Technical Report
on the 122-95M Emerald License
in the Boyacá District, Colombia

for Fura Gems Inc.
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1.0 Summary

Ricardo A. Valls from Valls Geo-consultant (the QP) has been retained by Fura Gems Inc. to prepare an independent National Instrument 43-101 compliant technical report on the Coscuez Emerald Mine (“Coscuez Mine”) in Colombia.

In Colombia, most of the emeralds mined come from the Muzo district, and the Coscuez Mine in the San Pablo de Borbur Municipality, has grown to become one of the top three producers of emeralds in Colombia. Although smaller than Muzo mine, the Coscuez mine has for more than 300 years produced some of the best emeralds from the Muzo region.

Emeralds are green precious stones that are mined from the ground. They are the premier gems in the Beryl family. It is estimated that today Colombian emeralds account for nearly 70-90% of the world’s emerald market.

The sedimentary rocks of the Muzo district were subjected to tectonic activity, and metamorphism. During these events, hydrothermal solutions appear to have been derived from unidentified igneous sources. These solutions rich in beryllium and other elements, traveled along zones of weakness in the rocks, such as fault/fracture zones. The solutions deposited emerald and other minerals along these fractures in the metamorphosed Muzo Group of sediments.

Colombian emeralds are prized for their transparency, crystallization and fire. Emeralds range in color from a slightly light, yellowish green, to a deep, dark bluish green color. The darker green color is generally considered more desirable and the natural mineral inclusions, or flaws, add to the stone’s character.

This technical report documents a summary of scientific and technical information concerning mineral exploration, development and production activities status of this license for the Client prepared by P.Geo. Ricardo A. Valls from Valls Geoconsultant (the QP) following the terms and definitions of the National Instrument 43-101.

The Qualified Person (QP) visited the site on May 11, 2017 and has visited the region in several occasions before in connection with exploration and mining of emeralds and hence has a good amount of knowledge of geological history and understanding of the emerald mineralisation.

The Coscuez Mine is a well-known emerald mine located in the San Pablo de Borbur Municipality in Central Colombia. License 122-95M has been granted for an initial period of 30 years, expiring on December 2020, with possible extensions for up to 30 additional years to be negotiated with the governmental authorities. The license covers an area of 43 hectares and the mineral granted under concession is emeralds.

A wholly owned subsidiary of Fura Gems Inc. has entered into a share purchase agreement with Emporium S.A.S. to acquire 76% of the issued and outstanding shares of Esmeracol S.A., which owns License 122-95M, from Emporium S.A.S.
After several visits to the property and nearby areas, the QP has developed a geological model for the genesis of formation of emerald prospective zones. The model suggests that due to the collision of the Caribbean Plate with Colombia plate a main tectonic zone oriented in a NNE-SSW direction was formed. This also resulted in a series of perpendicular secondary lineaments. Along these deep sitting structures, hydrothermal fluids pregnant with beryllium reach the surface and percolate into the shale (mudstones). This was accompanied by the formation of tertiary lineaments that provoked the formation of zones of tectonic gauche where most of the largest emerald gems were formed.

Besides the physical influence of these structures, emerald mineralisation also follows a zoning pattern related to the hydrothermal fluids coming from the faults. An oxidation zone, which usually marks the beginning of the zone, is usually devoid of emeralds. The zone of silicification, chloritization and carbonatization, are formed laterally and ends in a zone of kaolinitization next to a zone of tectonic gauche. Most of the emerald mineralisation are found in these lateral zones. Preliminary observations indicate the transformation of potassic feldspar into sodic plagioclase within the productive zone.

The QP recommends a comprehensive approach to study the target which includes satellite and lineament analysis, geochemistry, geophysics, and geological and structural mapping to define the continuation of the mineralization at depth and the location of other productive zones in the area.

The budget includes only the initial exploration work, up to the drilling phase. It does not include the cost of supportive and neither administration work, nor any moneys related to the purchase of this license. It is recommended US$87,000 dollars for Phase I, followed by US$1,539,200 for Phase II, for a rounded total of US$1,625,000.
2.0 Introduction

Valls Geoconsultant ("VG") is a sole proprietorship consulting company located in Toronto, Canada. Fura Gems Inc. (hereinafter also referred to as the "Company" or the "Client") hired Ricardo A. Valls from VG to undertake technical study of emerald licence 122-95M located in the San Pablo de Borbur Municipality in Central Colombia.

Fura Gems Inc. is a public company listed on the TSX Venture Exchange under the symbol FUR. The Client is proposing to acquire a 76% effective interest in licence 122-95M. The 122-95M licence is located within the San Pablo de Borbur Municipality where rough emeralds and beryl are currently recovered from mines.

At the request of Devidas Shetty, President, Chief Executive Officer, Director of Fura Gems Inc., a technical report has been prepared by Ricardo Valls, M.Sc. P.Geo. of Valls Geoconsultant to present a summary of the technical aspects of 122-95M emerald licence in Colombia.

The Qualified Person (QP) visited the site on May 11, 2017 and has visited the region on several occasions before in connection with the emerald exploration and geology. This report is based on technical information presented by the Client, as well as on publicly available information.

While exercising all reasonable diligence in checking, confirming, and testing information and data, the QP used, and believes that has reasons to use, data and information provided by Mauricio Fandiño who has worked for many years in the licence on the history of the exploration work and main geological characteristics of the mine, as well as information provided by the Client and public technical sources.

All coordinates in this report correspond to the WGS 84 18N datum. The QP has adhered to the metric system and all costs are expressed in US dollars.

Emeralds are green precious gem stones belonging to beryl family that are mined from the ground. Colombia mines are producing most of the emeralds for the global market. It is estimated that Colombian emeralds account for nearly 70-90% of the world’s emerald market currently. In the Guinness Book of World Records the largest emerald in the world at 7,025 carats is featured as of Colombian origin. While commercial grade emeralds are quite plentiful, fine and extra fine quality emeralds are extremely rare.

Emeralds are found in deposits in several places around the world, but Colombian emeralds are prized for their transparency, crystallization and fire. Emeralds range in color from a slightly light yellowish green, to a deep, dark bluish green. The darker green color is considered more desirable and the natural mineral inclusions, or flaws, add to the stone's character.

Depending on their market value (which is determined by factors such as size, color, purity, and brilliancy) a low to high retail price range of emeralds is estimated as follow: Commercial stones are ranged $300 to $5,250/Carat. Good stones are ranged $5,250 to
$10,125/Carat. Fine stones are ranged $10,125 to $20,900/Carat. Extra Fine stones are ranged $20,900 to $90,800/Carat.

The state departments in Colombia, where most of the emerald mining takes place, are in the regions of Boyacá and Cundinamarca.

Some of the rarest and most expensive emeralds in the world come from three main emerald mining areas in Colombia: Muzo, Coscuez, and Chivor.

History of Emeralds mining goes back long before the Spaniards arrived. Historians believe the indigenous Indians of Colombia mastered the art of mining as early as 500 AD. During pre-colonial times, Colombia was occupied by Muzo Indians, who were overpowered by Spain in the mid 1500’s.

### 3.0 Reliance on Other Experts

This report represents the professional opinion of Ricardo A. Valls, M.Sc. P. Geo. from Valls Geoconsultant. This document has been prepared based on a scope of work agreed with the Client and is subject to inherent limitations considering the scope of work, the methodology, and procedures used. This document is meant to be read as a whole and portions thereof should not be read or relied upon unless in the context of the whole.

The QP has received a legal opinion from the Colombian legal firm Sanclemente Fernandez Abogados S.A. (the “Title Opinion”) on November 13, 2017 confirming the validity and legal status of the License. The QP is relying on the Title Opinion with respect to the ownership and good standing of the license under the section of this technical report entitled “Property Description and Location”.

Finally, the reader should notice the signature date of this report, which is the cut-off date for the information that is included in the present technical report.
4.0 Project Description and Location

The property is located in the San Pablo de Borbur Municipality of the Boyacá District, Colombia, on the western flank of the Western Cordillera with a large tradition in mining, especially for emeralds.

The Borbur Municipality is 546 km² with over 180 km of roads, generally in bad shape and difficult to travel through. This is a big impediment for the economic development of the area, however they are fixing the connection between Otanche and the Municipality of Chiquinquirá (Fig. 1).

Main economic activity is the exploitation of emeralds, as well as livestock and basic agricultural activity. Electric lines are present throughout the area and are no hindrance for the development of economic activities and labor, given the experience the locals have in this informal mining in the region.

Figure 1. Route from Bogotá to the Coscuez Mine.
License 122-95M is an exploitation license, granted to Sociedad Esmeraldas y Minas de Colombia S.A.- ESMERACOL on June 30th, 1995, with a total area of 46 ha and 9.501m² expiring on October 9th, 2020.
As far as it has been disclosed, all permits have been acquired to conduct the work proposed for the property, and payments have been made to keep the property in good standing. There is no known environmental liability to the Client. The QP has been advised by the Company’s Colombian external legal counsel that there are no royalties, back-in rights, payments or other agreements and encumbrances to which the license is subjected except for legislated Colombian government royalties equivalent to 1.5% of the value of stones produced, and the surface and administration fees calculated in minimum wages multiplied by the extension of the granted area.

Except for unforeseen events or Acts of God, the QP does not see any significant risks or uncertainties for the further exploration and development of the license.

5.0  Accessibility, Climate, Local Resources, Infrastructure, and Physiography

5.1  Accessibility, Climate, and Vegetation

Boyacá is located in the Andean Region in central Colombia, over the Eastern Cordillera mountain range and covers a total area of 23,189 km². It borders other Colombian departments as follows: to the north Santander and Norte de Santander, to the east Arauca and Casanare, to the south Cundinamarca and a small part of Meta, and to the west Antioquia and Caldas.

The area of the project is made of river valleys surrounded by low to medium size mountains. Elevations do not rise above 2000 m.a.s.l. For the most part, there is a paved road from Bogotá to Muzo (182 Km) that takes around 5 hours by 4x4 car. Access to the license is by a combination of dirty and paved roads.

The central area of the tableland has two rainy seasons; the first between April and June, and a second between October and November with an average of 1,000 km³ of rainfall per year. The rest of the year is considered to be the dry seasons with intermittent rainfall.

Many rivers spring from this area. The most important being the Chicamocha River and Arauca River and also tributaries to other important rivers such as the Magdalena and Meta.

Boyacá also has numerous lakes which include Lake Tota, Lake Sochagota, Lake Fúquene which is shared with the department of Cundinamarca, the Chivor Reservoir and others. Exploration activities are possible year-round.
Altitude affects both temperature and vegetation. In fact, altitude is one of the most important influences on vegetation patterns in Colombia. The mountainous parts of the country can be divided into several vegetation zones according to altitude, although the altitude limits of each zone may vary somewhat depending on the latitude. The "tierra caliente" (hot land) is below 1,006 m. It is the zone of tropical crops such as bananas. The tierra templada (temperate land) extends from an altitude of 1,006 to 2,012 m. It is the zone of coffee and maize. Wheat and potatoes dominate in the "tierra fría" (cold land), at altitudes from 2,012 to 3,200 m. In the "zona forestada" (forested zone), which is located between 3,200 and 3,901 m, trees are cut for firewood. Treeless pastures dominate

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the páramos, or alpine grasslands, at altitudes of 3,901 to 4,602 m. Above 4,602 m the temperatures are below freezing. It is the "tierra helada", a zone of permanent snow and ice.

Vegetation also responds to rainfall patterns. A scrub woodland of scattered trees and bushes dominates the semiarid northeast. To the south, savannah vegetation (tropical grassland) covers the Colombian portion of the llanos. The rainy areas in the southeast are blanketed by tropical rainforest. In the mountains, the spotty patterns of precipitation in alpine areas complicate vegetation patterns. The rainy side of a mountain may be lush and green, while the other side, in the rain shadow, may be parched.

The local vegetation supports both agriculture and livestock pasture. The principal economic activity in the area is the exploitation of emeralds, agriculture, and cattle industry.

5.2 Physiography, Infrastructure and Local Resources

The license is located on the Western side of the Eastern Cordillera. Many rivers spring from this area, the most important being the Chicamocha River and Arauca River and tributaries to other important rivers such as the Magdalena and Meta. Boyacá also has numerous lakes which include Lake Tota, Lake Sochagota, Lake Fúquene. They are shared with the department of Cundinamarca, the Chivor Reservoir and others.

Figure 5. Typical landscape of the area.
Within the limits of the license, there are places that can be used for potential tailings storage areas and waste disposal areas, as well as for the construction of a processing plant. Professional mining personnel may be brought from other places. However, there is an abundant competent working force in the area.

6.0 History

Prior to the acquisition of the license from Sociedad Esmeraldas y Minas de Colombia S.A.- ESMERACOL by the Client, within the license 122-95M the preliminary work included the digging of adits, some mapping inside the adits, and the topographic survey of interest zones. There are some adits from where emeralds and beryls have been extracted (Fig. 6).

![Figure 6. Adit at the license.](image)

There are no historical mineral resources or mineral reserves estimates in the project. There is current exploitation on this project and, according to official records of production filed with the Government, since the fourth quarter of 2012 to the second quarter of 2017, the mine produced a total of 34,078 carats of emeralds.
7.0 Geological Setting and Mineralization

7.1 Regional Geology

The license is located on the Western side of the Eastern Cordillera in Central Colombia (Fig. 7). Regional lithology is dominated by Cretaceous shales and other sedimentary rocks overlying older rocks of the basement. Magmatic activity is represented by Tertiary felsic intrusives that do not appear to relate to the formation of the emeralds.

![Geological Map of Boyaca](image)

Figure 7. Regional Geology of Colombia.

The geology of the Boyacá Department has been divided into four sedimentary basins from West to East which are designated as follows: 1. Valle Medio del Magdalena, 2. Cordillera Oriental, 3. Sierra Nevada de El Cocuy and 4. Piedemonte Llanero. Among them and attending major lithological similarities, stratigraphic and tectonic movements have established eight natural sub regions or blocks, which each denote a very similar geological history.
7.2  *Property Geology*

According to geological maps published by Ingeominas, within the limits of the Client’s area there are only sedimentary units, mostly of Cretaceous Age (Fig. 8). However, in the Minero River and elsewhere the QP found some big boulders of a felsic intrusive character, varying from microdiorite to monzonite. Possibly these are small Tertiary intrusives that were too small to map at the scale of the Ingeominas map. It is the QP’s opinion that these intrusives have no genetic or spatial correlation with the emerald mineralization in this area.

![Local geology of the area of interest at scale 1:100 000.](image-url)

*Figure 8. Local geology of the area of interest at scale 1:100 000.*
In sequence of sedimentary rocks exposed in the area, besides the Quaternary deposits, there are five lithological units varying in age from Lower to Middle Cretaceous that can be found inside the La Paz adit of Mina Coscuez.

1. Limestone (Kr)
2. Limestone shales (Kv1)
3. Carbon-rich shales (Kv2)
4. Siliceous shales (Kv3)
5. Shales and Siltstone (Kv4)

**Limestone (Kr)**

Formed by layers of up to 60 cm of micritic limestones, black to brown, locally ferruginous, sometimes dolomitized limestone with interbedded shales and hydrothermal alteration.

Figure 9. Limestones at La Paz adit.

The order of crystallization of these limestones is: Limestone - Hydrothermal alteration - albitization - Recrystallization of carbonate - dolomitization - Generation of tourmaline - Muscovite – pyritization facies.
**Limestone shales (Kv1)** composed by four units

a) Calcareous shales and limestones of black micritic, in layers up to 40 cm thick, hard and intersected with patches of thinly laminated carbon-rich shales with pyrite nodules.

b) Carbon-rich black shales of up to 1m thick, laminated stratiform pyrite, interspersed with layers 10 to 40cm massive black shales.

c) Carbon-rich black shales rolled layers of 5-40 cm with interbedded limestone shales, limestones and some sandy layers of limolite.

d) Carbon-rich shales folded layers of 5 to 20 cm of limestone shales, siliceous shales and micritic limestones.

![Figure 10. Limestone shales at La Paz adit.](image)

**Carbon-rich shales (Kv2)** composed by the following units

a) Sequence of thinly laminated carbon-rich shales with fine to medium lumps of pyrite, with some siltstones and interbedded stratification of sandstones.

b) Carbon-rich shales in bands of up to 1m, siliceous, slightly flat lamination, with some pyritic layers and nodules, and shales with fossil impressions.

c) Finely laminated black carbon-rich shales and slightly siliceous shales, with flat parallel lamination bands of up to 1m, with abundant nodules of complex mineralogy (dolomite, calcite, siderite, pyrite), with the presence of massive siltstone layers up to 40 cm.
Siliceous shales (Kv3)

This sequence corresponds to some transitional facies from the carbon-rich shale to siliceous shales, which comprises from base to top of the following two units:

a) Bands of finely laminated black carbon-rich shales of 1 m thick, interbedded with thin layers of hard massive black shales and siliceous.

b) Bands of finely laminated black carbon-rich shale interbedded with layers of black hard siliceous siltstones, with abundant calcareous nodules and pyrite in the form of Veins and nodules.

Shales and siltstones (Kv4)

This sequence corresponds to a lutitic carbon-rich limolite facies, composed of bands of 1 m of fine laminated carbon-rich lutites, black to rusty gray due to weathering. To the top, it shows thick intercalations of silica-rich lutites and iron-rich limolites in thick bands of 1 m.

The emerald mineralization in the area has a clear tectonic-stratigraphic-lithological control, characterized by a strong brecciation and associated to hydrothermal alterations.

A preliminary structural analysis of the main lineaments in the area shows a preferential orientation of the structures oriented N500-800E. Within the areas of strong brecciation, the Veins are composed of much altered feldspars, pyrite and quartz, frequently forming druses. In the specific case of the emerald mineralization, the albitization could be related to the reaction of acid post magmatic fluids rich in Na, F, and Be, as well as to metasomatic processes related to an alkaline hydrothermal fluid and the presence of carbon dioxide.
According to scientists who have studied this subject, the Be was transported in a Fluor–rich acid solution at temperatures of 4900 to 5500 °C. In this acid environment, the K gets liberated forming albite. During the same process, other minerals such as mica, fluorite, siderite, calcite, topaz, beryl, and rare earth carbonates also form.

The Na and F rich acid solutions remove the Be from the host rocks and transport them as Fluor components. When the pH increases, the Be precipitates, especially if the K is low, forming minerals like beryl, chrysoberyl, and phenakite which are extremely resistant to weathering.

The emerald mineralization in the area is controlled by the inherent physicochemical characteristics at different stages of crystallization, by the structural features that frame the presence of solutions, and by the property of the host rock which allowed the dissemination and assimilation of elements during the metasomatic processes for alteration and post-magmatic hydrothermal effects linked to the mineralization.

Within the mineralized zone of El Coscuez-Muzo, there was an enrichment of Na, Ca, Mg, Mn, and S and a decrease in K. This correlation should be used as an exploration guide in the area.

The low K suggests that the potassium metasomatism was not important, nor the evaporitic primary phase. On rocks with a high Na/K ratio, the presence of muscovite is almost zero, which can be used as a field indicator in the exploratory phase.
7.3 Tectonics

The tectonics play a paramount role in the formation and location of emeralds in the area. Previous geologists identified a NNE-SSW main system represented by the Minero and other main rivers in the area and several E-W secondary systems perpendicular to the main system. The interaction of these two systems created several tectonic zones (ternary systems) to which the emerald zones appear to be related.

There are several faults and foldings described in literature, but many of them use local names that do not correspond to each other. Among the most important ones we have the Minero Fault (Fig. 12) and the Zulia-Albania Fault (Fig. 13).

Figure 12. Main faults and folded systems in the area of interest.

Figure 13. Detail of the cataclastic zone of the Zulia-Albania Fault in Los Capotes Formation.
The tectonic system appears to be responsible not only for the circulation of hydrothermal fluids, but also for the tectonic traps with favourable porosity where the emeralds finally formed.

The detailed study of lineaments is the key exploration tool for emeralds in this region.

The synclinal Quípama and El Almendro and the Furatena Anticlinal (Fig. 14) are among the principal folds in the region.

Figure 14. From left to right, co-founder Jaime Lalinde, and the QP standing at the axis of the Furatena Anticlinal.
7.4 Mineralization

The exploration work conducted in the different mines in the area has shown that the best emerald zones are related to highly tectonic carbon-rich calcareous shales and calcirudites (locally identified as lutites of different composition), immediately after a zone of “kaolinitization”. In the specific case of Mina Coscuez, the productive zone is hosted by a very bituminous-rich limestone (Fig. 15).

![Image of small crystals of “morralla” in a bituminous-rich limestone from a tectonic gauche from the La Paz adit visited by the QP.](image15)

Figure 15. Small crystals of “morralla” in a bituminous-rich limestone from a tectonic gauche from the La Paz adit visited by the QP.

Mineralogy consists of emerald + greenish beryl + oligoclase + dolomite + calcite + pyrite + fluorite + rutile + quartz. Apatite, parisite, and REE dolomite are reported in some deposits. Gangue minerals are represented by shales, calcirudites, and carbonates, sometimes by quartz and quartz-carbonate. Most common alterations are oxidation, silicification, kaolinitization, and chloritization.

In this geological environment, there is also a possibility of the formation of copper rich SEDEX deposits of which The QP saw abundant indications during its visit (Fig. 16).

![Image of nest of pyrite and copper sulphides in silicified shales.](image16)

Figure 16. Nest of pyrite and copper sulphides in silicified shales.

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8.0 Deposit Type

Due to the geology of the area, besides emeralds, we could also have the formation of SEDEX type of deposits. Both types are described below.

8.1 Emeralds

The emerald vein model is also called emerald in plagioclase-dolomite.

**DESCRIPTION** Emerald in plagioclase-dolomite veins in black shale.

**GEOLOGICAL ENVIRONMENT**

**Rock Types** Black shale (shale (mudstone)), claystone, siltstone, locally calcareous. Minor sandstone, limestone, conglomerate, and evaporites. Locally coarse dolomite breccia filled by carbonates and oligoclase.

**Depositional Environment** Thick epicontinental anoxic marine shale. Evaporites may have provided saline solutions.

**Tectonic Setting(s)** Major faults. Minor intrusions may have provided heat sources for fluid circulation.

**Associated Deposit Types** May be associated with Pb-Zn deposits on a regional scale.

**DEPOSIT DESCRIPTION**

**Mineralogy**: Emerald + greenish beryl + oligoclase + dolomite + calcite + pyrite + fluorite + rutile + quartz. Apatite, parisite, and REE dolomite reported from Muzo.

**Texture/Structure** Crustified banding, vuggy, coarsely crystalline.

**Alteration** Shale altered to black hornfels, fossils replaced by oligoclase. Dolomitization.

**Ore Controls** Major fault at intersections of minor cross faults, sharp-walled veins, and tabular breccia bodies. Veins locally confined to sedimentary strata that overlie or underlie ferruginous beds.

**Weathering** Plagioclase weathers to pockets of kaolinite.

**Geochemical Signature** In veins: high Be, Na, Mg; low Li, Ba, K, Mo, Pb relative to shale outside of mineralized areas. At Muzo, REE in veins, Cu in underlying beds.

These deposits commonly are present as veins in black shale (Sinkankas, 1981). The geological environment includes black shale, claystone, siltstone that is locally calcareous, as well as minor sandstone, limestone, conglomerate, and evaporate deposits.

Depositional environment involves thick epicontinental anoxic marine shale. Evaporates may also have provided saline solutions. Tectonic setting of emerald veins includes major faults that reached heat sources for fluid circulation. Associated deposit types with emerald veins are Pb-Zn deposits on a regional scale.
Mineralogy consists of emerald + greenish beryl + oligoclase + dolomite + calcite + pyrite + fluorite + rutile+ quartz. Apatite, parisite, and REE dolomite are reported in some deposits.

Textures consist of crustified banding, vuggy and coarsely crystalline zones. Alteration involves shale that is altered to black hornfels, and fossil shells are replaced by oligoclase. Dolomitization also is locally present. Ore controls are major fault intersections at minor cross faults, which produce sharp-walled veins, and tabular breccia bodies. Veins locally are confined to sedimentary strata that overlie or underlie ferruginous beds. Weathering involves plagioclase that forms pockets of kaolinite.

Geochemical signature of the veins is high Be, Na, Mg; low Li, Ba, K, Mo, Pb relative to shale outside of mineralized areas. Some deposits contain REE in veins and copper is anomalously elevated in underlying sedimentary beds.

8.2 Sedimentary Exhalative Zn-Pb-Ag (SEDEX)

8.2.1 Geological Characteristics

Figure 17. Model of the formation of SEDEX type of deposits.

Capsule description: Beds and laminations of sphalerite, galena, pyrite, pyrrhotite and rare chalcopyrite, with or without barite, in euxinic clastic marine sedimentary strata. Deposits are typically tabular to lensoidal in shape and range from centimeters to tens of metres thick. Multiple horizons may occur over stratigraphic intervals of 1000 m or more.

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2 http://ow.ly/_HPsp30gy7ES
**Tectonic setting:** Intracratonic or continental margin environments in fault-controlled basins and troughs. Troughs are typically half grabens developed by extension along continental margins or within back-arc basins.

**Depositional environment/geological setting:** Restricted second and third order basins within linear, fault-controlled marine, epicratonic troughs and basins. There is often evidence of pene-contemporaneous movement on faults bounding sites of sulphide deposition. The depositional environment varies from deep, starved marine to shallow water restricted shelf.

**Age of mineralization:** The major metallogenic events are Middle Proterozoic, Early Cambrian, Early Silurian and Middle to Late Devonian to Mississippian. The Middle Proterozoic and Devonian-Mississippian events are recognized worldwide.

**Host/Associated rock types:** The most common host rocks are those found in euxinic, starved basin environments, namely, carbonaceous black shale, siltstone, cherty argillite and chert. Thin interbeds of turbiditic sandstone, granule to pebble conglomerate, pelagic limestone and dolostone, although volumetrically minor, are common. Evaporites, calcareous siltstone and shale (mudstone) are common in shelf settings. Small volumes of volcanic rocks, typically tuff and submarine mafic flows, may be present within the host succession. Slump breccia, fan conglomerates and similar deposits occur near synsedimentary growth faults. Rapid facies and thickness changes are found near the margins of second and third order basins. In some basins, high-level mafic sills with minor dikes are important.

**Deposit form:** These deposits are stratabound, tabular to lens shaped and are typically comprised of many beds of laminae of sulphide and/or barite. Frequently the lenses are stacked and more than one horizon is economic. Ore lenses and mineralized beds often are part of a sedimentary succession up to hundreds of metres thick. Horizontal extent is usually much greater than vertical extent. Individual laminae or beds may persist over tens of kilometers within the depositional basin.

**Texture/Structure:** Sulphide and barite laminae are usually very finely crystalline where deformation is minor. In intensely folded deposits, coarser grained, recrystallized zones are common. Sulphide laminae are typically monomineralic.

**Ore mineralogy (Principal and Subordinated):** The principal sulphide minerals are pyrite, pyrrhotite, sphalerite and galena. Some deposits contain significant amounts of chalcopyrite, but most do not. Barite may or may not be a major component of the ore zone. Trace amounts of marcasite, arsenopyrite, bismuthinite, molybdenite, enargite, millerite, freibergite, cobaltite, cassiterite, valleriite and melnikovite have been reported from these deposits. These minerals are usually present in very minor amounts.

**Alteration mineralogy:** Alteration varies from well-developed to nonexistent. In some deposits a stockwork and disseminated feeder zone lies beneath, or adjacent to, the stratiform mineralization. Alteration minerals, if present, include silica, tourmaline, carbonate, albite, chlorite and dolomite. They formed in a relatively low temperature
environment. Celsian, Ba-muscovite and ammonium clay minerals have also been reported but are probably not common.

**Ore controls:** Favorable sedimentary sequences, major structural breaks, basins.

**Genetic model:** The deposits accumulate in restricted second and third order basins or half grabens bounded by synsedimentary growth faults. Exhalative centers occur along these faults and the exhaled brines accumulate in adjacent seafloor depressions. Biogenic reduction of seawater sulphate within an anoxic brine pool is believed to control sulphide precipitation.

**Associated deposit types:** Associated deposit types include carbonate-hosted sedimentary exhalative, such as the Kootenay Arc and Irish deposits, bedded barite and iron formation.

### 8.2.2 Exploration Guides

**Geochemical signature:** The deposits are typically zoned with Pb found closest to the vent grading outward and upward into more Zn-rich facies. Cu is usually found either within the feeder zone of close to the exhalative vent. Barite, exhalative chert and hematite-chert iron formation, if present, are usually found as some distal facies. Sediments such as pelagic limestone interbedded with the ore zone may be enriched in Mn. NH₃ anomalies have been documented at some deposits, as have Zn, Pb and Mn haloes. The host stratigraphic succession may also be enriched in Ba on a basin-wide scale.

**Geophysical signature:** Airborne and ground geophysical surveys, such as electromagnetics or magnetics should detect deposits that have massive sulphide zones, especially if these are steeply dipping. However, the presence of graphite-rich zones in the host sediments can complicate the interpretation of EM conductors. Also, if the deposits are flat lying and comprised of fine laminae distributed over a significant stratigraphic interval, the geophysical response is usually too weak to be definitive. Induced polarization can detect flat-lying deposits, especially if disseminated feeder zones are present.

**Other exploration guides:** The principal exploration guidelines are appropriate sedimentary environment and stratigraphic age. Restricted marine sedimentary sequences deposited in an epicratonic extensional tectonic setting during the Middle Proterozoic, Early Cambrian, Early Silurian or Devonian-Mississippian ages are the most favorable.

### 8.2.3 Economic Factors

**Grade and Tonnage:** The median tonnage for this type of deposit worldwide is 15 Mt, with 10% of deposits more than 130 Mt (Briskey, 1986). The median grades worldwide are Zn - 5.6%, Pb - 2.8% and Ag - 30 g/t. The Sullivan deposit, one of the largest deposits of this type ever discovered, has a total size of more than 155 Mt grading 5.7% Zn, 6.6% Pb and 7 g/t Ag. Reserves at the Cirque are 32.2 Mt grading 7.9% Zn, 2.1% Pb and 48 g/t Ag. The large, near-surface deposits are amenable to high volume, open pit mining operations. Underground mining is used for some deposits.
**Importance**: Sedimentary exhalative deposits currently produce a significant proportion of the world’s Zn and Pb. Their large tonnage potential and associated Ag values make them an attractive exploration target.

**9.0 Exploration**

Most of the exploration in the area is done by underground mining aimed to find the “productive zones” (kaolinite and tectonic breccia) within the carbon-rich carbonatic shales. Exploration is done mostly intuitively based on previous experience and by “following the neighbour”.

Only some owners who are also experienced geologists use tectonic and geological information to properly orient their adits. None of them have considered using the information that can be found on the ground. During the several visits to the region the QP saw several large adits that gave no extra information compared to what could be seen by walking alongside the road to the entrance of the mine (Fig. 18).

![Figure 18. Outcrops on surface provide more information than inside of an adit.](image)

As we mentioned before, the previous owners of the license did some sampling along the La Paz adit, mostly consisting of direct XRF measurements without any QA&QC procedures and topographic survey of 60 of the main adits on the mine (Fig. 19).
10.0 Drilling

The license of interest to the Client has not been drilled. However, other owners of different licenses in the region have used diamond drilling for exploration, but they have kept their results private.

The QP believes that diamond drilling and even auger drilling would be very useful in the location of prospective zones.

11.0 Sample Preparation, Analysis, and Security

No sample preparation or analysis are done for emeralds. During the exploration-exploitation of productive zones, security personal is present at the exploitation front (Fig. 20). All obtained high-quality crystals are transported by such personnel to the main office of the mine. The rest of the productive zone is extracted by small wagons to be washed and manually searched for emeralds.
Figure 20. Security personnel is always present on the site of the exploitation of promising horizons.

12.0 Data Verification

The only two possible way of data verification in the case of emeralds are the actual presence of the gems in the adits and to a lesser degree the proper geological environment where the license is located. The QP had the opportunity of seeing crystals found directly inside the adits within the license (Fig. 21). The historical records clearly show that Coscuez is an emerald producing mine and that the license of interest to the Client is within the prospective geological units.

Figure 21. The QP saw the process of washing and manually sorting the bituminous-rich limestones to find small crystals of emeralds in the La Paz adit.
12.1 Geological Observations

During the field visit, the QP observed the lithological units of the La Paz formation (Fig. 22).

Figure 22. Lithological units of La Paz formation.

Figure 23 shows the mineralization related to hydrothermal fluids in this unit.

Figure 23. Macro and microscopic pictures of sulphide rich mineralization inside the La Paz adit.
Inside the adit, we could confirm once again that the productive zone is related to a brecciated zone along which hydrothermal fluids circulated in the rock. This structure is the main target of the exploration work.

The QP would like to mention a geobotanical marker he observed in the field (Fig. 24). This type of fern has a very hard stem that breaks like wood. It grows very densely in or very near by the productive units.

![Figure 24. A potential geobotanical indicator in the area is this type of "woody" fern.](image)

### 12.2 Geophysical Measurements

Using the iPhone 5S teslameter, we collected information on several points inside the mine.

![Figure 25. Using a teslameter at La Paz adit.](image)
The built-in magnetometer allows us to monitor the total magnetic field in the area. The field was measured in micro Teslas, with a frequency of 4 Hz. The objective was to determine the validity of using this equipment to confirm increase content of Fe and absence Mo due to the remobilization of these elements during the hydrothermal process.

In a previous visit to the mine, Dr. Jorge Cruz Martin from Geoconsultora Fenix S.A.S used a kappameter KT10 (Fig. 26) and a hand-help spectrograph to study the magnetic susceptibility and the U-Th-K content of the shales and to test it as a tool for lithological differentiation of different facies.

![Figure 26. Measuring the magnetic susceptibility of a rock unit inside the La Paz adit.](image)

In total, Dr. Cruz completed 5 measures on surface (Bonanza) as a control and six in the main adit of La Paz, as shown in Table 2.

<table>
<thead>
<tr>
<th>Point</th>
<th>Temperature, °F</th>
<th>Kappameter</th>
<th>U, ppm</th>
<th>Th, ppm</th>
<th>K, %</th>
<th>Total count</th>
<th>Loc Sampling</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>67</td>
<td>322</td>
<td>2.7</td>
<td>2.4</td>
<td>0.9</td>
<td>3.7</td>
<td>Wall</td>
</tr>
<tr>
<td>2</td>
<td>76</td>
<td>222</td>
<td>3.63.6</td>
<td>4.2</td>
<td>0</td>
<td></td>
<td>Wall</td>
</tr>
<tr>
<td>3</td>
<td>67</td>
<td>239</td>
<td>7.4</td>
<td>16.9</td>
<td>2.5</td>
<td>13.5</td>
<td>Central access</td>
</tr>
<tr>
<td>4</td>
<td>72</td>
<td>76</td>
<td>5.2</td>
<td>8.1</td>
<td>0</td>
<td>5.7</td>
<td>Adit</td>
</tr>
<tr>
<td>5</td>
<td>91</td>
<td>367</td>
<td>7.8</td>
<td>14.7</td>
<td>0</td>
<td>9.4</td>
<td>Entrance to adit</td>
</tr>
<tr>
<td>6</td>
<td>76</td>
<td>167</td>
<td>15.6</td>
<td>46.1</td>
<td>3.3</td>
<td>28.4</td>
<td>300m</td>
</tr>
<tr>
<td>7</td>
<td>78</td>
<td>47</td>
<td>13.2</td>
<td>31.3</td>
<td>2.3</td>
<td>21.2</td>
<td>670m</td>
</tr>
<tr>
<td>8</td>
<td>81</td>
<td>47</td>
<td>1.4</td>
<td>13.3</td>
<td>0.6</td>
<td>5.8</td>
<td>1100m</td>
</tr>
<tr>
<td>9</td>
<td>94</td>
<td>527</td>
<td>2.8</td>
<td>15.1</td>
<td>0.3</td>
<td>4.7</td>
<td>1400m</td>
</tr>
<tr>
<td>10</td>
<td>86</td>
<td>200</td>
<td>4.8</td>
<td>4.2</td>
<td>0.3</td>
<td>4.7</td>
<td>1600 (-68m)</td>
</tr>
<tr>
<td>11</td>
<td>88</td>
<td>245</td>
<td>4.6</td>
<td>8.2</td>
<td>0.2</td>
<td>4.9</td>
<td>1600 (-132m)</td>
</tr>
</tbody>
</table>

A priori we can reach several conclusions, one of which is the efficiency of the geophysical methods to map areas of low levels of potassium which are directly proportional to the presence of Thorium.

Valls Geoconsultant
As can be seen from points 5 and 6 of the La Paz mine, the radiometric values help to identify the presence of a tectonic gauge with emeralds, which should be taken into consideration for future work.

13.0 Mineral Processing and Metallurgical Testing

As it was shown on Figure 21, emeralds are manually extracted with no other mineral processing or metallurgical testing applied. See also Fig. 28.

14.0 Mineral Resource Estimates

There are no current mineral resource estimations on the property.
23.0 Adjacent Properties

The whole area of the development of the Muzo and Chivor formations are covered with licenses and applications for emeralds. Among them are several emerald-producing mines such as Muzo, Mina Real, and others. None of them have publicly available information. The QP has visited several of the deposits in the area and has seen emeralds both from the owners and in situ but has not been able to verify all of them.

![Figure 27. Main entrance at Mina Real in Boyacá.](image)

The presence of these deposits in the vicinity of the areas of interest of the Client is not necessarily indicative of the mineralization on the area that is the subject of this report.
24.0 Other Relevant Data and Information

24.1 Recovery Methods

Usually, the best crystals are manually extracted by security personnel directly from the operating front. The rest of the emeralds are search manually from the crushed bituminous-rich limestone after washing them outside the adit (Fig. 28).

![Figure 28. Searching for emeralds among the bituminous-rich limestones from a productive zone.](image)

24.2 Project Infrastructure

Close to the mine, the Client has a camp with all the necessary facilities and amenities, including storage, and helipad (Fig. 29), offices, lodging, etc.

![Figure 29. Helipad at the camp near Mina Coscuez.](image)
The Client is also adding some office-containers to the camp (Fig. 30).

Figure 30. Office-containers at the camp.
25.0 Interpretation and Conclusions

After several visits to the property and nearby areas, a geological model for the genesis of formation of emerald prospective zones is proposed by the QP in this report.

Due to the collision of the Caribbean Plate with Colombia plate led to the formation of a main tectonic zone. This tectonic zone is oriented in a NNE-SSW direction. This also resulted in a series of perpendicular secondary lineaments. Along these deep sitting structures, hydrothermal fluids pregnant with beryllium reach the surface and percolate into the shale (mudstones) (Fig. 31). This was accompanied by the formation of tertiary lineaments that provoked the formation of zones of tectonic gauche where most of the largest emerald gems were formed.

Besides the physical influence of these structures, emerald mineralisation also follows a zoning pattern related to the hydrothermal fluids coming from the faults. An oxidation zone, which usually marks the beginning of the zone, is usually devoid of emeralds. The zone of silicification (Fig. 32), chloritization and carbonatization (Fig. 33) and limestones are formed laterally, and which ends in a zone of kaolinitization (Fig. 34) next to a zone of tectonic gauche. Most of the emerald mineralisation are found in these lateral zones. Preliminary observations indicate the transformation of potassic feldspar into sodic plagioclase within the productive zone.

![Figure 31. Main fault with clear indications of hydrothermal alteration.](image)

![Figure 32. Silicified shales.](image)
This pattern repeats itself and can be easily explored from the surface.

The QP recommends a lineament and satellite studies combined with mapping / geophysics / geochemistry on the rest of the Project.

The QP after detailed study and with complete understand of the emerald mineralisation in the Boyacá region.

After the detailed visit to the site and the mine areas and with through knowledge of the area, the Q.P. understand and confident that the 122-95M mining license is a well-known emerald mine (Coscuez) located has good potential in terms of Emerald production.

Except for unforeseen events or Acts of God, the QP does not see any significant risks or uncertainties for the further exploration and development of the license.
26.0 Recommendations

It is recommended that further regional exploration methods be employed over the whole area to get a better understanding of its ore potential. This work will include satellite image interpretation, lineament analysis, detailed structural mapping, and soil sampling using enzyme leach technology. Such methods will make future discoveries more efficient and less time consuming. They also provide the additional advantage of exploring the area for all its ore potential and not only for emeralds.

Enzyme Leach aids in the detection of mineral deposits at depths ranging from a few meters to more than one thousand meters (Fig. 35). This selective extraction technique was developed over the past 25 years and it has been utilized successfully to locate many types of mineral deposits. Ore bodies are indicated by a host of elements that are distributed into positive and negative patterns at surface, above and around the edges of mineral deposits. One big advantage of this method is the simplicity of the sampling procedure and the small amount of material needed (10 g of the -60 Mesh fraction). These small samples will be sent to Activation Laboratories in Canada for analysis.

![Enzyme Leach signature over an ore body.](image)

Besides this regional work, it is very useful to do some detailed studies within the adits by applying geochemical and geophysical methods to identify the location of the productive zones and, within them, the most prospective targets. These studies will help with the interpretation of the core during drilling.

The recommended strategy for the study of the Project will be first to complete a detailed structural study on surface and in the adits to test the hypothesis that the mineralization continues at depth, accompanied by the re-evaluation of the transferred information and a geophysical survey of the main adits at Coscuez Mine.
Once this is established, the Author recommends a second phase of exploration that includes a satellite interpretation and lineament analysis, followed by a soil survey using enzyme leach combined with geophysics and detailed mapping. The obtained anomalies will be tested using Diamond or RC drilling from surface and from underground. Phase II is not dependent on the results of Phase I.

This budget below includes only the initial exploration work, up to the drilling phase. It does not include the cost of supportive and administration work, nor any monies related to the purchase of this license.

Table 3. Proposed two-stage exploration budget for the license.

<table>
<thead>
<tr>
<th>No</th>
<th>Work</th>
<th>Units</th>
<th>Volume</th>
<th>Cost, $</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>1 Structural analysis (including report)</td>
<td>Days</td>
<td>37</td>
<td>37,000</td>
<td>Geochemistry, AutoCad</td>
</tr>
<tr>
<td></td>
<td>2 Re-evaluation of transferred data</td>
<td>Days</td>
<td>30</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Geophysical survey of adits</td>
<td>Days</td>
<td>20</td>
<td>10,000</td>
<td>Radiometric, kappametry</td>
</tr>
<tr>
<td></td>
<td>4 Testing geophysical methods</td>
<td>Km</td>
<td>4</td>
<td>10,000</td>
<td>Electrical, IP, radiometric</td>
</tr>
<tr>
<td>Stage II</td>
<td>1 Full lineament study</td>
<td>Km$^2$</td>
<td>100</td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 Surface geophysical survey</td>
<td>Km</td>
<td>20</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Mapping/Geophysics/geochemistry (the Gf-csaTM)</td>
<td>Points</td>
<td>800</td>
<td>60,000</td>
<td>100*50m grid, 4 sq.km</td>
</tr>
<tr>
<td></td>
<td>4 Surface drilling</td>
<td>Metres</td>
<td>1800</td>
<td>360,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 Underground drilling</td>
<td>Metres</td>
<td>1200</td>
<td>360,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 Underground work</td>
<td>Metres</td>
<td>2000</td>
<td>500,000</td>
<td></td>
</tr>
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<td></td>
<td>7 Laboratory</td>
<td>Samples</td>
<td>4620</td>
<td>161,700</td>
<td>38$/sample</td>
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<tr>
<td></td>
<td>8 NI 43-101</td>
<td>days</td>
<td>15</td>
<td>22,500</td>
<td>1500$/day</td>
</tr>
</tbody>
</table>

$1,626,200

Notes:
1. All costs are estimated based on current similar prices in the area.

Say US$87,000 dollars for Phase I, followed if proven viable by US$1,539,200 for Phase II, for a rounded total of US$1,625,000.

The closeness of the density between the emeralds and limestones precludes the use of any sort of gravity separation or concentration, but the QP recommends studying the possibility of using a weak acid to dissolve the limestone hosting the emeralds. This should increase the effectiveness of the recovery.

Coscuez is an emerald producing mine and that the license of interest to the Client is within the prospective geological units.
27.0 References


Galkin, V. and R. A. Valls (2013): Complex structural and satellite study of the Geghi Ore Belt, Kapan, Armenia, (internal report for Bactech Eco Ltd.).


28.0 Date and signature page

To Accompany the Report titled
in the Boyacá District, Colombia”
for Fura Gems Inc.
November 15th, 2017

I, Ricardo A. Valls, P. Geo, do hereby certify that:

1. I am currently employed as a consultant by:
   Valls Geoconsultant.
   1008-299 Glenlake Ave,
   Toronto, Ontario, Canada
   M6P 4A6

2. I am a Professional Geologist in the Province of Ontario, member of the Association of Professional Geoscientists of Ontario (0160), the Geological Association of Canada (A6129), the Mineralogical Association of Canada, the Association of Exploration Geochemistry, the International Association of Applied Geochemistry, the Prospectors and Developers Association of Canada, and the Society of Economic Geologists.

3. I am a graduate of the Moscow Institute of Mineral Prospecting in Moscow, Russia, as a Mining Engineer and Geologist in 1983, and in the same year I obtained the degree of M.Sc. in Economic Geology from the same Institute.

4. I have practiced my profession as a geologist continuously for 34 years. As a professional geologist I have extensive geological, geochemical, and mining experience, managerial skills, and a solid background in research techniques, and training of technical personnel. I have been involved in various projects world-wide (Canada, Africa, Russia, Indonesia, the Caribbean and Central and South America). Projects included regional reconnaissance, local mapping, diamond drilling and RC-drilling programs, open pit and underground mapping and sampling, geochemical sampling and interpretation, and several exploration techniques pertaining to the search for gold and other precious metals, diamonds and other gems, PGM, nickel, base metals, industrial minerals, oil & gas, and other magmatic, hydrothermal, porphyritic, VMS and SEDEX ore deposits.

5. I have read the definition of “Qualified Person” in National Instrument 43-101 and certify that by reason of my education, professional association affiliation, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.

6. I have read the National Instrument 43-101 and this technical report and certify that it has been prepared in compliance with this instrument.

Valls Geoconsultant
7. I am responsible for the preparation of the report titled Technical Report on the 122-95M Emerald License in the Boyacá District, Colombia, dated November 15th, 2017. I am familiar with the project after visiting the area for 1 day in May 11, 2017. I also visited the region several times before while exploring other emerald mines and sites.

8. At the effective date of the technical report, November 15th, 2017, to the best of the qualified person’s knowledge, information, and believe, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

9. I have no interest of any kind in the project, nor in the issuer company that owns the property. I am independent of the issuer applying all tests in Section 1.5 of NI 43-101.

10. I am not aware of any material fact or material change in the subject matter of the Report that is not reflected in the Report, the omission to disclose which could potentially make the Report misleading.

11. In the disclosure of information relating to permitting, legal, title and related issues I have relied, and believe that I have a reasonable basis to rely, on information provided by the Client.

Dated this 15th Day of November 2017.

(s) Ricardo A. Valls
Name of Qualified Person
To: Ontario Securities Commission  
    Alberta Securities Commission  
    British Columbia Securities Commission

I, Ricardo A. Valls do hereby consent to the public filing of the technical report entitled “Technical report on the 122-95M emerald license in the Boyacá district, Colombia” and dated November 15, 2017 (the "Technical Report") by Fura Gems Inc. (the "Issuer"), with the TSX Venture Exchange under its applicable policies and forms in connection with the agreement between the Issuer and Emporium HS S.A.S. pursuant to which the Issuer has agreed to acquire 76% of the issued and outstanding shares of Esmeracol S.A. and I acknowledge that the Technical Report will become part of the Issuer's public record.

Signed and dated, this 15th day of November 2017

________________________________________________________________________
Ricardo A. Valls, M.Sc., P.Geo.