

DOCUMENT

# NI 43-101

## Independent

## Technical Report

**PROPERTY**

### **Goldenville**

### **Property**

Guysborough County,  
Nova Scotia

**PREPARED BY**

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# Goldenville Property Ownership

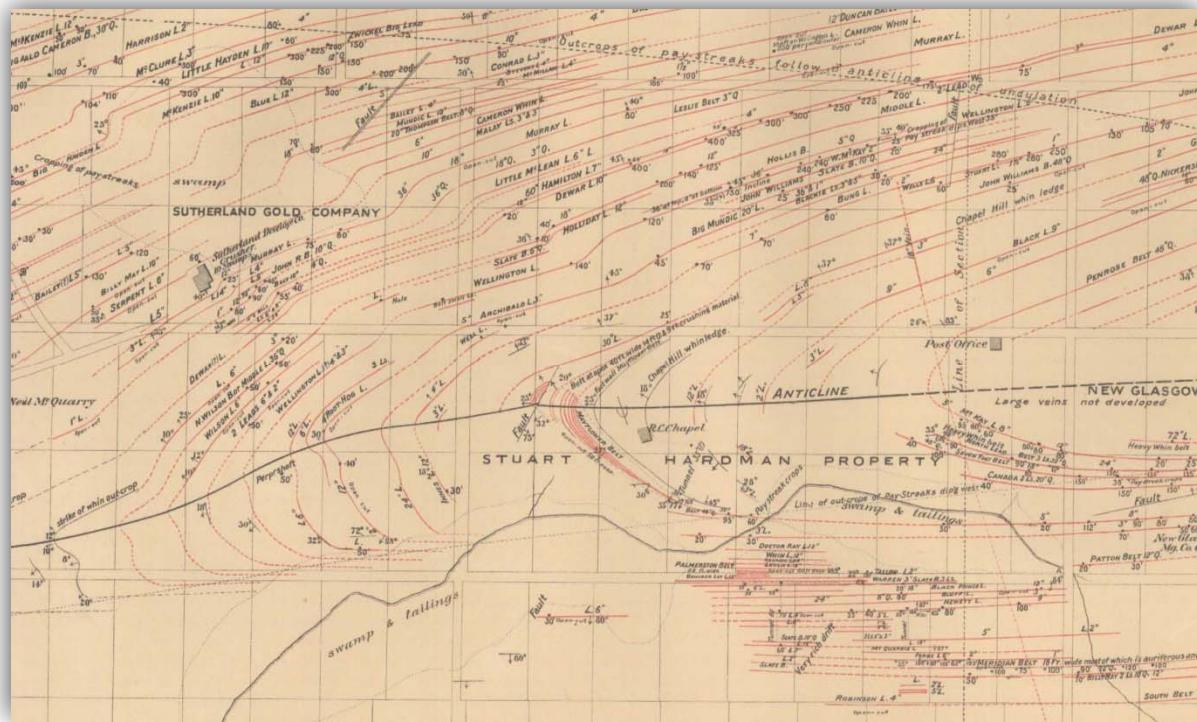
<b>2025</b>	<b>GoldBase Digital Ltd</b>	
	GoldBase Digital Ltd acquired 100% of Maritimes Gold Corp. (the exclusive contractual option to buy 100% of the Goldenville Property remains with Maritimes Gold Corp.)	
<b>2025</b>	<b>Maritimes Gold Corp.</b>	
	Maritimes Gold Corp. acquired exclusive contractual option to buy 100% of the Goldenville Property from MegumaGold Corp.	
<b>2024</b>	<b>Maritimes Gold JV Corp.</b>	
	Maritimes Gold JV Corp. acquired 100% of the Goldenville Property via a joint venture between MegumaGold Corp. and Maritimes Gold Corp.	
<b>2020</b>	<b>MegumaGold Corp.</b>	
	MegumaGold Corp. acquired 100% of Osprey Gold Development Ltd.	
<b>Pre-2020</b>	<b>Osprey Gold Development Ltd</b>	
	This NI 43-101 Technical Report for the Goldenville Property was prepared for Osprey Gold Development Ltd.	



## NI 43-101 INDEPENDENT TECHNICAL REPORT

### GOLDENVILLE PROJECT Guysborough County, Nova Scotia

NTS Map Sheets 11/E1,F4  
Centred on UTM Zone 20N 576766 mE and 4997314 mN



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Effective Date: June 4, 2020



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## 1 Summary

### ***Property Description and Ownership***

Fladgate Exploration Consulting Corporation (“Fladgate”) has been retained by Osprey Gold Development Ltd. (“Osprey”, or the “Company”) to produce and updated 43-101 compliant Mineral Resource Update on the Goldenville Property (the “Property”). The Property is under option to Crosby Gold Ltd. which retains the right to earn a 100% interest in the claims subject to certain royalties. On March 2nd, 2017, Osprey acquired all issued and outstanding shares of Crosby, at which time Crosby became a wholly owned subsidiary of Osprey. This resource was developed in accordance with National Instrument 43-101 and the 2014 Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Mineral Reserves Definition Guidelines.

The Goldenville Property is located in Guysborough County, Nova Scotia, within NTS map sheet 11/E1,F4. It is centered on UTM coordinates (Zone 20N) 576766 mE and 4997314 mN and comprises five contiguous unpatented mineral licenses totaling 62 units and ~1,085 ha. The property is 4 km southwest of the rural town of Sherbrooke, and 200 km northeast of Halifax, which is the provincial capital.

### ***Geology and Mineralization***

Southeastern Nova Scotia is underlain by folded Cambro-Ordovician-age sedimentary sequences of the Meguma Group that have been extensively intruded by mid-Devonian-age granite and granodiorite bodies. The Meguma Group is comprised of the stratigraphically lower 5,600 m thick Goldenville Formation, which is conformably overlain by the 4,400 m thick Halifax Formation. The Goldenville Formation is composed of dominantly quartzite and greywacke sediments, and is host to most of the known gold deposits in Nova Scotia.

The Meguma Group was deformed starting in the mid-Devonian during the Acadian Orogeny, which produced an east-northeast-trending regional fold set characterized by upright to overturned geometry plunging at shallow angles. The anticlinal structures of this fold generation within the Goldenville Formation have been recognized as important factors in localizing gold mineralization (e.g. [Smith and Kontak, 1986](#)). The Meguma Group sediments were variably metamorphosed to between greenschist and amphibolite facies during the Acadian Orogeny, and large granitic intrusions were emplaced into the folded Meguma Group causing contact metamorphic conditions. Shear displacements subsequently occurred along major structural breaks such as the EW-trending Minas Geo-Fracture that marks the northern structural boundary of the Meguma crustal block. The eroded Meguma surface was unconformably covered by Lower Carboniferous and younger stratified sequences, which have also been locally folded and sheared. A set of NW-trending faults are the youngest, most widely-evident structural element common to the eastern Meguma Group terrane, common to airborne geophysical surveys.

The important Goldenville Formation consists of intercalated meta-greywacke and metasiltstone (e.g. [Schenk, 1978](#)). Repeated turbidite cycles consisting of thick meta-greywacke, fining upward to thin metasiltstone and black slate caps are common. In many areas, black, sulfide-rich pelite and thinly-banded, multicolored siltstone are characteristic host rocks for gold mineralization ([Smith and Kontak, 1986](#)). Stratigraphic continuity is notable



within the gold-bearing host rocks where individual beds and quartz vein packages have been traced for over 1 km in strike length and several hundred meters in dip extension.

Mineralization in the Goldenville deposit is associated with several vein types. Those that are parallel to the bedding are the principal gold carriers, and have associated arsenopyrite and slate inclusions. These veins can be correlated over large distances (e.g. [Bottrill, 1988](#)). Another set of veins crosscuts the bedding. Where these veins crosscut the parallel veins, common quartz swells are observed containing arsenopyrite mineralization and minor pyrite and carbonate. Mineralization is typically associated with slate and mudstone horizons at the top of fining upward turbidite cycles. Gold is typically coarse grained and occurs as free gold in quartz or is associated with sulfide mineralization. It is more common in the veins themselves but also occurs in the adjacent wall rock. Gold is also found in crosscutting veins, tension fractures, and compression fractures.

The Goldenville Gold District is regarded as one of the most significant in Nova Scotia based on its recorded gold production of approximately 212,300 ounces from 551,797 tonnes of ore between 1862 and 1942. This indicates an historic recovered grade of 11.97 g/t.

#### ***Status of Exploration***

This report incorporates all exploration activities undertaken by Osprey as of April 1<sup>st</sup> 2020. This represents and updated of Fladgate's April 30<sup>th</sup> 2017 technical report, which was focused on compilation and validation of historic drilling results, development, and mining information for use in a Mineral Resource update using standard industry methods and compliant reporting.

#### ***Mineral Resource and Mineral Reserve Estimation***

The compiled and validated Goldworx and Osprey drill results from the Goldenville Property were used to update the 43-101 compliant mineral resource estimation completed by Fladgate in 2017 (shown below).

<b>2017 Resource Estimate</b>		<b>Gold</b>	<b>Gold</b>
<b>Resource Type</b>	<b>Tonnes</b> <b>(t)</b>	<b>Grade</b> <b>(g/t)</b>	<b>Metal</b> <b>(Ozs)</b>
Open Pit (0.75 g/t Cut-Off)	1,240,000	3.02	120,000
Underground (2.0g/t Cut-Off)	1,560,000	3.35	168,000
<b>Total</b>	<b>2,800,000</b>	<b>3.20</b>	<b>288,000</b>

<b>2020 Resource Estimate</b>		<b>Gold</b>	<b>Gold</b>
<b>Resource Type</b>	<b>Tonnes</b> <b>(t)</b>	<b>Grade</b> <b>(g/t)</b>	<b>Metal</b> <b>(Ozs)</b>
Open Pit (0.5 g/t Cut-Off)	1,095,000	3.2	110,000
Underground (2.0 g/t Cut-Off)	1,240,000	5.0	200,000
<b>Total</b>	<b>2,335,000</b>	<b>4.1</b>	<b>310,000</b>



The resource estimation does not consider mining depletions due to underground excavations which could not be estimated. At the present time, there are no plans to develop this project, and there are no operations to report.

Due to critical QA/QC issues in the dataset such as the absence of original documentation for historic drill hole collar coordinates, downhole survey records, assay certificates, and the use of blanks and standards this resource has been classified as entirely Inferred.

### ***Conclusions and Recommendations***

In the opinion of both Qualified Persons, Mr. Neil Pettigrew, M.Sc., P.Geo., and Dave Thomas, P.Geo., the Goldenville Property is a property with continued merit as there is potential for additional discovery of gold mineralization. The nearby availability of services, power and a location in a good mining jurisdiction makes it an attractive mineral exploration target.

The Goldenville Property is typical of other Meguma Group gold deposits and has a long history of underground production. Potential exists in extending known mineralized structures both laterally and at depth, and in the discovery of new gold mineralization along the length of the Goldenville anticline.

In order to improve the existing Mineral Resource Estimate and upgrade above the Inferred category, a complete re-assessment of all historical data on the Goldenville property is recommended. This includes a complete validation of the entire assay database to discover and document all assay discrepancies, compiling information on underground samples from hard copies, measuring and incorporating accurate SG data from available drill core into the model, and locating all the mined areas as accurately as possible to assess mining depletions and minimize the risk of exploration drill holes intersecting historic openings.

In order to further evaluate the Goldenville Property and two-phase program is recommended. Phase I (\$655,000) would consist of a digital compilation of all available historic data and a 2,000m drill program to delineate open pit amenable mineralization that could with further drilling be upgraded to 43-101 inferred classification. Phase II (\$3,795,000) would consist of 15,000 meters of drilling to evaluate the near surface resources outlined in the current Goldenville resource estimate at 25 m spacings on sections to a depth of 200 m. This equates to 55 holes at an average length of 250 m. Finally, it is also recommended that a surface mini bulk sample be taken to assist in reconciliation with the current resource estimate.

## **2 Introduction**

### **2.1 ISSUER FOR WHOM THE TECHNICAL REPORT IS WRITTEN**

Flaggate Exploration Consulting Corporation (“Flaggate”) was engaged by Osprey Gold Development Ltd. (“Osprey”) to complete a Mineral Resource Estimation on the “near surface” potential for its Goldenville Property near Sherbrooke, Nova Scotia, Canada. Flaggate is charged with preparing an independent Technical



Report compliant with National Instrument 43-101, companion policy NI 43-101CP, and Form 43-101F. Fladgate is independent from Osprey, in accordance with Section 1.5 of NI 43-101CP (Companion Policy) in that there is no circumstance that, in the opinion of a reasonable person aware of all relevant facts, could interfere with the Qualified Persons' judgment regarding the preparation of the technical report.

Fladgate's scope of work entailed reviewing the available information related to the 2017-2019 exploration by Osprey, the 2005 Mineral Resource Estimation (2005 Technical Report) performed by Mercator Geological Services ("Mercator"), database compilation and verification, statistical analysis and assay compositing, generation of a block model, and development of a 3D optimized "near surface" resource. The Qualified Persons ("QPs") for this report will also summarize the findings and provide recommendations for future exploration and development work.

Fladgate is an international consulting company based in Thunder Bay, Ontario, Canada, providing a wide range of geological and exploration services to the mineral and energy industries. With offices in Thunder Bay, Ontario, Fladgate is well-positioned to service its client base. Fladgate's mandate is to provide professional, geological, and exploration services to the mineral and energy industries at competitive rates and without compromise. Fladgate's professionals have international experience in a variety of disciplines with services that include:

- Exploration Project Generation, Design, Implementation and Management
- Data Compilation and Exploration Target Generation
- Property Evaluation and Due Diligence Studies
- Independent, NI 43-101 Compliant, Technical Report Writing
- Mineral Resource Modeling and Estimation
- 3D Geological Modeling and Database Management
- Polished Thin Section Analysis by petrographic microscope and Scanning Electron Microscope

All work for the current Technical Report was supervised by the Independent Qualified Persons, **Neil Pettigrew, M.Sc., P.Geo.**, Vice President of Fladgate and a member in good standing with the Association of Professional Geoscientists of Ontario (APGO #1462, APGNS #117), as well as **Dave Thomas, P.Geo., MAusIMM**, Associate of Fladgate and a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC #149114) and the Australasian Institute of Mining and Metallurgy (MAusIMM #225250).

The Statement of Qualifications for all Authors listed on the title page of this report is presented in Appendix I.

## **2.2 PURPOSE OF THE TECHNICAL REPORT**

The purpose of this Technical Report is to update a Mineral Resource Estimation for the Goldenville Property in Nova Scotia for Osprey. This report is intended for use by Osprey to file as a NI 43-101 Technical Report with the Canadian Securities Regulatory Authorities, pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at the party's sole



risk. The data supporting the statements made in this report have been verified for accuracy and completeness by the Authors.

### **2.3 SOURCES OF INFORMATION AND DATA**

In conducting this study, Fladgate has consulted and utilized various sources of information and data, the most significant being the 2017 Mineral Resource Estimation by Fladgate. This report is the most recent 43-101 compliant resource update and was written in accordance with then-current standards, including National Instrument 43-101 and the “Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Mineral Reserves Definition Guidelines”.

Fladgate also utilized information and data supplied to it by Osprey from their exploration activities carried out on the property from the 2017-2019 period.

The current submission is an updated “near surface” Mineral Resource Estimation based on the 2017 resource estimation by Fladgate. The original 2017 resource estimate was produced using data that had been previously verified by Qualified Persons responsible for the product contained within the Acadian 2005 Technical Report and the 2016 Technical Report written by Brandon Macdonald, P.Geo. The current Authors have not verified the conclusions asserted by either report.

The Authors have also relied on information from government publications and publicly available assessment reports. A list of the various sources used to prepare the current report is given in the ‘References’ section.

### **2.4 DETAILS OF THE PERSONAL INSPECTION ON THE PROPERTY BY THE QUALIFIED PERSONS**

The First Author and Qualified Person for the current Technical Report (Mr. Neil Pettigrew) visited the Goldenville Property near Sherbrooke, Nova Scotia, on February 28<sup>th</sup>, 2017. Mr. Pettigrew had also visited the property previously on March 7<sup>th</sup>, 2013. The Second Author and Qualified Person for the current Technical Report (Mr. David Thomas) has not visited the site. It is the opinion of the First Author that the 2017 site visit remain valid for the purposes of the current report.

The current submission is an updated Mineral Resource Estimation. The new information included in the current submission (that was not available at the time of the 2017 Fladgate report) amounts to 23 drill holes (totaling 3,966m) that were drilled by Osprey between 2017 and 2019, and 24 short, tightly spaced holes (totaling 741m) drilled by Goldwork in 2014, which due to unpaid invoices, had not been logged or sampled and was not available when Fladgate conducted the 2017 resource estimate. This new data was checked for accuracy against the raw data files, and cross-checked where possible against an assessment reports filed by Osprey.

During Mr. Pettigrew’s 2013 QP site visit (accompanied by Lance Hooper of Goldworx), the Goldenville Property was partially clear of snow and several reclaimed old shafts on the north limb were visited, as well as several historic tailings areas. The QP visited the Stuart Shaft, which is the most recently used shaft and has now been capped with a concrete slab. The QP took a GPS reading using a differential GPS. Also, in 2013, the current QP



visited Acadian's office in Halifax, spoke with Rick Horne and other Acadian staff, and viewed the 2006 Goldenville drill core stored in their office.

The 2006 Acadian drill core was viewed again during the 2017 site visit by the same QP, accompanied by Perry MacKinnon (the vendor of the Goldenville Property, prior to his appointment as Vice President of Exploration of Osprey). At that time the core was stored in the backyard of Mr. John Cameron (Head of the Goldenville Historical Society), whose house is located just outside Sherbrooke, N.S. The QP collected 8 check samples from holes GV06-01, -02, -03, -04 and -05, the results of which are discussed in Section 12.4. Assay certificates for the check samples are included in Appendix II. On March 1<sup>st</sup>, 2017, the QP also visited Peter Webster, President of Mercator Geological Services at their office in Dartmouth, N.S. to discuss their work on the Goldenville project in 2005 and 2006.

## 2.5 TERMS OF REFERENCE, UNITS OF MEASURE, AND CURRENCY

The Metric System or SI System is the primary system of measure and length used in this report and is generally expressed in kilometers, meters and centimeters; volume is expressed as cubic meters, mass expressed as metric tonnes, area as hectares, and zinc, copper and lead grades as percent (%) or parts per million (ppm). The precious metal grades (such as gold) are generally expressed as grams/tonne (g/t) but may also be in parts per billion (ppb) or parts per million (ppm).

Conversions from the SI or Metric System to the Imperial System are provided below and quoted where practical. Many of the geologic publications and more recent work assessment files now use the SI system but older work assessment files almost exclusively refer to the Imperial System. Metals and mineral acronyms in this report conform to mineral industry accepted usage and the reader is directed to an online source at [https://www.bgs.ac.uk/scmr/docs/papers/paper\\_12.pdf](https://www.bgs.ac.uk/scmr/docs/papers/paper_12.pdf).

**Table 1** - Glossary of Terms

Term	Meaning	Term	Meaning
AEM	Airborne Electromagnetic	Na	sodium
Ag	Silver	Na <sub>2</sub> O	sodium oxide
Al	Aluminum	NAD 83	North American Datum of 1983
Al <sub>2</sub> O <sub>3</sub>	aluminum oxide	NE	northeast
AW	apparent width	NI	National Instrument
As	Arsenic	Ni	nickel
Au	Gold	NSR	net smelter return
Ba	Barium	NTS	National Topographic System
Be	Beryllium	OGS	Ontario Geological Survey
Bi	Bismuth	P	phosphorous
C	carbon dioxide	P <sub>2</sub> O <sub>5</sub>	phosphorous oxide
Ca	Calcium	Pb	lead
CaO	calcium oxide	Pd	palladium
Cd	Cadmium	pH	acidity
Co	Cobalt	Pt	platinum
CO <sub>2</sub>	carbon dioxide	QA/QC	Quality Assurance/Quality Control



Term	Meaning	Term	Meaning
Cr	Chromium	S	south
Cr <sub>2</sub> O <sub>3</sub>	chromium oxide	S	sulfur
Cu	Copper	Sb	antimony
DDH	diamond drill hole	SE	southeast
DW	drilled width	Se	selenium
E	East	SiO <sub>2</sub>	silicon oxide
EM	electromagnetic	Sn	tin
Fe	Iron	SO <sub>2</sub>	sulfur dioxide
Fe <sub>2</sub> O <sub>3</sub>	iron oxide (ferric oxide-hematite)	Sr	strontium
Fe <sub>3</sub> O <sub>4</sub>	iron oxide (ferrous oxide-magnetite)	Sum	summation
HLEM	horizontal loop electromagnetic	SW	southwest
H <sub>2</sub> O	hydrogen oxide (water)	Ti	titanium
IP	induced polarization	TiO <sub>2</sub>	titanium oxide
K	Potassium	Tl	thallium
K <sub>2</sub> O	potassium oxide	TW	true width
Li	Lithium	U	uranium
LOI	loss on ignition (total H <sub>2</sub> O, CO <sub>2</sub> and SO <sub>2</sub> content)	U <sub>3</sub> O <sub>8</sub>	uranium oxide (yellowcake)
Mg	Magnesium	UTM	Universal Transverse Mercator
MgO	magnesium oxide	V	vanadium
Mn	Manganese	V <sub>2</sub> O <sub>5</sub>	vanadium oxide
MNDMF	Ministry of Northern Development, Mines and Forestry	VLF	very low frequency
MnO	manganese oxide	VLF-EM	very low frequency-electromagnetic
Mo	Molybdenum	W	west
Mt	millions of tonnes	Y	yttrium
N	North	Zn	zinc
NW	northwest		

**Table 2 - Units of Measure**

Units of Measure	Abbreviation	Units of Measure	Abbreviation
Above mean sea level	amsl	Litre	L
Ampere	A	Litres per minute	L/m
Annum (year)	a	Megabytes per second	Mb/s
Billion years ago	Ga	Megapascal	MPa
British thermal unit	Btu	Megavolt-ampere	MVA
Candela	cd	Megawatt	MW
Carat	ct	Metre	m
Carats per hundred tonnes	cpht	Metres above sea level	masl
Carats per tonne	cpt	Metres per minute	m/min
Centimetre	cm	Metres per second	m/s
Cubic centimetre	cm <sup>3</sup>	Metric ton (tonne)	t
Cubic feet per second	ft <sup>3</sup> /s or cfs	Micrometre (micron)	µm
Cubic foot	ft <sup>3</sup>	Microsiemens (electrical)	µs
Cubic inch	in <sup>3</sup>	Miles per hour	mph
Cubic metre	m <sup>3</sup>	Milliamperes	mA
Cubic yard	yd <sup>3</sup>	Milligram	mg
Day	d	Milligrams per litre	mg/L
Days per week	d/wk	Millilitre	mL
Days per year (annum)	d/a	Millimetre	mm
Dead weight tonnes	DWT	Million	M



Units of Measure	Abbreviation	Units of Measure	Abbreviation
Decibel adjusted	dBa	Million tonnes	Mt
Decibel	dB	Minute (plane angle)	'
Degree	°	Minute (time)	min
Degrees Celsius	°C	Month	mo
Degrees Fahrenheit	°F	Newton	N
Diameter	Ø	Newton's per metre	N/m
Dry metric ton	dmt	Ohm (electrical)	Ω
Foot	ft	Ounce	oz
Gallon	gal	Parts per billion	ppb
Gallons per minute (US)	gpm	Parts per million	ppm
Gigajoule	GJ	Pascal	Pa
Gram	g	Pascals per second	Pa/s
Grams per litre	g/L	Percent	%
Grams per tonne	g/t	Percent moisture (relative humidity)	% RH
Greater than	>	Phase (electrical)	Ph
Hectare (10,000 m <sup>2</sup> )	ha	Pound(s)	lb
Hertz	Hz	Pounds per square inch	psi
Horsepower	hp	Power factor	pF
Hour	h (not hr)	Quart	qt
Hours per day	h/d	Revolutions per minute	rpm
Hours per week	h/wk	Second (plane angle)	"
Hours per year	h/a	Second (time)	s
Inch	"(symbol, not " )	Short ton (2,000 lb)	st
Joule	J	Short ton (US)	t
Joules per kilowatt-hour	J/kWh	Short tons per day (US)	tpd
Kelvin	K	Short tons per hour (US)	tph
Kilo (thousand)	k	Short tons per year (US)	tpy
Kilocalorie	kcal	Specific gravity (g/cm <sup>3</sup> )	SG
Kilogram	kg	Square centimetre	cm <sup>2</sup>
Kilograms per cubic metre	kg/m <sup>3</sup>	Square foot	ft <sup>2</sup>
Kilograms per hour	kg/h	Square inch	in <sup>2</sup>
Kilograms per square metre	kg/m <sup>2</sup>	Square kilometre	km <sup>2</sup>
Kilojoule	kJ	Square metre	m <sup>2</sup>
Kilometre	km	Thousand tonnes	kt
Kilometres per hour	km/h	Tonne (1,000kg)	t
Kilonewton	kN	Tonnes per day	t/d
Kilopascal	kPa	Tonnes per hour	t/h
Kilovolt	kV	Tonnes per year	t/a
Kilovolt-ampere	kVA	Total dissolved solids	TDS
Kilovolts	kV	Total suspended solids	TSS
Kilowatt	kW	Volt	V
Kilowatt hour	kWh	Week	wk
Kilowatt hours per short ton (US)	kWh/st	Weight/weight	w/w
Kilowatt hours per tonne (metric ton)	kWh/t	Wet metric ton	wmt
Kilowatt hours per year	kWh/a	Yard	yd
Kilowatts adjusted for motor efficiency	kWe	Year (annum)	a
Less than	<	Year	yr



The term grams/tonne (g/t) is expressed as “grams per tonne” where 1 gram/tonne = 1 ppm (parts per million) = 1000 ppb (parts per billion). Other abbreviations include oz/t = ounce per short ton; Moz = million ounces; Mt = million tonnes; t = tonne (1000 kilograms); SG = specific gravity; lb/t = pound/ton; and st = short ton (2000 pounds).

Dollars are expressed in Canadian currency (CAD\$) unless otherwise noted. Base and certain industrial metal and mineral prices are stated as US\$ per tonne (US\$/t), precious metal prices are stated in US\$ per troy ounce (US\$/oz) and Uranium and certain industrial metal and mineral prices are stated in US\$ per pound (US\$/lb).

Unless otherwise noted, Universal Transverse Mercator (“UTM”) coordinates are provided in the datum of NAD83 Zone 20N.

### 3 Reliance on Other Experts

Some relevant information on the property presented in this report is based on data derived from reports written by geologists and/or engineers, whose professional status may or may not be known in relation to the NI 43-101 definition of a Qualified Person. Fladgate has made every attempt to accurately convey the content of those files, but cannot guarantee either the accuracy or validity of the work. However, Fladgate believes that these reports were written with the objective of presenting the results of the work performed without any promotional or misleading intent. In this sense, the information presented should be considered reliable, unless otherwise stated, and may be used without any prejudice by Osprey.

The QP for the current report has relied upon the 2005 Technical Report by Acadian as well as the 2017 Technical Report by Brandon MacDonald, P.Geo. for Osprey for many background sections of this study. A full audit/validation of the available data used to prepare the Mineral Resource Estimation in the 2005 study was performed by Fladgate staff and supervised by the QP on this current Technical Report. The available data does not include original assay certificates, drill collar surveys, downhole survey data, UG sample data, QA/QC, etc. Although the current QP visited the site in 2013 and 2017, reliance was placed on the Authors of the 2005 and 2016 Technical Reports for verification of certain data included in the current report, including validating of drill collar locations, validating drillhole survey data, assay verification, assay QA/QC, and comprehensively touring the laboratory facilities used historically.

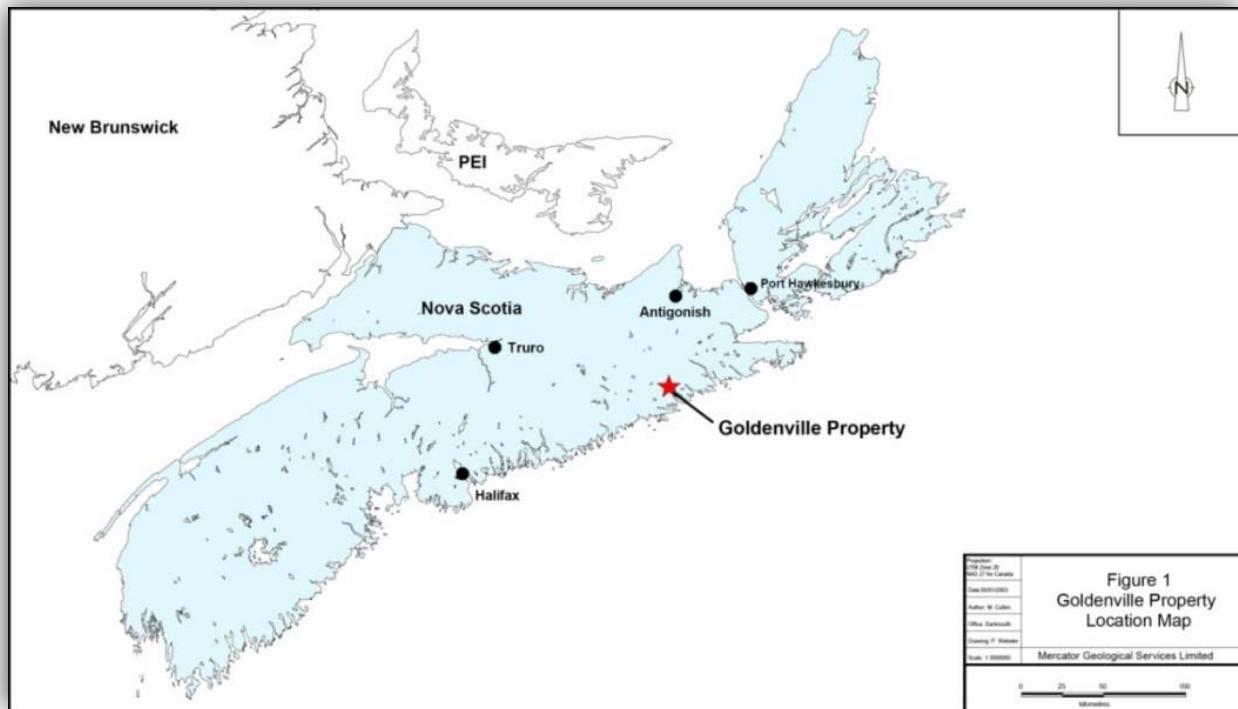
The current QP has not verified title to the Goldenville Property, nor has the QP verified the status of Osprey's exploration agreements, but has relied upon information supplied by Osprey in this regard. Fladgate has no reason to doubt that the title situation is other than that presented to it by Osprey.

### 4 Property Description and Location

#### 4.1 AREA AND LOCATION OF THE PROPERTY



The Goldenville Property is located in St. Mary's District, Guysborough County, on the southeast shore of Nova Scotia, Canada (Figure 1). It is situated ~135 km northeast of the provincial capital Halifax (population 413,710) and 60 km south of Antigonish (population 4,524). The village of Sherbrooke is located ~5 km to the northeast. The property is centered at UTM (Zone 20N) 576766.64 mE and 4997313.80 mN.



**Figure 1** - Location of the Goldenville Property within Nova Scotia, Canada (modified after Levy et al., 2004).

#### 4.2 MINERAL TENURE

The property consists of 5 mineral licenses detailed in Table 3 and illustrated in Figure 2. These mineral titles are held by 3302051 Nova Scotia Limited, which is controlled by Perry MacKinnon, Vice President of Exploration of Osprey. The Property is under option to Crosby Gold Ltd. which retains the right to earn a 100% interest in the claims subject to certain royalties. On March 2nd, 2017, Osprey acquired all issued and outstanding shares of Crosby, at which time Crosby became a wholly owned subsidiary of Osprey. The Original agreement pertained only to licenses 50508, 50566, and 50889, licenses 51323 and 53386 were added later to the agreement. Below are excerpts of 4 press releases by Osprey detailing the status of the Goldenville property Option agreement.

**January 10, 2017**

*"Gonzaga has entered in to a binding Letter of Intent (the "LOI") with Crosby Gold Ltd. ("Crosby") pursuant to which Gonzaga will acquire (the "Acquisition") 100% of Crosby's interest in, and option rights to the Goldenville Gold Project located in Guysborough County, Nova Scotia (the "Goldenville Property"), along with three other gold properties in Nova*



## Osprey Gold Development Ltd. – Goldenville Project

*Scotia. In connection with the completion of the Acquisition, Gonzaga intends to change its name to Osprey Gold Development Ltd.” (Source: Ospreygold.com)*

### April 30, 2019

*Osprey is pleased to report it has entered into an agreement to amend the terms of its option agreement (the “Option Agreement”) pursuant to which Osprey may acquire a 100% interest, subject to certain royalties, in the Goldenville Gold Project (“Goldenville”) and three additional earlier stage projects in Nova Scotia.*

*“We’re pleased to have renegotiated this cornerstone agreement for Osprey,” said Company President Cooper Quinn. “The amended agreement reduces the remaining required cash obligations of the underlying option from \$600,000 to \$225,000, and provides the Company significantly enhanced flexibility; enabling us to allocate more funds to build value for shareholders through exploration.”*

*Under the amended terms, in order to exercise the option and acquire Goldenville, Osprey must, on or before March 14, 2021 make annual payments \$600,000, of which \$225,000 shall be payable in cash, and at the election of Osprey, a portion or all of the remainder may be payable in common shares of Osprey subject to the approval of the TSX Venture Exchange, through issuance of common shares of Osprey at a price per share determined based on the applicable market prices at the time such election is made.*

*The option agreement was originally announced by the Company in news releases dated January 10, 2017 and March 2, 2017. The option agreement originally provided for a total of \$1,000,000 payable in cash, of which \$400,000 has been paid.*

### March 30, 2020

*“Osprey is pleased to report settlement of all remaining option payments owing in 2020 under the Company’s option agreement on its Goldenville gold property located in Nova Scotia (the “Goldenville Property”) through the issuance of common shares of the Company (the “Debt Settlement”).*

*Pursuant to the Debt Settlement, the Company would issue 3,500,000 common shares of the Company (the “Shares”) at a deemed price of \$0.05 per Share to 3302051 Nova Scotia Limited, the optionor of the Goldenville Property (the “3302051 Nova Scotia”).*

*The Goldenville Project consists of four contiguous mineral titles totaling approximately 1,181 ha in Northeastern Nova Scotia, and was the subject of an active drill program by Osprey through 2019. The Company is looking forward to resuming active exploration in 2020.*



*Only one payment remains, due in 2021, to complete the earn-in under the Goldenville Agreement, which includes the Goldenville Property and three additional past-producing gold projects.*

*The issuance of these Shares is not anticipated to have any effect on the number of securities of Meguma Gold Corp. ("Meguma") to be issued to shareholders of Osprey pursuant to the proposed business combination transaction between the Company and Meguma previously announced on March 23, 2020.*

*The issuance of the Shares to 3302051 Nova Scotia is subject to the approval of the TSX Venture Exchange (the "Exchange"). The Shares will be subject to a four month hold period which will expire on the date that is four months and one day from the date of issue.*

*3302051 Nova Scotia is controlled by Perry MacKinnon, VP Exploration of the Company and the issuance of the Shares to 3302051 Nova Scotia under the Debt Settlement will be a "related party transaction" under the policies of the Exchange and Multilateral Instrument 61-101 Protection of Minority Security Holders in Special Transactions ("MI 61-101"). The Company is relying on exemptions from the minority shareholder approval and formal valuation requirements applicable to the related party transactions under Sections 5.7(1)(a) and 5.5(b), respectively, of MI 61-101. There has been no prior formal valuation of the common shares issued as there has not been any necessity to do so. The share issuance has been reviewed and unanimously approved by the Company's board of directors." (Source: Ospreygold.com)*

**May 5, 2020**

*"The TSX Venture Exchange has accepted for filing the company's proposal to issue 3.5 million common shares at a deemed value of five cents per share to settle outstanding debt for \$175,000.*

*Number of creditors: one creditor*

*Insider: 3302051 Nova Scotia Ltd. (Perry MacKinnon), \$175,000, 3.5 million shares at five cents*

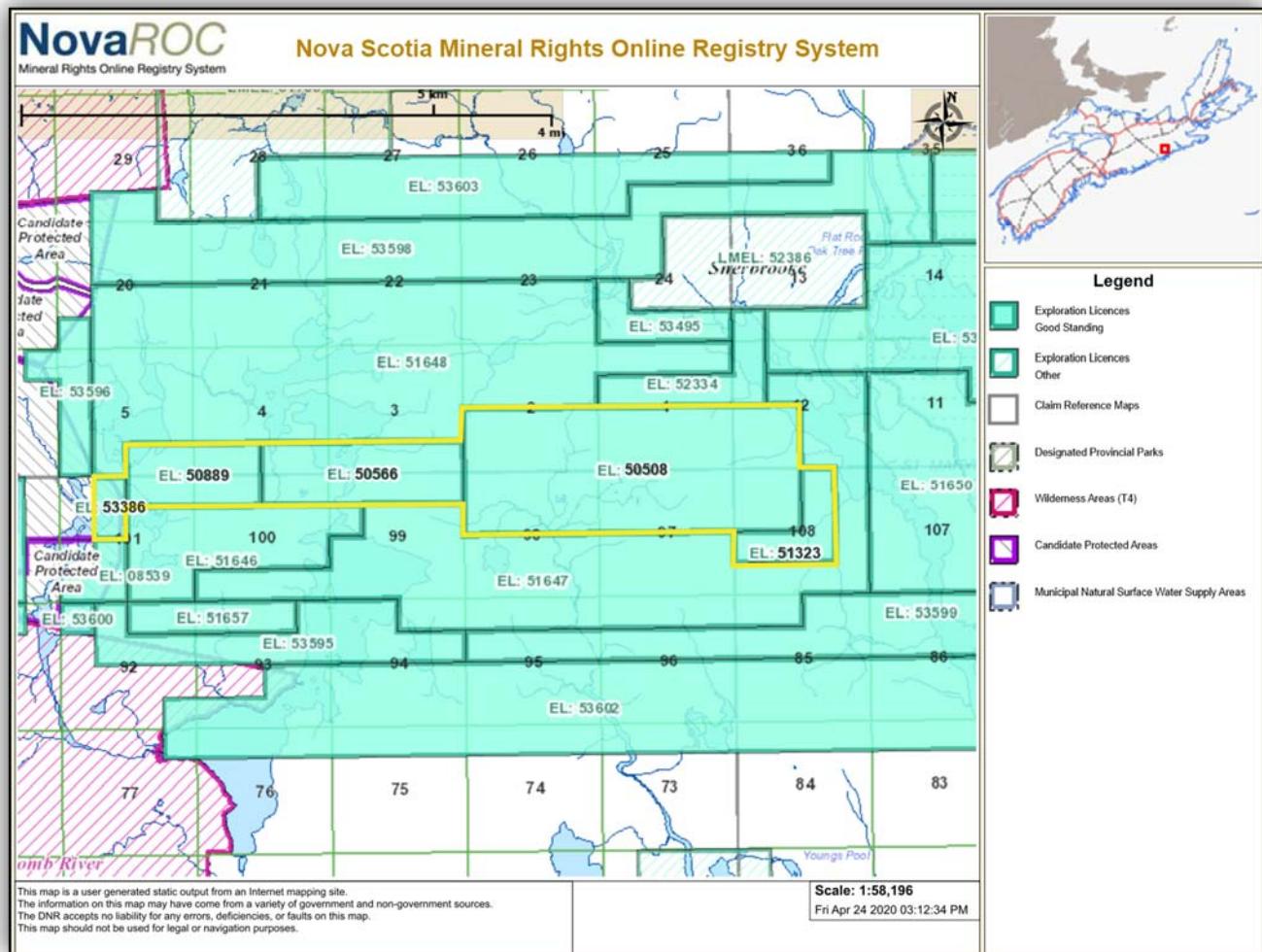
*The company shall issue a news release when the shares are issued and the debt extinguished." (Source: Ospreygold.com)*

Flaggate makes no further assertion with regard to legal status of the property. The property has not been legally surveyed to date and there are no requirements to do so.

**Table 3 - Goldenville Property Claims.**



Exploration License Number	Units	Area (ha)	Date of Issue	Anniversary Date	Ownership
50508	40	648	2016-02-08	2021-02-08	3302051 Nova Scotia Ltd. (100%)
50566	12	194	2015-03-11	2021-03-11	3302051 Nova Scotia Ltd. (100%)
50889	8	130	2016-02-19	2021-02-19	3302051 Nova Scotia Ltd. (100%)
51323	5	81	2017-04-01	2021-04-01	3302051 Nova Scotia Ltd. (100%)
53386	2	32	2019-09-17	2021-09-17	3302051 Nova Scotia Ltd. (100%)



**Figure 2 - Goldenville Property Claim Map, boundary in yellow.**

#### 4.3 MINERAL RIGHTS IN NOVA SCOTIA

Mineral exploration claims in Nova Scotia are issued under the Province's Mineral Resources Act (1990). No equivalence to "patented claim status" exists under this Act. Retention of claims in good standing from year to



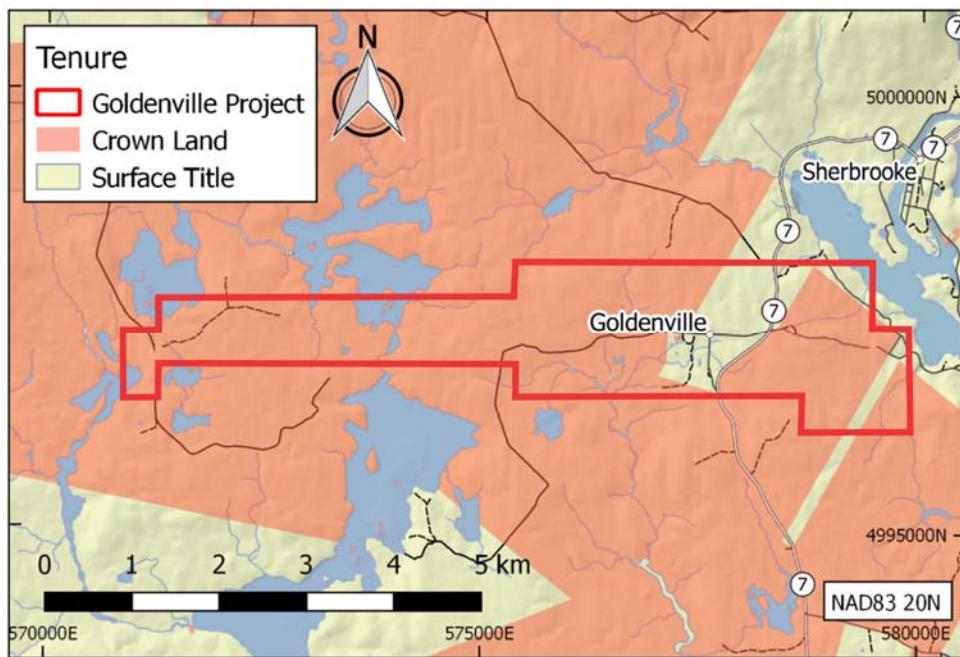
year requires payment of a renewal fee for each claim plus a minimum exploration expenditure (**Table 4.**)  
Payment of cash in lieu of work on a claim can be made once in any five-year period.

**Table 4** - Nova Scotia Mineral Titles License Renewal Requirements (last revised April 2008).

Years After Issue	Renewal Fee	Assessment Expenditure
1	\$10 per claim	\$200 per claim
2 - 10	\$20 per claim	\$200 per claim
11 - 15	\$40 per claim	\$400 per claim
16 - 25	\$160 per claim	\$800 per claim
26+	\$320 per claim	\$800 per claim

#### 4.4 SURFACE RIGHTS

Land access permission is required from surface rights holders in Nova Scotia before mineral exploration activities can be undertaken. Surface titles to lands covered by the Goldenville Property are held by various private interests and by the Province of Nova Scotia (the “Crown”). Figure 3 illustrates the surface rights holders in the vicinity of the Goldenville Property.



**Figure 3** - Surface rights in the area of the Goldenville Property (modified from MacDonald, 2016).

#### 4.5 EXPLORATION PLANS AND PERMITS



The Government of Nova Scotia offers a ‘One Window’ process for reviewing, permitting, and monitoring mineral development projects in the Province. Under this process, all government departments involved with mineral development activities collaborate in order to streamline government oversight. Additionally, Nova Scotia requires “Drill Program Notification” before drilling can be undertaken. These notifications serve as drill permits and take into account private surface rights holders of the claims to be drill as well as surface rights holders that need to be crossed for access. These notifications must be applied for a minimum of 7 days before drilling commences and 30 days after drilling ceases drill collar coordinate details must be submitted.

Osprey is in possession of two currently valid permits:

Permit No. 50D-19-ME-04 (license 50889, 50566, 50508) for the purposes of Prospecting on Crown Lands, which is valid till June 18 2020.

Permit No. 50D-19-ME-07 (license 50508, 50889, 50566) for Mineral Exploration on Crown Land (for the purposes of the 2019 drill program), which is valid till November 19 2020. Osprey has posted a bond in the amount of \$5,000 which will be returned once the site is restored to the satisfaction of the Supervisor and if the Permit holder has complied with all terms and conditions of the permit.

#### **4.6 ISSUER’S TITLE OR INTEREST IN THE PROPERTY**

The claims are 100% owned by 3302051 Nova Scotia Ltd. and under option to Crosby Gold Ltd., pursuant to which Crosby may acquire 100% undivided interest (subject to certain royalties) for aggregate payments of \$1,000,000. Under the terms of this agreement, Crosby has granted certain Gross Metal Royalites of between 1.5% and 2.0%, of which Crosby may repurchase up to half. On March 2nd, 2017, Osprey acquired all issued and outstanding shares of Crosby, at which time Crosby became a wholly owned subsidiary of Osprey. This original agreement was amended 3 different times as listed below, amendment No. 1 and 2. Have been satisfied, while amendment No. 3 remains in effect.

##### Original Option Agreement.

Pursuant to the terms of the Original Option Agreement, in order to exercise the Option and acquire the Goldenville Property, Crosby must make aggregate cash payments totaling \$1,000,000 to 3302051 Nova Scotia Limited over a period of three years as follows:

- \$150,000 paid upon signing the Option Agreement, which payment has been paid as at the date hereof;
- \$250,000 on or before the date that is one year from the date of the Option Agreement;
- \$250,000 on or before the date that is two years from the date of the Option Agreement; and
- \$350,000 on or before the date that is three years from the date of the Option Agreement.

##### Amendment No. 1

The Option Agreement is hereby amended by deleting Section 2.2 (a) (iii) and replacing it with the following:



“(iii) \$125,000 on or before the later of April 14, 2019 and the date that is five (5) business days after the date hereof payable in cash or, at the election of the Optionee on written notice to the Optionor (the “Election”), payable as to \$50,000 in cash and, subject to approval of the TSX Venture Exchange (the “TSXV”), \$75,000 payable through the issuance of common shares of Osprey (the “Osprey Shares”) to the Optionor or, if directed in writing, to the Optionor’s designee, at a price per share equal to the greater of: (i) \$0.05; (ii) the volume weighted average closing price of the Osprey Shares on the TSXV for the 20 trading days preceding the day on the Election; and (iii) the applicable Discounted Market Price, as determined in accordance with the Policies of the TSXV;”.

Amendment No. 2.

The Option Agreement is hereby further amended by deleting Section 2.2 (a) (iv) and replacing it with the following:

“(iv) \$175,000 on or before March 14, 2020, payable in cash or, at the Election of the Optionee, payable as to \$75,000 in cash and, subject to the approval of the TSXV, \$100,000 payable through the issuance of Osprey Shares to the Optionor or, if directed in writing, to the Optionor’s designee, at a price per share equal to the greater of: (i) \$0.05; (ii) the volume weighted average closing price of the Osprey Shares on the TSXV for the 20 trading days preceding the day on the Election; and (iii) the applicable Discounted Market Price, as determined in accordance with the Policies of the TSXV; and”.

Amendment No. 3.

The Option Agreement is hereby further amended by adding the following immediately after Section 2.2 (a) (iv):

“(v) \$300,000 on or before March 14, 2021, payable in cash or, at the Election of the Optionee, payable as to \$100,000 in cash and, subject to the approval of the TSXV, \$200,000 payable through the issuance of Osprey Shares to the Optionor or, if directed in writing, to the Optionor’s designee”, at a price per share equal to the greater of: (i) \$0.05; (ii) the volume weighted average closing price of the Osprey Shares on the TSXV for the 20 trading days preceding the day on the Election; and (iii) the applicable Discounted Market Price, as determined in accordance with the Policies of the TSXV.”.

#### **4.7 ANY OTHER LAND TENURE AGREEMENTS**

There are no other land tenure agreements known to the Authors, in relation to the Goldenville Property, as defined by Table 3. In addition, there are no parks or developments that would interfere with exploration or exploitation of any mineral deposits that might be located on the Property. Although not verified by the QP, Osprey has not revealed any disputes as to title or liens registered on the Property. The website for the Registrar of Mineral and Petroleum Titles ([novaroc.novascotia.ca](http://novaroc.novascotia.ca)) confirms that all claims of the Goldenville property as described in Table 3 were in good standing at the date of this report and that no legal encumbrances were registered with Nova Scotia Department of Natural Resources against the licensees at that date. The author makes no further assertion with regard to legal status of the property. The property has not been legally surveyed to date and no requirement to do so has existed.



#### 4.8 ENVIRONMENTAL LIABILITIES

The following information is taken from Section 3.3 of the 2005 Acadian Technical Report:

*"No formal assessment of site environmental conditions was completed for this report. It is appropriate to note, however, that waste rock piles from past mining operations are present throughout the property area and that one mill tailings deposit of at least 6 hectares surface area is also present. Waste rock piles collectively present potential for acid rock drainage and tailings deposits from Meguma gold deposits typically contain elevated arsenic levels and are also acid generating. A large number of open or collapsed shafts are present in the area and several larger areas of subsidence related to stope collapse are also evident. A few of these features are fenced off at present but most are not marked and therefore present surface hazards."*

*"Sampling of wells in the immediate mine area during 1987-88 showed that arsenic levels exceeding the Canadian Drinking Water Guideline level of 0.006 mg/L were present in three instances and that aesthetic limits for both iron and manganese were exceeded in seven instances. Results of an environmental baseline study in 1987-88 also documented a substantial fish habitat impact from mine tailings extending at least 3 km south from the Stuart Shaft area (Coates and Freckleton, 1988). Presently, MPH Consulting Limited has set up a water monitoring program on the property, but at the time of report preparation no results of this sampling were available."*

In October 2016, the First Author of the current report, Mr. Neil Pettigrew, was engaged by Crosby to perform an internal “Fatal Flaw” Geological Review of the Goldenville deposit (2016 Fladgate Memo). The following information is taken from Section 4.1 of that report:

*"Speaking with Fred Bonner, P.Geo., President of TBL Resource Solutions Inc. and Patrick Whiteway, P.Eng., Manager of Mineral Development and Policy at the Nova Scotia Natural Resources and Mineral Resources Branch (and Chair of the “One-Window” permitting process) in 2013, it was pointed out that the Nova Scotia government has assumed liability for all the historic (pre-1980s) surface workings (shafts pits, adits, etc.) and tailings at the various historic gold mining districts. The current holder of the mineral exploration license is not liable for these historic hazards, unless they disturb them (i.e. reprocess old tailings or re-open old shafts)."*

*"The Goldenville project contains numerous historic exploration and production shafts (>200), waste piles, and tailings areas. In the 1990s the Nova Scotia government GPS'ed as many shafts as they could locate, and back-filled them using waste rock. However, the location of many underground workings are poorly documented or unrecorded and there is a danger of thin crown pillars collapsing."*



*“Numerous tailings areas are present within the Goldenville Property, not contained by any dykes or dams. Fortunately, the tailings contain abundant carbonate and are therefore not acid-generating. Much of the tailings have been re-vegetated. However, they do contain high arsenic concentrations, and arsenic contamination has been documented in the creek leading from the tailings areas to the Atlantic Ocean. There is also the strong possibility of mercury in the oldest tailings, as mercury amalgam was used in the earliest decades of mining at Goldenville.”*

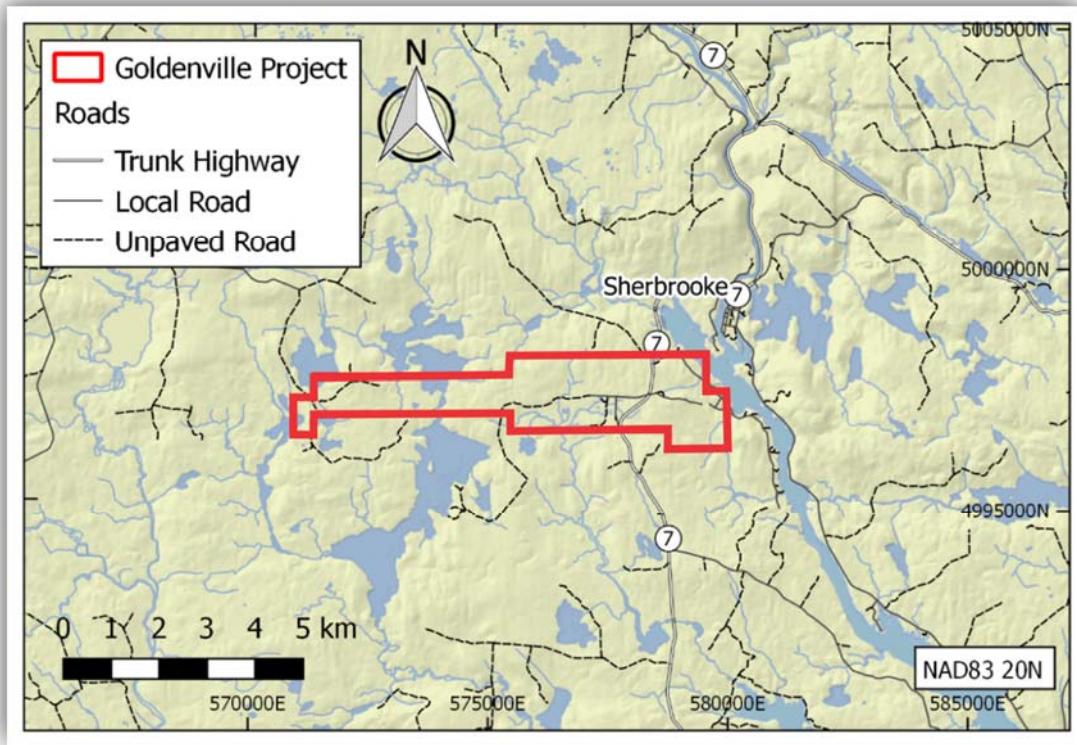
#### **4.9 ANY OTHER SIGNIFICANT RISKS AFFECTING ABILITY TO PERFORM WORK**

As of the Effective Date of this report, there have been no other significant risks affecting the ability to work on the Goldenville Property. There have been no objections to exploration work by any of the local First Nations communities, or any of the patent/lease holders or surface rights owners on the Goldenville Property.

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

#### **5.1 ACCESS**

The Goldenville Property is easily accessed by Provincial Hwy 7, which runs directly through the eastern side of Exploration License 50508. The rest of the property is accessed by unpaved roads that run to the west and east of Hwy 7. The first kilometer of road on the west side of the highway is well-maintained and is used by residents who live along Goldenville Road, while the westerly extension of the road is more rugged and used to access logging operations and cottages located around Mitchell Lake and Big Gasperaux Lake. There is also a well-developed network of trails throughout the property which can be accessed by foot or all terrain vehicle. Property access is illustrated in Figure 4.



**Figure 4** - Project Access Map (from MacDonald, 2016).

## 5.2 CLIMATE AND OPERATING SEASON

Eastern Nova Scotia has a sea climate due to its proximity to the Atlantic Ocean. Its northern latitude (45°N) ensures rigorous seasonal variations, with mild to warm summers and freezing winters with substantial snowfall. Summer conditions prevail on average from early June through Early September and are characterized by modest rainfall (averaging <3.5 mm daily) and daily mean temperatures from 15-20°C. The fall season is cool with frequent periods of rain (~5 mm daily). Temperature will cool rapidly in the fall to allow for freezing winter temperatures bringing ample snow from December through April (> 2 m) and rain on warm days. Spring is wet and will bring both snow and rain. Conditions stabilize in May to June to summer conditions. Field based mineral exploration can be undertaken efficiently from May through late November. Winter programs can be accommodated with appropriate allowance for weather related delays.

**Table 5** - Climate Data for Stillwater Sherbrooke Station (Environment Canada).

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C	17.5	14.5	25.5	23.3	32	35	34	34.5	32.2	26.7	18.5	15.5	35
Avg high °C	-1.2	-0.2	3.6	8.6	14.9	20.3	24.2	24	20.2	14.2	8.1	2.6	11.6
Daily mean °C	-6.2	-5.3	-1.2	4.1	9.5	14.5	18.5	18.6	14.6	9	4.1	-1.6	6.6
Avg low °C	-11.2	-10.3	-6.1	-0.4	3.9	8.7	12.9	13.1	9	3.8	0.1	-5.8	1.5
Record low °C	-31	-39	-29	-12.5	-6.1	-2.2	3.5	1.7	-3	-7	-15.5	-32.5	-39
Avg precipitation mm	130.5	114.6	130.1	111.9	119.4	112.7	96.3	110.4	138.5	139.4	165.4	155.7	1,525
Avg rainfall mm	86.1	69	101.2	100.1	118.8	112.7	96.3	110.4	138.5	139.3	155.8	118.7	1,347
Avg snowfall cm	44.5	45.6	28.9	11.8	0.6	0	0	0	0	0.1	9.6	37	178

### 5.3 INFRASTRUCTURE AND LOCAL RESOURCES, POWER, WATER, PERSONNEL, POTENTIAL TAILINGS STORAGE, WASTE DISPOSAL, HEAP LEACH PADS, PROCESSING PLANT SITES

Sherbrooke is a 5-minute drive from the project site and provides access to basic services such banking, gas/service stations, a grocery store, restaurants, accommodation and a hospital. Power, telephone service (landline and cellular), satellite TV, and high-speed Internet service are available at the Goldenville site. More extensive services are available in the nearest larger urban centre of Antigonish, which is a University town ~60 km to the north and serves as a substantial supply base for exploration and potential personnel needs. The Halifax Stanfield International Airport is 185 km from Goldenville via paved highways.

A deepwater port and shipping terminal are located in Halifax. Ample construction and heavy equipment contractors are based in Guysborough and Antigonish counties. Many of these contractors were involved in the construction of the Sable Offshore Energy and Gas plant at Goldboro. Likewise, the associated pipeline infrastructure of Maritimes and Northeast Gas Pipeline Ltd. relied on the local workforce. Other projects in the area included the refurbishing of the Nova Construction 300-ton mobile asphalt plant. The local workforce is well-trained but does not have experience with recent mining operations. Unemployment in the predominantly rural area is slightly higher than the provincial average of 8.2%.

As this project is still in the early stages of exploration and resource definition, it is premature to provide details on potential tailings storage, waste disposal sites, heap leach pads, and processing plant sites.

### 5.4 PHYSIOGRAPHY

The Goldenville Property is topographically flat and is situated at 55 meters asl on average. The southern central part of the Goldenville Property is swampy, and the eastern edge is crossed by the St. Mary's River. Bedrock



exposure is limited to ~5% due to extensive cover by glacial till. A review of drilling records indicates that regolith ranges in thickness from 1-8 m. Upper till zones may be far traveled where “drumlinoid” structures are present. These upper till zones commonly overlie a locally-derived basal till unit. The original vegetation on the Goldenville property was dominated by balsam fir, spruce, and hemlock, with isolated occurrences of hardwood, however historic mining activities disrupted this characteristic cover with deforestation activities and the emplacement of waste rock piles. A substantial portion of the property is now at various stages of forest re-growth.

## 6 History

### 6.1 HISTORIC GOLD PRODUCTION IN GUYSBOROUGH COUNTY, NOVA SCOTIA

The Goldenville Gold District is one of many historic mining districts within Guysborough County, Nova Scotia, that have had past gold production (Table 6). Gold production at Goldenville far exceeds production in these neighbouring districts, however.

**Table 6** - Historic production by mining district ([Sangster and Smith, 2007](#)).



Gold District	Years		
	Active*	ounces	grams
Goldenville	1862-1941	209383	6511821
Caribou	1869-1968	91336	2840543
Oldham	1862-1946	85178	2649020
Waverly	1862-1940	72567	2256821
Montague	1863-1940	65197	2027624
Upper Seal Harbour	1893-1958	57846	1799001
Renfrew	1862-1958	51596	1604620
North Brookfield	1887-1936	43148	1341887
Wine Harbour	1862-1939	42347	1316976
Salmon River (Dufferin)	1881-1939	41805	1300148
Isaacs Harbour	1862-1958	39694	1234493
Lower Seal Harbour	1894-1949	34188	1063253
Molega	1888-1950	33460	1040612
Mount Uniacke	1867-1941	27737	862621
Tangier	1862-1919	26287	817510
Moose River*	1888-1939	25917	806025
Forest Hill	1895-1957	25102	780685
Fifteen Mile Stream	1879-1941	21220	659930
South Uniacke	1888-1948	20762	645701
Lake Catcha	1887-1961	17962	558603
Other		165889	5159154
Total		1198619	37277048

\* Moose River production prior to 1888 included with Caribou

## 6.2 EARLY PRODUCTION AT GOLDENVILLE (1861-1941)

Gold was first discovered on what now forms the current Goldenville Property in 1861, and by 1862 over 2,000 ounces of Au had been produced from 7 different veins. The original Goldenville “camp” was divided into individual mining blocks that were 250 x 150 ft in size. Mining continued vigorously, and by 1869 a large number of shafts had been developed and as many as 19 individual companies were in operation (Malcolm, 1929).

By 1871 the balance of production was from five mines that were worked on a year-round basis. The Wellington Company worked the Cumminger lode and Dewar lode with shafts developed to a depth of 480 ft. The New York and Sherbrooke Company worked on a number of gold lodes but focused on the North lode and Harrison lode for the balance of production. Shafts were developed to a depth of 200 ft and 210 ft, respectively. The Palmerston Company worked the Palmerston lode to a depth of 120 ft and shafts were sunk on the Striker and Snow lodes to a depth of ~100 ft. The Dominion Company also worked the Palmerston lode and the Caledonia Company worked the Ferguson, Caledonia and Wilson lodes.



Production slowed in 1870 but by 1875 gold production began to increase again with 5,818 ounces of gold being recovered from 6,443 tons of rock. The balance of this production, 3,000 oz, was by the Wellington Company from the Cumminger and Dewar lodes. By 1880, the Dewar shaft was 550 ft deep and the company began development on the Murray lode immediately to the north. The Pactolus Gold Mining Company began to consolidate several mining properties in the area including the Palmerston lode in 1882. These large lower-grade belts were mined over widths of up to 2.1 m (7 ft) and produced 3,300 tons of ore.

The Bluenose Gold Mining Company also consolidated smaller properties and by 1900 was the largest mining company in the area, having sixty men working on two belts in the eastern part of the district. At this time the company recovered 4,588 ounces of gold from 14,316 tons of ore. Veins in this area were typically vertical to sub-vertical and fairly continuous. Most production was from the Springfield (referred to herein as the “CED” for ease of correlation) and McNaughton (referred to herein as “Roy2” for ease of correlation) leads, and to a lesser extent from the South, Cobourg, Cantley, and Fraser leads.

In 1912 the Goldenville Mining Company also began to consolidate holdings in the area and commenced construction of a hydroelectric station along the Liscomb River. Between 1914 and 1917 the company produced 4,520 oz gold from 44,795 ton of ore. From 1919 to 1928 most of the production from the Goldenville site was through the Stuart shaft in the central part of the property. Production during this period totalled 5,597 oz of gold recovered from 36,912 tons of ore ([Malcolm, 1929](#)).

Guysborough Mines Ltd. operated the property between 1935 and 1941, which represented the last period of gold production from the area. During this time 170,139 tons of ore was milled at an average recovered gold grade of 7.12 g/t Au ([Bottrill, 1987](#)). Production was focused on a number of veins along the south side of the anticline in workings that were developed to depths of up to 600 ft (183 m). The mine was closed in part due to manpower problems related to the Second World War.

The Goldenville Gold District has the highest reported gold production of any district in Nova Scotia. Recorded past production on the Goldenville Property between 1861 and 1941 reveal an estimated total gold production of 211,038 oz. Au from 551,797 tonnes of ore. This indicates an average historic recovered grade of 11.97 g/t Au ([Malcolm, 1929](#); [Bottrill, 1987](#)). A summary of early mining and production is found in Table 7.

**Table 7** - Production Summary (from Bottrill, 1987).

Year(s)	Event	Production (oz. Au)
1861	Gold discovered by farmer Nelson Nickerson of Sherbrooke, N.S.	
1862-1872	First goldrush at Goldenville, prospecting and production of gold by many companies, 19 companies operating by 1869, many short-lived. By 1871, five companies remain in operation.	57,979
1873-1893	Second goldrush at Goldenville, mining properties worked largely by tributers (prospectors and miners who worked for a rental fee).	61,948
1894-1906	Third goldrush at Goldenville, improved mining and milling methods employed, systematic exploration based on mapping by Faribault of the GSC.	38,629



1907-1918	Pre-war and WW1 era, intermittent activity by various operators, limited capital, low gold price, limited production.	5,226
1919-1929	Maritime depression, limited capital, low gold price, limited production.	7,609
1935-1941	Great Depression, gold price doubles between 1931 and 1934, renewed interest, mining by Guysboro Mines Ltd., mining ceases in 1941 due to labour and supply shortages associated with World War II.	39,765
Total Recorded Gold Production:		211,038

There has been no mining at Goldenville since 1941, and there is no record of exploration activities between 1941 and 1961.

### 6.3 EXPLORATION (1961-PRESENT)

Exploration work on the Goldenville Property from 1961 to the present time is summarized in

Table 8. A more detailed accounting of various exploration activities follows this table, including drill results and relevant references. There has been 13 different drill programs totaling ~ 36,000 m on the property since 1961.

**Table 8** - Summary of historical Goldenville property exploration.

YEAR	COMPANY	Type of Exploration Work Performed
1961	Denison Mines Ltd.	Drilled 6 holes to test for “reef-style” veins on the south limb of the anticline, results were not encouraging.
1974	Goldscotia Mining Corp.	Tailings sampling, 4 drill holes by A.C.A. Howe Int. Ltd. Anticinal structure located and further drilling recommended.
1974-1976	Alamo Petroleum Ltd. / Rosario Resources Corp.	Ground VLF-EM survey, dump rock and till sampling around Bluenose Mine, 2 diamond drill holes around Wellington Mine. VLF survey traced fold axis, 3 conductors identified and drilling recommended.
1981	Northumberland Mines / Novagold Resources Inc.	>21,000 m line-cutting, airborne VLF-EM and magnetometer surveys, ground VLF-EM, 213 tailings samples, 6 BQ drill holes to test quartz veins outlined by Faribault (1898), VG found in 5 holes.
1982-1984	Seabright Resources	840 tailings samples, resource estimate on tailings, metallurgical testing performed.
1984	Goldenville Exploration Ltd. / Northumberland Mines Ltd.	55 NQ drill holes (6143 m) (results in Table 10), 3,500 tonne bulk sample near Stuart shaft with poor results due to collapse of pit floor and wall rock dilution.
1985	Inco Ltd.	9 drill holes (2,134 m) west of Stuart shaft, “significant” results returned from 15 horizons.
1987	Northumberland Mines Ltd. / NovaGold Resources Inc.	Geophysical surveys (VLF, magnetics, IP), 17 NQ drill holes (6 later extended), 24 further holes drilled.
1988	Northumberland Mines Ltd. / NovaGold Resources Inc.	Dewatered Stuart shaft, rehabilitated old workings, underground panel sampling, geological mapping, 8 AX underground drill holes (4 on 260' level, 3 on 600' level, 1 on 500' level), 10 NQ holes on surface.
1993	Prodigy Resources	Trenching program in the Bluenose Mine area.
1994	Goldenville Mining	Technical report on the Goldenville property.
1997	Gammon Lake Resources	2 NQ drill holes on Mitchell Lake claims (3 km west of old workings).
2003-2006	Acadian Gold Resources	3 NQ drill holes, 43-101 resource estimate by Mercator Geological Services Ltd (2005), 8 NQ drill holes (2006).
2012-2016	Goldworx NS	24 surface drill holes, totaling 741m, unlogged and unsampled. Goldworx allows the Goldenville property to lapse



YEAR	COMPANY	Type of Exploration Work Performed
2017-present	Osprey Gold	Options the project in 2017, and expands the property to include the Mitchell Lake zone to the east of the historic Goldenville mine. Acquires, logs and samples 2014 Goldworx drill holes, conducts drilling programs in 2017 and 2019 consisting of 31 holes totaling 5,888m, conducts high resolution airborne mag, and desktop structural studies

After the long pre-war period of mining and production on the Goldenville Property, exploration started again in 1961 with Denison Mines conducting a small diamond drill program with 6 drill holes. The purpose of these holes was to test for ‘reef’-style veins on the south limb of the anticline, near the westerly end of the anticlinal dome. The results were not encouraging and no further work was undertaken on the property (Robinson, 1961).

A.C.A. Howe International Ltd. completed an exploration program for Goldscotia Mining Corp. in 1974 ([Huxhold, 1974](#)), which included sampling the tailings south of the Guysborough Mines. Results identified anomalous zones adjacent to a stream cutting through the tailings area. A 4-hole diamond drilling program was recommended to test slate beds on the south limb of the Goldenville anticline in the area of the Bluenose Mine.

In 1975 and 1976, Alamo Petroleum Ltd./Rosario Resources Corp. conducted mineral exploration on the Goldenville property. The program included a ground VLF-EM survey, dump rock and till sampling, and two diamond drill holes. The EM survey was successful at defining subtle conductors, which appeared to be associated with the axis of the Goldenville anticline ([Middleton, 1976](#)). Rock samples from the dump rock in the Bluenose Mine area and petrographic studies identified gold associated with quartz veining, but not in the country rock. A till sampling program was not successful in identifying down-ice dispersion from known gold zones. In 1976, two drill holes were completed in the Wellington Mine area. The first hole was drilled to a depth of 527.5 ft (160.7 m) and was stopped due to a change in bedding. The second hole intersected the Wellington mine workings and was shut down at a depth of 902 ft (275 m). The drilling determined that no significant gold values occur in the country rock and that quartz veins did not carry values in the Wellington Mine area ([Middleton, 1976](#)).

In 1981, Northumberland Mines Ltd./NovaGold Resources Inc. conducted an extensive survey that included 71,000 ft of cut grid, airborne and ground geophysics, humus sampling, geological mapping, and diamond drilling. Saunders Geophysics completed an airborne VLF-EM and magnetometer survey that defined a coincident anomalous zone 1,000 ft (305 m) wide and 6,000 ft (1,829 m) long in the area of the old workings. A second coincident zone to the west was thought to define the western extension of the main anomaly (Harrington, 1981). Ground VLF-EM outlined a number of east-west trending conductors, which roughly parallel the anticlinal trend. A total of 1474 humus samples were collected, returning anomalous gold values. These results however, were later disregarded as the roughly 200 anomalous samples had been collected from the tailings area, and were therefore likely contaminated. Northumberland Mines drilled 6 BQ holes totalling 3,405 ft (1,037.8m) to test quartz veins outlined by Faribault in his 1898 map, and 5 of the holes reported visible gold ([Harrington, 1981](#)). The significant intersections are summarized in Table 9. Due to the success of these holes, additional drilling was recommended for other areas of the anticlinal axis.

**Table 9** - Northumberland Mines Drilling Highlights (1981).

Hole ID	From (m)	To (m)	Length (m)	Au (g/t)
G1	71.02	71.63	0.61	3.09
G1	80.62	80.92	0.3	1.03
G1	109.73	110.03	0.3	3.43
G1	151.33	151.64	0.31	2.74
G2	65.07	65.38	0.31	21.26
G2	76.05	76.35	0.3	1.03
G2	76.35	76.66	0.31	1.71
G2	85.34	85.8	0.46	1.03
G2	89.15	89.46	0.31	20.91
G2	100.43	100.74	0.31	1.37
G2	124.36	124.66	0.3	2.74
G2	137.46	137.77	0.31	1.03
G2	142.95	143.26	0.31	40.80
G3	43.13	43.43	0.3	15.77
G3	54.41	54.71	0.3	4.22
G3	57.61	57.91	0.3	39.09
G3	68.88	69.49	0.61	1.03
G3	69.49	69.95	0.46	12.00
G3	81.5	81.81	0.31	1.71
G3	87.17	87.48	0.31	195.43
G3	87.48	87.78	0.3	123.09
G3	87.78	88.39	0.61	5.83
G3	89	89.61	0.61	3.09
G3	126.19	126.8	0.61	6.51
G3	127.8	128.11	0.31	2.40
G3	135.03	135.33	0.3	1.03
G4	44.35	45.57	1.22	2.40
G4	47.95	48.25	0.3	4.11
G4	49.68	49.99	0.31	19.54
G4	63.55	63.86	0.31	1.37
G4	64.92	65.38	0.46	48.34
G4	74.07	74.37	0.3	36.00
G4	78.33	78.94	0.61	1.03



Hole ID	From (m)	To (m)	Length (m)	Au (g/t)
G4	81.38	81.69	0.31	1.03
G4	85.04	85.34	0.3	1.71
G4	103.33	103.94	0.61	1.03
G4	140.06	140.36	0.3	42.86
G5	9.97	10.27	0.3	1.37
G5	31.85	32.16	0.31	10.29
G5	49.23	49.68	0.45	3.09
G5	70.26	71.02	0.76	20.23
G5	106.19	106.65	0.46	6.86
G5	114	114.3	0.3	1.03
G5	134.45	134.75	0.3	1.71
G5	142.34	143.26	0.92	1.37
G6	78.03	78.64	0.61	2.40
G6	92.26	93.33	1.07	4.46

In 1984, Goldenville Exploration Ltd./Northumberland Mines Ltd. conducted an extensive drill program in which 55 holes were drilled totaling 20,153 ft (6143 m) ([Jones, 1984](#)). The program focused on a widely-spaced series of deep drill holes and a second phase of follow-up drilling in the areas of interest. A stratigraphic correlation completed by Jones suggested that mineralization on the north and south sides of the anticline occur within the same stratigraphic interval. Jones also suggested that mineralization within the hinge area of the anticline appeared to be controlled by the plunge of the structure. He recommended that a good target area for further work would be north and northwest of the Guysborough Mine where the south limb of the anticline converges with an increase in the plunge of the anticline ([Jones, 1984](#)). Selected significant intersections are summarized in Table 10.

**Table 10** - Selected significant drill intersections from 1984 Goldenville Exploration Ltd.

Hole ID	From (m)	To (m)	Length (m)	Au (g/t)
G8	52.73	53.19	0.46	47.190
G9	143.04	143.50	0.46	60.750
G10	17.07	17.37	0.30	146.510
G13	120.09	120.40	0.30	43.130
G15	414.44	414.74	0.30	38.150
G16A	16.67	17.10	0.43	191.120
G16B	16.67	16.98	0.30	210.514



Hole ID	From (m)	To (m)	Length (m)	Au (g/t)
G18	133.35	134.14	0.79	260.000
G20	171.21	171.51	0.30	50.690
G23	174.47	175.02	0.55	54.120
G25	87.17	88.70	1.52	76.260
G26	142.34	143.87	1.52	43.490
G27	37.64	37.95	0.30	35.800
G45	55.11	55.41	0.30	74.510
G51	24.99	25.30	0.30	88.280
G54	90.83	91.44	0.61	80.300
G61	59.74	60.20	0.46	49.660

In 1984, Goldenville Exploration Ltd. excavated a small open cut on six stratabound veins near the Stuart Shaft and ~3,500 tonnes of vein and wall rock were recovered as a bulk sample for processing in a small onsite mill. Collapse of the pit floor into old stopes prevented selective mining and resulted in a high waste rock dilution factor.

In 1985, Inco Ltd. tested a section of the anticlinal closure zone immediately west of the Stuart shaft through completion of 9 vertical drill holes along two section lines. Although deviation problems were encountered, significant results were returned from 15 separate horizons ([Jones, 1985](#)). None of these, however, met minimum grade and width thresholds established by Inco Ltd.

In early 1987, MPH Consulting Ltd. initiated a major exploration program at Goldenville on behalf of Northumberland Mines Ltd. and NovaGold Resources Inc. NovaGold acquired Northumberland in 1988 and continued the exploration program initiated in 1987. Over the next 18 months, surface programs of grid cutting, geophysical surveying, geological mapping, diamond drilling and geochemistry were completed. Additionally, the Stuart shaft at the Guysborough Mines site was rehabilitated and the workings dewatered to allow completion of underground sampling, mapping, diamond drilling and bulk sampling programs. A 5000 tonne underground bulk sampling program was also planned for this stage of investigation but the project was abandoned at the end of August 1988 before the bulk sampling phase could be carried out. [Coates \(1989\)](#) reported that primary objectives of the 1988 program were not met due to early closure of the project. Subsequent to 1988 no further work was completed on the property by Northumberland/NovaGold and the claims were allowed to lapse in 1993. Results of the extensive exploration work carried out during the 1987-88 period are integral to the current assessment of the Goldenville property's exploration potential. On this basis, specific results of the programs are discussed in detail.

MPH completed a variety of ground geophysical surveys in order to determine if a geophysical signature could be established to better define the areas of known mineralization and be used to define areas of new mineralization. The survey methods used included ground total field magnetics, very low frequency (VLF)



eletromagnetics and induced polarization surveys. The geophysical surveys completed by MPH were successful in outlining the trace of the Goldenville anticlinal axis and the broad boundaries of the Goldenville mining district. [Gledhill \(1987\)](#) also suggests that the survey identified trends that may represent conductive stratigraphy suitable for gold mineralization, thus extending the areas of known gold mineralization.

In the area of the Stuart shaft workings no single geophysical response appears to define the mineralized zones. However, broadly coincident magnetic, resistivity and chargeability responses seem to define the main Goldenville anticlinal trend. The number and frequency of geophysical responses also define a broad anomalous zone that is coincident with the known areas of gold mineralization and past mining.

In the eastern area of the property near the old Bluenose Mine geophysical responses are generally narrow and define a single trend of coincident magnetics, VLF-EM and IP/resistivity. These also appear to broadly define the area of past mining and known gold mineralization. Compilation of interpreted survey results and summary descriptions of each survey component appear below.

A total of 86 km of cut grid was surveyed using an EDA PPM 350 portable magnetometer with an EDA PPM 400 base station was utilized for diurnal correction. The collected data was processing by MPH and presented as a series of contoured plan maps. For the purpose of this report contour data was assessed and appeared to be of good quality and presented in a logical and systematic fashion.

The total field magnetic responses define a general east west trending weak to moderate magnetic high that appears to outline the core of the Goldenville anticline. [Bottrill \(1987\)](#) reported a background reading of about 54,185 nT and found that the range in amplitude of the magnetic signature is 15 to 200 nT. Cultural effects were also noted through the central part of the survey area and are related to houses and old mine working in the area of the Stuart shaft.

The strongest magnetic signature is narrow at the east end of the survey area, widens to the west, and generally includes the areas of known auriferous zones and the Goldenville mine workings. Several northwest trending structural features were also interpreted and subtle offsets are defined in the data. The moderate magnetic signature through the central part of the property is thought to represent concentrations of pyrrhotite mineralization associated with slate beds near the axis of the Goldenville anticline. Similar subtle magnetic signatures associated with pyrrhotite mineralization are known to the author in other Meguma gold areas and have been successfully used to trace prospective quartz vein hosting slate units.

MPH identified a second area along the southern part of the grid with a very weak magnetic signature that clearly shows continuity in an east-west direction defines this area. [Bottrill \(1987\)](#) suggested that this weak anomaly might be due to a decrease in the amount of pyrrhotite present within the rocks and a lower proportion of argillite. He also described north-south trending faults in addition to west-northwest, east-southeast and west-southwest splays that appear to radiate from the anticlinal axis.

A total of 34 km of grid was surveyed using a Geonics EM-16 VLF electromagnetic unit reading the Cutler (NAA) transmitting station. The survey identified a number of east-west striking conductive features that appear to be conformable with the general geological trend. [Bottrill \(1987\)](#) described 6 anomalies within the survey area. The



most significant of these being an east trending, moderate to strong amplitude linear feature located immediately south of the trend of the Goldenville anticlinal closure. Although observed to be nearly coincident with the Goldenville anticlinal closure, MPH interpreted this anomaly to be associated with a steeply dipping shear zone that was mapped by previous exploration programs and also intersected by diamond drilling. Additional anomalies are described north and south of the Goldenville anticline with the strongest of these coinciding with the northern limit of the known gold district. Anomaly V2 is described by [Bottrill \(1987\)](#) as occurring south of the area of historical mineralization, having a east-southeast trend and being semi-coincident with a moderate magnetic high. The feature is thought to represent a shear zone or conductive stratigraphy. Other weaker anomalies within the survey area are also described as being associated with faults or conductive stratigraphy, but these also cannot be directly related to gold mineralization.

MPH also completed a 42 km survey using a Geonics TX27 Portable VLF Transmitter and EM16 VLF Electromagnetic Unit that utilizes a local transmitter and a grounded long wire antenna running paralleled to the cut survey lines. The purpose of this survey was to produce a transmitted VLF field that would couple with north-south features crosscutting both stratigraphy and the axis of the Goldenville anticline. A number of weak to moderate strength anomalies were identified by this survey but many were attributed to the influence of culture in the area. Several of the north-south trending features were found to be coincident with magnetic anomalies and rationalized as being associated with fault.

A total of 32 km of cut grid was surveyed using an M-4 Induced Polarization Receiver and 2.5 kW Transmitter with a nominal line spacing of 50 m within the historic mining area and spacings of 100 m for the remainder of the property. Culture was a factor within the area of the old mine workings where shafts, near surface stopes, foundations, fences and houses are located.

The Induced Polarization (IP) survey results define a broad east-west trending chargeability feature that is generally coincident with the known trend of the Goldenville anticline. More specifically, this chargeability feature is a narrow response coincident with resistivity and VLF-EM anomalies through the central part of the property. It is best developed along the southern part of the anticlinal trend but to the north occurs as discrete individual highs parallel to the north limb of the anticline. [Gledhill \(1987\)](#) described the anomaly in detail and interpreted it to reflect disseminated pyrrhotite and arsenopyrite within underlying lithologies along the anticline. Discrete zones within the broad chargeability feature appear to be coincident with zones of past gold production and are interpreted to reflect concentrations of sulfide and carbonaceous material within the mineralized stratigraphy.

Apparent resistivity anomalies are generally coincident with both VLF-EM and magnetic anomalies in the central part of the property. The main resistivity response is also coincident with the main chargeability trend. This resistivity low forms a narrow linear east-west feature that defines the main Goldenville anticlinal trend. In general, apparent resistivity responses are narrower near the east end of the property and broaden to numerous discrete responses in the western part of the property. [Gledhill \(1987\)](#) concluded that width of apparent resistivity anomalies was greatest near cross cutting structures and that discrete apparent resistivity lows are



often coincident with areas of known gold mineralization defined by drilling, this potentially being a reflection of sulphide-enriched stratigraphy.

In early 1988, MPH initiated an underground exploration program on behalf of NovaGold at Goldenville. At that time it was felt that additional surface diamond drilling would not significantly enhance the understanding of the gold bearing quartz veins or allow for the establishment of *insitu* resources or reserves. [Coates and Freckelton \(1989\)](#) provided the following four objectives for the underground program: 1) to complete geological mapping of the old workings in order to provide a better understanding of gold distribution within the vein deposits, 2) to establish reserves with a high degree of confidence through underground diamond drilling, drifting and bulk sampling 3) to carry out mining engineering studies in conjunction with the bulk sampling in order to determine appropriate mining methods, stope development costs and dilution factors for use in a feasibility study, 4) to conduct a mill test on a 5000 ton bulk sample using the NovaGold metallurgical test facility at Cochrane Hill.

Workings were dewatered to the bottom, or 600 ft level, of the Guysborough Mines Ltd. Stuart shaft workings between March and June 1988. The shaft and associated timbering were found to be in generally good condition below the water table but a new concrete collar was constructed between the bedrock and surface elevations and the three compartment shaft was rehabilitated to meet safe access requirements. With the exception of the 160 ft level where surface breakthroughs in some old stopes were present, the workings were found to be in generally good condition. Temporary hoisting equipment and pumping facilities were installed to support the planned geological and bulk sampling programs.

Underground exploration completed in 1988 consisted of geological mapping, panel sampling and a limited amount of diamond drilling which is described in Section 10 Drilling. Detailed geological maps were completed for accessible parts of the 260 ft level, 400 ft level, 500 ft level, and 600 ft level and panel sampling of exposed quartz veins was completed where possible. In stoped areas with very high backs no sampling was completed but sill sampling was carried out in one such instance (Anderson stope – 640 foot decline level) to provide partial sample coverage of the stoped area. Typically, 1-2 m long samples were collected along the vein with sample size averaging about 4 kg. All samples were sent to Chemlab Ltd. for pulp and metallics assay techniques ([Coates and Freckelton, 1989](#)).

Results of the limited underground sampling program confirmed the gold bearing character of many of the quartz veins developed by the workings and in some cases indicated potential for further extension of the known mineralized zones. Samples returned gold values ranging from <1 g/t to over 200 g/t. Results of the sampling and mapping programs are documented in a series of 1" to 20' scale level plans that accompany the report by [Coates and Freckelton \(1989\)](#).

Geology, assay plan and stope outline information reviewed for this report showed that several areas within the existing workings present vein grades and widths of potential economic interest. In some instances these areas define unmined extensions to previously stoped grade shoots and in others they define potential for development of entirely new grade shoots.



Table 11 highlights significant analytical results of the underground sampling program and shows that 10 separate veins, these being the Young, North, MacKay, Derry, Canada, Anderson, CED, Sulfide, Rix and Ashley returned results of “potential economic interest”. Not all veins in the workings were sampled.

Figures 5-8 are summarized level plans for the Stuart shaft workings showing specific unmined areas that are of particular interest based on 1988 sample results.

**Table 11** - Selected underground sampling results from Acadian Gold (1988) (Coates and Freckleton, 1989).

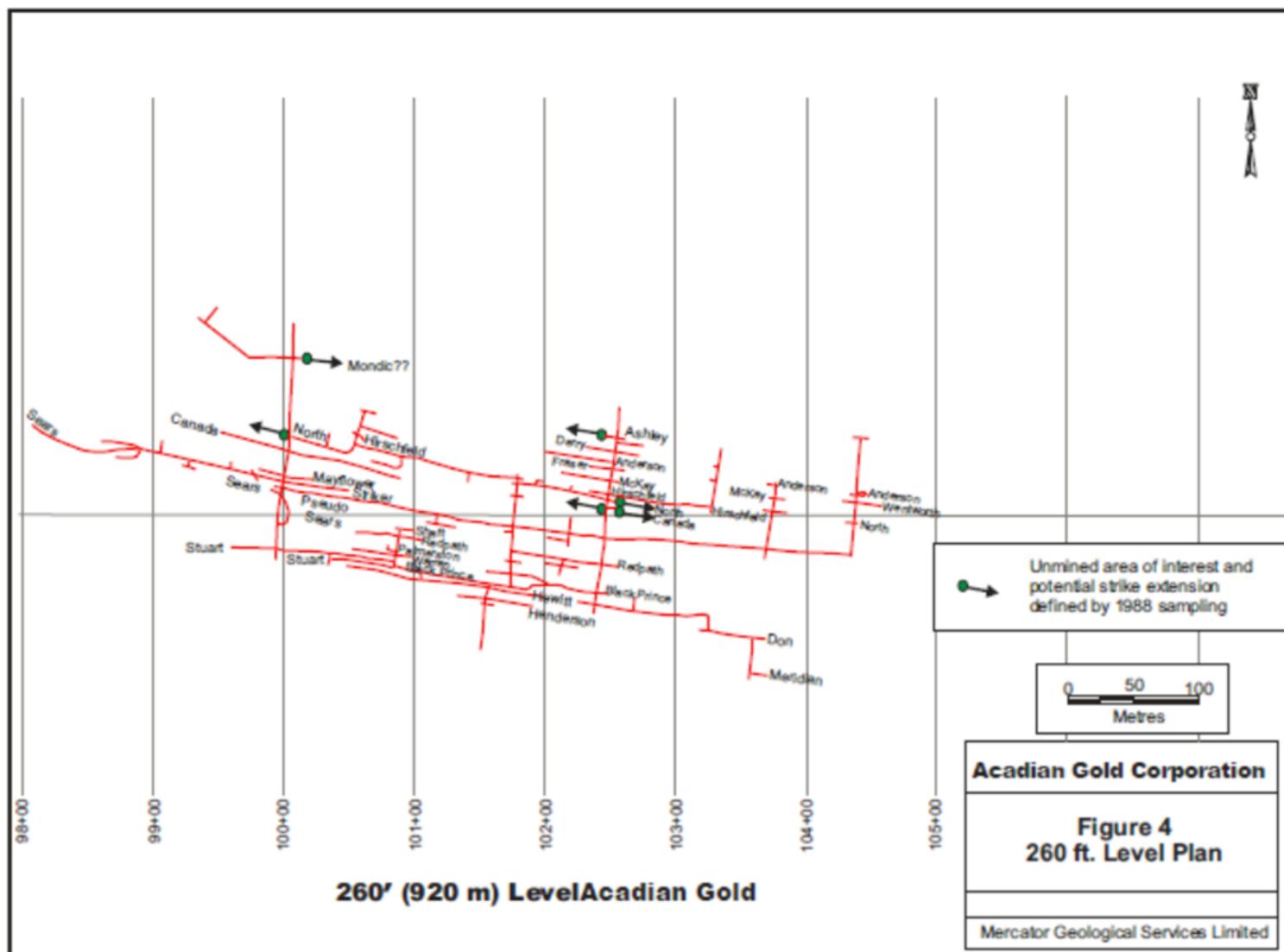
Vein	Mine Level	Mine Heading	*Sample Type	Au (g/t)	**Width (m)
Young?	260	202 x-cut	B	33.52	NI
Young	260	202 x	B	51.85	NI
Young		202 x	B	21.90	NI
North	260	202 x	B	25.11	NI
North		202 x	B	49.10	NI
North		202 x	B	35.38	NI
MacKay	260	202 x-cut	B	63	NI
Young	260	216 x-cut	B	18.2	0.3
Derry	260	216 x-cut	B	23.0	NI
Canada	260	224 x-cut	B	15.99	0.3
North	260	224 x-cut	B	19.21	NI
Anderson	500	516 drift	B	47.9	Avg. 0.2
Anderson	500	516 drift	B	41.11	Avg. 0.2
Anderson	500	516 drift	B	14.73	Avg. 0.2
Anderson	500	516 drift	B	60.24	Avg. 0.2
Anderson	500	516 drift	B	25.9	Avg. 0.2
Anderson	500	516 drift	B	17.82	Avg. 0.2
Anderson	500	516 drift	B	48.29	Avg. 0.2
Anderson	500	516 drift	B	28.48	Avg. 0.2
Anderson	500	516 drift	B	46.74	Avg. 0.2
Anderson	500	516 drift	B	17.31	Avg. 0.2
Anderson	500	516 drift	B	45.7	Avg. 0.2
CED	500	514 drift	B	204.26	0.08-0.15
CED	500	514 drift	B	23.75	0.08-0.15
CED	500	514 drift	B	29.74	0.08-0.15
CED	500	514 drift	B	18.07	0.08-0.15
CED	500	514 drift	B	25.37	0.08-0.15
Sulphide	500	516	B	104.59	0.10-0.20
Ashley	500	516	B	94.08	0.03-0.04
Ashley	500	516	B	27.55	0.03-0.04
Rix	500	524 drift	B	58.37	0.10-0.15
Anderson	600	602 x-cut	B	31.95	0.25
North	600	North Drift	B	19.05	0.15
North	600	North Drift	B	21.07	0.35
North	600	North Drift	B	28.15	0.12
North	600	North Drift	B	14.22	0.31
North	600	North Drift	S	43.26	0.11
North	600	North Drift	S	26.05	0.12
North	600	North Drift	S	4.8	0.13



## Osprey Gold Development Ltd. – Goldenville Project

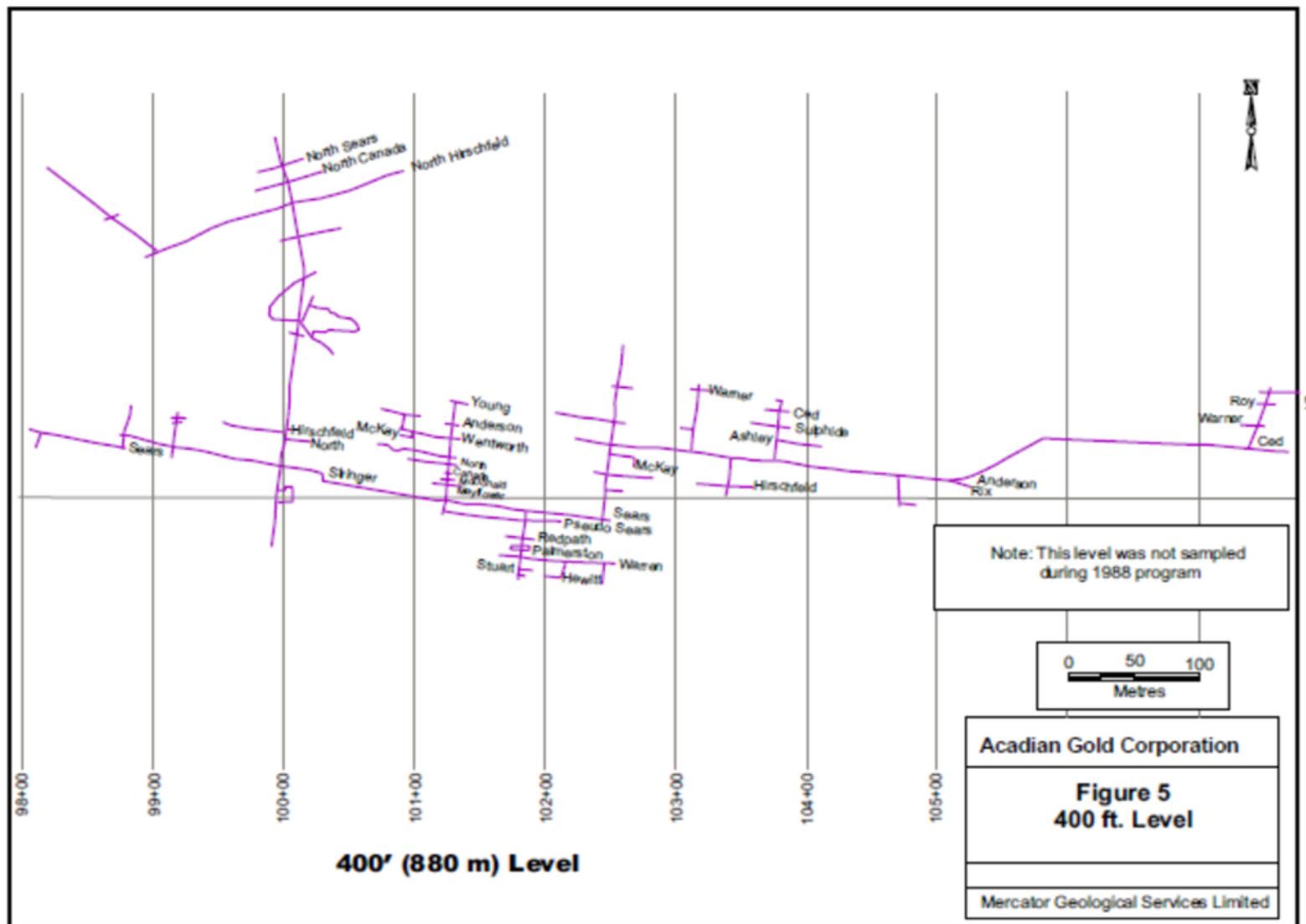
Vein	Mine Level	Mine Heading	*Sample Type	Au (g/t)	**Width (m)
North	600	North Drift	S	66.6	0.12
North	600	North Drift	S	46.26	0.12
North	600	North Drift	S	48.91	0.13
North	600	North Drift	S	18.49	0.14
North	600	North Drift	S	28.26	0.14
North	600	North Drift	S	28.68	0.14
North	600	North Drift	S	1.82	0.15
North	600	North Drift	S	23.73	0.15
North	600	North Drift	S	6.91	0.18
North	600	North Drift	S	8.76	0.13
North	600	North Drift	S	23.78	0.13
North	600	North Drift	S	22.07	0.16
North	600	North Drift	S	7.95	0.16
North	600	North Drift	S	33.02	0.16
North	600	North Drift	S	2.51	0.20
North	600	North Drift	S	6.65	0.19
North	600	North Drift	S	69.03	0.19
North	600	North Drift	S	8.26	0.16
North	600	North Drift	S	25.12	0.21
North	600	North Drift	S	47.38	0.19
North	600	North Drift	S	5.65	0.22
North	600	North Drift	S	3.06	0.24
North	600	North Drift	S	11.10	0.19

\* B denotes back sample panel, S denotes sill sample panel



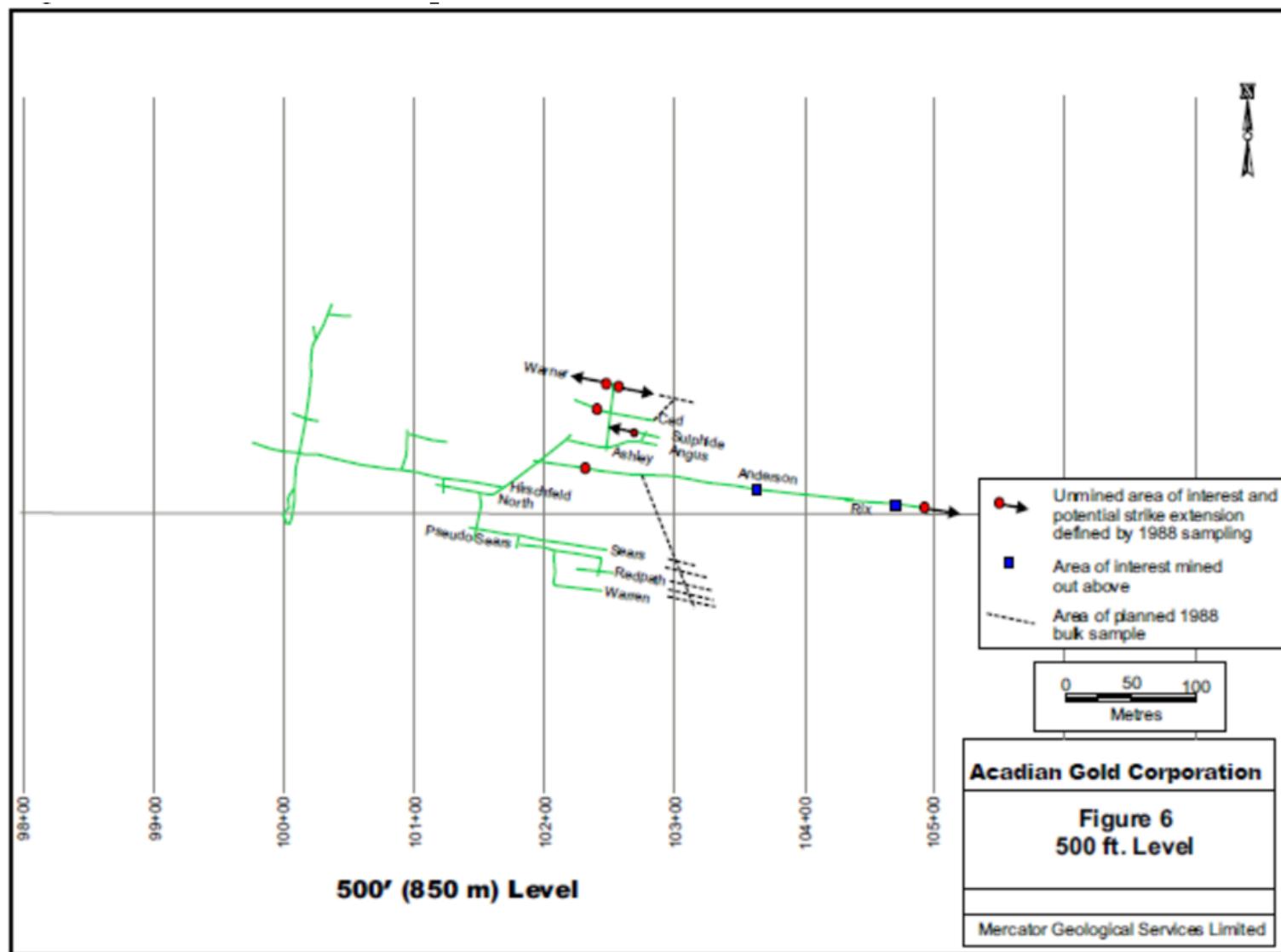


**Figure 5** - 260 ft (920 m) level plan.



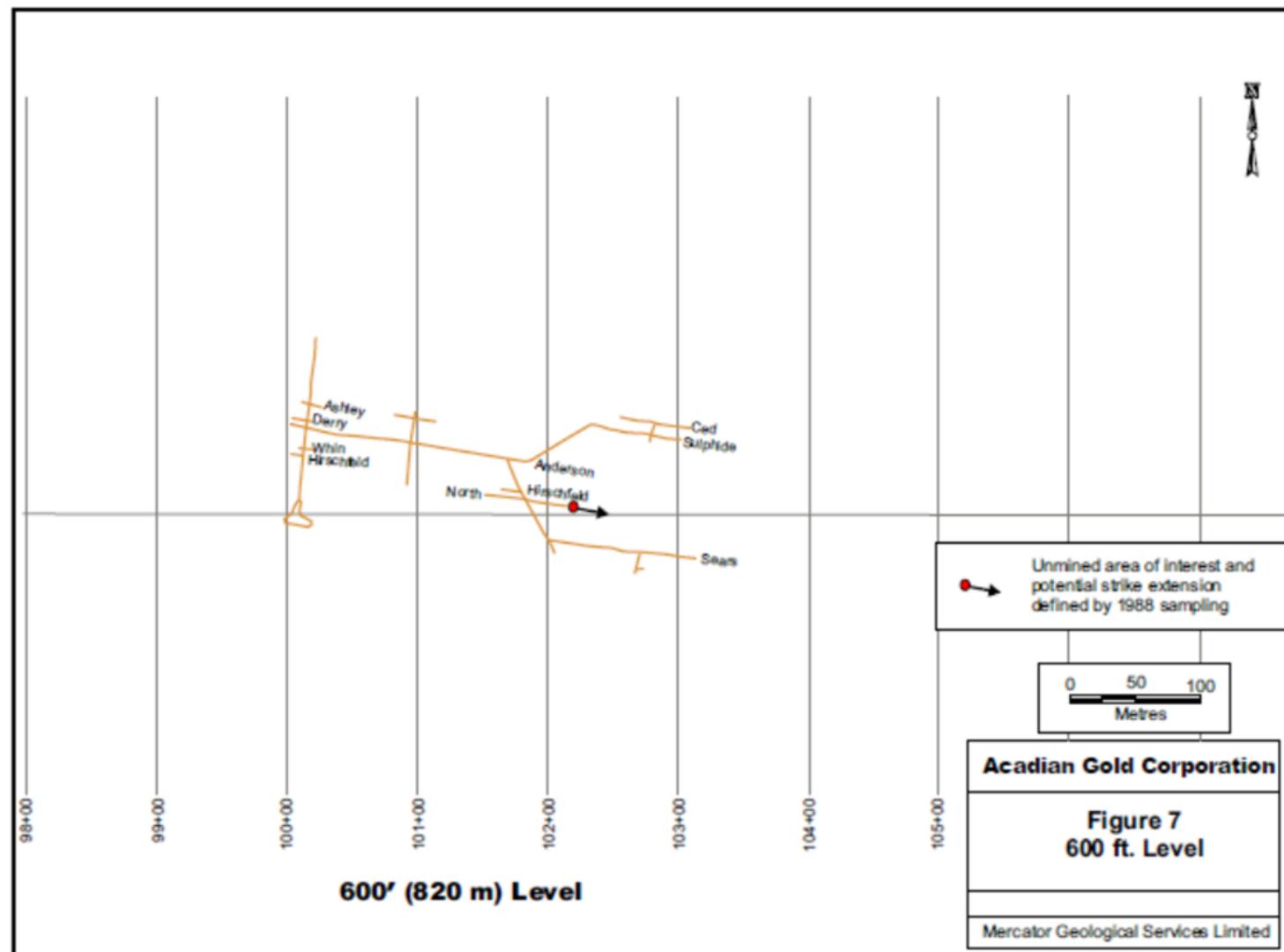


**Figure 6** - 400 ft (880 m) level plan.





**Figure 7 - 500 ft (850 m) level plan.**





**Figure 8** - 600 ft (820 m) level plan.



One of the most important aspects of the planned 1988 underground program was that of bulk sampling to be carried out through 500 foot level drifting and take down back stoping along the South McNaughton (referred to as Roy 1 herein for ease of correlation), McKay, Hirschfield, North, Redpath, Black Prince and Stuart veins. This work was planned to open undeveloped vein intervals affected by the central ore controlling structure associated with eastern most Anderson stope. The program was designed to supply 5000 tons of sample material for systematic test milling and to provide important information for use in assigning project feasibility study mining parameters. Unfortunately, no bulk sampling or test mining of any sort was completed before the project was pre-maturely terminated in September 1988. [Coates and Freckleton \(1989\)](#) noted that the primary objective of providing information necessary to conduct an economic feasibility study had not been met prior to cessation of underground activities.

In 1993 T. F. Coughlan acquired much of the current Goldenville property through open ground staking and a program of trenching in the Bluenose Mine area was carried out on Coughlan's behalf by S. Harper of Prodigy Resources Inc. which had optioned the property. This work was primarily focused on assessment of low grade gold potential in wide slate belts occurring in that area. Financial difficulties prevented completion of this program and no analytical results were reported for the substantial amount of bedrock sampling that had been carried out ([Coughlan, 1994](#)).

In 2002, Votix Corporation Inc. (Votix) optioned the Goldenville Property from T.F. Coughlan. Votix subsequently transferred title of the mineral claims to Goldenville Mining Corporation, which is a subsidiary company of the Acadian Gold Corporation.

The company completed an in-house review of past exploration and commissioned Mercator Geological Services Limited to prepare a Technical Report on the main property ([Kennedy and Webster, 2004](#)).

A review of all historical geo-scientific information related to Goldenville was undertaken by Mercator in 2003 for the purpose of evaluating potential for gold mineralization for Goldenville Mining Corp. The work included a review of government assessment reports, government and industry technical reports, digital government data (e.g. GIS database), published maps, and interpretation of resulting trends with reference to digital airborne geophysical data. Airborne geophysics was especially useful in outlining the inferred trace of the Goldenville anticline and other geological structures. Compilation efforts included all Acadian property areas at Goldenville and the extensive Northumberland Mines Limited and NovaGold Resources Inc. era data set available through government assessment archives.

In 2004, three diamond drill holes were drilled, one of which was on this property but no significant results were returned.

In August 2004 Acadian Gold Corporation (Acadian) announced the acquisition of 100% of the outstanding common shares of Goldenville Mining Corporation (GMC).

Acadian Gold Corporation conducted an 8-hole diamond drilling program totaling 1,280 m in 2006 of which the results are summarized in Section 10 "Drilling".



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Acadian engaged Mercator Geological Services to produce a NI 43-101 compliant resource estimate for the Goldenville project which was published in March 2005 ([Kennedy and Webster, 2005](#)). A minimum gold grade threshold of 1.0 g/t over 1.2 m true width and a high grade block grade cutting factor of 50 g/t was used.

Upon acquiring the Goldenville property, Goldworx N.S. Ltd performed a detailed review of past exploration work on the property with a particular emphasis on evaluating and validating the NI 43-101 compliant resource estimate produced by Acadian in 2005. Goldworx built an in house resource and economic model based around 4 small open pits, and planned and began permitting a two phase bulk sample program.

In 2014, Goldworx began its Phase 1 drill program aimed at delineating high grade near surface gold that would constitute the bulk sample area. A total of 24 closely spaced, shallow holes, totaling 741m of HQ core was completed (MacKinnon 2018). However, Goldworx was reportedly unable to complete the program due to lack of funding.

In 2016, Goldworx NS allowed the Goldenville Exploration Licenses to lapse. The Goldenville area was immediately staked by Perry MacKinnon, a Nova Scotian prospector and geologist. The licenses were later transferred from MacKinnon's name to 3302051 Nova Scotia Ltd. The mineral titles to the Goldenville Property were held by 3302051 Nova Scotia Ltd. and under option to Gonzaga Resources Inc., later changing its name to Osprey Gold Development Ltd. There appears to have been no active exploration completed during this ownership transition period.

In 2017, Osprey settles unpaid invoices with Maritime Drilling Ltd. and acquired the 2014 Goldworx drill core (24 holes totaling 741 meters of HQ core) which is logged and sampled, returning up to 3.89 g/t gold over 7.05 metres in hole P4-14-04. Osprey conducted geological mapping and surface sampling with a focus on the area between the Goldenville zone and Mitchell Lake occurrence. Osprey conducted their first drill program consisting of 18 holes totaling 3,044 meters of HQ core (MacKinnon 2018). The bulk of the drilling (15 holes totaling 2,609m) targeted the Wellington and Bluenose shaft areas of the Goldenville Zone, returning up 98.29 g/t gold over 0.70 m in hole G17-08. The remaining 3 holes totaling 435m targeted the Mitchell Lake zone located 3.5km east of the Goldenville Zone, returning up to 30.50 m of 0.70 g/t, including 0.50 m of 9.26 g/t in hole MIT17-01.

In 2019 Osprey conducted a high resolution unmanned aerial vehicle magnetic geophysical survey, and a desktop structural geology study (MacKinnon 2020). Osprey conducted its second diamond drill program consisting of 13 holes totaling 2,003m. These consisted of 8 holes, totaling 1,357m drilled on the Goldenville zone which returned up to 2.00m of 269.15 g/t Au, and 5 holes, totaling 646m on Mitchell Lake which returned up to 13.0 m of 1.05g/t Au in hole MIT19-5.



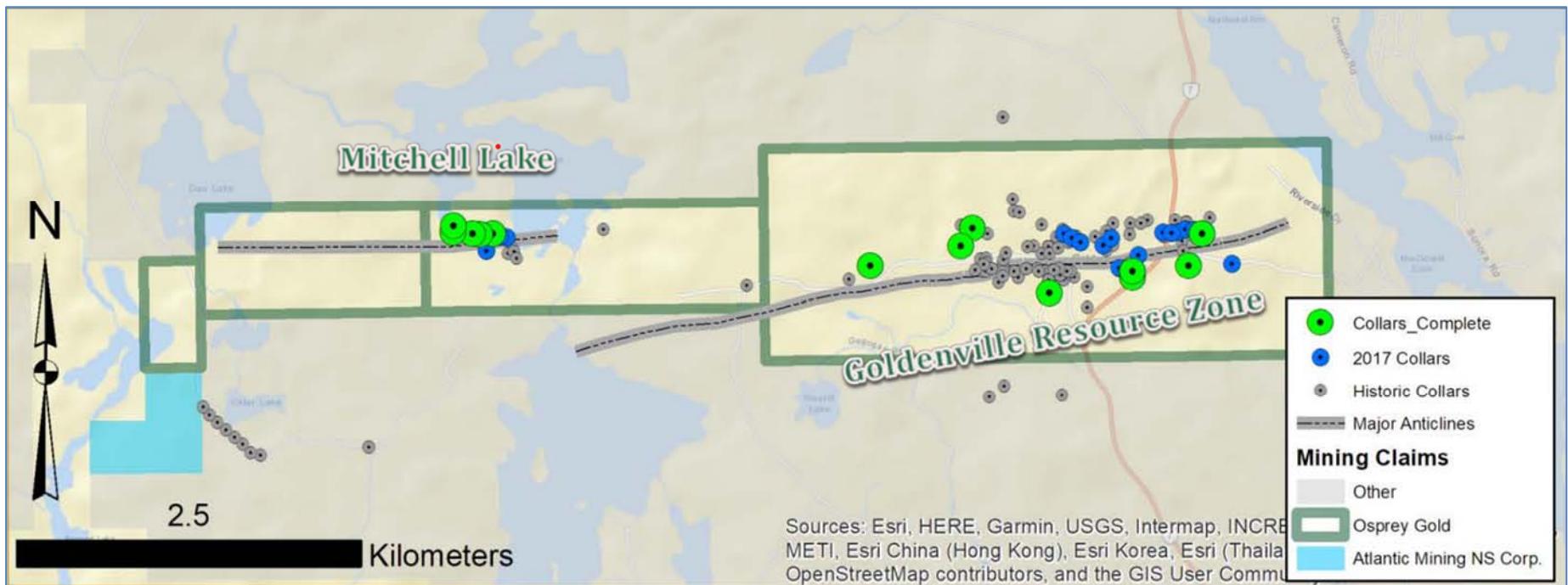
## 6.4 DRILLING SUMMARY

From the Current and historic drilling campaigns a total of 197 holes were located within the area of the current resource update.<sup>1</sup> A summary of these holes is provided in Figure 9 - Osprey 2017 (blue) and 2019 (green) drill collars and historic, pre 2017, drill collar locations (grey). (source: Osprey February 2020 Investor Presentation) and Table 12.

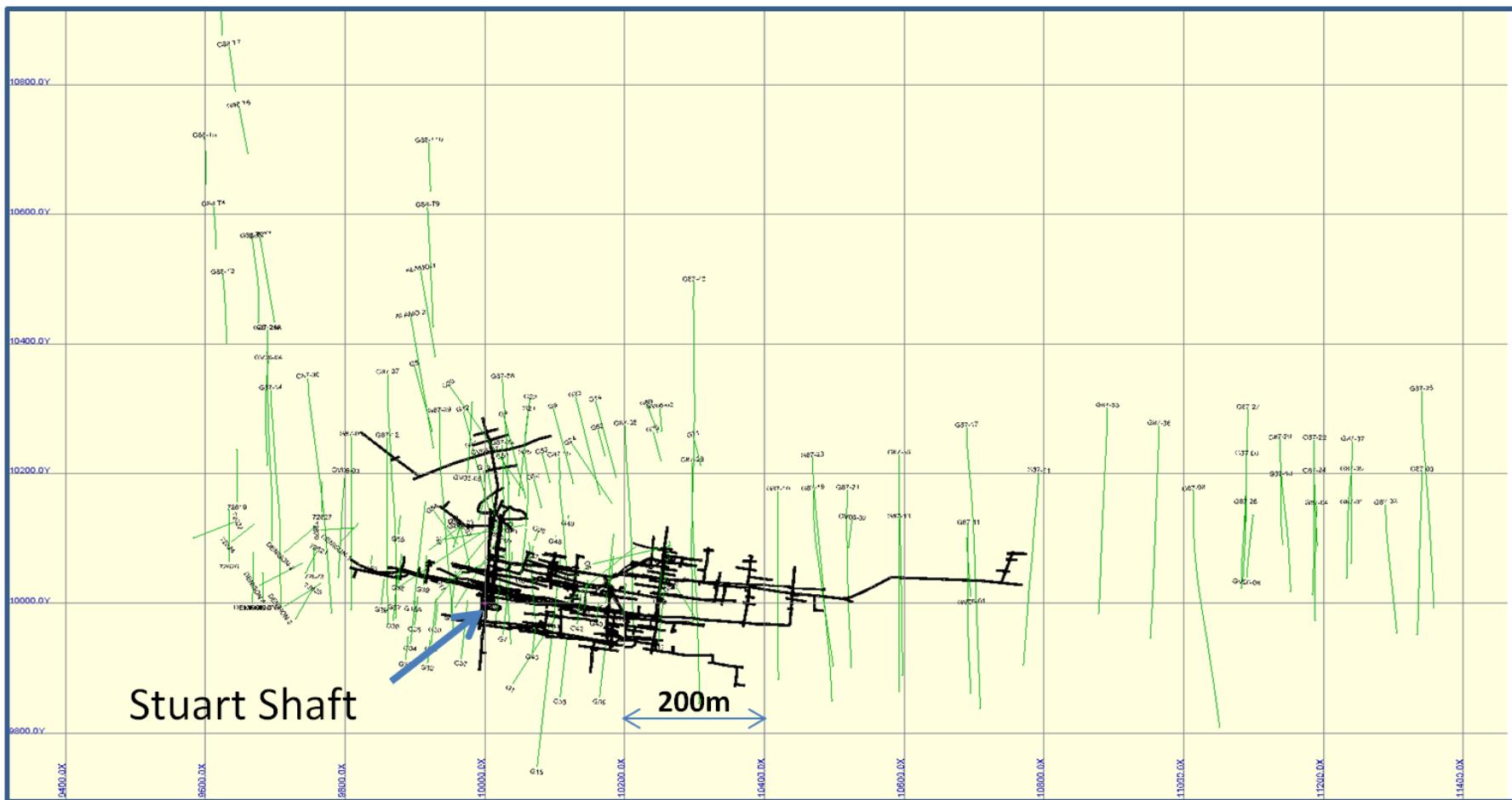
**Table 12** - Summary of Drilling on the Goldenville Resource Update Area.

Hole ID (From)	Hole ID (To)	# Holes	Year Drilled	Company
DENISON-1	DENISON-6	6	1961	Denison Mines
ALAMO-1	ALAMO-2	2	1976	Alamo Petroleum
G1	G15	15	1983	Goldenville Explorations
G16A		1	1983	Goldenville Explorations
G17	G62	46	1983	Goldenville Explorations
G65		1	1983	Goldenville Explorations
G69	G71	3	1983	Goldenville Explorations
72619	72627	9	1985	Inco Ltd
G87-01	G87-34	34	1987	Northumberland Mines
G87-34A		1	1987	NovaGold Res
G87-35	G87-40	6	1987	NovaGold Res
G260-01	G260-04	4	1988	NovaGold Res
G500-01		1	1988	NovaGold Res
G600-01	G600-03	3	1988	NovaGold Res
G88-T1	G88-T10	10	1988	NovaGold Res
GV06-01	GV06-08	8	2006	Acadian Gold
P4-14-01	P4-14-24	24	2014	Goldworx
G17-01	G17-15	15	2017	Osprey Gold
G19-16	G19-23	8	2019	Osprey Gold
TOTAL		197		

<sup>1</sup> These 197 holes are part of the resource estimation. Table 8 includes all drilling on the property, some of which is outside the current area of interest.



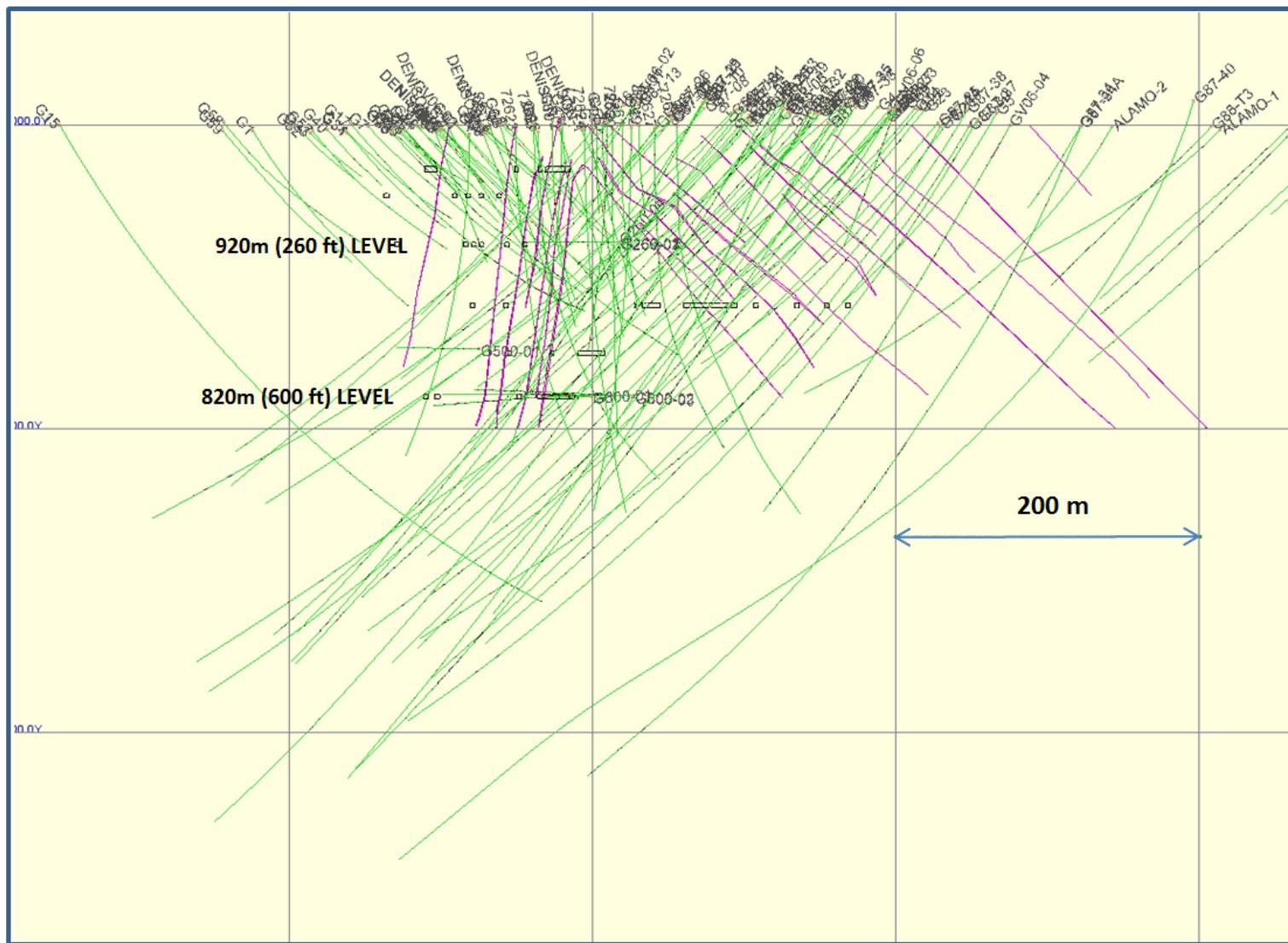
**Figure 9** - Osprey 2017 (blue) and 2019 (green) drill collars and historic, pre 2017, drill collar locations (grey). (source: Osprey February 2020 Investor Presentation)



**Figure 10** - Plan view of underground workings and compiled collar locations for the pre 2014, 150 holes drilled on the Goldenville Property.



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**Figure 11** - Composite section looking west showing diamond drilling, levels, and selected veins (purple), 2014-2019 drill holes are not shown.



## 6.5 HISTORICAL RESOURCE ESTIMATIONS

### 6.5.1 MPH Consulting (1988)

A Report authored by MPH Consulting titled Report on the Goldenville Property was prepared for Novagold Resources in 1998 ([Coates et al., 1988](#)). No resource calculations are included in the report however the authors suggest:

*“The potential resource that could be developed by an underground diamond drill program is in the order of one million tons. This is based on identifying 5 different leads with dimensions of 500m x 100m x 1.5m. The gold content cannot be established at this time but the historic grade mined in the past should be attainable after making adjustment for the hand sorting that took place in previous operations.”*

### 6.5.2 Acadian Mining Corporation (2005)

In 2005, Acadian performed a mineral resource estimate on the property and produced the following estimate entitled “Technical Report on Mineral Resource Estimate - Acadian Gold Corporation - Goldenville Property - Guysborough County, Nova Scotia, Canada” ([Kennedy and Webster, 2005](#)). The results of the 2005 Acadian resource estimate are summarized in Table 13 and Table 14.

**Table 13** - Acadian Historical Indicated Mineral Resource.

Gold Grade Threshold (g/t)	Tonnes Uncut	Gold Grade Uncut (g/t)	Gold Grade 50g/t Cut (g/t)	Total Ounces Uncut
3.5	62,554	16.62	14.72	33,429
2.0	106,976	10.76	9.65	37,012
1.0	181,047	6.96	6.31	40,517

**Table 14** - Acadian Historical Inferred Mineral Resource.

Gold Grade Threshold (g/t)	Tonnes Uncut	Gold Grade Uncut (g/t)	Gold Grade 50g/t Cut (g/t)	Total Ounces Uncut
3.5	384,596	18.78	12.38	232,242
2.0	533,739	14.26	9.64	244,730
1.0	855,025	9.43	6.54	259,257

The reader is cautioned that the resource update completed by Acadian was performed in accordance with the standards of the time, including National Instrument 43-101 and the “Canadian Institute of Mining, Metallurgy



and Petroleum Standards on Mineral Resources and Mineral Reserves Definition Guidelines". However, the current Authors have not verified the report's conclusion, nor whether it is consistent with current 43-101 reporting standards and industry practice. As such, the 2005 Acadian resource is considered 'historic', 'unverified', and 'unreliable'.

### **6.5.3 *Flaggate Exploration Consulting Corporation (2017)***

In the 2017 the current authors calculated a 43-101 Inferred resource of 1.24 million tonnes at 3.02 g/t (0.75 g/t cut-off) for open pit and 1.56 million tonnes at 3.35 g/t (2.0 g/t cut-off), (Pettigrew and Thomas 2017). This translates to 120,000 ounces of Au from near surface and 168,000 ounces of Au from underground, totaling 288,000 ounces of Au from 2.8 million tonnes grading at 3.20 g/t Au. The resource was constrained with an optimized open pit and underground mining wireframes. This resource included 8 drill holes drilled by Acadian in 2008 that were not included in the 2005 Acadian historic resource.

## **7 Geological Setting and Mineralization**

The following information is taken from the 2013 Technical Report titled "Technical Report for Assessment Purposes, 2012-13 Resource Evaluation and Historic Tailings Mineral Resource Inventory, Goldworx NS – Goldenville Property" ([Pettigrew, 2013](#)).

### **7.1 REGIONAL GEOLOGY**

Southeastern Nova Scotia is underlain by folded Cambro-Ordovician age sedimentary sequences of the Meguma Group and extensive areas of Mid-Devonian age granite and granodiorite. Two formations comprise the Meguma Group, with quartzite and greywacke dominated Goldenville Formation strata occurring conformably below a slate and argillite dominated Halifax Formation succession.

Regional folding complicates determination of thickness, but the Goldenville Formation is believed to be at least 5,600 m thick, and the Halifax Formation is estimated to be 4,400 m thick ([Ami, 1900](#)). Both formations were penetratively deformed during the mid-Devonian age Acadian Orogeny that produced an E-NE-trending regional fold set and associated axial planar cleavage. Regional folds typically show upright to overturned geometry and are frequently doubly-plunging at shallow angles. These combine to produce elongate and domal structural patterns considered typical of the Meguma Group. Anticlinal structures of this fold generation occurring within the Goldenville Formation have been recognized as important factors in localizing gold mineralization ([Malcolm, 1929](#); [Keppie, 1982](#); [Smith and Kontak, 1986](#); [Kontak and Smith, 1987](#); [1988c](#)).

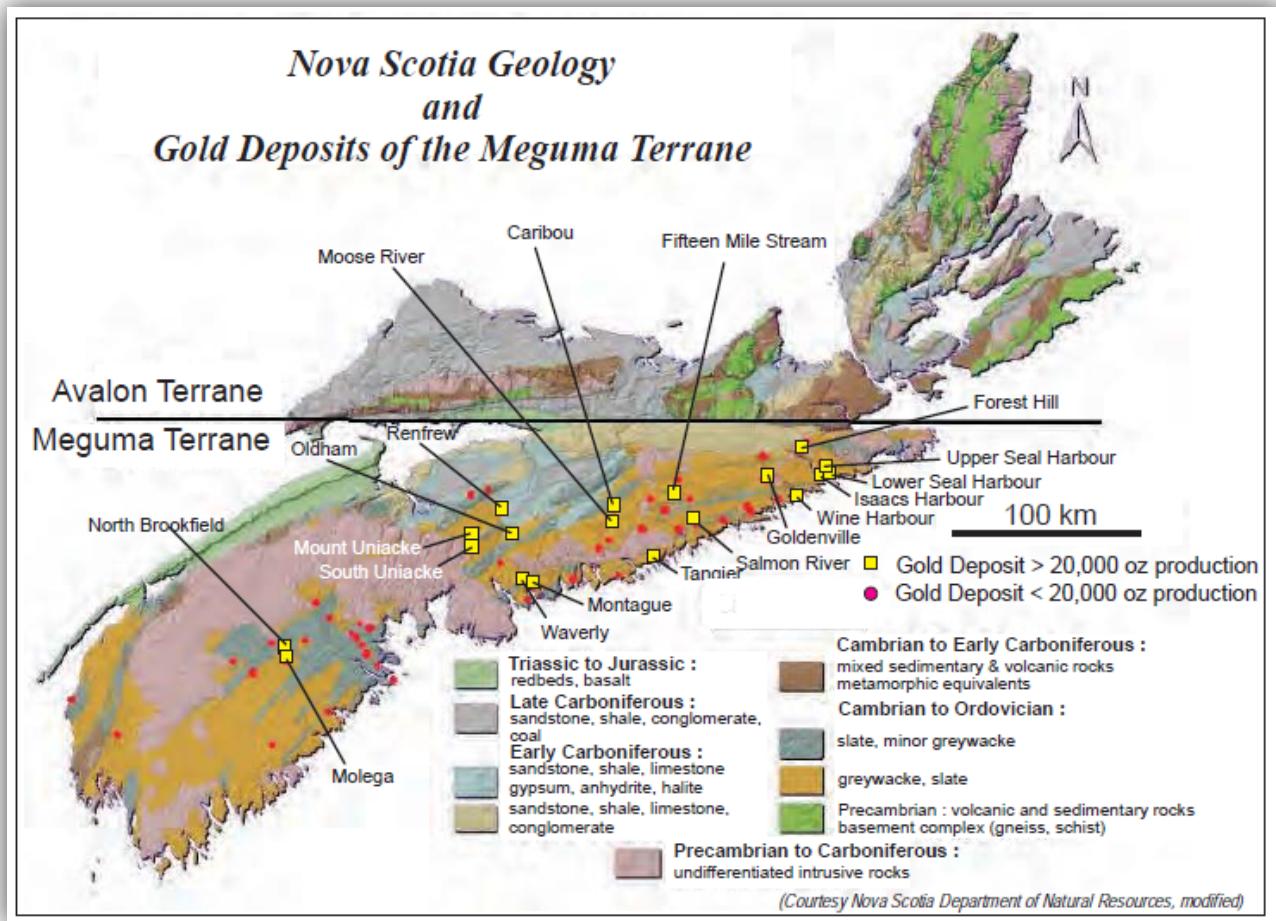
Metamorphism associated with the Acadian Orogeny produced locally variable effects on the Meguma Group. Areas of amphibolite facies regional metamorphism occur in the extreme NE and SW parts of the mainland, while central areas are characterized by mid or lower greenschist facies assemblages. Large volumes of granite and granodiorite were intruded into the folded and metamorphosed Meguma Group during mid-Devonian to early Carboniferous time, resulting in the development of well-defined contact metamorphic effects ([Keppie, 1979](#)). Subsequent to the emplacement of the mid-Devonian-Carboniferous age intrusions, shear displacements were



accommodated along major structural breaks that both bound and cross the Meguma Group. The most significant of these is the easterly-trending Minas Geo-Fracture (Keppie, 1982), which marks the northern structural boundary of the Meguma crustal block. Movement along such structures continued intermittently through lower to mid-Carboniferous time and facilitated uplift and erosion of the Meguma block.

Lower Carboniferous and younger age stratified sequences were unconformably deposited upon the eroded Meguma surface and have locally been affected by folding and shearing. NW-trending faults of variable displacement comprise the youngest, widely-evident structural element common to the eastern Meguma Group terrain. These structures are clearly defined in airborne geophysical surveys and control many major and minor drainage systems that have developed over the southern mainland Nova Scotia.

The regional geology of Nova Scotia is illustrated in Figure 12.



**Figure 12** - Regional geology of Nova Scotia showing the major divisions in the Avalon and Meguma Terranes. Gold deposits are differentiated by having either greater than (yellow squares) or less than (red circles) 20,000 oz. of historic gold production.



### **7.1.1 *Goldenville Formation***

The Goldenville Formation forms the lowermost part of the Meguma Group and is host to most of the known gold deposits in the province. The formation generally consists of intercalated metagreywacke and metasiltstone (Faribault, 1893; Malcolm, 1976; Schenk, 1978). Repeated turbidite cycles consisting of thick metagreywacke, fining upward to thin metasiltstone and black slate caps are common. In many areas, black, sulphide rich pelite and thinly banded, multicolored siltstone are characteristic host rocks for gold mineralization (Smith and Kontak, 1986). Stratigraphic continuity is notable within the gold-bearing host rocks where individual beds and quartz vein packages have been traced for over one kilometer in strike length and several hundred meters in dip extension.

### **7.1.2 *Halifax Formation***

The Halifax Formation forms the upper part of the Meguma Group and is generally comprised of thinly bedded slates and minor fine grained quartzose sandy siltstone (Faribault, 1886; Malcolm, 1976; Crosby, 1962; Taylor, 1967). Locally the formation consists of fine-grained, dark slates that carry a significant amount of sulphide mineralization in the forms of pyrite, pyrrhotite and arsenopyrite. Slates are commonly graphitic to chloritic, blue-grey in color and highly friable along cleavage and bedding. Lower units in the formation are transitional to the Goldenville Formation and are relatively carbonate-rich, with calcite, magnesite and some calc-silicates identified in veinlets and nodules (Smith, 1981). As a result of regional folding associated with the mid-Devonian age Acadian Orogeny, Halifax Formation lithologies frequently form narrow, northeasterly-trending packages of limited width but substantial strike extent.

## **7.2 PROPERTY GEOLOGY**

### **7.2.1 *General***

The Goldenville Formation underlies the property, which has been named for its exposure in this mining district. The property is on the projected eastern extension of the Goldenville anticline, which trends roughly east-west across the district and plunges to the west at between 0° and 35°. To the east, in the area of the Bluenose Mine, the fold is tight and beds on both north and south fold limbs strike parallel to the axial surface trace. The axial surface dips steeply north and the fold is overturned slightly to the south. To the west, in the area of the Guysborough Mine, the stratigraphic section broadens on the north limb and the beds dip at 45° to the north. On the south limb, the beds have a near vertical dip. Stratigraphy in this area is transected by west-northwest-trending undulations or flexures that cause quartz vein dilation and appear to have played an important part in ore deposition (Malcolm, 1929).

### **7.2.2 *Structure***

The Goldenville anticline passes through the central part of the Goldenville gold district and is a westerly-plunging asymmetric structure. At the east end of the fold, beds are vertical to overturned and form a narrow zone of tight folding. To the west, the anticline broadens significantly with beds on the north limb dipping 45° and beds on the south limb remaining near vertical. The plunge of the anticline is to the west and has been mapped from outcrop to have dips of 10° near the fold closure to 30° away from the fold axis.



### **7.2.3 *Alteration***

The Meguma Group was affected by pervasive greenschist to amphibolite facies regional metamorphism during the Devonian, Acadian Orogeny. Alteration believed to be associated with gold mineralization is characterized by variably developed carbonate, sericite, chlorite and sulphide phases. Moderate to intense silicification and bleaching, especially within greywackes, has developed distinct "quartzites" that in some cases act as marker beds within the gold-bearing stratigraphy in some gold deposits ([Smith and Kontak, 1987](#)). [Smith et. al. \(1992\)](#) suggest that widespread hydrothermal alteration haloes are associated with gold and sulphide mineralization in some gold districts. In addition, they suggest a correlation between hydrothermal alteration and a reduced or depleted magnetic signature within the regional aeromagnetic vertical gradient trends, however, no evidence exists to support this theory.

In the Goldenville district, alteration is restricted to moderate greenschist alteration that includes chloritization, silicification, sericitization and local graphitic alteration. Chlorite was observed to be most prevalent within the mineralized district and generally associated with quartz veins ([Bottrill, 1987](#)). It was also noted in greywacke where it is associated with pressure solution cleavage. Chlorite occurs in greater amounts as pervasive chlorite-carbonate replacement of wall rock fragments along contacts with bedding parallel quartz veins. Silicification is described as being widespread within the district and most commonly noted in the hardening of thick greywacke units.

Graphite development is common along the slaty contact of quartz veins within the mineralized zones. Moderate amounts of graphite have been noted along cleavage planes in association with well-developed sulphide mineralization. Sericitic alteration was locally observed along the contact of minor cross-cutting veins but never in association with mineralization ([Bottrill, 1987](#)).

## **7.3 MINERALIZATION**

Mineralization in the Goldenville deposit is associated with several vein types listed below. Type 1 and 2 are bedding parallel veins. Vein type 3 and 4 crosscut stratigraphy.

### **7.3.1 *Vein types***

1. White banded oily quartz, commonly contains abundant arsenopyrite and slate inclusions. This is the principal gold carrier of the historic production. Gold is fine and uniformly distributed.
2. Dark banded glassy quartz in narrow leads, well mineralized and locally containing specks of gold.
3. White massive quartz with intense arsenopyrite mineralization and minor pyrite and carbonate minerals. Occurs as rolls or swells formed by the intersection of veins. Gold in quartz is coarse and spotty. One 15-ounce mass of gold has been mined from this type of vein, and much larger ones have been mined historically.
4. Bull white quartz containing occasional masses of arsenopyrite. Common features are vugs and carbonate minerals.

Vein type 1 and 2 are bedding parallel quartz veins and are the principal gold carriers on the Goldenville property. The veins can be correlated over large distances ([Hedley, 1941](#); [Bottrill, 1988](#)). Type 3 and 4 crosscut bedding



parallel veins and have been termed ‘angulars’ by [Hedley \(1941\)](#). Where type bedding parallel veins are crosscut by angulars mineralized quartz swells are common. Mineralization is typically associated with slate and mudstone horizons at the top of fining upward turbidite cycles. Gold is typically coarse grained and occurs as free gold in quartz or is associated with sulphide mineralization. It is more common in the veins themselves but also occurs in the adjacent wallrock. Gold is also found in crosscutting veins, tension fractures and compression fractures. [Huxhold \(1974\)](#) describes these as important veins that cut bedding at right angles and are overall sub-vertical. They are likely the same veins that were described as ‘angulars’ by [Hedley \(1941\)](#).

## 8 Deposit Types

Distribution of gold within the district has been well documented through historic mining records ([Malcolm, 1929](#); [Hedley, 1941](#)). Gold typically occurs in shoots within a given vein and on the north side of the Goldenville anticline, these shoots are generally coaxial with the west plunging regional fold axis. On the south side of the anticline, stope scale trends plunge to the east but a larger scale influence may also be present that parallels the regional fold axis.

[Malcolm \(1929\)](#) concluded that gold mineralization on the north side of the Goldenville anticline occurs where veins are affected by well-defined west-northwest trending perturbations or subordinate undulations radiating from the axis of the anticline. [Hedley \(1941\)](#) showed that at least three zones of west-northwest-trending stacked grade shoots are defined by workings on the south fold limb (Figure 13). Lateral extensions of veins between grade shoots or undulations in stratigraphy are typically thin or pinched out and contain significantly less gold than seen within the undulation’s influence area. Observation of south limb stoping in longitudinal section indicate individual shoot widths on the order of 30-40 m and plunge lengths up to 150 m (Figure 14).

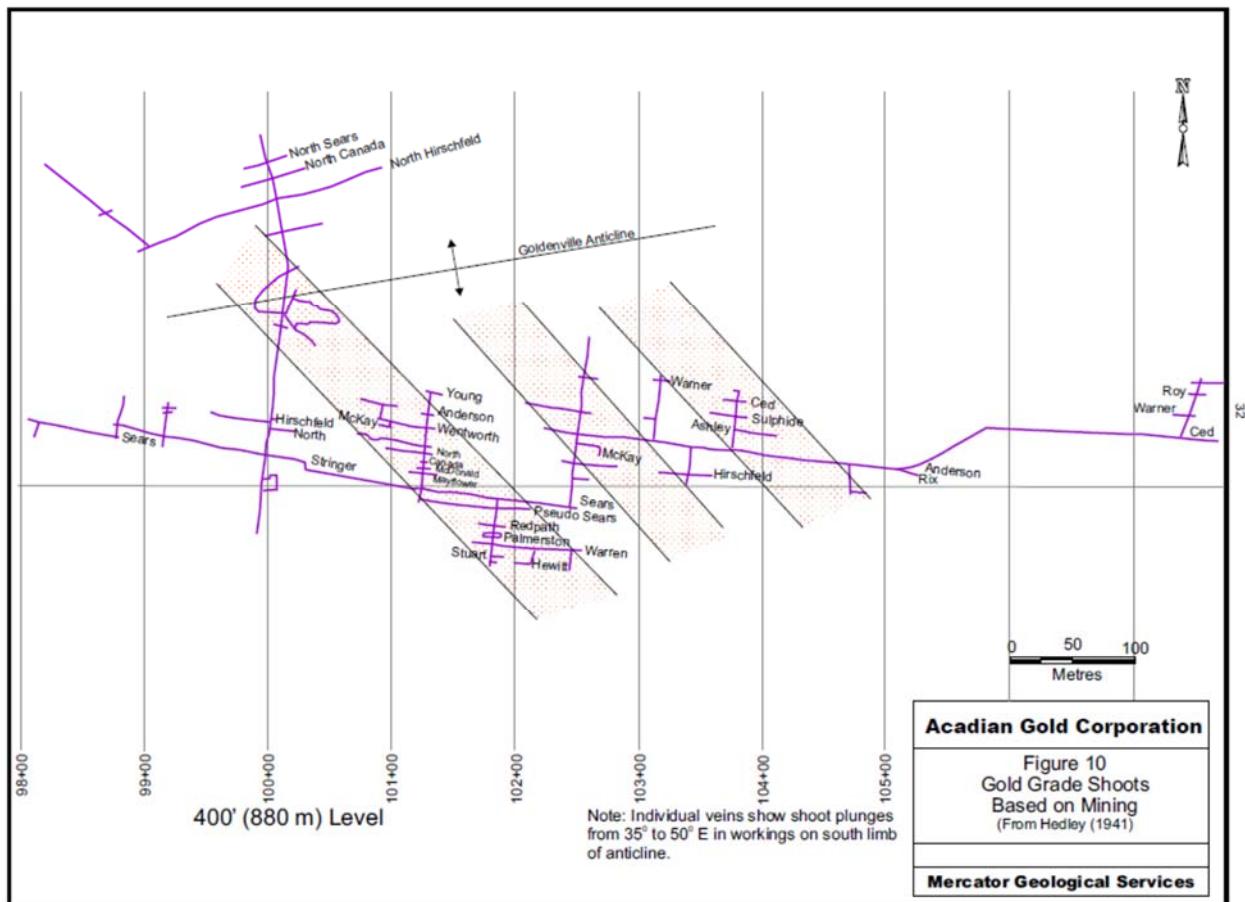
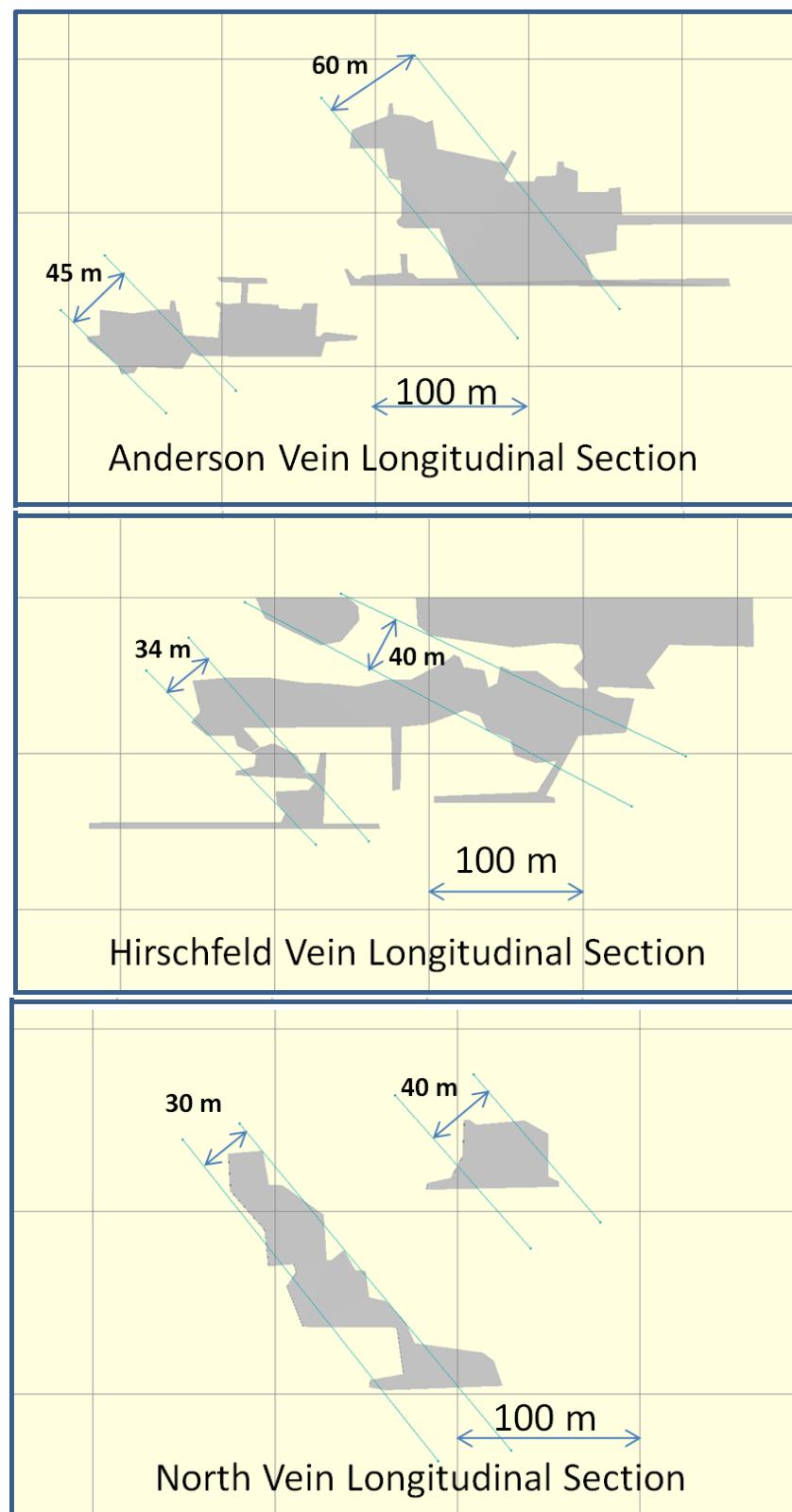


Figure 13 - Stacked grade shoots based on mining.



**Figure 14** - Longitudinal section looking north showing south limb east plunging ore shoots.



[Faribault \(1905\)](#) developed his Pay-zone theory for Nova Scotia gold deposits based on his work at Goldenville and this predictability model is described as follows:

*"The zones of ore are generally parallel to the axial plane of the fold if the structural condition continues the same in depth; but if the fold becomes broader the zones recede from the axial plane, whereas if the two limbs of the fold are more compressed the zones approach the axial plane."*

Faribault based his model on the Bluenose mine area where grade shoots are coaxial with the regional fold axis. Notably, the west-northwest-trending patterns of stacked grade shoots crossing the regional anticline in the Stuart shaft workings are not accommodated in this relatively simple model.

[Bottrill \(1987\)](#) described veins on the south-side of the Goldenville anticline where individual veins thicken on one side of a shoot and those on the other side become thinner. On this basis, he determined that the gold shoots could not be fully explained as simple dilational structures. He also suggested that change in plunge of the ore zones on each side of the anticline can best be explained by pre-folding west-northwest-trending structural influences manifested as monoclinal flexures or box folds.

Malcolm noted that thickening of veins ("saddle reefs") over the apex of the anticline at Goldenville was present in some instances but that no significant production had been recorded from such settings in this area. The single best example of saddle reef mining at Goldenville post-dated Malcolm's report and is seen in the 260 foot level Mayflower stope of the Stuart shaft workings. Exploration programs by Inco and others west of the Stuart shaft area tested for additional saddle reef structures but results did not meet expectations ([Jones, 1985](#)).

[Bottrill \(1987\)](#) interpreted several northwest-trending sub-parallel fold structures or monoclinal undulations crossing the Goldenville anticline based on ground geophysical survey results. Several north-trending cross faults of minor displacement and a steeply north dipping, easterly trending fault on the south limb of the anticline were also interpreted from ground survey results.

Although not directly linked to gold localization processes, a variably developed axial planar cleavage related to regional folding is present on the property and is best developed in slate and argillite sequences where low angles to bedding are typical. An equivalent pressure solution fabric occurs in the greywackes as widely spaced fans that show higher angles to bedding. Angular variation of cleavage components between rock types probably reflects relative degrees of cleavage refraction and rotation incurred during progressive folding increments. In the area of the slaty beds, the pressure solution cleavage is closely spaced and parallel bedding.

## 9 Exploration Activities

In addition to drilling, Osprey undertook geological mapping and surface sampling in 2017 specifically targeted at the area between the Mitchell Lake Zone and the Goldenville Zone. In 2019 Osprey conducted a high resolution 30m spaced drone based airborne magnetic survey over the Goldenville property and conducted a desktop structural study ([Mackinnon 2020](#)).



## 10 Drilling Activities

Since the issuance of the 2005 Mineral Resource Estimation by Acadian, there have been 55 surface drill holes added to the database for Goldenville. These holes were drilled by Acadian in 2006, Goldworx in 2014 and Osprey in 2017 and 2019. Data from these drill holes were received by Fladgate from Osprey, and verified by comparing with data filed for assessment with the Nova Scotia Government. The data consisted of spreadsheets with files for Header, Survey, Lithology, and Assay information.

### 10.1 ACADIAN GOLD CORPORATION DRILLING (2006)

Acadian conducted a small surface diamond drilling program in 2006 totaling 1,280 m in 8 drill holes. All drilling was completed under the supervision and management of Mercator Geological Services and the results are summarized in a filed assessment report ([Kennedy, 2006](#)). The positions of the 8 drill holes are shown in Figure 15. Assay highlights for the 8 drill holes are provided in Table 15.

A press release by Acadian dated May 10, 2007 summarized the drill results and exploration focus for the Goldenville Property:

*“Drill holes of particular note include drill hole GV06-04 which intersected 20.41 g/t over a true width of 2.91 m and 60.43 g/t over a true width of 1.2 m; GV06-03, which intersected 2.81 g/t over a true width of 3 m; and drill hole GV06-05 which intersected 26.15 g/t over a true width of 1.2 m.”*

*“Sampling was completed at 1 m intervals along the hole length and mineralized intercepts were calculated over a minimum true width of 1.2 m.”*

*“Although a portion of the drill hole intercepts are low grade, these are considered of high interest at Goldenville which is characterized by coarse gold in stacked gold mineralized shoots in multiple bedding parallel quartz veins. Goldenville is the largest past producer in Nova Scotia with historic production of 212,000 ounces of gold to a depth of approximately 200 m. Acadian Gold has previously announced on March 2, 2005, National Instrument 43-101 compliant indicated and inferred resources totalling 33,429 ounces of gold (62,554 tonnes grading 16.62 g/t (uncut) and 232,242 ounces of gold (384,596 tonnes grading 18.78 g/t (uncut)), respectively. The bulk of these resources are within 200 m of surface.”*

*“The initial drill results reported above are in line with expectations and merit proceeding to a 2<sup>nd</sup> phase drill program. The objective of the drill program is upgrade the category of resources currently classified as inferred to indicated, and to add ounces to the current resource totals. Drilling is being focused on targets in the general vicinity of the Stuart Shaft which was modernized in the 1980’s. The Stuart Shaft and associated underground infrastructure represents a considerable savings in time and capital costs at such time Acadian Gold makes a decision to re-open the mine.”*

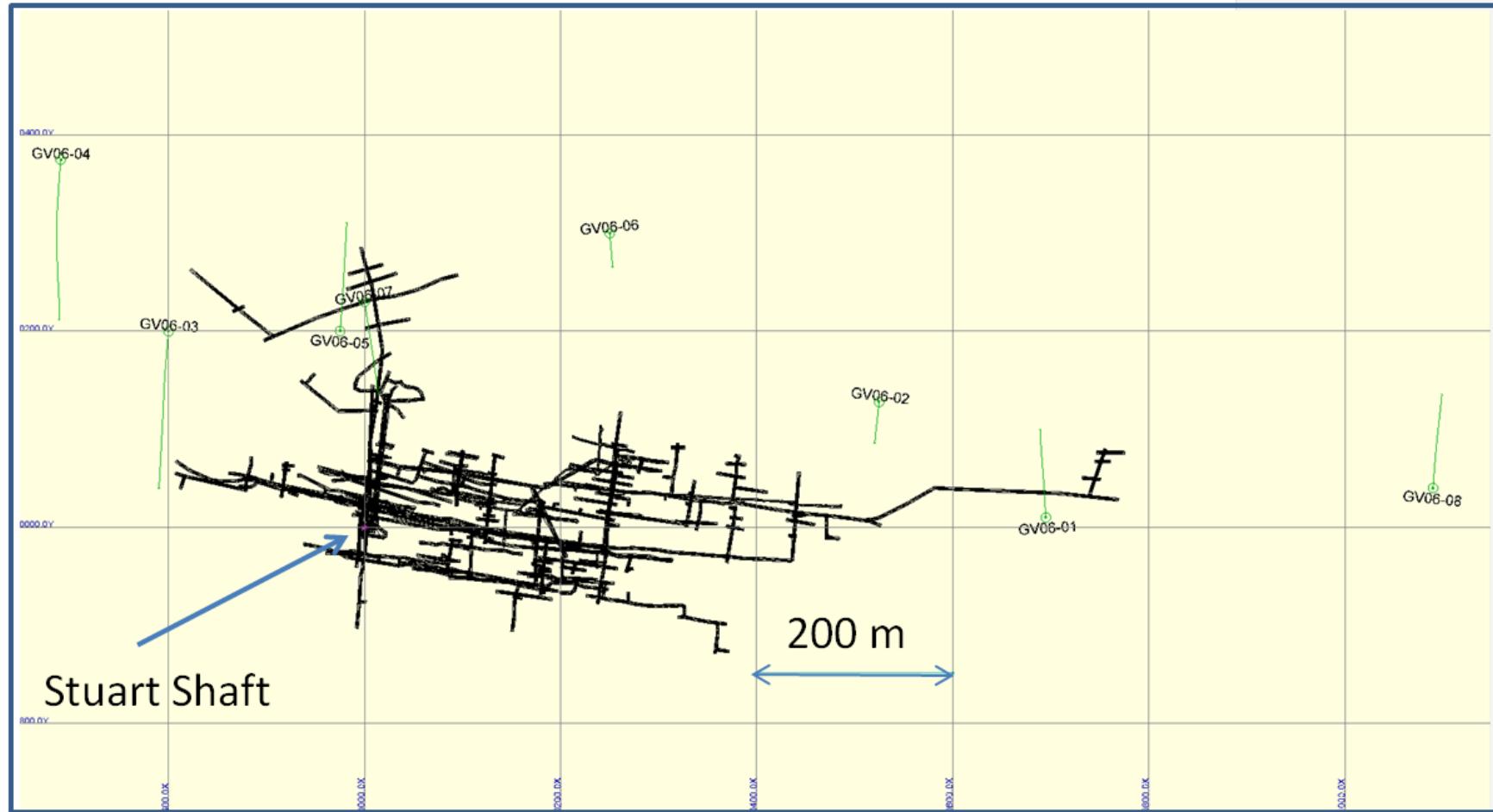


Figure 15 - 2006 diamond drill program completed by Acadian.

**Table 15** - Highlights from the 8 drill holes of Acadian (2006).

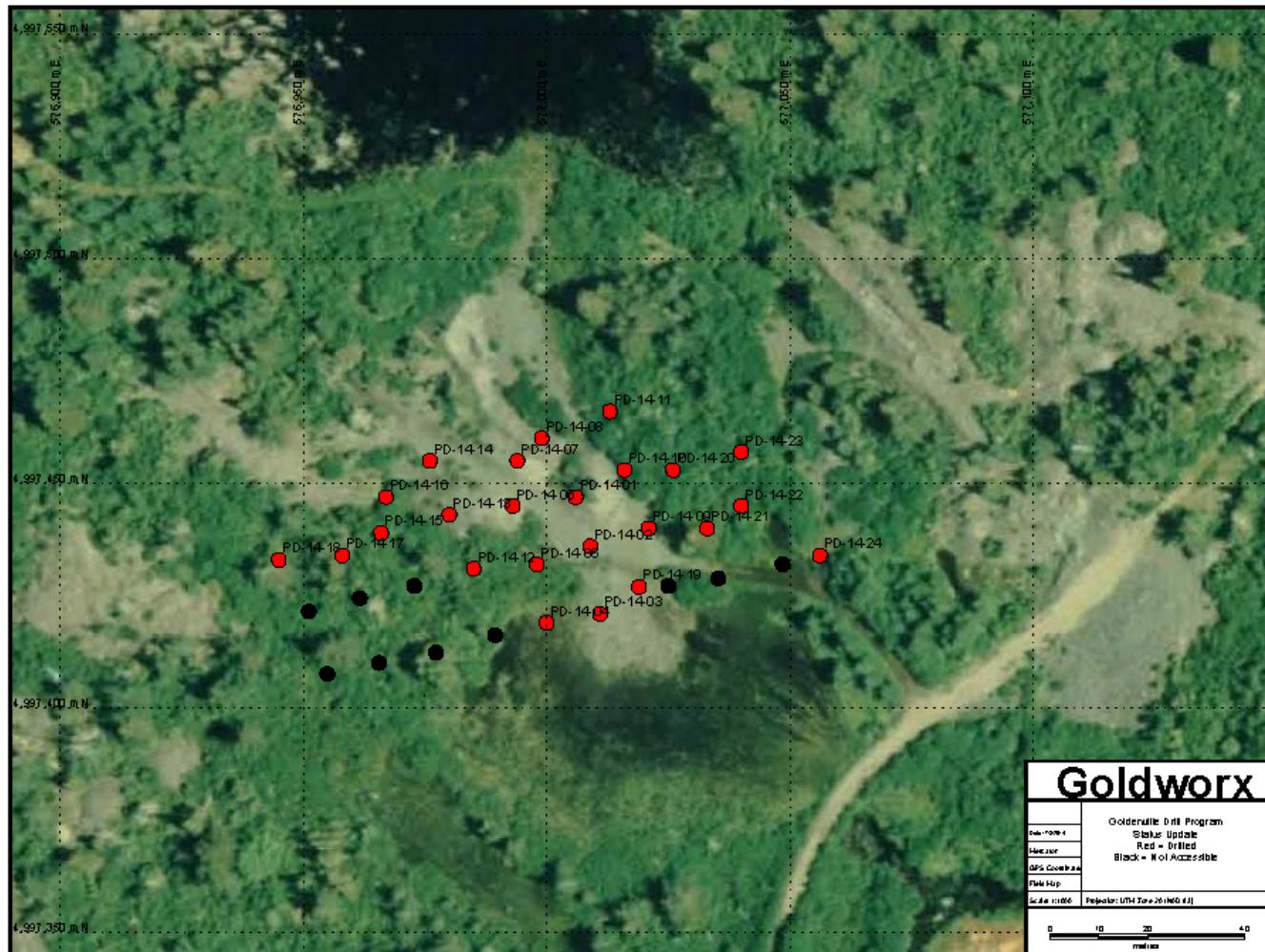
Hole ID	From (m)	To (m)	Length (m)	Au (g/t)
GV06-01	65	66	1	4.39
GV06-01	106	107	1	1.89
GV06-01	132	133	1	1.72
GV06-01	124	125	1	1.21
GV06-02	63	64	1	2.34
GV06-03	47	48	1	5.52
GV06-03	67	68	1	5.20
GV06-03	134	135	1	3.35
GV06-03	45	46	1	2.91
GV06-03	198	199	1	2.49
GV06-04	7	8	1	55.90
GV06-04	174	175	1	6.23
GV06-04	9	10	1	5.25
GV06-04	18	19	1	74.60
GV06-04	100	101	1	3.90
GV06-04	219	220	1	3.11
GV06-04	285	286	1	2.80
GV06-04	207	208	1	1.76
GV06-04	171	172	1	1.37
GV06-04	225	226	1	1.29
GV06-04	125	126	1	1.22
GV06-05	85	86	1	41.00
GV06-05	106	107	1	6.19
GV06-05	36	37	1	4.52
GV06-05	43	44	1	1.93
GV06-05	71	72	1	1.66
GV06-05	45	46	1	1.11
GV06-05	79	80	1	1.10
GV06-06	71	72	1	12.65
GV06-06	10	11	1	3.08
GV06-06	63	64	1	1.52
GV06-06	29	30	1	1.20
GV06-07	13	14	1	5.23
GV06-07	86	87	1	2.57
GV06-07	101	102	1	2.15
GV06-07	123	124	1	1.14
GV06-08	132	133	1	11.95
GV06-08	117	118	1	7.33



Hole ID	From (m)	To (m)	Length (m)	Au (g/t)
GV06-08	18	19	1	1.99

## 10.2 GOLDWORX DRILLING (2014)

In 2014, Goldworx NS began a drill program aimed at delineating high grade near surface gold that would constitute a bulk sample area. The program was designed to as a series of short holes on a 25 x 25 m grid on the northern limb of the Goldenville Anticline. Only 24 of the proposed 33 holes were drilled representing 741m of HQ core (Figure 16). These holes were not available during the Fladgate's 2017 resource estimate, due to unpaid invoices to Maritime Diamond Drilling Ltd.. Subsequent to Fladgate's 2017 resource estimate, Osprey settled outstanding invoices with Maritime Diamond Drilling Ltd. and took possession of the core which was logged and sampled by Mercator and Osprey staff. Osprey reported initial results in Table 16 (see Osprey news release June 22 2017)

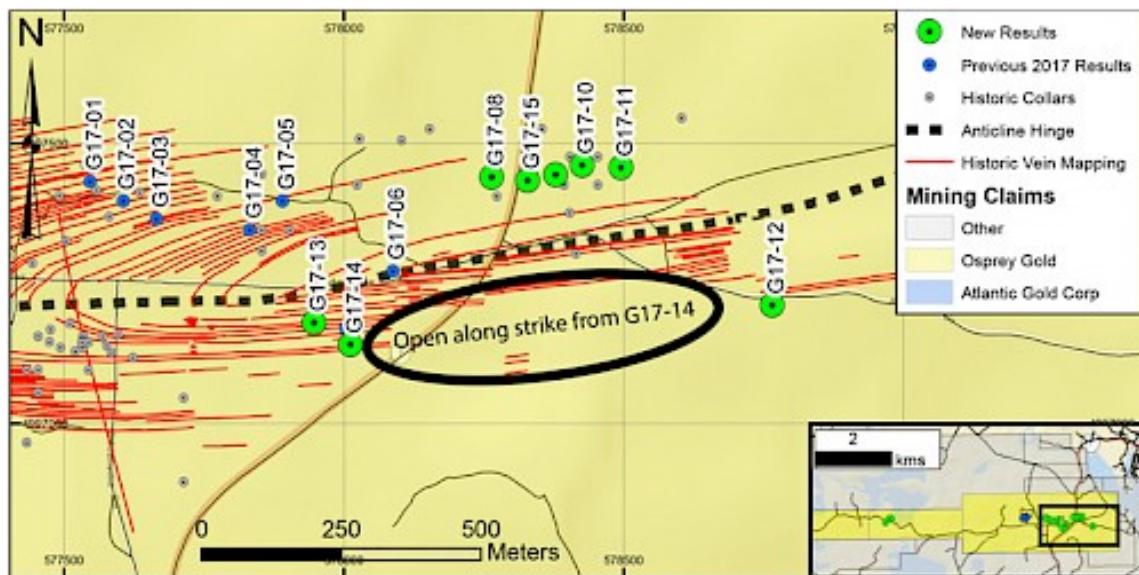


**Figure 16** - Goldworx drill hole location map. Drilled holes in red, undrilled planned holes in black.**Table 16** - Goldworx drilling Highlights. (from Osprey news release June 22, 2017)

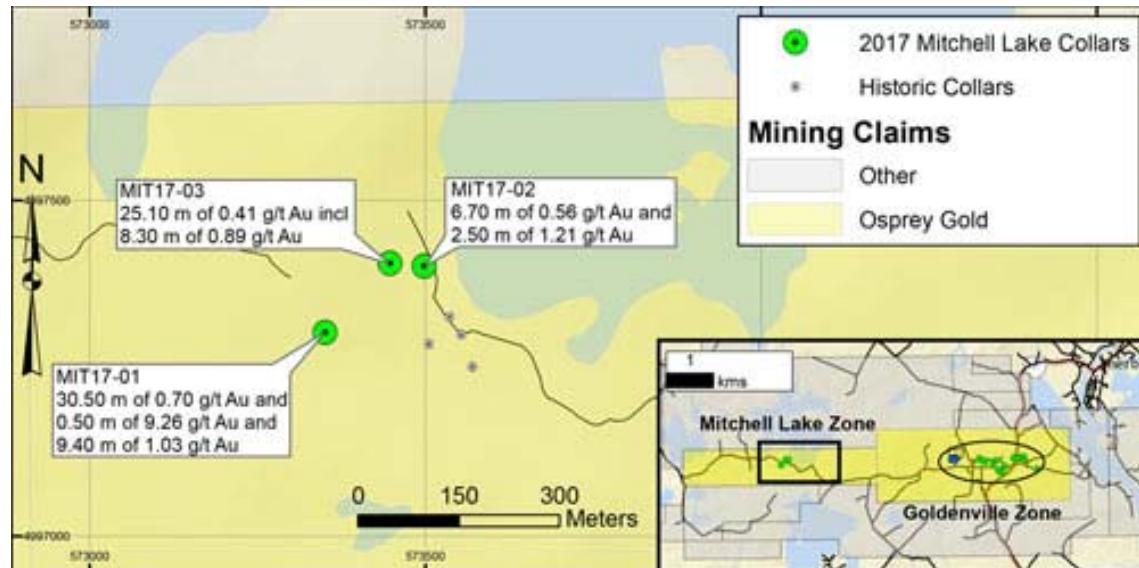
Hole ID	From (m)	To (m)	Width (m)	Au (g/t)
<b>P4-14-01</b>	<b>27.7</b>	<b>27.9</b>	<b>0.2</b>	<b>1.11</b>
P4-14-02	19.23	19.43	0.2	0.23
P4-14-02	23.65	23.85	0.2	0.74
P4-14-02	28	28.3	0.3	0.24
P4-14-04	12.44	13.25	0.81	0.29
<b>P4-14-04</b>	<b>20.2</b>	<b>27.25</b>	<b>7.05</b>	<b>3.89</b>
<i>including</i>	<b>20.2</b>	<b>22</b>	<b>1.8</b>	<b>11.97</b>
<i>including</i>	<b>20.2</b>	<b>21</b>	<b>0.8</b>	<b>26.2</b>
<i>and</i>	<b>26</b>	<b>27</b>	<b>1</b>	<b>5.71</b>
P4-14-05	27.52	30.6	3.08	0.35
<b>P4-14-06</b>	<b>14.05</b>	<b>14.53</b>	<b>0.48</b>	<b>2.07</b>
<b>P4-14-08</b>	<b>20.64</b>	<b>21.14</b>	<b>0.5</b>	<b>1.04</b>

### 10.3 OSPREY GOLD (2017)

In 2017 Osprey conducted their first drill program consisting of 18 holes totaling 3,044 meters of HQ core (MacKinnon 2018). The bulk of the drilling (G series, 15 holes totaling 2,609m) targeted the Wellington and Bluenose shaft areas of the Goldenville Zone (Figure 17). The remaining 3 holes (MIT series) totaling 435m targeted the Mitchell Lake zone located 3.5km east of the Goldenville Zone (Figure 18), highlights from this drilling are listed in Table 17.



**Figure 17** - 2017 Osprey Goldenville Zone drill hole location Map (from Osprey news release February 21, 2018)



**Figure 18** - 2017 Osprey Mitchell Lake Zone drill hole location Map (from Osprey News release March 1, 2018)

**Table 17** - 2017 Osprey Drilling Highlights (from Osprey News releases, November 6, 2017, February 21 and March 1, 2018)



Osprey Gold Development Ltd. – Goldenville Project

Hole ID	From (m)	To (m)	Width (m)	Au (g/t)
G17-1	39.3	39.9	0.6	2.21
G17-1	<b>61.6</b>	<b>68.7</b>	<b>7.1</b>	<b>1.21</b>
<i>incl</i>	64.2	65	0.8	6.46
G17-2	3.1	3.9	0.8	5.32
G17-2	94.4	94.9	0.5	1.75
G17-3	59.9	60.9	1	4.74
G17-4	9	25.6	16.6	0.84
<i>incl</i>	<b>10</b>	<b>20</b>	<b>10</b>	<b>1.11</b>
<i>incl</i>	10	10.6	0.6	16.14
G17-4	56	59	3	0.73
G17-4	76.2	77.4	1.2	1.15
G17-4	87.8	89.8	2	3.06
<i>incl</i>	88.8	89.8	1	5.95
G17-5	6	6.8	0.8	8.59
G17-5	49.4	50.5	1.1	9.65
G17-6	23.85	24.9	1.05	2.79
G17-6	<b>61</b>	<b>73</b>	<b>12</b>	<b>0.59</b>
<i>incl</i>	61.8	66.2	4.4	1.34
<i>incl</i>	61.8	62.7	0.9	5.41
G17-6	98	100	2	0.58
<i>incl</i>	98	99	1	0.99
G17-7	8.5	10.1	1.6	0.56
<i>incl</i>	9.6	10.1	0.5	1.49
G17-08	89.5	90	0.5	1.43
G17-08	110	114	4	1.29
<i>incl</i>	<b>112</b>	<b>112.5</b>	<b>0.5</b>	<b>9.09</b>
G17-08	118.5	122.4	3.9	1.24
<i>incl</i>	121.3	121.9	0.6	5.3
G17-08	184.7	187.8	3.1	1.19
<i>incl</i>	185.7	186.7	1	3.41
<b>G17-08</b>	<b>231.1</b>	<b>238</b>	<b>6.9</b>	<b>2.7</b>
<i>incl</i>	234	236.1	2.1	8.57
<i>incl</i>	<b>234</b>	<b>234.6</b>	<b>0.6</b>	<b>27.01</b>
G17-08	<b>247.2</b>	<b>247.8</b>	<b>0.6</b>	<b>12.81</b>
G17-08	262.9	263.7	0.8	6.2
<b>G17-08</b>	<b>267.5</b>	<b>268.2</b>	<b>0.7</b>	<b>98.29</b>
G17-09	110.4	112.95	2.55	1.69
<i>incl</i>	110.4	110.85	0.45	7.06
G17-09	130.2	130.7	0.5	1.19



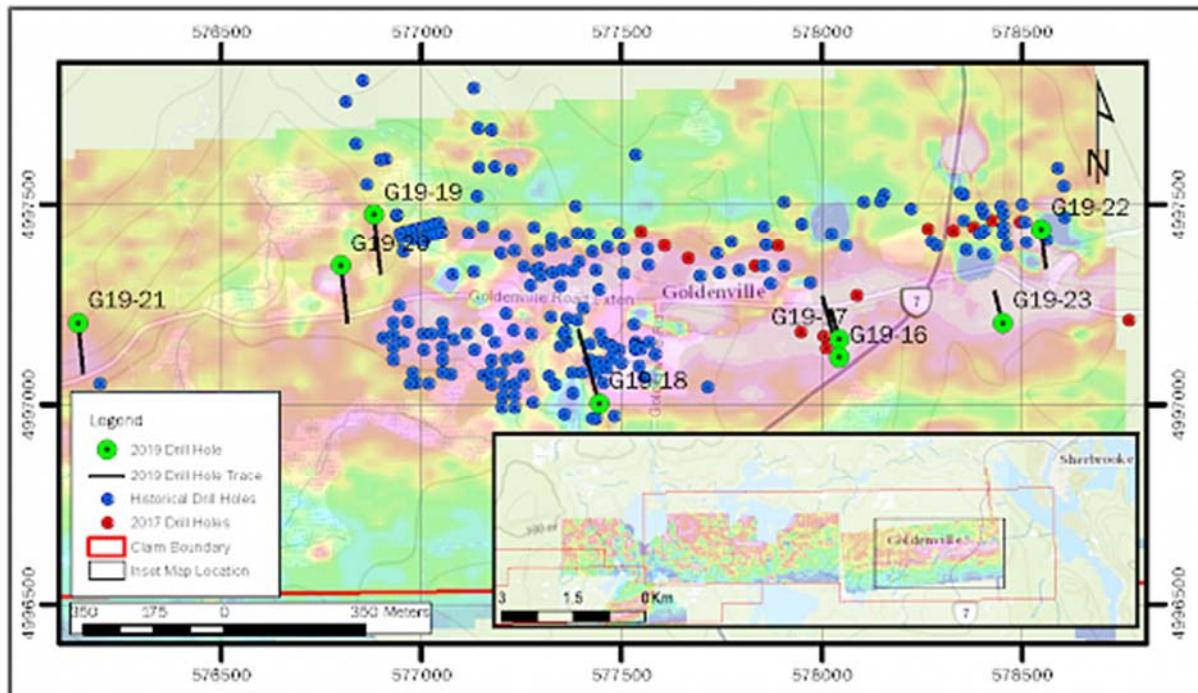
Hole ID	From (m)	To (m)	Width (m)	Au (g/t)
G17-09	165.4	166.2	0.8	1.03
G17-09	172	173.9	1.9	0.99
<i>incl</i>	172	172.5	0.5	2.11
<b>G17-09</b>	<b>201.4</b>	<b>212.5</b>	<b>11.1</b>	<b>2.04</b>
<i>incl</i>	202	202.9	0.9	3.33
<i>and</i>	<b>210.8</b>	<b>211.4</b>	<b>0.6</b>	<b>19.4</b>
<i>and</i>	<b>206.1</b>	<b>206.6</b>	<b>0.5</b>	<b>8.5</b>
G17-09	238.3	238.8	0.5	1.17
G17-10	79.3	79.8	0.5	2.22
G17-10	98.5	99.3	0.8	3.2
G17-10	175.2	176.1	0.9	1.34
<b>G17-10</b>	<b>190.9</b>	<b>197.1</b>	<b>6.2</b>	<b>1.68</b>
<i>incl</i>	<b>190.9</b>	<b>191.6</b>	<b>0.7</b>	<b>8.63</b>
<i>and</i>	195.3	196.6	1.3	2.72
G17-10	205	205.6	0.6	1.3
G17-10	226	226.7	0.7	1.12
G17-11	4.7	5.4	0.7	2.95
G17-11	118.9	120	1.1	2.48
G17-11	129.3	130.7	1.4	1.23
G17-11	136.4	139	2.6	2.65
<i>incl</i>	136.4	137.6	1.2	4
<b>G17-11</b>	<b>167.5</b>	<b>168.1</b>	<b>0.6</b>	<b>6.77</b>
<b>G17-11</b>	<b>173.65</b>	<b>175.5</b>	<b>1.85</b>	<b>8.97</b>
<i>incl</i>	<b>173.65</b>	<b>174.2</b>	<b>0.55</b>	<b>28.42</b>
G17-11	184	184.5	0.5	1.58
G17-12	No Significant Intercepts			
G17-13	No Significant Intercepts			
<b>G17-14</b>	<b>81.2</b>	<b>81.7</b>	<b>0.5</b>	<b>13.42</b>
<b>G17-14</b>	<b>112</b>	<b>112.7</b>	<b>0.7</b>	<b>18.03</b>
G17-14	140.6	141.4	0.8	1.07
G17-14	146.2	147.2	1	3.77
<b>G17-14</b>	<b>158.2</b>	<b>164.5</b>	<b>6.3</b>	<b>6.22</b>
<i>incl</i>	<b>159.1</b>	<b>159.8</b>	<b>0.7</b>	<b>52</b>
G17-14	173	173.5	0.5	1.49
G17-14	174.2	175	0.8	1.75
G17-15	77	80.6	3.6	0.84
<i>incl</i>	77	77.5	0.5	4.45
<b>G17-15</b>	<b>93.85</b>	<b>94.5</b>	<b>0.65</b>	<b>11</b>
G17-15	109.8	110.8	1	2.18
G17-15	123.5	124.6	1.1	3.73



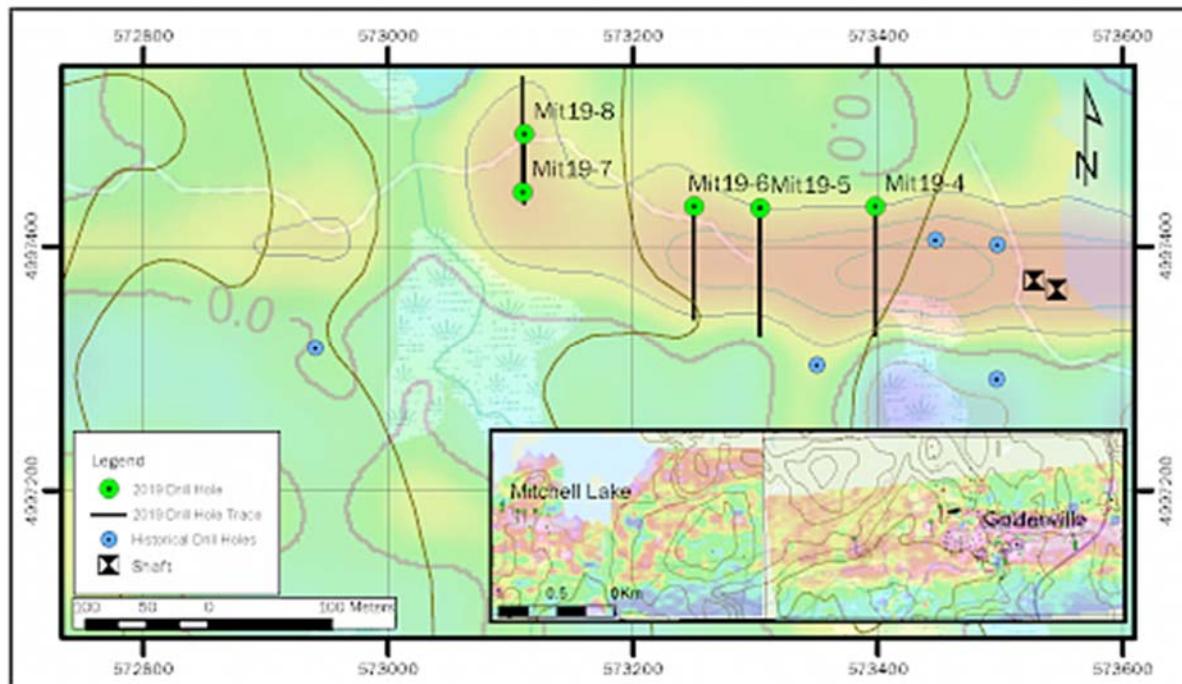
Hole ID	From (m)	To (m)	Width (m)	Au (g/t)
<i>incl</i>	123.5	124.1	0.6	6.14
G17-15	139	140	1	1.09
G17-15	157.4	157.8	0.4	2.52
<b>G17-15</b>	<b>198.3</b>	<b>212.7</b>	<b>14.4</b>	<b>1.52</b>
<i>incl</i>	206.55	208.8	2.25	8.88
<i>incl</i>	<b>207.9</b>	<b>208.8</b>	<b>0.9</b>	<b>20.58</b>
G17-15	233.1	233.7	0.6	1.96
MIT17-01	115.35	116.2	0.85	4.17
MIT17-01	120	120.6	0.6	1.52
<b>MIT17-01</b>	<b>126.8</b>	<b>157.3</b>	<b>30.5</b>	<b>0.7</b>
<i>incl</i>	129.5	137.6	8.1	1.1
<i>and</i>	146.3	155.7	9.4	1.02
MIT17-01	146.3	155.7	9.4	1.03
<i>incl</i>	155	155.7	0.7	5.17
<b>MIT17-01</b>	<b>168.5</b>	<b>169</b>	<b>0.5</b>	<b>9.26</b>
MIT17-01	174	174.5	0.5	1.36
MIT17-02	23.8	25.6	1.8	1.36
<i>incl</i>	23.8	24.3	0.5	3.65
<b>MIT17-02</b>	<b>43.7</b>	<b>50.4</b>	<b>6.7</b>	<b>0.56</b>
<i>incl</i>	45.2	47.7	2.5	1.21
MIT17-02	67	69.5	2.5	1.42
MIT17-02	102	102.5	0.5	1.87
<b>MIT17-03</b>	<b>31.7</b>	<b>56.8</b>	<b>25.1</b>	<b>0.41</b>
<i>incl</i>	34.5	52.3	17.8	0.5
<i>incl</i>	44	52.3	8.3	0.89

## 10.4 OSPREY GOLD (2019)

In 2019 Osprey conducted their second diamond drill program consisting of 13 holes totaling 2,003m. These consisted of 8 holes, (G series) totaling 1,357m drilled on the Goldenville zone (Figure 19), and 5 holes (MIT series), totaling 646m on Mitchell Lake (Figure 20), highlights are listed in Table 18.



**Figure 19** - 2019 Osprey Goldenville Zone drill hole location Map. Background is airborne Mag. (from Osprey news release March 11, 2020)



**Figure 20** - 2019 Osprey Mitchell Lake Zone drill hole location Map. Background is airborne Mag. (from Osprey news release February 26, 2020)



**Table 18** - 2019 Osprey Drilling Highlights (form Osprey news releases January 30, February 26, and March 11, 2020)

Hole ID	From (m)	To (m)	Width (m)	Au (g/t)
G19-16	71.1	72.1	1	0.98
<b>G19-16</b>	<b>115.5</b>	<b>117.5</b>	<b>2</b>	<b>1.01</b>
G19-16	194	209.5	14	0.4
<i>incl</i>	194	206.5	11	0.46
<i>incl</i>	199	206.5	6	0.59
<i>incl</i>	<b>205.5</b>	<b>206.5</b>	<b>1</b>	<b>2.53</b>
G19-17	55	61	6	0.64
<i>incl</i>	<b>58</b>	<b>59</b>	<b>1</b>	<b>2.67</b>
<b>G19-17</b>	<b>64.5</b>	<b>65.5</b>	<b>1</b>	<b>3.03</b>
G19-17	91.5	99.5	8	0.8
<i>incl</i>	<b>96.5</b>	<b>99.5</b>	<b>3</b>	<b>1.91</b>
<b>G19-17</b>	<b>105.5</b>	<b>106.5</b>	<b>1</b>	<b>4.65</b>
<b>G19-18</b>	<b>119.5</b>	<b>124.5</b>	<b>5</b>	<b>107.8</b>
<i>incl</i>	<b>119.5</b>	<b>121.5</b>	<b>2</b>	<b>269.15</b>
<i>incl</i>	<b>119.5</b>	<b>120.5</b>	<b>1</b>	<b>517</b>
<b>G19-19</b>	141	147	6	0.15
<i>incl</i>	144	147	3	0.21
<b>G19-20</b>	26	33	7	0.44
<i>incl</i>	<b>26</b>	<b>31</b>	<b>5</b>	<b>0.59</b>
<i>incl</i>	<b>30</b>	<b>31</b>	<b>1</b>	<b>2.33</b>
<b>G19-20</b>	47	49	2	0.42
<b>G19-21</b>	No significant intercepts			
<b>G19-22</b>	72	100	28	0.18
<i>incl</i>	80	93	13	0.31
<i>incl</i>	80	88	8	0.45
<b>G19-22</b>	114	122.9	8.9	0.16
<i>incl</i>	118	122.9	4.9	0.22
<b>G19-23</b>	21	23	2	0.34
<b>G19-23</b>	50	52	2	0.45
<b>G19-23</b>	<b>71</b>	<b>85</b>	<b>14</b>	<b>0.16</b>
<i>incl</i>	<b>71</b>	<b>79</b>	<b>8</b>	<b>0.24</b>
<i>incl</i>	77	78	1	1.23
<b>G19-23</b>	<b>113</b>	<b>116</b>	<b>3</b>	<b>0.97</b>
<i>incl</i>	113	114	1	2.76



Hole ID	From (m)	To (m)	Width (m)	Au (g/t)
<b>Mit19-4</b>	<b>67</b>	<b>81</b>	<b>14</b>	<b>0.49</b>
<i>Incl</i>	77	81	4	1
<b>Mit19-5</b>	<b>47</b>	<b>79</b>	<b>32</b>	<b>0.49</b>
<i>Incl</i>	64	77	13	1.05
	67	69	2	3.07
<b>Mit19-6</b>	<b>61</b>	<b>79</b>	<b>18</b>	<b>0.23</b>
<i>Incl</i>	68	74	6	0.35
<b>Mit19-7</b>	<b>117</b>	<b>123</b>	<b>6</b>	<b>0.24</b>
<b>Mit19-8</b>	<b>75</b>	<b>80</b>	<b>5</b>	<b>0.36</b>
<i>Incl</i>	75	76	1	1.73

## 11 Sample Preparation, Analysis, and Security

### 11.1 PRE-1987

A search was made for descriptions of the procedures followed for the numerous diamond drilling and sampling programs carried out prior to 1987 on the Goldenville Property. Unfortunately, only limited descriptions were found and no original data was provided to Fladgate.

The 2005 Technical Report confirms that no sampling methodology information could be located for drill programs pre-dating the MPH period (pre-1987).

### 11.2 MPH CONSULTING PROGRAMS (1987-1989)

The following excerpt is summarized from the Annual Information Form (AIF) completed by Acadian Mining Corporation, dated March 29, 2012:

*“Details of sampling methodologies and approaches were only available for the MPH period and these are outlined below.”*

*“For drill core samples, the entire NQ size core interval of interest was submitted for analysis to maximize sample size. Underground back, sill and rib samples were typically 2-8 kg in size, and were comprised of vein and wall rock material. A “metallics” assay technique was utilized by Chemlab Ltd. (“Chemlab”) to process core and rock samples known to carry visible gold and also used to re-analyze non-visible gold-bearing samples that returned initial gold levels of 1 g/t or more. In the latter case, the initial gold analysis was carried out by fire assay pre-concentration and atomic absorption finish on 1 assay ton splits of pulverized sample material. The metallics technique has the following three main components: (1) the entire sample was pulverize and sifted through an 80 mesh screen and the material which passes through the screen is designated the -80 mesh pulp and the material which does not pass through the 80 mesh is designated the coarse (+80 mesh) pulp,*



*with both portions being weighed; (2) the -80 mesh pulp is reportedly rolled on a plastic sheet to ensure homogeneity and sampled in duplicate to determine the gold content, the +80 mesh will contain brittle material and malleable gold particles. This portion is assayed in its entirety and the gold content of the entire +80 portion is calculated; and (3) using the average gold content of the -80 mesh portion, the gold content of the +80 mesh portion and the total weight of the original samples, the amount of gold in the head can be calculated.”*

*“Security parameters relating to the historic drilling and underground programs were difficult to specifically assess. Review of all MPH reports failed to provide specific information describing quality control and assurance measures applicable to Goldenville project analytical work. A review of laboratory reports for the Phase II diamond drilling program of 1987 did show that duplicate analyses were reported for approximately 1 in every 10 to 15 samples submitted for regular gold analysis at Chemlab. At least one analytical report for check analyses carried-out at Swastika Laboratories Ltd., presumably to verify Chemlab results, was also apparent.”*

*“Associated record keeping, general data organization and technical methodologies were consistent with industry standards of the time and laboratory processing and sample analysis was carried-out under supervision of professionally certified personnel. A corresponding degree of care with respect to sample security, reflective of industry standards of the time for such work, is assumed. It is also understood that trained geological and sampling staff were responsible for integrity of the core sampling and chip sampling programs and shipment to a commercial laboratory.”*

### **11.3 ACADIAN GOLD CORPORATION DRILLING (2006)**

In addition to the historic data verified by Flaggate, the current Mineral Resource Estimation includes 8 diamond drill holes from Acadian in 2006. These holes are named GV06-001 to -008. Although limited, there is some information regarding sampling protocols and procedures followed during the 2006 program from an Acadian press release dated May 10, 2007:

*“All drilling, core logging and sampling is supervised by Peter C. Webster, P. Geo. and pertinent information is recorded by staff geologists into a computerized system. Drill core is stored and sampled in a secure locked facility. One metre core sample intervals are established over the entire hole length by staff geologists and sample intervals are recorded. Core is cut by a diamond tipped saw and one half of the core is sampled. Samples are bagged and labeled with pre-numbered sample tags, sealed with a metal tie and secured in sealed buckets for shipment by courier to ALS Chemex in Val d’Or, Quebec. Once received by the lab, samples are logged in a sample tracking system and received weights are recorded. The entire sample is coarse crushed and pulverized to approximately 85% passing 75 micron (200 Mesh) to generate the plus and minus fractions for the 150 Mesh screen analysis. The final*



*prepared pulp is passed through a 105 micron (Tyler 150 Mesh) stainless steel screen to separate the oversize fractions. Any +105 micron material remaining on the screen is retained and analyzed in its entirety by fire assay with gravimetric finish and reported as the Au (+) fraction result. The -105 micron fraction is homogenized and two sub-samples are analyzed by fire assay with AAS finish. The average of the two AAS results is taken and reported as the Au (-) fraction result. The Au (+) and Au (-) are weight averaged to produce a total gold value for the sample. Blind standards and blanks are inserted at standard intervals by Acadian Gold and ALS Chemex as check samples.”*

This drill program is also described in an assessment report ([Kennedy, 2006](#)). Neither source provides details on the specific use of blanks and standards, the identity of standards employed, and results of QA/QC analysis, if performed.

#### **11.4 GOLDWORX (2014)**

This section is summarized from the [MacKinnon \(2018\)](#). The 2014 drill program at Goldenville, managed by Mercator for Goldworx, provided 24 NQ diamond drill holes that were stored for a time by Mercator, and then Maritime Drilling, both of whom were caring for the unlogged and unsplit core until such time as they were paid for work done. In May of 2017 Osprey negotiated an agreement with the two parties and acquired the core.

Mercator logged the core on behalf of Osprey and the core was split by Osprey contractor Perry Bezanson under the supervision of Perry MacKinnon.

Once sawn down the middle, one half the core was taken and put in poly bags with tags supplied by Mercator. Standard's and blanks provided by Mercator were inserted in the numbered sequence as identified in the sample books, also provided by Mercator.

The bags of core were boxed and shipped via Canada Post by Mr. Bezanson to Bureau Veritas Minerals NA in Timmons, Ontario. 541 samples, including QA/QC inserts, were analyzed. Logs, assay procedures and certificates are found in Appendix V.

After processing, the core was moved to the rear of the Goldenville Museum where it was stacked, covered and strapped, and remains stored outside.

Mercator inserted blanks every 20<sup>th</sup> sample and alternated medium between low grade standards also every 20<sup>th</sup> sample, ¼ split field duplicates were also taken every 40<sup>th</sup> sample. Standards were CDN Resource laboratories Ltd. Standards CRM CDN-GS-6C (5.95 +/- 0.48 g/t Au gravimetric finish), CRM CDN-ME-19 (0.62 +/- 0.062 g/t Au).

#### **11.5 OSPREY (2017)**

This section is summarized from [MacKinnon \(2019\)](#). Logan Drilling Ltd. was the chosen drill contractor. Upon retrieval of the core from the core tube, the drill crew placed the core directly in HQ core boxes containing approximately 3 metres of core. When each tray was filled, they were immediately covered with another core tray and secured with fibre tape. Core from every shift was delivered to the core shack by the crew and put in racks in the core shack by Osprey staff.



Osprey rented the basement of the Goldenville Museum as a core shack. Core racks were constructed, and all of the drilled core is stored within. Core was logged inside the core shack and splitting (sawing) was done in front of the core shack using an overhead mounted, gas powered, core saw with a water-cooled diamond blade.

Logging was initiated by the author, then geologist Glen Covey logged from G17-4 to G17-13, then Perry MacKinnon logged G17-14 and 15. Splitting was done initially by Perry Bezanson, then Morgan Silver, followed by Stuart Wilmot, all three from the surrounding area.

All samples were placed in poly bags and appropriate tags were placed within, as indicated in the logs and assay certificates. 1692 regular samples were selected with the average length of sample at 0.8 metres. In addition, 83 blanks, consisting of commercially bagged limestone gravel, were inserted, 85 standards (consisting of 2, certificates in Appendix IV) and 90 duplicates, consisting of quartered core of an original (half core) interval. The maximum sample width was 2.4 metres, the narrowest at 0.2 metres, but all but a few samples were greater than 0.5 metres. When sufficient samples accrued, they were boxed by the staff and sent to Bureau Veritas in Timmons, Ontario via Canada Post.

Samples were initially processed in Timmons and the pulps were sent to the Bureau Veritas lab in Vancouver for final analysis. All samples were assayed for Au only using standard fire assay technique using a 50 gram sample (lab code FA450). Samples testing over 10 grams per tonne were re-assayed using assay code FA550, fire assay by lead collection with a gravimetric finish. All samples initially testing greater than 0.5 grams per tonne were further analyzed by metallic screen process with a 1000g sample (code FS652-1Kg).

## **11.6 OSPREY (2019)**

The following is summarized from Perry MacKinon (Personal Communication 2020). The 2019 diamond drilling performed by Logan Drilling Group of Stewiacke, Nova Scotia. Hole G19-16 was drilled with NQ coring equipment, the remaining holes with HQ equipment. An open, rubber tracked drill was utilized for minimal environmental impact.

During the drilling of MIT19-4 the first drill developed serious mechanical issues and was replaced with a similar, though slightly larger machine.

When the core was retrieved by the driller, the core tube was emptied into a core box that had the hole number and box number written on it with indelible marker, and wooden footage markers placed every 3 metres, and at other places as required, such as old workings, or lost core. When the core box was full of core, a lid was placed on top and wrapped securely with fibre tape. At morning shift change all of the core was taken to the Osprey Gold core shack at Goldenville, where Osprey staff took it inside and put it in the storage racks.

As with the previous drill program, Osprey rented the basement of the Goldenville Museum as a core shack. Core was logged inside the core shack by Osprey consultant Glenn Covey, and splitting was done in the core shack using hydraulic core splitter. The geotech was Stuart Wilmot, who had been with Osprey in the 2017 drill program.



After splitting in (mostly) 1 meter lengths as marked with red crayon by Mr. Covey, all samples were placed in poly bags and appropriate tags were placed within, with sample numbers as indicated in the logs and assay certificates. 1494 samples were shipped, including 74 blanks (consisting of commercially bagged limestone gravel and/ or dolomitic limestone), 79 standards (consisting of 2 alternating, commercially available standards, certificates in Appendix?) and 59 duplicates, consisting of quartered core of an original (half core) interval. When sufficient samples accrued, they were bagged by the staff and sent to Actlabs prep facility in Fredericton, New Brunswick. Pulps were then forwarded by that lab to their facility in Ancaster, Timmons or Geraldton, Ontario for processing.

All samples were assayed for Au only using standard fire assay technique using a 30 gram sample (lab code 1A2). Samples testing over 3 grams per tonne were re-assayed using assay code FA-1A3, fire assay by lead collection with a gravimetric finish. All samples initially testing greater than 1.0 grams per tonne were further analyzed by metallic screen process with a 1000g sample (code 1A4-AA-1Kg).

After processing, the core was returned to the racks within the core shack (Goldenville Mining Museum), though some was subsequently moved to the exterior core storage area behind the core shack where it was cross piled and covered with 6 ml plastic.

## **11.7 CAUTIONARY STATEMENT**

As indicated in the Acadian Annual Information Form (AIF) and repeated in the 2005 Technical Report, no information is available to confirm the methodology, security, procedures, or use of sample blanks and standards for drill programs prior to 1987. Of the 150 drillholes on the Goldenville property, 83 fall into this time period representing ~50% of the total drillholes and ~30% of the total drilled meters.

Drill programs after 1987 appear to have been under the direction of geological consultants MPH and Mercator but original documentation is not available to Fladgate to confirm methodology, security, systematic use of blanks and standards, or quality assurance/quality control analysis.

## **12 Data Verification**

### **12.1 DATA COLLECTION**

#### **12.1.1 *Fladgate 2013 Internal Report***

In 2012, Fladgate received all available digital data for Goldenville from Goldworx. This data was imported into Datamine and Gemcom in order to review Acadian's 2005 Resource estimate and complete a non-43-101-compliant "in-house" Mineral Resource Estimate. The document was titled "Updated Resource Evaluation and Near Term Production Potential of the Goldenville property", dated May 15, 2013 for Goldworx.

For the current report, a search was performed for drill hole logs related to the data received in 2012 from Goldworx. Logs were located for 130 of 150 holes in the resource database.



### **12.1.2 *Acadian 2005 Technical Report***

In preparation for their Mineral Resource Estimation in 2005 for Acadian, Mercator collected and verified available data. The following summary is taken from *Section 13* from the Acadian 2005 Technical Report:

*“At the request of Acadian Gold Corporation, Mercator undertook an extensive compilation of available geoscientific information relating to the Goldenville property in 2004/2005. This work included detailed review and compilation of government assessment reports, government and industry technical reports, digital government data, published maps, diamond drill logs, and review and interpretation of digital airborne geophysical data.”*

*“Sample records, lithologic logs, drill collar surveys and downhole survey data available for 142 surface and underground drill holes at Goldenville were reviewed, compiled, and each location, and sample record was cross-checked. This information was entered into a digital project database in Excel and included all drill hole information. Underground workings outlines and underground sampling results were also compiled in MapInfo mapping software. Digital information was used as required to create digital geological cross sections and plan projections using Surpac Xplorpac (Ver.5.0k) software. Subsequently developed vein and stratigraphic correlations were used to develop vein parallel long sections for the property that provided a geological and spatial framework for the mineral resource estimate reported herein. All of the information was imported into MapInfo Professional (Ver.7.5) software, which was used to generate polygons of the composite grade blocks, long sections and plan projections that accompany this report (Appendix 4). These long sections provided a geological and spatial framework for the mineral resource estimate reported herein. Long sections with the composite grade block polygons and plan projections that accompany this report (Appendix 4).”*

*“Validation of database entries was first carried out using automated routines within Surpac. Error messages were followed up by appropriate database corrections and adjustments.”*

*“MPH provided Northumberland and subsequently NovaGold with a comprehensive hard copy database of sampling and assay information. This information was provided to Mercator by our client as original company reports from NovaGold or was accessed by Mercator through the NSDNR library and the archived assessment report files. The hard copy reports delivered to Mercator contained original sample records, maps and sections pertaining to all MPH programs and also contained original signed copies of associated laboratory reports. The available data was reviewed by Mercator and appears to document the sampling and assay methods described in associated reporting. All drill core from the MPH period was photographed by MPH prior to sampling and a review of several such photographic records was carried out for purposes of this report. Various diamond drill logs, assay reports, drill sections and mine level plans were reviewed and checked by the author and found to correspond to the documented assay results.”*



*“The Author did not verify through independent check-sampling any assay results reported by MPH but upon the above assessment, the Author considers the compiled Goldenville analytical data set comprised of drill core and chip sampling results to be acceptable for mineral resource estimation purposes.”*

### **12.1.2.1 Summary of Acadian Compilation and Fladgate Cautionary Statement**

Fladgate has proceeded on the assumption that data provided to them in 2012 by Goldworx represents the same data set used by Mercator for the 2005 Acadian resource estimation. Original documentation for collar survey coordinates, downhole survey data, assay validation, and QA/QC standard and blank usage is presumed to have been available to Mercator, even though it was not part of the data provided to Fladgate. Consequently, Fladgate has assumed the data provided in 2012 has been validated as part of the Acadian Technical Report and remains acceptable for Mineral Resource Estimation purposes. Where possible, Fladgate has compared the available data against filed assessment work and other sources and provided comments on differences noted in the following sections.

Eight holes named GV06-01 to GV06-08 were drilled in 2006, post-dating the Acadian Technical Report. This drill information was provided to Fladgate in 2012 and checked against assessment work, company reports and press releases.

## **12.2 IMPORTING DATA INTO GEMCOM**

The dataset from Goldworx was imported into Gemcom in 2012 and used to create a non-compliant 43-101 “in-house” resource memo by Fladgate in 2013. The data includes 150 diamond drill holes in Microsoft Excel format, as well as hard copy plans and sections. Gemcom was utilized to create underground triangulations for the 260 ft, 400 ft, 500 ft, and 600 ft levels. Other activities performed include ten named veins being modeled as solids, property-wide level plans and cross sections created at 20 m spacings, and topographic and overburden surfaces created. The mining levels were designated by elevation relative to the topographic surface (i.e. 260 ft level corresponds to 920 level, 400 ft level corresponds to 880 level, etc.) as measured down from the shaft collar. In 2017, two additional levels were located at 29m (971m) and 48m (951m) and subsequently added to the Gemcom workspace as triangulations.

All data for the Goldenville Property is located in mine grid and was not converted to NAD83 Zone 20N. The Stuart Shaft was selected for a property “datum”, with Gemcom coordinates of 10000E and 10000N, corresponding to the historic grid as 100 easting and 100 northing. The historic grid is rotated 6°E with N-S lines at an azimuth of 6° and baselines at azimuth 96°.

A check of drillhole data against the originals filed for assessment was completed and is further described under Section 12.3 “Data Validation”.

The Goldworx data did not include any underground sample data collected by MPH in 1988, however this data was located within an historic assessment report ([Coates and Freckleton, 1989](#)). Due to time constraints, the majority of the original data for underground sampling was not imported into Gemcom with the exception of



the samples used in the 2005 Mineral Resource Estimation and isolated samples outside the resource polygons. This sample data was compiled by Mercator to create 7 resource polygons with 25 m strike length and minimum 1.2 m width (named 260-1, 500-1 to 500-4, 600-1 and 600-2). These 7 polygons represented 41 individual samples which were imported individually into Gemcom at the sampled vein width. An additional 26 samples located outside the resource polygons with significant intersections were located and imported into Gemcom. Of these 26 samples, 10 were described as grab samples (i.e. had no width), therefore a 0.1 m width was applied. The remainder used vein widths that were noted.

A total of 67 underground samples were imported into Gemcom and were used for the current Mineral Resource Estimation. An estimated 80% of the underground samples were not used and are assumed to be below the 1 g/t Au cutoff over 1.2 m vein width established by Mercator for the resource polygons.

The underground samples imported into Gemcom are summarized in Table 19.

**Table 19** - Underground samples imported into Gemcom from the MPH program (1988).

Sample ID	Location X	Location Y	Location Z	Length (m)	From (m)	To (m)	Au (g/t)	Comments (Location/vein name)
19153	10005.10	10072.90	923.00	0.10	0.00	0.10	33.520	202 X-cut
19169	10011.50	10117.70	923.00	0.10	0.00	0.10	51.850	202 X-cut
19173	10010.80	10119.70	923.00	0.10	0.00	0.10	21.900	202 X-cut
19264	10052.20	10061.50	923.00	0.10	0.00	0.10	63.000	206 MacKay
19294	10247.30	10009.90	923.00	0.10	0.00	0.10	23.590	218 North
19451	10039.90	10048.00	923.00	0.10	0.00	0.10	25.110	202 North
19533	10370.00	10001.60	923.00	0.10	0.00	0.10	19.210	224 X-cut (north?)
19638	10437.30	9982.10	923.00	0.03	0.00	0.03	16.160	228 X-cut
19642	10436.10	9991.00	923.00	0.10	0.00	0.10	49.100	228 X-cut (NORTH?)
19646	10436.10	9991.50	923.00	0.10	0.00	0.10	35.380	228 X-cut (North?)
19674	10233.50	10050.40	923.00	0.10	0.00	0.10	23.030	Derry
19686	10269.30	10050.80	923.00	0.30	0.00	0.30	18.200	Young
G30414	10017.00	10067.23	823.00	0.25	0.00	0.25	31.950	Anderson
G30464	10011.00	10016.20	823.00	0.03	0.00	0.03	14.650	North
G30497	10012.00	10051.00	851.00	0.04	0.00	0.04	27.550	Ashley
G32086	10014.28	10037.54	823.00	0.35	0.00	0.35	11.380	North
G30246	10237.14	10055.47	851.00	0.04	0.00	0.04	94.080	Ashley
G30269	10248.90	10061.00	851.00	0.70	0.00	0.70	58.370	Rix
G30696	10006.00	10048.00	851.00	0.20	0.00	0.20	41.080	Anderson
G30760	10191.00	10044.20	851.00	0.04	0.00	0.04	25.780	Crift
G31112	10095.00	10033.00	851.00	0.10	0.00	0.10	18.620	Hirschfeld
G30003	10174.30	10013.70	923.00	0.15	0.00	0.15	15.990	Canada
G30220	10258.00	10052.40	923.00	0.10	0.00	0.10	27.430	Angus



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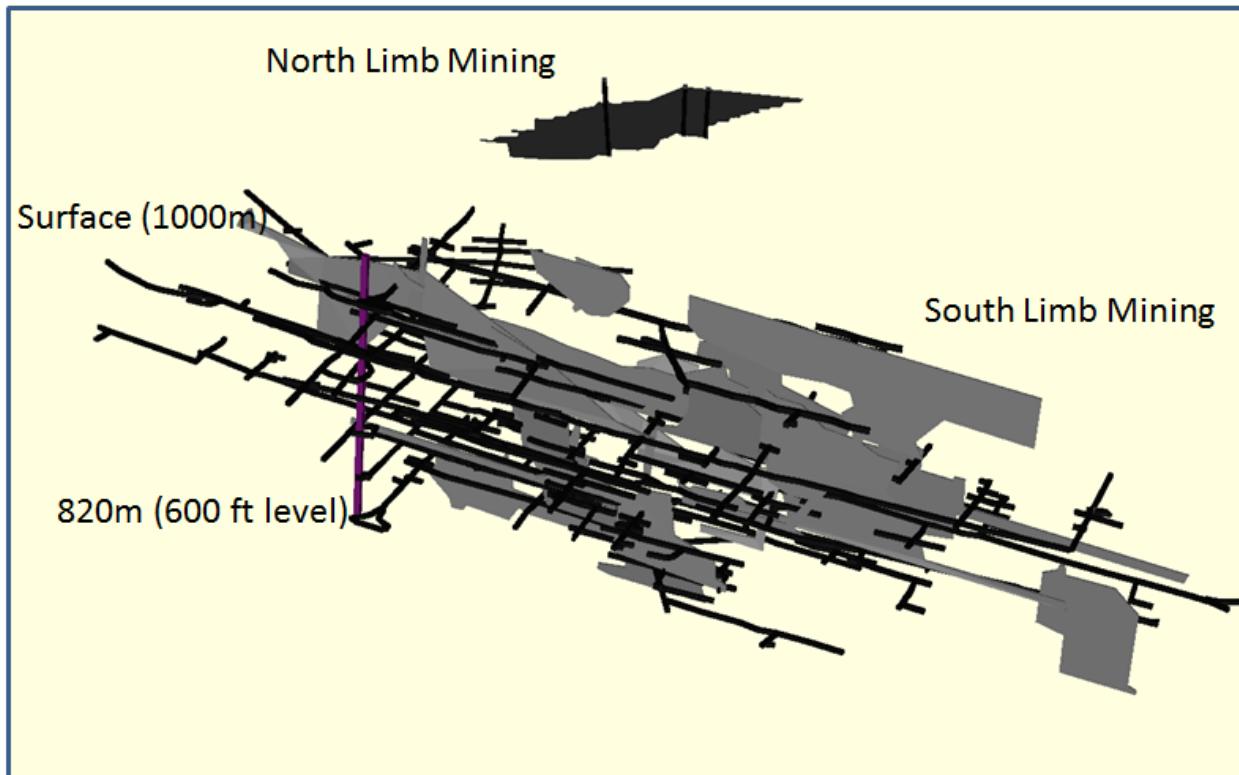
Sample ID	Location X	Location Y	Location Z	Length (m)	From (m)	To (m)	Au (g/t)	Comments (Location/vein name)
G30698	10216.28	9977.00	923.00	0.20	0.00	0.20	47.900	Anderson
G32087	10212.00	10006.50	823.00	0.10	0.00	0.10	28.150	Hirschfeld
G32089	10213.90	10006.50	823.00	0.10	0.00	0.10	14.220	Hirschfeld
260-1POLY1	10003.50	10068.52	922.70	0.05	0.00	0.05	33.820	260 1 POLYGON
500-1POLY1	10240.87	10096.78	852.80	0.10	0.00	0.10	2.560	500 1 POLYGON
500-2POLY2	10213.40	10091.87	852.80	0.06	0.00	0.06	4.230	500 1 POLYGON
500-2POLY3	10215.28	10091.50	852.80	0.09	0.00	0.09	3.730	500 1 POLYGON
500-2POLY4	10217.24	10090.60	852.80	0.14	0.00	0.14	8.050	500 1 POLYGON
500-2POLY5	10218.90	10089.95	852.80	0.15	0.00	0.15	18.070	500 1 POLYGON
500-2POLY6	10220.60	10089.46	852.80	0.07	0.00	0.07	6.950	500 1 POLYGON
500-2POLY7	10222.58	10088.86	852.80	0.15	0.00	0.15	29.740	500 1 POLYGON
500-2POLY8	10224.47	10088.30	852.80	0.15	0.00	0.15	11.800	500 1 POLYGON
500-2POLY9	10226.37	10087.60	852.80	0.08	0.00	0.08	23.750	500 1 POLYGON
500-2POLY10	10228.35	10087.10	852.80	0.10	0.00	0.10	6.280	500 1 POLYGON
500-2POLY11	10230.20	10086.70	852.80	0.16	0.00	0.16	0.160	500 1 POLYGON
500-2POLY12	10232.10	10086.20	852.80	0.15	0.00	0.15	25.370	500 1 POLYGON
500-2POLY13	10233.98	10085.77	852.80	0.08	0.00	0.08	0.200	500 1 POLYGON
500-2POLY14	10235.90	10085.17	852.80	0.50	0.00	0.50	0.300	500 1 POLYGON
500-3POLY1	10214.57	10041.15	852.80	0.15	0.00	0.15	2.240	500 3 POLYGON
500-3POLY2	10216.37	10041.01	852.80	0.15	0.00	0.15	11.300	500 3 POLYGON
500-3POLY3	10218.27	10040.93	852.80	0.15	0.00	0.15	2.090	500 3 POLYGON
500-3POLY4	10219.98	10040.89	852.80	0.15	0.00	0.15	0.410	500 3 POLYGON
500-3POLY5	10221.65	10040.87	852.80	0.15	0.00	0.15	0.990	500 3 POLYGON
500-3POLY6	10223.40	10040.64	852.80	0.15	0.00	0.15	2.050	500 3 POLYGON
500-3POLY7	10225.36	10040.41	852.80	0.15	0.00	0.15	8.030	500 3 POLYGON
500-3POLY8	10227.07	10040.14	852.80	0.15	0.00	0.15	1.070	500 3 POLYGON
500-3POLY9	10228.74	10039.71	852.80	0.15	0.00	0.15	1.600	500 3 POLYGON
500-3POLY10	10230.41	10039.46	852.80	0.15	0.00	0.15	0.480	500 3 POLYGON
500-3POLY11	10232.21	10039.36	852.80	0.15	0.00	0.15	0.930	500 3 POLYGON
500-3POLY12	10234.21	10039.15	852.80	0.15	0.00	0.15	0.640	500 3 POLYGON
500-3POLY13	10236.08	10038.97	852.80	0.15	0.00	0.15	0.500	500 3 POLYGON
500-4POLY1	10237.82	10038.91	852.80	0.15	0.00	0.15	0.760	500 4 POLYGON
500-4POLY2	10239.61	10038.78	852.80	0.15	0.00	0.15	3.270	500 4 POLYGON
500-4POLY3	10241.45	10038.60	852.80	0.15	0.00	0.15	0.390	500 4 POLYGON
500-4POLY4	10243.30	10038.56	852.80	0.15	0.00	0.15	0.340	500 4 POLYGON
500-4POLY5	10244.97	10038.27	852.80	0.15	0.00	0.15	0.220	500 4 POLYGON
500-4POLY6	10247.14	10038.08	852.80	0.15	0.00	0.15	0.170	500 4 POLYGON
500-4POLY7	10253.49	10037.26	852.80	0.15	0.00	0.15	2.610	500 4 POLYGON



Sample ID	Location X	Location Y	Location Z	Length (m)	From (m)	To (m)	Au (g/t)	Comments (Location/vein name)
500-4POLY8	10255.33	10037.01	852.80	0.15	0.00	0.15	0.210	500 4 POLYGON
500-4POLY9	10257.49	10036.95	852.80	0.15	0.00	0.15	0.240	500 4 POLYGON
500-4POLY10	10259.33	10036.99	852.80	0.15	0.00	0.15	6.120	500 4 POLYGON
500-4POLY11	10261.35	10037.03	852.80	0.15	0.00	0.15	3.650	500 4 POLYGON
600-1POLY1	10024.96	10066.30	823.00	1.52	0.00	1.52	2.420	600 1 POLYGON
600-2POLY1	10199.08	10009.10	823.00	1.50	0.00	1.50	1.940	600 2 POLYGON

No original stope survey records are known to exist and there was no record of stope excavations available in 3D format. However, on the southern limb of the anticline were more recent (1910-1942) mining occurred a series of longitudinal sections with stopes from the historic archives were located. These were used to create stope outlines in Gemcom for Anderson, Hirschfeld, North, Pseudo-Sears, Rix, Striker, and Wentworth veins. The mining width was set to 1.5 m and triangulations were created. Although extensive shallow mining is known to have occurred on the north limb of the anticline, with the exception of one stope on the Wellington Vein, no further data was located for the mining outlines. The lack of stope records on the north limb of the anticline poses an issue with respect to depletion of the near surface mineralization in the current resource model is located.

These current stope triangulations are at best a rough estimation of the actual mining outlines, however they serve as a visual indication of mined areas and ore shoot directions, and were used to deplete the current resource estimate. The estimated stope outlines are shown in Figure 21.



**Figure 21** - 3D view looking NW showing the estimated stoping on the north and south limbs.

## 12.3 DATA VALIDATION

Data supplied to Fladgate by Goldworx in 2012 was compared to information filed for assessment work, technical reports, press releases, and company reports.

### 12.3.1 *Collar Coordinate Verification*

The original collar coordinate survey data was not available to Fladgate to confirm hole locations. Two independent searches were completed to verify collar coordinates supplied to Fladgate. Firstly, the Goldworx data was compared to the Acadian Technical Report from 2005, and secondly the Goldworx data was compared to drill logs filed for assessment work. Details of these cross-checks are provided below.

#### 12.3.1.1 *Comparison of Drill Hole Collar Coordinate Data from Goldworx 2012 to Acadian Technical Report 2005*

The drill hole database used by Acadian in 2005 consisted of 142 holes. This data was compared to the dataset received from Goldworx by Fladgate in 2012. In general, the two datasets were in good agreement with respect to collar coordinates, with the exception of three discrepancies found in holes G02, G17, and G18, highlighted in Table 20.



The collar easting coordinate for drill hole G2 is off by 118.9 m between the two datasets, while drill holes G17 and G18 had depth differences of -458.8 and 90.5 m, respectively. Comparison of drill hole G2 to the 1987 surface geology map created by Northumberland Mines Ltd. indicates that the hole is correctly located from the 2012 Goldworx data. The Acadian data for drill hole G17 indicates that the hole length was reported in feet and was not converted to meters. Hole G18 appears to have been extended by 90.5 m after the Acadian Technical Report was completed.

**Table 20** - Comparison of Acadian 2005 data to Goldworx 2012 Drillhole Data.

Acadian Technical Report (March 1, 2005)				
Hole Number	Northing	Easting	Elevation	Length(m)
G02	10003	10000	1000.8	179.8
G17	9940	10248.2	1001.183	660
G18	9976	10071.5	996.266	69.5

Goldworx Data (2012)				
Hole Number	Northing	Easting	Elevation	Length(m)
G02	10003	10118.9	1000.8	179.83
G17	9940	10248.2	1001.183	201.17
G18	9976	10071.5	996.266	160.02

Discrepancies noted between the two datasets				
Hole Number	Northing	Easting	Elevation	Length(m)
G02	0	118.9	0	0.03
G17	0	0	0	-458.83
G18	0	0	0	90.52

### **12.3.1.2 Comparison of Drill Hole Collar Coordinate Data from Goldworx 2012 to Government Assessment Files**

An independent search of the collar data for the 150 drill holes supplied from Goldworx in 2012 was cross-checked against drill logs filed for assessment work between 1961-2006. The original drill logs have collar coordinates in latitude (northing), departure (easting), and elevation. The Gemcom data uses the Goldenville grid and drill holes, are therefore located using the log coordinates. These coordinates were not converted to NAD83 Zone 20N.

A total of 127 logs found within assessment files were checked against the 2012 Goldworx dataset for collar coordinates. The collar coordinates of only 58 holes were confirmed using this method. The logs for these 58 holes show both planned collar coordinates and surveyed coordinates. It is assumed that the coordinates were surveyed, as the original records are not available. The easting and northing coordinates agree to within  $\pm 1$  m, with the majority within 0.1 m.



Elevation differences were noted between the two datasets. An elevation variance of 12.8 m was noted in hole GV06-006 and holes G88-T1 through G88-T8 had a consistent elevation difference of -1000 m. After checking the collars against the topographic surface in Gemcom, the elevation data from the assessment files was determined to be incorrect.

Of the remaining 92 drill holes, 71 logs were found in the assessment files however the coordinates were either absent (54) or not in agreement with the Gemcom coordinates (17). Finally, 21 holes remained with no confirmed log filed for assessment. Of these 21 holes, 4 additional logs were located in the Nova Scotia Department of Mines and Energy core library, however the coordinates were either absent (2) or not in agreement with the 2012 Goldworx dataset (2). The results of this collar coordinate check are summarized in Table 21.

**Table 21** - Gemcom coordinates imported in 2012 vs. collar coordinates from assessment reports.

Collar Coordinates Confirmed Against Assessment Files			
Hole ID (From)	Hole ID (To)	# Holes	Comments
GV06-01	GV06-08	8	Coordinates agree
G87-01	G87-34	33	Coordinates agree
G87-34A	---	1	Coordinates agree
G87-35	G87-40	6	Coordinates agree
G88-T1	G88-T10	10	Coordinates agree
Total		58	
Drill Logs Filed with no Coordinate Data			
Hole ID (From)	Hole ID (To)	# Holes	Comments
G05	G15	11	No coordinate data
G16A	---	1	No coordinate data
G17	G20	4	No coordinate data
G22	G25	4	No coordinate data
G27	G28	2	No coordinate data
G30	G49	20	No coordinate data
G51	G59	9	No coordinate data
G61	---	1	No coordinate data
G87-16	---	1	No coordinate data
G260-04	---	1	No coordinate data
Total		54	
Drill Log Filed Coordinate Data Different from 2012 Dataset			
Hole ID (From)	Hole ID (To)	# Holes	Comments
72619	72627	9	Coordinates differ
G26	---	1	Coordinates differ
G260-01	G260-03	3	Coordinates differ
G500-01	---	1	Coordinates differ
G600-01	G600-03	3	Coordinates differ
Total		17	
Drill Log Not Found in Assessment Files			
Hole ID (From)	Hole ID (To)	# Holes	Comments
ALAMO-1	ALAMO-2	2	Log found in core library, coordinates don't agree
DENISON-1	DENISON-6	6	No log in assessment files
G01	G04	4	No log in assessment files
G21	---	1	No log in assessment files
G29	---	1	No log in assessment files



G50	---	1	Log found in core library, no coordinate data
G60	---	1	Log found in core library, no coordinate data
G62	---	1	No log in assessment files
G65	---	1	No log in assessment files
G69	G71	3	No log in assessment files
	Total	21	
	<b>GRAND TOTAL</b>	<b>150</b>	

An assessment report was located for holes GV06-001 to GV06-008 drilled under the direction of Mercator, which notes that the holes were collared by GPS. A search was made for original survey data for all collar coordinates, but none were found.

The 2005 Technical Report completed by Mercator indicates that drill collar surveys were compiled and reviewed so it is assumed the collar survey data is correct.

### 12.3.2 Drill Hole Downhole Survey Verification

A description of the downhole survey procedures utilized for the various drill campaigns was not available to review. The assessment file survey data indicates pre-1986 drill holes were surveyed using a combined acid dip test at 100 ft spacing and sporadic Tropari tests. Due to the relative absence of downhole azimuth data and noted magnetic interference for tropari measurements, the pre-1986 hole traces for the Goldworx data have no azimuth variance and only show deviation based on dip measurements.

Drill holes after 1986 were surveyed using Sperry Sun with independent dip tests. The Sperry Sun azimuth data has been utilized to track the hole traces. Observations of the dip variance based on acid dip tests from 11 drill holes indicates a general shallowing of drillholes by an average of 4° per 34 m. Observation of the Sperry Sun data for 9 holes with at least 3 measurements indicates a general deviation to the east by ~0.1° per 83 m.

The 2012 Goldworx survey data was checked against historic drill logs filed for assessment between 1961 and 2006. A total of 133 logs were checked against the dataset with 17 logs not found from the assessment file data. Of the 133 logs checked against the 2012 data, 30 holes agreed with downhole survey information. A consistent 6° azimuth difference was noted for 95 holes, which appears to be explained as an azimuth correction to the mine rotated grid. Similarly, a consistent 10° azimuth difference was noted for 8 holes (GV06-001 to GV06-008). The results of the downhole survey verification are summarized in Table 22.

### 12.3.3 Azimuth Correction to Rotated Grid

The logs for numerous holes indicate that collar azimuths were aligned to the grid, which was oriented with a base line at an azimuth of 096°. A consistent 6° east difference was noted for the 2012 Goldworx azimuth data compared to assessment file logs, and it is assumed that this correction was applied to account for the grid rotation.

**Table 22** - 2012 Downhole Survey Data Comparison to Assessment File Logs.

Hole ID (From)	Hole ID (To)	# Holes	Year Drilled	Survey Method	Comments
72620	72627	8	1985	Acid Test	2012 Goldworx survey agrees with assessment file logs



Hole ID (From)	Hole ID (To)	# Holes	Year Drilled	Survey Method	Comments
G87-01	G87-10	10	1987	Sperry Sun	2012 Goldworx survey agrees with assessment file logs
G87-15	G8716	2	1987	Sperry Sun	2012 Goldworx survey agrees with assessment file logs
G88-T1	G88-T10	10	1988	Unknown	2012 Goldworx survey agrees with assessment file logs
	<b>Total</b>	<b>30</b>			
ALAMO-1	ALAMO-2	2	1976	Acid Test	Assessment log azimuth 6° less than 2012 data azimuth
G5	G15	11	1983	Tropari, acid test	Azimuth in assessment log 6° less than 2012 data
G16A		1	1983	Tropari, acid test	Azimuth in assessment log 6° less than 2012 data
G17	G20	4	1983	Tropari, acid test	Azimuth in assessment log 6° less than 2012 data
G22	G28	7	1983	Tropari, acid test	Azimuth in assessment log 6° less than 2012 data
G30	G61	32	1983	Acid Test	Azimuth in assessment log 6° less than 2012 data
G87-17	G87-34	18	1983	Sperry Sun?	Azimuth in assessment log 6° less than 2012 data
G87-34A		1	1987	Sperry Sun?	Azimuth in assessment log 6° less than 2012 data
G87-35	G87-40	6	1987	Sperry Sun?	Azimuth in assessment log 6° less than 2012 data
G260-01	G260-04	4	1988	Unknown	Azimuth in assessment log 6° less than 2012 data
G500-01		1	1988	Unknown	Azimuth in assessment log 6° less than 2012 data
G600-01	G600-03	3	1988	Unknown	Azimuth in assessment log 6° less than 2012 data
72619		1	1985	Acid Test	Distance errors, corrected in Gemcom
G87-11	G87-14	4	1987	Sperry Sun?	Hole extensions have 6° azimuth correction compared to assessment logs
GV06-01	GV06-08	8	2006	Unknown	Azimuth in assessment log 10° less than 2012 data
	<b>Total</b>	<b>103</b>			
DENISON-1	DENISON-6	6		Unknown	No assessment log found
G1	G4	4	1983	Unknown	No assessment log found
G21		1	1983	Unknown	No assessment log found
G29		1	1983	Unknown	No assessment log found
G62		1	1983	Unknown	No assessment log found
G65		1	1983	Unknown	No assessment log found
G69	G71	3	1983	Unknown	No assessment log found
	<b>Total</b>	<b>17</b>			
	<b>Grand Total</b>	<b>150</b>			

### 12.3.3.1 *G87 Series Holes*

The G87 series holes appear to have used combined surveys with Sperry Sun for azimuth and dip data and a separate test to confirm dip data. Of the 41 holes provided by Goldworx, a total of 12 holes agree with the assessment file logs for azimuth and dip data. The differences noted in the remaining 29 holes are summarized below.

The assessment file logs for holes G87-01 to G87-10 and G87-15 to G87-16 indicate Sperry Sun surveys and agree well with the 2012 Goldworx data for both dip and azimuth data. Holes G87-11 to G87-14 and G87-17 appear to have been extended at a later time, however the extensions have a 6° azimuth difference between the Goldworx data and the assessment file log. Holes G87-18 to G87-40 show the same pattern where the 2012 Goldworx azimuth is 6° higher than the assessment file log. The logs do not specify what method was used to determine the downhole azimuth but it is assumed to be Sperry Sun. The G87 series holes are summarized in Table 23 below.

**Table 23** - Comparison of G87 series downhole survey data to assessment file logs.

Hole ID (From)	Hole ID (To)	# Holes	Survey Method	Comments
G87-01	G87-10	10	Sperry Sun	2012 Goldworx survey records agree with assessment drill logs
G87-11	G87-14	4	Sperry Sun?	Hole extensions have 6° azimuth correction compared to assessment logs
G87-15	G8716	2	Sperry Sun	2012 Goldworx survey records agree with assessment drill logs
G87-17	---	1	Sperry Sun	Hole extensions have 6° azimuth correction compared to assessment logs
G87-18	G87-34	17	Sperry Sun?	Azimuth difference of 6° compared to assessment logs
G87-34A	---	1	Sperry Sun	Azimuth difference of 6° compared to assessment logs
G87-35	G87-40	6	Sperry Sun?	Azimuth difference of 6° compared to assessment logs
TOTAL		41		

The 2005 Technical Report indicates that downhole survey data was compiled and reviewed so it is assumed the survey data is correct. The reason for the 6° azimuth variation is unknown and is assumed to be the rotation from the historic grid to true north.

### 12.3.3.2 2006 GV Series Holes

The 2012 Goldworx data for these holes have a consistent azimuth difference of 10° east compared to the logs filed for assessment. Note that the distance and dip data is identical. The downhole survey data for the GV series drill holes are summarized in Table 24.

**Table 24** - Comparison of GV series downhole survey data to assessment file logs.

2012 Goldworx Data				Assessment File Data			Comparison of data
Hole ID	Distance (m)	Azimuth	Dip	Distance (m)	Azimuth	Dip	2012 Goldworx to Assessment File Logs
GV06-01	0	356.5°	-50°	0	346.5°	-50°	10° AZ difference
GV06-01	45	356.5°	-49.8°	45	346.5°	-49.8°	10° AZ difference
GV06-01	90	355.3°	-47.2°	90	345.3°	-47.2°	10° AZ difference
GV06-01	132	357.7°	-46.4°	132	347.7°	-46.4°	10° AZ difference
GV06-02	0	186.3°	-60°	0	180°	-60°	6° Az difference
GV06-02	40	186.3°	-57.5°	40	176.3°	-57.5°	10° AZ difference
GV06-02	81	186.3°	-57.5°	81	176.3°	-57.5°	10° AZ difference
GV06-03	0	185°	-50°	0	175°	-50°	10° AZ difference
GV06-03	50	184.8°	-48.5°	50	174.8°	-48.5°	10° AZ difference
GV06-03	100	182.3	-44.9	100	172.3	-44.9	10 deg AZ difference
GV06-03	150	183.1	-40.2	150	173.1	-40.2	10 deg AZ difference
GV06-03	224	183.2	-38.7	224	173.2	-38.7	10 deg AZ difference



2012 Goldworx Data				Assessment File Data			Comparison of data
Hole ID	Distance (m)	Azimuth	Dip	Distance (m)	Azimuth	Dip	2012 Goldworx to Assessment File Logs
GV06-04	0	185	-60	0	175	-60	10 deg AZ difference
GV06-04	50	183.6	-59.7	50	173.6	-59.7	10 deg AZ difference
GV06-04	100	183.6	-59.7	100	173.6	-59.7	10 deg AZ difference
GV06-04	150	179.5	-58.4	150	169.5	-58.4	10 deg AZ difference
GV06-04	200	178.2	-56.5	200	168.2	-56.5	10 deg AZ difference
GV06-04	250	176.6	-53.7	250	166.6	-53.7	10 deg AZ difference
GV06-04	300	180.2	-52.7	300	170.2	-52.7	10 deg AZ difference
GV06-05	0	5	-50	0	355	-50	10 deg AZ difference
GV06-05	30	4	-44.1	30	354	-44.1	10 deg AZ difference
GV06-05	70	3.2	-44.1	70	353.2	-44.1	10 deg AZ difference
GV06-06	0	175	-70.3	0	165	-70.3	10 deg AZ difference
GV06-06	30	174.7	-70.3	30	164.7	-70.3	10 deg AZ difference
GV06-06	50	174.7	-69.8	50	164.7	-69.8	10 deg AZ difference
GV06-06	99	175.9	-67	99	165.9	-67	10 deg AZ difference
GV06-07	0	171.1	-50	0	161.1	-50	10 deg AZ difference
GV06-07	50	171.1	-47.7	50	161.1	-47.7	10 deg AZ difference
GV06-07	100	171.9	-46.7	100	161.9	-46.7	10 deg AZ difference
GV06-07	140	171.9	-45.9	140	354	-45.9	Azimuth error in assessment log
GV06-08	21	4.1	-47.8	21	354.1	-47.8	10 deg AZ difference
GV06-08	90	6.3	-46.7	90	356.3	-46.7	10 deg AZ difference
GV06-08	140	6.3	-46	140	356.3	-46	10 deg AZ difference

The logs do not indicate the survey method used and the reason for the 10° azimuth difference is uncertain. A press release from Acadian Gold dated May 10, 2007 includes the hole locations, dip and azimuth readings for holes GV06-001 to GV06-008, and is shown in **Table 25**. The collar coordinate data from the Acadian press release agree with the 2012 Goldworx data however there are differences in the azimuth and dip data. Comparison of the azimuth and dip data for the 2012 Goldworx data to the Acadian press release is summarized in **Table 26**.

**Table 25** - 2006 Acadian Diamond Drill program (from Acadian press release dated May 10, 2007).

Hole ID	Easting (MPH Grid)	Northing (MPH Grid)	Length (m)	Azimuth	Dip	Easting (NAD27)	Northing (NAD27)
GV2006-01	10695.0	10010.0	135.0	350	-50	577975	4996992
GV2006-02	10525.0	10128.0	81.0	170	-60	577801	4997082
GV2006-03	9800.0	10200.0	224.0	170	-50	577071	4997066
GV2006-04	9690.0	10375.0	303.0	170	-60	576937	4997203
GV2006-05	10175.0	9975.0	156.5	350	-45	577467	4996903



GV2006-06	10080.0	10165.0	99.0	170	-70	577333	4997062
GV2006-07	10000.0	10230.0	140.0	170	-50	577275	4997115
GV2006-08	11090.0	10040.0	141.0	350	-50	578362	4997077

**Table 26** - Comparison of GV series downhole survey data to Acadian press release.

2012 Goldworx Data				Acadian Press Release 2007			Comparison of data
Hole ID	Distance	Azimuth	Dip	Distance	Azimuth	Dip	2012 Goldworx to Acadian Press Release
GV06-01	0	356.5	-50	0	350	-50	Azimuth 6° further east
GV06-02	0	186.3	-60	0	170	-60	Azimuth 16.3° further west
GV06-03	0	185	-50	0	170	-50	Azimuth 15° further west
GV06-04	0	185	-60	0	170	-60	Azimuth 15° further west
GV06-05	0	5	-50	0	350	-45	Azimuth 15° further east, dip difference
GV06-06	0	175	-70.3	0	170	-70	Azimuth 5° further west, dip difference
GV06-07	0	171.1	-50	0	170	-50	Azimuth 1.1° further west
GV06-08	21	4.1	-47.8	0	350	-50	Azimuth 14.1° further east, dip difference

It is not certain whether information provided in the Acadian press release represents final or proposed azimuth and dip data. These holes postdate the 2005 Acadian Technical Report however the assessment report states that the drill program was completed under the direction of Mercator Geological Services ([Kennedy, 2006](#)).

#### 12.3.4 Drillhole Assay Verification

Diamond drill hole assay data supplied from Goldworx was cross-checked against assay lab certificates included in the assessment work. A total of 12,264 samples were included in the 2012 dataset of which 1,383 samples (11.3%) were checked against the assay certificates. The check exercise represents drill campaigns completed in 1983, 1987, 1988 and 2006 and includes assay certificates from three separate labs; Atlantic Analytical Services, Chemlab Inc., and ALS Chemex. The data is summarized in **Table 27**.

**Table 27** - Goldworx assay data checked against assessment files.

Hole ID (From)	Hole ID (To)	# Holes	# Samples	# Checked	Year Drilled
DENISON-1	DENISON-6	6	135	0	
ALAMO-1	ALAMO-2	2	95	0	



G1	G15	15	972	85	1983
G16A		1	119	0	
G17	G62	46	1148	115	1983
G65		1	8	0	
G69	G71	3	14	0	
72619	72627	9	757	0	
G87-01	G87-34	34	5471	367	1987
G87-34A		1	250	0	
G87-35	G87-40	6	1340	478	1987
G260-01	G260-04	4	89	0	
G500-01		1	29	0	
G600-01	G600-03	3	280	229	1988
G88-T1	G88-T10	10	341	0	
GV06-01	GV06-08	8	1216	109	2006
	TOTAL	150	12,264	1,383	
			Percentage	11.3%	

Comparison of the 2012 Goldworx data to the assessment file assay certificates indicated 34 significant assay differences, 70 assays not found in the assessment files, and 4 samples missing from the 2012 data. The comparison data is summarized in Table 28.

**Table 28** - Comparison of Goldworx assay data to assessment file data.

2012 Goldworx Data				Assessment File Au (g/t)	Difference	Comments	Lab
Hole ID	From	To	Au (g/t)				
G10	17.07	17.37	146.51	0.21	146.304	Significant difference	Atlantic Analytical Sercives
G10	52.03	52.33	0.63	1.15	-0.518	Significant difference	Atlantic Analytical Sercives
G10	57.64	58.22	2.74	1.19	1.55	Significant difference	Atlantic Analytical Sercives
G10	85.53	86.87	3.89	6.90	-3.01	Significant difference	Atlantic Analytical Sercives
G10	116.13	116.86	24.76	48.79	-24.028	Significant difference	Atlantic Analytical Sercives
G20						No significant differences	Atlantic Analytical Sercives
G30						No significant differences	Atlantic Analytical Sercives



2012 Goldworx Data				Assessment File Au (g/t)	Difference	Comments	Lab
Hole ID	From	To	Au (g/t)				
G40						No significant differences	Atlantic Analytical Sercives
G600-01	60.04	60.33	1.00	1.33	-0.33	Significant difference	Chemlab Inc
G600-02	86.11	86.84				Original assay not found	Chemlab Inc
G600-03	93.37	179.38				50 original assays not found	Chemlab Inc
G87-01	11.7	11.9	2.77	1.41	1.36	Significant difference	Chemlab Inc
G87-01	76	76.2	1.47	2.41	-0.94	Significant difference	Chemlab Inc
G87-01	84.33	84.65	4.64	2.6	2.04	Significant difference	Chemlab Inc
G87-01	101.7	102.05	5.82	2.33	3.49	Significant difference	Chemlab Inc
G87-01	117.35	117.55	15.89	1.56	14.33	Significant difference	Chemlab Inc
G87-05	31.23	31.41	4.02	7.7	-3.68	Significant difference	Chemlab Inc
G87-05	71.93	72.25	5.27	2.77	2.5	Significant difference	Chemlab Inc
G87-05	143.29	143.62	12.28	7.5	4.78	Significant difference	Chemlab Inc
G87-05	143.62	143.8	53.62	9.4	44.22	Significant difference	Chemlab Inc
G87-05	147.44	147.78	3.58	2.25	1.33	Significant difference	Chemlab Inc
G87-05	161.34	161.57	30.45	3.35	27.1	Significant difference	Chemlab Inc
G87-05	163.19	163.4	3.23	2.11	1.12	Significant difference	Chemlab Inc
G87-05	177.37	177.61	15.02	18.5	-3.48	Significant difference	Chemlab Inc
G87-05	177.61	177.79	14.33	3.74	10.59	Significant difference	Chemlab Inc
G87-05	177.79	178.07	19.07	1.12	17.95	Significant difference	Chemlab Inc
G87-15	53.77	53.94	14.18	5.04	9.14	Significant difference	Chemlab Inc
G87-15	109.54	109.79	10.94	5.08	5.86	Significant difference	Chemlab Inc
G87-15	310.65	310.9	0.42	1.05	-0.63	Significant difference	Chemlab Inc
G87-15	366.3	366.6	5.46	4.58	0.88	Significant difference	Chemlab Inc
G87-25	98.67	99.49		0.01		Missing sample in 2012 data	Chemlab Inc
G87-25	133.94	134.39		0.03		Missing sample in 2012 data	Chemlab Inc
G87-25	134.39	134.53		0.06		Missing sample in 2012 data	Chemlab Inc
G87-25	136.19	136.63	0.04	0.63	-0.59	Significant difference	Chemlab Inc
G87-25	370.75	371.43	0.98	3.03	-2.05	Significant difference	Chemlab Inc
G87-25	373.12	373.49	0.13	0.45	-0.32	Significant difference	Chemlab Inc



2012 Goldworx Data				Assessment File Au (g/t)	Difference	Comments	Lab
Hole ID	From	To	Au (g/t)				
G87-35	349	349.38				Missing sample in 2012 data	Chemlab Inc
G87-39	8.03	8.65	0.07	0.97	-0.9	Significant difference	Chemlab Inc
G87-39	39.01	39.34	0.13	0.61	-0.48	Significant difference	Chemlab Inc
G87-39	115.2	115.42	3.32	0.75	2.57	Significant difference	Chemlab Inc
G87-39	132.92	133.46	2.79	0.54	2.25	Significant difference	Chemlab Inc
G87-39	137.69	137.94	0.15	0.72	-0.57	Significant difference	Chemlab Inc
G87-39	195.02	195.3	0.10	0.74	-0.64	Significant difference	Chemlab Inc
GV06-01	46	65	0.01			19 Original assays not found	ALS Chemex

#### 12.3.4.1 *Discussion of Assay Verification*

There are significant differences between the assessment file assay certificates and the 2012 data set. Of the 34 largest discrepancies, the Goldworx assays were higher in 19 cases, and the assessment assays were higher in 15 cases. Of the 1,383 samples checked it was noted that 86 samples had values higher than 1.0 g/t Au and of the 34 discrepancies, 25 samples were above this 1.0 g/t Au threshold (representing ~29% of the checked data). Consequently, the significant assays above the 1 g/t Au threshold (86) have an unacceptable percentage of unconfirmed assays from the assessment data (25). A check of the 25 samples indicated that 21 were assayed by fire assay and 4 by metallic assays. Note that for 18 of the 25 samples at the 1.0 g/t Au threshold, the Goldworx assay is higher than the assessment filed assay, and without the original assay certificates this difference cannot be discounted. The data is summarized in Table 29.

**Table 29** - Assays >1 g/t Au with significant differences to assessment file assays.

Hole ID	Goldworx Au (g/t)	Assessment File Au (g/t)	Difference	Sample Number	Assay Method	Assessment File Source Data
G10	146.51	0.21	146.304	3788	Metallic Assay	AR-ME-1984-003 Page 899
G87-05	53.62	9.40	44.22	G12484	Fire Assay	AR-ME-1989-154 Page 570
G87-05	30.45	3.35	27.10	G12489	Fire Assay	AR-ME-1989-154 Page 570
G87-05	19.07	1.12	17.95	G12497	Fire Assay	AR-ME-1989-154 Page 571
G87-01	15.89	1.56	14.33	G11041	Fire Assay	AR-ME-1989-154 Page 519
G87-05	14.33	3.74	10.59	G12495	Fire Assay	AR-ME-1989-154 Page 571
G87-15	14.18	5.04	9.14	G11389	Fire Assay	AR-ME-1989-154 Page 567
G87-15	10.94	5.08	5.86	G11410	Fire Assay	AR-ME-1989-154 Page 575



Hole ID	Goldworx Au (g/t)	Assessment File Au (g/t)	Difference	Sample Number	Assay Method	Assessment File Source Data
G87-05	12.28	7.50	4.78	G12483	Fire Assay	AR-ME-1989-154 Page 570
G87-01	5.82	2.33	3.49	G11038	Fire Assay	AR-ME-1989-154 Page 518
G87-39	3.32	0.75	2.57	G16337	Fire Assay	AR-ME-1989-180 Page 1924
G87-05	5.27	2.77	2.50	G12453	Fire Assay	AR-ME-1989-154 Page 568
G87-39	2.79	0.54	2.25	G16345	Fire Assay	AR-ME-1989-180 Page 1924
G87-01	4.64	2.60	2.04	G11036	Fire Assay	AR-ME-1989-154 Page 518
G10	2.74	1.19	1.55	3816	Fire Assay	AR-ME-1984-003 Page 900
G87-01	2.77	1.41	1.36	G11002	Fire Assay	AR-ME-1989-154 Page 517
G87-05	3.58	2.25	1.33	G12485	Fire Assay	AR-ME-1989-154 Page 570
G87-05	3.23	2.11	1.12	G12496	Fire Assay	AR-ME-1989-154 Page 571
G600-01	1.00	1.33	-0.33	19785	Metallic Assay	AR-ME-1989-181 Page 382
G87-01	1.47	2.41	-0.94	G11025	Fire Assay	AR-ME-1989-154 Page 518
G87-25	0.98	3.03	-2.05	G13808	Fire Assay	AR-ME-1989-180 Page 1720
G10	3.89	6.90	-3.01	3834	Metallic Assay	AR-ME-1984-003 Page 895
G87-05	15.02	18.50	-3.48	G12494	Fire Assay	AR-ME-1989-154 Page 571
G87-05	4.02	7.70	-3.68	G12446	Fire Assay	AR-ME-1989-154 Page 568
G10	24.76	48.79	-24.03	3852	Metallic Assay	AR-ME-1984-003 Page 886

In order to further check the validity of the 2012 Goldworx assay data, the 10 highest historic intercepts were checked against the assessment filed data for assay certificates to confirm the gold values. Eight of the ten assay certificates were located to confirm the intercepts, and 2 had an intercept reported but no assay certificate. The results of this check are summarized in Table 30 and Appendix III.

**Table 30** - Summary of Goldenville 10 highest historic intercepts and location of assay certificates.

Hole ID	From	To	Au (g/t)	Sample ID	Year Drilled	Assay Confirmed and Certificate Location
G70	47.98	48.04	1966.68	0006	1983	Assessment file 1989-155, page 81, reported, no assay certificate
G87-19	422.41	422.61	743.59	9378	1987	Confirmed, Assessment file 1989-180 page 1617
G45	22.56	24.08	739.50	5166	1983	Confirmed, Assessment file 1984-003 page 766
G87-34	53.01	53.09	478.15	G15952	1987	Confirmed, Assessment file 1989-180 page 1854
G18	133.35	134.14	260.00	4594	1983	Confirmed, Assessment file 1984-003 page 837
G62	28.65	28.71	254.36	0012	1983	Assessment file 1989-155 page 80, reported, no assay certificate
G3	87.17	87.48	195.43	3246	1983	Confirmed, Assessment file 434275 page 65



Hole ID	From	To	Au (g/t)	Sample ID	Year Drilled	Assay Confirmed and Certificate Location
G16A	16.67	17.10	191.12	4310	1983	Confirmed, Assessment file 1984-003 page 860
G87-31	243.3	243.78	186.58	G15522	1987	Confirmed, Assessment file 1989-180 page 1823
G600-01	37.01	37.80	166.19	19767	1988	Confirmed, Assessment file 1989-181 page 374

Due to time constraints, the entire assay database could not be checked. Confirmation of these historic significant intersections however, provides a level of confidence to the Goldworx assay data. It is presumed that the 2012 Goldworx assay data is correct and that the differences noted in the assessment files are due to 1) assay certificates missing and not filed for assessment work, or 2) samples re-assayed at a later time and not filed with the original assessment material. The 2005 Technical Report indicates that assay data was compiled and reviewed so it is assumed the data is the same as the 2012 Goldworx data supplied to Fladgate. It is unknown whether the original assay certificates exist or where they are located and it is recommended that a search be conducted to obtain this information in order to confirm the 2012 Goldworx assays.

### **12.3.5 QA/QC Assay Check**

There was no original blank or standard data located that would allow for a QA/QC analysis to be undertaken. The following summary is taken from Section 12.1 of the 2005 Acadian Technical Report:

*“Review of all MPH reports failed to provide specific information describing quality control and assurance measures applicable to Goldenville analytical work. A review of laboratory reports for the Phase II diamond drilling program of 1987 did show that duplicate analyses were reported for approximately 1 in every 10 to 15 samples submitted for regular gold analysis at Chemex Ltd. At least one analytical report for check analyses carried out at Swastika Laboratories Ltd, presumably to verify Chemlab Ltd results, was also apparent.”*

A search was made to locate the check analyses carried out at Swastika Laboratories but they were not found.

### **12.3.6 Specific Gravity Verification**

The following summary is taken from section 16.2.3.0 from the 2005 Acadian Technical Report:

*“A specific gravity factor of 2.67 g/cm<sup>3</sup> was used in preparation of the current mineral resource. No laboratory determination of specific gravity of Goldenville rock material has ever been carried out however a range of 2.67 g/cm<sup>3</sup> to 2.8g/cm<sup>3</sup> of specific gravity laboratory determinations have been returned from other Meguma type gold deposits in Nova Scotia. Based on the geological similarities to the Forest Hill and Tangier gold districts including the predominance of greywacke, slate and quartz in resource blocks or polygons at Goldenville, the 2.67 g/cm<sup>3</sup> figure is considered valid for present purposes.”*

Fladgate recommends a systematic collection of specific gravity data utilizing existing drill core to confirm the estimated specific gravity.



### **12.3.7 *Goldworx (2014) and Osprey (2017 & 2019) Data Verification***

Flaggate requested original assay certificates from Osprey for the re-sampling of the Goldworx drill core and the 2017/2019 drill core assays.

Flaggate checked 127 out of 460 assays from the Goldworx drill holes (27% of the assays) and found only minor errors in the below detection limit values. Flaggate checked 1,875 out of 1,885 (99%) assays for the 2017 drill campaign and found 64 differences (an error rate of 3.4%), however only six of the differences are > 0.1 g/t Au. Flaggate checked 818 assays out of a total of 899 assays for the 2019 drill campaign and found only one difference between the assay certificate and the database.

Flaggate concludes that the assay database is sufficiently error-free to be used for mineral resource estimation.

### **12.4 SITE VISIT**

A site visit was conducted on February 28<sup>th</sup>, 2017 by the First Author and QP (Mr. Neil Pettigrew). The First Author had also visited the property on March 7<sup>th</sup>, 2013. The Second Author and QP did not conduct a site visit.

The First Author did not conduct a separate site visit for the current 43-101 report. It is the Author's opinion that the 2017 site visit remains valid.

During the First Author's 2013 site visit, the property was partially clear of snow and several reclaimed old shafts on the north limb were visited, as well as several of the historic tailings areas. The Stuart Shaft was visited and an accurate GPS reading was taken, using a differential GPS. Its location is 4,997,115.24N and 577,358.26E, using UTM NAD83 Zone 20N. This shaft now has a concrete cap and was the geographic centre of the 1980's era MPH mine grid (Figure 22). The QP also visited Acadian's office in Halifax, spoke with Rick Horne and other Acadian staff, and viewed the 2006 Goldenville drill core stored in their office. No re-sampling of the Acadian drill core was done by the QP in 2013.



**Figure 22** - Stuart Shaft capped by a 1990s cement cap.

During the most recent visit, the First Author once again viewed Acadian's 2006 drill core, now stored in a private backyard just outside Sherbrooke, N.S. (UTM NAD83 Zone 20N 4,999,414N / 586,220E) (Figure 23). The First Author collected 8 check samples from holes GV06-001, -002, -003, -004 and -005, the results of which are discussed below. The First Author also visited Peter Webster, President of Mercator Geological Services, in Dartmouth, N.S. on March 1<sup>st</sup>, 2017, to discuss their work on the Goldenville project in 2005 and 2006.





**Figure 23** - Perry McKinnon in the core storage area located in John Cameron's backyard just outside Sherbrooke, N.S.

Gold assays from the QP re-sampling the 2006 Acadian drill core by the First Author did not correlate well with the original values (**Table 31**). This was not completely unexpected due to the historically nuggety nature of the gold mineralization. Both Acadian and the First Author performed screen metallic analyses in order to mitigate the nugget effect (**Table 32**). Acadian had also noted visible gold in narrow (<1 cm) quartz veins in several intervals that were re-sampled by the First Author. However, no visible gold was observed by the First Author in the most recent site visit, which necessitates the assumption that the visible gold was in the half core sent by Acadian for assay. This would explain some of the low and null grades returned during Fladgate's re-analysis. Only two of the re-analyses returned significant gold (samples GV-NP-17-005 and -008 returning 91.2 and 7.84 g/t Au, respectively). It should be noted that both these values were well above the original Acadian values, consistent with the nuggety nature of the mineralization.

**Table 31** - Re-Sampling of Acadian's 2006 drill core by N. Pettigrew (QP).

Flaggate Re-Sample Number	Acadian Hole Number	From (m)	To (m)	Acadian Sample Number	Acadian Au Assay (g/t)	Flaggate Au Assay (g/t)	Flaggate Sample Notes
GV-NP-17-001	GV06-01	65	66	70563	4.39	<0.05	Sample from upper half of good size vein (~2m core length) with coarse arsenopyrite (Apy), lower part of vein with more Apy did not contain gold.
GV-NP-17-002	GV06-03	45	46	70958	2.91	0.41	Visible gold (VG) noted in the log but not observed in the remaining half core. VG appears to have been hosted in a 0.5 cm quartz vein in silty sandstone with sulfide burn weathering around contacts, the rest of the sample appears barren.
GV-NP-17-003	GV06-03	47	48	70961	5.52	0.05	No veining observed, sample all medium-grained massive greywacke, but has some coarse-grained Apy crystals.
GV-NP-17-004	GV06-03	67	68	70982	5.2	<0.05	Argillaceous with 1 cm quartz vein containing fine-grained Apy and pyrite (Py), VG noted in the log but not seen in remaining half core.
GV-NP-17-005	GV06-04	18	19	71351	74.6	91.2	Very nice ~60 cm quartz vein with coarse Apy, no VG noted in the log or observed in the half core.
GV-NP-17-006	GV06-04	174	175	71515	6.23	0.15	Sample consists of 'greasy' ~60 cm quartz vein with patches of anhedral Apy and Py, no VG observed in remaining half core, but noted in the log.
GV-NP-17-007	GV06-05	36	37	71955	4.52	0.89	Sample contains a 3 cm quartz vein which the log states contains VG, however none observed in remaining half core. Vein hosted in greywacke, sandstone contains fair amount of disseminated to coarse-grained Apy and yellow (orpiment?) weathering.
GV-NP-17-008	GV06-05	45	46	71965	1.1	7.84	Sample contains a 0.5 cm quartz vein with sulfide burn @ 45.4 m. Log notes VG at 45.98 m but none observed in remaining half core. Rest of sample medium-grained greywacke with coarse-grained euhedral Apy and patchy quartz halos throughout sandstone.

The 2006 Acadian drill core is still in relatively good shape (e.g. drill core from GV06-003 pictured in Figure 24), however it has been moved twice in the past 4 years and is now out of order. The 2006 drill logs correlate well



lithologically with the drill core observed by the First Author. Discerning mineralized versus un-mineralized material was difficult however, as a single narrow <1 cm quartz vein frequently carried the bulk of the gold mineralization over an entire 1 m sample. Some larger veins such as those observed within hole GV06-004, which contained coarse-grained arsenopyrite (Figure 25), returned reproducible gold values.

Assay certificates were missing from the 2006 Acadian assessment report for holes GV06-005, -006, -007, and -008, as well as a portion of -004. Curiously, the bulk of the core was coarse split, however several sections were sawn with a rock saw. A discussion with Diane Smeltzer, who logged some of the core in 2006, revealed that this may have been due to the fact the individual who cut the core suffered from fibromyalgia, and likely preferred the coarse-splitter to using the rock saw.

**Table 32** - Comparison between Fladgate and Acadian screen metallics analyses.

Fladgate Metallic Analysis								
Fladgate Sample Number	Acadian Sample Number	Au-SCR24B	Au-AA26	Au-AA26D	Au-SCR24B	Au-SCR24B	Au-SCR24B	Au-SCR24B
		Au Total (g/t)	Au (g/t)	Au (g/t)	Au (-) Fraction (g/t)	Au (+) Fraction (g/t)	wt + Fraction Entire (g)	wt - Fraction Entire (g)
GV-NP-17-001	70563	<0.05	0.01	0.02	<0.05	<0.05	64.86	2082
GV-NP-17-002	70958	0.41	0.01	0.83	0.42	<0.05	47.18	2099
GV-NP-17-003	70961	0.05	0.03	0.05	<0.05	0.39	97.8	2353
GV-NP-17-004	70982	<0.05	<0.01	<0.01	<0.05	<0.05	39.98	1682
GV-NP-17-005	71351	91.2	15.4	16.65	16.05	1260	101.7	1579
GV-NP-17-006	71515	0.15	0.07	0.11	0.09	1.86	75.24	2154
GV-NP-17-007	71955	0.89	0.46	0.3	0.38	19.5	48.03	1768
GV-NP-17-008	71965	7.84	2.02	1.95	1.99	264	44.2	1933.5
Acadian Metallic Analysis								
Fladgate Sample Number	Acadian Sample Number	Au-SCR21	Au-AA25	AU-AA25D	Au SCR21	Au SCR21	Au SCR21	Au SCR21
		Au Total (g/t)	Au (g/t)	Au (g/t)	Au (-) Fraction (g/t)	Au (+) Fraction (g/t)	wt + Fraction Entire (g)	wt - Fraction Entire (g)
GV-NP-17-001	70563	4.39	2.13	2.24	2.19	1115	5.6	2829
GV-NP-17-002	70958	2.91	0.71	0.51	0.61	486	9.6	2015
GV-NP-17-003	70961	5.52	2.91	2.21	2.56	520	18.82	3203
GV-NP-17-004	70982	5.2	1.45	1.39	1.42	302	34.51	2708
GV-NP-17-005	71351	74.6	35.2	39.3	37.3	5190	15.1	2068
GV-NP-17-006	71515	6.23	2.94	2.86	2.9	316	26.83	2502
GV-NP-17-007	71955	4.52	No assay certificate available					
GV-NP-17-008	71965	1.1	No assay certificate available					



**Figure 24** - Acadian drill core from hole GV06-003 (45-52 m).





**Figure 25** - Acadian Hole GV06-004, sample 71351 from 18-19 m, which returned 74.6 g/t Au (Acadian) and 91.2 g/t Au (Fladgate).

The First Author was able to observe and GPS several of the 2014 Goldworx drill hole locations (e.g. Figure 26). The holes were not labelled in the field and were marked only by small rock cairns with poplar sticks, and no casings were left in the ground. The First Author also attempted to confirm the location of Acadian's holes GV-06-003, -005, -006, and -007, however, no casing was left and the 2x4 markers appear to have rotted away in the wet maritime climate. This combined with ~6 inches of snow in the woods precluded the ability of locating any of the Acadian holes with certainty.

Other than the 24 holes drilled by Goldworx in 2014, which due to outstanding unpaid invoices from Maritime Diamond Drilling Ltd. were not logged or sampled and were not available for inspection by the First Author, no other work has been performed on the Goldenville deposit since the First Author's 2013 visit.



**Figure 26** - First Author and QP Neil Pettigrew standing beside a poplar picket marking a Goldworx drill hole location from 2014.

## 13 Mineral Processing and Metallurgical Testing



### **13.1 1984 BULK SAMPLE**

In 1984, Goldenville Exploration Limited excavated a small open cut on six stratabound veins near the Stuart Shaft and ~3,500 tonnes of vein and wall rock were recovered for processing in a small on-site mill. Collapse of the pit floor into old stopes prevented selective mining and resulted in a high waste rock dilution factor. Results were considered generally disappointing due to a combination of poor gold recovery and the high dilution factor. No actual grade for this bulk sample was reported, Fladgate searched for the original data for this bulk sample, but it was not located.

### **13.2 TAILINGS SAMPLING**

In 1974, Goldscotia Mining Corp. completed a tailings sampling program at the Goldenville Property which identified anomalous zones adjacent to the stream in the tailings area ([Huxhold, 1974](#)). Nineteen samples were collected from ten stations, which averaged 0.017 oz/ton in an area 1,000' x 150' x 4', which was open to the west. Further sampling to test the west extension was recommended.

In 1982, Seabright Resources secured the rights to 15 tailings sites over several counties including the Goldenville tailings. Jacques, Whitford and Associates Ltd. were commissioned to supervise and conduct the sampling of these tailings as well as chemical analysis and metallurgical evaluation of the metal recovery. The programs were conducted between 1982-1984 and results are summarized in a report titled “Gold Tailings 1984” ([Jacques, 1984](#)).

No other known mineral processing or metallurgical testing programs have been completed on gold mineralization from the Goldenville Property.

## **14 Mineral Resource Estimates**

### **14.1 KEY ASSUMPTIONS AND BASIS OF ESTIMATE**

The Qualified Person for the 2020 Mineral Resource estimate (that is the subject of this Technical Report) is David G. Thomas, P. Geo.

Fladgate undertook quality assurance and quality control studies on the mineral resource data for the Goldenville project. Fladgate concludes that the collar, down hole survey, assay and lithology data are adequate to support resource estimation.

There is a total of 206 core drill holes for a total of approximately 35,769 meters and 67 underground channel samples within the Goldenville database used to support mineral resource estimation.

The database cut-off date for Mineral Resource estimate purposes is April 30, 2020.

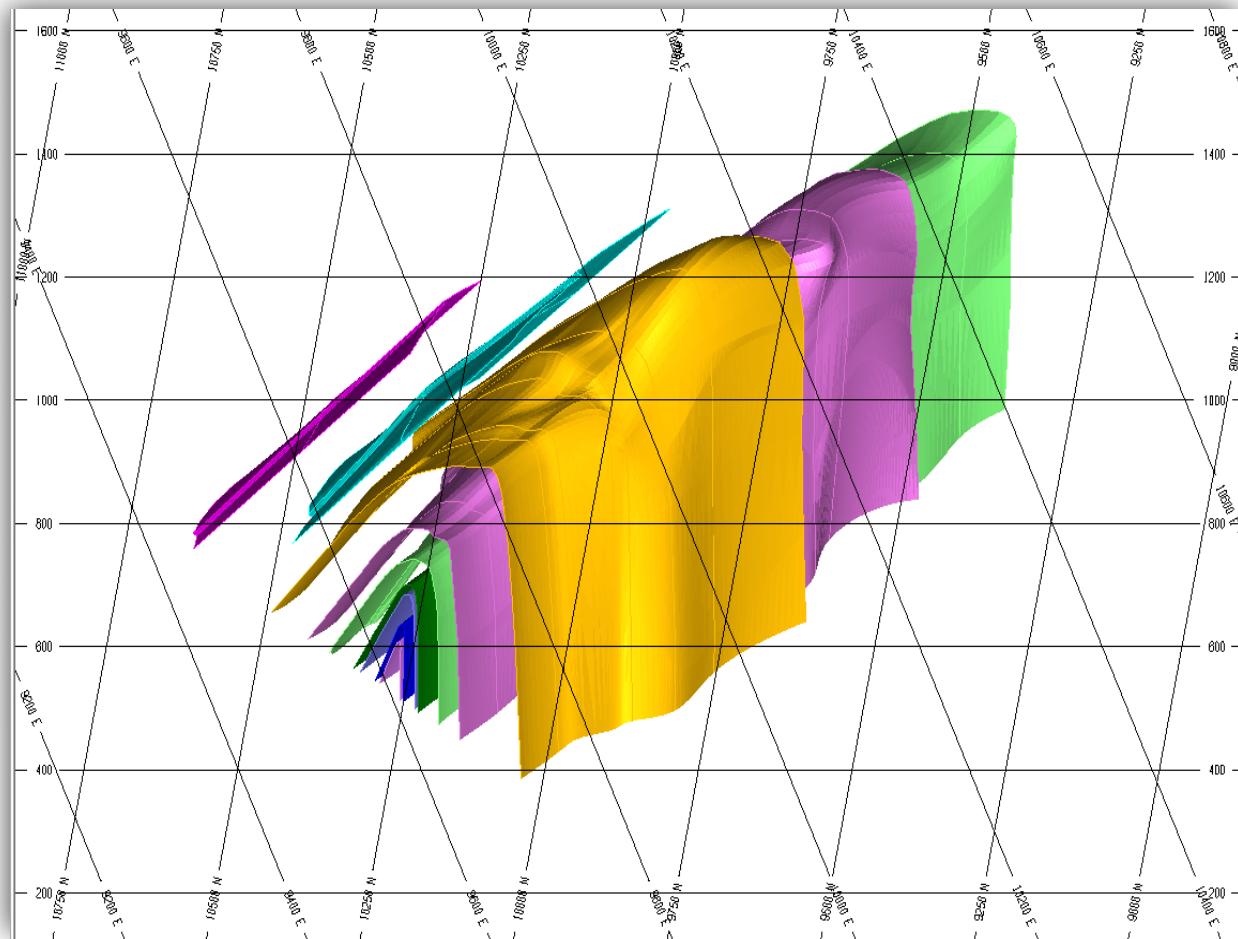


Fladgate imported the collar, survey, lithology, alteration, and assay data into MineSight®, a commercial mining software program. A topographic surface was created using the drillhole collars. All data used the local mine-grid coordinate system.

## **14.2 GEOLOGICAL MODELS**

Geological interpretations of the quartz veins based on lithological, mineralogical and alteration features logged in drill core were digitized by Fladgate to form three-dimensional solids representing the gold mineralization. Fladgate found several gold mineralized intercepts falling outside of the quartz vein wireframes, for this reason Fladgate decided to use indicator kriging to estimate the mineralized volumes rather than deterministic wireframe models.

The quartz veins are oriented parallel to the folded stratigraphy, therefore Fladgate constructed surfaces to represent stratigraphic horizons within the anticline. Fladgate calculated relative elevations (vertical distance) above the stratigraphic surfaces to allow interpolation respecting the shape of the hinge and north limb of the anticline. The steeply dipping and slightly overturned southern limb of the anticline was considered using the original Cartesian coordinate system.



**Figure 27** - Three-dimensional view of anticline wireframe surfaces.



## 14.3 EXPLORATORY DATA ANALYSIS (EDA)

Exploratory data analysis (EDA) comprised basic statistical evaluation of assays and 2 m composites for length and gold.

### 14.3.1 Assays

Flaggate found many intervals within the database with no gold assay. These intervals were replaced with zero values to avoid projection of mineralization into un-sampled areas.

Inspection of the location and length of the underground channel/chip samples within the database shows that they are isolated selective samples from narrow quartz veins. Flaggate inserted samples with zero grade on either side of the UG samples so that after compositing, at each UG sample location there is one mineralized composite with two ‘shoulder’ composites with a zero grade.

### 14.3.2 Histograms and Probability Plots

Log-scaled histograms and probability plots for gold show evidence for mixed populations. The CV of the assays are extremely high (>2).

### 14.3.3 Grade Capping/Outlier Restrictions

Flaggate evaluated histograms, probability plots and the results of decile analysis on the assays to define grade outliers for gold. Flaggate selected a capping grade threshold of 70 g/t. The amount of metal to remove is 39%. This is an extremely large amount of metal to remove by capping, however this is expected based upon the erratic gold distribution.

Assay summary statistics are shown below in Table 33. Capping was completed on the assays prior to compositing.

**Table 33** - Summary statistics and capping thresholds.

Data	Number	Minimum	Maximum	Uncapped		Capped Mean (g/t)	Capped CV
				Mean (g/t)	Uncapped CV		
Assays	15,241	0.00	1966.68	0.59	20.06	0.43	8.70
Replaced Missing	23,296	0.00	1966.68	0.17	37.59	0.12	16.36

### 14.3.4 Composites

In order to normalize the weight of influence of each sample, Flaggate regularized the assay intervals by compositing the drill hole data into 2 m lengths. A composite length of 2 m was chosen to reflect the width of a selective mining unit for a small-scale open pit operation and a potential minimum mining width for underground extraction.

Capped and uncapped composites were calculated. A comparison of the length-weighted mean grades of the assays with the length-weighted mean grades of the composites shows that they are the almost the same. Flaggate is therefore confident that the compositing process has been completed as intended.



The CV values of the gold composites are extremely high (>9). The CV values indicate that further domaining is warranted.

Summary statistics are shown below in Table 34.

**Table 34** - Capped composite statistics.

Data	Number	Minimum	Maximum	Mean	CV
Uncapped	14,979	0.00	532.44	0.18	26.54
Capped	14,979	0.00	50.40	0.11	9.12

#### 14.3.5 *Histograms and Probability Plots*

Log-scaled histograms and probability plots for gold show evidence for mixed populations with a low-grade population below a threshold of 0.01 g/t Au.

### 14.4 INDICATOR PROBABILISTIC MODELS

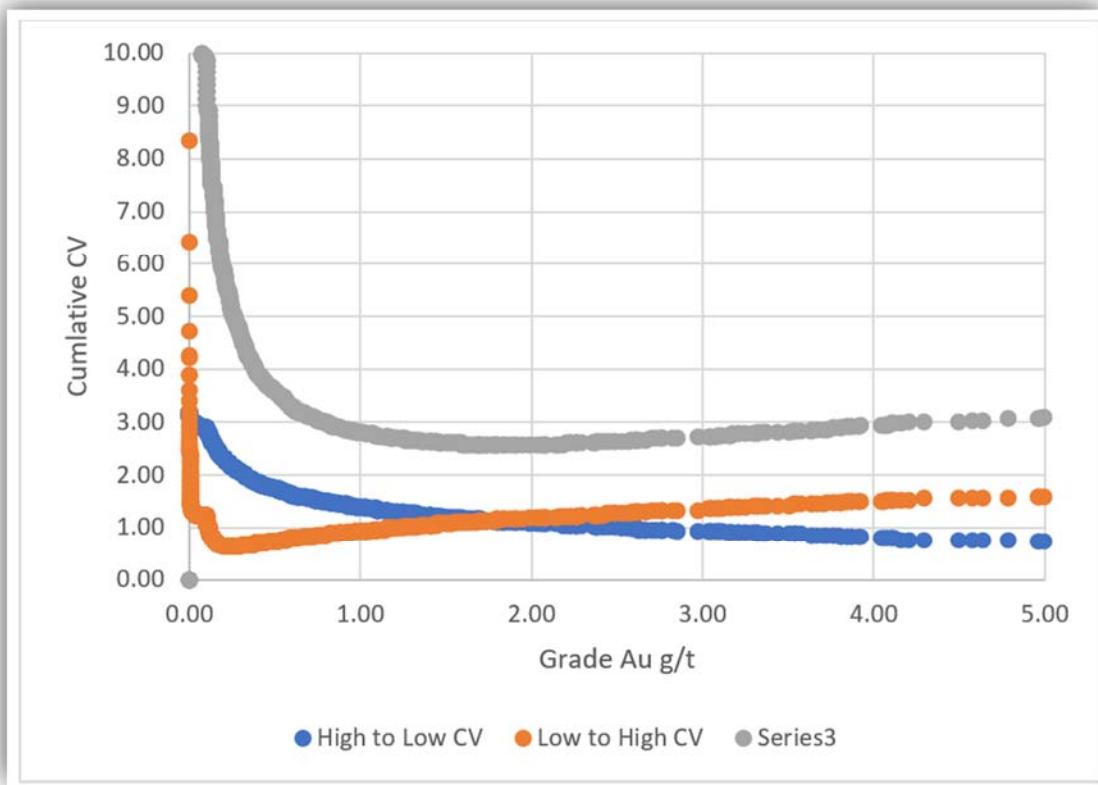
#### 14.4.1 *Gold Model*

As a result of the high gold composite CV values and multiple grade populations identified by EDA, Fladgate created probabilistic indicator models to progressively constrain the mineralization. Indicator models were estimated using inverse-distance weighting to the power of three (IDW3). Thresholds were selected on estimated IDW3 block indicator values (selected to match NN models) to code blocks and back-tag block codes to composites. The first indicator model used a nominal threshold of 0.01 g/t and was used to remove zero grade material. A second indicator model was constructed with a threshold of 0.1 g/t and was used to identify mineralized material. The statistics of the composites coded following the second indicator domaining are shown below in Table 35.

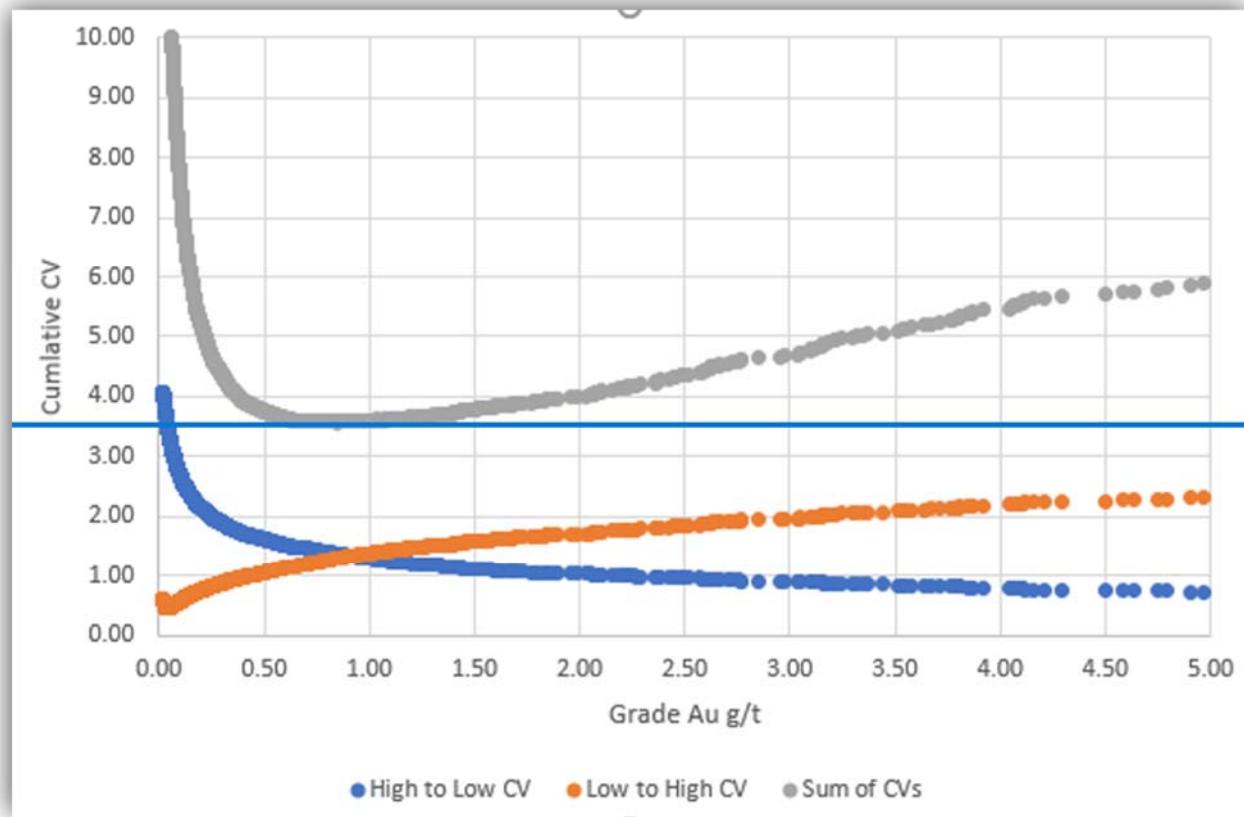
**Table 35** - Second indicator composite statistics.

Composite Group	Number	Min	Max	Mean	CV
Low Grade (5)	4,037	0	10.77	0.05	5.45
Mineralized (10)	1,669	0	50.40	0.97	3.09

A third indicator model was constructed using a threshold of 1.6 g/t to minimize the CV of the composites above and below the threshold. The third threshold was selected by ranking the composites in order of increasing grade and calculating a cumulative CV. A plot showing the sum of the CV values above and below threshold, the CV of composites above threshold and CV of the composites below threshold against grade is shown in Figure 28. Summary statistics of the coded composites are shown in Figure 29. A comparison between the coded composites and all composites above a 1.6 g/t Au cut-off grade is also shown in Table 36.



**Figure 28** - Ranked cumulative CV plot.

**Figure 29** – Summary of the statistic of the coded composites.**Table 36** - Third indicator composite statistics.

	Number	Min	Max	Mean	CV
Low Grade (5)	1,453	0.00	35.11	0.36	3.70
Mineralized (10)	231	0.00	50.40	4.72	1.29
Composites > 1.6 g/t	243	1.61	62.64	6.10	1.20

Flaggate inspected the probabilistic gold indicator models in section and on plan. The models adequately reflect the input composite indicator data. The probabilistic indicator models were further validated by comparing the mean of a nearest neighbour model (NN) of the gold grade indicator with the mean of the interpolated indicator within 100 meters to the closest composite. Biases between the means of the IDW3 and NN models were found to be <5%.

Flaggate notes that the amount of dilution within the final indicator coded composites is 22.5% compared to the mean grade of all composites above a 1.6 g/t Au cut-off.

#### 14.4.2 Variography



Flaggate constructed a down-hole and directional Indicator correlogram for the second mineralization indicator. The variogram model was used to assist in the assessment of grade continuity. Flaggate used a single spherical model and a nested exponential model and a nugget effect to fit the experimental correlograms in the horizontal and vertical directions.

The indicator variogram model was also used in the ordinary kriging grade estimation. Table 37 shows the correlogram models.

**Table 37** - Grade and Indicator Variogram Model.

Grade Element	Nugget Effect	Sill		Structure Type		Ranges 1st Structure			Ranges 2nd Structure			Rotations		
		1st Structure	2nd Structure	First	Second	Y	X	Z	Y	X	Z	Z	X	Y
Au Indicator	0.46	0.46	0.08	Spherical	Exponential	9	4	3.5	40	25	40	90	0	90

#### **14.5 ESTIMATION/INTERPOLATION METHODS**

The block model consists of regular blocks (4 m along east-west x 2 m across north-south x 2 m vertically). The block size was chosen such that geological contacts are reasonably well reflected and to support a highly selective open pit mining or underground mining scenario.

Grades (and indicators) were estimated in two passes using a minimum of one and a maximum of 8 composites with a maximum of two composites per hole. Flaggate used a search distance of 120 meters along strike, 120 meters down-dip and 16 meters across dip. The first pass used the Cartesian coordinate system, the second pass used an elevation relative to the stratigraphic layers to unfold the interpolation around the hinge of the anticline.

Table 38 shows the search ellipse orientations for the Cartesian first pass estimation. The grade estimation and indicator model interpolation used the same search passes, search ellipse dimensions and orientation.

Limited composite sharing was permitted between adjacent stratigraphic layers to prevent the grade (and indicator) estimation from crossing between veins within different stratigraphic layers. For example, estimation in layer 7 used composites falling within layers 6, 7 and 8.

**Table 38** - North Limb search ellipse orientations.

Layer	Fold Limb	GSLIB Rotations		
		Z-Axis	X-Axis	Y-Axis
10	North	-20	-40	0
9	North	-20	-40	0
8	North	-10	-45	0
7	North	-10	-50	0
6	North	-10	-50	0
5	North	0	-55	0
4	North	0	-55	0
3	North	0	-60	0
2	Hinge	0	-70	0

**Table 39** - South Limb search ellipse orientations.

Layer	Fold Limb	GSLIB Rotations		
		Z-Axis	X-Axis	Y-Axis
8	Southwest	-70	0	-85
7	Southwest	-80	0	-85
6	Southwest	-80	0	-85
5	Southwest	-80	0	-85
4	Southwest	-80	0	-85
3	Southwest	-80	0	-85
8	Southeast	90	0	-90
7	Southeast	90	0	-90
6	Southeast	90	0	-90
5	Southeast	90	0	-90
4	Southeast	90	0	-90
3	Southeast	90	0	-90

Flaggate used an ordinary kriging grade interpolation method to estimate block grades in two separate grade models. The first model used hard boundaries between lower-grade and higher-grade material. The second used a weighting scheme based on the estimated third indicator model.

In the weighted-grade model, blocks were first estimated using only the higher-grade composites, block were then estimated using only the lower grade composites. The final block grades were estimated by weighting the higher grade and lower grade estimates by the indicator probability (under the assumption that the probability can be considered as a proportion). The formula is shown below:

$$\text{Block grade} = (\text{AUHG} \times \text{Indicator}) + [\text{AULG} \times (1-\text{Indicator})]$$



Flaggate restricted the influence of high grades based on a distance limit. For the higher-grade material, composites above a 12 g/t Au cut-off grade are only used up to a maximum of 50 m. For the lower-grade material, the composites above a 1.6 g/t Au cut-off grade are only used up to a maximum distance of 50 m.

## 14.6 DENSITY ASSIGNMENT

Flaggate used a bulk density value of 2.67 g/cm<sup>3</sup> to estimate tonnages in the mineral resource. This value is based on the previous mineral resource estimate and specific gravity (SG) values reported by other companies working in similar rocks in Nova Scotia such as at the Forest Hill and Tangier gold districts.

## 14.7 BLOCK MODEL VALIDATION

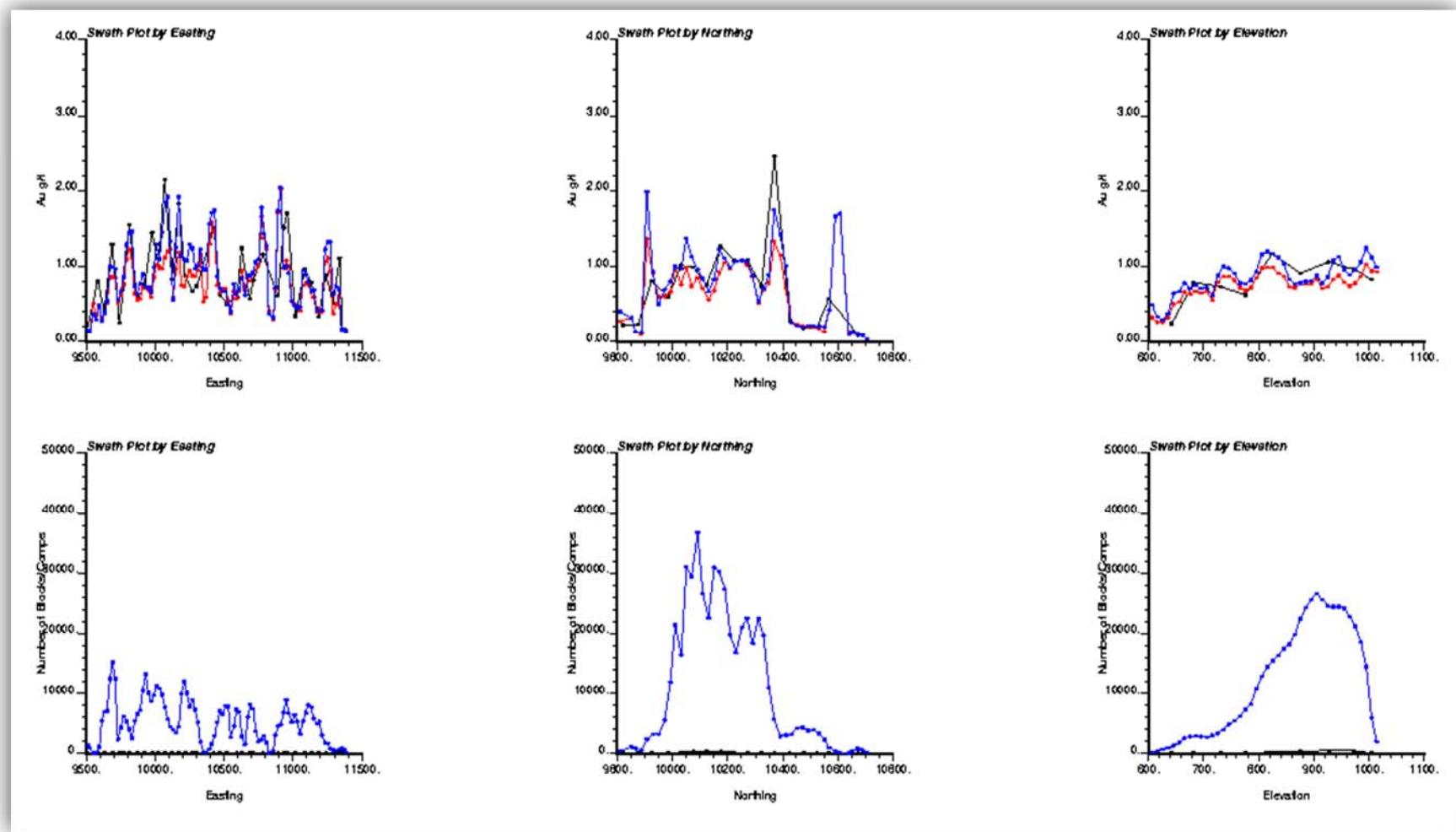
Flaggate validated the Goldenville block models to ensure appropriate honoring of the input data. Nearest-neighbour (NN) grade models were created to validate the OK grade models.

The validation comprised:

- A comparison between the OK and NN estimates was completed to check for global bias in the grade estimates. Differences were within acceptable levels (<10%)
- Swath plot validation compared average grades from OK and NN models along different directions. Except in areas where there is currently limited drilling, the swath plots indicated good agreement for all variables. The swath plots are shown below in Figure 30 and Figure 31.
- Visual inspection of block grade versus composited data in section and plan view. The visual inspection of block grade versus composited data shows a reasonable reproduction of the data by the model considering the erratic gold distribution and poor block-to-composite correlation implied by the variogram model. A vertical section showing composite and block grades is shown in Figure 32.

Flaggate evaluated the impact of capping by estimating uncapped and capped grade models. Generally, the amounts of metal removed by capping in the models are consistent with the amounts calculated during the grade capping study on the composites. The amount of metal removed by capping is calculated by the following formula:

$$\% \text{ Metal} = \frac{(\text{Mean Uncapped} - \text{Mean Capped})}{\text{Mean Uncapped}}$$

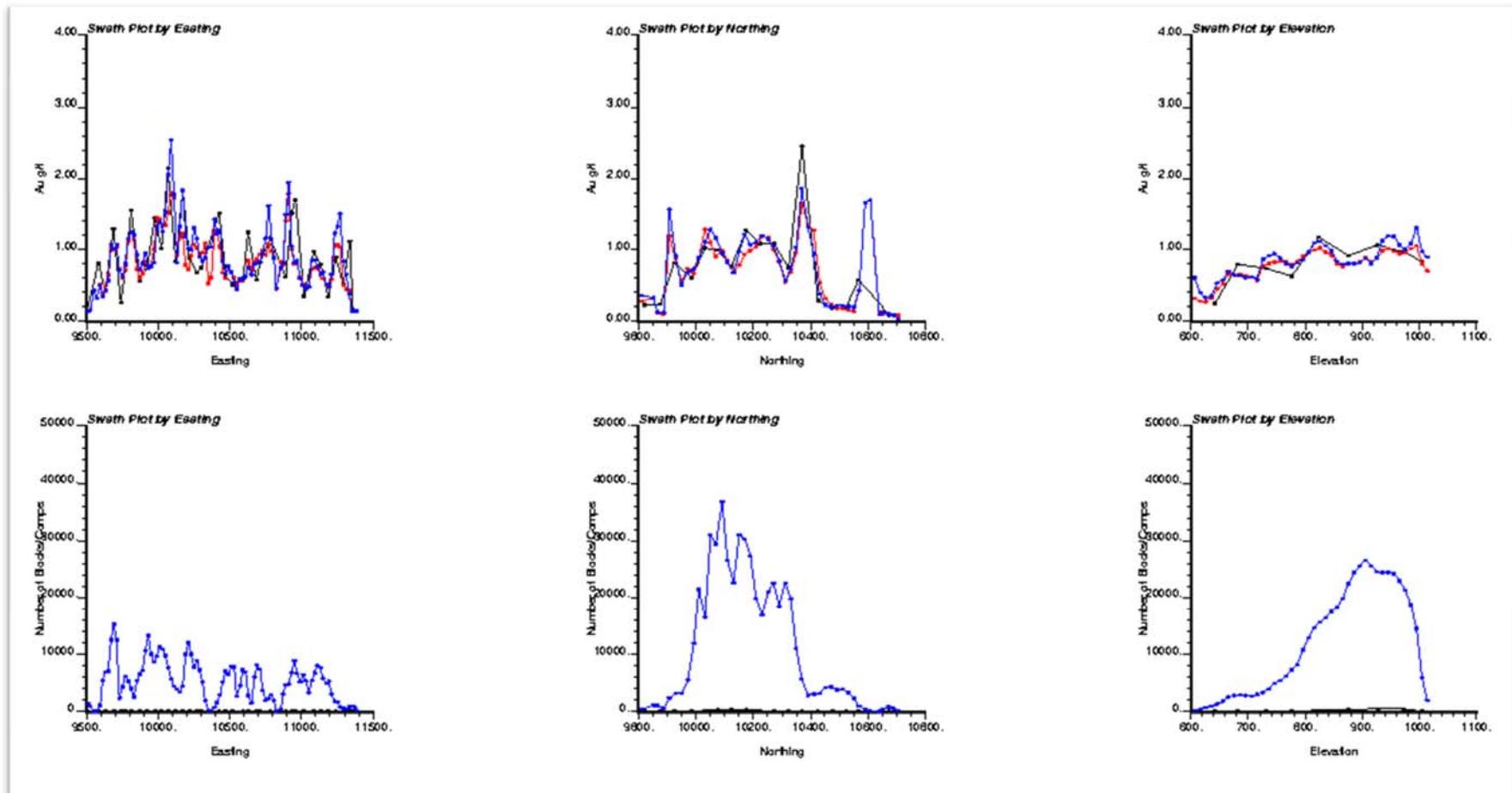


**Figure 30** – Hard Boundary Grade Model, Swath plots by northing, easting, and be elevation for gold.

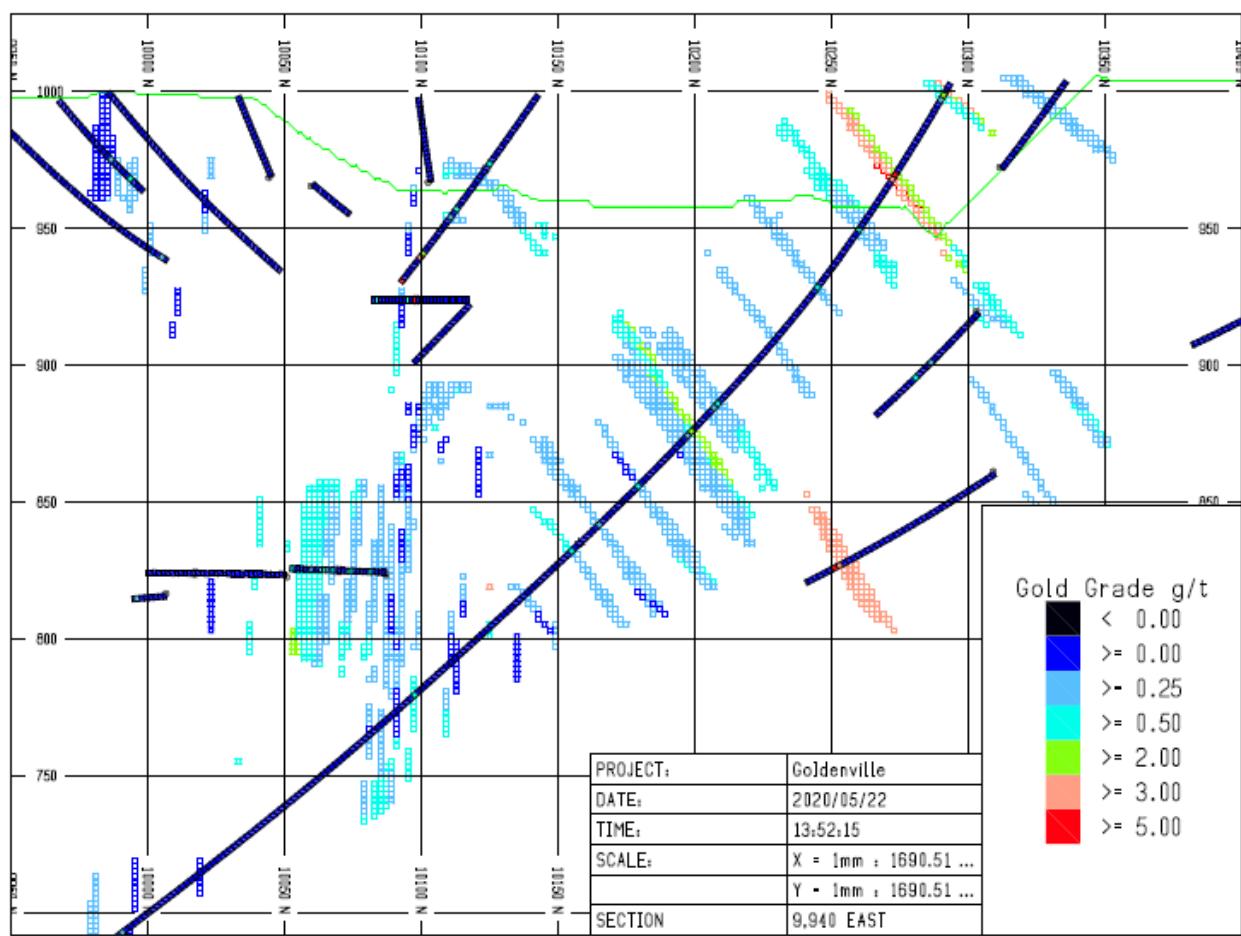
*Note: Upper Swath plots show the gold grades, lower swath plots show number of blocks or composites. Red line represents OK model. Blue line represents NN model. Black line represents composites.*



*Note: Upper Swath plots show the gold grades, lower swath plots show number of blocks or composites. Red line represents OK model. Blue line represents NN model. Black line represents composites.*



**Figure 31** - Weighted Grade Model, Swath Plots by Northing, Easting and By Elevation for Gold



**Figure 32** - Vertical section 9,940 East, showing gold grades of composites and blocks, Weighted Grade Model.

#### 14.8 CLASSIFICATION OF MINERAL RESOURCES

Flaggate classified blocks falling within 35 m of the closest composite into the Inferred mineral resource category. The range of the indicator variogram is approximately 40 m, therefore a 35 m distance is a reasonable distance limit over which grade continuity can reasonably be assumed. Visual assessment of grade continuity in section and plan supports use of a 35 m distance.

Flaggate is of the opinion that the geological model, data quality and geological continuity are sufficiently well known to allow classification of Inferred mineral resources.

#### 14.9 MARGINAL CUT-OFF GRADE CALCULATION

The marginal cut-off is based on the generally accepted practice that a decision is made at the pit rim if mined material above the marginal cut-off grade will lose less money if it is sent to the mill rather than if it is sent to the waste dump. It is considered for further processing if it contains a value that is greater than the costs to process it.



Using the costs (shown in Table 40), assumed metallurgical recovery (90%) and metal price (US \$1,400/oz), Fladgate estimated a marginal gold cut-off of 0.55 g/t. Based upon the marginal gold cut-off grade, Fladgate has chosen a cut-off grade of 0.5 g/t gold for reporting the Mineral Resources potentially amenable to an open pit mining method. For mineral resources, potentially amenable to underground extraction Fladgate used an additional mining cost of \$60/tonne to estimate a marginal cut-off grade of 2 g/t. No metallurgical test-work has been completed for the mineralization, however historical mining and mineralogical studies indicate that there is a large amount of coarse-grained, free-milling gold.

**Table 40** - Mining costs and ore-based costs.

<b><u>Open Pit Mining Costs</u></b>	<b>Unit</b>	<b>Value (US\$)</b>
Waste Mining Reference Cost	\$/t mined	3.00
Total Reference Mining Costs	\$/t mined	3.00
<b><u>Ore Based Costs</u></b>		
Process Cost	\$/t ore	17.0
G&A	\$/t ore	3.0
Total Ore Based Costs	\$/t milled	20.0

#### **14.10 REASONABLE PROSPECTS OF ECONOMIC EXTRACTION**

Fladgate assessed the classified blocks of mineralization for reasonable prospects of economic extraction by applying preliminary economics for potential open pit and underground mining methods.

The assessment does not represent an economic analysis of the deposit, but was used to determine reasonable economic assumptions to estimate the mineral resource.

Process and operating costs, metal prices, metallurgical recovery and a 45° slope angle were used to optimize a pit shell using a Lerchs-Grossman algorithm. The weighted grade model was used for mineral resources potentially amenable to open-pit extraction. Mineral resources potentially mineable by underground extraction were constrained within a grade shell using a 2.0 g/t cut-off grade and were reported using the hard-boundary grade block model.

#### **14.11 MINERAL RESOURCE STATEMENT**

Mineral Resources for the Project were classified under the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves by application of cut-off grades that incorporate mining and metallurgical recovery parameters. Mineral Resources are reported above cut-off grades which use commodity prices, metallurgical recoveries and operating costs.



Mineral resources are tabulated in Table 41. The Qualified Person for the Mineral Resource estimate is David G. Thomas, P.Geo. Mineral resources are reported using the long-term gold price shown in Table 40 and have an effective date of May 22, 2020.

**Table 41** - Goldenville Inferred Mineral Resource Estimate (David Thomas, P.Geo.;  
Effective Date: May 22, 2020).

Resource Type	Tonnes (t)	Gold Grade (g/t)	Gold Metal (Ozs)
Open Pit (0.5 g/t Cut-Off)	1,095,000	3.2	110,000
Underground (2.0 g/t Cut-Off)	1,240,000	5.0	200,000
Total	2,335,000	4.1	310,000

**Footnotes to mineral resource statement:**

1. *Fladgate undertook data verification, and reviewed CROSBY's quality assurance and quality control programs on the mineral resources data. Fladgate concluded that the collar, survey, assay, and lithology data were adequate to support mineral resources estimation.*
2. *Domains were modelled in 3D using indicator probabilities to separate mineralization from surrounding waste rock. The domains conform approximately to the shape of the anticline. Raw drill hole assays were composited to 2 m lengths. High grade assays were capped to 70 g/t prior to compositing.*
3. *Block grades for gold were estimated from the composites using ordinary kriging (OK) into 4 x 2 x 2 m blocks coded by indicator domain. A hard boundary grade model was used to report UG mineral resources. A weighted-grade model was used to report open-pit mineral resources.*
4. *A dry bulk density value of 2.67 g/cm<sup>3</sup> for all material was assigned from similar Meguma-type gold mineralization with similar rock types in Nova Scotia.*
5. *Fladgate assumed a metallurgical recovery of 90% based on a qualitative assessment of the gold mineralogy and grain size and a gold price of \$1,400 US per ounce.*
6. *Potentially open pit mineable mineral resources are constrained within an open pit shell optimized with an L-G algorithm. A process and G&A cost of \$20.00 and a mining cost of \$3.00/tonne have been used. Mineral resources potentially amenable to underground extraction have been constrained within a grade shell using a 2 g/t threshold, assuming a mining cost of \$60.00/tonne in addition to the operating costs. Isolated blocks were removed from the grade shell. The mineral resources have been depleted for historical mining using solids representing underground development and areas of stoping.*
7. *Blocks were classified as inferred in accordance with CIM Definition Standards.*
8. *The contained metal figures shown are in situ. The resource estimation methodology incorporates a significant amount of external and internal dilution due to the use of 2 meter composites, probabilistic domaining and the grade smoothing introduced by ordinary kriging with a variogram which has a short range of influence.*
9. *No assurance can be given that the estimated quantities will be produced. All figures have been rounded to reflect accuracy and to comply with securities regulatory requirements. Summations within the tables may not agree due to rounding.*
10. *Due to the uncertainty associated with Inferred Mineral Resources, it cannot be assumed that all or any part of the Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration.*



#### 14.12 SENSITIVITY OF THE MINERAL RESOURCE TO CUT-OFF GRADES

The sensitivity of the open pit and underground portions of the mineral resource estimate to changes in cut-off grade are shown in Table 42 and Table 43. The tabulations above varying cut-off grades show that the mineral resource estimate is moderately sensitive to changes in cut-off grade.

**Table 42 - Goldenville Mineral Resource Sensitivity to Cut-Off Grade, Open Pit.**

Cut-Off	Tonnes	Capped Au (g/t)	Uncapped Au (g/t)	Uncapped Metal (Ozs)	Capped Metal (Ozs)
0.30	1,277,599	2.76	5.40	221,784	113,501
0.50	1,093,035	3.16	6.23	218,962	111,171
0.75	967,484	3.50	6.94	215,852	108,726
1.00	892,392	3.72	7.42	212,922	106,625
1.25	833,337	3.90	7.82	209,511	104,493
1.50	749,786	4.18	8.47	204,216	100,788
1.75	674,305	4.47	9.15	198,265	96,807
2.00	620,904	4.69	9.64	192,505	93,604

**Table 43 - Goldenville Mineral Resource Sensitivity to Cut-Off Grade, Underground**

Cut-Off	Tonnes	Capped Au (g/t)	Uncapped Au (g/t)	Uncapped Metal (Ozs)	Capped Metal (Ozs)
1.70	1,353,653	4.70	6.25	271,871	204,479
2.00	1,241,129	4.95	6.64	265,049	197,665
2.25	1,121,956	5.26	7.13	257,072	189,708
2.50	1,085,438	5.36	7.29	254,257	186,943
2.75	1,002,363	5.58	7.67	247,179	179,886
3.00	928,908	5.80	8.05	240,456	173,176

#### 14.13 COMPARISON WITH PREVIOUS MINERAL RESOURCE ESTIMATE

Flaggate compared the tonnage, grade and metal content of the 2020 mineral resource model with the previous mineral resource model in 2017. The results are shown in Table 44.

**Table 44 - Goldenville Mineral Resource Comparison with 2017 Model.**

Category	Cut-Off (g/t)	Tonnes (1000's)	Gold Au (g/t)	Gold Metal (Ozs)
2017 Inferred	Multiple	2,800,000	3.20	288,000
2020 Inferred	Multiple	2,335,000	4.12	310,000
% Change Global 2017-2020		-17%	29%	8%



The changes are a result of changes to the method of mineral resource estimation, increase in the assumed gold price and as a result of additional drilling by Osprey.

In addition, Fladgate has applied differing criteria to meet the criteria of reasonable prospects of economic extraction as specified in the CIM Mineral Resource Definition Standards. Fladgate has constrained potentially open pit mineable mineral resources to an L-G optimized pit shell and has constrained potentially underground mineable mineral resources to a grade shell above a grade cut-off incorporating an underground mining cost of \$60/t.

#### **14.14 FACTORS THAT MAY AFFECT THE MINERAL RESOURCE ESTIMATE**

Areas of uncertainty that may materially impact the Mineral Resource estimate include:

- the applied, long-term commodity price and exchange rate assumptions;
- the operating cost assumptions;
- the applied metallurgical recovery rates and any changes that might result from metallurgical testwork;
- changes to the tonnage and grade estimates as a result of new assay and bulk density information
- future tonnage and grade estimates may vary significantly as more drilling is completed;
- permitting of mining operations; and
- any changes to the slope angle of the pit-walls as a result of geotechnical information would affect the pit shell used to constrain a portion of the Mineral Resources.

#### **14.15 QUALIFIED PERSON'S OPINION**

The Qualified Person (Mr. David Thomas, P. Geo.) is of the opinion that the Mineral Resources for the Goldenville Project, which have been estimated using core drilling and underground chip samples, have been performed to industry practices and conform to the requirements of CIM Definition Standards (2014).

Grade estimation has been performed using an interpolation plan designed to minimize bias in the tonnage and average grade estimates.

It is concluded as a result of validation of the Mineral Resource block model that:

- visual inspection of block grade versus composited data shows a reasonable reproduction of the data by the model;
- checks for global bias in the grade estimates show differences generally within acceptable levels (less than 10%).
- checks for local bias (swath plots) indicate good agreement
- the impact of capping as assessed by estimating uncapped and capped grade models - generally the amounts of metal removed by capping in the models are consistent with the amounts calculated during the grade capping study on the composites;
- the Mineral Resources were classified using a distance limit based on visual and geostatistical assessment of grade continuity;



- the Mineral Resources are constrained and reported using economic and technical criteria such that the Mineral Resources have reasonable prospects of economic extraction; and
- the Mineral Resources are moderately sensitive to changes in cut-off grade and is therefore not sensitive to small to moderate changes (increases or decreases) in the gold price.

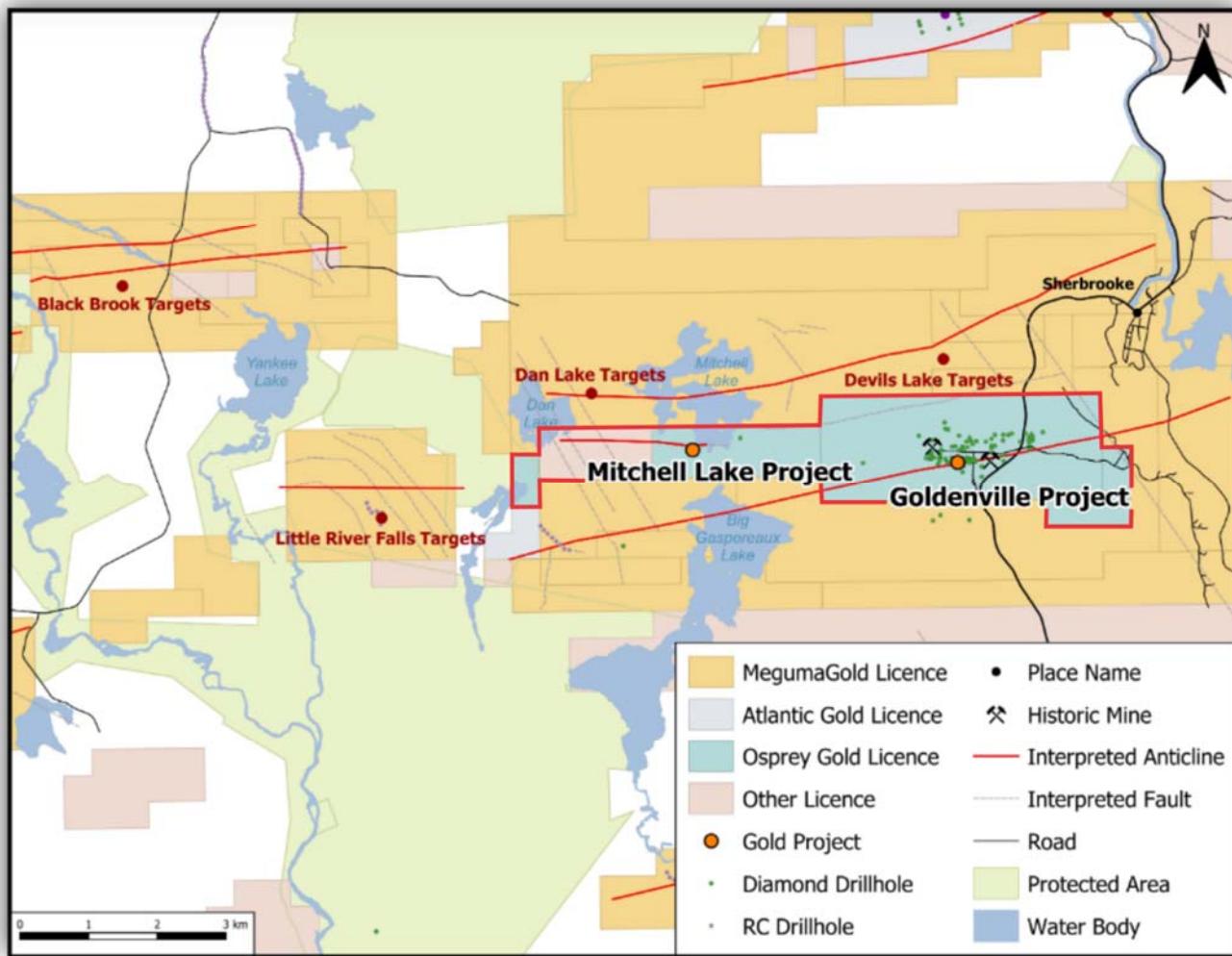
#### **14.16 RESOURCE DEPLETION FROM MINING**

The current resource estimation has had limited depletion applied for historic mining, mainly for post 1920's historical mining for which technical drawings are available, however no records are available for the abundant, pre 1920's mining development, which is known to have occurred throughout the property.

Selected estimated stopes were modelled in Gemcom to give an indication of the potential overlap between resource and mined excavations, especially for the near surface resource.

### **15 Adjacent Properties**

A search of the Nova Scotia Department of Natural Resources NovaRoc system was completed for mineral exploration licenses held adjacent to the Goldenville property. The Goldenville property is complete surrounded by adjoining claims, the bulk of which are registered to 1156219 B.C. Limited a 100% owned subsidiary of Meguma Gold Corp. (Figure 33). These adjacent licenses were in good standing as of May 2020.



**Figure 33** - Map showing the Goldenville Property (in red) and adjacent exploration licenses (source: Meguma Gold Corp. website).

## 16 Other Relevant Data and Information

There is no further relevant data or information needing to be disclosed, that is not already part of this 43-101 Technical Report in another section.



## 17 Interpretation and Conclusions

The Goldenville Property is typical of other Meguma Group gold deposits and has a long history of underground production. The geology and structure of the Meguma deposits is well understood as an abundance of universities with geology departments in Nova Scotia has resulted in a wealth of academic knowledge. Meguma-type gold deposits have historically been explored for high grade narrow vein underground mining. However, their nuggety nature, narrow vein widths, and tendency of the mineralization to form shoots within the veins has hindered modern attempts at underground mining. Recently the potential to successfully mine these deposits by open pit methods has been highlighted by Atlantic Gold Corp. at their Touquoy, Beaver Dam, and Cochran Hill properties.

The current mineral resources for the Goldenville Project, which have been estimated using core drilling and underground chip samples, have been performed to industry practices and conform to the requirements of CIM Definition Standards (2014). Grade estimation has been performed using an interpolation plan designed to minimize bias in the tonnage and average grade estimates. Validation of the Mineral Resource block model shows that the model adequately reflects the input data. Mineral Resources were classified using a distance limit based on visual and geostatistical assessment of grade continuity. Mineral Resources are constrained and reported using economic and technical criteria such that the Mineral Resources have reasonable prospects of economic extraction. Mineral Resources are moderately sensitive to changes in cut-off grade. Due to the wide spacing of the drilling and its historical nature all mineral resources are classified as Inferred.

The current mineral resource estimate differs from the 2017 estimate in several ways. Fladgate increased the amount of anisotropy in the search ellipse to better reflect the extremely narrow veins. Fladgate used hard boundaries to report the grade of material potentially amenable to underground mining whereas in 2017, weighted grades were used to report the underground mineral resource. Fladgate used a higher gold price to estimate a lower cut-off grade for open pit mineral resources.

The Goldenville Property is a property with continued merit as there is potential for additional discovery of gold mineralization. Potential exists in extending known mineralized structures both laterally and at depth, and in the discovery of new gold bearing quartz veins along the length of the Goldenville anticline. The nearby availability of services, power and a location in a good mining jurisdiction makes it an attractive mineral exploration target.

## 18 Recommendations

### 18.1 BACKGROUND DISCUSSION

Fladgate has proceeded on the assumption that data provided to them in 2012 by Goldworx represents the same data set used by Mercator for the 2005 resource estimation for Acadian Gold Corp, however the chain-of-custody for the Goldenville data cannot be confirmed. The data available to Fladgate was lacking in original information for diamond drill program procedures and protocols, original survey data for drill hole collar coordinates,



downhole drill hole survey data, underground stope survey information, blanks and standards protocols, QA/QC procedures, security protocols, and re-assay results. The data validation also pointed out several instances of drill hole azimuth variation which could not be fully explained. This information is required before upgrading the resources above the inferred category. The First Author discussed these information gaps with Peter Webster of Mercator who authored the Acadian 2005 resource estimate. Although Mercator is no longer in possession of any of the hard copy files for the Goldenville property, these hard copy files may still exist and all efforts should be attempted to track them down.

Of the 1,383 samples checked against the assessment files, an assay difference was noted for 25 samples with values above 1 g/t Au. Of these 25 samples, 18 had values higher than the assessment file assays. The reason for this difference is unknown but could be the result of re-assay or re-testing by metallic assay, after filing assessment. The 10 highest historic gold intercepts were checked against assessment files with 8 confirmed assay certificates, increasing confidence in the Goldworx assay database. Sourcing the original hard copy files would likely show whether or not these discrepancies were indeed due to later re-testing by metallic assays.

Due to time constraints only a small fraction of the underground samples were used in the current resource estimation. Data exists in hard copy format. There is also no evidence that any specific gravity measurements have been taken on the Goldenville mineralization. As such specific gravity measurements should be collected during the next drill program.

The proposed near surface resource is expected to overlap with historic underground mining; however, the exact locations and extent of underground workings is lacking and instead a rough estimate was incorporated into the Mineral Resource Estimate. All attempts should be made to track down historic workings and stopes especially on the north limb of the anticline were little information is currently available.

The current resource estimation points out the need for more diamond drilling to a) better estimate the potential for near surface resources, b) test the continuity of mineralization, and c) better define ore shoots and trends which have an average spacing of 30-40 m confirming the need for tighter drill spacing on the order of 25 m. The eastern extent of the property (Bluenose mine area) has numerous significant intersections but is still considered under-drilled compared to the Stuart shaft area, potential exists for additional mineralization to be defined in this area.

Numerous past operators have commented on the nuggety nature of the mineralization and the need for a bulk sample to evaluate resource tonnage and grade parameters with respect to *insitu* grades and metallurgical recoveries. Collection a bulk sample would not only address these reconciliation issues but could also be used to test the efficacy of optical sorting.

The Mitchell Lake Zone, on which Osprey has conducted 8 holes, has been shown to host bulk tonnage grades and widths, which could potentially be more amenable to open pit mining techniques. Additional drilling is recommended on the Mitchell Lake zone which could one day provide a satellite pit to the Goldenville deposit.

## 18.2 RECOMMENDATIONS



**Phase 1 Recommendations:**

In order to improve the existing Mineral Resource Estimate and upgrade above the Inferred category, a complete re-assessment of all historical data on the Goldenville property is recommended. This includes a complete validation of the entire assay database to discover and document all assay discrepancies, compiling information on underground samples from hard copies, measuring and incorporating accurate SG data from available drill core into the model, and locating all the mined areas as accurately as possible to assess mining depletions and minimize the risk of exploration drill holes intersecting historic openings.

A 2,000m drill program using HQ core should be directed toward the Mitchell Lake zone with the goal of outlining a zone of consistent mineralization that could host a future 43-101 inferred resource.

**Phase 2 Recommendations:**

In order to fully evaluate the near surface mineralization outlined in the current Goldenville resource estimate to 200 m depth and 25 m spacing on section, a 15,000 m diamond drill program using HQ is recommended. This equates to ~55 holes at an average length of 250 m. This program would be followed up by an updated 43-101 resource estimate.

It is also recommended that a mini bulk sample be taken from surface for grade reconciliation with the current resource estimate

### 18.3 PROPOSED BUDGET

**Table 45 - Proposed Phase I & II Budgets**

<b>Phase 1 – Compilation, Data Validation and Diamond Drilling (~6 months)</b>	
	<b>Amount</b>
Historic Data Compilation and Data Validations	\$100,000
2000 m Exploration Program (All in cost at \$225/m)	\$450,000
Assessment Report	\$20,000
15% Contingency	\$85,500
<b>Total</b>	<b>\$655,500</b>
<b>Phase 2 – Definition Drill Program (~12 month)</b>	
15,000 Meter Drill Program (All in cost at \$200/m)	\$3,000,000
43-101 Resource Estimate Update	\$50,000
Mini Bulk Sample	\$250,000
15% Contingency	495,000
<b>Total</b>	<b>\$3,795,000</b>



Osprey Gold Development Ltd. – Goldenville Project



## 19 References and Literature

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## 20 Date

This technical report includes signature pages at the end, signed in accordance with section 5.2 of the Instrument. The effective date of the technical report and date of signing are located on these pages.



## Appendix I Certificates of the Authors

Neil Pettigrew, M.Sc., P.Geo.  
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### CERTIFICATE OF THE FIRST AUTHOR

I, Neil Pettigrew, do hereby certify that:

1. I am a Partner of Fladgate Exploration Consulting Corporation, the geological consulting firm tasked with this report.
2. I am a member in good standing of the Association of Professional Geoscientists of Ontario (APGO #1462) and Association of Professional Geoscientist of Nova Scotia (APGNS # 117).
3. I am a graduate of the University of New Brunswick (B.Sc., 1999) and the University of Ottawa (M.Sc., 2004).
4. I have practiced geology for 17 years in a variety of settings, mostly in Ontario, Canada. My experience includes the design and implementation of grassroots to advanced exploration programs in gold, PGEs, lithium, iron ore, and base metals. I have also served as an officer and a director of several public exploration companies on both the Toronto and TSX-Venture exchanges.
5. I have worked for a previous owner of this property that forms the subject of this Technical Report. In 2013 Fladgate performed an in-house evaluation of the 2005 Goldenville resource for Goldworx and designed the 2014 drill program
6. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Reports, the omission to disclose which makes the Technical Report misleading.
7. I am independent of the parties involved in the transaction for which this report is required, other than providing consulting services, as per Section 1.4 of NI 43-101.
8. I have read National Instrument 43-101, companion policy NI 43-101CP and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. I am jointly responsible for the Technical Report titled 'NI 43-101 Technical Report on the Goldenville Property' dated April 30, 2017.
10. I visited the Goldenville Property, near Sherbrooke, Nova Scotia, on March 7, 2013, and also between February 28 and March 1, 2017.
11. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public.

Dated this June 4<sup>th</sup> 2020.

"Signed and Sealed"

---

Neil Pettigrew (APGO #1462, APGNS #117)



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### **CERTIFICATE OF THE SECOND AUTHOR**

I, David G. Thomas, do hereby certify that:

1. I am an Associate Geologist with Fladgate Exploration Consulting Corporation, the geological consulting firm tasked with this report.
2. I am a member in good standing of the Association of Professional Geoscientists of British Columbia (APEGBC NRL #149114). I am also a member of the Australasian Institute of Mining and Metallurgy (MAusIMM #225250).
3. I am a graduate of Durham University in the United Kingdom with a B.Sc. degree in Geology and am a graduate of Imperial College, University of London, in the United Kingdom with a M.Sc. in Mineral Exploration.
4. I have practiced geology for over 20 years. In that time I have been directly involved in review of exploration programs, geological models, exploration data, sampling, sample preparation, quality assurance-quality control, databases, and mineral resource estimates for a variety of mineral deposit types including Archean lode gold.
5. I am a qualified person under the definition for 'qualified persons' as set out by NI 43-101.
6. I have had no previous involvement with this property that forms the subject of this Technical Report.
7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Reports, the omission to disclose which makes the Technical Report misleading.
8. I am independent of the parties involved in the transaction for which this report is required, other than providing consulting services, as per Section 1.4 of NI 43-101.
9. I have read National Instrument 43-101, companion policy NI 43-101CP and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I am responsible for Section 14 and portions of Section 17 and Section 18 (related to Mineral Resources) of the Technical Report titled 'NI 43-101 Technical Report on the Goldenville Property' dated April 30, 2017.
11. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public.

Dated this June 4<sup>th</sup>, 2020.

"Signed and Sealed"

---

David Thomas (APEGBC NRL #149114)



## **Appendix II Assay Certificates of Check Samples by QP N. Pettigrew**



ALS Canada Ltd.  
2103 Dollartton Hwy  
North Vancouver BC V7H 0A7  
Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218  
www.alsglobal.com

To: FLAGGATE EXPLORATION CONSULTING  
CORPORATION  
1158 RUSSELL STREET  
UNIT D  
THUNDER BAY ON P7B 5N2

Page: 1  
Total # Pages: 2 (A)  
Plus Appendix Pages  
Finalized Date: 17-MAR-2017  
Account: FLGEXP

**CERTIFICATE TB17039000**

**SAMPLE PREPARATION**

This report is for 8 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 2-MAR-2017. The following have access to data associated with this certificate:

NEIL PETTIGREW

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
SCR-21B	Screen 1 - 2kg to 1.00 to 1.06um
LOG-22	Sample LogIn - Rcd w/o BarCode
CRU-21	Crush entire sample > 70% - 6 mm
PUL-21	Pulverize entire sample

**ANALYTICAL PROCEDURES**

ALS CODE	DESCRIPTION	INSTRUMENT
Au-SCR24B	Au Screen FA Double Minus 50g 1-2 kg	WST-SIM
Au-AA26	Ore Grade Au 50g FA AA finish	AAS
Au-AA26D	Ore Grade Au 50g FA AA Dup	AAS

To: FLAGGATE EXPLORATION CONSULTING CORPORATION  
ATTN: NEIL PETTIGREW  
1158 RUSSELL STREET  
UNIT D  
THUNDER BAY ON P7B 5N2

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

**Signature:**   
Colin Ramshaw, Vancouver Laboratory Manager



ALS Canada Ltd.  
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CORPORATION  
1158 RUSSELL STREET  
UNIT D  
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Page: 2 - A  
Total # Pages: 2 (A)  
Plus Appendix Pages  
Finalized Date: 17-MAR-2017  
Account: FLGEXP

**CERTIFICATE OF ANALYSIS TB17039000**

Sample Description	Method Analyte Units	WEI-21 Record Wt. kg	Au-AA25 ppm	Au-AA26D ppm	Au-SCR24B ppm	Au-SCR24B ppm	Au-(+)-F ppm	Au(-)-F ppm	Au(+)-m mg	Au-SCR24B mg	WT. + Fr g	Au-SCR24B mg	WT. / Fr g
CV-NP-17-001	0.02	0.01	0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.01	64.86	2082		
CV-NP-17-002	2.13	2.13	0.01	0.83	0.41	0.41	<0.05	0.42	<0.001	47.18	2099		
CV-NP-17-003		2.43	0.03	0.05	0.05	0.39	0.05	0.05	0.038	97.80	2353		
CV-NP-17-004		1.71	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.001	39.98	1682.0		
CV-NP-17-005		1.67	15.40	16.05	91.2	1280	16.05	127.940	101.70	1579.0			
CV-NP-17-006		2.22	0.07	0.11	0.15	1.86	0.09	0.140	75.24	2154			
CV-NP-17-007		1.80	0.46	0.30	0.89	19.50	264	0.38	0.937	48.03	1768.0		
CV-NP-17-008		1.98	2.02	1.95	7.84	1.99	11.666	44.20	1833.5				

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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Page: Appendix 1  
Total # Appendix Pages: 1  
Finalized Date: 17-MAR-2017  
Account: FLGEXP

CERTIFICATE OF ANALYSIS TB17039000

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Thunder Bay located at 645 Norah Crescent, Thunder Bay, ON, Canada  
CRU-21 LOC-22 PUL-21  
WEI-21  
Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.  
Au-AA26 Au-AA26D Au-SCR24B

SCR-21B




## Appendix III Exploratory Data Analysis



## GOLDENVILLE ASSAYS &gt; 0.99 g/t FOR HOLE

PAGE: 6

DATE: 08/07/12

Holename	Sample	From	To	Width	Avg
G-68	0003	48.74	48.77	0.03	3.53
G-68					
G-69	0002	58.47	58.52	0.05	21.60
G-69					
G-70	0001	4.82	4.85	0.03	12.74
G-70	0002	6.52	6.58	0.06	2.30
G-70	0003	18.32	21.54	3.22	9.39
G-70	0004	45.23	48.32	0.09	19.99
G-70	0006	47.98	48.04	0.06	1966.56
G-70	0007	48.07	48.13	0.06	56.27
G-70	0008	53.28	53.31	0.03	24.89
G-70					
G-71	0001	19.02	19.08	0.06	47.64
G-71	0004	56.97	57.00	0.03	1.41
G-71					
G-16A	4308	13.11	13.72	0.61	3.73
G-16A	4310	16.67	17.10	0.43	191.12
G-16A	4316	16.67	16.93	0.26	208.79
G-16A	4317	16.98	17.98	1.00	2.20
G-16A	4318	17.93	19.42	1.49	1.12
G-16A	4319	19.90	19.35	0.45	2.46
G-16A	4341	65.38	65.84	0.46	51.06
G-16A	4344	67.51	67.82	0.31	2.79
G-16A	4370	111.47	111.86	0.39	29.42
G-16A	4378	125.09	125.39	0.30	26.11
G-16A	4390	154.35	154.69	0.34	1.36
G-16A	4406	182.88	183.49	0.61	3.31
G-16A	4409	185.62	185.93	0.31	1.87
G-16A	4426	208.45	208.76	0.31	2.98
G-16A					
G87-01	G11002	11.70	11.90	0.20	1.41
G87-01	G11025	76.00	76.20	0.20	1.41
G87-01	G11036	84.33	84.62	0.29	2.60
G87-01	G11038	101.70	102.05	0.35	2.03
G87-01	G11039	102.95	103.20	0.25	1.29
G87-01	G11041	117.35	117.55	0.20	1.56
G87-01					
G87-02	G12301	8.52	8.65	0.13	27.40
G87-02	G12308	70.64	71.09	0.25	2.12
G87-02	G12320	74.10	74.20	0.10	6.90
G87-02	G12327	76.25	76.46	0.21	8.02
G87-02	G12345	102.53	102.80	0.27	1.18
G87-02	G9020	123.35	123.78	0.43	1.79
G87-02					
G87-03	G12403	126.64	126.79	0.15	19.00
G87-03					
G87-04	G11043	29.58	29.81	0.23	1.15
G87-04	G11048	31.80	32.05	0.25	1.02
G87-04	G11059	75.54	75.82	0.28	1.72
G87-04	G11064	83.70	83.95	0.25	41.70

PAGE: 5  
DATE: 03/07/10

HoleName	Sample	From	To	Width	Aus
G-56	5095	103.02	103.94	0.92	2.40
G-56					
G-57	5098	34.90	35.20	0.30	22.44
G-57					
3-58	0000	80.47	80.77	0.30	1.30
G-58					
G-59	5441	114.48	114.79	0.31	4.87
G-59					
G-60	5450	51.76	53.10	1.34	3.26
G-60					
G-61	5484	21.95	22.25	0.30	6.16
G-61	5490	41.94	42.25	0.31	1.72
G-61	5494	59.74	60.20	0.46	47.64
G-61	5507	109.73	110.20	0.47	7.67
G-61					
G-62	0001	12.19	12.22	0.03	1.17
G-62	0006	22.10	22.13	0.03	1.17
G-62	0012	26.85	26.71	0.06	254.36
G-62	0020	49.38	49.41	0.03	1.17
G-62	0022	53.80	53.86	0.06	75.42
G-62	0023	54.01	54.04	0.03	1.37
G-62					
G-63	0002	17.29	18.35	0.06	83.64
G-63	0007	18.14	18.29	0.15	1.23
G-63	0004	34.75	34.87	0.12	1.23
G-63	0005	39.62	40.23	0.61	12.48
3-63	0006	52.58	52.82	0.24	8.71
G-63	0010	58.52	58.98	0.46	8.02
G-63					
G-64	0002	31.39	31.49	0.10	29.34
G-64	0006	56.54	56.87	0.03	39.63
G-64					
G-65	0002	27.67	29.87	0.18	2.23
G-65	0004	31.55	31.58	0.03	1.44
G-65	0006	34.44	34.47	0.03	8.71
G-65	0007	40.02	40.05	0.03	2.50
G-65	0008	48.26	49.01	0.15	29.45
G-65	0009	53.78	55.81	0.03	1.20
G-65					
G-66	0002	15.76	16.82	0.06	11.31
G-66	0003	34.14	34.17	0.03	17.63
G-66	0004	36.13	36.21	0.03	6.67
G-66	0005	40.57	40.69	0.12	3.09
G-66					
G-67	0001	14.63	14.70	0.12	29.14
G-67	0002	24.84	24.87	0.03	145.00
G-67	0003	25.63	25.91	0.28	4.84
G-67	0007	40.45	40.66	0.21	2.36
G-67					
G-68	0001	18.62	18.65	0.03	4.66
G-68					



Osprey Gold Development Ltd. – Goldenville Project

# CHEMLAB INC.

Chemical Arts Building  
27 Clyde St.  
Saint John, New Brunswick  
Canada E2L 4H8  
tel. (506) 634-1771

SAMPLE (S) FROM: MPH CONSULTING REPORT # 733-87 P.O.#

Core

Page A

	SAMPLE NUMBER	wt g +80	wt g -80	wt g Total	Au g/t +80	Au g/t -80	Au g/t Head Sample	Initial Result	
1	G - 9377	9.1	3745	3754.1	17.57	0.74	0.72	—	
2						0.62			
3	9378	30.0	928	958.0	4350.0	673.00	743.59	—	
4						581.00			
5	9379	87.8	7909	1796.8	3.28	2.66	2.37	—	
6						1.98			
7									
8									
9									
10								—	
11								—	
12									
13									
14									
15									
16									
17									
18									
19									
20									

DATE: August 31, 1987

SIGNATURE: James J. Bamwoya

JAMES J. BAMWOYA, Ph. D.

SAMPLES DISCARDED AFTER TWO MONTHS UNLESS STORAGE INSTRUCTIONS ARE SUPPLIED BY CUSTOMER



Osprey Gold Development Ltd. – Goldenville Project

# CHEMLAB INC.

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27 Clyde St.  
Saint John, New Brunswick  
Canada E2L 4H8  
tel. (506) 634-1771

SAMPLE (S) FROM: MPH CONSULTING REPORT # 1162-87 P.O.# 1030

SAMPLE NUMBER	G-CORE						Initial Result	Page	A
	wt g +80	wt g -80	wt g Total	Au g/t +80	Au g/t -80	Au g/t Head Sample			
1	G - 15897	81.2	459	540.2	41.89	22.20	26.22	-----	
2						24.70			
3	15948	30.4	687	717.4	1.15	0.50	0.56	-----	
4						0.56			
5	15951	70.4	2152	2222.4	5.40	0.39	0.50	-----	
6						0.28			
7	15952	78.1	225	303.1	1260.77	215.00	478.15	-----	
8						198.00			
9	15972	71.7	1320	1391.7	907.11	121.00	158.18	-----	
10						114.00			
11	15984	55.4	2200	2255.4	2.06	0.14	0.20	-----	
12						0.17			
13	15986	68.6	2215	2283.6	0.62	0.28	0.30	-----	
14						0.30			
15									
16									
17									
18									
19									
20									

DATE: December 9th, 1987

SIGNATURE: JJ Bamwoya

JAMES J. BAMWOYA, Ph. D.

SAMPLES DISCARDED AFTER TWO MONTHS UNLESS STORAGE INSTRUCTIONS ARE SUPPLIED BY CUSTOMER



Osprey Gold Development Ltd. – Goldenville Project

# CHEMLAB INC.

Chemical Arts Building  
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tel. (506) 634-1771

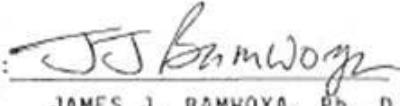
SAMPLE (S) FROM: MPH CONSULTING REPORT # 1121-87 P.O.# 1030

G - Core

Page A

	SAMPLE NUMBER	wt g +80	wt g -80	wt g Total	Au g/t +80	Au g/t -80	Au g/t Head Sample	Initial Result	
1	G : 15449	28.6	1084	1112.6	1279.72	33.90	64.61	—	
2						31.20			
3	15522	68.8	1715	1783.8	1796.51	124.00	186.58	—	
4						120.00			
5	15523	10.5	1215	1225.5	3.75	1.02	1.02	—	
6						0.98			
7	15629	23.5	432	455.5	799.15	25.90	66.08	—	
8						26.50			
9	15649	29.6	2530	2559.6	1.61	0.52	0.58	—	
10						0.62			
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

DATE: Nov. 29, 1987

SIGNATURE:   
JAMES J. BAMWOYA, Ph. D.

SAMPLES DISCARDED AFTER TWO MONTHS UNLESS STORAGE INSTRUCTIONS ARE SUPPLIED BY CUSTOMER

ATLANTIC ANALYTICAL SERVICES LIMITED  
ANALYSTS & CHEMICAL CONSULTANTS274 CITY ROAD, SAINT JOHN, NEW BRUNSWICK  
E3L 3N2

TELEPHONE (506) 642-1117

SAMPLE (S) FROM: GOLDENVILLE

REPORT NO: 502.

SHEET NO:

SAMPLE NUMBERS	WT. OF + 80% g	WT. OF - 80% g	TOTAL WT. g	Au in + 80% g/tonne	Au in - 80% ppb	Au in head sample ppb
1 5141	6.78	206	212.78	1.19	1870	1848
2 5159	0.35	535	535.35	176.6	4840	4952
3 5166	114	589	703	3776.0	151790	738500
4 5173	4.87	296	300.87	193.4	19800	17610
5 5184	1.65	333	334.65	1.45	170	176
6 5187	1.02	247	248.02	3588.0	60000	74509
7 5194	10.1	257	267.1	1.10	1880	1850
8 5218	2.6	294	296.6	71.8	2040	2652
9						
10						
11						
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14						
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17						
18						
19						
20						

Nov 3, 1983  
(DATE)CJ Raymond  
(SIGNATURE)



## ATLANTIC ANALYTICAL SERVICES LIMITED

ANALYSTS &amp; CHEMICAL CONSULTANTS

273 CITY ROAD, SAINT JOHN, NEW BRUNSWICK  
E1L 2N2

TELEPHONE (506) 642-1117

SAMPLE (S) FROM: GOLDENVILLE EXPLORATIONS REPORT NO: 245

G

SHEET NO: 1

SAMPLE NUMBERS	WT. OF + 80# g	WT. OF - 80# g	TOTAL WT. g	Au in + 80# g/tonne	Au in -80# ppm	Au in head sample ppm
1 4594	42.9	357.0	399.9	1217	146000	260,893
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15-07-83

(DATE)

J. J. Delaney

(SIGNATURE)

ATLANTIC ANALYTICAL SERVICES LIMITED  
ANALYSTS & CHEMICAL CONSULTANTS278 CITY ROAD, SAINT JOHN, NEW BRUNSWICK  
E3N 3M2

TELEPHONE 548-842-1117

SAMPLE (S) FROM: GOLDENVILLE

REPORT NO: 144

SHEET NO: 3

SAMPLE NUMBERS	WT. OF + 80% B	WT. OF - 80% B	TOTAL WT. B	Au in + 80% B	Au in -80% B	Au in head sample B
1 4225	39.84	277.0	316.84	196	90	103
2 4233	49.96	354.2	404.16	425	940	876
3 4236	59.73	212.1	271.83	985	320	466
4 4243	5.35	58.0	63.35	6060	3910	4091
5 4252	40.81	203.2	244.01	870	10	154
6 4253	59.47	215.1	274.57	500	2000	1675
7 4262	31.29	101.5	132.79	40	450	353
8 4263	47.51	133.0	180.51	125	25	51
9 4264	37.82	221.6	259.42	20	31	29
10 4266		to	Follow			
11 4267	51.76	162.4	214.16	35	13	18
12 4268	47.86	315.5	363.36	125	70	77
13 4290	49.76	220.5	270.26	6820	1610	2569
14 4295	24.69	260.6	285.29	60	30	32
15 4303	28.59	226.2	254.79	16260	48	1867
16 4308	22.59	238.3	260.89	14130	159	3732
17 4310	31.30	154.2	185.50	654800	97000	191119
18 4315	32.24	131.9	168.14	2840	363	377
19 4316	34.36	231.4	265.76	624900	147000	208787
20 4317		to	Follow			

June 16, 1983

(DATE)

CJ Raymond

(SIGNATURE)



## Osprey Gold Development Ltd. – Goldenville Project

Samples from : MPH Goldenville Report # 608-88

Sample Number	wt g +80	wt g -80	wt g total	Au g/t +80	Au g/t -80	Au g/t Head Sample	Initial Result
G-19755	39.0	435	474.0	0.02	<0.01	0.01	
G-19756	60.6	630	690.6	0.03	0.05	0.06	
G-19757	19.2	455	474.2	0.03	0.02	0.02	
G-19758	25.3	250	275.3	0.26	0.18	0.21	
G-19759	135.2	1090	1225.2	0.13	0.06	0.07	
G-19760	94.1	1500	1599.1	0.45	0.28	0.30	
G-19761	109.3	1020	1129.3	0.05	0.02	0.03	
G-19763	79.9	495	574.9	0.08	0.22	0.20	
G-19764	91.2	610	701.2	0.25	1.14	1.04	
G-19765	46.3	695	741.3	0.23	0.30	0.28	
G-19766	64.3	1585	1649.3	0.18	0.30	0.29	
G-19767	90.7	830	920.7	76.37	175.00	166.19	
					177.00		
G-19768	64.6	575	639.6	9.13	5.07	5.59	
G-19770	83.9	815	898.9	32.51	8.80	11.06	
G-19771	65.8	835	900.8	1.43	0.39	0.48	
G-19772	73.0	750	823.0	<0.01	0.04	0.04	
G-19773	93.6	980	1073.6	<0.01	<0.01	<0.01	
G-19775	64.8	305	369.8	<0.01	0.04	0.03	
G-19776	86.4	505	591.4	0.07	0.07	0.07	
G-19777	96.0	485	581.0	0.13	0.12	0.13	
G-19778	75.9	1375	1450.9	0.09	0.09	0.09	
G-19779	85.3	560	645.3	0.02	0.03	0.02	
G-19780	54.7	1140	1194.7	0.01	0.03	0.02	
					0.02		

Date 08/11/88

Signature

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## Atlantic Analytical Services (N.S.) Ltd.

analysts & 404 scotia subdivision debert, n. s., B0M 1GO  
 chemical consultants p. o. box 99 phone 1-902-662-2377

CERTIFICATE # 287 Cont'd

Page 3

<u>Sample #</u>	<u>Au oz/ton</u>	<u>Sample #</u>	<u>Au oz/ton</u>
3271	Trace	3281	Trace
3272	Trace	3282	Trace
3273	Trace	3283	Trace
3274	0.03	3284	Trace
3275	Trace	3285	Trace
3276	Trace	3286	Trace
3277	0.01	3287	Trace
3278	Trace	3288	Trace
3279	Trace	3289	0.01
3280	Trace	3290	Trace
		3291	Trace

<u>Sample #</u>	<u>Sample Wt.</u>	<u>+80 Assay Wt.</u>	<u>Au oz/ton +80</u>	<u>Au oz/ton -80</u>	<u>Calculated Sample Au oz/ton</u>
3189	303	28	7.13	0.59	1.19
3221	375	40.4	1.99	0.27	0.46
3230	325	31.7	6.59	0.55	1.14
3239	382	22	2.42	0.22	0.35
3246	387	19.5	68.55	2.37	5.70
3247	250	8	44.08	2.25	3.59

*D.M. Wolfe*  
 D.M. Wolfe, B.Sc.  
 Chief Chemist  
 Member C.M.A., C.I.M.