Enami EP
Empresa Nacional Minera del Ecuador

2018 ECUADOR MINING COUNTRY

MINING PROJECTS

LA BONITA

SIGCHOS

GABY(Muyuyacu)

UNACOTA

MINING PROJECTS

www.enamiep.gob.ec

@ENAMIEP

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Phone: (593 2) 3953000 ext. 1014 / Postal Code 170517
Quito - Ecuador

LA BONITA PROJECT

Surface: 10,645 ha

Cu Au

CONCESSIONS

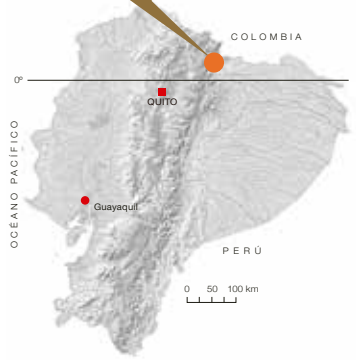
"LA CHISPA" Cód. 403013, "LA BONITA" Cód. 403012, "ROSA FLORIDA"Cód. 403011

Area in the Exploration Phase

MEDIUM TO BIG SCALE MINING POTENTIAL

355 rock samples. Definition of 5 anomalous zones with geochemical results.

LOCATION
Sucumbíos
La Sofía,
Rosa Florida
y La Bonita

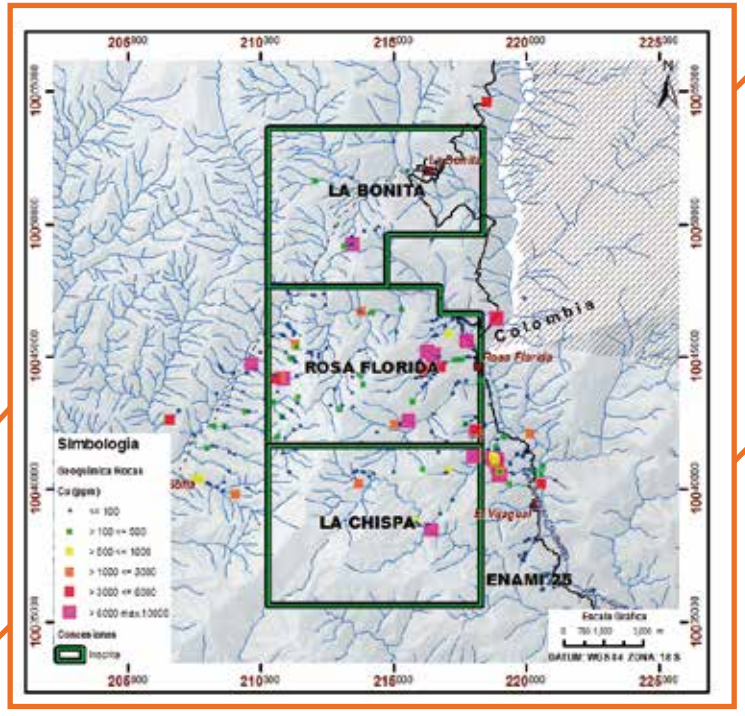


INFRASTRUCTURE

High development
Medium development
Low development

ENVIRONMENTAL LICENSE

Following procedures to obtain environmental permits.



PROJECT HISTORY

INEMIN, CODIGEM, BGS 1994, All Metals, Australian Mining, SanxonGold 1998-2001; Enami EP 2013-2018.

EXPLORATION

Geological Survey; Soils along ridges. A total of 306 stream sediments; 355 rock samples. Definition of 5 anomalous zones with geochemical results.

GEOLOGICAL POTENTIAL

The relevant results of the rock sampling indicate values such as:
301420030 @ 0.06 ppm Au and 6550 ppm Cu
301420031 @ 0.086 ppm Au and 1270 ppm Cu
302820059 @ 0.784 ppm Au; > 10,000ppm Cu
302820066 @ 0.173 ppm Au; > 10,000ppm Cu
305020075 @ 0,261 ppm Au; 2591ppm Cu
304920115 @ 0.270 ppm Au; > 10,000ppm Cu

REGIONAL AND LOCAL GEOLOGY

Mineral indications associated with a Cu-Au porphyry and vetiform epithermal deposit. Granodiorite Batholith environment of Jurassic age, aligned with the Mocoa porphyry Copper deposit in Colombia.

CLIMATE

The project is located on the eastern section of the Andes mountain range. Temperature varies between 10º C and 13º C. Annual rainfall amounts to approximately 1120 mm.

ACCESS

Airway: Quito - Lago Agrio, 50 minutes.
Lago Agrio – La Bonita 02h30 min, first order road. Foot paths all over the areas.

SOCIAL

Continuous cooperation processes addressing environmental, social and communication aspects have been promoted with the local authorities and the communities to promote mining activities.

MINING PROJECTS

SIGCHOS PROJECT

Greenfield

Cu Ag Au

Surface: 10,850 ha

Area in the Exploration Phase

3 MINERAL CONCESSIONS

Cu, Au Porphyry System.

GABY PROJECT

(MUYUYACU) Brownfield

Au Cu

Surface: 1,171 ha

Exploration and Exploitation on Small Scale

1 MINERAL CONCESSION

Au, Cu Porphyry Surrounded by Au,Ag vein systems.

UNACOTA PROJECT

Ca

Surface: 2,747 ha

Area in the Exploration Phase

1 MINERAL CONCESSION

Limestone with good Ca content.

ECUADOR
MINING COUNTRY
the opportunity is here

SIGCHOS PROJECT

Cu Ag Au

Surface: 10,850 ha

CONCESSIONS

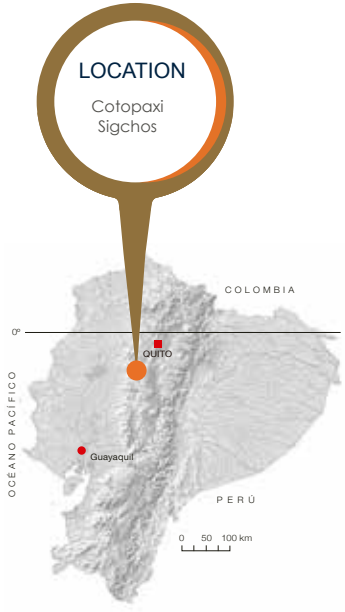
"INSINLIVI" Cód. 200988,"CHUCCHILAN" Cód. 200987, "FRAYLEJÓN" Cód. 200986

Greenfield

MEDIUM TO BIG SCALE MINING POTENTIAL

Area in the Exploration Phase

Cu, Au Porphyry System.

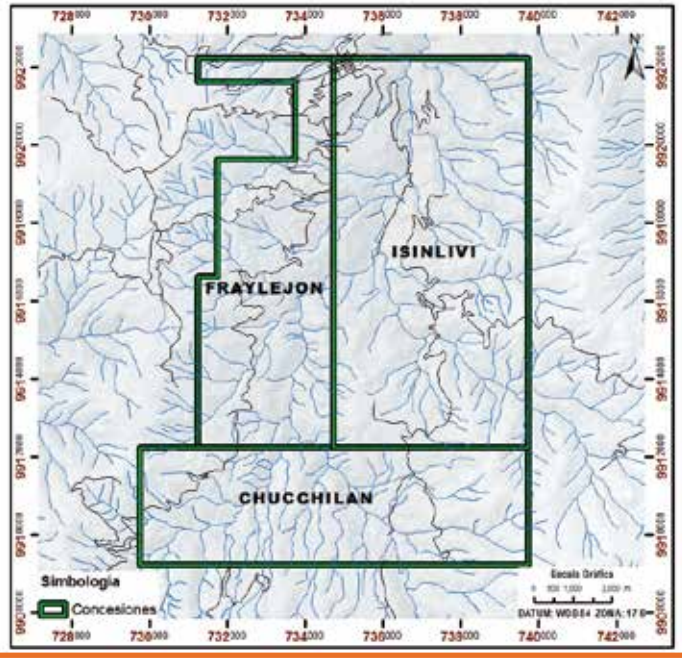


INFRASTRUCTURE

High development
Medium development
Low development

ENVIRONMENTAL LICENSE

Procedures for environmental registry not started.



PROJECT HISTORY

RTZ and BGS explored on 1980 and earlier. Lowell Mineral Exploration, explored on year 2008. ENAMI EP and Codelco made a geochemical campaign on 2011, concluding that it is a porphyry copper system.

EXPLORATION

Stream sediment and rock geochemistry indicate geological evidence of a hydrothermal system associated with copper-gold porphyry.

REGIONAL AND LOCAL GEOLOGY

Located in the Metallogenic Belt of the Western Cordillera, within the Macuchi and La Plata mining districts.
Upper tertiary volcanoes and stocks of andesitic composition outcrop in an area 2 km x 4 km. Phyllic to Potassic alteration zones were found in an area of 800 m x 200 m. Deep drilling is recommended.

GEOLOGICAL POTENTIAL

Copper-Gold porphyry potential at depth. Stockworks developed on surface have qtz-magnetite alteration within the potassic zone. This alteration could be correlated with the "Cascabel" deposit of the same mountain range. Geophysics and deep drilling will define the real style of the porphyry system.

CLIMATE

Average temperature varies between 9ºC and 11ºC.

ACCESS

Located in the canton Sigchos, in the province of Cotopaxi.
Quito – Lasso 01h20 min. First order road.
Lasso – Sigchos 01h10 min. Second order road.
Access to site by ballast road.

SOCIAL

Colono type communities, intermixed with indigenous communities

MINING PROJECTS

LA BONITA

Cu Au

Surface: 10,645 ha

Area in the Exploration Phase

3 MINERAL CONCESSIONS

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GABY PROJECT

(MUYUYACU) Brownfield

Au Cu

Surface: 1,171 ha

Exploration and Exploitation on Small Scale

1 MINERAL CONCESSION

Au, Cu Porphyry Surrounded by Au,Ag vein systems.

UNACOTA PROJECT

Ca

Surface: 2,747 ha

Area in the Exploration Phase

1 MINERAL CONCESSION

Limestone with good Ca content.

ECUADOR MINING COUNTRY
the opportunity is here

GABY (Muyuyacu) PROJECT

Exploration and Exploitation on Small Scale

Brownfield

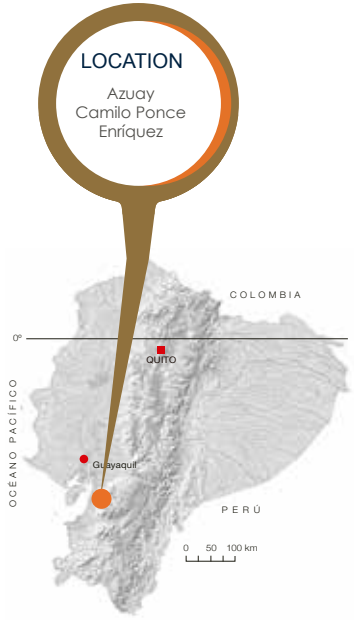
BIG SCALE MINING POTENTIAL

Surface: 1,171 ha

CONCESSION

MUYUYACU Cód. 3622

Au, Cu Porphyry Surrounded by Au,Ag vein systems.



INFRASTRUCTURE

- High development
- Medium development
- Low development

ENVIRONMENTAL LICENSE

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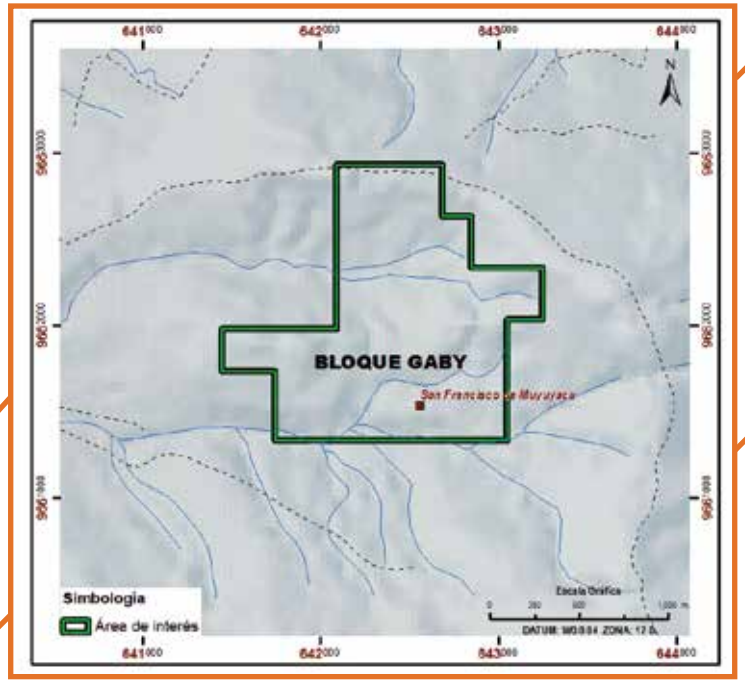

PROJECT HISTORY

IMC explored it on 2008. A total 279 holes were drilled. Results of a pre-feasibility study estimated 3.9 Millions ounces of gold.

EXPLORATION

Previous studies were carried out by IMC, through a 40.000 meters. diamond drilling campaign. Finding sulfides with significant values of Au, Cu. Gold is associated with a Feldspathic porphyry at depth.

REGIONAL AND LOCAL GEOLOGY

Andesitic and basaltic flows of the Sacapalca formation outcrop in the area. Basalt tuffs and brecchias of the Pallatanga formation, were intruded by Eocene graniodoritic stocks and plugs.

GEOLOGICAL POTENTIAL

Gold associated with sulfides in breccia zones and intrusives; veins of auriferous quartz containing gold and copper. Oxide zones in an andesitic intrusive. Enriched alluvial gold. Deep drilling is recommended.

ACCESS

Airway: Quito - Guayaquil 45 minutes.
Guayaquil - Ponce Enríquez 02h00 min. First order road.

SOCIAL

Historic presence of illegal mining. ENAMI EP regulated the illegal mining activities through Operation Contracts.

CLIMATE

The region has tropical climate with an average annual temperature of 25.1 °C. The average rainfall precipitacion is about 144mm.

MINING PROJECTS

LA BONITA

Surface: 10,645 ha

Area in the Exploration Phase

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Area in the Exploration Phase

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UNACOTA PROJECT

Surface: 2,747 ha

CONCESSION

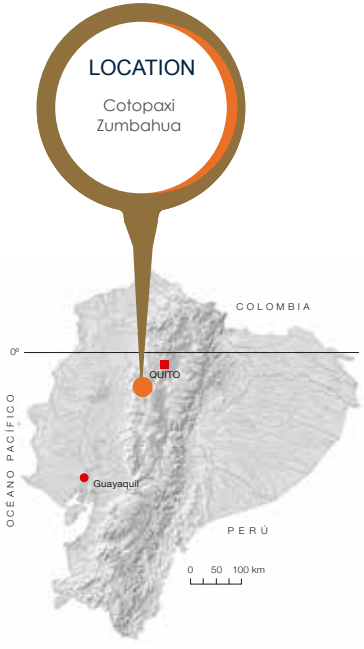
"UNACOTA" Cód. 200990

Area in the Exploration Phase

BIG SCALE MINING POTENTIAL

Ca

Limestone with good Ca content.



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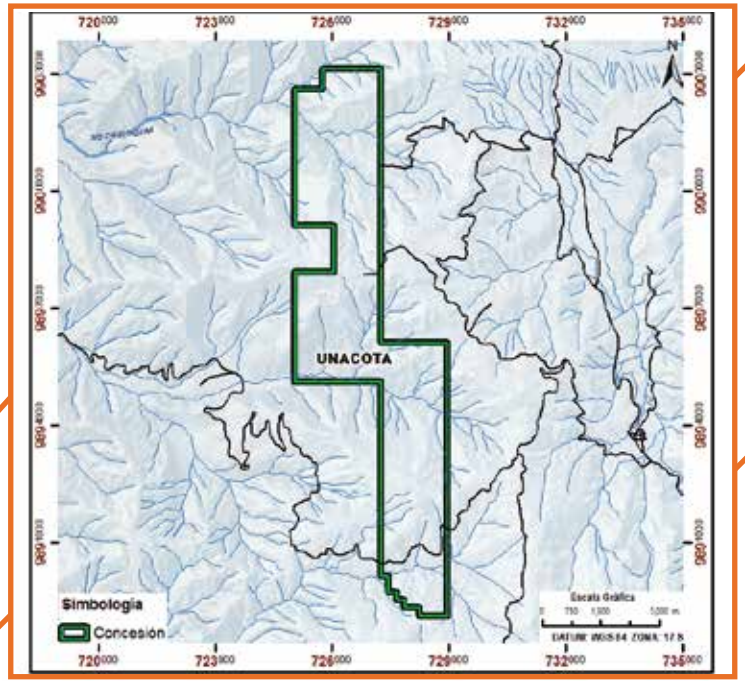

PROJECT HISTORY

On 1994 CODIGEM and the German Geological Institute (BGR), reported the Unacota limestone deposit. Samples collected gave up to 99% calcium carbonate ($CaCO_3$).

EXPLORATION

La "Cemento Nacional" developed advanced exploration of the Unacota Project. A pre-feasibility study was developed; which will be available for the interested parties.

REGIONAL AND LOCAL GEOLOGY

Regionally, the limestones of Unacota belong to the Pallatanga unit of the western cordillera, of late Cretaceous age. The Unacota formation is a sequence of micritic and sparitic limestones.
The limestones, emerge along the rivers, Unacota, Jarcapungo and Corona Rumi.

GEOLOGICAL POTENTIAL

It has an estimated 50MT of calcareous rocks ($CaCO_3$). It is an important size deposit located at the center of the Country. The exploitation and implementation of a cement plant, would cover the local demands, being able to export the surplus.

CLIMATE

Low temperatures during most part of the year. The average annual temperature is 8.8 ° C with an average rainfall of 780 mm.

ACCESS

Located in the province of Cotopaxi.
Quito - Pujilí 02h00 min. First order road.
Pujilí - Zumbahua 02h30 min. Second order road.
The final stage is via a third order road, 02h00 min.

SOCIAL

There is no opposition for the exploitation of the limestones and the installation of a Cement Plant.

Social management must be addressed with well-organized communities from the beginning.

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