# AR2004-092

WORK REPORT CONCERNING PROSPECTING, GEOLOGICAL

AND GEOCHEMICAL SURVEYS IN EXPLORATION LICENCE

NUMBERS 04901 AND 04900A RESPECTIVELY,

HELD BY COBEQUID GOLD CORPORATION LTD.

IN THE FRENCH RIVER PROPERTY.

COLCHESTER COUNTY, NOVA SCOTIA

BY

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JULY 10th/04 TRURO, N. S.

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# **TABLE OF CONTENTS**

		Pages
General / Summary		1
Location / Access		1
Legal Description of	Property	1
History of Exploratio	n	1
General Geology		2
Purpose of Work		3
Work Performed		3
Results of Work / Ge	neral Discussion	4
Conclusions / Recom	mendations	5
Statement of Qualific	ations	5
Appendix A√-	Report of Recce Prospecting - Geochemical V Cobequid Mountains to Avalon Ventures Ltd	
Appendix B $^{\checkmark}$ -	Silt Sample Results For Au - Ag From TUNS	}
Appendix C√-	Rock Sample Assay For Au - Ag From TUNS	S
Appendix D√-	Descriptions of Rocks Sampled For Au - Ag	
Appendix E√-	Au plus multi-element analyses of rock samp	les from XRAL Labs / SGS
Appendix F√ -	Results of MMI soil sampling from SGS / XF	RAL
Appendix G 🗸 -	Casual geological comments and observation	s by Dr. David Mossman
Map No. 1-3 are in th	e back cover of this report.	

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# General / Summary

Detailed prospecting, stream sediment sampling, geological work and panning did not locate the source for previously found stream sediment and heavy metal concentrates anomalies for gold in streams within the French River property.

The gold anomalies in the streams may not be from a local source; the source of them may be in the Waugh River Fault which is located up-ice to the immediate north. Before this other source area is investigated it is recommended that the anomalous gold areas in the streams be checked out by soil grids sampling humus for gold anomalies.

Both members of the Fountain Lake Group known as the Byers Brook Formation and the younger Diamond Brook Formation have the geological potential for epithermal deposits of gold in a large area within the eastern Cobequid Mountains. The most obvious type being disseminated gold in carbonate horizons intercalated with rhyolite and basalt flows i.e. Carlintype gold deposits.

# Location / Access

The property is located just south of the settlement of East New Annan in Colchester County, Nova Scotia. From this area several, well-traveled woods roads trend southerly into the property. Side roads from these main roads lead to various areas in the property thus making most of it very accessible. Please refer to Map No. 1.

# **Legal Description of Property**

The Exploration Licences are held by Cobequid Gold Corporation Ltd. Exploration Licence No. 04900A is comprised of claims JKOPQ tract 78; claims HJKLM, tract 77; claims ABC, tract 91 and claims ABCDGH, tract 92. All being in Reference Map 11E11B. Exploration Licence No. 04901 includes claims NOPQ, tract 77; claims EFLMNO, tract 76 and claims CDE, tract 93, all as well in Reference Map 11E11B. Please refer to Map No. 1.

# **History of Exploration**

In 1977, Gulf Minerals explored the property for uranium. The firm carried out airborne gamma ray spectrometer surveys and geological mapping. No uranium discoveries were made.

In 1990. Westminer of Canada carried out a recce-type geochemical programme for gold in several streams in the property. Anomalies for gold in stream sediment samples and heavy metal concentrates were located in streams, but this was not followed up by detailed prospecting or more detailed geochemical work.

In 1994, this writer staked the ground and obtained Hendricks Canada Ltd. to grubstake a small programme. The geochemical anomalies in the streams found by Westminer were verified and a detailed prospecting and mapping programme was started in the late fall of 1994. This work was aborted because of poor weather conditions and Hendricks Canada pulled out of the project.

# **General Geology**

The Byers Brook Formation (BBF) - Diamond Brook Formation (DBF) contact trends east-west in the southern part of the property.

The BBF consists of sub-aerial rhyolite flows, acid tuffs with minor andesite - basalt flows. Near the contact with the DBF which underlays the north part of the property the BBF contains beds of greywacke and carbonates (fetid limestone) with minor shale beds. These sedimentary horizons are of an unknown thickness. They are believed to reflect sediment deposition in a small basin (groben) controlled by faulting.

The contact between the BBF and the DBF may be a major fault or shear. This structure is traversed by several cross faults.

The DBF is comprised chiefly of basalt lava flows with minor rhyolite flows. Interbeds of an hematitic sandstone - siltstone sequence occur within the volcanic assemblage. The thickness of these low-rank iron formations are unknown.

In several streams float boulders of chert and jasper are relatively common in areas underlain by both the BBF and the DBF. This material is believed to be derived from beds of siliceous exhalites interbedded with the volcanic and sedimentary sequences in both formations.

The BBF rhyolites are relatively unaltered except for weak sericitization noted in a few outcrops. DBF basic lavas are commonly weakly chloritized.

Mineralized float boulders occur in several streams: Chert and jasper boulders commonly contain heavy, fine-grained pyrite. Boulders of sericitized and silicified rhyolites and tuffs containing heavy, fine-grained pyrite are also common. No evidences for any base metal mineralizations were noted. Detailed prospecting did not locate the source of the pyritic boulders.

Map No. 2 depicts the general geology of the property where the bulk of the work was done around the gold anomalies in the streams. Further details of the geology of the area is given in a brief which is Appendix A.

# Purpose of Work

In the spring of 2003, this writer had just finished an extensive research and compilation study on the potentials for several types of epithermal gold deposits associated with rhyolite flow - dome complexes in the eastern Cobequid Mountains. In this work the previously found gold anomalies in the streams draining the BBF in the French River property came to the forefront, hence the work as reported in this brief to locate the source of the anomalies.

# Work Performed

Prior to field work in June of 2003, various air photos were studied to glean a structural pattern for the property. In tandem was a study of airborne magnetic maps. Also carried out was a close screening of the work done by Gulf Minerals and Westminer of Canada.

The property was worked in August, 2003. Jamie Hudgins and Sandy Chase carried out prospecting and silt sampling. Dr. Dave Mossman and an assistant James Duivenvoorden carried out geological work, prospecting, some silt sampling and panned in streams.

The French River property work was part of a recce prospecting - stream silting programme for gold covering a large area underlain by the BBF volcanics trending from Debert Lake nearly to Earltown along the north side of the eastern Cobequid Mountains which was sponsored by Avalon Ventures Ltd. Please see Appendix A.

All streams and tributaries in the property were prospected and silt sampled. All bush roads and trails were prospected as well. Any outcrops or float boulders of the BBF and DBF that exhibited any signs of alterations or mineralizations were collected for assaying. Most samples were sent to TUNS in Halifax for Au-Ag assays. Silt samples were also sent to TUNS for Au-Ag analysis. Many short prospecting traverses were made in the slopes or sides of streams where gold anomalies were previously found by other entities.

While prospecting and panning, Dr. Mossman and his assistant mapped the areas of streams and nearby bush trails.

Don Bubar, president of Avalon Ventures visited the property to study the rock types and anomalous gold areas. John Wightman, president of Cobequid Gold Corporation Ltd. initiated a small MMI soil sampling programme to see if this technique would give gold or indicator anomalies in an area where sedimentary units of the BBF near stream gold anomalies were thought to be the source of the gold.

This writer who supervised work in the property visited it several times with the crew to advise on the phases of work.

# Results of Work / General Discussion

The Map No. 3 depicts the location of silt samples, a few heavy metal concentrates and the location of rock samples collected in the project area. The results of the silt samples in Au-Ag are in Appendix B; the results of the rock sampling are given in Appendix C. The results for Au-Ag are so low that only the weak "kicks" are shown on Map No. 3. The descriptions of the rock types sampled and assayed are shown on Appendix D. Several samples were also analyzed for gold and multi-elements. The results of this work are depicted in Appendix E.

The results of the MMI soil sampling are given in Appendix F. The stations on lines sampled are shown on Map No. 3. The plots on the map do not show the results because all of them are very low and insignificant.

As mentioned previously, Dr. Mossman's geological work is shown on Map No. 2. Casual geological observations by Dr. Mossman are given in Appendix G.

The prospecting and geochemical work yielded very poor results in establishing an epithermal environment for gold in the property and no discrete targets were delineated to expand upon.

The difference in gold values in silt samples from the survey and the surveys done by Westminer of Canada and Hendricks Canada in previous years may be a result of different size fractions used in assaying. The latter had assays done on minus 200 mesh; in this survey the minus 60 mesh fraction was assayed, hence really fine gold may not have been in the portion assayed. Panning was done in several areas of the streams where the original gold silt anomalies were found, but only one to three extremely fine grains of native gold were noted in any given pan sample. And the grains are all well-rounded showing appreciable transport.

The prospecting work was very thorough and a great amount of rock was carefully examined in outcrop, rubble and float in all streams and numerous roads and trails. Very healthy-looking rocks for gold such as sulphide-bearing chert, jasper, sericitized rhyolites, silicified rhyolite, silicified tuffs and iron-formation (hematitic sediments) along with pyritic limestone were collected and assayed, but gave nil results for Au-Ag.

As previously mentioned, the French River project for epithermal gold was just part of a large recce-type prospecting - geological campaign to assess the BBF and DBF terranes in the eastern Cobequid Mountains. In many of the other areas, similar rock types containing heavy sulphides and similar alterations were assayed and also yielded nil results for Au-Ag. Also, except for the Ferguson Brook - MacDonald Brook area to the east the silt sampling gave very disappointing results.

The presence of lava flow-dome complexes of rhyolite, high-level rhyolite and porphyry intrusions, chert - jasper exhalites and mini-basins of clastic rocks and carbonates within the BBF terranes highly suggest the geological potentials for several types of epithermal gold in the

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eastern Cobequid Mountains, but unfortunately the work in the French River property did not locate any gold zones.

# **Conclusions / Recommendations**

The gold anomalies in the streams located by two previous entities which have yielded up to 1000 ppb Au in heavy metal concentrates and up to 300 ppb Au in minus 200 mesh fractions of silt samples should be soil sampled and humus samples analyzed for gold to see if there is a correlation with the gold anomalies in the streams. Should humus anomalies be achieved they should be trenched.

If the humus soil sampling does not yield positive results prospecting and silt sampling should be carried out to the north of the property where a main break known as the Waugh River Fault trends east-west and traverses the north contact of the DBF where it is in faulted contact with late Precambrian age metasediments and a slice of the BBF. The last movement of glaciation in the terranes was southerly, hence the gold in the overburden and stream alluvium in the French River property may have been transported south from the major structure.

# **Statement of Qualifications**

I, Avard Hudgins, have been in the mineral exploration business for 45 years. I supervised the work as described in this report.

Avard Hudgins, MSC

# APPENDIX A

Report of Recce Prospecting - Geochemical Work
In The Eastern Cobequid Mountains to Avalon Ventures Ltd.

# REPORT CONCERNING THE RESULTS OF AN EXPLORATION PROGRAMME IN THE COBEQUID GOLD VENTURE LANDS CARRIED OUT FOR AVALON VENTURES LTD. BY COBEQUID GOLD CORPORATION LTD.

BY

**AVARD HUDGINS (MSe)** 

VICE PRESIDENT

COBEQUID GOLD CORPORATION LTD.

TRURO, N. S.

MARCH 17th/04

#### GENERAL/SUMMARY

This report summarizes the results of a prospecting and geochemical programme carried out for Avalon Ventures Ltd. by Cobequid Gold Corporation Ltd. in the large block of ground known as the Cobequid Gold Venture Lands (CGVL) in the eastern Cobequid Mountains of Nova Scotia between the East Wallace River on the west to Earltown on the east.

The results of the work trying to locate epithermal gold - silver deposits in several geological environments within a belt of Carboniferous age acid and basic volcanics intercalated with volcano-clastic and sedimentary rocks did not locate any significant showings. The stream geochemical prospecting also did not locate any significant gold-silver anomalies other than those that had already been known to exist in the property.

The study and sampling of what was considered to be the most significant drill holes in the Gulf Minerals uranium project area near Debert Lake yielded disappointing results for gold - silver.

Seeing that the programmes were geared to fast outlining zones of mineralization or float boulders which Avalon Ventures could detail by further work and nothing of significance was found then no further work in the CGVL between the East Wallace River and Earltown is recommended.

Recently an excellent target for IOCG deposits has been found in the far eastern sector of the CGVL near Loganville. This target had not been staked in the CGVL staking and has been staked by the writer. It is recommended that Avalon Ventures which is now highly involved in IOCG explorations in N. S. acquires this property from Cobequid Gold and carries out a basic prospecting - stream geochemical programme in it.

#### **BACKGROUND**

In the early spring of 2003 this writer promoted the idea to Avalon Ventures that the CGVL had the potentials for four types of gold  $\pm$  silver deposits in the eastern Cobequid Mountains listed as follows: 1) Epithermal Au-Ag deposits in lodes, stockworks, sheeted vein systems, etc in rhyolite-dacite lava domes: 2) subaqueous Au  $\pm$  Ag deposits in beds of siliceous sinter; 3) Eskey Creek-type Au-Ag base metal deposits in clastic sedimentary rocks in small grabens or mini-basins between volcanic centers and 4) Carlin-type Au gold deposits in beds of limestone and calcareous sandstones with siltstones which exist in the acid volcanic terranes of Carboniferous age with type (3) being the most obvious type existing in the property based on previous geological work and geochemical programmes in the region.

A fifth type or 5) was deemed to be the existence of (4) but in older Silurian age metasedimentary rocks to the north of the volcanic terranes in the East New Annan to north of Earltown area and further easterly to the Loganville-Dalhousie Mountain region. This terrane had similar geological characteristics to the Silurian age Botwood Basin area of Newfoundland where an epithermal or Carlin type Au play had started in 2002.

Avalon Ventures entered into an agreement to spend \$150 K in the CGVL project in a first phase exploration programme which commenced on July 21st/03. By expending the \$150 K Avalon Ventures would have garnered a 33 1/3% interest in the CGVL and a second phase of exploration work amounting to \$350 K would have given the firm an additional 26 2/3% interest for a total 60% interest.

On Oct. 01/03, Don Bubar, president of Avalon ventures knowing that work in the CGVL was not yielding salient results for new types of epithermal gold  $\pm$  silver deposits in the eastern Cobequid Mountain terranes decided to halt the programme and focus attention on prospecting for IOCG deposits in the West River Station and Upper Kempton properties which Avalon Ventures had optioned from Cobequid Gold.

Mr. Bubar requested a report concerning what was carried out in the CGVL project and the results related thereto before assigning the properties back to Cobequid Gold. This brief is to comply with his request.

# PURPOSE OF WORK

The intent of the venture was to prospect specific targets which suggested that epithermal types of  $\operatorname{Au} \pm \operatorname{Ag}$  existed in the Carboniferous age volcanic - sedimentary terranes and to carry out stream geochemical work to locate surface indications for Au and Ag which could be detailed by other work in the first stage of work, or in a second stage. Lesser work was to focus on targets suggestive of epithermal gold in the older Silurian age terranes. While the prospecting and geochemical work was being carried out a study and sampling of Gulf Minerals drill holes for uranium was to be carried out to hopefully find Au-Ag zones of an epithermal nature.

#### WORK PERFORMED

About \$80 K before an H.S.T. rebate was spent by Avalon Ventures in the CGVL projects searching for epithermal types of gold ± silver previously cited. This work consisted of compilation work, basic prospecting, geochemical work, geological studies and studying - sampling previously drilled holes by Gulf Minerals which only had an interest in uranium. Panning for gold was carried out in several streams near targeted areas and a MMI recce-type geochemical survey was done in a grid near high silt/HMC Au anomalies in streams.

In respect to the prospecting-geological work 87 samples of mineralized rock or rocks containing favourable alterations for epithermal Au-Ag mineralizations existing in outcrop or float were collected and assayed for Au-Ag. In the geochemical work 429 stream sediment samples were collected.

In the latter part of work in the region, Mr. Bubar requested that samples of rock where Type 3 deposits were suspected to exist be analyzed for Au plus multi-elements. Twenty-six samples of rock were analyzed.

Twenty-two Gulf Minerals drill holes were studied and sections were assayed for Au-Ag - 87 samples were taken in this phase of the work.

Extensive compilation studies were done concerning a great amount of Gulf Minerals exploration data consisting of geochemical work that would be applicable to gold-silver mineralizations.

The bulk of the prospecting work was done in numerous streams and their tributaries in the project areas to be described and along numerous, new lumber roads that have been constructed over the past ten years or so.

Basic prospecting was also carried out on grid lines over several Zn-Pb soil anomalies resulting from Gulf Mineral work where VLF/EM anomalies also occur.

The above is applicable to the Carboniferous age volcanic terranes. In the Silurian age metasedimentary terranes numerous new logging roads were prospected over a large area.

# RESULTS OF WORK/GENERAL DISCUSSIONS

In the western sector of the CGVL venture known as the <u>Debert Lake project</u> prospecting in streams, sides of valleys and in numerous new logging roads located many boulders and much rubble and a few, small outcrops of unaltered rhyolite-dacite flows, altered (sericitic) rhyolites and tuff containing abundant pyrite. None of this material yielded any elevated Au or Ag. Floats of siliceous sinter (chert) - minor jasper containing sulphides (pyrite) also yielded unelevated trace amounts of gold. Float specimens of carbonaceous, weakly sulphidic sandstone - siltstone sequences yielded upon assay no values for Au-Ag.

Several, very small showings in several areas were found to contain very weak Zn-Pb mineralizations in shear zones traversing rhyolite - tuff sequences. These mineralizations of about 1.2% Zn-Pb combined did not contain elevated trace amounts of Au-Ag.

The soil anomaly - VLF/EM targets of Gulf Minerals work were prospected in detail. A lot of outcrop and rubble of unaltered rhyolite flows and tuffs occur in these targeted areas. Samples of these rocks containing weak pyrite did not yield any significant Au-Ag values.

Sampling of the most significant drill holes drilled by Gulf Minerals for uranium consisting of sections of rhyolite flows and tuffs exhibiting various stages of alteration consisting of silicification, sericitization, albitization and hematitization containing pyritic mineralizations did not produce any elevated trace amounts of Au-Ag.

All of the predetermined, well-thought out targets to prospect and study geologically in regards to favourable alterations for epithermal Au-Ag deposits yielded very disappointing results.

In regards to the stream geochemical surveys for Au-Ag in stream sediment sampling carried out when the prospecting in streams was done, only several low-ranked Au-Ag anomalies were obtained in a few of the streams. These sort of low values are common in many areas of the Cobequid Mountains where Carboniferous age granites and volcanic-sedimentary sequences occur.

The silt sampling of the streams yielded values in Au from 100-400 ppb, but these anomalies correspond to the anomalous sites located in the previous work. Panning in the streams yielded several very small sights of Au near the silt anomalies, as it did in previous surveys.

An area about 2000 ft by 800 ft was chosen where the source area for gold in the stream alluvium might occur and 24 MMI soil samples were taken on a test basis to see if this method of geochemical work was applicable in the property. The results of this work yielded nil results.

Two thousand feet to the northeast of the Porters Brook targets exists the Sutherlands Brook targets for Au-Ag. In this area previous work had found anomalous gold up to 700 ppb in stream silts and up to 1000 ppb Au in panned concentrates. A few sights of free gold had also been found in panned samples. Silt sampling while prospecting the pre-existing anomalies yielded several anomalies for gold up to 300 ppb.

Prospecting in the stream and its tributaries located float boulders of sericitized - sulphidic rhyolite and tuffs, weakly sulphidic green-stone and sulphidic greywacke (?) all of which upon assay gave nil results for Au-Ag.

A large outcrop of hematitized tuff in a tributary of Sutherlands Brook was found near gold silt anomalies. Sampling here yielded nil for Au-Ag.

Prospecting along new lumber roads and old trails and along ridges near the Porters Brook - Sutherlands Brook gold targets located an appreciable amount of rubble and small floats of sulphide-bearing, sericitized rhyolite and tuff, jasper and chert or silicified rhyolite all of which assayed nil in Au-Ag.

To the east exists the Ferguson Brook - MacDonald Brook project where previous work had located several silt anomalies (up to 500 ppb) and Au anomalies in panned concentrates (up to 1000 ppb).

Prospecting in the streams and their tributaries located outcrops of black, fetid limestones with blobs and disseminations of pyrite like the carbonates found in Porters Brook. Sampling yielded nil Au-Ag.

Multi-element analyses of this favourable-looking rock only yielded slightly elevated Zn values (up to 300 ppm) which is very common in black, fetid or organic carbonates.

The stream sediment sampling yielded silt anomalies up to 700 ppb Au which occur where the previous Au anomalies existed. Multi-element analyses of silt samples did not yield any significant values for potential path finders for gold.

Towards the end of the programmes, recce prospecting in the Nuttby Mountain area south of Ferguson Brook located outcrops and rubble areas of favourable-looking, highly altered rocks in several, new logging roads. In one area, highly sulphidic, sericitic rhyolites were sampled and gave nil results for Au-Ag. A zone several hundred feet wide of hematitic-alunitized rhyolite - tuff also yielded nil results for Au-Ag. Just east of Nuttby Mountain, large angular blocks of siliceous exhalite (chert) assayed nil in Au-Ag.

Similar types of rocks described above were located in rubble and in floats in several, new logging roads west of Nuttby Mountain in the headwaters of Cavanaugh Brook all of which gave nil Au-Ag results.

Recce-type prospecting of many logging roads in the volcanic belt between the above project areas only located several outcrops and float areas of sulphidic-sericitic rhyolites and silicified rhyolites which assayed nil in Au-Ag.

Recce-type prospecting along numerous logging roads and new fire roads in the Silurian metasedimentary terranes around East New Annan, Spidell Hill-Earltown suggested these age of rocks are unaltered and unmineralized. Similar type of recce work in the Silurian age terrane between Loganville, South Loganville and easterly to Dalhousie Mountain on logging roads also found slates, siltstones and greywackes to be unaltered and barren.

Recce prospecting in the northern lobe of the Salmon River granite pluton west of Loganville only located normal type, unaltered and unmineralized granites of a two-mica type.

#### CONCLUSIONS AND RECOMMENDATIONS

Well thought out, pre-determined assessment of targets for epithermal-type Au-Ag deposits in the CGVL project areas did not locate any mineralized zones of Au-Ag. The paucity of hydrothermal or vein quartz in the large terrane bodes poorly for the existence of Type (1) epithermal Au-Ag deposits. No Au-Ag values were found in samples of Type (2). No evidence was gleaned for type (3) deposits and the lack of silicification in carbonate beds and the nil Au-Ag values in them precludes a Carlin Au environment in Type (4).

Although there were many indications found in the large project area for epithermal-type Ag-Au deposits such as sulphidic-sericitic rhyolites and dacites, tufaceous rocks, sulphidic carbonates, sulphide bearing chert and jasper, hematitic zones, alunitized shears, etc. not one significant or elevated Au-Ag value was obtained in the prospecting programme which covered the main targets and where many samples of the most obvious types of rocks and mineralizations were sampled.

Work in the Debert Lake project area both by prospecting, geochemical work and drill-core assaying did not generate any salient results for Au-Ag. The numerous radioactive zones in the property near any potential Au-Ag zones, if they existed, would be a very sensitive issue in regards to the potential exploitation of them.

No further work is recommended in any of the project areas previously referred to.

It still remains a question in regards to the sources of Au in Porter Brook, Sutherlands Brook, Ferguson Brook and MacDonald Brook. The Au in the alluvium of these streams appears to be particles of fine Au washed out of till by stream action. It is not now deemed that the Au is of a local source in the streams. Glaciation in these volcanic terranes was north to south. Just to the north of these targeted areas is located a deep-seated fault known as the Waugh River Fault. This east-west trending fault is part of the Fundy Rift System.

Up-ice, or north of the Au anomalous streams, several, well-defined, north-south cross-faults traverse across the Waugh River Fault. In the case of the Porters Brook - Sutherlands Brook areas in the French River project area, the Waugh River Fault separates the Carboniferous age volcanic terrane on the south from late Precambrian age meta-volcanics and metasediments on the north. North of the Ferguson Brook - MacDonald Brook project area the main break separates the same volcanic terrane from Silurian age metasedimentary rocks. Streams near the cross-faulted areas are reported to contain abundant quartz floats.

It may be that the source of gold found in the streams in the aforementioned project areas had its source near the Waugh River Fault. This was speculated just before programmes in the CGVL project were terminated, but not acted upon. Recce-type prospecting and stream geochemical work was slated for these new targeted areas. Unfortunately no previous work was done in this part of the large CGVL position, hence the ground had no assessment credits and it was lost. In about 90 days some of the ground encompassing the new targets which may be the source for gold in the aforementioned project areas will be staked by Cobequid Gold and the writer will be carrying out some prospecting-geological work in them.

In regards to the new claim group staked by the writer in the Loganville area which is located north of Avalon Ventures IOCG property at Mount Thom, which is adjacent to a large block of ground in the CGVL, this may be of interest to Avalon for IOCG potentials. New information shows the intersection of 5 major faults traversing Silurian age metasediments intruded by the Salmon River Pluton comprised of granite and diorite being part of a large, positive gravity anomaly. Old geological maps show the existence of copper showings in the area and float boulders of hematitized granites are located in the severely faulted terrane. The Loganville IOCG target should be prospected and multi-element stream sediment analyses should be carried out in several streams. The next time Mr. Bubar comes to N. S. this writer will present to him the details of the property to see if Avalon Ventures wishes to get involved in the evaluation of it for IOCG deposits.

Mr. Bubar and Cobequid Gold have a verbal agreement that the CGVL will be turned back to the latter. But this writer promised Mr. Burar that Avalon Ventures would have the rights to first refusal if Cobequid Gold on its own worked in the original CGVL holdings and located any showings or targets of significance. The only work that might be carried out by Cobequid Gold in the original CGVL holdings would be along the Waugh River Fault that will be staked in the near future.

All of the more promising targets in the CGVL, the most of which occurred in the Carboniferous age volcanic terrane were evaluated. No important situations were outlined in which to carry out further work. Epithermal Au-Ag environments do exist in rhyolite flow-dome complexes, but no proofs of Au-Ag mineralizations were encountered.

Respectfully submitted,

Avard Hudgins, MSc Vice President Cobequid Gold Corporation Ltd.

Truro, N. S. March 17th/04

# THE COBEQUID MOUNTAINS GOLD VENTURE Colchester and Cumberland Counties, Nova Scotia

- ☐ An epithermal-type (hot spring) gold-silver environment in the Eastern Cobequid Mountains of northern Nova Scotia never previously systematically explored for gold.
- A large Devonian to Carboniferous-age volcano-sedimentary terrane having the potential for the following types of epithermal deposits: (a) bonanza type Ag-Au lodes and stockworks in volcanic centers; (b) Eskay Creek type subaqueous hot springs deposits of Au-Ag ± base metals in sedimentary rocks; and (c) Au in beds of siliceous exhalites interbedded with (b).
- Use Volcanic centers: Bimodal, rift related subaerial rhyolite-dacite flows, rhyolite domes, tuffs, ignimbrites, lahars, minor andesite-basalt flows similar to the El Indio gold belt in Chile. A later volcanic event characterized by chiefly basalt lava flows. Extensional tectonic regime.
- □ Interbedded carbonaceous clastic sediments, limestones and siliceous iron formation. Thick beds of chert-jasper. Lacustrine or shallow marine deposition in a caldera setting. In other areas, shallow marine sediments were deposited in fault-controlled basins fronting volcanic centers similar to the depositional environment of Eskay Creek in B.C. Eskay Creek hosts geological reserves of 4.3 Mt grading 0.84 oz/ton gold and 30 oz/ton silver plus recoverable lead and zinc.
- Syntectonic, subvolcanic, fluorine rich, tin-tungsten type of granitic plutons intrude their comagmatic pile of felsic volcanics and epiclastic sedimentary sequences similar to the Mount Pleasant/Clarence Stream area in southwestern New Brunswick. Later thermal event involved swarms of topaz-type rhyolite dikes and rhyolite porphyry-granophyres.
- Hydrothermal activity manifest in broad sericite-sulphide alteration zones; zones of alunite-jarosite; potassic (andaluria) alteration, widespread fluorite, epithermal Ag-Mo-Sn±W mineralization, propylitization (chlorite-epidote-carbonate alterations). Old reports refer to tellurides in the area. In sedimentary rocks, subaqueous hot springs siliceous exhalites and with sulphide-rich intervals containing elevated Ag, Cu, Pb, Zn in carbonaceous siltstone-tuff beds.
- Area transected by major deep-seated fault structures adjacent to the regional Cobequid-Chedabucto fault zone which separates the Meguma and Avalon tectonic zones. These structures represent the "plumbing system" for metal-rich hydrothermal fluids.
- □ Fault-controlled blocks of Silurian-age sedimentary basins adjacent to the volcanic terrane in the Cobequids are similar to the Botwood basin gold area in Newfoundland and have never been explored for metallic mineralization.
- Outstanding geochemical targets: Streams have anomalous Hg, Mo, As, Ba, Pb, Zn, Ag, and Sn in silts. Some streams have highly anomalous Au in silts (100's of ppb Au). These

correlate with highly anomalous gold in heavy mineral concentrates which show sights of free gold and electrum and yield assays of up to 2000ppb Au.

- Gulf drilled over 100 holes (20,000 ft.) in a large area around a radiometric anomaly near Debert Lake. Logs of these holes indicate the presence of thick sulphide zones, alteration zones in volcano-sedimentary rocks that were never assayed for gold. Some intervals up to 60 ft. thick were analyzed for base metals and silver yielding highly anomalous values of up to 8-10oz/ton Ag. Siliceous exhalites were also not assayed for gold. The drill core is archived at the core library of the Nova Scotia Dept of Natural Resources at Stellarton and is available for study and sampling.
- Similarly, hundreds of sieved stream sediment samples collected by the N.S.D.N.R. in the 1980's from numerous streams in the Cobequid Mountains Venture area, are in storage and available for further testing. These samples were never analyzed for Au or related pathfinder elements.
- Initial prospecting on logging roads last year turned up numerous new occurrences of sulphide mineralization and hydrothermal alteration zones. Several old known occurrences have produced gold values in grab samples ranging up to 1000 ppb gold.
- Follow-up program will involve intensive prospecting and mapping of numerous obvious targets identified from the work done to date. Floats and geochemical anomalies will help target significant Au-Ag zones which can then be opened up by trenching. Sampling of sulphide-rich intervals in old drill holes may identify new gold zones and analysis of archived stream sediment samples may detect new anomalies.
- □ A large land package (over 50,000 acres) has been staked, controlling all of known target areas.
- Access to the area has recently been opened up with new pulp roads. Just 25 km north of
- The lack of homes, cottages or tourist resorts in the area reduces potential for land use conflicts.
- ☐ Inexpensive exploration and acquisition costs make this one of the most cost—effective areas for mineral exploration in Canada

# APPENDIX B

# Silt Sample Results For Au-Ag From TUNS

Please note that silt samples applicable to this report are underlined.

ppm (g/t)

Sample	Au	Ag
SBS-1	<0.003	0.15
SBS-2	<0.003	0.11
SBS-3	<0.003	0.16
SBS-4	<0.003	0.07
SBS-5	<0.003	0.03
SBS-6	0.005	0.06
<u>SBS-7</u>	0.013	0.07
<u>SBS-8</u>	0.005	0.02
SBS-9	<0.003	0.06
<u>SBS-1</u> 0	0.003	0.08
<u>SBS-1</u> 1	<0.003	0.02
<u>SBS-1</u> 2	<0.003	0.02
SBS-13	<0.003	0.07
<u>SBS-14</u>	<0.003	0.02
<u>SBS-15</u>	<0.003	0.13
<u>SBS-16</u>	<0.003	0.10
SBS-17	<0.003	0.04
SBS-18	<0.003	0.04
SBS=19	<0.003	0.04
<u>SBS-2</u> 0	0.003	0.06

Cyril Cole

copy to: Avard Hudgins





DLS-175

0.003

0.12

Sexton Campus P.O. Box 1000 Halifax, Nova Scotia B31 2X4

Tel: 902-494-3955 902.425.1037 Fax:

E-mail: mec@dal.ca

September 24, 2003

Cobequid Gold Corp. 142 Granville St PO Box 485 Bridgetown, NS B0S 1C0

Attention: J. Wightman

Re: Results of analysis on submitted soil samples.

Analysis on minus 60 mesh fraction.

	ppm (	g/t)		ppm (	g/t)
Sample	Au	Ag	Sample	Au	Ag
Sample	Au	Ag 0.05 0.10 0.10 0.23 0.12 0.07 0.12 0.08 0.05 0.09 0.13 0.08 0.14 0.07 0.12 0.01 0.12 0.14 0.07 0.12 0.14 0.07 0.12 0.14 0.07 0.12	Sample DLS-201 DLS-202 DLS-203 DLS-204 DLS-205 DLS-206 DLS-207 DLS-208 DLS-209 WRSS-1 WRSS-2 WRSS-3 WRSS-4 WRSS-5 WRSS-6 WRSS-7	Au	Ag  0.07 0.02 0.11 0.03 0.10 0.11 0.10 0.24 0.12 0.11 0.02 0.07 0.09 0.10 0.03 0.03
DLS-169 DLS-170 DLS-171 DLS-172 DLS-173 DLS-174	0.003 <0.003 <0.003 <0.003 <0.003	0.03 0.01 0.06 0.07 0.01			
	<0.003	0.03			



# MINERALS ENGINEERING CENTRE

Sexton Campus P.O. Box 1000 Halifax, Nova Scotla B3J 2X4

Tel: 902.494.3955
Fax: 902.425.1037
E-mail: mec@dal.ca

September 18, 2003

Cobequid Gold Corp. 142 Granville St PO Box 485 Bridgetown, NS BOS 1C0

Attention: J. Wightman

Re: Results of analysis on submitted soil samples.

Analysis on minus 60 mesh fraction.

	ppm (	g/t)	2.00	ppm (	g/t)
Sample	Au	Ag	Sample	Au	Ag
Sample DLS-93 DLS-94 DLS-95 DLS-96 DLS-97 DLS-98 DLS-100 DLS-101 DLS-102 DLS-103 DLS-104 DLS-105 DLS-106 DLS-107 DLS-106 DLS-110 DLS-110 DLS-111 DLS-112 DLS-113 DLS-114 DLS-115	Au 0,003 0,005 <0.003 <0.003 <0.003 <0.003 <0.003 <0.005 0.005 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003	Ag 0.05 0.04 0.09 0.06 0.06 0.16 0.29 0.01 0.09 0.01 0.01 0.02 0.01 0.02 0.01 0.02 0.01	Sample DLS-121 DLS-122 DLS-123 DLS-124 DLS-125 DLS-126 DLS-127 DLS-128 DLS-129 DLS-130 DLS-131 DLS-132 DLS-133 DLS-134 DLS-135 DLS-135 DLS-136 DLS-137 DLS-137 DLS-138 DLS-139 DLS-139 DLS-139 DLS-139 DLS-140 DLH-1 DLH-2 DLH-3	AU	0.05 0.02 0.10 0.07 0.20 0.31 0.26 0.31 0.26 0.11 0.29 0.29 0.25 0.17 0.14 0.06 0.11
DLS-116 DLS-117 DLS-118 DLS-119 DLS-120	<0.003 <0.003 <0.003 <0.003 <0.003	0.05 0.05 0.04 0.13 0.17	DLH-4 DLH-5	<0.003 0.105	0.16

Cyril Cole

copy to: Avard Hudgins -



# MINERALS ENGINEERING CENTRE

Sexton Campus P.O. Box 1000 Halifax, Nova Scotia B3J 2X4

Tel: 902.494.3955 Fax: 902.425.1037 E-mail: mec@dal.ca

October 9, 2003

Cobequid Gold Corp. 142 Granville St PO Box 485 Bridgetown, NS BOS 1C0

Attention: J. Wightman

Re: Results of analysis on submitted soil samples.

Analysis on minus 60 mesh fraction.

	ppm (	g/t)	1		) mgq	g/t)
Sample	Au	Ag		Sample	Au	Ag
SBS-21	<0.003	0.08		SBS-51	0.003	0.09
SBS-22	<0.003	0.05		SBS-52	0.003	0.14
SBS-23	0.003	0,08		SBS-53	0.005	0.13
SBS-24	<0.003	0.16		5BS-54	0.008	0.13
SBS=25	<0.003	0.10		SBS-55	<0.003	0.18
SBS-25	<0.003	0.17		SBS-56	<0.003	0.07
SBS-27	0.003	0.19		SBS-101	<0.003	0.20
SB5-28	0.003	0.16		SBS-102	<0.003	0.07
5BS-29	<0.003	0.09	•	SBS-103	<0.003	0.11
SBS-30	<0,003	0.05		SBS-104	<0.003	0.07
SBS-31	<0.003	0.10		SBS-105	<0.003	0.04
SBS-32	<0.003	0.06		SBS-106	<0.003	0.09
SBS-33	0.005	0.04		SBS-107	0.003	0.05
SBS-34	0.003	0.11		SBS-108	0.030	0.05
SBS-35	0.003	0.18		SBS-109	0.003	0.12
SBS-36	<0.003	0.06	·	SBS-110	<0.003	0.11
SBS-37	<0.003	0.10	72 ==	SBS-111	<0.003	0.04
SBS-38	0.003	0.12		SBS-112	<0.003	0.18
5BS-39	<0.003	0.10		SBS-113	<0.003	0.04
SBS-40	<0.003	0.14		SBS-114	0.003	0.02
SBS-41	0.005	0.20		SBS-115	<0.003	0.04
SBS-42	0.005	0.13	•	SBS-116	<0.003	0.02
SBS-43	0.003	0.19		SBS-117	0.008	0.02
SBS-45	0.005	0.02	•	SBS-118	<0.003	0.03
SBS-46	<0.003	0.41		SBS-119	<0.003	0,02
SBS-47	<0.003	1.40	:	SBS-120	0.023	0.09
SBS-48	0.060	0.08		SBS-121	0.011	0.10
SBS-49	<0.003	0.21	•	SBS-122	0.003	0.05
SB5-50	<0.003	0.14		SBS-123	<0.003	0.13
SB5-51	0.003	0.09		SBS-124	<0.003	0.05
.//	The second second		:	SBS-125	<0.003	0.05

Cyfil Cole

copy to: Avard Hudgins .

# APPENDIX C

# Rock Sample Assay For Au-Ag From TUNS

Please note that rock samples assayed are underlined as applicable to this report.

# MINERALS ENGINEERING CENTRE



Sexton Campus P.O. Box 1000 Halifax, Nova Scotia B3J 2X4

Tel: 902.494.3955 902.425.1037

Fax: mec@dal.ca E-mail:

September 18, 2003

Cobequid Gold Corp. 142 Granville St PO Box 485 Bridgetown, NS BOS 1C0

Attention: J. Wightman

Re: Results of analysis on submitted samples.

	ppm (	g/t)		ppm (	g/t)
Sample	Au	Ag	Sample	Au	Ag
DLR-52 DLR-53 DLR-54 DLR-55 DLR-56 DLR-57 DLR-58 DLR-59 DLR-60 DLR-61 DLR-63 DLR-63 DLR-64 DLR-65 DLR-67 DLR-68 DLR-69 DLR-167 DLR-168 DLR-169 DLR-170 DLR-171 DLR-172 DLR-173 DLR-173 DLR-175 DLR-176	Au	Ag  0.21 0.22 0.01 0.20 0.63 0.40 0.43 0.16 0.26 0.14 0.22 1.09 0.12 1.09 0.18 0.26 0.14 0.05 0.01 0.02 0.03 0.03 0.03 0.11	SBR-5 SBR-6 SBR-6B SBR-7 SBR-8 SBR-10 SBR-11 SBR-12 SBR-13 SBR-101 SBR-102 SBR-103 WRSR-1 SL-1 SL-2 AH-1 AH-2 AH-3 AH-4 AH-5 AH-6 AH-7 AH-8 AH-9 AH-10 AH-11 AH-12	Au  0.008 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003	Ag  0.44 0.03 0.04 0.01 0.03 0.04 0.06 0.05 0.16 0.08 0.01 0.02 0.07 0.24 0.21 0.08 0.05 0.06 0.34 0.12 <0.01 0.10 0.10 0.10 0.10 0.11
DLR-176 DLR-177 DLR-178 SBR-1 SBR-2 SBR-3 SBR-4	<0.003 <0.003 0.013 <0.003 <0.003 <0.003	0.11 0.19 0.10 0.40 0.12 0.22 0.38	AH-12 AH-13 AH-14 AH-15 AH-16 AH-17	<0.003 <0.003 <0.003 <0.003 <0.003	0.11 0.07 0.15 0.10 0.05 0.40

Cyfil Cole

copy to: Avard Hudgins

# MINERALS ENGINEERING CENTRE



DalTech P.O. Box 1000 Halifax, Nova Scotia Bal 2X4

Tel: 902.494.3955 Fax: 902.425.1037

E-mail: mec@dal.ca

Gold & Silver Analysis by Aqua Regia Method

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

A 10 g ( or 20 g) sample is weighed into 400 mL beaker. The gold and silver is extracted with 120 mL of aqua regia (3 parts HCl and 1 part HNO3) by heating on hot plate. The samples are evaporated down to approximately 40 mL. After adding 25 mL water, the samples are filtered into 100 mL flasks. Silver is read directly by atomic absorption and gold is concentrated and separated from any interfering elements by extraction with M.I.B.K. By extracting into an organic phase (MIBK) not only are interfering elements removed and the sample concentrated but the sensitivity in the M.I.B.K. phase is much greater than in aqueous medium. The tolal sample is transferred to a 125 mL seperatory funnel and 10 mL of methyl isobutyl ketane is added. The funnel is shaken for about 2 minutes and the layers allowed to seperate. The aqueous layer is run off and discarded. 35 mL of 10% HCl is added and the funnel shaken again for two minutes and the aqueous layer discarded. The M.I.B.K. layer is washed in a similar manner 3 to 5 times. The gold is determined by atomic absorption. For gold and silver the Minerals Engineering Centre use Smith-Hieftje background correction method.

Standards are prepared in 25% HCl and extracted into an equal volume of M.I.B.K. Range of standards include 0.0, 0.25, 0.50, 1.0, 2.0, 3.0, 4.0, 5.0 and 10.0 mg/L gold.

For ore samples containing high levels of sulphides or carbonates. The residue from aqua regia extraction is releached with aqua regia and analyzed for gold, as above. Total gold in the sample is the sum of the two leaches.

Detection Limits (lowest value reported).

Gold 3 ppb Silver 0.01 ppm

Quantitative Trace Element Analysis of Rocks, Ores, etc.

(Copper, lead, zinc, nickle, cobalt, bismuth, cesium, chromium, indium, lithium, manganese, rubidium, cadmium, vanadium, tellurium, antimony, silver, molybdenum & arsenic)

l gram samples are digested with hydrochloric-nitric-hydrofluoric-perchloric acids. Analysis is determined by Flame Atomic Absorption with detection limit of 1 ppm. Arsenic determined by colorimetric method.

# APPENDIX D

Descriptions of Rocks Sampled For Au-Ag

# **ROCK DESCRIPTIONS**

# Sample No:

SBR-1 - Chert, 15-20% dissem. pyrite - y

SBR-2 - Grey, fetid micritic limestone. Rare grains of pyrite - x

SBR-3 - Siliceous / sericitic rhyolite, 5-10% dissem. pyrite - y

SBR-4 - As above - x

SBR-5 - Cherty rhyolite, slightly sericitic, 5% dissem. pyrite - y

SBR-6 - Hematitic sandstone - x

SBR-6B - Hematitic siltstone - x

SBR-7 - Cherty rhyolite or tuff, 2-3% dissem. py - x

SBR-8 - Chert / jasper, 5-10% dissem. py - y

SBR-9 - As above, some specks of specularite - y

DLR-59 - Rhyolite / tuff, minor pyrite - x

DLR-60 - Cherty sediment or tuff, minor pyrite (2-5%) - y

DLR-61 - Cherty rhyolite, 2-5% pyrite - x

DLR-62 - As above - y

DLR-63 - Do - y

DLR-64 - Sericitized rhyolite. Also silicified, 2-5% dissem. pyrite - x

DLR-65 - As above, may be chert - x

DLR-66 - Silicified metasediment, few grains of pyrite - y

DLR-67 - Cherty rhyolite, few grains of dissem. py - y

DLR-68 - As above - y

DLR-69 - As above - y

Please note: Outcrop - x, Floats - y

# APPENDIX E

# Au Plus Multi-element Analyses Of Rock Samples From XRAL Labs / SGS

Please note that silt samples applicable to this report of analyses are underlined.



# **CERTIFICATE OF ANALYSIS**

Work Order: 074949

To:

Annapolis Valley Goldfields Inc. Attn: John Wightman

P.O. Box 485 142 Granville St. **BRIDGETOWN** 

N.S./CANADA/BOS 1CO

Copy 1 to

P.O. No.

Project No. No. of Samples **Date Submitted** 

20/10/03

**Report Comprises** 

Cover Sheet plus Pages 1 to

Distribution of unused material:

Pulps: Rejects: Discarded After 90 Days Unless Instructed!!!
Discarded After 90 Days Unless Instructed!!!

Certified By

Tim Elliott, Operations Manager

Date

06/11/03

#### **ISO 9002 REGISTERED**

ISO 17025 Accredited for Specific Tests. SCC No. 456

Report Footer:

L.N.R.

= Listed not received

I.S.

= Insufficient Sample

n.a.

= Not applicable

= No result

\*INF = Composition of this sample makes detection impossible by this method  $\ensuremath{\textit{M}}$  after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Subject to SGS General Terms and Conditions

SGS Canada Inc. | Mineral Services 1885 Leslie Street Toronto ON M3B 2M3 t (416) 445-5755 f (416) 445-4152 www.sgs.ca

Work Order: 074949

Date: 06/11/03

FINAL

Au FA301 SBR-6 SBR-6B QURTZ SBR-7 SBR-9 \*Dup DLR-13 FBR-18 \*BIk BLANK SBR-2 SBR-3 SBR-5 DLR-13 FBR-2 FBR-3 FBR-7 FBR-10 FBR-11 FBR-12 FBR-13 FBR-14 Element, Method. Det.Lim. Units.

\*Dup SBR-3 \*Std ST23

Page 1 of 3



		Cu ICP70 0.5	61.9 14.2 8.8 19.0 13.1	19.5 36.5 29.5 74.9 13.6	32.4 56.3 37.7 13.4 20.9	37.2 13.7 49.6 59.9 35.2	<0.5 70.0
		Ni ICP70 1	6 4 7 4 9	34 27 37 18	22 45 EL 4 24	23 9 6 2 2	< 1 682
		Co ICP70 1	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	22 4 2 5 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	98225	13 6 6 6	<1 491
	Page 2 of 3	Fe ICP70 0.01	2.49 2.95 4.17 1.76	3.21 2.96 3.25 7.24 2.06	2.10 6.91 8.95 2.14 4.79	3.36 2.01 6.50 2.47 8.83	<0.01 2.95
	Pag	Min ICP70 2 ppm	38 52 36 981	759 273 693 514 892	897 1300 1250 205 871	284 972 39 1210	<22 \$23
		Cr ICP70 1	22222	30 62 39 43 26	9 71 23 43	8 2 2 2 8 8 8 2 2 2 8 8	< 1 274
		V ICP70 2 ppm	9,000	23 96 58 129 43	8 178 85 7 7	78 16 213 72 85	27 27
		Ti ICP70 0.01 %	0.03 0.02 0.01 < 0.01	<0.01 0.11 <0.01 0.02 0.01	<ul><li>&lt;0.01</li><li>0.20</li><li>0.14</li><li>0.08</li><li>0.29</li></ul>	0.34 0.13 0.02 0.03 0.15	<0.01
		Sc ICP70 0.5 ppm	<pre>&lt;0.5 &lt;0.5 &lt;0.5 &lt;0.5 3.1</pre>	4.7 4.7 7.9 6.7 6.7	2.6 9.2 6.1 1.5 8.4	1.8 2.8 12.8 0.5 6.2	< 0.5 2.0 2.0
,	-}	Ca ICP70 0.01	0.03 0.03 0.07 <0.01 > 15.00	3.18 0.32 7.26 0.37	> 15.00 3.09 0.36 0.07 1.54	4.30 0.49 0.04 0.04 0.36	<0.01 0.93
	FINAL	K ICP70 0.01	0.24 0.21 0.34 0.10	0.22 0.01 0.21 0.06 0.22	0.19 0.04 0.04 0.19 0.03	<0.01 0.28 0.10 0.24 0.03	<0.01
		P ICP70 0.01 %	<ul><li>&lt; 0.01</li><li>&lt; 0.03</li><li>&lt; 0.04</li></ul>	0.04 0.03 0.03 0.03	0.09 0.09 0.12 0.01	0.09 0.04 0.15 <0.01	<0.01
11,00	00/11/00	AI ICP70 0.01 %	0.22 0.21 0.40 0.13 1.72	2.03 1.24 0.80 2.52 1.05	0.39 4.08 2.44 0.58 3.09	2.49 3.04 0.23 2.42	<0.01 0.79
		Mg ICP70 0.01	0.01 <0.01 0.02 <0.01 2.45	1.26 0.89 3.40 2.20 2.52	1.70 4.01 0.67 0.10 2.40	1.19 0.37 2.02 0.01 0.66	0.87
5,50	<u> </u>	Na ICP70 0.01	<pre></pre>	0.01 0.11 0.06 0.08 0.02	<ul><li>&lt;0.01</li><li>0.02</li><li>&lt;0.01</li><li>&lt;0.01</li><li>&lt;0.93</li></ul>	<ul><li>&lt;0.01</li><li>&lt;0.03</li><li>&lt;0.01</li><li>&lt;0.01</li><li>&lt;0.01</li></ul>	0.00
	ハキバナ/O	Be ICP70 0.5 Ppm	1.2 1.0 2.3 2.7 1.3	4. 4. 6 6.	0.8 1.1 2.7 0.9 0.7	0.6 2.7 1.7 1.3 2.7	<0.5
<b>グラグ</b>	Horn Oluci.	Element. Method. Det.Lim. Units.	DLR-13 FBR-2 FBR-3 FBR-7 FBR-10	FBR-11 FBR-12 FBR-13 FBR-14 FBR-15	FBR-18 SBR-2 SBR-3 SBR-5 SBR-6	SBR-6B QURTZ SBR-7 SBR-9 *Dup DLR-13 *Dup SBR-3	*Std XRAL01



	Li ICP70 1	12,25	35 17 13 86 86 87 17 17 10 30	25
	Bi ICP70 5 ppm	2222	7 5 5 1 8 5 5 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	Pb ICP70 2 ppm	2370 112 24 126 126	16 10 12 278 35 35 9 9 11 11	23 16 2330 12 22 21
je 3 of 3	W ICP70 10 ppm	22222		
Page	La ICP70 0.5 ppm	21.8 14.8 18.9 17.3	30.6 19.7 12.7 10.4 15.2 9.2 16.8 14.0	8.5 26.9 24.4 24.6 11.1 <0.5
	Ba ICP70 1	17 10 19 237 45	25 25 35 35 36 77 40 40	10 32 33 16 16 8 8
	Sb ICP70 5 ppm	2222	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ \$ \$ \$ \$ \$ \$
	Sn ICP70 10 ppm			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	Cd ICP70 1	9 7 7 7 V	<u>^                                    </u>	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
ت	Ag ICP70 0.2 ppm	1.0 2.0 0.3 1.3	0.8 0.9 0.8 0.8 0.8 0.8 0.8	0.4 1.1 0.8 0.8 0.8 0.0 4.7
FINAL	Mo ICP70 1	0 ¥ 0 ∞ Ω.	^ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	77777
	Zr ICP70 0.5 ppm	48.2 16.2 19.6 10.0	21.2 21.5 15.5 10.5 14.0 9.6 11.8 9.7 21.1	31.4 23.2 10.6 47.9 9.9 <0.5
06/11/03	Y ICP70 0.5 ppm	24.2 7.5 10.3 12.2 9.3	12.7 12.4 11.5 12.6 12.6 12.6 14.5 16.5 18.5 18.5	8.9 13.8 27.3 25.8 16.9 <0.5 8.5
	Sr ICP70 0.5 ppm	3.3 1.3 3.7 9.2 513	87.9 12.4 589 29.9 457 624 57.3 2.4 1.9	92.2 5.3 109 3.6 2.1 <0.5
Date:	As ICP70 3 ppm	7 41 113 741 8	6 14 6 15 15 15 15 15 15 15 15 15 15 15 15 15	<ul> <li>&lt;3</li> <li>&lt;3</li> <li>&lt;4</li> <li>&lt;1</li> <li>&lt;251</li> <li>&lt;1</li> <li>&lt;253</li> <li>&lt;258</li> </ul>
074949	Zn ICP70 0.5 ppm	668 857 26.3 66.3	80.4 55.8 58.5 285 115 115 93.0 105	133 45.6 103 659 128 <0.5
Work Order:	Element. Method. Det.Lim. Units.	DLR-13 FBR-2 FBR-3 FBR-7	FBR-11 FBR-12 FBR-13 FBR-14 FBR-15 FBR-18 SBR-2 SBR-3 SBR-5 SBR-5	SBR-6B QURTZ SBR-7 SBR-9 *Dup DLR-13 *Dup SBR-3 *BIK BLANK

# Geochemical Analysis

Elements	and	detection	limite
***********		4616611011	11111113.

	Method ICP70	Method ICP80	Method ICP90	Method	Method	Method	Method
	Aqua	Multi	,3	ICP95	ICAH70	IC30E	AAH70
	Regia	Acid	Na <sub>2</sub> O <sub>2</sub> Fusion	LIBO <sub>2</sub> Fusion	Aqua	Acid	Aqua
		Digestion	Digestion	កបទបេរា	Regia	Digestion	Regia
		-9-0.00	Digestion		Digestion	Organic	Digestion
Aluminum Al	.01 % - 15 %	.01%-15%	.01 % - 25 %	01% - 25%		Extraction	Hydride
Antimony Sb	5 ppm - 1 %	5 ppm - 1 %	50 ppm - 10 %	-	.1 ppm - 100 ppm	1 ones 1000 name	.1 ppm - 1000 ppm
Arsenic As	3 ppm - 1 %	3 ppm=1 %					.1 ppm - 1000 ppm
Berlum Ba	1 ppm - 1 %	1 ppm - 1 %	10 ppm - 10 %	10 ppm - 10 %	er ppin   ou ppin	ւ հեւու - տոր հեւու	1 bhin - man bhin
Beryllium Be	.5 ppm-2500 ppm	.5 ppm-2500 ppm				_	***
Bismuth Bi	5 ppm - 1 %	5 ppm - 1 %	_		27 Sept. 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 nom - 1000 nom	.1 ppm - 1000 ppm
Cadmium Cd	1 ppm - 1%	1 ppm - 1 %	10 ppm - 5 %	_	1 ppm - 500 ppm	.05 ppm - 1000 ppm	
Calcium Ca	.01 % - 15 %	.01%-15%	.01 % - 35 %	01%-35%	$(G_{\mathbb{R}^n})_{n\in\mathbb{R}^n}\subseteq G_{\mathbb{R}^n}$		
Chromium Cr	1 ppm - 1 %	1 ppm - 1 %	10 ppm - 10 %	01%-10%	_	_	A man with management and considerable of authorizon and account to a considerable of the second of
Cobalt Co	1 ppm - 1 %	1 ppm - 1 %	10 ppm - 10 %		1 ppm - 1 %	_	_
Copper Cu	.5 ppm - 1 %	.5 ppm = 1 %	10 ppm - 10 %	4.0	.5 ppm - 1 %	.05 ppm - 1000 ppm	
iron Fe	.01 % - 15 %	.01%-15%	.01 % - 30 %	01-% - 30 %	-		to be a second distribution of the second se
Lanthanum La	.5 ppm - 1 %	.5 ppm - 1 %	10 ppm - 1 %	7	-	Arek	where the specific depth of the section of the sect
Lead Pb	2 ppm - 1 %	2 ppm = 1 %	20 ppm - 10 %		2 ppm - 1%	1 ppm - 1000 ppm	
Lithium Li	1 ppm - 1 %	1 ppm - 1.%	10 ppm - 10 %		-	***	Application of the second of t
Magnesium Mg	.01 % - 15 %	.01%-15%	.01 % - 30 %	01 % - 30 %		**	TANK
Manganese Mn	2 ppm - 1 %	2 ppm - 1 %	10 ppm - 10 %	01%-10%	-	MAN	
Mercury Hg	*1 ppm - 1 %		-	1949	*5 ppb = 100 ppm	*5 ppb - 100 ppm	***
Mercury Hg Molybdenum Mo	**5 ppb - 100 ppm				AMERICAN AND AND AND AND AND AND AND AND AND A	<del></del>	
Nickel Ni	1 ppm - 1 % 1 ppm - 1 %	The state of the s	10 ppm - 10 %		1 ppm - 1%	.1 ppm - 1000 ppm	***
Nioblum Nb	1 ppiii - 1 76	1 ppm - 1 %	10 ppm - 10 %		1 ppm - 1 %		
Phosphorus P	.01 % - 15 %	nin/ in/	04.00 0000	10 ppm = 10%			
Potassium K	.01 % - 15 %.	.01 % - 15 % ; .01 % - 15 % ! !	.01% - 25%	01%-25%	-	www.	and
Scandium Sc	.5 ppm - 1 %	.5 ppm - 1 %	.01% - 25%	01% 25%		<del>~</del>	
Selenium Se	- 10 hbus - 1 10	io hhiii z i 've'	5 ppm - 5 %		ACCOMMUNICATION OF STREET	ava	and the second of the second o
Silicon Si				01%-30%	<del>-</del>	<i></i>	.1 ppm - 1000 ppm
Silver Ag	.2 ppm - 10 ppm	.2 ppm - 10 ppm		U 1,78 * 3U 78	7 - 40	1	
Sodium Na		.01% - 15.%		01%-30%	.2 ppm - 10 ppm	.1 ppm - 10 ppm	
Ströntlum Sr.		5 ppm - 5000 nnm	10 ppm - 1 %	10 ppm - 10 %		***	
Tellurium Te	MA			ro elemento de		1 nnm 1000 nnm	1 1000
Tin Sn	10 ppm - 1 %	10 ppm - 1 %	50 ppm - 5 %			.1 ppm - 1000 ppm	11 bbin - 1000 bbin
Titanium Ti	.01 % - 15 %	.01% - 15%	.01 % - 25 %	01% = 25.%			
Tüngsten W	10 ppm - 1 %	10 ppm - 1 %	50 ppm - 5 %				
Vanadium V	2 ppm - 1 %	2 ppm - 1 %	10 ppm - 5 %				
Yttrium Y	.5 ppm - 1 %	.5 ppm - 1 %		10 ppm - 10 %	_	***	The state of the s
Zinc Zn	.5 ppm - 1 %	.5 ppm = 1 %	10 ppm - 10 %	742	.5 ppm - 1 %	.05 ppm - 1000 ppm	The state of the s
Zirconium Zr	.5 ppm - 1 %	.5 ppm - 1 %	_	10 ppm = 10 %			
	- 11 T T T T T T T T T T T T T T T T T T			A SAGE	A contract of the first of the	The second secon	erendende dem gradississe stransfelde de d
Price per sample:							
One element:	\$3.65	\$10.60	\$9.20	<i>59.20</i>	-	-	\$5.40
Each additional elem	ent: \$1.55	\$1.55	\$1.55	\$1.55	_		\$3.15
All elements:	\$8.95	\$14.40	\$12.65	\$12.65	\$14.80	\$15.40	\$17.75
lg add-on:	* IC70Hg - \$1.10				<b>'</b> \$3.15	<b>*\$3.15</b>	• • • •
Other add-ons:	**\$3.15						





# FA301 - LEAD COLLECTION / FIRE ASSAY, ICP FINISH FOR LOW LEVEL GOLD

# Purpose:

This procedure applies to all low level geological samples to be analyzed for gold by lead collection fire assay / ICP finish.

#### Procedure:

Weigh an assay ton (30 grams) or other weights as per client's instructions into a crucible with 150 grams (or more) of flux, Mix sample, add 1 mg of silver nitrate, cover with borax. Place crucible in furnace for 45 minutes at 1080 C. Pour into cast iron mold, cool, hammer lead button free of slag. Place lead button on pre-heated cupel at 950 C all lead is removed. Remove from furnace and cool. Digest dore bead by adding 1 ml of 1:1 HNO3 and place in a hot water bath for 15 minutes. Add 1 ml HCL and return to bath for 60 minutes. Bring to final volume of 10 mls with distilled water.

#### Instrumentation:

Samples are analyzed on an ICP-ES Instrument equipped with an auto sampler and automatic data capture.

# **Quality Control:**

A reference material is digested and analyzed with each batch of 28 samples or less to ensure batch accuracy. Duplicates are digested and analyzed every 12<sup>th</sup>. sample or less to ensure batch precision. A blank is also analyzed in every batch of 28 to monitor contamination.

#### Reporting:

Results from the instruments are processed automatically, loaded into the LIMS where the QC parameters are checked before final reporting.

#### **Elements and Reporting Limits**

# **Detection limits Upper Limits**

Au	1ppb	2,000 ppb
Standards	<b>Au</b> ppb	
TDB-1 Certified Valu	e 6.3 +/-1.0	)
XRAL AVG.	6.2 +/-1.2	2
WPR-1 Certified Valu	e 42 +/-3	
XRAL AVG.	42 +/-3	
WMG-1 Certified Valu	e 110 +/-11	
XRAL AVG.	107 +/-6	

# ICP12B - Geochem Analysis by Aqua Regia Digestion / ICP-ES

# Purpose:

This procedure applies to all geological samples to be analyzed for mutlielement by ICP-ES. .

# Digestion:

Weight 0.25 gram sample, add 2 mls HNO3, mix and heat in water bath for ½ hour. Cool, and then add 1ml HCL. Heat in a water bath for 2 hours. Cool to room temperature and add 17 mls distilled water, mix.

#### Instrumentation:

ICP-ES – Samples are analyzed on ARL 3560 or Optima (3000 or 4300). The calibration stds. are made up of a blank, a 5ppm std., a 50 ppm std. An Fe at 1000 ppm and Ag at 1 ppm. Drift check solution is also used to monitor drift.

# **Quality Control:**

A reference material is digested and analyzed with each batch of 48 samples or less to ensure batch accuracy. Duplicates are digested and analyzed every 20 samples or less to ensure batch precision.

#### Reporting:

Results from the instruments are processed automatically, loaded into the LIMS where the QC parameters are checked before final reporting.

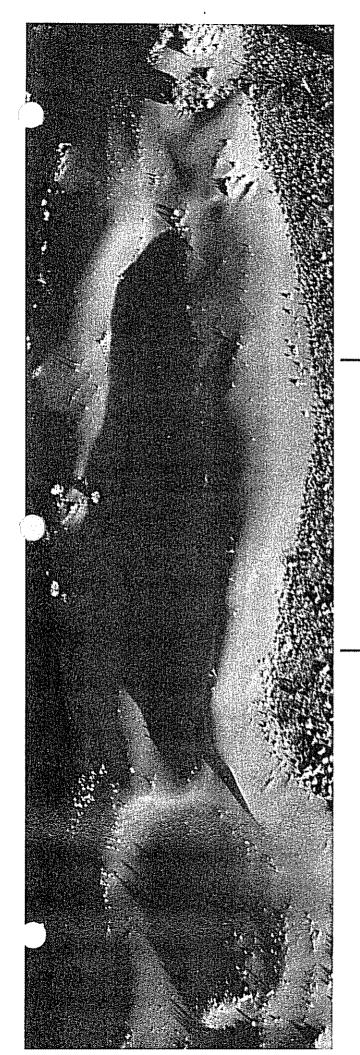
#### **ELEMENTS AND LIMITS**

	Detection Limit	s Upper Limits
Al	*0.01%	15%
Sb	*5 ppm	1%
As	3 ppm	1%
Ba	*1 ppm	1%
Be	0.5 ppm	2500 ppm
Bi	5 ppm	1%
Cd	1 ppm	1%
Ca	*0.01%	15%
Cr	*1 ppm	1%
Co	l ppm	1%
Cu	0.5 ppm	1%
Fe	*0.01%	15%
La	*0.5 ppm	1%
Pb	2 ppm	1%
Li	*1 ppm	1%
Mg	*0.01%	15%
Mn	2 ppm	1%
Mo	l ppm	1%
Ni	1 ppm	1%
P	*50 ppm	1%
K	*0.01%	15%
Sc	*0.5 ppm	1%
Ag	.2 ppm	10 ppm
Na	*0.01%	15%
Sr	*0.5 ppm	5000 ppm
Sn	10 ppm	1%
Ti	*0.01%	15%
W	*10ppm	1%
V	*2 ppm	1%
Y	*0.5 ppm	1%
Zn	*0.5 ppm	1%
Zr	*0.5 ppm	1%

<sup>\*</sup> Leach is partial for these elements. Other elements may be partial depending on their mineralogy

# APPENDIX F

Results Of MMI Soil Sampling From SGS / XRAL



## **Mobile Metal Ion**



RACEULUIIUN

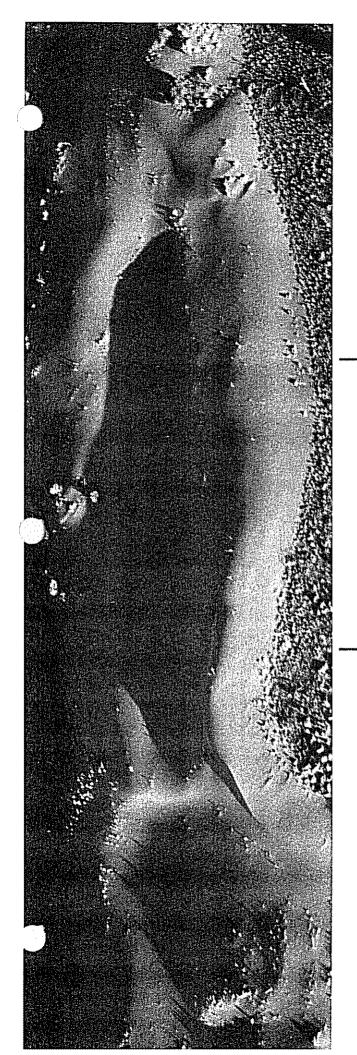
*C*UIL

WEUCHEWISIKI

World-Wide Application



MMI... We've got you covered



## **Mobile Metal Ion**



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RALBULUIIUN

CULL

- LUCHEWIS IKI

World-Wide Application



MMI... We've got you covered



Work Order:	074442	Ι	Date:	01/10	/03	FINAL	Page 1 of 1
Element. Method. Det.Lim. Units.	Au MMI-B 0.1 ppb	Co MMI-B 1 ppb	Ni MMI-B 3 ppb	Pd MMI-B 0.1 ppb	Ag MMI-B 0.1 ppb		
LINE 3 0+00	< 0.1	1	7	< 0.1	2.07		
LINE 3 1+S	<0.1	1	12	1.0>	0.69		
LINE 3 2+S	<0.1	3	8	<0.1	2.59		
LINE 3 3+S	<0.1	5	34	<0.1	4.14		
LINE 3 4+S	<0.1	5	59	<0.1	2.04		
		-					
LINE 35+S	<0.i	1	10	< 0.1	3.71		
LINE 36+S	< 0.1	9	48	< 0.1	1.49		
LINE 37+S	< 0.1	19	47	< 0.1	4.11		
LINE 38+S	< 0.1	5	52	< 0.1	5.44		
LINE 3 9+S	< 0.1	3	16	< 0.1	0.78		
LINE 3 10+S	< 0.1	<1	100	< 0.1	12.5		
LINE 3 11+S	<0.1	11	42	< 0.1	1.14		
LINE 3 12+S	< 0.1	5	44	<0.1	2.42		
LINE 4 0 ± 00	<0.1	6	61	0.33	2.95		
LINE 4 1+S	< 0.1	<1	29	< 0.1	5.83		
LINE 42+S	< 0.1	1	23	< 0.1	2.86		
LINE 43+S	< 0.1	4	10	< 0.1	2.34		
LINE 4 4 + S	< 0.1	ı	6	< 0.1	1.60		
LINE 45+S	< 0.1	<1	29	< 0.1	2.61		
LINE 4 6+S	< 0.1	7	22	<0.1	0.47		
LINE 4 7+S	< 0.1	4	8	< 0.1	1.63		
LINE 48+S	< 0.1	<1	19	< 0.1	4.98		
LINE 49+S	< 0.1	2	9	< 0.1	3.32		
LINE 4 10+S	< 0.1	< ἶ	38	< 0.1	26.1	•	
LINE 4 11+S	< 0.1	ì	28	< 0.1	6.96		
101111 1 6 8 1 M	377.1	•		~u.1	0.70		
LINE 4 12+S	< 0.1	l	8	< 0.1	5.66		
"Dup LINE 3 0+00	< 0.1	l	6	< 0.1	2.07		•
"Dup LINE 3 12+5	< 0.1	4	42	< 0.1	2.56		
'Dup LINE 4 11+S	< 0.1	ı	26	< 0.1	6.91		

# Cobequid Mountains Gold Project

## MMI "B" Lines 1 & 2

Sample Ident Scheme Code Analysis Unit Detection Limit LINE 1 0+00 LINE 1 1+00S LINE 1 2+00S LINE 1 3+00S LINE 1 5+00S LINE 1 5+00S LINE 1 6+00S LINE 1 7+00S LINE 1 8+00S LINE 1 10+00S LINE 1 10+00S LINE 1 11+00S LINE 1 11+00S LINE 2 1+00S LINE 2 3+00S LINE 2 3+00S LINE 2 3+00S LINE 2 5+00S LINE 2 6+00S LINE 2 6+00S LINE 2 8+00S LINE 2 9+00S LINE 2 10+00S	Au MMI-B ppb 0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	Co MMI-B ppb 1 6 2 5 1 <1 3 1 2 1 3 1 5 3 7 <1 2 3 1 5 3 7 <1 2 3 1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ni MMI-B ppb 3 49 14 14 16 12 13 18 16 17 17 14 20 11 22 20 13 11 9 18 12 14 16 13 11	Pd MMI-B ppb 0.1	Ag MMI-B ppb 0.1 5.83 2.58 2.43 5.97 6.12 2.16 3.57 6.53 5.31 3.89 6.78 1.7 2.64 1.4 2.45 5.52 0.64 7.42 4.05 2.76 2.73 4.77 1.88 3.19
LINE 2 8+00S	<0.1	1	16	<0.1	4.77
				<0.1 <0.1 <0.1	

### APPENDIX G

Casual Geological Comments And Observations by Dr. David Mossman

#### Occasional Report COBEQUID GOLD EXPLORATION

(From Porter Brook to Sutherland Brook - see accompanying map))

#### Overview of the geology

A remarkable range of metavolcanogenic and metasedimentary rocks occurs in the map area (see attached sketch map). The main felsic volcanic rocks, in approximate decreasing order of abundance are: flow-banded rhyolite (including ignimbrites), massive rhyolite, spherulitic rhyolite, rhyodacite and dacite. Only several small dykes and sills of felsic intrusives (apart from granites in the western (Debert Lake area) have been observed, though doubtless they are widespread. Ignimbrites are rather less well represented in the map area than towards Debert Lake. Basic volcanics are principally basalt; where amygdaloidal and/or vesicular, these features are commonly elongated, and together with various other internal structures mark the rock as a lava flow. Where massive, basic volcanic intrusives are recorded as diabase. Amygdaloidal basalt is far more widespread in this map area than in the Debert Lake area. Thus, even at reconnaissance scale, indications are that the eruptive center(s) probably lie to the west. Concomitantly, the proportion of metasediment increases towards the east.

Diabase dykes and sills are very abundant throughout the entire region. Consequently they tend to obscure numerous important structural and lithological relationships among and between metavolcanic and metasedimentary rocks. Although on high ground diabase tends to be recessive, in streams where outcrop is generally by far the best, the more rapid erosion rate unfortunately seems to have worked in favour of preserving and highlighting diabase. Also, judging from the variable extent of metamorphic alteration, the diabasic intrusions are of more than one geological age.

Volcanogenic metasediments include banded tuff and massive tuff; to the west, lapilli tuffs are more commonly encountered. Nonvolcanic metasediments include (in approximate decreasing order of relative abundance): siltstone, sandstone, shale, quartzite, chert, ironstone, limestone (marlstone, and coarser argillaceous lime-rich rocks), quartz wacke, and conglomerates.

Three main possible sources of gold are recognized in the area: 1) Several belts of dominantly clastic metasedimentary rock, at least one of which includes bands of limestone, 2) Hydrothermally altered felsic volcanics, and 3) Occurrences of sedimentary (chemically precipitated) ironstone, The first and second sources are considered most likely to account for gold anomalies in the area, and are tentatively attributed equal potential.

#### Possible gold sources

Reconnaissance work has recorded a few colours of gold in several of the larger streams (Mill Brook, Porter Brook, Munro Brook, and Byers Brook) that have been panned. A positive gold anomaly indicated by analysis of HMC and silt, extends east-west across Porter Brook, French River, Munro Brook and "No Name" Brook. Indications are that the source of the gold lies at or near the contact zone between felsic volcanics and basic volcanics. The band of metasediments situated between these two rock types is therefore also a prime exploration target. Quite apart from this, the contact between the felsic and the basic volcanic belts as portrayed on the Donohoe-Wallace geological map is itself particularly important because of the widespread presence of sericitized and pyritized felsic volcanics at this horizon. This is the second prime

exploration target. The third prime exploration target is the occurrences of reddish ironstone such as that found on Munroe Brook (location A)

#### Details on the three possible gold sources

1). METASEDIMENTARY BELTS It is worth noting that reconnaissance work in the map area confirms the presence of several metasedimentary belts. This situation became quite clear following a 600 meter (approx 2000 foot) traverse along No Name Brook in the eastern part of the map area where three belts of metasediments were encountered. The occurrence of amygdaloidal lavas between the southernmost belt and the middle belt of metasedimentary rocks shows that it is not a matter of two belts of metasediments having been created from one by, say, the intrusion of a diabase sill. Then, across the northern part of No Name Brook, rhyodacite tuffs are in part water deposited (they exhibit graded bedding on a centimenter scale) and are interbedded with ferruginous reddish siltstone. Thus, it seems very likely that some, if not all of the reddish, jaspery, banded ironstones are of sedimentary origin. At this last mentioned locality of metasediments, the reddish ironstone, although properly speaking not "jasper", closely resembles the section of ironstone exposed in Munro Brook (noted above), which could be said to constitute a fourth metasedimentary belt, but one in which clastics are apparently lacking. In any case, the sedimentary ironstone is tentatively distinguished from the three metasedimentary belts described briefly below.

In detail, the three metasedimentary belts encountered along No Name Brook are as follows (from south to north):

#### a) South belt (No Name Brook) (location B)

Clastic metasediments outcrop along the south side of the road on either side of a diabase sill. These thin-bedded metasediments include: quartzite, a cherty rock, siltstone and sandstone. The rocks are not mineralized; total thickness exposed is several meters.

#### b) Middle belt (No Name Brook) (location C)

This is primarily a limestone unit totalling 4 to 6 meters of exposed rock in cross-section. A 0.5 meter portion of this unit very closely resembles that found along Porter Brook (location  $\mathfrak{D}$ ), being fine-grained, pyritic (ca. 2%) and extremely compact and difficult to break. The bulk of this limestone is a dark impure argillaceous and slightly ferruginous limestone. There are two outcrops here, roughly 20 meters distant along strike (Sample SBR-9).

#### c) North belt (No Name Brook) (location E)

This belt of metasediments occurs at what we call "Triple Falls". On the lip of the third and lowermost of this set of successive water falls, some reddish, jaspery-looking metasediments overlie a thin rhyodacite flow which includes fragments of the underlying basalt flow. The rhyodacite flow is overlain by tuffs and water-deposited ferruginous metasediment, which otherwise is unmineralized.

2) HYDROTHERMALLY ALTERED FELSIC VOLCANICS This possible gold source is represented at various locations by occurrences of sericitized/pyritized/silicified felsic volcanic lavas and/or tuffs. Float of this sort of material is fairly widespread. Nevertheless this rock type seems to be most commonly encountered in outcrop in the southern portion of the map area and particularly within the contact zone between the belts of felsic and basic volcanic rocks.

A case in point is location  $\digamma$  where there exists one of the best exposures of this rock and adjacent lithologies along a tributary to the French River east of the "Sugary". Here, a sericitized and pyritized spherulitic rhyolite and a stratigraphically overlying tuffaceous unit (likewise hydrothermally altered) occur directly beneath the main belt of metasedimentary rocks. The main sedimentary rock at this location is a brown siltstone at the base of which occur thin lenses of a relatively coarse-grained conglomerate. This latter unit may represent a basal conglomerate which signals the onset of a fresh sedimentary cycle. A host of primary sedimentary structures (graded bedding, scours, flame structures, cross-bedding and sole marks) here, and at several other places in the area, confirm that stratigraphic tops face north. Strike remains fairly constant at east-west.

3) <u>SEDIMENTARY REDDISH JASPERY IRONSTONE</u> A fine example of this rock was reportedly found as a very large boulder of fractured pyritic jasper in the French River beside the Sugary. Evidently this boulder (which has since disappeared) was not auriferous. However, the possibility remains that elsewhere in the area occurrences of rather similar rock (although perhaps less impressively pyritized), might prove more economically attractive.

On Munroe Brook (location A) is the most extensive outcropping of this general rock type. Banded on a scale of centimeters, the rock is exposed in the stream bed at intervals across strike for over 30 meters). The rock is not magnetic, nor is it associated with limestone. Pyritization is almost invariably weak. It is believed to originally have been a chemically precipitated sediment closely akin to the ferruginous metasediment described under 1c (above). Thin zones of similar reddish ironstone (<< 1 meter thick) also occur in the stream beds of Porter Brook, and elsewhere upstream on Munro Brook.

#### Comments

No evidence of significant strike-slip faulting has been seen on the ground; however, dipslip faulting may well have occurred. Indeed, it would be most unusual if low angle reverse faults similar to the one exposed in the rock quarry northwest of Debert Lake, were not common throughout the area. Donohoe and Wallace, both structural geologists, have reported their widespread presence in the region.

The various metavolcanic rocks and metasedimentary units present in this map area and westward toward Debert Lake nevertheless appear to be integral parts of a coherent stratigraphic package. Although the presence of deeply weathered amygdaloidal basalt at location A indicate at least one probable disconformity, strata on the whole appear to be conformable. Certainly there will have been major breaks in the succession of volcanic events such as allowed the development of sedimentary basins, but no matter how restricted these basins, their sedimentary infill will very likely have been closely linked to volcanic activity. The ferruginous jaspery-looking ironstone metasediment, possibly the result of subaqueous volcanic exhalations, may serve as a case in point.

It is therefore scarcely surprising that the brown siltstone encountered along Mill Brook (location G) 1.5 km north northeast of Debert Lake should be identical and coeval with a similar unit encountered along a tributary to the French River several hundred meters east of the Sugary (location  $\mathcal{F}$ ). Nor that one and the same limestone unit should appear along Porter Brook and on the small No Name Brook east of Loon Shit Lake. Note however, that just as the various large

lower Carboniferous evaporite basins in Nova Scotia may have much the same stratigraphy (presumably reflecting particular geologic and/or climatic conditions, etc.,) they need not have been physically interconnected. However, what we have here in this area of the Cobequids is in all likelihood one sedimentary basin.

A further indication that there was no lengthy break between the cessation of volcanism and the onset of sedimentation, is the paucity of conglomerates. Apart from some small scale, relatively subtle graded bedding in water-deposited rhyodacite tuff (described earlier), the most obvious conglomerate is that which occurs as thin (<12 cm thick) lenses several meters long at the base of the siltstone unit (e.g., on Mill Brook and on the tributary east of the Sugary). Here, the clasts (to 3 cm diameter) are mainly pebbles of felsic volcanic rocks and sporadic quartz pebbles - local stuff and certainly nothing exotic. In view of the relatively brief, if vigorous erosive cycle, it is extremely unlikely that the source of the gold is detrital. More likely in this setting is an epithermal association of gold with the metavolcanic rocks and/or the metasediments, possibly even a Carlin type of deposit, given that many of the characteristics of this important deposit type are on display in the mapped area.

So, what was the nature of the epithermal system(s)? Metamorphic grade ranges from upper greenschist to lower amphibolite facies throughout this region of the Cobequids. This was then superimposed upon widespread but sporadic silicification, pyritization and sericitization generated during an early phase of hydrothermal activity. Linked to volcanism, the essential epithermal signature of sericitization, silicification and pyritization in the map area is perhaps most conspicuous in felsic volcanics underlying metasediments of the southernmost belt. The extent to which metallization may occur within the metasediments remains to be determined principally by geochemical analyses of representative rock samples. To what extent were hydrothermal fluids focussed in these epithermal systems? The apparent absence of "massive sulfides" in the region suggests that high fluid/rock ratios might not have been the conditions experienced during the epithermal phase. If fluid /rock ratios were low, then the challenge remains to pinpoint the centers of activity. In either case, judging from the widespread pyritization of rock in the map area [disseminated pyrite, for example, is particularly widespread along Whirleywaugh Brook in felsic volcanics in the immediate vicinity of the (three) reported Cu, Fe, prospects], the availability of sulphur for the solution of reduced hydrothermal gold will not have been a problem. Ponding of hydrothermal fluids beneath an impermeable cover of shales and siltstones at intervals within/ along the sedimentary basin is another scenario well worth considering.

September 1 2003

David J. Mossman

-	\$ W244815 YEE	Hacattee

MAP <u>|| F || B</u>
REFS.

# STATEMENT OF ASSESSMENT WORK EXPENDITURES (N.B. Complete as necessary to substantiate the total claimed)

RE: EXPLORATION LICENCE NO. 4900 A DA	VIE OF teeting Q AAA.	
1 (1		- v 200 3
2. Geological mapping 3. Trenching/Stripping/Refilling	8,5	AMOUNT SPENT
2. Ocological mapping	12 300 (1000	2720,00
3. Trenching/Stripping/Refilling 4. Assaying & whole rock analysis. The stripping of the s	un's	_8200.00
Assaying & whole tock analysis . T.uws.  Other laboratory		**************************************
		<i>225, 0</i> 0
6. Grid: a) Linecutting b) Picket setting		
b) Picket setting	km	
	kını	The state of the s
7. Geophysical Surveys:	km	
Airborne: a) EM		· · · · · · · · · · · · · · · · · · ·
		•
d) Combination	km	Procedure and the second secon
	<i>/</i> km	
Ground: a) EM		<b>3</b>
b) Scismic Soundings c) Magnetic/telluric	Min	
c) Magnetic/telluric	# *	
d) IP/Resistivity	km	ω
c) Gravity	knı	
d) iP/Resistivity c) Gravity f) Other	km	
9. Geochemical Surveys:	km	
a) Lake, stream, spring		0
(sode home)		皇
(seds/water)		125.
b) Rock/core/chips 77000	samples	1250.00
c) Soll/Overburden (M) Cas Method c) Blurcochemistry	54 samules	Book
	Samples	- 800.00
		-
f) Sample Collection	days	the same of the sa
g) Other	7113.7	the state of the s
- Druing.		A CONTRACTOR OF THE PROPERTY O
a) Diamond (#holes/m)	1 40	
b) Percussion (#liole/in)		
		Mary and the state of the state
	m	**************************************
(#holes/m)		
77 LUPENIP, Shnervision	III	
eic.	<i>f</i>	
g) Scaling (# holes)	days	
MEALS & MISE	3 DAYS	1400,00
REPORT PREP	7 3	100.00
	Z_DAYS	- 880 W
	22.5 1.0	
OVERHEAD COSTS	SUBTOTAL	15575,00
12. Secretarial Services		A Section of the sect
13. Diming Scivices		
	_	200.00
		200,00
18. Other (describe) PHONE (FAX		
ADMIN @ 5%	-	50,00
and the state of t	P-	790.00
	-	
	SUBTOTAL	
liciely certify that the shows to con-	TOTAL	17 615
I hereby certify that the above information is true and correct assessment work credit.	and that It has not before two	16,615.00
assessment work credit.		a sommitted fill
- WITH	on dub autorient to make it	to and the
(Position in Company or Licensee)	and antioniven in make It	us certification.
DATES IN The said		
	of N.5	
this bth day of Avenet		
Name and Add 20 04		
rounce and Address of Licensee: Cobequid	Gold Com	
142 Granville St. O. O	- Live	
TO SOX	485, 1305/00	L
this 6th day of August 20 04.  Nume and Address of Licensee: Cobequid  142 Gronville 5t, P. B. Box  Signature A. Madgins		The state of the s

<b>13</b>	Natural Resources
_	TWINITE HOSOURCE

	11 E 11 B
REFS.	+

## STATEMENT OF ASSESSMENT WORK EXPENDITURES (N.B. Complete as necessary to substantiate the total claimed)

RE: EXPLORATION LICENCE NO. 4901 DATE	,	
TYPE OF WORK  1. Prospecting	: OF ISSUE719_4	AMOUNT SPENT
	3,5 days	1120,00
- www.cg.com mannings		4560.00
		- 90,00
Other laboratory     G. Grid:     a) Linecutting     b) Picket setting	#	
b) Picket setting	km	
b) Picket setting	- Killi	
7. Geophysical Surveys:	Km Km	
Airborne: a) EM	.km	
		· · · · · · · · · · · · · · · · · · ·
c) Radiometric d) Combination c) Other	km	
d) Combination	kın	
e) Other 28. Geophysical Surveys:	kın	
Ground: a) FM		
	kın	
") Contine Duringling	- 4	
c) Magnetic/telluric	km	
d) Il'/Resistivity	kın kın	
e) Gravity  f) Other  9. Geochemical Surveys:	knı	
9. Geochemical Surveys:	km km	
a) Lake stream enting		
(seds/water) Thu <	2s	
		240.00
		***************************************
	frame in a	
The content of the co		
To Dinning.		***************************************
a) Diamond (#holes/m)		
o) i cicussion (withtenin)		*
-) ************************************	1	<u> </u>
o) rages (minics)(III)	-J m =	
c) Reverse carculation	•	ا م ا
(#hotes/m)	_/ m	
elc. ,		GJ
		<u>ဗ</u>
11. Other: (describe) FIELD SUPERWITON	< 2 00····	
MERIS & MISE	<u> </u>	- 400.00
REPORT PREP	2 Dave	- Inouno
	<u> </u>	880.00
	SUBTOTAL	
OVERHEAD COSTS		-1890,00
12. Secretarial Services		
13. Drafting Services		<del></del>
14. Office Expenses (rent, heat, light etc.)		150 00
15. Field Supplies		100,00
16. Compensation Paid to Landowners		- LICELION
17. Legal Fees  18. Other (theorities)	•	
18. Other (describe) PHONE FAX  AOMIN © 59.		25.00
- 7 ECIMIN 10 39/		408.00
The state of the s		
	SUBTOTAL	683,00
hereby certify that the above information to	TOTAL	\$5.72.60
hereby certify that the above information is true and correct issessment work credit.	and that it has not before	been submitted for
pacament kotk ciedif		
As Person Who Supervised work 17	ton etata markharit	
27 22 22 20 20 7 2	on only authorized to mak	e this certification.
The minimum of micetisce)		
DATED AT 7 YOFO in the Province of	of N.S	
his 6th day of August 2004.	JI	
20 04		
vame and Address of Licensee: Cobes wid	Gold Come	
Name and Address of Licensee: Cobeg vid	USE D.	· · · · · · · · · · · · · · · · · · ·
. 111.	100, 005/60	
Ignature A. Kudzino		
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