# 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

#### LATITUDE 48° 07' 37" N: LONGITUDE 79° 49' 20" W

For

#### **QUEENSTON MINING INC.**

By

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

NI 43-101F1 TECHNICAL REPORT No 171

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1.0	INTI	RODUCTION AND TERMS OF REFERENCE	1
	1.1	TERMS OF REFERENCE	1
	1.2	SOURCES OF INFORMATION	2
	1.3	UNITS AND CURRENCY	2
	1.4	GLOSSARY AND ABBREVIATION OF TERMS	2
	1.5	ACKNOWLEDGMENTS	3
2.0	REL	IANCE ON OTHER EXPERTS	4
3.0.	PRO	PERTY DESCRIPTION AND LOCATION	5
	3.1	PROPERTY DESCRIPTION AND TENURE	5
	3.2	LOCATION	6
4.0	ACC	CESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, A	ND
	PHY	SIOGRAPHY	11
	4.1	ACCESS	11
	4.2	CLIMATE	11
	4.3	LOCAL RESOURCES AND INFRASTRUCTURE	11
	4.4	PHYSIOGRAPHY	11
5.0	HIST	FORY AND PREVIOUS EXPLORATION	13
	5.1	EARLY REGIONAL HISTORY	13
	5.2	PROPERTY HISTORY	13
		5.2.1 MCBEAN GOLD DEPOSIT	13
		5.2.2 ANOKI GOLD DEPOSIT	14
	5.3	HISTORICAL DRILLING	15
		5.3.1 MCBEAN GOLD DEPOSIT	15
		5.3.2 ANOKI GOLD DEPOSIT	15
	5.4	HISTORICAL RESOURCE ESTIMATES	16
		5.4.1 MCBEAN GOLD DEPOSIT	16
		5.4.2 ANOKI GOLD DEPOSIT	17
	5.5	HISTORICAL FEASIBILITY STUDY	18
		5.5.1 MCBEAN GOLD DEPOSIT	18
		5.5.2 ANOKI GOLD DEPOSIT	19
	5.6	HISTORICAL MINERAL PROCESSING & METALLURGY	20
		5.6.1 MCBEAN GOLD DEPOSIT	20
		5.6.2 ANOKI GOLD DEPOSIT	20
6.0	GEO	DLOGICAL SETTING	21
	6.1	REGIONAL GEOLOGY	21
	6.2	PROPERTY GEOLOGY	25
		6.2.1 MCBEAN PROPERTY	25
		6.2.2 ANOKI PROPERTY	29
7.0	DEP	OSIT TYPES	31
8.0	MIN	ERALIZATION	34
	8.1	MCBEAN GOLD DEPOSIT	34
	8.2	ANOKI GOLD DEPOSIT	34

9.0	EXPL	ORATION	38
	9.1	MCBEAN PROPERTY	38
	9.2	ANOKI PROPERTY	38
10.0	DRIL	LING	39
	10.1	INTRODUCTION	39
	10.2	MCBEAN GOLD DEPOSIT	39
		10.2.1 1996 – 1998 OUEENSTON – FRANCO-NEVADA JV DRILL	
		PROGRAM	39
		10.2.2 2003 QUEENSTON DRILL PROGRAM	43
		10.2.3 2005 - 2006 QUEENSTON DRILL PROGRAM	44
		10.2.4 2008 – 2009 QUEENSTON DRILL PROGRAM	46
	10.3	ANOKI GOLD DEPOSIT	52
11.0	SAMI	PLING METHOD AND APPROACH	53
	11.1	SAMPLING METHOD AND APPROACH: ANOKI	53
12.0	S A MI	DI E DDEDA DATIONI, ANA I VSES AND SECUDITY	55
12.0	5AM 12 1	LE PREPARATION, ANALISES AND SECURITI	33
	12.1	MCDEAN GOLD DEFOSIT	33 55
	12.2		33
13.0	DATA	VERIFICATION	56
	13.1	MCBEAN SITE VISIT AND INDEPENDENT SAMPLING 2009	56
	13.2	QUALITY CONTROL MCBEAN	56
	13.3	DATA VERIFICATION RESULTS FOR 2008 AND 2009 DRILLING	57
		13.3.1 PERFORMANCE OF DEANE MATERIALS	57
		13.3.2 PERFORMANCE OF DLANK MATERIAL	57 57
	13.4	OUALITY CONTROL ANOKI	
	13.4	ANOKI DEPOSIT – P&E INDEPENDENT DATA VERIFICATION	30 59
14.0	ADJA	CENT PROPERTIES	61
15.0	MINE	DAI DDOCESSING AND METALLUDCICAL TESTING	()
15.0	MINE	RAL PROCESSING AND METALLURGICAL TESTING	02
16.0	MINE	CRAL RESOURCE ESTIMATES	63
	16.1	INTRODUCTION	63
	16.2	DATABASE	63
	16.3	DATA VERIFICATION	63
	16.4	DOMAIN INTERPRETATION	64
	10.5	COMPOSITES	64
	10.0 16 7		05
	10.7		03
	16.0	RII K DENSITV	00 66
	16.10	BLOCK MODELING	66
	16.11	RESOURCE CLASSIFICATION	
	16.12	RESOURCE ESTIMATES	
	16.13	CONFIRMATION OF ESTIMATE	
17.0	ОТНІ	ER RELEVANT DATA AND INFORMATION	
10.0			
18.0	INTE	KPKETATION AND CONCLUSIONS	71

19.0	REC	RECOMMENDATIONS			
	19.1	RECOMMENDATIONS			
	19.1	BUDGET			
	19.2	MCBEAN AND ANOKI 2010 PROPOSED BUDGET			
20.0	REFI	ERENCES			
21.0	<b>CER</b> '	ТІҒІСАТЕS			

# LIST OF FIGURES

Figure 3-1:	Regional Location Map of McBean and Anoki Properties	7
Figure 3-2:	Property Map of Kirkland Lake Gold Camp	
Figure 3-3:	McBean Property Mineral Claims Map	9
Figure 3-4:	Anoki Property Mineral Claims Map	10
Figure 6-1:	Lithologic Map Showing the Location of the KLGC within the Abitibi Greenstone Belt	23
Figure 6-2:	Regional Geology Map	
Figure 6-3:	McBean & Anoki Area Local Geology Map	
Figure 6-4:	Generalized Vertical Cross-Section through the McBean Gold Deposit	
Figure 6-5:	Generalized Vertical Cross-Section through the Anoki Gold Deposit	30
Figure 8-1:	Longitudinal Section through the McBean and Anoki Deposits	
Figure 10-1:	Longitudinal Section of the McBean Deposit	46
Figure 13-1:	P&E Site Visit Sample Verification Results for Gold: McBean	56
Figure 13-2:	P&E Site Visit Sample Verification Results for Gold: Anoki	59

# LIST OF TABLES

<b>Table 3.1:</b>	McBean Property Mineral Claims	6
<b>Table 3.2:</b>	Anoki Property Mineral Claims	6
Table 5.1:	McBean Property History	13
<b>Table 5.2:</b>	Anoki Property History	14
Table 5.3:	Summary of Drilling at the McBean Property	15
Table 5.4:	Summary of Drilling at the Anoki Property	16
Table 5.5:	Summary of Historical Resource Estimates for the McBean Property	16
Table 5.6:	Summary of Historical Resource Estimates for the Anoki Property	17
<b>Table 5.7:</b>	Inco Resource & Reserve Estimates for the Anoki Property (March, 1989)	17

<b>Table 5.8:</b>	RPA 2004 Resource Estimate for the Anoki Property	18
Table 6.1:	Supracrustal Assemblages of the Timmins-Kirkland Lake Segment of the Abitibi Greenstone Belt	21
Table 10.1:	1996 – 1998 Queenston - Franco-Nevada JV Phase I Drilling Results	40
Table 10.2:	1996 – 1998 Queenston - Franco-Nevada JV Phase II Drilling Results	42
Table 10.3:	2003 Queenston Drilling Results	44
Table 10.4:	2005 – 2006 Queenston Drilling Results	44
Table 10.5:	Phase I of the 2008 – 2009 Queenston Drilling Results	47
Table 10.6:	Phase II of the 2008 – 2009 Queenston Drilling Results	48
Table 10.7:	Phase III of the 2008 – 2009 Queenston Drilling Results	50
Table 10.8:	Phase IV of the 2008 – 2009 Queenston Drilling Results	51
<b>Table 16.1</b>	McBean Au Grade Capping Values	65
Table 16.2	Anoki Au Grade Capping Values	65
<b>Table 16.3</b>	McBean Au Block Model Interpolation Parameters	66
<b>Table 16.4</b>	Anoki Au Block Model Interpolation Parameters	67
Table 16.5	McBean Resource Estimate @ 2.5 g/t Au Cut-Off Grade	68
Table 16.6	McBean Uncapped Sensitivity @ 2.5 g/t Au Cut-Off Grade	68
Table 16.7	Anoki Resource Estimate @ 2.5 g/t Au Cut-Off Grade	68
<b>Table 16.8</b>	Anoki Uncapped Sensitivity @ 2.5 g/t Au Cut-Off Grade	69
<b>Table 16.9</b>	Combined McBean-Anoki Resource Estimates @ 2.5 g/t Au Cut-Off Grade.	69
Table 16.10	Comparison of Weighted Average Grade of Capped Assays and Composites with Total Block Model Average Grades	69
Table 19.1:	Proposed 2010 Exploration Budget for the McBean and Anoki Properties	73

# APPENDICES

<b>APPENDIX I:</b>	SURFACE AND UNDERGROUND DRILL HOLE PLANS	80
<b>APPENDIX II:</b>	3D DOMAINS	85
<b>APPENDIX III:</b>	LOG NORMAL HISTOGRAMS	88
<b>APPENDIX IV:</b>	VARIOGRAMS	97
<b>APPENDIX V:</b>	AU BLOCK MODEL CROSS SECTIONS AND PLANS	. 105
<b>APPENDIX VI:</b>	CLASSIFICATION BLOCK MODEL CROSS SECTIONS & PLANS	. 123

#### **EXECUTIVE SUMMARY**

The following report was prepared to provide an NI-43-101 compliant Technical Report and Resource Estimates of the gold mineralization contained in the McBean and Anoki Gold Deposits of the McBean and Anoki Properties respectively, of the Kirkland Lake Gold Project, north-eastern Ontario, Canada. The McBean and Anoki Properties are 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 resource company.

The McBean Property comprises 11 contiguous claims, which are patented for both mining and surface rights that together cover an area of 173.6 ha. Queenston owns 100% interest in the Property and all 11 patented claims are in good standing in perpetuity.

The Anoki deposit comprises 18 patented claims and two unpatented claims covering a total area of 327.2 ha. Queenston owns a 100% interest in the Anoki Property. The patented claims are in good standing in perpetuity and the two unpatented claims are in good standing until July 10, 2014. There are sufficient banked assessment credits available for periodic renewal of the unpatented claims for more than 15 years.

All of the McBean and Anoki claims are subject to the following royalties:-

- A NSR royalty of 1.3% to Inco Ltd. ("Inco") after the production of 300,000 oz of gold and;
- A sliding scale NSR royalty of 1% to 2% to Franco-Nevada Corporation ("Franco") based on gold price.

The McBean and Anoki Properties are situated at an approximate Latitude of 48° 07' 37" N by Longitude 79° 49' 20" W, a position approximately 500 kilometres north of Toronto, 200 kilometres north-northeast of Sudbury and 120 kilometres southeast of Timmins.

Both the McBean and Anoki Properties are easily accessible via Highway 66, which cuts through the central part of the Anoki Property, and both properties 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, Québec (approximately 60 kilometres east of the properties). Water, telephone and high voltage power is available on both properties and the nearby town of Kirkland Lake is also linked to the Ontario Power grid.

There is low topographic relief at both properties, within the order of several metres and the terrain is characterized by relatively flat plateaus and glacial deposits, such as eskers and moraine.

i

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 McBean and Anoki Properties since the 1940s. In 1996, Queenston purchased Inco Ltd's partial interest in these assets resulting in Queenston's 100% ownership of both properties.

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 dominant geological feature of both the McBean and Anoki Properties is the LLB, which occurs as a 30 m to 100 m wide package of highly sheared and deformed rocks, dipping from between  $60^{\circ}$  to  $70^{\circ}$  towards the east-southeast. The break has developed along the ultramafic members of the Lower Tisdale-Larder Lake assemblage, separating komatiitic to tholeiitic sequences in the hanging wall to the south, from Timiskaming assemblage alkali volcanic rocks and sediments to the north.

The McBean deposit is 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. Most mineralization appears in veins, breccia or as disseminations and presents a strong structural component.

The Anoki deposit has been defined in nine separate lenses over a length of 400 m and to a depth of 430 m from surface. The lenses are vertical dipping, east plunging with the mineralization consisting of pyrite and visible gold in silicified-carbonate altered coarse grained basalt.

The 2008-2009 Queenston four phase drill program comprised a total of 105 holes over 50,500 m. The program was designed to both advance the Mineral Resources to NI 43-101 standards and expand the deposit through deeper exploration drilling. Drilling has traced four zones over a length of 700 m and to a vertical depth of 700 m that remain open to the east, west and at depth.

	Measured + Indicated (Capped)			Inferred (Capped)		
Deposit	Tonnes	Grams/tonne	Ounces	Tonnes	Grams/tonne	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

P&E December 8, 2009 Combined McBean-Anoki Resource Estimates @ 2.5 g/t Au Cut-Off Grade <sup>(1)(2)(3)</sup>

	Measured + Indicated (Uncapped)			Inferred (Uncapped)		
Deposit	Tonnes	Grams/tonne	Ounces	Tonnes	Grams/tonne	Ounces
		Au	Au		Au	Au
McBean	713,000	4.80	110,000	1,267,000	6.74	274,300
Anoki	742,000	4.74	113,000	395,000	10.67	135,400
Total	1,455,000	4.77	223,000	1,662,000	7.67	409,700

#### Summary of Combined McBean-Anoki Uncapped Sensitivity @ 2.5 g/t Au Cut-Off Grade <sup>(1)(2)(3)</sup>

(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, sociopolitical, 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 report 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 December 11, 2005.

The McBean and Anoki 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.

P&E is of the opinion that Queenston should undertake further drilling at both deposits with a view to testing for extensions of the mineralization at depth. The drill program should also test for a possible lateral linkage between the two deposits. In addition, continued evaluation of the Larder Lake Deformation Zone should be undertaken; this would include testing of the area to the west of Anoki at the South Splay and 240E zones and drill-testing of potential extensions to mineralization at the Princeton property.

It is also recommended that the desktop study initiated by Micon International Limited in 2009 and, based on ongoing resource definition drilling be completed. This study could potentially expand into a full Preliminary Economic Assessment or Pre-Feasibility Study near the end of 2010. A review of available and historic environmental data should also be initiated along with undertaking any new baseline studies as required.

The above recommended work programs have a proposed budget of approximately \$3.7 million as shown in more detail in the table below.

#### Proposed 2010 Exploration Budget for the McBean and Anoki Properties.

Exploration & Resource Drilling (24,000 m @ \$120/m)	
Desktop Studies and early Preliminary Economic Assessment work	
Baseline Environmental Studies	
Subtotal	\$ 3,465,000
Contingency @ 6%	
Total	\$ 3,673,000

#### **1.0 INTRODUCTION AND TERMS OF REFERENCE**

#### **1.1 TERMS OF REFERENCE**

The following report was prepared to provide an NI-43-101 compliant Technical Report and Resource Estimates of the gold mineralization contained in the McBean and Anoki Gold Deposits of the McBean and Anoki Properties respectively, of the Kirkland Lake Gold Project, north-eastern Ontario, Canada. The McBean and Anoki Properties are held 100% by Queenston Mining Inc. ("Queenston").

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, with its corporate office at:

Suite 201 133 Richmond Street West Toronto, Ontario M5H 2L3

Tel: 416-364-0001 Fax: 416-364-5098

This report has an effective date of December 8, 2009.

Mr. Antoine Yassa, a qualified person under the regulations of NI 43-101, conducted a site visit to the McBean Property on July 23, 2009 and the Anoki Property on November 3, 2009. Independent verification sampling programs were conducted at these times.

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

This Technical Report is prepared in compliance with the requirements of form 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 and adopted by CIM Council December 11, 2005.

The purpose of the current report is to provide an independent, NI 43-101 compliant, Technical Report and Resource Estimates for the McBean and Anoki Gold Deposits located within the Kirkland Lake Project Area. P&E understands that this report will be used for internal decision making purposes and maybe 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, and maps, published government reports, company letters and memoranda, and public information as listed in the "References" section 20.0. Several sections from reports authored by other consultants have been directly quoted or summarized in this report, and are so indicated where appropriate.

It should be noted that the authors have relied heavily upon selected portions or excerpts from material contained in the following NI 43-101 compliant technical reports. All of these reports are publicly available on SEDAR (www.sedar.com):-

- "Report on the Anoki Main Deposit & Anoki South Zone, Kirkland Lake, Ontario," prepared for Queenston Mining Inc., by Roscoe Postle Associates Inc. ("RPA"), and dated April 30, 2004 (the "RPA, 2004 Report").
- "Technical Report on the Mineral Properties of Queenston Mining Inc. in the Kirkland Lake Gold Camp," prepared for Queenston Mining Inc., by Dale Alexander and dated November 15, 2007 (the "Alexander, 2007 Report").

## **1.3 UNITS AND CURRENCY**

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

#### 1.4 GLOSSARY AND ABBREVIATION OF TERMS

In this document, in addition to the definitions contained heretofore and hereinafter, unless the context otherwise requires, the following terms have the meanings set forth below.

"°C"	means degrees Celsius.
"\$" and "CDN\$"	means the currency of Canada.
"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.
"CIM"	means the "Canadian Institute of Mining, Metallurgy and Petroleum."
"CSA"	means the Canadian Securities Administrators.
"DDH"	means diamond drillhole.
"Dicom"	means Dicom Express Inc.
"DPB"	means the Destor-Porcupine Break
"Е"	means east.
"el"	means elevation level.
"Franco-Nevada"	means Franco-Nevada Mining Corporation
"g/t"	means grams per tonne.
"g/t Au"	means grams of gold per tonne of rock
"ha"	means Hectare.
"IETS"	means 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 equal to 1,000 metres or approx. 0.62 statute miles.
"LLB"	means the Cadillac-Larder Lake Break
"m"	means metric distance measurement equivalent to approximately 3.27 feet
"M"	means million.
"Ma"	means millions of years.
"mL"	means meter level.
"Mt"	means millions of tonnes.
"N"	means north.
"NE"	means northeast.
"NI"	means National Instrument.
"NN"	means Nearest Neighbour.
"NPI"	means Net Profits Interests
"NSR"	means Net Smelter Royalty – A Royalty based on the actual gold sale
	price received less the cost of refining at an off-site refinery.
"NTS"	means National Topographic System.
"NW"	means northwest.
"oz/T"	means ounces per ton.
" <b>P&amp;</b> E"	means P&E Mining Consultants Inc.
"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, Québec.
"SW"	means southwest.
"Swastika Lab"	means Swastika Laboratories Ltd., in Swastika, Ontario.
"t"	means metric tonnes equivalent to 1,000 kilograms or approximately
	2,204.62 pounds
"T"	means Short Ton (standard measurement), equivalent to 2,000 pounds.
"t/a"	means tonnes per year.
"tpd"	means tonnes per day
"US\$"	means the currency of the United States.
"UTM"	means Universal Transverse Mercator.
"W"	means west.

#### 1.5 ACKNOWLEDGMENTS

Certain portions of this report were structured and compiled by Ms. Jarita Barry B.Sc. under the supervision of Dr. Wayne D. Ewert, P.Geo., who, acting as a QP as defined by NI 43-101, takes full responsibility for those sections of the report prepared by Ms. Barry, as outlined in the "Certificate of Author" attached to this report.

## 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 Sources of Information 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.

Although copies of the tenure documents, operating licenses, permits, and work contracts were reviewed, an independent verification of land title and tenure was not performed. 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 information provided by Mr. William J. McGuinty, P.Geo. Vice President Exploration, Queenston.

A draft copy of the report has been reviewed for factual errors by Queenston and P&E has relied on their historical and current knowledge of the McBean and Anoki Properties in this regard. Any changes made as a result of these reviews did not involve any alteration to the conclusions made. Hence, the statement 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 PROPERTY DESCRIPTION AND TENURE**

The McBean and Anoki gold deposits are situated within the McBean and Anoki Properties, which form part of the Kirkland Lake Gold Project ("KLGP") (Figures 3-1 and 3-2). The KLGP consists of 942 claim units comprising 28 mineral leases, 285 patented claims and 486 unpatented claims, in 21 properties. Of these 21 properties, Queenston Mining Inc. ("Queenston") owns varying interests ranging from 41% to 100%. The McBean and Anoki Properties are contiguous with three other Queenston properties; the Munro property to the west, the Upper Canada property to the north and the Princeton-Mayfair property to the south-east (Figures 3-3 and 3-4). 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 McBean and Anoki Properties are located in the south central region of the township of Gauthier in north-eastern Ontario (Figures 3-3 and 3-4), and can be accessed from provincial highway 66, via trans-Canada highway 11. 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 activities supporting the region are those of the mining and logging industries.

The McBean Property comprises 11 contiguous claims, which are patented for both mining and surface rights (Table 3.1 and Figure 3-3) that together cover an area of 173.6 ha. Queenston owns 100% interest in the McBean Property and all 11 patented claims are in good standing in perpetuity.

The Anoki deposit comprises 18 patented clams and two unpatented claims covering a total area of 327.2 ha (Table 3.2 and Figure 3-4). Queenston owns a 100% interest in the Anoki Property. The patented claims are in good standing in perpetuity and the two unpatented claims are in good standing until July 10, 2014. Assessment credits in Ontario must be drawn on from credit reserves periodically to renew unpatented claims. There are sufficient banked assessment credits available for periodic renewal of the unpatented claims for more than15 years.

All of the McBean and Anoki claims are subject to the following royalties:-

- A NSR royalty of 1.3% to Inco Ltd. ("Inco") after the production of 300,000 oz of gold and;
- A sliding scale NSR royalty of 1% to 2% to Franco-Nevada Corporation ("Franco") based on gold price.

There are no current title defects affecting any of the McBean or Anoki Properties mineral claims.

P&E is not aware of any First Nation or environmental issues pertaining to either the McBean or Anoki Properties.

Information relating to mineral claims has been supplied by Queenston and P&E did not carry out an independent verification of land title and ownership for any of the abovementioned claims.

Township/Area	Claim Number	Due Date	Rights	Status	Units	Area (ha)
Gauthier	19189	Not Applicable	Mineral & Surface	Patented	1	12.4
Gauthier	19262	Not Applicable	Mineral & Surface	Patented	1	12.7
Gauthier	25309	Not Applicable	Mineral & Surface	Patented	1	17.6
Gauthier	8366	Not Applicable	Mineral & Surface	Patented	1	15
Gauthier	8471	Not Applicable	Mineral & Surface	Patented	1	18.7
Gauthier	8807	Not Applicable	Mineral & Surface	Patented	1	16.5
Gauthier	8980	Not Applicable	Mineral & Surface	Patented	1	11.7
Gauthier	9232	Not Applicable	Mineral & Surface	Patented	1	16.7
Gauthier	9613	Not Applicable	Mineral & Surface	Patented	1	12.4
Gauthier	9614	Not Applicable	Mineral & Surface	Patented	1	18.7
Gauthier	9615	Not Applicable	Mineral & Surface	Patented	1	21.2
				Total	11	173.6

#### Table 3.1: McBean Property Mineral Claims

#### Table 3.2: Anoki Property Mineral Claims

Township/Area	Claim Number	Due Date	Rights	Status	Units	Area (ha)
Gauthier	3893.5	Not Applicable	Mineral & Surface	Patented	1	15
Gauthier	3894	Not Applicable	Mineral & Surface	Patented	1	15.6
Gauthier	4239	Not Applicable	Mineral & Surface	Patented	1	22.9
Gauthier	5506	Not Applicable	Mineral & Surface	Patented	1	15.9
Gauthier	5694	Not Applicable	Mineral & Surface	Patented	1	15
Gauthier	5732	Not Applicable	Mineral & Surface	Patented	1	16
Gauthier	8116	Not Applicable	Mineral & Surface	Patented	1	18.7
Gauthier	8828	Not Applicable	Mineral & Surface	Patented	1	20.7
Gauthier	8977	Not Applicable	Mineral & Surface	Patented	1	18.4
Gauthier	8978	Not Applicable	Mineral & Surface	Patented	1	15.5
Gauthier	8979	Not Applicable	Mineral & Surface	Patented	1	14.5
Gauthier	9433	Not Applicable	Mineral & Surface	Patented	1	19.8
Gauthier	9434	Not Applicable	Mineral & Surface	Patented	1	14.5
Gauthier	9435	Not Applicable	Mineral & Surface	Patented	1	19.9
Gauthier	9505	Not Applicable	Mineral & Surface	Patented	1	12.4
Gauthier	10013	Not Applicable	Mineral & Surface	Patented	1	14.6
Gauthier	30893	Not Applicable	Mineral & Surface	Patented	1	17.6
Gauthier	31046	Not Applicable	Mineral & Surface	Patented	1	18.1
Gauthier	1242075	July 10, 2014	Mineral Only	Unpatented	1	14.5
Gauthier	1242076	July 10, 2014	Mineral Only	Unpatented	1	7.6
				Total	20	327.2

# 3.2 LOCATION

The Anoki and McBean Properties are situated at an approximate Latitude of 48° 07' 37" N by Longitude 79° 49' 20" W, a position approximately 500 kilometres north of Toronto, 200 kilometres north-northeast of Sudbury and 120 kilometres southeast of Timmins (Figure 3-1). The Property co-ordinates used in this report are located relative to the NAD83 UTM coordinate system.



Figure 3-1: Regional Location Map of McBean and Anoki Properties (after Risto et al, 2008)



Figure 3-2: Property Map of Kirkland Lake Gold Camp (after Clark, 2009)



Figure 3-3: McBean Property Mineral Claims Map (modified after Agnerian, 2004)



Figure 3-4: Anoki Property Mineral Claims Map (after Agnerian, 2004)

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

Section 4.0 of this report relies heavily upon material contained within the Alexander (2007) and RPA (2004) Reports.

## 4.1 ACCESS

Both the McBean and Anoki Properties are easily accessible via Highway 66, which cuts through the central part of the Anoki Property in a northwest-southeast direction (Figures 3-3 and 3-4). There is also a private road leading from the highway to the McBean open pit area to the east. This road can be accessed all year round. This private road also connects to the west towards the Anoki ramp area and further on to the Anoki shaft area.

Both properties can be operated on a year-round basis.

#### 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 season and  $-40^{\circ}$ C during the winter. Yearly precipitation averages are in the vicinity of 60 cm of rain and 250 cm of snow and the ground is generally covered in snow from mid-November to mid-April.

Both properties have been logged; the McBean Property in the early 1980's in preparation for the open pit mining and the Anoki Property more recently by way of a forest management agreement with Timmins Forest Products. The remaining vegetation is determined by drainage and soil conditions and ranges from rocky outcrops with little or no vegetation, to wetland areas of lower relief containing swamp vegetation. Immature jack pine can be found in the fine sandy soils of the McBean Property, birch and poplar in the higher ground of the Anoki Property and small spruce and alders in areas with poor drainage.

## 4.3 LOCAL RESOURCES AND INFRASTRUCTURE

There are excellent local resources and infrastructure to support exploration and mining activities and the Kirkland Lake region has a long history of both activities. Water is available from ponds and creeks within both the McBean and Anoki Properties. Telephone and high voltage power lines are also available on both properties and the nearby town of Kirkland Lake is also linked to the Ontario Power grid.

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, Québec (approximately 60 kilometres east of the properties). An Ontario Northland Railway track line also transects both properties and shipping facilities by rail are available at Kirkland Lake.

#### 4.4 PHYSIOGRAPHY

There is low topographic relief at both properties, within the order of several metres and the terrain is characterized by relatively flat plateaus and glacial deposits, such as eskers and

moraine. There is a sharp change in relief across the Cadillac-Larder Lake Break to the north at both properties. The occasional outcrop of basaltic rocks can be seen along road cuts and overburden thickness ranges from around 3 m to 35 m.

# 5.0 HISTORY AND PREVIOUS EXPLORATION

Section 5.0 of this report relies heavily upon material contained within the Alexander (2007) and RPA (2004) Reports.

# 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.

(www.mndm.gov.on.ca/mines/ogs/resgeol/offices/kirklandLake-gold.pdf).

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**

# 5.2.1 MCBEAN GOLD DEPOSIT

The history of the McBean Property is summarized in Table 5.1 as follows:

YEAR	REMARKS
1928:	The McBean deposit was discovered.
1928-1941:	Murphy Mines developed the #1 shaft to 630 ft (192 m), with a 610 m lateral development on the 600-ft level and the #2 shaft to 100 ft (30 m) with 45 m of lateral development on the 94-ft level. 10 surface drillholes were also drilled.
1941:	Queenston Gold Mines acquired the Murphy claims and drilled 4 surface drillholes with a total length of 716 m. The #2 shaft was developed to 272 ft (83 m), with 228 m of lateral development on the 125-ft and 250-ft levels. 41 underground drillholes totalling 846 m were drilled and a bulk sample shipped to the Upper Canada Mine (956 t at 5.73 g/t Au).
1946-1947:	Queenston Gold Mines developed the #4 shaft to 267 ft (81 m) and established a level at 250 ft. 496 m of lateral development was also completed at the #2 shaft.
1947-1951:	Queenston Gold Mines developed the #4 shaft to 722 ft (220 m), as well as levels at 125 ft, 250 ft, 400 ft, 550 ft and 700 ft. Extensive surface and underground drilling was also undertaken during this time, along with lateral development.
1951:	The mine was closed.
1976-1983:	Canico optioned the property and completed surface drilling.

Table 5.1:McBean Property History

YEAR	REMARKS
1984-1986:	Under a joint venture with Queenston Gold Mines, Canico developed the open pit in the #2 and #4 shaft areas.
1983-1986:	The upper portion of the McBean deposit was mined from an open pit by a joint venture partnership between Queenston and Inco Ltd. and processed at the refurbished Upper Canada mill. Production amounted to approximately 50,000 oz. of gold from 506,000 t grading 3.0 g/t with mill recoveries of 95% employing a cyanide leach circuit. Due to prevailing gold prices at the time (\$400 US/oz) the underground exploitation of the remainder of the deposit below the pit was postponed (Queenston News Release dated December 16, 2009).
1993	Inco Exploration and Technical Services Inc. developed a closure plan subsequent to the operation of the McBean open pit. In 1993, the plan was finalized with the Ontario Ministry of Northern Development and Mines.
1996:	Queenston purchased Inco's interest in the mine assets and mineral rights.
1996-2001:	Queenston - Franco-Nevada joint venture completed 29 drillholes over 22,698 m.
2002-2010:	Queenston Mining carried out several phases of drilling throughout this period.

# 5.2.2 ANOKI GOLD DEPOSIT

The history of the Anoki Property is summarized in Table 5.2 as follows:

Table 5.2:	Anoki Property History
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YEAR	REMARKS
1916	Gold discovered by Elstone-Kirkland Mines. Surface trenching and 5 drillholes, totalling 712 m carried out.
1938-1940:	Anoki Gold Mines was formed and, with additional funding from Bankfield Consolidated Gold Mines, a shaft to 754 ft (230 m) was developed, along with four levels at 350 ft, 475 ft, 600 ft and 735 ft and 702 m of lateral development. 36 underground holes were drilled, totalling 1,620 m.
1946-1947:	Queenston Gold Mines acquired the Anoki Property. Surface drilling, as well as extensive underground development and underground drilling was undertaken.
1951:	The mine was closed.
1976-1986:	Canico optioned the Anoki Property and carried out mapping and geophysics (magnetics and IP), as well as completing 38 surface drillholes totalling 7,238 m.
1987-1988:	Canico undertook underground exploration via ramp driven to a depth of 775 ft (236 m) and drilled 121 underground drillholes totalling 12,022 m, from four levels. 607 linear m of drifting was also completed. In 1988 a 33,340 t bulk sample averaging 3.3 g/t Au was processed at the Upper Canada mill, producing 3,500 oz of gold.
1988-1990:	Inco Gold carried out feasibility studies.
1990-1996:	Due to prevailing gold prices at \$400 US per ounce the project was put on hold.

YEAR	REMARKS
1996:	Queenston purchased Inco's interest in the mineral rights for the deposit.
1996-2001:	Under the joint venture between Queenston and Franco-Nevada, 18 surface drillholes totalling 11,580 m were completed.
2002-2010:	Queenston Mining carried out geophysical surveys (magnetics and IP) and completed 45 drillholes totalling 22,361 m from 2002-10.

#### 5.3 HISTORICAL DRILLING

#### 5.3.1 MCBEAN GOLD DEPOSIT

The McBean deposit has been explored by at least 282 surface drill holes and 498 underground drill holes. It has three associated shafts as well as drifting along the main mineralized zones. All drilling at the McBean property has been summarised in the table 5.3 below.

MCBEAN PROPERTY, SUMMARY OF DIAMOND DRILLING							
Voor	Company	Contractor	# Holes	Core	Ecotago	Domortz	
Teal	Company	Contractor	# Holes	Type	rootage	Keillark	
1945	Queenston	Mine	43	AQ	34,959	Surface drilling	
1947	Queenston	Mine	498	AQ	60,946	U/G program	
1947	Queenston	Mine	7	AQ	3,161	Surface drilling	
1979	Inco	Morissette	25	AQ	19,830	Surface drilling	
1984	Inco	Bradley Bros.	42	BQ	9,531	Surface drilling	
1996	Queenston	Benoit Drilling	15	BQ	26,579	Surface drilling	
1997	Queenston	Benoit Drilling	19	BQ	41,845	Surface drilling	
1998	Queenston	Benoit Drilling	2	NQ	7,390	Surface drilling	
2003	Queenston	Heath & Sherwood	7	NQ	6,671	Surface drilling	
2005	Queenston	Benoit Drilling	2	NQ	3,005	Surface drilling	
2006	Queenston	Benoit Drilling	12	NQ	19,367	Surface drilling	
2008	Queenston	Benoit Drilling	57	NQ	93,088	Surface drilling	
2009	Queenston	Major Drilling	51	NQ	71,928	Surface drilling	
Total			780		403,608		

#### Table 5.3: Summary of Drilling at the McBean Property

#### 5.3.2 ANOKI GOLD DEPOSIT

The Anoki deposit has been explored by at least 190 surface drill holes and 333 underground drill holes, as well as by drifting along the main mineralized zones. Systematic testing of the gold zones was initiated by Inco in 1979 and continued until 1988. There has been no recent drilling carried out by Queenston since the RPA (2004) Report on the Anoki Property and, for

this reason, all past drilling at the Anoki Property has been summarised in Table 5.4 below and will not be discussed in Section 10.0 of this report.

Year	Company	Contractor	# Holes	Core Type	Footage	Remark
1979	Inco	Morissette	2	BQ	1,937	Surface drilling
1980	Inco	Bradley Bros.	6	BQ	7,573	Surface drilling
1981	Inco	Bradley Bros.	27	AQ	8,811	Surface drilling
1986	Inco	Heath & Sherwood	3	BQ	5,420	Surface drilling
1988	Inco	J.S. Redpath	121	BQ	39,432	U/G program
1996	Queenston	Benoit Drilling	2	BQ	3,329	Surface drilling
1997	Queenston	Benoit Drilling	7	NQ	17,818	Surface drilling
1998	Queenston	Benoit Drilling	6	NQ	13,734	Surface drilling
1999	Queenston	Benoit Drilling	2	NQ	3,106	Surface drilling
2002-						
2003	Queenston	Benoit Drilling	26	NQ	38,425	Surface drilling
2003	Queenston	Heath & Sherwood	19	NQ	34,918	Surface drilling
Total			221		174,503	

#### Table 5.4: Summary of Drilling at the Anoki Property

#### 5.4 HISTORICAL RESOURCE ESTIMATES

#### 5.4.1 MCBEAN GOLD DEPOSIT

The following Table 5.5 summarises the historical Resource Estimates carried out on the McBean Property.

#### Table 5.5: Summary of Historical Resource Estimates for the McBean Property

Source	Zone	Measured +	Indicated	Inferred	
		Tonnes	Gold g/t	Tonnes	Gold g/t
RPA (1996)	Q1, Q2 & Q3	835,518	5.14	723,934	4.57
Queenston (1997)	At depth			1,111,303	7.51
Total		835,518	5.14	1,835,237	6.35

Source: Alexander, 2007.

The reader is cautioned that the above listed Resource Estimates dated prior to 2001 are being treated as historical in nature and therefore are not NI 43-101 compliant. It should also be noted that all existing Resource Estimates prepared prior to this report have since been superseded by the 2009 P&E NI 43-101 compliant Resource Estimate for the McBean Property, as described in Section 16.0 of this report.

## 5.4.2 ANOKI GOLD DEPOSIT

There have been several Resource and Reserve Estimates carried out for the Anoki Property, as well as a feasibility study to bring the deposit into production (Tables 5.6 and 5.7).

ANOKI DEPOSIT HISTORICAL RESOURCE ESTIMATES						
Estimator / Date & Method	Tons	Oz/Ton Au	Cut-off (oz/ton Au)	Contained Ounces Gold		
Inco, 1989, Manual	1,182,000	0.120	0.05	141,800		
Inco, 1989, Geostatistical	852,000	0.124	0.05	105,650		
Inco, 1991, Geostatistical	411,000	0.160	0.05	65,750		

Source: Agnerian, 2004.

The reader is cautioned that the above listed Resource Estimates dated prior to 2001 are being treated as historical in nature and therefore not NI 43-101 compliant. It should also be noted that all existing Resource Estimates prepared prior to this report have since been superseded by the 2009 P&E NI 43-101 compliant Resource Estimate for the Anoki Property, as described in Section 16 of this report.

The significantly reduced tonnage for the 1991 Inco Geostatistical was due to a reinterpretation of the gold rich zones in the Anoki deposit by D. François-Bongarçon of Inco Exploration and Technical Services Inc. ("IETS") in February of 1991.

Table 5.7:	Inco Resource & Res	erve Estimates for the	Anoki Property	(March.	1989)
	med mesource & mes	cive Estimates for the	i inom i roperty	(1)141 0119	1,0,1

ANOKI DEPOSIT, INCO RESOURCE AND RESERVE ESTIMATES (MARCH, 1989)								
Mineral Resources				Mineral Reserves				
Category	Tons	Oz/Ton	Rec	<b>Dil.(%)</b>	Category	Tons	Oz/Ton	Oz
		Au	(%)				Au	Gold
Measured	612,000	0.114	52.4	15.3	Proven	370,000	0.125	46,100
Indicated	570,000	0.126	43.8	13.5	Probable	280,000	0.150	42,000
Meas.&Ind.	1.182.000	0.120	48.0	14.5	Prov.&Prob.	650,000	0.136	88.100

Note: Measured and Indicated Mineral Resources were referred to as "Proven & Probable Geological Reserves" by Inco in 1989.

Source: Agnerian, 2004.

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 2009 P&E NI 43-101 compliant Resource Estimate for the Anoki Property, as described in Section 16 of this report.

In 2004, RPA, under the supervision of Hrayr Agnerian, P.Geo., calculated a reportedly NI 43-101 compliant Mineral Resource Estimate for the Anoki gold deposit at a nominal cut-off grade

of 3.5 g/t Au (Table 5.8). RPA used the same drillhole database that Inco used for its 1989 Mineral Resource Estimates with the addition of data from drilling completed by Queenston from 1996 to 2003.

Category	Tons	Tonnes	Gold g/t
Measured	114,000	104,000	5.27
Indicated	461,000	419,000	5.81
Measured + Indicated	575,000	523,000	5.70
Inferred	39,000	35,000	5.69

Table 5.8:	RPA 2004 Resource Estimate for the Anoki Property
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Although this Resource Estimate was reported as being in compliance with NI 43-101 regulations, the reader is cautioned that P&E has not completed sufficient work to verify its status as being NI 43-101 compliant.

## 5.5 HISTORICAL FEASIBILITY STUDY

## 5.5.1 MCBEAN GOLD DEPOSIT

#### Inco Feasibility Study:

In 1983, CANICO, a unit of Inco Limited, completed a draft feasibility study outlining a proposal to proceed with the development of the McBean Mine for the subsequent mining, milling, and refining of the ore to produce gold bullion.

Inco's findings are summarized as follow:

- Open pit mining at a rate of 165,000 tons of ore annually.
- Inco's proven minable reserves for the open pit are 555,000 tons grading 0.146 ounces of gold per ton to the 6<sup>th</sup> bench at a cutoff grade 0. 0.10 ounces per ton.
- Overall proven and probable mineral comprising both Queenston No. 1 and Queenston No. 2 zones 800 feet west have been estimated at 1.4 million tons grading 0.151 ounces per ton to the 700 foot level with an additional inferred mineral tonnage of 0.8 million grading 0.13 ounces per ton outlined between the 800 and 1,000 levels.
- Development of the pit will require removal of overburden for about a year.
- Existing infrastructure of the former Upper Canada Mine to be upgraded for the use of the mine.
- Ore to be trucked to the mill on a road to be built during the development stage.
- Depending on economics, more ore might be recovered below the pit using smaller underground equipment.
- Milling process to use a cyanide leach process with zinc precipitation.

Based on the following parameters:

• Mineral Reserves: 555,000 tons at an average grade of 0.146 oz/ton Au.

- Production rate: 660 tons per day.
- Mill recovery: 93.5% of the gold grade.
- Cash operating costs: \$40.00 per ton.
- Capital costs: \$6.4 million.
- Cash production costs: US\$293 per ounce of gold.

In 1986, D.J. Browne from Inco's exploration department conducted an evaluation of the underground ore potential below the  $6^{th}$  bench of the McBean mine. Evaluation of the data from the drilling program from the  $6^{th}$  bench of the pit indicated a significant reduction in the tonnage and grade from the original study, recommending not to proceed with the underground mining program. This decision was based on anticipated development and operating costs balanced against prevailing gold prices and the potential for gold price improvement.

#### 5.5.2 ANOKI GOLD DEPOSIT

#### Inco Feasibility Study:

In March 1989, Inco Gold Management Inc., a unit of Inco Limited, completed a feasibility study on the Anoki deposit, based on the mining and processing of 650,000 tons of ore, grading 0.136 oz/ton Au. In January of 1990, Inco revised its feasibility study with only slight differences from the earlier study. Atkins Mining Consultants Limited reviewed the Inco feasibility study and confirmed the Mineral Reserves estimated by Inco Gold in January of 1990 (Colton, 1983).

Inco's findings are summarised as follows:

- An underground trackless mining operation was proposed, whilst employing proven mining methods and mechanized equipment to extract the ore at the Anoki Mine.
- Sublevel Retreat stoping was planned to mine the ore. All haulage and service would be through a ramp driven from surface to the 950 ft. level. This ramp had already been driven to the 750 ft. level.
- The ore would be processed at the McBean Mill, which had been used previously to mill ore from the McBean open pit.
- A six month work program was postulated to bring the mine and mill into production. However, additional time could have been required to obtain some of the material and equipment to carry out this work.

Inco's revised feasibility study of 1990 was based on the following parameters:

- Mineral Reserves: 523,300 tons at an average grade of 0.134 oz/ton Au.
- Production rate: 590 tons per day.
- Mill recovery: 94% of the gold grade.
- Cash operating costs: \$45.55 per ton.
- Capital costs: \$7.3 million.
- Cash production costs: US\$296.82 per ounce of gold.

Based on the above parameters Inco carried out a Discounted Cash Flow (DCF) analysis and concluded that at a US\$415 /oz gold price and a 10% discount rate, the project had a net present value (NPV) of \$1,275,000 and an internal rate of return (IRR) of 20% (Inco, 1990).

As part of its feasibility study, Inco also mined some 36,750 tons of material from the four underground development levels (350, 475, 600 and 735). This material contained around 27,000 tons at an average grade of 0.116 oz/ton Au (3.98 g/t Au), 7,200 tons of low grade material at an average grade of 0.053 oz/ton Au (1.82 g/t Au) and 2,550 tons of waste at an average grade of 0.013 oz/ton Au (0.446 g/t Au).

## 5.6 HISTORICAL MINERAL PROCESSING & METALLURGY

## 5.6.1 MCBEAN GOLD DEPOSIT

The McBean Mine Inco-Queenston Joint Venture Feasibility Study prepared by Inco in 1983 on the McBean deposit indicates that mineral beneficiation and cyanidation leached processes were tested on samples of Queenston ore at J. Roy Gordon Reseach Lab on a laboratory scale.

Mill concentration tests covered a combination of jigging and floation, and floation only. The results show that an all floation flowsheet would produce comparable metallurgy to a combined jigging and floation circuit.

Cyanidation tests were carried out on the ore and on the flotation concentration with gold extractions of 95% and 97% respectively. Cyanidation of the ore was selected as the processing method.

A.H. Ross & Associates were engaged by Robertson and Associates to undertake a review of the metallurgical aspects of the feasibility study prepared by Inco relative to opening the McBean Mine. Robertson & Associates have been contracted by Queenston to undertake the assessment of the draft feasibility study in 1983.

A Conventional CCD/Merrill Crowe cyanide leach milling flowsheet was adopted and the McBean Mine ore was processed in the Upper Canada Mines mill which was refurbished to operate at a rate of 500 tons per day.

Production of the McBean pit commenced in 1984 and lasted through 1986. Monthly mill production records from the mill department at the mine reported and average gold recovery of 93.4%, 95.2%, 94.9% for 1984, 1985, and 1986 respectively.

# 5.6.2 ANOKI GOLD DEPOSIT

Metallurgical tests have been carried out by Inco, including metallurgical testwork on drill core composite samples, as well as muck samples and a bulk sample collected during underground exploration in 1988. The results of these tests indicate that a flotation flowsheet would be adequate for this ore and that the flotation concentrates appear to be relatively free of "nuisance" elements. Good recovery can also be expected when this ore is treated by Cyanidation (Lynch, 1962, MacPhail, 1981).

## 6.0 GEOLOGICAL SETTING

# 6.1 **REGIONAL GEOLOGY**

Section 6.0 of this report relies heavily upon material contained within the Alexander (2007) and RPA (2004) Reports.

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.

Assemblage	Description
Timiskaming	Contains sedimentary and alkali volcanic rocks including iron
	formation, such as Upper Canada and Macassa Mines.
Porcupine	Comprises sedimentary and calc-alkalic volcanic rocks including
	iron formation.
Upper Blake River	Comprised of mostly calc-alkalic volcanic rocks, such as at the
	Noranda Camp.

Table 6.1:	Supracrustal Assemblages of the Timmins-Kirkland Lake Segment of the
Abitibi Gree	1stone Belt (Source: RPA, 2004)

Assemblage	Description
Lower Blake River	Comprised of mostly tholeiitic basalts, such as at the Holt
(Kinojevis)	McDermott Mine.
Upper Tisdale	Comprised of calc-alkaline felsic to intermediate volcanics exhibiting
(Gauthier)	flow and debris flow characteristics and associated volcaniclastics
	sediments.
Lower Tisdale (Larder	Comprised of mostly komatiitic, tholeiitic and calc-alkalic volcanic
Lake)	rocks and iron formation, such as at the Kerr Addison Mine, McBean
	Mine and Anoki deposits.
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 in the Kirkland Lake Gold Camp has exceeded 40 million ounces (Risto et al, 2008) from around 30 mines. Most of the gold production in the area has come from 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 (after Pressacco, 2008)



Figure 6-2: Regional Geology Map (after Agnerian, 2004)

#### 6.2 **PROPERTY GEOLOGY**

The dominant geological feature of both the McBean and Anoki Properties, as has been described earlier, is the LLB, which occurs as a 30 m to 100 m wide package of highly sheared and deformed rocks, dipping from between  $60^{\circ}$  to  $70^{\circ}$  towards the east-southeast (Queenston, 2003). The break has developed along the ultramafic members of the Lower Tisdale-Larder Lake assemblage, separating komatilitic to tholeiitic sequences in the hanging wall to the south, from Timiskaming assemblage alkali volcanic rocks and sediments to the north (Table 6.1).

Slip movement direction of the break is suggested to be dextral, south-side-up, along the plunge (40 to 60 degrees east) of the stretching lineation (Ispolatov, 2003). The Lower Tisdale-Larder Lake package is highly sheared and deformed, and varies from 30 m to 120 m thick. Timiskaming assemblage rocks are also highly deformed over 300 to 400 m footwall to the break.

The Anoki deposit is located hanging wall to the LLB within Lower Tisdale-Larder Lake assemblage rocks. No significant gold values have been encountered in the break itself within the Anoki area and this portion of the break is relatively thinner than the McBean portion, from between 50 m to 100 m thick.

The McBean deposit is totally contained within the deformation corridor and is also associated with Lower Tisdale-Larder Lake assemblage rocks. The LLB has a thickness of around 100 m to 150 m in the vicinity of the McBean deposit. At McBean, the hanging-wall Lower Tisdale-Larder Lake assemblage is absent due to the presence of a 1-km diameter, gabbro / diorite intrusive complex (Figure 6-3).

#### 6.2.1 MCBEAN PROPERTY

The Kirkland Lake Gold Camp is essentially defined by a 5 km corridor around the Cadillac-Larder Lake Break (LLB). This major, east-trending, south-dipping, regional structure has juxtaposed Tisdale assemblage of mafic to ultramafic rock against much younger alkali rock and sediments of the Timiskaming assemblage. The Blake River and Porcupine assemblages are absent in the immediate area of the break. The McBean property is intimately associated to the Larder Lake Break.

The dominant geological feature on the McBean property is the Cadillac-Larder Lake Break (Fig. 6-4). In this area, the break strikes east-south-easterly sub-parallel to the project base line at  $107^{\circ}$  and dips south. The LLB tracks along the ultramafic members of the Lower Tisdale assemblage, separating the komatiitic to tholeiitic sequences into its hanging wall (south) away from Timiskaming alkali volcanic and sediment assemblage to the north. Slip movement direction of the break is suggested to be dextral, south-side-up, along a plunge of  $40^{\circ}$  to  $60^{\circ}$  east based on stretching lineation (Ispolatov, 2003). The Lower Tisdale package is highly sheared and deformed, and varies from 30 to 120 m thick. Timiskaming assemblage rocks are also highly deformed up to 300 m to 400 m within the footwall to the break.

Two main faults are present into the LLDZ. The first and most important one is located just below the hanging wall gabbro (*hanging wall fault*). This fault is intersected in most holes and

can be seen to affect the first ultramafic rocks intersected below the hanging wall gabbro. The hanging wall fault is characterized by gougey breccia, gravelly and/or highly fractured material within the upper ultramafic component of the deformation corridor. The fault is oriented sub-parallel to the deformation corridor which dips to the south at 65-70 degrees and strikes SSE. Many smaller brittle structures are present in vicinity of the main hanging wall fault. These smaller faults appear to be sub-parallel to and related to the main hanging wall fault.

The second most predominant fault (*footwall fault*) is intersected near the base of the deformation corridor in a rock package dominated by altered sediment (mostly greywacke) which is interpreted as part of the Tisdale assemblage. This fault appears to be a subsidiary or splay of the dominant hanging wall fault. These faults merge together east of the open pit around line 10700E in the area of the C19 zone.

Most McBean ankerite-fuchsite (Ak-Fu) altered gold bearing zones are located between these two main faults on the west side of the deposit and are not significantly affected by brittle deformation located in proximity to these structures. East of L10700E, the footwall fault swings south and merges with the hanging wall fault. In this particular area the (Ak-Fu) gold zones are fractured by the merging structures beyond this intersection and to the east the bulk of the altered (Ak-Fu) gold mineralization associated is located north of (footwall to) the hanging wall.



Figure 6-3: McBean & Anoki Area Local Geology Map (after Agnerian, 2004)



Figure 6-4: Generalized Vertical Cross-Section through the McBean Gold Deposit (Source: Queenston, 2009)
#### 6.2.2 ANOKI PROPERTY

The Lower Tisdale-Larder Lake assemblage, comprising mafic to ultramafic volcanic rocks with units of chert and interflow sediments, of the Timmins-Kirkland Lake segment of the Abitibi Greenstone Belt is host to the Anoki deposit. The Mineral Resources at Anoki are contained in nine lenses (Lens 1-7, 33 and South) that are located within a 50-100 m thick package of altered, coarse grained basaltic flows in the hanging wall, south and adjacent to the LLB (Figure 6-5) approximately 600 m west of the McBean deposit (Figure 6-3). These lenses are vertically dipping, east plunging and have a weighted average thickness of 6.6 m (Queenston News Release, December 16, 2009).

The coarse grained basaltic flows occur as two roughly equal sized sequences, with the southernmost sequence containing a number of intercalated ultramafic units. The coarse-grained flow sequences are in contact with finer grained basaltic flows and interflow sedimentary rocks to the south and amygdaloidal to vesicular and variolitic flows northward. The variolitic flows continue northward to the sheared ultramafic rocks at the start of the LLB. The basaltic flows both terminate along packages of cherty, graphitic and tuffaceous rocks plus or minus felsic intrusives at their north contacts (Figure 6-5).

Emanating from the LLB and the basal portion of the Anoki deposit, is a splay feature (the South Splay), which diverges from the steeply dipping LLB and flattens to a dip of around  $10^{\circ}$  to  $30^{\circ}$  and plunges  $20^{\circ}$  to  $30^{\circ}$  to the east. A wedge of strongly altered and deformed tuffs and volcaniclastic rocks is present between the two structures, which hosts a deeper zone of mineralization designated as the Anoki Deep Zone by RPA in their 2004 Report on the Anoki Property (Figure 6-5). This zone does not form part of the current P&E 2009 Anoki Mineral Resource.

In the upper parts of the Anoki Deep Zone, the dominant protoliths are carbonate altered volcaniclastic rocks of uncertain affinity, possibly belonging to the Timiskaming assemblage. Southward, as the wedge widens, more typical basalts and komatiites of the Lower Tisdale-Larder Lake assemblage are encountered. The relationship between the two sequences is unclear due to the wide drill hole spacing and the complexities introduced by local faulting (Queenston, 2003).

Timiskaming assemblage rocks are encountered north of the LLB on the Anoki property and this assemblage is represented by a 150 m to 300 m thick package of variably altered volcaniclastic rocks, followed by a sequence of dark, amphibolitic and magnetic mafic tuffs that have a trachytic (alkalic) affinity. The 40 East Zone and the North Break Zone occur within the volcaniclastic portion of the Timiskaming assemblage (Figure 6-3).



Figure 6-5: Generalized Vertical Cross-Section through the Anoki Gold Deposit (after Agnerian, 2004)

#### 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 and the two types of mineralization present in the McBean and Anoki deposits. The McBean and Anoki deposits are interpreted to be consistent with the two main styles of ore in the 11M oz producing Kerr Addison Gold Mine namely 'flow ore' and 'green carbonate ore' respectively. The paper also describes the Upper Canada deposit 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 sulfide 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 postore 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 postore 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 vol 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; Queenston 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 ( $\geq$ 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 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 vol 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 tournalinized matrix. The syenite porphyry contains 20 to 40 vol percent ovoid feldspar phenocrysts (1–3 mm) within an altered (quartz-sericite, ±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. Goldbearing 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 Queenston 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 MCBEAN GOLD DEPOSIT

The McBean deposit is classified as lode gold type deposit were economic concentrations of gold derived from hydrothermal fluids are present in veining systems of epithermal or mesothermal origin. Most mineralization appears in veins, breccia or as dissemination and represents a strong structural component.

Typically, gold bearing mineralization is characterized by the presence of 2-7% (by volume in core) disseminated and fracture controlled pyrite (Py) directly associated with 5 - 20% variably to irregularly oriented quartz-ankerite veins.

All of the mineralized zones generally have some component or combination of sericitic, fuchsitic and carbonate alteration of the ultramafic protolith. The carbonated zones are typically stockworks with up to 60% quartz-ankerite and quartz veining. Siliceous to sericitic remnants of potential felsic intrusives are common in the better mineralized sections along with erratic felsite and syenite dykes. The intrusive remnants are normally mineralized with 3-5% disseminated pyrite, while the carbonated rocks contain minimal pyrite. Fine flecks of native gold are often present in the higher-grade lenses and tend to be associated with the quartz rather than the quartz-ankerite veins.

Past and present drilling programs have confirmed the presence of many low- to high-grade gold intersections varying from metric to decametric in thickness. These gold bearing zones are typically observed inside the ultramafic and sedimentary sequences and often associated with the numerous syenitic and felsic units suggesting that these felsic rocks have played an important function in the gold deposition. In effect, a large proportion of the best gold intersections encountered are observed in these heterogeneous sections, presenting significant volumes of sericitic, hematized felsic rocks with moderate to strongly carbonated and fuchsitic ultramafic host units.

The felsic or felsite rock component appears to be of both intrusive and sedimentary origin. Both types of rock are characterized by a higher pyritic background (up to 5% locally mostly in disseminated form). The best gold bearing intervals typically present moderate to strong Qz-Ak veining at variable core angles within these rocks. These observations suggest that the felsic rocks (dyke and felsites (sediments)) may have acted as a nexus for mineralizing fluids possibly through providing a ductility contrast in an otherwise easily and tightly deformed rock sequence.

Visible gold is not frequently observed inside the McBean gold-bearing zones but appears locally as free gold within smoky quartz veins associated with green carbonate altered ultramafic rock.

# 8.2 ANOKI GOLD DEPOSIT

The Mineral Resources at Anoki have been defined in nine separate lenses (Lens 1-7, 33 and South) over a length of 400 m and to a depth of 430 m from surface. The lenses are vertical

dipping, east plunging with the mineralization consisting of pyrite and visible gold in silicifiedcarbonated coarse grained basalt (Queenston News Release, dated December 16, 2009).

The deposit remains open at depth and to the east (Figure 8-1). Drilling has continued to test the gap between the Anoki and McBean deposits both along plunge and to depth. Also targeted is the potential for new lenses of mineralization below 500 m.

The Anoki lenses are characterized by altered and mineralized corridors within fractured to brecciated coarse flows. The coarse grained basalts are magnetic, bleached, fractured and silicified and are well altered with the main minerals being ankerite, sericite, albite and chlorite plus or minus local fuchsite. Pyrite mineralization locally reaches up to 10%, occurring as fine to medium grained disseminated material as well as coarser blebs to patches. Ankerite and quartz-ankerite veining is poorly developed (Queenston 2008 Annual Information report).

The 1990 feasibility study by Inco indicated that:

'the mineralization is a hydrothermal replacement (of the coarse flows), comprised of carbonate, albite, rutile, pyrite, gold, minor quartz, hematite and magnetite. The location of the mineralization is controlled by south-dipping fractures formed near the upper contact(s), parallel to a northeast plunging fold axis. The grade of an area improves with increased fracturing'.

All lenses exhibit flatter dips to the south approaching the South Splay structure and this structure is characterized by strong gouge, ultramafic rocks and carbonate altered zones in the immediate vicinity of the deposit. As the LLB and the South Splay diverge, the South Splay structure is represented by a 7 cm to 30 cm thick altered zone of sericitic and fuchsitic carbonate rocks at the interface between basalts and komatiites of the Lower Tisdale-Larder Lake assemblage and strongly altered and deformed volcaniclastic rocks of probably the Timiskaming assemblage (Queenston, 2003).

There are a number of intersections containing anomalous gold within the altered and deformed volcaniclastic rocks. The mineralized zones are characterized by accessory veining, ankerite alteration, silicification and pyrite mineralization, with or without fuchsite and sericite alteration. They are identified as Anoki Deep style mineralization (Queenston, 2003). At present, however, the grade and continuity of these intersections are not sufficient to estimate tonnes and average grade.

North of the LLB is a 150 m to 300 m thick package of volcaniclastic rocks which host the 40 East Zone and the North Break Zone (Figure 6-3). The volcaniclastic rocks consist of granular to gritty textured units and much finer-grained, silty to ashy rocks. Both units can contain fragments but the silty to ashy segments are the most common hosts of the coarse polymictic fragments that may be up to 10 cm in size. Both units are medium to dark grey green in colour, poorly veined and sparsely mineralized except in the 40 East and North Block corridors (Queenston, 2003). These two corridors are characterized by accessory sericite and ankerite alteration, hematite +/-magnetite, albite, veining, pyrite +/- chalcopyrite, and rare visible gold.

Lens 33 or the Anoki South Zone (Figure 6-5) consists of altered and mineralized cherts, graphitic sediments and thin basaltic flows north of a thick sequence of fine to medium-grained gabbroic textured basalts. Two interflow packages are present, the lower package of which is more strongly altered and mineralized.

The mineralization of Lens 33 is similarly characterized by elevated sulphide contents. Locally, up to 20% pyrite with lesser pyrrhotite, chalcopyrite and sphalerite may be present. The interflow host is ankeritic, silicified, bleached and variably contorted. In addition to the quartz-ankerite veining, calcite coated fractures are common and some fractures are cut by smoky quartz veins with visible gold (Queenston, 2003).

In addition to the mineralized zones discussed above, anomalous gold occurs throughout the rocks in this area. Most of the gold values are associated with the LLB and can occur in either Lower Tisdale-Larder Lake or Timiskaming assemblage rocks. One such area being the Carb Zone situated north of the LLB. (Queenston, 2003).

In general, mineralization models advanced during the program are locally relevant. The Anoki deposit zones have similarities to the basaltic 'flow ore' at the Kerr Addison mine, while the alteration, veining and mineralization in the volcaniclastic rocks are more analogous to the break style of mineralization typical to the Kirkland Lake camp.



# NI 43-101 Mineral Resources

# Anoki - McBean Deposits

Gauthier Twp., Kirkland Lake, Ont. Vertical Longitudinal Section Looking North



DECEMBER 16, 2009

#### Figure 8-1: Longitudinal Section through the McBean and Anoki Deposits (Source: Queenston, 2009)

#### 9.0 **EXPLORATION**

# 9.1 MCBEAN PROPERTY

Two main areas comprise most of the McBean gold resource. The first area is located just below the old open pit. This area was the focus of extended exploration by the Canico Joint venture and subsequently by the McBean Joint Venture in the 1970's and early 1980's and later by Queenston and Franco-Nevada in the 1990's and lastly by Queenston from 2002. Sufficient work was completed by 1986 to allow the McBean Joint Venture to consider the economic case for underground development. The second area was outlined in 2008 and hosts the newly discovered C19 zone which returned among the highest gold grades intersected on the McBean property.

Most of Queenston's 2008 and 2009 drill program was designed to perpendicularly intersect the main deformation corridor (LLDZ). Inside the McBean property, the LLDZ is characterized by a sequence of rocks (100-150 meters thick) dominated by strongly altered and deformed ultramafic units. These ultramafic rocks appear to be extrusive in nature but very little evidence of spinifex or other primary textures have been preserved, overprinted by variable levels of ankerite, talc and fuchsite alteration. The main ultramafic rock package includes about 20-25% intercalated sedimentary and/or tuffaceous units affected by variable types and degrees of alterations (Ankerite, Sericite, Hematite). Felsic, syenitic and mafic intrusives are inserted sub-parallel to the main fabric. Some syenitic dykes present discordant contacts with main foliation.

Follow-up drilling in vicinity of historical MB-97-19 revealed the presence of a new high-grade gold zone within in a deep green carbonate alteration zone (GCZ). The new gold zone (named C19) has returned many high grade intersections with disseminated Py and Qz-Ak veins within a strongly altered felsic host rock associated with the GCZ. Inside that, Drillhole MB-08-66 tested the new gold zone and returned an intersection of 10.22 g/t Au over 13.6 m. The same ore shoot returned 13.57 g/t Au over 6.06 m in MB-08-75 (table 3). The new C19 zone is part of an AK-Fu alteration shoot, 60-70 meters in diameter and plunging east inside the LLDZ. A wide intersection of the eastern extension of the Green carbonate alteration zone is reported in historical drillhole MB-97-25W (Section 114+00E). No significant gold value was intersected but there is enough room above and below that hole for a significant gold bearing shoot. The GCZ alteration zone remains open to the east and at depth.

# 9.2 ANOKI PROPERTY

All past exploration undertaken at the Anoki Property has been described in Section 5.0 of this report.

# 10.0 DRILLING

#### **10.1 INTRODUCTION**

All drilling prior to the Queenston – Franco-Nevada drill program commencing in 1996 has been discussed in Section 5.3 of this report under "Historical Drilling".

#### **10.2 MCBEAN GOLD DEPOSIT**

#### 10.2.1 1996 – 1998 QUEENSTON – FRANCO-NEVADA JV DRILL PROGRAM

In August of 1996, a two phase drilling project of both the McBean and Anoki deposits was initiated under a 50-50 joint venture between Queenston and Franco-Nevada Mining Corporation ("Franco-Nevada"). This drilling was part of a long-term, deep exploration program covering 22 miles of "break" geology in the Kirkland Lake Gold Camp ("KLGC"). Drilling at the McBean Property focussed on expanding the area below and adjacent to the previously mined McBean deposit.

Drilling was carried out by Benoit Diamond Drilling of Val d'Or, Quebec with two drill rigs on site.

Past surface and underground work had previously outlined a Resource of 250,000 ounces of gold in the upper Dike Zone of the McBean deposit (Queenston News Release dated, February 26, 1997). In October of 1996, the Queenston – Franco-Nevada drill program discovered gold mineralization located below the past producing McBean gold deposit (outlined from the surface to approximately 1,000 feet). The newly discovered mineralization was termed the Green Carbonate Zone ("GCZ").

The reader is cautioned that the above mentioned upper Dike Zone Resource Estimate is dated prior to 2001 and is therefore historical in nature and not in compliance with NI 43-101 regulations.

The GCZ comprised three zones containing gold mineralization. These zones were found to occur within altered komatiitic flows, or green carbonate, and vary in width from 5 to 100 feet. The zones contain free gold and/or gold associated with pyritic sections, mineralized felsite/albitite dikes and quartz veins and stockworks cross-cutting komatiitic flows within a 400-600 foot wide zone of deformation associated with the Larder Lake Break.

The two-phase drill program outlined a gold system measuring 3,000 feet long, 1,000 feet thick and 200 feet wide. Within this system, a core, containing three zones, was intersected by at least 11 holes between 1,000 and 2,000 feet below the surface. Average gold values within this core region were around 0.30 ounces per ton. The drilling results also indicated that the zones had good vertical and horizontal geological continuity and, at the end of this drilling program, the GCZ remained open to the east, west and at depth.

#### Phase I:

Drilling for Phase I was part of a 24 hole program, over a total length of 44,220 feet, which commenced in August of 1996. At the conclusion of this \$ 1 million phase of the drill program, a total of 20 holes (MB-96-01 to MB-97-18) were completed at the McBean Property, over a total length of 37,205 feet. Three holes were also completed at the Anoki Property and one hole between the two deposits to investigate the possibility of linking them at -1000 feet depth. Of the 20 holes drilled at McBean, ten intersected significant mineralization over potentially mineable widths; six reported some mineralization while the remaining four reported no mineralization. The program intersected significant gold mineralization in four separate zones indicating the presence of a major gold system lying below the McBean-Anoki project area.

The Phase 1 drilling program intersected the GCZ over a strike length of 2,000 feet and a vertical height of 1,300 feet. At the end of Phase I, the zones remained open in all directions and were reported by Queenston to display many geological similarities to the Kerr-Addison gold mine, 10 miles to the east along the Larder Lake Break. The Kerr-Addison gold mine produced in excess of 11 million ounces of gold over a 59 year period from 1938 to 1996 (http://www.newswire.ca/en/releases/archive/January2010/08/c7213.html).

The qualified persons for this technical report have not verified the above information relating to the Kerr-Addison property and the information is not necessarily indicative of the mineralization of the McBean or Anoki Properties.

The results from Phase I of the program are summarized in Table 10.1 below:

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Comments
MB-96-01	319.4	321.1	1.7	2.1	
	335.9	336.8	0.9	4.2	
	373.5	374.4	0.8	3.8	
	399.7	402.4	2.7	2.5	
	434.3	434.5	0.2	15.5	
	437.7	450.8	13.1	3.4	
including	447.4	450.8	3.4	7.1	vg
MB-96-02	463.2	467.7	4.5	1.5	
	474.4	475.9	1.4	2.1	
	504.9	507.5	2.6	1.3	
	516.9	520.1	3.2	1.4	
	570.8	577.8	6.9	3.2	
including	570.8	574.9	4.1	3.8	
	616.7	633.0	16.3	4.2	
including	616.7	618.3	1.6	15.1	vg
and	629.7	633.0	3.3	13.0	vg
MB-96-03	393.7	394.1	0.4	9.2	
	405.3	406.6	1.3	1.1	
	447.3	454.5	7.1	1.8	
including	451.5	453.6	2.1	3.4	

# Table 10.1: 1996 – 1998 Queenston - Franco-Nevada JV Phase I Drilling Results

Hole ID	From (m)	<b>To</b> (m)	Interval (m)	Au (g/t)	Comments
	472.1	472.4	0.3	10.4	vg
MB-96-04	391.1	395.3	4.2	1.5	
	420.0	426.6	6.5	94.3	
including	420.0	422.3	2.2	273.9	vg
and	424.5	426.6	2.0	3.1	
	434.8	436.9	2.1	3.2	
	450.5	452.9	2.4	1.0	
	456.0	458.3	2.3	1.4	
MB-96-05	652.6	657.2	4.6	1.4	
	672.2	674.2	2.0	2.1	
	707.4	711.8	4.4	1.4	
MB-96-06	344.2	360.9	16.6	1.0	
including	349.3	353.0	3.7	2.4	
	406.8	408.4	1.7	2.4	
MB-96-07	321.4	327.7	6.3	4.1	
including	321.4	323.4	2.0	10.3	
MB-96-8b	377.9	467.3	89.4	1.4	
including	377.9	381.0	3.1	10.3	
and	389.4	390.3	1.0	4.4	
and	400.7	402.6	1.8	17.8	
and	444.8	451.8	7.0	3.4	
and	465.6	467.3	1.7	7.2	
MB-96-09	186.2	187.5	1.3	3.1	
	200.6	204.5	4.0	1.7	
	240.2	243.2	3.0	1.0	
MB-96-10*	331.9	342.3	10.4	0.7	Hole abandoned before entering GCZ.
including	338.9	342.3	3.4	1.0	
MB-96-12	441.3	447.1	5.9	6.0	
including	444.1	447.1	3.0	10.6	
and	466.7	476.0	9.3	1.5	
and	469.4	471.8	2.4	3.4	vg
	516.6	522.0	5.4	1.0	
MB-97-13	333.1	345.3	12.2	3.8	
including	335.6	338.3	2.7	7.7	
	402.7	411.5	8.7	1.3	
including	402.7	403.6	0.9	9.0	
MB-97-14*	625.4	626.1	0.6	5.4	
	696.3	696.8	0.5	4.0	
	742.5	743.4	0.9	1.7	
	750.4	751.0	0.6	2.0	
	803.8	805.6	1.9	1.2	
MB-97-15	325.6	327.6	2.0	1.5	
including	325.6	326.2	0.6	3.4	
MB-97-16	529.0	536.8	7.9	1.3	
including	535.7	536.4	0.8	3.5	
MB-97-17	334.8	337.4	2.6	4.0	
	341.3	347.2	5.9	2.0	

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Comments
including	343.3	344.4	1.1	7.1	
	398.3	399.9	1.6	1.7	vg
MB-97-18	484.0	485.0	1.0	2.0	
	500.8	501.7	0.9	1.8	
	546.5	548.3	1.8	2.1	
	550.7	556.1	5.3	4.3	
including	553.3	556.1	2.8	7.9	vg

vg = visible gold identified in core. True width= Core length \* Hole MB-96-10 was re-drilled as hole MB-97-14

#### Phase II:

The \$ 2.5 million second phase of the drilling program commenced in March of 1997 and continued to drill the newly discovered McBean GCZ. Drilling was designed to expand the GCZ, both to the east and west on 400 foot centres. The Phase II program consisted of 37,600 feet of drilling in 16 holes (MB-97-19 to MB-97-28 and PR-97-01 to PR-97-02) with 12 of those holes drilled at McBean.

Holes MB-97-28, PR-97-01 and PR-97-02 were drilled to explore the deformation zone and the limits of the GCZ eastward onto the Princeton property. Hole PR-97-01 intersected two anomalous sections in the GCZ and included values of 0.24 oz/ton over 3.1 feet and 0.11 oz/ton over 5.5 feet, possibly representing the beginning of another gold zone or the continuation of the GCZ zones onto the Princeton property.

Hole PR-97-02 intersected the deformation zone but not the green carbonate host rock or any significant gold values. In drillhole MB-97-28, the deformation zone widened to 1,000 feet and contained both green carbonate and altered volcanic flow units. Although visible gold was noted in the green carbonate, no significant assay widths were intersected.

The results from Phase II of the program are summarized in Table 10.2 below:

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Comments
MB-97-19	597.2	614.5	17.3	3.4	
including	608.7	611.7	3.0	8.6	
	621.2	624.6	3.5	4.1	
MB-97-20	448.1	454.0	5.9	1.0	
	706.0	707.3	1.3	2.1	
MB-97-21	529.0	532.8	3.8	3.1	
including	530.9	531.9	1.0	8.3	
	550.0	563.3	13.3	1.0	
	696.4	700.8	4.5	1.7	
MB-97-22	816.6	819.6	3.0	1.0	
MB-97-23	291.8	300.5	8.7	1.4	
	329.6	342.2	12.7	2.7	

 Table 10.2:
 1996 – 1998 Queenston - Franco-Nevada JV Phase II Drilling Results

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Comments
including	331.0	335.4	4.5	5.8	
MB-97-24	439.8	440.7	0.9	2.4	
	444.4	445.3	0.9	3.1	
	493.4	495.5	2.1	1.0	
	538.6	539.6	1.0	2.7	
	590.9	591.6	0.8	2.1	
MB-97-25	93.0	93.8	0.8	3.1	
	659.5	660.7	1.2	1.4	
	682.1	683.1	0.9	1.0	
MB-97-26	275.9	276.7	0.8	1.4	
	283.9	284.5	0.6	4.5	
	332.2	334.2	2.0	2.1	
	355.4	357.8	2.4	1.4	
MB-97-27				NSV	
MB-97-28	323.2	323.4	0.12	10.6	
	760.9	762.4	1.43	1.4	
PR-97-01	744.9	747.1	2.13	1.4	
	750.5	751.5	0.94	8.2	
	910.3	919.2	8.93	1.7	
including	913.2	914.9	1.68	3.8	
	935.4	936.3	0.91	2.4	
	959.2	960.7	1.52	1.0	
PR-97-02				NSV	

*NSV* = no significant values *True width*= *Core length* 

# 10.2.2 2003 QUEENSTON DRILL PROGRAM

The 2003 drill program consisted of four holes (MB-03-30 to MB-03-33), totalling 1,390 m, drilled between September 30 and November 27, 2003. The four-hole diamond drill program was contracted to Heath and Sherwood (1986) Inc. of Kirkland Lake, Ontario and all of the drilling was NQ core size.

Drillholes were spotted via grid coordinates in the field, supplemented by GPS and/or tied into previous drill casings when field conditions were less than ideal. Elevations were estimated from a large database of topographic information including previously surveyed drillholes. The core was logged by Queenston personnel.

The 2003 drill program was designed to follow up three historic drillholes in the vicinity of the Murphy (#1) shaft. The three drillholes (M1, M2 and M3), spaced 200 ft apart, were assumed to predate sinking of the Murphy shaft in 1928. The central drillhole (M1) was closest to the shaft and indicated 49.0 g/t gold over 1.1 m at a vertical depth of 83.2 m, and, 7.2 g/t over 3.0 m at a vertical depth of 155.8 m from the underground plans. No assay values were indicated in the adjacent holes and drill logs for all three holes have been lost. Limited work on the 550-ft (167.7 m) level generated a best assay of 1.9 g/t over 1.2 m from an altered zone in underground drillhole 450 – most closely correlating with the 49.0 g/t over 1.1 m in hole M1. The Murphy shaft zone is interpreted to be related to the North Break.

The results of the 2003 drill program are summarized in Table 10.3 below:

Hole ID	From (m)	To (m)	Interval (m)	True Width (m)	Assay (g/t)	Zone Comments
MB-03-30	148.7	151.8	3.1	2.5	9.6*	Shaft Zone
including	150.9	151.8	0.9	0.7	32.0	
	158.5	160.3	1.8	1.4	0.6	Footwall
including	159.7	160.3	0.6	0.5	1.2	
MB-03-31	174.7	186.9	12.2	10.7	0.5	Footwall
including	182.6	184.1	1.5	1.3	1.7	
	241.8	243.9	2.1	1.9	0.6	Footwall
including	241.8	242.4	0.6	0.5	2.0	
MB-03-32	320.3	320.7	0.4	0.3	1.8	Footwall
MB-03-33					NSV	

 Table 10.3:
 2003 Queenston Drilling Results

\* Metallic assay value of 32.0 g/t used as most representative.

True widths are calculated using the dip of the drillhole and the average dip of the zones.

*NSV* = *no significant values* 

# 10.2.3 2005 – 2006 QUEENSTON DRILL PROGRAM

The 2005 – 2006 drill program consisted of 13 holes (MB-05-34 to MB-06-46), totalling 6,788 m, drilled between October, 2005 and December 20, 2006. The contractor for the 13 diamond drill holes was Benoit Diamond Drilling of Val d'Or, Quebec and all of the drilling was NQ core size. The first two holes (MB-05-34 and MB-05-35) were drilled in 2005, followed by 11 holes in 2006 (MB-06-36 to MB-06-46).

The drill program was designed to upgrade the historic McBean Resource Estimate to NI 43-101 standards, as well as assist in the interpretation of the Cadillac-Larder Lake Break / deformation corridor. Drilling tested the shallower sections of the 1997 historic Resource Estimate (from 300-450 m), necessitating more detailed drilling on the second tier, from 450 to 600 m. No further drilling was recommended on the #1 shaft area (North Break environment) at the completion of this program, however drilling to upgrade the historic McBean Resource Estimate into a fully compliant NI 43-101 Resource Estimate was necessary.

The results from the 2005 – 2006 drill program are summarized in Table 10.4 below:

Hole ID	From (m)	To (m)	Interval (m)	True Width (m)	Assay (g/t)	Zone Comments
MB-05-34	268.6	276.5	7.9	6.2	4.1	Zone A
including	268.6	270.5	1.9	1.5	6.1	
and	275.6	276.5	0.9	0.7	8.9	
	302.3	310.2	7.9	6.2	1.4	Zone B
	339.6	343.5	3.9	3.1	1.5	Zone C

 Table 10.4:
 2005 – 2006 Queenston Drilling Results

Hole ID	From (m)	To (m)	Interval (m)	True Width (m)	Assay (g/t)	Zone Comments
MB-05-35	322.6	335.0	12.4	9.8	3.7	Zone A
including	327.2	328.9	1.7	1.3	9.4	
	340.0	344.2	4.2	3.3	3.3	Zone B
	365.5	392.5	27.0	21.3	3.0	Zone C
including	369.7	375.1	5.4	4.3	9.4	
MB-06-36	478.5	484.9	6.4	4.4	1.1	A (with carbonate)
including	481.7	482.5	0.8	0.5	5.4	
	503.5	523.0	19.5	13.3	0.8	Zone C2
including	513.0	515.1	2.1	1.4	4.6	
MB-06-37	399.4	415.0	15.6	10.6	2.6	Zone A
including	401.5	402.3	0.8	0.5	9.2	
and	412.4	415.0	2.6	1.8	5.2	
	445.0	447.3	2.3	1.6	7.6	Zone CM
	455.4	458.7	3.3	2.3	2.5	Zone C1
MB-06-38	379.8	381.9	2.1	1.6	3.0	Zone C2
MB-06-39					NSV	West of zones
MB-06-40	344.3	351.0	6.7	4.8	4.6	Zone H
including	345.9	348.8	2.9	2.1	7.7	
	401.3	409.6	8.3	6.0	4.1	Zone A
including	402.0	405.3	3.3	2.4	7.4	
MB-06-41	335.0	353.9	18.9	13.4	1.8	Zone A
including	335.9	338.6	2.7	1.9	4.5	
	378.6	380.6	2.0	1.4	5.1	Zone B
	412.4	416.3	3.9	2.8	4.0	Zone C
including	414.7	416.3	1.6	1.1	6.2	
MB-06-42	434.6	439.9	5.3	3.4	3.1	Zone A
including	438.0	439.9	1.9	1.2	7.1	
	465.2	471.3	6.1	3.9	1.9	Zone C2
including	465.2	466.8	1.6	1.0	5.8	
MB-06-43	332.9	411.6	78.7	51.6	1.1	Felsite + green carb
including	380.0	381.8	1.8	1.2	4.1	Zone B1
and	404.8	408.5	3.7	2.4	9.3	Zone B2
MB-06-44	290.3	294.6	4.3	3.0	2.7	Zone A
including	293.8	294.6	0.8	0.6	6.6	
	327.4	333.8	6.4	4.4	1.3	Zone B2
MB-06-45	302.8	304.2	1.4	1.0	3.0	Zone B
	325.0	329.8	4.8	3.3	0.9	Zone C
MB-06-46	474.4	475.8	1.4	1.0	2.0	Zone A
	484.6	516.1	31.5	22.6	0.9	C2 + CM + C1
including	491.0	491.9	0.9	0.6	5.9	Zone C2
and	509.8	510.6	0.8	0.6	9.3	Zone C1

*True widths are calculated using the dip of the drillhole and the average dip of the zones. NSV = no significant values* 

#### 10.2.4 2008 – 2009 QUEENSTON DRILL PROGRAM

The four phase drill program comprised a total of 105 holes over 50,500 m, drilled from May 27 of 2008 to July 22 of 2009. The program was designed to both advance the Mineral Resources to NI 43-101 standards and expand the deposit through deeper exploration drilling. Drilling has traced four zones over a length of 700 m and to a vertical depth of 700 m that remain open to the east, west and at depth (Figure 10-1).



# Figure 10-1: Longitudinal Section of the McBean Deposit (Source: Queenston, 2009)

# Phase I:

Phase I of the program consisted of 25 holes (MB-08-43W to MB08-67W), totalling 11,934 m, drilled between May 27, 2008 and August 27, 2008. The 25-hole diamond drill program was contracted to Benoit Diamond Drilling of Val d'Or, Quebec and all of the drilling was NQ core size.

The results from Phase I of the program are summarized in Table 10.5 below:

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
MB-08-43W	392.7	400.2	7.5	1.5	С
including	392.7	393.3	0.6	5.7	С
MB-08-44W	255.4	269.2	13.8	3.3	Α
including	267.6	269.2	1.6	13.1	Α
	285.9	287.7	1.8	8.4	B1
	300.7	304.4	3.7	4.4	B2
MB-08-47	373.7	391.8	18.1	5.7	B2
including	373.7	377.7	4.0	8.9	B2
	407.8	408.7	0.9	12.6	C2
	411.3	415.4	4.1	2.6	D
including	413.9	414.5	0.6	15.1	D
MB-08-48	309.7	312.8	3.1	2.7	B1
	366.0	366.9	0.9	12.2	C1
MB-08-50	222.5	229.8	7.3	2.3	А
including	222.5	223.5	1.0	10.4	А
MB-08-51	236.5	238.9	2.4	1.5	B1
MB-08-52	213.3	217.7	4.4	2.0	А
	221.8	226.5	4.7	2.3	В
	251.5	255.0	3.5	7.3	B1
MB-08-53	648.3	650.4	2.1	3.7	С
MB-08-54	310.3	326.2	15.9	7.4	B,B1
including	312.4	320.0	7.6	10.2	B1
MB-08-55	325.8	333.5	7.7	2.4	В
including	332.8	333.5	0.7	7.8	В
MB-08-56	195.4	204.5	9.1	3.2	В
including	199.0	199.9	0.9	7.6	В
including	203.8	204.5	0.7	9.2	В
MB-08-57	563.0	573.9	10.9	3.2	Α
including	563.0	566.7	3.7	7.5	Α
and	563.0	564.8	1.8	10.8	А
MB-08-58	276.8	305.9	29.1	5.9	Α
including	276.1	280.4	4.3	12.0	Α
Including	292.0	297.3	5.3	9.7	Α
	337.3	346.9	9.6	3.6	B2
MB-08-59	411.8	412.3	0.5	8.7	В
MB-08-60	249.1	262.4	13.3	4.4	Α
including	250.5	252.5	2.0	9.3	А
and	258.2	260.0	1.8	7.6	А
	274.3	284.8	10.5	5.5	B1
including	274.3	280.4	6.1	6.3	B1
MB-08-61	536.4	537.3	0.9	7.7	D1
MB-08-62	219.8	225.9	6.1	9.5	A
including	223.0	225.9	2.9	17.2	A
	248.6	257.9	9.3	6.6	Α
including	248.6	251.9	3.2	12.4	Α

 Table 10.5:
 Phase I of the 2008 – 2009 Queenston Drilling Results

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
MB-08-64	507.2	518.8	11.6	4.0	B1,B2
including	507.2	509.2	2.0	7.8	B1
MB-08-65	621.5	625.2	3.7	7.9	В
including	620.9	622.8	1.9	13.8	В
MB-08-66	556.7	570.3	13.6	10.2	С
including	559.6	565.0	5.4	16.9	С
MB-08-67	455.1	460.3	5.2	3.1	СМ
including	489.1	489.8	0.7	8.0	СМ
MB-08-67W	482.7	493.0	10.3	2.9	СМ
including	484.3	485.2	0.9	9.3	СМ

Note: The true width is estimated at 75% of the core length interval.

#### Phase II:

Phase II of the 2008 – 2009 drill program consisted of 28 holes (MB-08-68 to MB-08-96), totalling 14,170 m, drilled between August 26, 2008 and December 16, 2008. The 28-hole diamond drill program was contracted to Benoit Diamond Drilling of Val d'Or, Quebec and all of the drilling was NQ core size.

The results from Phase II of the program are summarized in Table 10.6 below:

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
MB-08-68	383.1	389.8	6.7	1.9	В
including	389.1	389.9	0.8	7.7	В
MB-08-69	840.5	841.6	1.0	2.8	C1
MB-08-70	716.0	719.0	3.0	4.7	D
including	717.8	719.0	1.2	7.2	D
MB-08-71	339.9	353.4	13.5	0.7	B/C
MB-08-72	490.4	493.2	2.8	3.1	Α
	557.2	564.4	7.2	2.8	C1
including	563.3	564.4	1.1	7.1	C1
MB-08-74	370.6	373.4	2.8	1.0	C1
MB-08-75	535.2	548.8	13.6	6.8	C-19
including	535.2	540.4	5.2	15.4	C-19
	568.8	573.3	4.5	3.1	D
MB-08-77	200.2	288.9	88.7	1.2	A/B/C
including	213.8	217.6	3.8	3.1	А
and	267.9	272.5	4.6	4.1	В
and	286.8	288.8	2.0	4.2	С
MB-08-78	137.2	145.2	8.0	2.4	А
	149.3	154.2	4.9	8.0	Α
MB-08-79	621.3	624.7	3.4	4.1	С
MB-08-79W	619.4	623.9	4.5	5.1	С
MB-08-80	175.3	191.4	16.1	3.8	Α

 Table 10.6:
 Phase II of the 2008 – 2009 Queenston Drilling Results

P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc. Page 48 of 140

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
including	181.1	183.2	2.1	9.1	Α
MB-08-81	203.9	212.5	8.6	2.9	Α
including	203.9	204.8	0.9	8.3	Α
MB-08-82	534.9	567.0	32.1	2.1	C-19
including	545.2	554.6	9.4	4.0	C-19
MB-08-84	138.1	152.4	14.3	5.2	А
including	138.1	139.0	0.9	10.5	А
and	150.6	152.4	1.8	23.7	А
MB-08-85	257.0	264.3	7.3	1.7	В
MB-08-86	96.9	101.7	4.8	3.1	A
MB-08-87	285.9	313.3	27.5	5.5	А
including	290.5	295.0	4.5	14.0	А
and	312.7	313.4	0.7	11.0	Α
	347.8	351.0	3.2	4.6	В
MB-08-88	717.5	723.3	5.8	2.0	С
MB-08-89	272.2	309.9	37.7	2.1	В
including	297.2	300.8	3.5	5.8	В
and	309.0	309.9	0.9	16.9	В
MB-08-90	268.7	309.0	40.3	2.8	A/B
including	275.8	278.3	2.5	9.1	В
and	298.8	300.5	1.7	15.7	С
MB-08-91	216.4	221.6	5.2	3.5	В
	234.4	237.0	2.6	4.7	С
MB-08-92	205.6	208.4	2.8	12.7	В
MB-08-93	613.9	620.0	6.1	5.2	C-19
	645.2	648.9	3.7	10.1	C-19
MB-08-94	220.1	224.5	4.4	2.1	В
MB-08-95	178.6	182.1	3.5	4.7	Α
	206.0	210.6	4.6	3.2	В
	216.4	218.1	1.7	6.2	В
MB-08-96	391.1	396.2	5.1	9.8	В
	404.1	412.1	8.0	2.9	В

Note: The true width is estimated at 75% of the core length interval.

# Phase III:

Phase III of the 2008 – 2009 drill program consisted of 27 holes (MB-08-97 to MB-09-124), totalling 12,208 m, drilled between December 12, 2008 and April 17, 2009. The first two holes of the 27-hole diamond drill program (MB-08-97 and MB-08-98 drilled in 2008) were contracted to Benoit Diamond Drilling of Val d'Or, Quebec, while the remaining 25 holes were contracted to Major Drilling Group International Inc. of Moncton, New Brunswick, a successor company to Benoit. All of the drilling was NQ core size.

The results from Phase III of the program are summarized in Table 10.7 below:

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
MB-09-97	517.0	518.0	1.1	5.8	C19
	560.2	563.1	2.9	5.2	C19
	583.1	585.8	2.7	3.8	C19
MB-09-98	272.5	282.2	9.7	1.1	В
	307.2	310.6	3.4	3.5	В
MB-09-99	263.0	266.7	3.7	2.1	В
	274.0	275.6	1.6	17.5	В
MB-09-100	623.0	627.7	4.7	2.6	C19
MB-09-101	181.4	200.6	19.2	5.7	В
including	181.4	186.9	5.5	15.2	В
	207.1	218.3	11.2	4.6	C19
including	215.9	218.3	2.4	9.2	C19
MB-09-102	169.5	173.3	3.8	9.1	В
MB-09-103	450.4	451.9	1.5	10.3	C2
	475.7	479.8	4.1	14.3	C2
MB-09-104	528.2	528.8	0.6	8.0	C19
MB-09-105	245.7	247.4	1.7	1.9	В
MB-09-106	174.3	177.7	3.4	7.1	В
MB-09-108	174.7	179.1	4.4	2.4	A
	189.3	202.7	13.4	2.2	В
	218.2	221.6	3.4	5.1	В
MB-09-109	167.6	169.0	1.4	4.5	Α
	203.5	205.8	2.3	3.9	В
MB-09-110	672.1	684.9	12.8	4.5	C19
including	682.4	684.1	1.7	10.4	C19
MB-09-111	150.9	157.3	6.4	5.4	В
	153.0	157.3	4.3	7.0	В
MB-09-112	171.8	175.2	3.4	8.3	В
MB-09-113	122.7	128.3	5.6	2.2	В
MB-09-115	163.1	165.0	1.9	6.0	А
	225.0	37.3	3.4	А	
including	195.4	198.8	3.4	6.0	А
and	209.7	211.5	1.8	8.9	А
and	223.0	225.0	2.0	9.5	А
MB-09-116	182.3	183.8	1.5	4.6	В
MB-09-117	91.4	96.6	5.2	1.8	В
MB-09-118	100.1	102.8	2.7	1.9	А
MB-09-119	556.0	582.2	26.2	3.8	C19
including	556.0	559.0	3.0	6.9	C19
and	568.8	572.1	3.3	19.0	C19
MB-09-120	177.7	182.3	4.6	2.0	В
	185.9	192.0	6.1	2.4	В
MB-09-121	186.0	187.7	1.7	18.3	В
MB-09-122	180.0	181.7	1.7	1.1	В
MB-09-123	115.2	138.7	23.5	3.3	Α

 Table 10.7:
 Phase III of the 2008 – 2009 Queenston Drilling Results

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
including	134.1	136.5	2.4	13.7	А
	180.1	181.9	1.8	4.8	В
MB-09-124	577.4	579.7	2.3	5.5	А
	615.3	617.5	2.2	2.5	C19
	626.7	630.4	3.7	198.6	C19
including	626.7	627.6	0.9	788.6	C19
	672.3	676.0	3.7	3.3	D

Note: The true width is estimated at 75% of the core length interval.

#### Phase IV:

Phase IV of the 2008 – 2009 drill program was contacted to Major Drilling Group International Inc. of Moncton, New Brunswick. This phase of the program consisted of 25 holes (MB-09-19W to MB-09-146), totalling 12,190 m, drilled between April 5, 2009 and July 22, 2009. All of the drilling was NQ core size.

Drilling encountered multiple gold zones within the easterly plunging mineralized corridor including the following highlights:

- MB-09-19W: 4.7 g/t Au over 15.3 m
- MB-09-19W2: 5.9 g/t Au over 11.8 m
- Hole MB-09-127: 3.8 g/t Au over 21.0 m
- Hole MB-09-131: 3.1 g/t Au over 57.7 m
- Hole MB-09-133: 4.8 g/t Au over 21.6 m
- Hole MB-09-141: 5.2 g/t Au over 21.7 m
- Hole MB-09-144: 6.7 g/t Au over 16.5 m

Results from Phase IV of the program are summarized in Table 10.8 below:

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
MB-09-19W	618.1	633.4	15.3	4.7	C19
including	618.1	620.0	2.8	7.4	C19
and	630.0	633.4	3.4	14.8	C19
MB-09-19W2	592.3	604.1	11.8	5.9	C19
including	599.3	604.1	4.8	12.3	C19
MB-09-110W	681.6	686.3	5.3	6.8	C19
MB-09-125	64.3	66.1	1.8	2.8	А
	74.6	79.3	4.7	2.0	А
	121.5	123.9	2.4	1.6	В
MB-09-126	157.9	159.7	1.8	4.4	Α
MB-09-127	185.6	192.6	7.0	2.6	A
	210.4	231.4	21.0	3.8	В
including	225.2	231.4	6.2	5.2	В
	248.5	250.8	2.3	1.8	С

 Table 10.8:
 Phase IV of the 2008 – 2009 Queenston Drilling Results

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
MB-09-128	536.5	544.2	7.7	3.9	C19
including	539.7	544.2	4.5	5.6	C19
MB-09-128W	542.7	545.0	2.3	10.6	C19
	591.8	592.7	0.9	7.5	C19
MB-09-130	167.0	175.6	8.6	5.3	Α
	184.2	185.4	1.2	22.2	В
	225.0	227.1	2.1	4.5	В
MB-09-131	233.5	291.2	57.7	3.1	A+B
including	233.5	245.7	12.1	3.6	А
and	249.0	271.3	22.3	4.6	A
and	255.7	258.2	2.4	12.4	А
	288.6	291.2	2.6	5.3	В
MB-09-132	169.3	174.5	5.2	3.9	A
	210.6	212.8	2.2	7.7	В
MB-09-133	311.5	333.1	21.6	4.8	А
including	311.5	323.4	11.9	6.5	А
including	311.5	316.2	4.6	9.0	A
MB-09-134	221.3	222.8	1.5	7.0	В
MB-09-136	309.7	326.3	16.6	3.4	А
	332.9	337.5	4.6	2.7	В
	357.2	367.5	10.3	2.3	В
MB-09-137	270.1	281.9	11.8	3.4	В
including	276.5	278.3	1.8	10.2	В
MB-09-138	318.9	319.4	0.5	5.7	В
MB-09-139	252.1	257.6	5.5	2.8	А
including	253.9	254.8	0.9	10.6	A
MB-09-140	290.7	293.0	2.3	6.0	В
	310.9	312.7	1.8	4.7	С
MB-09-141	394.4	416.1	21.7	5.2	A+B
including	397.2	400.8	3.7	9.0	Α
including	410.6	416.1	5.6	9.8	В
	460.0	470.9	10.9	4.0	В
MB-09-144	269.1	285.6	16.5	6.7	В
including	269.1	270.4	1.3	14.2	В
and	275.0	278.6	3.6	15.9	В
	295.0	295.9	0.9	13.3	В
MB-09-145	285.8	290.2	4.4	1.7	В
MB-09-146	609.4	617.4	8.0	1.9	В

*Note: The true width is estimated at 75% of the core length interval.* 

# 10.3 ANOKI GOLD DEPOSIT

The Anoki deposit has been explored by 500 surface and underground drill holes. Systematic testing of the gold zones was initiated by Inco in 1979 and continued until 1988. Diamond drilling has also been completed by Queenston from 1996 until 2003. All drilling has been summarized in section 5.3 of this report.

# 11.0 SAMPLING METHOD AND APPROACH

All drill core was transported by pickup truck to the core handling, logging and storage facility at the McBean 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 that was compatible with Gemcom software. For drilling beginning in 2008 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.

Samples were defined by the geologist based on geological units/mineralization. Within prospective zones samples did not exceed one metre in core length and any anomalous zones were handled by taking two or more samples on the margins.

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 are no apparent drilling or recovery factors that would materially impact the accuracy and reliability of the drilling results.

# 11.1 SAMPLING METHOD AND APPROACH: ANOKI

There has been no work undertaken at Anoki since 2003. Information for this section has been taken directly from RPA (2004).

"From 1996 to 2003, Queenston carried out diamond drilling on the Anoki Project. Drill core logging, sampling and assaying procedures were similar to the ones during the Inco program. RPA understands that routine density measurements and Rock Quality Designation (RQD) calculations were not done on drill core, as part of the drill hole logging. The sampling procedures are described, as follows:

- Samples are defined by the core logger based on the geologic units and/or mineralization. Within alteration zones, the rule of thumb is that sample length should not exceed 1 m.
- Mineralized zones should be covered off by at least one, if not two or more samples of low grade material on the flanks.

- In suspected high grade zones, or sections with visible gold, sample intervals are further restricted so as to reduce the effect of the high grade sample on neighbouring material.
- Once the core is cut, samples are bagged, put in pails and picked up by the Swastika Lab. Daily shipment sheets provide details on sample numbers, date and what the rock is assayed for (Alexander, 1997). Swastika Lab's procedures for sample preparation, fire assay, pulp and screened metallic assay are discussed below.
- Selected samples of the pulps from the mineralized zones were also sent to SGS Laboratories ("SGS") in Rouyn-Noranda, Québec, as checks. Queenston reports that correlation between the two datasets is good. Queenston had a number of density determinations carried out on the Anoki South Zone drill core at the Swastika Lab. Results show that the average of five specific gravity determinations of drill core from three holes averaged 2.756, which is significantly lower than the density factor of 10.7 cu. ft./ton (equivalent to a specific gravity of 2.99) used by Inco in its 1989 resource estimate on the Anoki Main deposit.

RPA reviewed Queenston's logging and sampling procedures and considers them to be in keeping with industry practice and the Best Practice Guidelines of the TSX/OSC Mining Standards Task Force in 1998."

# 12.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

# 12.1 MCBEAN GOLD DEPOSIT

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. Samples assaying less than 2 g/t are finished by Atomic Absorption, those greater than 2 g/t are 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.

# 12.2 ANOKI GOLD DEPOSIT

Laboratory procedures for the Anoki Deposit were essentially the same as for McBean, as Queenston also used the services of the Swastika Lab for the 1996 and 2003 drill programs.

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

# **13.0 DATA VERIFICATION**

#### 13.1 MCBEAN SITE VISIT AND INDEPENDENT SAMPLING 2009

The McBean Property was visited by Mr. Antoine Yassa, P. Geo., on July 23, 2009. Independent verification sampling was done on diamond drill core, with 23 samples distributed in 15 holes collected for assay. An attempt was made to sample intervals from a variety of low, medium and high-grade material. The chosen sample intervals were then sampled by taking quarter splits of the remaining half-split core. The samples were documented, bagged, and sealed with packing tape and were brought by Mr. Yassa to Dicom Express Inc., ("Dicom") courier service in Rouyn-Noranda, Quebec, where they were sent to the offices of P&E in Brampton, Ontario. P&E forwarded the samples via Dicom to SGS Mineral Services in Toronto, Ontario for analysis.

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 can be seen in Figure 13-1.





# **13.2 QUALITY CONTROL MCBEAN**

The QA/QC program for McBean was implemented with the 2008 drilling. Certified reference material standards named SG31 and SL46 were purchased from Rocklabs in New Zealand. Both

of these standards were certified for gold. One standard sample and one blank sample were inserted approximately every 25 samples. No field duplicates were inserted by Queenston.

#### 13.3 DATA VERIFICATION RESULTS FOR 2008 AND 2009 DRILLING

The QC program was monitored on a real-time basis by Queenston throughout the drill programs. If any of the standards failed the QC, the individual gold grades in the pertinent certificate were examined and if there were no significant values in the certificate, no action was taken. If the certificate contained any prospectively good grades, the entire certificate was re-run. The author of this section received all data for the drilling and verified the performance of the standards, blanks, as well as all lab QC.

#### **13.3.1 PERFORMANCE OF CERTIFIED REFERENCE MATERIALS**

The standard SG31 had a mean value of 1.05 g/t Au, and there was a total of 219 data points. There were 11 failures, which represent a failure rate of 5%. All the failures were examined on an individual basis for potential impact to the database.

None of the failures was deemed to have any impact to the database, due to the pertinent certificate containing all very low values for gold, and the fact that there were many other standards in the certificate that did pass the QC. When there were higher values, the lab almost always ran a pulp duplicate. The pulp duplicates were graphed and all essentially fell on a 1:1 line.

The standard SL46 had a mean value of 5.9 g/t Au, and there was a total of 232 data points. There was one failure, which represents 0.004%. The corresponding certificate was examined and all gold values in it were very low and all well below the resource cut-off grade of 2.5 g/t Au. No action was taken.

# **13.3.2 PERFORMANCE OF BLANK MATERIAL**

The blank material used for the 2008 and 2009 drill programs was sterile drill core obtained from another project.

There were 458 blank samples inserted, and five failures were reported, (1%). All pertinent certificates were examined and no action was deemed necessary.

The author considers that none of the gold failures had any impact on the metal value of the deposit.

#### 13.3.3 EXTERNAL CHECKS AT SGS MINERAL SERVICES

Queenston sent 285 samples to SGS for gold checks. A simple scatter plot was created to compare the values from the two labs, and with the exception of a rare outlier, all pairs fell very close to a 1:1 line within a minimum of 10% scatter.

# **13.4 QUALITY CONTROL ANOKI**

The last drilling undertaken at Anoki dates back to Queenston's program in 2003. The following description of the Anoki QC program is quoted directly from RPA (2004)

"Quality control / quality assurance measures by Queenston for the Anoki drill holes included an on-going recheck program at an independent laboratory, combined with monitoring of the primary assay lab by close monitoring of the assay results from standards, blanks and re-assaying of original pulps. Initially, Swastika was the re-check or umpire facility on the Accurassay results. Subsequently, ALS Chemex Labs of Mississauga, Ontario, also performed recheck assays on drill holes AN97-03 to AN97-08 and AN96-01 and AN96-02, with very good results (Queenston, 1998). The objective of Queenston's QA/QC has been to replicate assays in the order of 10% on pulp vs. checks and about 20% on reject vs. reject assays. For standards, replicate assays are expected to be within  $\pm 2$  standard deviations. Queenston reports that, in general, these objectives have been met (Queenston, 1998).

During the underground phase of exploration on the project area, data verification and quality control were done by Inco personnel. In 1988, Inco collected a bulk sample of some 30,850 tons from underground drifts and cross-cuts. Of these, some 23,300 tons were considered high-grade material with average grade in the order of 0.145 oz/ton Au. Inco processed this "high-grade" portion of the bulk sample and compared it with the muck sampling results. These results showed that the cumulative "assayed head grade" was 0.1159 oz/ton Au, which was about 20% lower than the computed stockpile grade of 0.145 oz/ton Au based on surface muck sampling of the individual mining rounds. The following is an excerpt from an Inco 1988 memorandum reviewed and referenced by the author of the RPA, 2004 Report, explaining this discrepancy.

Resampling and assaying of stored crushed reserves for the surface muck samples for 29 of the 116 rounds that went on to the high grade stockpile showed that the original McBean Lab figures are on the average 13% high. This difference appears to be due to nugget-type problems related at least in part to inadequate sample reduction procedures in the sample preparation carried out at the McBean Lab. The problem is most acute in the case of the higher grade samples; out of 12 samples checked which originally assayed greater than 0.12 oz/ton Au (approximately 40%) were high by an average of 35%. Since the >0.12 oz/ton Au rounds account for 75% of the gold in the high grade stockpile, the significance of these differences in calculating the overall grade can be appreciated. The problem with the McBean Lab's sampling was traced to the fact that the samples had not been crushed fine enough before riffling out their sub-sample for pulping and assaying. Inco's established procedure for gold assays had been to crush the entire sample to -10 mesh (1.7 mm) before riffling out the assay sample(s). The McBean muck samples ranged from 40% to 75% +10 mesh. McBean's gold assaying, however, checked out quite well with those assays on the rejects performed at Inco's Copper Cliff Exploration Assay Laboratory (CCEAL).

With respect to the diamond drill (core) samples, most (80%) were sent to the Accurassay Lab in Kirkland Lake for sample preparation and assay, the same problem of insufficient crushing prior to sub-sampling for assay was noted. Three sets of diamond drill reserves (61 samples in total), which had been prepared and assayed at Accurassay Lab turned out to average 48% + 10 mesh; the finest ones had 32% + 10 mesh and the coarsest ones 66% + 10 mesh. Based on the above

study, Inco concluded that laboratory sampling/assaying problems due to nugget-type effects related to sub-sampling at too coarse a size accounted for 60% of the difference between the bulk sample and the average of the muck samples. Bias in the muck sampling itself presumably accounted for the other 40% of the difference. Inco further concluded that the assay results from the McBean mine lab and Accurassay Lab compared well, despite the fact that the McBean mine lab did not employ adequate sample reduction procedures in the crushing stage (Inco, 1989).

RPA understands that drill hole and assay database was originally prepared by Inco in 1988, and subsequently compiled by Queenston. RPA also understands that the database was reviewed and accepted by Queenston. The Queenston drill holes were added during 1996 and 1997. During Queenston's exploration work on the Anoki Project, database verification was done by or under the supervision of Mr. Dale Alexander, a Qualified Person for Queenston."

# **13.5** ANOKI DEPOSIT – P&E INDEPENDENT DATA VERIFICATION

The Anoki Property was visited by Mr. Antoine Yassa, P. Geo., on November 3, 2009. Independent verification sampling was done on diamond drill core, with 11 samples distributed in three holes collected for assay. An attempt was made to sample intervals from a variety of low, medium and high-grade material. The chosen sample intervals were then sampled by taking quarter splits of the remaining half-split core. The samples were documented, bagged, and sealed with packing tape and were brought by Mr. Yassa to Dicom courier in Rouyn-Noranda, Quebec, where they were sent to the offices of P&E in Brampton, Ontario. P&E forwarded the samples via Dicom to SGS Mineral Services in Toronto, Ontario for analysis.

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 can be seen in Figure 13-2.



Figure 13-2: P&E Site Visit Sample Verification Results for Gold: Anoki.

P&E undertook a detailed verification of the original analytical certificates compared with the Gemcom database. During this verification, there were approximately 800 "duplicate" sample numbers found. Upon further examination, these samples were found not to be duplicated assays of the same sample; during the Anoki drill program, sample number series were repeated, however they were in fact unique as each series of numbers was preceded or followed by a different letter if a sequence of numbers was repeated.

For example, in 2002 the number 69593 was used and then again in 2003. The sample tags used in 2003 were followed by the letter E. Often the letter associated with a series of sample numbers was not reported on the laboratory certificate.

Any discrepancies that were found with the "duplicate" numbers during the verification process were cleared up by cross-checking the different series of numbers with their respective certificates for the corresponding year and all "duplicate" numbers were found to match up.

The author considers the data to be of satisfactory quality for use in the current resource estimates.

# 14.0 ADJACENT PROPERTIES

The McBean and Anoki group of claims adjoin four other properties of which Queenston has no interest. These include:

- Claims adjacent and to the northeast of McBean claims 9232 and 9614, formerly owned by Wadasa Mines Ltd. and still referred to as the Wadasa claims, are now 100% privately owned.
- Claims adjacent and to the south of McBean-Anoki claims 25309, 19262, 19189, 8979, 8828, 9433 and 31046, known as the Deloye claims are 100% privately owned.
- Claims adjacent to and almost surrounded by Anoki claims 10013, 8978, 5694, 8828, 9433, 31046, 9434 and 9435, are 100% privately owned.
- Claims adjacent and to the south of Anoki claims 9435, 9434 and 31046, are 100% owned by Skead Holdings Ltd.

The privately held Wadasa, Deloye and Skead Holdings Ltd. properties have all received exploration 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. No Mineralized Resources were identified as a result of these options and the properties were subsequently returned to their owners.

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

#### 15.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Queenston has not undertaken any mineral processing or metallurgical testing at either the McBean or Anoki deposits and past studies, undertaken by previous operators, are discussed in Section 5.6 of this report.

# 16.0 MINERAL RESOURCE ESTIMATES

# **16.1 INTRODUCTION**

The purpose of this report section is to estimate the Mineral Resources of the McBean and Anoki Deposits 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 these Resource Estimates is December 8, 2009.

# **16.2 DATABASE**

All drilling data were provided by Queenston Mining Inc., in the form of text files, Excel files and MS-Access databases. On the McBean Deposit, three hundred forty (340) drill cross sections were developed on a local grid looking West on a 10 foot spacing named from 7,890-E to 11,280-E. On the Anoki Deposit, thirty-four (34) drill cross sections were developed on a local grid looking west on a 50 foot spacing named from 5,250-E to 6,900-E.

Two Gemcom databases were constructed, one for McBean and the other for Anoki. The McBean database contained 282 surface drill holes and 498 underground drill holes, of which 191 surface drill holes and 370 underground drill holes were utilized in the resource calculation. The Anoki database contained 273 surface drill holes, 329 underground drill holes and 536 underground channel samples, of which 85 surface drill holes, 279 underground drill holes and 381 underground channel samples were utilized in the resource calculation. All remaining data in both databases were not in the areas that were modeled for these Resource Estimates. Drill hole plans are shown in Appendix-I.

The databases were verified in Gemcom with minor corrections made to bring it to an error free status. The Assay Tables of the McBean and Anoki databases respectively contained 31,964 and 22,734 Au assays. Drill assay data grade values are expressed in metric units, while all down hole interval data and grid coordinates are in a local imperial system.

# **16.3 DATA VERIFICATION**

Verification of McBean assays was performed on original laboratory and electronically issued certificates from Swastika Laboratory were used for verification of 17,713 Au assay records in the McBean Database. An additional 7,627 historical records were verified using paper binders from Queenston archives. Some minor errors were detected and corrected in the Gemcom database. The checked assays represent 90.2% of the data used in the Resource Estimate and approximately 51% of the total McBean database.

Verification of Anoki Au assay data entry was performed on 4,374 assay intervals using electronic certificates issued directly by Swastika Laboratory. An additional 4,207 assay records were checked against original manuscript log entries. A few very minor discrepancies were observed and related to averaging multiple results, determination of values below detection limits and truncated third decimals. No corrections were required. The checked assays represented 68.7% of the data to be used for the Resource Estimate and approximately 33% of

the entire Anoki database that comprises a large number of exploration holes outside the deposit area itself.

# **16.4 DOMAIN INTERPRETATION**

The McBean and Anoki Deposits domain boundaries were determined from lithology, structure and grade boundary interpretation from visual inspection of drill hole sections. Five domains were created for McBean, named A-Vein, B-Vein, C-Vein, C19-Vein and Miscellaneous. Nine domains were created for Anoki, named Lens-1, Lens-2, Lens-3, Lens-4, Lens-5, Lens-6, Lens-7, Lens-33 and Lens South. These domains were created with computer screen digitizing on drill hole sections in Gemcom by the authors of this report. The outlines were influenced by the selection of mineralized material above 2.5 g/t Au that demonstrated a lithological and structural zonal continuity along strike and down dip. In some cases mineralization below 2.5 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 50 feet into untested territory. Minimum constrained true width for interpretation was approximately 5.0 feet. The interpreted polylines from each section were "wireframed" in Gemcom into 3-dimensional 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:

#### McBean Rock Code Description

0	Air
10	A-Vein Domain
20	<b>B-Vein Domain</b>
30	C-Vein Domain
40	C19-Vein Domain
50	Miscellaneous Domain
99	Waste

#### Anoki Rock Code Description

0	Air
10	Lens-1 Domain
20	Lens-2 Domain
30	Lens-3 Domain
40	Lens-4 Domain
#### Anoki Rock Code Description

50	Lens-5 Domain
60	Lens-6 Domain
70	Lens-7 Domain
80	Lens-33 Domain
90	Lens-South Domain
99	Waste

### **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 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 0.50 feet 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 databases 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 and Tables 16.1 and 16.2 below.

Domain	Capping Value Au g/t	Number of Assays Capped	Cumulative % for Capping	Raw Coefficient of Variation	Capped Coefficient of Variation
A-Vein	25	6	99.8	1.56	1.46
<b>B-Vein</b>	60	7	99.9	3.07	1.75
C-Vein	15	3	99.4	1.61	1.46
C19-Vein	30	5	99.1	8.32	1.81
Miscellaneous	20	4	98.4	1.66	1.23

Table 16.1McBean Au Grade Capping Values

<b>Table 16.2</b>	Anoki Au	Grade	<b>Capping Values</b>	
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Domain	Capping Value Au g/t	Number of Assays Capped	Cumulative % for Capping	Raw Coefficient of Variation	Capped Coefficient of Variation
Lens-1	25	2	97.6	1.97	1.35
Lens-2	50	3	99.9	1.39	1.25
Lens-3	20	6	97.2	1.34	1.28
Lens-4	50	1	99.7	2.02	1.62
Lens-5	6	3	96.3	0.78	0.73
Lens-6	8	6	94.3	1.17	0.90
Lens-7	15	2	99.0	1.47	1.18
Lens-33	10	5	82.1	2.50	1.25
Lens-South	7	4	96.0	0.79	0.73

### **16.8 VARIOGRAPHY**

Reasonable directional variograms were attained for the McBean A-Vein and B-Vein Domains, while only an omnivariogram was attainable for the remaining domains. For Anoki, only an omnivariogram was attainable for the nine domains combined. All variography was developed from constrained domain composites. See variograms in Appendix-IV.

### **16.9 BULK DENSITY**

The bulk density used for the creation of the density block models were derived from site visit samples taken by Antoine Yassa, P.Geo., and analysed at SGS Canada Inc. The average bulk density for the McBean Resource was derived from 21 samples and determined to be 0.0838 tons per cubic foot or 2.69 tonnes per cubic metre. The average bulk density for the Anoki Resource was derived from 9 samples and determined to be 0.0891 tons per cubic foot or 2.86 tonnes per cubic metre.

### 16.10 BLOCK MODELING

The McBean Deposit Resource model was divided into a block model framework containing 11,088,000 blocks that were 10ft in X direction, 10ft in Y direction and 10ft in Z direction. There were 360 columns (X), 110 rows (Y) and 280 levels (Z). The Anoki Deposit Resource model was divided into a block model framework containing 5,120,000 blocks that were 10ft in X direction, 10ft in Y direction and 10ft in Z direction. There were 200 columns (X), 160 rows (Y) and 160 levels (Z). The block models were 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 ability of the percent model 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 Measured classification, the second for Indicated while the third was for the Inferred classification. 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 shown in Tables 16.3 and 16.4:

A-Vein	Dip Dir.	Strike	Dip	Dip Range (m)	Strike Range (m)	Across Dip Range (m)	Max # per Hole	Min # Sample	Max # Sample
Measured	180°	90°	-70°	35	20	5	2	5	25
Indicated	180°	90°	-70°	65	40	10	2	3	25
Inferred	180°	90°	-70°	150	100	25	2	1	25

 Table 16.3
 McBean Au Block Model Interpolation Parameters

B-Vein	Dip Dir.	Strike	Dip	Dip Range (m)	Strike Range (m)	Across Dip Range (m)	Max # per Hole	Min # Sample	Max # Sample
Measured	$180^{\circ}$	90°	-70°	30	40	10	2	5	25
Indicated	$180^{\circ}$	$90^{\circ}$	-70°	60	80	20	2	3	25
Inferred	$180^{\circ}$	90°	-70°	150	150	50	2	1	25

C, C19, Misc.	Dip Dir.	Strike	Dip	Dip Range (m)	Strike Range (m)	Across Dip Range (m)	Max # per Hole	Min # Sample	Max # Sample
Indicated	180°	90°	-70°	50	50	10	2	3	25
Inferred	180°	90°	-70°	150	150	50	2	1	25

 Table 16.4
 Anoki Au Block Model Interpolation Parameters

All Domains	Dip Dir.	Strike	Dip	Dip Range (m)	Strike Range (m)	Across Dip Range (m)	Max # per Hole	Min # Sample	Max # Sample
Measured	180°	90°	-85°	30	20	10	2	5	25
Indicated	180°	90°	-85°	60	40	20	2	3	25
Inferred	180°	90°	-85°	180	120	60	2	1	25

## **16.11 RESOURCE CLASSIFICATION**

During the McBean classification interpolation search ellipsoid passes, 4,913 grade blocks were coded as Measured, 61,000 as Indicated and 130,371 as Inferred. During the Anoki classification interpolation search ellipsoid passes, 3,043 grade blocks were coded as Measured, 37,275 as Indicated and 21,874 as Inferred. Classification block cross-sections and plans can be seen in Appendix VI.

### **16.12 RESOURCE ESTIMATES**

The Resource Estimate was derived from applying an Au cut-off grade to the block model and reporting the resulting tonnes 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 PriceUS\$900/oz (24 month approx. trailing average price Nov 30/09)\$US/\$CDN Exchange Rate\$0.92Au Recovery95%Mining Cost (1,500tpd)\$50.00/tonne minedProcess Cost (1,500tpd)\$20.00/tonne milledGeneral/Administration\$5.00/tonne mined

P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc. Therefore, the Au cut-off grade for the underground Resource Estimates is calculated as follows:

### Operating costs per ore tonne = (\$50 + \$20 + \$5) = \$75/tonne [(\$75)/[(\$900/oz/\$0.92/31.1035 x 95% Recovery)] = <u>2.5g/t</u>

The above data were derived from similar gold projects to McBean and Anoki.

The resulting Resource Estimates can be seen in Tables 16.5 to 16.9.

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	Measu	red + Indicated	(Capped)	Inferred (Capped)							
Lens	Tonnes	Grams/tonne	Ounces	Tonnes	Grams/tonne	Ounces					
		Au	Au		Au	Au					
А	276,000	4.51	40,000	272,000	3.99	34,900					
В	401,000	4.77	61,400	230,000	5.78	42,800					
С	11,000	3.84	1,300	120,000	5.06	19,500					
C19	18,000	5.07	3,000	424,000	4.69	63,900					
Other	0	0	0	175,000	4.20	23,600					
Total	706,000	<b>4.</b> 64	105,700	1,221,000	4.71	184 <mark>,700</mark>					

Table 16.5McBean Resource Estimate @ 2.5 g/t Au Cut-Off Grade (1)(2)(3)



Lens	Measure	ed + Indicated(L	Incapped)	Inferred (Uncapped)			
	Tonnes	Grams/tonne	Ounces	Tonnes	Grams/tonne	Ounces	
		Au	Au		Au	Au	
А	278,000	4.61	41,300	278,000	4.05	36,200	
В	406,600	4.91	64,000	239,000	7.97	61,200	
С	11,000	4.05	1,400	123,000	5.09	20,200	
C19	18,000	5.64	3,300	446,000	8.98	128,300	
Other	0	0	0	181,000	4.88	28,400	
Total	713,000	4.80	110,000	1,267,000	6.74	274,300	

- (4) 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, sociopolitical, marketing, or other relevant issues.
- (5) 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.
- (6) The Mineral Resources in this report 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 December 11, 2005.

#### Table 16.7 Anoki Resource Estimate @ 2.5 g/t Au Cut-Off Grade (1)(2)(3)

10010 1000										
	Measu	red + Indicated (	Capped)	Inferred (Capped)						
Lens	Tonnes	Grams/tonne	Ounces	Tonnes	Grams/tonne	Ounces				
		Au	Au		Au	Au				
Lens 1,2,3	668,000	4.77	102,400	145,000	4.56	21,200				
Lens 4,5,6,7	58,000	4.49	7,900	89,000	5.71	16,400				
33, South	4,000	3.11	400	103,000	4.36	14,500				
Total	730,000	4.74	110,700	337,000	4.80	52,100				

	Measur	ed + Indicated (U	ncapped)	Inferred (Uncapped)			
Lens	Tonnes	Grams/tonne	Ounces	Tonnes	Grams/tonne	Ounces	
		Au	Au		Au	Au	
Lens 1,2,3	667,000	4.75	103,500	153,000	4.20	20,700	
Lens 4,5,6,7	60,000	4.69	9,000	94,000	5.43	16,400	
33, South	5,000	3.11	500	148,000	20.72	98,300	
Total	742,000	4.74	113,000	395,000	10.67	135,400	

Table 16.8Anoki Uncapped Sensitivity @ 2.5 g/t Au Cut-Off Grade (1)(2)(3)

Table 16.9Combined McBean-Anoki Resource Estimates @ 2.5 g/t Au Cut-Off Grade(1)(2)(3)

	Measured + Indicated (Capped)			Inferred (Capped)		
Lens	Tonnes	Grams/tonne	Ounces	Tonnes	Grams/tonne	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

## 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 domain. See Table 16.10 below.

Table 16.10Comparison of Weighted Average Grade of Capped Assays and Compositeswith Total Block Model Average Grades

McBean	Au (g/t)	Anoki	Au (g/t)
Capped Assays	2.40	Capped Assays	3.03
Composites	2.38	Composites	3.01
Block Model	1.93	Block Model	2.74

The comparison above shows the average grade of all the Au blocks in the constraining domains to be somewhat lower than the weighted average of all capped assays and composites used for grade estimation. This is due to the localized clustering of high grade assays which were smoothed by the block modeling grade interpolation process. In addition, a volumetric comparison was performed with the block model volume of the model blocks versus the geometric calculated volume of the domain solids.

McBean		Anoki		
Block Model Volume ft3	= 107,536,688 ft3	Block Model Volume	= 29,566,	139
Geometric Domain Volume ft3	= 118,088,282 ft3	Geometric Domain Volume	= 29,877,	239
Difference	= 0.51%	Difference	= 1.05%	

P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.

## 17.0 OTHER RELEVANT DATA AND INFORMATION

There are no other data considered relevant to this report that have not previously been included.

### **18.0 INTERPRETATION AND CONCLUSIONS**

The McBean and Anoki deposits were modeled in compliance with the CIM Definitions and Standards on Mineral Resources and Mineral Reserves, December 11, 2005. 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 191 surface drill holes and 370 underground drill holes were used for the December 2009 McBean Resource Estimate and 85 surface drill holes, 279 underground drill holes and 381 underground channel samples for the December 2009 Anoki Resource Estimate update. Grade interpolation was undertaken with the inverse distance cubed estimation method.

The addition of the initial McBean and updated Anoki Resources has increased Queenston's total NI 43-101 compliant gold resources in the Kirkland Lake camp to 640,000 Measured and Indicated ounces and 577,000 Inferred ounces. P&E's December 2009 combined McBean and Anoki deposits Resource Estimate provides a significant shallow Resource base of 217,000 Measured and Indicated ounces and 237,000 Inferred ounces that is already developed by a ramp, underground levels and an open pit. Both deposits remain open at depth and along strike.

The McBean and Anoki 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. Work has been ongoing on this initiative since Queenston renewed exploration at its Upper Beaver property in 2005 and the bulk of this work has been diamond drilling.

Previous drill-testing by Queenston and partners over the last three decades has determined areas of mineralization to the west of the Anoki deposit at the South Splay and the 240E zones and these continue to represent promising targets for future drilling. Mineralization in these areas is located in both the footwall of the Larder Lake Deformation Zone and in Timiskaming Group rocks located north of the LLDZ.

In the western reaches of the Princeton property, mineralization down plunge from the McBean deposit was tested during the Queenston – Franco-Nevada joint venture. The McBean mineralization is similar to the Ritchie occurrences of the Princeton property in that there is a series of green carbonate intervals within the deformation zone that are veined, mineralized and commonly associated with syn-tectonic felsic intrusives. A best intersection of 1.58 g/t Au over 8.93 m, including 3.74 g/t Au over 1.68 m was intersected at a vertical depth of 850 m in hole PR-97-01. There is little depth information in this area and further drill testing is warranted.

In 2009 Queenston engaged Micon International Limited to undertake a desktop study. The study is still ongoing and will evaluate Queenston's Gauthier township project. The Study is based on the concept that gold mineralization will be exploited in each of the four 100% deposits by the appropriate mining method and the muck will be processed at a central processing facility, likely to be located on the previous footprint of the Upper Canada (McBean Mine) plant. Tailings from this central plant would be deposited in the existing Upper Canada tailings facility. The initial study will comprise a conceptual economic study, to be completed using the best available information available at this point in time.

### **19.0 RECOMMENDATIONS**

### **19.1 RECOMMENDATIONS**

It is the opinion of the authors of this report that the Mineral Resources outlined at the McBean and Anoki deposits are of sufficient merit to warrant continued delineated drilling. The following work is recommended during 2010:

#### Diamond Drilling:

- Drill-testing to continue at both deposits with a view to depth extension and lateral linkage between the two deposits. This would improve the economics of linking the two deposits with extensions to current underground infrastructure.
- There appear to be large deformation rotational features surrounding the two deposits and the impacts of these on the distribution of mineralization will have to be determined.
- Continued evaluation of the Larder Lake Deformation Zone with a view to testing this large regional structure to the west and east of the McBean-Anoki mines area.
- Drilling along strike and at depth to known areas of mineralization to the west of Anoki (e.g. South Splay and 240E zones).
- Drill-testing of potential extensions to mineralization at the Princeton property.
- Deeper drill-testing of the Princeton sector green carbonate exposures to be a priority target for later drilling.

#### **Preliminary Assessment and Related Studies:**

- Complete the desktop study initiated by Micon International Limited in 2009 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, potentially expand studies into a full Preliminary Economic Assessment or Pre-Feasibility Study near the end of 2010.
- In 2010 Queenston should also begin a review of available and historic environmental data and begin new baseline studies.

#### **19.1 BUDGET**

In 2009 Queenston secured financing via private placement of flow through shares. Based on the funds raised they will be expending approximately \$14 million dollars during calendar 2010 on

its Kirkland Lake properties. The Anoki, McBean and related properties such as the Princeton and Munro will be apportioned approximately \$4 million dollars.

## **19.2 MCBEAN AND ANOKI 2010 PROPOSED BUDGET**

The above recommended work programs have a proposed budget of approximately \$3.7 million as shown in more detail in Table 19.1.

### Table 19.1: Proposed 2010 Exploration Budget for the McBean and Anoki Properties.

Exploration & Resource Drilling (24,000 m @ \$120/m)	
Desktop Studies and early Preliminary Economic Assessment work	
Baseline Environmental Studies	
Subtotal	\$ 3,465,000
Contingency @ 6%	
Total	\$ 3,673,000

Respectfully Submitted,

## P & E Mining Consultants Inc.

## *{SIGNED AND SEALED}*

[Eugene Puritch]

Eugene Puritch, P.Eng. President

Dated this 29th Day of January, 2010

#### **20.0 REFERENCES**

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#### **21.0 CERTIFICATES**

### **CERTIFICATE of AUTHOR**

#### Dr. Wayne D. Ewert, P.Geo.

I, Wayne D. Ewert, P. Geo., residing at 10 Langford Court, Brampton, Ontario, L6W 4K4 do hereby certify that:

- 1. I am a principal of P & E Mining Consultants Inc. and currently contracted as a consultant by Queenston Mining Inc. and have worked as a geologist continuously since obtaining my B.Sc. degree in 1970.
- 2. This certificate applies to the technical report entitled "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" (the "Technical Report") dated January 29, 2010.
- 3. I graduated with an Honours Bachelor of Science degree in Geology from the University of Waterloo in 1970 and with a PhD degree in Geology from Carleton University in 1977. I am a member of the Geological Association of Canada, of the Canadian Institute of Mining and Metallurgy and a P. Geo., Registered in the Province of British Columbia (APEGBC No. 18965), the Province of Ontario (APGO No. 0866) and the Province of Saskatchewan (APEGS No.16217).

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:

- Regional Manager, Gold Fields Canadian Mining Limited, ......1986 1987
- Canadian Manager, New Projects, Gold Fields Canadian Mining Limited,......1987 1992

- 4. I have not visited the McBean or Anoki Properties.
- 5. I am responsible for sections 1 through 10, 14, 15 and 17 and co-authored sections 18 and 19 and am also responsible for the overall structuring of this Technical Report.
- 6. I am independent of Queenston Mining Inc. applying the test in Section 1.4 of NI 43-101.
- 7. I have had no prior involvement with the McBean or Anoki Properties that are the subject of the Technical Report.
- 8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance herewith.
- 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: December 08, 2009

Signing Date: January 29, 2010

#### SIGNED AND SEALED}

[Wayne D. Ewert]

Dr. Wayne D. Ewert P. Geo.

#### **CERTIFICATE of AUTHOR**

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

I, Tracy J. Armstrong, residing at 2007 Chemin Georgeville, res. 22, Magog, QC J1X 3W4, 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.
- 2. This certificate applies to the technical report entitled "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" (the "Technical Report") dated January 29, 2010.
- 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) and by the Association of Professional Geoscientists of Ontario (License 1204).

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

•	Underground production geologist Agnico-Eagle Laronde Mine	1988-1993.
•	Underground production geologist, Agineo-Lagie Laronde Wine	
•	Exploration geologist, Laronde Mine	1993-1995;
•	Exploration coordinator, Placer Dome	1995-1997;
•	Senior Exploration Geologist, Barrick Exploration	1997-1998;
•	Exploration Manager, McWatters Mining	
•	Chief Geologist Sigma Mine	
•	Consulting Geologist	2003 to present;

- 4. I have not visited the McBean or Anoki Properties.
- 5. I am responsible for the preparation and authoring of Sections 11 through 13 of this Technical Report.
- 6. I am independent of Queenston Mining Inc. applying the test in Section 1.4 of NI 43-101.
- 7. I have had no prior involvement with the McBean or Anoki Properties that are the subject of the Technical Report.
- 8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance herewith.
- 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: December 08, 2009

Signing Date: January 29, 2010

#### SIGNED AND SEALED}

[Tracy J. Armstrong]

Tracy J. Armstrong P. Geo.

#### **CERTIFICATE of AUTHOR EUGENE J. PURITCH, P.ENG.**

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. under contract by Queenston Mining Inc. (the "Issuer").
- This certificate applies to the technical report 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" (the "Technical Report") dated January 29, 2010.
- 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 am currently licensed by the Professional Engineers of Ontario (License No. 100014010) and the Association of Professional Engineering Technicians and Technologists as a Senior Engineering Technologist. I am also a member of the National and Toronto CIM. I have practiced my profession continuously since 1978.

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	summarized	career	experience	is as	follows:	
--	----	------------	--------	------------	-------	----------	--

- Mining Technologist H.B.M.&S. and Inco Ltd.1978-1980- Open Pit Mine Engineer Cassiar Asbestos/Brinco Ltd1981-1983- Pit Engineer/Drill & Blast Supervisor Detour Lake Mine1984-1986- Self-Employed Mining Consultant Timmins Area1987-1988- Mine Designer/Resource Estimator Dynatec/CMD/Bharti1989-1995- Self-Employed Mining Consultant/Resource-Reserve Estimator1995-2004- President P & E Mining Consultants Inc.2004-Present
- 4. I have not visited the McBean or Anoki Properties.
- 5. I am responsible for co-authoring Sections 16, 18 and 19 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 had no prior involvement with the McBean or Anoki Properties that are the subject of the 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: December 08, 2009

Signing Date: January 29, 2010

#### {SIGNED AND SEALED}

[Eugene Puritch]

Eugene J. Puritch, P.Eng

#### **CERTIFICATE of AUTHOR ANTOINE 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. and have worked as a geologist continuously since my graduation from university in 1977.
- 2. This certificate applies to the technical report 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" (the "Technical Report") dated January 29, 2010.
- 3. I am a graduate of Ottawa University at Ottawa, Ontario with a B.Sc. (HONS) in Geological Sciences (1977). I am a geological consultant currently licensed by the Order of Geologists of Québec (License No 224).

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

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

- 4. I visited the McBean Property on July 23, 2009 and the Anoki Property on November 3, 2009.
- 5. I am responsible for co-authoring 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 had no prior involvement with the McBean or Anoki Properties that are the subject of the 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: December 08, 2009

Signing Date: January 29, 2010

#### *{SIGNED AND SEALED}*

[Antoine R. Yassa]

Antoine R. Yassa, P.Geo. OGQ # 224

# **APPENDIX I**

# SURFACE AND UNDERGROUND DRILL HOLE PLANS



Page 81 of 140



Page 82 of 140



Page 83 of 140



Page 84 of 140

## **APPENDIX II**

# **3D DOMAINS**

P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.

# **McBEAN DEPOSIT - 3D DOMAINS**



P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc. Page 86 of 140

## **ANOKI DEPOSIT - 3D DOMAINS**



P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc. Page 87 of 140

# **APPENDIX III**

## LOG NORMAL HISTOGRAMS

P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.





Page 89 of 140





Page 90 of 140







Page 92 of 140





P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.

Page 93 of 140





Page 94 of 140



P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.

Page 95 of 140



# **APPENDIX IV**

## VARIOGRAMS

P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.



Page 98 of 140



P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.





P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.

Page 100 of 140


P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.

Page 101 of 140





P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.

Page 103 of 140



Page 104 of 140

## **APPENDIX V**

## Au BLOCK MODEL CROSS SECTIONS AND PLANS

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Page 106 of 140



Page 107 of 140



Page 108 of 140



Page 109 of 140



Page 110 of 140



Page 111 of 140



Page 112 of 140



Page 113 of 140



Page 114 of 140



Page 115 of 140



Page 116 of 140



Page 117 of 140



Page 118 of 140



Page 119 of 140



Page 120 of 140



Page 121 of 140



Page 122 of 140

## **APPENDIX VI**

## CLASSIFICATION BLOCK MODEL CROSS SECTIONS AND PLANS

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Page 124 of 140



Page 125 of 140



Page 126 of 140



Page 127 of 140



P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc.

Page 128 of 140



Page 129 of 140



Page 130 of 140



Page 131 of 140



Page 132 of 140



Page 133 of 140



Page 134 of 140



Page 135 of 140



Page 136 of 140


P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc. Page 137 of 140





P&E Mining Consultants Inc., Rpt No. 171 McBean & Anoki Gold Deposits, Kirkland Lake Gold Project Queenston Mining Inc. Page 139 of 140





2 County Court Blvd., Suite 202, Brampton, Ontario, L6W 3W8 Ph: 905-595-0575 Fax: 905-595-0578

To: British Columbia Securities Commission Alberta Securities Commission Ontario Securities Commission Saskatchewan Financial Services Commission The Manitoba Securities Commission New Brunswick Securities Commission Nova Scotia Securities Commission Prince Edward Island Securities Office Securities Commission of Newfoundland and Labrador Toronto Stock Exchange

Dear Sirs / Mesdames:

# **Re:** Queenston Mining Inc.

I hereby consent to the public filing by Queenston Mining Inc., of a Technical Report and Resource Estimates dated January 29, 2010 and 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" (the "Technical Report"), co-authored by Wayne D. Ewert, P.Geo., Tracy Armstrong, P.Geo., Antoine Yassa, P.Geo., and Eugene Puritch, P.Eng., with all of the Canadian Securities regulatory authorities having jurisdiction and publicly with the System for Electronic Document Analysis and Retrieval (SEDAR); and to the written disclosure of the Technical Report and extracts from or a summary of the Technical Report in written disclosure filed or being filed by Queenston Mining Inc.

### CERTIFICATE

I, Eugene Puritch P.Eng., have read the written disclosure filed by Queenston Mining Inc. in its news release titled "Queenston Announces NI 43-101 Initial Resource Estimate for McBean Deposit and NI 43-101 Updated Resource Estimate for Anoki Deposit" dated December 16, 2009 and it fairly and accurately represents the information in the Technical Report that supports the disclosure.

**DATED** this 29th day of January, 2010

P&E MINING CONSULTANTS INC.

Eugene Puritch P.Eng President



2 County Court Blvd., Suite 202, Brampton, Ontario, L6W 3W8 Ph: 905-595-0575 Fax: 905-595-0578

To: British Columbia Securities Commission Alberta Securities Commission Ontario Securities Commission Saskatchewan Financial Services Commission The Manitoba Securities Commission New Brunswick Securities Commission Nova Scotia Securities Commission Prince Edward Island Securities Office Securities Commission of Newfoundland and Labrador Toronto Stock Exchange

Dear Sirs / Mesdames:

# **Re:** Queenston Mining Inc.

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### CERTIFICATE

I, Tracy Armstrong P.Geo., have read the written disclosure filed by Queenston Mining Inc. in its news release titled "Queenston Announces NI 43-101 Initial Resource Estimate for McBean Deposit and NI 43-101 Updated Resource Estimate for Anoki Deposit" dated December 16, 2009 and it fairly and accurately represents the information in the Technical Report that supports the disclosure.

**DATED** this 29th day of January, 2010

Tracy Armstrong P.Geo Sr. Associate Geologist



2 County Court Blvd., Suite 202, Brampton, Ontario, L6W 3W8 Ph: 905-595-0575 Fax: 905-595-0578

- To:
- British Columbia Securities Commission Alberta Securities Commission Ontario Securities Commission Saskatchewan Financial Services Commission The Manitoba Securities Commission New Brunswick Securities Commission Nova Scotia Securities Commission Prince Edward Island Securities Office Securities Commission of Newfoundland and Labrador Toronto Stock Exchange

Dear Sirs / Mesdames:

## **Re:** Queenston Mining Inc.

I hereby consent to the public filing by Queenston Mining Inc., of a Technical Report and Resource Estimates dated January 29, 2010 and 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" (the "Technical Report"), co-authored by Wayne D. Ewert, P.Geo., Tracy Armstrong, P.Geo., Antoine Yassa, P.Geo., and Eugene Puritch, P.Eng., with all of the Canadian Securities regulatory authorities having jurisdiction and publicly with the System for Electronic Document Analysis and Retrieval (SEDAR); and to the written disclosure of the Technical Report and extracts from or a summary of the Technical Report in written disclosure filed or being filed by Queenston Mining Inc.

# CERTIFICATE

I, Antoine Yassa P.Geo., have read the written disclosure filed by Queenston Mining Inc. in its news release titled "Queenston Announces NI 43-101 Initial Resource Estimate for McBean Deposit and NI 43-101 Updated Resource Estimate for Anoki Deposit" dated December 16, 2009 and it fairly and accurately represents the information in the Technical Report that supports the disclosure.

**DATED** this 29th day of January, 2010

P&E MINING CONSULTANTS INC.

Antoine Yassa P.Geo Sr. Associate Geologist