# **Indian River Gold Project**

Guysborough County, Nova Scotia

## **Assessment Report**

For

**Exploration License 10194** 

NTS: 11F/04C

Bruce Mitchell, P. Geo. February, 2013



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#### 1.0 Introduction and Summary

#### 1.1 Introduction

The Indian River Gold Project (defined by the limits of Exploration License 10194) is located in northeast mainland Nova Scotia, Canada in Guysborough County (Figures 1&2, Section 2).

The property consists of 42 contiguous claims (6.72 Ha) held under NSDNR Exploration License 10194 with an anniversary date of March 1, 2013 (Section 3). The license is wholly owned by Bruce Mitchell of Stewiacke, Nova Scotia. The centre of the property is located at 592,500 East and 5,000,000 North in UTM coordinates and is from 40 to 90 metres above sea level.

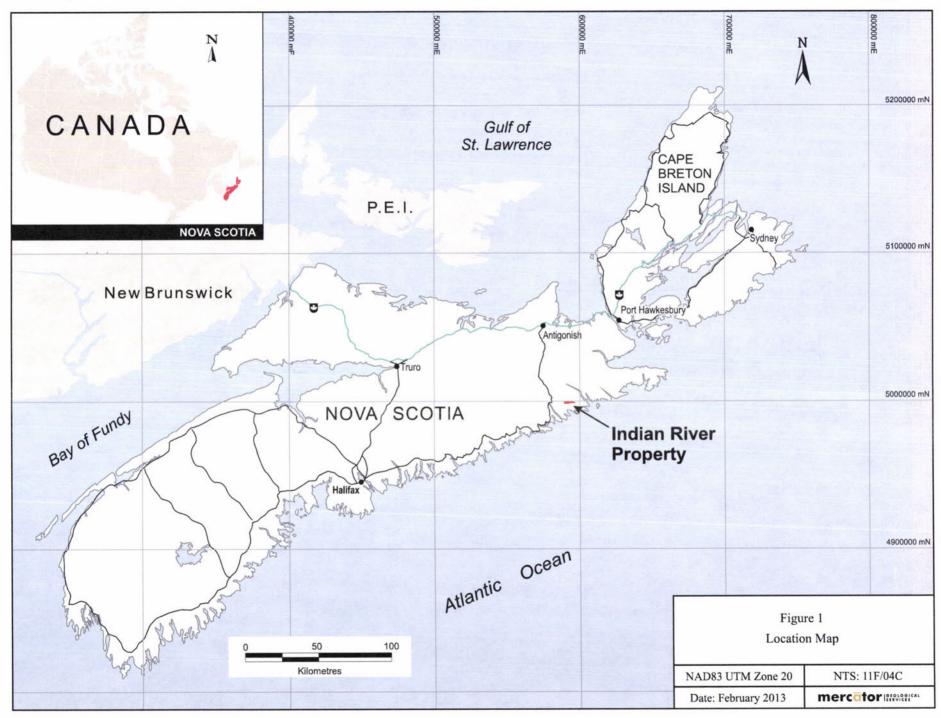
This report fulfills the requirements for an Assessment Report for submission to the Nova Scotia Department of Natural Resources in support for Exploration License 10194 held by Bruce Mitchell (the author of this report) and known as the Indian River Gold Project (Figures 1&2). The report also serves to document the work commitment for receipt of a \$10,000 Nova Scotia Mineral Incentive Program grant. This report was prepared by Bruce Mitchell, P. Geo, residing at: 136 Kitchener St., Stewiacke, N.S., B0N 2J0

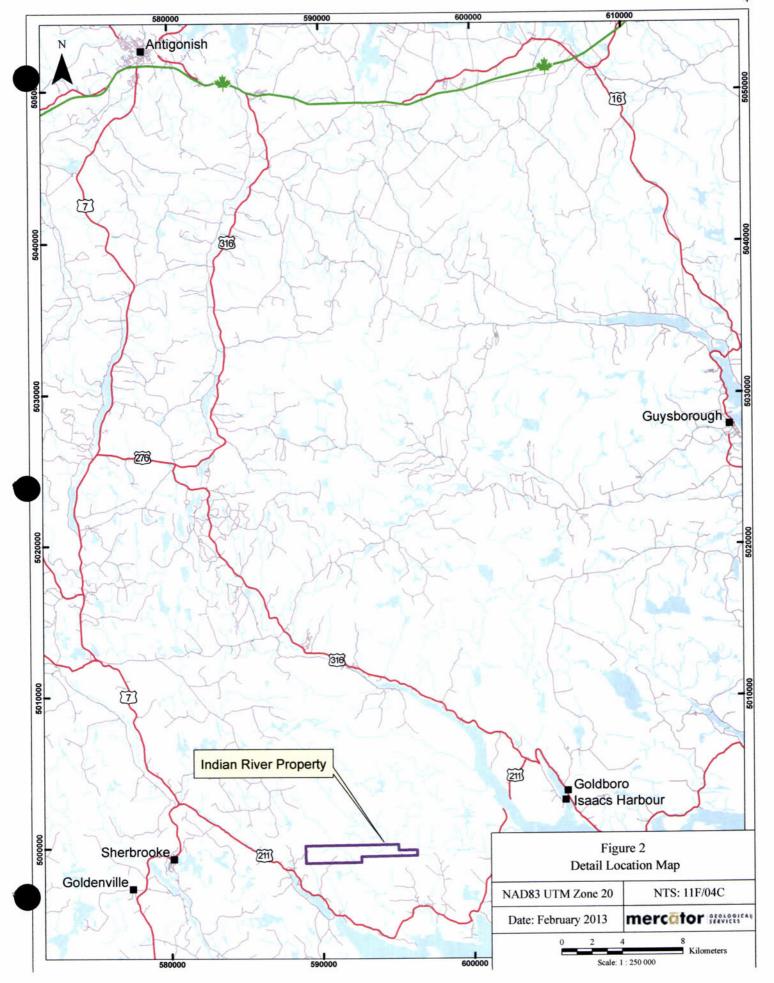
The licence is in its first year of issue, the claims having been held by Orex Exploration (Orex) for two years previously. Orex, and its predecessors, has held an exploration license over the Goldboro Gold Project, Exploration Licence 05888, 15km northeast, since 1980. In November, 2009, Orex staked over 6,000 claims surrounding the Goldboro Gold Project. A compilation in early 2010 by D. R. Duncan and Associates and Mercator Geological Services (Mercator) provided numerous exploration targets within the regional claims. Targets were developed from geophysical, geological, geochemical, and structural interpretation. One of the target areas is contained within the boundaries of the Indian River Gold Project assay results to 12.665 g/t Au (rock) and 0.317 g/t Au (soil) were reported, in addition to the discovery of a 4m wide quartz vein in a shallow pit.

Goldenville, the largest historic gold producer in Nova Scotia is 12 km west of the Indian River Gold Project along the same anticlinal structure and the claims are held by Acadian Gold. Resource figures are: 63,000 ounces Au indicated at 3.5 g/t lower cut-off and 153,000 ounces Au inferred at 3.5 g/t lower cut-off.

A program consisting of trenching, soil sampling and a VLF EM-16 survey was carried out on the Indian River Gold Project claims from September to December, 2012. The following persons and companies constitute the professional and technical crew who conducted the on-site work of geochemical sampling, trenching and geophysical programs as well as data processing and map generation.

Bruce Mitchell, P. Geo, Stewiacke, Nova Scotia Jonathan Taylor, Geologist, Lochaber, Antigonish County, Nova Scotia Greg Hines, Technician, Giant's Lake, Nova Scotia Diane Smeltzer, Geologist, Giant's Lake, Nova Scotia Steve Pinkham Excavating, Fisherman's Harbour, Nova Scotia Mercator Geological Services, Dartmouth, Nova Scotia





#### 1.2 Summary

In March, 2012, the author staked claims in Guysborough County, Nova Scotia, comprising the Indian River Gold Project, a portion of over 6,000 claims previously held by Orex Exploration. Twelve km west along the same anticlinal structure is Nova Scotia largest past producing gold district. Goldenville.

The Indian River Gold Project consists of 42 claims, included in Exploration License 10194 with an anniversary date of March 1, 2013 (Figure 1). This license is held 100% by the author and is in the 1st Year of issue (Section 3.0).

In the winter of 2010, Orex contracted Mercator Geological Services (Mercator) of Dartmouth, Nova Scotia and D.R. Duncan and Associates of Windsor, Nova Scotia, who complied all historical geological data of the regional claims area and highlighted areas of interest, with the ultimate goal of discovering other 'Goldboro' type deposits. One of the target areas is contained within the boundaries of the Indian River Gold Project and field work by Orex in 2010 outlined gold anomalies (rock) up to 12.665 g/t with supporting arsenic and gold anomalies in soil. In addition to the gold anomalies, a 4m wide quartz vein was discovered in an old shallow pit.

The September to December, 2012 field program consisted of 1) 100m of trenching in the vicinity of a shallow pit with 4m of quartz exposure (Figures 3, 4a, 4b and 5), previously located by Orex; 2) 34 soil samples (Figure 6), extending beyond Orex's gridwork and 3) 13 km of VLF EM-16 (Figures 8,9&10) enveloping the anticlinal structure and the Orex geochemical Au/As anomalies.

Results include soil anomalies to 0.349 g/t Au and 116 g/t As. Two populations of anomalies were noted, high Au/low As in the west and low Au/high As in the east. This compares with previous results reported by Orex. Trenching did not uncover bedrock, indicating the 4m quartz vein is actually a boulder, but mineralized quartz was uncovered and 3 of 4 samples assayed above the detection limit to a high of 0.116 g/t Au. The VLF survey outlined a conductive horizon paralleling West Branch Indian River and a possible southern limb of this feature near an apparent anticlinal closure.

Recommendations for future work include extending the VLF survey further south in the eastern section of the grid and adding more lines eastwards and westwards. Stream sediment sampling and prospecting is planned in Indian River and its tributaries during low water levels. Follow-up sampling is recommended for highly anomalous soil sites. Tills will be collected for gold grain count and field panning will be done at the sites.

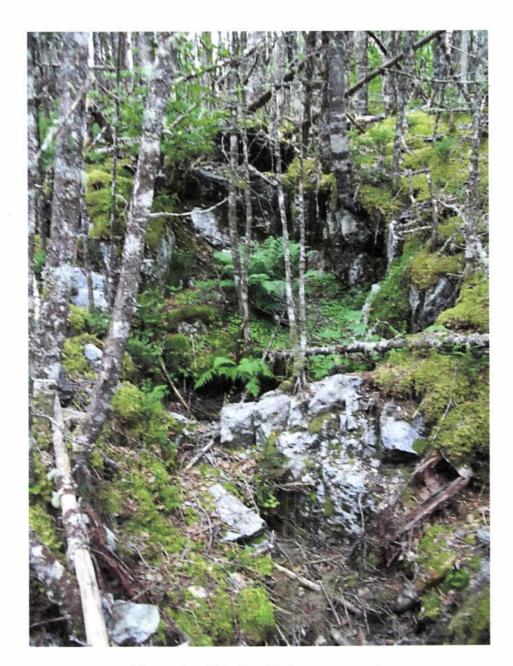


Figure 3 – Old pit with 4m quartz vein



Figure 4a - Trenching north section, looking south

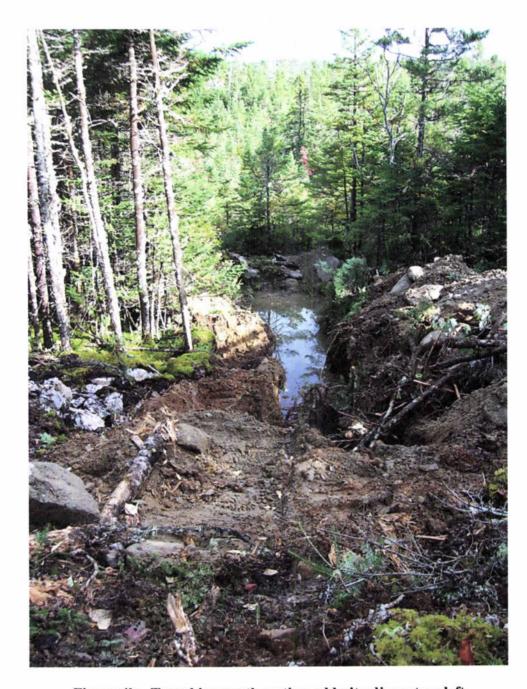
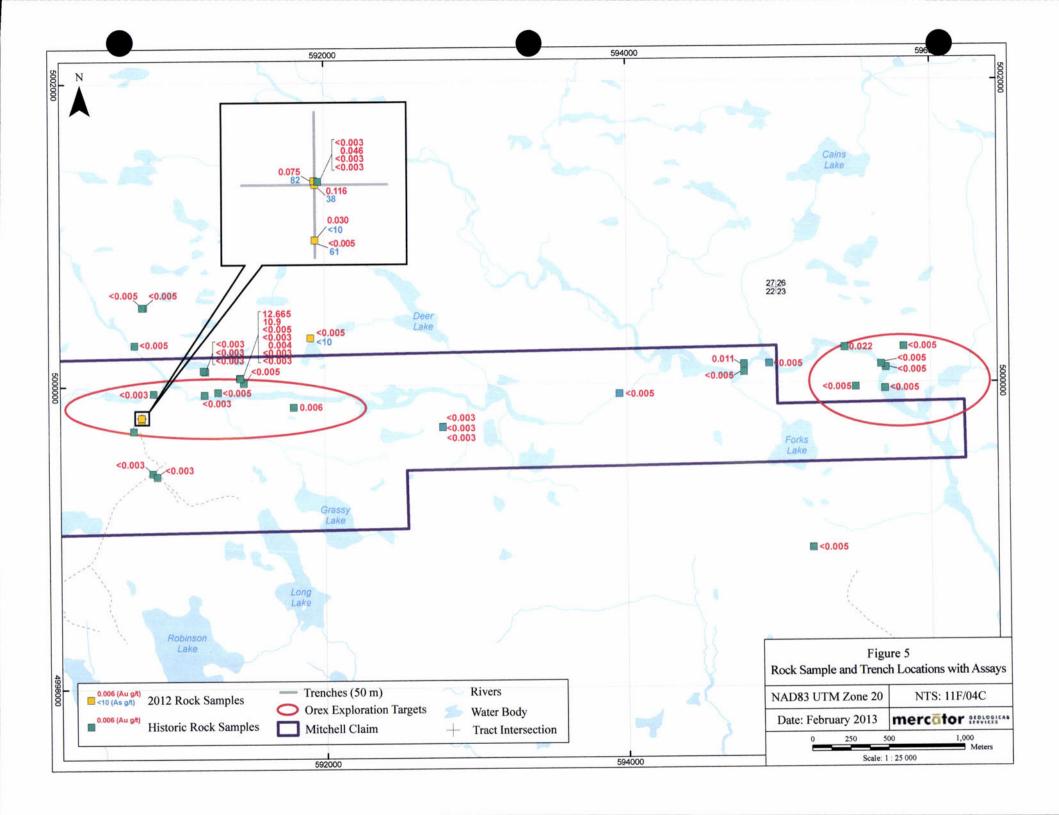


Figure 4b - Trenching south section, old pit adjacent on left



## 2.0 Location, Access, Physiography, Climate, Local Resources

The Indian River Gold Project is located in Guysborough County, Nova Scotia, approximately 50 kilometres south of the Town of Antigonish (Figures 1&2).

The Claim Block can be reached by car, travelling 40 km south from Antigonish, along Highway 7 to Highway 211 at Stillwater. Ten km eastward from that point is a gated woods road (Ferrona Road) from which the property can be accessed by traveling northwards 3 km.

The Claim Block occupies an area of a maximum 7.5 km east-west by a maximum 1.25 km north-south and is located on gently rolling terrain at an elevation of between 40 and 90 metres above sea level. An east flowing stream (West Branch Indian River) bisects the property and forms a small stream valley which has a gentle south slope and a steep greywacke ridge along the north side. Small streams outline northwest/southeast shears and flow both northwards and southwards, feeding into the stream valley. Several small lakes are wholly or partially contained within the claims. Swampy areas are found along the south side of the stream valley.

Vegetation within the claim block consists of mixed hardwood and softwood. Swampy areas are dominated by alders and low shrubs. Well forested areas have been cut in the past and re-growth vegetation is very common.

The project is located in Eastern Nova Scotia, characterized by climate conditions of the Northern Temperate Region. There are distinct seasonal variations but the fact that it borders the Atlantic Ocean creates a moderating effect. Winter conditions of freezing and moderate snowfall can be expected from November to March but recent years have shown that there is little snow accumulation. Winter temperatures rarely go below – 25 C and in summer rarely reach 30 C, with a mean high of 15 C to 20 C. Summer conditions occur from June to September.

The claims are uninhabited, save for a few seasonal camps along the stream valley. The western portion of the claims is Crown owned while the eastern portion is privately owned. The nearest town for supplies and lodging is Sherbrooke, 15km west. The population base in Guysborough County is declining but there are skilled workers such as carpenters, equipment operators and former miners in the area. A regional power line enters the northwestern corner of the claims and high-speed internet and cellular phone service are available nearby.

Industry in the vicinity is limited to forestry operations, heritage tourism, small scale fishing (ground fish, lobster, mussel farming) and a commercial shrimp fishery freezer operation.

### 3.0 Claim Status (License Tabulation)

The Indian River Gold Project consists of 42 claims, included in Exploration License 10194 with an anniversary date of March 1, 2013 (Figures 1&2). The licences are held 100% by Bruce Mitchell and are in their 1st Year of issue.

The license consists of the following claims:

#### LICENCE 10194

CLAIMS	TRACT	MAP	
ABCFGHJKL	19	11F/04C	
ABCDEFGHJKLM	20	11F/04C	
CDEFGHJKLM	21	11F/04C	
EFGHJKLM	22	11F/04C	
EFG	23	11F/04C	

The surface rights belong to Province of Nova Scotia, a forestry company and a private individual.

#### 4.0 Previous Work

The search for gold within Guysborough County has been ongoing since the 1860's. Several mines were discovered and operated on an intermittent basis until the early 1900's, when most went dormant for several decades. There was a brief mining revival in the 1930's followed by dormancy until high gold prices prompted renewed exploration and test mining activities in the 1980's. Some of the more notable mines are Goldenville, Boston-Richardson, Lower Seal Harbour, Country Harbour, Forest Hill, Cochrane Hill, Widow Point and Isaac's Harbour. Combined, these mines are credited with much of Nova Scotia's historical gold production.

Although the project is only 12 km east of Nova Scotia's largest historic gold producer, Goldenville, and along the same anticlinal structure, there has been little recorded geological work on the claims. Eugene Faribault, under the auspices of the Geological Survey of Canada, produced a geological map in 1911. In 1982, Pan East conducted humus sampling, panning and airborne magnetics and VLF surveys, largely within claims adjacent and east (Miller, 1982). Airborne geophysics were flown on a regional basis in the 1980's by the GSC and subsequently re-interpreted in the 1990's.

In 2010, Orex Exploration commissioned Mercator Geological Services and D.R. Duncan and Associates to compile geological and geophysical data over large portions of Guysborough County and establish exploration targets. One of the target areas is contained within the current Indian River Gold Project claims (Mitchell, 2011). Several northwest/southeast trending shears were noted associated with an interpreted east/west anticlinal shear (Figure 7). A program of mapping, prospecting and soil sampling produced several anomalies, notably a 12.665 g/t Au sample of a thin angular quartz vein with associated down-ice As anomalies (Figures 5&6). A shallow pit with a 4m quartz vein exposure was also noted (Figure 3). Four samples of the vein produced one weak Au anomaly but a 0.317 g/t Au soil anomaly (Figure 6) was noted a short distance down-ice.

Despite encouraging results, the claims were not renewed by Orex in 2011 and were staked by the author subsequent to a 90 day waiting period. The author was involved in the 2010 Orex exploration program as Project Geologist and as such had prior knowledge of the results.

Indian Diver Cold Design Fundameter License 10104

### 5.0 Geological Setting

### 5.1 Regional Geological Setting

The Indian River Gold Project Property is underlain by rocks of the Meguma Group which are deep-water, flysch sediments of Cambro-Ordovician age. These rocks underwent regional deformation and metamorphism during the Early to Middle Devonian, in a series of events that can largely be attributed to the collision of the Meguma Terrane and the North American continent during the Acadian Orogeny. The effects of these events was the formation of a series of large scale, northeast and east-trending, moderately tight, upright, gently-plunging anticlines and synclines. This was followed by an overlapping period of static metamorphism of upper greenschist facies to middle amphibolite facies, which produced porphyroblasts of biotite, andalusite, cordierite and staurolite. At about the same time the region was beginning to experience intense intrusive activity which resulted in the emplacement of Middle Devonian granitoid plutons. Further deformation is evident during the formation of southeast-trending, sinistral faults, which have had a significant influence on the topographical character of the region, particularly its harbours and rivers.

The Meguma Group sedimentary package is divided into two distinct formations; The Goldenville Formation and The Halifax Formation. The Goldenville Formation is dominated by quartzites and metawackes of light to dark grey color and locally spotted with porphyroblasts of andalusite, staurolite, cordierite and biotite. The younger Halifax Formation overlies the Goldenville Formation and consists of black slates, metapelites, phyllites and quartz-mica schists with porphyroblasts of andalusite, cordierite, biotite and staurolite. The boundary between the two formations is transitional over a thickness of 20 to 200 metres.

The majority of gold deposits are found within the upper part of the Goldenville Formation and they are spatially associated with the regional anticlinal folds and the southeast-trending faults. The gold is almost always found in direct relation to narrow bedding-parallel quartz veins within the pelitic (slate) units of the metasedimentary package. The Meguma gold deposits have been characterized as saddle reef type, though the majority of the gold mineralization is found on the limbs of folds rather than in the structurally thickened quartz-rich hinge areas. Gold-bearing stratiform quartz veins commonly contain arsenopyrite, pyrite, pyrrhotite, and minor galena, chalcopyrite, sphalerite and stibnite. Arsenopyrite is considered the most significant sulphide mineral in terms of a gold indicator. The surrounding rocks typically show some degree of silicification, sericitization, chloritization and graphitization. A series of southeast-trending faults are believed to play a role in remobilizing and concentrating gold mineralization into narrow high grade shoots and lenses that comprise the scattered occurrences discovered to date along the anticlinal fold axis lineaments throughout the Meguma zone (Horvath, 2005).

#### 5.2 Local Geology

The claims of the Indian River Gold Project are underlain by greywackes and slates of the Goldenville Formation and contain an east-west trending anticline whose location is approximated by an east flowing stream valley (Figure 7). As can be seen on Google Earth, the anticline has a westerly plunge with closure expressed in the northwest corner of the soil grid.

Numerous northwest-southeast trending faults host smaller streams which flow into the main stream. Outcrop exposure is expressed as a greywacke ridge on the north side of the east flowing stream. The main stream contains numerous large quartz boulders, some with sulfide mineralization and greenish argillite layering.

#### 6.0 Work Conducted in 2012

#### 6.1 Research and Compilation of Past Work Done

Published technical reports, including government publications, and assessment reports were reviewed.

#### 6.2 Geochemistry

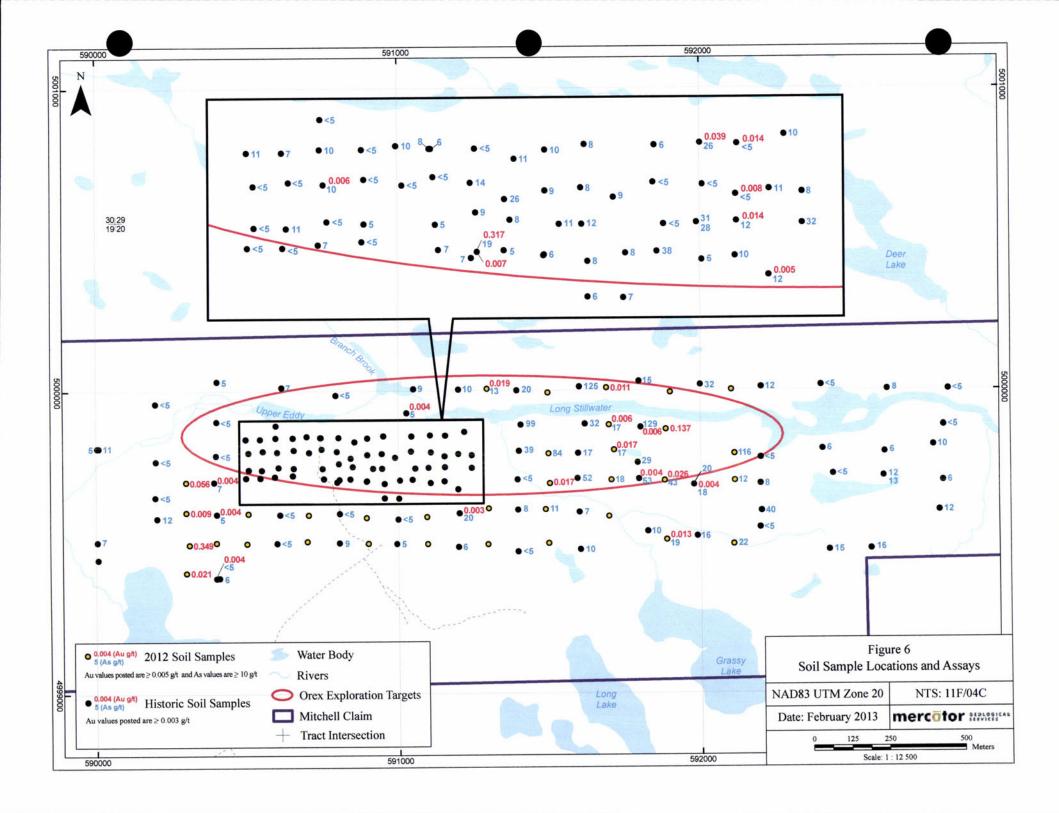
In 2010, Orex collected soil samples at 100m spacing on 200m spaced lines, with the exception of detail sampling in the vicinity of the 4m quartz vein exposure. It was decided to tighten line spacing to 100m and sample between the Orex lines to further detail the Au/As anomalous areas (Figure 6, Appendices 3&4). Sample stations were located by handheld GPS at 100 m spacing on the lines. Missed soil stations were due to swampy or rocky conditions. Samples were taken of the "B" horizon at depths of 10 to 50 cm using a narrow drainage spade shovel. Care was taken to clean the shovel after each usage and humus and large clasts were removed before placing the sample in a kraft paper soil bag. Approximately 500 g were collected at each station. Soils were generally orange-brown to grey-brown, silt rich and locally wet. A total of 34 soils were collected and sent to Daltech in Halifax for gold and arsenic analysis.

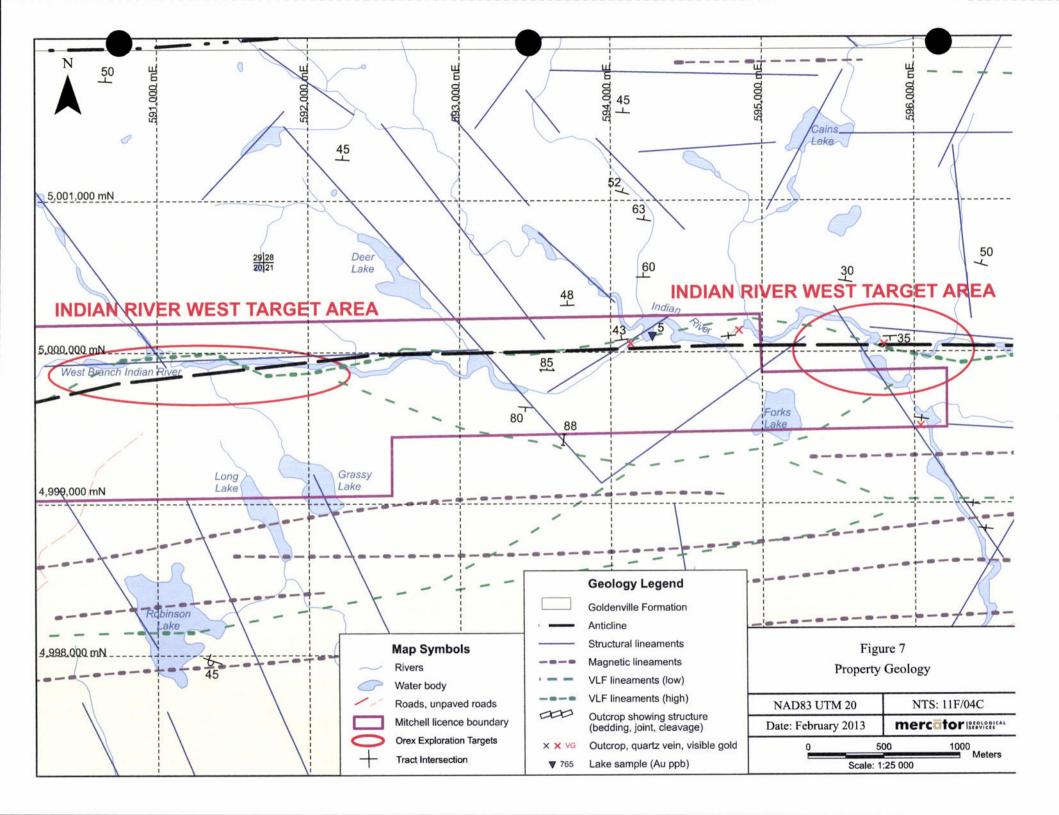
Planning was also made for stream sediment sampling but due to the seasonal lateness of the program, water levels were too high.

#### 6.3 Trenching

The focus of the trenching was the 4m quartz vein located by Orex in 2010 in a 1m deep pit (Figure 3). The trenching took place from October 9 to October 11 and was supervised by the author. The trench site was cleared of trees October 9 and trench opening and closing was done October 10/11 (Figures 4a&4b). All work was done by employees of Steve Pinkham Excavating. The trenching was done in a cross shape, centered adjacent and east of the 4m wide vein. Excavation began 25m east of the pit, heading west. No bedrock was encountered at the maximum depth of 4.5m. Similar results were obtained 25m north (heading south) and south (heading north) and then 25m west as well, for a total length of 100m. Despite digging immediately adjacent to the pit on the north, east and west sides, no bedrock was encountered. Thus the vein is actually a boulder, approximating the orientation and the position of the anticlinal axis. A similar sized boulder was noted by Orex several km east in 2010. Four samples of mineralized quartz (IRTR-01-12 to IRTR04-12) were collected during the trenching (Appendices 3&4, Figure 5). Trenches were filled and the surface smoothed immediately after inspection. Trenching was done using a Volvo 140LC excavator.

Had bedrock been encountered, a back pack drill would have been used to search for vein extensions along strike.





#### 6.4 Geophysics VLF EM-16

An anticlinal shear had been interpreted by Mercator to pass through the property, based on interpretation from regional airborne geophysics (Figure 7). It was decided to attempt to define the trend on the ground using a hand held Geonics EM-16. The survey was done over the soil grid at 25m intervals on 100m spaced lines (Figure 8). The grid was extended further south, north and east from the soil survey (Figure 6). Locations were derived from handheld GPS and for each location dip angle and quadrature were recorded (Appendix 3). A total of 12.75 km were surveyed resulting in 510 readings. See Figures 9 and 10 for contoured results and interpretation.

#### EM-16 Principles of Operation and Usage

The VLF-transmitting stations operating for communications with submarines have a vertical antenna. The antenna current is thus vertical, creating a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, there will be secondary fields radiating from these bodies. The EM-16 measures the vertical components of these secondary fields.

The EM-16 is simply a sensitive receiver covering the frequency band of the VLF-transmitting stations with means of measuring the vertical field components. The receiver has two receiving coils built into the instrument. One coil has a normally vertical axis and the other is horizontal. The signal from one of the coils (vertical axis) is first minimized by tilting the instrument. He tilt angle is calibrated in percentage. The remaining signal in this coil is finally balanced out by a measured percentage of a signal from the other coil, after being shifted by 90°. This coil is normally parallel to the primary field.

Thus, if the secondary signals are small compared to the primary horizontal field, the mechanical tilt-angle is an accurate measurement of the vertical real-component, and the compensation ½ signal from the horizontal coil is a measure of the quadrature vertical signal.

The transmitting station used in the 2012 survey was Cutler, Maine (NAA), with a frequency of 17.8 KHz. Much of Nova Scotia's Meguma Group geology strikes approximately east/west. Cutler, being west of Nova Scotia is ideally situated since the secondary field is generated 90° from the transmitter, thus allowing for north/south traverses across geology to measure the field.

Readings are taken while facing north, or slightly west of north. The unit is switched on and the volume adjusted to a low setting. A "null" in the noise is achieved by tilting the instrument while simultaneously moving the quadrature dial. When the noise level is at its lowest, the tilt angle and the quadrature readings are recorded.

In-phase (tilt angle) readings are often smoothed by "Fraser Filtering" (Figure 10) to reduce data spikes. When viewed, either as profiled or contoured data, the filtering effect better locates the conductor position on the ground.

#### 7.0 Results

#### 7.1 Geochemistry

Approximately 35% of the 34 soil samples collected on the claims assayed greater than the 0.005 g/t Au detection limit (Figure 6, Appendices 3&4). Values were as high as 0.349 g/t Au, with most anomalies along two separate lines near opposing sides of the grid. The 0.349 g/t Au sample was 500m west of the Orex 0.317 g/t Au soil and 4m quartz exposure. Approximately 32% of the soil samples assayed greater than the 10 g/t arsenic detection limit. Results were comparable to that of Orex, in that higher arsenic anomalies were mainly restricted to the eastern part of the grid and were generally not coincident with anomalous gold. The two highest values, 84 g/t and 116 g/t were not anomalous in Au and only five samples anomalous in Au had weak As anomalies. Overall, when considering both the 2010 and 2013 sampling, there are two populations; highly anomalous gold/low arsenic in the west and slightly anomalous gold/high arsenic in the east

Of the four rock samples (IRTR-01-12 to IRTR-04-12) collected during trenching (Figure 5, Appendices 3&4), three assayed above the 0.005 g/t Au detection limit, ranging from 0.075 to 0.116 g/t Au. Pyrite was noted or suspected in all three samples. A sample (IRR-01-12) of several small bedding parallel veins collected just north of the claims assayed below the detection limit, although a duplicate assay was 0.009 g/t Au (Figure 5, Appendices 3&4).

#### 7.2 Trenching

No bedrock was encountered during the trenching (Section 7.1, Figures 4a&4b). Four samples of mineralized quartz float were exposed by the excavator and sampled for assay (Figure 5, Appendices 3&4).

#### 7.3 Geophysics EM-16

The EM-16 survey has indicated a conductive horizon coincident with West Branch Indian Brook (Figure 10), similar to the Mercator Compilation (Figure 7). A similar but slightly weaker paralleling conductor to the south could be interpreted as being the southern limb of the stream conductor, which may not be shear related and could instead be a bedded conductive horizon. The southern high inphase values are cut off at 591700E as the grid did not extend to the south, westward from this point. The grid needs to be extended southwards to see if the high values continue eastward. Extending the grid westward as well may confirm the bedded horizon as Google Earth shows an anticlinal closure in the northwest portion of the grid, indicating a westward plunge. There are two disruptions in the trace of the northern conductor, one around 591000E, coincident with a NW/SE interpreted lineament (Figure 7) and another around 592000E, which may be shear related and displacement appears to be approximately 100m. Although the latter appears to be offsetting the conductor, the antiform structure apparent on Google Earth does not appear to be affected.

It is interesting to note that soils with arsenic >20 g/t, as well as numerous minor gold anomalies, are closely adjacent to or contained between the two assumed lineaments/shears (Figure 10).

#### 8.0 Conclusions

The trenching program was disappointing for the most part. The lack of bedrock was unexpected but several mineralized auriferous boulders were unearthed. Those and the 4m quartz boulder in the old pit had not been transported far and their source may be at the VLF conductor/stream.

The soil program was successful in detailing the anomalous Au/As results of the Orex 2010 survey and extending the range of high Au values westwards.

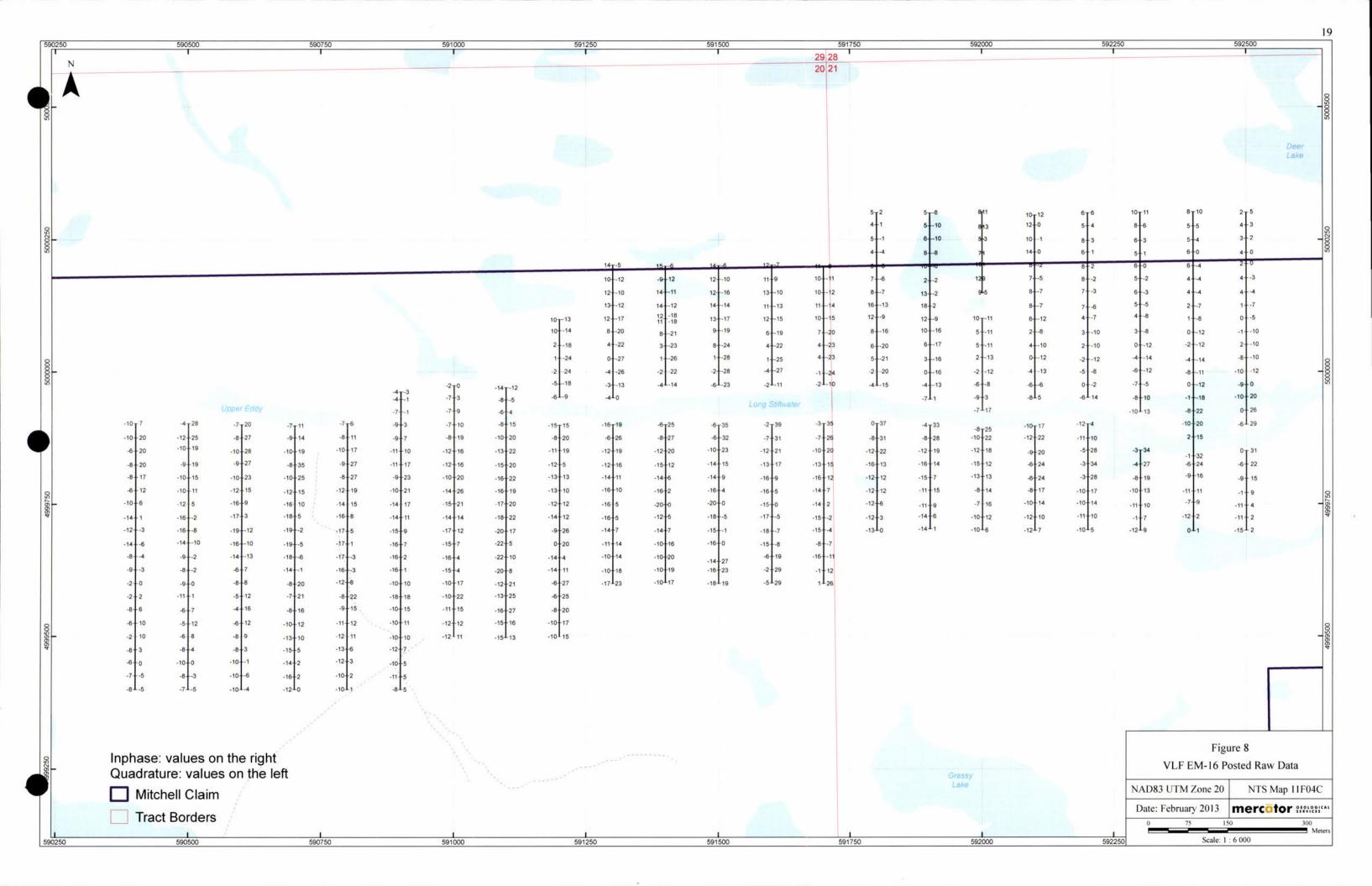
The EM-16 survey was successful in confirming the existence of the stream paralleling conductor outlined by Orex in 2010. A southern conductor was also noted as well as two disruptions (possible offsetting shears) in the northern conductor. The southern conductor may represent the southern limb of the northern conductor. Most of the high arsenic/low gold soil values are contained between two suspected shears.

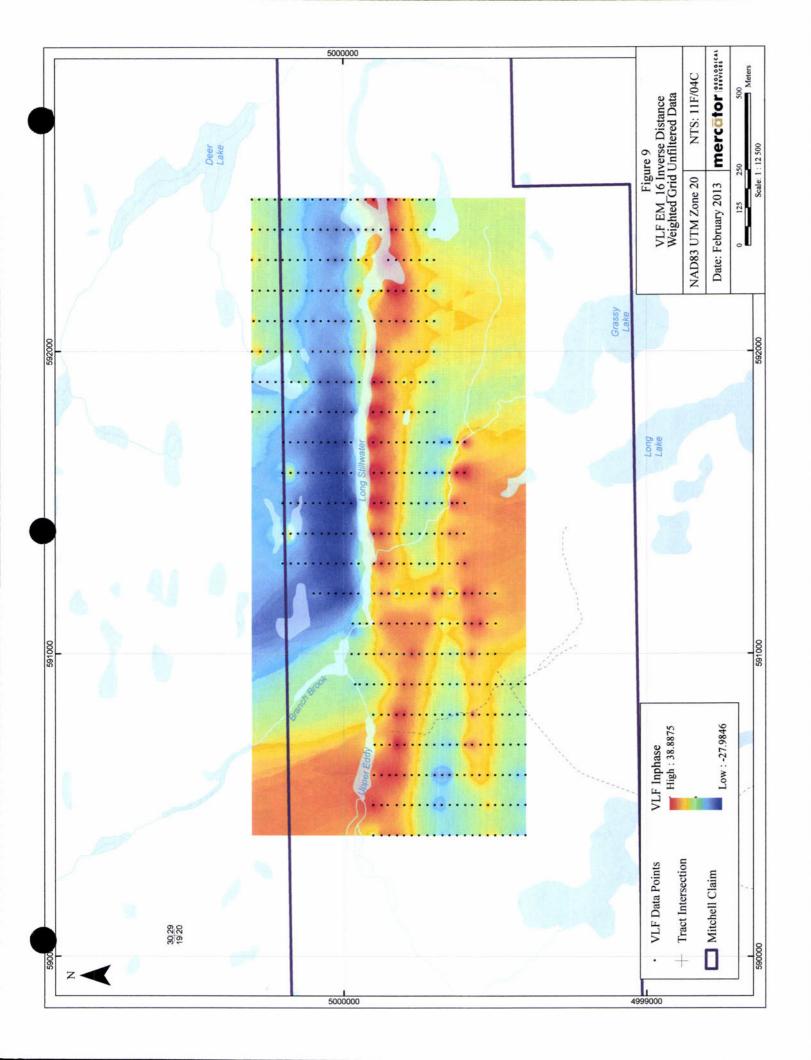
In summary, the property contains ingredients for the ideal Nova Scotia gold recipe – an anticlinal structure with a steep south dipping limb, anomalous gold/arsenic geochemistry in relation to northwest/southeast trending shears, mineralized and slightly auriferous quartz, conductive horizons, potential anticlinal shearing and is situated close to Nova Scotia largest gold producer and along the same structure.

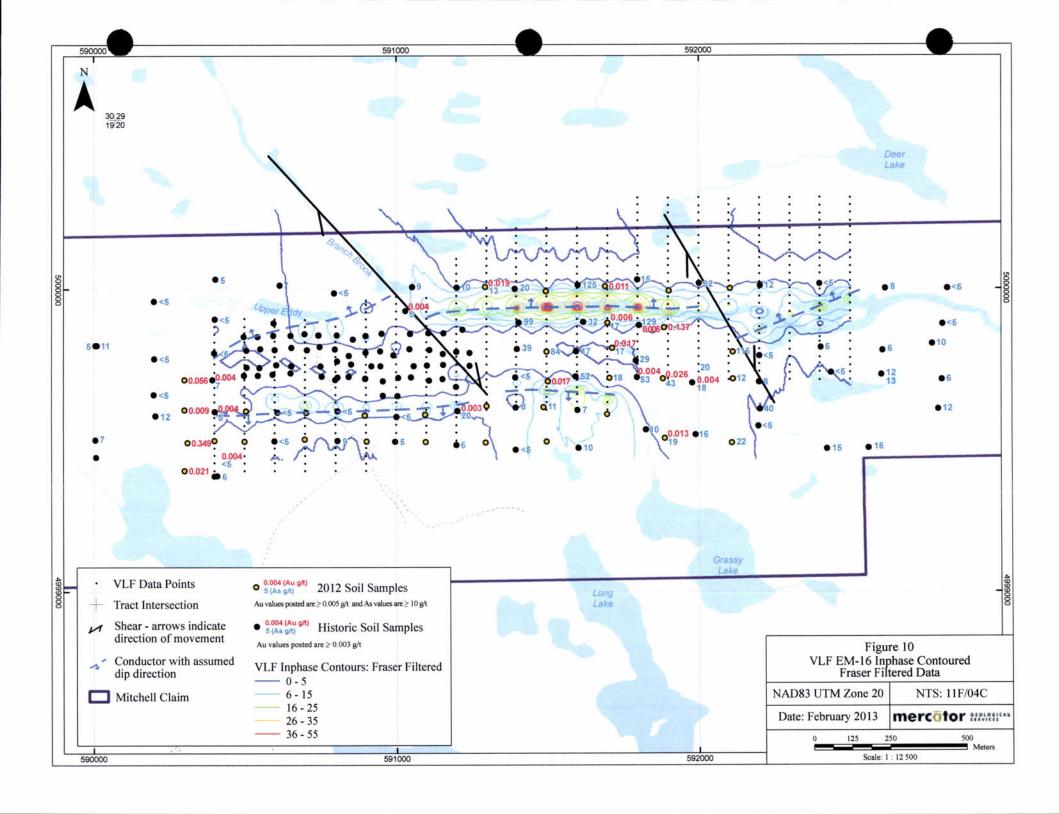
#### 9.0 Recommendations

To better define the southern conductor, all lines of the geophysics grid should be extended southwards to 4999500N where necessary. Lines should also be added eastwards as well if the southern conductor continues beyond the existing grid. Lines should also be added to the west as the survey may better outline the anticlinal closure. Total additional gridding would be 5km.

Stream sediment sampling and prospecting should be done at low water levels along Indian River and tributaries throughout the target zone. Approximately 15 samples would be required. Five sites of high Au/As in soils should be re-visited and tills collected for gold grain count. Field panning could also be done on this material for quick visual results.







#### APPENDIX 1

#### **Selected References**

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#### **APPENDIX 2**

#### **Certificate of Qualifications**

#### Certificate of Qualifications

I, Bruce Mitchell of 136 Kitchener Street, Stewiacke, Nova Scotia, hereby certify that:

- I graduated with a Diploma of Mineral Technology from the University College of Cape Breton in 1983 and a B.Sc. (Honors) in Geoscience from Mount Allison University in Sackville, New Brunswick in 1986.
- 2) I am a Professional Geoscientist registered in the Province of Nova Scotia (RN #0063).
- 3) I have been employed in my profession for a total of twenty seven (27) years. This work has included employment with junior exploration and mining companies, geological consulting firms and as an independent geological consultant.
- 4) I had a supervisory and active field role in the work program described in this technical report titled "Indian River Gold Project Assessment Report for Exploration License 10194", dated January, 2013.
- 5) I had prior involvement with the property that is the subject of this report as a Senior Project Geologist with Orex Exploration in 2010.
- 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 Report.

Dated this 11th day of February, 2013

Bruce Mitchell, P. Geo

Bruce 9

## **APPENDIX 3**

## Soil Sample Descriptions, Locations and Assay Results

Sample #	Easting	Northing	Color	Depth	Gravel	Sand	Silt	Clay	Organics	As	Au	Comments
	NAD 83	NAD83		cm	%	%	%	%	%	g/t	g/t	
IRS2012-01	590300	4999700								<10	0.056	no data collected
IRS2012-02	590300	4999600								<10	0.009	no data collected
IRS2012-03	590310	4999493								<10	0.349	no data collected
IRS2012-04	590300	4999400								<10	0.021	no data collected
IRS2012-05	590400	4999500								<10	< 0.005	no data collected
IRS2012-06	590500	4999497	red-bm	14		30	30	30	10	<10	< 0.005	west facing slope
IRS2012-07	590505	4999596	bm	8	10	30	30	30		<10	< 0.005	<5 NW slope; fir/spruce forest with moss ground cover
IRS2012-08	590704	4999591	bm	10		40	40		10	<10	< 0.005	slight N facing slope; barrens + sparse fir
IRS2012-09	590699	4999504	red-bm	8	10	20	20	20	5	<10	< 0.005	forested plateau: mixed softwoods & hardwoods
IRS2012-10	590902	4999497	or-bm	14		10	30	60		<10	< 0.005	forested plateau: mixed softwoods & hardwoods
IRS2012-11	590896	4999582	or	8	10	20	50	20	10	<10	< 0.005	mixed veg'n: shrubs, trees; very bouldery ground
IRS2012-12	591096	4999584	bm	6	20	10	30	30	10	<10	< 0.005	mixed forest; bouldery ground
IRS2012-13	591098	4999495	dk bm	8	20	10	40	20	10	<10	< 0.005	mostly fir; bouldery ground; 5-10 • NE slope
IRS2012-14	591297	4999493	dk bm	12	20	20	40	40	tr	<10	< 0.005	5+NE slope; shrubs w/sparse spruce
IRS2012-15	591300	4999612	red bm	12	20	10	40	20	10	<10	< 0.005	base of 10 •S slope; shrubbery w/mixed trees
IRS2012-16	591500	4999496	dk or bm		20	20	20	20	5	<10	< 0.005	flat, wet, hummocky ground w/mixed shrubs and fir
IRS2012-17	591490	4999608	bright or		20	40	20	20	tr	11	< 0.005	low rise in boggy, mossy ground
IRS2012-18	591699	4999585	bright or		5	20	20	50	5	<10	< 0.005	flat, wet, mossy ground near stillwater, sparse fir & shrubs
IRS2012-19	591707	4999705	dk or bm		5	30	30	30	5	18	< 0.005	top of steep ridge; spruce & some hardwood
IRS2012-20	592104	5000001	grey brn	8	10	20	40	30	tr	<10	< 0.005	gentle S facing slope; forested; more like till than soil
IRS2012-21	591902	4999993	grey bm		20	50	15	15	tr	<10	< 0.005	more like C than B horizon; bouldery w/little or no soild horizon
IRS2012-22	591692	5000008	dk or-bm		20	50	15	15	tr	<10	0.011	base of gentle N slope; bouldery ground; C horizon?
IRS2012-23	592113	4999791	dk or-bm	16	20	60	10	10	tr	116	< 0.005	flat barrens w/sparse spruce; looks more like C than B horizon
IRS2012-24	592114	4999702	dk or-bm	1 8	10	40	20	30	tr	12	< 0.005	flat barrens, sparsely forested
IRS2012-25	592110	4999492	or-bm	2	0	15	25	60	tr	22	< 0.005	gentle N slope, forested
IRS2012-26	591498	4999992	med brn	18	0	15	25	60	tr	<10	< 0.005	base of S facing ridge, forested
IRS2012-27	591295	5000006	dk or-br	333	10	30	30	30	tr	13	0.019	base of S facing ridge, forested; v gritty, C horizon?
IRS2012-28	591889	4999507	bright or	1 11/2	5	10	20	60	5	19	0.013	top of forested ridge
IRS2012-29	591883	4999703	dk or-br		tr	10	20	65	5	43	0.026	top of forested ridge
IRS2012-30	591887	4999872	dk bm	12	tr	20	20	60	tr	<10	0.137	barrens w/brush; gentle NE slope
IRS2012-31	591716	4999804	or-bm	6	tr	25	25	50	tr	17	0.017	small ridge in boggy ground; mixed shrubs and spruce
IRS2012-32	591700	4999887	dk or-bri		tr	15	20	70	tr	17	0.006	on N facing forested slope
IRS2012-32	591504	4999694	dk bm	16	20	20	20	40	tr	<10	0.017	barrens w/sparse spruce/fir; low and flat
IRS2012-34	591500	4999792	dk or-bri		5	30	25	40	tr	84	< 0.005	

## Rock Sample Descriptions, Locations and Assay Results

Sample #	Type	East	North	Au g/t	Description
IRTR-01-12	Rock - float	590789	4999773	0.03	30 cm angular quartz in trench, schist selvages, muscovite, rusty, possible pyrite
IRTR-02-12	Rock - float	590789	4999773	< 0.005	60 x 30 cm angular quartz, glassy, rusty, black argillite selvages and ankerite.
IRTR-03-12	Rock - float	590797	4999800	0.116	10 x 15 cm angular to sub-rounded quartz, micaceous selvages, minor ankerite, rusty, 1% pyrite
IRTR-04-12	Rock - float	590808	4999792	0.075	Quartz from old pit, micaeous sediments, much pyrite
IRR-01-12	Qtz o/c	591908	5000318	< 0.005	Quartz samples from five thin bedding parallel veins on greywacke ridge, slightly rusty

## VLF EM-16 Data

Waypoint	Line#	Easting NAD 83	Northing NAD 83	Inclination	Quad	Comments
1	L24	592500	4999850	31	0	at stillwater
2	L24	592501	4999825	22	-6	on gentle N facing slope
3	L24	592499	4999798	15	-9	
4	L24	592500	4999771	9	-1	
5	L24	592496	4999747	4	-11	
6	L24	592501	4999724	2	-11	
7	L24	592497	4999700	2	-15	bog
8	L23	592400	4999699	1	0	bog
9	L23	592401	4999726	2	-12	
10	L23	592400	4999753	9	-7	
11	L23	592400	4999774	11	-11	
12	L23	592401	4999803	16	-9	
13	L23	592400	4999825	24	-6	
14	L23	592398	4999840	32	-1	bog
15	L22	592299	4999851	34	-3	bog
16	L22	592299	4999825	27	-4	
17	L22	592300	4999799	19	-8	
18	L22	592300	4999775	13	-10	
19	L22	592301	4999747	10	-11	
20	L22	592299	4999723	7	-1	
21	L22	592300	4999700	9	-12	
22	L21	592199	4999701	5	-10	
23	L21	592199	4999727	10	-11	
24	L21	592201	4999752	14	-10	
25	L21	592201	4999774	17	-10	
26	L21	592199	4999801	28	-3	
27	L21	592200	4999826	34	-3	
28	L21	592200	4999851	28	-5	
29	L21	592201	4999874	10	-11	
30	L21	592201	4999901	4	-12	at stillwater
31	L20	592100	4999897	17	-10	at stillwater
32	L20	592100	4999875	22	-12	
33	L20	592098	4999847	20	-9	
34	L20	592100	4999825	24	-6	
35	L20	592099	4999799	24	-6	
36	L20	592100	4999776	17	-8	
37	L20	592100	4999752	14	-10	
38	L20	592098	4999725	10	-12	
39	L20	592100	4999700	7	-12	
56	L19	592002	4999701	6	-10	
57	L19	592000	4999725	12	-10	
58	L19	592001	4999750	16	-7	
59	L19	592000	4999776	14	-8	
60	L19	592000	4999802	13	-13	
61	L19	592000	4999826	12	-15	
62	L19	591999	4999851	18	-12	

		Easting NAD	Northing NAD			27 93
Waypoint	Line #	83	83	Inclination	Quad	Comments
63	L19	592000	4999875	22	-10	
64	L19	592001	4999891	25	-8	at stillwater
65	L15	591601	4999975	-11	-2	
66	L15	591600	5000002	-27	-4	
67	L15	591599	5000023	-25	1	mid of steep S facing ridge
68	L15	591600	5000049	-22	4	
69	L15	591600	5000073	-19	6	top of ridge
70	L15	591603	5000100	-15	12	bottom of N facing ridge
71	L15	591601	5000124	-13	11	base of S facing cliff
72	L15	591600	5000150	-10	13	
73	L15	591600	5000175	9	11	
74	L15	591597	5000202	-7	12	
75	L11	591200	4999952	-9	-6	
76	L11	591199	4999977	-18	-5	
77	L11	591200	5000000	-24	-2	
78	L11	591201	5000026	-24	1	
79	L11	591201	5000050	-18	2	
80	L11	591198	5000078	-14	10	base of S facing ridge
81	L11	591198	5000099	-13	10	mid of S facing ridge
83	L18	591902	4999703	1	-14	
84	L18	591900	4999727	6	-14	
85	L18	591899	4999747	9	-11	
86	L18	591898	4999776	15	-11	
87	L18	591901	4999800	7	-15	
88	L18	591900	4999826	14	-16	
89	L18	591900	4999850	19	-12	
90	L18	591900	4999874	28	-8	near stillwater
91	L18	591902	4999899	33	-4	at stillwater
92	L17	591800	4999902	37	0	near stillwater
93	L17	591800	4999874	31	-8	base of S facing ridge
94	L17	591800	4999849	22	-12	top of ridge
95	L17	591800	4999825	13	-16	bog
96	L17	591800	4999800	12	-12	
97	L17	591799	4999775	12	-12	mid of N facing ridge
98	L17	591800	4999751	6	-12 -12	top of ridge
99	L17	591799	4999724	3	-12	bottom of S facing ridge
100	L17	591800	4999700	12	-13 -1	small stillwater to S
101	L16	591700	4999624		-16	Siliali Stiliwater to 3
102	L16	591701	4999651	-11 -7	-16	mid of S facing ridge
103	L16	591700	4999675	- <i>1</i> -4	-0 -15	top of ridge
104	L16	591701	4999701		-15	top of flage
105	L16	591700	4999724	-2	-14	
106	L16	591701	4999750	2 7	-14	
107	L16	591700	4999776			
108	L16	591700	4999800	12	-16	C facing ridge
109	L16	591700	4999825	15	-13	S facing ridge
110	L16	591699	4999851	20	-10 7	
111	L16	591699	4999875	26	-7	10 m from stillwater
112	L16	591700	4999902	35	-3	10 m from stillwater

		Easting NAD	Northing NAD			2
Waypoint	Line #	83	83	Inclination	Quad	Comments
113	L15	591602	4999900	39	-2	15 m from stillwater
114	L15	591601	4999874	31	-7	
115	L15	591600	4999850	21	-12	
116	L15	591600	4999825	17	-13	
117	L15	591598	4999799	9	-16	
118	L15	591601	4999774	5	-16	
119	L15	591600	4999749	0	-15	
120	L15	591600	4999726	-5	-17	
121	L15	591601	4999699	-7	-18	
122	L15	591600	4999674	-8	-15	
123	L14	591501	4999676	0	-16	
124	L14	591499	4999700	-1	-15	
125	L14	591500	4999726	-5	-18	
126	L14	591500	4999752	0	-20	top small ridge
127	L14	591500	4999776	4	-16	top small ridge
128	L14	591500	4999801	9	-14	
129	L14	591500	4999826	15	-14	
132	L3	590400	4999400	-5	-8	
133	L3	590400	4999426	-5	-7	
134	L3	590403	4999451	0	-6	
135	L3	590400	4999462	0	-10	
136	L3	590400	4999475	3	-8	
137	L3	590400	4999487	6	-4	
138	L3	590400	4999500	10	-2	
139	L3	590400	4999512	10	-2	
140	L3	590400	4999525	10	-6	
141	L3	590400	4999551	6	-8	
142	L3	590400	4999575	2	-2	
143	L3	590401	4999600	0	-2	
144	L3	590400	4999626	-3	-9	
145	L3	590400	4999651	-4	-8	
146	L3	590400	4999674	-6	-14	
147	L3	590400	4999701	-3	-12	
148	L3	590400	4999724	1	-14	
149	L3	590400	4999752	6	-10	
150	L3	590401	4999776	12	-6	
151	L3	590400	4999801	17	-8	
152	L3	590400	4999824	20	-8	
153	L3	590400	4999850	20	-6	
154	L3	590401	4999875	20	-10	
155	L3	590400	4999902	7	-10	
156	L4	590499	4999902	28	-4	
157	L4	590499	4999875	25	-12	
158	L4	590500	4999855	19	-10	
159	L4	590500	4999825	19	-9	
160	L4	590499	4999800	15	-10	
161	L4	590499	4999775	11	-10	
162	L4	590498	4999750	5	-12	
163	L4	590501	4999724	-2	-16	

		Easting NAD	Northing NAD			
Waypoint	Line #	83	83	Inclination	Quad	Comments
164	L4	590500	4999700	-8	-16	
165	L4	590500	4999677	-10	-14	
166	L4	590499	4999650	-2	-9	
167	L4	590500	4999625	-2	-8	
168	L4	590499	4999599	0	-9	
169	L4	590500	4999576	1	-11	
170	L4	590500	4999549	7	-6	
171	L4	590499	4999524	12	-5	
172	L4	590500	4999500	8	-6	
173	L4	590500	4999475	4	-8	
174	L4	590500	4999450	0	-10	
175	L4	590498	4999425	-3	-8	
176	L4	590500	4999400	-5	-7	
177	L5	590600	4999400	-4	-10	
178	L5	590598	4999426	-6	-10	
179	L5	590601	4999452	-1	-10	
180	L5	590600	4999475	3	-8	
181	L5	590601	4999500	9	-8	
182	L5	590600	4999525	12	-6	
183	L5	590600	4999552	16	-4	
184	L5	590600	4999576	12	-5	
185	L5	590599	4999601	8	-8	
186	L5	590599	4999626	7	-6	
187	L5	590600	4999651	-13	-14	
188	L5	590600	4999675	-10	-16	
189	L5	590600	4999700	-12	-19	
190	L5	590600	4999727	3	-17	
191	L5	590600	4999752	9	-16	
192	L5	590601	4999776	15	-12	
193	L5	590599	4999800	23	-10	
194	L5	590601	4999827	27	-9	
195	L5	590600	4999849	28	-10	
196	L5	590600	4999875	27	-8	
197	L5	590600	4999900	20	-7	
198	L6	590699	4999898	11	-7	
199	L6	590704	4999875	14	-9	
200	L6	590700	4999849	19	-10	
201	L6	590700	4999824	35	-8	
202	L6	590700	4999800	25	-10	
203	L6	590701	4999773	15	-12	
204	L6	590701	4999750	10	-16	
205	L6	590699	4999727	5	-18	
206	L6	590701	4999701	-2	-19	
207	L6	590700	4999674	-5	-19	
208	L6	590700	4999650	-6	-18	
209	L6	590699	4999626	-1	-14	
210	L6	590699	4999599	20	-8	
211	L6	590700	4999576	21	-7	
212	L6	590700	4999549	16	-8	

\M/=i=4	Line#	Easting NAD 83	Northing NAD 83	Inclination	Quad	Comments
Waypoint		590700	4999523	12	-10	Comments
213	L6		4999497	10	-13	
214	L6	590700		5	-15	
215	L6	590700	4999474	2	-14	
216	L6	590701	4999450	2	-14	
217	L6	590700	4999424	0	-10	
218	L6	590698	4999400			
219	L7	590800	4999400	1	-10	
220	L7	590800	4999426	2	-10	
221	L7	590800	4999453	3	-12	
222	L7	590801	4999476	6	-13	
223	L7	590800	4999500	11	-12	
224	L7	590800	4999525	12	-11	
225	L7	590801	4999553	15	-9	
226	L7	590801	4999575	22	-8	
227	L7	590801	4999602	8	-12	
228	L7	590800	4999625	-3	-16	
229	L7	590799	4999650	-3	-17	
230	L7	590800	4999675	1	-17	
231	L7	590800	4999699	5	-17	
232	L7	590800	4999727	8	-16	
233	L7	590801	4999750	15	-14	
234	L7	590801	4999776	19	-12	
235	L7	590801	4999801	27	-8	
236	L7	590800	4999826	27	-9	
237	L7	590801	4999852	17	-10	
238	L7	590800	4999876	11	-8	
239	L7	590801	4999902	6	-7	
240	L14	591500	4999852	23	-10	
241	L8	590900	4999962	-3	-4	
242	L8	590900	4999948	-1	-4	
243	L8	590900	4999924	-1	-7	
244	L8	590900	4999900	3	-9	
245	L8	590900	4999874	7	-9	
246	L8	590900	4999850	10	-11	
247	L8	590899	4999825	17	-11	
248	L8	590900	4999801	23	-9	
249	L8	590900	4999776	21	-10	
250	L8	590902	4999750	17	-14	
251	L8	590901	4999725	11	-14	
252	L8	590900	4999699	9	-15	
253	L8	590900	4999674	7	-16	
254	L8	590901	4999650	2	-16	
255	L8	590899	4999626	1	-16	
256	L8	590900	4999600	10	-10	
257	L8	590900	4999575	18	-18	
258	L8	590900	4999552	15	-10	
259	L8	590900	4999526	11	-10	
260	L8	590902	4999498	10	-10	
261	L8	590899	4999476	7	-12	

Mountint	1 in a #	Easting NAD 83	Northing NAD 83	Inclination	Quad	Comments
Waypoint	Line #				-10	Comments
262	L8	590900	4999449	5		
263	L8	590899	4999424	5	-11	
264	L8	590899	4999400	5	-8	
265	L9	591000	4999500	11	-12	
266	L9	590999	4999525	12	-12	
267	L9	591000	4999552	15	-11	
268	L9	591000	4999576	22	-10	
269	L9	591000	4999601	17	-10	
270	L9	591001	4999625	4	-15	
271	L9	591000	4999649	4	-16	
272	L9	590998	4999675	7	-15	
273	L9	591000	4999700	12	-17	
274	L9	591000	4999725	14	-14	
275	L9	591001	4999751	21	-15	
276	L9	591001	4999775	26	-14	
277	L9	590998	4999801	20	-10	
278	L9	590999	4999825	16	-12	
279	L9	591001	4999850	16	-12	
280	L9	590999	4999876	19	-8	
281	L9	590999	4999900	10	-7	
282	L9	590999	4999926	9	-7	
283	L9	591000	4999951	3	-7	
284	L9	591006	4999974	0	-2	
285	L10	591100	4999901	15	-8	
286	L10	591099	4999876	20	-10	
287	L10	591099	4999850	22	-13	
288	L10	591100	4999824	20	-15	
289	L10	591100	4999799	22	-16	
290	L10	591100	4999775	19	-16	
291	L10	591100	4999751	20	-17	
292	L10	591098	4999725	22	-18	
293	L10	591100	4999699	17	-20	
294	L10	591099	4999676	5	-22	
295	L10	591100	4999650	10	-22	
296	L10	591100	4999624	8	-20	
297	L10	591101	4999599	21	-12	
298	L10	591098	4999577	25	-13	
299	L10	591100	4999549	27	-16	
300	L10	591101	4999526	16	-15	
301	L10	591100	4999498	13	-15	
302	L20	592101	5000296	12	10	base of small S facing ridge
303	L20	592099	5000277	0	12	2000 01 011000 0 10100 0 1000
304	L20	592100	5000250	-1	10	
305	L20	592100	5000226	0	14	
306	L20	592100	5000201	-2	8	
307	L20	592098	5000201	-5	7	
308	L20	592100	5000176	-7	8	on small ridge
309	L20	592101	5000131	-7 -7	8	on order ridge
310	L20	592099	5000124	-12	6	
310	LZU	382088	2000099	-12	O	

184		Easting NAD	Northing NAD	I II	0	Comments
Waypoint	Line #	83	83	Inclination	Quad	Comments
311	L20	592100	5000075	-8	2	
312	L20	592098	5000049	-10	4	
313	L20	592101	5000026	-12	0	
314	L20	592099	5000000	-13	-4	
315	L20	592100	4999974	-6	-6	
316	L20	592099	4999950	5	-8	
317	L19	592000	4999927	17	-7	by wide stillwater
318	L19	591998	4999951	3	-9	
319	L19	592002	4999976	-8	-6	
320	L19	592000	5000000	-12	-2	
321	L19	592000	5000027	-13	2	
322	L19	591999	5000050	-11	5	steep S facing ridge
323	L19	591998	5000075	-11	5	mid of steep S facing ridge
324	L19	591999	5000101	-11	10	other side of ridge
325	L19	592002	5000150	-5	9	
326	L19	591999	5000176	0	12	
327	L19	592001	5000203	1	10	
328	L19	591999	5000224	1	7	
329	L19	592000	5000251	-3	5	
330	L19	592001	5000274	13	8	
331	L19	592000	5000302	11	8	
332	L18	591901	5000300	-8	5	bog
333	L18	591899	5000276	-10	5	bog
334	L18	591898	5000251	-10	6	bog
335	L18	591895	5000224	-8	8	bog
336	L18	591898	5000199	-6	10	bog
337	L18	591899	5000172	-2	2	bog
338	L18	591901	5000147	-2	13	bog
339	L18	591899	5000124	2	18	bog
340	L18	591900	5000099	-9	12	on N facing ridge
341	L17	591800	5000103	-9	12	
342	L17	591800	5000126	-13	16	base of steep S facing ridge
343	L17	591798	5000150	-7	8	
344	L17	591801	5000175	-6	7	
345	L17	591799	5000199	-5	5	
346	L17	591799	5000226	-4	4	
347	L17	591801	5000251	-1	5	
348	L17	591801	5000278	1	4	
349	L17	591794	5000301	2	5	
350	L24	592499	4999900	29	-6	just N of stillwater
351	L24	592499	4999926	26	0	in wetland
352	L24	592500	4999952	20	-10	
353	L24	592500	4999975	0	-9	
354	L24	592502	5000000	-12	-10	base of S facing ridge
355	L24	592499	5000026	-10	-8	top of ridge
356	L24	592502	5000028	-10	2	N side of ridge
357	L24 L24	592502	5000051	-10	-1	it dide of flage
358	L24 L24	592500	5000075	-10	0	
359	L24 L24	592499	5000101	-5 -7	1	base of S facing ridge
339	L24	092499	3000123	-/	1	base of a facility fluge

Waypoint	Line#	Easting NAD 83	Northing NAD 83	Inclination	Quad	Comments
360	L24	592500	5000150	-4	4	
361	L24	592498	5000177	-3	4	base of S facing ridge
362	L24	592498	5000204	0	2	
363	L24	592499	5000225	0	4	
364	L24	592502	5000252	2	3	
365	L24	592501	5000277	3	4	
366	L24	592497	5000301	5	2	
367	L23	592400	5000302	10	8	
368	L23	592399	5000275	5	5	
369	L23	592399	5000249	4	5	
370	L23	592399	5000226	0	6	
371	L23	592400	5000200	-4	6	
372	L23	592398	5000175	-4	4	
373	L23	592401	5000150	-4	4	
374	L23	592400	5000124	-7	2	
375	L23	592400	5000100	-8	1	
376	L23	592401	5000074	-12	0	
377	L23	592400	5000051	-12	-2	
378	L23	592400	5000022	-14	-4	
379	L23	592400	4999998	-11	-8	
380	L23	592400	4999975	-12	0	
381	L23	592400	4999950	-18	-1	bog
382	L23	592399	4999925	22	-8	bog
383	L23	592399	4999901	20	-10	
384	L23	592399	4999876	15	2	at stillwater
385	L22	592301	4999924	13	-10	
386	L22	592300	4999950	10	-8	
387	L22	592299	4999976	-5	-7	
388	L22	592300	5000002	-12	-6	
389	L22	592299	5000026	-14	-4	
390	L22	592299	5000050	-12	0	
391	L22	592300	5000076	-8	3	
392	L22	592298	5000105	-8	4	on steep S facing slope
393	L22	592298	5000127	-5	5	
394	L22	592301	5000150	-3	6	small S facing slope
395	L22	592302	5000176	-2	5	
396	L22	592299	5000200	0	6	
397	L22	592299	5000223	1	5	
398	L22	592301	5000248	3	6	
399	L22	592300	5000276	6	8	
400	L22	592302	5000301	11	10	
401	L21	592200	5000300	6	6	
402	L21	592198	5000276	4	5	
403	L21	592200	5000248	3	8	
404	L21	592201	5000226	1	6	
405	L21	592199	5000199	2	8	
406	L21	592202	5000175	-2	8	
407	L21	592201	5000152	-3	7	
408	L21	592199	5000122	-6	7	

Waypoint	Line#	Easting NAD 83	Northing NAD 83	Inclination	Quad	Comments
409	L21	592201	5000102	-7	4	
410	L21	592200	500074	-10	3	
411	L21	592199	5000074	-10	2	
412	L21	592199	5000043	-12	-2	
413	L21	592200	5000000	-8	-5	
414	L21	592199	4999975	-2	0	
415	L21	592199	4999951	14	-6	near stillwater
416	L14	591499	4999975	-23	-6	nodi olimato.
417	L14	591498	5000001	-28	-2	20m from steep S facing ledge
418	L14	591500	5000027	-28	1	mid of very steep S facing ridge
419	L14	591500	5000050	-24	8	top of ridge
420	L14	591499	5000038	-19	9	top of riago
421	L14	591500	5000100	-17	13	20 from base of S facing ridge
422	L14	591498	5000100	-14	14	base of S facing ridge
422	L14 L14	591500	5000120	-16	12	base of a facing hage
		591499	5000175	-10	12	
424	L14		5000173	-6	14	mid of bog between 2 ridges
425	L14	591500	5000201	-6	15	on small ridge
426	L13	591399	5000200	12	-9	on small hage
427	L13	591399	5000175	-11	14	15m N of small N facing ridge
428	L13	591400		-12	14	top of ridge
429	L13	591400	5000125			on S facing slope
430	L13	591401	5000101	-18	12	on S racing slope
431	L13	591400	5000100	-18	11	
432	L13	591402	5000072	-21	8	ton of ridge
433	L13	591399	5000049	-23	3	top of ridge
434	L13	591401	5000025	-26	1	
435	L13	591402	5000000	-22 -14	-2 -4	
436	L13	591401	4999975		- <del>4</del> -4	
437	L12	591300	4999951	0	- <del>4</del> -3	
438	L12	591300	4999975	-13		base of S facing ridge
439	L12	591301	5000000	-26	-4	
440	L12	591300	5000025	-27	0	1/2 way up S facing ridge
441	L12	591300	5000052	-22	4 8	
442	L12	591299	5000076	-20		base of S facing ridge
443	L12	591300	5000100	-17	12	
444	L12	591299	5000126	-12	13	top of ridge
445	L12	591300	5000150	-10	12	
446	L12	591299	5000175	-12	10	
447	L12	591300	5000202	-5	14	N fooing along
448	L12	591200	5000099	-15	10	N facing slope
449	L12	591200	5000073	-16	11	
450	L12	591199	5000052	-22	5	
451	L12	591200	4999999	-23	-3	
452	L12	591200	4999975	-19	-5	at atilly rates
453	L12	591200	4999951	-10	-6	at stillwater
454	L18	591900	5000077	-16	10	has of C fasing slans
455	L18	591901	5000051	-17	6	base of S facing slope
456	L18	591902	5000023	-16	3	
457	L18	591900	4999998	-16	0	

		Easting NAD	Northing NAD		0	0
Waypoint	Line #	83	83	Inclination	Quad	Comments
458	L18	591900	4999974	-13	-4	base of S facing slope
459	L18	591901	4999948	1	-7	at stillwater
460	L17	591802	4999974	-15	-4	at stillwater
461	L17	591802	5000000	-20	-2	
462	L17	591799	5000024	-21	5	base of gentle S facing slope
463	L17	591800	5000048	-20	6	
464	L17	591800	5000076	-16	8	top of ridge
465	L16	591700	5000199	-8	11	
466	L16	591701	5000176	-11	10	
467	L16	591702	5000150	-12	10	
468	L16	591700	5000125	-14	11	
469	L16	591700	5000101	-15	10	
470	L16	591702	5000074	-20	7	
471	L16	591699	5000050	-23	4	mid of S facing steep ridge
472	L16	591696	5000027	-23	4	base of above ridge
473	L16	591700	4999997	-24	-1	1.5
474	L16	591700	4999976	-10	-2	
475	L14	591499	4999875	32	-6	
476	L14	591501	4999899	35	-6	at stillwater
477	L13	591399	4999900	25	-6	at stillwater
478	L13	591400	4999875	27	-8	
479	L13	591400	4999850	20	-12	
480	L13	591399	4999824	12	-15	
481	L13	591401	4999800	6	-14	
482	L13	591398	4999775	2	-16	top of small ridge
483	L13	591399	4999749	0	-20	at small stillwater
484	L16	591698	4999600	26	1	at small stillwater
493	L15	591600	4999601	29	-5	at official confront
494	L15	591599	4999626	29	-2	
494	L15	591599	4999651	19	-6	at small stillwater
	L13		4999642	27	-14	at small stillwater
496		591498		23	-16	at sirial stillwater
497	L14	591499	4999625 4999600	19	-18	
498	L14	591502		17	-10	
503	L13	591400	4999602			
504	L13	591398	4999626	19	-10	
505	L13	591400	4999650	20	-10	
506	L13	591400	4999675	16	-10	
507	L13	591400	4999700	7	-14	
508	L13	591400	4999726	5	-12	
509	L12	591301	4999900	19	-16	at stillwater
510	L12	591300	4999875	26	-6	
511	L12	591300	4999850	19	-12	
512	L12	591300	4999824	16	-12	
513	L12	591299	4999801	11	-14	
514	L12	591300	4999777	10	-16	
515	L12	591300	4999750	5	-16	
516	L12	591300	4999724	5	-16	top of small ridge
517	L12	591301	4999701	7	-14	
518	L12	591301	4999675	14	-11	

		<b>Easting NAD</b>	Northing NAD			
Waypoint	Line #	83	83	Inclination	Quad	Comments
519	L12	591299	4999651	14	-10	
520	L12	591300	4999624	18	-10	top of small ridge
521	L12	591300	4999600	23	-17	bog
522	L11	591202	4999500	15	-10	
523	L11	591201	4999526	17	-10	
524	L11	591200	4999550	20	-8	
525	L11	591201	4999576	25	-6	
526	L11	591199	4999601	27	-6	
527	L11	591199	4999626	11	-14	small rock ledge
528	L11	591200	4999649	4	-14	
529	L11	591201	4999675	20	0	
530	L11	591200	4999700	26	-9	bog
531	L11	591199	4999726	12	-14	bog
532	L11	591200	4999751	12	-12	small S facing ridge
533	L11	591200	4999776	10	-13	
534	L11	591200	4999802	13	-13	
535	L11	591200	4999825	5	-12	base N facing ridge
536	L11	591199	4999851	19	-11	
537	L11	591200	4999875	20	-8	
538	L11	591201	4999899	15	-15	at stillwater
539	L10	591085	4999924	4	-6	beside river
541	L10	591076	4999947	-5	-8	beside river
542	L10	591075	4999970	-12	-14	beside river

**APPENDIX 4** 

**Assay Certificates** 





12-Jan-13

Bruce Mitchell 136 Kitchener St. Stewaicke, NS BON 2J0 Dalhousie University 1360 Barrington Street GH Murray Bldg. Rm. G101 PO Box 15000, Halifax, NS B3H 4R2

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 fire assay, lead collection, AAS or ICP OES finish. As analysis using aqua regia digestion, ICP OES finish Soil samples screened at <80 mesh.

	mg/kg			
Sample	As	Au		
IRS-2012-1	<10	0.056		
IRS-2012-2	<10	0.009		
IRS-2012-3	<10	0.349		
IRS-2012-4	<10	0.021		
IRS-2012-5	<10	<0.005		
IRS-2012-6	<10	<0.005		
IRS-2012-7	<10	<0.005		
IRS-2012-8	<10	<0.005		
IRS-2012-9	<10	<0.005		
IRS-2012-10	<10	<0.005		
IRS-2012-11	<10	<0.005		
IRS-2012-12	<10	<0.005		
IRS-2012-13	<10	<0.005		
IRS-2012-14	<10	<0.005		
IRS-2012-15	<10	<0.005		
IRS-2012-16	<10	<0.005		
IRS-2012-17	11	<0.005		
IRS-2012-18	<10	<0.005		
IRS-2012-19	18	<0.005		
IRS-2012-20	<10	<0.005		
IRS-2012-21	<10	<0.005		
IRS-2012-22	<10	0.011		
IRS-2012-23	116	<0.005		
IRS-2012-24	12	<0.005		
IRS-2012-25	22	<0.005		
IRS-2012-26	<10	<0.005		
IRS-2012-27	13	0.019		
IRS-2012-28	19	0.013		
IRS-2012-29	43	0.026		
IRS-2012-30	<10	0.137		

	mg/kg			
RS-2012-32 RS-2012-33 RS-2012-33 Dup. RS-2012-34 RTR-01-12 RTR-02-12 RTR-03-12 RTR-04-12 RR-01-12	As	Au		
IRS-2012-31	17	0.017		
IRS-2012-32	17	0.006		
IRS-2012-33	<10	0.017		
IRS-2012-33 Dup.	<10			
IRS-2012-34	84	<0.005		
IRTR-01-12	<10	0.030		
IRTR-02-12	61	<0.005		
IRTR-03-12	38	0.116		
IRTR-04-12	82	0.075		
IRR-01-12	<10	<0.005		
IRR-01-12 Dup.		0.009		

	Au (mg/kg)			
QC Reference Samples:	Measured	Certified		
OXC72	0.204	0.205±0.003		

	As (mg	/kg)
QC Reference Samples:	Measured	Certified
LKSD-1	35	30

Dan's Clark

Digitally signed by Daniel Chevalier Date: 2013.01.12 10:59:01 -04'00'

Daniel Chevalier
Manager Minerals Engin

Manager, Minerals Engineering Centre

Sample Prep and Assay Methods



#### Minerals Engineering Centre

Dalhousie University 1360 Barrington Street G.H. Murray Bldg. Rm. G101 Halifax, Nova Scotia B3J 1Z1

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

## **Standard Sample Preparation of Soil and Humus**

Samples up to 2 kg are dried at 105°C for at least 12 hours. After drying, samples are screened at 80 mesh. Clay samples may need to be broken up before screening in order to liberate <80 mesh material. The fine material is bagged into 4 or 7 oz "Whirlpaks" and labeled. The coarse reject may be saved upon client request.

Screens are cleaned with soft nylon brushes and jets of air between samples.





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

### Sample Preparation of Rocks and Core

Samples undergo multiple stage crushing (minus 10.0 mm) with jaw crushers. For rock and core samples requiring gold analysis, samples may be crushed to <3mm using a cone crusher. Crushed samples are riffle split to 200-250 grams, then pulverized with a ring and puck pulverizer (Spex Industries Inc. Shatterbox) to approximately 100% passing 0.15 mm or 75% passing 0.075mm. Equipment is cleaned with jets of air and silica sand between samples.



#### Minerals Engineering Centre

Dalhousie University 1360 Barrington Street G.H. Murray Bldg. Rm. G101 Halifax, Nova Scotia B3J 1Z1

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

## Fire Assay Procedure - Gold

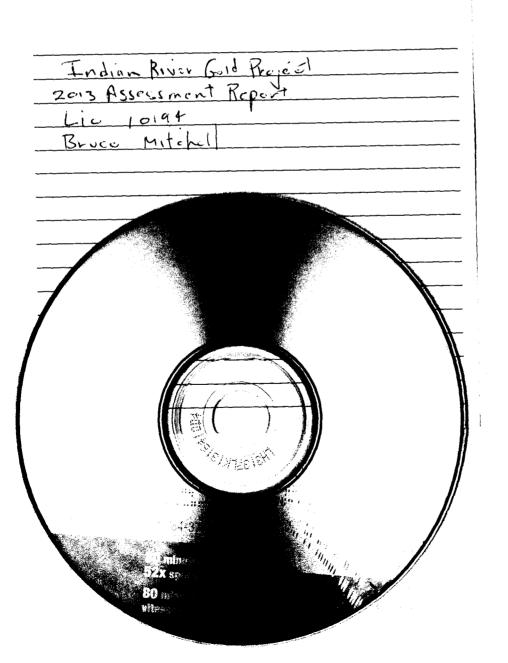
Sample Decomposition: Fire Assay Fusion Analytical Method: Atomic Absorption Spectroscopy (AAS), Inductively Coupled Plasma Optical Emission Spectroscopy (ICPOES)

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 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, West Coast Minerals, or Rocklabs are analyzed with each batch. In addition, duplicate check analysis and method blank analysis are also run with the samples. A CRM sample is inserted with every batch of 20 samples.

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

The photocopied CD/DVD was submitted with this report. The files from this CD/DVD can be downloaded through NovaScan.





	11F04C
Refs.	

# 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.	10194	Date of issue	March 1	, 2012

		Type of Work		Amount Spent
1.	Prospe	cting	days	
2.	Geolog	ical mapping	days	
3.	Trenchi	ng/stripping/refilling	300_m² /m³	3545.67
4.	Assayin	g & whole rock analysis	#	
5.	Other la	aboratory	#	
6.	Grid:			
30	(a)	Line cutting	km	
	(b)	Picket setting Flagging	km	
7.	Geophy	vsical surveys		
	Airborn		1900	
	(a) (b)	EM/VLF Mag or Grad	km	
	(c)	Radiometric	km	
	(d)	Combination	km	
	(e)	Other	km	
3.	Geophy	vsical surveys		250
	Ground (a)	s: EM/VLF	12 1	4963.50
	(a) (b)	Seismic soundings	13 km	4303.30
	(c)	Magnetic/telluric	km	
	(d)	IP/resistivity	km	
	(e)	Gravity	km	
	(f)	Other	km	
9.		emical surveys Lake, stream, spring		
	(a)	(i) Water		
		(ii) Sediments	samples samples	
	(b)	(i) Rock	5 samples	167.50
	1-1	(ii) Core	samples	
		(iii) Chips	samples	
	(c)	(i) Soil	34samples	986
		(ii) Overburden	samples	
	(d)	Gas	samples	
	(e) (f)	Biogeochemistry Sample collection	samples	1412
	(f) (g)	Other	days	
10.	Drilling:			
	(a)	Diamond (# holes/m)	пафиот перо	E110 10-10
	(b)	Percussion (# holes/m)	DNPMPT_PEB2	0.19.10:15
	(c)	Rotary (# holes/m)	/m	
	(d)	Auger (# holes/m)	/m	
	(e)	Reverse circulation (# holes/m)	/m	
	(f)	Logging, supervision, etc.	days	
	(g)	Sealing (# holes)	#	
		e)Mercator data plots, interpretation		2875
Mitch	ell report,	pre-trench site visit, proj. supervision	4.5 days + expenses	2507.50
		Subtotal		16457.17
Overhe	ad costs			
12.	Secreta	rial services		
13.	Drafting	services	ink, paper, covers	35
14.	Office 6	expenses (rent, heat, light, etc.)		
15.	Field su	upplies	flagging, bags	85.45
16.	Compe	nsation paid to landowners		
17.	Legal fe	ees		
18.	Other (	describe)	Crown permit, stump.	323.51
		Subtotal		443.96
		Grand total		2000 TO 1000 T
				16901.13

List the names of the persons who conducted the work reported in the previous table and the dates during which the work was performed.

Name	Address	Dates Worked
Bruce Mitchell	Stewiacke, N.S.	Aug. 23; Oct. 9,10,11; (2012) Jan. 28,29; Feb. 10,11 (2013)
Diane Smeltzer	Giant's Lake, N.S.	Sept. 24,25; Nov. 5,6,7,11,21,23,25,29; Dec. 1 - 2012
Greg Hines	Giant's Lake, N.S.	Nov. 21,23,25,29; Dec. 1 - 2012
Jonathon Taylor	Lochaber, N.S.	Sept. 23,24 - 2012
	140	

I hereby certify that the information in this form is true and correct, that it has not before been submitted for assessment work credit and that it is the total of all work conducted on the licence during the past licensed year.

As Goologist & licensec	I am duly aut	thorized to make this certification	1.
	_ in the Province of Nova Scotic		
Name and address of licensee: Bvc 130N-2Jo	ec Mitchell, 136 Hitcherer	St Stemader, N.S	2
Signature Bruce Muld			

For further information, contact the Registrar of Mineral and Petroleum Titles at 1-902-424-4068.