### TECHNICAL REPORT AND RESOURCE ESTIMATE FOR THE UPPER CANADA GOLD DEPOSIT OF THE KIRKLAND LAKE GOLD PROJECT GAUTHIER TOWNSHIP, KIRKLAND LAKE NORTH-EASTERN ONTARIO, CANADA

Latitude 48° 08' 32" North Longitude 79° 49' 11" West For

### **QUEENSTON MINING INC.**

by

P&E Mining Consultants Inc. Suite 202 - 2 County Court Blvd Brampton, Ontario, L6W 3W8

NI 43-101F1 TECHNICAL REPORT No 210

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Effective Date: April 30, 2011 Signing Date: June 17, 2011

#### **IMPORTANT NOTICE**

This report was prepared as a National Instrument 43-101 Technical Report, in accordance with Form 43-101F1, for Queenston Mining Inc. ("Queenston") by P&E Mining Consultants Inc. ("P&E"). The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in the consulting services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended to be used by Queenston subject to the terms and conditions of its contract with P&E. This contract permits Queenston to file this report as a Technical Report with Canadian Securities Regulatory Authorities pursuant to National Instrument 43-101, Standards of Disclosure for Mineral Projects. Any other use of this report by any third party is at that party's sole risk.

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### **EXECUTIVE SUMMARY**

The following report was prepared to provide a NI 43-101 compliant Technical Report and Resource Estimate of the gold mineralization contained in the Upper Canada Property which constitutes part of the Kirkland Lake Gold Project, north-eastern Ontario, Canada. The Upper Canada Property is held 100% Queenston Mining Inc.

This report was prepared by P&E Mining Consultants Inc. ("P&E") at the request of Mr. William J. McGuinty, P.Geo., Vice President, Exploration, Queenston Mining Inc., which is a Toronto-based resource company.

The Upper Canada Property comprises 43 contiguous patented, unpatented and leased claims, which together cover an area of 799 ha. 9 of the claims are patented for mining rights only and 34 are patented for both mining and surface rights. Queenston owns 100% interest in the Property and all 34 patented claims are in good standing in perpetuity.

All of the Upper Canada claims are subject to a sliding scale NSR royalty of 1% to 2% payable to the Franco-Nevada Corporation ("Franco") and based on the price of gold.

The Upper Canada Property is located at an approximate latitude of 48° 09' 47" North by 79° 49' 20" West, a position approximately 500 kilometres north of Toronto, 200 kilometres north-northeast of Sudbury and 120 kilometres southeast of Timmins.

The Upper Canada Property is easily accessible via Highway 66 and Upper Canada Drive which cuts through the central portion of the property. The Property can be operated on a year-round basis.

There are excellent local resources and infrastructure to support exploration and mining activities and mining equipment and personnel are readily available from the towns of Kirkland Lake, Matachewan, Ontario (approximately 50 kilometres west of Kirkland Lake) and Rouyn-Noranda, Quebec (approximately 60 kilometres east of the property). Water, telephone and high voltage power is available on the property.

There is low topographic relief on the Upper Canada Property, within the order of several metres and the terrain is characterized by relatively flat plateaus and glacial deposits, such as eskers and moraines.

The Kirkland Lake area has a long history of exploration and gold mining dating back to the turn of the 20th Century. Gold was first discovered in the region in 1906, specifically in the Swastika and Larder Lake areas where production from the Gateford Mine and Swastika Mine began in 1910. Between 1910 and 2003, in excess of 40 million ounces of gold have been produced from 30 mines in the Kirkland Lake Mining District. Queenston and its predecessor companies have been owners of the Upper Canada Property since the 1930s.

The Kirkland Lake Gold Camp (KLGC) occurs in the south-western portion of the Abitibi greenstone belt of the Archean Superior Province of the Canadian Shield. The KLGC occurs on the southern limb of the regional Blake River synclinorium, the northern and southern limbs of which are truncated respectively by the Destor-Porcupine Break and the Cadillac-Larder Lake Break (LLB) with its associated deformation corridor (the LLDZ). The majority of the historical

gold production in the Abitibi Greenstone Belt is spatially associated with these two major regional structures.

The Upper Canada property is primarily underlain by Timiskaming assemblage flows, tuffs and sediments with syntectonic dykes, sills and plugs of syenite. The Cadillac-Larder Lake Break, which separates the Timiskaming and Lower Tisdale assemblages in this area, is further south on the Anoki-McBean claims. Upper Tisdale assemblage felsic tuffs and volcanic breccias, however, are noted in the far eastern limits of the property near Little Larder Lake. This area is east and north of the unconformable and locally faulted, north margin of the younger Timiskaming assemblage basin. Formerly called the Gauthier Group, the felsic volcanics are designated Upper Tisdale assemblage from recent geochronology by Ayer et al (2001, 2002 and 2005). The Upper Canada deposit sits within a 300 to 400 m thick deformation corridor framed by the North Branch and the South Branch of the regional Upper Canada Break, interpreted to be a splay from the Cadillac-Larder Lake Break which is located further to the west on the Munro property, near the Lebel / Gauthier township line.

The gold zones are located in intensely sericitic, silicified and ankeritic, linear shear zones. They are most often restricted to narrow blue quartz veins or 'leads' in the thicker flow units, although flows, silicified tuffs and, to a lesser extent, syenite are common hosts to the ore. Mineralization consists of fine pyrite and native gold plus some accessory sphalerite, galena, chalcopyrite and molybdenite. In a few of the thinner flows, en-echelon, higher grade lenses are present within an envelope of lower grade mineralization.

The Upper Canada mine was a major past producer in the Kirkland Lake camp. It produced 1.52 million oz of gold from 4,294,873 t grading 11.01 g/t between 1938 and 1972 (RPA, 1996). Past production is principally recorded on the H, M, Q, Upper B, Lower B, C, Upper L and Lower L zones, with only minor production (approximately 12,000 t) recorded on various other lenses. The L vein is the largest, historic, ore-bearing zone, consisting of the Upper L at the #2 shaft (west) and the Lower L at the #1 shaft (east and down plunge). Lower L is at the south contact of a mass of trachyte and related syenite intrusive. It extends from the 1500-ft level to below the deepest mine workings on the 6150-ft level-, and has an average plunge of 48 degrees (RPA, 1996). The Upper L, from surface to the 1750 -ft level is hosted by siliceous tuff, trachyte tuff and agglomerate. The Upper and Lower L account for approximately 75% of the past gold production, and, 46% of the remaining historic mineral resources. The two other zones with remaining resources are the C (38%) and M and Q (16%) zones. The C Zone, with an average grade of 7.37 g/t, is only partly mined between the 1750 and 3650 levels. It is characterized by dark bluish quartz veins and pyrite, in a siliceous tuff to trachyte host. The M and Q historic resource extends from surface to the 625 level and has a lower average grade of 4.48 g/t gold. Mineralization is up to 20 m wide in the M and Q Zone, in a trachyte to brecciated trachyte host. The B Zone is located 150 m north of the #2 shaft and hosts a series of zones mined between the 650 and 2000-ft levels in a sill-like body of trachyte (RPA 1996). The zones are not accessed from the Brock shaft, which extended to 630 ft (192 m). The B Zone contains up to 1% sphalerite and galena in addition to chlorite, tourmaline and pyrite associated with the veining.

The 2009-2011 Queenston drill programs comprised a total of 216 boreholes over 68,500 m. The main objective of the program was test the Upper Canada deformation Zone for low grade open pittable mineralization and to advance the C Zone Mineral Resources to NI 43-101 standards. Drilling has traced a low grade mineralized corridor over a length of 1,800 m and to a vertical depth of 300 m Mineralization remains open to the west and at depth.

### 2011 Combined Upper Canada Resource Estimates

TABLE- I									
UPPER CANADA IN-PIT	UPPER CANADA IN-PIT AND UNDERGROUND MINERAL RESOURCE <sup>(1)(2)(3)(4)(5)(6)(7)</sup>								
Capped Resource	IN	DICATE	D	IN	FERREI	)			
Cut-Off (Au g/t)	Tonnes	Au (g/t)	Au (oz.)	Tonnes	Au (g/t)	Au (oz.)			
Pit (0.44 g/t)	1,721,000	1.88	104,000	1,273,000	1.86	76,000			
UG Below Pit (2.4 g/t)	238,000	4.25	33,000	3,622,000	4.78	557,000			
Total	1,959,000	2.17	137,000	4,895,000	4.02	633,000			
Un-Capped Resource Sensitivity	INDICATED			INFERRED					
Cut-Off (Au g/t)	Tonnes	Au (g/t)	Au (oz.)	Tonnes	Au (g/t)	Au (oz.)			
Pit (0.44 g/t)	1,721,000	2.04	113,000	1,308,000	1.95	82,000			
UG Below Pit $(2.4 \text{ g/t})$	243,000	4.73	37,000	4,075,000	5.38	705,000			
Total	1,964,000	2.38	150,000	5,383,000	4.55	787,000			

(1) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

(2) The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.

(3) The mineral resources in this press release were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

(4) Grade capping of 8 g/t to 15 g/t was utilized on raw assays

(5) A bulk density of 2.68  $t/m^3$  was used for all tonnage calculations.

(6) Open pit resources were reported within a Whittle optimized pit shell.

(7) A gold price of US\$1,200/oz and an exchange rate of US\$0.95US=C\$1.00 was utilized in the Au cut-off grade calculations of 0.44 g/t open pit and 2.4 g/t underground. Open pit mining costs were C\$3.00/t for mineralized material, C\$2.75/t for waste rock and C\$1.75/t for overburden while underground mining costs were C\$75/t. Process costs were C\$12/t and G&A was C\$5/t. Process recovery used was 95%.

The Upper Canada Resources are key components in Queenston's strategy of advancing four 100% owned gold deposits in the Kirkland Lake area (the Upper Beaver, McBean, Anoki and Upper Canada properties) towards prefeasibility and a decision to advance these properties to production.

### Proposed 2011 Exploration Budget for the Upper Canada Property

Exploration & Resource Drilling (45,000 m @ \$150/m)	\$6,750,000
Desktop Studies and early Preliminary Economic Assessment work	\$45,000
Baseline Environmental Studies	\$150,000
Subtotal	\$6,945,000
Contingency @ 6%	\$416,700
Total	\$7,361,700

### **1.0 INTRODUCTION**

### **1.1 TERMS OF REFERENCE**

The following report was prepared to provide a National Instrument ("NI") 43-101 compliant Technical Report of the gold mineralization contained in the Upper Canada Property, a part of the Kirkland Lake Gold Project, north-eastern Ontario, Canada. The Upper Canada Property is held 100% by Queenston Mining Inc.

This report was prepared by P&E Mining Consultants Inc. ("P&E") at the request of Mr. William J. McGuinty, P.Geo., Vice President, Exploration, Queenston Mining Inc., which is a Toronto-based, publically traded, TSX listed junior resource company, with its corporate office at:

Suite 201 133 Richmond Street West Toronto, ON, M5H 2L3 Tel: 416-364-0001 Fax: 416-364-5098

This report has an effective date April 30, 2011.

Mr. Antoine Yassa, a qualified person under the regulations of NI 43-101, conducted a site visit to the Property on February 17, 2011. An independent verification sampling program was conducted by Mr. Yassa at that time.

In addition to the site visit, P&E held discussions with technical personnel from the Company regarding all pertinent aspects of the project and carried out a review of all available literature and documented results concerning the Property. The reader is referred to those data sources, which are outlined in the References section of this report, for further detail.

The present Technical Report is prepared in accordance with the requirements of NI 43-101F1 of the Ontario Securities Commission ("OSC") and the Canadian Securities Administrators ("CSA").

The Mineral Resources in the estimate are considered compliant with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions.

The purpose of the current report is to provide an independent, NI 43-101 compliant, Technical Report and Resource Estimate on the Upper Canada Property. P&E understands that this report will be used for internal decision making purposes and may be filed as required under TMX regulations. The report may also be used to support public equity financings.

### **1.2 SOURCES OF INFORMATION**

This report is based, in part, on internal company technical reports, maps and technical correspondence, published government reports, press releases and public information as listed in the References section 20.0 at the conclusion of this report. Several sections from reports

authored by other consultants have been directly quoted or summarized in this report, and are so indicated where appropriate.

The author has drawn heavily upon selected portions or excerpts from material contained in a NI 43-101 report prepared in 2010 by P&E. This report contains an overview of the Kirkland Lake Gold Project and much of the material in the current document has drawn heavily upon the Ewert (2010) report noted below:

Ewert, W., Armstrong, T., Yassa, A., Puritch, E., 2010 titled "Technical Report and Resource Estimates for the McBean and Anoki Gold Deposits of the Kirkland Lake Gold Project Gauthier Township, Kirkland Lake North-Eastern Ontario, Canada.

# **1.3 UNITS AND CURRENCY**

Unless otherwise stated all units used in this report are metric. Gold values are reported in grams per tonne ("g Au/t") unless some other unit is specifically stated. The CDN\$ is used throughout this report unless otherwise specifically stated.

Glossary and Abbreviation of Terms

In this document, the following terms have the meanings set forth below unless the context otherwise requires.

"\$" and "CD\$"	means the currency of Canada	
"AAS"	means Atomic Absorption Spectroscopy	
"AA"	is an acronym for Atomic Absorption, a technique used to measure	metal
	content subsequent to fire assay	
"asl"	means above sea level	
"Au"	means gold	
"С"	means degrees Celsius	
"CIM"	means the Canadian Institute of Mining, Metallurgy and Petroleum	
"cm"	means centimetres	
"CSA"	means the Canadian Securities Administrators	
"Dicom"	means Dicom Express Inc.	
"DPB"	means the Destor-Porcupine Break	
"Е"	means east	
"el"	means elevation level	
"Franco-Nevada"	means the Franco-Nevada Mining Corporation	
"Ga"	means gigayear, a unit of a billion years	
"g Au/t"	means grams of gold per tonne	
"ha"	means Hectare	
"IETS"	Inco Exploration and Technical Services Inc.	
"Inco"	means Inco Ltd.	
"KLGP"	means the Kirkland Lake Gold Project	
"KLGC"	means the Kirkland Lake Gold Camp	
"KLMB"	means the Kirkland Lake Main Break	
"km"	means kilometre	
"LLB"	means Larder Lake Break	
"m"	means metre	
"M"	means million	

"Ma"	means millions of years
"mm"	means millimetres
"MNDM"	means Ontario Ministry of North Development, Mines and Forestry
"Mt"	means millions of tonnes
"N"	means north
"NE"	means northeast
"NI"	means National Instrument
"NPI"	means Net Profit Interests
"NTS"	means National Topographic System
"NW"	means northwest
"NSR"	means an acronym for net smelter return, which means the amount actually
	paid to the mine or mill owner from the sale of ore, minerals and other
	materials or concentrates mined and removed from mineral properties, after
	deducting certain expenditures as defined in the underlying smelting
	agreements
"OGS"	means Ontario Geological Survey
"oz/T"	means ounces per short ton
" <b>P&amp;</b> E"	means P&E Mining Consultants Inc.
"Property"	means the Upper Canada Property
"ppb"	means parts per billion
"ppm"	means parts per million
"Queenston"	means Queenston Mining Inc.
"RPA"	means Roscoe Postle Associates Inc.
"S"	means south
"SE"	means southeast
"SEDAR"	means the System for Electronic Document Analysis and Retrieval
"SGS"	means SGS Laboratories in Rouyn-Noranda, Quebec
"SW"	means southwest
"Swastika Lab"	means Swastika Laboratories Ltd., in Swastika, Ontario
"t"	means tonnes (metric measurement)
"t/a"	means tonnes per year
"TN"	means True North
"tpd"	means tonnes per day
"TSX-V"	means the TSX Venture Exchange
"US\$"	means the currency of the United States
"UTM"	means Universal Transverse Mercator
"W"	means west

### 2.0 **RELIANCE ON OTHER EXPERTS**

P&E has assumed, and relied on the fact, that all the information and existing technical documents listed in the References section of this report are accurate and complete in all material aspects. While we carefully reviewed all the available information presented to us, we cannot guarantee its accuracy and completeness. We reserve the right, but will not be obligated to revise our report and conclusions if additional information becomes known to us subsequent to the date of this report.

Copies of the tenure documents, operating licenses, permits, and work contracts were not reviewed but an independent verification of claim title was performed using the MNDM's CLAIMaps web application. It should be noted that leased and patented claims cannot be verified in this manner. P&E has not verified the legality of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties but has relied on, and believes it has a reasonable basis to rely upon, William McGuinty, Vice President Exploration for Queenston, to have conducted the proper legal due diligence.

Select technical data, as noted in the report, were provided by Queenston and P&E has relied on the integrity of such data.

A draft copy of the report has been reviewed for factual errors by the client and P&E has relied on Queenston's knowledge of the Property in this regard. All statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of this report.

### 3.0 PROPERTY DESCRIPTION AND LOCATION

### 3.1 UPPER CANADA PROPERTY LOCATION

The Upper Canada Property is located within Gauthier Township, District of Timiskaming, in the eastern part of Norhtern Ontario, Canada (Figure 3.1). The geographic centre of the Upper Canada Property is approximately 48° 08' 32" North Latitude and 79° 49' 10" West Longitude. The property is located approximately 500 kilometres north of Toronto, 200 kilometres north-northeast of Sudbury and 120 kilometres southeast of Timmins. The Property co-ordinates used in this report are located relative to the NAD83 UTM coordinate system.



### Figure 3.1Location of the Upper Canada Property

### 3.2 PROPERTY DESCRIPTION AND TENURE

The Upper Canada Property is contiguous with six other Queenston properties; the Munro property to the south-west, the Anoki-McBean properties to the south-east; the DKO, Casan *P&E Mining Consultants Inc.* Page 5 of 98 Queenston Mining Inc. – Upper Canada Property Report No. 210

properties to the north; the Mary Ann property to the north-east and the Fork lake property to the east (Fig. 3.2 and Fig. 3.3). In total, the Upper Canada and six other properties constitute the Kirkland Lake Project. Certain claims are subject to varying production royalties including Net Smelter Return royalties ("NSR") ranging from 1% to 4% and Net Profits Interests ("NPI") of 10%.

The Upper Canada Property comprises 47 contiguous patented claims, which 13 are patented for only the mining rights and 34 are patented for both mining and surface rights and 13 unpatented claims, mining rights only. The Upper Canada Property covers an area of 895 ha and is held 100% by Queenston (Table 3.1 and Table 3.2). The boundaries of individual claims can be identified in the field by locating claim posts. The claim boundaries have not been surveyed.

A schedule of claims has been provided by Queenston. The status of the unpatented claims has been independently verified by P&E using the MNDM's CLAIMaps web application. Most of the unpatented claims are in good standing until 2014. Claim 4225466 is due December 7, 2011. The Ontario crown owns the unpatented claims' surface rights. The surface rights of the nine mining rights only patented claims are held by Northern Pressure Treated Wood Ltd. There is an access agreement in place for exploration on these claims.

Prior to 2002 a majority of the Kirkland Lake properties including the Upper Canada property were held in a 50-50 joint venture with Newmont. The purchase of Newmont's 50% interest in the Kirkland Lake gold project was completed in 2002.

The Newmont purchase was closed on July 19, 2002 for a consideration of \$3,868,500 representing \$3M and 1,085,625 common shares of the Company valued at \$868,500. Under the terms of the sale Newmont retains a sliding scale NSR on the Kirkland Lake property of 1% at gold prices below or equal to US \$350/oz, 1.5% between \$350/oz and \$400/oz and 2% over \$400/oz. In January 2008, Franco-Nevada Mining Corporation purchased the Newmont NSR for \$10 million. Several claims on the periphery of the Upper Canada property do not have an attached royalty.

TABLE 3.1     UPPER CANADA PATENTED CLAIM DETAILS							
Claim Block No.#	No. Of Units	Area (ha)	Due Date	Tenure Rights	Royalty		
				Mining & Surface			
LS500	1	12.849	Annual tax	Rights	F-NSR		
LS501	1	12.242	Annual tax	Mining Rights Only	F-NSR		
				Mining & Surface			
LS502	1	13.529	Annual tax	Rights	F-NSR		
				Mining & Surface			
LS503	1	16.187	Annual tax	Rights	F-NSR		
				Mining & Surface			
LS504	1	10.724	Annual tax	Rights	F-NSR		
				Mining & Surface			
L6314	1	14.981	Annual tax	Rights	F-NSR		

As of the effective date of the report, all the Upper Canada claims are in good standing.

TABLE 3.1   UPPER CANADA PATENTED CLAIM DETAILS						
Claim Block No.#	No. Of Units	Area (ha)	Due Date	Tenure Rights	Royalty	
L6315	1	16.544	Annual tax	Mining & Surface Rights	F-NSR	
L6316	1	14.973	Annual tax	Mining & Surface Rights	F-NSR	
L6317	1	16.875	Annual tax	Mining Rights Only	F-NSR	
L6318	1	13.881	Annual tax	Mining & Surface Rights	F-NSR	
L6319	1	16.074	Annual tax	Mining & Surface Rights	F-NSR	
L6321	1	26.466	Annual tax	Mining & Surface Rights	F-NSR	
L8113	1	20.914	Annual tax	Mining & Surface Rights	F-NSR	
L8114	1	15.637	Annual tax	Mining & Surface Rights	F-NSR	
L8115	1	16.102	Annual tax	Mining & Surface Rights	F-NSR	
L8371	1	10.117	Annual tax	Mining & Surface Rights	F-NSR	
L8372	1	9.146	Annual tax	Mining & Surface Rights	F-NSR	
L9946	1	16	Annual tax	Mining Rights Only	None	
L8590	1	24.358	Annual tax	Mining & Surface Rights	F-NSR	
L9094	1	14.528	Annual tax	Rights	F-NSR	
L9095	1	11.695	Annual tax	Mining & Surface Rights	F-NSR	
L9224		15.378	Annual tax	Mining Rights Only	F-NSR	
L9225	1 1	11.109	Annual tax	Mining Rights Only	F-INSK E-NSD	
L9220	1	18.081	Annual tax	Mining Rights Only	F-NSR	
L9227	1	17.523	Annual tax	Mining & Surface Rights	F-NSR	
L9365	1	14.892	Annual tax	Mining & Surface Rights	F-NSR	
L9524	1	10.105	Annual tax	Mining Rights Only	F-NSR	
L9525	1	9.182	Annual tax	Mining Rights Only	F-NSR	
L9526		10.449	Annual tax	Mining Rights Only	F-NSR	
L9527	1	12.918	Annual tax	Mining Rights Only	F-NSR	
L9528	1	13.083	Annual tax	Mining & Surface Rights	F-NSR	
L9529	1	9.988	Annual tax	Rights	F-NSR	

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TABLE 3.1       UPPER CANADA PATENTED CLAIM DETAILS						
Claim Block No.#	No. Of Units	Area (ha)	Due Date	Tenure Rights	Royalty	
1.0520	1	0.656	A 1/	Mining & Surface		
L9530	1	9.656	Annual tax	Kights Mining Dights Only	F-INSK Norra	
L9943	1	16	Annual tax	Mining Rights Only	None	
L9947		16	Annual tax	Mining Rights Only	None	
L9951	1	16	Annual tax	Mining Rights Only	None	
L10140	1	22.865	Annual tax	Rights	F-NSR	
L10141	1	27.073	Annual tax	Mining & Surface Rights	F-NSR	
L10142	1	29.704	Annual tax	Mining & Surface Rights	F-NSR	
PT L10143	1	12.302	Annual tax	Mining & Surface Rights	F-NSR	
L10144	1	17.806	Annual tax	Mining & Surface Rights	F-NSR	
L10145	1	8.822	Annual tax	Mining & Surface Rights	F-NSR	
PT L10462	1	0.324	Annual tax	Mining & Surface Rights	F-NSR	
PT L10463	1	0.6880	Annual tax	Mining & Surface Rights	F-NSR	
L15584	1	15.702	Annual tax	Mining & Surface Rights	F-NSR	
L15585	1	16.552	Annual tax	Mining & Surface Rights	F-NSR	
Total	48	686.995				

TABLE <b>3.2</b> Upper Canada Unpatented Claim Details							
Claim Block No.#	No. Of Units	Area (ha)	Assessment Due Before	Royalty	Registered Claim Owner		
949740	1	16	14/11/2014	F-NSR	Queenston		
949781	1	16	14/11/2014	F-NSR	Queenston		
949827	1	16	14/11/2014	F-NSR	Queenston		
1226075	1	16	06/02/2014	F-NSR	Queenston		
1226196	1	16	06/02/2014	F-NSR	Queenston		
1226197	1	16	06/02/2014	F-NSR	Queenston		
1226198	1	16	06/02/2014	F-NSR	Queenston		
1242096	1	16	08/01/2014	F-NSR	Queenston		
1242097	1	16	08/01/2014	F-NSR	Queenston		
3010060	1	16	11/02/2011	2.5% NSR	Queenston		
4202538	1	16	06/01/2014	None	Queenston		
4240173	1	16	14/5/2015	None	Queenston		
4225466	1	16	07/11/2011	None	Queenston		
Total	14	208					

Figure 3.2 Claim Map of the Upper Canada Deposit



### 3.3 QUEENSTON HOLDINGS IN THE AREA

Queenston's land holdings in the Kirkland Lake gold camp area approaches 20,200 hectares containing 1264 claim units comprising 36 mineral leases, 369 patented claims and 636 unpatented claims in 31 properties. Of these 31 properties, Queenston owns varying interests ranging from 41% to 100%. These properties occur primarily in three townships: Teck, Lebel and Gauthier (Figure 3.3).

Queenston's properties in the Kirkland Lake Area contain current and historic mineral resources in seven gold deposits: Upper Beaver, Anoki, Anoki South, McBean, Upper Canada, AK and 180 East.

Information on the historic resources on Queenston's properties can be examined in the technical report prepared by Dale R. Alexander, P.Geo. titled, "Technical Report on the Mineral Properties of Queenston Mining Inc. in the Kirkland Lake Gold Camp," dated November 17, 2007. This report can be found on the SEDAR website.

The Anoki and Anoki South deposits both contain current NI 43-101 compliant mineral resources prepared by Hrayr Agnerian, P.Geo., of Roscoe Postle and Associates Inc. (RPA) in a report dated April 30, 2004. This report can be found on the SEDAR website.

In 2008 a NI 43-101 mineral resource for the Upper Beaver property was presented in a report dated November 6, 2008 by Michael Kociumbas, P.Geo., of Watts, Griffis and McOuat Limited (WGM) of Toronto. In 2009 P&E prepared a new NI 43-101 resource estimates for both the McBean and Anoki deposits in a report dated January 29, 2010. These reports can be found on the SEDAR website.

In the western side of the camp, the South Claims Joint Venture is continuing underground exploration. In 2008 an NI 43-101 compliant mineral resource was outlined by joint venture partner Kirkland Lake Gold Inc. and verified by Glenn R. Clark, P.Eng. of Glenn R. Clark and Associates Limited. The report, dated August 25, 2008 can be found on SEDAR.

### 3.4 ENVIRONMENTAL

The property was not subject to any known environmental liabilities as of the effective date of this report.

### 3.5 PERMITS AND OBLIGATIONS

The development of a mining project can require a number of environmental permits and approvals depending on the size, type of project and facilities required. Early stage exploration projects require few permits or approvals but environmental regulations still apply regardless of the need for specific approvals.

P&E is not aware of any First Nation issues pertaining to the Upper Canada Property. Preliminary discussions have been held with local First Nations communities with regard to possible future mining developments on the property.

Accommodation for project personnel is located in the Town of Virginiatown therefore no permit from the Ontario Ministry of Municipal Affairs and Housing will be required. The Ontario Ministry of Labour (MOL) needs to be advised of drilling programs but no permits are required.

For Queenston Mining Inc, asset retirement obligations relate to the dismantling of the McBean Mine site as well as a closure plan on the newly acquired Victoria Creek property. In accordance with the Ontario Ministry of Northern Development, Mines and Forestry, the company developed closure plans for the McBean Mine. The present value of the estimated site closure and restoration cost is recorded as a liability on the company's book and the company is providing financial assurance for the mine closure with a letter of credit. Queenston reviews all its property holdings with regard to environmental issues and risks. The Company is not aware of any other material environmental risks on its properties.



Figure 3.3 Property Map of Kirkland Lake Gold Camp

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

### 4.1 ACCESS

The Upper Canada Property is located in the south central region of the township of Gauthier in north-eastern Ontario (Figure 3.2 and Figure 3.3) and can be accessed from Upper Canada Drive via highway 66, which cuts through the south-eastern part of the Upper Canada Property. There are also private bush roads leading from Upper Canada Drive to the Brock and Upper Canada Shaft #2 areas to the north. The nearest large town, Kirkland Lake, lies approximately 15 km to the west. Kirkland Lake is a historical gold mining town, with an approximate population of 10,000. The main industries supporting the region are mining and logging.

### 4.2 CLIMATE

The climate in the region of the properties is that of a moderate northern temperate zone. Temperatures range from  $+30^{\circ}$  C during the summer to  $-40^{\circ}$  C during the winter. Yearly precipitation averages are in the vicinity of 60 cm of rain and 250 cm of snow. The ground is generally snow covered from mid-November to mid-April.

The climate information presented in Figure 4.1 was taken from the weather station in Earlton, Ontario, located approximately 35 km south of the Upper Canada Property.

Exploration activities would be hindered in snowmelt conditions but it is expected that any mining activity on the property could be conducted year-round.

### 4.3 LOCAL RESOURCES

There are excellent local resources and infrastructure to support exploration and mining activities in the Kirkland Lake region which has a long history of both activities. Mining equipment and personnel are readily available in Ontario from the towns of Kirkland Lake and Matchewan (approximately 50 km west of Kirkland Lake) and in Quebec from Rouyn-Noranda (approximately 60 km east of the property). An Ontario Northland Railway track line also transects the property and shipping facilities by rail are available at Kirkland Lake.

Water is available from ponds and creeks within the Upper Canada property.

### 4.4 INFRASTRUCTURE

Telephone and high voltage power lines are currently available on the Upper Canada Property. The nearby town of Kirkland Lake is also linked to the Ontario Power grid. Two buildings remain from past mining operations – the former Queenston mine office and dry which are now utilized as Queenston's Kirkland Lake exploration office and core logging facility, respectively.



Figure 4.1 Climate Trend Data Earlton, Ontario

(Source: www.climate-charts.com)

### 4.5 PHYSIOGRAPHY

There is low topographic relief at the property, within the order of several metres and the terrain is characterized by relatively flat plateaus and glacial deposits, such as eskers and moraines. There is a sharp change in relief across the Cadillac-Larder Lake Break to the north. The occasional outcrop of basaltic rocks can be seen along road cuts and overburden thickness ranges from around 3 m to 35 m.

The western portion of the Upper Canada Property was logged in the 1990's and reforested by surface rights owner Northern Pressure Treated Wood Ltd. The eastern portion of the Property was logged in 2005 by way of a forest management agreement with Timmins Forest Products Inc. The remaining vegetation is determined by drainage and soil conditions and ranges from rocky outcrops with little to no vegetation, to wetland areas of lower relief containing swamp vegetation. Immature jack pine can be found in the fine sandy soils of the Property and birch and poplar in the higher ground of the northern portion of the Property and small spruce and alders in areas with poor drainage.

The property is generally around 310 m above sea level.

### 5.0 HISTORY AND PREVIOUS EXPLORATION

This section relies heavily upon material contained within Alexander (2007).

# 5.1 EARLY REGIONAL HISTORY

The Kirkland Lake area has a long history of exploration and gold mining dating back to the turn of the 20th Century. Gold was first discovered in the region in 1906, specifically in the Swastika and Larder Lake areas. Production from the Gateford Mine and Swastika Mine began in 1910. Between 1910 and 2003, in excess of 40 million ounces of gold have been produced from 30 mines in the Kirkland Lake Mining District.

In 1911, W.H. Wright discovered gold near the northern end of Kirkland Lake. This led to other discoveries and culminated in the development of seven mines along the Kirkland Lake Main Break between 1912 and 1933; namely the Macassa, Kirkland Minerals, Teck-Hughes, Lakeshore, Wright-Hargraves, Sylvanite and Toburn Mines.

# 5.2 **PROPERTY HISTORY**

The Upper Canada mine was a major past producer in the Kirkland Lake camp. The history of the property is presented in Table 5.1.

It produced 1.52 million oz. of gold from 4,294,873 t grading 11.01 g/t between 1938 and 1972 (RPA, 1996). A summary of the Inco Drilling program was provided by Bottrill (1997).

TABLE 5.1					
SUMMARY OF HISTORICAL EXPLORATION IN UPPER CANADA AREA					
Year	Company	Exploration			
1920 - 1928	East Main Gold Mines	Initial discovery of gold on the Upper Canada Property. Prospecting and trenching. #1 shaft sunk to 134 ft. (41 m). M zone intersected on 125-ft level.			
1929	Upper Canada Mines	Upper Canada Mines acquired the property and deepened the shaft to 150 m and established 4 levels.			
1936	Upper Canada Mines	H zone discovered through surface drilling; #1 shaft deepended to 500 ft. (152 m), lateral development on 125,250, 375 and 500-ft. levels.			
1938 -	Upper Canada	Production commenced, mill on-line in 1939; #1 shaft to 1,000 ft.			
1939	Mines	(305 m).			
1938 - 1941	Brock Gold Mines	8 claims to north of Upper Canada; 17 surface drill holes (3,591m); shaft to 630 ft (192 m), levels at 200, 325, 450 and 575 ft, 968 m lateral development on 325 and 575-ft levels.			
1940 - 1941	Upper Canada Mines	L zone discovered; #2 shaft started.			
1941	Eastward Mines/ Noranda Mines	11 claims west; 12 drill holes;			
1946	Upper Canada Mines	Upper Canada Mines acquired Brock Mines claims and Eastward Mines/Noranda Mines claims.			
1938 -	Upper Canada	Upper Canada Mines commenced production and produced gold			
1971	Mines	continuously to 1971. The Upper Canada mine was serviced by the			

TABLE 5.1					
SUMMARY OF HISTORICAL EXPLORATION IN UPPER CANADA AREA					
Year	Company	Exploration			
		#1 and #2 shafts, developed to 1928 m and 572 m respectively. A third shaft referred to as the Brock is 190 m deep with limited underground development and was used for exploration purposes only. Approximately 1.52 million oz. of gold was produced from 4 294 873 tonnes of ore averaging 11 01 g Au/t			
1972	Upper Canada Mines	The mine closed due to costs involved to upgrade power from 25 to 60 cycle. The mill processed material from Upper Beaver mine			
1977	Queenston Gold Mines Ltd.	The assets of Upper Canada Mines were acquired by Queenston Gold Mines Limited.			
1977 - 1987	Queenston Gold Mines Ltd.	Magnetic, VLF-EM and IP surveys; prospecting, mapping mechanical stripping and trenching were completed and results compiled.			
1983	Queenston Gold Mines Ltd. – Canico (Inco)	Part of the Upper Canada property is subject to a closure plan related to the rehabilitation of the Upper Canada mill complex by the Canico (Inco) – Queenston joint venture (McBean property).			
1984 - 1986	Queenston Gold Mines Ltd.	The mill processed ore from the McBean mine until 1986.			
1988- 1990	Inco Gold	Geological, magnetic and IP surveys; database partly digitized; 78 surface drill holes totalling 15,818 m.			
1990- 1996	Queenston Mining Ltd.	7 surface drill holes totalling 384 m.			
1993	Inco Exploration and Technical Services Inc.	Closure plan was finalized with the MNDM			
1996 - 2001	Queenston Mining Ltd. – Franco Nevada joing venture	Line cutting and magnetic survey			
2001- 2003	Queenston Gold Mines Ltd.	Queenston decommissioned crushing, milling and refinery facilities in the #1 shaft area. #2 shaft head frame was dismantled. Select surface structures were demolished. All three shafts (#1, #2 and Brock) were capped. Surface areas were contoured and seeded. This work was done to fulfil the commitments of the Mine Closure Plan filed with the MNDM.			
2009	Queenston Gold Mines Ltd.	A surface drilling program was initiated to evaluate the potential for open pit mineralization.			

# 5.3 HISTORIC RESOURCE ESTIMATES

There have been several historic resource estimates calculated for the Upper Canada Property. The Upper Canada mine was closed in 1972 due to the low price of gold and resources still remain.

RPA (1996) reviewed several generations of resource estimates on the Upper Canada property. Doane (1983) estimated the Measured and Indicated Resources to be 1,725,447 t at an average

grade of 7.27 g/t. In 1986, T. J. Bottrill estimated the reserves [resources] of the M and Q Zones at various cut-off grades; at the 2.74 g/t Au cut-off the reserves/resources [resources] were estimated at 296,774 t at an average grade of 4.48 g/t. These reserves [resources] compare relatively well with the Q and M Zone reserves [resources] estimated by Doane in 1983. In 1990, Inco re-estimated the resources to be 629,748 t at an average grade of 13.37 g/t. Inco was of the opinion that about one third to one half of the tonnage contained in the 15 mineralized zones would be mineable.

RPA (1996) concluded that a mix of prior calculations was most appropriate. Using a combination of sources, as referenced in Table 5.2, a Measured and Indicated resource of 1,899,973 t, grading 6.87 g/t was available from the C, L, and, M and Q zones. (Historically, individual zones were lettered at the Upper Canada mine). The historic resources were reported as Measured and Indicated, since they were defined by underground drill holes as well as underground development work. It should be noted that when RPA conducted their evaluation in 1996, the terms 'resource' and 'reserve' were used interchangeably and today would be considered as 'resources' only. RPA (1996) reviewed the calculations and stated the following:

RPA (1996) carried out certain checks of the historic resource estimates. They cautioned that the 1990 Inco resources were not estimated using a certain cut-off grade and minimum width of mineralization. RPA concurred that the methodology utilized by Inco would be preferable to the block grading method, since the drill hole pattern was erratic. RPA preferred the resource estimate of the Lower L Zone by Doane (1983), although the grade might have been higher. RPA also noted Doane's caution that correlation of the mineralized intersections of the C Zone was difficult.

The Upper and Lower L account for approximately 75% of the past gold production, and, 46% of the remaining historic mineral resources. The Upper L from surface to the 1750 level is hosted by siliceous tuff, trachyte tuff and agglomerate. RPA (1996) indicates that the Lower L is at the south contact of a mass of trachyte and related intrusives (Figure 8.1). It extends from the 1500-ft level to below the deepest mine workings on the 6150-ft level. The two other zones with remaining resources are the C (38%) and M and Q (16%) zones. The C Zone, with an average grade of 7.37 g/t, was only partly mined between the 1750 and 3650 levels. It is characterized by dark bluish quartz veins and pyrite, in a siliceous tuff to trachyte host. The M and Q historic resource extends from surface to the 625 level and has a lower average grade of 4.48 g/t gold. Mineralization is up to 20 m wide in the M and Q Zone, in a trachyte to brecciated trachyte host.

Table 5.2       Summary of the Historical Resource Estimates for the Upper Canada Property					
Zone	Source	Measured & Indicated	Location		
C Zone	Doane (1983)	720,507 t grading 7.54 g/t	1750 to 3650-ft level		
Upper L Zone	Inco (1990)	109,216 t grading 4.28 g/	Surface to 375-ft level		
Lower L Zone	Doane (1983)	773,475 t grading 7.91 g/t	4000 to 6650-ft level		
M & Q	Bottrill (1986)	296,774 t grading 4.48 g/t	Surface to 625-ft level		
Total		1,899,973 t grading 6.87 g/t			

The reader is cautioned that the above listed Resource and Reserve Estimates dated prior to 2001 are not NI 43-101 compliant and that all estimates have since been superseded by the 2011 P&E

NI 43-101 compliant Resource Estimate for the Upper Canada Property, as described in Section 16 of this report.

### 5.4 HISTORIC MINERAL PROCESSING AND METALLURGICAL WORK

The Upper Canada mine commenced operations in 1938 and produced gold continuously until 1971. The mine was closed in 1972 even though a substantial resource remained. During 33 years of operation, 1.52 million ounces of gold were produced from 4,294,873 tonnes of ore grading 11.8 g Au/t. After sporadic use of the concentrator for milling, Upper Beaver (6 years concurrent with Upper Canada) and later McBean ores, the facilities were dismantled in 2001 as part of a previously agreed closure plan.

The Upper Canada ore was defined in narrow tabular blue quartz veins contained in thicker flow units, characterized by fine pyrite containing visible gold with accessory minor sulphide mineralization.

The mill and cyanide plant employed a conventional crushing, grinding and Merrill-Crowe circuit. No references have been found regarding any attempts to recover gold by gravity concentration. Production was rated at 175 tpd at the start of milling operations in 1939. Throughput was gradually increased in the following years, attaining an average 230 tpd during the years 1941-46, 320 tpd between 1946-49 and 520 tpd by 1956. The original flowsheet was amended with the installation of additional equipment and in the latter years comprised:

- 350 ton run-of-mine ore bin, 15ins x 24ins jaw crusher, 3ft Symons standard cone crusher, 3ft Symons shorthead crusher, 4ft x 8ft double deck screen,
- 900 ton fine ore bin, 7ft diam x 9ft primary ball mill, 2-5ft diam x 16ft tube mills in closed circuit with 8ft x 26ft rake classifier, 12ft x 33ft x 19ft bowl-rake classifier,
- 8-20ft diam x 22ft Dorr agitators, 2-30ft diam. X 13ft thickeners, 2-10ft diam x 14ft Feinc drum filters,
- Leaf clarifier, Crowe tank, 2-30in. precipitation presses, zinc feeder, 14ft diam. barren, mill solution tanks, etc.

Only partial data has been discovered on Upper Canada mill performance. In the period 1949-54 the gold recovery was reported to be 93%, slightly lower in the period 1955-56 at 90.7 to 92.1% though the installation of 3 additional cyanide agitators in 1957 is said to have improved the recovery to 93.5%. Numerous lower than normal gold extraction rates prompted investigations by CIL researchers, supplier of cyanide, and the Mines Branch in Ottawa, to diagnose processing problems and determine potential improvements to the milling operations. In one such study, dated February, 1960, CIL identified that the mill tailings grade, containing 0.75 g Au/t, could be reduced up to 30% by extending the cyanidation contact time from 24 to 40 hours, whereas the remaining 70% of the gold in the tailings required further grinding, roasting or was completely refractory. Microscopic examination of the Upper Canada ore showed 30% of the gold was free, 56% associated with sulphides and 14% with silicates; 10% of the gold dissolved at a very slow rate possibly as a result of gold associations with arsenic and tellurium-bearing minerals (assaying 0.04% As, 0.03% Te). Other studies suggested the plant fineness of grinding, reported to be 75% passing 200 mesh, was close to optimum as testing at finer grinds produced no significant increase in gold recovery.

### 6.0 GEOLOGICAL SETTING

### 6.1 **REGIONAL GEOLOGY**

The KLGC occurs in the south-western portion of the Abitibi greenstone belt of the Archean Superior Province of the Canadian Shield (Figure 6.1) and the regional geological setting of the Kirkland Lake area is typical of many gold camps located within the Superior Province. The KLGC occurs on the southern limb of the regional Blake River synclinorium, the northern and southern limbs of which are truncated respectively by the Destor-Porcupine Break ("DPB") and the Cadillac-Larder Lake Break ("LLB") with its associated deformation corridor (the LLDZ) (Figure 6.2). The majority of the historical gold production in the Abitibi Greenstone Belt is spatially associated with these two major regional structures (Queenston, 2001 Annual Report).

In the Kirkland Lake area, the LLB is considered to be a major east-west trending thrust fault that developed along the contact zone between mafic and ultramafic rocks of the Larder Lake Group to the south and mafic volcanic rocks of the Kinojevis Group to the north. Through recent age dating and review by the Ontario Geological Survey, these rocks have recently reclassified as parts of Tisdale Group and the Blake River Group respectively.

Expansion along the LLB created a graben-like basin which was filled with calc-alkaline volcanic and clastic sedimentary rocks that formed the Timiskaming Group. Later compression of this region created parallel and splay faults in both the Timiskaming and Lower Tisdale Group (Larder Lake Group) rocks, along which many of the gold deposits of the KLGC were formed.

Today the LLB represents an unconformity between the Lower Tisdale Group rocks to the south and a 0.6 km to 5 km thick section of Timiskaming Group sedimentary and volcanic rocks to the north. Both the major rock groups in the area have been intruded by gabbroic and mafic-felsic intrusions, the most prominent are the Lebel Stock, Otto Stock, Murdoch Creek Stock and the Round Lake Batholith (Queenston, 2008 Annual Information Report).

The Timmins-Kirkland Lake segment of the Abitibi Greenstone Belt has been divided into nine supracrustal assemblages, as described in Table 6.1. Assemblages are described in order of increasing age.

TABLE 6.1						
SUPRACRUSTAL ASSEMBLAGES OF THE TIMMINS-KIRKLAND LAKE SEGMENT OF THE ABITIBI						
GREENSTONE BELT (SOURCE: RPA, 2004)						
Assemblage	Description					
Timiskaming	Contains sedimentary and alkali volcanic rocks including iron formation, such as at the Upper Canada and Macassa Mines.					
Porcupine	Comprises sedimentary and calc-alkalic volcanic rocks including iron formation.					
Upper Blake River	Comprised mostly of calc-alkalic volcanic rocks, such as mines within the the Noranda Camp.					
Lower Blake River	Comprised mostly of tholeiitic basalts, such as at the Holt McDermott					
(Kinojevis)	Mine.					
Upper Tisdale (Gauthier)	Comprised of calc-alkaline felsic to intermediate flow and debris flow volcanics and associated volcaniclastics sediments.					
Lower Tisdale (Larder Lake)	Comprised mostly of komatiitic, tholeiitic and calc-alkalic volcanic rocks and iron formation, such as at the Kerr Addison Mine, McBean Mine and Anoki deposit.					
Kidd-Munro	Comprised of komatiitic, tholeiitic and calc-alkalic volcanic rocks.					
Stoughton- Roquemaure	Comprised of komatiitic, tholeiitic and calc-alkalic volcanic rocks.					
Deloro	Comprised of tholeiitic and calc-alkalic volcanic rocks and iron formation					
Pacaud	Comprised of komatiitic, tholeiitic and calc-alkalic volcanic rocks.					

Precious metal production from the Kirkland Lake Gold Camp has exceeded 40 million ounces (Risto et al, 2008) from 30 mines. Most of the gold production in the area has come from auriferous quartz veins associated with the Kirkland Lake Main Break ("KLMB"), which is interpreted to be a splay structure related to the LLB.

# Figure 6.1 Lithologic Map Showing the Location of the KLGC within the Abitibi Greenstone Belt



(Sourced from Pressacco, 2008)



(Sourced from Agnerian, 2004)

# 6.2 GEOLOGY OF THE UPPER CANADA PROPERTY

The Upper Canada Property is primarily underlain by Timiskaming assemblage flows, tuffs and sediments with syntectonic dykes, sills and plugs of syenite (Figure 6.3 with the map legend presented in Figure 6.4). The Cadillac-Larder Lake Break, which separates the Timiskaming and Tisdale assemblages in this area, occurs further south on the Anoki-McBean claims. Upper Tisdale assemblage felsic tuffs and volcanic breccias, however, are noted in the far eastern limits of the property near Little Larder Lake (Figure 6.3). This area is east and north of the disconformable and locally faulted north margin of the younger Timiskaming assemblage basin. Formerly called the Gauthier Group, the felsic volcanics are designated Upper Tisdale assemblage from recent geochronology by Ayer et al (2001, 2002 and 2005).

In addition to syntectonic intrusions, both assemblages are cut by late stage Matachewan diabase dykes, and, on the 2750-ft level of the Upper Canada mine, a narrow (0.76 m), vertical, kimberlite dyke was located (Lovell, 1979). Tests for diamonds were negative.

The Upper Canada deposit sits within a 300 to 400 m thick deformation corridor framed North and South Branches of the regional Upper Canada Break (Figure 6.3). The Upper Canada Break is interpreted as a splay from the Cadillac-Larder Lake Break further west on the Munro property, near the Lebel / Gauthier township line. The deformation corridor strikes east-northeast and dips vertical to steeply north. It is characterized by a strong east-northeast fabric with several

late mud gouges, and, variable ankerite, sericite, quartz, chlorite, and feldspar alteration, plus pyrite. The mineralized zones plunge 50 to 60 degrees east, unlike the Kirkland Lake Main Break and the 180 East Zone which plunge westerly.



#### Figure 6.3 **Regional Geology Map**

BCS, October 2007



### 7.0 **DEPOSIT TYPES**

The most recent description of mineralization styles in the Kirkland Lake area was published by Ispolatov (2008) in Economic Geology. He describes mineralization contained in the prolific Kirkland Lake Main Break, the Upper Canada deposit, and the two types of mineralization present in the McBean and Anoki deposits owned by Queenston in Gauthier Township. Excerpts of the paper are provided here.

"Gold production in Kirkland Lake began in 1915 (Todd, 1928). Through the 20th century, the Macassa, Kirkland Lake Gold (later Kirkland Minerals), Teck-Hughes, Lake Shore, Wright-Hargreaves, Sylvanite, and Toburn mines, which operated on the same giant Kirkland Lake gold deposit, collectively produced 748 t of gold from 48.9 Mt of ore with an average grade of 15.3 g/t. Underground workings extend to about 2.5 km below the surface, and mineralization remains open to depth (Charlewood, 1964). The production based (1913–1962) Au/Ag ratio averaged 5.4 for the entire deposit, with the highest (9.0) at Kirkland Lake Gold (Kirkland Minerals) and the lowest (4.2) at Toburn (Charlewood, 1964). At present, Kirkland Lake Gold Inc. owns Macassa, Kirkland Minerals, Teck-Hughes, Lake Shore, and Wright-Hargreaves mines and produces gold from the Macassa 2 and 3 shafts and Lake Shore ramp.

Ore-controlling faults cut and displace a composite alkalic intrusion consisting of mafic syenite, syenite, and syenite porphyry (Hopkins, 1940; Thomson et al., 1950). Typical mineralization consists of relatively sulphide poor quartz veins hosted mainly by alkalic intrusive rocks; few ore bodies occur in Timiskaming tuffs, sandstones, and conglomerates. Economic grades are related to gold contained in quartz veins, rather than in altered host rocks. In the veins, native gold is associated with telluride minerals, such as altaite, calaverite, petzite, and coloradoite (Todd, 1928; Thomson et al., 1950). Other metallic minerals include pyrite, chalcopyrite, molybdenite, minor sphalerite, and very rare arsenopyrite (Thomson et al., 1950). The ore-controlling faults and auriferous veins are cut by Paleoproterozoic Matachewan diabase dikes and are offset by post-ore faults, including the Amikougami Creek, Tegren, Lake Shore, Murdock Creek, and Sylvanite faults (e.g., Hopkins, 1940; Thomson et al., 1950). No economic ore has been found to date west of the Amikougami Creek fault. The description of structures and gold mineralization below focuses largely on the '04 Break because it is the main ore-controlling structure at the currently active Macassa mine.

Veins along the '04 Break strike 045° to 070° and dip 60° to 80° south (near parallel to the host structure) with locally shallower and steeper dips. The veins occupy the main slip surface of the fault but also occur along secondary parallel fractures adjacent to the fault. The veins are typically 15 to 50 cm thick and consist largely of milky white quartz; discontinuous lenses of dark gray quartz are relatively rare. Some veins are slightly oblique to the 04 Break and terminate abruptly against the main chlorite-coated slip surface, probably due to post-ore movements along the fault. Contacts between the veins and wall rocks are sharp, although, less commonly, the veins are flanked by sheeted veinlet zones. In some cases (e.g., the Discovery outcrop vein), wall rocks are foliated parallel to the veins over a distance of 0.5 to 1 m from vein contacts."

"Gold mineralization along the Larder Lake-Cadillac deformation zone is exemplified by the Anoki and McBean deposits. The main mineralized zone of the Anoki deposit is a tabular (~60 m width  $\times$  ~450 m length) zone. The mineralized zone is hosted in pillowed to massive Fe tholeiitic basalts of the Larder Lake Group (Tisdale assemblage) and is parallel to lithologic contacts in the volcanic sequence. It dips steeply (60°–65°) north, strikes west-northwest, and plunges approximately 30° to the east. A distinctive magnetite-rich, high Fe/Mg [molar Fe/(Fe + Mg) = 0.65] flow unit constitutes the protolith for the replacement-style mineralization. At the flanks of the mineralized zone, where bulk alteration is relatively weak, well-defined sulfidation (pyrite) halos occur around thin quartz stringers. Within the mineralized zone, the rocks are strongly altered, massive, and are light gray to brownish light gray. They consist of euhedral to subhedral hydrothermal albite, carbonate, up to 15 volume percent coarse (1–5 mm) pyrite, with minor quartz and sericite. Few quartz and quartz-carbonate veinlets (0.3–1 cm thick) are present.

The McBean deposit is hosted by a band of metamorphosed, hydrothermally altered, and highly strained ultramafic rocks along the southern margin of the Larder Lake-Cadillac deformation zone. The ultramafic rocks are flanked by gabbros and basalts to the south and by Timiskaming conglomerate and sandstone to the north. Numerous feldspar porphyry and syenite dikes intrude the ultramafic rocks (Bell, 1987). The deposit is spatially associated with a bend along the Larder Lake-Cadillac deformation zone; the attitude of the host rocks changes from southeast- to east-striking with a decrease in dip from 75°–80° to 60° (south; Fig. 11). Mineralization occurs over a strike length of about 600 m, is roughly parallel to lithologic contacts and S2 foliation, and plunges approximately 50° east. Measured and indicated resources of the McBean deposit are 835,520 t with a grade of 5.1 g/t (4.26 t Au) and inferred resources are 1,835,230 t with a grade of 6.5 g/t (11.93 t Au; Oueenston Mining Inc., Annual Report, 2003, 24 p.). Near-surface mineralization, which was mined as an open-pit operation during the 1980s, consists of low grade zones in altered syenite dikes. Fine-grained gold is associated with pyrite that formed by sulfidation of primary magnetite in the dikes (Bell, 1987). At deeper levels (=300 m below surface) explored by drilling, gold occurs in zones of quartz veins hosted by ultramafic carbonate-fuchsite schists ("green carbonate ore") and in volumetrically subordinate quartzcarbonate-sericite-altered aphyric dikes with disseminated pyrite and small quartz veinlets. The grades in these deep zones are typically higher than those in the pit, with visible gold commonly present in the quartz veins (D. Alexander, Queenston Mining Inc., pers. comm., 2003). In carbonate-fuchsite schists enveloping the gold-bearing zones, S2 is defined by intercalated carbonate-, fuchsite-, and chlorite rich bands and is overprinted by a discrete S4 crenulation cleavage."

"The Upper Canada Mine deposit operated from 1938 to 1971 and produced 43.49 t of gold at an average grade of 10.3 g/t (Table 1) and an Au/Ag ratio of 2.22 (Tully, 1963). The mine is situated along the northeast-striking Upper Canada deformation zone ("Upper Canada Break:" Tully, 1963). Most of the ore was mined from the L zone, which is located at the contact or within 150 m of the contact between an east-plunging feldspar-phyric syenite porphyry stock and Timiskaming volcanic rocks. The L zone has been mined and explored to a depth of 2,015 m (Tully, 1963). It strikes parallel to the host deformation zone (~070°–075°), dips steeply to vertically, and plunges 40° to 60° to the east." The feldspar-phyric syenite porphyry stock (historically termed white spotted porphyry) is now interpreted as albitite alteration (Ploeger, 2010, 2011; Sredojevic et al., 2011).

"The westernmost part of the L zone is exposed at surface on several stripped outcrops west of shaft #2, where the syenite porphyry forms a wedge-shaped, eastward-tapering body in contact with tuffs and tuff breccias (Figs. 13, 14). The deformed tuffs are aphanitic or contain up to 5 to 10 volume percent relict feldspar grains (0.5–2 mm) and are altered to quartz, sericite, and carbonate. Tuff breccias consist of angular (1–5 to 7–10 cm) lithic (volcanic) clasts enclosed in a strongly tourmalinized matrix. The syenite porphyry [albite] contains 20 to 40 volume percent ovoid feldspar phenocrysts (1–3 mm) within an altered (quartz-sericite,  $\pm$ carbonate) matrix.
Disseminated fine-grained pyrite occurs throughout the rocks without apparent correlation between pyrite content and gold grades."

"... gold (grains of 0.02–0.1 to 0.5 mm) occurs in thin (1–3 mm), pervasive, carbonate-rich, quartz-carbonate veinlets, which are parallel to S2 and folded about Z-shaped F4 folds. Gold-bearing veinlets show lower D2 strain than some quartz-rich, S2 parallel bands in the host schist. In the veinlets, gold is sited in apparent textural equilibrium with carbonate and quartz. Tennantite [(Cu,Fe)12As4S13], minor chalcopyrite, and rarely pyrite, scheelite, and arsenopyrite are associated with gold. In addition to these minerals, Tully (1963) reported the presence of molybdenite, galena, and altaite in the Upper Canada ores."

The South Mine Complex is the newest type of gold mineralization to be defined in the KLGC. The South Mine deposit was discovered in 2005 and has since been continuously explored. It is located to the South of the Main Break / 04 Break complex described by Ispolatov above. The mineralized zone is shared by Kirkland Lake Gold Inc. and Oueenston Mining Inc. in the South Complex Joint Venture (SCJV). The orientation of the new discovery is different from that of other ore structures discovered south of the .04/Main Break system. The SMC has wide silicified sulphide sericite systems rather than the brecciated quartz vein mineralization found on the Main Break complex. The south zones generally have a flatter dip (30–40 degrees south). There is also a higher content of fine grained tellurides than in the Main Break zones. Recent drilling has indicated that there are repetitions of South Complex type shallow dipping zones. These new, wide, altered zones are believed to occur along "bridging structures" and could represent vectors to a new hydrothermal system on a southern and parallel mineralized extension of the Kirkland Lake Mining Camp related to the Main Break, possibly fed by a deep porphyry body. The New South Zone of the SMC was initially intersected by the SCJV on the South Claims property in 2008. Diamond drill intersections of 2.57 oz/ton gold over a core length of 21.5 ft. (10.7 ft. true width) and 2.54 oz/ton gold over 16.8 ft (5.9 ft true width) were both observed in Kirkland Lake Gold underground drill hole 53-909. Similar widths have been encountered in recent drilling.

#### 8.0 MINERALIZATION

#### 8.1 UPPER CANADA GOLD DEPOSIT

The Upper Canada deposits are classified as lode gold type deposit where economic concentrations of gold derived from hydrothermal fluids are present in veining systems of epithermal or mesothermal origin. The following description of the vein zones and mineralization is excerpted from Alexander (2007).

Most mineralization occurs "within a 300 to 400 m thick deformation corridor framed by the North and South Branches of the regional Upper Canada Break (Figure 6.3). The deformation corridor strikes east-northeast and dips vertical to steeply north. It is characterized by a strong east-northeast fabric with several late mud gouges, and, variable ankerite, sericite, quartz, chlorite, and feldspar alteration, plus pyrite."

"The historic ore zones were typically hosted within intensely sericitic, silicified and ankeritic, linear shear zones. They are most often restricted to narrow blue quartz veins or 'leads' in the thicker flow units, although flows, silicified tuffs and, to a lesser extent, syenite are common hosts to the ore. Mineralization consists of fine pyrite and native gold plus some accessory sphalerite, galena, chalcopyrite and molybdenite. In a few of the thinner flows, en-echelon, higher grade lenses are present within an envelope of lower grade mineralization. Past production is principally recorded from the H, M, Q, Upper B, Lower B, C, Upper L and Lower L zones, with only minor production (approximately 12,000 t) recorded on various other lenses."

"The L vein is the largest, historic, ore-bearing zone, consisting of the Upper L at the #2 shaft (west) and the Lower L at the #1 shaft (east and down plunge). RPA (1996) indicates that the Lower L is at the south contact of a mass of trachyte and related intrusives (Figure 8.1). It extends from the 1500-ft level to below the deepest mine workings on the 6150-ft level, and, has an average plunge of 48 degrees (RPA, 1996). The Upper L, from surface to the 1750 level is hosted by siliceous tuff, trachyte tuff and agglomerate. The Upper and Lower L account for approximately 75% of the past gold production, and, 46% of the remaining historic mineral resources."

"The two other zones with remaining resources are the C (38%) and M and Q (16%) zones. The C Zone, with an average grade of 7.37 g/t, is only partly mined between the 1750 and 3650 levels. It is characterized by dark bluish quartz veins and pyrite, in a siliceous tuff to trachyte host. The M and Q historic resource extends from surface to the 625 level and has a lower average grade of 4.48 g/t gold. Mineralization is up to 20 m wide in the M and Q Zone, in a trachyte to brecciated trachyte host."

"The B Zone is located 150 m north of the #2 shaft and hosts a series of zones mined between the 650-ft and 2000-ft levels in a sill-like body of syenite porphyry (RPA 1996). The zones are not accessed from the Brock shaft, which extended to 630 ft (192 m). The B Zone contains up to 1% sphalerite and galena in addition to chlorite, tournaline and pyrite associated with the veining."

"The regional 103 Break lies 600 to 700 m north of the Upper Canada Break along the northern boundary of the property. It also trends east north-easterly. Two drill holes by Inco Gold in 1989 sectioned the break environment encountering fractured and altered syenite but with low gold values in the target structure."



Figure 8.1 Cross Section 0+00, Upper Canada Mine Property

#### 9.0 EXPLORATION

#### **9.1 RECENT EXPLORATION (2009-2010)**

All exploration carried out on the Upper Canada property prior to the 2009 drilling program is summarized in Section 5.0 of this report.

A 2009 geological compilation of the mine revealed that the property could host the potential for low-grade, bulk tonnage mineralization. Queenston's 2009-2011 drill program was designed to test the bulk-tonnage, open pit potential above the workings of the past producing Upper Canada mine and to verify the deeper historic C zone resource. It also targeted the easterly limits of the North Branch of the Upper Canada Break along strike of the Brock Zones, as well as areas around the historic K zones that were explored on the 1000' level and other areas of interest.

As part of the program for developing exploration targets, all of the legacy data, including over 10,000 underground holes, all the underground development, and the historical geological interpretations, were incorporated into a mine model using GoCad, AutoCad and Surpac software. The model is being constantly updated with the new drilling as the holes are completed and assays returned.

Deep penetrating IP geophysical surveys were conducted over four lines but were hampered by the presence of the underground workings and numerous surface cultural features.



Figure 9.1 Long Section of Upper Canada with Historic Resources and Open Pit Target

(Sourced from: <u>www.queenston.ca</u>)

# 10.0 DRILLING

All drilling prior to the 2009 drill program is summarized in section 5.0 of this report.

The current diamond drilling campaigns are designed to follow up on the shallow Inco programs testing for low grade- bulk tonnage mineable ore, to confirm and expand deeper level historical reserves in the C zone, and evaluate the mineralization potential on the remainder of the Upper Canada property.

The initial drill phases, using a single drill, concentrated on cutting a series of fences across the historic zones to establish the geological parameters defining each zone of mineralization and confirming the assay values returned in the Inco drill programs.

Additional rigs were added in subsequent phases to evaluate specific target areas such as: the C zone; the pit potential of the eastern portion of the property in the vicinity of the office and number 1 shaft which included the H, M and Q zones; the central area in the vicinity of the upper L zones (L, L1, L4) immediately west of number 2 shaft; and, the area between the two shafts.

The program was subsequently expanded to 4 drills, two of which continued to test the C zone and the main deformation corridor aligned with the shafts, while two new drills were assigned to exploration targets. These included following up the historical drill intercepts in the plane of the Brock (Upper Canada North) deformation corridor and Brock North (Northeast) zone, and, the K zones and Northland area.

The results of these drill programs are extracted from the various press releases (Queenston, 2009, 2010, 2011) and summarized below.

## **10.1 2009 DRILLING**

In 2009, a two phase drilling program was completed on the Upper Canada Property (Figure 10.1). The 35 hole (11,022 m) diamond drilling program targeted the bulk-tonnage, open pit potential above the workings of the past producing Upper Canada Mine. The drilling was contracted to Major Drilling Group International Inc. of Val d'Or, Quebec. All of the drilling was NQ core size.

An initial phase of 14 holes was drilled targeting the Upper Canada Break, a 500 m wide, steeply south dipping deformation zone comprising the North and South Branches. The drilling intersected mineralization on four sections across the deformation zone. The mineralization consisted of disseminated gold-pyrite in albite-sericite-quartz altered sedimentary, volcanic and intrusive rocks.

The first three holes (UC09-01, -02 and -03) were drilled south to north, on or near section 9+50 W, 250 m west of the #1 Shaft. Holes UC09-01 and -02 drilled 35 m apart both targeted the South Branch intersecting similar grades and widths of mineralization assaying 1.55 g/t Au over 45.7 m and 1.54 g/t Au over 54.6 m respectively. The third hole on this section (UC09-03) was drilled to test the gap between the South and North Branch intersecting two mineralized areas assaying 0.85 g/t Au over 16.5 m and 0.94 g/t Au over 11.0 m respectively.

On section 37+50 W a total of 8 holes (UC09-04 to -11) were drilled north to south at 35 m intervals approximately 200 m west of the #2 Shaft and 850 m west of holes UC09-01, -02 and -

03. This fence of holes tested the entire 500 m width of the Upper Canada Break, including both the North and South Branches to a vertical depth of 200 m. Each hole intersected significant mineralization including 0.57 g/t Au over 160.4 m (UC09-06), 1.65 g/t Au over 25 m (UC09-07), 0.42 g/t Au over 134.1 m (UC09-09), 0.57 g/t Au over 41.6 m (UC09-10b) and 1.10 g/t Au over 33.5 m (UC09-11). Holes UC09-12 and -13 were drilled from north to south on section 15+00 W targeting the South Branch. Hole UC09-12 intersected the highest grade interval of the program assaying 2.04 g/t Au over a width of 33.7 m. Hole UC09-14 was drilled from north to south on section 22+00W targeting the gap between the North and South Branch and to extend the mineralization intersected in UC09-03 (380 m to the east) and UC09-07 (475 m to the west). Hole UC09-14 intersected a thick zone of mineralization assaying 0.86 g/t Au over 113.3 m that included a higher grade interval of 1.46 g/t Au over 49.2 m. Holes UC09-03, -07 and -14 indicate that significant gold mineralization also occurs in the gap between the North and South Branches of the Upper Canada Break.

The results of the initial Phase 1 drilling program outlined a large mineralized system along the Upper Canada Break measuring 850 m long, 500 m wide and extending to a vertical depth of at least 200 m. The mineralization remains open to the east, west and at depth. The Upper Canada Break was traced in Gauthier Township on Queenston's 100% owned property for a distance of 4 km.

A Phase II 2009 drilling program that consisted of an additional 21 drill holes was undertaken to delineate the mineralization within the Phase I drilling area as well to test the mineral potential along strike and to depth. A total of 16 holes (UC09-20 to -35) were completed on the South Branch near the #1 Shaft and were successful in expanding the mineralization 380 m to the east with intersections including 1.93 g/t Au over 32.0 m in hole UC09-34, 1.12 g/t Au over 71.3 m in hole UC09-24, 1.02 g/t Au over 41.2 m in hole UC09-31, 1.37 g/t Au over 20.7 m in hole UC09-33, 0.92 g/t Au over 44.6 m in hole UC09-30 and 0.78 g/t over 65.2 m in hole UC09-25. On the North Branch, 5 holes (UC09-15 to-19) were completed and extended the mineralization 450 m to the east including intersections of 2.55 g/t Au over 6.1 m in hole UC09-18 and 0.54 g/t Au over 42.2 m in hole UC09-17.

Intervals from Phase I and Phase II of the 2009 drilling program with greater than 1.5 g Au/t are summarized on Table 10.1.

HIG	ILIGHTS OF DRI	TAI LL INTERCEI	BLE 10.1 PTS FROM	THE 2009 DRI	LL PROGRAI	м
Hole No.	Section (ft)	From (m)	To (m)	Length (m)	Au (g/t)	Zone
UC09-01	9+70W	17.4	20.1	2.7	14.4	South Branch
UC09-01	9+70W	116.7	162.4	45.7	1.55	South Branch
UC09-02	9+82W	71.9	126.5	54.6	1.54	South Branch
UC09-07	37+50W	171.9	196.9	25.0	1.65	Gap
UC09-12	15+00W	41.3	75.0	33.7	2.04	South Branch
UC09-16	22+00W	135.6	137.4	1.8	696	North Branch
UC09-17	22+00W	102.7	105.4	2.7	1.74	North Branch
UC09-20	10+17W	196.6	200.6	4	1.75	South Branch
UC09-22	10+17W	84.1	85.1	1	6.24	South Branch
UC09-24	7+03W	190.8	197.2	6.4	3.04	South Branch
UC09-25	8+99W	63.1	72.2	9.1	1.75	South Branch
UC09-29	6+48W	147.2	149.0	1.8	2.83	South Branch
UC09-30	0+00	85.0	103.7	18.6	1.60	South Branch
UC09-31	0+00	44.2	58.2	14	2.03	South Branch
UC09-31	0+00	76.5	81.7	5.2	2.17	South Branch
UC09-33	3+00E	135.3	142.0	6.7	3.20	South Branch
UC09-33	3+00E	191.7	212.4	20.7	1.37	South Branch
UC09-34	3+00E	91.0	123.0	32	1.93	South Branch

Note: The mineralized intervals reported in this table represent core length only.



FEBRUARY 2010

(Sourced from: <u>www.queenston.ca</u>)

## 10.2 2010 DRILLING

The 2010 drilling focused on targeting near-surface bulk mineable mineralization in the vicinity of the #1, #2 and Brock shaft areas (Upper L and Brock Zones) as well as testing the deeper C Zone (Figure 10.2 and Figure 10.3). The purpose of the program was to provide drill data for an updated 2011 mineral resource estimate..

Three surface diamond drill rigs worked continuously through most of the year and a fourth was added during the fourth quarter. During the year a total of 57,542 m of drilling representing 176 holes, including 3 wedge cuts were completed on the property.

The majority of the drilling (168 holes including 2009 holes) targeted the South Branch along the Upper Canada Break gold corridor over a length of 2,200 m from surface to a depth of 250 m. These drill holes targeted the potential for a near surface mineral resource above and along the previously mined portions of the deposit. Nine holes including 3 wedge cuts tested the deeper C Zone along the western portion of the South Branch where previous underground development and drilling established a historical resource between 1750-ft and 3650-ft levels. Thirty nine holes targeted the North Branch and central gap portion of the mineralized corridor in the vicinity of the Brock Shaft.

Significant shallow holes along the South Branch include; UC10-36 (2.62 g/t Au over 33.0 m), UC10-88 (2.28 g/t Au over 22.9 m), UC10-97 (2.05 g/t Au over 32.0 m), UC10-115 (9.16 g/t au over 9.1 m), UC10-123 (1.29 g/t Au over 55.6 m), UC10-158 (10.43 g/t Au over 17.3 m), UC10-161 (4.01 g/t Au over 19.2 m), UC10-190 (1.44 g/t Au over 29.3 m) and UC10-223 (1.81 g/t Au over 13.7 m). The South Zone has been drilled over a length of 2.2 km and appears to remain open to the west along the Upper Canada gold corridor for an additional 2.0 km.

Key intersections from the deeper C Zone drilling included, UC10-49 (1.63 g/t Au over 40.2 m and 11.1 g/t Au over 10.3 m), UC10-50 (2.11 g/t Au over 75.6 m), UC10-50W1 (1.43 g/t Au over 62.2 m and 2.37 g/t Au over 68.0 m) and UC10-50W2 (1.63 g/t Au over 60.4 m and 3.31 g/t Au over 21.0 m). The C zone remains open to the west, east and to depth.

Drilling along the North Branch to the east and west of the Brock Shaft returned important intersections including, UC10-152 (2.14 g/t Au over 6.4 m), UC10-156 (2.19 g/t Au over 5.4 m), UC10-81 (0.9 g/t Au over 77.3 m), UC10-185 (13.08 g/t Au over 1.8 m), UC10-189 (1.09 g/t Au over 18.4 m), UC10-181 (0.9 g/t Au over 77.3 m) and UC10-209 (5.3 g/t Au over 7.5 m). The north Branch remains open to the east and west.

The results from the 2010 drill program are summarized in Table 10.2 below.





(Sourced from: <u>www.queenston.ca</u>)



## Figure 10.3 Upper Canada Surface Drill Plan – 2010





Hie	GHLIGHT OF D	TABLE 10.2Highlight of Drill Intercepts from the 2010 Drill Program												
Hole ID	Section (ft)	From (m)	To (m)	Interval (m)	Au (g/t)	Zone								
UC10-36	3+00E	10.9	43.9	33.0	2.62	South Branch								
		128.6	131.3	2.7	7.0	South Branch								
UC10-40	7+00E	122.2	123.1	0.9	9.19	South Branch								
		132.7	134.7	2.0	2.75	South Branch								
		150.3	152.1	1.8	4.15	South Branch								
UC10-43	53+00W	551.7	556.3	4.6	3.44	C Zone								
UC10-45	11+00W	35.4	37.2	1.8	16.04	South Branch								
		59.1	60.0	0.9	11.26	South Branch								
UC10-46	11+00W	240.5	242.3	1.8	5.70	South Branch								
UC10-47	13+00W	99.1	100.0	0.9	1.68	South Branch								
		140.8	142.6	1.8	3.19	South Branch								
UC10-48	13+00W	82.6	83.5	0.9	2.67	South Branch								
UC10-49	50+00W	769.7	809.9	40.2	1.63	C Zone								
		872.6	877.2	4.6	7.02	C Zone								
		970.0	980.3	10.3	11.01	C Zone								
UC10-50	50+00W	899.8	975.4	75.6	2.11	C Zone								
		901.6	906.2	4.6	6.49	C Zone								
		973.5	974.4	0.9	31.95	C Zone								
UC10-51	9+50W	352.3	353.2	0.9	9.12	South Branch								
UC10-52	9+50W	240.8	244.5	3.7	3.08	South Branch								
		282.5	284.3	1.8	1.93	South Branch								
UC10-53	12+50W	113.6	114.3	0.7	3.99	South Branch								
UC10-54	12+50W	64.0	64.9	0.9	1.88	South Branch								
UC10-55	15+00W	13.7	40.8	27.1	1.54	South Branch								
	including	13.7	14.6	0.9	10.15	South Branch								
	and	36.3	37.2	0.9	17.80	South Branch								
UC10-57	17+00W	186.6	191.2	4.6	2.51	South Branch								
UC10-60	19+00W	57.9	58.8	0.9	11.93	South Branch								
UC10-64	3+00W	166.4	174.6	8.2	1.87	South Branch								
UC10-65	3+00W	110.3	111.2	0.9	5.90	South Branch								
		165.2	166.7	1.5	5.78	South Branch								
		67.1	68.9	1.8	4.20	South Branch								
		208.5	209.4	0.9	20.9	South Branch								
UC10-81	21+00W	63.1	64.0	0.9	6.03	South Branch								
UC10-82	21+00W	85.3	89.9	4.6	4.64	South Branch								
UC10-85	2+00E	29.3	31.1	1.8	6.02	South Branch								
UC10-86	22+50W	161.0	170.1	9.1	2.59	South Branch								
UC10-88	24+00W	89.3	112.2	22.9	2.28	South Branch								
UC10-81	21+00W	89.3	90.2	0.9	22.13	South Branch								
		243.2	244.1	0.9	7.01	South Branch								
UC10-91	5+00E	107.0	119.8	12.8	1.62	South Branch								
UC10-95	6+00E	250.2	252.1	1.9	7.68	South Branch								
UC10-97	6+00E	167.6	199.6	32.0	2.05	South Branch								
UC10-98	6+00E	164.6	165.5	0.9	9.73	South Branch								

HIG	Table 10.2         Highlight of Drill Intercepts from the 2010 Drill Program												
Hole ID	Section (ft)	From (m)	<b>To (m)</b>	Interval (m)	Au (g/t)	Zone							
UC10-103	26+00W	137.8	138.7	0.9	15.54	South Branch							
UC10-105	26+00W	181.7	190.2	8.5	1.94	South Branch							
UC10-106	28+00W	370.6	371.5	0.9	10.42	South Branch							
		413.6	414.5	0.9	28.16	South Branch							
UC10-108	28+00W	64.6	77.4	12.8	2.15	South Branch							
		95.7	100.2	4.5	2.5	South Branch							
UC10-113	7+00E	14.3	18.0	3.7	3.03	South Branch							
		106.7	114.0	7.3	1.57	South Branch							
UC10-114	30+00W	79.3	86.6	7.3	2.95	South Branch							
		114.0	115.8	1.8	7.30	South Branch							
UC10-115	31+00W	15.2	24.4	9.2	9.16	South Branch							
UC10-50W1	50+00W	875.1	876.9	1.8	17.28	South Branch							
		1067.4	1135.4	68.0	2.37	South Branch							
UC10-50W2	50+00W	623.3	624.2	0.9	8.02	C Zone							
		818.4	878.8	60.4	1.65	C Zone							
		923.2	935.1	11.9	7.40	C Zone							
		1021.7	1042.7	21.0	3.31	C Zone							
UC10-116	33+00W	243.0	246.6	3.6	2.90	South Branch							
UC10-117	33+00W	243.0	246.6	3.6	2.90	South Branch							
UC10-119	33+00W	240.5	244.1	3.6	1.62	South Branch							
UC10-120	33+00W	91.4	99.0	7.6	3.17	South Branch							
UC10-121	7+00E	183.5	185.3	1.8	2.26	South Branch							
UC10-122	7+00E	219.2	222.9	3.7	2.18	South Branch							
UC10-123	9+00W	123.1	178.1	55.6	1.29	South Branch							
UC10-124	11+00W	146.6	150.3	3.7	1.65	South Branch							
	40.0011	160.3	165.8	5.5	2.27	South Branch							
UC10-126	40+00W	35.4	38.1	2.7	1.67	South Branch							
UC10-127	40+00W	5.4	8.2	2.8	1.61	South Branch							
		62.5	63.4	0.9	16.2	South Branch							
11010 100	41.0000	//.1	83.5	6.4	2.02	South Branch							
UC10-129	41+00W	40.2	42.9	2.7	13.87	South Branch							
0010-133	12+00W	73.2	/5.9	2.7	4.13	South Branch							
	including	13.2	/4.1	0.9	10.90	South Branch							
LIC10 125	12+00W	120.1 50.7	60.6	0.9	12.11	South Branch							
0010-155	12+00 W	122.9	124.7	0.9	7.09	South Branch							
UC10 126	25 ± 00W	155.8	154.7	0.9	1.52	C Zono							
0010-150	23+00 W	939.0	908.0	0.2	0.63	C Zone							
UC10 140	12+00W	20.3	20.2	0.0	9.03	C Zolle							
UC10-140	43+00W	29.3	36.6	0.9	2.10	South Branch							
UC10-142	$45\pm00W$	33.7 31.7	30.0	0.9	2.0 <del>4</del> 12.30	South Branch							
0010-145	-JTUUW	168.7	169.1	0.9	3 90	South Branch							
		217.0	218.8	1.8	<u> </u>	South Branch							
		247.2	249.9	2.7	2.04	South Branch							

Hid	HUGHT OF D	T RILL INTERC	TABLE 10.     CEPTS FROM	2 0m the 2010 Di	RILL PROG	CRAM
Hole ID	Section (ft)	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
UC10-145	47+00W	102.7	103.5	0.8	14.99	South Branch
UC10-146	14+30W	10.1	14.7	4.6	2.04	South Branch
		25.6	38.4	12.8	1.60	South Branch
UC10-147	14+30E	41.8	42.7	0.9	3.15	South Branch
		50.9	51.9	1.0	12.02	South Branch
UC10-148	14+30W	9.4	10.3	0.9	2.47	South Branch
		97.2	98.0	0.8	20.75	South Branch
UC10-150	46+00W	403.6	406.3	2.7	1.30	Brock Zone
		422.8	424.6	1.8	8.46	Brock Zone
UC10-151	46+00W	33.5	35.3	1.8	5.52	Brock Zone
UC10-152	43+00W	274.9	281.3	6.4	2.14	Brock Zone
		372.1	374.6	2.5	3.40	Brock Zone
UC10-156	41+00W	114.6	120.0	5.4	2.19	Brock Zone
UC10-158	14+30W	144.2	161.5	17.3	10.43	South Branch
UC10-159	14+30W	166.4	167.3	0.9	19.82	South Branch
UC10-160	15+00W	26.5	27.4	0.9	17.06	South Branch
UC10-161	15+00W	114.9	134.1	19.2	4.01	South Branch
UC10-162	15+00W	46.0	57.0	11.0	3.03	South Branch
UC10-163	16+00W	22.3	23.2	0.9	31.04	South Branch
		55.2	72.5	17.3	2.03	South Branch
	16.00111	74.7	75.6	0.9	4.66	South Branch
UC10-168	16+00W	70.1	71.0	0.9	6.00	South Branch
11010 100	17.0011	89.1	90.0	0.9	9.13	South Branch
UC10-169	1/+00W	137.2	138.1	0.9	1.//	South Branch
UC10-170	25+00W	275.5	211.3	1.8	1.75	C Zone
UC10-171	31+00W	/04.4	705.5	0.9	5.28	C Zone
0010-173	33+33 W	51.5	33.3	1.8	1./3	Brock Zone
UC10 174	25 + 25W	24.0	20.5	25.2	2.08	Brock Zone
0010-174	33+33 W	24.0 81.7	29.3 85.4	3.3	2 37	Brock Zone
UC10-175	35+35W	36.3	<u> </u>	3.7 8.2	3.63	Brock Zone
UC10-176	35+35W	138.4	142.1	3.7	1.89	Brock Zone
0010-170	JJ7JJ VV	178.6	142.1	1.8	2.23	Brock Zone
UC10-177	35+35W	107.9	110.4	2.7	10.61	Brock Zone
UC10-177	35135 1	235.9	238.6	2.7	3.85	Brock Zone
UC10-179	40+00W	59.1	60.9	1.8	2.02	Brock Zone
UC10-181	34+00W	80.2	82.0	1.8	13 39	Brock Zone
	5110011	138.4	140.2	1.8	9.71	Brock Zone
		256.6	259.3	2.7	1.34	Brock Zone
UC10-182	34+00W	37.8	38.7	0.9	4.94	Brock Zone
UC10-183	32+00W	126.2	128.2	2.0	3.15	Brock Zone
UC10-185	30+00W	226.2	228.0	1.8	13.08	Brock Zone
UC10-190	55+00W	441.0	445.6	4.6	1.64	K Zones
UC10-191	57+00W	291.1	292.0	0.9	4.39	K Zones

		T	TABLE 10.	2		
HIG	HLIGHT OF D	RILL INTERC	CEPTS FRC	M THE 2010 D	RILL PROG	GRAM
Hole ID	Section (ft)	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
UC10-193	59+00W	306.3	310.9	4.6	1.88	K Zones
UC10-195	59+00W	273.4	274.3	0.9	3.16	K Zones
UC10-202	46+00W	945.2	950.7	5.5	1.59	C Zone
UC10-203	46+00W	528.8	529.7	0.9	8.20	C Zone
		965.6	969.2	3.6	1.67	C Zone
UC10-205	25+00W	288.4	289.3	0.9	10.84	Brock Zone
UC10-206	25+00W	75.9	76.8	0.9	4.01	Brock Zone
UC10-207	25+00W	27.1	30.8	3.7	6.25	Brock Zone
		85.9	90.5	4.6	1.94	Brock Zone
UC10-208	20+00W	135.0	135.9	0.9	4.52	Brock Zone
		306.3	308.2	1.9	2.71	Brock Zone
UC10-209	20+00W	142.6	145.3	2.7	3.69	Brock Zone
		439.2	446.7	7.5	5.38	Brock Zone
UC10-210	20+00W	183.5	195.4	11.9	1.24	Brock Zone
		189.0	189.9	0.9	11.90	Brock Zone
UC10-223	8+30E	83.2	96.9	13.7	1.81	South Branch
		86.0	86.9	0.9	19.13	South Branch
UC10-224	8+30E	120.1	122.8	2.7	4.65	South Branch
		162.8	164.6	1.8	15.03	South Branch

*Note:* The mineralized sections reported in this table represent core lengths only. Holes were not numbered in the order they were drilled.

## 11.0 SAMPLING METHOD AND APPROACH

All drill core was transported by pickup truck to the core handling, logging and storage facility at the Upper Canada Mine site at the end of each drill shift.

All lithological, structural, alteration and mineralogical features of the drill core were observed and recorded during the geological logging procedure. This information was later transcribed into the computer using a program (Surpac) that was compatible with Gemcom software. All logging is recorded directly to laptop computers using Excel software. Completed drill logs and sample tables are routinely backed up to a stand-alone computer which itself is backed up weekly to a portable external memory drive. Photos were taken of the core, as part of the drill hole logging. Rock Quality Designation (RQD) calculations were done on all drill core by a core technician.

Samples were defined by the geologist based on geological units/mineralization. The entire hole was sampled in 3 foot samples (0.9 m).

Once the logging was complete the samples were sawn in half lengthwise. One-half of the drill core was placed in a plastic sample bag with a sample tag and the other half was returned to its original position in the core box with the corresponding tag for each sample interval. Samples were shipped daily to Swastika Laboratories Ltd. ("Swastika Lab"), in Swastika, Ontario.

Drill core was kept on-site in an outdoor storage area surrounded by a chain link fence, and was either cross piled or stored in core racks. Core rejects and pulps are stored under lock and key on the site.

It is the author's opinion that the core logging procedures employed are thorough and provide sufficient geotechnical and geological information. There is no apparent drilling or recovery factors that would materially impact the accuracy and reliability of the drilling results.

## 12.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

The drill core samples were trucked on a daily basis to the Swastika Lab for preparation and analysis. The Swastika Lab was established in 1928 and has been operating continuously since that time. The lab participates regularly in the Proficiency Testing Program for Mineral Analysis Laboratories ("PTP-MAL") administered by the Standards Council of Canada, and maintains Certificates of Successful Participation in Proficiency Testing for gold, and other elements.

At the lab the samples are dried and crushed to approximately six (6) mesh. A Jones riffle splitter is used to take a 400 g sub sample for pulverizing and the reject portion is bagged and stored. After reducing the 400 g sample to 80% -100 mesh the sample is thoroughly blended and a 29.17 g portion (one assay ton) is used for fire-assaying. Assayed samples are finished by Atomic Absorption, those with a returned value of greater than 1 g/t are re-assayed and finished gravimetrically.

Repeat or check assays are run by the lab on at least one in every 10 samples on the original pulp or on a second pulp prepared from the reject. Additional checks are provided in a number of instances when an assay is greater than 2 g/t. Standards and blanks are routinely assayed and reported by the lab for at least every 30 samples. Samples containing visible gold may be subjected to a metallic sieve assay and a check-assay should repeated recheck samples show significant variability. A check-assay procedure using a second lab is routinely undertaken by Queenston.

It is the author's opinion that the sample preparation, security and analytical procedures are satisfactory.

## **13.0 DATA VERIFICATION**

#### 13.1 SITE VISIT AND INDEPENDENT SAMPLING

The Upper Canada Property was visited by Mr. Antoine Yassa, P. Geo., an independent Qualified Person as defined by NI 43-101, on February 17, 2011. Sixteen samples were collected from 12 holes. The samples were then documented, bagged, and sealed with packing tape and were taken by Mr. Yassa to Dicom in Rouyn-Noranda, QC. From there, the samples were shipped to the offices of P&E in Brampton, ON, and sent by courier to AGAT Laboratories in Mississauga, ON for analysis. Gold was analyzed using fire assay on a 30 gram aliquot with an AAS finish.

AGAT Laboratories employs a quality assurance system to ensure the precision, accuracy and reliability of all results. The best practices have been documented and are, where appropriate, consistent with:

- The International Organization for Standardization's ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories' and the ISO 9000 series of Quality Management standards";
- All principles of Total Quality Management (TQM);
- All applicable safety, environmental and legal regulations and guidelines;
- Methodologies published by the ASTM, NIOSH, EPA and other reputable organizations;
- The best practices of other industry leaders.

At no time, prior to the time of sampling, were any employees or other associates of Queenston advised as to the location or identification of any of the samples to be collected.

A comparison of the P&E independent sample verification results versus the original assay results for gold can be seen in Figure 13.1. The P&E results demonstrate that the results obtained and reported by Queenston were reproducible.

Figure 13.1 P&E Site Visit Verification Sample Results for Gold



# **13.2 QUALITY ASSURANCE QUALITY CONTROL**

Certified reference materials (CRM) and blanks were inserted approximately every 25 samples for Quality Assurance and Quality Control (QA/QC) purposes.

There were four different CRM used for the Upper Canada drill program, all prepared by Rocklabs in New Zealand and purchased through Mines Assay Supplies in Kirkland Lake, ON.

Two different labs were used for the drilling from July 2009 to February 2011; Swastika Labs in Swastika, ON and SGS Mineral Services. Samples were prepped and analyzed at Swastika, and the samples sent to SGS were prepped in Sudbury and forwarded to Don Mills, ON for analysis.

Swastika Labs has been in continuous business since 1928 and participates in the bi-annual round robin Proficiency Testing Program for Mineral Analysis Laboratories (PTP-MAL) through the Standards Council of Canada. P&E verified the most recent (September, 2010) certificate which states that lab met the testing requirements.

SGS Mineral Services are ISO/IEC 17025 accredited and most major regional facilities are ISO 9001 certified.

## **13.2.1 Performance of Certified Reference Materials**

There were over 2,835 data points for the four CRM inserted into the sample stream. Ninety-two percent of samples were analyzed at Swastika, with the remainder analyzed at SGS. There were many misallocations, i.e there was a mix up of standards inserted by Queenston during the program (values received were equivalent to other standards Queenston was using but were not the values for the standards they thought they had inserted). Once the many misallocations were accounted for, there were few failures outside the warning limits defined as +/- two standard deviations from the mean. It is to be noted that at Swastika Labs, there was a consistent low bias reported on all the CRM resulting in almost all of the data reporting lower than the certified mean. These data remained within the warning limits, however the lab was contacted to provide an explanation as to why there was a consistent downward trend. This does not affect the quality of data reported in this resource estimate.

## 13.2.2 Blanks

The blank material was obtained from sterile drill core. A blank sample was inserted approximately every 25th sample into the sample stream. All blank data were graphed, with no issues to report.

The authors consider the data to be of good quality and satisfactory for use in a resource estimate.

# **14.0 ADJACENT PROPERTIES**

The Upper Canada Property adjoins four other properties that Queenston owns a 100% interest in. These properties include:

- Claims adjacent and to the southeast of Upper Canada claims L9364, L6315, L101141 and L101140, formerly owned by Wadasa Mines Ltd. are now known as the Fork Lake property.
- The Anoki-McBean Property Claims adjacent and to the south of Upper Canada claims L9530, L9529, L9528, L6321, L15584, L15585, and L9616.
- The Munro Property adjacent to the west of Upper Canada claims L92227, L9527, L9526 and L9530.
- The Casan Property adjacent to the north of Upper Canada claims L9094, LS502 and LS500.
- The DKO Property adjacent to the north of Upper Canada claims LS503, L101142 and L101145.
- The Mary-Ann Property adjacent to the northeast and east of Upper Canada claims 1242096, 1242097, 1226075, 949827 and 3010060.

All these properties have received exploration by Queenston: under option agreements with Queenston or Queenston/Inco partnerships during the 1980's and early 1990's as part of development of the McBean and Canico joint ventures. Mineralized Resources were identified on the Anoki-McBean properties as listed below: (P&E NI 43-101 Technical Report No. 171 2009).

P&E Dec	Table 14.1       P&E December, 2009 Combined McBean-Anoki Resource Estimates @ 2.5 g/t Au											
	CUT-OFF GRADE											
	Measure	ed + Indicated (	Capped	Ir	nferred (Capped	l)						
Deposit	Tonnes	Grams/tonne	Ounces	Tonnes	Ounces							
		Au	Au		Au	Au						
McBean	706,000	4.64	105,700	1,221,000	4.71	184,700						
Anoki	730,000	4.74	110,700	337,000	4.80	52,100						
Total	1,436,000	4.69	216,400	1,558,000	4.73	236,800						

Information relating to the above properties has been supplied by Queenston.

## 15.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Queenston has sent composite reject samples to SGS Lakefield for mineral processing or metallurgical testing. Past studies and past production recovery reports are discussed in Section 5.4 of this report.

The following is a summary of the 2011 SGS testwork program. It should be noted that P&E has not separately reviewed the testwork.

## 15.1 SGS-LAKEFIELD 2011 TESTWORK PROGRAM

## **15.1.1 Upper Canada Testwork**

An integral part of Queenston's exploration strategy in the Kirkland-Larder Lake camp is to evaluate both the open pit potential and historic resources at Upper Canada. A program of metallurgical testing of various ore composites from several of the properties in the camp was undertaken at SGS-Lakefield earlier in 2011 in conjunction with 43-101 filings of mineral resource estimates.

Composites of three zones from Upper Canada were prepared; O (Office) and L samples represented bulk tonnage targets from shallow drilling programs in 2009-2010, aimed at exploring the open pit potential, while a high grade (HG) sample was selected representing the deeper C zone. Principal head assays are shown in Table 15.1.

TABLE 15.1HEAD ASSAYS OF UPPER CANADA COMPOSITES									
Sample	nple   2011 – O   2011 – L   2011 – HG								
g Au/t	1.48	1.61	25.5						
g Ag/t	2	22.1	3.3						
Fe, %	5.09	4.91	4.68						
S, %	1.56	3.08	1.94						
SiO2, %	50.4	52	53.1						

Bond ball mill work index tests indicated the O composite is in the hard category with a value of 19.1 kwh/mt while the L composite at 14.9 kwh/mt is of medium-hard hardness.

Gravity concentration tests were performed using a Knelson concentrator followed by upgrading on a Mozley table. In the case of the Office (O) composite, gold recovery in a Mozley concentrate was only 8.9% and just 6.4% for the L sample. Results of the gravity test on the HG composite are awaited. The available results bear out the historical record that the Upper Canada ores are only weakly amenable to gravity concentration.

A series of 72-hour kinetic cyanidation tests were performed on tailing samples of O and L composites from the gravity tests to determine gold extraction rates at three finenesses of grind with a follow up 48-hour CIL test at the finest of the grinds selected. The results are summarized in Table 15.2.

	TABLE 15.2   KINETIC CYANIDATION TESTS OF O AND L COMPOSITES													
		V90		Reag Cor	gent 1s.		Au Ext	raction		Residue	Head	Head	Grav.	Overall Extraction
Test No.	Sample	K80	pH Range	kg	/t		%			Au	Au, g/t	Au, g/t	Rec.	(Grav+ tail CN)
		um		NaCN	CaO	8h	24h	48h	72h	g/t	calc.	direct	Au %	Au %
CN-1	G1 Tail (UC-O)	118	10.2- 11.2	0.10	0.62	76.3	78.5	80.9	81.7	0.26	1.39	1.30	8.9	83.3
CN-7	G1 Tail (UC-O)	73	10.5- 11.1	0.09	0.77	78.1	84.3	85.0	85.0	0.21	1.40	1.30	8.9	86.3
CN-13	G1 Tail (UC-O)	40	10.3- 11.7	0.31	1.00	73.6	78.0	83.7	86.7	0.18	1.31	1.30	8.9	87.8
*CIL-14	G1 Tail (UC-O)	40	10.5- 11.0	0.35	0.81			85.7		0.20	1.36	1.30	8.9	87.0
CN-2	G2 Tail (UC-L)	110	10.4- 11.1	0.14	0.56	68.7	70.9	73.1	73.8	0.40	1.53	1.47	6.4	75.5
CN-8	G2 Tail (UC-L)	57	10.6- 11.1	0.19	0.62	72.6	76.5	77.9	79.2	0.34	1.64	1.47	6.4	80.5
CN-15	G2 Tail (UC-L)	36	10.4- 11.0	0.42	0.86	77.0	78.2	79.7	81.3	0.28	1.49	1.47	6.4	82.5
CN-16	G2 Tail (UC-L)	36	10.8- 11.3	0.46	0.81			81.1		0.30	1.56	1.47	6.4	82.4
*Car All tes	rbon 10 g/L ts: 40% solids		CN str	ength 0/5	g/L									

The results showed an extraction rate for the O composite at about 85% after 48 hours when ground to K(80) 73 microns, with a marginal improvement of under 2% when a finer grind to K(80) 40 microns and 72 hours contact time were employed. In the case of the L composite residue levels were 50% higher than those obtained in the O sample testing, leading to lower extraction rates. To achieve a level of extraction of 80%, grinding to as fine as K(80) 40 microns might be required with a minimum 48 hours contact time. For both composites the bulk of the gold dissolution was achieved in the first 8 - 24 hours.

## 16.0 2011 RESOURCE ESTIMATE

#### **16.1 INTRODUCTION**

The purpose of this report section is to estimate the Mineral Resources of the Upper Canada Deposit in compliance with NI 43-101 and CIM standards. This resource estimate was undertaken by Eugene Puritch, P.Eng. and Antoine Yassa, P.Geo. of P&E Mining Consultants Inc. of Brampton Ontario. The effective date of this resource estimate is April 30, 2011.

## **16.2 DATABASE**

All drilling data were provided by Queenston Mining Inc. in the form of an MS-Access database. Fifty-one (51) drill cross sections were developed on a local grid looking West on a 90° azimuth on a104 foot (31.7 m) spacing named from 7-E to 43-W.

The Gemcom database for this estimate was constructed from 258 surface drill holes of which 187 were utilized in the resource calculation. All remaining data were not in the area that was modeled for the resource estimate. A drill hole plan is shown in Appendix-I.

The database was verified in Gemcom with minor corrections made to bring it to an error free status. The Assay Table of the database contained 71,227 Au assays. Drill assay data grade values are expressed in metric units, while down hole interval data and grid coordinates are in a local imperial system.

## **16.3 DATA VERIFICATION**

Verification of 57,863 assay database values was performed with original laboratory and electronically issued certificates from Swastika Laboratories and SGS Canada. Some minor errors were detected and corrected in the Gemcom database. The checked assays represent 97% of the data used in the resource estimate and approximately 81% of the total database.

## **16.4 DOMAIN INTERPRETATION**

The Upper Canada Deposit domain boundaries were determined from lithology, structure and grade boundary interpretation from visual inspection of drill hole sections. Twenty-six domains were created named Main 1 to 13, North 1 to 5, South 1 to 7 and Miscellaneous. These domains were created with computer screen digitizing on drill hole sections in Gemcom by the authors of this report. The domain outlines were influenced by the selection of mineralized material above 0.5 g/t Au that demonstrated a lithological and structural zonal continuity along strike and down dip. In some cases mineralization below 0.5 g/t Au was included for the purpose of maintaining zonal continuity. Smoothing was utilized to remove obvious jogs and dips in the domains and incorporated a minor addition of inferred mineralization. This exercise allowed for easier domain creation without triangulation errors from solids validation.

On each section, polyline interpretations were digitized from drill hole to drill hole but not typically extended more than 100 feet into untested territory. Minimum constrained true width for interpretation was approximately 10 feet. Interpreted polylines from each section were "wireframed" in Gemcom into 3-D domains. The resulting solids (domains) were used for statistical analysis, grade interpolation, rock coding and resource reporting purposes. See Appendix-II.

# 16.5 ROCK CODE DETERMINATION

The rock codes used for the resource model were derived from the mineralized domain solids. The list of rock codes used is as follows:

0	Air	21	North-1 Domain
1	Main-1 Domain	22	North-2 Domain
2	Main-2 Domain	23	North-3 Domain
3	Main-3 Domain	24	North-4 Domain
4	Main-4 Domain	25	North-5 Domain
5	Main-5 Domain	31	South-1 Domain
6	Main-6 Domain	32	South-2 Domain
7	Main-7 Domain	33	South-3 Domain
8	Main-8 Domain	34	South-4 Domain
9	Main-9 Domain	35	South-5 Domain
10	Main-10 Domain	36	South-6 Domain
11	Main-11 Domain	37	South-7 Domain
12	Main-12 Domain	40	Miscellaneous Domains
13	Main-13 Domain	99	Waste Rock
		100	Overburden

## **Rock Code Description**

## **16.6 COMPOSITES**

Length weighted composites were generated for the drill hole data that fell within the constraints of the above-mentioned domains. These composites were calculated for Au over 3.0 foot lengths starting at the first point of intersection between assay data hole and hanging wall of the 3-D zonal constraint. The compositing process was halted upon exit from the footwall of the aforementioned constraint. Un-assayed intervals were set to ½ assay detection limit values. Any composites that were less than 1.0 foot in length were discarded so as not to introduce any short sample bias in the interpolation process. The constrained composite data were transferred to Gemcom extraction files for the grade interpolation as X, Y, Z, Au, files.

# **16.7 GRADE CAPPING**

Grade capping was investigated on the raw assay values in the database within the constraining domains to ensure that the possible influence of erratic high values did not bias the database. Extraction files were created for the constrained Au data. From these extraction files, log-normal histograms were generated. See graphs in Appendix-III.

Table 16.1       Au Grade Capping Values										
Domain	DomainCapping Value Au g/tNumber of AssaysCumulative % forRaw Coefficient Of VariationCaDomainQ/tCapped% for CappingCoefficient of VariationCoefficient VariationCoefficient Variation									
Main	15	24	99.0	2.48	1.87					
North	8	7	99.0	1.98	1.31					
South	15	5	99.2	2.39	1.61					
Miscellaneous	12.5	10	97.3	2.02	1.76					

# **16.8 VARIOGRAPHY**

Reasonable directional variograms were developed for the combined constrained composites from all 18 domains. The variogram's ranges were used as the search ellipse parameters for grade interpolation. See variograms in Appendix-IV.

# **16.9 BULK DENSITY**

The bulk density used for the creation of a density block models was derived from site visit samples taken by Antoine Yassa, P.Geo. and analysed at AGAT Laboratories in Mississauga, Ontario. The average bulk density for the Upper Canada resource was derived from 16 samples and determined to be 11.9 cubic feet per ton  $(2.68 \text{ t/m}^3)$ .

# 16.10 BLOCK MODELING

The Upper Canada Deposit resource model was divided into a block model framework containing 41,629,440 blocks that were 13ft in X direction, 13ft in Y direction and 13ft in Z direction. There were 586 columns (X), 240 rows (Y) and 296 levels (Z). The block model was not rotated. Separate block models were created for rock type, density, percent, class and Au.

The percent block model was set up to accurately represent the volume and subsequent tonnage that was occupied by each block inside the constraining domain. As a result, the domain boundary was properly represented by the percent model ability to measure individual infinitely variable block inclusion percentages within that domain.

The Au composites were extracted from the Microsoft Access database composite table into separate files. Inverse distance cubed (ID3) grade interpolation was utilized. The first grade interpolation pass was utilized for the Indicated classification and the second Inferred. The resulting Au grade blocks can be seen on the block model cross-sections and plans in Appendix-V. Grade blocks were interpolated using the following parameters:

Table 16.2       Au Block Model Interpolation Parameters										
All Domains	All DomainsDip Dir.StrikeDip DipDip 						Min # Sample	Max # Sample		
Indicated	$0^{\rm o}$	270°	-90°	150	150	30	2	3	20	
Inferred	0°	270°	-90°	500	500	250	2	1	20	

## **16.11 RESOURCE CLASSIFICATION**

During the Upper Canada classification interpolation search ellipsoid passes, 70,099 grade blocks were coded as Indicated and 222,914 as Inferred. Classification block cross-sections and plans can be seen in Appendix VI.

## **16.12 RESOURCE ESTIMATE**

The resource estimate was derived from applying an Au cut-off grade to the block model and reporting the resulting tons and grade for potentially mineable areas. The volumes of the existing underground workings were removed from the resource estimates. The following calculation demonstrates the rationale supporting the Au cut-off grade that determines the underground potentially economic portions of the mineralization.

#### Underground Au Cut-Off Grade Calculation CDN\$

Au Price	US\$1,200/oz	(Approx	24	month	trailing	average	price	Apr
	30/11)							
\$US/\$CDN Exchange Rate	\$0.95							
Au Recovery	95%							
Mining Cost (2,000tpd)	\$75/tonne mir	ned						
Process Cost (2,000tpd)	\$12.00/tonne	milled						
General & Administration	\$5.00/tonne m	nilled						

Therefore, the Au cut-off grade for the underground resource estimate is calculated as follows:

## Operating costs per ore tonne = (\$75 + \$12+ \$5) = \$92/tonne [(\$92)/[(\$1,200/oz/\$0.95/31.1035 x 95% Recovery)] = 2.38g/t Use 2.40 g/t

## Open Pit Au Cut-Off Grade Calculation CDN\$

Au Price	US\$1,200/oz 30/11)	(Approx	24	month	trailing	average	price	Apr
\$US/\$CDN Exchange Rate	\$0.95 05%							
Process Cost (2,000tpd)	\$12.00/tonne	milled						
General & Administration	\$5.00/tonne m	nilled						

Therefore, the Au cut-off grade for the open pit resource estimate is calculated as follows:

## Operating costs per ore tonne = (\$12+ \$5) = \$17/tonne [(\$17)/[(\$1,200/oz/\$0.95/31.1035 x 95% Recovery)] = 0.44g/t Use 0.45 g/t

The above data were derived from similar gold projects to Upper Canada.

In order for the constrained open pit mineralization in the Upper Canada resource model to be considered potentially economic, a first pass Whittle 4X pit optimization was carried out to create a pit shell (See Appendix VII) utilizing the criteria below:

Waste mining cost per tonne	\$2.50
Ore mining cost per tonne	\$3.00
Overburden Mining cost per tonne	\$1.75
Process cost per tonne	\$15.00
General & Administration cost per ore tonne	\$5.00
Process production rate (ore tonnes per year)	700,000
Pit slopes (inter ramp angle)	50 deg
Mineralized & Waste Rock Bulk Density	$2.68t/m^{3}$
Overburden Density	$1.85t/m^{3}$

The resulting resource estimate can be seen in the following table.

TABLE 16.3     RESOURCE ESTIMATE <sup>(1)(2)(3)(4)</sup>							
Capped Resource	INDICATED			INFERRED			
Cut-Off (Au g/t)	Tonnes	Au (g/t)	Au (oz)	Tonnes	Au (g/t)	Au (oz)	
Pit (0.45 g/t)	1,721,000	1.88	104,000	1,273,000	1.86	76,000	
UG Below Pit (2.4 g/t)	238,000	4.25	33,000	3,622,000	4.78	557,000	
Total	1,959,000	2.17	137,000	4,895,000	4.02	633,000	
Un-Capped Resource Sensitivity	INDICATED			INFERRED			
Cut-Off (Au g/t)	Tonnes	Au (g/t)	Au (oz)	Tonnes	Au (g/t)	Au (oz)	
Pit (0.45 g/t)	1,721,000	2.04	113,000	1,308,000	1.95	82,000	
UG Below Pit (2.4 g/t)	243,000	4.73	37,000	4,075,000	5.38	705,000	
Total	1,964,000	2.38	150,000	5,383,000	4.55	787,000	

(1) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

(2) The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.

(3) The mineral resources in this estimate were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

(4) Open pit resources were reported within a Whittle optimized pit shell.

TABLE 16.4							
<b>RESOURCE ESTIMATE SENSITIVITY ANALYSES AT VARIOUS CUT-OFFS</b>							
Capped	IN	DICATE	<b>D</b>	INFERRED			
Cut-Off (Au g/t)	Tonnes	Au $(g/t)$	Au (oz)	Tonnes	Au (g/t)	Au (oz)	
Pit (0.30 g/t)	2,883,000	1.56	145,000	2,175,000	1.69	118,000	
UG Below Pit (2.4 g/t)	146,000	4.25	20,000	3,474,000	4.81	537,000	
Total	3,029,000	1.69	165,000	5,649,000	3.61	655,000	
Un-Capped	IN	DICATE	<b>D</b>	INFERRED			
Cut-Off (Au g/t)	Tonnes	Au (g/t)	Au (oz)	Tonnes	$\operatorname{Au}\left(\frac{g}{t}\right)$	Au (oz)	
Pit (0.30 g/t)	2,883,000	1.69	157,000	2,225,000	1.73	124,000	
UG Below Pit (2.4 g/t)	148,000	4.49	21,000	3,908,000	5.41	679,000	
Total	3,031,000	1.83	178,000	6,133,000	4.07	803,000	
"BASE CASE" Capped	IN	DICATE		11	NFERRED		
Cut-Off (Au g/t)	Tonnes	Au (g/t)	Au (oz)	Tonnes	Au (g/t)	Au (oz)	
Pit (0.44 g/t)	1,721,000	1.88	104,000	1,273,000	1.86	76,000	
UG Below Pit (2.4 g/t)	238,000	4.25	33,000	3,622,000	4.78	557,000	
	1.0.50.000		105 000	4.00.5.000		(22.0.0.0	
Total	1,959,000	2.17	137,000	4,895,000	4.02	633,000	
				T			
"BASE CASE" Un-	IN	DICATE	J	INFERRED			
Cut Off (Au a/t)	Tonnog	$\mathbf{A} = (\alpha   \mathbf{f})$		Tonnog	$A = (\alpha / t)$		
$\frac{\text{Cut-OII}(\text{Au g/t})}{\text{Dit}(0.44 \text{ c/t})}$	1 721 000	$\frac{Au(g/t)}{2.04}$	AU (02)	1 208 000	$\frac{Au(g/t)}{1.05}$	Au (02)	
$\frac{PII}{UC} \frac{(0.44 \text{ g/l})}{\text{PIC} Palow Pit} \frac{(2.4 \text{ g/t})}{(2.4 \text{ g/t})}$	1,721,000	2.04	27,000	1,308,000	5.20	82,000	
UG Below Pit (2.4 g/t)	245,000	4.75	37,000	4,073,000	3.38	703,000	
Tatal	1 064 000	2.20	150.000	5 393 000	4 55	797 000	
	1,904,000	2.30	150,000	5,585,000	4.55	707,000	
Canned	IN	DICATE		INFEDDED			
Cut-Off (Au g/t)	Tonnes	$\Delta u (q/t)$	Δυ (07)	Tonnes	An (g/t)	<b>A</b> 11 (07)	
Pit $(0.50 \text{ g/t})$	1 134 000	2 16	79,000	768.000	2 08	51 000	
$\frac{110}{100} \frac{100}{2} $	311,000	<u>2.10</u> <u>4 14</u>	41,000	3 704 000	2.00 4 78	570,000	
	511,000	7,17	+1,000	3,704,000	4.70	570,000	
Total	1 445 000	2 59	120.000	4 472 000	4 32	621 000	
	1,773,000	2.07	120,000	4,472,000	7.32	021,000	
Un-Canned	INDICATED			INFERRED			
Cut-Off (Au g/t)	Tonnes	An (g/t)	A11 (07)	Tonnes	An (g/t)	A11 (07)	
Pit (0.50 g/t)	1,135,000	2.38	87.000	794 000	2.12	54,000	
UG Below Pit $(2.4 \text{ g/t})$	318 000	4.59	47,000	4,167,000	5.38	721 000	
	510,000	1.07	17,000	1,107,000	0.00	721,000	
Tatal	1 453 000	2 87	134 000	4 961 000	4 86	775 000	

## **16.13 CONFIRMATION OF ESTIMATE**

As a test of the reasonableness of the resource estimates, the block models were queried at a 0.1 g/t Au cut-off grade with blocks in all classifications summed and their grades weight averaged. This average is the average grade of all blocks within the mineralized domain. The values of the interpolated grades for the block model were compared to the length weighted capped average grades and average grade of composites of all samples from within the domains. See below.

TABLE 16.5       COMPARISON OF WEIGHTED AVERAGE GRADE OF CAPPED ASSAYS AND COMPOSITES       WITH TOTAL BLOCK MODEL AVERAGE GRADES				
Data Type	Au (g/t)			
Capped Assays	1.20			
Composites	1.28			
Block Model	1.41			

The comparison above shows the average grade of all the Au blocks in the constraining domains to be somewhat higher than the weighted average of all capped assays and composites used for grade estimation. This is due to the localized clustering of some lower grade assays which were smoothed by the block modeling grade interpolation process. The block model Au values will be more representative than the capped assays or composites due to the block model's 3D spatial distribution characteristics. In addition, a volumetric comparison was performed with the block model blocks versus the geometric calculated volume of the domain solids.

Block Model Volume	$=396,704,230 \text{ m}^3$
Geometric Domain Volume	$=401,952,176 \text{ m}^3$
Difference	=1.32%

# 17.0 OTHER RELEVANT DATA AND INFORMATION

P&E is not aware of any other relevant data or information as of the effective date of this report.

## **18.0 INTERPRETATION AND CONCLUSIONS**

The Upper Canada deposit was modeled in compliance with the current CIM Definitions and Standards on Mineral Resources and Mineral Reserve. National Instrument 43-101 reporting standards and formats were followed in this document in order to report the Mineral Resources in a fully compliant manner.

Diamond drill data from 187 boreholes were utilized in the Upper Canada Resource Estimate. Grade interpolation was undertaken with the inverse distance cubed estimation method.

The Upper Canada Resource is a key component in Queenston's strategy of advancing four 100% owned gold deposits in the Kirkland Lake area (the Upper Beaver, McBean, Anoki and Upper Canada properties) toward prefeasibility and a decision to advance these properties to production. Exploration work, the bulk of which has been diamond drilling, has been ongoing on this initiative since Queenston renewed exploration at its Upper Beaver property in 2005.

The majority of the mineralization on the Upper Canada Property occurs within a 300 to 400 m thick deformation corridor framed by the North and South Branches of the regional Upper Canada Break. Past production was principally recorded from the H, M, Q, Upper B, Lower B, C, Upper L and Lower L zones with only minor production recorded on various other lenses. The L vein is the largest historic ore-bearing zone and is comprised of the Upper L and Lower L zones. The Lower L is at the south contact of a mass of trachyte and related intrusive. The Upper L is hosted by siliceous tuff, trachyte tuff and agglomerate. The C Zone is characterized by bluish quartz veins and pyrite in a siliceous tuff to trachyte host. Mineralization is up to 20 m wide in the M and Q Zone, in a trachyte to brecciated trachyte host. The B Zone is located 150 m north of the #2 shaft in a sill-like body of syenite porphyry.

In 2010, Micon International Limited completed a desktop study on Queenston's Gauthier township project (where the Upper Canada Property is located). The study is based on the concept that gold mineralization would be exploited in the McBean, Anoki and Upper Beaver (using 2008 Upper Beaver resource estimate) deposits by the appropriate mining method with the muck processed at a central processing facility, likely to be located on the previous footprint of the Upper Canada (McBean Mine) plant. Tailings from the central plant would be deposited in a tailings facility encompassing the existing Upper Canada tailings. The study was commissioned and completed as an internal guidance document prior to the development of the resources described in this report and the delineation of new resources in 2011 at the Upper Beaver deposit. The study results provided Queenston with early guidance and confidence for consideration of further formal prefeasibility studies.

## **19.0 RECOMMENDATIONS**

It is the opinion of the authors of this report that the Mineral Resource outlined at Upper Canada is of sufficient merit to warrant continued delineated drilling. The following work is recommended during the remainder of 2011 and 2012:

#### Diamond Drilling

- Drill-testing at the Upper Canada deposit with a view to expanding current resource
- Drill-testing targeting the South Branch to the west, the North Branch both east and west and the C Zone to the west.
- Continue drill-testing of the central area in the vicinity of the Upper L Zone west of the #2 shaft and the area between the two shafts.

#### Preliminary Assessment and Related Studies:

- Update the 2010 desktop study initiated by Micon International Limited to examine whether the combined Mineral Resources for the four deposits at the Upper Beaver, McBean, Anoki and Upper Canada properties can be developed and exploited at a profit under the base case conceptual operational scenario.
- Based on ongoing resource definition drilling, expand studies into a full Preliminary Economic Assessment or Prefeasibility Study before the end of 2011.
- Continue environmental baseline studies begun in late 2010.

## **19.1 BUDGET**

The above recommended work program has a proposed budget of approximately \$7.3 million as shown in more detail in Table 19.1.

## **TABLE 19.1**

## **PROPOSED 2011 EXPLORATION BUDGET FOR THE UPPER CANADA PROPERTY**

Exploration & Resource Drilling (45,000 m @ \$150/m)	\$6,750,000
Desktop Studies and early Preliminary Economic Assessment work	\$45,000
Baseline Environmental Studies	\$150,000
Subtotal	\$6,945,000
Contingency @ 6%	\$416,700
Total	\$7,361,700

Respectfully Submitted,

# **P&E** Mining Consultants Inc.

# *{SIGNED AND SEALED}*

[Eugene Puritch]

Eugene Puritch, P. Eng. President

Effective Date: April 30, 2011 Dated this 17th Day of June, 2011
#### **20.0 REFERENCES**

- Alexander, Dale. (2007): Technical Report on the Mineral Properties of Queenston Mining Inc. in the Kirkland Lake Gold Camp. Company report, November 15, 2007, filed on SEDAR.
- Agnerian, H., (2004): and Couture, J.F., (2009): Report on the Anoki Main Deposit & Anoki South Zone, Kirkland Lake Ontario. Prepared for Queenston Mining Inc., by Roscoe Postle Associates Inc., April 30, 2004, filed on SEDAR.
- Ayer, J.A., Trowell, N.F., (2001), Project Update 95-24: The Abitibi Greenstone Belt: A Program Update, Ontario Geological Survey, Open File Report 6070.
- Ayer, J.A., Trowell, N.F., Ketchum, J.W.F., (2002), Project Unit 95-024. New Geochronological and Neodymium Isotopic Results from the Abitibi Greenstone Belt, with Emphasis on the Timing and the Tectonic Implications of Neoarchaean Sedimentation and Volcanism. Summary of Field Work and Other Activities 2002, Ontario Geological Survey, Open File Report 6100.
- Bottrill, T., (1997): Review and Compilation of Past Exploration Programs at the Upper Canada Min Kirkland Lake, Ontario; a report prepared for Queenston Mining Inc. By Terence Bottrill Geological Services, January, 1997.
- Clark, G.R., (2009): Review of Resources on South Claims Property, Kirkland Lake, Ontario. Company report, July 17, 2009, filed on SEDAR.
- Clark, G.R., (2010): Review of Resources on South Claims Property, Kirkland Lake, Ontario. Company report, August, 20, 2010, filed on SEDAR.
- Doane, K.T., Good, D., Roberts, R.G. (1982) A Summary Report-Upper Canada Property, Surface Exploration 1980-1981, Queenston Gold Mines Limited
- Ewert. D., Armstrong, T., Yassa, A., and Puritch, E., (2010): Technical Report and Resource Estimates for the McBean and Anoki Gold Deposits of the Kirkland Lake Gold Project, Gauthier Township, Kirkland Lake, North-Eastern Ontario, Canada.

Queenston Mining Inc., (2011) Quenston Mining Inc., Annual Report 2010.

- Queenston Mining Inc., (2009, 2010, 2011): various press releases dated, October 1, 2009, February 16, 2010, May 10, 2010, September 7, 2010, November 30, 2010, and March 10, 2011.
- Roscoe Postle Associates Inc., (1996) Report on the Kirkland Lake Project for Queenston Mining Inc.

Ploeger, F. R. (2010, 2011): Queenston internal Quarterly Reports for 2010 and 2011.

#### **21.0 CERTIFICATES**

#### **CERTIFICATE of AUTHOR**

#### Tracy J. Armstrong, P.Geo.

I, Tracy J. Armstrong, residing at 2007 Chemin Georgeville, res. 22, Magog, QC J1X 0M8, do hereby certify that:

- 1. I am an independent geological consultant contracted by P&E Mining Consultants Inc. and have worked as a geologist continuously since my graduation from university in 1982.
- This certificate applies to the technical report titled "Technical Report and Resource Estimate for the Upper Canada Gold Deposit of the Kirkland Lake Gold Project Gauthier Township, Kirkland Lake, North-Eastern Ontario, Canada", (the "Technical Report") with an effective date of April 30, 2011.
- 3. I am a graduate of Queen's University at Kingston, Ontario with a B.Sc. (HONS) in Geological Sciences (1982). I am a geological consultant currently licensed by the Order of Geologists of Québec (License 566), the Association of Professional Geoscientists of Ontario (License 1204) and the Association of Professional Engineers and Geoscientists of British Columbia, (Licence No. 34720).

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. This report is based on my personal review of information provided by the Issuer and on discussions with the Issuer's representatives. My relevant experience for the purpose of the Technical Report is:

- Underground production geologist, Agnico-Eagle Laronde Mine1988-1993;
- Exploration geologist, Laronde Mine 1993-1995;
- Exploration coordinator, Placer Dome 1995-1997;
- Senior Exploration Geologist, Barrick Exploration 1997-1998;
- Exploration Manager, McWatters Mining 1998-2003;
- Chief Geologist Sigma Mine 2003
- Consulting Geologist 2003-to present.
- 4. I have not visited the Upper Canada Property.
- 5. I am responsible for the preparation and authoring of Sections 11 through 13 of this Technical Report.
- 6. I am independent of the issuer applying the test in Section 1.4 of NI 43-101.
- 7. I have had no prior involvement with the Property that is the subject of this Technical Report.
- 8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.
- 9. 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.

Effective Date: April 30, 2011 Signing Date: June 17, 2011

#### *{SIGNED AND SEALED}*

[Tracy J. Armstrong]

Tracy J. Armstrong, P. Geo.

#### EUGENE J. PURITCH, P. ENG.

#### **CERTIFICATE OF AUTHOR**

I, Eugene J. Puritch, P. Eng., residing at 44 Turtlecreek Blvd., Brampton, Ontario, L6W 3X7, do hereby certify that:

- 1. I am President of P & E Mining Consultants Inc. and am contracted independently by Queenston Mining Inc.
- 2. This certificate applies to the technical report titled "Technical Report and Resource Estimate for the Upper Canada Gold Deposit of the Kirkland Lake Gold Project Gauthier Township, Kirkland Lake, North-Eastern Ontario, Canada", (the "Technical Report") with an effective date of April 30, 2011.
- 3. I am a graduate of The Haileybury School of Mines, with a Technologist Diploma in Mining, as well as obtaining an additional year of undergraduate education in Mine Engineering at Queen's University. In addition I have also met the Professional Engineers of Ontario Academic Requirement Committee's Examination requirement for Bachelor's Degree in Engineering Equivalency. I have practiced my profession continuously since 1978. My summarized career experience is as follows:

- Mining Technologist - H.B.M.&S. and Inco Ltd.	1978-1980
- Open Pit Mine Engineer - Cassiar Asbestos/Brinco Ltd	1981-1983
- Pit Engineer/Drill & Blast Supervisor – Detour Lake Mine	1984-1986
- Self-Employed Mining Consultant – Timmins Area	1987-1988
- Mine Designer/Resource Estimator – Dynatec/CMD/Bharti	1989-1995
- Self-Employed Mining Consultant/Resource-Reserve Estimator	1995-2004
- President – P & E Mining Consultants Inc.	2004-Present

- 4. I am a mining consultant currently licenced by the Professional Engineers of Ontario (Licence No. 100014010) and registered with the Ontario Association of Certified Engineering Technicians and Technologists as a Senior Engineering Technologist. I am also a member of the National and Toronto CIM.
- 5. I am responsible for authoring of Sections 16 as well as co-authoring Sections 18 and 19 of the Technical Report.
- 6. I have not visited the Upper Canada Gold Deposit.
- 7. I have had no prior involvement with the Property that is the subject of this Technical Report.
- 8. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
- 9. I am independent of the issuer applying the test in Section 1.4 of NI 43-101.
- 10. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.

Effective Date: April 30, 2011 Signing Date: June 17, 2011

#### *{SIGNED AND SEALED}*

[Eugene J. Puritch]

Eugene Puritch, P.Eng.

#### **CERTIFICATE OF QUALIFIED PERSON**

#### ANTOINE R. YASSA, P. GEO.

I, Antoine R. Yassa, P. Geo., residing at 241 Rang 6 West, Evain, Quebec, do hereby certify that:

- 1. I am an independent geological consultant contracted by P&E Mining Consultants Inc.
- 2. This certificate applies to the technical report titled "Technical Report and Resource Estimate for the Upper Canada Gold Deposit of the Kirkland Lake Gold Project Gauthier Township, Kirkland Lake, North-Eastern Ontario, Canada", (the "Technical Report") with an effective date of April 30, 2011.
- 3. I am a graduate of Ottawa University at Ottawa, Ontario with a B.Sc (HONS) in Geological Sciences (1977). I have worked as a geologist for a total of 30 years since obtaining my B.Sc. degree. I am a geological consultant currently licensed by the Order of Geologists of Québec (License No 224) and a practising member of the APGO (Registration Number 1890).

I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

My relevant experience for the purpose of the Technical Report is:

٠	Minex Geologist (Val d'Or), 3D Modeling (Timmins), Placer Dome	1993-1995
٠	Database Manager, Senior Geologist, West Africa, PDX	1996-1998
٠	Senior Geologist, Database Manager, McWatters Mine	1998-2000
•	Database Manager, Gemcom modeling and Resources Evaluation (Kiena Mine) QAQC	
	Manager (Sigma Open pit), McWatters Mines	2001-2003
٠	Database Manager and Resources Evaluation at Julietta Mine, Far-East Russia, Bema Gold	
	Corporation	2003-2006
٠	Consulting Geologist	since 2006

- 4. I visited the Upper Canada Project on February 17, 2011.
- 5. I am responsible for contributing to portions of Section 16 of the Technical Report.
- 6. I am independent of the Issuer applying the test in Section 1.4 of NI 43-101.
- 7. I have not had prior involvement with the Property that is the subject of this Technical Report.
- 8. I have read NI 43-101 and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
- 9. 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.

Effective Date: April 30 2011 Signed Date: June 17, 2011

#### *{SIGNED AND SEALED}*

[Antoine Yassa]

Antoine R. Yassa, P. Geo.

#### **CERTIFICATE of AUTHOR**

#### DAVID BURGA, P.GEO.

I, David Burga, P.Geo., residing at 3884 Freeman Terrace, Mississauga, Ontario, L5M 6P6, do hereby certify that:

- 1. I am an independent geological consultant contracted by P&E Mining Consultants Inc. and have worked as a geologist for a total of 12 years since obtaining my B.Sc. degree in 1997.
- 2. This certificate applies to the technical report titled "Technical Report and Resource Estimate for the Upper Canada Gold Deposit of the Kirkland Lake Gold Project Gauthier Township, Kirkland Lake, North-Eastern Ontario, Canada", (the "Technical Report") with an effective date of April 30, 2011.
- 3. I graduated with a Bachelor of Science degree in Geology from The University of Toronto, Ontario in 1997. I am currently licensed by the Association of Professional Geologists of Ontario, (License No. 1836)

I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

xploration Geologist, Cameco Gold	
eld Geophysicist, Quantec Geoscience	
eological Consultant, Andeburg Consulting Ltd	
eologist, Aeon Egmond Ltd	2003-2005;
roject Manager, Jacques Whitford	
xploration Manager – Chile, Red Metal Resources	
onsulting Geologist	2009-Present
	xploration Geologist, Cameco Gold eld Geophysicist, Quantec Geoscience eological Consultant, Andeburg Consulting Ltd eologist, Aeon Egmond Ltd oject Manager, Jacques Whitford xploration Manager – Chile, Red Metal Resources onsulting Geologist

- 4. I have not visited the Upper Canada Gold Deposit.
- 5. I am responsible for the preparation and authoring of Sections 1 through 10, 14, 15 and 17 as well as coauthoring Sections18 through 20.
- 6. I am independent of the Issuer applying the test in Section 1.4 of NI 43-101.
- 7. I have not had prior involvement with the Upper Canada Gold Deposit that is the subject of this Technical Report.
- 8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.
- 9. 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;

Effective Date: April 30, 2011 Signing Date: June 17, 2011

#### *{SIGNED AND SEALED}*

[David Burga]

David Burga, P.Geo.

## APPENDIX I. SURFACE DRILL HOLE PLAN



## **APPENDIX II. 3D DOMAINS**

# **UPPER CANADA DEPOSIT - 3D DOMAINS**



## **APPENDIX III. LOG NORMAL HISTOGRAMS**



## **APPENDIX IV. VARIOGRAMS**



## APPENDIX V. AU BLOCK MODEL CROSS SECTIONS AND PLANS



















# APPENDIX VI. CLASSIFICATION BLOCK MODEL CROSS SECTIONS AND PLANS



















## **APPENDIX VII. OPTIMIZED PIT SHELL**

# UPPER CANADA DEPOSIT OPTIMIZED PIT SHELL



