

AR 2013-004



Assessment Report

East Dufferin Property
Halifax County
Nova Scotia,
Canada

Exploration Licence
10009

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Prepared By:
Rick Horne
Drew Pelley

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SUMMARY

Licence 10009 is located along the general trend of the Salmon River and Crown Reserve Anticline which hosts the Dufferin Gold district. Although no mineralization has been documented on the property, this may reflect a scarcity of outcrop due to extensive till cover. The current survey consisted of prospecting in search of evidence of concealed mineralization and sampling of two quartz vein float samples. No strong evidence of mineralization was observed and the quartz vein samples returned below detection values. However, the property has not been thoroughly evaluated and further work is warranted.

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1.0 Introduction

Licence 10009 is located along strike and north of the projected extension of the Crown Reserve Anticline and lies east of the Dufferin Mine (Fig. 2), where mining was conducted in the 1980's and between 2000 and 2005. The Dufferin Mine represents the faulted offset of the historic Salmon River Gold District, occurring to the west, where over several active periods, commencing in the late 1800's, production of more than 40,000 oz. of gold is documented. Mineralization at the Dufferin Deposit is associated a saddle-reef vein array in the hinge of the Crown Reserve Anticline and recent drilling by Ressources Appalaches (Hannon and Roy, 2012) and Acadian (Horne et al., 2012) provide evidence that the anticline and saddle reef veins extend well east of the mine (Fig. 2).

Licence 10009 was acquired to evaluate for potential extension of mineralization related to the Dufferin Mine. Work completed on licence 10009 during 2012 consisted of prospecting and the collection and analysis of two rock samples collected from glacial till.

2.0 Location and Access

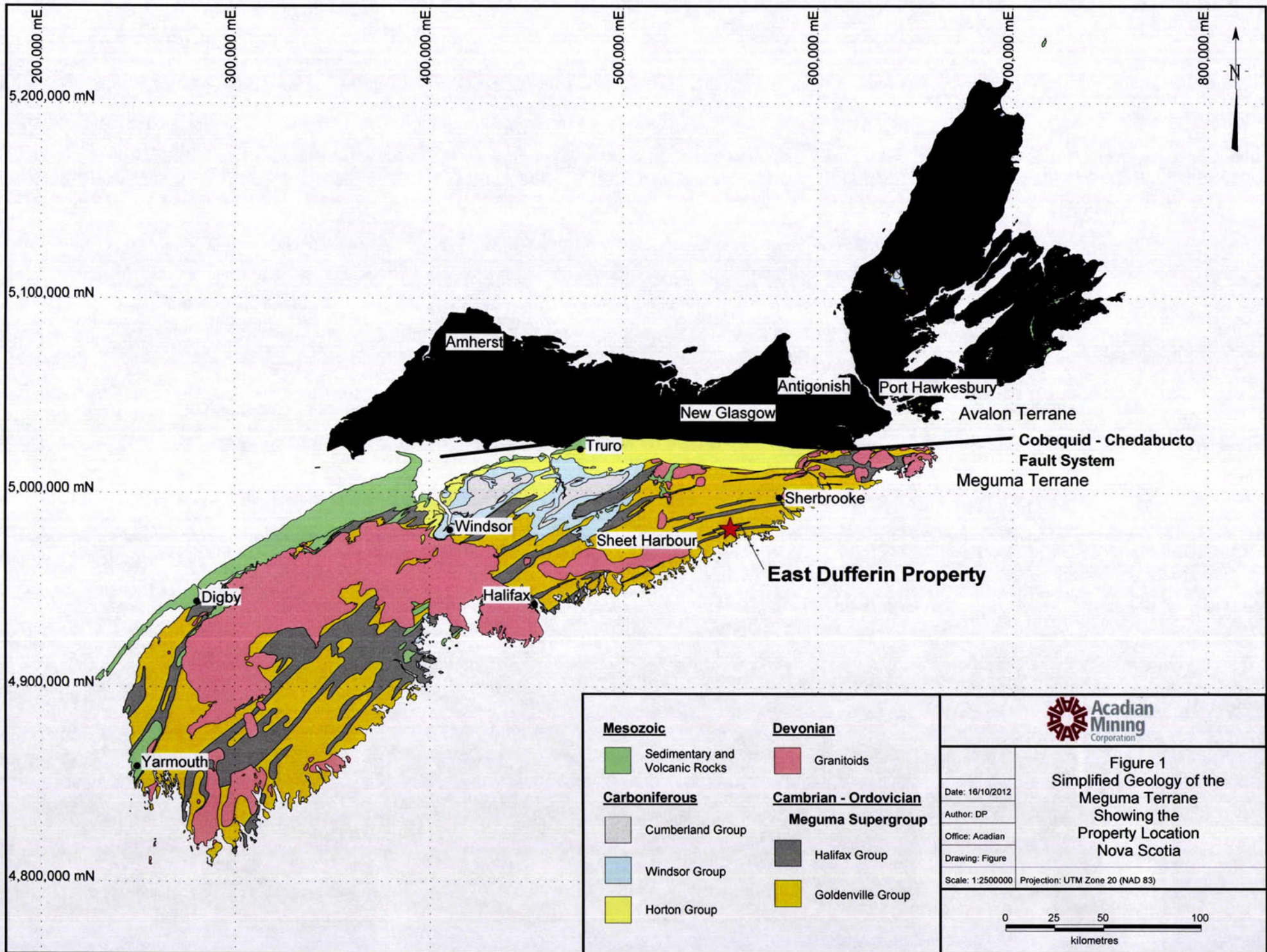
The Dufferin property is located in Halifax County, approximately 100 km east of Halifax. The licence is located approximately 20 kilometres northeast of Sheet Harbour (Figures 1 and 2). Forestry trails and skidder roads branching from Highway 7 provide access across the property. Sheet Harbour provides access to basic services such as banking, grocery and other small stores, restaurants, and accommodations as well as domestic power and telephone services.

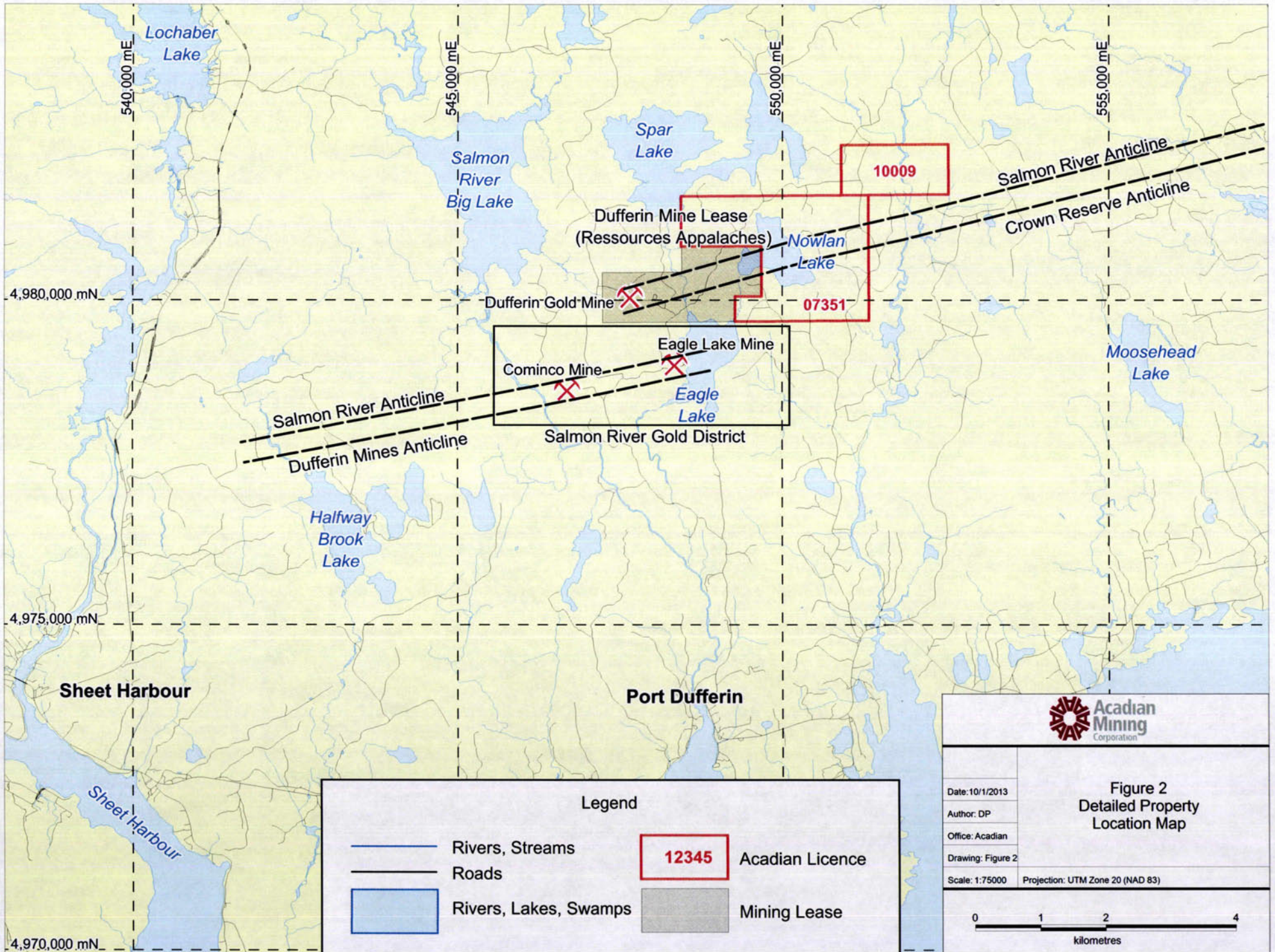
3.0 Licence Tabulation

Licence 10009 consists of 8 claims which are summarized in Table 1.

Table 1: Tabulation of claims, licence 10009

Licence	NTS Map Sheet	Tract	Claims Staked
10009	11 D 16 C	101	ABCD EFGH





4.0 Climate and Physiography

Eastern Nova Scotia is characterized by northern temperate zone climatic conditions moderated by proximity to the Atlantic Ocean. Seasonal variations occur, with winter conditions of freezing and/or substantial snowfall expected from late November through late March. Spring and fall seasons are cool, with frequent periods of rain. Summer conditions can be expected to prevail from late June through early September with modest rainfall and daily mean temperatures in the 15 to 20 degrees Celsius range. Maximum daily summer temperatures to 30 degrees Celsius occur, with winter minimums in the minus 25 to minus 30 degrees Celsius range. Mineral exploration field programs can be efficiently undertaken from May through late November, while winter programs can be readily accommodated with appropriate allowance for weather delays.

The topography of licence 10009 reflects glacial drumlins separated by the Quoddy River. As a result of thick glacial till deposits on the property bedrock exposure is limited.

5.0 Previous Work

E. R. Faribault first reported gold mineralization at Salmon River in 1868, but no actual work was done until 1880. A shaft was sunk on the site on what was believed to be a bedding parallel vein, similar to other veins mined in the province, however, as mining continued to depth the vein thickened significantly then divided in two. This marked the discovery of the saddle-reef vein system and the vein originally discovered at surface was merely a crosscutting "rider" vein extending from the apex of fold. Between 1881 and 1925, the Salmon River gold district (Fig. 2) was worked sporadically, with reported gold production in excess of 40,000 ounces. Much of the mining focused on two veins on the south limb of the fold. The "No. 2 South Vein" was stoped out over the crest of the fold where it reached a maximum thickness of 20-feet (6-m).

Between 1986 and 1993 Seabright Resources (Corner Bay Resources) conducted several field studies (mapping, geochemistry, geophysics, trenching) and drill programs looking for the faulted extension of the Salmon River Gold District east of the Harrigan Cove Fault. Drilling was successful in locating three saddle reef veins. Between 1993 and 2003 Dufferin Resources completed additional drilling in the area and extended the mineralized veins over a strike length of 700 metres and a depth of 400 metres. A portal was established and 50 metres of mining on the upper saddle reef vein was conducted during this period as well as the construction of a mill.

Between 2000 and 2005 Envirogold Technologies and Azure Resources completed mining and development work down to the fourth saddle-reef vein and along strike 700 metres on the second saddle-reef vein. Recent work at the Dufferin Mine by Ressource

Appalaches includes drilling that has extended the strike length of the mineralized saddle-reef system for a total of 1.2 kilometres (Hannon and Roy, 2012).

Very little work has been completed on licence 10009. Annapolis Properties has carried out several field campaigns on adjacent properties, including till and rock sampling 2008, geological mapping and a total magnetic field survey. Quartz float collected from the western boundary of licence 07351 (Fig. 2) yielded anomalous gold values.

6.0 Regional Geology

The Meguma Terrane of south eastern mainland Nova Scotia is underlain by folded Cambro-Ordovician age sedimentary sequences of the Meguma Supergroup and extensive areas of Mid-Devonian granitoids. The Meguma Supergroup comprises two groups, namely the greywacke-dominated Goldenville Group and the overlying slate-argillite dominated Halifax Group, each of which has been subdivided into Formations (e.g. White et al., 2007; Horne and Pelley, 2007).

The Meguma Supergroup was deformed during the mid-Devonian Acadian Orogeny resulting in east to northeast trending regional folds and associated axial planar cleavage. Regional folds typically show upright to overturned geometry and are frequently doubly plunging at shallow angles resulting in elongate domal structures.

Metamorphism associated with the Acadian Orogeny varies across the Meguma Terrane from amphibolite facies in the extreme northeast and southwest areas. The central mainland is 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 development of well-defined contact aureoles. Lower Carboniferous and younger aged strata unconformably overlie the eroded Meguma surface and have been affected by folding and shearing. Northwest trending faults typically showing sinistral strike-slip separation are common throughout the Meguma Terrane

6.1 Goldenville Group

The Goldenville Group, which forms the basal unit of the Meguma Supergroup is host to most of the known gold deposits in the province. The group generally consists of intercalated metagreywacke and metasilstone (Malcom, 1976). On the eastern shore the Goldenville Group generally consists of repeated turbiditic cycles consisting of thick metagreywacke fining upwards to thin metasilstone and black slate caps. Mappable

formations are locally recognized within the Goldenville Group (White, 2006; White et al., 2007; Horne and Pelley, 2007) although no subdivision has been made in the Dufferin area.

6.2 Halifax Group

The Halifax Group forms the upper part of the Meguma Group and is generally comprised of thinly bedded slates and minor metasilstone and metasandstone (Malcolm, 1976). The Halifax Group has been locally subdivided into formations. The Cunard Formation is regionally mappable and defines a stratigraphic marker within the Halifax Group. The Cunard Formation consists of fine-grained dark slates and interbedded metasandstone beds and hosts significant sulphide mineralization, mainly pyrite and pyrrhotite. The Cunard Formation is locally underlain by the Beaverbank Formation which consists of carbonate and manganese rich slates and metasilstone locally characterized by cotecule layers (Horne and Pelley, 2007). The stratigraphically highest unit of the Halifax Group generally consists of grey-green metasilstone and metasandstone lithologies. In the eastern shore area this unit is referred to as the Glen Brook Formation (Horne and Pelley, 2007).

7.0 Property Geology

The geology of licence 10009 is not well known because of the lack of bedrock exposure on the licence. The geology of the property is mostly interpreted from airborne magnetics (King, 2000) and extrapolation from the well-known Dufferin Mine and Salmon River Gold District immediately to the west. The area is underlain by the Goldenville Group in the south and, possibly, the Halifax Group in the north part of the licence. Faribault (1897) and Henderson (1986) show a regional east-west trending anticline referred to as the Salmon River Anticline crossing near the south boundary of the property and this is supported by aeromagnetic patterns on regional maps. Detailed mapping at the historic 'Salmon River Gold District' and the Dufferin Mine indicate a minor anticline on the south limb of the Salmon River Anticline referred to as the Dufferin Mines Anticline and the Crown Reserve Anticlines respectively (Fig. 2).

Mineralization is associated with a saddle-reef vein array consisting of saddle reef, various bedding-concordant and discordant veins concentrated in the hinge of the Dufferin Mines Anticline and the Crown Reserve Anticlines (Horne and Jodrey, 2001). Notable related features at the Dufferin Mine are pervasive carbonate alteration and a well-developed pressure solution within the metasandstone (Horne and Jodrey, 2001).

8.0 Work Completed

8.1 Prospecting and Rock Sampling

Acadian carried out a brief field programme in 2012 that consisted of prospecting along forestry roads (Fig. 3) and the collection of two rock samples. Sample locations are shown on Figure 3 and provided in Table 2. Acadian staff spent time traversing the property looking for prospective material which warranted assays. The two samples each represent quartz vein material which occurred in glacial till deposits. Both samples collected were sub-angular in shape indicating they had not travelled far from their source. The samples were submitted to Dalhousie Universities Minerals Engineering Centre for assay. Upon arriving, the samples were dried, crushed, pulverized and analyzed by standard fire assay. Descriptions and assay results for the rock samples are shown in Table 2 and the assay certificates are found in Appendix III.

Sample ID	Easting	Northing	Au (ppm)	Description
02222	0551199	4982102	<0.005	Altered greywacke boulder with 3cm glassy to bullish quartz vein exhibiting space filling textures.
02223	0551176	4981882	<0.005	Several large (20-30cm) pieces of quartz vein float. Quartz is bullish with some minor rusty spots.

Table 2: Summary of descriptions and assay results for rock samples.

9.0 Discussion and Recommendations

The analytical results from the rock samples collected do not indicate detectible levels of gold in the sampled materials. The results of the rock sampling were disappointing. However, the potential for mineralization could not be properly assessed because of extensive glacial till covering the property. The property is situated in a favorable location along strike of a past-producing mine and should be retained until it is thoroughly evaluated.

10.0 References

Hannon, P and Roy, W. D. 2012

2012: Technical Report regarding the Dufferin Property located in Nova Scotia; effective date, May, 20, 2012.

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1986: Geology, Ecum Secum Area, Nova Scotia: Geological Survey of Canada Map 1648A. Scale 1:50 000.

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2002: Geology of the Dufferin Gold Deposit (NTS 11D/16), Halifax County. Report of Activities 2001, Nova Scotia Department of Natural Resources Report ME 2002-001.

Horne, R.J, Melanson, T, Kenny, Dwight and Banks, C.

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2007: Geological Transect of the Meguma Terrane from Centre Musquodoboit to Tangier. *In* Mineral Resources Branch, Report of Activities 2007; Report ME 2007-01.

King, M. S.

2000: Enhanced aeromagnetic and digital elevation map of eastern Nova Scotia (11C/13, 11D/10, 11D/11, 11D/12, 11D/13, 11D/14, 11D/15, 11D/16, 11E/01, 11E/02, 11E/03, 11D/04, 11F/04, 11F/05, 11F/06); Nova Scotia Department of Natural Resources, Mineral Resources Branch, Map 2000-2, scale 1:250 000.

Malcolm, W.

1976: Goldfields of Nova Scotia, GSC, Memoir 385, 253 p.

White, C. E.

2006: Preliminary Bedrock Geology of the Liverpool and Lake Rossignol Map Areas NTS 21A/02 and 21A/03), Southern Nova Scotia. *In* Mineral Resources Branch, Report of Activities 2005; Report ME 2006-1, p. 149-163.

White C.E., R.J. Horne, and S.M. Barr

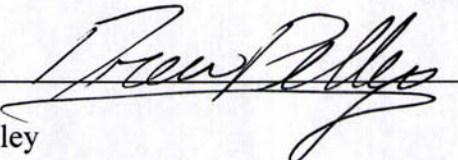
2007: The Meguma Group of southern Nova Scotia: new insights on the stratigraphy, tectonic setting, and provenance. *In* Programs and abstracts; Atlantic Geoscience Society Colloquium & Annual General Meeting.

Appendix I: Statement of Qualifications**DREW E. PELLEY**

I am Drew Pelley, of Dartmouth, Nova Scotia, and hereby certify that:

1. I am a graduate of Dalhousie University, from which I received a Bachelor of Science degree (Hons.) in Earth Sciences in 2008.
2. I am the Qualified Person responsible for preparation of this report.
3. I have actively worked as a geologist since 2008 in Nova Scotia.
4. The accompanying report is based on the independent study of the referenced geological, geophysical and geochemical reports and maps, for the properties and surrounding areas.

Dated this 10th day of January, 2013, in Halifax, Nova Scotia, Canada


Drew E. Pelley

Appendix II: List of Personnel

Acadian Mining Personnel

Drew Pelley.....Project Geologist

Richard Horne.....Chief Geologist

Appendix III: Original Assay Certificates and Methods

8-Jan-13

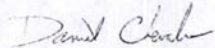
Acadian Mining Corporation
10 Morris Drive, Unit 6
Dartmouth, NS
B3B 1K8
Attn: Drew Pelley

minerals.engineering.dal.ca
Tel: 902.494.3955
Fax: 902.494.3506
Email: mec@dal.ca

Re: Results of analysis on submitted samples. Au analysis
using 30g FA-lead collection, AAS or ICP OES finish.

Sample	ppm
	Au
02222	<0.005
02223	<0.005
02223 Dup.	<0.005

Certified Reference Samples:	Au ppm	
	Measured	Expected
OXC72	0.206	0.205±0.003



Digitally signed by
Daniel Chevalier
Date: 2013.01.08
10:00:32 -04'00'

Daniel Chevalier, MASc
Manager, Minerals Engineering Centre

Fire Assay Procedure – Gold

Sample Decomposition: Fire Assay Fusion

Analytical Method: Atomic Absorption Spectroscopy (AAS), Inductively Coupled
Plasma Optical Emission Spectroscopy (ICPOES)

A prepared sample is fused with a neutral lead oxide flux inquartered with 4 mg of gold-free silver and then cupelled to yield a precious metal bead. The lead bead is digested for one hour in 1.0ml of dilute nitric acid. Hydrochloric acid (1.0ml) is then added and the solution is digested for an additional hour. The digested solution is then cooled, diluted to 6.0 ml with double distilled water, mixed and then analyzed by AAS or ICPOES.

Certified reference samples from CANMET or West Coast Minerals are analyzed with each batch. In addition, duplicate check analysis and method blank analysis are also run with the samples.

Au detection limit is 0.005 ppm, or 5 ppb, on a 30g sample.

Sample Preparation of Rocks, Core, and Soils

After multiple stage crushing (minus 4.0 mm) with jaw crushers, samples are riffle split to 200 grams, then pulverized with a ring and puck pulverizer (Spex Industries Inc. Shatterbox) to 100% passing 0.15 mm. Equipment is cleaned with jets of air and silica sand between samples.

Form 10 - Statement of Assessment Work Expenditure
(pursuant to the *Mineral Resources Act*, S.N.S. 1990, c. 18, s. 43(1))

(Complete as necessary to substantiate the total claimed.)

Re: Licence No. 10009 Date of issue Nov 25, 2011



Type of Work		Amount Spent
1.	Prospecting _____ days	1000-
2.	Geological mapping _____ days	
3.	Trenching/stripping/refilling _____ m ² / _____ m ³	
4.	Assaying & whole rock analysis _____ #	
5.	Other laboratory _____ #	
6.	Grid: (a) Line cutting (b) Picket setting (c) Flagging _____ km _____ km _____ km	
7.	Geophysical surveys Airborne: (a) EM/VLF (b) Mag or Grad (c) Radiometric (d) Combination (e) Other _____ _____ km _____ km _____ km _____ km _____ km	
8.	Geophysical surveys Ground: (a) EM/VLF (b) Seismic soundings (c) Magnetic/telluric (d) IP/resistivity (e) Gravity (f) Other _____ _____ km _____ # _____ km _____ km _____ km	
9.	Geochemical surveys (a) Lake, stream, spring (i) Water (ii) Sediments (b) (i) Rock (ii) Core (iii) Chips (c) (i) Soil (ii) Overburden (d) Gas (e) Biogeochemistry (f) Sample collection (g) Other _____ _____ samples _____ samples <u>2</u> samples _____ samples _____ samples _____ samples _____ samples _____ samples _____ days	100-
10.	Drilling: (a) Diamond (# holes/m) (b) Percussion (# holes/m) (c) Rotary (# holes/m) (d) Auger (# holes/m) (e) Reverse circulation (# holes/m) (f) Logging, supervision, etc. (g) Sealing (# holes) _____ / _____ m _____ / _____ m _____ / _____ m _____ / _____ m _____ / _____ m _____ days _____ #	
11.	Other (describe) <u>Report writing</u> <u>Gas and food</u>	500- 100-
	Subtotal	\$1700
Overhead costs		
12.	Secretarial services	
13.	Drafting services	
14.	Office expenses (rent, heat, light, etc.)	
15.	Field supplies	
16.	Compensation paid to landowners	
17.	Legal fees	
18.	Other (describe)	
	Subtotal	
	Grand total	\$1700

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