

NI 43-101  
INDEPENDENT TECHNICAL REPORT  
CASUTO PROJECT  
IV REGION COQUIMBO, CHILE

Centred at  
UTM PSAD56 Zone 19S 6,484,000mN, 268,000mE  
Latitude 31°76'S, Longitude 71°44'W

Prepared For:

**Casablanca Mining Ltd.**  
9880 Magnolia Avenue  
Santee, California  
United States 92071



Date: July 4, 2011

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## 1 Summary

This report was prepared by Fladgate Exploration Consulting Corporation (“Fladgate”) at the request of Zirk Engelbrecht, President of Casablanca Mining Ltd., (“Casablanca” or the “company”). The following report was prepared to provide an NI 43-101 compliant Technical Report and independent overview of the geology and historic exploration on the Casuto Project located in IV Region Coquimbo, Chile and to recommend an exploration program.

The Casuto Project is located in IV Region Coquimbo, Choapa Province, Chile. The property is situated 20 km north of the city of Los Vilos, 215 km south of the city of Coquimbo-La Serena and 195 km northwest of the city of Santiago, the capital of Chile. The Casuto Project is readily accessible from the city of Coquimbo-La Serena or the city of Los Vilos.

The Casuto Project is comprised of 22 contiguous exploration concessions or “pedimentos” totalling 6,200ha and 9 mining concessions or ‘mensuras’ totalling 900ha. Pedimento exploration concessions are valid for two years from the date of registration and mining concessions are valid forever as long as the annual taxes are paid. Of the mining concessions, 5 are completed mining concessions and 4 are in the process of being finalized. The mining concessions are completely overlapped by the exploration concessions, so the property is 6,200ha in total.

The central part of the Casuto Project overlies a clastic sedimentary sequence including feldspathic sandstone, mudstone, sedimentary breccias and conglomerates with intercalations of volcanic and marine limestone beds. The sedimentary sequence is part of the Huentaleuquén Formation of Carboniferous age and can be up to 250m thick. Intrusive rocks of the Coastal Batholith outcrop on the highest part of the property surrounding the sedimentary sequence and consist of fine grained granodiorites, tonalities and syenites of Jurassic age. Quaternary aged alluvial and colluvial deposits fill the Casuto Valley with depths up to 50m thick. These moderately consolidated sediments have clast sizes ranging from boulders to sand and silt.

Placer gold has been exploited in Chile since the pre-colonial period. The earliest records of gold panning are found in vestiges of gold-panning sites up to 5,000 years old located in the Chilean Andes. The first exploitation of gold in the Casuto area is thought to originate with the Molle culture in approximately 655 AD, near Coquimbo-La Serena. The Incas expanded their empire into Chile around 1460 and had gold panning operations through the country.

During the early Colonial period, Spanish conquerors expanded the exploitation of panning sites using natives either as slaves or for a one-sixth system where one sixth of the gold extracted was given to the miner. Later in the Colonial period, between 1601 and 1740, alluvial gold mining declined and was almost non-existent during the seventeenth century with an average of only 365 kg (11,735 oz) per year of gold produced in all of Chile during this time. Later, through the development of their own mint and increasing independence from Spain, Chilean gold production again began to rise through the eighteenth century making Chile a significant world producer. It was during this century that Casuto was rediscovered and became a center of gold production.

From 1836 to 1846, the population of the Casuto area reached 6,000 workers and had a town with more than 40 stores and trading houses. No formal records can be found stating how much gold was produced during this time, but verbal history say that daily production was between 11 and 22 kg of gold. The Casuto gold boom lasted until 1846 and then began to slow down. Two things contributed to the decline in production in the area. Sediments were being taken from shafts sunk into thick sedimentary units and many of the shafts were reaching the water table making exploitation difficult. By 1849 approximately 1,000 miners were working at Casuto and when the gold rush started in California, many of the miners left Chile for the United States.

The Casuto Project is located in the Casuto-Chigualoco River valley. The Casuto-Chigualoco River valley runs through an estuary before emptying into the Pacific Ocean at Chigualoco Bay. The deposit is thought to extend through the valley and into Chigualoco Bay for a total length of approximately 13km. Abundant historic pits, shafts and underground workings are evidence of the historical exploitation on the project. The historic workings cover approximately 4km of the 13km long valley.

Gold is found in both sediments and in the cirque later of the bedrock. The cirque layer is where gold has collected in cracks and pits on the bedrock surface. Gold-rich sediments were emplaced from the Tertiary to the Pliocene period. There are two high grade gold-rich sedimentary layers, referred to as the blue layer and the red or yellow layer. The blue layer is located in the deepest part of the basin, in contact with the bedrock. The blue layer is approximately 1 m thick and composed of sand and clay. This layer represents the first episode of alluvial gold deposition in the valley. The Red or Yellow layer is the top layer of sediments and represents a second episode of gold deposition in the valley. The two gold bearing sedimentary horizons are separated by approximately 50m of barren sediments.

The Casuto-Chigualoco River runs through an estuary that has been protected from sea tides and therefore the gold has remained in the basin through time and the deposit has been preserved.

In early 2010 Consultores Geológicos Asociado took five samples on the property. Samples were taken and washed in a sluice box to concentrate heavy particles. The heavy particle concentrate was then sent to CIMM laboratories in Santiago for analysis of gold content. Results of this analysis show gold concentration ranging from 0.514g/m<sup>3</sup> to 0.650g/m<sup>3</sup> gold.

Casablanca, in its acquisition of the rights to the Casuto Project, has been able to acquire a number of mineral concessions in a historical mining district in Chile that holds potential to host a significant placer gold deposit. The mining district hasnot been subjected to modern exploration techniques. Casablanca is in the process of developing and implementing its first exploration program on the Casuto Project.

The review of available data and the visit to the property has resulted in the authors recommending the following:

- 1- A geological mapping program of the Casuto Project which should focus on determining different units and defining the boundaries of the sedimentary gold bearing horizons. Mapping should be completed over the entire property, including the intrusive rocks surrounding the river basin.

- 2- Design procedures under the guidance of a qualified person to ensure the careful documentation of samples including a description of which sedimentary horizon is being sampled. Procedures should also be developed for database management, program reporting and QA/QC.
- 3- The completion of a seismic refraction geophysics survey to determine the nature and thickness of the sedimentary units and depths to bedrock. This survey should be completed over the entire river basin.
- 4- A detailed elevation survey such as a LIDAR survey combined with high resolution stereoscopic airphotos. An elevation survey is required to accurately determine the volume of material in a resource estimation.
- 5- A borehole drilling program is recommended to test for gold grades throughout the river basin where there is sedimentary cover. The sedimentary package is thick, up to 50m, and pit sampling is not practical or possible. An initial program of 5,000 metres is recommended. Drill locations should be selected to test all areas where there is possible gold mineralization. Care should be taken to source an RC rig that can recover a large sample size. RC drill rigs have been developed to recover up to 100kg samples every 1 to 1.5m. A drill rig specifically designed for maximum sample recovery in both dry and wet conditions is also of great importance. The gold particle sizes have not been clearly defined on the project and fine particles can be lost if drilled with the wrong drill rig.
- 6- Implementation of advanced technology in the gold extraction process is recommended. A wash plant incorporating heavy particle concentrator equipment would improve gold recovery and specifically recovery of fine gold particles.

These recommendations do not include a budget for completing a resource estimation. A second phase of exploration should be designed to focus on the most prospective areas. The second phase exploration program can be designed to focus on gaining enough information for a resource estimation.

## 2 Introduction

### 2.1 Introduction

This report was prepared by Fladgate Exploration Consulting Corporation (“Fladgate”) at the request of Zirk Engelbrecht, President of Casablanca Mining Ltd., (“Casablanca” or the “company”). The following report was prepared to provide an NI 43-101 compliant Technical Report and independent overview of the geology and historic exploration on the Casuto Project located in IV Region Coquimbo, Chile and to recommend an exploration program.

Fladgate is independent from Casablanca according to Section 3.5 of NI43-101 Companion Policy, and does not have, nor previously had any material interest in the companies mentioned in this report or related entities. The relationship with the companies is solely a professional association between the client and an independent consultant.

This report follows the format and guidelines of Form 43-101F1, Technical Report for National Instrument 43-101, Standards of Disclosure for Mineral Projects, and its Companion Policy NI 43-101CP, as amended by the Canadian Securities Administrators on December 23, 2005.

## 2.2 Terms of Reference and Units

The Metric System or SI System is the primary system of measure and length used in this report and is generally expressed in kilometres, metres and centimetres; volume is expressed as cubic metres, mass expressed as metric tonnes, area as hectares, and weight as kilograms. The precious metal grades are generally expressed as grams/tonne (g/t) but may also be in parts per billion or parts per million. However, in this report and in order to adequate to the deposit type (placer deposit), gold assays values are reported in grams per cubic metres (g/m<sup>3</sup>). Conversions from the SI or Metric System to the Imperial System are provided below and quoted where practical. Many of the geologic publications and more recent work assessment files now use the SI system but older work assessment files almost exclusively refer to the Imperial System. Metals and minerals acronyms in this report conform to mineral industry accepted usage and the reader is directed to an online source at [www.maden.hacettepe.edu.tr/dmmrt/index.html](http://www.maden.hacettepe.edu.tr/dmmrt/index.html).

**Table 1 – Glossary of Terms**

Term	Meaning	Term	Meaning
Au	Gold	TW	true width
P	phosphorous	U	uranium
P <sub>2</sub> O <sub>5</sub>	phosphorous oxide	Mg	Magnesium
Ca	Calcium	MgO	magnesium oxide
CaO	calcium oxide	Mn	Manganese
pH	acidity	W	west
Pt	platinum	Mt	millions of tonnes
QA/QC	Quality Assurance/Quality Control	N	North
Cr	Chromium	NW	northwest
S	sulphur	NE	northeast
Cu	Copper	NI	National Instrument
DDH	diamond drillhole	Ni	nickel
DW	drilled width	Pb	lead
E	East	Pd	palladium
EM	electromagnetic	S	south
Fe	Iron	SE	southeast
Fe <sub>2</sub> O <sub>3</sub>	iron oxide (ferric oxide-hematite)	Se	selenium
Fe <sub>3</sub> O <sub>4</sub>	iron oxide (ferrous oxide-magnetite)	Sernageomin	Mining and Geological National Service (Chile)
SW	southwest	SiO <sub>2</sub>	silicon oxide
H <sub>2</sub> O	hydrogen oxide (water)	Sn	tin
SW	southwest	Ti	titanium
H <sub>2</sub> O	hydrogen oxide (water)	TiO <sub>2</sub>	titanium oxide
K	Potassium	Tl	thallium

UTM

Universal Transverse Mercator

**Table 2 – Units of Measure**

<b>Units of Measure</b>	<b>Abbreviation</b>	<b>Units of Measure</b>	<b>Abbreviation</b>
Above mean sea level	amsl	Micrometre (micron)	µm
Annum (year)	a	Miles per hour	mph
Billion years ago	Ga	Milligram	mg
Centimetre	cm	Milligrams per litre	mg/L
Cubic centimetre	cm <sup>3</sup>	Millilitre	mL
Cubic metre	m <sup>3</sup>	Millimetre	mm
Day	d	Million	M
Days per week	d/wk	Million tonnes	Mt
Days per year (annum)	d/a	Minute (plane angle)	'
Dead weight tonnes	DWT	Minute (time)	min
Degree	°	Month	mo
Degrees Celsius	°C	Ounce	oz
Degrees Fahrenheit	°F	Parts per billion	ppb
Diameter	∅	Parts per million	ppm
Gram	g	Percent	%
Grams per litre	g/L	Pound(s)	lb
Grams per tonne	g/t	Power factor	pF
Greater than	>	Second (plane angle)	"
Hectare (10,000 m <sup>2</sup> )	ha	Second (time)	s
Hour	h (not hr)	Short ton (2,000 lb)	st
Hours per day	h/d	Short ton (US)	t
Hours per week	h/wk	Short tons per day (US)	tpd
Hours per year	h/a	Short tons per hour (US)	tph
Inch	"(symbol, not ")	Short tons per year (US)	tpy
Gram	g	Specific gravity	SG
Grams per litre	g/L	Square centimetre	cm <sup>2</sup>
Grams per tonne	g/t	Square inch	in <sup>2</sup>
Greater than	>	Square kilometre	km <sup>2</sup>
Kilo (thousand)	k	Square metre	m <sup>2</sup>
Kilogram	kg	Thousand tonnes	kt
Kilograms per cubic metre	kg/m <sup>3</sup>	Tonne (1,000kg)	t
Kilograms per hour	kg/h	Tonnes per day	t/d
Kilometre	km	Tonnes per hour	t/h
Kilometres per hour	km/h	Tonnes per year	t/a
Less than	<	Total dissolved solids	TDS
Litre	L	Total suspended solids	TSS
Litres per minute	L/m	Week	wk
Metre	m	Weight/weight	w/w
Metres above sea level	masl	Wet metric ton	wmt



Units of Measure	Abbreviation	Units of Measure	Abbreviation
Metres per minute	m/min	Yard	yd
Metres per second	m/s	Year (annum)	a
Metric ton (tonne)	t	Year	yr

The term gram/tonne or g/t is expressed as “grams per tonne” where 1 gram/tonne = 1 ppm (part per million) = 1000 ppb (part per billion). Other abbreviations include ppb = parts per billion; ppm = parts per million; oz/t = ounce per short ton; Moz = million ounces; Mt = million tonne; t = tonne (1000 kilograms); SG = specific gravity; lb/t = pound/ton; and, st = short ton (2000 pounds).

Dollars are expressed in United States of America currency (US\$) or Chilean currency (CH\$) unless otherwise noted. Base and certain industrial metal and mineral prices are stated as US\$ per tonne (US\$/t), precious metal prices are stated in US\$ per troy ounce (US\$/oz) and Uranium and certain industrial metal and mineral prices are stated in US\$ per pound (US\$/lb).

Unless otherwise noted, Universal Transverse Mercator (“UTM”) coordinates are provided in the datum of PSAD56, Zone 19 South.

## 2.3 Basis of the Report

The authors, Caitlin Jeffs and Michael Thompson, visited the Casuto Project on April 1<sup>st</sup>, 2011. Fladgate was accompanied during the visit to the Casuto Project by German Mieres, a mining engineer with Casablanca and Jaime Villagrán, a consultant geologist from Consultores Geológicos Asociados.

The review of the Casuto Project was based on published material researched by Fladgate in public domain sources, as well as unpublished material originally submitted to Fladgate by Casablanca.

This report and recommendations are based on the following data as made available to Fladgate by Casablanca and public domain sources:

- geological information supplied by government sources Servicio Nacional de Geología y Minería (Sernageomin) and Empresa Nacional de Minería (ENAMI)
- historical work report on the area supplied by Chilean Mines Engineers Institute (IIMCh)
- site visit by Fladgate personnel on April 1<sup>st</sup>, 2011
- various reports as listed in the References section of this report
- geological reports supplied by Casablanca

## 2.4 Fladgate Qualifications

Fladgate Exploration Consulting Corporation is an international consulting company based in Thunder Bay, Ontario, Canada. Fladgate provides a wide range of geological and exploration services to the mineral industry. With offices in Canada (Thunder Bay, Ontario) and South America (Vallenar, Chile), Fladgate is well positioned to service its client base.

Fladgate's mandate is to provide professional geological and exploration services to the mineral and energy industries at competitive rates and without compromise. Fladgate's professionals have international experience in a variety of disciplines with services that include:

- Exploration Project Generation, Design, Implementation and Management
- Data Compilation and Exploration Target Generation
- Property Evaluation and Due Diligence Studies
- Independent, NI 43-101 Compliant, Technical Reports
- Mineral Resource Modeling and Estimation
- 3D Geological Modeling and Database Management

The Qualified Person and author for this report is Caitlin Jeffs, Vice President of Fladgate and a geologist in good standing with the Association of Professional Geoscientists of Ontario (APGO #1488). Caitlin Jeffs has 9 years experience in the mineral exploration industry, specializing in GIS and geological 3D modeling and program management. Caitlin Jeffs completed a site visit to the Casuto Project on April 1<sup>st</sup>, 2011 and wrote portions of all sections of this report.

The report is co-authored by Michael Thompson, Fladgate's President and Principal Geologist, and a geologist in good standing with the Association of Professional Geoscientists of Ontario (APGO # 1521). Michael Thompson has more than 13 years of experience in the mineral exploration industry, specializing in the structural interpretation of geological terranes. Michael Thompson has written, or co-written, technical reports including NI 43-101 compliant independent technical reports. Michael Thompson completed a site visit to the Casuto Project on April 1<sup>st</sup>, 2011 and contributed to the interpretations and conclusions and the recommendations sections of this report.

The authors' Statements of Qualifications can be found in Appendix 1.

### **3 Reliance on Other Experts**

Fladgate has reviewed and analyzed exploration and historical data for the Casuto Project provided by Casablanca and its consultants and has drawn its own conclusions, augmented by direct field examination. While exercising all reasonable diligence in checking, confirming and testing it, Fladgate has relied upon Casablanca's presentation of the project data from previous and recently completed exploration programs.

Fladgate has not carried out any independent exploration work, drilled any holes or carried out any significant program of confirmatory sampling and assaying. However, historic pits and shafts were examined by Fladgate and historical documents discuss gold mining activities in the area.

While exercising all reasonable diligence in checking, confirming and testing it, Fladgate has relied upon the data presented by Casablanca, and any previous operators of the project, in formulating its opinion.

The various agreements under which Casablanca holds title to the mineral lands for this project have not been thoroughly investigated or confirmed by Fladgate and Fladgate offers no opinion as to the validity of the mineral title claimed. The description of the property has been presented

here for general information purposes only, as required by NI 43-101. Fladgate is not qualified to provide professional opinion on issues related to mining and exploration title and land tenure, royalties, permitting and legal and environmental matters. The authors have accordingly relied upon the representations of the issuer, Casablanca, for Section 4 of this report and have not verified the information presented in that section beyond the verification described in Section 4.

The conclusions and recommendations in this report reflect the author's best judgment in light of the information available at the time of writing. The author and Fladgate reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

This report is intended to be used by Casablanca subject to the terms and conditions of its agreement with Fladgate. Any other use of this report, by any third party, is at that party's sole risk.

## 4 Property Description and Location

The Casuto Project is located in IV Region Coquimbo, Choapa Province, Chile. The property is situated 20 km north of the city of Los Vilos, 215 km south of the city of Coquimbo-La Serena and 195 km northwest of the city of Santiago, the capital of Chile. The approximate UTM coordinates for the centre of the project are 6,484,000mN, 268,000mE using the provisional South American Datum 1956 (PSA56), or at a latitude and longitude of 31°76'S, 71°44'W. The project is between 60 and 810 metres above sea level (masl). The general property location of The Casuto Project can be seen in Figure 1.

The Casuto Project is comprised of 22 contiguous exploration concessions or "pedimentos" totalling 6,200ha and 9 mining concessions or 'mensuras' totalling 900ha (Figure 2). Pedimento exploration concessions are valid for two years from the date of registration and mensuras are valid for life as long as the annual taxes are paid.. Of the mining concessions, 5 are completed mining concessions and 4 are in the process of being finalized. The mining concessions are completely overlapped by the exploration concessions, so the property is 6,200ha in total (Figure 2). Further details about pedimentos are provided in Section 4.1. All concessions are registered in the name of, and owned 100% by, Santa Teresa Minerals S.A, a 100% owned and subsidiary of Casablanca. Santa Teresa Minerals was incorporated by means of a public deed dated May 13, 2008 and granted before the Notary Public Mr. Alberto Mozo Aguilar. The incorporation was registered in the same year, in folio 28.410 N° 19.555 at the Commerce Registry kept by the Real Estate Registrar of Santiago and published in the Official Gazette on June 27, 2008

The total annual concession tax for the Casuto Project is approximately US \$17,000 based on a standard concession tax of 0.02 UTM per hectare for an exploration concession and 0.1 UTM per hectare for mining concessions. A UTM is an internal Chilean inflationary rate that fluctuates each month. Relevant information regarding the individual mineral concessions is summarized in Table 3.

USD Energy Corp. ("USD"), originally engaged in the business of natural gas and oil production, was incorporated in Nevada on June 27, 2008. On December 31, 2010, USD acquired all of the outstanding securities of Santa Teresa in exchange for 25,500,000 shares of common stock of

USD and a convertible promissory note in the principal amount of \$1,087,000. As a result of this acquisition USD modified its plan of operations to engage in the current business of Santa Teresa, namely gold exploration and exploitation. On February 4, 2011, the company amended its Articles of Incorporation to change its name from USD Energy Corp. to Casablanca Mining Ltd.

**Table 3 – Casuto Project Mineral Concessions**

Concession Name	Concession Type	Area (Ha)	Registration Date	Ownership Registration
CHUPI 1	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 2	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 3	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 4	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 5	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 6	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 7	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 8	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 9	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 10	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 11	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 12	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 13	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 14	Pedimento	200	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 15	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 16	Pedimento	300	1/3/2010	Santa Teresa Minerals S.A.
CHUPI 17	Pedimento	300	1/5/2011	Santa Teresa Minerals S.A.
CHUPI 18	Pedimento	300	1/5/2011	Santa Teresa Minerals S.A.
CHUPI 19	Pedimento	200	1/5/2011	Santa Teresa Minerals S.A.
CHUPI 20	Pedimento	200	1/5/2011	Santa Teresa Minerals S.A.
CHUPI 21	Pedimento	300	1/5/2011	Santa Teresa Minerals S.A.
CHUPI 22	Pedimento	200	1/5/2011	Santa Teresa Minerals S.A.
Concession Name	Area (ha)	Concession Type		Ownership Registration
Tauro 1	100	Completed Mensura		Santa Teresa Minerals S.A.
Tauro 2	100	Completed Mensura		Santa Teresa Minerals S.A.
Tauro 3	100	Completed Mensura		Santa Teresa Minerals S.A.
Tauro 4	100	Mensura in Process		Santa Teresa Minerals S.A.

Tauro 5	100	Completed Mensura	Santa Teresa Minerals S.A.
Tauro 6	100	Mensura in Process	Santa Teresa Minerals S.A.
Los Azules 1	100	Mensura in Process	Santa Teresa Minerals S.A.
Los Azules 2	100	Mensura in Process	Santa Teresa Minerals S.A.
Los Azules 3	100	Completed Mensura	Santa Teresa Minerals S.A.

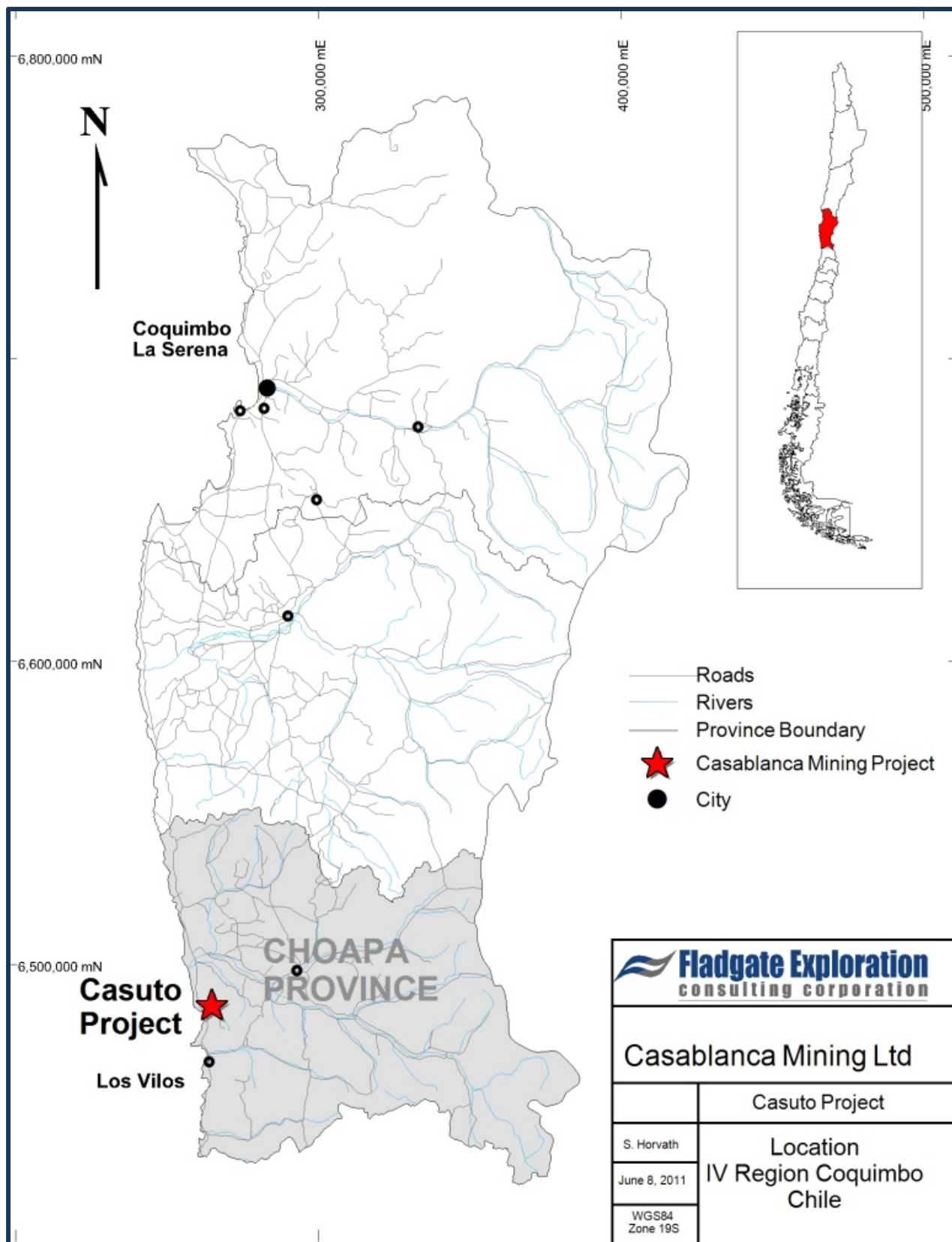


Figure 1 - Casuto Project Location Map



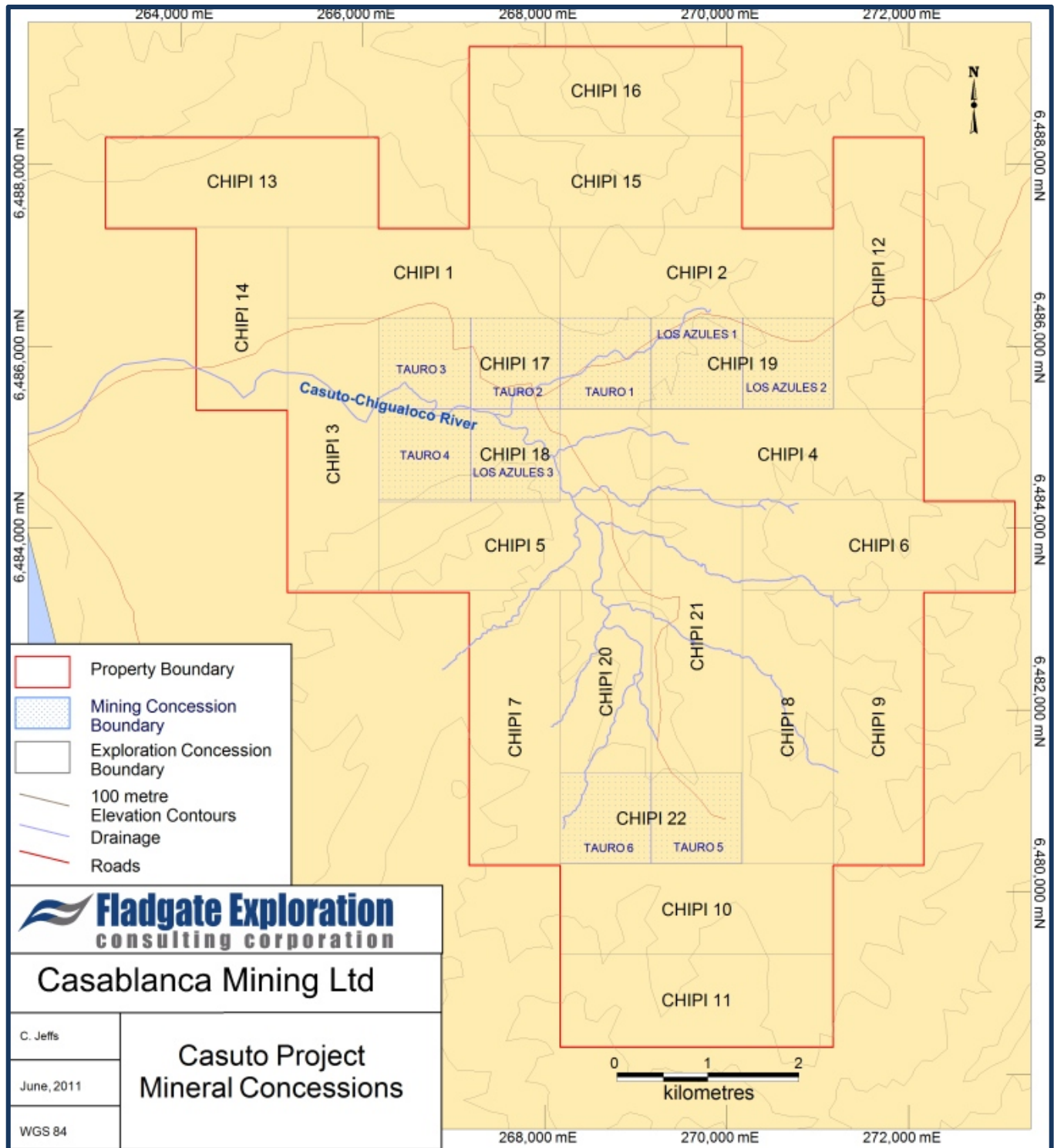


Figure 2 - Casuto Project Mineral Concessions

#### 4.1 Mineral Rights in Chile

Chile's current mining and land tenure policies were incorporated into laws in 1982 and amended in 1983. The laws were established to secure the property rights of both domestic and foreign investors to stimulate mining development in Chile. The state owns all mineral

resources, but exploration and exploitation of these resources is permitted through mining concessions, which are granted by the courts according to the law.

Concessions are defined by UTM coordinates representing the center-point of the concession and dimensions (in metres) in north-south and east-west directions. There are two kinds of concessions, mining and exploration, and three possible stages of a concession to get from an exploration concession to a mining concession: pedimento, manifestacion and mensura. An exploration concession can be placed on any area, whereas the survey to establish a permanent exploitation concession (mensura) can only be effected on “free” areas where no other mensuras exist.

Exploration and exploitation mining rights in Chile are acquired in the following stages:

**Pedimento:** A pedimento is an initial exploration concession whose position is well defined by UTM coordinates which defines the north-south and east-west boundaries. The minimum size of a pedimento is 100 ha and the maximum is 5,000 ha with a maximum length-to-width ratio of 5:1. A pedimento is valid for a maximum period of 2 years. At the end of the 2 year period it may; a) be reduced in size by at least 50% and renewed for an additional 2 years or b) entered in the process to establish a permanent concession by converting it into a manifestation. New pedimentos are allowed to overlap pre-existing pedimentos; however, the pedimento with the earliest filing date always takes precedence providing the concession holder maintains their concession in accordance with the Mining Code and the applicable regulations.

**Manifestacion:** Before a pedimento expires, or at any stage during its two years life including the first day the pedimento is registered, it may be converted to a manifestacion. A manifestacion is valid for 220 days and prior to the 220 days expiry date the owner must make a request to upgrade to a mensura.

**Mensura:** Prior to the expiration of a manifestacion, the owner of a manifestacion must request a survey (mensura). After acceptance of the Survey Request (solicitud de Mensura), the owner has approximate 12 months to have the concession surveyed by a government licensed surveyor. The surrounding concession owners may witness the survey, which is subsequently described in a legal format and presented to the National Mining Service (Sernageomin) for technical review which includes field inspection and verification. Following the technical approval by Sernageomin, the file returns to a judge of the appropriate jurisdiction who must dictate the constitution of the claim as a mensura (equivalent to a patented claim). Once constituted, an abstract describing the claim is published in Chile’s official mining bulletin (published weekly) and 30 days later the claim can be inscribed in the appropriate Mining Registry (Conservador de Minas).

Once constituted, a mensura is a permanent property right, with no expiration date. As long as the annual fees (patentes) are paid in a timely manner, (from March to May of each year) clear title and ownership of the mineral rights is assured in perpetuity. Failure to pay the annual patentes for an extended period can result in the concession being listed for remate (auction sale), wherein a third party may acquire a concession for the payment of back taxes owed (plus a penalty payment). In such a case, the claim is included in a list published 30 days prior to the auction and the owner has the possibility of paying the back taxes plus penalty and thus removing the claim from the auction list.



The Mining Code of Chile guarantees the owner of mining concessions the right-of-access to the surface area required for their exploration and exploitation. This right is normally obtained by a voluntary agreement between the mineral claim owner and the surface owner. The mining company may obtain the rights of way (Servidumbre) through the civil court system, if necessary, by agreeing to indemnify the surface owner for the court determined value of the surface area.

The concessions have both rights and obligations as defined by a Constitutional Organic Law (enacted in 1982). Concessions can be mortgaged or transferred and the holder has full ownership rights and is entitled to obtain the rights of way for exploration and exploitation. The concession holder has the right to use, for mining purposes, any water flows which infiltrate any mining workings. In addition, the concession holder has the right to defend his ownership against state and third parties. An exploration concession is obtained by a claims filing and includes all minerals that may exist within its area.

Constituted pedimentos and constituted mensuras can be viewed on the Sernageomin mining concessions registry visualization web site [http://catastro.sernageomin.cl/english\\_index.php](http://catastro.sernageomin.cl/english_index.php).

#### **4.2 Environmental and Permitting**

Casablanca Mining has not applied for any environmental permits on the Casuto Project and none of the exploration work completed to date requires an environmental permit. For all exploration work in Chile, any damage done to the land must be repaired.

### **5 Accessibility, Local Resources and Infrastructure**

The Casuto Project is readily accessible from the city of Coquimbo-La Serena or the city of Los Vilos. From Coquimbo-La Serena the project is accessible by driving south along the Pan American Highway for approximately 230 km until reaching kilometer 244 which is marked on the side of the highway. To reach the centre of the project, turn west at kilometer 244 onto road D-857 and drive for approximately 7km, there are several gates that must be open and closed on this road. To access the project from Los Vilos, drive north on the Pan American Highway (Ruta 5), approximately 20km to kilometer 244 and turn east onto road D-857.

The project is located near two major urban centres, Coquimbo-La Serena 237 km north and Santiago 220 km south. The population of Coquimbo-La Serena is approximately 412,000 inhabitants, and the population of Los Vilos is approximately 17,500 inhabitants. The region of Coquimbo has two ports, one located in the city of Coquimbo and a second operated by Minera Los Pelambres 3 km north of Los Vilos. The city of Coquimbo-La Serena is the general supply centre for the growing mining industry in the region.

The main mines in the Coquimbo Region are Los Pelambres located in the high cordillera operated by Antofagasta Minerals and Andacollo Mine operated by Teck Resources. Numerous small to medium scale mines are located in the region such as the Talcuna, Hermosa, Panucillo and the Sanchez deposits all owned and operated by Chilean companies. Gold has also been mined historically in the region at Barrick's El Indio Mine which closed in 2002, and will soon be mined at Barrick's Pascua Lama Mine. There are two smelters in the area in the cities of Ovalle and Cabildo, both approximately 100 km from the Casuto Project and operated by Enami.

The Chilean mining industry is extremely well developed, with the country being a major producer of copper, iron ore and other metals. Mining supplies and equipment as well as a highly trained technical and professional workforce are available in Chile. A number of international exploration and mining service companies and engineering firms also operate in Chile and provide excellent geological and logistical support to foreign companies.

Rivers and streams on the Casuto Project have sporadic water circulation mostly during the winter months. Water is a key requirement for processing in placer deposits, however, water could be sourced from surrounding communities or piped from the ocean.

## 6 Climate and Physiography

The Casuto Project is located within the central climate zone of Chile and has a steppe climate influenced by the Humboldt current on the coast (Moreno and Gibbons 2007). The area is predominantly semi arid with limited rain of approximately 100mm per year, which is concentrated in the cold winter months (Moreno and Gibbons 2007). The cold Humboldt Current creates heavy fog along the coastline all year round. The annual average temperature is 14.7°C.

The Casuto Project covers undulating topography created by the evolution of the Casuto-Chigualoco River. Elevation ranges from 60 masl to 810 masl, with lower elevations in the Casuto-Chigualoco River Basin. Vegetation in the area is mostly thorny bushes and scrub. Most of the Casuto project is covered in small brush planted as sheep feed by farmers in the area (Figure 3).



**Figure 3 – Vegetation planted on the Casuto Project**

## 7 History

### 7.1 Early Exploration History of Casuto (Pre-Twentieth Century)

Placer gold has been exploited in Chile since the pre-colonial period. The earliest records of gold panning are found in vestiges of gold-panning sites up to 5,000 years old located in the Chilean Andes (Fuller and Peebles, 1988). The first exploitation of gold in the Casuto area is thought to originate with the Molle culture in approximately 655 AD, near Coquimbo-La Serena (Cuadra and Dunkerley, 1991). The Incas expanded their empire into Chile around 1460 and had gold panning operations through the country (Cuadra and Dunkerley, 1991).

During the early Colonial period, Spanish conquerors expanded the exploitation of panning sites using natives either as slaves or for a one-sixth system where one sixth of the gold extracted was given to the miner (Fuller and Peebles, 1988). Later in the Colonial period, between 1601 and 1740, alluvial gold mining declined and was almost non-existent during the seventeenth century with an average of only 365 kg (11,735 oz) per year of gold produced in all of Chile during this time. Later, through the development of their own mint and increasing independence from Spain, Chilean gold production again began to rise through the eighteenth century making Chile a significant world producer. It was during this century that Casuto was rediscovered and became a center of gold production (Cuadra and Dunkerley, 1991).

From 1836 to 1846, the population of the Casuto area reached 6,000 workers and had a town with more than 40 stores and trading houses. No formal records can be found stating how much gold was produced during this time, but verbal history say that daily production was between 11 and 22 kg of gold. The Casuto gold boom lasted until 1846 and then began to slow down. Two things contributed to the decline in production in the area. Sediments were being taken from shafts sunk into thick sedimentary units and many of the shafts were reaching the water table making exploitation difficult. By 1849 approximately 1,000 miners were working at Casuto and when the gold rush started in California, many of the miners left Chile for the United States (Monge, date unknown).

Monge's *Memorandum on Mining Claims Held: Compania Minera Casuto* indicates that numerous small operators mined in the Casuto area between 1900 and 1950. These operations were not large and reports indicate grades between  $1\text{g/m}^3$  and  $4.2\text{g/m}^3$ . Operations were difficult due to scarcity of water. The largest operation reported during this time was in 1906 when an English engineer named William Murray formed a company to work the Casuto deposit. Murray's company dug 1200 pits with depths between 3 and 5m without reaching bedrock. The average grade reported from these pits was  $4.2\text{ g / m}^3$  (Consultores Geologicos Asociados, 2010).

### 7.2 Recent Exploration in Casuto

In 1980 a preliminary study was performed on the Casuto area over a period of 15 days. Two crews of two men collected a total of 940 soil samples during this period. No sample locations or sample descriptions were recorded for these 940 samples, but a report states that results showed between 8 and 15g/t gold (Honour, 1980). The area covered during this study included the Casuto-Chigualoco River basin and the mountains surrounding the basin.

In the 1980s, as result of an economic recession ENAMI and the Chilean government launched the National Gold Plan that operated from 1983 to 1987. The National Gold Plan was a plan to start exploitation of all known placer gold deposits in Chile in order to generate employment (Cuadra and Dunkerley, 1991). The Casuto area was an historic placer mining area, and so the National Gold Plan could have included work in Casuto, but no records could be found that in fact it did.

In May 2010 a study was conducted on the Casuto Project by Consultores Geológicos Asociados for Santa Teresa Minerals. This study is discussed in depth in Section 11.

## 8 Geological Setting

### 8.1 Regional Geology

North and central Chile comprises a continental consuming plate margin beneath which oceanic crust has been subducting eastward from an offshore oceanic trench since Jurassic time. This subduction has resulted in the formation of magmatic volcanic and plutonic arcs that have migrated eastward with time from the region of the present coast (Jurassic) to the high Cordillera (present day). This, in turn, has led to formation of the three major tectonic features of Chile: the Coast Range; the Central Valley; and, the Andean Cordillera.

The Casuto Project lies within the Coast Range, also referred to as the Coastal Cordillera, which lies on the western margin of Chile and extends from the southern Peruvian border to Puerto Montt in southern Chile. There are five main geological elements in the Coastal Cordillera;

- 1- An early Cretaceous back-arc basin marine carbonates in the east
- 2- A late Jurassic to early Cretaceous calc-alkaline volcanic arc in the central part of the region
- 3- The early Cretaceous Coastal batholith to the west (Marschik, 2001)
- 4- The Atacama fault zone to the west (Marschik, 2001)
- 5- The Paleozoic basement metasediments along the western margin (Hitzman, 2000)

The formation of the Coastal Cordillera is as follows:

- In the Coastal cordillera of northern Chile, major Mesozoic plutonic complexes were emplaced into broadly contemporaneous arc and intra-arc volcanics and underlying penetratively deformed metasedimentary units of Palaeozoic age.
- The northwest trending brittle fault Atacama fault system of northern Chile was active during the Mesozoic volcanism and plutonism.
- Widespread extension induced tilting of the volcano-sedimentary sequences.

- Immediately east of the Mesozoic arc terrane of the Coastal cordillera in northern Chile, sedimentary sequences accumulated in a series of interconnected, predominantly marine, back-arc basins.
- Early to mid-Jurassic through mid-Cretaceous volcanism and plutonism throughout the Coastal cordillera and immediately adjoining regions are generally considered to have taken place under variably extensional conditions in response to retreating subduction boundaries (slab roll-back) and steep, Mariana-type subduction (Hitzman, 2000).

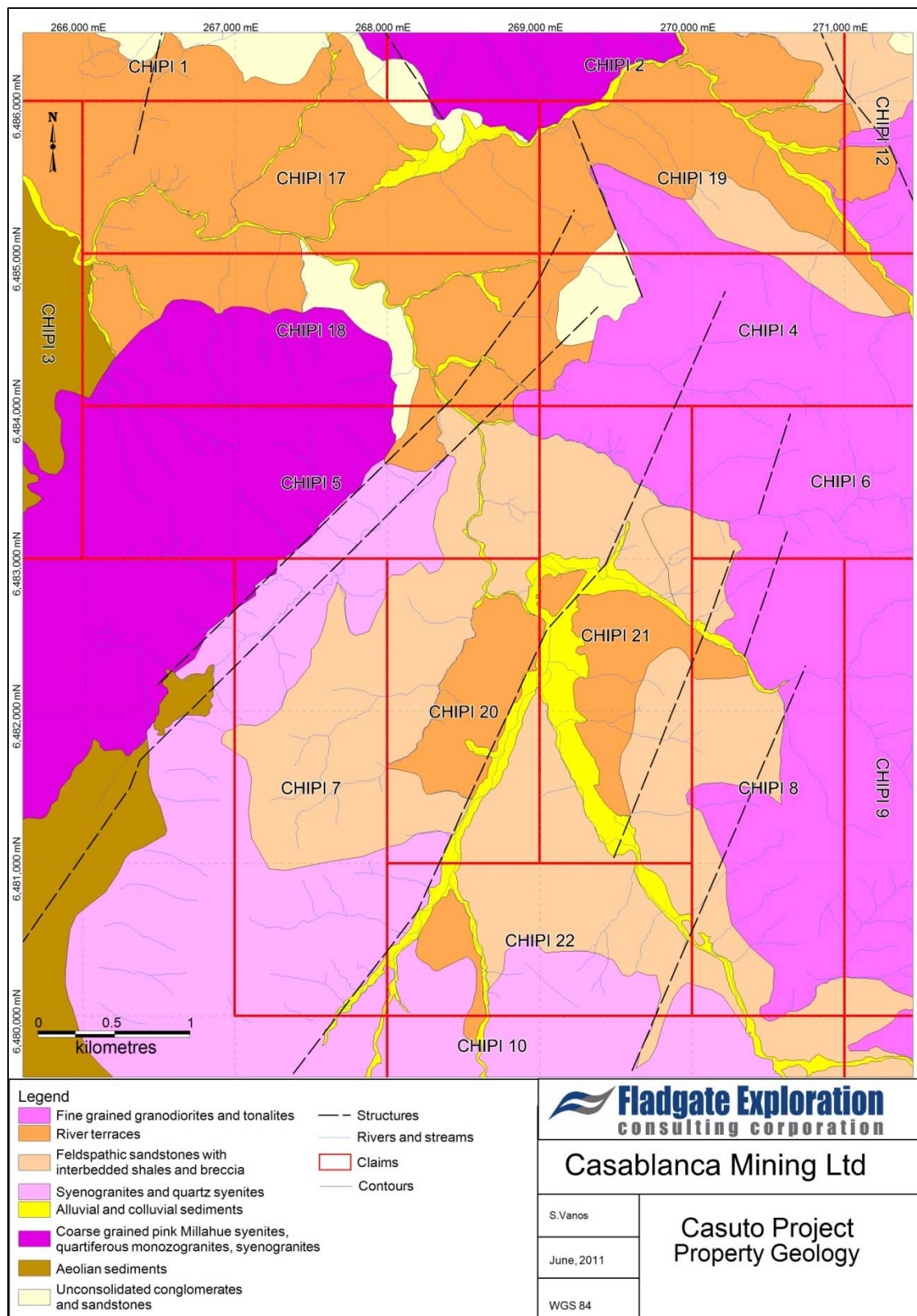
The Casuto Project is located in the Coast Range. The region is underlain by metamorphic basement on the west coast, part of the Late Paleozoic coastal accretionary system called the Choapa Metamorphic Complex. The Choapa Metamorphic Complex is composed primarily of schist, phyllite, metabasalt and marble. East of the metamorphic complex lies a series of sedimentary formations including the Arrayan Formation marine sediments, the Huentaleuquen Formation (marine-transitional), and the Pichidanguí Formation (marine-continental) all between Upper Devonian and Triassic ages (Rivano and Seplveda, 1985). The Huentaleuquen Formation consists of conglomerate, black shale, limestone and sandstone uncomfortably overlying the Arrayan Formation and the Choapa Metamorphic Complex. The Huentaleuquen Formation was deposited in a forearc basin and is Upper Carboniferous to Permian age (Moreno and Gibbons 2007, Willner et al. 2008). Pichidanguí Formation consists of felsic tuffaceous rocks, rhyolite and breccias with intercalated mudstone and is of Triassic age (Rivano and Seplveda, 1985).

On the eastern margin of the sedimentary sequences lies the Coastal Batholith plutonic belt, emplaced from the Permian to Cretaceous (Coira et al., 1982; Parada et al., 1999, Moreno and Gibbons, 2007). The Coastal Batholith in this area is composed of the Mincha Super-unit which is broken into four smaller units, the Millahue, Puerto Oscuro, Tranquila and Cavilolen. These four units are composed of monzogranite, diorite, granite and tonalite all Jurassic in age (Rivano and Seplveda, 1985). Valleys and ravines in the area are filled with Quaternary age eolic, littoral, alluvial and colluvial sediments.

## **8.2 Property Geology**

The central part of the Casuto Project overlies a clastic sedimentary sequence including feldspathic sandstone, mudstone, sedimentary breccias and conglomerates with intercalations of volcanic and marine limestone beds. The sedimentary sequence is part of the Huentaleuquén Formation of Carboniferous age and can be up to 250m thick (Consultores Geológicos Asociados, 2010). Intrusive rocks of the Coastal Batholith outcrop on the highest part of the property surrounding the sedimentary sequence and consist of fine grained granodiorites, tonalities and syenites of Jurassic age (Consultores Geológicos Asociados, 2010). Quaternary aged alluvial and colluvial deposits fill the Casuto Valley with depths up to 50m thick. These moderately consolidated sediments have clast sizes ranging from boulders to sand and silt (Figure 4).





**Figure 4 - Property Geology**

Geology supplied by Casablanca

## 9 Deposit Types

Placer deposits result from sediment transport of dense detrital material which has accumulated in fluvial, marginal marine or eolian settings (Minter and Craw, 1999). Placer gold commonly originates from the erosion of orogenic or pluton related deposits (Sillitoe, 2008), however, any preexisting deposit can be the source for the gold (McCready et al., 2003). Due to the tectonic nature of the areas where most placer deposits are located, preservation of these deposits is uncommon as minerals are recycled and re-concentrated into new sedimentary sequences. This can make determination of the source difficult (Minter and Craw, 1999).

There are two gold bearing units on the Casuto Project, the higher grade cirque and the lower grade alluvial sediments. The cirque is a gold rich layer where fine gold particles have collected in cracks and pits on the surface of the bedrock. The Casuto alluvial sediments are located in the Casuto-Chigualoco River basin and estuary and on glacial river terraces all deposited through a series of erosive events. The Casuto-Chigualoco River basin and estuary has been protected from sea tides through the evolution of the river and this has created a basin where gold, being carried by the river, has been deposited instead of being carried out to sea. The source of the gold is thought to be high grade gold veins in the surrounding intrusive rocks of Jurassic age.

## 10 Mineralization

The Casuto Project is located in the Casuto-Chigualoco River valley. The Casuto-Chigualoco River valley runs through an estuary before emptying into the Pacific Ocean at Chigualoco Bay. The deposit is thought to extend through the valley and into Chigualoco Bay for a total length of approximately 13km. Abundant historic pits, shafts and underground workings are evidence of the historical exploitation on the project. The historic workings cover approximately 4km of the 13km long valley.

Gold is found in both sediments and in the cirque later of the bedrock. The cirque layer is where gold has collected in cracks and pits on the bedrock surface. Gold-rich sediments were emplaced from the Tertiary to the Pliocene period (Consultores Geológicos Asociados, 2010). There are two high grade gold-rich sedimentary layers, referred to as the blue layer and the red or yellow layer. The blue layer is located in the deepest part of the basin, in contact with the bedrock. The blue layer is approximately 1 m thick and composed of sand and clay. This layer represents the first episode of alluvial gold deposition in the valley. The Red or Yellow layer is the top layer of sediments and represents a second episode of gold deposition in the valley (Machado, 1916). The two gold bearing sedimentary horizons are separated by approximately 50m of barren sediments.

The Casuto-Chigualoco River runs through an estuary that has been protected from sea tides and therefore the gold has remained in the basin through time and the deposit has been preserved.

## 11 Exploration

Since 2010 the Casuto Project has been operated by Santa Teresa Minerals. Exploration carried out on the project has been limited and includes geological mapping and sampling. All work has been completed by Consultores Geológicos Asociados.

### 11.1 Soil/Till Sampling (May 2010)

In early 2010 Consultores Geológicos Asociado took five samples on the property. Four sample locations were chosen in areas with numerous historic pits and shafts and one sample was chosen in an area with no historic pits. All five samples taken were approximately one cubic metre each. Four of the samples were taken in historic shafts and one sample was taken on the surface. See Figure 6 for sample locations. Samples were washed on the property in the Casuto River using a sluice box and then the heavy particle concentrates were sent to CIMM Serena Laboratories for gold analysis.

**Table 4 – Results of May 2010 Sampling\***

Sample ID	UTM Coordinates			Sample Concentrate Weight (g)	Approximate Volume (m <sup>3</sup> )	Contained Gold (g)	Sample Type
	Northern	Easting	Elev (m)				
M-1	6,479,768	267,927	310	96.12	1	0.542	Historic Pit
M-2	6,485,236	267,967	127	96.41	1	0.650	Surface
M-3	6,483,092	268,765	206	76.8	1	0.514	Historic Pit
M-4	6,482,144	268,993	183	78.68	1	0.566	Historic Pit
M-5	6,483,331	269,747	245	57.33	1	0.573	Historic Pit

\* Data for this table provided by Casablanca

The 2010 study included an estimation of the volume of material in the areas with the most historic pits. Area A is located in the centre of the Casuto Project and has the densest historic sampling. Area B is in the northeast portion of the property (Figure 5). These areas are considered to be the areas with the greatest potential due to the number of historic pits. Volume was estimated using the surface topography and an average thickness of alluvial material in the area. This volume estimation and grade estimation is conceptual in nature and is not considered to be a resource estimation compliant with NI 43-101.

**Table 5 - Volume estimated by Consultores Geológicos Asociados**

Zone	Volume (m <sup>3</sup> )	Gold Grade (g/m <sup>3</sup> Au)
Zone A	189,185,000	0.5 - 0.6
Zone B	12,700,000	0.5 - 0.6
<b>TOTAL</b>	<b>201,885,000</b>	0.5 - 0.6

Table derived from Consultores Geológicos Asociados 2010 report.



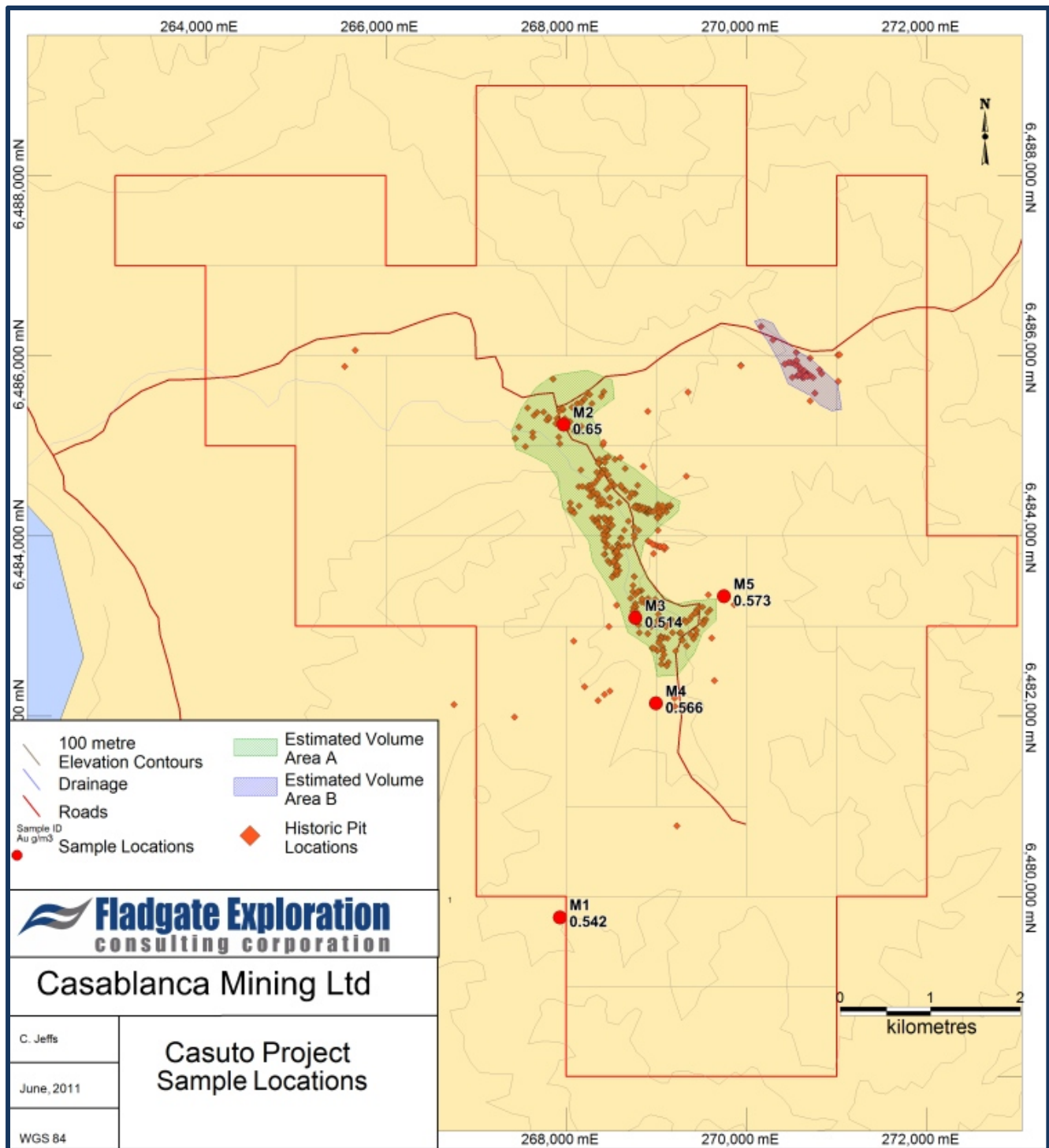


Figure 5 - 2010 Sampling and Volume Estimation

## 12 Drilling

No drilling has been completed on the Casuto Project.

## 13 Sampling Method and Approach

Five test pits were chosen by Consultores Geológicos Asociados (2010). Four of these pits are on the Casuto Project and one of these pits is just outside the present Casuto Project boundary (Figure 5). Four samples were taken from the bottom of historic pits and one sample was taken next to a deep historic pit in the top one metre of overburden. Test pit sites were chosen in areas where numerous historic pits were found in an attempt to sample the areas with the greatest gold potential. Samples were taken using picks and shovels to excavate material and one cubic metre was determined by measuring the size of the excavation pit. Sample material was then moved by truck to a wash station set up on the Casuto River. The washing station consisted of a sluice box approximately 1.5m long (Figure 6). The sample was washed down the sluice box and all the heavy particles were collected in a concentrated sample that was then sent to CIMM Serena Laboratories and analyzed for the total gold content.



**Figure 6 - Washing Sample Using Sluice Box**  
Photograph from Consultores Geológicos Asociados, 2010.

In the opinion of the author, the sampling method has potential to introduce human error during the sample collection stage if not all material loosened in the pit is collected with the sample, and in the size of the sample due to the difficulty measuring the exact size of the pit excavated. The sample washing system using a sluicebox is a common exploration technique for placer deposits, but can also have inherent human error if the sample is not washed carefully. By sending the wash concentrate to a lab for analysis, some error is removed in the final washing steps as cleaning the concentrated sample is very difficult.

## 14 Sample Preparation, Analysis and Security

Samples were not prepared in the normal sense of the word as used in hard rock mineral resource sampling programs. The sampling process was the same in practice and principal as a mining process would be.

### 14.1 CIMM Serena Laboratories

CIMM Serena Laboratories is located in Santiago, Chile. The CIMM Serena Laboratories is certified under ISO9001/2000 norm, the certification was issued by BVQI.

**Mechanical Preparation:** Samples are pre-dried at 105 C (forced convection and temperature control). Next samples are crushed using the Jaw crusher, followed by a secondary crushing step using a Tyler Secondary Jaw Crusher. Quartering and division of samples in 1,000 g is accomplished with a rotary splitter next. The 1,000 g samples are then again dried at 105 C. The samples are then pulverized with the Tyler Spray LM-2. Each powdered sample is divided into four envelopes of 250 g each. Quality Control is designed to verify the results.

**Atomic Absorption Spectroscopy:** Gold amounts are determined through fire testing (Atomic Absorption Spectroscopy). The portion of the test sample is melted at high temperature (1100 C) with a flux mixture containing oxide Lead (II) (litharge), Sodium Carbonate, Silica Boraz, Starch or Sodium Nitrate, dose according to the complexity of the sample matrix mineral. Elemental lead regulator produced (that the noble metals have collected) is separated from the slag and cup container of magnetite (cup), at controlled temperature (900 C), finally obtaining a nugget of noble metals (mostly gold). This nugget is dissolved in aqua regia and taken to a controlled means of hydrochloric acid which directly determined the concentration of gold by atomic absorption spectrophotometry. Alternatively if the golden rule is greater, then the golden nugget is treated with acid to remove Ag and it is weighed in a micro-analytical balance for the gravimetric determination of the final golden rule. The detection limit for this preparation is 50 g/10 ml or <0.01 g/ton Au.

### 14.2 Results

Consultores Geológicos Asociados did not use any QA/QC procedures on these samples. The QA/QC for CIMM Serena laboratories is listed below.

CIMM Serena Laboratories sample Mechanical QA/QC preparation protocol

- Grain size crushing control <10# to 4% of the samples
- Control sieve dusting <150# to 4% of the samples
- Duplicate control preparation over division on <10# 5% of samples
- Duplicate control spray <150# at 5% of the samples
- Blank cleaning quartz control over 4% of the samples for all elements

### 14.3 Sample Preparation Adequacy

Without detailed sampling method procedures it is the authors' opinion that these results are inadequate to verify the actual amounts of gold in the alluvium.

## **15 Data Verification**

In a placer operation, due to the large size of samples involved and the industrial-scale equipment required to process them, it is not possible to perform the usual sample checks and repeats, nor is it possible to make use of third party references samples as is normally the case in other mining or exploration programs.

This report relies mostly on historic data and reports and little documentation is available about past practices of data verification. No pulps or duplicate samples are available for analysis.

## **16 Adjacent Properties**

Numerous exploration and exploitation claims surround and overlap the Casuto Project. Claims closest to the project are all the same name “Roma” and appear to all belong to the same owner. It is unknown if there is active exploration or exploitation work on these concessions. However, Casablanca’s concessions are located over the main streams and over the areas where historic mining activity was focused.

## **17 Mineral Processing and Metallurgical Testing**

No mineral processing or metallurgical testing has been done on the property to date.

## **18 Mineral Resource and Mineral Reserve Estimates**

No mineral resources or mineral reserve estimates are being reported for the Casuto Project. The historic resource estimate completed in 2010 by Consultores Geológicos Asociados is not compliant with standards for NI 43-101 and as such is discussed in Section 7.2 as part of the exploration history of the project.

## **19 Other Relevant Data and Information**

All available and relevant technical reports and data relating to the Casuto property have been reviewed by the author and the parts relevant to the evaluation of the Casuto property have been used to compose this report. The author is not aware of any information not used for this report the omission of which could make this report erroneous or misleading.

## **20 Interpretations and Conclusions**

Through the acquisition of the Casuto Project, Casablanca has acquired a portion of a major historical placer gold mining district in Chile that has not been subjected to modern exploration and exploitation techniques. The property holds the potential to host significant gold mineralization of similar character and grade as those exploited in the district historically. Nevertheless, to date the project is still deficient in geology, procedures and technology, which should be improved in the future in order to fully determine the potential of the property.

Casablanca first acquired the rights to the Casuto Project in 2010 through its subsidiary company Santa Teresa Minerals. Casablanca has, through its subsidiary Santa Theresa, completed only limited exploration work totaling five test pits. Samples were taken and washed in a sluice box to concentrate heavy particles. The heavy particle concentrate was then sent to CIMM laboratories in Santiago for analysis of gold content. Results of this analysis show gold concentration ranging from 0.514g/m<sup>3</sup> to 0.650g/m<sup>3</sup> gold. Placer deposits present difficulties due to the high variability of recovery rates depending on the size of gold particles and nuggets, the methods used to wash and extract the gold have a strong influence of human error.

We conclude that the sampling method could be improved in several ways. Samples should be taken including a clear description of the sedimentary horizons sampled. Descriptions should include the width of each horizon, the grain size of the material in each horizon and which horizons; the yellow layer, the blue layer and the cirque, have been collected in each sample. A documented procedure should be developed for measuring sample sizes and ensuring that the entire sample is washed. A miscalculation in sample volume can significantly affect gold concentration calculations in low grade deposits such as these.

We conclude that the gold extraction by sluice boxes is a good method and works well for exploration; nevertheless, this method does not recover fine grain gold and has the potential to introduce a bias in the sampling process through human error. If a larger scale operation is implemented, a mechanical heavy particle separator should be considered. Attached in Appendix III is a description of a heavy particle concentrator developed by a company called IE-TEC. This heavy particle concentrator is specifically designed for alluvial deposits and is mounted on a trailer for mobility. IE-TEC has concentrators that vary in size and can process from 5 to 200 tons per hour. This technology is being used successfully on a placer gold deposit in the Yukon Territory, Canada (Maki, 2005).

The Casuto Project should be considered to be an early stage exploration project upon which Casablanca has begun to conduct an exploration program in order to gain a further understanding and testing the extent of the mineralization located on the property.

## 21 Recommendations

Casablanca, in its acquisition of the rights to the Casuto Project, has been able to acquire a number of mineral concessions in a historical mining district in Chile that holds potential to host a significant placer gold deposit. The mining district has not been subjected to modern exploration techniques. Casablanca is in the process of developing and implementing its first exploration program on the Casuto Project.

The review of available data and the visit to the property has resulted in the authors recommending the following:

- 1- A geological mapping program of the Casuto Project which should focus on determining different units and defining the boundaries of the sedimentary gold bearing horizons. Mapping should be completed over the entire property, including the intrusive rocks surrounding the river basin.



- 2- Design procedures under the guidance of a qualified person to ensure the careful documentation of samples including a description of which sedimentary horizon is being sampled. Procedures should also be developed for database management, program reporting and QA/QC. All procedures should be developed to match guidelines for NI 43-101.
- 3- The completion of a seismic refraction geophysics survey to determine the nature and thickness of the sedimentary units and depths to bedrock. This survey should be completed over the entire river basin.
- 4- A detailed elevation survey such as a LIDAR survey combined with high resolution stereoscopic air photos. An elevation survey is required to accurately determine the volume of material in a resource estimation.
- 5- A borehole drilling program is recommended to test for gold grades throughout the river basin where there is sedimentary cover. The sedimentary package is thick, up to 50m, and pit sampling is not practical or possible. An initial program of 5,000 metres is recommended. Drill locations should be selected to test all areas where there is possible gold mineralization. Care should be taken to source an RC rig that can recover a large sample size. RC drill rigs have been developed to recover up to 100kg samples every 1 to 1.5m. A drill rig specifically designed for maximum sample recovery in both dry and wet conditions is also of great importance. The gold particle sizes have not been clearly defined on the project and fine particles can be lost if drilled with the wrong drill rig.
- 6- Implementation of advanced technology in the gold extraction process is recommended. A wash plant incorporating heavy particle concentrator equipment would improve gold recovery and specifically recovery of fine gold particles.

These recommendations do not include a budget for completing a resource estimation. A second phase of exploration should be designed to focus on the most prospective areas. The second phase exploration program can be designed to focus on gaining enough information for a resource estimation.

**Table 6 - Budget for Proposed Exploration on Casuto Project**

Budget Item	Total (USD\$)
<b>Exploration: Geological mapping, seismic refraction geophysics survey, borehole drilling and pit sampling</b>	
Geological Mapping of Surficial Geology	\$125,000
Seismic Refraction Geophysics Survey	\$250,000
Detailed elevation survey such as LIDAR	\$125,000
Borehole drilling (5,000 metres) and road building	\$1,750,000
<b>Total USD\$</b>	<b>\$2,250,000</b>

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## **23 Date**

The effective date of this report is July 4<sup>th</sup>, 2011.



## Appendix I Photographs of Site



Historic Pits on the Casuto Project



M2 Sample Pit





Ruins from the Casuto Village

## **Appendix II Certificates of the Authors**

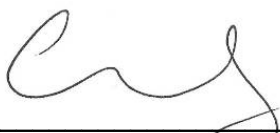
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### **CERTIFICATE OF THE AUTHOR**

I, Caitlin Leigh Jeffs, do hereby certify that:

1. I am part owner of, Vice President of, and Associate Geologist for, the geological consulting firm of Fladgate Exploration Consulting Corporation.
2. I am a member in good standing of the Association of Professional Geoscientists of Ontario (APGO #1488). I am also a member of the Society of Economic Geologists, the Society for Geology Applied to Mineral Deposits and the Prospectors and Developers Association of Canada.
3. I am a graduate of the University of British Columbia with an Honours B. Sc. In Geology (2002)
4. I have practiced continuously as an exploration geologist from that time until present that has included the design and implementation of a variety of grassroots, advanced, mine exploration and research projects in precious and base metal programs in North and South America.
5. I am a qualified person under the definition for 'qualified persons' as set out by NI 43-101.
6. I conducted a site visit to the Casuto Project in Chile on April 1<sup>st</sup> 2011.
7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Reports, the omission to disclose which makes the Technical Report misleading.
8. I am independent of the parties involved in the transaction for which this report is required, other than providing consulting services, as per Section 1.4 of NI 43-101
9. I have read National Instrument 43-101, companion policy NI 43-101CP and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I am jointly responsible for the Technical Report titled 'NI 43-101 independent Technical Report, Casuto Project, IV Region Coquimbo, Chile
11. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public.

Dated this 4<sup>th</sup> day of July, 2011.



Caitlin Leigh Jeffs, P. Geo., H.B.Sc (APGO #1488)

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### **CERTIFICATE OF THE AUTHOR**

I, Michael John Thompson, do hereby certify that:

1. I am the President of, and Associate Geologist for, the geological consulting firm of Fladgate Exploration Consulting Corporation.
2. I am a member in good standing of the Association of Professional Geoscientists of Ontario (APGO #1521). I am also a member of the Society of Economic Geologists, Geological Association of Canada and the Prospectors and Developers Association of Canada.
3. I am a graduate of the University of Toronto with an Honours B. Sc. In Geology (1997)
4. I have practiced continuously as an exploration geologist from that time until present that has included the design and implementation of a variety of grassroots, advanced, mine exploration and research projects in previous and base metal and industrial mineral programs in North and South America.
5. I am a qualified person under the definition for 'qualified persons' as set out by NI 43-101.
6. My previous involvement with the property that forms the subject of this Technical Report has been solely as a consulting geologist and I do not receive a material amount of my income from the Company that holds the property.
7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Reports, the omission to disclose which makes the Technical Report misleading.
8. I am independent of the parties involved in the transaction for which this report is required, other than providing consulting services, as per Section 1.4 of NI 43-101
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Dated this 4<sup>th</sup> day of July, 2011.



Michael John Thompson, P. Geo., H.B.Sc (APGO #1521)

## **Appendix III IE-TEC Heavy Particle Concentration Technology**



INNOVATIVE  
ENVIRONMENTAL  
TECHNOLOGIES

[WWW.IE-TEC.COM](http://WWW.IE-TEC.COM)

## HEAVY PARTICLE CONCENTRATION TECHNOLOGY

For additional information contact Greig Oppenheimer  
[greigoppenheimer@ie-tec.com](mailto:greigoppenheimer@ie-tec.com) +1 (646) 541 6002

## Heavy Particle Concentration Technology

IE-TEC's HPC Technology allows for cost-effective separation of materials of differing specific gravity – specifically:

- In Primary and Secondary mineral extraction activities for the separation of minerals such as gold, platinum and PGMs, from gravel / sand / carrier material in:
  - alluvial or placer mining operations
  - reprocessing operations for extraction from waste or tailings dumps
  - as a process component in hardrock mining plants - prior to, or in place of chemical leaching processes
- For Environmental Cleanups / Lead remediation projects in decontamination of polluted land, specifically shooting ranges

Key benefits of this technology include:

- A broad material-size processing spectrum with 95%-97% extraction yield
- Mobile, self-contained equipment which is complete and easy to set up and use
- A continuous process with a simple, secure and highly efficient final recovery stage
- An environmentally friendly process with no chemicals and minimal water use.
- Versatility/scalability to suit a wide range of different operating needs

The “bottom line” is high yield, cost effective and reliable equipment requiring minimal operator skills allowing for the profitable processing of lower grade ore bodies in any location worldwide.

*“I’ve looked at a lot of equipment in my time, but in 30 years of mining I’ve never come across anything as simple and effective as this”.*

Operations Manager – South Africa 2003





## DEVELOPMENT BACKGROUND

In 1986 Raymond Brosseuk – inventor of the HPC process - began development of a gravity separation system for extraction of minerals from alluvial deposits and tailings/waste dumps. Focusing only on gold extraction in placer/alluvial mining operations, this self cleaning, portable system was developed and field tested by Mr. Brosseuk between 1986 and 1994 with very positive results.

A US patent application was filed in October 1990 and the “Apparatus for extracting heavy metals from ore” patent was granted on April 28th 1992 (patent no. 5108584). “The Gold Machine” was registered as the trademark for this technology.

Independent analyses on a concentrate sample by engineer, geologist Gerhard Van Rosen, in 1993 evidence that the Gold Machine system recovered between 91% and 94% of the gold in the sample concentrate. Of the remaining gold, nearly one half was in the -45 mesh fraction (assayed 39.2 g Au). Close to one third of the remaining gold is not recoverable (physically) as it is interstitial with magnetite or in silicate grains. The magnetic fraction, mainly magnetite assayed 6.82 g Au. Excluding this non recoverable fraction, the recovery efficiency of the system was close to 95%.

Additional early field tests by Mr. Brosseuk using a prototype machine on a placer operation near Likely, B.C. and Revelstoke B.C. allowed comparison of the Gold Machine with a conventional screen deck-sluicing system. The comparison evidenced superior gold recovery from the Gold Machine by as much as 40% while using 75% less water than the comparable equipment. Setup time for machinery was reduced from a month to several days and overall costs were reduced by 45%.

Starting with a medium size machine which was built in 1986, the design was refined and a small Model-5 (5 ton per hour) prototype was built in 1988. In 1990 the patent was filed and ten more Model-5 units were built. All ten units were sold within 2 weeks of completion. A more advanced version of the machine was built in 1991 and in 1994 two large Model-200 machines were built and sold to a mine in B.C., where they operated successfully, processing more than 180 cubic yards per hour. Another Model-200 was built in China under a licensing agreement, and is producing gold successfully for the Chinese.

By 2001 two Model-200 machines were in operation at the Anderson Creek mine in the Yukon and to date one Model-100, four large Model-200 and sixteen Model-5 units have been sold to mining operations in Canada, China, Mexico and the USA.

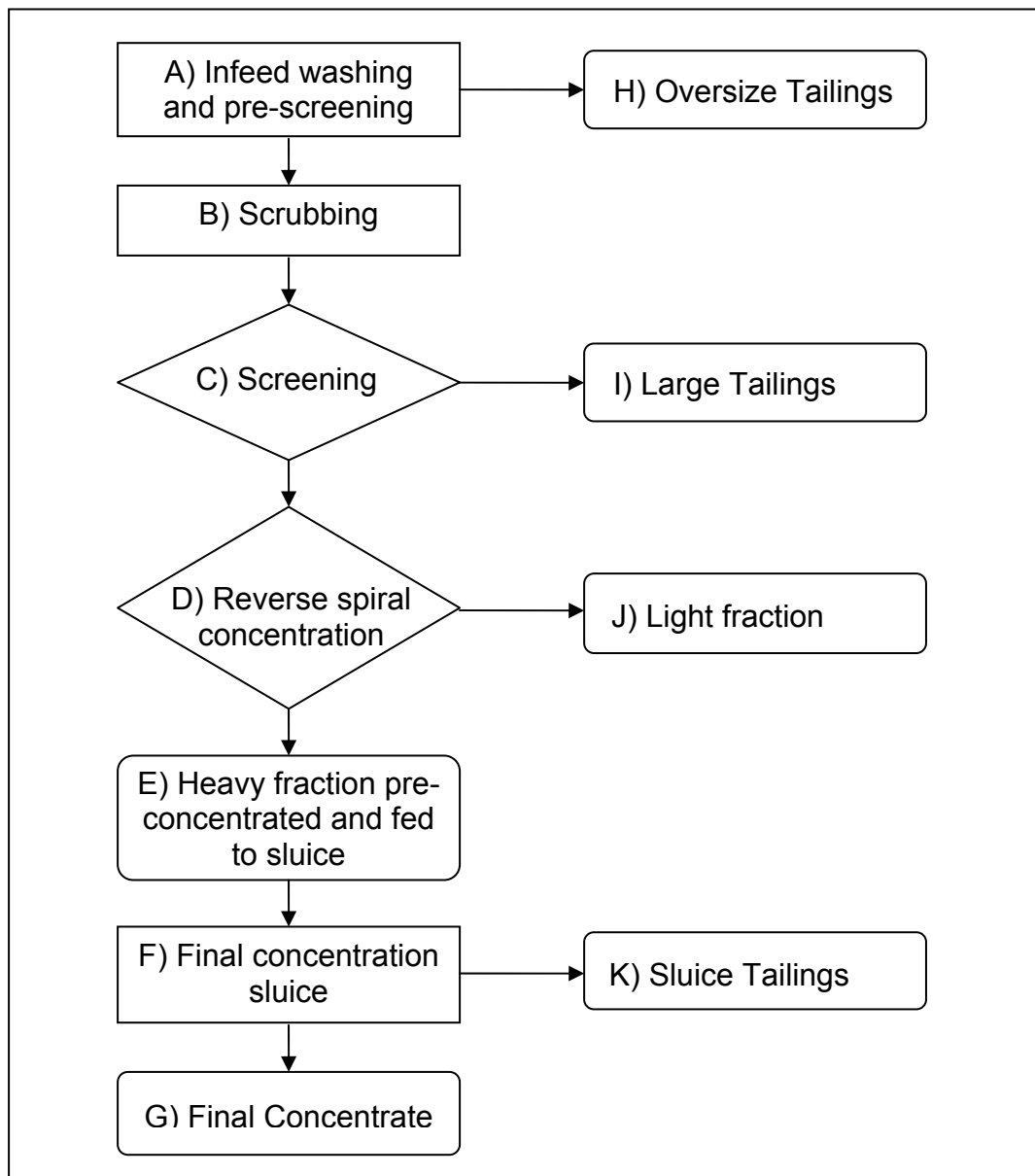
In 2003 IE-TEC acquired all rights to this HPC technology with the intention of focusing on commercialization of the HPC system.

In addition to the existing deep experience in gold recovery, IE-TEC has conducted testing with extremely positive results in extraction of other minerals such as platinum, chrome, diamonds and in lead remediation / environmental cleanup operations in North America, Europe and South Africa.

HPC design feedback and operating experience includes a total of over 125,000 machine hours (equivalent to more than 14 years of 24 hour per day, 7 day per week operation) logged on this equipment.

Accumulation of machine operation experience worldwide as well as the firsthand perspective gained from operation of the mine at Anderson Creek has been the base for design feedback on our HPC technology. Accordingly, IE-TEC is in the process of filing two additional patents for this technology.

## HPC PROCESS OVERVIEW



- A. Infeed material is fed into the hopper where it is washed to ensure that loose material is broken free from rocks and fed into the system. Oversized rocks and boulders are removed.
- B. In the first of three chambers of the inner drum, material is thoroughly scrubbed with numerous paddles and sprayed with high pressure water.
- C. The second inner-drum chamber consists of punched plate (usually half-inch holes) which screens the washed material, allowing the undersize material to pass into the outer, reverse-spiral drum. At the same time, the oversized material is carried into the third section of the inner drum and removed as tailings.

- D. Reverse spiral metal ribbing on the inside surface of the outer drum serves as riffles. Rotation of the outer drum results in pre-concentration of heavy particles, including nuggets, fine particles and flour particles. These particles are then fed to the sluice system 'E'. At the same time, most of the lighter, undersized material is washed down-slope, to be discharged as middling tailings at 'J'.
- E. No nuggets or finer particles are trapped in the outer barrel since the reverse spiral ribbing assures that the outer barrel is self-cleaning.
- F. A traditional sluice, optimized for material flow from the reverse-spiral concentration step is used for final concentration. This sluice is relatively small, since only a small percentage of the original infeed material reaches this point.
- G. Final concentrate volume is minimal, secure and can be removed whenever convenient, without shutting down the entire system.

## FEATURES AND BENEFITS

- Broad material-size processing spectrum with 95%-97% extraction yield
  - Unlike any other equipment on the market, the machinery is capable of handling infeed and scrubbing and screening of material from fine sand up to massive rocks of up to 36 inches or 1 meter in diameter (often covered by mineral-rich dirt/sand) without any additional screening or feeding machinery. The trommel system for scrubbing and screening has been modified to have extremely high throughput and can handle the very toughest mining applications like clay and shale.
  - The machine uses the established technology of a reverse spiral drum to classify and retrieve heavy particles. This technology was used with great success in small machines in the past; however its potential was never realized in large scale operations.
  - An independent second phase extraction via a modified four-part sluice box system utilizing turbulent, laminar and effectively quiescent water flow facilitates extraction of small particles from 1 inch or 25mm down to 300 mesh fine or 45 micron level (powder sized particles just visible to the naked eye).
  - The feed of material coming off the reverse spiral drum to the sluice boxes is at a steady flow rate to prevent surging, as, when surging occurs, a loss of fine particles of gold results.
  - Due to this comprehensive and highly efficient capability across a broad processing range, high yield extraction is achieved without any other machinery aside from materials handling equipment (bulldozers, etc.).
- Mobile, self-contained and simple to set up
  - All models are trailer mounted systems, fully mobile, road legal and containing all equipment required for power generation, pumping and system operation. This allows for access to typically remote or inaccessible mining locations at minimal cost.
  - Setup is completed in minutes for smaller units or hours for large units vs. days or even months for other systems. This is vital since setup in a poor yield location means relocation of equipment, incurring significant downtime if setups are slow or significant materials-handling costs if machinery is not relocated.
- Simple, secure and highly efficient final recovery stage from continuous process
  - Removal of the final mineral concentrate material from the machine is completed in a matter of minutes and does not require a system shut-down. This allows for concentrate processing on a daily basis.
  - The recovery boxes can be secured to prevent theft, requiring 2-3 people to unlock with separate keys to retrieve the final concentrate.
  - The final stage mineral concentrate has automatically been reduced to ultra high yield material which means that only a few pounds / kilograms of concentrate are sent to the final recovery step. This is extraordinary considering that competitive processing systems require hours to clean out and give several cubic yards of concentrate which take days to process and extract the finished product.
- Environmental performance
  - Based on the reverse spiral classifier's ability to concentrate the ore before the final stage of recovery, the equipment uses 75% less water than competitive system. This can be further reduced to nominal requirements via an additional water recirculation system.
  - Beyond the direct environmental benefit of reduced resource usage, allowing for operation in dry areas, this facilitates operating with settling ponds which mean that absolutely no solids or silting waste are discharged and operation is possible in sensitive areas such as fish-stocked streams, rivers and lakes.
  - No chemicals are used.

- Compliance with environmental legislation has been proven again and again with Canadian Environmental Inspection awarding an "A" rating during every operating year that this technology has been in place at the Anderson Creek, Yukon mine.
- Versatility
  - Smaller units are perfectly suited to sampling, prospecting or artisan-scale operations whilst high capacity machines form the base of a full scale commercial mine.
  - Although the HPC technology has been designed for placer mining conditions, it is clear that the equipment has broad application in traditional hard rock mining. Together with grinding or crushing machinery, the equipment is capable of supplementing and possibly even replacing massive extraction plants in concentrate upgrading and extraction processes at a fraction of the capital and operating costs.
- The bottom line - viability
  - The equipment design is based on non-proprietary mechanical components, and production processes. This means that only generic consumables are required for operation and maintenance (bearings, gears, etc.)
  - Reliable/robust heavy industry design has been employed for minimal maintenance in harsh environments (the Model-200 machines have polyurethane plastic liners that can be replaced every two years to prevent excessive maintenance costs associated with replacing steel plates which is a requirement of other extracting machines on the market).
  - Whilst energy efficient pumps and drive motors allow for low fuel costs, manning is minimal and operator training requires only standard skill-levels.
  - The "bottom line" is a high yield, cost effective and reliable construction with minimal, basic skill, operator requirements and extremely low operating costs which ultimately facilitate consideration of processing lower grade ore bodies in any location worldwide.

## SPECIFICATIONS

Specifications will depend on capacity / application. Examples below illustrate typical configuration of small and large units.

	<b>HPC-5</b>	<b>HPC-200</b>
Capacity	5 tons/hour (bank run)	200 tons/hour (bank run)
Weight	Approx. 650 lbs / 290 kg	65,000 lbs / 30 tons
Length	approx. 8.5 ft. / 2.6 m	56 ft / 17m
Width	approx. 5.5 ft. / 1.7 m	8ft 6" / 2.6m
Height	approx. 5 ft. / 1.6 m	10ft 9" / 3.3m
Motor (direct drive)	5 hp Honda	60 kW diesel generator
Fuel consumption	0.2 gallons / 0.75 liters/hour	0.4 gallons / 1.5 liters/hour
Water consumption	21 gallons / 80 liters/minute	1100 gallons/minute
Water pump	5 hp Honda	6" diesel pump
Maximum output	60 g / 240 liters p/min	2,400 gallons / 9,600 liters/minute rating
Fuel consumption	0.25 g / 1 liters/hour	1.5 gallons / 6 liters/hour
Trailer type	Standard 1 7/8" receiver hitch	Standard 5th wheel plate hookup



## HPC-5 5 ton/hour machine





**HPC-200 200 ton/hour machine (images show 2 machines in tandem configuration)**









## Concentrate upgrading in sluice of HPC-200



Range of particle sizes captured by HPC (approx. 45microns upwards)





**Finer gold particles extracted by HPC process suspended by water surface tension**

