

27 February 2024

Significant Visible Gold Intersected

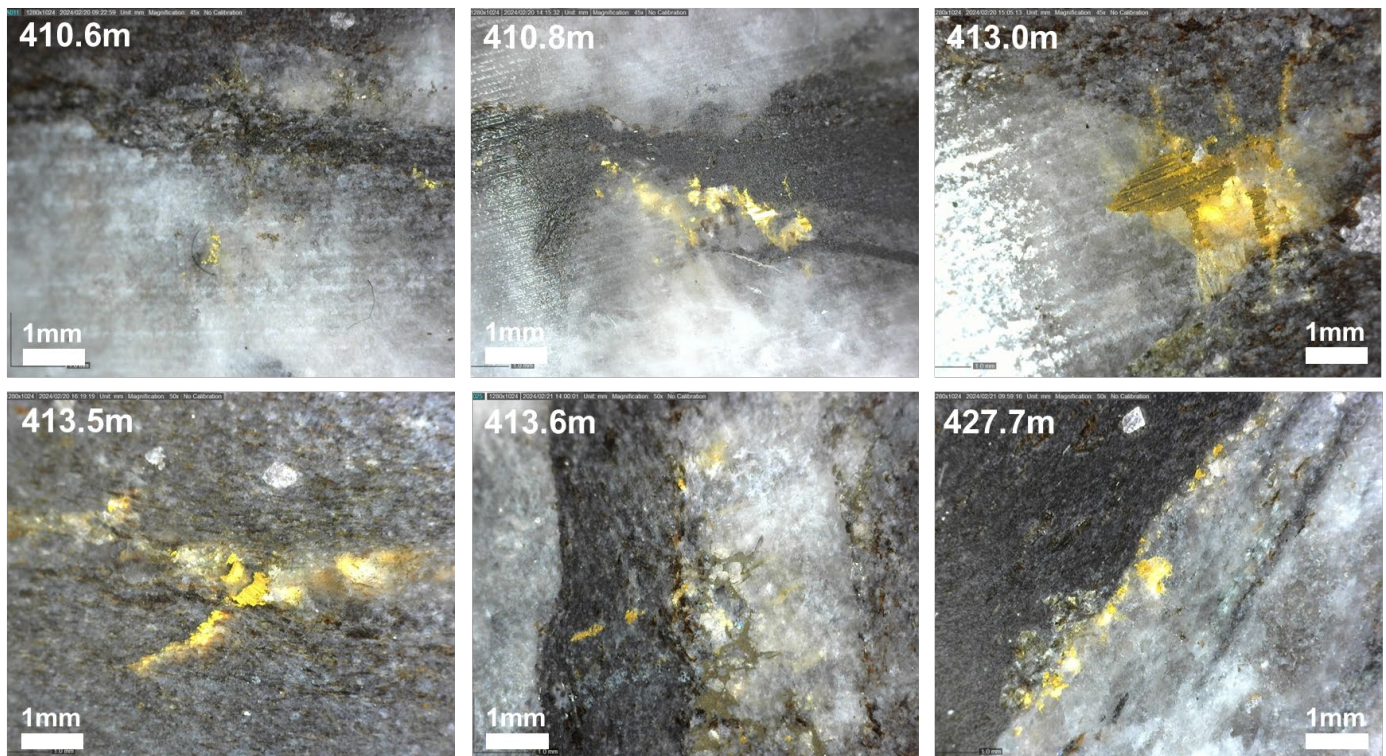
First of Three-Hole Cochrane Hill Deeps Program Delivers

St Barbara Limited (“**St Barbara**” or the “**Company**”) (ASX: SBM) is pleased to announce that the first diamond drill hole of the Cochrane Hill Deeps exploration program in Nova Scotia has produced multiple occurrences of visible gold.

Quartz veining with associated arsenopyrite was encountered at the targeted depth between 389 m and 428 m down hole, with visible gold identified at 389.5 m, 410.6 m, 410.8 m, 413.0 m, 413.45 m, 413.5 m, 413.6 m and then again at 427.7 m downhole. Photographs of gold in diamond drill core from six of the eight locations observed in hole CH-24-358 are shown below in Figure 1.

Managing Director and CEO Andrew Strelein said “*To hit multiple visible gold occurrences in the first deep hole at Cochrane Hill is highly encouraging. The program is designed to test for potential down dip extensions to the known mineralisation and we look forward to seeing the core from the remaining two holes and the assays to follow*”.

Figure 1. Photographs of visible gold in diamond drill hole CH-24-358.



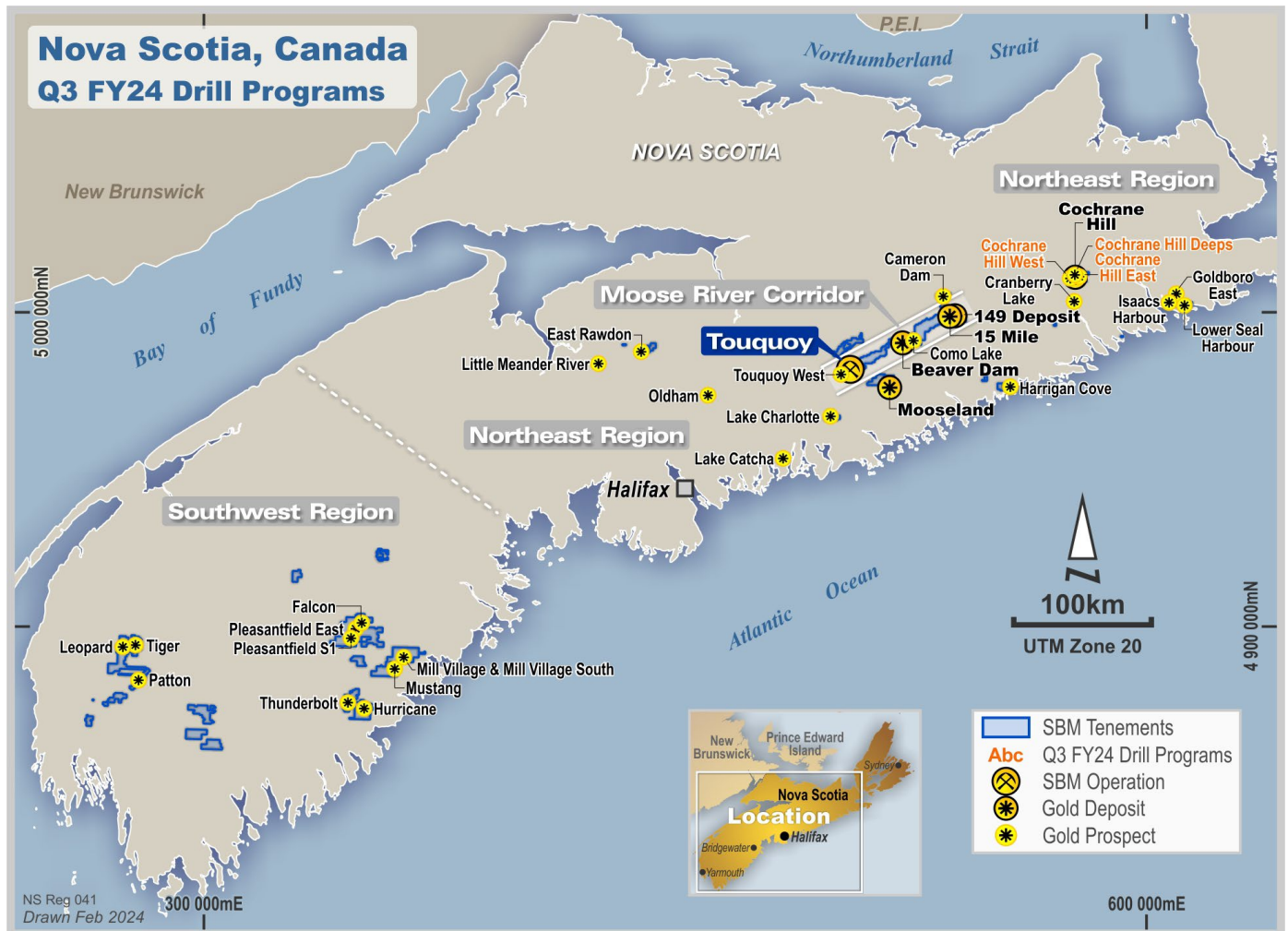
Note: With respect to any visible gold identified in CH-24-358 during logging, it must be cautioned that visual observations and estimates are uncertain in nature and should not be taken as a substitute for appropriate laboratory analysis. Laboratory assay results will be reported when they are received and interpreted.

Cochrane Hill is St Barbara’s northeastern most Mineral Resource (See Figure 2).



The Cochrane Hill project is comprised of seven tenements (EL51476, EL51477, EL10249, EL55625, EL09259, EL56059 and EL55571). The project encompasses a section of the northeast-trending Cochrane Hill anticline that locally forms an overturned, tight isoclinal fold, with both limbs dipping to the north, between 55 to 80 degrees. Lithologies in the area have been metamorphosed to amphibolite (staurolite) facies with development of biotite schists after argillite protoliths and porphyroblastic textures in fine-grained greywacke and argillite. Mineralisation at Cochrane Hill occurs within a strike-parallel sheeted quartz vein system on the southern overturned limb of the Cochrane Hill anticline. Gold is hosted both within quartz veins and disseminated through the intervening metasediments.

Figure 2. Location of Cochrane Hill Deeps target, Northeast Nova Scotia.



St Barbara is executing an exploration program at Cochrane Hill over February and March including three 475 m deep diamond drill holes planned to test for mineralisation at depth. The location of the one completed and two planned holes are shown in Figure 3.

The Long Section through Cochrane Hill shown in Figure 4 highlights a higher grade core to the deposit with an approximate 250 metre strike length. Previous drilling indicates some significant intercepts located in the core zone at the bottom of the current Cochrane Hill Mineral Resource. The Cochrane Hill Deep diamond drill holes were designed to test for potential down dip extensions to the known mineralisation.

The first Cochrane Hill Deeps diamond drill hole CH-24-358 was completed to a final depth of 473 metres. Drilling intersected mineralisation between 389 m and 428 m depth. The intercept is located at the expected down dip location around 115 m below the deepest previous drill hole on section. Mineralisation is characterised by abundant bedding parallel quartz veins, coarse-grained arsenopyrite porphyroblasts and pyrrhotite with increased shearing. Visible gold was observed at eight locations (389.5 m, 410.6 m, 410.8 m, 413.0 m, 413.45 m, 413.5 m, 413.6 m and 427.7 m depth) within the mineralised interval and is hosted within quartz veins. The mineralised zone contains between 0 and 37% quartz veining per metre and between trace and 5% arsenopyrite.



Figure 3. Cochrane Hill Diamond drilling and the location of Cochrane Hill Deeps hole CH-24-358.

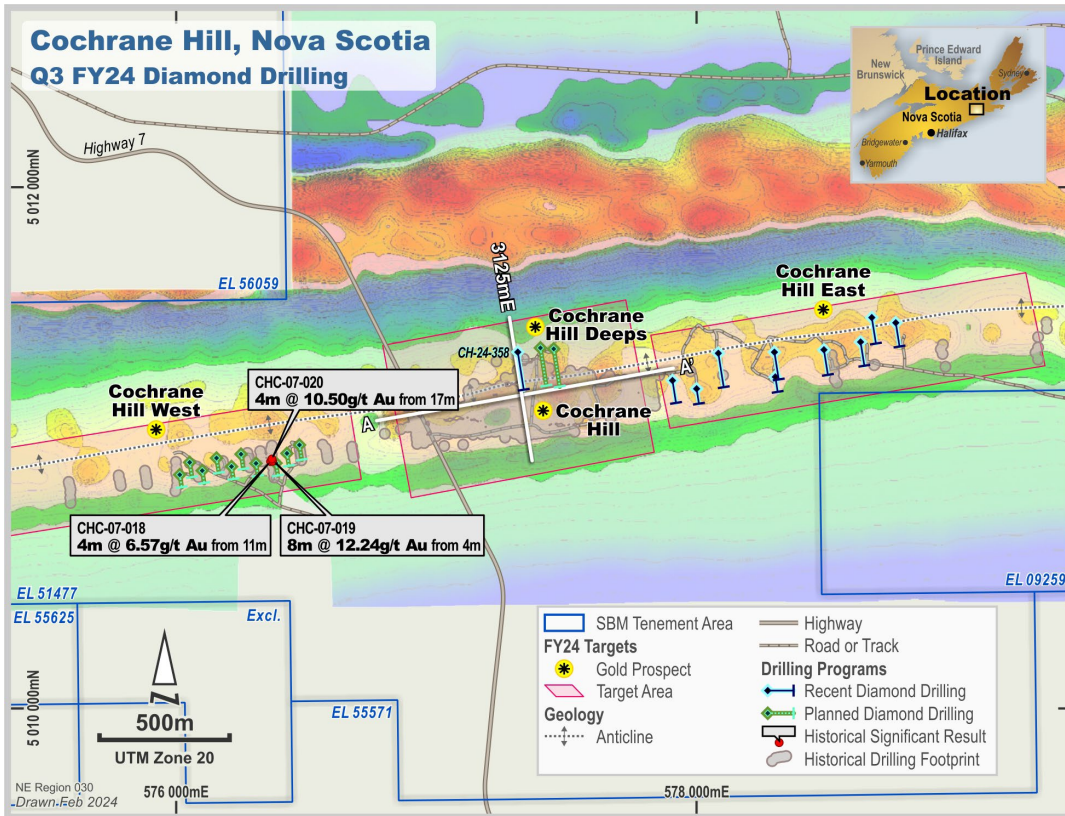
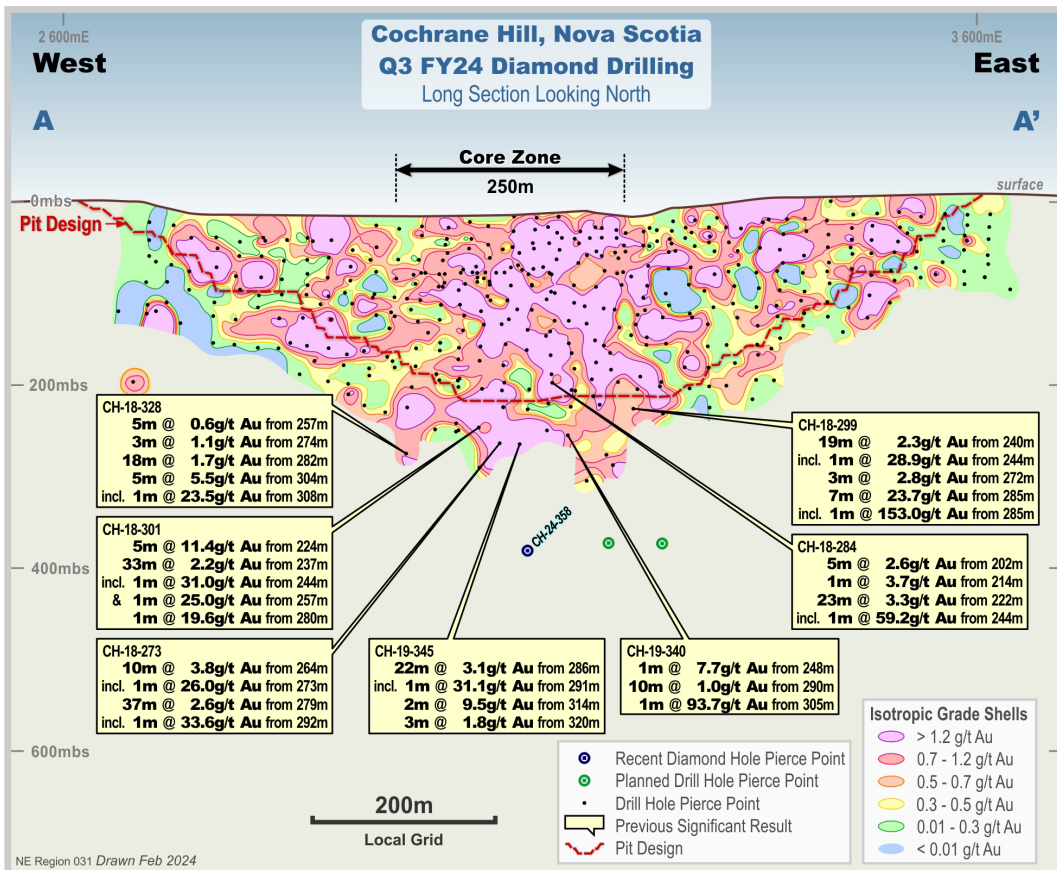


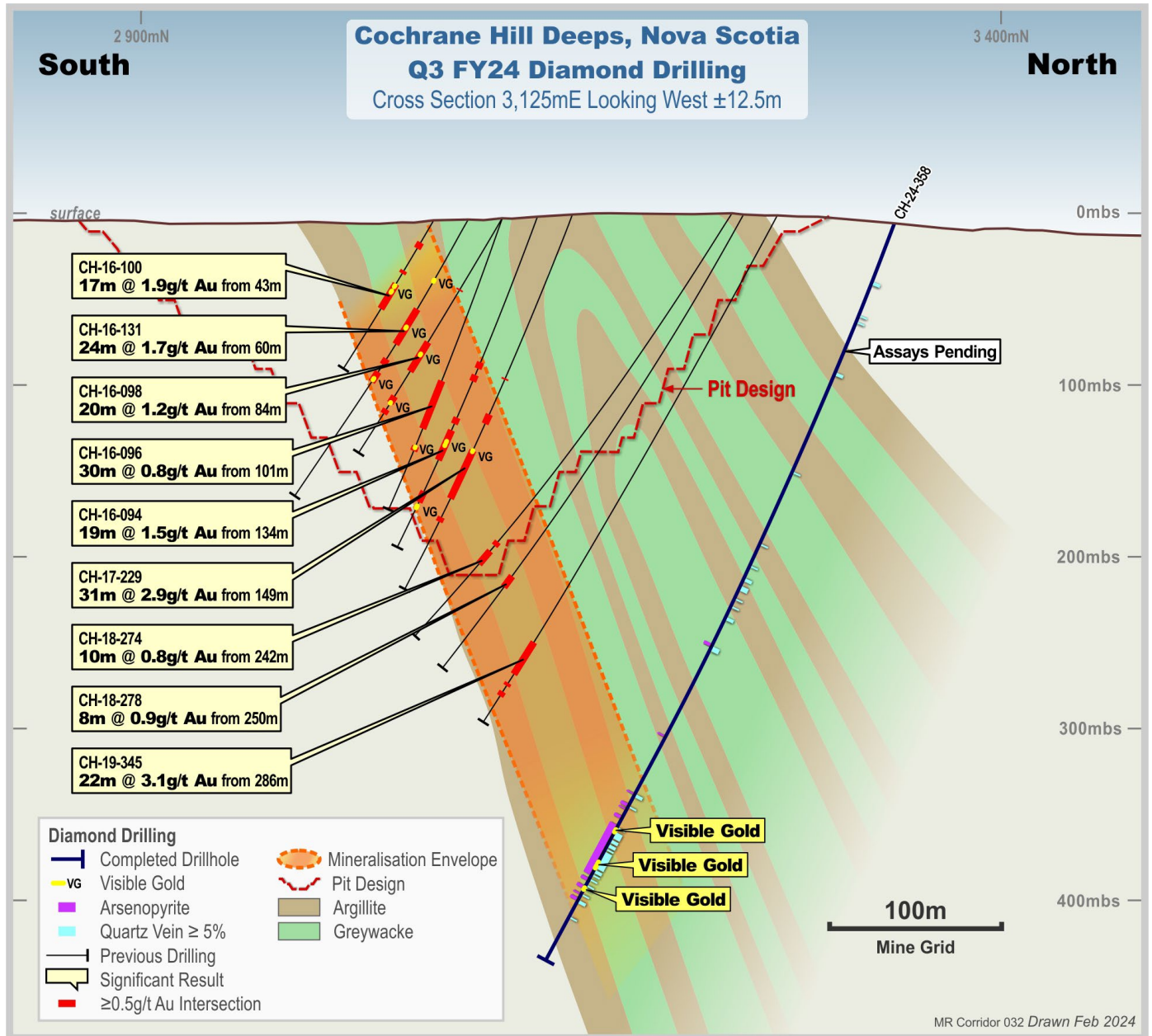
Figure 4. Cochrane Hill Long Section looking north showing the Cochrane Hill Deeps drill hole CH-24-358 pierce point and additional planned drill holes.





The Cross Section through Cochrane Hill shown in Figure 5 below highlights the limits of previous resource drilling and the location of drill hole CH-24-358. The Cross Section looking west shows the location of the isoclinal, overturned anticline with both limbs dipping moderate to steeply to the north. The mineralisation is located in the overturned southern limb of the Cochrane Hill anticline.

Figure 5. Cochrane Hill Cross Section 3,125 mE (Looking West) showing the location of CH-24-358.





A photograph of diamond drill core for the interval 408.15 m to 414.9 m depth in hole CH-24-358 is shown below in Figure 6. The mineralisation is characterised by sheared metasediments containing 1 mm to 20 cm wide bedding parallel quartz veins, coarse-grained arsenopyrite porphyroblasts and pyrrhotite.

Figure 6. Photograph of CH-24-358 diamond drill core for the interval 408.15 m to 414.9 m depth.



Note: The 39 metre down hole zone of sheared metasediment host rock containing varying amounts of quartz veining and arsenopyrite observed in CH-24-358 is a geological observation of non-economic minerals that are possibly associated with gold. However, this is not a visual estimate as there is no way to visually estimate the gold content of this potentially mineralised zone. Laboratory assay results will be reported when they are received and interpreted.

Table 1. Diamond Drill hole CH-24-538 Collar details.

Drill Hole	Core Diameter	Easting (Local Grid)	Northing (Local Grid)	RL	End Of Hole	Azimuth	Dip
CH-24-538	NQ	3,135 mE	3,340 mN	114.76	473.0 m	171	-70

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Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Dr Roger Mustard, who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Mustard is a full-time employee of St Barbara and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Mustard consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



Atlantic Gold - Cochrane Hill – JORC Code, 2012 Edition – Table 1

Contents

Drilling: Section 1 Sampling Techniques and Data
Section 2 Reporting of Exploration Results

Drilling - Section 1 Sampling Techniques and Data

(Criteria in this section apply to the succeeding section.)

Criteria	Commentary
Sampling techniques	<ul style="list-style-type: none"> Drill holes were sampled in their entirety, in nominal meter intervals. Core samples have been processed as sawn to half core using a diamond-tipped core saw with nominal 1m half-core sample intervals. Samples were dispatched from Atlantic's core facility in Moose River, directly to ALS in Moncton, NB.
Drilling techniques	<ul style="list-style-type: none"> Diamond drilling comprised NQ core recovered using 3m barrels. Drilling was completed by Logan Drilling.
Drill sample recovery	<ul style="list-style-type: none"> Diamond drilling recovery percentages were measured by comparing actual meters recovered per drill run versus meters measured on the core blocks. Recoveries averaged over >90% with increased core loss present in fault zones.
Logging	<ul style="list-style-type: none"> Diamond holes are qualitatively geologically logged for lithology, structure and alteration and qualitatively and quantitatively logged for veining and sulphides. Whole core was photographed when dry and wet. Core recovery and rock quality designation (RQD) were measured for each hole at the same metre-by-metre intervals. All holes are fully logged and photographed.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> Core not yet sampled. To be completed.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> Core not yet assayed. This work is to be completed and will be reported when final results are received.
Verification of sampling and assaying	<ul style="list-style-type: none"> Core not yet assayed. This work is to be completed and will be reported when final results are received.
Location of data points	<ul style="list-style-type: none"> All drill collars were surveyed by in-house surveyors using DGPS. Drill collars were surveyed initially by handheld GPS and by DGPS after hole completion. All holes were downhole surveyed using a Reflex EZ-Trac at least 6m below casing and 30m increments to the bottom-of-the hole.
Data spacing and distribution	<ul style="list-style-type: none"> As a first past program to follow-up on interpretations, drill hole spacing is irregular and ranges from 50-100 meters spaced east-west.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Where surface mapping and sampling has contributed to understanding of outcropping geological structures, drilling and sampling has been undertaken perpendicular (orthogonal where possible as near vertical/steeply dipping ore bodies makes this difficult) to the mapped structure. Sampling will be completed top to bottom in nominal 1m samples and one side of the halved core is taken consistently.
Sample security	<ul style="list-style-type: none"> Only company personnel or approved contractors are allowed on drill sites; drill core is only removed from drill site to secure work site trailer; core is promptly logged and shipped to Moose River core Facility, where it is cut and prepped. The samples sent to ALS are stored in locked and guarded storage facilities until receipted at the Laboratory. Third party trucking service is hired for direct transport from core Facility to ALS facility.
Audits or reviews	<ul style="list-style-type: none"> Regular internal audits are carried out on the sampling procedure, through to shipping and database capture.



Drilling - Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none">• SBM has 100% ownership of the tenements over the Cochrane Hill deposit (EL51476, EL51477, EL10249, EL55625, EL09259, EL56059 and EL55571) and are kept in good standings.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none">• Massval Mine, Northumberland Mines, Scominex, NovaGold, Acadian, Pan East, Seabright, MRRI, Aurogin, Scorpio have all previously worked in vicinity of or directly within the areas reported in this section.
<i>Geology</i>	<ul style="list-style-type: none">• The Cochrane Hill gold deposit is contained within metasedimentary rocks of the Meguma Group, a c. 16 km-thick sequence of mainly flyshoid metasedimentary rocks divided into the Cambrian to Early Ordovician Goldenville Formation greywacke and shales and the Early Ordovician Halifax Formation shale. Cochrane Hill is hosted by an interbedded sequence of biotite schist and psammite (representing argillite and greywacke protoliths) of the Goldenville Formation. The deposit is located on the southern limb of the NE-SW- to ENE-WSW-trending Cochrane Hill anticline, a tight to isoclinal fold that can be traced for at least 28km. The Cochrane Hill gold deposit is spatially coincident with an overturned, ENE-WSW-trending section of the Cochrane Hill anticline where both limbs dip to the N at angles between 55° and 80°.• Gold mineralisation is generally associated within a tabular shear zone (a thickness of up to c. 70m (>0.8g/t Au ore varies in thickness from 5-30m) and a down-dip extent of at least 320m) containing quartz veining and minor sulphides, gold is found disseminated throughout the host rock as well as higher grade quartz veins.
<i>Drill hole information</i>	<ul style="list-style-type: none">• Drill hole information is included in intercept table outlining collar position obtained by DGPS pickup, (or in some cases listed as original handheld GPS layout if they haven't been picked up by DGPS survey at time of report), hole dip and azimuth, composited mineralised intercepts lengths and depth as well as hole depth.
<i>Data aggregation methods</i>	<ul style="list-style-type: none">• This report details an intersection based on geological criteria only. Final assay results are pending.
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none">• For Cochrane Hill, down hole length is reported for all holes. Holes drilled were inclined to the south (azimuth 171°) at angles between 70° and 72° from horizontal. Mineralisation is confined to a tabular zone or envelope that dips to the north at approximately 70° such that drill holes intersect the mineralisation at angles of between 41° and 61° respectively and down-hole mineralized intercepts are exaggerated over true widths by between 1.1 and two times.
<i>Diagrams</i>	<ul style="list-style-type: none">• Diagrams show all drill holes material and immaterial to Exploration Results.
<i>Balanced reporting</i>	<ul style="list-style-type: none">• Details of all holes material to Exploration Results will be reported in intercept tables, and all other drill holes drilled during the reporting period are highlighted on diagrams included in the report.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none">• Included in the body of the report. Core are routinely measured for bulk density determinations to be used for potential future resource modelling.
<i>Further work</i>	<ul style="list-style-type: none">• Included in the body of the report.

End of report