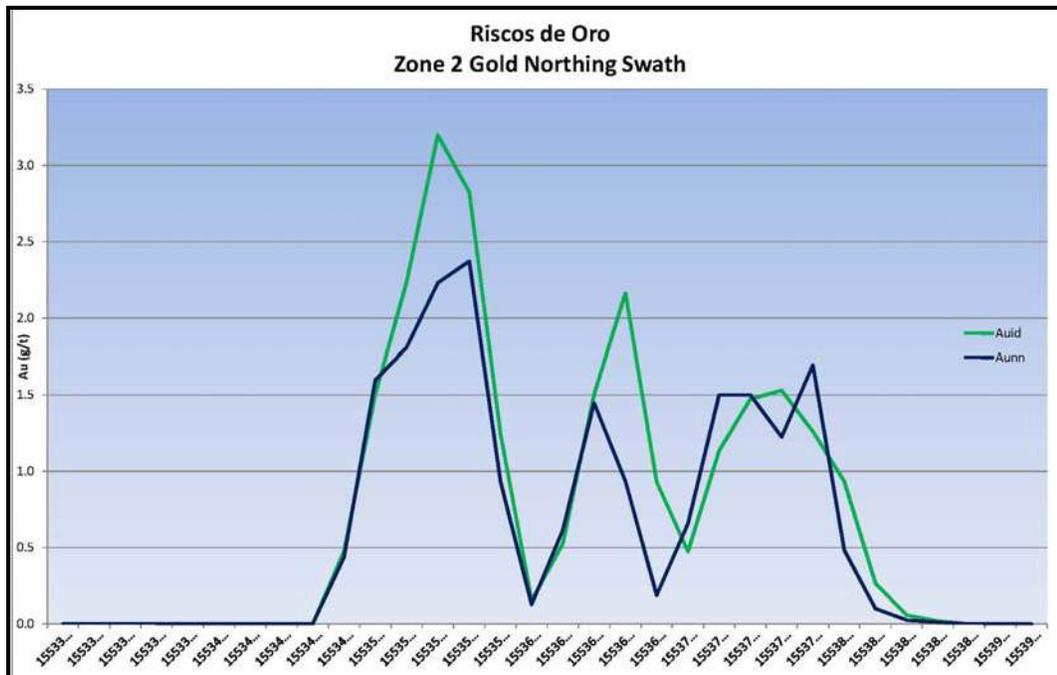


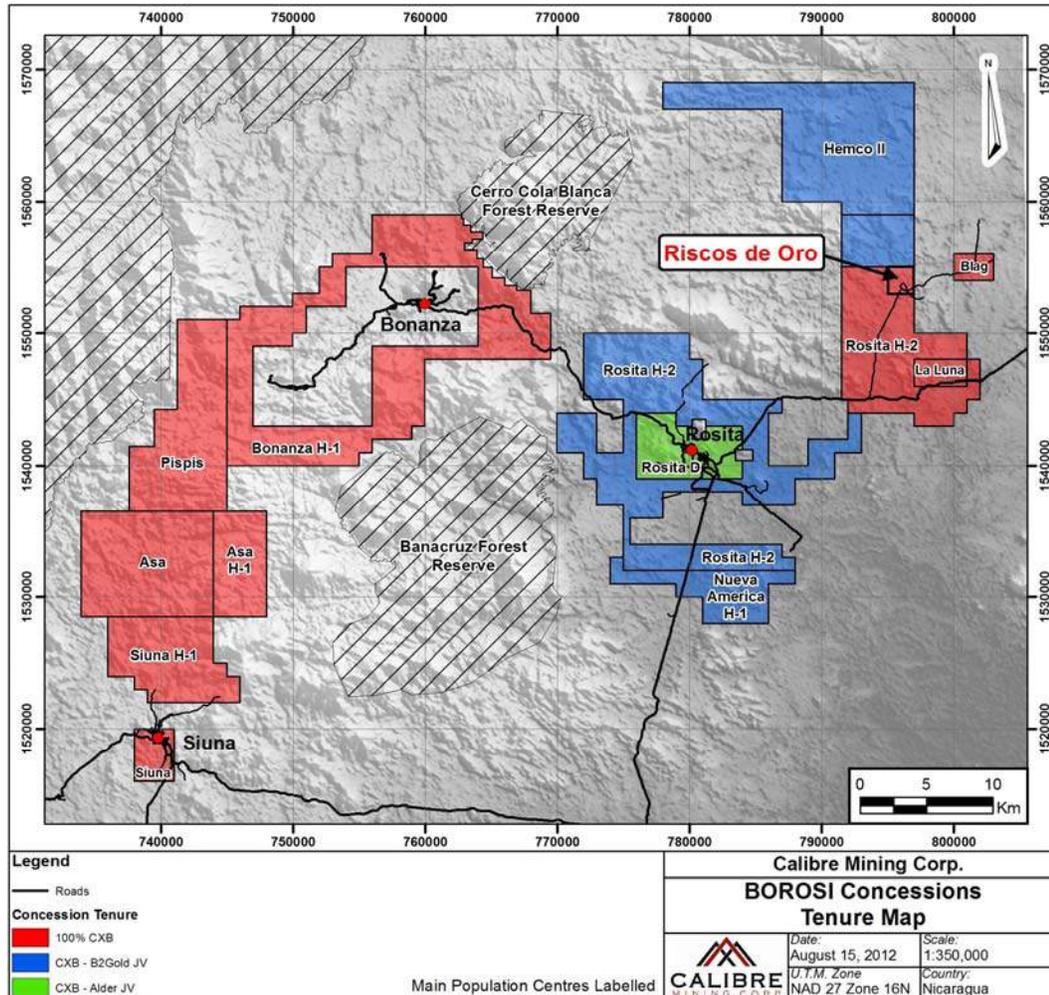
Figure 14.16 Lower Zone Northing Swath Plot



## 15.0 ADJACENT PROPERTIES

Calibre has two joint venture partners currently working in areas west of the Project and within the Calibre concession block (Figure 15.1).

**Figure 15.1 Adjacent Properties**



### 15.1 B2GOLD JOINT VENTURE

B2Gold signed an option agreement with Calibre in June 2009 to earn a 51% interest in the Project by expending \$8 million over three years with Calibre acting as operator. Upon B2Gold earning an interest in the project, they can acquire an additional 14% interest by completing a preliminary feasibility study on a chosen project. In October 2010, B2Gold reduced its area of interest to focus on the Rosita H-2, Nueva America H-1 and Hemco II concessions. Calibre retained 100% interest

in the remaining concessions. As part of the new agreement, B2Gold has to spend \$8 million over an amended five-year term; the 14% additional interest can still be obtained by completing a preliminary feasibility study on a chosen project following completion of the initial earn in.

Following a period of continued encouraging rock, soil and trenching results at the Primavera prospect, diamond drilling was initiated in November 2011. Three holes were completed during the first program returning significant gold-copper results from porphyry style mineralization including 261.70 m grading 0.78 g/t gold and 2,966 ppm copper (drillhole PR-12-002). In December 2011, B2Gold exercised its right to become operator of the Project and has continued diamond drilling activities continuously to the present time. The prospect is located due south of the town of Rosita on the border between the Rosita H-2 and Nueva America H-1 concessions.

## 15.2 ALDER RESOURCES JOINT VENTURE

Alder Resources signed an option agreement with Calibre in August 2011 to earn a 65% interest in the Rosita D concession by expending \$4 million on exploration and issuing Calibre 1 million common shares of Alder Resources over four years. Alder Resources was designated as operator for the Project. The Property hosts the historic open pit Santa Rita mine from which 5.37 Mt of ore grading 2.06% copper, 0.93 g/t gold and 15.08 g/t silver was extracted by La Luz Mines Ltd. and Rosario Resources Corp. The mine closed in 1975 due to low copper prices.

Alder has proceeded with completing an aggressive drill program at Santa Rita testing both the historic dumps and the areas beneath the now flooded pit. In June 2012, Alder Resources filed an NI 43-101 report on the Inferred Mineral Resource stockpiles at the historic Santa Rita mine. 7.95 Mt with an average grade of 0.62% copper, 0.46 g/t gold and 9.2 g/t silver were defined using trenching, reverse circulation and diamond drilling. Additional trenching and diamond drilling is ongoing at the Bambana gold-copper prospect, located 4 km northwest and along strike of the historic Santa Rita mine.

## 15.3 BONANZA MINE

The Bonanza mine is located on an exploitation concession entirely surrounded by Calibre concessions. The mine is presently owned and operated by a private arms-length company.

The mine has produced an estimated 2.6 Moz of gold from low sulphidation epithermal veins between 1939 and 2002 from both open pit and underground operations (Arengei et al. 2003).

The last publically stated resource for Bonanza was by RNC Gold Inc. in 2005.

## 16.0 OTHER RELEVANT DATA AND INFORMATION

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There is no other relevant data or information for this report.

## 17.0 INTERPRETATION AND CONCLUSIONS

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Based on the review of the available information and observations made during the site visit, Tetra Tech concludes the following, in no particular order of perceived importance:

- The Property is currently held 100% by Calibre, through a wholly-owned subsidiary.
- The Riscos de Oro and Rosita H-2 concessions, which this report addresses is not subject to the option agreement between B2 Gold and Calibre.
- The Riscos de Oro and Rosita H-2 concessions, which this report addresses is not subject to the option agreement between Alder Resources and Calibre.
- The Project is analogous to a low sulphidation epithermal deposit typical for the region.
- Mineralization at the Project is currently defined as a two parallel zones. The total strike length is approximately 665 m and a down dip vertical extent of 350 m.
- Historical mining at the Project produced approximately 36,000 oz of gold and 2.4 Moz of silver.
- Drilling and sampling procedures, sample preparation and assay protocols are generally conducted in agreement with best practices.
- Verification of the drillhole collars, surveys, assays, core and drillhole logs indicates the Calibre data is reliable.
- Some twinning of historical drillholes at the Project will be required to confirm older assay data. Existing validation is incomplete, due to loss of historic data.
- Based on the QA/QC program, the data is sufficiently reliable to support the resource estimate generated for the Project.
- The mineral models have been constructed in conformance to industry standard practices.
- The geological understanding is sufficient to support the resource estimation.
- At a gold cut-off grade of 0.6 g/t gold equivalent, the Project contains an Inferred Resource totalling 2.2 Mt with an average grade 3.20 g/t gold and 59.67 g/t silver.

- The specific gravity values used to determine the tonnages at the Project was derived from specific gravity values typical to low sulphidation epithermal deposits.
- The Riscos de Oro deposit remains open to the north and at depth in addition to the potential for hidden mineralized veins.

## 18.0 RECOMMENDATIONS

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It is Tetra Tech's that additional exploration expenditures are warranted. Two separate exploration programs are proposed. Each can be carried out concurrently and independently of each other, and neither is contingent on the results of the other.

### 18.1 PHASE 1 RISCOS DE ORO EXPANSION

Phase 1 is designed primarily to expand the current resource at the Project by testing the strike and dip extension of the deposit. This will entail diamond drilling with additional work on metallurgical testing, rock mechanics and surveying.

The drilling campaign should be designed to target the potential strike extensions of the Project, particularly the northeast. Drillhole spacing should continue at approximately 50 m along section and 50 to 75 m vertically on section in order to support an Inferred Resource. Any opportunity to drill the upper portion of the Lower Zone should be made as this near surface potential was not identified in the historical mining or previous drilling by other operators.

Table 18.1 summarizes the exploration program proposed.

**Table 18.1 Riscos de Oro Phase 1 Exploration**

Item	Note	Amount (\$)
Drilling	5,000 m @ \$150/m	750,000
Assays	500 samples @ \$30/sample	15,000
Salary	-	60,000
Metallurgical Testing	-	25,000
Surveying	-	20,000
Additional Technical Studies	-	25,000
Consumable Supplies and Camp Costs	-	55,000
<b>Total</b>	<b>-</b>	<b>950,000</b>

Note: Includes all drilling related charges.

### 18.2 PHASE 2 RISCOS DE ORO DELINEATION

Phase 2 is designed to delineate the resource at the Project by infilling of the deposit and providing the level of detail to conduct a PEA. This will entail a diamond drilling program, addition metallurgical testing, other technical studies, and environmental base lining.

The drilling campaign should be designed to target the core areas of the Riscos de Oro deposit, particularly in the areas where widths are wider and grades are higher. Drillhole spacing should be at approximately 25 to 30 m along section and 30 to 50 m vertically on section in order to improve the resource classification.

Table 18.2 summarizes the exploration program proposed.

**Table 18.2 Riscos de Oro Phase 2 Exploration**

Item	Note	Amount (\$)
Drilling	12,000 m @ \$150/m	1,800,000
Assays	1,000 samples @ \$30/sample	30,000
Salary	-	130,000
Metallurgical Testing	-	65,000
Additional Technical Studies	-	50,000
Environmental Studies	-	65,000
Resource Update	-	60,000
Consumable Supplies and Camp Costs	-	115,000
Scoping Study	-	185,000
<b>Total</b>	-	<b>2,500,000</b>

Note: Includes all drilling related charges.

### 18.3 OTHER RECOMMENDATIONS

The following recommendations are to assist in moving the project forward;

- Adjust the insertion location of the QA/QC blanks to allow for the control samples to be placed within or immediately after mineralized intervals. This will be a better use of the control samples as it is designed to monitor the preparation facility.
- For future drilling programs, collect specific gravity measurement for the various rock types and alteration styles. Approximately 4 to 5% of the database should have a specific gravity measurement. This will allow for a more accurate calculation of the tonnage in the subsequent resource estimate.
- Consider conducting a preliminary metallurgical test using drill core or course rejects, to determine the global recoveries that maybe expected from the deposit.
- Establish a method in which to drill test the upper portion of the Lower Zone that is hidden by the mined out section of the Upper Zone.
- Low sulphidation systems rarely occur as individual vein sets, search for additional vein swarms with in the concession.

## 19.0 REFERENCES

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## 20.0 CERTIFICATE OF QUALIFIED PERSON

---

I, Todd McCracken, P. Geo., of Sudbury, Ontario, do hereby certify:

- I am a Principal Geologist with Tetra Tech WEI Inc. with a business address at 101-957 Cambrian Heights, Sudbury, Ontario, P3C 5M6.
- This certificate applies to the technical report entitled Technical Report and Resource Estimation of the Riscos de Oro Deposit, Borosi Concessions, Región Autónoma del Atlántico Norte, Nicaragua, dated October 9, 2012 (the “Technical Report”).
- I am a graduate of the University of Waterloo, (B.Sc. Honours, 1992). I am a member in good standing of the Association of Professional Geoscientists of Ontario (#0631). My relevant experience includes 20 years in exploration and operations, including several years working in gold deposits. I am a “Qualified Person” for purposes of National Instrument 43-101 (the “Instrument”).
- My most recent personal inspection of the Property was on February 7, 2011 for five days and again from August 8 to 11, 2012.
- I am responsible for Sections 1 to 20 of the Technical Report.
- I am independent of Calibre Mining Corp. as defined by Section 1.5 of the Instrument.
- I have had prior involvement with the Property that is the subject of this Technical Report. I was responsible for the technical report dated April 11, 2011 titled NI 43-101 Technical Report and Resource Estimation of the Cerro Aeropuerto and La Luna Deposits, Borosi Concessions, Region Autónoma del Atlántico Norte, Nicaragua.
- I have read the Instrument and the technical report has been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Signed and dated this 9<sup>th</sup> day of October, 2012 at Sudbury, Ontario.

*“Original document signed and sealed by  
Todd McCracken, P. Geo.”*

---

Todd McCracken, P. Geo.  
Principal Geologist  
Tetra Tech WEI Inc.

# APPENDIX A

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SRM CERTIFICATES

# CDN Resource Laboratories Ltd.

Unit 2 - 20148, 102nd Avenue, Langley, B.C., Canada, V1M 4B4, Ph: 604-882-8422 Fax: 604-882-8466  
(www.cdnlabs.com)

## ORE REFERENCE STANDARD: CDN-CGS-19

Recommended values and the "Between Lab" Two Standard Deviations

*Copper concentration:* 0.132 ± 0.010 %

*Gold concentration:* 0.74 ± 0.07 g/t

**PREPARED BY:** CDN Resource Laboratories Ltd.

**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia

**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.

**DATE OF CERTIFICATION:** June 15, 2008

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 200 mesh screen. The +200 material was discarded. The -200 material was mixed for 6 days in a double-cone blender. Splits were taken and sent to 13 laboratories for round robin assaying.

### **ORIGIN OF REFERENCE MATERIAL:**

This standard is made from a combination of granitic material and Au / Cu ores.

### **Approximate chemical composition is as follows:**

	Percent			Percent
SiO <sub>2</sub>	61.0		MgO	3.0
Al <sub>2</sub> O <sub>3</sub>	13.4		K <sub>2</sub> O	1.8
Fe <sub>2</sub> O <sub>3</sub>	8.7		TiO <sub>2</sub>	0.7
CaO	3.8		LOI	3.0
Na <sub>2</sub> O	2.5		S	1.1

### **Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

## **STANDARD REFERENCE MATERIAL CDN-CGS-19**

### **Results from round-robin assaying:**

**Assay Procedures:**    **Au:** Fire assay pre-concentration, AA or ICP finish (30g sub-sample).  
                                   **Cu:** 4-acid digestion, AA or ICP finish.

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12
	Au (g/t)											
CGS-19-1	0.723	0.797	0.78	0.76	0.786	0.677	0.76	0.761	0.690	0.736	0.77	0.768
CGS-19-2	0.689	0.767	0.73	0.78	0.827	0.710	0.72	0.793	0.795	0.716	0.73	0.828
CGS-19-3	0.698	0.804	0.76	0.72	0.822	0.689	0.74	0.743	0.731	0.739	0.72	0.798
CGS-19-4	0.732	0.731	0.77	0.72	0.787	0.682	0.72	0.785	0.797	0.721	0.76	0.772
CGS-19-5	0.729	0.715	0.81	0.73	0.807	0.678	0.78	0.749	0.675	0.725	0.78	0.831
CGS-19-6	0.716	0.734	0.71	0.76	0.868	0.710	0.73	0.741	0.747	0.721	0.78	0.751
CGS-19-7	0.720	0.741	0.74	0.73	0.802	0.680	0.75	0.742	0.724	0.734	0.75	0.844
CGS-19-8	0.723	0.731	0.75	0.74	0.826	0.723	0.77	0.735	0.741	0.755	0.79	0.815
CGS-19-9	0.692	0.727	0.76	0.71	0.785	0.721	0.78	0.714	0.903	0.687	0.72	0.893
CGS-19-10	0.746	0.697	0.71	0.75	0.837	0.722	0.75	0.774	0.722	0.765	0.80	0.826
Mean	0.717	0.744	0.752	0.740	0.815	0.699	0.750	0.754	0.752	0.730	0.760	0.813
Std. Dev.	0.018	0.035	0.031	0.022	0.027	0.020	0.023	0.024	0.065	0.022	0.029	0.042
%RSD	2.57	4.64	4.15	2.99	3.26	2.82	3.01	3.23	8.70	2.96	3.82	5.17
	Cu (%)											
CGS-19-1	0.125	0.137	0.132	0.125	0.137	0.130	0.119	0.139	0.136	0.134	0.13	0.126
CGS-19-2	0.128	0.137	0.132	0.124	0.137	0.130	0.128	0.135	0.136	0.135	0.14	0.125
CGS-19-3	0.126	0.137	0.132	0.126	0.137	0.133	0.128	0.139	0.135	0.132	0.13	0.124
CGS-19-4	0.125	0.139	0.129	0.125	0.137	0.132	0.129	0.141	0.133	0.134	0.13	0.123
CGS-19-5	0.128	0.138	0.131	0.125	0.136	0.134	0.128	0.137	0.136	0.133	0.13	0.122
CGS-19-6	0.129	0.138	0.132	0.127	0.135	0.131	0.129	0.136	0.134	0.134	0.13	0.121
CGS-19-7	0.124	0.140	0.136	0.126	0.136	0.130	0.128	0.137	0.135	0.136	0.13	0.123
CGS-19-8	0.128	0.138	0.132	0.125	0.137	0.132	0.129	0.139	0.136	0.132	0.14	0.122
CGS-19-9	0.127	0.141	0.134	0.125	0.135	0.131	0.127	0.135	0.135	0.131	0.13	0.123
CGS-19-10	0.128	0.137	0.135	0.126	0.136	0.132	0.130	0.137	0.135	0.132	0.14	0.120
Mean	0.127	0.138	0.133	0.125	0.136	0.132	0.128	0.138	0.135	0.133	0.133	0.123
Std. Dev.	0.002	0.001	0.002	0.001	0.001	0.001	0.003	0.002	0.001	0.002	0.005	0.002
%RSD	1.33	1.01	1.52	0.64	0.60	1.03	2.43	1.42	0.74	1.18	3.63	1.46

**Note: Au data from Lab. 12 was removed for failing the "t" test.**

**STANDARD REFERENCE MATERIAL CDN-CGS-19**

**Participating Laboratories:**

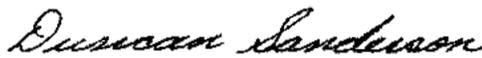
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver  
Actlabs, Ontario, Canada  
Assayers Canada Ltd., Vancouver  
ALS Chemex Laboratories, North Vancouver  
Alex Stewart Assayers, Argentina  
Genalysis Laboratory Services Pty. Ltd., Australia  
International Plasma Laboratories, Canada  
Labtium Laboratory, Finland  
OMAC Laboratories Ltd., Ireland  
Skyline Assayers & Laboratories, Tucson, USA  
TSL Laboratories, Saskatoon, Canada  
Ultra Trace Analytical Laboratories, Australia

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

Unit 2 - 20148, 102nd Avenue, Langley, B.C., Canada, V1M 4B4, Ph: 604-882-8422 Fax: 604-882-8466  
(www.cdnlabs.com)

## ORE REFERENCE STANDARD: CDN-CGS-20

Recommended values and the "Between Lab" Two Standard Deviations

*Copper concentration: 3.36 ± 0.17 %*

*Gold concentration: 7.75 ± 0.47 g/t*

**PREPARED BY:** CDN Resource Laboratories Ltd.

**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia

**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.

**DATE OF CERTIFICATION:** September 05, 2008

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 200 mesh screen. The +200 material was discarded. The -200 material was mixed for 6 days in a double-cone blender. Splits were taken and sent to 12 laboratories for round robin assaying.

### **ORIGIN OF REFERENCE MATERIAL:**

This standard is made from a combination of granitic material and an Au / Cu concentrate.

### **Approximate chemical composition is as follows:**

	Percent		Percent
SiO <sub>2</sub>	52.2	MgO	2.7
Al <sub>2</sub> O <sub>3</sub>	13.0	K <sub>2</sub> O	1.8
Fe <sub>2</sub> O <sub>3</sub>	12.2	TiO <sub>2</sub>	0.7
CaO	6.1	LOI	4.7
Na <sub>2</sub> O	2.5	S	5.9

### **Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

## STANDARD REFERENCE MATERIAL CDN-CGS-20

### Results from round-robin assaying:

**Assay Procedures:**    **Au:** Fire assay pre-concentration, AA or ICP finish (30g sub-sample).

**Cu:** 4-acid digestion, AA or ICP finish.

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12
	Au (g/t)											
	7.17	7.76	7.75	7.40	7.91	8.03	7.85	7.31	7.84	8.20	7.59	7.88
	7.78	7.60	7.82	7.60	8.17	7.67	8.03	7.78	7.88	8.31	7.41	7.84
	7.58	7.66	7.61	7.20	8.13	7.95	7.96	7.65	7.92	8.31	7.67	7.71
	7.79	7.52	7.60	7.50	8.03	8.04	8.02	7.65	7.72	8.54	7.77	8.23
	7.60	7.64	8.00	7.60	8.14	7.83	8.42	7.72	8.12	7.52	7.68	7.68
	7.57	7.91	7.61	7.30	8.17	7.95	8.25	7.38	7.88	8.45	7.49	8.03
	7.37	7.65	7.70	7.60	8.06	7.77	8.12	7.41	7.68	8.41	7.74	7.55
	7.77	7.82	7.50	7.70	7.99	7.65	7.59	7.32	7.92	8.32	7.46	7.65
	7.53	7.53	7.67	7.60	7.80	7.59	7.50	7.32	8.08	7.43	7.52	7.95
	7.30	7.58	8.12	7.20	8.12	8.10	8.10	7.63	7.84	8.18	7.76	7.86
Mean	7.55	7.67	7.74	7.47	8.05	7.86	7.98	7.52	7.89	8.17	7.61	7.84
Std. Dev.	0.211	0.127	0.193	0.183	0.122	0.182	0.280	0.184	0.137	0.381	0.133	0.201
%RSD	2.80	1.65	2.50	2.45	1.52	2.31	3.50	2.45	1.74	4.66	1.75	2.57
	Cu (%)											
	3.36	3.38	3.54	3.28	3.40	3.83	3.40	3.28	3.35	3.22	3.32	3.54
	3.36	3.42	3.42	3.31	3.50	3.63	3.30	3.36	3.35	3.20	3.49	3.58
	3.34	3.45	3.33	3.29	3.44	3.86	3.47	3.31	3.38	3.24	3.31	3.56
	3.37	3.51	3.38	3.28	3.42	3.82	3.36	3.32	3.36	3.21	3.33	3.67
	3.34	3.42	3.36	3.27	3.44	3.45	3.28	3.29	3.34	3.25	3.30	3.60
	3.36	3.34	3.40	3.28	3.41	3.85	3.30	3.38	3.32	3.25	3.42	3.57
	3.37	3.43	3.38	3.28	3.50	3.61	3.27	3.44	3.36	3.26	3.29	3.56
	3.34	3.48	3.33	3.27	3.49	3.84	3.33	3.33	3.38	3.27	3.34	3.59
	3.37	3.43	3.35	3.27	3.45	3.69	3.29	3.50	3.34	3.22	3.25	3.53
	3.33	3.43	3.36	3.29	3.40	3.57	3.25	3.37	3.37	3.24	3.32	3.57
Mean	3.35	3.43	3.38	3.28	3.45	3.71	3.32	3.36	3.36	3.24	3.34	3.58
Std. Dev.	0.015	0.047	0.063	0.013	0.040	0.145	0.067	0.069	0.018	0.023	0.069	0.039
%RSD	0.45	1.38	1.86	0.40	1.15	3.89	2.02	2.05	0.54	0.70	2.07	1.09

**Note:** Au data from Lab. 10 was removed for failing the "t" test.

Cu data from Lab. 6 was removed for failing the "t" test.

**STANDARD REFERENCE MATERIAL CDN-CGS-20**

**Participating Laboratories:**

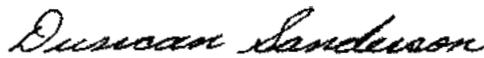
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver  
Actlabs, Ontario, Canada  
Assayers Canada Ltd., Vancouver  
ALS Chemex Laboratories, North Vancouver  
Alex Stewart Assayers, Argentina  
Genalysis Laboratory Services Pty. Ltd., Australia  
International Plasma Laboratories, Canada  
Labtium Laboratory, Finland  
OMAC Laboratories Ltd., Ireland  
Skyline Assayers & Laboratories, Tucson, USA  
TSL Laboratories, Saskatoon, Canada  
Ultra Trace Analytical Laboratories, Australia

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

#2, 20148 – 102<sup>nd</sup> Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

## REFERENCE MATERIAL: CDN-CM-6

Recommended values and the

“Between Lab” Two Standard Deviations

<b>Gold:</b>	<b>1.43 ± 0.09 g/t</b>	<b>(RSD of 3.28%)</b>
<b>Copper:</b>	<b>0.737 ± 0.039 %</b>	<b>(RSD of 2.65%)</b>
<b>Molybdenum:</b>	<b>0.083 ± 0.008 %</b>	<b>(RSD of 4.80%)</b>

Provisional values:

<b>Silver:</b>	<b>3.3 ± 0.7 g/t</b>	<b>(RSD of 10%)</b>
<b>Rhenium:</b>	<b>0.85 ± 0.16 ppm</b>	<b>(RSD of 9.65%)</b>

*Standards with an RSD of near or less than 5 % are certified, RSD's of between 5 % and 15 % are Provisional, and RSD's over 15 % are Indicated. Provisional and Indicated values cannot be used to monitor accuracy with a high degree of certainty*

**PREPARED BY:** CDN Resource Laboratories Ltd.  
**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** October 19, 2009

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 14 laboratories for round robin assaying.

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-CM-6 was prepared using ore supplied by Pacific Sentinel from their Casino property in Yukon, Canada. It is a copper-gold porphyry deposit. The standard was prepared using 750 kg of this ore, 30kg of a blank granitic material and 20 kg of a Au-Cu-Mo concentrate.

### **Approximate chemical composition is as follows:**

	Percent			Percent
SiO <sub>2</sub>	56.1		MgO	2.2
Al <sub>2</sub> O <sub>3</sub>	14.8		K <sub>2</sub> O	3.7
Fe <sub>2</sub> O <sub>3</sub>	8.2		TiO <sub>2</sub>	0.6
CaO	4.3		LOI	5.5
Na <sub>2</sub> O	1.9		S	1.0

### **Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual “between-laboratory” standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

**Results from round-robin assaying are displayed on the following page.**

## REFERENCE MATERIAL CDN-CM-6

**Assay Procedures:** **Au:** Fire assay pre-concentration, AA or ICP finish (30g sub-sample).  
**Cu, Mo, Ag, Re:** 4-acid digestion, AA or ICP finish.

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14
SAMPLE	Au g/t													
CM6-1	1.42	1.38	1.41	1.37	1.48	1.52	1.07	1.49	1.53	1.37	1.40	1.41	1.44	1.44
CM6-2	1.46	1.40	1.53	1.43	1.43	1.50	0.97	1.37	1.44	1.39	1.45	1.48	1.42	1.40
CM6-3	1.45	1.38	1.43	1.42	1.40	1.61	1.14	1.38	1.55	1.35	1.41	1.37	1.47	1.37
CM6-4	1.46	1.39	1.44	1.35	1.45	1.41	0.99	1.41	1.39	1.48	1.44	1.40	1.48	1.44
CM6-5	1.45	1.40	1.52	1.42	1.44	1.49	1.03	1.36	1.48	1.44	1.46	1.42	1.39	1.41
CM6-6	1.44	1.33	1.44	1.33	1.34	1.45	1.25	1.45	1.45	1.42	1.37	1.34	1.46	1.46
CM6-7	1.53	1.47	1.47	1.37	1.49	1.37	1.15	1.48	1.52	1.43	1.40	1.39	1.49	1.47
CM6-8	1.46	1.31	1.46	1.44	1.42	1.45	1.25	1.43	1.47	1.34	1.37	1.36	1.45	1.43
CM6-9	1.43	1.38	1.53	1.40	1.44	1.43	1.23	1.54	1.56	1.41	1.46	1.42	1.41	1.47
CM6-10	1.43	1.46	1.49	1.39	1.42	1.39	1.26	1.36	1.49	1.42	1.49	1.39	1.45	1.38
Mean	1.45	1.39	1.47	1.39	1.43	1.46	1.13	1.43	1.49	1.41	1.43	1.40	1.45	1.42
Std. Dev'n	0.0317	0.0492	0.0437	0.0366	0.0420	0.0708	0.1113	0.0622	0.0533	0.0430	0.0409	0.0388	0.0317	0.0351
%RSD	2.19	3.54	2.97	2.63	2.94	4.85	9.83	4.36	3.58	3.06	2.87	2.78	2.19	2.46
	Cu %													
CM6-1	0.773	0.720	0.736	0.760	0.732	0.675	0.75	0.764	0.734	0.695	0.748	0.709	0.727	0.760
CM6-2	0.745	0.721	0.729	0.762	0.715	0.666	0.75	0.763	0.739	0.700	0.742	0.722	0.750	0.789
CM6-3	0.765	0.709	0.725	0.767	0.724	0.719	0.74	0.758	0.735	0.692	0.740	0.737	0.731	0.772
CM6-4	0.747	0.701	0.735	0.767	0.732	0.726	0.75	0.772	0.729	0.695	0.743	0.729	0.738	0.788
CM6-5	0.765	0.710	0.734	0.775	0.744	0.725	0.74	0.764	0.746	0.688	0.754	0.720	0.706	0.791
CM6-6	0.746	0.712	0.733	0.765	0.736	0.721	0.76	0.764	0.738	0.688	0.752	0.739	0.722	0.738
CM6-7	0.736	0.708	0.737	0.752	0.728	0.720	0.75	0.762	0.732	0.700	0.744	0.726	0.743	0.727
CM6-8	0.744	0.719	0.739	0.748	0.738	0.718	0.75	0.773	0.727	0.689	0.751	0.743	0.726	0.739
CM6-9	0.748	0.714	0.733	0.753	0.747	0.724	0.76	0.765	0.740	0.696	0.756	0.700	0.711	0.727
CM6-10	0.736	0.713	0.742	0.759	0.743	0.726	0.75	0.762	0.742	0.698	0.758	0.784	0.725	0.750
Mean	0.751	0.713	0.734	0.761	0.734	0.712	0.750	0.765	0.736	0.694	0.749	0.731	0.728	0.758
Std. Dev'n	0.0127	0.0062	0.0048	0.0082	0.0099	0.0222	0.0067	0.0045	0.0059	0.0047	0.006	0.0229	0.0135	0.0256
%RSD	1.70	0.87	0.66	1.08	1.34	3.11	0.89	0.59	0.80	0.67	0.84	3.14	1.86	3.38
	Mo %													
CM6-1	0.079	0.079	0.080	0.084	0.081	0.088	0.085	0.089	0.081	0.079	0.082	0.089	0.085	0.082
CM6-2	0.079	0.081	0.079	0.088	0.079	0.081	0.082	0.090	0.084	0.077	0.083	0.089	0.084	0.076
CM6-3	0.081	0.076	0.081	0.087	0.081	0.087	0.084	0.090	0.082	0.078	0.081	0.088	0.084	0.080
CM6-4	0.078	0.076	0.080	0.086	0.081	0.087	0.084	0.090	0.083	0.081	0.078	0.090	0.086	0.080
CM6-5	0.084	0.077	0.081	0.087	0.080	0.088	0.083	0.088	0.083	0.080	0.082	0.092	0.086	0.075
CM6-6	0.080	0.077	0.081	0.091	0.079	0.085	0.083	0.089	0.083	0.078	0.080	0.090	0.085	0.083
CM6-7	0.080	0.079	0.081	0.084	0.081	0.087	0.084	0.087	0.083	0.080	0.080	0.088	0.085	0.083
CM6-8	0.079	0.075	0.081	0.083	0.082	0.085	0.083	0.089	0.085	0.082	0.078	0.089	0.084	0.080
CM6-9	0.081	0.076	0.082	0.083	0.080	0.087	0.084	0.088	0.083	0.079	0.081	0.090	0.084	0.078
CM6-10	0.081	0.077	0.081	0.079	0.080	0.086	0.082	0.088	0.083	0.081	0.081	0.091	0.085	0.068
Mean	0.080	0.077	0.081	0.085	0.080	0.086	0.083	0.089	0.083	0.079	0.081	0.090	0.085	0.079
Std. Dev'n	0.0016	0.0018	0.0008	0.0033	0.0010	0.0021	0.0010	0.0009	0.0011	0.0015	0.002	0.001	0.001	0.005
%RSD	1.98	2.37	1.01	3.90	1.20	2.41	1.16	1.01	1.27	1.86	2.04	1.41	0.93	5.83

**Note:** "Au" data from laboratory 7 was excluded from the calculations for failing the t test.

**REFERENCE MATERIAL CDN-CM-6**

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14
	Ag g/t													
CM6-1	3.4	2.9	1.92	3.7	4	3.3	3.1	3.2	1.5	3	3.0	3	3.1	3.4
CM6-2	3.3	2.0	1.85	3.8	4	3.1	3.4	3.0	1.3	3	3.0	< 3	3.1	3.4
CM6-3	3.6	2.4	1.17	3.7	4	3.2	3.1	3.1	1.5	3	3.0	< 3	3.4	3.7
CM6-4	3.4	2.6	3.29	3.8	3	3.2	3.4	3.1	1.7	3	3.0	< 3	3.3	3.6
CM6-5	3.6	2.3	2.92	3.8	4	3.2	2.9	3.4	1.4	3	3.5	3	3.0	3.4
CM6-6	3.5	2.1	2.37	3.7	3	3.3	3.1	3.4	1.4	3	3.0	< 3	3.0	3.7
CM6-7	3.4	2.6	2.63	3.7	4	3.2	3.1	3.2	1.4	3	3.0	< 3	3.1	3.6
CM6-8	3.8	2.9	2.17	3.8	3	3.2	3.0	3.3	1.4	3	3.0	< 3	3.0	3.7
CM6-9	3.5	2.2	1.97	3.8	4	3.1	3.2	3.1	1.5	3	3.0	< 3	3.2	3.5
CM6-10	3.3	2.2	2.46	3.8	3	3.0	3.3	3.1	1.5	3	3.5	< 3	3.1	3.0
Mean	3.5	2.4	2.3	3.8	3.6	3.2	3.2	3.2	1.5	3.0	3.1		3.1	3.5
Std. Dev'n	0.1549	0.3190	0.6007	0.0516	0.5164	0.0919	0.1647	0.1448	0.1075	0.0000	0.211		0.134	0.216
%RSD	4.45	13.18	26.40	1.37	14.34	2.89	5.21	4.53	7.36	0.00	6.80		4.27	6.17
	Re g/t													
CM6-1	0.937	0.741			0.869	0.96	0.725	0.780	0.869	0.90	0.9	1.02		0.85
CM6-2	0.951	0.751			0.906	0.92	0.739	0.732	0.876	0.86	0.9	1.03		0.87
CM6-3	0.958	0.711			0.841	0.93	0.752	0.705	0.883	0.89	0.9	1.03		0.76
CM6-4	0.963	0.742			0.892	0.94	0.762	0.729	0.874	0.89	0.8	1.07		0.82
CM6-5	0.933	0.716			0.867	0.94	0.734	0.765	0.908	0.86	0.9	1.09		0.81
CM6-6	0.958	0.719			0.886	0.91	0.755	0.790	0.885	0.85	0.9	1.08		0.83
CM6-7	0.944	0.741			0.939	0.91	0.709	0.688	0.877	0.85	0.9	1.07		0.82
CM6-8	0.964	0.728			0.917	0.96	0.710	0.821	0.871	0.95	0.9	1.00		0.81
CM6-9	0.916	0.751			0.937	0.90	0.691	0.764	0.876	0.85	0.9	1.04		0.80
CM6-10	1.045	0.713			1.004	0.89	0.676	0.871	0.892	0.90	0.9	1.00		0.80
Mean	0.957	0.731			0.906	0.926	0.725	0.764	0.881	0.880	0.890	1.043		0.817
Std. Dev'n	0.0345	0.0157			0.0465	0.0241	0.0285	0.0549	0.0117	0.0323	0.032	0.033		0.030
%RSD	3.60	2.15			5.14	2.61	3.93	7.18	1.33	3.67	3.55	3.16		3.65

**Note:** "Ag" data from laboratories 3 & 9 were excluded from the calculations for failing the t test.  
 "Ag" data from laboratory 12 was not used.  
 "Re" data from laboratory 12 was excluded from the calculations for failing the t test.

**Some laboratories were unable to provide rhenium analysis.**

**REFERENCE MATERIAL CDN-CM-6**

**Participating Laboratories:**

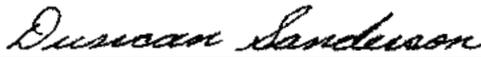
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C.  
Activation Laboratories Ltd., Ancaster, Ontario  
Activation Laboratories Ltd., Thunder Bay, Ontario  
Assayers Canada Ltd., Vancouver, B.C.  
ALS Chemex Laboratories, North Vancouver, B.C.  
EcoTech, Kamloops, B.C.  
SGS-Toronto, Ontario  
Genalysis Laboratory Services Pty. Ltd., Australia  
Inspectorate America Assay Labs, USA  
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OMAC Laboratories Ltd., Ireland  
Skyline Assayers & Laboratories, Tucson, USA  
TSL Laboratories, Saskatoon  
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Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

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## ORE REFERENCE STANDARD: CDN-CM-8

Recommended values and the “Between Lab” Two Standard Deviations

*Gold:*                *0.91 ± 0.11 g/t*  
*Copper:*            *0.364 ± 0.024 %*  
*Molybdenum:*    *0.0160 ± 0.0014 %*

**PREPARED BY:**        CDN Resource Laboratories Ltd.  
**CERTIFIED BY:**        Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** June 14, 2010

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-CM-8 was prepared using a North American calc-alkalic copper-gold-molybdenum porphyry ore. It is derived from altered granodiorite, mafic to intermediate volcanic and volcanoclastic sedimentary rocks. Mineralization is principally pyrite, chalcopyrite and molybdenite that occurs in veins, stockworks and disseminations. 792 kg of this ore was blended with 2 kg of a high grade gold ore.

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying.

**Approximate chemical composition (by whole rock analysis) is as follows:**

	Percent			Percent
SiO <sub>2</sub>	60.7		MgO	1.5
Al <sub>2</sub> O <sub>3</sub>	15.0		K <sub>2</sub> O	6.9
Fe <sub>2</sub> O <sub>3</sub>	7.5		TiO <sub>2</sub>	0.4
CaO	0.7		LOI	4.5
Na <sub>2</sub> O	1.5		S	2.6
C	0.3			

### **Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual “between-laboratory” standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

**Results from round-robin assaying are displayed on the following page.**

## STANDARD REFERENCE MATERIAL CDN-CM-8

**Assay Procedures:**    **Au:**    Fire assay pre-concentration, AA or ICP finish (30g sub-sample).

**Cu, Mo:**    4-acid digestion, AA or ICP finish.

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
SAMPLE	Au g/t														
CDN-CM-8-1	0.85	0.810	0.97	0.94	0.81	0.770	1.010	0.985	0.95	0.932	0.96	0.93	0.909	0.947	0.90
CDN-CM-8-2	0.82	0.896	0.96	0.89	0.90	0.835	0.962	0.914	0.91	0.842	0.96	0.86	0.940	0.844	0.84
CDN-CM-8-3	0.94	0.925	1.00	0.88	0.82	0.875	0.972	0.991	0.92	0.802	0.92	0.92	0.908	0.920	0.91
CDN-CM-8-4	0.89	0.983	0.96	0.86	0.79	0.877	0.961	0.979	0.94	0.850	0.99	0.95	0.910	1.031	0.92
CDN-CM-8-5	0.88	0.865	0.93	0.88	0.82	0.830	0.952	0.920	0.92	0.765	0.89	0.90	0.903	0.851	0.83
CDN-CM-8-6	0.82	0.827	0.92	0.90	0.97	0.822	0.990	0.955	0.96	0.807	0.89	0.82	0.888	0.870	0.92
CDN-CM-8-7	0.94	0.886	0.96	0.81	0.80	0.869	1.090	1.000	0.88	0.939	0.86	1.01	0.906	0.810	0.91
CDN-CM-8-8	0.85	0.993	0.97	0.78	0.84	0.847	0.989	0.937	0.96	0.821	0.92	1.00	0.965	0.879	0.89
CDN-CM-8-9	0.88	0.949	0.95	0.86	0.91	0.754	1.010	0.915	0.95	0.822	0.96	0.93	0.897	0.867	0.97
CDN-CM-8-10	0.89	1.025	1.00	0.88	0.89	0.839	0.984	0.922	0.93	0.828	0.92	0.86	0.919	0.975	0.88
Mean	0.876	0.916	0.962	0.868	0.855	0.832	0.992	0.952	0.932	0.841	0.927	0.918	0.915	0.899	0.897
Std. Dev'n	0.0425	0.0719	0.0257	0.0452	0.0591	0.0416	0.0397	0.0343	0.0253	0.0551	0.0403	0.0607	0.0224	0.068	0.04
%RSD	4.85	7.85	2.68	5.20	6.91	5.00	4.00	3.61	2.71	6.56	4.35	6.61	2.45	7.55	4.52
	Cu %														
CDN-CM-8-1	0.358	0.360	0.361	0.37		0.374	0.317	0.333	0.355		0.37	0.357	0.373	0.367	0.364
CDN-CM-8-2	0.362	0.357	0.362	0.37		0.373	0.340	0.327	0.344		0.37	0.353	0.368	0.360	0.377
CDN-CM-8-3	0.354	0.363	0.363	0.36		0.375	0.330	0.326	0.346		0.37	0.360	0.369	0.363	0.380
CDN-CM-8-4	0.361	0.368	0.360	0.38		0.370	0.328	0.327	0.355		0.37	0.356	0.370	0.372	0.365
CDN-CM-8-5	0.362	0.375	0.366	0.37		0.364	0.324	0.326	0.354		0.37	0.363	0.371	0.373	0.370
CDN-CM-8-6	0.362	0.356	0.361	0.38		0.373	0.323	0.329	0.344		0.37	0.353	0.376	0.365	0.370
CDN-CM-8-7	0.360	0.347	0.361	0.37		0.374	0.319	0.334	0.355		0.38	0.354	0.377	0.374	0.368
CDN-CM-8-8	0.369	0.365	0.368	0.38		0.372	0.340	0.333	0.350		0.37	0.362	0.378	0.360	0.382
CDN-CM-8-9	0.374	0.370	0.368	0.37		0.368	0.350	0.341	0.335		0.38	0.362	0.372	0.368	0.368
CDN-CM-8-10	0.374	0.372	0.369	0.38		0.368	0.329	0.341	0.341		0.38	0.358	0.383	0.368	0.377
Mean	0.364	0.363	0.364	0.373		0.371	0.330	0.332	0.348		0.373	0.358	0.374	0.367	0.372
Std. Dev'n	0.0066	0.0085	0.0035	0.0067		0.0035	0.0104	0.0058	0.0070		0.0048	0.0038	0.0047	0.0051	0.0064
%RSD	1.83	2.34	0.96	1.81		0.95	3.16	1.74	2.01		1.30	1.07	1.26	1.38	1.72
	Mo %														
CDN-CM-8-1	0.016	0.0163	0.016	0.017		0.017	0.012	0.014	0.0144		0.016	0.0161	0.0151	0.0163	0.0160
CDN-CM-8-2	0.016	0.0153	0.015	0.017		0.016	0.013	0.014	0.0131		0.016	0.0155	0.0162	0.0157	0.0165
CDN-CM-8-3	0.015	0.0151	0.016	0.017		0.017	0.013	0.015	0.0138		0.016	0.0167	0.0159	0.0164	0.0165
CDN-CM-8-4	0.016	0.0159	0.015	0.016		0.017	0.013	0.015	0.0152		0.017	0.0161	0.0157	0.0159	0.0175
CDN-CM-8-5	0.016	0.0160	0.016	0.016		0.017	0.013	0.015	0.0143		0.017	0.0163	0.0152	0.0158	0.0165
CDN-CM-8-6	0.015	0.0149	0.016	0.016		0.017	0.014	0.014	0.0146		0.017	0.0161	0.0162	0.0159	0.0165
CDN-CM-8-7	0.015	0.0145	0.016	0.016		0.017	0.012	0.014	0.0157		0.017	0.0171	0.0163	0.0165	0.0170
CDN-CM-8-8	0.016	0.0156	0.015	0.016		0.017	0.013	0.015	0.0153		0.016	0.0164	0.0152	0.0161	0.0170
CDN-CM-8-9	0.016	0.0155	0.015	0.016		0.017	0.013	0.015	0.0141		0.017	0.0163	0.0153	0.0165	0.0170
CDN-CM-8-10	0.016	0.0156	0.016	0.016		0.017	0.014	0.013	0.0143		0.016	0.0158	0.0154	0.0160	0.0170
Mean	0.0157	0.0155	0.0156	0.0163		0.0169	0.0130	0.0144	0.0145		0.0165	0.0162	0.0157	0.0161	0.0168
Std. Dev'n	0.0005	0.0005	0.0005	0.0005		0.0003	0.0007	0.0007	0.0008		0.0005	0.0004	0.0005	0.0003	0.0004
%RSD	3.08	3.49	3.31	2.96		1.87	5.13	4.86	5.29		3.19	2.74	3.00	1.84	2.54

**Note:** "Mo" data from laboratory 7 was excluded from the calculations for failing the t test.  
Laboratories 5 and 10 did not report Cu nor Mo data.

## STANDARD REFERENCE MATERIAL CDN-CM-8

### Participating Laboratories:

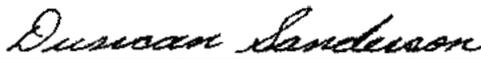
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada  
Activation Laboratories, Ancaster, Ontario, Canada  
Activation Laboratories, Thunder Bay, Ontario, Canada  
ALS Chemex, North Vancouver, B.C., Canada  
ALS Chemex, Nevada, USA  
Assayers Canada Ltd., Vancouver, B.C., Canada  
Bourlamaque Assay Laboratories, Quebec, Canada  
Eco Tech Laboratory Ltd., Kamloops, B.C., Canada  
Genalysis, Perth, Australia  
Labtium Inc., Finland  
Omac, Ireland  
SGS, Toronto, Canada  
Skyline, Tucson, Arizona  
TSL Laboratories Ltd., Saskatoon, SK, Canada  
Ultra Trace, Perth, Australia

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Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

#2, 20148 - 102nd Avenue, Langley, B.C., Canada, V1M 4B4, Ph: 604-882-8422 Fax: 604-882-8466 (www.cdnlabs.com)

## GOLD ORE REFERENCE STANDARD: CDN-GS-1E

Recommended value and the "Between Laboratory" two standard deviations

*Gold concentration: 1.16 ± 0.06 g/t*

**PREPARED BY:** CDN Resource Laboratories Ltd.  
**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** April 18, 2009

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-GS-1E was prepared using ore supplied by Canadian Gold Hunter Corporation from its Caballo Blanco (North Zone) property in Mexico. It is a high sulphidation gold system with extensive silica flooding and brecciation. The breccia can be filled with iron oxides, but is usually devoid of clay.

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 6 days in a double-cone blender. Splits were taken and sent to 12 commercial laboratories for round robin assaying. Round robin results are displayed below:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12
	Au g/t											
GS-1E-1	1.16	1.21	1.21	1.24	1.22	1.14	1.15	1.12	1.18	1.21	1.22	1.17
GS-1E-2	1.13	1.19	1.12	1.17	1.27	1.14	1.14	1.18	1.17	1.15	1.20	1.27
GS-1E-3	1.07	1.16	1.21	1.18	1.25	1.15	1.18	1.14	1.21	1.23	1.15	1.23
GS-1E-4	1.00	1.20	1.18	1.16	1.23	1.15	1.15	1.16	1.14	1.21	1.18	1.18
GS-1E-5	1.05	1.19	1.21	1.14	1.26	1.15	1.16	1.17	1.09	1.16	1.21	1.20
GS-1E-6	1.10	1.18	1.18	1.13	1.22	1.14	1.17	1.17	1.17	1.24	1.17	1.16
GS-1E-7	1.11	1.19	1.15	1.16	1.18	1.15	1.17	1.16	1.16	1.17	1.16	1.19
GS-1E-8	1.13	1.21	1.17	1.12	1.23	1.14	1.10	1.14	1.15	1.21	1.19	1.18
GS-1E-9	1.00	1.13	1.16	1.16	1.26	1.14	1.13	1.13	1.16	1.20	1.16	1.26
GS-1E-10	1.17	1.15	1.15	1.13	1.24	1.15	1.18	1.11	1.17	1.13	1.08	1.16
Mean	1.09	1.18	1.17	1.16	1.24	1.15	1.15	1.15	1.16	1.19	1.17	1.20
Std. Dev.	0.061	0.027	0.030	0.034	0.026	0.005	0.025	0.024	0.031	0.036	0.040	0.040
%RSD	5.56	2.29	2.58	2.97	2.13	0.46	2.17	2.05	2.66	3.05	3.38	3.33

**Assay Procedure:** all assays were fire assay, AA or ICP finish on 30g samples

### APPROXIMATE CHEMICAL COMPOSITION:

	Percent		Percent
SiO <sub>2</sub>	80.0	Na <sub>2</sub> O	0.7
Al <sub>2</sub> O <sub>3</sub>	2.5	MgO	<0.1
Fe <sub>2</sub> O <sub>3</sub>	10.0	K <sub>2</sub> O	0.7
CaO	1.3	TiO <sub>2</sub>	2.2
MnO	<0.1	LOI	1.0
S	0.2	C	<0.1

## GOLD ORE REFERENCE STANDARD: CDN-GS-1E

### **Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The mean and standard deviation were calculated using all remaining data. Any analysis that fell outside of the mean  $\pm 2$  standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

### Participating Laboratories:

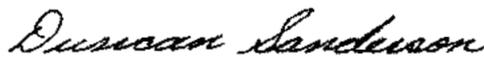
(not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, Canada  
Activation Laboratories, Ancaster, Ontario, Canada  
Activation Laboratories, Thunder Bay, Ontario, Canada  
ALS Chemex, North Vancouver, Canada  
Assayers Canada Ltd., Vancouver, Canada  
Alex Stewart (Assayers) Argentina Ltd.  
Genalysis Lab.Services, Australia  
International Plasma Labs, Richmond, B.C., Canada  
Labtium Inc., Finland  
Omac Laboratory, Ireland  
TSL Laboratories Ltd., Saskatoon, Canada  
Ultra Trace Pty. Ltd., Australia

### Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. nor Barry Smee accept any liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

#2, 20148 – 102<sup>nd</sup> Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

## GOLD ORE REFERENCE MATERIAL CDN-GS-1F

Recommended value and the "Between Laboratory" two standard deviations

*Gold concentration: 1.16 ± 0.13 g/t*

**PREPARED BY:** CDN Resource Laboratories Ltd.  
**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** April 8, 2010

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-GS-1F was prepared using ore supplied by Teuton Resources from their Clone gold property in B.C., Canada. Mineralization is localized within highly silicified semi-massive to massive specular hematite. The gold occurs as fine disseminations and is associated with the oxide mineralization. The major lithology is observed to be light grey to green andesitic pyroclastics intercalated with fine grained to aphanitic andesite. Clasts are subangular to angular, matrix supported, and range in size from 1-3cm. Quartz-calcite stockwork pervades the unit in moderate abundance. 6 kg of this ore was blended with 800 kg of a blank granitic ore.

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 14 commercial laboratories for round robin assaying. Round robin results are displayed below:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14
SAMPLE	Au g/t													
GS-1F-1	1.16	1.18	1.17	1.19	1.12	1.08	1.20	1.22	1.08	1.16	1.02	1.26	1.21	1.25
GS-1F-2	1.11	1.23	1.06	1.21	1.14	1.11	1.18	1.11	0.96	1.15	1.09	1.21	1.22	1.17
GS-1F-3	1.11	1.20	1.10	1.24	1.05	1.18	1.22	1.15	1.06	1.08	1.03	1.17	1.12	1.28
GS-1F-4	1.14	1.13	1.17	1.28	1.09	1.23	1.11	1.18	1.00	1.17	1.16	1.16	1.09	1.25
GS-1F-5	1.15	1.23	1.11	1.24	1.08	1.17	1.06	1.27	0.91	1.06	1.01	1.26	1.13	1.22
GS-1F-6	1.18	1.23	1.14	1.29	1.08	1.14	1.11	1.25	1.03	1.11	1.10	1.19	1.17	1.28
GS-1F-7	1.11	1.27	1.07	1.24	1.16	1.19	1.11	1.30	1.14	1.09	1.14	1.25	1.18	1.22
GS-1F-8	1.13	1.21	1.17	1.19	1.16	1.07	1.05	1.13	1.03	1.11	1.13	1.12	1.14	1.28
GS-1F-9	1.17	1.24	1.16	1.23	1.05	1.20	1.16	1.18	0.93	1.10	1.08	1.32	1.22	1.19
GS-1F-10	1.25	1.08	1.17	1.25	1.05	1.08	1.06	1.26	1.00	1.13	1.02	1.31	1.16	1.26
Mean	1.15	1.20	1.13	1.24	1.10	1.15	1.13	1.20	1.01	1.12	1.08	1.23	1.16	1.24
Std. Dev'n	0.0434	0.0560	0.0437	0.0334	0.0459	0.0572	0.0611	0.0642	0.0700	0.0360	0.0553	0.0659	0.0445	0.0389
%RSD	3.77	4.67	3.86	2.70	4.18	5.00	5.43	5.34	6.90	3.22	5.13	5.38	3.82	3.13

**Assay Procedure:** all assays were fire assay, ICP finish on 30g samples.

### **APPROXIMATE CHEMICAL COMPOSITION:**

	Percent		Percent
SiO <sub>2</sub>	64.2	Na <sub>2</sub> O	2.6
Al <sub>2</sub> O <sub>3</sub>	13.1	MgO	1.7
Fe <sub>2</sub> O <sub>3</sub>	6.3	K <sub>2</sub> O	2.3
CaO	6.2	TiO <sub>2</sub>	0.3
MnO	0.1	LOI	2.0
S	0.6	C	0.2

## GOLD ORE REFERENCE MATERIAL: CDN-GS-1F

### **Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The mean and standard deviation were calculated using all remaining data. Any analysis that fell outside of the mean  $\pm 2$  standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

### Participating Laboratories:

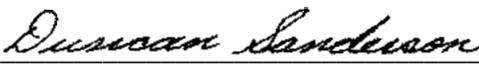
(not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, Canada  
Activation Laboratories, Ancaster, Ontario, Canada  
Activation Laboratories, Thunder Bay, Ontario, Canada  
AGAT Laboratories Ltd., Ontario, Canada  
Alaska Assay Laboratory, Alaska, USA  
ALS Chemex, North Vancouver, Canada  
ASA Omac, Ireland  
Assayers Canada Ltd., Vancouver, Canada  
Eco-Tech, Kamloops, Canada  
Genalysis Lab. Services, Australia  
Labtium Inc., Finland  
Skyline Assayers & Laboratories, Arizona, USA  
TSL Laboratories Ltd., Saskatoon, Canada  
Ultra Trace Pty. Ltd., Australia

### Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. nor Barry Smee accept any liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by

  
Duncan Sanderson, Certified Assayer of B.C.

Geochemist

  
Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

#2, 20148 – 102<sup>nd</sup> Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

## REFERENCE MATERIAL: CDN-GS-3G

Recommended value and the "Between Laboratory" two standard deviations

**Gold concentration:  $2.59 \pm 0.18$  g/t (30g Fire Assay / ICP)**

**PREPARED BY:** CDN Resource Laboratories Ltd.  
**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** March 10, 2010

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-GS-3G was prepared using ore supplied by Barrick Gold Inc. from their Goldstrike Mine in Nevada, USA. It is Carlin Style Mineralization in the prolific Northern Carlin Trend in Northern Nevada, USA. The source material is from Devonian carbonates of the Popovich Formation. Gold is strongly associated with pyrite and other sulfides including the arsenic minerals orpiment and realgar.

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying. Round robin results are displayed below:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au g/t														
CDN-GS-3G-1	2.58	2.68	2.49	2.43	2.46	2.55	2.47	2.61	2.32	2.55	2.74	2.74	2.59	2.59	2.73
CDN-GS-3G-2	2.54	2.66	2.59	2.28	2.58	2.59	2.54	2.61	2.37	2.54	2.40	2.69	2.55	2.62	2.54
CDN-GS-3G-3	2.51	2.69	2.61	2.39	2.51	2.60	2.59	2.53	2.33	2.48	2.54	2.77	2.57	2.72	2.60
CDN-GS-3G-4	2.57	2.67	2.61	2.37	2.54	2.62	2.54	2.77	2.40	2.46	2.54	2.73	2.61	2.61	2.65
CDN-GS-3G-5	2.67	2.70	2.49	2.35	2.51	2.61	2.52	2.82	2.46	2.21	2.47	2.72	2.58	2.62	2.62
CDN-GS-3G-6	2.63	2.68	2.52	2.27	2.49	2.65	2.48	2.76	2.56	2.43	2.50	2.73	2.55	2.61	2.56
CDN-GS-3G-7	2.62	2.69	2.71	2.41	2.48	2.55	2.35	2.55	2.62	2.40	2.61	2.69	2.56	2.58	2.64
CDN-GS-3G-8	2.65	2.63	2.55	2.56	2.64	2.65	2.50	2.79	2.42	2.18	2.67	2.74	2.54	2.59	2.72
CDN-GS-3G-9	2.60	2.70	2.50	2.44	2.48	2.62	2.57	2.62	2.55	2.28	2.43	2.67	2.60	2.62	2.77
CDN-GS-3G-10	2.59	2.65	2.60	2.38	2.47	2.63	2.46	2.65	2.31	2.42	2.50	2.60	2.57	2.59	2.61
Mean	2.60	2.68	2.57	2.39	2.52	2.61	2.50	2.67	2.43	2.40	2.54	2.71	2.57	2.62	2.64
Std. Dev'n	0.0490	0.0227	0.0704	0.0830	0.0564	0.0371	0.0683	0.1049	0.1102	0.1300	0.1062	0.0480	0.0230	0.0406	0.0750
%RSD	1.89	0.85	2.74	3.47	2.24	1.42	2.73	3.93	4.53	5.43	4.18	1.77	0.89	1.55	2.84

*Note: Data from Lab 4 was excluded for failing the t test.*

### APPROXIMATE CHEMICAL COMPOSITION:

	Percent		Percent		ppm
SiO <sub>2</sub>	45.1	Na <sub>2</sub> O	0.1	As	500
Al <sub>2</sub> O <sub>3</sub>	5.2	MgO	8.9	Sb	60
Fe <sub>2</sub> O <sub>3</sub>	2.7	K <sub>2</sub> O	1.1		
CaO	14.3	TiO <sub>2</sub>	0.2		
MnO	0.1	LOI	20.8		
Total S	1.4	Total C	5.9		
Sulphide S	0.9	Inorganic C	3.0		

**REFERENCE MATERIAL: CDN-GS-3G**

**Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The mean and standard deviation were calculated using all remaining data. Any analysis that fell outside of the mean  $\pm 2$  standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

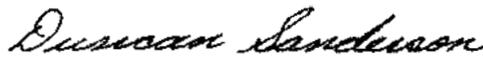
Participating Laboratories: (not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada  
Acme Analytical Laboratories Ltd., Santiago, Chile  
Activation Laboratories, Ancaster, Ontario, Canada  
Activation Laboratories, Thunder Bay, Ontario, Canada  
Alaska Assay Lab, Anchorage, Alaska, USA  
ASA Argentina  
ALS Chemex, North Vancouver, B.C., Canada  
ALS Chemex, Nevada, USA  
Assayers Canada Ltd., Vancouver, B.C., Canada  
Bourlamaque Assay Laboratories, Quebec, Canada  
Eco Tech Laboratory Ltd., Kamloops, B.C., Canada  
Labtium Inc., Finland  
SGS, Toronto, Canada  
SGS, Lima, Peru  
TSL Laboratories Ltd., Saskatoon, SK, Canada

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Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

#2, 20148 – 102<sup>nd</sup> Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

## REFERENCE MATERIAL: CDN-GS-4C

Recommended value and the "Between Laboratory" two standard deviations

**Gold concentration:  $4.26 \pm 0.22$  g/t (30g Fire Assay / ICP)**

**Gold concentration:  $4.25 \pm 0.20$  g/t (30g Fire Assay / Grav.)**

**PREPARED BY:** CDN Resource Laboratories Ltd.  
**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** March 10, 2010

### ORIGIN OF REFERENCE MATERIAL:

Standard CDN-GS-4C was prepared using ore supplied by Barrick Gold Inc. from their Goldstrike Mine in Nevada, USA. It is Carlin Style Mineralization in the prolific Northern Carlin Trend in Northern Nevada, USA. The source material is from Devonian carbonates of the Popovich Formation. Gold is strongly associated with pyrite and other sulfides including the arsenic minerals orpiment and realgar.

### METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying. Round robin results are displayed below:

ICP	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au g/t														
CDN-GS-4C-1	4.23	4.18	4.52	4.16	4.11	4.01	4.46	4.20	4.34	4.41	4.34	4.10	4.26	4.23	4.21
CDN-GS-4C-2	4.48	4.20	4.44	4.13	4.13	4.08	4.56	4.30	4.29	4.40	4.21	4.19	4.22	4.47	4.15
CDN-GS-4C-3	4.23	4.16	4.37	4.20	4.21	4.05	4.47	4.27	4.32	4.39	4.30	4.18	4.29	4.43	4.09
CDN-GS-4C-4	4.24	4.20	4.27	4.25	4.22	4.13	4.58	4.20	4.38	4.44	4.30	4.16	4.24	4.41	4.15
CDN-GS-4C-5	4.46	4.27	4.59	4.14	4.21	4.09	4.47	4.29	4.28	4.38	4.25	4.11	4.27	4.39	4.17
CDN-GS-4C-6	4.18	4.34	4.60	4.26	4.27	4.07	4.35	4.36	4.26	4.33	4.32	4.13	4.22	4.39	4.11
CDN-GS-4C-7	4.27	4.26	4.46	4.30	4.24	4.06	4.40	4.28	4.29	4.34	4.27	4.19	4.30	4.25	4.20
CDN-GS-4C-8	4.15	4.41	4.38	4.16	4.24	4.02	4.27	4.22	4.31	4.34	4.25	4.14	4.26	4.43	4.16
CDN-GS-4C-9	4.29	4.29	4.59	4.27	4.20	4.06	4.28	4.13	4.28	4.39	4.37	4.00	4.32	4.35	4.12
CDN-GS-4C-10	4.21	4.33	4.46	4.15	4.27	4.13	4.28	4.18	4.22	4.41	4.27	3.95	4.31	4.43	4.13
Mean	4.27	4.26	4.47	4.20	4.21	4.07	4.41	4.24	4.30	4.38	4.29	4.12	4.27	4.38	4.15
Std. Dev'n	0.1109	0.0804	0.1092	0.0625	0.0533	0.0420	0.1146	0.0685	0.0440	0.0359	0.0476	0.0810	0.0349	0.0796	0.0381
%RSD	2.59	1.89	2.44	1.49	1.27	1.03	2.60	1.61	1.02	0.82	1.11	1.97	0.82	1.82	0.92
Gravimetric	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au g/t														
CDN-GS-4C-1	4.32	4.16	4.80	4.23	4.33	4.146	4.26	4.31	4.42		4.3		4.19	4.120	4.30
CDN-GS-4C-2	4.32	4.23	4.53	4.26	4.33	4.065	4.23	4.24	4.39		4.2		4.23	4.310	4.33
CDN-GS-4C-3	4.35	4.15	4.33	4.30	4.36	4.058	4.20	4.25	4.51		4.1		4.23	4.467	4.27
CDN-GS-4C-4	4.28	4.26	4.57	4.33	4.34	4.121	4.13	4.22	4.56		4.2		4.22	4.067	4.30
CDN-GS-4C-5	4.26	4.25	4.77	4.26	4.30	4.012	4.24	4.30	4.22		4.1		4.24	4.061	4.33
CDN-GS-4C-6	4.24	4.11	4.33	4.20	4.32	4.091	4.26	4.33	4.37		4.4		4.24	4.223	4.20
CDN-GS-4C-7	4.23	4.19	4.50	4.33	4.26	4.097	4.15	4.23	4.58		4.2		4.19	4.061	4.30
CDN-GS-4C-8	4.27	4.26	4.67	4.31	4.31	4.146	4.28	4.24	4.38		4.3		4.20	4.122	4.27
CDN-GS-4C-9	4.08	4.18	4.30	4.23	4.26	4.103	4.28	4.23	4.43		4.5		4.22	4.238	4.23
CDN-GS-4C-10	4.25	4.26	4.67	4.19	4.33	4.198	4.26	4.17	4.42		4.4		4.20	4.000	4.23
Mean	4.26	4.21	4.55	4.26	4.31	4.10	4.23	4.25	4.43		4.27		4.22	4.17	4.28
Std. Dev'n	0.0742	0.0544	0.1832	0.0517	0.0327	0.0527	0.0528	0.0480	0.1042		0.1337		0.0196	0.1426	0.0443
%RSD	1.74	1.29	4.03	1.21	0.76	1.28	1.25	1.13	2.35		3.13		0.46	3.42	1.04

**Note:** Labs 10 and 12 did not report gravimetric results.  
 Gravimetric data from Lab 3 was excluded for failing the "t" test.

**REFERENCE MATERIAL: CDN-GS-4C**

**APPROXIMATE CHEMICAL COMPOSITION:**

	Percent			Percent			ppm
SiO <sub>2</sub>	45.1		Na <sub>2</sub> O	0.1		As	500
Al <sub>2</sub> O <sub>3</sub>	5.2		MgO	8.9		Sb	60
Fe <sub>2</sub> O <sub>3</sub>	2.7		K <sub>2</sub> O	1.1			
CaO	14.3		TiO <sub>2</sub>	0.2			
MnO	0.1		LOI	20.8			
Total S	1.4		Total C	5.9			
Sulphide S	1.2		Inorganic C	5.3			

**Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The mean and standard deviation were calculated using all remaining data. Any analysis that fell outside of the mean  $\pm 2$  standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

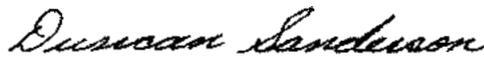
**Participating Laboratories:** (not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada  
Acme Analytical Laboratories Ltd., Santiago, Chile  
Activation Laboratories, Ancaster, Ontario, Canada  
Activation Laboratories, Thunder Bay, Ontario, Canada  
Alaska Assay Lab, Anchorage, Alaska, USA  
Alex Stewart Argentina SA  
ALS Chemex, North Vancouver, B.C., Canada  
ALS Chemex, Nevada, USA  
Assayers Canada Ltd., Vancouver, B.C., Canada  
Bourlamaque Assay Laboratories, Quebec, Canada  
Eco Tech Laboratory Ltd., Kamloops, B.C., Canada  
Labtium Inc., Finland  
SGS, Toronto, Canada  
SGS, Lima, Peru  
TSL Laboratories Ltd., Saskatoon, SK, Canada

**Legal Notice:**

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. nor Barry Smee accept any liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

#2, 20148 - 102nd Avenue, Langley, B.C., Canada, V1M 4B4, Ph: 604-882-8422 Fax: 604-882-8466  
(www.cdnlabs.com)

## GOLD ORE REFERENCE STANDARD: CDN-GS-7A

Recommended value and the "Between Laboratory" two standard deviations

*Gold concentration: 7.20 ± 0.60 g/t*

**PREPARED BY:** CDN Resource Laboratories Ltd.  
**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** September 15, 2008

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-GS-7A was prepared using ore supplied by Comaplex Minerals Corporation. The ore is from the 1100 lode of the Tiriganiaq Gold Deposit north of Rankin Inlet in Nunavut. It is a banded magnetite iron formation zone with gold in quartz shears with accessory pyrrhotite, pyrite, and arsenopyrite. The gold is free milling although there may be a small refractory component.

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 200 mesh screen. The +200 material was discarded. The -200 material was mixed for 6 days in a double-cone blender. Splits were taken and sent to 12 commercial laboratories for round robin assaying. Round robin results are displayed below:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12
	Au (g/t)											
GS-7A-01	7.34	6.16	6.84	7.00	7.02	7.04	7.40	7.00	7.03	7.17	7.0	7.46
GS-7A-02	7.13	6.82	6.66	8.33	7.01	7.12	7.56	7.10	7.28	7.22	7.3	7.50
GS-7A-03	7.53	7.18	6.95	7.00	7.08	6.65	7.11	7.39	7.06	7.20	7.0	7.53
GS-7A-04	6.93	6.99	6.49	7.00	7.60	6.78	6.83	7.01	7.52	7.43	7.0	7.57
GS-7A-05	7.96	7.43	6.05	8.00	7.47	6.93	6.63	7.39	7.26	7.41	6.8	7.90
GS-7A-06	7.47	7.03	6.40	7.00	7.28	6.88	6.83	7.33	7.53	7.30	7.1	7.96
GS-7A-07	6.93	6.74	6.45	8.33	7.18	7.31	7.61	7.41	7.11	7.52	7.1	7.27
GS-7A-08	6.93	6.68	6.20	8.67	7.01	6.79	6.71	7.28	7.46	7.54	7.0	7.10
GS-7A-09	7.73	6.55	6.32	7.67	7.67	6.42	7.07	7.01	6.95	6.83	7.3	7.24
GS-7A-10	7.47	7.58	6.94	7.67	7.22	6.88	7.18	7.41	7.40	6.98	7.1	7.52
Mean	7.34	6.92	6.53	7.67	7.25	6.88	7.09	7.23	7.26	7.26	7.07	7.51
Std. Dev.	0.358	0.421	0.310	0.648	0.248	0.248	0.348	0.181	0.214	0.230	0.149	0.271
%RSD	4.88	6.09	4.75	8.45	3.41	3.60	4.90	2.50	2.94	3.17	2.11	3.61

**Assay Procedure:** all assays were fire assay, gravimetric finish on 30g samples except for labs 4, 6 and 7 which used ICP finish.

**Note:** Data from Lab 3 was removed for failing the "t" test.

### APPROXIMATE CHEMICAL COMPOSITION:

	Percent		Percent
SiO <sub>2</sub>	55.5	Na <sub>2</sub> O	1.4
Al <sub>2</sub> O <sub>3</sub>	9.0	MgO	1.6
Fe <sub>2</sub> O <sub>3</sub>	21.5	K <sub>2</sub> O	2.1
CaO	3.2	TiO <sub>2</sub>	0.3
MnO	1.6	LOI	4.9
S	1.7	C	1.2
		As	7600 ppm

## GOLD ORE REFERENCE STANDARD: CDN-GS-7A

### **Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean  $\pm 2$  standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

### Participating Laboratories:

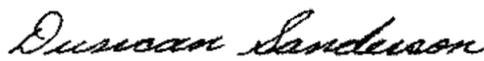
(not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, Canada  
Activation Laboratories, Ontario, Canada  
ALS Chemex, North Vancouver, Canada  
Assayers Canada Ltd., Vancouver, Canada  
Alex Stewart (Assayers) Argentina) Ltd.  
Genalysis Lab.Services, Australia  
Labtium Inc., Finland  
Omac Laboratory, Ireland  
Skyline Assayers & Laboratories Ltd, Arizona, USA  
International Plasma Laboratories, Canada  
TSL Laboratories Ltd., Saskatoon, Canada  
Ultra Trace Pty. Ltd., Australia

### Legal Notice:

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Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

#2, 20148 – 102<sup>nd</sup> Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

## REFERENCE MATERIAL: CDN-GS-7B

Recommended value and the "Between Laboratory" two standard deviations

**Gold concentration:  $6.42 \pm 0.46$  g/t (Fire Assay / ICP)**

**Gold concentration:  $6.37 \pm 0.47$  g/t (Fire Assay / Grav.)**

**PREPARED BY:** CDN Resource Laboratories Ltd.  
**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** December 28, 2009

### ORIGIN OF REFERENCE MATERIAL:

Standard CDN-GS-7B was prepared using ore supplied by Williams Operating Corporation from their Williams Mine in Ontario, Canada. 190 kg of Williams ore was mixed with 610 kg of a blank, granitic ore.

### METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying. Round robin results are displayed below:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
ICP	Au g/t														
CDN-GS-7B-1	6.66	6.64	6.25	6.57	6.32	6.30	6.17	6.34	6.17	6.77	6.29	6.18	6.70	6.58	5.70
CDN-GS-7B-2	6.78	6.72	6.45	6.33	6.54	6.32	6.08	5.97	6.36	6.67	6.36	6.82	6.29	6.82	6.19
CDN-GS-7B-3	6.54	6.76	6.35	6.49	6.33	6.48	5.84	6.21	6.16	6.66	6.39	6.65	6.73	6.96	6.48
CDN-GS-7B-4	6.37	6.32	6.27	6.30	6.57	6.30	5.76	6.37	6.40	6.29	6.24	6.03	6.46	6.81	6.02
CDN-GS-7B-5	6.09	6.54	6.57	6.32	6.27	6.10	6.65	6.39	6.06	5.87	6.25	6.40	6.53	6.70	6.57
CDN-GS-7B-6	6.93	6.88	6.40	6.45	6.94	6.69	6.17	6.14	6.37	6.15	6.16	6.77	6.70	6.99	6.58
CDN-GS-7B-7	6.61	6.72	6.54	6.29	6.93	6.16	6.05	6.49	6.35	6.38	6.61	6.25	6.81	6.37	6.12
CDN-GS-7B-8	6.44	6.40	6.30	6.21	6.74	6.41	6.44	6.14	6.49	6.06	6.24	6.10	6.50	6.16	6.42
CDN-GS-7B-9	6.60	6.51	6.35	6.20	6.63	6.14	6.44	5.99	6.19	6.54	6.33	6.00	6.49	6.75	6.54
CDN-GS-7B-10	6.20	6.29	6.25	6.28	6.87	6.68	6.55	6.42	6.65	6.67	6.45	6.64	6.86	6.63	6.01
Mean	6.52	6.58	6.37	6.34	6.61	6.36	6.22	6.25	6.32	6.41	6.33	6.38	6.61	6.68	6.26
Std. Dev'n	0.2552	0.1988	0.1158	0.1203	0.2540	0.2090	0.2981	0.1826	0.1769	0.3055	0.1293	0.3142	0.1798	0.2571	0.2998
%RSD	3.91	3.02	1.82	1.90	3.84	3.29	4.80	2.92	2.80	4.77	2.04	4.92	2.72	3.85	4.79
	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
Gravimetric	Au g/t														
CDN-GS-7B-1	6.65	6.53	6.27	6.48	6.92	6.73	6.00		6.59	6.19	6.43	6.65	6.19	6.45	5.71
CDN-GS-7B-2	6.34	7.03	6.20	6.25	6.37	6.43	6.53		6.65	6.14	6.50	6.27	6.30	6.86	5.78
CDN-GS-7B-3	6.62	6.50	6.27	6.23	6.47	6.37	6.40		6.89	6.11	6.70	6.09	5.75	6.27	6.04
CDN-GS-7B-4	6.53	6.60	6.40	6.30	6.17	6.24	6.80		6.16	6.19	7.10	6.26	6.21	6.51	5.79
CDN-GS-7B-5	6.80	6.57	6.43	6.14	6.58	6.49	7.00		6.39	6.20	6.70	6.64	5.99	6.48	6.33
CDN-GS-7B-6	6.21	6.40	6.51	6.21	6.63	6.60	6.60		6.47	6.41	6.60	6.28	6.27	6.03	6.04
CDN-GS-7B-7	6.24	6.50	6.36	6.34	6.40	6.43	6.73		6.30	6.26	6.43	6.56	5.93	6.14	5.91
CDN-GS-7B-8	6.36	6.80	6.38	6.46	6.57	6.26	6.33		6.35	6.20	6.43	6.10	5.85	6.03	5.98
CDN-GS-7B-9	6.18	6.67	6.23	6.32	6.70	6.43	6.07		7.05	6.03	6.50	6.22	5.88	6.10	6.58
CDN-GS-7B-10	6.44	6.93	6.33	6.40	6.43	6.80	6.40		6.58	6.01	6.73	6.32	6.11	6.41	5.85
Mean	6.44	6.65	6.34	6.31	6.52	6.48	6.49		6.54	6.17	6.61	6.34	6.05	6.33	6.00
Std. Dev'n	0.2084	0.2045	0.0967	0.1106	0.2056	0.1841	0.3143		0.2717	0.1144	0.2087	0.2066	0.1934	0.2627	0.2700
%RSD	3.24	3.07	1.53	1.75	3.15	2.84	4.85		4.15	1.85	3.16	3.26	3.20	4.15	4.50

**Note:** Labs 8 did not report gravimetric results.

**Assay Procedure:** Fire assay on 30g samples. Both ICP and gravimetric finishes were requested.

**REFERENCE MATERIAL: CDN-GS-7B**

APPROXIMATE CHEMICAL COMPOSITION:

	Percent			Percent
SiO <sub>2</sub>	82.9		Na <sub>2</sub> O	0.8
Al <sub>2</sub> O <sub>3</sub>	2.4		MgO	1.9
Fe <sub>2</sub> O <sub>3</sub>	4.6		K <sub>2</sub> O	0.5
CaO	3.1		TiO <sub>2</sub>	0.3
MnO	0.1		LOI	1.7
S	1.0		C	0.1

**Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The mean and standard deviation were calculated using all remaining data. Any analysis that fell outside of the mean  $\pm 2$  standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

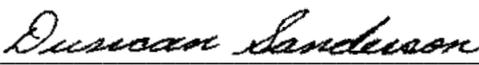
Participating Laboratories: (not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada  
Activation Laboratories, Ancaster, Ontario, Canada  
Activation Laboratories, Thunder Bay, Ontario, Canada  
ALS Chemex, North Vancouver, B.C., Canada  
ALS Chemex, Nevada, USA  
Assayers Canada Ltd., Vancouver, B.C., Canada  
American Assay Laboratories, Nevada, USA  
Bourlamaque Assay Laboratories, Quebec, Canada  
Eco Tech Laboratory Ltd., Kamloops, B.C., Canada  
Inspectorate America, Nevada, USA  
International Plasma Laboratories, Richmond, B.C., Canada  
Labtium Inc., Finland  
Omac Laboratory, Ireland  
SGS Canada, Toronto, Canada  
TSL Laboratories Ltd., Saskatoon, SK, Canada

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Certified by

  
Duncan Sanderson, Certified Assayer of B.C.

Geochemist

  
Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

#2, 20148 - 102nd Avenue, Langley, B.C., Canada, V1M 4B4, Ph: 604-882-8422 Fax: 604-882-8466  
(www.cdnlabs.com)

## REFERENCE MATERIAL: CDN-GS-P7B

Recommended values and the "Between Lab" Two Standard Deviations

*Gold concentration: 0.71 ± 0.07 g/t*

*Silver concentration: 13.4 ± 1.6 g/t*

**PREPARED BY:** CDN Resource Laboratories Ltd.

**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia

**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.

**DATE OF CERTIFICATION:** August 28, 2010

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 laboratories for round robin assaying.

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-GS-P7B was prepared using a variety of siliceous ores.

### **Approximate chemical composition is as follows:**

	Percent			Percent
SiO <sub>2</sub>	64.4		MgO	2.1
Al <sub>2</sub> O <sub>3</sub>	12.3		K <sub>2</sub> O	1.6
Fe <sub>2</sub> O <sub>3</sub>	7.1		TiO <sub>2</sub>	0.6
CaO	3.8		LOI	3.5
Na <sub>2</sub> O	2.5		S	1.0

### **Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

## REFERENCE MATERIAL CDN-GS-P7B

### Results from round-robin assaying:

**Assay Procedures:**    **Au:** Fire assay pre-concentration, AA or ICP finish (30g sub-sample).  
                                   **Ag:** 4-acid digestion, AA or ICP finish.

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
Sample	Au g/t														
GS-P7B-1	0.78	0.686	0.537	0.746	0.634	0.74	0.70	0.667	0.736	0.707	0.73	0.739	0.77	0.782	0.661
GS-P7B-2	0.78	0.669	0.585	0.639	0.693	0.70	0.73	0.681	0.697	0.682	0.69	0.702	0.72	0.762	0.685
GS-P7B-3	0.70	0.681	0.647	0.743	0.690	0.70	0.72	0.658	0.719	0.700	0.72	0.716	0.71	0.747	0.631
GS-P7B-4	0.73	0.718	0.626	0.699	0.639	0.67	0.68	0.676	0.704	0.679	0.73	0.703	0.68	0.759	0.700
GS-P7B-5	0.72	0.722	0.642	0.661	0.689	0.68	0.71	0.717	0.733	0.700	0.68	0.723	0.79	0.776	0.789
GS-P7B-6	0.72	0.699	0.549	0.674	0.607	0.72	0.75	0.706	0.685	0.708	0.67	0.678	0.71	0.752	0.683
GS-P7B-7	0.68	0.731	0.585	0.676	0.626	0.68	0.73	0.671	0.667	0.689	0.7	0.722	0.72	0.782	0.684
GS-P7B-8	0.79	0.684	0.603	0.669	0.600	0.69	0.73	0.683	0.733	0.695	0.74	0.724	0.73	0.739	0.643
GS-P7B-9	0.77	0.669	0.552	0.706	0.591	0.72	0.74	0.720	0.683	0.672	0.73	0.716	0.69	0.773	0.633
GS-P7B-10	0.77	0.757	0.611	0.693	0.620	0.69	0.75	0.695	0.734	0.688	0.74	0.752	0.78	0.782	0.638
Mean	0.744	0.702	0.594	0.691	0.639	0.699	0.724	0.687	0.709	0.692	0.713	0.718	0.730	0.765	0.675
Std. Dev'n	0.0386	0.0293	0.0390	0.0344	0.0386	0.0218	0.0222	0.0214	0.0254	0.0121	0.0258	0.0204	0.0377	0.0159	0.0473
%RSD	5.19	4.18	6.57	4.97	6.04	3.12	3.07	3.12	3.58	1.74	3.62	2.85	5.17	2.07	7.01
	Ag g/t														
GS-P7B-1		11.9	14.1	14.5	14	13.4	13.5	13.5	14	13	12	13.1	12.2	14.2	14.7
GS-P7B-2		11.8	12.8	13.7	13	13.0	13.0	13.0	18	13	12	13.3	14.2	14.2	14.2
GS-P7B-3		12.3	12.6	15.2	13	13.2	13.0	13.7	13	13	12	13.6	13.1	13.9	13.8
GS-P7B-4		12.8	12.2	14.8	12	13.8	14.0	13.2	12	14	12	13.3	13.5	14.7	13.6
GS-P7B-5		13.0	12.9	14.4	13	13.3	13.0	13.3	14	13	13	13.2	15.1	14.5	14.4
GS-P7B-6		12.1	12.5	13.2	14	13.6	15.0	13.7	13	16	13	13.9	14.2	14.0	14.2
GS-P7B-7		12.7	12.3	13.0	12	13.2	13.0	13.6	12	13	13	13.3	13.1	14.7	14.5
GS-P7B-8		14.7	12.6	13.6	14	13.8	14.0	13.2	13	13	13	13.3	14.3	14.0	14.2
GS-P7B-9		12.8	12.2	14.9	15	13.4	14.5	13.0	13	15	13	12.7	15.2	13.4	14.8
GS-P7B-10		14.2	13.3	13.7	14	13.6	14.5	13.6	14	14	12	13.4	13.5	13.7	14.3
Mean		12.8	12.8	14.1	13.4	13.4	13.8	13.4	13.6	13.7	12.5	13.3	13.8	14.1	14.3
Std. Dev'n		0.9522	0.5836	0.7587	0.9661	0.2669	0.7546	0.2910	1.7127	1.0593	0.5270	0.3107	0.9383	0.4218	0.3683
%RSD		7.42	4.58	5.38	7.21	1.99	5.49	2.18	12.59	7.73	4.22	2.33	6.78	2.98	2.58

**Note:** Au data from Lab. 3 was excluded for failing the t test.

**STANDARD REFERENCE MATERIAL CDN-GS-P7B**

**Participating Laboratories:**

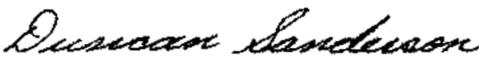
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada  
Actlabs, Ancaster, Ontario, Canada  
Actlabs, Thunder Bay, Ontario, Canada  
ALS Chemex Laboratories, North Vancouver, B.C., Canada  
Alaska Assay Laboratories, Alaska, USA  
ASA Argentina, Mendoza, Argentina  
Assayers Canada Ltd., Vancouver, B.C., Canada  
Eco Tech Laboratory Ltd., Kamloops, B.C., Canada  
Genalysis Laboratory Services Pty. Ltd., Australia  
International Plasma Laboratories, Richmond, B.C., Canada  
Labtium Laboratory, Finland  
OMAC Laboratories Ltd., Ireland  
Skyline Assayers & Laboratories, Arizona, USA  
TSL Laboratories, Saskatoon, Canada  
Ultra Trace Analytical Laboratories, Australia

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by

  
Duncan Sanderson, Certified Assayer of B.C.

Geochemist

  
Dr. Barry Smee, Ph.D., P. Geo.

# CDN Resource Laboratories Ltd.

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## GOLD ORE REFERENCE STANDARD: CDN-GS-P8

Recommended value and the "Between Laboratory" two standard deviations

*Gold concentration: 0.78 ± 0.06 g/t*

**PREPARED BY:** CDN Resource Laboratories Ltd.  
**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** April 18, 2009

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-GS-P8 was prepared using ore supplied by Canadian Gold Hunter Corporation from its Caballo Blanco (North Zone) property in Mexico. It is a high sulphidation gold system with extensive silica flooding and brecciation. The breccia can be filled with iron oxides, but is usually devoid of clay.

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 6 days in a double-cone blender. Splits were taken and sent to 12 commercial laboratories for round robin assaying. Round robin results are displayed below:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12
	Au g/t											
GS-P8-1	0.76	0.76	0.75	0.79	0.79	0.78	0.75	0.76	0.82	0.82	0.76	0.81
GS-P8-2	0.73	0.80	0.76	0.77	0.79	0.79	0.78	0.73	0.78	0.81	0.76	0.77
GS-P8-3	0.74	0.78	0.79	0.77	0.80	0.79	0.75	0.75	0.79	0.81	0.75	0.82
GS-P8-4	0.76	0.78	0.78	0.78	0.79	0.78	0.72	0.73	0.72	0.82	0.83	0.79
GS-P8-5	0.71	0.78	0.83	0.76	0.81	0.79	0.76	0.75	0.74	0.81	0.79	0.78
GS-P8-6	0.70	0.73	0.81	0.79	0.89	0.80	0.80	0.77	0.82	0.81	0.83	0.80
GS-P8-7	0.66	0.77	0.81	0.76	0.82	0.80	0.79	0.73	0.77	0.82	0.76	0.81
GS-P8-8	0.72	0.77	0.77	0.76	0.85	0.79	0.76	0.79	0.81	0.79	0.78	0.81
GS-P8-9	0.72	0.80	0.83	0.75	0.84	0.78	0.77	0.80	0.78	0.83	0.74	0.85
GS-P8-10	0.78	0.75	0.78	0.80	0.85	0.80	0.85	0.74	0.77	0.82	0.78	0.82
Mean	0.73	0.77	0.79	0.77	0.82	0.79	0.77	0.75	0.78	0.81	0.78	0.80
Std. Dev.	0.035	0.021	0.028	0.016	0.034	0.008	0.035	0.027	0.032	0.011	0.031	0.022
%RSD	4.75	2.69	3.55	2.12	4.14	1.03	4.56	3.53	4.15	1.38	4.02	2.79

**Assay Procedure:** all assays were fire assay, gravimetric finish on 30g samples

### APPROXIMATE CHEMICAL COMPOSITION:

	Percent		Percent
SiO <sub>2</sub>	75.6	Na <sub>2</sub> O	0.5
Al <sub>2</sub> O <sub>3</sub>	2.3	MgO	<0.1
Fe <sub>2</sub> O <sub>3</sub>	15.6	K <sub>2</sub> O	0.8
CaO	1.2	TiO <sub>2</sub>	1.7
MnO	<0.1	LOI	1.0
S	0.1	C	<0.1

## GOLD ORE REFERENCE STANDARD: CDN-GS-P8

### **Statistical Procedures:**

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean  $\pm 2$  standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

### Participating Laboratories:

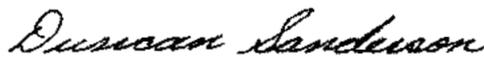
(not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, Canada  
Activation Laboratories, Ancaster, Ontario, Canada  
Activation Laboratories, Thunder Bay, Ontario, Canada  
ALS Chemex, North Vancouver, Canada  
Assayers Canada Ltd., Vancouver, Canada  
Alex Stewart (Assayers) Argentina Ltd.  
Genalysis Lab.Services, Australia  
International Plasma Labs, Richmond, B.C., Canada  
Labtium Inc., Finland  
Omac Laboratory, Ireland  
TSL Laboratories Ltd., Saskatoon, Canada  
Ultra Trace Pty. Ltd., Australia

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Certified by



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Geochemist



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