

**Appraisal of Market Value  
Las Brisas Gold Mining Concessions  
Bolivar State, Venezuela**

by

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Figure 1 -- Oblique aerial view of Brisas del Cuyuni Concession, looking approximately NNW towards the north and the Cristina 4 concession. Photo SDO, 1 June 2005.

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## CONCLUSIONS AND CERTIFICATION

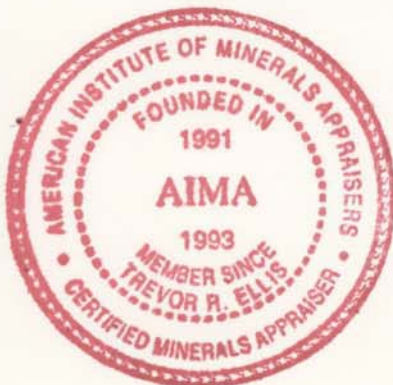
**Gold Reserve Inc owns the Brisas del Cuyuni concession of 500 hectares, which contains the Las Brisas gold-copper orebody, and controls approximately 9,424 hectares of nearby concessions for exploration and infrastructure purposes for its Las Brisas mine development project, collectively called the Las Brisas concessions, which are in the Kilometer 88 mining district of Bolivar State, Venezuela. The Market Value of Gold Reserve Inc's interest in the Las Brisas concessions is US\$1,200 million, in cash or terms equivalent to cash, on the Effective Date of Valuation/Appraisal of 10 February 2006. The Market Value determined is the most likely value within a range of \$700 million to \$1,900 million.**

I certify that, to the best of my knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I and my employer (Ellis International Services, Inc.) have no present or prospective interest in the properties that are the Subject of this report, and no personal interest with respect to the parties involved.
- I and my employer have no bias with respect to the property that is the Subject of this report or to the parties involved with this assignment.
- My engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation and that of my employer, for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- My analyses, opinions, and conclusions were developed, and this report, has been prepared in conformity with the *Uniform Standards of Professional Appraisal Practice, 2005 Edition*, of the Appraisal Standards Board, USA, and the *International Valuation Standards, Seventh Edition 2005*, of the International Valuation Standards Committee, and various ethical codes by which I am required to abide.
- I have not made a personal inspection of the property that is the Subject of this report. I visited Gold Reserve Inc's head offices in Spokane, Washington, on 15 August 2005, for the purpose of gathering and verifying information pertaining to the Subject of this report.
- Stephen D. Olmore, PhD (Geology), of S. D. Olmore & Assoc., Inc, Florida, while working under my direction, made a personal flyover inspection of the Subject property on 1 June 2005. He did not provide analytical assistance in the development of this report.
- Rex C. Bryan, PhD (Mineral Economics), and Larysa V. McGookey, Mining Engineer, provided significant professional assistance to me in undertaking this appraisal.
- I am in compliance with my continuing professional education requirements.

*Trevor R. Ellis*

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## SUMMARY OF SALIENT FACTS AND CONCLUSIONS

### **Property Owner and Operator:**

Gold Reserve Inc., a Yukon, Canada company, with headquarters at 926 West Sprague Ave., Suite 200, Spokane, Washington 99201, the Venezuelan subsidiary of which is Gold Reserve de Venezuela, which owns the registrant and lessee of the concessions, Compañía Aurífera Brisas de Cuyuní, C.A.

### **Property Location:**

The Brisas del Cuyuni concession, covering 500 hectares, is the principal concession of this valuation, because it holds the Las Brisas orebody. This property is three kilometers west of highway marker Kilometer 88, in the Kilometer 88 mining district, Bolivar State, Venezuela. The property is accessed by Highway 10, which is an asphalt road, then by an all weather dirt road. The approximately 9,424 hectares of secondary concessions that are also the subject of this valuation, are within 20 km to the south, south-southwest, and immediately to the west of the Brisas del Cuyuni concession. (Figures 2 and 3).

### **Legal Description:**

The 500 hectare concession of Brisas del Cuyuni is described legally by the Minister of Energy and Mines in the *Gaceta Oficial* of the Republic of Venezuela, 18 April 1988, Number 33,947, in which Compañía Aurífera Brisas de Cuyuní, C.A. is granted title to the concession for exploitation of alluvial gold. A supplemental concession (*Unicornio*) granting vein gold and other metallic mineral rights for the same 500 ha concession area to Compañía Aurífera Brisas de Cuyuní, C.A., was made by the Minister of Energy and Mines, in the *Gaceta Oficial* of the Republic of Venezuela, 11 December 1997, Number 5.190 Extraordinario. A copy of the relevant portion of both Gazettes is included in Appendix L. Table 2 also provides the UTM coordinates of the four corners of the concession.

Legal descriptions of the secondary concessions are not provided here. These are the Esperanza, El Pauji group, Zulema, Lucia, Yusmary, and the Barbara concession (Figure 3 and Table 3). The total 9,424 ha of concessions is herein called the Subject.

### **Property Rights Valued:**

The title for the Brisas del Cuyuni (and Unicornio) concession held by Gold Reserve Inc grants it ownership control of the mineral and surface rights, providing Gold Reserve Inc with rights similar to fee ownership of the concession. It is on this basis that the rights are valued. The secondary concessions are valued based on there use for

location of supporting facilities, including dumps and stockpiles, for the Las Brisas mine project.

For the purpose of this valuation, it is assumed that the holding company that owns the concessions and related permits, would be sold as a unit, including the concessions and permits. This is the usual practice for sale of operating and advanced development stage mineral properties. This practice minimizes the need to transfer, modify, or replace any title, permit, or other documents related to the property that grant rights to the owner.

- Current Use:** The concessions are held as a mineral property unit containing a world class gold-copper deposit, awaiting the granting of the last permit necessary for financing and mine development.
- Mine Permitting Status:** The last permit that Gold Reserve Inc needs before it can develop the mine has been in application review for a number of months with the Venezuelan Ministry of Environment and Natural Resources. Approval could be received from the Ministry at anytime.
- Exposure Time to Market:** Three to six months of marketing the property (or property holding company) internationally to large and medium size mining companies, prior to the date of sale.
- Effective Date of Valuation/Appraisal:** 10 February 2006. The **Report Date** is 17 April 2006.
- Value Conclusion:** US\$1,200 million on the Effective Date of Valuation.

## DEFINITIONS AND INTERNATIONAL TERMINOLOGY USAGE

Though this report has been developed in the USA, the subject property and many of the likely readers of this report are located outside the USA. Therefore, we have endeavored to use the prevailing international measurements and terms.

The term *valuation* is generally substituted in this report for its USA equivalent term, *appraisal*, when used in the context of asset value appraisal. In the USA, the term *appraisal* is used for what internationally is a *valuation assignment* and a formal *valuation report*. A *valuation* under U.S. usage is typically a less stringent undertaking than an appraisal of the value of an asset, especially when the asset is *real property* or an interest in such. Similarly, the term *valuer* is generally substituted here for the term *appraiser* used for the equivalent USA profession.

This report is written to comply concurrently with two sets of valuation/appraisal standards, one being international and the other being specific to the USA. This has inevitably caused some difficulty in the need to use defined terms and words in compliance with the standards. In our writing, we have attempted to minimize the impact of this requirement on the flow of text. The two valuation standards are the *Uniform Standards of Professional Appraisal Practice, 2005 Edition*, (USPAP), of the Appraisal Standards Board, USA, and the *International Valuation Standards, Seventh Edition 2005*, (IVS), of the International Valuation Standards Committee.

Internationally, convention is that the pricing of gold is quoted for Troy ounces, and copper is quoted for pounds weight. Apart from those, all quantities and measurement stated in this report are metric, unless otherwise stated. In particular, “t” is used for metric ton (tonne), which is 1,000 kg (approx. 2204.6 lb). All prices and values are in U.S. dollars, unless otherwise stated.

The 500 hectare Brisas del Cuyuni concession (including the underlying hardrock Unicornio concession) owned by Gold Reserve Inc, which contains the Las Brisas gold-copper orebody, is called Las Brisas, or the Las Brisas concession. Approximately 9,424 hectares of secondary concessions and contract concession holdings are included in what is termed the “Las Brisas concessions” or Las Brisas project, the additional concessions being used primarily for project infrastructure and facilities, such as dumps, stockpiles, and the mill site. The total 9,924 hectare of concessions is herein also called the Subject.

Additional definitions, terminologies and abbreviations are in Appendix A.

## **ASSUMPTIONS AND LIMITING CONDITIONS**

This valuation and the writing of this report have been made based upon the following assumptions and limiting conditions.

This valuation is only of the Las Brisas concessions (the Subject) in the Kilometer 88 district, Bolivar State, Venezuela. The valuation is developed from the perspective of a potential buyer of the Subject asset. The market value developed does not include Gold Reserve Inc's other concessions, such as Choco 5 lease in the nearby El Callao district of Venezuela, and other assets. Any value estimates made in this report for other properties, assets, or businesses, are only made for the purpose of understanding the value of the Subject, and should not be relied upon for any other purpose.

It is assumed that the legal description of the Subject concessions is correct and that the titles to the Subject were marketable at the Effective Date of Valuation. It is also assumed that there are no encumbrances or defects of title and that the property was free and clear of all liens. It also assumed that the ownership of the company holding the Subject is marketable.

Information furnished by others is believed to be reliable, as is information derived from publications, company and government reports. The Valuer (T. Ellis) and other professionals assisting him, have undertaken a moderate level of verification of important information and data relied on, to assure themselves of its validity, but more than that is not a part of this investigation. The level of verification of information pertaining to property transactions the Valuer has analyzed may not meet that usually expected for real property appraisal in the USA, due to the nature, international locations, and timing of the transactions, and the constraints of the schedule and budget for this valuation project. No responsibility is assumed for errors and omissions, nor is responsibility assumed for information not obtained through diligent inquiry and investigation.

It is assumed that the Subject property and its holding company are in full compliance with all applicable regulations and laws, unless the lack of compliance is stated, described, and considered in this valuation report.

No responsibility is taken for the existence of any hazardous materials on the Subject property valued. A hazardous materials inventory was not provided to the valuer.

Substantial environmental damage and gold resource removal has occurred on the Las Cristinas concessions by the work of thousands of artisanal (garimpeiro) miners over many years. The value of the damage caused to the Las Cristinas property by their work has not been directly included in our modeling of mining the Las Cristinas property. It is assumed here that the value of damage falls within the range of uncertainty for the value of the entire Las Cristinas tenement.

The Market Value estimate presented in this report is based on market evidence, economic conditions and forward looking trends, and political conditions and trends, existing on the Effective Date of Valuation. The value estimate is valid only on the Effective Date of Valuation stated in this report.

The Market Value estimate developed in this report, and the underlying projections and calculations developed to derive and support the estimate, are dependent on opinions and speculations of this Valuer. Reliance on this valuation is at the reader's and Intended Users' own risk. The liability of Ellis International Services, Inc., is limited to that contained in the contractual agreement with the Client.

This appraisal may be reviewed by the Ethics Committee of an appraisal society, institute or other credentialing body of which this Valuer is a member and/or candidate member, for compliance with their Code of Ethics and Standards of Professional Appraisal Practice. It may also be reviewed by a credentialing committee of such society, institute, or State licensing or registration board for the purpose of documenting adequate professional experience for advancement.

In accordance with the Code of Conduct of the International Valuation Standards, permission of this Valuer must be obtained prior to publication of this valuation or its conclusions.

## **CLIENT**

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## **INTENDED USERS**

Intended Users of the valuation report are Client, investors using Client's services, and potential investors thereof. Many of these readers will not necessarily have a strong knowledge of the mining industry and mining industry terminology.

Client has also advised the Valuer that it may wish to distribute this valuation report to mining industry executives and others with a strong mining industry knowledge, who are interested in the Las Brisas project.

## **INTENDED USE**

The intended use is to aid the reader in understanding the market value of the Las Brisas property, based on comparison with other gold properties transacted internationally, and other market measurements.

## **PURPOSE OF THE VALUATION ASSIGNMENT**

The purpose of the valuation is to determine the Market Value of the real property interests held by Gold Reserve Inc in the Las Brisas group of concessions.

### **Definition of Market Value**

Market Value as used in this report, is defined as:

“The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:



1. buyer and seller are typically motivated;
  2. both parties are well informed or well advised, and acting in what they consider their best interests;
  3. a reasonable time is allowed for exposure in the open market;
  4. payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; and
  5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.”
- (Source: *Federal Register*, vol. 55, no. 163, August 22, 1990, pages 34228 and 34229.)

This definition of Market Value is the most common definition used for appraisals in the USA. The definition supplied in the IVS provides essentially the same meaning, but being a brief definition, it is not as comprehensive in its description (Appendix A). This report is designed to abide by both the USA and IVS definitions of Market Value.

### **SCOPE OF THE APPRAISAL**

As the basis for determining the Market Value of the Subject property, recent transactions of gold properties containing in the order of 10 million ounces of gold resource were sought from around the world for sales analysis. Transactions of such large gold properties in the last two to three years proved rare, and those for which comprehensive transaction data could be found to analyze proved more so. The range was then lowered to include properties with a minimum of 1 million ounces of gold resource. Information about the transaction terms and the properties involved was obtained from sources such as business wire services, company websites, mining industry journals, and verified by directly contacting the buyer or seller companies. The transacted properties were not directly visited and inspected.

Application of the Net Present Value method in the Income Approach involved developing a very comprehensive set of spread sheet cashflow models of mining the Las Brisas property and the neighboring Las Cristinas property. Feasibility and technical study reports on the properties were relied upon for developing this data. Gold Reserve Inc's office was visited by the Valuer (T. Ellis) and Mr. Olmore, to verify data relied upon. At that time, interviews with senior management were conducted, and follow-up interviews were conducted by phone.

Stephen D. Olmore, PhD (Geology), of S. D. Olmore & Assoc., Inc, Florida, while working under the direction of this Valuer, made a personal fly over inspection of the Subject property on 1 June 2005. Previous visits by Mr. Olmore to the Kilometer 88 district and the Las Brisas property in particular, were made in 1993, while he was preparing geologic reports on the Brisas del Cuyuni Concession (Las Brisas) and the adjacent concessions to the south for Unicornio, the predecessor to Gold Reserve Inc. He visited the Las Cristinas concessions in 2003 along with CVG personnel.

The appraisal/valuation performed is a Complete Appraisal of Market Value, reported in a Self-Contained Appraisal Report format, in compliance with USPAP and IVS standards for real property

and mineral property appraisal. The report has been written in a narrative form designed for a wide range of reader experience with the mining industry.

### **CLIENT CERTIFICATION**

A letter dated 7 March 2006, from Strongbow Capital Ltd, states that this Client has provided me with all information requested or is otherwise relevant to this valuation assignment.

### **BACKGROUND OF GOLD RESERVE INC.**

The mining industry history of Gold Reserve Inc began in 1956. The previous name of the company was Unicornio. The company, through a wholly owned Venezuelan subsidiary, acquired the mining title to the Brisas del Cuyuni (Las Brisas) alluvial gold concession in 1992 and the mining title for gold, copper and molybdenum contained in the hardrock (below the alluvial gold concession) in February 1998. This is Gold Reserve Inc's main asset. Much of the early work on the Las Brisas concession was done for Unicornio.

Gold Reserve Inc is a Yukon Territory, Canada, company. The company's registered agent is Astring, Fendrick, Fairman & Parkkari, The Drury Building, 3801 Third Avenue, Whitehorse, Yukon, Y1A 4Z7. The corporate headquarters is at 926 W. Sprague Avenue, Suite 200, Spokane, Washington 99201, telephone +1-509-623-1500. Gold Reserve Inc's shares are traded under the symbol GRZ, with its primary listing being on the Toronto Stock Exchange. It is also traded in the USA on the American Stock Exchange.

The Venezuelan subsidiary is Gold Reserve de Venezuela, with Mr. Arturo Rivero Acosta as its President. Mr. Rivero is based at the company's offices in Puerto Ordaz. The company also maintains a public relations office in Caracas. Gold Reserve de Venezuela is owned by an Aruba corporation, which is in turn owned by Gold Reserve Inc, the Canadian parent corporation. The Venezuelan holding company for Las Brisas is Compañía Aurífera Brisas de Cuyuní, C.A., being the title holder for the 100% ownerships of the Las Brisas concession (Figure 2). It also holds other concessions, and is the contract holder with CVG and other second-party interests. The relationship between Compañía Aurífera Brisas de Cuyuní, C.A. and ARAPCO, the holding company of the El Pauji concessions, is unknown at this time (Table 3). Gold Reserve Inc, through its Venezuelan subsidiaries, also holds the prospective Choco 5 concession, approximately 100 km to the north of Las Brisas, on the north side of the El Callao gold province, under an exploration lease contract from CVG (Figures 4 and 48). However, Choco 5 is not a part of the Subject property of this report.

The Valuer met with principals of Gold Reserve Inc in August 2005 in Spokane concerning the Venezuelan holdings of the company. Some key individuals are James P. Geyer, Senior Vice President; Rockney Timm, Chairman of Gold Reserve Inc., and A. Douglas Belanger, President of Gold Reserve Inc. Previously Jim Hastings, who has since passed away, was the principal geologist for Gold Reserve Inc. Since the August 2005 meeting, Mr. Belanger has answered questions from the Valuer by telephone on a number of occasions.

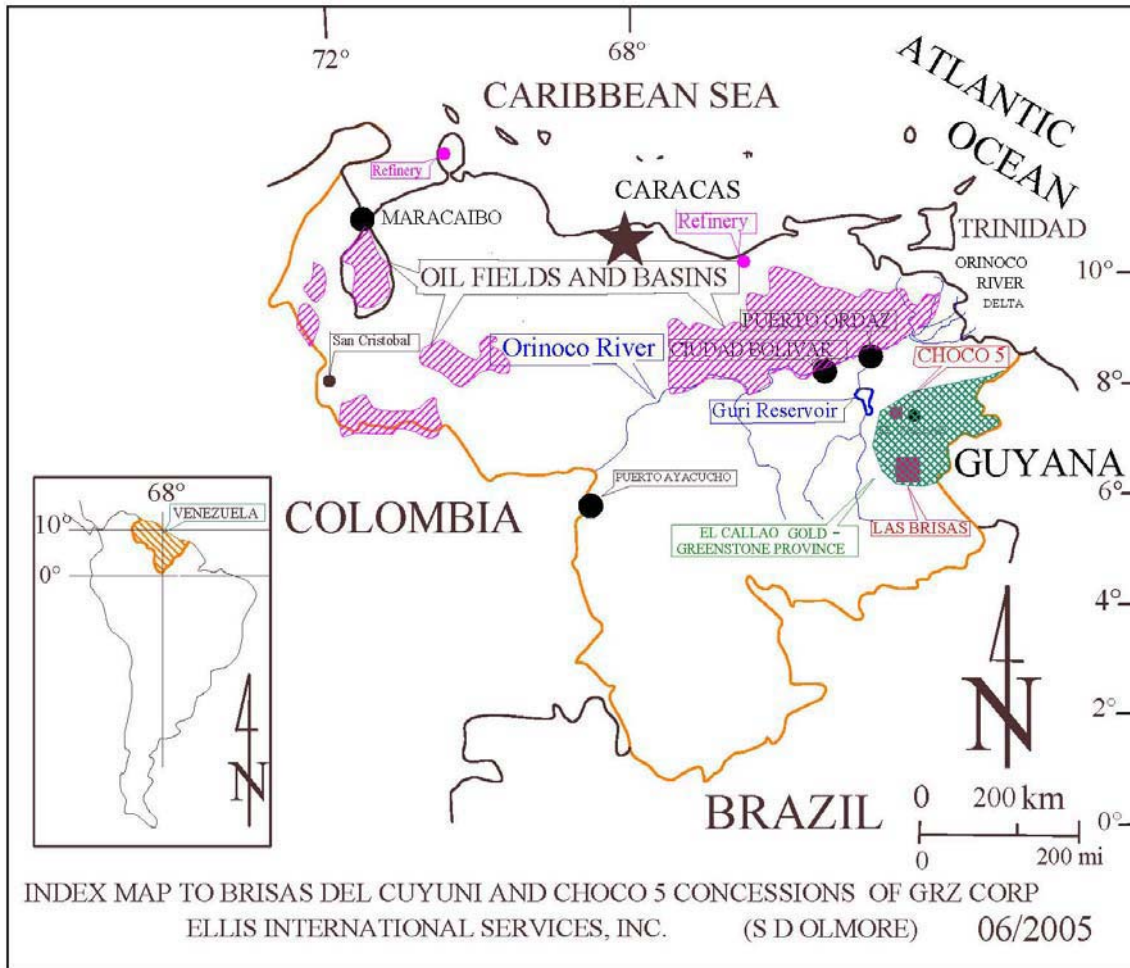


Figure 2 - Map showing location of Gold Reserve Inc's Las Brisas concessions, Venezuela.

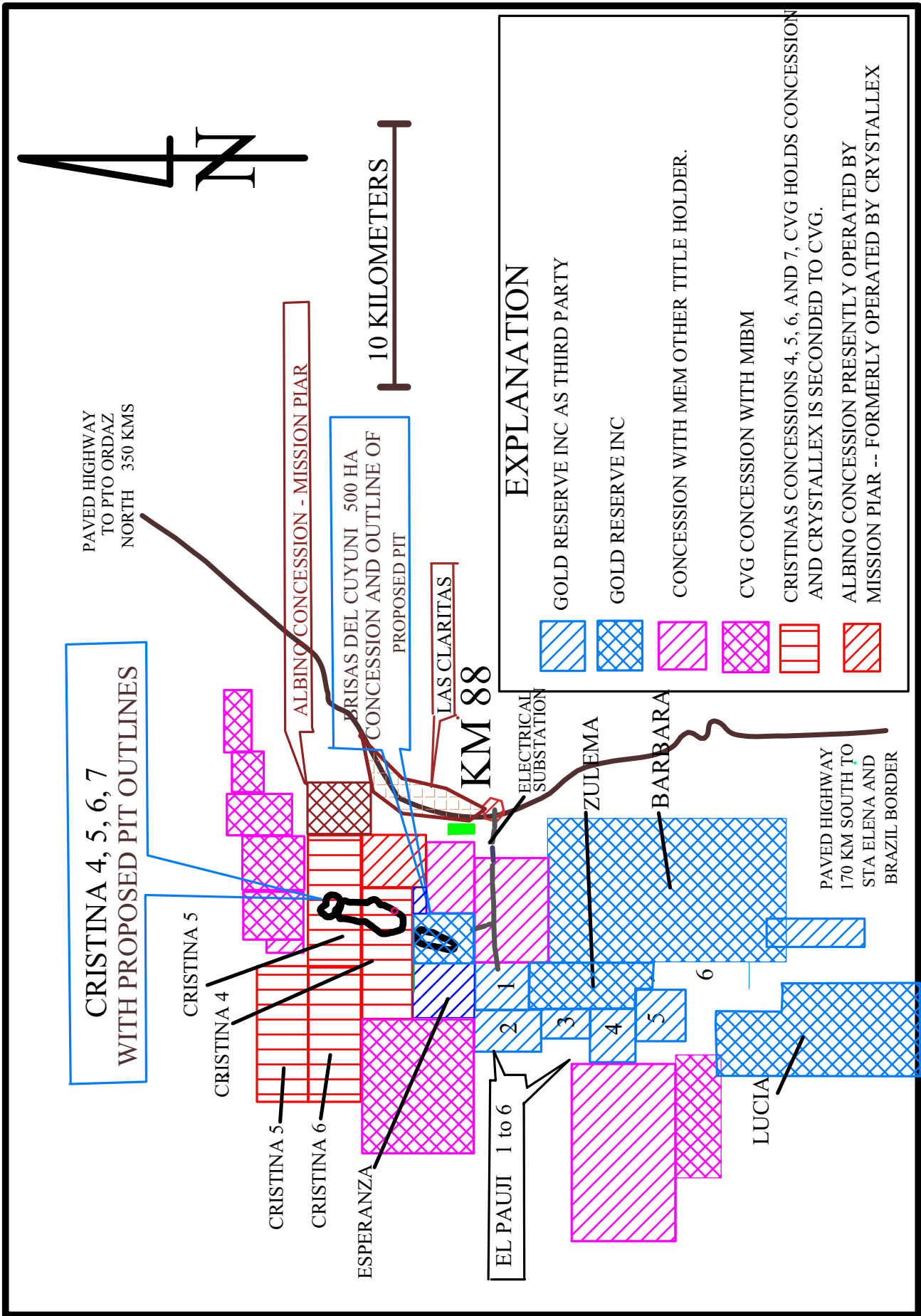
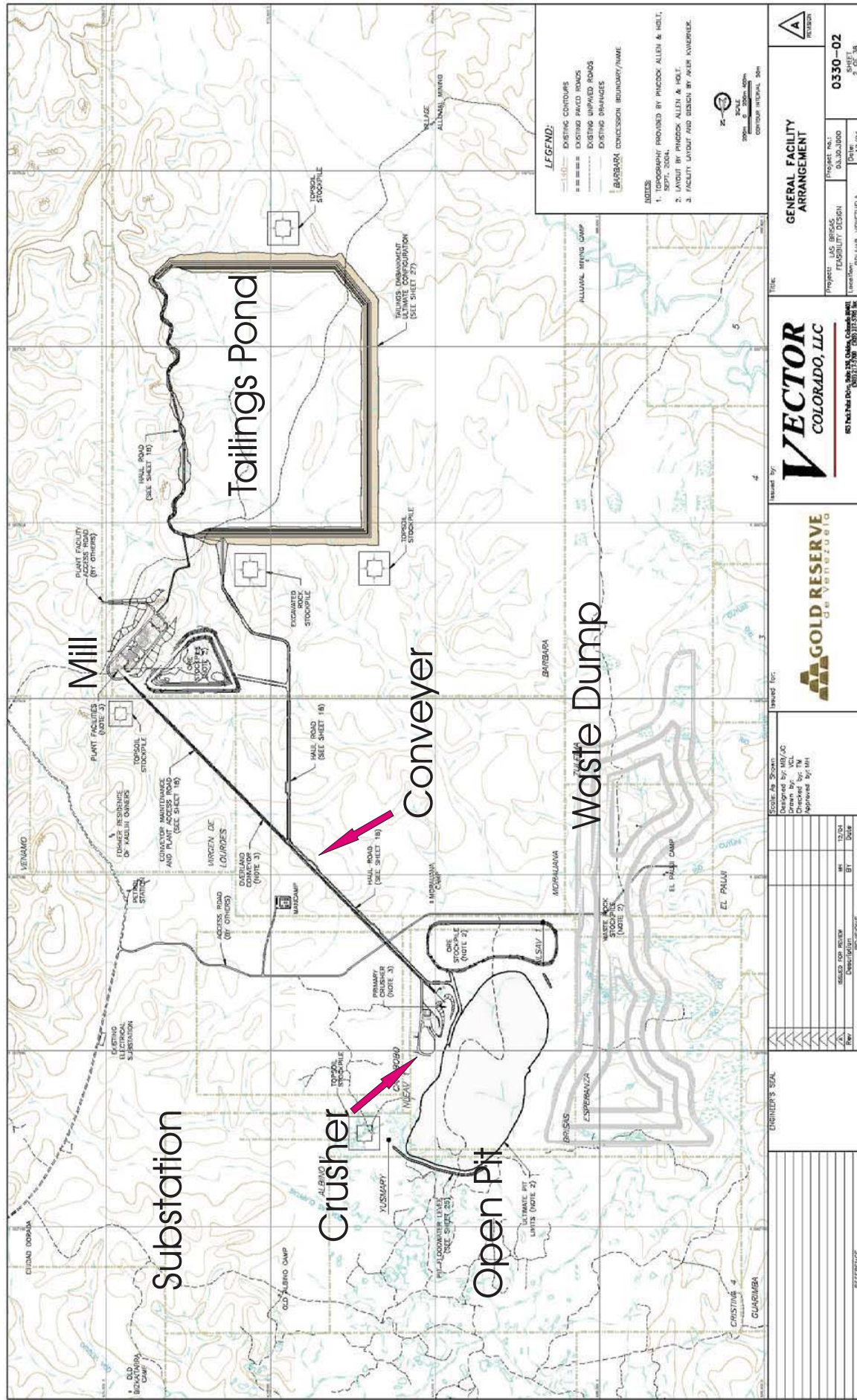


Figure 3 -- Map of Gold Reserves Inc and Crystallex contracts in the region of Km 88 and Las Claritas.



Source: Gold Reserve Inc.

Figure 4 - Arrangement Plan for Facilities at Las Brisas Mining Project.



Figure 5 – Aerial view of Las Brisas Campsite and core storage facilities. Photo SDO, 1 June 2005.

## **BACKGROUND OF CRYSTALLEX INTERNATIONAL CORPORATION**

Crystallex International Corporation began as a Vancouver Junior company, funded by a small group of investors, who first entered Venezuela in 1992. Their initial efforts in Venezuela were pioneered by Robert Miller, well known in the Vancouver area. Most of Crystallex's efforts were initially concentrated in the El Dorado Region and later in the El Callao Gold Greenstone Belt (Figure 2 and 48) where they acquired the Tomi concession and the Revemin mill of Monarch. Early on they acquired the Albino concession which was their first production in country. Lucca Riccio, Ph.D., now a consulting geologist in Vancouver and a director of Crystallex, helped them greatly in their efforts.

Later Crystallex took up the cause of a Venezuelan company, Mael C.A., and its quest to replace Placer Dome at Las Cristinas (Figure 6). At that point, Mael C.A. had acquired rights to one or more of the Las Cristinas concessions as the result of the demise of an American owner who had underlying rights to the concessions. The American was active during these earlier days of the Km 88 district during the mid-to late 1980's. During this early period, mining of the gold-rich superficial alluvium on the concessions using rudimentary techniques was unchecked, and to a certain extent still persists during the time of our research for this report.

Crystallex was awarded the concessions after a long sequence of legal actions through a decision of the Ministry of Energy and Mines in May of 2002. "On September 17, 2002, Crystallex signed a contract with CVG to mine the Las Cristinas deposit and to control 100% of the gold on Las Cristinas" (NY poster session, Crystallex, May 2005). In September 2003, SNC-Lavalin completed a favorable feasibility study on Las Cristinas showing an operating cost of \$182/oz Au (\$196/oz Au with royalty included). In March of 2004, CVG approved the feasibility study, and detailed engineering was commence. On 4 August 2004, Crystallex announced receipt of confirmation of its land occupation (land use) permit. In March of 2005, the engineering design was substantially complete at 92%. Crystallex had expected to receive the final necessary permit by June 2005 to begin construction of the project. As of the date of this report, it has not yet received that permit.

Crystallex believes that there is significant potential to expand reserves at depth. The life of mine average operating cost is designed to be \$204/oz Au (\$221/oz Au with royalty). (SNC-Lavalin, Development Plan, August 2005).

## **BACKGROUND ON VANNESSA VENTURES, LTD.**

Vannessa Ventures Limited (Vannessa) of Calgary, Alberta purchased Placer Dome's "rights" to the Las Cristinas concessions in Km 88 through Placer's joint venture with CVG (MINCA). Placer's JV venture position was transferred to the Venezuelan subsidiary of Vannessa Ventures through its subsidiary Placer Dome de Venezuela (PDV) on July 13, 2001. In the agreement, Placer retained the right to back into the agreement under certain circumstances. CVG and the Venezuelan government are said to have disregarded this transaction.

In 2004, Vannessa dropped its pursuit of legal actions within the Venezuelan legal system, in favor of pursuing international arbitration against Crystallex at the International Centre for Settlement of Investment Disputes (ICSID), an organization backed by the World Bank. It will be a few months yet before the case works its way to the top of ICSID's docket of cases to be heard. Luca Riccio, a former director of Vannessa, was Vice President of Exploration for Crystallex.





Figure 6 - Oblique aerial view of former Placer Dome campsite and infrastructure at Las Cristinas. Photo SDO, 1 June 2005.

## VENEZUELA COUNTRY DESCRIPTION

### Government

Many foreign companies, particularly ones based in the USA, view the climate for foreign investment in Venezuela as having been unsettled and somewhat risky in recent years. The current Chávez administration is strongly socialist leaning, with much of its economic and social policy being directed to assisting the poor and working class people. Mr. Chávez also has a demonstrated policy of forcefully attacking corruption within the government ranks.

The administration is using the nation's windfall of high collections from the revenues of its large petroleum industry to improve the lot of the poor and working class people through education, medical services, free food assistance, and jobs creation. These programs are generally viewed as popular and successful by the poor and working class. This has resulted in very high favorability ratings for Mr. Chávez, who is in his sixth year as President.

Some foreign investors have become uneasy by actions in the last few years by the current Venezuelan government to retrieve or confiscate underutilized ranch land, mineral concessions, and other assets. An example of the negative perceptions was expressed in a 2005 bulletin from the Australian Government: "Expropriation risk is spreading from agriculture to manufacturing: President Hugo Chávez warned on 18 July that the government could confiscate 'idle' private companies... The announcement followed recent moves to expropriate 'idle' farmland and intervene in the oil industry." An announcement by Mr. Chávez in September 2005, that all mining concessions would be reviewed for validity caused considerable consternation among foreign mining companies that held Venezuelan properties.

Through these reviews, the government has indeed confiscated some "underutilized" assets, such as ranch land and mining concessions. These have generally proved to be land and concessions that have been left idle or abandoned for many years, against the agreements or regulations underlying the grants. In the case of mining concessions being retrieved, the focus is on possibly hundreds of concessions where the holders have been delinquent for many years in making payments of fees and filing required activity reports. Our interviews and review of information in the press in early 2006 have found that the reviews have resulted in no change in the status of the mineral holdings of companies that have conscientiously followed the regulations. In fact, even during the fourth quarter of 2005, during the period of intense review of all mining concessions, the two government Ministries, Environment and Natural Resources (MARN), and Basic Industries and Mining (MIBM), continued to actively work on reviewing and acting on permit applications.

### Venezuela Population and Employment

The population of Venezuela is about 25 million, of which a substantial percentage live below the poverty line. Unemployment remains high, around 12 percent.

The country is highly dependent on the petroleum sector, this accounting for roughly one-third of gross domestic product, around 80% of export earnings, and over half of government operating revenues. Due to recent very high oil prices, government revenue has been bolstered by unexpected increased tax collection. The government is attempting to work out ways to use this surplus to tackle unemployment.

Many of the people living in the Km 88 district near Las Brisas, attempt to earn their living as garimpeiros (small miners) by mining the low-grade gold in mineralized saprolite , which is common in the Km 88 district, such as in portions of the Las Cristinas concessions. Many of these do not have legal status and often live in terrible conditions. The government is actively working on regulating these miners in the Km 88 district, and educating them in environmentally acceptable mining practices.

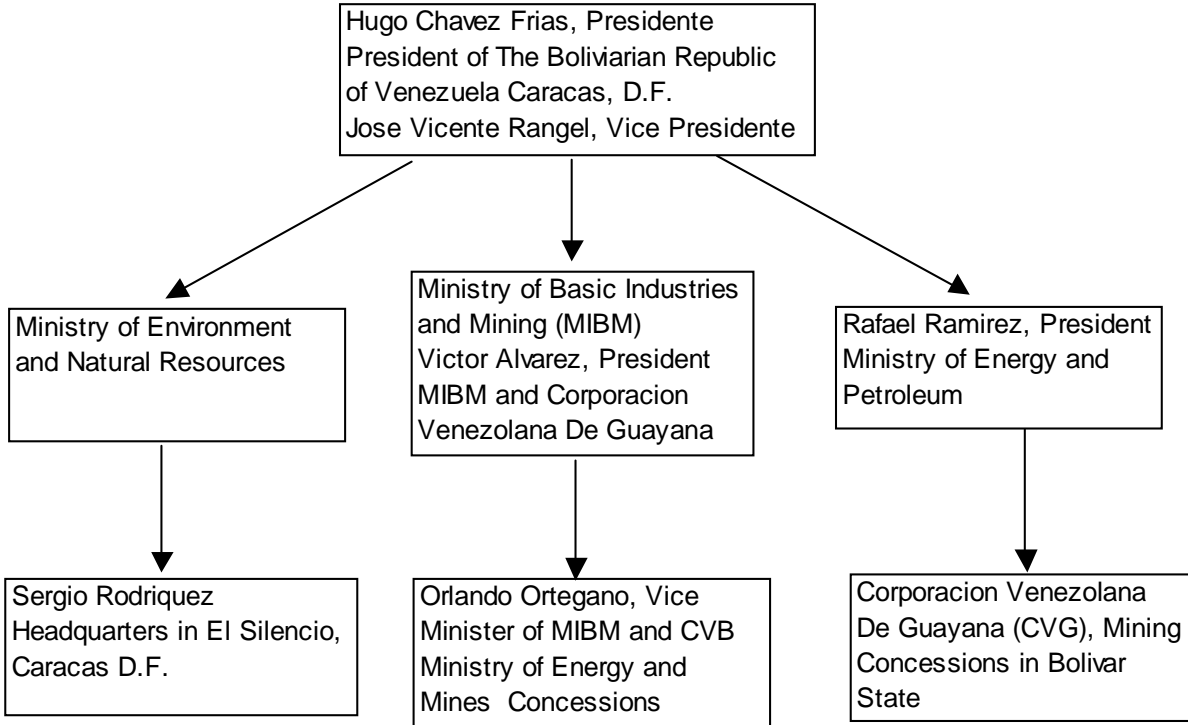
### **Changes in Mining Administration**

Prior to the beginning of 2005, mining concessions in Bolivar State were under the jurisdiction of both the Venezuelan government and the Bolivar State Government. However, that administrative bureaucracy has now been changed so that all concessions are now under the Venezuelan Ministry of Mines and Basic industries (Table 1). This new agency, also known as MIBM, is headed by Minister Victor Alvarez.



Figure 7 - Iron Ore Plant for Ferrominera and tailings impoundment at Puerto Ordaz, Venezuela on the edge of the Orinoco river. Looking North. Photo SDO, 1 June 2005.

Table 1 - Chart showing the current governmental organizational structure for mining concessions in Bolivar State, Venezuela



## INFORMATION ON THE GOLD RESERVE INC CONCESSIONS

### **Brisas del Cuyuni (Las Brisas) -- Location and Access**

The “Brisas del Cuyuni” concession is located in the KM 88 mining district, in the Municipality of Dalla Costa, District of Roscio, Bolivar State, Venezuela. The concession occupies an area of 500 hectares encompassed within a rectangle of 2,500 meters in the north-south direction and 2,000 meters in an east-west direction (Figure 3). Its coordinates are provided in Table 2.

The Brisas del Cuyuni concession is limited to the North by the “Cristina 4” concession, to the South by the “Morajuana” concession, to the East by the “Carabobo” concession. Las Brisas is accessible by paved highway No. 10 to Km 88. From Km 88, an all-weather dirt road goes to the Cuyuni River. At about 2.5 kilometers west of the paved highway 10, a north trending dirt road crosses “Brisas del Cuyuni” and enters the “Cristina 4”. This road eventually joins the paved Highway 10 at “Las Claritas”. This road divides “Brisas del Cuyuni” longitudinally in two halves, an intensely mined eastern half, and a relatively undisturbed western half.

Table 2 -- Coordinates for the Brisas del Cuyuni Concession.

<b>Las Brisas Corners</b>	<b>UTM North- Longitude</b>	<b>UTM West- Latitude</b>
<b>Southeast Corner</b>	680,625	668,300
<b>Southwest Corner</b>	680,625	670,300
<b>Northeast Corner</b>	683,125	668,300
<b>Northwest Corner</b>	683,125	670,300

The adjacent Las Cristinas concessions (Table 6) are controlled by Corporation Venezolana de Guayana which is the state corporation that manages the State of Bolivar. Previously CVG was a more or less autonomous organization that worked independently of Caracas, but this is no longer the case.

### **Topography, Climate, and Vegetation**

The topography of the Las Brisas concessions is of low relief to flat, at an elevation of about 160 meters plus or minus about 10 meters above sea level. At Km 88, the average annual rainfall is about 3,000 millimeters. For the nine months of April through December, rainfall averages about 290 millimeters per month. The “dry” months of January through March have about 130 millimeters per month. The average annual temperature is about 26°C. The vegetation in the region is medium to heavy jungle, with a canopy ranging from 10 to 30 meters in height, where it has not been disturbed by mining activities.

One can easily map distinct changes in the topography and vegetation over various rock formations. Substantial erosion has taken place over areas deforested by hydraulic mining – especially on the

Cristina 4 concession. From there, mined sediment washes out to the Cuyuni River via Quebrada Amarilla (Figure 29).

### **Brief Description of Brisas del Cuyuni**

Alberto Manrique 1992, has described Las Brisas as follows: “Brisas del Cuyuni is a rectangle 2,000 by 2,500 meters elongated in the northerly direction. A northerly road divides the property in two halves namely an undisturbed western half and a surface mined eastern half.” (Figure 1)

Seven important pits and a major campsite with core storage facilities are found on the concession in the area of the old mill and facilities used to process placer mineralization by “the Admiral”, a former owner of the concession (Figure 3 and 13). The pits vary in size from 60 to 200 meters long, and they have been excavated within the concession along a northerly trend, close to the road. An undetermined number of pits of larger dimensions along the same trend have been excavated in the neighboring “Cristina 4” concession. From north to south, the pits are known locally as follows: El Potaso and Conductor, which are on Cristina 4, then Pozo Rojo, Pozo Azul, Nancy’s Pit, Barren Pit, Dominicanos’ pit, El Remo Pit, and Mundo Nuevo Pit. Pozo Azul contains the “Blue Whale” outcrop (Figures 1, 20 and 21). The El Remo Pit follows a high-grade vein that straddles the boundary between the Las Brisas concession and the Carabobo concession on the east (Figure 4).

### **Early Work Done On Las Brisas**

No formal technical work is known to have been done at the property prior to the acquisition of the mining rights by the Unicornio Mining Company. However, the lake filling “Pozo Azul” was long known to contain the important outcrop later known as the “Blue Whale” (Figures 20 and 21). The Ministry of Energy and Mines in Ciudad Bolivar had known about this area long before Unicornio had entered the scene.

In 1992, Unicornio initially found that there was a total absence of topographic maps. There were no dependable production records from “the Admiral”, who was then working the alluvium for gold. Technical work was initiated about August 1992 with a generalized geological sketch map of the Pozo Azul area at a scale of 1:500 by S.D. Olmore, later by A.I. Manrique, culminating in a report by S.D. Olmore who wrote a final report.

Tailings from sluices occupy an extensive area in the eastern half of the Las Brisas concession. Such tailings are irregularly extended, so it is difficult to ascertain their source. In places, they are from small superficial workings or they represent reworking of existing tailings. With the exception of areas near roads and well traveled trails, mining work has been done in the remaining areas.

Between 1993 and the end of 2005, there have been 830 holes drilled in the mineralization on the concession, for a total of 195,000 meters of drilling.

### Other Related Concessions and Holdings

Table 3 lists 9,424 hectares of concessions supplemental to the Las Brisas concession, of which, all but the 500 ha Esperanza were initially held by Gold Reserve Inc for exploration purposes (Figure 3). Exploration on these concessions has so far proved unsuccessful. These secondary concessions are retained for infrastructure and facility use in the Las Brisas project, such as dumps, stockpiles, and the mill site. A small portion of the Barbara concession has been permitted as a quarry for aggregate extraction for the project development. Gold Reserve Inc is working with the Venezuelan regulators to modify most of the supplemental exploration concession areas to a property category appropriate for long term infrastructure and facility use.

Table 3 – Concessions controlled by Gold Reserve Inc in the Las Brisas Area.

<b>Concession Name</b>	<b>Owner of Concession</b>	<b>Gold Reserve Inc's Status</b>	<b>Hectares (ha)</b>
Barbara	Compañía Aurífera Brisas de Cuyuní, C.A.	Primary Concession Holder	4950
Brisas del Cuyuni	Compañía Aurífera Brisas de Cuyuní, C.A.	Primary Concession Holder	500
El Pauji 1-6	ARAPCO- Juan Andreas Cardenas	Subordinate Concession Holder	1433
Esperanza	MINCA (CVG Contract)	Subordinate Concession Holder	500
Lucia	Compañía Aurífera Brisas de Cuyuní, C.A.	Primary Concession Holder	1644
Yousmary	MINCA (CVG Contract)	Subordinate Concession Holder	ca 50
Zulema	ARAPCO- Juan Andreas Cardenas	Subordinate Concession Holder	847
Total Hectares Controlled by Compañía Aurífera Brisas de Cuyuní, C.A.			9924



## **LAS BRISAS PROJECT DESCRIPTION**

The Las Brisas project is a world class development-stage gold and copper mineralized deposit owned by the Canadian company, Gold Reserve Inc. The location of this project site is in Bolivar State in the southeast of Venezuela, near the small community of Las Claritas. This area is known as the Km 88 mining district, and it is located approximately 30 km from the border of Guyana. The deposit as currently defined on the Brisas property, measures 1.9 kilometers along strike and 0.75 kilometers wide. Mineralization continues down-dip, and the deposit is still open to expansion at depth, to the west and along strike to the south-southwest.

The Las Brisas mining site is located 373 km southeast of the ocean freight port and industrial city, Puerto Ordaz, and 88 km south of El Dorado on Highway 10, a paved road (Figures 2 and 3). A well-maintained gravel road accesses the property. Las Brisas is located 3.5 km west of the Kilometer 88 marker post on Highway 10.

The Las Brisas concession occupies a rectangular area of 500 hectares. The dimensions of the property are 2,500 meters (north-south) by 2,000 meters east-west (Figures 4 and 14). In addition, the company has obtained 9,424 hectares of concessions near Las Brisas for exploration and infrastructure.

The Las Brisas project has included extensive geology, geophysics and geochemistry, hydrology and geotechnical studies. Las Brisas is a large resource of low-grade disseminated gold and copper mineralization of the Precambrian greenstone type. The mineralization is hosted in a fine-grained volcanic rock that was deposited as sediment in a water-filled basin. The copper and gold mineralization was introduced into the host rocks during the deposition of the host, and then subsequently modified by metamorphism and tropical weathering. Ore grade mineralization is stratabound and strataform within a 200-meter thick unit characterized by rapid vertical and horizontal changes. Mineralization follows this unit down dip from the surface and is open at depth. In addition, the deposit is open to the southwest.

The project has completed Reserve estimation, a feasibility study by Aker Kvaerner dated January 2005, substantial project design, and has received most of the permits it needs for financing and construction. Table 4 provides the latest published Reserve estimate, announced in May 2005. On 4 January 2006, Gold Reserve Inc announced it had received permits for detailed preliminary geotechnical site work (Appendix K). The main permit Gold Reserve Inc is awaiting is the environmental approval. Appendix G contains the Executive Summary of the Aker Kvaerner feasibility study.

Exploration data for the Las Brisas projects includes 830 drill holes with 195,000 meters of core. Independent audits of the Proven and Probable Reserves are designed to provide a high level of confidence to investors. Exploration drilling is continuing on the west side of the pit, which could expand the size of the pit. Table 5 shows Measured and Indicated Resource estimates at a range of cutoff grades, from a May 2005 announcement.

Table 4 - Las Brisas Mineral Reserves on May 17, 2005, based on metal prices of \$350 per ounce gold and \$0.90 per pound copper.

	<b>Reserve Tons (millions)</b>	<b>Gold Grade (gpt)</b>	<b>Gold Ounces (thousands)</b>	<b>Copper Grade (%)</b>	<b>Copper lbs. (millions)</b>	<b>Strip Ratio</b>
Proven	206.9	0.726	4,829	0.125	570	
Probable	239.3	0.683	5,255	0.136	720	
Total	446.2	0.703	10,084	0.131	1,290	2.16

The design of the ultimate pit is based on the results of a Whittle Lerchs-Grosmann (LG) pit shell analysis. This analysis has determined the approximate shape of a near-optimal pit shell based on applied cutoff-grade criteria and pit slopes. These shells are generated from the geologic grade models, and economic and physical criteria.

The work, completed on the Las Brisas property also includes mine planning, advanced stage grinding and metallurgical test work, tailings dam design, and milling process flow sheet design. A preliminary feasibility study completed in 1998 and updated in 2000, resulted in approval of an initial operating plan based on the preliminary feasibility study for the Las Brisas project by MIBM. In addition, large scale metallurgical testing was conducted on a 700 tonne bulk underground sample by SGS Lakefield Research. Contractors have finished environmental baseline work and socioeconomic studies for the proposed mine. Gold Reserve Inc is now awaiting issuance of the environmental permit, based on the plan of operation it has filed.

Table 5- Measured and Indicated Resources for Las Brisas (2005)

<b>Cutoff</b> AuEq (g/t)	<b>Tonnes (000)</b>	<b>Gold</b>		<b>Copper</b>	
		g/t	oz	%	m lbs
<b>0.15</b>	992,657	0.498	15,882,868	0.116%	2,535
<b>0.2</b>	880,575	0.527	14,929,334	0.118%	2,285
<b>0.3</b>	688,768	0.596	13,192,000	0.123%	1,861
<b>0.4</b>	582,498	0.661	12,378,000	0.126%	1,622
<b>0.5</b>	472,215	0.736	11,178,000	0.132%	1,379
<b>0.6</b>	349,635	0.846	9,513,000	0.135%	1,041
<b>0.7</b>	268,278	0.939	8,102,000	0.139%	824
* blue values interpolated					
Source: Gold Reserve Inc., NR-0503, Public Announcement (May 13, 2005): "Brisas Measured and Indicated Gold Resources Increases to 12.4 Million Ounces." <a href="http://www.goldreserveinc.com">www.goldreserveinc.com</a>					

Based on the results of the metallurgical test work, average concentrate production over the life of the mine will be 124,000 tonnes per year at a grade of 24% copper and 89 g/t of gold and 78 g/t silver. The gold content of the concentrate averages 362,000 oz/yr and includes both the flotation gold recovery as well as the gold recovered in the gravity concentrate. Gold recovered as doré metal will average 128,000 oz/yr, silver in the doré will average 86,200 oz/yr, and average copper production will be 63 million pounds per year.

The Las Brisas project is not confronted with environmental, litigation, and social issues, which commonly delay or prevent mining elsewhere in the world. It has all major required permits, except one, needed to proceed with construction.

The total capital investment in the Las Brisas project has so far totaled more than \$80 million. These capital costs include property and mineral rights acquisition costs, equipment expenditures, litigation settlement costs, exploration costs and feasibility studies. Future capital costs will also include expenses for mine, mill, tailings, pre-stripping cost, indirect costs, along with a contingency, for total of \$552.1 million estimated. This assumes receipt of the final permit, which is expected soon. Recent international mine capital development costs indicate that the \$552.1 million estimate will increase by approximately 20%. This is because of cost escalations that have occurred worldwide due to the current global shortage of skilled mining industry personnel, equipment, and shortages of parts such as large mine truck tires.

For the Las Brisas project, the operating costs include mining, dewatering, processing, general, administration, transport, freight, smelting and refining expenses. These are calculated as \$5.26 per tonne of ore. Cash operating costs (net of copper by-product credit at \$1.00 per pound) are estimated at \$154 per ounce of gold sold. The total cost per ounce, including operating costs and amortization of initial and sustaining capital, is estimated to be \$263 per ounce of gold.

The scheduled production startup for the Las Brisas project is presently planned for late 2007. The mine is planning to operate two shifts per day (12 hours each), 7 days per week. The two shifts will be production shifts with a working time of 10.5 hour each.

Las Brisas will be an open pit gold-copper mining operation, which will use hydraulic shovels and 236-ton trucks. The average annual production is expected to be 25.2 million tonnes of hard rock ore and 46.8 million tonnes of waste, including overburden, during the 16 years of mining life. The Las Brisas operating plan from the January 2005 bankable feasibility study anticipates processing ore at 70,000 tonnes per day, yielding an average annual production of 486,000 ounces of gold and 63 million pounds of copper.

The Las Brisas mining operation has a very low energy cost for both diesel fuel and electricity (hydropower). The cost of hydroelectric power in Venezuela is only 40% of that for a similar mining operation in Nevada. (Figure 11). Comparing diesel fuel costs, in Venezuela the cost is 10% of the cost in Nevada. The Venezuelan government has had a long history of keeping energy costs low within the country. In total, lower energy costs should save about \$57 per ounce of gold production.

The primary aspects of the Las Brisas mining operation include the open pit, crusher, waste stockpile, conveyer, mill, tailings pond, and electrical substation (Figures 9 and 12). Hard rock ore from the open pit will be dumped directly into a primary crusher, to minimize stockpiling and rehandling. All of the waste rock, except rock used for tailings dam construction, will be disposed of in the waste rock dump located to the west of the pit (Figure 18). The waste rock dump will probably be located over the down-dip extension of the existing orebody. A conveyer will transport ore from the crusher to the mill (Figure 4). Much of the two types of saprolite ore mined will be stockpiled since they will initially be mined at a rate that exceeds their milling rate, since they will be blended at a maximum allowed percentage with the hard rock ore feed to the mill (Figure 18). Oxide saprolite mining will be completed in Year 3 but milling will not be completed until Year 5. Mining of sulfide saprolite ore will end in Year 4, but milling will not be completed until Year 7.

The mineral processing of hard rock ore at Las Brisas will reach 3,240 dry tons per hour, for 70,000 dry tons per day, which includes milling, flotation, filtration, and gold smelting (Figure 9). This process includes the blending of two types of ore – 54 percent being hard rock from the northern portion of the Las Brisas pit (North ore), and 46 percent being hard rock from the southern portion (South ore). North ore, which is a gold-chalcopyrite-pyrite mineralization, has a copper content of greater than, or equal to, 0.05 percent. South ore, which is a gold-pyrite mineralization, has a copper content of less than 0.05 percent.

The tailings pond will be 7.5 million square meters in area. There is a 4,000 kV transmission line and substation immediately east of the project area (Figure 12).

This area in Venezuela has a tropical, high humidity, and high temperature climate. Significant rainfall occurs all year, with higher amounts occurring in May through October. Vegetation is typical of a sub-Amazon rain forest, with trees measuring 25-35 meters in height. Around 25 percent of the property is barren of vegetation as the result of significant alluvial and hydraulic mining for gold by small miners over the past 40 years.

Port Ordaz is a large industrial center and seagoing port (Figure 10). It offers daily flights to Caracas. The Puerto Ordaz port facilities are mostly dedicated to local industries shipping raw product. The port, which can accommodate large ocean freighters, will be used to ship the copper concentrate from Las Brisas to smelters around the world. Construction, mining and milling equipment for the project will also be imported through this port.

In relation to the Las Brisas project, the suggestion has been made that the Port Ordaz industrial area could be considered for construction of a copper smelter. The feasibility of this would be boosted if copper concentrate from Las Cristinas became available with that from Las Brisas. A potential global shortage of copper smelting capacity is a looming concern for the copper mining industry (Credit Suisse First Boston, 2006).

## GEOLOGY OF LAS BRISAS

Geologic correlation has identified a stratigraphic sequence from top to bottom consisting of: 1) a thick unit of vitric tuff; 2) a two hundred meter thick unit consisting of mixed lapilli tuffs, crystal tuffs and vitric tuffs characterized by rapid vertical and lateral textural changes; and 3) a series of thicker, more consistent crystal tuffs, vitric tuffs and lapilli tuffs. The structure of the property is very simple. The tuffs dip shallowly to the west and strike north-south. Very little faulting has been identified and the faults recognized are the sites of the basic dikes. Movement along these faults is minimal and often there appears to be almost no movement at all. A geologic map is shown in Figure 14.

Ore grade mineralization is stratabound and strataform within the 200-meter thick unit and is characterized by rapid vertical and horizontal changes. Mineralization follows this unit down from the surface and is open at depth. In addition, the deposit is open to the southwest. The dominant structural trend in the district is approximately N 10° E, and follows the outline of the proposed pits at Brisas del Cuyuni and Las Cristinas. This NNE structural trend is the direction of foliation, and the structural trend also controls the distribution of gold and copper mineralization

Exploration at Las Brisas has focused on following the mineralized lenses down dip to the west and down plunge to the south. Drilling originally was concentrated at the surficial exposure of the Blue Whale, and continued to the west and south as mineralized lenses were found to extend to depth. The genesis of the lenses of gold and copper appears to be the result of separate mineralization events, each structurally controlled by the same schistosity, creating an apparent correlation of grades.

Two important types of mineralization exist. Oxide mineralization, restricted to the oxide saprolites, is gold only and makes up about four percent of the total mineralization. The majority of the mineralization is disseminated sulfide mineralization in discrete pyrite grains within the tuffs or as narrow restricted quartz-carbonate-pyrite veinlets. These veinlets often contain visible gold. The disseminated mineralization can be further subdivided into a copper-gold-pyrite mineralization and a pyrite-gold mineralization. The sulfide saprolite and the underlying weathered rock unit are unoxidized and contain typical disseminated sulfide mineralization. The copper-gold-pyrite mineralization dominates the northern portion of the deposit while the gold-pyrite mineralization dominates the southern portion of the orebody. Alteration within the deposit includes massive carbonate often associated with epidote and chlorite. The character of the mineralization and the alteration is consistent with typical gold-in-greenstone type deposits found elsewhere in the world's greenstone-granite terranes (Figures 14 and 16).

Massive sulfide mineralization, occurring as both laminated sulfides and quartz-tourmaline-sulfide breccia pipes, has been identified on the surface and from drilling. The Blue Whale section of the deposit, in the north portion of the concession, is an example of this type of massive sulfide mineralization (Figures 20, 21 and 22). The outcrop contains relatively high-grade copper and gold mineralization. The Blue Whale makes up only a small percentage of the total deposit.

A quote from the Aker Kvaerner executive summary states: "The Blue Whale mineralized body is a discrete sharply bounded, flattened, cigar-shaped feature that trends more or less parallel to the local schistosity and plunges about 35° SW along foliation. It outcrops in the Pozo Azul pit in the NE

portion of the concession, and is intersected by 45 drill holes. It is 20 meters in diameter at its widest point, and tapers off at depth. It is volumetrically a small fraction of the economically mineralized ground in Las Brisas, but it possesses the highest Au and Cu grades.”

At least one geologist researcher has theorized that the Blue Whale is likely to be the southern end of the same massive sulfide style of mineralization in the El Potaso area (south area) of Las Cristinas. Figures 1, 13, 19 and 28 show the Pozo Azul and El Potaso areas. Figures 1 and 28 clearly show intensive artisanal mining by garimpeiros in the El Potaso area, showing as deforested and excavated clay areas continuing to the boundary area between Las Cristinas and Las Brisas. This level of mining by garimpeiros indicates that substantial gold mineralization must indeed underly the El Potaso area. Geophysical continuity between the two properties supports this contention of uniform mineralization.

Elsewhere in the Las Brisas and Las Cristinas ore bodies, geologic cross sections (Figures 16, 17, and 23) through the mineralized zone illustrate the fact that in general the true thickness and style of the mineralization in Las Brisas is remarkably similar to that in Las Cristinas.



Source: Gold Reserve Inc.

Figure 8 - Image of the Las Brisas Mine when the pit is near full depth.







Source: Gold Reserve Inc.

Figure 10 - Port Ordaz, 373 km NNW of Las Brisas, from where copper concentrate will be shipped internationally.



Source: Gold Reserve Inc.

Figure 11 - The dam that will supply hydroelectric power to Las Brisas.



Source: Gold Reserve Inc.

Figure 12- The electrical substation that will serve the Las Brisas project.



Figure 13 -- Aerial View of Camp and Facilities of Gold Reserve Inc on the Brisas del Cuyuni Concession. Looking southwest. Main mineralized zone is shown. Photo SDO, 1 June 2005

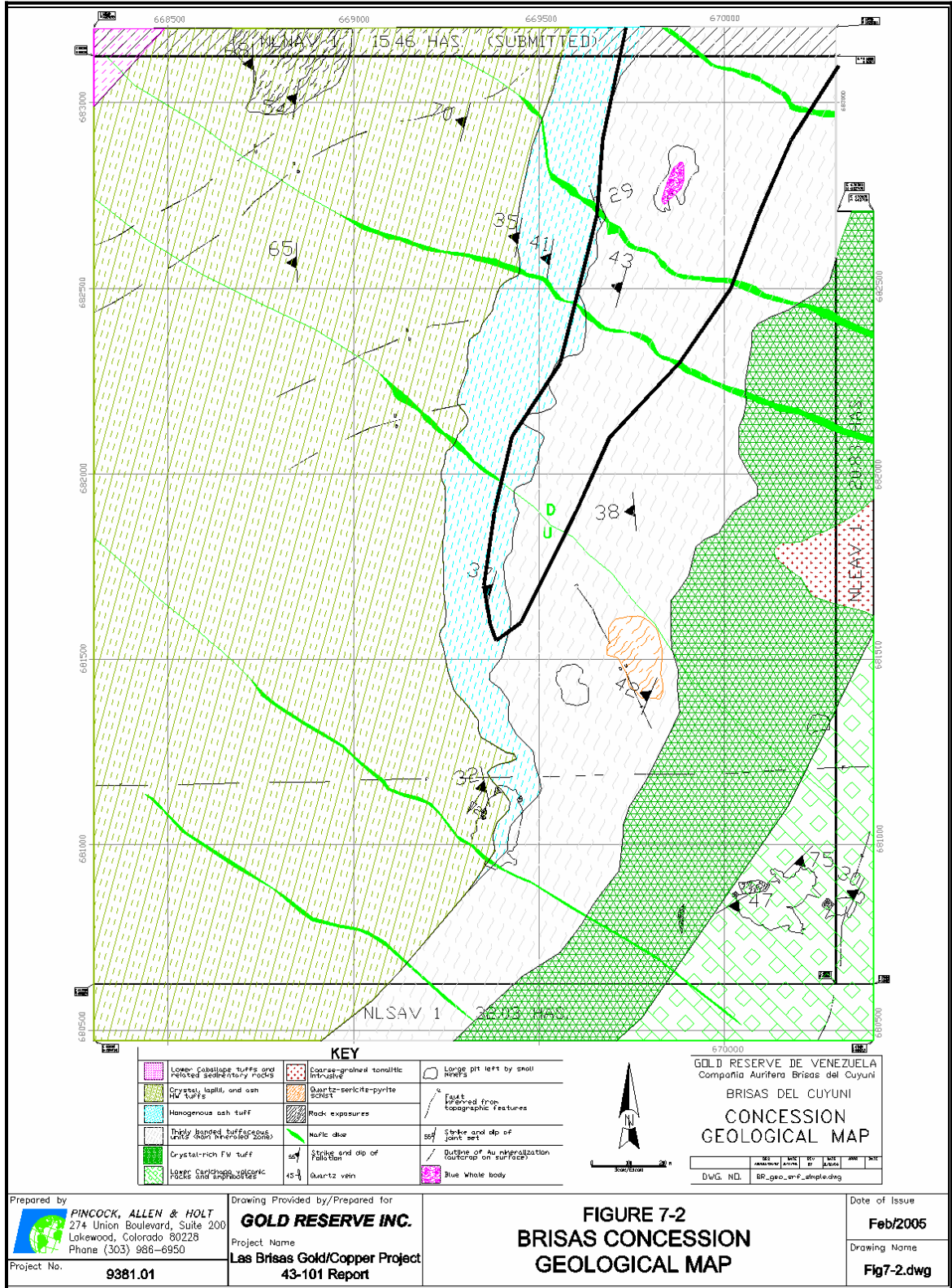


Figure 14 - Geologic Map of the Brisas del Cuyuni Concession. Gold Reserve Inc (PAH, 2005).

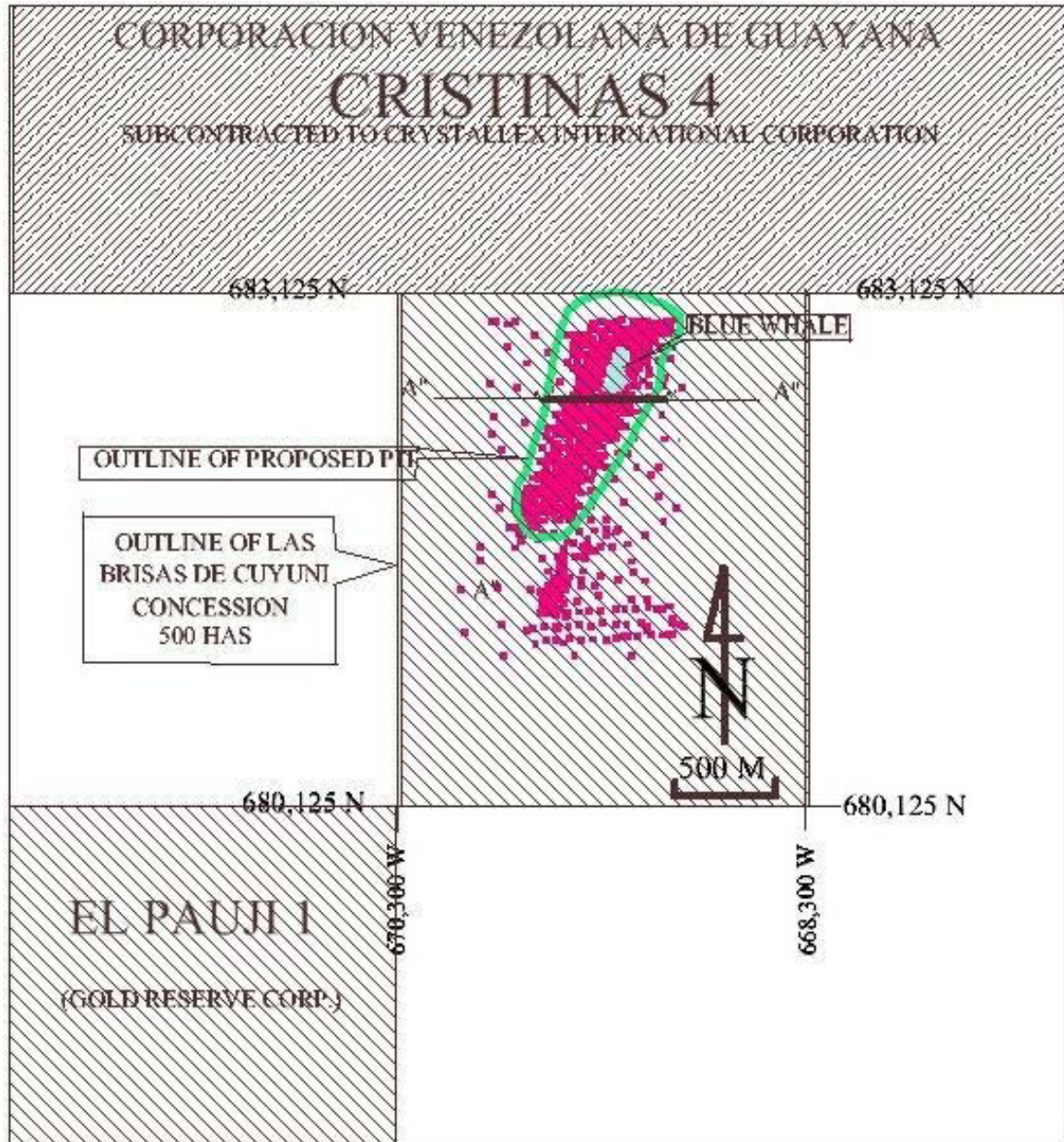
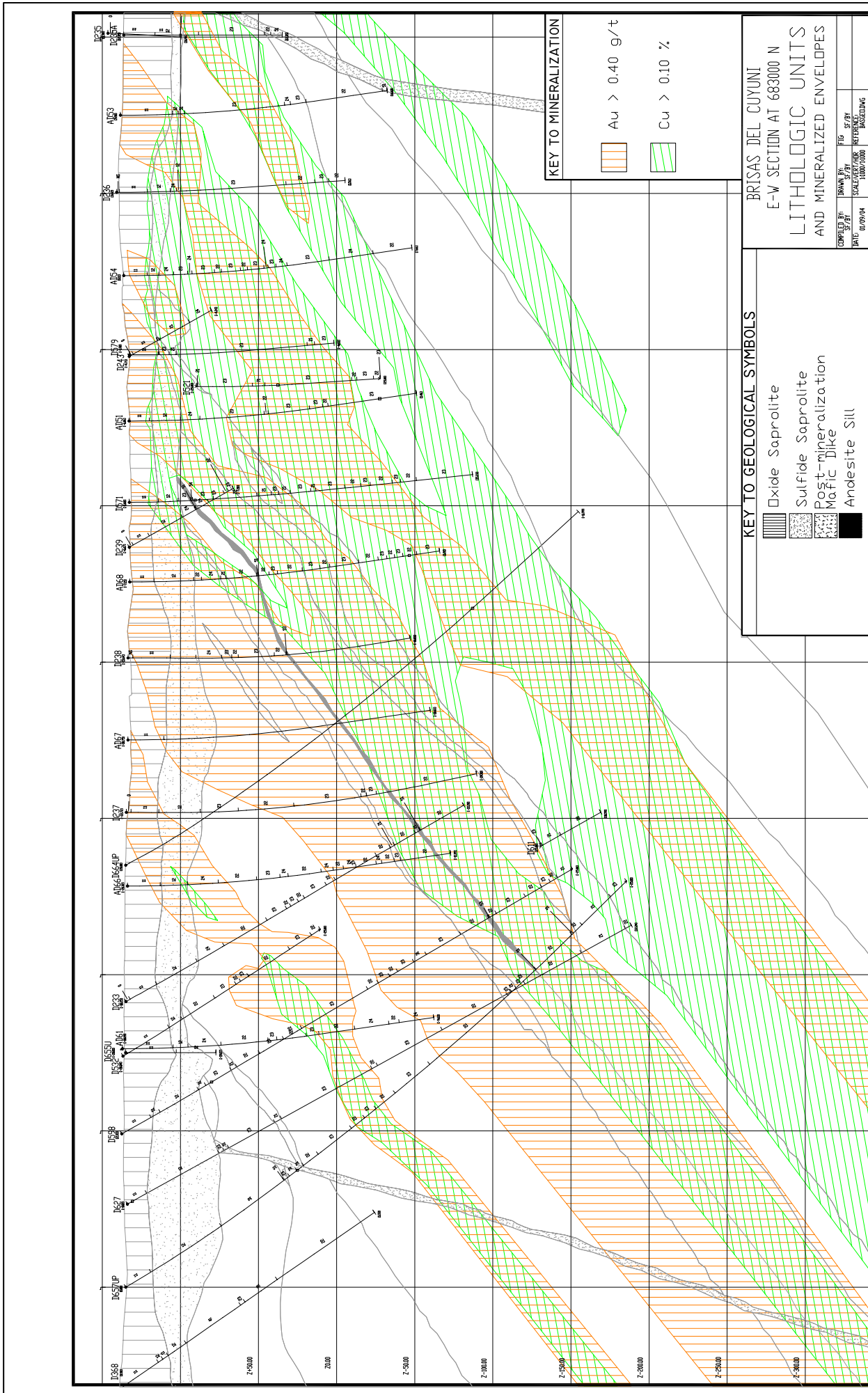


Figure 15 - Map showing drill-hole distribution and outline of proposed pit in 2003. The planned pit area has since been extended southward. Section A-A is shown in Figure 22.



**KEY TO GEOLOGICAL SYMBOLS**

- Oxide Saprolite
- Sulfide Saprolite
- Post-mineralization Mafic Dike
- Andesite Sill

**KEY TO MINERALIZATION**

- Au > 0.40 g/t
- Cu > 0.10 %

BRISAS DEL CUYUNI  
E-W SECTION AT 683000 N  
LITHOLOGIC UNITS  
AND MINERALIZED ENVELOPES

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SCALE: 1:50,000 REFERENCE: [blank] SHEET NO.: [blank]

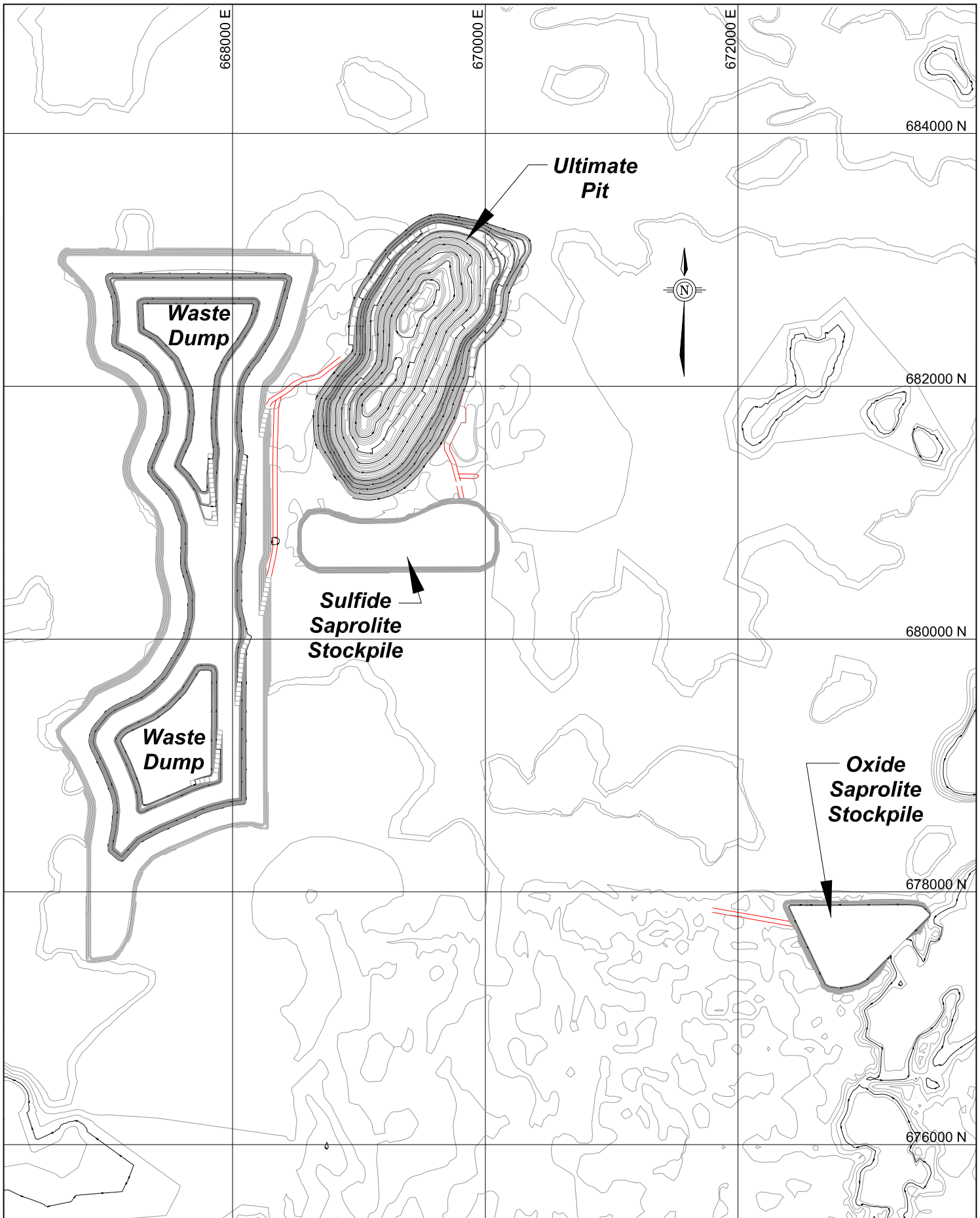
Prepared by <b>PINCOCK, ALLEN &amp; HOLT</b> 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	Prepared for <b>GOLD RESERVE INC.</b> Project Name Las Brisas Gold/Copper Project 43-101 Report	Date of Issue Feb/2005
		Drawing Name Fig9-1.dwg


Figure 16 - LAS BRISAS  
CROSS SECTION OF LITHOLOGY WITH Au AND Cu MINERALIZED

Project No. 9381.01







Prepared by  
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 Phone (303) 986-6950

Prepared for  
**GOLD RESERVE INC.**  
 Project Name  
 Las Brisas Gold/Copper Project  
 43-101 Report

**Figure 18 - LAS BRISAS  
 PIT, WASTE DUMP, AND  
 STOCKPILE LOCATIONS**

Date of Issue  
 Feb/2005  
 Drawing Name  
 Fig17-17.dwg

Project No. 9381.01



Figure 19 – View of the northeast of Las Brisas concession showing on-site facilities, drill hole locations, Blue Whale mineralized area, and boundary zone between Las Brisas and Las Cristinas concessions. Photo SDO, 1 June 2005



Figure 20 - Photo looking north at Blue Whale outcrop in Pozo Azul, after it was drained for geologic mapping and sampling. Brisas del Cuyuni, Venezuela. Note the 4-inch diameter water pipes for scale. Photo SDO, September 1992.

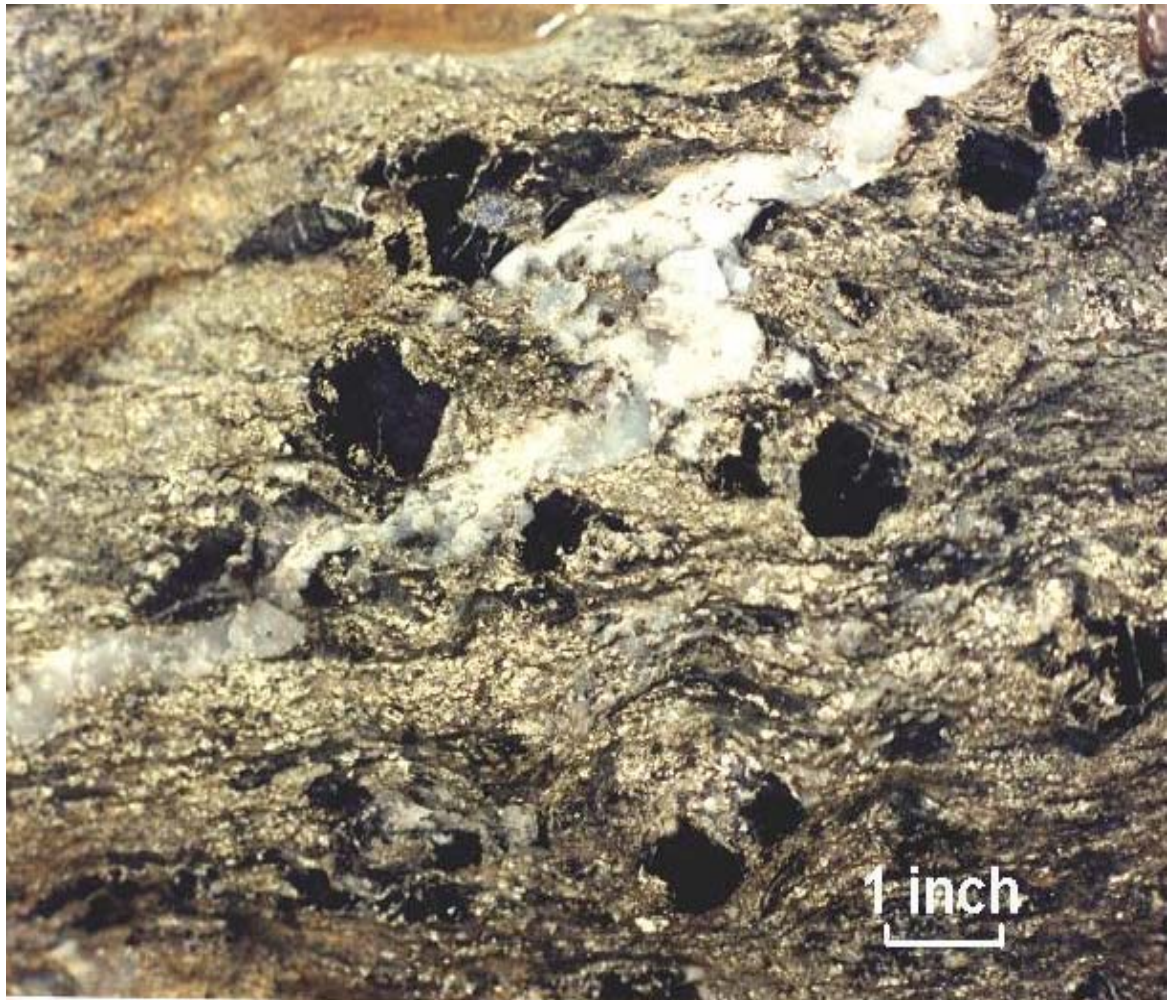


Figure 21 - Photo of Pozo Azul or "Blue Whale" mineralization in outcrop. Note metamorphic massive pyrite with trace chalcopyrite. Also note "Milky" quartz veins and "augen" of tourmaline. Photo SDO, September 1992.

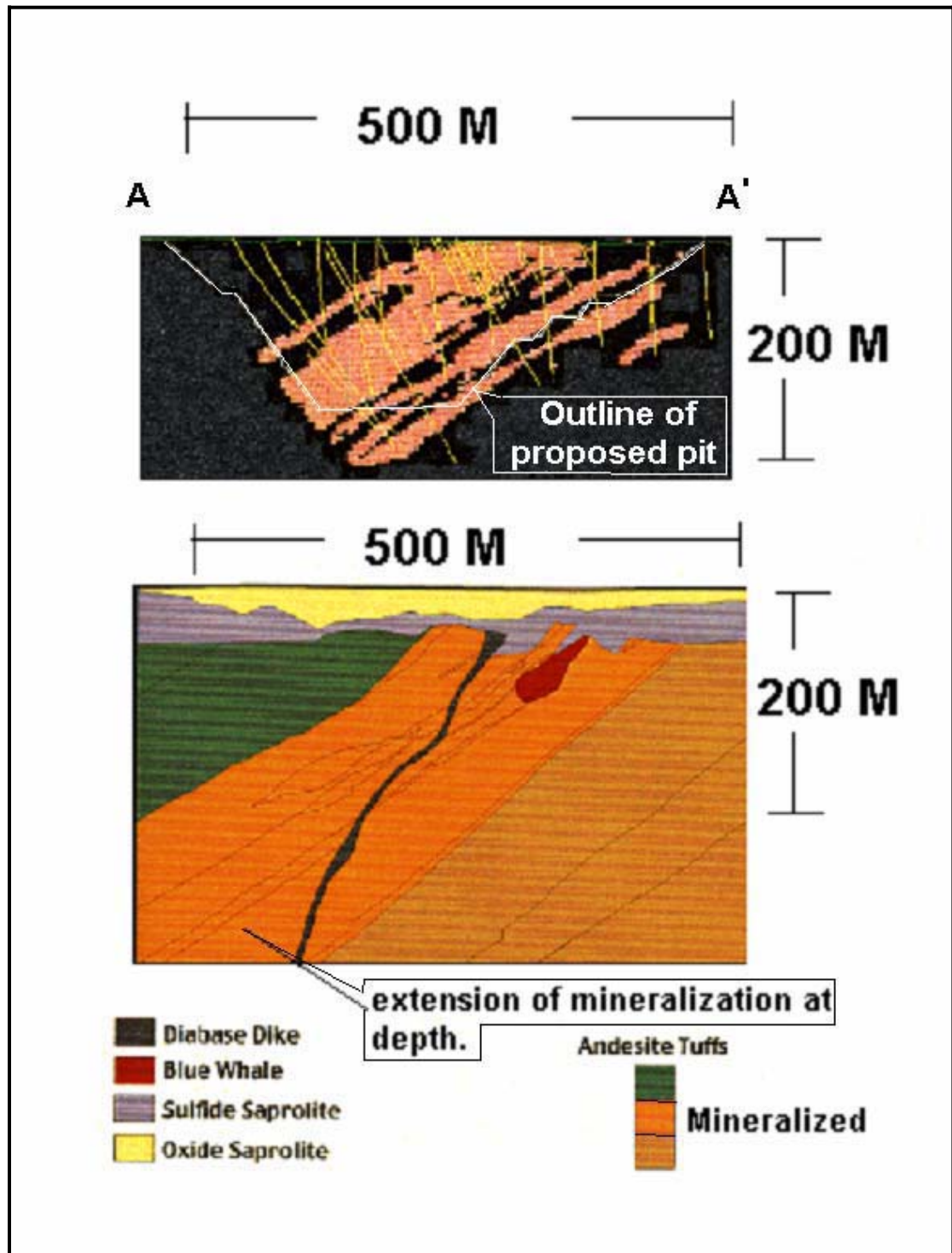


Figure 22 - Geologic Cross Sections of Mineralization at Las Brisas. The upper cross section A-A' is from Figure 15 map, and shows mineralization shown in orange and drill holes. The Lower Cross section shows geology of the deposit. Sections are modified by SDO from data provided by Gold Reserve Inc on June 2003.

## LAS CRISTINAS CONCESSIONS

The Cristina 4, 5, 6, and 7 concessions (Table 6) (otherwise known in this report as Las Cristinas) are immediately adjacent to the north side of the Las Brisas concession (Figures 3 and 15). Cristina 4 and 5 are the concessions containing the known Las Cristinas orebody. From our review, we have found the geology and mineralization of the Las Brisas and Las Cristinas ore to be very much the same. The geology, deposit thickness, strike and dip, and grade of mineralization, are almost identical. We therefore conclude that the one deposit extends across the Las Brisas and Las Cristina concessions.

The Las Brisas-Las Cristinas gold-copper deposit forms a near continuous zone of mineralization that strikes about N 15° E and dips about 30° W, with a strike length of about 4.5 kilometers. The “true thickness” (measured perpendicular to the dip of the deposit) is about 100 to 200 meters. Intrusive rocks appear to be dioritic in composition and possibly felsic intrusions, or felsic volcanics that have been later metamorphosed or altered to quartz-sericite schist incident to mineralization.

Table 6 - Crystallex’s Las Cristinas Concessions in the Km 88 District.

Las Cristinas Concessions	Size Hectares (ha)
Cristina 4	1000
Cristina 5	931
Cristina 6	931
Cristina 7	1000
Total	3862

*Note: These concessions are held by Crystallex de Venezuela, subordinate to Corporacion Venezolana de Guayana (CVG).*

### Combining Las Brisas and Las Cristinas

A simple summation of the Mineral Resource estimates published in News Releases by Gold Reserve Inc and Crystallex give a preliminary indication of the size of the combined Las Brisas-Las Cristinas deposit. For Las Cristinas, as of 31 August 2005, Mine Development Associates states that Measured and Indicated Resources are estimated at 500.7 million tonnes grading 1.1 g/t Au, containing 17.8 million ounces of gold (Table 7). Inferred Resources add another 4.5 million ounces. As of a 13 May 2005 News Release, Pincock Allen and Holt estimated Las Brisas has a Measured and Indicated Resource of 582 million tons grading 0.661 g/t Au, containing 12.38 million ounces of gold. Inferred Resources add another 2.46 million ounces at 0.594 g/t. Thus the total combined mineralized zone as reported is now known to contain an estimated total of 37 million ounces of gold as Resource mineralization.

In both cases, the gold cutoff grades selected for the Resource estimates, are based on mining at \$350 per ounce gold, with 90¢/lb copper included for Las Brisas. For both Las Brisas and Las Cristinas, lower cutoff grade resource estimates have been developed, expanding the total resource estimates. These estimates are contained in Tables 5 and 7, and Figure 25. From the current drilling data, resource estimates at grades mineable at \$525/oz Au and \$1.00/lb copper, exceed 45 million ounces of gold and 5.5 billion pounds of copper in the combined property. However, these figures do not take into account that additional drilling, particularly deeper drilling down dip, and along strike, is justified due to the currently prevailing consensus opinion of higher long term gold and copper prices. Such drilling can be expected to delineate additional mineral resources, particularly in the order of 500 meters depth.

Table 7- Measured and Indicated Resources – Las Cristinas (2005)

Cutoff Au (g/t)	Tonnes (000)	Gold		Copper	
		g/t	oz	%	m lbs
<b>0.15</b>	1,115,029	0.666	23,873,420	0.098	2,401
<b>0.2</b>	998,163	0.713	22,876,000	0.100	2,208
<b>0.3</b>	799,642	0.809	20,789,105	0.106	1,868
<b>0.4</b>	632,610	0.960	19,532,000	0.114	1,593
<b>0.5</b>	500,657	1.097	17,661,000	0.120	1,327
<b>0.6</b>	406,499	1.225	16,011,000	0.125	1,121
<b>0.7</b>	330,868	1.358	14,445,000	0.130	947
* blue values interpolated					

These resource estimates are not dependent on continuity of the mineralization existing between the Cristina 4 and Las Brisas concessions. Based on our geological review, it is natural to expect such continuity. According to a Crystallex News Release dated 31 August, 2005, there may be a barren patch between the two properties. However, we expect that the intrusive detected by Crystallex's drilling at the south end of the Conductor area is one of the many small tonalite stocks that intrude the orebody, and that it does not cut out any substantial area of mineralization (Figure 24). As discussed earlier, Figures 1 and 28 clearly show intensive artisanal mining by garimpeiros to the south of the Conductor area, showing as deforested and excavated clay areas in the El Potaso area of Las Cristinas, continuing to the boundary area between Las Cristinas and Las Brisas. This level of mining by garimpeiros indicates that substantial gold mineralization must indeed underly the El Potaso area. Continuity of geophysical readings on the orebody from Las Brisas into Las Cristinas also supports this contention. The large El Potaso lake, dug by gold miners, made placement of early shallow exploration drill holes by Placer Gold difficult in this area. As mentioned under *Geology of Las Brisas*, at least one geologist researcher has theorized that the Blue Whale mineralization at the north end of Las Brisas, is likely to be the southern end of massive sulfide style mineralization in the El Potaso area. (Figure 20).

A Gold Reserve Inc News Release dated September 8, 2002, stated that the company has long advocated that Las Brisas and Las Cristinas be combined. It said that INGEOMIN, the technical division of the Venezuelan Ministry of Energy and Mines (MEM), completed an analysis of the economic, social, and environmental impact of the combination of the two projects. This would result

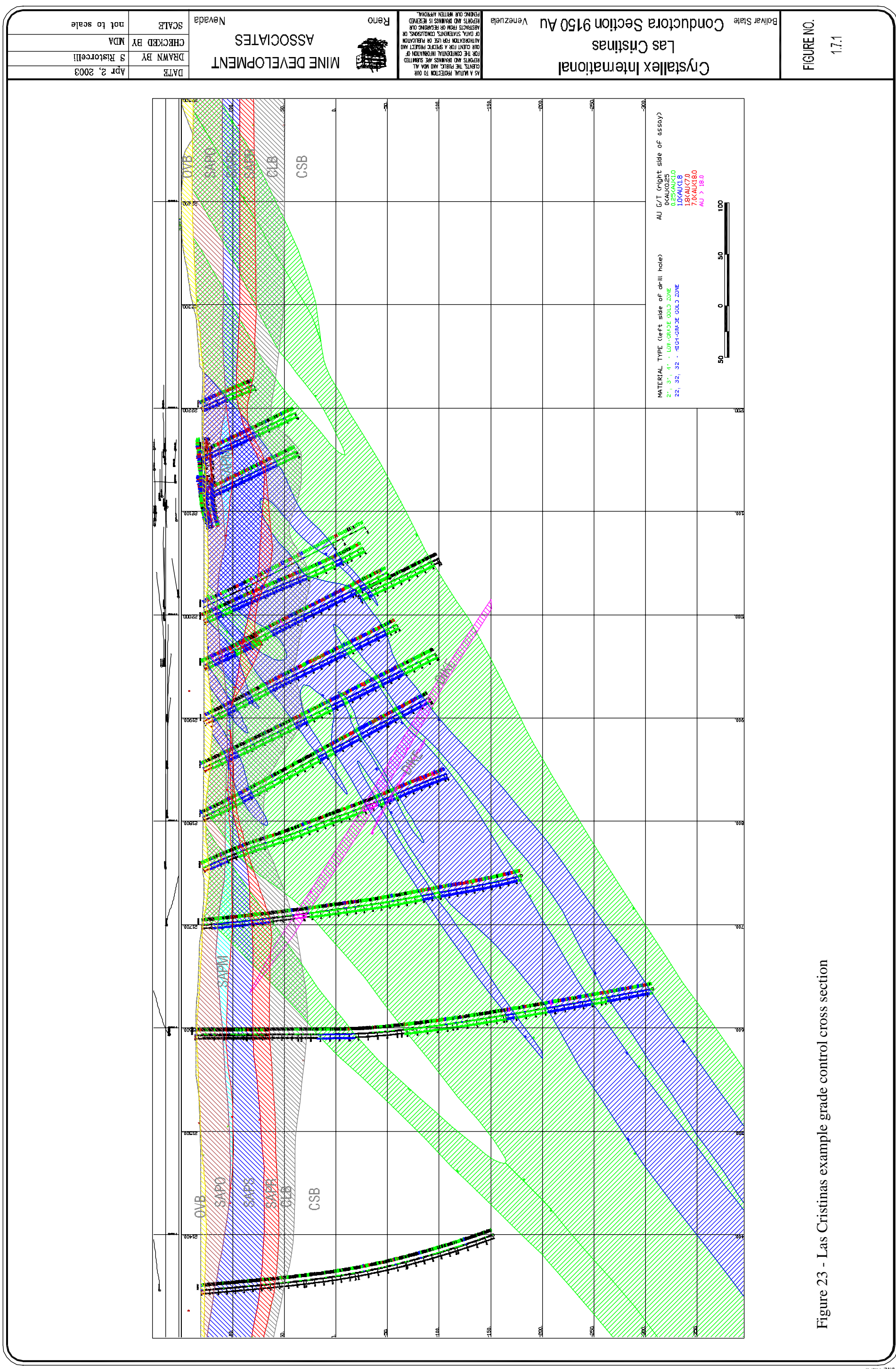


FIGURE NO. 17.1

Figure 23 - Las Cristinas example grade control cross section





**Table 1.9.3 Measured and Indicated Resources – Las Cristinas**

<b>2005</b>								
<b>Total Las Cristinas Measured and Indicated Resources</b>								
(rounded)								
<b>Cutoff</b>	<b>Tonnes</b>	<b>Gold</b>	<b>Gold</b>	<b>Silver</b>	<b>Copper</b>	<b>CNSolCu</b>	<b>Silver</b>	<b>Copper</b>
(g Au/t)		(g/t)	Ounces	(g/t)	(ppm)	(ppm)	Ounces	Kilograms
0.2	998,163,000	0.71	22,876,000	0.49	1,004	117	15,593,000	1,001,926,000
0.4	632,610,000	0.96	19,532,000	0.52	1,142	143	10,671,000	722,590,000
0.5	500,657,000	1.10	17,661,000	0.54	1,202	153	8,729,000	602,020,000
0.6	406,499,000	1.23	16,011,000	0.56	1,251	162	7,267,000	508,691,000
0.7	330,868,000	1.36	14,445,000	0.57	1,298	170	6,037,000	429,478,000
0.8	276,976,000	1.48	13,164,000	0.58	1,327	177	5,146,000	367,495,000
0.9	234,450,000	1.59	12,008,000	0.59	1,354	184	4,422,000	317,426,000
1.0	202,367,000	1.70	11,033,000	0.59	1,382	190	3,852,000	279,626,000
1.5	102,514,000	2.16	7,123,200	0.62	1,466	226	2,043,500	150,280,000
2.0	48,347,000	2.66	4,127,400	0.64	1,572	273	988,200	75,994,000
2.5	20,806,000	3.25	2,171,600	0.66	1,710	338	438,900	35,578,000
3.0	10,180,000	3.80	1,245,000	0.66	1,776	342	216,000	18,083,000
3.5	5,027,000	4.42	714,000	0.67	1,858	350	108,000	9,340,000
4.0	2,810,000	4.98	450,000	0.64	1,821	309	58,000	5,116,000
5.0	1,044,000	6.02	202,000	0.60	1,528	159	20,000	1,595,000

**Table 1.9.4 Inferred Resources – Las Cristinas**

<b>Total Las Cristinas Inferred Resources</b>								
(rounded)								
<b>Cutoff</b>	<b>Tonnes</b>	<b>Gold</b>	<b>Gold</b>	<b>Silver</b>	<b>Copper</b>	<b>CNSolCu</b>	<b>Silver</b>	<b>Copper</b>
(g Au/t)		(g/t)	Ounces	(g/t)	(ppm)	(ppm)	Ounces	Kilograms
0.2	436,092,000	0.53	7,425,000	0.39	775	49	5,531,000	337,810,000
0.4	239,045,000	0.73	5,620,000	0.42	845	51	3,240,000	201,971,000
0.5	163,046,000	0.87	4,537,000	0.44	874	47	2,285,000	142,577,000
0.6	113,940,000	1.01	3,682,000	0.45	906	44	1,639,000	103,192,000
0.7	77,557,000	1.18	2,933,000	0.45	950	37	1,111,000	73,666,000
0.8	59,002,000	1.31	2,492,000	0.44	967	31	842,000	57,063,000
0.9	46,481,000	1.44	2,154,000	0.44	993	27	661,000	46,147,000
1.0	38,362,000	1.55	1,908,000	0.44	1,019	24	548,000	39,081,000
1.5	16,415,000	1.99	1,052,300	0.46	1,000	18	244,400	16,423,000
2.0	6,428,000	2.39	494,500	0.44	995	16	90,100	6,395,000
2.5	1,340,000	3.07	132,100	0.41	891	18	17,800	1,194,000
3.0	450,000	3.80	55,000	0.41	887	11	6,000	399,000
3.5	188,000	4.63	28,000	0.33	840	2	2,000	158,000
4.0	123,000	5.06	20,000	0.25	862	-	1,000	106,000
5.0	75,000	5.39	13,000	0.41	840	-	1,000	63,000

Figure 25- Las Cristinas Measured, Indicated and Inferred Resources. SNC - Lavalin/ Mine Development Associates, Aug.2005.

in one mega-project that would be the second largest gold mine in Latin America and the sixth largest in the world. INGEOMIN concluded that a single project would optimize the economic and social benefits while minimizing the environmental impact. On a stand alone basis, each project was projected to have operating costs (net of copper credits) of approximately \$150/oz. Gold Reserve Inc went on to say that “Analysis of the combined project indicates that operating costs could be dramatically lowered to approximately \$110 per ounce, also net copper credits” (note: \$110/oz adjusted to 2006 dollars is \$136.4/oz using the U.S. Producer Price Index ). “There would be a similar savings in the capital costs per ounce as well. The area between the two current pit designs would add additional reserves. Since the orebody is open at depth, the economies of scale would also allow for a deeper pit adding more ore reserves and extending the mine life.” The News Release is in Appendix J.

### **Boddington Deposit Analog**

The Las Brisas-Las Cristinas orebody is most similar to the Boddington deposit near Perth, Australia. The Saddleback Greenstone Belt of Australia, which contains Boddington, is of an age similar to Las Brisas and Las Cristinas. The Australian deposit is about 34 kilometers long and about 5 kilometers wide, and it hosts a low grade copper and gold system. The published reserves are 390m tonnes @ 0.87 g/t and 0.12% Cu. The contained metal is 10.9m oz of Au and 480,000 t of Cu. Resources are 730m tonnes @ 0.84 g/t Au and 0.11% Cu. Production is scheduled to begin in 2008, with a planned mine life of 17 years based on a processing plant of 25m tonnes per annum. Ore mined and processed over the life of the project is some 405m tonnes with a stripping ratio of 1.07. The average recovery of gold is estimated to range from 84% to 88%. The process to be used in Australia is primary crushing, screening, high-pressure grinding rolls, and secondary crushing, followed by ball milling, copper flotation and carbon-in-leach gold recovery circuit. However, unlike Las Brisas and Las Cristinas, this deposit is in a dry climate. (Newmont, 2004).

At the Effective Date of Valuation for this report, Newmont held 44.4% ownership, AngloGold held 33.3% and Newcrest Mining hold 22.2%. Subsequently, Newmont has struck an agreement with Newcrest to buy Newcrest’s interest. A brief analysis of this transaction is contained in the section titled: *Sales Comparison Approach Epilogue – Boddington, Australia, Transaction.*

## COMMODITY PRICES

### Gold Price

Historical gold prices from [www.kitco.com](http://www.kitco.com) were adjusted using the United States Government, Bureau of Labor Statistics Producer Price Index (All Commodities, Not Seasonally Adjusted) from <http://www.economagic.com> with June 1, 1982 equal an index of 100. Future gold prices were taken from [http://www.nymex.com/gol\\_fut\\_csf.aspx](http://www.nymex.com/gol_fut_csf.aspx), adjusted back to the Effective Date of Appraisal, of February 10, 2006, by using division to remove an estimated annual inflation rate of 3%. Figure 26 shows the gold prices over time with the green line tracing the prices adjusted to 2006 dollars. Looking forward, the magenta line projects the price adjusted to 2006 dollars.

As can be seen, in Figure 26, there has been, and continues to be, a long term upward trend in the real (2006) price of gold. In accordance with this trend, the gold mining industry is showing extreme optimism, continually pushing up the prices paid for gold resources in gold properties. Forecasts by the leaders of some major gold mining companies, such as Pierre Lassonde, President of Newmont,

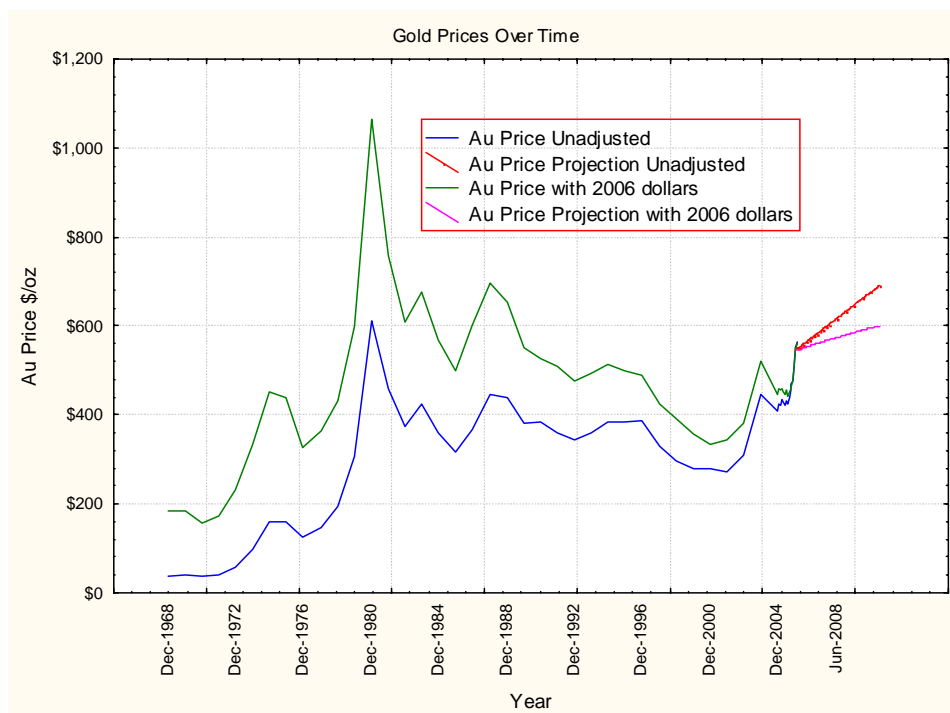


Figure 26 - Gold Prices Over Time

and many gold industry analysts, have been frequently reported in the press in the last couple of years. These forecasts suggest gold prices will rise \$100 to \$300 more per ounce in real dollars for the long term. This is due to expectations that easy to mine gold in shallow, weathered rock, open pit mines, and also in the Witwatersrand district of South Africa, is running out. The higher price is also due to concerns about a continually weakening US dollar, and expectations that national reserve banks are reversing their policy of disposing of gold. In fact, according to many analysts, some countries, especially China, will want to increase reserve gold holdings.

## Copper Price

Historical copper prices since 1970, were obtained from London Metals Exchange data, <http://www.lme.co.uk/copper.asp>. As with the gold prices, we adjusted these prices by the U.S. PPI for All Commodities (not seasonally adjusted). Future copper prices were derived from a combination of the New York Metals Exchange, from transactions of copper futures out to February 2008, [http://www.nymex.com/cop\\_fut\\_csf.aspx](http://www.nymex.com/cop_fut_csf.aspx) and the London Metals Exchange, [http://www.lme.co.uk/dataprices\\_daily\\_metal.asp](http://www.lme.co.uk/dataprices_daily_metal.asp), for out to 27 months futures. These prices were adjusted back to February 10, 2006 by using division to remove an with an estimated annual inflation rate of 3%.

As can be seen in Figure 27, the long term trend for copper price, adjusted to 2006 dollars, is trending downward towards \$1.50/lb. However, over the last three years, copper has climbed from prices that were well below \$1.00/lb for a number of years, and which industry experts say were unsustainably low. A January 2006 report by Credit Suisse First Boston (CSFB) analysts distills the beliefs of many about the high costs and difficulties of bringing large new copper mines on line around the world, to meet increasing world copper demand. The CSFB analysts believe that a long term price of \$1.50/lb for copper is justified, because that price is needed if new large copper mines are to be built.

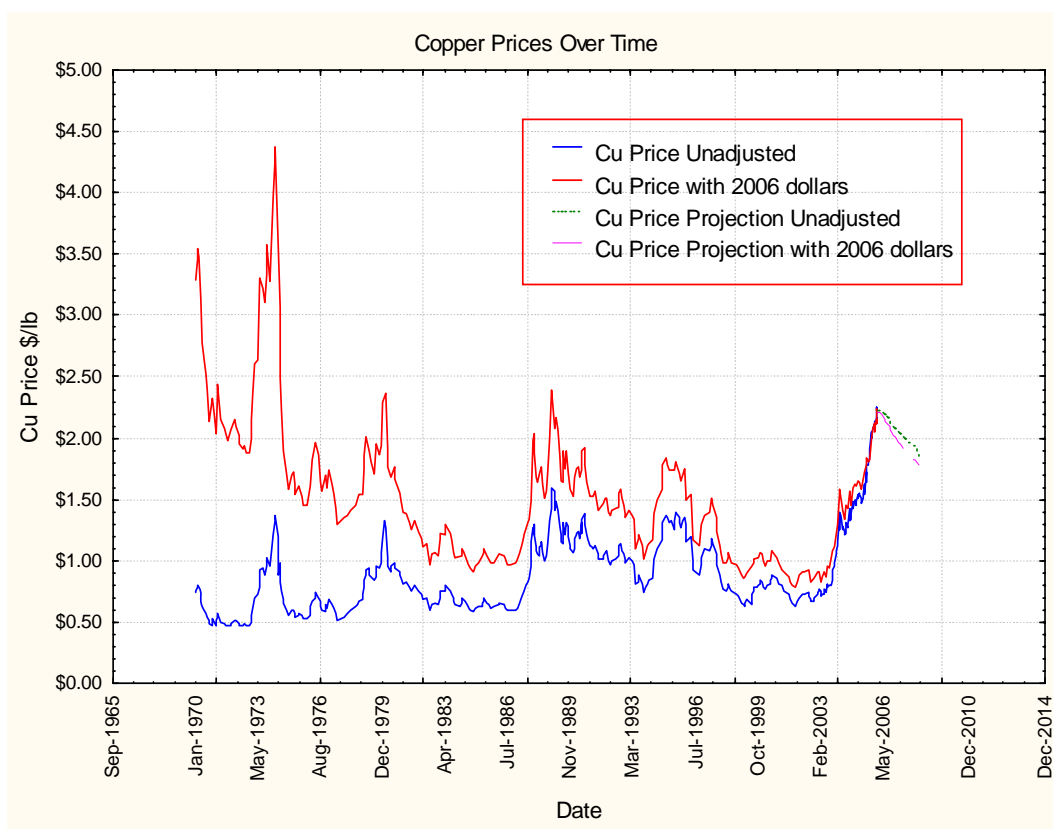


Figure 27 - Copper Prices Over Time

## ENVIRONMENTAL CONCERNS

In the early 1980s, an illegal miner (garimpeiro) gold rush occurred in Km 88 mining district. This uncontrolled mining by some 5,000 to 7,000 garimpeiros, involved the working of alluvial and saprolite-hosted gold deposits throughout the region using hydraulic mining techniques. Many square kilometers of jungle have been stripped of soil and saprolite. This material was washed and then processed with mercury. The amount of gold recovered is unknown. Much of the Las Brisas and Las Cristinas concessions and the surrounding area have been eroded and residual tailings left behind (Figure 28). The damage is considerably larger in scope on Las Cristinas than on Las Brisas.

During his inspection of 1 June 2005, Mr. Olmore observed a large volume of sediment effluent entering from Quebrada Amarilla, which drains the Las Cristinas area (Figure 29). This influx of sediment effluent should be halted, if that hasn't already occurred. Some remediation may also be necessary, particularly if mercury is being carried in the effluent. Much of the sediment entering from Quebrada Amarilla is from garimpeiro (probably illegal) mining on the Las Cristinas concessions. The government is working with the garimpeiros in the Km 88 district to prevent use of mercury.

Gold Reserve Inc in the last few years has successfully kept the garimpeiros from Las Brisas. However, hundreds continue to mine the saprolite zone of Las Cristinas. We are told that 250 of these miners have been given legal cooperative status to continue mining on an area contiguous to the north of the Las Cristinas concessions, and that the government is working on gradually removing the remainder over coming months. In Figure 1 and 28, the extensive pink areas of surface damage are mainly on the Las Cristinas side of the Las Brisas-Las Cristinas property boundary.

AATA, a major environmental corporation based in Ft. Collins, Colorado, developed the environmental studies on the Las Brisas Concessions for Gold Reserve Inc, that were filed a few months ago with the Venezuelan Ministry of Environment and Natural Resources. Based on previous geochemical studies of the zone, mineralization is high in copper and gold and has significant amounts of silver, but it is not high in toxic elements.



Figure 28 – Aerial view showing extension of mineralization between Las Cristinas and Las Brisas. Looking south-southwest. Note approximate north boundary of Las Brisas shown in orange. The extensive white and pink areas in Las Cristinas are from mining by garimpeiros. Photo SDO, 1 June 2005.



Figure 29 – Sediment effluent containing mercury and other biohazards from garimpeiros mining activity in Cristina 4, running off Quebrada Amarilla and draining into the Rio Cuyuni. The Cuyuni flows north and east to Guayana and the Atlantic Ocean. Photo SDO, 1 June 2005.



## HIGHEST AND BEST USE

In accordance with the USPAP and IVS standards, the market value of the Subject must be determined based on its Highest and Best Use. The highest and best use of the Las Brisas concessions is for developing and mining gold and copper mineralization. The title that Gold Reserve Inc holds to the Brisas del Cuyuni concession gives it control of both the surface and the minerals. The company is awaiting approval of its application for the last permit it needs to begin mine development, which could be awarded imminently. With the permits in hand, it can expect to obtain adequate funding for the development. The value of the minerals, given that economically mineable reserves of world class scale have been defined, vastly dominates the value of the surface. No other use for the Subject can be reasonably considered as an alternative.

Approximately 9,924 hectares of secondary concessions are held by Gold Reserve Inc as part of the subject Las Brisas concessions for the Las Brisas project. Some portions have minor potential for finding of valuable gold or Kaolinite mineralization. Such prospective value is uncertain, but of minimal market value compared to their Use Value for siting facilities for the planned Las Brisas mine project. Some portions of these concessions may remain open for exploration for gold and copper, or kaolinite.

To abide by the standards, Highest and Best Use is determined based on four criteria: legal permissibility; physical possibility; financial feasibility; and maximum productivity. Once the pending environmental permit is received, all four criteria will be able to be met through gold and copper mining. However, to meet the maximum productivity requirement, the analysis in this report for use of the Subject steps outside the constraints of the mine and project design in the Aker Kvaerner feasibility study of January 2005. The development of the Subject property is considered from the perspective of the likely buyer, under the prevailing long term gold and copper market expectations, resulting in some more expansive development options being considered.

## TRANSACTION (SALES) ANALYSIS

### Transaction Selection and Analysis Process

Acquisition transactions for 10+ million ounce gold deposits are rare. Comprehensive data pertaining to those transactions are rarer. Due to inadequate transaction information for deposits of such size, the deposit size cut-off for the transactions reviewed was lowered. The sales analysis has focused on acquisitions in recent years of properties with greater than one million ounces of contained gold resource. One property with slightly less than one million ounces, located in the same region of Venezuela as the subject Las Brisas, has also been included. From the large number of gold property acquisitions reviewed, the following nine transactions were selected for the analysis below. All but one of the acquisitions selected were made by the acquirer buying a controlling interest of a company in which the targeted deposit is the sole asset or major asset.

In the analysis below, we give Measured and Indicated Resources (M&I) half the value of Proven and Probable Reserves (P&P). Inferred Resources (I) are given half the value of M&I. Thus, "Reserve equivalent ounces" of gold are derived using the summation:  $P\&P + \frac{1}{2} * M\&I + \frac{1}{4} * I$ . This weighting of value is drawn from our observations in analyzing gold property transactions. The weighting is supported by the following statement drawn from a 2004 valuation report developed by Behre Dolbear which utilized the same weighting:

"Behre Dolbear has a database of approximately 400 individual transactions in the precious metals industry and an additional database of base metal transactions that occurred during the period of 1990 through 2003. The database indicates that exploration phase precious metal properties (properties with drill hole results and indication that an Inferred Resource is present) trade at an average per ounce value of approximately 2.5 percent of the current per-ounce gold price. Properties with a Measured and Indicated Resource average approximately 5 percent of the per-ounce gold price, those where feasibility has been demonstrated 10 percent of the per-ounce gold price, and operating properties 20 percent of the per-ounce gold price. Thus, at \$400 per ounce gold, such sales would respectively average \$10 per ounce, \$20 per ounce, \$40 per ounce, and \$80 per ounce for each ounce believed present at the property. Importantly, these prices reflect the "average" property and must be adjusted for the qualities of the specific property being valued and current trends in the gold mining sector."

Other sources, such as E. Hodos (2004) referenced in Arizona Department of Revenue Appraisal (2005), provide similar weightings for allocation.

### **Transaction 1: Youga, Burkina Faso**

Etruscan Resources, Inc. acquired 90% of the undeveloped Youga gold tenement in Burkina Faso, West Africa in September of 2003. The gold price at that time was comparatively low at \$382/oz, though it had climbed continually for two years from under \$260/oz in early 2001.

The Youga tenement, containing five gold deposits, is located about 180 km southeast of Ouagadougou, the capital city, and near the border with northern Ghana (Figures 30 and 31). The tenement is a 29 sq km exploitation permit. The acquisition also includes rights to a 100% interest in three surrounding exploration permits covering 394 sq km (39,400 ha).

At the Youga property, mineralization is largely contained in silicified arkosic meta-sediments. The property contains five gold deposits that have undergone a preliminary feasibility study. Additional studies were being undertaken at the time of the acquisition. The government of Burkina Faso Government has an initial 10% net profits interest, which may be increased to 20% by executing an existing option agreement.

This deposit is in the landlocked country of Burkina Faso (formerly Upper Volta), one of the poorest countries in the world. This country is poor even by West African standards. Burkina Faso has also suffered recurring droughts and military coups. With a population of 13.9 million, the average annual income per capita in 2005 was only \$424, a tenth that of Venezuela. Due to its history of political instability and poor infrastructure, Burkina Faso can be considered a high risk investment area. Personal safety is of concern.

From a political risk standpoint, Sovereign Risk Insurance Ltd rates the country moderately high, similar to the rating for Venezuela. However, the country and government have been fairly stable since the current president came to power in 1991. Mining companies vary widely in their perception of the regulatory environment, with Etruscan viewing it as relatively stable for investment compared to South American countries for investment. The Fraser Institute's mining industry survey of 2004-05 also gave Burkina Faso an equal composite ranking of prospectiveness and risk to Venezuela. Therefore, due to Youga's country risk setting being viewed as similar to that of Las Brisas, this transaction becomes important for analysis, despite the disparity in scale of gold resources involved.

The 20 year exploitation permit (with renewable options of 5 year intervals) was granted in April 2003 to Burkina Mining Company, based on studies by Ashanti Goldfields Company. Burkina Mining Company is owned 90% by Cayman Burkina Mines Limited (CBML) and 10% by the government of Burkina Faso. Etruscan bought 100% of CBML from Ashanti Goldfields and Kinross Gold's Echo Bay Mines subsidiary. Figure 31 includes photographs at the Youga property.

### **Analysis of the Youga Transaction**

Date of Agreement Announcement: 9 September 2003. Spot price Au \$382.25/oz

Announcement source: Etruscan Resources News Release.

Transaction information verified with Richard Gordon, Investor Relations, Etruscan, by S.D. Olmore on 15 September 2005.

Etruscan Resources Inc acquired 90% of the undeveloped Youya gold deposits in Burkina Faso, and three surrounding exploration permit areas totaling 39,400 ha. The acquisition was made by Etruscan acquiring 100% ownership of Cayman Burkina Mines Limited.

The property had undergone a preliminary feasibility study, and additional feasibility work was being undertaken at the time of the acquisition. All permits for development were in place.

The \$6.5 million payment was for a 90% interest in the deposit, with the Burkina Faso government retaining the remaining 10% as a net profits interest.

Ashanti had designed the project at two scales of operation – which were 600,000 tonnes per year and 1 million tonnes per year. The latter operation encompassed a 15% larger contained gold resource. Information in Etruscan's acquisition news release indicated that its development drilling plans were focused on the larger tonnage project, so the larger estimate is used here. The announced estimated Reserve is contained within the Measured and Indicated Resource.

Probable Reserve of 7.14m tonnes at 2.90 g/t, containing 664,800 oz Au.

Additional Measured and Indicated Resource containing 81,200 oz Au.

Inferred Resource was 510,000 oz Au.

Substantial exploration potential exists. Here it is estimated that \$1 million of the \$6.5 million was paid for this exploration potential, with the balance of \$5.5 million for the Youga deposits.

$$P\&P + \frac{1}{2} * M\&I + \frac{1}{4} * I = \$5.5m$$

$$0.9 * (664.8k + 81.2k * \frac{1}{2} + 510k * \frac{1}{4}) \text{ oz Au} = \$5.5m$$

$$\text{Au Price} = \$6500 / (832.9 * 0.9) = \$8.67 / \text{oz Au reserve equivalent.}$$

A feasibility study completed in January 2005 concluded that Youga will produce an average of 88,000 ounces of gold per year at a cash operating cost of \$255 per ounce over a 5.5 year mine life, with gold recovery of 93%. Construction of a 1 million tonne per annum open pit mine operation began in April 2005, with processing to be by a gravity carbon-in-leach plant.



Figures 30 - Location maps for Transaction 1, Youga, Burkina Faso.



A

Source: Website Etruscan Resources Corp.



B

Source: Website Etruscan Resources Corp.

Figures 31 (A, B) – Typical landscape in the Youga area, survey and pit crews at Youga, Burkina Faso.

## **Transaction 2: Bermejal, Mexico**

In March 2005, Goldcorp Inc. of Canada, through its Mexican operating arm, Luismin, acquired the Bermejal deposit for \$70 million in cash. At the time, the price of gold was \$432.50/oz, having climbed fairly steadily for four years from a low of below \$260/oz in early 2001. Considerable optimism was developing among investors about the long term future for a strong gold price.

The undeveloped 2.4 million oz Au Resource deposit was purchased from a joint venture of Penoles and Newmont Mining. Newmont called the deposit Mezcala. Goldcorp's intention is to combine production from Bermejal with its planned Los Filos mine only 2 km away. At the time, the Los Filos deposit contained estimated Resources of 2.8 million oz.

The Bermejal iron-gold deposit, "El Bermejal," is located in the central portion of the State of Guerrero, Mexico, 17 kilometers southwest of the village of Mezcala (Figures 32 and 33). The geology consists of calcareous and other sedimentary rocks, which are intruded by a granodiorite stock. The granodiorite intrusive has produced metasomatic alteration halos in the sedimentary rocks at its contacts. Iron-gold mineralization is best developed at the granodiorite-limestone contacts and also within skarn. Major pulses of gold and quartz mineralization also occurred later, accompanied by strong retrograde alteration. Subsequent Tertiary volcanics also partly cover the area.

Production from the Bermejal and Los Filos open pits is tentatively scheduled to begin in the fourth quarter of 2006, using a common heap leach operation located intermediate between the two pits. Tentative plans mentioned in the acquisition announcement forecast combined production of more than 300,000 oz Au per year. This would make the Los Filos project the largest gold mining operation in Mexico.

The Bermejal iron-gold skarn deposit has minable gold reserves of one million ounces, ranking it among the largest deposit of its class. The operation will be the first open pit mine in Mexico to recover gold and silver by the heap leaching of high oxidized iron content ores. The deposit also contains copper that may be locally important. However, the presence of significant amounts of calcite prevents the economic recovery of copper by acid leaching.

### **Analysis of the Bermejal Transaction**

Date of Announcement - 22 March 2005. Spot price Au \$432.50/oz

Announcement source: Goldcorp Inc. and Wheaton River Minerals News Releases of 03/22/05.

Transaction information verified with David Awram, Investor Relations, Goldcorp, by S.D. Olmore on 20 September 2005.

Goldcorp acquires the Bermejal gold deposit, Mexico, for \$70 million in cash.

The Indicated Resource by Newmont at that time is 93.60m. tonnes @ 0.79 g/t Au, containing 2.37m oz Au, based on a cutoff grade of 0.35 g/t Au, and \$400/oz gold price.

Expected gold recovery rate (heap leach) 60-65%, yielding approximately 1.6m oz Au.

Cash cost of operation based on scoping study expected to be approximately \$200/oz Au.

$M\&I * \frac{1}{2} \text{ oz Au} = \$70\text{m}$

$\frac{1}{2} * 2.37\text{m oz Au} = \$70\text{m}$

$1 \text{ oz Au} = \$140\text{m} / 2.37\text{m}$

Au price = \$59.07/oz reserve equivalent.

Acquisition cost is \$59.07 per oz Au reserve equivalent





Figures 32 - Location maps for Transaction 2, Bermejil, Mexico.



A

Source: Website Goldcorp Inc.



B

Source: Website Goldcorp Inc.

Figure 33 - (A) Aerial view of Bermejales Property; (B) relationship of the Bermejales and Los Filos deposits to the new leach pad area.

### **Transaction 3: Mayskoye, N.E. Russia**

In September 2003, Highland Gold Mining acquired 100% of the license for the high grade Mayskoye gold deposit, NE Russia.

The Mayskoye gold deposit is located in the Chaunski District of the Chukotka Autonomous Territory, in the far northeast of the Russian Federation (Figures 34 and 35). The location is a remote tundra upland, although there is infrastructure associated with earlier alluvial gold and tin production that is now much curtailed. There is some commercial caribou farming in the region. The project area is 10 sq km. Its approximate coordinates are 173° 46' east longitude and 68° 59' north latitude.

Access and supply is by way of the seasonal (May to October) Arctic seaport of Pevek, which also has an airport suitable for all types of aircraft. The deposit is linked to Pevek by road via Komsomolsky, a small mining centre 58 km northwest of Mayskoye, a total distance of 187 km. The road from Pevek to Komsomolsky is of adequate all-weather standard, but approximately 80 km between Komsomolsky and Mayskoye is temporary and will require upgrading.

The physiography of the region is Arctic desert and tundra zone, with rolling topography to a maximum elevation of 450 m, and typical associated wildlife and vegetation. The climate is harsh. Temperatures during the long winter can drop below -30°C, and in the short summer they rarely exceed +10 °C. Average annual precipitation is 200-250 mm. Figure 35 (A and C) shows the property and regional terrain.

Business risk issues are proving to be an unusually significant problem for minerals companies working in Russia. As a result, precious metal property acquisition prices are much more depressed than country risk ratings, such as that of the Economist Intelligence Unit and the results of the 2004/2005 Fraser Institute's Survey of Mining Companies, suggest they should be. Lack of security of mineral property tenure has been the most significant risk, resulting in mining companies losing or abandoning properties, or paying two or three times for the same property. Other issues can include bribery and unreliable partners. The major gold mining companies have been avoiding direct investment in Russia for the past few years. For this reason, a moderate risk adjustment factor is included for this property in Table 9, to account for the prevailing risk perception in 2003. Since then, acquisition prices for Russian gold properties we reviewed suggest a downward trend. This is in spite of the price of gold moving strongly upward. The major gold mining companies have been avoiding direct investment in Russia, leaving smaller companies to take the risk.

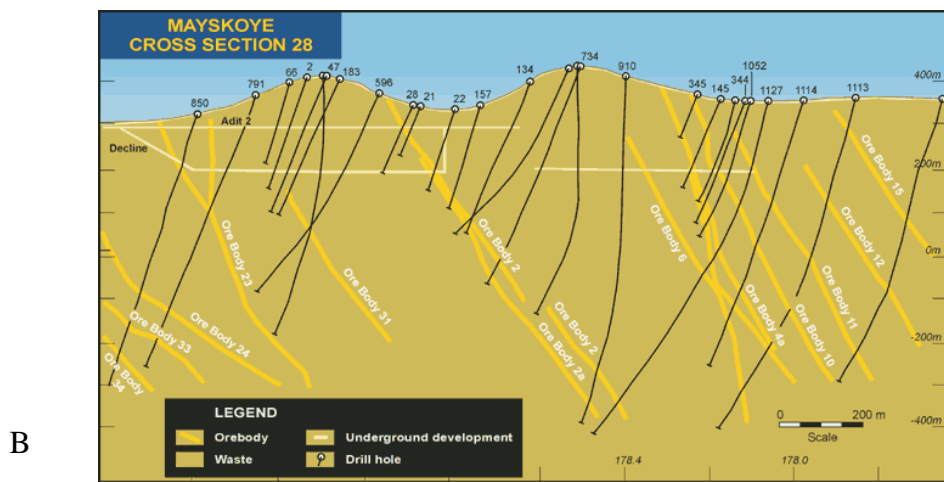


Source: Highland Gold Mining Ltd. Website

Figure 34 - Location maps for Transaction 3, Mayskoye NE, Russia.



Source: Website Highlandgold.com



Source: Website Highlandgold.com



Source: Website Highlandgold.com

Figures 35 - (A,C) Aerial view of Mayskoye, NE, Russia; (B) cross section of Mayskoye, NE, Russia.

### **Analysis of the Mayskoye Transaction**

Date of Announcement - 4 September of 2003. Spot price Au \$370/oz (London PM fix 3 Sept. 03)

Information Source: Mining Journal, 12 September 2003, and Highland Gold's website.

Transaction information verified with Dmitry Yakushkin, Communication Director, Highland Gold Mining on 15 September 2005 by S.D. Olmore.

Highland Gold Mining acquired 100% of the license for the high grade, largely undeveloped Mayskoye gold deposit in NE Russia, for \$34.9m. It accomplished this by acquiring 100% of JSC Mayskoye, which holds the license, for \$34.9m.

The preliminary reserve-resource estimate was based on review only of resources classified in the Russian classification system. The estimate did not meet the CRIRSCO-based classification requirements of Canadian and Australian stockmarkets.

Reserves of 9.95m tonne @ 11.5 g/t containing 3.68m oz Au.

Additional Resources of 24.44m tonne @ 11.4 g/t containing 8.97m oz Au.

Capital investment required for production of 180,000 oz Au per year is \$90m.

Open pit for about 4 years, then underground mining.

Estimated cash cost \$160-170 per oz.

It is assumed the property is subject to royalty at 6%.

$P\&P + \frac{1}{2} * M\&I = \$34.9m$

$3.68m + \frac{1}{2} * 8.97m \text{ oz Au} = \$34.9m$

$1 \text{ oz Au} = \$34.9m / 8.17m$

Au price = \$4.27 per oz Au reserve equivalent.

Acquisition cost is \$4.07 per oz Au reserve equivalent.

We estimate CRIRSCO-based Reserves in the same setting would have cost at least double this on a per ounce basis. This is partially due to the difficulties of obtaining, copying and using Russian agency geological data. The preliminary estimate based on the Russian classification could not be reported as Reserves and Resources to the major western world mining stockmarkets, such as Toronto, Vancouver, Sydney and Johannesburg. To be classified as CRIRSCO-based Reserves requires at least a preliminary feasibility study using economic inputs derived from the market for the resource product. This study can involve substantial time and money. The Russian classification is geological and engineering based, but does not include this economic component.

Implied acquisition cost is \$8.14 per oz Au (CRIRSCO-based) Reserve equivalent.

### **Internal Rate of Return Analysis**

The following assumptions reflect knowledge at the time of acquisition.

Invest \$30m in each year of 2004-2006.

Initial purchase \$34.90m in 2003.

Production beginning 2007 of 180,000 oz/yr for 90% of 12.7m oz (total 11.4m oz), results in 63.5 year resource life. Some early production by open pit, with most being by underground.

Receive \$375/oz Au, less op cost \$165/oz, less \$23/oz royalty, provides a cash flow margin of \$180/oz.

Resulting internal rate of return on 20+ years of production is 19%/annum (constant dollar, before income taxes).

At the time of our writing this report, a feasibility study has still not been completed, resulting in the project development being delayed. A JORC (CRIRSCO-based) Resource estimate completed in July 2005, significantly reduced the estimated resource ounces (inclusive of reserves), at a 5 g/t cut-off grade. This information does not change our analysis of the transaction, which is based on the knowledge and perceptions at the time of the transaction.

#### **Transaction 4: North Mara, Tanzania**

On 8 July 2003, Placer Dome announced that it was acquiring East African Gold Mines Limited's North Mara Property in northern Tanzania for approximately \$255 million (Figures 36 and 37). The open pit mine was commissioned in September of 2002, with forecast production of approximately 220,000 oz Au per year at cash costs of \$200/oz. At the time of the agreement, gold was selling for \$347.20/oz.

Reserves on 31 December 2002 estimated by East African Gold Mines totaled 2.94 million ounces consisting of 24.6 million tonnes grading 3.7 grams per tonne. Measured and Indicated Resources (including the Reserves) were 4.25 million ounces, consisting of 43.9 million tonnes grading 3.0 grams per tonne. The Reserve and Resource estimates were prepared in accordance with the Australasian JORC Code (Figures 36, 37).

The North Mara gold deposit is within the Mara Greenstone Belt, which is part of the larger Lake Victoria Greenstone belt. This is a granite-greenstone cratonic setting, geologically similar to major gold producing Archean provinces elsewhere in the world, such as in the Abitibi region of the province of Quebec in Canada and the Yilgarn Province of Western Australia.

The underlying geology comprises felsic and mafic volcanics intercalated with sediments which are intruded by various granitoid and gabbroic plutonic rocks. Tertiary volcanic lava flows partially cover the underlying Archean geology. (Placer Dome Website, 2005).

Sovereign Risk Insurance Ltd's 2005 political risk map shows Tanzania and Venezuela as both having similar moderately high political risk ratings.

#### **Analysis of the North Mara Transaction**

Date of Announcement: 8 July 2003. Spot price Au \$348.15/oz (London PM fix, 7 July 2003).

Announcement source: Placer Dome News Release of same date.

Transaction information verified with Placer Dome by S.D. Olmore on 9 September 2005.

Placer Dome acquiring East African Gold Mines (EAGM) to obtain the newly built North Mara open pit mine, Tanzania, and 423 square kilometers of exploration tenements.

Reserves 2.94m oz. (24.6m tonnes @ 3.7 g per tonne)

M&I (inc reserves) 4.25m. oz (43.9m tonnes @ 3.0 gram per tonne)

Inferred Resource 0.6m tonnes @ 5.2 g/t for 102,500 oz.

M&I excluding reserves = 1.31m oz Au

Paid \$255m cash to buy 100% of shares + EAGM debt \$43m = total \$298m

Assume \$10m is for the exploration tenements and \$288m for the mine.

EAGM Gold hedged 825,000 oz, at 25,000/Q (45% of production) to 8/2011 at \$308.60 per oz.

Reserves 2.94m oz for \$298m = \$101.36 per oz

P&P + ½\*M&I + ¼\*I oz Au = \$288m



$2.94\text{m Au} + \frac{1}{2} * 1.31\text{m} + \frac{1}{4} * 102,500\text{Au} = \$288\text{m}$

$3.62\text{m oz Au} = \$288\text{m}$

$1\text{oz Au} = \$288\text{m}/3.62\text{m}$

Au price = \$79.56 per oz Au Reserve equivalent

Acquisition cost is \$79.56 per oz Au reserve equivalent.

EAGM forecast production of 220,000 oz/yr at cash cost \$200/oz and total cost \$252/oz. Placer Dome indicated at the time of the acquisition, that the property has the potential to be expanded to a production rate of 300,000 oz/yr (Mining Journal, 11 July 2003).

A small royalty of approx 1% is included in the cash cost.

Gold recovery 89%.

### **Internal Rate of Return Calculation**

Assuming 18 year mine life, the gold price at the time of acquisition (\$348/oz and EAGM hedge), 220,000 oz/yr production, cash cost \$200/oz and sustaining capital \$25/oz.

Resulting internal rate of return 1%/annum (constant dollar, before income taxes).

The acquisition price paid in this moderately high risk country of Tanzania suggests that Placer Dome had a long term gold price expectation averaging \$400 to \$450/oz (constant dollars), which would provide 6% to 10% discount rates. These higher prices would probably also justify the expenditure of capital to expand the capacity of the mining operation.

A



B



Source: Placer Dome Inc.

Figures 36 - Location maps for Transaction 4, North Mara, Tanzania.



Source: Website Placer Dome Corp.



Source: Website Placer Dome Corp.

Figures 37 (A, B) - Aerial views of North Mara, Tanzania.

### **Transaction 5: Amapari, Brazil**

On 23 May 2003, AngloGold announced that it was selling the undeveloped Amapari gold project in North Brazil to a Brazilian company for \$18.2m. Less than six months later, on 6 November 2003, Wheaton River announced that it was buying the still undeveloped project for \$105m. In the intervening period, the estimated tonnage and grade of Reserves had increased. Goldcorp gained control of the project in April 2005 through merging with Wheaton River (Figures 38 and 39).

The Amapari gold deposit is located in Amapa State, northern Brazil, in the Amazon region. It is 100% owned by Mineração Pedra Branca do Amapari (MPBA, a subsidiary of Goldcorp), who acquired the mineral rights from AngloGold. The project is situated 15 km from the town of Serra do Navio, where a local company operated a manganese mine for more than 40 years until its exhaustion in 1998. Serra do Navio has a hospital, school and basic town facilities which can be used by the mine, and the town also has transport infrastructure (road, railway and airport) and electricity supply.

The project is located only 15 km from a trunk line of a 75 MW capacity hydroelectric power station offering abundant power. The mine will require 4 MW. The project located 16 km from a 200 km paved and gravel road from the state capital, Macapa, and a 200 km railroad from Porto Santana (located on the Amazon River). The existing port facilities at Porto Santana include heavy lift equipment for direct loading onto rail.

Goldcorp describes the project as consisting of an open pit leach oxide deposit and a deeper sulfide deposit. Initial development will include an open pit mine and heap leach plant for exploitation of the oxide part of the deposit. Conventional open pit mining techniques using a shovel/truck operation will be employed. The heap leach process will utilize an innovative on/off heap leach pad, using a stacker and reclaimer.

After completion of open pit mining, Amapari will begin underground mining to extract the sulfide reserves that extend immediately below the oxide mineralization. Underground ore will be exploited by the sub-level stoping method. The sulfide ore will be treated by a conventional carbon-in leach (CIL) plant. Studies are investigating more optimal development of the deeper sulfides by open pit that could reduce both the capital and operating costs.

The gold mineralization has been described by Goldcorp. The deposit is hosted by iron and carbonate-rich chemical units of a geological formation that is part of a group of volcanics and sediments. The deposits have skarn characteristics, and are related to hydrothermalism along a shear zone. The hydrothermalism is marked by silicification, sulfidation with pyrrhotite and pyrite, and carbonates. The mineralization is hosted by steeply dipping banded iron formations.

There are three types of mineralization described by Goldcorp. The primary mineralization is characterized by sulfides and occurs at depth in fresh rock. The second, called saprolite, consists of in-situ weathered portions of the sulfide material. The third type is colluvium, which overlays the saprolite ore as a blanket spreading out over the hill slopes. The saprolite and the colluvial ores collectively constitute the softer oxide ore.

## **Analysis of the Amapari Transaction**

### **First transaction**

First transaction of this property (not used in the Sales Comparison Approach):

Date Announced: 23 May 2003. Spot price Au \$370.50/oz

Announcement Source: AngloGold News Release of same date.

AngloGold sells the undeveloped Amapari project, North Brazil for \$18.2m to Mineração Pedra Branca do Amapari. The ownership name is soon changed to EBX Gold Ltd.

P&P Reserves 9.8m tonnes @ 2.29 g/t = 722,000 oz Au

Price paid = \$25.21/oz Au Reserves

Open pit, heap leach, oxide deposit

Underground sulfide deposit

### **Second transaction**

Second Transaction of this property (used in the Sales Comparison Approach):

Announcement Date: 6 November 2003. Spot price \$380.25 for Au

Announcement Source: Wheaton River News Release of same date.

EBX Gold sells Amapari to Wheaton River for \$105m cash, common shares and warrants.

P&P Reserves 14.78m tonnes @ 2.93 g/t = 1.39m oz Au

M&I Resources 0.3m oz

Inferred Resources 1m oz

Exploration potential poor

Gold recovery: 90% for heap leach ore; 94% for sulfide ore

$P\&P + \frac{1}{2} * M\&I + \frac{1}{4} * I$  oz Au = \$105m

$1.39m + \frac{1}{2} * 0.3m + \frac{1}{4} * 1m = \$105m$

Price/oz Au = \$105m/1.79m = 58.66/oz

Acquisition cost is \$58.66 per oz Au reserve equivalent

Compared to the Amapari transaction of only 5½ months prior, this represents a 233% increase in the per oz Au reserve equivalent value.

## **Internal Rate of Return Analysis**

This analysis is on the second Amapari transaction, based on expectations at the time of the announcement.

Production by late 2005, construction commencing November 2003. (In fact, the mine was undergoing commissioning start-up in the 4<sup>th</sup> quarter of 2005, and was expected to be at full production in January 2006.)

Purchase price \$105m

Initial mine development investment capital required \$54m

188,000 oz/yr production at cash cost \$144/oz for 7 years

Then underground mining for additional capital expenditure of \$53m

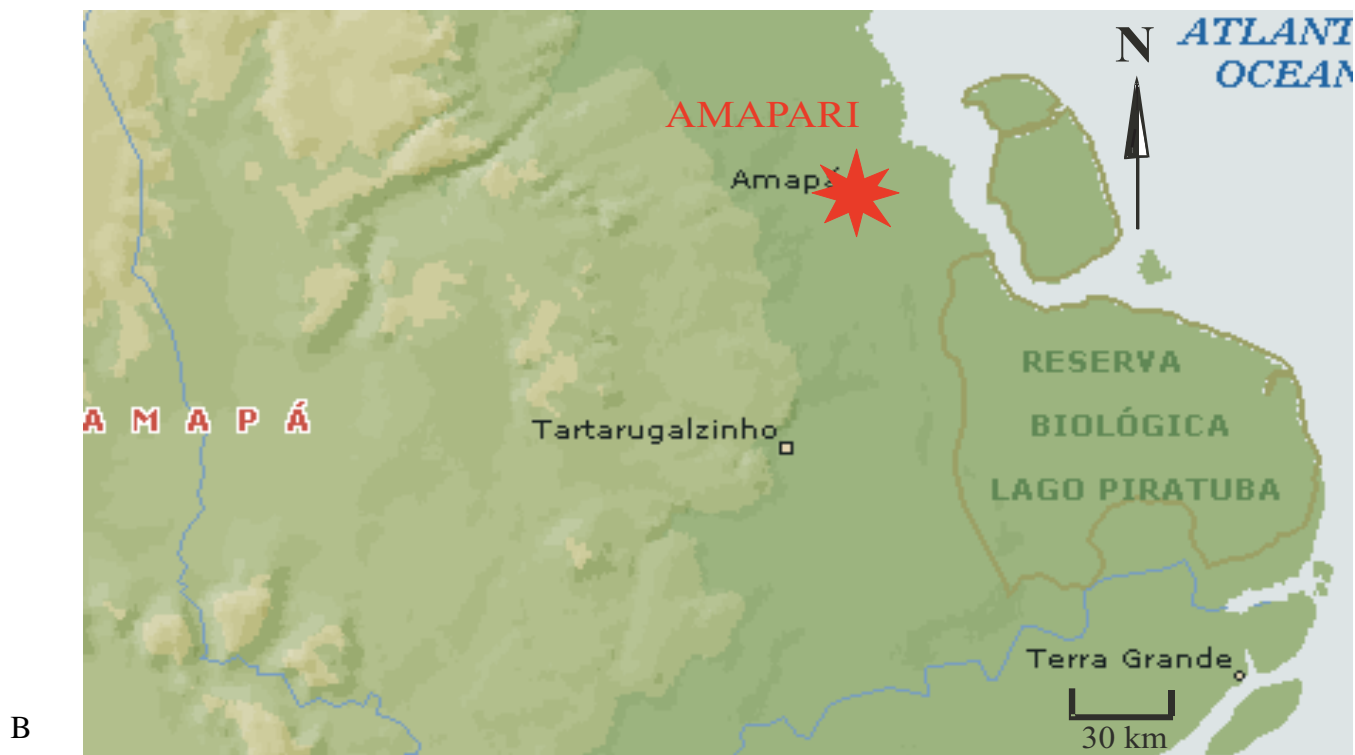
4 years underground mining at 136,000 oz/yr, with cash cost \$195/oz.

Total planned life of mine 11 years, mining approximately 2 million contained ounces.

Gold price \$375/oz

Resulting internal rate of return 2.5% to 3.5% per annum

The potential for finding and developing additional resources at this property to help support the investment made by Wheaton River is only modest. It is for this apparent reason that AngloGold disposed of the property. The low IRR of 2.5% to 3.5% indicates that Wheaton River expected an average long term price of gold of above \$400/oz (constant dollars), which would provide a higher return on investment.



Figures 38 (A, B) - Location maps for Transaction 5, Amapari, Brazil.



Source: Website Wheaton River Corp.

Figures 39 - Photos of existing port facilities and 200 km railroad used in the Amapari mine development.



## **Transaction 6: Paracatu, Brazil**

On 9 November 2004, Kinross announced that it had signed a letter of intent to purchase from Rio Tinto the 51% interest Kinross did not already own of Rio Paracatu Mineração (RPM), the holding company for the Rio Tinto operated Morro do Ouro (Paracatu) gold mine in Brazil. The price paid was \$261.2 million, before inclusion of a working capital adjustment (Kinross 2004 Annual Report).

The Paracatu mine is 230 km southeast of the national capital Brasília, and 2 km north of the town of Paracatu (population 75,000), in the state of Minas Gerais (Figures 40 and 41). Access to the site is provided by paved federal highway or by charter aircraft. A small paved airstrip, suitable for small aircraft is maintained on the outskirts of the city of Paracatu. The mine is the largest employer in Paracatu directly employing 750 workers in what is predominantly an agricultural town (dairy and beef cattle and soy bean crops) located in Brazil's tropical savannah. Annual rainfall varies between 850 and 1800 mm, the average being 1300 mm.

In addition to the open pit mine, the mining property includes a mill, tailings impoundment area, and related surface infrastructure. Historically, mining in the pit has not required drilling or blasting prior to excavation. Minor blasting is now needed for some deeper, harder rock. The current average annual ore production rate is 18 million tonnes, yielding about 190,000 ounces of gold. All ore is sent through the mill, where the gold is recovered by gravity and cyanide leach.

The average life of mine mill feed grade is only 0.50 g/t Au, and the remaining Reserves have an average grade of 0.43 g/t, this being lower than at Las Brisas. Little stripping of waste is required. The average metallurgical recovery is also low, at only 78.1%. Production commenced in 1987. The mine has operated continuously since then, even when the gold price was below \$300/oz, despite its low average ore grade. As of December 31, 2004, the mine had produced close to 3.0 million ounces of gold from 237 million tonnes of ore. In 2004, the mine produced 188,574 ounces of gold at an average cost slightly in excess of \$220 per ounce.

Kinross was planning to invest \$112 million in adding a very large semi-autogenous grinding (SAG) mill. Production has been gradually declining as the hardness of the ore has increased. The new mill would recover production to 250,000 oz/yr, while also helping to control rising operating costs. Since the acquisition, Kinross has developed a more comprehensive and more expensive, redevelopment and expansion plan, for the mine and mill, which still includes the addition of the same SAG unit. Our analysis of the acquisition, below, includes only the initially planned SAG mill investment, because this Valuer believes this best represents Kinross's investment strategy at the time of negotiating the acquisition.

The Paracatu deposit is a metamorphic gold system with finely disseminated gold mineralization hosted within an original bedded sedimentary host (phyllites). The phyllites at Paracatu are highly deformed as a result of tectonic processes. The originally sedimentary rocks have been successively altered by at least three phases of hydrothermal alteration, which has remobilized gold within the original carbonaceous sediments.

The gold is closely associated with arsenopyrite and pyrite. The metal occurs predominantly as fine grained free gold along the arsenopyrite and pyrite grain boundaries in fractures within individual arsenopyrite and pyrite grains. Thin section analyses indicate that 92% of the gold is free. Gold grains typically average 50-150 microns in size.

### **Analysis of the Paracatu Transaction**

Announcement Date: 9 November 2004 (12:22 PM EST). London PM fix spot price, \$431.90/oz Au. Transaction finalized 31 December 2004. London PM fix spot price, \$435.60/oz Au.

Announcement Source: Kinross News Releases of 9 November and 31 December 2004.

Transaction information verified with Kinross by S.D. Olmore on 16 September 2005, and by Kinross's 2004 Annual Report.

Kinross obtained 100% ownership of the Morro do Ouro (Paracatu) gold mine in Brazil, by acquiring the 51% it did not already own of the mine's holding company, Rio Paracatu Mineração.

51% purchased for \$261.2m

Open pit, operating mine

Current annual production 190,000 oz Au in 2002, to be expanded to 250,000 oz. (Reserves and expansion plans have increased since Kinross completed the acquisition, but that information is not relevant to this transaction analysis.)

At 12/31/04 for Reserves calculated at \$400/oz Au average price:

P&P Reserves 607m tonnes @ 0.43 g/tonne = 8.485m oz Au contained

M&I Resources 2.392m tonnes @ 0.30 g/tonne = 22,000 oz Au

51% (P&P + ½\*M&I) oz Au = \$261.2m

51% (8.485m + ½ \* 22,000) oz = \$261.2m

8.496m oz Au = \$261.2m/0.51

1oz Au = \$512.16/8.496 oz

Price Au = \$60.28/oz Au Reserve equivalent

Acquisition cost is \$60.28 per oz Au reserve equivalent.

Average gold recovery 78.1%

Operating costs are in the order of \$220/oz

Royalty rate 0.33% of net sales. Mining tax 1.0% of net sales.

**Internal Rate of Return Analysis**

This analysis is based on the implied \$512m acquisition value for 100% of the project, using constant (end 2004) dollar analysis, before income taxes. We assume that the SAG mill investment of \$112m in the two years immediately after acquisition (2005-06) will expand gold production from 190,000 to 250,000 oz/yr over two years. Sustaining capital is calculated \$7m/yr for the SAG mill (Kinross), and \$10 m/yr for other plant and equipment. (In 2005, Kinross delayed the SAG mill investment, integrating it into a larger Paracatu expansion project. This information does not influence our analysis of the acquisition transaction.) Remaining mine life at acquisition was 27 years.

At \$400/oz Au price of the Reserve calculation: 1%/annum IRR

At \$432/oz Au price of acquisition agreement date: 3%/annum

At \$475/oz Au: 5%/annum; At \$500/oz Au: 7%/annum; At \$525/oz Au: 8%;

At \$575/oz Au: 10%/annum.

The rates of return based on the prevailing gold prices at the time of the acquisition are quite low. This is particularly true for such a major investment in Brazil, with its intermediate country risk ratings. The acquisition economics imply that Kinross was expecting the long term gold price to average in the order of \$500/oz or above (in end 2004 dollars).

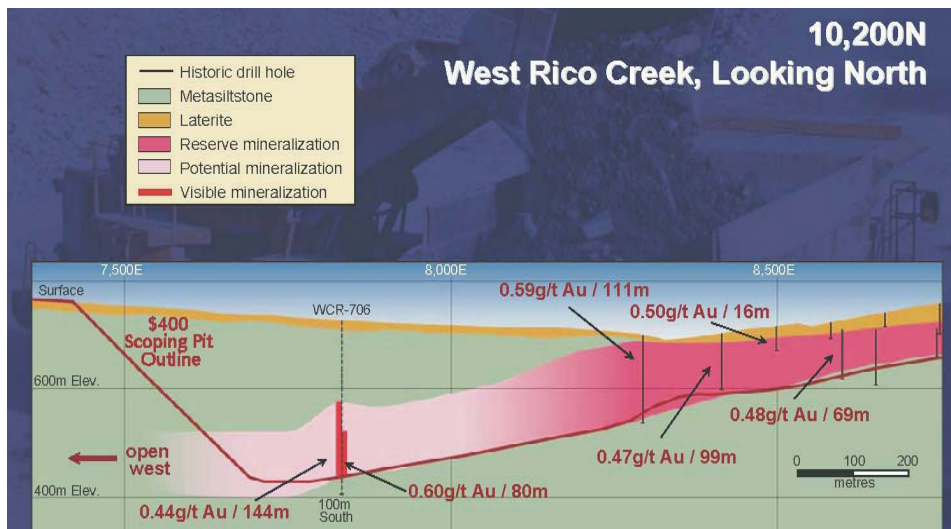


Figures 40 (A, B) – Location maps for Transaction 6, Paracatu, Brazil



A

Source: kinross.com



B

Source: kinross.com



C

Source: kinross.com

Figures 41 - (A, C) Aerial views of Paracatu, Brazil; (B) cross section at West Rico Creek, Paracatu, looking north.

## **Transaction 7: Suurikuusikko, Finland**

On 12 May 2005, Agnico-Eagle announced an agreement for it to acquire 100% of the Suurikuusikko gold deposit in Finland by acquisition of the 86.28% that it did not already own of Riddarhyttan Resources AB, the holder of the deposit. Shares of Agnico-Eagle, a Canadian gold mining company, were used to purchase the shares of Riddarhyttan Resources, a Swedish listed company. The terms of the announced acquisition arrangement were determined based on 100% of Riddarhyttan Resources having been valued at \$150 million. The closing of the acquisition was delayed until November 2005 by two Riddarhyttan shareholder groups who unsuccessfully insisted that the arrangement undervalued the gold deposit.

The tract that Riddarhyttan Resources has been exploring is in northern Finland, about 1,000 km north of Helsinki, near Kittila (Figures 42 and 43). The exploration tract is 7,810 hectares. At the time of the agreement, drilling data available to the two companies from the Suurikuusikko deposit was adequate to define an Indicated Resource of 10.4m tonnes averaging 5.8 g/t Au, and containing a total of 1.95m oz Au.

The deposit consists of low-grade, shear-zone-hosted gold in a greenstone belt. The deposit is composed of a number of pods of mineralization along a sub-vertical shear zone in a greenstone assemblage of Lower Proterozoic or Archean greenstone age. According to Riddarhyttan, the Suurikuusikko deposit consists of epigenetic, mesothermal mineralization, within a package of volcanic tuffs, ultramafic volcanics, and some banded iron formation. Agnico-Eagle has current experience in developing similar deposits in the Abitibi Greenstone belt of Quebec. The geological environment also has broad similarities to the Kilometer 88 district in Venezuela.

The shallow parts of the mineralization can probably be mined by open pit. However, due to the steep dips of the deposit, it is likely that the greater part of the mineralization will be recovered by underground mining. Most of the gold is fine and included in the lattice of fine-grained arsenopyrite, yet visible, similar to Paracatu, Brazil. Pressure oxidation and or bio-leaching will be necessary to recover the gold. The deposit contains a variety of base metal sulfides and other minerals, but no evidence has been reported to indicate that any of these may have potential for economically recovery.

There may be significant environmental costs associated with a mine development project, due to the location of the deposit in Finnish Lapland, above the Arctic Circle. In recent years, Finland has been viewed as one of the safer countries in the world from an investment and operating risk standpoint. However, environmental and social issues could cause project delays and impact mine development costs.

### **Analysis of the Suurikuusikko Transaction**

Announcement Date: 12 May 2005 (Toronto 2:00 AM).

London PM fix spot price, \$424.20/oz Au on 11 May 2005.

The acquisition did not close until November 2005, because two large Riddarhyttan shareholder groups unsuccessfully insisted on a higher acquisition price.

Announcement Source: Agnico-Eagle and Riddarhyttan News Releases of 12 May 2005.

Terms and project status verified with Riddarhyttan by S.D. Olmore on 16 September 2005.

Agnico-Eagle acquiring Suurikuusikko Deposit, Finland, by acquisition of remaining 86.28% of Riddarhyttan Resources AB.

The agreement announcement specifies that the share exchange terms were determined based on a 100% interest in Riddarhyttan Resources AB that was valued at \$150 million.

Based on examination of the Riddarhyttan Annual Report 2004, we allocate \$10 million in value to current assets and the company's interest in the unrelated Oijärvi greenstone belt claims.

Resource estimate used here was released by Riddarhyttan on 1 June 2005. Prior to the agreement, Agnico-Eagle had had access to data and veriography used in this estimate (Riddarhyttan press release of 14 September 2005).

The Indicated Resource is 10.4m. tonnes @ 5.8 g/t Au, containing 1.95m oz Au.

The Inferred Resource is 7.3m. tonnes @ 4.5 g/t Au, containing 1.06m oz Au.

$\frac{1}{2} * M\&I + \frac{1}{4} * I$  oz Au = \$150m - 10m

$\frac{1}{2} * 1.95m + \frac{1}{4} * 1.06m$  oz = \$140m

1.24m oz Au = \$140m

1 oz Au = \$140/1.24 = \$112.90

Acquisition cost of Suurikuusikko Deposit is \$112.90 per oz Au reserve equivalent.

Substantial exploration potential remains for expanding the resource base along the shear zone, and the 15 km of strike length is secured by Riddarhyttan's mining claims. Six drilling rigs were operating full-time at the time of the announcement. A bankable feasibility study is in progress, having been commissioned in December 2004.

The government's royalty rate is 2% of net smelter return.



Figures 42 (A, B) – Location maps for Transaction 7, Suurikuusikko, Finland





A

Source: Website <http://www.gsf.fi/explor/gold/suurikuusikko.htm>



B

Source: Website <http://www.gsf.fi/explor/gold/suurikuusikko.htm>

Figures 43 – (A) Aerial view to the east across the Suurikuusikko Shear Zone; (B) typical brecciated ore at Suurikuusikko, Finland Project

### **Transaction 8: Guariche, Venezuela**

On 10 January 2005, Hecla announced that it had signed a letter of intent to acquire 100% of the Guariche gold property, Venezuela, from Triumph Gold Corporation, by acquiring two Venezuelan subsidiaries of Triumph. The acquisition would be primarily through an exchange or payment with Hecla shares. The total value placed on the proposed purchase is \$7,416,000. Triumph had reported the Guariche deposit under Canadian NI 43-101 rules, as containing surface mineable gold mineralization of 13.6 million tonne at 2.03 g of gold per tonnes in Measured, Indicated and Inferred Resource categories, containing a total of 893,000 ounces.

A finalized agreement was signed on 19 July 2005. By this time the share prices of both companies had weakened substantially. The terms of the agreement were reworked based on the letter of intent, with the value of Hecla's payment estimated as \$6,525,000. On 20 September 2005, Triumph announced that the agreement had unwound. The agreement unwound because both companies had learned that the Venezuelan government had decided to eliminate concessions on stalled mining projects or those that violate the law (personal communications with S. Dhillon, Investor Relations, and P. Parsley, President, Triumph Gold). On 20 September 2005, President Chavez of Venezuela publicly announced his government's decision to review all mining concessions.

The Guariche district of Bolivar State is one of the oldest concessions areas in the Venezuelan Guayana Shield. It is a classic eluvial (down slope slump and scree) placer gold district, with the source gold veins nearby. Systematic exploration in the district began in about 1992, with work conducted by a sequence of companies (Figures 44 and 45).

Guariche typifies, possibly more than any other of the mine sites of this valuation, the granite-greenstone model. It has a well defined granite-ultramafic-greenstone sequence immediately in the vicinity of a soda granodiorite or granulitic massif. Abundant faults and shears control mineralization, and are in part related to late mafic intrusions along them. Mineralization is also concentrated in the axes of fold structures.

The transaction includes 20,000 ha of tenements. Within this, the Guariche deposit is centered on a 2,500 ha area covered by vein titles issued by the Ministry of Mines. The discovery area is 200 ha of this larger area.

The delineated gold resources of the Guariche deposit, being under a million ounces, are an order of magnitude smaller than those of the subject Las Brisas deposit. Despite the size discrepancy, the proposed acquisition transaction is included in the Sales Comparison Approach transactions of Table 8 and 9 because Guariche is in close proximity to the subject in Bolivar State.

The proposed transaction is analyzed here as a valid transaction, even though it unwound. The proposed transaction did move from *letter of intent* to a finalized agreement. We believe the information supplied to us that the transaction only unwound just before closure due the Venezuelan government's decision to eliminate the concessions of stalled mining projects. This decision raised the fear, though temporary, that Triumph's mineral property holdings could be nationalized.

**Analysis of the Guariche Transaction**

Hecla Mining Company to acquire 100% of the Guariche gold property, Venezuela, from Triumph Gold Corporation, by acquiring two Venezuelan subsidiaries of Triumph.

**Analysis based on the terms of the Letter of Intent**

Announcement Date: 10 January 2005, 8:01 AM EST, signed *letter of intent* announced.

Announcement Source: Hecla news release.

Spot price prior to announcement, \$422.20/oz Au (London, Friday, Jan. 7 close).

Hecla share price prior to announcement, \$5.42.

Value of Hecla's proposed payment at signing of *letter of intent*:

Cash payment, \$75,000

1.24m Hecla shares @ \$5.42/share = \$6,721,000

1.24m Hecla 3 year \$5.50/share warrants @ est. value 50¢/warrant = \$620,000

Total value of Hecla's payment = \$7,416,000

Both buyer and seller gain rights to earn interests in other properties. The value of these rights is assumed neutral for the purpose of valuing the Guariche purchase.

The Guariche gold property includes over 20,000 ha of concessions in Bolivar State that are considered prospective for gold. However, due to geographic location and geology, we consider these concessions not as attractive as Venezuela's Choco concessions, for which indicators provide a value of hundreds of dollars per hectare for exploration property. For this calculation, we have therefore assigned a value of \$100/ha to the area of concessions not occupied by the Guariche gold deposit.

19,800 ha @ \$100/ha = \$1,980,000 million for the exploration potential aside from the Guariche deposit.

Payment assigned to the deposit = \$7,416,000 - \$1,980,000 = \$5,436,000

Triumph reports that the Guariche deposit contains potentially surface mineable gold mineralization of 13.6 million tonne at 2.03 g of gold per tonne in Measured, Indicated and Inferred Resource categories. This Resource estimate is reported as being compliant with the Canadian NI 43-101 reporting regulation for Reserves and Resources. This Resource estimate did not include the results of a 2004 core drilling program. (Triumph Gold news release, 24 November 2004). Hecla stated that, "extensive drilling, engineering and other work would be necessary to confirm the mineralization."

13.6m tonnes @ 2.03 g/tonne = 27.61m g Au = 893,363 oz Au contained

Measured Resource = 4,610,000 tonnes @ 2.16 g/t

Indicated Resource = 980,000 tonnes @ 1.73 g/t

Total Measured and Indicated Resource (M&I) = 5,590,000 tonnes @ 2.08 g/t = 373,816 oz Au

Inferred Resource = 8,080,000 tonnes @ 2.00 g/t = 519,547 oz Au

$\frac{1}{2} * M\&I + \frac{1}{4} * I \text{ oz Au} = \$5,436,000$   
 $\frac{1}{2} * 373,816 + \frac{1}{4} * 519,547 \text{ oz} = \$5,436,000$   
 $316,795 \text{ oz Au} = \$5,436,000$   
 $\text{Price P\&P Reserve equivalent} = \$5.436 / 0.3168 = \$17.16 / \text{oz Au}$

### **Analysis based on the Finalized Agreement**

Date: 19 July 2005, finalized agreement signed (source Triumph Gold News Release of 27 July 2005).

Spot price gold \$419.25/oz; Hecla shares \$4.05.

Agreement verified with V. Veltkamp, Investor Relations, Hecla Mining, by S.D. Olmore, on 20 September 2005.

Value of Hecla's payment under the finalized agreement:

Cash payment, \$75,000

1.5m Hecla shares @ \$4.05/share = \$6,075,000

1.5m Hecla 4 year \$4.856/share warrants @ est. value 25¢/warrant = \$375,000

Total value of Hecla's payment = \$6,525,000

19,800 ha @ \$100/ha = \$1,980,000 for exploration potential of the concessions

Payment assigned to the deposit = \$6,525,000 - \$1,980,000 = \$4,545,000

$\frac{1}{2} * M\&I + \frac{1}{4} * I \text{ oz Au} = \$4,545,000$

$\frac{1}{2} * 373,816 + \frac{1}{4} * 519,547 \text{ oz} = \$4,545,000$

$316,795 \text{ oz Au} = \$4,545,000$

$\text{Price P\&P Reserve equivalent} = \$4.545 / 0.3168 = \$14.35 / \text{oz Au}$

The result of our analysis based on the terms of the *letter of intent* represents the intent of the two parties initially entering into the transaction in January 2005. The value resulting from the finalized agreement is reduced by a substantial fall in the stock price of both companies. This was in spite of the fact that Hecla substantially increased the number of shares it agreed to pay for the purchase of Guariche to hold the acquisition deal together. Much of this fall in stock price is due to the general fall in the prices of North American gold stocks that took place in the first half of 2005. However, a small portion appears to be a reaction to the Venezuelan government pronouncements. Our entries for Gauriche in Tables 8 and 9 are based on analysis of the finalized agreement terms, as we feel that may more closely represent the influence of the current Venezuelan political/business environment.



Figures 44 (A, B) – Location maps for Transaction 8, Guariche, Venezuela



Source: Website Triumph Gold Corp.

Figures 45 - Site photos for Transaction 8, Guariche, Venezuela

### **Transaction 9: Choco 10, Venezuela**

On 11 January 2006, an agreement was signed for Gold Fields Ltd to acquire 100% ownership of Bolivar Gold Corp., giving it control of the newly developed Choco 10 open pit gold mine, Venezuela, and surrounding exploration concessions totaling approximately 25,000 ha. Figure 46 shows the location of the mine, while Figures 47 are photos of the developed mining property.

We estimate that the transaction places a value of approximately \$371.6 million on the entire Choco 10 mine, and associated Reserves and Resources. The new open pit mine developed by Bolivar began operating early 2005, reaching design capacity in the third quarter 2005. Production for 2006 is forecast to be 190,000 oz Au, at a cash cost of \$185 (source Bolivar Gold Corp). Proven and Probable Reserves prior to commencement of mining were estimated to be 21.4 million tonnes at 1.85 g/tonne, containing a total of 1.278 million oz Au.

#### **Geology of the Choco 10 Mining Property**

The Choco project that led to the development of the Choco 10 Mine extended across two exploration concessions, Choco 4 and Choco 10 (Figure 48). Each concession covered an area of several thousand hectares in the El Callao gold mining district. In 2004, Promotora Minera de Guayana (PMG), the lessor of the concessions, converted these to nine exploitation concessions covering approximately 3,590 ha. Shortly afterwards, PMG leased the project to Bolivar Gold Corp. The current area planned for development by the Choco 10 mine is limited to the north portion of Choco 10, as shown in Figure 49.

The concession lies within the east-northeast-striking El Callao Greenstone belt and structural zone. Lower Proterozoic greenstone belt rocks of the El Callao formation consist of meta-andesite and meta-basalt flows with pillow lavas and interbedded sediments. Schistose metamorphic fabric is also common throughout the district.

Hydrothermal alteration and alteration-related veining in bedrock is common for gold deposits in Precambrian greenstone belts in shield areas. Alteration is primarily silicate, carbonate and sulfide. Primary gold at Choco has been deposited in continuous tabular sheeted zones, irregular lenses, and pods of quartz-sericite altered metavolcanic rock that contain up to 20% pyrite. These occur within broad zones of disseminated low-grade gold associated with weak alteration and weak pyrite mineralization. The highest grade gold generally occurs in sulfide-rich zones, in or near quartz-albite-carbonate veins or intense quartz-albite-carbonate alteration. All of the gold mineralization on the Choco project was originally epigenetic hypogene. (Mine Development Associates, 2005).

Tropical weathering of variable intensity has penetrated to depths of as much as 70 m below the surface. Mineralization at Choco is in laterite, saprolite, and bedrock. In valleys the laterite is on the order of 30 m thick. The average thickness of the saprolite is about 40 m.

#### **Analysis of the Choco 10 Transaction**

Agreement signed for Gold Fields Ltd to acquire 100% ownership of Bolivar Gold Corp., giving it control of the Choco 10 gold mine and surrounding exploration concessions totaling approximately

25,000 ha. The transaction is a cash purchase of Bolivar's shares. Gold Fields is headquartered in Johannesburg, South Africa, and Bolivar is headquartered in Toronto, Canada.

The closing of the transaction was delayed because the fairness of the acquisition was appealed to a court in Yukon, Canada. A major stockholder, Scion Capital, alleged that the acquisition price undervalued Bolivar's assets. This final acquisition price represented a 9% increase over the previous agreed price of 7 weeks earlier, announced on 21 November 2005. The Yukon Supreme Court ruled on 17 of February, 2006 that the acquisition could proceed as arranged.

Announcement Date: 11 January 2006, 5:16 PM EST, agreement announced.

Announcement Source: News releases by Gold Fields and Bolivar Gold

Spot price immediately prior to announcement, \$544.40/oz Au (London, Jan. 11 close).

Bolivar share price prior to announcement, C\$3.16 (Jan. 11 close). (C\$ is Canadian dollar)

Our research found no clear statement by either party as to the total acquisition price. In a January 2006 Form 6-K filing by Gold Fields with the US Securities and Exchange Commission (SEC), Gold Fields filed a "Media Release" dated 21 December 2005, in which Gold Fields states that at that date it currently owned shares and warrants in Bolivar, providing it with a "combined ownership of 19.85%."

The following calculation estimates the value of the Choco 10 Reserve and Resource assets acquired, through using the agreement terms to determine the value of Bolivar Gold as a whole:

Value of issued shares and warrants in Canadian dollars:

111,687,506 common shares @ C\$3.20 =	C\$357,400,019
9,478,468 initial warrants @ C\$2.20 =	C\$20,852,630
19,421,588 A warrants @ C\$1.65 =	C\$32,045,620
9,040,910 B warrants @ C\$1.00 =	C\$9,040,910
Total value of shares and warrants =	C\$419,339,179
USD conversion rate 1/11/06 of 0.863509	US\$362,103,155

Add redemption of convertible debentures for \$24.57 million

Add current liabilities and miscellaneous obligations of \$8 million

The sum indicates that the market value of Bolivar Gold's Assets based on the Total of Liabilities and Equity value is \$394.7 million.

Subtract monetary assets and inventories reported at 9/30/05 of \$31.36 million

Provides Bolivar's property, plant and equipment value as being \$363.3 million

Bolivar has joint ventures with Gold Fields on approximately 25,000 ha of exploration properties surrounding Choco 10. These properties are also Choco concessions within the prospective El Callao district. Adjusting from past transactions on exploration properties in this region, and recent western



USA transactions on less prospective properties, suggest a value of about \$800/ha. Therefore, Bolivar's interest in the exploration properties will be about \$10 million.

The value of Bolivar's interest in the Choco 10 mine and associated mineral reserves and resources is therefore estimated to be: \$363 million - \$10 million = \$353 million.

CVG owns a non-participating 5% interest (i.e. a 5% carried interest).

Adjusting to 100% of property from Bolivar's 95% gives \$371.6 million value.

New open pit mine developed by Bolivar, began operating early 2005, reaching design capacity in third quarter 2005.

2006 production forecast of 190,000 oz Au, at cash cost of \$185 (source BGC).

Reserves and Resources at 12/31/04 @ \$350 to 375/oz Au average price (March 2005 study):

P&P Reserves 21.4m tonnes @ 1.85 g/tonne = 1.278m oz Au contained

Additional M&I Resources 11.9m tonnes @ 1.3 g/tonne = 0.502m oz Au

Inferred Resource 28.4m tonnes @ 1.9 g/tonne = 1.7m oz Au

The Inferred Resource is outside and adjacent to the planned extent of the current pit.

P&P Reserves are reduced by an estimated 55,000 oz contained gold mined in 2005 during testing and 5 months of commercial production.

End 2005 P&P = 1.223m oz Au

$P\&P + \frac{1}{2} * M\&I + \frac{1}{4} * I \text{ oz Au} = \$371.6 \text{ m}$

$1.223\text{m} + \frac{1}{2} * 0.502\text{m} + \frac{1}{4} * 1.7\text{m oz} = \$371.6 \text{ m}$

$1.899\text{m oz Au} = \$371.6 \text{ m}$

$1\text{oz Au} = \$371.6/1.899 \text{ oz}$

Price Au = \$195.7/oz Au Reserve equivalent

Acquisition cost is \$196 per oz Au reserve equivalent.

Royalties total approximately 6% NSR at the prevailing gold prices, in addition to payment for CVG's 5% non-participating interest.

### **Rate of Return calculation**

Assumptions based on Mine Development Associates, March 2005, and Bolivar's Q3 2005 report.

Average gold recovery 93%

Cash operating costs, including royalty, are forecast to be \$185/oz Au production

2006 production rate of 190,000 oz Au, then 250,000 oz per annum beginning in 2007

Project expansion capital costs, \$50 million

Sustaining capital and closure cost, \$14/oz of production

Internal Rate of Return (IRR) calculation on the above estimated acquisition cost of \$353m for 95% interest, using constant dollar analysis, before income taxes:

### **Scenario 1 Analysis**

In this scenario it is assumed that due to current prevailing high prices, an equivalent amount of contained gold mineralization will be mined to that reported in the current reserve and

resource estimate, being 3.43m oz Au remaining. This provides a remaining life of mine of 13 years, with 3.19m oz Au being recovered.

At \$544.4/oz Au as of agreement date, the IRR is 15.2%/annum

At \$500/oz Au price, the internal rate of return is 12.1%/annum

A 10% discount rate requires an average price of \$470/oz Au.

#### Scenario 2 Analysis

For this scenario on the above calculated reserve equivalent 1.9m oz Au is assumed mined, with 1.776m ounce Au being recovered over 7¼ years.

At \$544.4/oz Au as of agreement date, the IRR is 7.1%/annum

At \$500/oz Au price, the internal rate of return is 3.1%/annum

A 10% discount rate requires an average price of \$580/oz Au.

#### Scenario 3 Analysis

For this scenario only the announced end of 2005 P&P Reserves of 1.223m oz Au is assumed mined, with 1.14m ounce Au being recovered over 5 years.

At \$544.4/oz Au as of agreement date, the IRR is negative (-5.7%/annum)

A 10% discount rate requires an average price of \$729/oz Au.

Negative IRR's are commonly found in gold property acquisition analyses during times of strong acquisition activity, such as was the case in the early 1980s. A negative discount rate typically indicates that the acquisition was made based on perceived (*blue sky*) potential beyond that included in the cashflow analysis.



Figures 46 (A, B) – Location maps for Transaction 9, Choco 10, Venezuela



Source: Bolivar Gold Corp. website

Figures 47 - Site photos for the Transaction 9, Choco 10, Venezuela

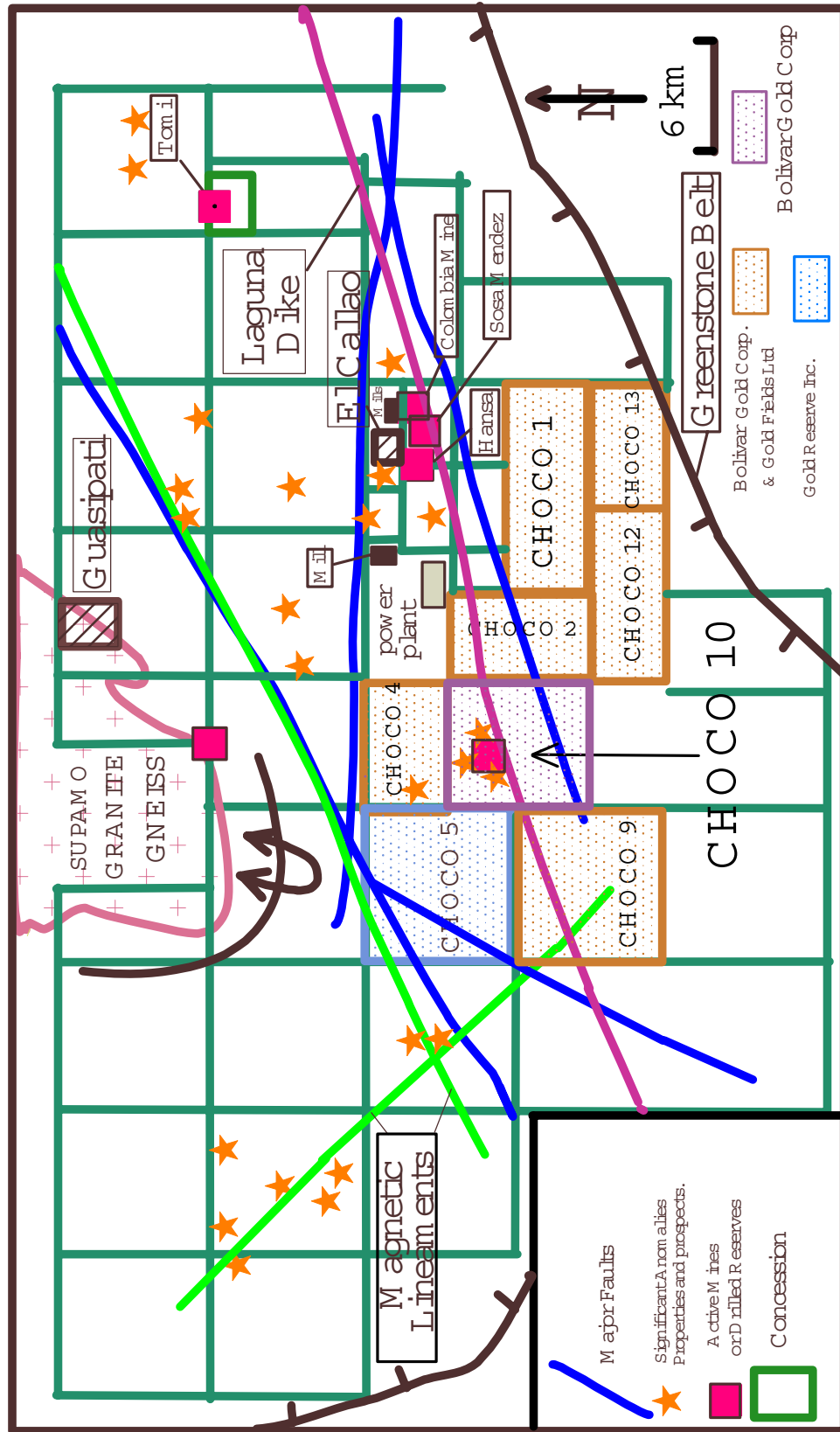
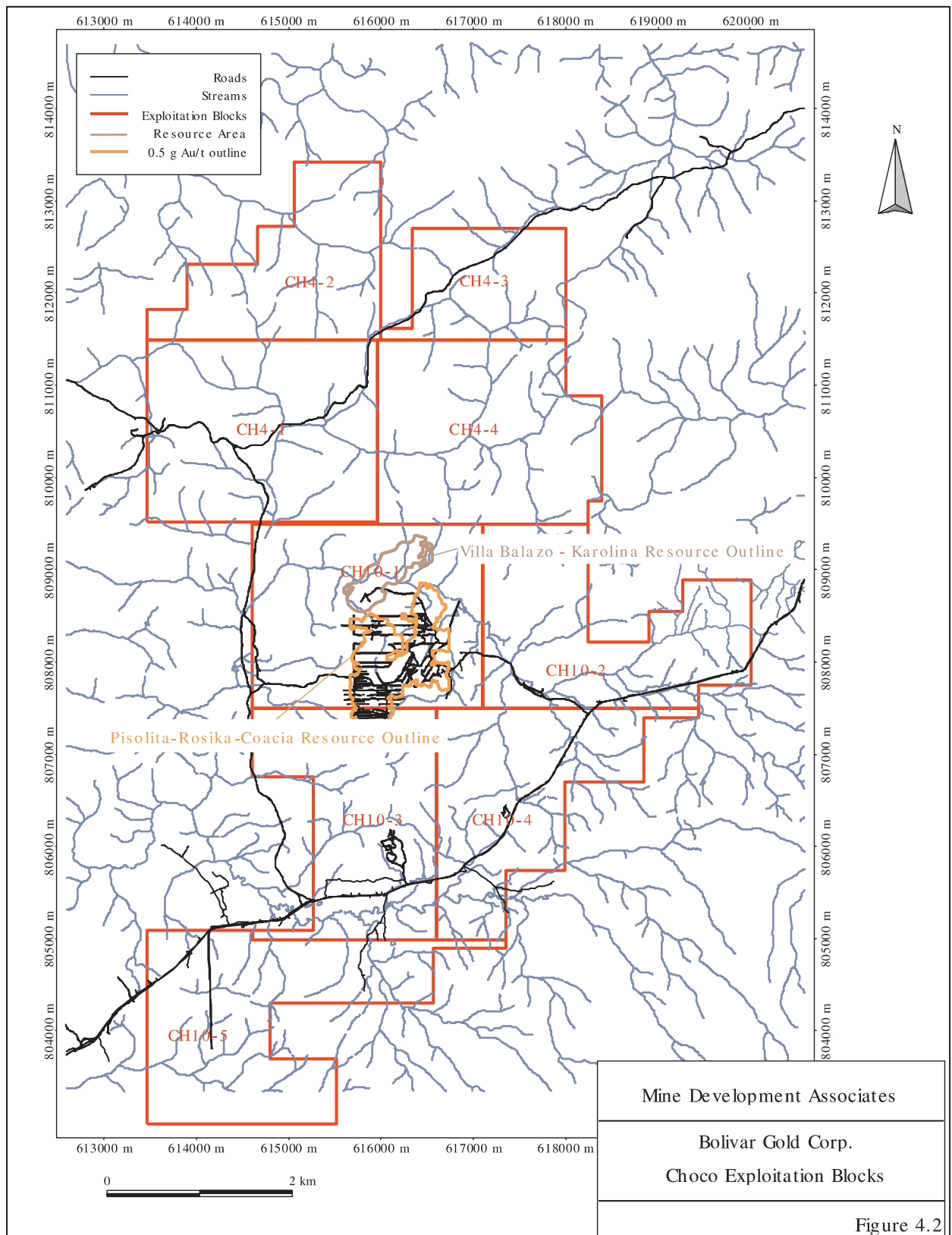


Figure 48 – Concession map of the El Callao District at greenstone gold belt and the location of Choco 10 with respect to local mines and concessions.



Source: Mine Development Associates, 2005

Figure 49 - Bolivar Gold's Choco 4 & 10 Exploitation Blocks, showing the Resource Area of the Choco 10 Mine.

Acquisition	Transaction 1	Transaction 2	Transaction 3	Transaction 4	Transaction 5	Transaction 6	Transaction 7	Transaction 8	Transaction 9
Agreement Date	Transaction 1 Younga, Burkina Faso 9-Sep-03	Transaction 2 Bermejil, Mexico 22-Mar-05	Transaction 3 Mayskoye, Russia 4-Sep-03	Transaction 4 North Mara, Tanzania 8-Jul-03	Transaction 5 Amapari, Brazil 6-Nov-03	Transaction 6 Paracatu, Brazil 9-Nov-04	Transaction 7 Suurikuusikko, Finland 12-May-05	Transaction 8 Guarihe, Venezuela 19-Jul-05	Transaction 9 Choco 10, Venezuela 11-Feb-06
Buyer	Etruscan	Goldcorp	Highland Gold	Placer Dome	Wheaton River	Kimross	Agnico-Eagle	Hecla	Gold Fields Ltd
Acquisition Type	Corporation acquired	Property acquired	Corporation acquired	Corporation acquired	Corporation acquired	Corporation acquired	Corporation acquired	Corporations acquired	Corporation acquired
Property Interest Purchased	90% interest in concessions	Deposit 100%	100% of license	100% of mine and 423 sq km tenements	100% of deposit	Remaining 51%, giving 100% control	Remaining 86%, giving 100% control	100% interest in concession	95% interest in concession
Deposit/Mine Acquisition Price Component	\$5.5m	\$70m	\$34.9m	\$288m	\$105m	\$261.2m (for 51%)	\$121m (for 86%)	\$4,525,000	\$353m (for 95%)
Development Status	Preliminary feasibility study	Indicated Resources only	Undeveloped	New operating open pit mine	Mine Design	Operating open pit mine	Indicated Resources and drilling	M&I Resource	New operating open pit mine
Development Investment Planned	Feasibility Study	Feasibility study	\$90m for mine construction	50% capacity increase considered	\$54m for initial mine construction	\$112m for SAG mill	Feasibility Study in progress	Exploration and evaluation drilling	\$50m expansion
Reserves- P&P, oz Au	664,800	0	3,680,000 (non-CRIRSCO)	2,940,000	1,390,000	8,485,000	0	N/A	1,223,000
Resources- M&I, oz Au Excluding Reserves	81,200	2,370,000	8,970,000	1,310,000	300,000	22,000	1,950,000	373,816	502,000
Resources- Inferred, oz Au	510,000	0	102,500	102,500	1,000,000	0	1,060,000	519,547	1,700,000
Total, oz Au	1,256,000	2,370,000	12,650,000	4,350,000	2,690,000	8,505,000	3,010,000	893,363	3,400,000
Reserve Equivalent Price, per oz Au	\$8.67	\$59.07	\$8.14	\$79.56	\$58.66	\$60.28	\$112.90	\$14.35	\$196.00
Life of Mine, production yrs	5.5	10	30+	10+	11	27	N/A	N/A	10+
Mine Type - Open pit, underground, or combination	Open pit	Open pit	Combination	Open Pit	Open pit, then underground	Open pit	Combination	Open pit	Open pit
Operating Cash Cost per oz Au	\$255	\$200	\$160-170	\$200	Open pit \$144; underground \$195	\$220	High	N/A	\$185
Gold Recovery	93%	60-65%	>90%	89%	90 - 94%	78%	Difficult	N/A	93%
Important By-product	No	No	Ag	No	No	No	No	No	No
Au Price at Agreement Date, \$/oz	\$382.25	\$432.50	\$370	\$348.15	\$380.25	\$431.90	\$424.20	\$419.25	\$544.40
Comments	\$1m assumed paid for tenements. Govt. NPI 10%	Combined with sister Los Filos pit	Russian 6% royalty assumed	\$10m assumed paid for exploration tenements	0.33% royalty and 1.0% tax on net sales	\$10m for other assets; complex metallurgy; 2% NSR royalty	\$2m assumed for tenements	\$10m assumed paid for exploration tenements	\$10m assumed paid for exploration tenements

Table 8- Side-by-side Comparison of the 9 Transactions

## VALUE ESTIMATION OF BRISAS BY THE SALES COMPARISON APPROACH

Table 9 is the sales comparison adjustment table, adjusting the transacted properties tabulated in Table 8 to the subject Las Brisas property. The adjustments are large due to the variations in type, grade, development status, international location, and due to the rapid strengthening in the gold market.

### Adjustment Factors

The adjustments modify the transacted property to the subject property. Percentage additions are to the advantage of the subject. Percentage subtractions downgrade the value of the subject property relative to the transacted property. The adjustments are cumulative by compounding, not by addition.

The adjustment factors are applied to the “Reserve equivalent price,” which is defined and calculated in the preceding Transaction Analysis section of the report.

The following describes some of the adjustment factors applied:

The *Time and Price adjustment* adjusts the purchase price of the transacted property to represent the price that would have been paid if the gold price at the effective date of valuation had been the prevailing price at the time of purchase. The adjustment factor is calculated from the average accounting operating margin, inclusive of straight-line depreciation of investment capital (but excluding purchase capital), allocated over the reserve equivalent ounces of gold. This margin is calculated using the gold price at the agreement date and the effective date of valuation. The percentage adjustment factor for time and price is calculated from the ratio of the operating margin for the gold price at the effective date of valuation to the margin for the gold price at the agreement date.

The *Developed v. Undeveloped Reserve adjustment* is mainly applied as a downward adjustment, halving the value from the reserves of developed mines, to adjust for investment, time and risk involved in developing a mine. The result is a downward adjustment to undeveloped reserves. In the case of Paracatu and Choco 10, a smaller downward adjustment is applied, reflecting the large investments proposed to expand production.

The *Reserves v. Resources balance adjustment* is applied when the quantity of Resources greatly outweighs the quantity of Reserves. This is because the expense of additional investigation of the Resources will likely be warranted at an early date in the life of the project if the economic benefit of the Resources is to be maximized.

The *Deposit/project size adjustment* is due to the fact that major gold mining companies are usually only interested in buying and retaining tenements that have a strong probability of producing at least two million ounces of gold reserves. The majors are especially seeking tenements that have a strong probability of producing more than five million ounces of reserves. When a major is involved as a buyer in the acquisition negotiations, such as Gold Fields for Choco 10, the closing price tends to be



stronger than otherwise. These factors result in a need for an upward adjustment to Las Brisas from the smaller properties.

The *Open Pit v. Underground Mining adjustment* is used to reflect that reserves and resources that will require underground mining will generally trade at lower prices than equivalent surface mineable ounces.

The *Operating Cost (including energy price factors) adjustment*, is the result of a number of operating cost factors. However, the important prevailing cost factor across the transactions in the following Sales Comparison adjustment grid, is that Venezuela's policy of providing fuel and electricity at low prices, provides a substantial benefit to Las Brisas in Venezuela compared to similar mines in other countries.

The *Country Risk adjustment* adjusts for political and related national level risk factors. When applied, the adjustments are large, often halving the value of the subject property because of its location in Venezuela relative to the country of the transaction, because of the dramatic impact of insecurity on value.

The *Other Risk adjustment* is at the regional level of the property. This adjustment also can be large, as in the case of adjusting from Russia, where lack of security of tenure has sapped much of the value from mineral properties.

## **Review of Results**

The adjusted value estimates from the nine transactions in Table 9 range from \$692 million derived from Transaction 6, Paracatu, Brazil, to \$1,853 million derived from Transaction 7, Suurikuusikko, Finland. This is almost a 3-fold range in value. However, this range is small compared to an unadjusted beginning 24-fold range in the Reserve equivalent price per ounce of gold.

The average subject value from the nine adjusted transactions is \$1,144 million. The adjusted value estimates which deserve the most weight are:

Transaction 9: \$1,209 million – Choco 10, Venezuela – due to its close timing, similarity of location, and its relevance in displaying the influence on value of the current Venezuelan political environment;

Transaction 6: \$692 million – Paracatu, Brazil – because of its similarity to Las Brisas as a large, low grade deposit, with sulfide ore requiring milling to release the gold.

Transaction 5: \$1,152 million – Amapari, Brazil – this being an orebody with a defined Reserve, that was awaiting development of a new mine, as is Las Brisas now.

When reviewed in isolation, each of these three results seems fine. However, the Paracatu transaction provides the lowest of the nine results at \$692 million, while two other results are higher than the \$1,209 million of the recent Venezuelan transaction, Choco 10.

The strength of the Choco 10 acquisition by Gold Fields of South Africa, suggests that our substantial negative country risk adjustment for Venezuela, as applied to the Brazilian transactions, is too large from the perspective of companies headquartered in many countries outside North America. This conclusion is supported by our interviews of a number of mining industry personnel involved in Venezuela, including Ms. Nerina Bodasing, Investor Relations, Gold Fields Limited.

Of the nine transactions, six indicate that the value of Las Brisas is \$1,200 million or above, while three indicate that the value is \$900 million or below. However, of those three lower transactions, the Guariche, Venezuela transaction was first negotiated 6 months earlier, when shares of gold companies were much stronger than at the time of the finalized agreement. The \$17.16/oz Au Reserve equivalent price first calculated in the transaction analysis section for Guariche, based on that *Letter of Intent*, provides an adjusted value for Las Brisas of approximately \$1,100 million.

Acquisition	Transaction 1 Younga, Burkina Faso	Transaction 2 Bermejtal, Mexico	Transaction 3 Mayskoye, Russia	Transaction 4 North Mara, Tanzania	Transaction 5 Amapari, Brazil	Transaction 6 Paracatu, Brazil	Transaction 7 Suurikuusikko, Finland	Transaction 8 Guariche, Venezuela	Transaction 9 Choco 10, Venezuela
Agreement Date	9-Sep-03	22-Mar-05	4-Sep-03	8-Jul-03	6-Nov-03	9-Nov-04	12-May-05	19-Jul-05	11-Jan-06
Buyer	Etruscan Resources	Goldcorp Inc.	Highland Gold Mining	Placer Dome	Wheaton River	Kimross	Agnico-Eagle	Hecla	Gold Fields
Reserve equivalent price, \$/oz Au	\$8.67	\$59.07	\$8.14	\$79.56	\$58.66	\$60.28	\$112.90	\$14.35	\$195.70
Au price at agreement date, \$/oz	\$382.25	\$432.50	\$375.00	\$348.15	\$380.25	\$431.90	\$424.20	\$419.25	\$544.40
Au price at 10-Feb-06, \$/oz	\$557.00	\$557.00	\$557.00	\$557.00	\$557.00	\$557.00	\$557.00	\$557.00	\$557.00
Time and Price adjustment	+150%	+70%	+90%	+140%	+95%	+65%	+70%	+70%	+5%
Developed v. Undeveloped Reserve adjustment	0%	0%	0%	-50%	0%	-40%	0%	0%	-40%
Reserves v. Resources balance adjustment	0%	0%	+20%	0%	0%	0%	0%	0%	+10%
Deposit/project size adjustment	+100%	+50%	0%	+25%	+30%	0%	+30%	130%	0%
Open Pit v. Underground Mining adjustment	0%	0%	+50%	0%	+25%	0%	+50%	0%	0%
Operating Cost (including energy price factors) adjustment	+50%	+30%	+20%	+20%	+20%	+20%	+20%	+10%	0%
Metallurgical complexity and recovery adjust	-20%	+20%	+10%	-15%	-15%	+10%	+10%	-20%	-20%
Valuable Byproduct adjustment	+20%	+15%	+15%	+20%	+20%	+30%	+15%	+25%	+25%
Discovery and expansion potential adjustment	-20%	0%	-10%	-20%	-10%	+20%	-30%	-10%	-25%
Location and Access adjust	+20%	-15%	+30%	0%	0%	0%	+15%	+20%	0%
Country Risk adjustment	0%	-50%	0%	0%	-50%	-50%	-60%	0%	0%
Other Risk adjustment	0%	-15%	+80%	0%	0%	0%	-10%	+15%	0%
Taxes, Royalty, Levies adjust	+10%	0%	+10%	0%	-5%	-5%	-5%	0%	0%
Brisas Reserve, oz Au	\$65.92	\$97.62	\$97.90	\$116.86	\$97.26	\$58.37	\$156.41	\$76.66	\$101.72
Brisas Resource (M&D), oz Au	\$32.96	\$48.81	\$48.95	\$58.43	\$48.63	\$29.19	\$78.21	\$38.33	\$50.86
Subject Value (million)	\$781	\$1,157	\$1,160	\$1,384	\$1,152	\$692	\$1,853	\$908	\$1,205

Table 9- Sales Comparison Adjustment Grid

### **Conclusion for Value Estimated by the Sales Comparison Approach**

**From this analysis of the nine transactions, it is concluded that the range of market value for Las Brisas provided by the Sales Comparison Approach is from \$700 million to \$1,900 million, with a mean value of \$1,100 million, while the mode provided by four transactions is \$1,200 million.**

The value of the subject calculated by each potential buyer will be heavily dependent on the individual's perception of Venezuelan country risk, which in turn will be dependent on the country of the home office of the potential buyer company. The likely buyer will be one of the major South African gold mining companies, due to their comfort and understanding of the Venezuelan internal situation.

**The estimated Market Value of Gold Reserve Inc's Las Brisas holdings, derived from the Sales Comparison Approach, is US\$1,200 million, at the Effective Date of Valuation of 10 February 2006.**

## **Sales Comparison Approach Epilogue – Boddington, Australia, Transaction**

Subsequent to the 10 February 2006 Effective Date of Valuation, a transaction of a significant interest in Australia's Boddington gold-copper deposit was announced. It is an unusual practice in a valuation report of this type to review a transaction that occurs subsequent to the Effective Date, though market valuation standards allow it. By the time we learned of the transaction, we had finalized the Transaction Analysis and Sales Comparison Approach sections of this report. However, the Boddington deposit is the same geological analogue to the Las Brisas-Las Cristinas orebody that we described earlier in this report. Due to the similarity of the deposits, we feel it necessary to include a review and brief analysis of this Australian transaction.

This review and analysis of the Boddington transaction should be considered preliminary. Due to the required completion schedule for this report, we have not attempted the extent of information verification and analysis that we normally conduct.

On 13 February 2006, Australia's largest gold mining company, Newcrest Mining, announced that it had agreed to sell its 22.22% stake in the Boddington gold-copper project in Western Australia to US-based Newmont Mining for \$166 million (Australian \$225 million). Newcrest first put the stake up for sale in August 2005. The proceeds will be used by Newcrest to retire debt.

Newmont already owns 44.44% of the Boddington joint venture, to which it will add Newcrest interest to give it two-thirds ownership. A major South African mining company, AngloGold Ashanti, holds the remaining 33.33% interest.

During the two weeks subsequent to this transaction announcement, both Newmont and AngloGold have both announced that they have approved development of the Boddington Project. The development project has a capital cost of approximately \$1.5 billion, with production to start in the third quarter of 2008. Average annual production will be 600,000 oz Au, at a cost net of copper credits of approximately \$210 per ounce.

The project is located 130 km southeast of Perth, Western Australia. The original Boddington open pit mine commenced in 1987. A total of 4.7 million ounces of gold were produced from oxide ore before mining and processing finished in 2001. Since that time the site has remained on care and maintenance while project feasibility and exploration activities have been conducted. The new development will mine the bedrock beneath the depleted oxide pits. The deposit geology, reserve and resource tonnage and grade, and the processing plant to be constructed, are described earlier in the report under the heading *Boddington Deposit Analog*.

An initial feasibility study for the expansion of the operation had been completed and endorsed by the joint venture partners in 2000. Subsequently, the project was delayed by management and ownership issues (Platts, Sydney, 13 Feb 2006). A coolness is reported to have developed between the partners, with joint venture approvals becoming cumbersome. The terms "fractious and unwieldy" have been used to describe the partnership, and the observation made that simplification of the ownership structure would be beneficial. Continually escalating forecast capital and other costs have overrun feasibility study estimates, resulting in a number of rounds of new feasibility study estimates. The

current serious shortage of skilled labor and essential materials in Western Australia will also likely cause difficulties for the development of the Boddington project and its currently planned schedule.

From this discussion, it seems that Newmont and AngloGold wanted Newcrest out of the partnership, in order to simplify management of a very large, difficult project, that has been subject to fragile economic viability during the past few years. Newcrest also was unhappy with its minority position in the partnership and wanted out. It felt it had better things to do with its tight supply of money than to invest it in the Boddington project. Newcrest was under difficult financial pressures through 2005, due to the high cost of completing and bringing on-line its \$1 billion rebuild of the Telfer mine in the north of Western Australia. Newcrest was being looked upon as a takeover target, so bolstering its coffers with money from selling its share of Boddington would be a helpful defense. However, taking over Newcrest's difficult minority position for the Australian \$300 million value placed on it by Credit Suisse First Boston would not have seemed an attractive proposition to other potentially interested companies. In the end, Newcrest found it had to go back to its two partners, Newmont and AngloGold, to find an interested buyer.

The above review suggests that Newcrest may have sold its share for less than otherwise expected for a minority interest in a large gold property in the recent fast rising market. It also indicates an amount of project and financial risk still remains in the Boddington development project.

The following table (Table 10) demonstrates some close similarities between the planned Boddington operation and the Las Brisas feasibility study project (PAH 2005, AK 2005), with the Boddington project being a little larger. However, it shows the costs for Boddington to be much larger than its scale of production suggests.

**Table 10 - Comparison of Boddington and Las Brisas**

	<b>Boddington</b>	<b>Las Brisas (AK 2005)</b>
Average Reserve grade	0.87 g/t and 0.12% Cu.	0.70 g/t and 0.13% Cu
Mine operating life	17 years	16 years
Gold Recovery	82%	83%
Average annual production	600,000 oz Au	486,000 oz Au
Stripping ratio	1.4	1.8
Development capital cost	\$1.4 - 1.5 billion	\$552 million
Gold cash cost, net of Cu	\$210/oz	\$167/oz

**Analysis of the Boddington Transaction**

Announcement Date: 13 February 2006, 9:00 AM EST

Announcement Source: News releases by Newmont Mining and Newcrest.

Spot price immediately prior to announcement, \$549.30/oz Au (London, Jan. 13 close).

The end of 2005 Boddington Reserve estimates published by Newmont and Newcrest are incompatible with each other. It appears the difference may be due to Newcrest using a lower gold price assumption. Also, Newmont does not publish Resource estimates. Due to this latter fact, we will use Newcrest's Reserve and Resource estimates.

P&P Reserves 390m tonnes @ 0.87 g/t (and 0.12% Cu) = 10.801m oz Au contained.

M&I&I Resources are 730m tonnes @ 0.84 g/t Au and 0.11% Cu, these apparently containing the Reserves.

Additional M&I Resources = 2.95m oz Au

Inferred Resources = 6.05m oz Au

$P\&P + \frac{1}{2} * M\&I + \frac{1}{4} * I$  oz Au = \$166.4m/0.2222

$10.801m + \frac{1}{2} * 2.95m + \frac{1}{4} * 6.05m$  oz = \$748.88m

13.789m oz Au = \$748.88m

1 oz Au = \$748.88/13.789

Price Au = \$54.31/oz Au Reserve equivalent

Acquisition cost is \$54.31 per oz Au Reserve equivalent.

The following table (Table 11) provides sales analysis, adjusting Boddington to Las Brisas:

This preliminary analysis on Newmont's acquisition of an interest in the Boddington project indicates that the Market Value for Las Brisas is \$1,300 million. This figure is in line with the value derived in the Sales Comparison Approach (\$1,200 million).

**Table 11- Sales Comparison Analysis for Boddington, Australia**

<b>Acquisition</b>	<b>Transaction, Boddington, Australia</b>
Agreement Date	13-Feb-06
Buyer	Newmont
Reserve equivalent price, \$/oz Au	\$54.31
Au price at agreement date, \$/oz	\$549.30
Au price at 10-Feb-06, \$/oz	\$557.00
Time and Price adjustment	0%
Minority Interest adjustment	+50%
Capital Cost Adjustment	+100%
Operating Cost (including energy price factors) adjustment	+25%
Metallurgical complexity and recovery adjust	0%
Valuable Byproduct adjustment	0%
Discovery and expansion potential adjustment	+10%
Country Risk adjustment	-60%
Other Risk adjustment	+20%
Taxes, Royalty, Levies adjust	0%
Brisas Reserve, oz Au	\$107.53
Brisas Resource (M&I), oz Au	\$53.77
<b>Subject Value (million)</b>	<b>\$1,274</b>



## VALUE ESTIMATION BY THE INCOME APPROACH

A number of methods of valuation are classified as Income Approach methods. For this valuation report, only one method, the *net present value method* (commonly called the *discounted cash flow method*), is considered relevant. This method is used to value the subject Las Brisas by valuing the potential discounted cash flows it will generate over the life of the mining operation.

Other Income Approach methods, such as the *direct capitalization method* commonly used in real estate appraisal, generally do not work well for appraising the value of a mining property with a complex mining operation. The mining operation extracts, processes, and sells the very asset being appraised – the mineral deposit. Real estate assets (land and buildings), are normally not consumed or destroyed by their income generation, so common appraisal formulae, such as that for direct capitalization, reflect that simplifying assumption.

The royalty income method is commonly used to in North America to estimate the value of mineral properties in North America. However, negligible information was found in Venezuela on private precious metal royalties and their market. Any market for Venezuelan royalties is very thin. Therefore, only the full cash flow method from the perspective of the owner-operator of the mine was modeled.

All calculations in the Income Approach are in early 2006 constant U.S. dollars, using *before income tax cashflows*. Use of before income tax cashflows is a convention in market value appraisal. In contrast, *after income tax cashflows* are the standard in the mining industry for investment economic evaluation NPV calculations. The arguments against using after income tax cashflows for market value appraisal are: (i) income taxes are levied against a business, not against the mineral deposit being appraised; and (ii) the income tax structures and circumstances of potential buyers of the mineral property can vary widely. Our cash flow calculations for transacted properties analyzed in the Transaction Analysis section, are also on a before income tax basis. It is important for market value measurement that uniform bases of analysis be maintained. Hence, the discount rates selected based on the transaction analysis and applied within this Income Approach section, are consistent with, and only appropriate for, before income tax cash flow analysis.

### Las Brisas Cashflow Modeling

Four possible scenarios have been modeled for mine development and production at Las Brisas. These will be used for the the purpose of evaluating and valuing the possible cashflow generation. Two of the four scenarios also include modeling the mining of the adjoining Las Cristinas concessions. The models are in spreadsheets, allowing easy exploration of the effects of changing parameters such as gold and copper prices.

The modeling is designed to simulate perspectives from which likely buyers of Las Brisas will determine what they are willing to pay to obtain the opportunity of owning the concession and developing the mine. The modeling is by necessity not from the perspective of Gold Reserve Inc, the current owner. Therefore, it is not designed to represent the opinions and forecasts of Gold Reserve

Inc. Apart from our Base Case re-representation of the Aker Kvaerner 2005 Brisas feasibility study cashflows, the modeling is not designed to have any relationship to that which would be conducted to determine parameters used in defining and reporting Mineral Reserves and Mineral Resources.

The market for gold properties has strengthened greatly around the world in the last few years, and now can be considered a sellers market. To be successful in offering a high enough price to buy an economically viable gold deposit containing more than a million ounces of gold resource, the buyer must apply optimistic expectations. This fact is demonstrated by the results of the Internal Rate of Return (IRR) analyses in the Transaction Analysis section. The prices paid for North Mara (Transaction 4), Amapari (Transaction 5), Paracatu (Transaction 6), and Choco 10 (Transaction 9), are too high to make economic sense given the prevailing gold price at the time of the acquisition agreement announcements, unless it is realized that the buyer was expecting the real gold price to rise considerably for the long term, and/or we understand that the buyer was confident that exploration and development drilling would define many more years supply of ore reserves. In contrast, during the depressed market times when the price of gold was at a low around year 2000, the seller of a mineral deposit often had to essentially give away any portion that was not defined as a Reserve.

In this optimistic market of the last few years, the Buyer is often considering substantially expanding the mining operation to improve its rate of return on investment. This was seen when Placer Dome acquired North Mara (Transaction 4). The buyer sometimes is considering a total redesign of the mine and re-engineering of the plant and equipment involved in the operation, as Kinross is now working on after acquiring 100% ownership of Paracatu (Transaction 6). Therefore, our scenarios are designed to evaluate opportunities outside existing development plans, while remaining attached to reality and maintaining a sense of conservatism in projections and forecasts. If the company holding the asset does not take this line of expansive thought, it could greatly undervalue its asset.

The likely buyer of a gold property in Venezuela will be viewing the property from a perspective of its comfort and optimism in connection to the prevailing political, social, economic, and geological setting in which the property resides. This comfort and optimism have been demonstrated by Gold Fields in its acquisition of Choco 10, as compared to the negative perspective expressed by some North American-based companies (personal communication with Nerina Bodasing, Gold Fields, Johannesburg; Fraser Institute, 2005).

### **Discount Rate Selection**

In the Transaction Analysis section, the results of IRR analyses have been provided for five of the nine acquisition transactions. These are:

#### **Transaction 3: Mayskoye, Russia**

Date of Announcement: 4 September 2003. Spot price Au \$370/oz

IRR: 19%/annum at \$375/oz Au.

**Transaction 4: North Mara, Tanzania**

Date of Announcement: 8 July 2003. Spot price Au \$348.15/oz

IRR: 1%/annum at \$348; 6% at \$400; 10% at \$450

Assumed 18 year mine life, consuming all Reserves and M&I&I Resources.

**Transaction 5: Amapari, Brazil**

Date Announced: 6 November 2003. Spot price Au \$380.25/oz

IRR: 2.5% to 3.5% at \$375/oz

Assumed 11 year mine life, consuming all Reserves, M&I and some Inferred Resources.

**Transaction 6: Paracatu, Brazil**

Announcement Date: 9 November 2004. Spot price Au, \$431.90/oz

IRR: 3% at \$432/oz; 5% at \$475/oz; 7% at \$500/oz; 8% at \$525; 10% at \$575/oz

Assumed 27 years remaining mine life, Reserves only.

**Transaction 9: Choco 10, Venezuela**

Announcement Date: 11 January 2006. Spot price Au \$544.40/oz

**Scenario 1:**

IRR: 10% at \$470/oz; 12.1% at \$500/oz; 15.2% at \$544.4/oz

Assumed remaining mine life of 13 years, consuming all Reserves and M&I&I Resources

**Scenario 2:**

IRR: 3.1% at \$500/oz; 7.1% at \$544.4/oz; 10% at \$580/oz ( Assumed remaining mine life of 7¼ years, consuming the amount of Reserve equivalent ounces)

**Scenario 3:**

IRR: negative (-5.7%/annum) at \$544.4/oz; 10% at \$729/oz

Assumed remaining mine life of 5 years, consuming the announced P&P Reserves only

The IRR developed from Transaction 3, is 19%/annum at the then prevailing gold price. This is an outlier, being an extremely high discount rate relative to the others of 1% to 7% under similar parameters. This high IRR is a reflection of the negative circumstances commonly cited as currently being experienced in Russia, including lack of security of mineral property tenure, bribery, and unreliable partners. This discount rate is not representative of the situation in Venezuela, where the security of interests in mining concessions has proven to be high when the regulations have been followed. The security of ownership of the Brisas del Cuyuni concession by Gold Reserve Inc is similar to that of ownership of fee land in the USA.

IRR's of 1% to 7% form the primary range for analyses with the prevailing spot gold price at the time of the transaction announcement being applied for the estimated life of the mining operation. For example, Paracatu provides only a 3% annual return on 27 years of mining defined Reserves at the \$432/oz spot price of the announcement date.

The Amapari acquisition provides a similar return at the announcement's spot price of \$380. However, even to achieve this low rate of return assumes that a new mine could be built in a difficult location, in a foreign country, without delay. Furthermore, it assumes that all of the poorly defined Inferred Resource, which provides 4 of the 11 years of mineralization to be mined, can be converted

to mineable Reserves. In isolation, these appear to be high risk requirements, especially if they are for the goal of achieving only a 3% rate of return on a \$160 million investment.

As mentioned earlier in this section, these discount rates are too low to make economic sense as a return on investment capital expectation. This is especially true given the risk and uncertainties of mining operations and the difficult environments of the host countries. The analyses above indicate that to achieve an IRR of 10%/annum rate of return on the investment typically requires a long term gold price of more than \$100/oz above the spot price prevailing at the announcement, particularly if only the Reserve base is included. Companies are also typically relying on finding and developing additional ore, expanding mining and milling operations, and improving operating efficiencies in order, to boost the return on investment.

Our review in the gold price section of this report shows that for the past three years there has been a prevalent belief amongst the gold mining industry's leaders and its shareholders, that the price of gold would climb strongly. Even though the gold price has doubled from the 2001 average of \$271/oz, a continuing strong climb is expected, with the elevated price average price level being retained for the long term. For example, Gold Fields Limited of South Africa, which acquired the Choco 10 mine in Venezuela, is expecting gold to climb above \$700/oz and stay there for the long term (personal communication, Nerina Bodasing, Investor Relations, Gold Fields). On the New York Mercantile Exchange (NYMEX), gold for delivery in December 2010 has been hovering around \$700/oz, displaying a consensus belief amongst gold traders that the price will climb approximately \$140/oz over the next few years. Assuming a 3% annual inflation rate, \$700/oz has a constant dollar value of \$606/oz at the Effective Date of this study.

On the Effective Date of Valuation, 10 February 2006, the LME PM Fix was \$557.00/oz, and spot copper was trading on the NYMEX at \$2.25/lb. For our various spreadsheet cashflow models of mining Las Brisas, our principal long term commodity selling prices are \$575/oz Au, and \$1.20/lb Cu. We have also assumed that extraction of ore grade mineralization for mill feed comes from only within the already defined Measured and Indicated Resource envelopes. That is, already known Inferred Resources are excluded from the resource base assumed mined over the mine life in the models. These price and resource assumptions are conservative compared to the realities of buyers' expectations for the above acquisitions. The IRR analyses for North Mara, Amapari, and Paracatu indicate that a 6% discounted cashflow rate of return (DCF) would be appropriate for Las Brisas, while Choco 10's Scenario 2 suggests closer to a 10% DCF.

In early 2005, the Arizona Department of Revenue updated its comprehensive review of discount rates in the mining industry. From information derived from mergers, acquisitions, and other mine development projects, it found that for gold properties the majority of rates fall within the range of 5% to 12% on a before income tax, constant dollar basis. This survey included projects from around the world, with no differentiation for location. Our review of the 1997-2005 portion of data indicates that the mean DCF is between 6% to 9% per annum.

The Arizona Department also derives a discount rate for the gold mining industry using a Capital Asset Pricing Model (CAPM). For this it used end of year 2004 data from the Value Line Investment

Survey for medium to large precious metals mining companies. The result is a constant dollar discount rate of 5.9% per annum.

These two discount rate guidelines from the Arizona Department of Revenue research suggest that the typical discount rate for gold property valuation should be 6% to 8%. A higher discount rate than usual is appropriate for valuation of Las Brisas, given the higher than normal country risk ratings, and this suggests that a rate of 8% to 10% should be applied.

In February 2006, we asked Nerina Bodasing (Investor Relations, Gold Fields Ltd, Johannesburg), about an appropriate discount rate for a large gold mining company to use when evaluating an acquisition in a higher risk area, such as Venezuela. This was after Gold Fields raised its offer in January for Bolivar Gold Corp, to acquire the Choco 10 mine in Venezuela, but while awaiting acquisition approval by the Yukon court. In asking this question, we were particularly interested in obtaining her perspective from Johannesburg, given South Africa is itself rated as an intermediate risk country, and because the large South African gold mining companies have extensive experience working in the typically higher risk countries of Africa (Sovereign Risk Insurance Ltd, 2005). The response she gave, she stipulated as being hers, not Gold Fields', and was what she believed based on analyst valuations that she had seen. She indicated that a 10-13% discount rate is fairly typical for such gold mine acquisition analysis by major gold mining companies for higher risk areas, this being on a nominal (including inflation), after income tax cashflow basis. Adjusting for income taxes and inflation (which is around 5% per year in South Africa), this indicates that a 9% to 11% rate is appropriate for constant currency, before income taxes cashflows, from a South African company perspective.

From this review, we have selected a 10% discount rate (constant dollar, before income taxes) as being the appropriate rate for the valuation of Las Brisas, using our principal long term gold and copper prices in our cashflow model scenarios. In selecting this, we have given particular weighting to the above Choco 10 Scenario 2 that gave an IRR of 10%.

## Economic and Mining Parameters

For each scenario, the economic and mining parameters can change. For instance, the average gold and copper grades mined over the life of the mine will change as greater tonnage is mined from the reserve or resource. For the scenarios beyond the base case, where the Proven and Probable Reserves are insufficient to meet the tonnage requirements, the grade-tonnage from the Measured and Indicated Resources is used.

Table 12 shows the key economic assumptions and intermediate results for the four scenarios. Each scenario is explained below. The annual cashflow calculation page of the spreadsheet workbook is included in Appendices C-F for the principal gold and copper prices for each scenario.

Table 12: Key Economic Assumptions and Results for the Four Cashflow Model Scenarios.

Scenario 1 is at \$400/oz Au and \$1.00/lb Cu. Scenarios 2, 3 and 4 are at \$575/oz Au and \$1.20/lb Cu

Key Economic Assumptions and Results	Scenario 1 Las Brisas Base	Scenario 2 Las Brisas Constrained	Scenario 3 Las Brisas Unconstrained	Scenario 4 Las Brisas and Las Cristinas
Mining ore tons/day--Las Brisas (000)	70	114	114	114
Mining ore tons/day--Cristinas(000)	0	0	0	160
<b>Total Mining ore tons/ day (000)</b>	70	114	114	274
Mine Life (years)	18	18	22	22
Op Cost/ton (\$)	\$5.45	\$5.43	\$5.43	\$4.70
Cash Cost (\$/oz)	\$164.33	\$166.79	\$164.92	\$131.11
Au Grade--Las Brisas (grams/ton)	0.71	0.61	0.60	0.60
Au Grade--Cristinas (grams/ton)	NA	NA	NA	0.70
Net Payable Au Recovery (%)	82.4%	81.4%	81.4%	81.4%
Cu Grade--Las Brisas (%)	0.129%	0.129%	0.110%	0.110%
Cu Grade--Cristinas (%)	NA	NA	NA	0.103%
Net Payable Cu Recovery (%)	83.0%	82.0%	82.0%	82.0%
Strip Ratio	1.92	2.19	2.17	2.54
Mining and Dewatering Cost/ore ton	\$1.44	\$1.55	\$1.54	\$1.38
Processing Cost/ore ton	\$2.21	\$2.10	\$2.10	\$1.61
G&A Cost/ore ton	\$0.39	\$0.37	\$0.37	\$0.28
Transport Charge/ore ton	\$120.00	\$120.00	\$120.00	\$120.00
Copper Charge/ton Concentrate	\$90.00	\$90.00	\$90.00	\$90.00
Copper Charge/lb	\$0.09	\$0.09	\$0.09	\$0.09
Gold Charge/oz	\$5.00	\$5.00	\$5.00	\$5.00
Smelt/Ref./Trans (\$000) per year	\$35,421	\$58,091	\$58,573	\$140,452
Operating Cost (\$000) per year	\$136,989	\$223,711	\$223,671	\$464,267
Development Capital (\$000)	\$662,400	\$984,001	\$984,001	\$1,980,882
Sustaining Capital (\$000)	\$190,800	\$283,435	\$290,565	\$584,934

### Scenario One: Base Case

The Base Case economic model uses parameters similar to those in the NI 43-101 Technical Report by Pincock Allen & Holt (PAH), February 2005, and the associated Feasibility Study by Aker Kvaerner, January 2005 (Appendix G). This Base Case model varies slightly from the PAH/Aker Kvaerner model in that we have applied slightly modified assumptions of parameters, such as mine life, capital expenditures, mining costs, stripping ratios, and average grade. The results of the Base Case are materially the same as those presented in the PAH/Aker Kvaerner reports.

Table 13- Las Brisas Base Case Mine Parameters and Results

<b>Au</b>	\$400
<b>Cu</b>	\$1.00
<b>NPV (\$000)</b>	\$80,568
<b>IRR</b>	12%
<b>Copper by Rev.</b>	23.81%
<b>Op Cost / ton</b>	\$5.45
<b>Cash Cost (oz)</b>	\$164.33
<b>Tons/day (000)</b>	70
<b>Mine Life (yr)</b>	18
<b>Total Tons/yr (000)</b>	25,125
<b>Total Tons (000)</b>	452,250
<b>Au (oz)/yr</b>	475,126
<b>Total Au (oz)</b>	8,552,270
<b>Cu (klb)/yr</b>	59,265
<b>Total Cu (klb)</b>	1,066,770
<b>Brisas oz:Total</b>	100.0%
<b>Au Recovery</b>	82.4%
<b>Cu Recovery</b>	83.0%
<b>Revenue -Gold (\$000)</b>	\$3,420,908
<b>Revenue - Copper (\$000)</b>	\$1,066,770
<b>Total Revenue (\$000)</b>	\$4,487,678
<b>Royalties (\$000)</b>	\$131,182

The Base Case model exploits the Las Brisas deposit by open pit mining followed by a gravity circuit, flotation to generate a gold-copper concentrate, and a cyanidation of cleaner tailings for gold and silver recovery. The Base Case indicates that a profitable mine could exist at a mining rate of 70 thousand tonnes of ore per day for 18 years. It would produce almost 9 million ounces of gold from the mining of over 400 million tonnes of ore with an average gold grade of 0.71 grams per tonne. At the same time, almost 1 billion pounds of copper and 6 million ounces of silver would be extracted. Table 13 provides Base Case results at the same Cu and Au price assumptions as in the February 2005 feasibility study (\$400/oz Au and \$1.00/lb Cu) (Appendix G). A model of this Base Case is in Appendix C.

## Scenario Two: Las Brisas - Constrained

The Las Brisas-Constrained scenario explores the economics of expanding the Base Case mine by 1.64 times to a total of 114 tonnes of ore per day. This mine would have an average stripping ratio of 2.1 over the 18 years of mining. The scenario is constrained by the northern property boundary between Las Brisas and Las Cristinas. This constraint necessitates an ultimate pit geometry that would have a steep slope on its northern side. From this constrained scenario, the operation would mine over 741 million tonnes of ore, producing 11.7 million ounces at an average gold grade of 0.61 g/t; and over 1.7 billion pounds of copper with an average copper grade of 0.129%. By-product silver would also be produced.

Table 14 - Las Brisas Constrained Mine Parameters and Results

<b>Brisas Constrained</b>					
<b>Au</b>	\$525	\$550	\$575	\$600	\$625
<b>Cu</b>	\$1.00	\$1.10	\$1.20	\$1.30	\$1.40
<b>NPV (\$000)</b>	\$419,222	\$572,982	\$726,673	\$880,306	\$1,033,889
<b>IRR</b>	17%	20%	22%	24%	26%
<b>Copper by Rev.</b>	21.91%	22.75%	23.51%	24.18%	24.80%
<b>Op Cost / ton</b>	\$5.43	\$5.43	\$5.43	\$5.43	\$5.43
<b>Cash Cost (oz)</b>	\$196.36	\$181.57	\$166.79	\$152.00	\$137.22
<b>Tons/day (000)</b>	114	114	114	114	114
<b>Mine Life (yr)</b>	18	18	18	18	18
<b>Total Tons/yr (000)</b>	41,205	41,205	41,205	41,205	41,205
<b>Total Tons (000)</b>	741,690	741,690	741,690	741,690	741,690
<b>Au (oz)/yr Produced</b>	653,562	653,562	653,562	653,562	653,562
<b>Total Au (oz) Produced</b>	11,764,110	11,764,110	11,764,110	11,764,110	11,764,110
<b>Cu (klb)/yr Produced</b>	96,024	96,024	96,024	96,024	96,024
<b>Total Cu (klb) Produced</b>	1,728,425	1,728,425	1,728,425	1,728,425	1,728,425
<b>Las Brisas oz: Total</b>	100%	100%	100%	100%	100%
<b>Au Recovery</b>	81.4%	81.4%	81.4%	81.4%	81.4%
<b>Cu Recovery</b>	82.0%	82.0%	82.0%	82.0%	82.0%
<b>Revenue -Gold (\$000)</b>	\$6,176,158	\$6,470,260	\$6,764,363	\$7,058,466	\$7,352,569
<b>Revenue - Copper (\$000)</b>	\$1,728,425	\$1,901,267	\$2,074,110	\$2,246,952	\$2,419,795
<b>Total Revenue (\$000)</b>	\$7,904,582	\$8,371,528	\$8,838,473	\$9,305,418	\$9,772,363
<b>Royalties (\$000)</b>	\$235,679	\$252,824	\$270,186	\$287,732	\$305,437

Focusing on the analysis of the Las Brisas-Constrained model, a Net Present Value (NPV) before taxes of \$726.7 million was calculated using a 10% discount rate. This calculation had a gold price of \$575/oz and copper price of \$1.20/lb, these being our principal price assumptions for this valuation report. In this scenario the mine produces an average of 41.2 million tonnes a year for 18 years for a total of 741.7 million tonnes of ore which is 1.64 times larger than the Las Brisas Base Case. None of this tonnage includes ore from the Las Cristinas deposit. The average operating cost of mining and dewatering is \$5.43/ore tonne.



The cash cost per ounce of gold, net of copper by-product credit, is \$166.79, producing a calculated internal rate of return (IRR) of 22% per annum. The overall capital cost is increased from the Base Case by factor of 1.78. This 1.78 factor is the result of using a 0.8 power rule ( $1.49=1.64^{0.8}$ ) as a scale-up factor for capital costs. Then the 1.49 is multiplied by a 1.2 escalator to adjust for the current worldwide increase in mine capital costs. The Base Case capital cost value of \$552 million scaled up to become \$984 million ( $\$984=1.2 \times 1.49 \times \$552$ ). This investment is then spread over three years in an expenditure pattern of 1:2:3 or \$164 million the first year, \$328 million the second, and \$492 million the third year. Ongoing mining and processing costs were also adjusted. In the operating cost a 0.7 power rule is used to produce a 0.86 economy of scale factor ( $0.86 = 1.64^{0.7}/1.64$ ). Due to a shortage of skilled mine workers and mining supplies worldwide a 1.10 cost escalation factor was then applied to all mining and processing costs. Table 14 shows the impact of varying gold and copper prices on NPV, IRR, cost per oz of gold net of copper credit (Cash Cost/oz) and the percent of revenue contributed by copper (Copper by Rev.). A model of this case with \$575/oz Au and \$1.20/lb Cu is in Appendix D.

### Scenario Three: Las Brisas - Unconstrained

The Las Brisas-Unconstrained scenario also mines at a rate 1.64 greater than the Base Case (114,000 tonnes per day) but for four years longer (22 years mine life). Though the northern property

Table 15- Las Brisas Unconstrained Mine Parameters and Results

<b>Brisas Unconstrained</b>					
<b>Au</b>	\$525	\$550	\$575	\$600	\$625
<b>Cu</b>	\$1.00	\$1.10	\$1.20	\$1.30	\$1.40
<b>NPV (\$000)</b>	\$517,907	\$682,463	\$846,946	\$1,014,495	\$1,179,098
<b>IRR</b>	18%	20%	23%	25%	27%
<b>Copper by Rev.</b>	22.28%	23.13%	23.89%	24.78%	25.40%
<b>Op Cost / ton</b>	\$5.43	\$5.43	\$5.43	\$5.43	\$5.43
<b>Cash Cost (oz)</b>	\$195.12	\$180.02	\$164.92	\$147.63	\$132.36
<b>Tons/day (000)</b>	114	114	114	114	114
<b>Mine Life (yr)</b>	22	22	22	22	22
<b>Total Tons/yr (000)</b>	41,205	41,205	41,205	41,205	41,205
<b>Total Tons (000)</b>	906,510	906,510	906,510	906,510	906,510
<b>Au (oz)/yr Produced</b>	649,444	649,444	649,444	649,444	649,444
<b>Total Au (oz) Produced</b>	14,287,764	14,287,764	14,287,764	14,287,764	14,287,764
<b>Cu (klb)/yr Produced</b>	97,521	97,521	97,521	98,584	98,584
<b>Total Cu (klb) Produced</b>	2,145,451	2,145,451	2,145,451	2,168,845	2,168,845
<b>Brisas oz:Total</b>	100.00%	100.00%	100.00%	100.00%	100.00%
<b>Au Recovery</b>	81.4%	81.4%	81.4%	81.4%	81.4%
<b>Cu Recovery</b>	82.0%	82.0%	82.0%	82.0%	82.0%
<b>Revenue -Gold (\$000)</b>	\$7,501,076	\$7,858,270	\$8,215,464	\$8,572,658	\$8,929,852
<b>Revenue - Copper (\$000)</b>	\$2,145,451	\$2,359,996	\$2,574,541	\$2,819,499	\$3,036,383
<b>Total Revenue (\$000)</b>	\$9,646,527	\$10,218,266	\$10,790,005	\$11,392,157	\$11,966,236
<b>Royalties (\$000)</b>	\$287,546	\$308,601	\$329,926	\$352,684	\$374,563

boundary is still in effect, this scenario is no longer constrained by an ultimate pit geometry that has a steep slope on its northern side. The same factors for capital, mining and processing costs factors were used in the constrained scenario. Based on this unconstrained scenario, the mine produces a total of over 900 million tonnes of ore with an average life-of-mine stripping ratio of 2.2:1. The average gold grade produced is 0.60 g/t for a total of 14.3 million ounces. By way of comparison, the Paracatu mine (Transaction 6) currently has a gold grade of 0.43 g/t. The Las Brisas-Unconstrained model has an average copper grade of 0.129%, producing a total of over 2.1 billion pounds of copper. Note that the removal of the northern pit geometry constraint permits mining of a wedge of ore-bearing material between Las Cristinas and Las Brisas. This generates an estimated additional 2.5 million ounces of gold. Table 15 shows the impact of varying gold and copper prices on NPV, IRR, cost per oz of gold net copper credit (Cash Cost/oz) and the percent of revenue contributed by copper (Copper by Rev.). A model of this case with \$575/oz Au and \$1.20/lb Cu is in Appendix E.

#### **Scenario Four: Las Brisas and Las Cristinas Combined**

In the Brisas-Cristinas Combined scenario, the mine produces almost four times the ore as the Las Brisas Base Case. At a gold price of \$575/oz and copper at \$1.20/lb, the Brisas-Cristinas mine would produce a total of 37.6 million ounces over the 22 year life of the mine. This scenario proposes a mining rate of 274 thousand tonnes of ore per day, with an average stripping ratio for life of mine of 2.54:1. A gold mine of this size would make it one of the largest in the world. The exploitation of copper adds 19.8% to the total revenue. The mine would produce a total of over 2.2 billion tonnes of ore mined with a produced an average gold grade of 0.66 g/t containing 46.7m oz Au. This mine produces over 4.5 billion pounds of copper from ore at an average copper grade of 0.114%. Of the total Las Brisas-Las Cristinas mine, the Las Cristinas side produces 62% of the gold and 53% of the copper.

Table 16 shows the impact of varying gold and copper prices on NPV, IRR, cost per oz of gold net of copper credit (Cash Cost/oz) and the percent of revenue contributed by copper (Copper by Rev.). A model of this case with \$575/oz Au and \$1.20/lb Cu is in Appendix F.

Table 16- Las Brisas-LasCristinas Mine Parameters and Results

<b>Brisas-Cristinas</b>					
<b>Au</b>	\$525	\$550	\$575	\$600	\$625
<b>Cu</b>	\$1.00	\$1.10	\$1.20	\$1.30	\$1.40
<b>NPV (\$000)</b>	\$2,368,154	\$2,767,811	\$3,167,340	\$3,566,761	\$3,966,088
<b>IRR</b>	27%	29%	32%	34%	36%
<b>Copper by Rev.</b>	18.36%	19.10%	19.76%	20.36%	20.90%
<b>Op Cost / ton</b>	\$4.70	\$4.70	\$4.70	\$4.70	\$4.70
<b>Cash Cost (oz)</b>	\$154.79	\$142.95	\$131.11	\$119.27	\$107.43
<b>Tons/day (000)</b>	274	274	274	274	274
<b>Mine Life (yr)</b>	22	22	22	22	22
<b>Total Tons/yr (000)</b>	98,805	98,805	98,805	98,805	98,805
<b>Total Tons (000)</b>	2,173,710	2,173,710	2,173,710	2,173,710	2,173,710
<b>Au (oz)/yr Produced</b>	1,708,602	1,708,602	1,708,602	1,708,602	1,708,602
<b>Total Au (oz) Produced</b>	37,589,249	37,589,249	37,589,249	37,589,249	37,589,249
<b>Cu (klb)/yr Produced</b>	206,579	206,579	206,579	206,579	206,579
<b>Total Cu (klb) Produced</b>	4,544,732	4,544,732	4,544,732	4,544,732	4,544,732
<b>Brisas oz:Total</b>	38%	38%	38%	38%	38%
<b>Au Recovery</b>	81.4%	81.4%	81.4%	81.4%	81.4%
<b>Cu Recovery</b>	82.0%	82.0%	82.0%	82.0%	82.0%
<b>Revenue -Gold (\$000)</b>	\$19,734,356	\$20,674,087	\$21,613,818	\$22,553,549	\$23,493,281
<b>Revenue - Copper (\$000)</b>	\$4,424,768	\$4,867,245	\$5,309,722	\$5,752,199	\$6,194,676
<b>Total Revenue (\$000)</b>	\$24,159,124	\$25,541,332	\$26,923,540	\$28,305,748	\$29,687,956
<b>Royalties (\$000)</b>	\$744,162	\$794,336	\$844,980	\$896,025	\$947,416

The following Figure 50 shows the impact of changing the price of gold on the scenarios. The Base Case is shown for reference. Note that the y-axis (NPV) is log-scale.

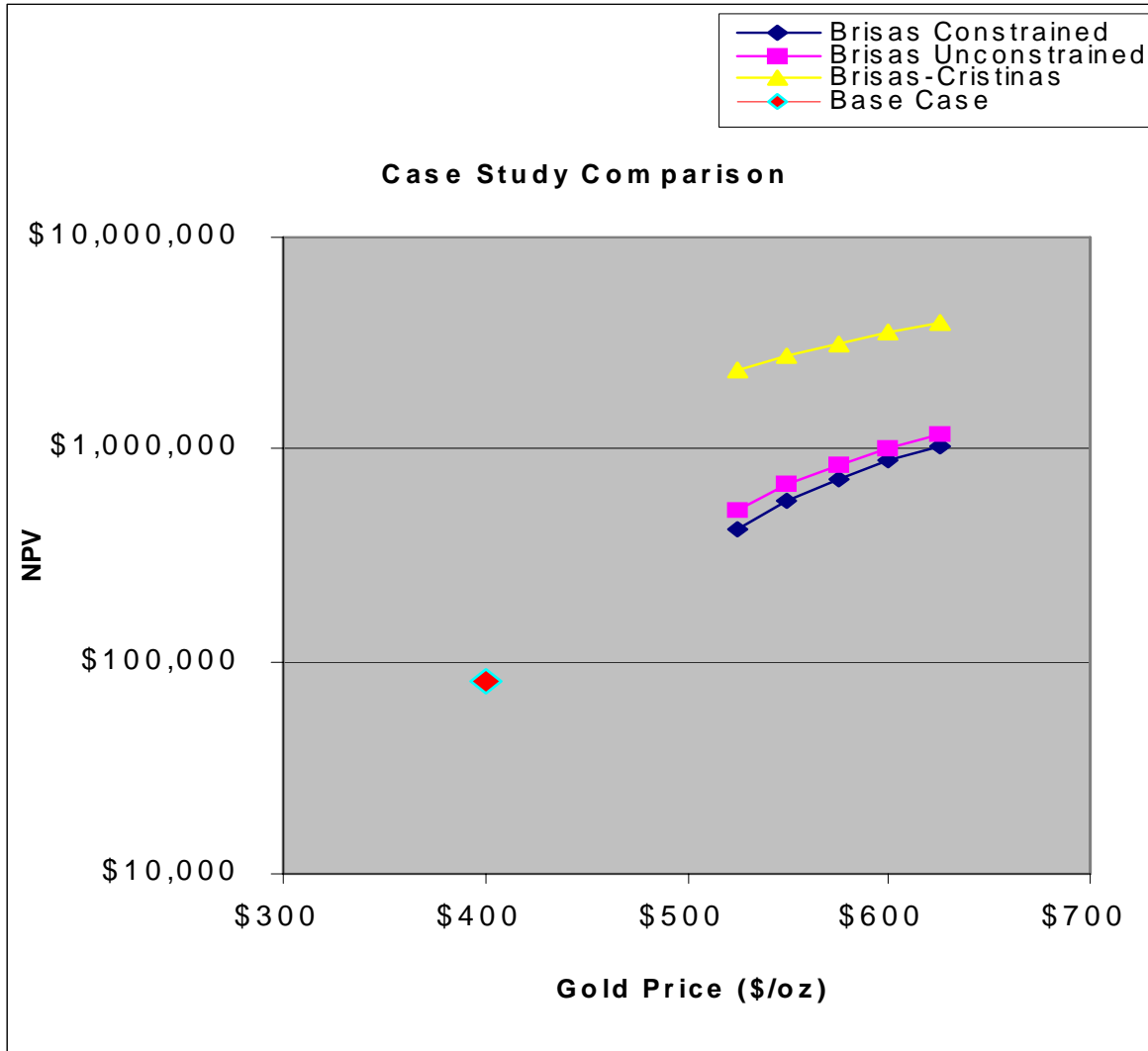


Figure 50 - Graph Showing effect on NPV for Each Scenario as Gold Price Changes.

### Sensitivity of Contribution to Total Revenue with Varying Copper Prices

Holding the price of gold at a constant \$575/oz, the copper price was increased from \$0.90/lb to \$1.50/lb. The graph (Figure 51) shows the impact on the percentage of revenue derived from copper on the Brisas Constrained scenario. The Base Case is shown for reference.

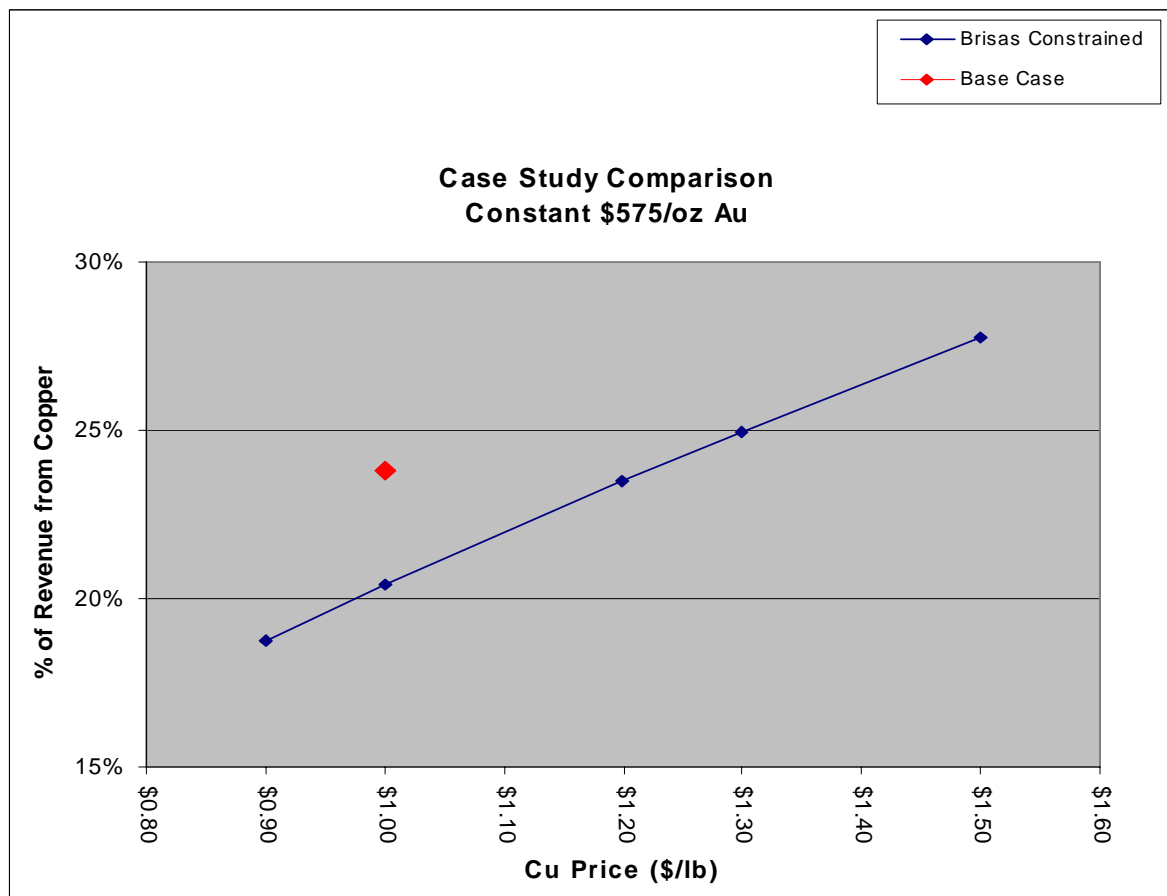


Figure 51 - Sensitivity of % of Revenue from Copper as Copper Price Changes

### Valuation Results from the Income Approach

The following Table 17 shows the results of the modeling cases from our review that have the greatest influence on the Las Brisas market value determination. In light of the IRR's extracted from the data in the Transaction Analysis section, and the \$1,200 million outcome of the Sales Comparison Approach earlier in this report, for comparison we show some IRR's at an assumed Las Brisas acquisition price of NPV \$1,200 million, these being for the Las Brisas Base Case and the Las Brisas Constrained scenarios. Similarly, for the Las Brisas Constrained scenario, we show results using the long term prices at the NYMEX December 2010 futures close on the Effective Date of Valuation,

deflated to early 2006 (at 3%/annum), and the \$1.50/lb long term copper price forecast of Credit Suisse First Boston (Jan, 2006).

Table 17 - Preliminary Valuation Results from the Income Approach.

Scenario	Commodity Pricing	Gold \$/oz	Copper \$/lb	Discount Rate %/yr	NPV \$ million
Las Brisas Base Case	Principal	575	1.20	10.0	653
Las Brisas Base Case	Principal	575	1.20	5.7	1,200
Las Brisas Constrained	Principal	575	1.20	10.0	727
Las Brisas Constrained	Principal	575	1.20	6.7	1,200
Las Brisas Constrained	10-Feb-2006	557	1.20	10.0	655
Las Brisas Constrained	10-Feb-2006	557	1.20	6.2	1,200
Las Brisas Constrained	NYMEX long term futures (2006\$)	597	1.50	10	977
Las Brisas Constrained	NYMEX long term futures (2006\$)	597	1.50	8.55	1,200
Las Brisas Unconstrained	Principal	575	1.20	10.0	847
Las Brisas-Las Cristinas	Principal	575	1.20	10.0	3,167
Las Brisas (40% of Las Brisas-Las Cristinas)	Principal	575	1.20	10.0	1,267

### **Las Brisas Constrained Value (Scenario 2)**

Our valuation by the income approach assumes that a knowledgeable buyer of Las Brisas would be considering ways to get improved economic benefits through economic efficiencies and expanded operations. The Las Brisas Constrained case of Scenario 2 provides the most probable mining scenario, but this is the low end of the value range, with a **\$727 million NPV @ 10% DCF**. It is not a very imaginative case, since it only makes the obvious adjustments to the mining of the Las Brisas Base Case. In this scenario, the Las Brisas mining plan is adjusted to include the mining of lower grade mineralization that has become viable due to the prevailing higher gold and copper prices and the economies of scale that result from the higher production rate.

### **Las Brisas Unconstrained Value (Scenario 3)**

The Las Brisas Unconstrained case, Scenario 3, assumes that Crystallex and the Venezuelan regulators agree to allow mining of the Las Brisas portion of the orebody at full pit depth all the way up to the north property boundary. This likely would bring shared benefits for Crystallex by aiding their mining up to the property line from their side also, assuming they are willing to pursue investigation of mineralization in the El Potaso lake area of the Crisitina 4 concession. Otherwise, for this scenario to work, permission would need to be obtained to extend the layback of the north end of the Las Brisas pit into the Las Cristinas property. No economies of scale are assumed for this case over the Las Brisas Constrained case, since we only assume extending the mine life of Scenario 1 by 4 years. This provides an **\$847 million NPV @ 10%**.

### **Las Brisas-Las Cristinas Combined Project Value (Scenario 4)**

The Las Brisas- Las Cristinas Scenario 4 provides the maximum benefit to the owners of Las Brisas, Las Cristinas, and to the Venezuelan nation. By maximizing gold and copper recovery from both Las Brisas and Las Cristinas, it provides the most efficient natural resource utilization of the development scenarios for both properties. The Las Brisas-Las Cristinas gold-copper deposit extends some 5½ km through the concessions of Gold Reserve Inc and contract of Crystallex, and is of world class scale due to the large amount of recoverable gold and copper mineralization it contains. It is important from a global natural resource sustainable development standpoint that the mining of this exceptional deposit be done with maximum efficiency and minimum resource wastage (Ellis, 2005b).

To assure the efficient development and operation of the mining of the two properties, and that maximum economies of scale are achieved in capital and operating costs, the modeling of this scenario assumes that the development of both Las Brisas and Las Cristinas is by a single, unified operating management. Some of the operating efficiencies and economies of scale are lost if the two sections of the deposit are mined and processed as two separate operations, even if the end result is essentially one contiguous pit. Efficiencies and economies of scale are many and varied. These include: size selection of plant and equipment; the ability to have gold-only and copper-only process circuits; the use of pressure oxidation hydrometallurgy to recover copper metal, instead of shipping copper concentrate to smelters; and the ability to mine much deeper and mine lower grade ore due to reduced operating costs.

In 2001, INGEOMIN, the technical division of the Venezuelan Ministry of Energy and Mines (MEM), completed an analysis of the economic, social, and environmental impact of the combination of the two projects into one mega project that would be the second largest gold mine in Latin America and the sixth largest in the world. INGEOMIN concluded from their analysis that “the most rational way to exploit this important gold deposit was as one single large project that would optimize the economic and social benefits, while minimizing the environmental impact.”

The easiest way for this unified mining operation to come about is by encouragement by Venezuelan regulators of the relevant interested parties, including CVG, Crystallex (or its successor), and Gold Reserve Inc. Gold Reserve Inc has advocated for many years that the mining of the deposit on the two properties should be combined. (Gold Reserve Inc, News Release, 8 Sept 2002 in Appendix J). This could well happen if the regulators and CVG were to decide to maximize the national benefit, in light of today’s much higher metal price projections, particularly those for copper. In terms of the

efficient exploitation of the total deposit and the almost certainly far greater tax and royalty revenues, the combined operation is a superior scenario for the Venezuelan nation and its treasury. (Tables 14, 15, 16).

Under the mining operating agreement (lease) of the Las Cristinas deposit provided to Crystallex, CVG has retained ownership of the copper. Crystallex has subsequently taken the attitude that the copper is not worth recovering, and has oriented its selective mining to minimize the copper in the ore. From our review of the geology and resource data in many studies done on Las Cristinas for Placer Dome and Crystallex, it is clear that there is little difference in the overall relationship of the gold and copper mineralization in the Las Brisas and Las Cristinas concessions. In the Scenario 4 modeling, we assume that in order for the mine operator to be allowed to recover and sell the copper mined from Las Cristinas, the lease with CVG will be renegotiated to provide CVG a 5% royalty on copper sales revenue.

Under this unified management scenario for the development of the combined Las Brisas-Las Cristinas pit, we assume that the share of NPV accruing to Las Brisas is approximated by the ratio of quantity of mineralization mined from both properties (40% Las Brisas, 60% Las Cristinas). Using our principle gold and copper pricing, this provides an **NPV to Las Brisas of \$1,267 million at a 10% discount rate.**

There are other routes which would achieve the same goal of efficient mining of the combined properties under a single management. Here is one possible scenario which we will use for NPV modeling purposes. This assumes that a large gold mining company buys Las Brisas, then takes advantage of this strategic holding by immediately acquiring the contract to mine Las Cristinas through buying 100% of the stock of Crystallex. Then having control of the Las Cristinas contract, the company renegotiates the contract from CVG under the same terms as above (i.e. a royalty of 5% on the Las Cristinas copper), allowing it to sell the copper it mines from Las Cristinas. The company then obtains an appropriate permit allowing it to proceed with developing the combined Las Brisas-Las Cristinas operation.

For the purpose of estimating the acquisition cost of Las Cristinas, we have used the Crystallex stock price, issued shares, warrants, and other financial details, as of the Effective Date of Valuation of 10 February 2006. The calculation involved estimates derived from the best, readily available information as to Crystallex's financial status. Reconciliation of assets and liabilities performed on a fully diluted acquisition basis resulted in a residual entity value of \$515 million. For the purpose of this calculation, all of this entity value is assigned to Las Cristinas, because the value of Crystallex's other mineral assets (Tomi and La Victoria) is negligible in comparison. A 35% takeover premium is added to the \$515 million, representing a typical premium required for a takeover to achieve full control, resulting in an acquisition price for Las Cristinas of \$695 million.

The NPV at 10% DCF for the total combined Las Brisas-Las Cristinas project, using our principal gold and copper pricing, is \$3,167 million, before taking into account the acquisition cost of Las Cristinas. Subtracting the \$695 million acquisition cost for Las Cristinas, leaves a **residual value for the combined project of \$2,472 million.** Under this particular scenario, this \$2,472 million value can be assigned to Las Brisas as the value of a Las Brisas expansion project.



### Weighting of Value Estimates from Scenarios 2, 3, and 4

The following Table 18 provides a probability weighting for each of the four potential paths for Las Brisas development.

Table 18 - Weighted NPV estimate valuation for Las Brisas

<b>Development Scenario</b>	<b>NPV \$million</b>	<b>Probability</b>	<b>Estimated Value \$million</b>
Las Brisas Constrained	727	50%	364
Las Brisas Unconstrained	847	20%	169
Las Brisas-Las Cristinas Combined, Separate Ownership (40% allocation to Las Brisas)	1,267	15%	190
Las Brisas-Las Cristinas Combined, Las Brisas Expansion	2,472	15%	364
<b>Weighted Estimate:</b>			<b>1,087</b>

**The above weighted estimate provides an estimated value for Las Brisas of \$1,087 million.**

### **Conclusion for Value Estimated by the Income Approach**

The significant additional potential value created by the Las Brisas-Las Cristinas combined scenario has a materially positive effect on the current value of the Las Brisas concessions. From the above analysis of cash flow scenarios, it is concluded that **the primary range of market value for Las Brisas provided by the Income Approach is \$700 million to \$1,300 million.** However, we believe that the value will likely be determined by an optimistic mixture of perceptions of opportunities for production expansion, economic efficiency improvement, and commodity price outlook. Because of this, we believe that **the weighted estimate developed above of \$1,087 million provides the best estimate of the market value.**

**The estimated Market Value of Gold Reserve Inc's Las Brisas holdings, derived from the Income Approach, is US\$1,100 million, at the Effective Date of Valuation of 10 February 2006.**

## VALUE ESTIMATION BY THE COST APPROACH

Typical cost approach methods are not useful for valuing Las Brisas. Investments in the property by Gold Reserve Inc were generally sunk many years ago. Even after adjustments for time and inflation, it is doubtful that they would provide much useful information in relation to the current value of the ore discoveries made and permits obtained with those investments. Other more elaborate cost approach methodology, relying on ratio analysis to derive component value of the mineral property, requires a comprehensive database of analyzed gold properties transactions, and is mathematically too difficult to apply when country risk adjustments and adjustments for rapid market movement must be applied.

### Las Brisas Component Value Extraction

The following method used here, does not neatly fit into any of the approaches for real property valuation. However, this Valuer considers the following method, based on business valuation, to be a valid real property valuation method in this particular case.

The stockmarket provides a direct means of measuring the value of the Las Brisas concessions on the day of the Effective Date of Valuation. Buyers and sellers of Gold Reserve Inc's shares are providing a measurement each day as to what they consider Las Brisas is worth, since this is overwhelmingly Gold Reserve Inc's major asset. Effectively a company or individual can buy a small interest in the property today by purchasing some Gold Reserve Inc shares. Imposed on the value of the property asset is a measure of what stockmarket investors think company management is doing in increasing or decreasing shareholder value.

In the following section, the stockmarket capital value of Gold Reserve Inc is derived on 10 February 2006. Adjustments are then made to remove other asset and liability components, to allow an extraction of the residual value of the Las Brisas concessions.

### Value Derived on Primary Share Basis

The latest financial report available from Gold Reserve Inc at the time of conducting this research is for the third quarter 2005. It shows the following shares and share equivalents outstanding as of 30 September 2005: 35,125,437 Class A shares, 1,110,020 Equity Units, 2,680,500 warrants and 3,095,844 options. To derive a value on a Primary Share basis, the Class A shares and Equity Units are tallied on a 1:1 basis, giving 36,235,457 shares currently outstanding. Numbers available from a stockmarket service indicate this tally is current or little changed.

On 10 February 2006, Gold Reserve Inc's shares closed in the USA (on the AMEX) at \$5.23 per share. The company's cash balance at 30 September 2005 was \$27 million, and the company had no debt. We assume for calculation purposes that the situation has changed little as of the Effective Date. We have not verified this directly, but some cash may have been consumed in the meantime.

The Entity Value is therefore:  $(\$5.23 \times 36,235,457) - \$27,000,000 = \$162,511,440$ .

We ascribe approximately \$10 million in value to Gold Reserve Inc concessions and other assets not directly related to the Las Brisas concessions, such as the company's exploration lease of the Choco 5 concession. This results in an **extracted value for the Las Brisas concessions of \$155 million, derived on a primary share basis.** On a fully diluted basis, in which the exercise of warrants and options is assumed, the value for Las Brisas would increase by only about \$12 million.

This extracted value based on stock prices is about one-eighth the market value developed in the Sales Comparison and Income Approaches for the Las Brisas concessions. It is also only about 27% of the value that the stockmarket has placed on Las Cristinas when calculated on the same basis. The Las Cristinas concessions contain only 35% more Proved and Probable Reserves of gold than Las Brisas, and up to 50% more resources, dependent on the basis of estimation. The Las Cristinas concessions are leased to Crystallex by CVG under a Mining Operating Agreement contract. The Brisas del Cuyuni concession which holds the Las Brisas deposit is owned by Gold Reserve Inc. In addition, Gold Reserve Inc's concessions include the right to mine and sell the copper, which adds significant value, whereas the Crystallex contract does not give that company the rights to the Las Cristinas copper. Therefore, the stockmarket appears to be significantly undervaluing Gold Reserve Inc.

It seems that the North American stockmarkets are placing a much greater country risk discount on Venezuela than gold property transactions suggest is warranted. The substantial discount of Las Brisas relative to Las Cristinas is likely due to two reasons. The first reason is that the market is perceiving the cost of developing the Las Brisas project as being much greater than that for Las Cristinas, while not factoring in the additional benefit of the copper recovery. The second reason is that Crystallex has worked much harder, and gone to much greater expense, to promote their company to stock analysts than has Gold Reserve Inc.

It is partially due to such disconnects of stockmarket values relative to the underlying intrinsic value of assets, that the International Accounting Standards Board and the USA's Financial Accounting Standards Board are presently investigating procedures for financial reporting of corporate asset values based on market derived measurements.

**We must conclude that the stockmarket is greatly undervaluing the Las Brisas concessions at its implied valuation of \$155 million on the Effective Date of Valuation.**

## RECONCILIATION AND MARKET VALUATION CONCLUSION

The following estimates of the Market Value of Gold Reserve Inc's Las Brisas concessions have been derived at the Effective Date of Valuation of 10 February 2006:

Estimate of Market Value by the Sales Comparison Approach: \$1,200 million

Estimate of Market Value by the NPV Method of the Income Approach : \$1,100 million

Estimate of Market Value by entity value extraction from corporate capitalization, with the Cost Approach: \$155 million.

The analysis of nine gold property transactions within the Sales Comparison Approach provides a strong centering on \$1,200 million as the value of the subject property. This has also been supported by estimating the value from a subsequent tenth transaction on a gold property of similar geological type, grade and tonnage of mineralization, and stage of development to that of the Subject.

The NPV method of the Income Approach, being a forward looking method, provides a wide range of values, dependent on the assumptions used for scale of mine development, the selling prices of the gold and copper production, and the discount rate used for present valuing of cashflows. A weighted result developed from the primary cases modeled gives a value \$1,100 million. This value provides strong support for the estimate developed by the Sales Comparison Approach.

The Income Approach could be overvaluing the subject, if we are assuming overly optimistic model inputs for development schedule, capital costs or operating costs. However, in all of our modeling, we weighted these to be more conservative than in the latest feasibility study for the property. Based on the parameters derived from the analysis of transactions in the Transaction Analysis section, it seems more likely that we have used slightly overly conservative long term gold and copper prices, or a discount rate that is slightly too high for our primary cases. A slight change in either of these would result in a significant rise in the value estimate, resulting in an estimate the same or above that of the Sales Comparison Approach. However, caution is needed so as not to underestimate project, market, and country risk factors.

The entity value of Las Brisas extracted from the capitalized stockmarket value in the Cost Approach, as explained earlier, is so low that it is totally disconnected from the reality of what is being paid for gold properties around the world, except in a few parts of the world where mine development risk has proved very high. Therefore, this value estimate is not considered here.

**The Market Value of the subject Las Brisas concessions is concluded to be \$1,200 million on the Effective Date of Valuation of 10 February 2006.**

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**APPENDIX A: DEFINITIONS AND GLOSSARY OF TERMS**

## Economic and Valuation Terms:

**Blue-Sky** – Optimistic outlook or expectation, which may influence the market price paid.

**DCF** – Discounted cashflow rate of return

**Effective Date of Valuation** –

The specific date for which the value of the subject property is estimated.

**IRR** – Internal Rate of Return. The annualized discount rate that yields a Net Present Value of zero.

**I** – Inferred Resource

**IVS** – International Valuation Standards, as published by the International Valuation Standards Committee. This report references the Seventh Edition (2005).

**Market Value** –

**U.S. Federal Government definition** (source: *Federal Register*, vol. 55, no. 163, 22 August 1990, pages 34228 and 34229):

“The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated;
2. both parties are well informed or well advised, and acting in what they consider their best interests;
3. a reasonable time is allowed for exposure in the open market;
4. payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; and
5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.”

**International Valuation Standards definition** (source: IVS 2005, Standard 1, 3.1, p. 82):

“The estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm’s-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion.”

**M&I** – Measured and Indicated Resources

**M&I&I** – Measured, Indicated and Inferred Resources

**NPI** – Net Profits Interest

**NPV** – Net Present Value

**NSR** – Net Smelter Return

**P&P** – Proven and Probable Reserves

**USPAP** – Uniform Standards of Professional Appraisal Practice; the USA’s national appraisal/valuation standards, developed by the Appraisal Standards Board and published by the Appraisal Foundation. The 2005 Edition is referenced in this report.

**Entity:**

<b>AK</b> –	Aker Kvaerner: A multinational provider of engineering services. Aker Kvaerner ASA is listed on the stockmarket in Oslo, Norway.
<b>Brisas del Cuyuni</b> –	A 500 hectare concession for gold and copper alluvial and vein rights owned by Gold Reserve Inc in the Km 88 district.
<b>CIM</b> –	Canadian Institute of Mining, Metallurgy and Petroleum
<b>CRIRSCO</b> –	Combined Reserves International Reporting Standards Committee. The major western world mining institutes are members of this, and draw upon its definitions of Reserves and Resources for use in their standards and guidelines.
<b>CVG</b> –	Corporation Venezolana de Guyana
<b>EIS</b> –	Ellis International services Inc.
<b>GRZ</b> –	An abbreviation for Gold Reserve Inc, used as the symbol for the company on the stockmarkets of the USA and Canada.
<b>Km 88</b> –	The Kilometer 88 district of southeastern Venezuela, named after the distance marker on the Pan American Highway, 88 kilometers south of El Dorado. The highway continues south to Santa Elena and Boa Vista Brazil.
<b>IVSC</b> –	International Valuation Standards Committee
<b>LME</b> –	London Metals Exchange
<b>MARN</b> –	Ministry de Ambiente y Recursos Naturales (Ministry of Environmental and Natural Resources)
<b>MEM</b> –	Ministry of Energy and Mines
<b>MIBM</b> –	Ministry of Basic Industries and Mining
<b>MINCA</b> –	Mineras Las Cristinas, a subsidiary of Vennessa Ventures
<b>NYMEX</b> –	New York Mercantile Exchange
<b>PAH</b> –	Pincock Allen & Holt
<b>PDV</b> –	Placer Dome de Venezuela
<b>SDO</b> –	Stephen D. Olmore
<b>SEC</b> –	Securities and Exchange Commission (of the USA).

**Measure Abbreviation:**

<b>ca or (c)</b> –	circa; approximately
<b>g/t</b> –	grams per tonne
<b>in</b> –	inch
<b>k</b> –	1 thousand = $1 \times 10^3$
<b>lb</b> –	pound (salable copper is described in terms of pounds or tonnes)
<b>m</b> –	million = $10^6$ (e.g. 1m); or meter (e.g. 1 m)
<b>N/A</b> –	not available (not applicable)
<b>oz/t</b> –	troy ounce per tonne
<b>oz</b> –	troy ounces (salable precious metals are measured in troy ounces)
<b>ppm</b> –	parts per million ( $10^{-6}$ )

**tonne** – metric ton = 1000 kg  
**t/y** – tonnes per year  
**yr** – year (yrs- years)

### Linear Measure

1 centimeter (cm) = 0.3937 inches (in)  
 1 meter (m) = 100 centimeters = 3.281 feet  
 1 millimeter (mm) = 0.1 centimeter = 0.03937 inches  
 1 kilometer (km) = 1000 meters = 0.6214 miles

### Area Measure

1 hectare (ha) = 100 hectares = 10,000 m<sup>2</sup> = 2.471 acres  
 1 square kilometer (sq km) = 0.386 square miles = 247.1 acres

### Weight

1 tonne = 2204.6 pounds (lb)  
 1 kilogram = 1000 grams = 2.2046 lb = 0.001102 short tons

### Quantitative Analytical Equivalent

	percent	grams per metric tonne	troy ounces per short ton
1%	1%	10,000	291.667
1 gram/tonne (g/t)	0.0001%	1	0.0291667

### Mineral and Mining Terms:

**Ag** – Silver

**Au** – Gold

#### **Caballape Formation** –

The major metamorphosed volcano-sedimentary unit in the Km 88 district.

**CIL** – Carbon-in-leach process for gold recovery

**Colluvium** – Loose, heterogeneous, incoherent mass of soil material and/or rock fragments deposited chiefly by mass-wasting. Sedimentary material deposited by flowing water.

**Cu** – Copper (copper grades are stated in terms of dry weight percent).

**Cyanidation** –

A metallurgical technique for extracting gold from low-grade ore by using a cyanide solution.

**Greenstone** – A metamorphosed volcanic rock in which green minerals impart the color massive sulphide: A stratiform (see below), usually lens-shaped mineral deposit consisting of at least 60% sulphide minerals.

**Hg** – Mercury

**Hydraulic mining** –

A technique used in which miners use a strong blast of water to strip away soil and other material to bare a vein of pay metal.

**JORC Code** –

The Australasian Code for reporting exploration results, Mineral Resources and Ore Reserves, developed by the Joint Ore Reserves Committee (of Australasia).

**Lapilli Tuffs** –

Small stones or pebbles; volcanic ash which has been violently ejected.

**Lerches-Grosmann (LG)** –

Computer algorithm for producing an economic optimum mine pit design.

**SAG** – Semi-autogenous grinding; the grinding of rock fragments upon each other is used to disintegrate the rock.

**Saprolite** – Saprolite is a soft, clay-rich, decomposed rock formed in place by chemical weathering of igneous or metamorphic rock. Saprolite forms in humid, tropical, or subtropical climates.

**Stratabound** –

A mineral deposit which occurs within a specific stratigraphic bed or horizon, but which does not comprise the entire bed.

**Tenement** – A tract of mineral rights.

**Veta (concession)** –

Spanish Language term for Vein or hard rock mining concession.

**CRIRSCO Mineral Resource and Reserve Definitions:**

A **Mineral Resource** is a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust (a deposit) in such form and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. Portions of a deposit that do not have reasonable prospects for eventual economic extraction must not be included in a Mineral Resource.

An **Inferred Mineral Resource** is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity.

An **Indicated Mineral Resource** is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings, and drill holes.

A **Measured Mineral Resource** is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings, and drill holes. The locations are spaced closely enough to confirm geological and/or grade continuity.

A **Mineral Reserve** is the economically mineable part of a Measured or Indicated Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified. Mineral Reserves are subdivided in order of increasing confidence into Probable Mineral Reserves and Proved Mineral Reserves.

Mineral Reserves are those portions of Mineral Resources which, in the opinion of the Competent Person making the estimates, can be the basis of a viable project after taking account of all relevant metallurgical, economic, marketing, legal, environmental, social and governmental factors.

A **Probable Mineral Reserve** is the economically mineable part of an Indicated and, in some circumstances, Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified. A Probable Mineral Reserve has a lower level of confidence than a Proved Mineral Reserve.

A **Proved Mineral Reserve** is the economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified.

**APPENDIX B: TREVOR R. ELLIS RÉSUMÉ**



***ELLIS INTERNATIONAL SERVICES, INC.***  
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**TREVOR R. ELLIS**  
 April 2006

Mineral Economist  
 Certified Minerals Appraiser  
 Certified Professional Geologist  
 Certified General Appraiser (CO)

### **Qualifications and Experience**

Mr. Ellis specializes in market value appraisal of mineral properties, mines and quarries, and is the international leader of standards development for this specialty. His numerous professional papers on mineral property value appraisal, and associated standards and regulations, are well recognized internationally. His 30 years of professional experience includes grass roots exploration, reserve delineation and estimation, market studies, investment and acquisition analysis, bid determination, mine planning and feasibility studies, remediation evaluation, mine valuation and damage estimates. Since 1995, Mr. Ellis has focused his work on market value appraisal issues, often selecting the more challenging assignments. He is often called upon to conduct expert valuation research for litigation cases. He is a frequently invited speaker nationally and internationally on minerals and petroleum industry valuation standards, and other minerals industry topics.

Mr. Ellis is the Chairman and founder of the Extractive Industries Task Force of the International Valuation Standards Committee (IVSC). In 2001 the Task Force provided a comprehensive submission to the International Accounting Standards Board on minerals and petroleum industry valuation issues. The Extractive Industries valuation standards developed by the Task Force have been published in the 2005 Edition of the International Valuation Standards. Under the leadership of Mr. Ellis, the Task Force is now developing supplemental guidelines for the valuation standards.

Mr. Ellis holds a MS Degree in Mineral Economics from the Colorado School of Mines (1978) and BS Degree in Geology from The University of Melbourne (1970). He has completed graduate level Business Administration studies at The University of Nebraska and The University of Melbourne. Additional studies have concentrated on valuation of mineral properties, geostatistics, and mining cost estimation. He is a past President (2000-2002) of the American Institute of Minerals Appraisers (AIMA) with which he is a Certified Minerals Appraiser, a Fellow of The Australasian Institute of Mining & Metallurgy (AusIMM) with which he is a Chartered Professional Geologist, and he is a Certified Professional Geologist with The American Institute of Professional Geologists (AIPG). He is an adjunct faculty member of the Round Table Group, the largest international think tank for academic experts.

Under Ellis International Services, Mr. Ellis has been an independent consultant since 1983. In addition to the minerals experience shown below, he has extensive professional experience in environmental matters, decision analysis, data management, computer programming and systems management. He has worked on a dozen superfund and many other environmental remediation projects.

### **Geology, Economics and Value Appraisal Experience in the Minerals Industry**

Specific projects conducted by Mr. Ellis include:

#### Valuation/Appraisal Projects

Adams County, Colorado: Independent critique of two appraisals of compensation due for a government taking of a sand and gravel property.



Alpert: Provided expert witness testimony to county commissioners on the geology, economics and valuation of certain Colorado coal resources.

Animas Valley Sand and Gravel v. La Plata County, CO: Appraised the market value of a sand and gravel mining property in La Plata County, CO, abiding by specific Colorado Supreme Court instructions. Testified on such as an expert witness in Colorado District Court, pertaining to a takings claim.

Confidential: Valuation of platinum exploration properties and exploration business, for litigation support.

Confidential: Market Value appraisal of a 10 million oz. reserve gold property, Venezuela.

Colorado Silica v. Briargate: Expert witness testimony on valuation of damages to specialty industrial silica sand mining and processing operation.

Dames & Moore: Valued the environmental liability associated with the acquisition of Californian petroleum fields by a present value method. This was based on using decision trees and Monte Carlo simulation to estimate the long term liability for more than 5,000 petroleum wells and 7,000 associated facilities.

Decker Development: Reviewed ownership and mining history of coal resources to determine present ownership. Estimated value of oil and gas reserves, advised on buy-out and compatible development.

Decker Unitrust and Century Gold: Annual market value appraisals of mineral lands and royalty interest in the Marigold gold mine, Nevada.

Independence Lead Mines v. Hecla: Appraised the market value of a major silver deposit in Idaho before and after underground mining, then testified on such as an expert witness.

J.E. Sinor Consultants: Market value appraisals of oil shale deposits in Colorado and Utah.

Kogan v. Silver King Mines: For Nevada silver mine, estimated mined reserves and unmined resources by claim using geostatistics on drilling data and aerial photo interpretation. Provided expert witness testimony on geology, economics, resource estimation and valuation.

Mobil: Valued coal mines and coal resources throughout the U.S. for purchase and corporate reporting purposes.

Nichols v. La Plata County, CO: Appraisal of lost profits from excavation of sand and top soil.

Phoenix Mining: Market value appraisal of a manganese ore stockpile and processing operation.

Sky Ute Sand & Gravel, and Bureau of Reclamation: Market value appraisals of gravel quarry and adjoining property, southern Colorado, for government acquisition or condemnation.

Sky Ute Sand & Gravel: Market value appraisal of a gravel quarry property for acquisition, southwest Colorado. The appraised property included two operating quarries and irrigated crop land with farm buildings.

Stagg Engineering: Conducted supply-demand studies and developed long range market forecasts for the international phosphate rock industry, the sulfur industry, and for Powder River Basin coal. Assisted with aspects of market value appraisals.

Surfqil: Wrote a critique report of valuations of an onyx quarry property, Arizona, for loan financing.

Varra Companies v. Nelson: Provided written expert opinion on the market royalty rate for mining of a sand and gravel property near Denver, Colorado.

Weyerhaeuser: Market and use value appraisal of an operating tripoli silica mine property in Arkansas.

#### Economic Evaluation and Market Study Projects

Applied Hydrology: For a feasibility study of coal-fired power plant in an arid portion of Arizona, simulated stream and groundwater supplies over the life of the project together with the resultant economic risks to the project.

Blackstone Resources: Economic evaluation of a magnetite-ilmenite deposit, Canada.

Dames & Moore: Evaluation of remediation options for mild coal gasification plant sites, using Monte Carlo simulation and decision trees with NPV analysis.

Ellis International Services internal project: Wrote a 13,000 line computer program for economic evaluation of mineral and energy projects, including sensitivity analysis and Monte Carlo simulation.

Husky: Evaluated two Pennsylvanian underground coal mines from geological and economic perspectives for potential acquisition.

J.E. Sinor Consultants: Evaluated methanol from natural gas economics worldwide. For the U.S. Department of Defense, evaluated economics of jet fuel from SNG production technologies.

J.E. Sinor Consultants: Economic evaluation of proposed conversion of the Mexico City bus system from diesel and gasoline fuels to LNG.

J.E. Sinor Consultants: For Chevron v. Occidental, conducted an economic risk assessment of oil shale property development.

J.E. Sinor Consultants for Lignite Energy Council: Compared the future competitiveness of North Dakota lignite production against the potential intrusion of coal from adjacent states. Evaluated potential products and possible government assistance schemes for mines and power stations.

J.E. Sinor Consultants for a major petroleum company: Summarized data on oil shale properties worldwide, and developed mining cost algorithm used in acquisition evaluations.

J.E. Sinor Consultants for New Mexico Research and Development Institute: Economic evaluation of alternatives for development of San Juan Basin coal resources.

Mobil: All phases of feasibility study economics for Caballos Rojo coal mine, Wyoming. Conducted coal market studies and economically analyzed sales contract proposals.

Mobil: Feasibility study economic evaluations for Texas uranium mines and Colorado oil shale properties.

Pace: U.S. and international coal market studies.

Resource Technology Associates: Economic evaluation of the Getchell gold mine in Nevada for possible redevelopment.

Round Table Group: Review of titanium minerals supply.

Union Pacific: Conducted domestic and international coal market studies to evaluate future opportunities and impacts for the UP railroad.

Vintage Companies: Conducted a market study for silica sand from a Colorado Springs property. Recommended target markets and pricing strategies.

Woodward-Clyde: Economic evaluation and decision analysis, including Monte Carlo simulation for remediation of a contaminated petroleum processing plant site.

Woodward-Clyde for Cyprus-Amax: Economic evaluation of closure options for mines, including use for municipal and hazardous waste disposal.

#### Geological Exploration and Evaluation Projects

Anglo American: Exploration of base metal, Sn, Ni and platinum group properties in Tasmania.

Bruce Resources: Evaluated Colorado nahcolite prospects. Managed land applications and appeal. Wrote geological testimony for IBLA.

Bruce Resources: Geological evaluation of Colorado and Utah placer and hard rock gold properties.

Consolidated Gold Fields: In Western Australia, regional exploration for nickel in greenstone belts, delineation of targets through geochemical sampling, magnetics, and geological mapping, and diamond drilling of mineralization. Underground geological mapping in gold mine.

Conzinc Riotinto of Australia: Geological mapping, sampling and drilling of Australian Ag-Pb-Zn and Cu properties.

Cundill Meyers: Brine water magnesia survey, Australia.

Cundill Meyers: Iron ore prospect evaluation in ultramafics, Tasmania.

Cundill Meyers: Minerals availability studies for Indonesia, Saudi Arabia and South American countries.

Eastern Hemisphere Petroleum: Advised on exploration and development strategies for a large, placer gold deposit in Papua New Guinea. Also advised on farmout arrangements.

Hauck Preserve: Provided an independent expert geology report for submission to the county and state, demonstrating the lack of present and future economic viability for the mining of sand and gravel from a property near Denver.

Mobil: Coal exploration drilling and evaluation, Illinois Basin and Northern Great Plains. Statistically evaluated core analysis procedures.

Mobil: Developed reserve estimates and provided other technical support for two coal property litigation cases.

National Park Service: Mapped mineral resources and land ownership within and surrounding the Lake Mead National Recreation Area of Nevada and Arizona.

Newmont: Geological mapping and drilling of nickel prospects, Western Australia.

Newmont: Exploration and development drilling, geological interpretation and reserve definition, for initial development of the Telfer gold mine, now Australia's largest gold producer.

Odin Mining: Independent geological reports for the Canadian stock markets on gold exploration and mining properties in Ecuador.

Pace: Geological evaluation of New Mexico natural gas field for expansion potential.

Pennzoil: Geological mapping and exploration for base metals, Victoria.

Resource Technology Associates: Survey of gold and silver properties in Australia and South Pacific with an emphasis on metallurgy.

Shell: Reserve exploration and delineation for Indonesian coal mine.

Shell: Stratigraphic exploration drilling for petroleum in Indonesia.

State Electricity Commission of Victoria: Development drilling and surveying for coal mines and new power station construction, Latrobe Valley, Australia.

Tangyanika Holdings: Copper and diamond exploration, NW Australia.

US Steel: Exploration drilling of Western Australian mineral sands property.

US Steel: Regional copper exploration in Papua New Guinea.

## Education

MS Mineral Economics (gpa 4.0/4.0), Colorado School of Mines, 1978

BS Geology, University of Melbourne, Australia, 1970

MBA courses, University of Melbourne, Australia, 1976, and University of Nebraska, 1979

Many short courses, including geology, geostatistics, mining cost estimation, and computer applications.

Appraisal/valuation courses since 1998:

- SME Due Diligence and Valuation of Industrial Minerals
- ASFMRA A-34 Advanced Resource Appraisal
- ASFMRA A-30 Advanced Rural Appraisal
- ASFMRA A-29 Highest and Best Use
- ASFMRA A-25 Eminent Domain
- ASFMRA A-20 Principles of Rural Appraisal
- ASFMRA A-12 Part II Uniform Standards of Professional Appraisal Practice
- ASFMRA A-12 Part I Code of Ethics
- ASFMRA A-10 Fundamentals of Rural Appraisal
- ASA ALL215 Appraisal Report Writing
- ASA RP202 Introduction to Income Capitalization
- AI Uniform Appraisal Standards for Federal Land Acquisitions
- ASFMRA Income Approach/Discounting and Leases
- CAPE Minerals Appraisal Symposium
- AI USPAP Updates

## Professional Association Memberships

American Institute of Minerals Appraisers -- CMA #1994-1

President 2000-2002

Vice President 1998-2000

Treasurer 1995-1997

Standards development committee 1999, 2002-2005

Education committee 2003-2005

Drafted the Institute's Code of Ethics.

Letter of Appreciation, 2005

American Institute of Professional Geologists -- CPG #6740

Advisory Board, Colorado Section, 2000, 2002

International Affairs Committee member 1996-1998

Outstanding Service Award, Colorado Section, 1995, 2000

International session coordinator for the 1995 Annual Convention

American Society of Farm Managers and Rural Appraisers – Candidate Member\*

Australasian Institute of Mining & Metallurgy

Fellow #100170

Chartered Professional Geologist #495

Canadian Institute of Mining, Metallurgy and Petroleum #140002

Colorado Mining Association

Colorado School of Mines Alumni Association

Denver Coal Club

Denver Mining Club

Denver Region Exploration Geologists Society

International Association for Energy Economics

VP of Denver Chapter, 1995-2000

Prospectors and Developers Association of Canada

Society for Mining, Metallurgy, and Exploration #0919950

Organizer and Chair of Valuation sessions for 2000, 2001, 2004 and 2005 Annual Meetings

\*Candidate Member - completed all required education for accreditation, but testing and review incomplete

## Registrations and Certifications

Certified Minerals Appraiser, #1994-1, American Institute of Minerals Appraisers  
Certified Professional Geologist, #6740, The American Institute of Professional Geologists  
Chartered Professional Geologist, #495, The Australasian Institute of Mining and Metallurgy  
Certified General Appraiser, #CG40024373, Colorado  
Certified Professional Geologist, #337, Alaska  
Registered Professional Geologist, #1522, Kentucky  
Professional Geologist, #PG-3447, Wyoming

## Professional Awards and Recognitions

American Institute of Minerals Appraisers  
Letter of Appreciation for leadership service to the Institute and the minerals and petroleum industries, 2005.

American Institute of Professional Geologists  
Outstanding Service Award, Colorado Section, 1995, 2000.

Council of Mining and Metallurgical Institutions' Congress 2002, Cairns, Australia, May 2002  
The invited U.S. speaker. Presented a paper on standards and ethics.

International Valuation Standards Committee, 2001-2005  
Chairman and founder, Extractive Industries Task Force, which developed valuation standards for the minerals and petroleum industries, published in International Valuation Standards, 2005 Edition.

Mackay School of Mines, Department of Geological Sciences, University of Nevada, Reno  
Don Yardley lecturer, February 16, 2001.

Mining Millennium 2000, CIM and PDAC, Toronto, Canada, March 2000  
The invited U.S. valuation speaker. Presented a paper on mineral property valuation standards.

Round Table Group (the largest international think tank for academic experts)  
Adjunct faculty member.

South African Institute of Mining and Metallurgy's Valuation Code Colloquium, Johannesburg, March 2002  
The invited U.S. speaker. Presented a paper on mineral property valuation standards.

United Nations, Meetings of Experts on Harmonization of Energy Reserves and Resources Terminology, Geneva, Switzerland, November 2004 and November 2005  
Represented the International Valuation Standards Committee.  
2005, presented a paper on resource classification, valuation standards, and sustainable development.  
2004, presented a paper on securing investments through appropriate financial reporting.

VALMIN 2001, AusIMM-MICA, Sydney, Australia, October 2001  
The invited U.S. speaker. Presented a paper on mineral property valuation standards.

Valuation 2000, Las Vegas, Nevada, July 2000 – the world's largest international appraisal convention, sponsored by ASA, AI and ASFMRA  
Excellence Award for 3<sup>rd</sup> Best Professional Paper and Presentation.

## Publications and Professional Papers

“Advance in Global Classification Standards for Minerals and Petroleum” - in *Mining Engineering*, Vol. 58, No. 4, April 2006, pages 27-28. Earlier version published as, “Major advances in Global Classification Standards for Minerals and Petroleum” - in *Newsletter*, American Institute of Minerals Appraisers, January 2006, pages 5-6.

“Resource Codification, Valuation Standards, and Sustainable Development” - Presented at the Second Meeting of the Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology, United Nations Economic Commission for Europe, Geneva, Switzerland, 9-11 November 2005.

“The International Valuation and Financial Reporting Standards – Their Content and Effect on Us” - presented at the Geological Society of Nevada Symposium, Reno, Nevada, 15-18 May 2005. In *Symposium 2005: Window to the World*, Geological Society of Nevada, Reno, Nevada, 2005, pages 1297-1302, as a peer reviewed paper.

“Valuation of a Coal Property – Applying Standards to Determine Market Value Versus Investment Value” - presented at Denver Coal Club meeting, Denver, Colorado, 14 April 2005.

“Implementation of the International Valuation Standards” - presented at SME 2005 Annual Meeting, Salt Lake City, Utah, 28 February - 2 March 2005, SME Paper 05-093, 4 pages. In *Mining Engineering*, Vol. 58, No. 2, February 2006, pages 62-64, as a peer reviewed paper.

“Violations of Market Value Standards with the Income Approach” - presented at SME 2005 Annual Meeting, Salt Lake City, Utah, 28 February - 2 March 2005.

“New Dawn for Minerals Appraisers?” - presented at SME 2005 Annual Meeting, Salt Lake City, Utah, 28 February - 2 March 2005.

“New International Financial Reporting Standard Allows Market Value Reporting for Minerals and Petroleum Assets” - in *Newsletter*, American Institute of Minerals Appraisers, Vol. 8, No. 3, December 2004, page 5. Also in: *Mining Engineering*, Vol. 57, No. 4, April 2005, pages 6-7.

“Securing Investments through Appropriate Financial Reporting – Application of IVSC and IASB Standards,” - Presented at the First Session of the Ad Hoc Group of Experts on Supply of Fossil Fuels, United Nations Economic Commission for Europe, Geneva, Switzerland, 10-11 November, 2004.

“Philosophy and Application of the International Valuation Standards for Minerals and Petroleum” - in *The Professional Geologist*, Vol. 41, No. 1, January-February 2004, pages 14-19. Also presented at SME 2004 Annual Meeting, Denver, Colorado, 23-25 February 2004, SME Paper 04-133.

“History and Future of Minerals and Petroleum Valuation Standards Development Internationally” - presented at SME 2004 Annual Meeting, Denver, Colorado, 23-25 February 2004.

“The Extractive Industries Addition to the International Valuation Standards” - presented at The Centre for Advanced Property Economics’ Minerals Appraisal Symposium, Denver, Colorado, 1-3 October 2003.

“International Perspective on U.S. Minerals Appraisal Standards Development” - presented at SME 2003 Annual Meeting, Cincinnati, Ohio, 24-26 February 2003, SME Paper 03-109, 5 pages. Published in *Mining Engineering*, Vol. 56, No. 3, March 2004, pages 44-48, as a peer reviewed paper.

“Reporting Standards – The USA Experience: Achieving True Globalisation – Problems and Solutions” - presented at Council of Mining and Metallurgical Institutions’ Congress 2002, Cairns, Australia, May 27-28, 2002, and to International Mining Professionals Society’s Annual Meeting, Denver, Colorado, May 21, 2002. Published in *CMMI Congress 2002*, AusIMM, Melbourne, Australia, PS No 3/2002, pages 67-77, a peer reviewed paper. Updated versions in the international journal, *Minerals & Energy - Raw Material Report*, Vol. 17, No. 3, 2002, pages 15-31, and *The Canadian Mining and Metallurgical Bulletin*, Vol 96, No. 1067, January 2003, pages 37-48.

“International Valuation Standards & International Financial Reporting Standards – An Update” - presented to International Mining Professionals Society, Toronto Chapter Annual Meeting, April 17, 2002.

“Mineral Property Valuation Standards – A US Perspective: Marching with the International Valuation and International Financial Reporting Standards” - presented at the South African Institute of Mining and Metallurgy’s Valuation Code Colloquium, Randburg, South Africa, 19-20 March 2002; in *Valuation of Mineral Projects and Properties: an African Perspective*, SAIMM, Johannesburg, 2002, 17 pages. Also in *The Professional Geologist*, AIPG, Vol. 39, No. 5, May 2002, pages 5-13.

“Recent Developments in International Valuation Standards” - presented at SME 2002 Annual Meeting, Phoenix, Arizona, February 25-27, 2002, SME Paper 02-168, 5 pages. Revised in *SME Transactions 2002*, Vol. 312, pages 148-152, a peer reviewed paper.

“US Views on Valuation Methodology” - presented at VALMIN 2001, Sydney, Australia, October 25-26, 2001; in *VALMIN '01 – Mineral Asset Valuation Issues 2001*, AusIMM, Carlton, Victoria 2001, Australia, PS No 5/01, pages 1-23, a peer reviewed paper. Also in *The Professional Geologist*, AIPG, June-August 2002 as a 3-part series.

“International Standards for Valuation of Mineral Deposits and Mines” - presented at The Americas Mexican Mining Summit, Denver, Colorado, June 14-15, 2001.

“Funding Dangers Posed by Extractive Industries International Accounting Standard” - on [www.minevaluation.com](http://www.minevaluation.com), March 2001, 8 pages.

“U.S. and International Valuation Standards – The Future” - presented at SME 2001 Annual Meeting, Denver, Colorado, February 26-28, 2001, Preprint 01-161, 10 pages. Revised as, “United States and international valuation standards - the future,” in *SME Transactions 2002*, Vol. 312, pages 141-147, a peer reviewed paper.

“International Challenges will Confront State Licensure” - *The Professional Geologist*, AIPG, Vol. 37, No. 11, December 2000, pages 10-13.

“Continuing Education Through Other Societies - Part III” - *Newsletter*, AIMA, Vol. 5, No. 1, July 2000, pages 2-3.

“Regulatory Trends in Mineral Property Valuation—an International Perspective” - with Abbott, D.M., Jr., in *Valuation 2000: Papers and Proceedings*, sponsored by ASA, AI, and ASFMRA, July 2000, pages 27-41, a peer reviewed paper for which Mr. Ellis received the award for 3<sup>rd</sup> best professional paper at the Valuation 2000 convention.

“Plate Tectonics and Structural Geology” - with Forney, G.G., at Colorado School of Mines’ summer course for K-12 teachers, *Minerals in Today’s World: A Total Concept of the Mining Industry*, Golden, Colorado, June 9-July 3, 2003; presented annually since 1995.

“Appraisals of a Gold Property: A Case Study of Reserve Additions” - *2000 Journal of the ASFMRA*, American Society of Farm Managers and Rural Appraisers, Denver, Colorado, pages 44-53, a peer reviewed paper.



“The U.S. Mineral Property Valuation Patchwork of Regulations and Standards” - *Mineral Property Valuation Proceedings—Papers presented at Mining Millennium 2000*, CIM, Toronto, Canada, March 8, 2000, pages 25-40. Revised copy in *CIM Bulletin*, Vol. 95, No. 1059, March 2002, pages 110-118, a peer reviewed paper.

“The Difference Between a Value Estimate and an Appraisal” - presented at SME 2000 Annual Meeting, Salt Lake City, Utah, Feb 28-Mar 1, 2000, Preprint 00-119, 15 pages. Also presented at Denver Mining Club, August 3, 2000. Revised version published as “Difference between a value estimate and an appraisal” in *SME Transactions 2001*, Vol. 310, pages 25-35, a peer reviewed paper.

“Lessons Learned about Standards from Applying both VALMIN and USPAP on a Complex Appraisal Project” - presented at SME 2000 Annual Meeting, Salt Lake City, Feb 28-Mar 1, 2000, Preprint 00-129, 9 pages. Revised and updated version published under same title in *SME Transactions 2000*, Vol. 308, pages 116-122, a peer reviewed paper.

“Ethical Dilemmas Posed During a Mineral Project Appraisal” - *The Professional Geologist*, AIPG, Vol. 37, No. 2, February 2000, Westminster, CO, pages 7-11, a peer reviewed paper.

“Recent Australian and Canadian Developments Affecting Mineral Valuation” - *Newsletter*, AIMA, Vol. 4, No. 3, November 1999, pages 1, 6-7.

“Continuing Education Through Other Societies - Part II” - *Newsletter*, AIMA, Vol. 4, No. 3, November 1999, pages 4-5.

“Ethical Issues Confronted During an Appraisal Project Turning Sour” - presented at the Annual Meeting, Geological Society of America, Denver, Colorado, October 25-28, 1999. Similar papers under different titles presented to AIPG Student Chapter, Colorado School of Mines, March 24, 2000, Denver Mining Club, June 1, 2000, and for the *Don Yardley Lecture*, Mackay School of Mines, Department of Geological Sciences, University of Nevada, Reno, February 16, 2001.

“Signing the Report—Recognition, Responsibility, and Liability for the Qualified Person” - *The Professional Geologist*, Vol. 36, No. 8, July 1999, pages 16-18.

“Continuing Education Through Other Societies” - *Newsletter*, AIMA, Vol. 4, No. 2, June 1999, page 2.

“A Case Study of an Appraisal Project Turning Sour” - *Newsletter*, AIMA, Vol. 4, No. 2, June 1999, pages 3, 7-8.

“Trends in the Regulation of Mineral Deposit Valuation” with Abbott, D.M., and Sandri, H.J.- Presented at SME 1999 Annual Meeting, Denver, March 1-3, 1999, SME Preprint 99-29, 8 pages.

“Geologists as Independent Consultants in the Minerals Industry” - *Reflections on a Geological Career*, AIPG Arizona and Colorado sections, 2<sup>nd</sup> Edition, 1998, pages 60-64.

“Critique of Three Case Histories of Mineral Valuation” - *Newsletter*, AIMA, Vol. 3, No. 1, March 1998, pages 2-4.

“Valuation Methodologies for Mines and Mineral Tenements” - *Newsletter*, AIMA, Vol. 1, No. 5, December 1995, pages 1-4.

“The Australian VALMIN Code for Mineral Appraisals” - *Newsletter*, AIMA, Vol. 1, No. 4, October 1995, pages 1-2.

“Where is the Money Going? -- International Opportunities” - *Prosperity and Professional Geology*, AIPG, October 1995, pages 140-142.

“Opportunities for Professional Geologists in Australia” - *Prosperity and Professional Geology*, AIPG, October 1995, pages 51-53.

“The Australian Code for Reporting of Identified Mineral Resources and Ore Reserves” - presented at the Colorado Mining Association's 94th National Western Mining Conference, Denver, Colorado, February 24-27, 1991.

“Application of Economic Risk Assessment to Hazardous Waste Remediation Projects” - presented at the APCA Annual Meeting, Dallas, Texas, June 19-24, 1988, Preprint 88-35.4, 13 pages.

“The Pending Oil Price Collapse” - presented at the IAEE Denver Chapter monthly meeting, Denver, September 29, 1987.

“Assessment of Technological Development Strategies for San Juan Basin Coals” - with J.E. Sinor, New Mexico Research and Development Institute publication NMRDI 2-74-4629, February 1987, 647 pages.

“Australia's Latrobe Valley Brown Coal Fields” - *Mines Magazine*, Vol. 74, No. 2, February 1984, pages 8-9.

“The Brown Coal Fields of the Latrobe Valley, Victoria, Australia - History, Economics and Future Plans” - presented at The Denver Coal Club monthly meeting, Denver, October 13, 1983.

“Australian Brown Coal - An Important Domestic Energy Source” - presented at the International Association of Energy Economists Denver Chapter meeting, July 26, 1983.

“Economic Sensitivity Analysis Using Geostatistics” - with Bryan, R.C., in *17th Application of Computers and Operations Research in the Mineral Industry*, SME-AIME, Littleton, 1982, pages 101-108.

“Western U.S. Steam Coal Export Market Study, 1985-1990” - Union Pacific Railroad, January 1980, 83 pages.

“Appraisal of Sandstone-Type Uranium Prospects using Computer Modeling” - presented at the 1979 SME-AIME Annual Meeting, New Orleans, February 18-22, 1979, Preprint 79-5, 5 pages.

“Estimation of Minimum Specifications for Economically Explorable Sandstone-Type Uranium Deposits” - *Colorado School of Mines Quarterly*, Vol. 74, No. 1, January 1979, 71 pages, a peer reviewed publication.

Many articles not listed above in the *AIMA Newsletter*, 1995-2005.

Many technology, economics and international review articles in the *Pace Synthetic Fuels Report*, 1982-1987.

**APPENDIX C: CASH FLOW ANALYSIS – LAS BRISAS BASE SCENARIO**



**APPENDIX D: CASH FLOW ANALYSIS – LAS BRISAS CONSTRAINED SCENARIO**



**APPENDIX E: CASH FLOW ANALYSIS – LAS BRISAS UNCONSTRAINED SCENARIO**





**APPENDIX F: CASH FLOW ANALYSIS – LAS BRISAS-LAS CRISTINAS SCENARIO**



**APPENDIX G: LAS BRISAS FEASIBILITY STUDY EXECUTIVE SUMMARY, 2005**

## EXECUTIVE SUMMARY

### Overview

The Brisas del Cuyuni deposit is a gold-copper deposit located in the Kilometer 88 mining district of Bolivar State in south-eastern Venezuela. Before its acquisition by Gold Reserve Inc. in 1992, the property had been worked on a small scale by local owners and also by illegal miners. Shallow pitting and hydraulic methods were used to mine the upper saprolite zone, and coarse gold was recovered by gravity concentration. Gold Reserve has carried out a major exploration drilling program on the concession, resulting in the definition of a large, gold-copper resource.

The feasibility study operating plan assumes a large open pit mine containing proven and probable reserves of approximately 9.2 million ounces of gold and 1.2 billion pounds of copper in 414 million tonnes of ore grading 0.69 grams of gold per tonne and 0.13% copper, at a revenue cutoff grade of \$2.76 per tonne using a gold price of \$350 per ounce and a copper price of \$0.90 per pound. The project anticipates utilizing conventional truck and shovel mining methods with the processing of ore at full production of 70,000 tonnes per day, yielding an average annual production of 486,500 ounces of gold and 63 million pounds of copper over an estimated mine life of approximately 16 years.

The feasibility study assumed an economic base case utilizing \$400 per ounce gold and \$1.00 per pound copper. At such prices, cash operating costs (net of copper credits) are estimated at \$154 per ounce of gold and total costs per ounce, including operating costs and initial and sustaining capital would be \$263 per ounce of gold. Initial capital costs are currently estimated to be \$552 million. All amounts are in U.S. dollars.

Operating supplies will be purchased in Venezuela and from other South American countries, but some will be imported from Europe, Canada and USA. Power is available from a major new transmission line which runs south from Puerto Ordaz into Brazil, passing within a few kilometers of the project site. A substation has been constructed at the km 88 location by the power company for connection to the project. Abundant water is available in the area, with the fresh water project requirements being met by water pumped from the pit dewatering system, and by rainfall recovered in the tailings pond. On-site accommodations will be provided for employees, who will be drawn both from local villages, and from the industrialized area around Puerto Ordaz. Over 2,000 personnel will be needed for the construction of the project and employment will peak at over 900 operating personnel. The mining and processing methods are all based on conventional technology and no new or unproven technology will be employed.

# Aker Kvaerner

Project No. R0329700

Las Brisas Project

January 2005

## Study Conclusions

Key findings of the Feasibility Study are as follows:

- Using a \$350/oz gold price and \$0.90/lb copper price, Pincock Allen & Holt (PAH) has estimated that the Brisas del Cuyuni deposit contains a minable reserve of 414.6 million tonnes of ore grading 0.69 grams per tonne gold and 0.13 percent copper. The pit design contains waste rock material of 748.3 million tonnes resulting in a 1.8:1 (waste to ore) strip ratio. Total metal contained in the ore is 9.2 million ounces of gold and 1.2 billion pounds of copper,
- Brisas is a world-class gold and copper deposit with tremendous leverage to gold and copper prices,
- The ore-body is very large, predictable and open for further expansion,
- The ore-body is relatively simple to mine, although requires special attention to mine dewatering in order to insure mining efficiencies and pit slope stability,
- Metallurgy is straightforward with a gravity circuit, flotation to generate a gold-copper concentrate and cyanidation of cleaner tailings,
- SGS Lakefield Research confirmed the Brisas project's gold and copper metallurgical recovery profiles,
- Existing infrastructure (including transportation and power transmission) near the Brisas project minimizes capital and operating costs.

**The following are the key assumptions and conclusions contained in the feasibility study:**

Proven and Probable	414.6 million tonnes; 0.69 g/t gold and 0.13% copper
Strip ratio (waste: ore)	1.81:1
Mine Life	16 years
Mill throughput	70,000 tonnes per day "Hardrock" ore 6,000 tonnes per day "Sulfide" saprolite 6,000 tonnes per day "Oxide" saprolite
Plant Metal recoveries	gold 83% copper 87%
Net payable Metals	gold 82.4% copper 83.0%
Life of Mine Production (payable metals)	gold 7.59 million ounces copper 979 million pounds
Average annual gold production	486,500 ounces
Average annual copper production	63million pounds
Average annual copper concentrate production	124,000 mt

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**Preliminary Economic Indicators (Pre-Tax)**

Gold price	\$400 per ounce
Copper price	\$1.00 per pound
Total cash operating cost (on site and off site)	\$5.26 per tonne ore
Initial capital cost	\$552.4 million
Working capital	\$39.3 million
Ongoing capital	\$132.3 million
Cash Operating cost *	\$154 per ounce of gold
Production Taxes	\$13 per ounce of gold
Total Cash costs *	\$167 per ounce of gold
Capital Cost Amortization	\$ 96 per ounce of gold
Total Cost	\$263 per ounce of gold
Internal rate of return	12.0 %
Project net present value @ 0%	\$1.04 billion
@ 5%	\$388 million
Project payback - after tax	8 years

\* Net of copper by product credit

**Project Geology**

The Brisas Del Cuyuní gold deposit is in Venezuela within the Guayana Shield in northern South America. The shield covers easternmost Colombia, southeastern Venezuela, Guyana, Suriname, French Guiana and northeastern Brazil. The Venezuelan portion is subdivided into five geological provinces with different petrological, structural and metallogenic characteristics. The provinces are, from oldest to youngest, Imataca, Pastora, Cuchivero, Roraima, and Parguaza. Only Imataca, Pastora and Roraima provinces are found in the vicinity of the Brisas deposit.

The Brisas Del Cuyuní concession lies within a portion of the lower Caballape Formation volcanic and volcanic-related sedimentary rocks. The units are andesitic to rhyolitic tuffaceous volcanic beds, related sedimentary beds, and a tonalitic intrusive body. All rocks have been tilted and subjected to lower greenschist facies metamorphism. It is thought, based on information from nearby properties, that Brisas occupies one limb of a large regional fold. Limited direction-indicating structures show the strata to be top-up. In the main mineralized trend, moderate to strong foliation is oriented N 10 E and dipping 30° to 55° NW. This foliation appears to be parallel to the original bedding, and tends to be strongest in the finer-grained rocks.

Dikes and quartz veins cut the lower Caballape Formation. The strata and intrusive rocks are cut by N30W-striking mafic dikes emplaced at regular intervals (200-600 meters), some of which

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have displacement on the order of tens of meters. The most common quartz veins are sets of thick, boudinaged, and en echelon vein structures that follow foliation/bedding orientation.

## Mineralization

There are four distinct types of Au and Cu mineralization present in the concession, defined by geometry, associated minerals, and the Au/Cu ratio. These zones are the Blue Whale body, disseminated gold+pyrite+/-Cu, disseminated high Cu, and shear-hosted Au. Only the former three types are encountered within the proposed pit geometry.

The Blue Whale mineralized body is a discrete, sharply bounded, flattened, cigar-shaped feature that trends more or less parallel to the local schistosity and plunges about 35° SW along foliation. It outcrops in the Pozo Azul pit in the NE portion of the concession, and is intersected by 45 drill holes. It is 20 meters in diameter at its widest point, and tapers off at depth. It is volumetrically a small fraction of the economically mineralized ground in Brisas, but it possesses the highest Au and Cu grades.

The bulk of the mineralization occurs in disseminated, coalescing, lenticular bodies, high in Au and in most cases low in Cu. These bodies lie almost exclusively in the lapilli-rich, rapidly alternating sequence of tuffaceous units, and are clearly aligned along foliation. Together, these lenses form a generally well defined mineralized band which mimics the dip of the foliation/bedding and remains open at depth. It maintains at a similar thickness of about 200 m from the northern concession boundary for a distance of 1.4 km south, after which it tapers rapidly. Alteration minerals characteristic of these lenses are epidote, chlorite, secondary biotite, and sericite.

Stratiform lenses of high Cu (with or without high Au) parallel and underlie the Au+pyrite lenses described above. These lenses outcrop in the northern part of the deposit, and plunge to the south along the bedding/foliation in a manner similar to the Blue Whale and high Au/low Cu lenses. Deep drilling has intersected these lenses down to the 681900N coordinate. Within the stratigraphic column, these lenses generally occupy the ash flow tuffs and crystal tuffs. Rock in the mineralized zones is characterized by a high degree of lapilli and crystal replacement by chalcopyrite, and in some cases, by bornite and covellite. High chalcopyrite in the rock matrix is often accompanied by high chlorite, secondary biotite, and in some cases molybdenite.

Shear-hosted gold occurrences exist in the southern part of the concession, running parallel to the foliation as with mineralization further north. Stratigraphically, they occur above the large disseminated lenses previously described. The gold grades are erratic and localized, up to 100 g/t Au over a three-meter core interval. There is a high degree of correlation between chalcopyrite and Au grade, though Cu grades in these shears is sub-economic.

## Exploration

Gold Reserve, Inc. (GRI) began exploration on the Brisas property in late 1992 after its acquisition of the property. Prior to 1992, no known drill holes existed on the property. Initial work by GRI included surface mapping, regional geophysical surveys, and geochemical sampling. Several anomalies were identified on the property followed by drilling and assaying starting in 1993. Additional work followed with petrology, mineral studies, density tests, metallurgical sample collection and laboratory test work. Several drilling campaigns have taken

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place at Brisas and continue to present times. A total of 811 drill holes with a total drilled length of 180,508 meters have been completed by GRI at Brisas as of May 2004.

Emphasis of exploration on the concession focuses on following the mineralized lenses downdip to the west and down plunge to the south. The convention of drilling at an inclination of 60° and at a bearing of N 90 E was established once it became known that the mineralized lenses closely followed the dip of bedding/foliation, and that this drilling orientation was perpendicular to both. Drill hole spacing within and around the planned pit area is about 50 meters or less. Drill hole spacing in the Disseminated High Cu/Low Au and Blue Whale areas is about 25 meters. The majority of the drilling was performed using standard diamond core-barrel recovery techniques.

The Brisas deposit is still open along the down-dip direction and the resource is mostly limited by drilling. Exploration potential on the Brisas property also exists to the south and southeast of the proposed pit where several narrow intercepts of medium to high-grade gold mineralization have been encountered by drilling. Some of these intercepts are near the surface topography.

Condemnation drilling has been performed on most of the Brisas concession. The company plans to complete condemnation drilling to test the plant site, waste dumps and tail disposal areas prior to the commencement of construction activities.

## Resource Modeling

It has been observed for some time within the Brisas property that the mineralization generally follows a structural trend that is sub-parallel to the rock units' trend present in the area. Therefore, the resource model is based on constructing separate mineral envelopes for Au and Cu that follow the general geologic trend and structural control of the Brisas zone and, in the case of copper, the weathering profile as well. The Blue Whale is modeled separately.

Variograms were run on the drill hole data to evaluate the spatial variability and lateral grade continuity through the deposit and provide limits for the search radius used in the grade interpolation process. PAH ran variograms for both Au and Cu downhole composites. Three-dimensional variograms were run for different orientations including on strike, dip, and across the ore zones.

Gold and copper composite values were capped according to the statistical review of the data in order to prevent outlying values from unnecessarily influencing the model toward higher gold and copper values. PAH does not believe that the composite grade capping will have a great influence on the overall model but it could locally prevent grade overestimation.

The gold and copper grade interpolations for the mineral envelopes only used the 6m down hole composites that fell within the grade envelopes. Only blocks within the grade envelopes received an Au or a Cu grade. The ordinary rigging (OK) interpolation method was used for all runs.



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## Resource Statement

Table E-1 tabulates the measured, indicated and inferred resources at Brisas and shows the tonnage/grade variability at various gold equivalent cutoff grades. Gold equivalent calculations are based on metal prices of \$350/ounce Au, and \$0.90/lb Cu, anticipated metal recoveries, and smelter costs.

Cutoff grades for reporting the mineralized material are based on a gold equivalent which equates the copper grade to a gold grade based on the relative value and then adds the gold grade to get an overall grade. The value of the copper and gold were based on metal prices of \$0.90/lb for copper and \$350.00/oz for gold, and the relative recoveries.

At a 0.4 AuEq cutoff grade the measured and indicated resource is 503 million tonnes at a gold grade of 0.68 gpt and a copper grade of 0.13 percent. In addition, the inferred resource at Brisas is estimated as 127 million tonnes at 0.65 gpt gold grade and 0.13 percent copper grade at a 0.4 AuEq cutoff grade. The inferred resources include the inferred mineralization both within and outside the mineral envelopes.

PAH believes that the resource estimate included in this report conforms to international standards such as the Canadian Institute of Mining (CIM) definitions as adopted by Canadian National Instrument NI 43-101, and that the current drill hole database is sufficient for generating a feasibility level resource model.

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**TABLE E-1 Mineral Resource Estimate****Gold Reserve, Inc.****Las Brisas, Venezuela****Feasibility Study**

Category	AuEq Cutoff	k tonnes	Gold		Copper	
			gpt	k ozs	%	m lbs
Measured	0.3	252,974	0.641	5,213	0.114	634
	0.4	217,883	0.700	4,905	0.118	566
	0.5	177,433	0.774	4,418	0.126	492
	0.6	139,905	0.858	3,860	0.134	412
	0.7	107,966	0.950	3,298	0.141	335
Indicated	0.3	348,070	0.586	6,558	0.130	995
	0.4	284,941	0.662	6,066	0.132	827
	0.5	226,512	0.742	5,406	0.138	688
	0.6	175,731	0.829	4,681	0.144	557
	0.7	134,161	0.921	3,975	0.147	434
Measured + Indicated	0.3	601,044	0.609	11,771	0.123	1,630
	0.4	502,824	0.678	10,971	0.126	1,393
	0.5	403,945	0.756	9,824	0.133	1,180
	0.6	315,636	0.842	8,541	0.140	969
	0.7	242,127	0.934	7,273	0.144	769

Note: AuEq based on the "Smelter Case". AuEq= Au (gpt) + Cu (%) \* 0.9

Category	AuEq Cutoff	k tonnes	Gold		Copper	
			gpt	k ozs	%	m lbs
Inferred(*)	0.3	172,414	0.539	2,986	0.131	497
	0.4	126,561	0.649	2,641	0.133	370
	0.5	94,973	0.753	2,299	0.135	282
	0.6	68,723	0.875	1,933	0.139	210
	0.7	53,069	0.975	1,664	0.141	165

Note: AuEq based on the "Smelter Case". AuEq= Au (gpt) + Cu (%) \* 0.90

(\*) Inferred resources include both within and outside the mineral envelopes.

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## Mining and Reserves

The Brisas Project is an open-pit gold-copper mining project, which will utilize hydraulic shovels and 236-tonne trucks as the primary mining equipment. Production is scheduled for 25.2 million tonnes of hard rock ore and on average 46.8 million tonnes of waste per year over the 16 years of the project. During the first four years of the project 9.4 million tonnes of oxide saprolite ore and 12.6 million tonnes of sulfide saprolite ore are mined. Each saprolite ore type is stockpiled separately and fed to different crushers at a rate of 1.94 million tonnes per year.. Total reserves are estimated at 414.6 million tonnes of ore at a gold grade of 0.69 grams per tonne and a copper grade of 0.13 percent with a strip ratio of 1.81 tonnes of waste per tonne of ore. Reserves are based on \$350/oz gold price and \$0.90/lb copper price.

There are two hard rock ore types, which are referred to as north and south. Although the names imply a geographic relationship the two ores are actually defined based on the copper content. North ore is a gold-chalcopyrite-pyrite with a copper content greater than or equal to 0.05 percent. South ore is a gold-pyrite with a copper content less than 0.05 percent. In general the ore types split at 681,800 north; however, both occur on either side of this line.

Pincock Allen & Holt (PAH) developed the production schedule based on targeting a 50/50 blend of the two hard rock ores. Overall the split between these two ore types is 54 percent northern hard rock and 46 percent southern hard rock. Because of this split the target was to have at least 50 percent northern hard rock.

## Mine Design

Design of the ultimate pit was based on the results of a Whittle Lerchs-Grossmann pit shell analysis. Whittle is a software package that uses the Lerchs-Grossmann algorithm to determine the approximate shape of a near-optimal pit shell based on applied cutoff-grade criteria and pit slopes. These shells are generated from the geologic grade models, and economic and physical criteria.

In the Whittle analysis, for the ultimate pit design, the pit shells were allowed to cross the northern Brisas concession boundary. All of the material in this area was treated as waste rock. Allowing the crossover into the Cristinas contract area that maximizes the metal recovery on the Brisas concession.

Both of the saprolite ores are stockpiled since they have to be mined at a rate that exceeds their milling rate in order to meet the hard rock ore production requirements. Oxide saprolite mining is completed in Year 3 but milling is not completed until Year 5. Mining of sulfide saprolite ore ends in Year 4 but milling is not completed until Year 7. Plans are for the hard rock to be dumped directly into the primary crusher, near the pit exit on the east side, to minimize stockpiling and rehandling.

All of the waste rock, except that used for tailings dam construction, will be disposed of in the waste rock dump located to the west of the pit. There is the potential for the waste rock dump to be located over the down-dip extension of the existing ore body. Placement of this dump was based on an allowance of 200 meters beyond the Whittle pit shell based on a gold price of \$500 per ounce and measured, indicated, and inferred resources. Exploration drilling is ongoing on the west side of the pit, which could result in the pit expanding.

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## Reserve Estimate

Since Brisas has two primary metals, gold and copper, a cutoff grade based on a single metal does not account for the value provided by the other metal. At Brisas the breakeven mining costs increase with depth, which causes the breakeven cutoff grade to increase with depth as well. Because the internal cutoff grade does not include mining costs there is a single internal revenue cutoff grade. For reserve reporting, PAH used an internal revenue cutoff grade of \$2.76 per tonne.

Using the revenue per tonne cutoff grade of \$2.76, PAH calculated the reserves for the ultimate pit. Total proven and probable reserves for Brisas are estimated at 414.6 million tonnes of ore at a gold grade of 0.69 grams per tonne and a copper grade of 0.13 percent. There are a total of 748.3 million tonnes of waste in the pit resulting in a strip ratio (waste/ore) of 1.81. Table E-2 summarizes these reserves by category.

**TABLE E-2**  
**Gold Reserve Inc.**  
**Las Brisas, Venezuela**  
**Reserve Estimate**

Reserve Category	Tonnage (000's)	Au Grade g/t	Au grams 000's	Au ounces 000's	Cu Grade %	Cu tonnes	Cu M pounds
Proven	193,248	0.71	136,826	4,399	0.12	237,985	525
Probable	221,315	0.68	149,548	4,808	0.13	296,823	654
Total Ore	414,563	0.69	286,375	9,207	0.13	534,808	1,179
Waste	748,333		Strip Ratio	1.81			
Total In-Pit	1,162,895						

Footnote: Based on Internal Cutoff Using Revenue of \$2.76/tonne (\$350/oz Au, \$0.90/lb Cu)

The proven and probable reserve (within a pit design) has been estimated in accordance with the SME Reporting Guide, SEC Industry Guide 7 and CIMM Standards as adopted by CSA National Instrument 43-101. The qualified persons involved in the property evaluation and resource and reserve estimates were Raul Borrastero C.P.G. and Susan Poos P.E. of Pincock Allen & Holt, and Brad Yonaka of Gold Reserve.

The economic analysis, which can be found in Section 19 of this report, is positive at metal prices of \$350/oz for gold and \$0.90/lb for copper and the tonnages reported in Table E-2. Therefore the economic criteria are met and this can be classified as a reserve.

The reserve estimate in Table E-2 is based on the assumption that a back slope agreement will be reached with Las Cristinas. PAH believes that this assumption is valid because back slope agreements are a common practice in the mining industry and both the government, Corporacion Venezolana de Guyana (CVG) and Crystallex have indicated to GRI that a back slope is probable in order to maximize the recovery of the resource. Also, the back slope agreement would allow the CVG contractor to mine onto the Brisas concession in the event their mine plan reaches the border area first.

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## Mine Operations

Plans are for the Brisas mine to operate two 12-hour shifts per day, 7 days per week for a total of 14 shifts per week. The mine operation schedule allows for 26 shifts per year being lost due to weather delays in the mine. It is envisioned that mining of ore would occur on both shifts in order to minimize stockpiling and rehandling. Scheduled work time is 10.5 hours per shift, that allows 30 minutes for meals, 30 minutes of delays, and 30 minutes lost during shift change.

Mine equipment requirements were developed from the annual mine production schedule, based on the mine operation schedule, equipment availability, and equipment productivities. The mine equipment fleet will include 30m<sup>3</sup> hydraulic shovels, 18m<sup>3</sup> wheel loaders, 236-tonne class haul trucks, and 251mm diameter track-mounted rotary drills.

Mine personnel includes all the exempt and non-exempt people working in the mine operations, maintenance, engineering, and geology departments. This includes the Mine Manager position; however, the General Manager is included in the Project General and Administrative costs.

Salary staff requirements have been estimated for mine operations, maintenance, engineering, and geology personnel. A mine work schedule of two shifts per day and seven days per week was used requiring four work crews with a shift supervisor assigned to each crew. The salaried mine staff includes a maximum of 75 people during mine production with a maximum of eight expatriates. Expatriates are replaced over time with a reduction to 4 by Year 2 and down to 1 from Year 3 through Year 16.

## Metallurgy and Milling

The final ore milling and copper and gold recovery processes used as the basis for this Final Feasibility Study were developed by way of an extensive metallurgical testing program. The initial phase of metallurgical testing was conducted prior to 1998 and was used to support a Pre-Feasibility Study prepared by JE MinCorp and issued in February, 1998. As part of the metallurgical test program for the Pre-Feasibility Study, heap leaching of the ore was investigated as a preferred processing route. The test work demonstrated that heap leaching was not a viable alternative for recovering precious metals due to high cyanide consumption and low gold recovery. High cyanide consumption was caused by cyanide soluble copper in the ore and low gold recovery was due to the very finely disseminated nature of the gold within the ore.

From 1999 through 2004, a significant amount of metallurgical testing ensued. Metallurgical testing was completed using both core samples and a bulk ore sample. The test work included bench scale testing on core samples and a portion of the bulk ore sample, and pilot plant testing using the bulk ore sample. The focus of the metallurgical testing included the following:

- Defining the grinding and flotation characteristics of the different ore types and ore blends
- Cyanide leaching characteristics of the 1<sup>st</sup> cleaner flotation tailing for recovery of additional gold
- Optimization of the flotation process

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- Mineralogy of the four primary ore types and various flotation products
- Mineralogy of final tailing
- Metallurgical testing to support trade-off studies of alternative processing routes for the both ores and concentrates
- Detailed chemical analysis of concentrates and final tailing to support environmental studies and smelting inquiries
- Physical testing of ores, concentrates and tailing to support the engineering activities relevant to the completion of this Feasibility Study.

## ***Testwork for Flotation***

Three distinct test programs were pursued with respect to developing a concentrator flowsheet: a grinding study, bench scale grinding and flotation studies and cyanide leach testing, and pilot scale operation of the selected process. A.R. MacPherson Consultants Ltd. conducted tests to determine the size reduction characteristics of the various ore types. Grinding tests included determination of crushing work indices, autogenous mill work indices, Bond rod and ball mill work indices and abrasion indices. The data developed from the grinding tests was used along with the J.K SimMet grinding circuit simulation software to select the grinding mill circuit configuration and predict the power consumption of the grinding mills.

The latest in-depth flotation test work was conducted primarily by SGS Lakefield Research in Lakefield, Ontario, Canada. The bulk of the metallurgical testing was completed on core samples collected from various sections of the ore body and representing the four major ore types. Bench scale testing was used to determine basic flotation characteristics and reagent scheme for the four ore types.

Flotation tests indicated that including oxide saprolite in the flotation circuit feed resulted in the deterioration of the flotation process. The flowsheet was modified to bypass oxide saprolite around the flotation circuit and to set-up a separate circuit to slurry the oxide saprolite and feed it, at a controlled rate, directly to the cyanide leach. The sulfide saprolite had recoverable amounts of copper minerals which made direct leaching of the sulfide saprolite problematic. Test work indicated that introduction of sulfide saprolite at about 8% of the total feed (6,000 tonnes per day) does not harm the flotation circuits.

In addition, test work indicated that a mill feed grade equal to or greater than 0.10% copper was required to reliably produce a marketable concentrate. To maintain a minimum copper grade of 0.10% in the mill feed a blend of ores from the copper rich northern section of the mine and the copper poor southern section of the ore body was required to maintain the minimum copper grade throughout the life of the project.

Bench scale locked cycle tests were conducted to help determine final flotation kinetics and circulating loads. Triplicate locked cycle tests were also conducted to test the robustness and reproducibility of the final process flowsheet. The locked cycle tests were successful in confirming the process design and the data was used to finalize the details of the Final Feasibility Study Process Design Criteria.

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## ***Alternative Flowsheet Testwork***

As part of the metallurgical test program, alternative hydrometallurgical processes were investigated, using copper concentrates, and high temperature pressure leaching that resulted in the production of copper cathode and the capture of the gold in the copper electrowinning circuit slimes and ultimately as a gold/silver doré. The hydrometallurgical processes investigated were the CESL process and a pressure oxidation process. To complete pilot scale hydrometallurgical testing, approximately 25-tonnes of copper concentrate with three distinct copper grades were required. To produce this copper concentrate 700-tonnes of ore was taken from the northern portion of the ore body. A pilot plant was assembled at SGS Lakefield that mimicked the selected concentrator flowsheet. While this sample was not representative of the ore body some significant general conclusions can be inferred from the pilot plant operation:

1. The ore responded very well to flotation with good copper recovery and marketable copper concentrates were easily produced;
2. Overall gold recovery remained remarkably consistent with the inclusion of the cyanide leach of the 1<sup>st</sup> cleaner tailing;
3. Operation of the pilot plant did not reveal any unforeseen operating problems such as an unusual buildup of circulating loads of middling particles.

Results of the bench scale batch hydrometallurgical tests were encouraging but larger scale semi-continuous tests performed with mixed results. As a result the hydrometallurgical test program was placed on hold. The majority of the copper concentrates produced by the pilot plant were stored for future test work.

Whole ore cyanidation tests of the north, south and a blended ore were completed at a grind size of 100-microns. Copper was not recovered in these tests. Gold recovery was equivalent to or slightly better than the concentrator flowsheet while cyanide consumption remained reasonable. The capital costs for the grinding circuit, leaching circuit, and cyanide destruction circuit were greater than the capital costs for the concentrator option with the loss of copper revenues and high capital cost, together with the loss of copper revenues dictated that the whole ore leaching processing route would not be considered further.

## ***Testwork for Other Purposes***

Additional process and material characterization tests were conducted to support environmental and engineering activities including: concentrate settling tests, tailing settling tests, multi-element analysis of concentrates and tailing, rheology tests of slurries, acid-base generation studies, cyanide destruction tests and concentrate transportable moisture limit testing.

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## Summary

A brief summary of the metallurgical parameters for the concentrator design are given in the following summary

<b>Process Metallurgical Design Summary</b>	
Ore Grade	
Au, g/t	0.691
Cu, wt%	0.129
Mill Throughput, avg. t/d	70,000
Primary Grind Size, P <sub>80</sub> in microns	110
Rougher Conc. Re grind Size, P <sub>80</sub> microns	37
Recovery of Metal to Concentrate	
Au, wt %	63
Cu, wt %	87
Recovery of Gold in 1 <sup>st</sup> Cleaner Tailing	
Au, wt% of total Au in ore	22
Recovery of Metal to Products	
Au, wt %	83
Cu, wt %	87
Copper Concentrate Grade	
Au, g/t	92
Cu, wt %	24
Copper Concentrate Transportable Moisture Limit	
Moisture, wt %	9.7

The flowsheet developed as a basis for this feasibility evaluation includes:

- Primary crushing using a gyratory crusher (1372 mm x 1905 mm x 600 kW)
- Grinding by two SAG mills (11.0 m dia x 5.8 Long x 13,500 kW ea) and four ball mills (6.4 m dia x 11.4 long x 9,325 kW ea)
- Gravity concentration in the grinding circuit for coarse gold recovery estimated at 13%
- Rougher flotation yielding 95% copper recovery and 85% gold recovery;
- Re grinding and four-stage production cleaner flotation to produce a 24% copper concentrate, containing 61.3% of gold in the ore;
- Cyanidation of cleaner scavenger tailings and oxide saprolite;
- Gold and silver recovery by carbon-in-pulp adsorption, stripping, electrowinning and smelting to produce doré bars;
- Copper concentrate filtering, loading onto trucks, haulage to port, storage at port and loading into bulk material handling ships.
- The process plant based on a two grinding trains, using the equipment of proven size designed to process 70,000 tonnes per day or 25.2 million tonnes per year of ore. During the first seven years sulfide saprolite is added to the grinding circuit at the rate of 6,000 tpd.



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Oxide saprolite is added directly to the cyanide leaching circuit at a rate of 6,000 tpd over the initial five years of operation.

## Tailings Disposal and Management

Two tailings streams will be produced, one from the initial flotation process and one from the detoxified, cyanide leach process. The tailings from the leach step, which accounts for approximately 10% of the overall tailings stream, are detoxified by the INCO process. Flotation tailings (approximately 90% of the total tailings stream) will be co-mingled with the cyanide tailings after cyanide destruction and deposited into the tailings impoundment.

The proposed tailings facility is located approximately 7 km south-southeast of the pit and has been designed to store the entire volume of tailings from the Brisas ore bodies, which is currently estimated at approximately 414.6 million tonnes. Additionally, the facility is designed to be expandable to store up to 500 million tonnes to handle future ore reserves. The proposed tailings facility consists of a compacted earth and rock fill dam with a maximum upstream toe to crest height of approximately 52 meters.

A downstream method was chosen for dam raises in order to allow continuous operational expansion utilizing mine waste. A seepage control system and passive treatment of excess water in the impoundment form the basis of the environmental control strategy for the Brisas tailings facility. A seepage cutoff trench will be installed along the perimeter of the facility beneath the tailings embankments to limit excessive seepage within the impoundment basin and a geomembrane liner core will be used to control seepage through the embankments. The facility is intended to provide a final repository for the tailings, effectively isolating the processed ore from the environment.

Based upon the current data, the geochemistry of the tailings and of the supernatant solution indicate that the tailings are benign. The water quality indicated by the testing would suggest that no issues of concern exist in regard to potential discharges from the tailings facility. This is based upon no long-term kinetic behavior in relation to oxidation of residual sulfides and potential acid generation. With the current understanding of the proposed operation of the tailings impoundment, and considering the climatic conditions of the site, the presence of the acid neutralizing minerals and the saturated condition of the solids would suggest that oxidation and acid generation are unlikely to occur.

## Hydrology

The site averages of approximately 3 meters of rainfall a year up to 3,864 cubic meters per hour ( $\text{m}^3/\text{hr}$ ) (17,000 gallons per minute) could enter the pit as groundwater and surface water inflow. For this reason, pit dewatering is a crucial expectation of the overall operation of the pit. An optimal dewatering system would consist of a series of wells pumped using submersible pumps and be designed based on the simulation of the various phases of pit development. Towards this end, the best option consists of using 50 dewatering wells in combination with cutoff wells and temporary in-pit wells. This reduces the maximum groundwater inflow to 548  $\text{m}^3/\text{hr}$  (2,411 gpm).

In the pit, localized dewatering techniques including vertical, inclined, or horizontal drains will most likely be required to enhance drainage. In addition, pressure relief wells may be required

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for depressurizing the pit floor. The in-pit water control system would be phased in as the mining progresses and would consist of a series of submersible pumps on barges which could be placed in sumps at various levels in the pit. As the pit reaches the final depth, these pumps would be combined into one unit. As required, turbine pumps placed at booster stations will be used to lift water from the pit. If sediment becomes a problem, submersible pumps may be switched to slurry pumps or placed on barges. Water from the well dewatering system will be collected by a series of laterals connecting to two trunk lines on each side of the final pit.

Groundwater quality data collected to date indicates that groundwater is of good quality and could be discharged directly into the receiving waters. Discharge from the sump, if necessary will be placed in holding ponds outside of the pit for settling solids. However, an effort will be made for sediment to settle directly in the pit.

## Site Water Management

The terrain of the project area is relatively flat with some rolling hills, is mostly covered by moderately dense Sub-Amazon type, tropical rain forest. Large trees typically range in height from 25 to 35 meters, and are often accompanied by thick, dense undergrowth. Temperatures typically range from 22<sup>o</sup> C to 36<sup>o</sup> C and more than 3 meters of rain falls on average per year. The rainy season typically extends from May through October, although there are significant rainfall events throughout the year.

The study identifies the appropriate hydrologic methodology and develops design storm events and flows for the project site for use in design of the storm water management, water retention, and milling and process facilities. The site water management plan addresses large amounts of water, both from rainfall and flooding. The Rio Cuyuni is the major hydraulic control in the area, and gradients are very flat in the area. Significant rainfall events quickly cause rises in water surface elevations of the main stems and result in backwater conditions that propagate upstream in adjacent tributaries. For this study, the 2-year, 5-year, 10-year, 50-year, 100-year, and probable maximum precipitation (PMP) events were developed using a methodology suitable for the site conditions, and the results were used to estimate rainfall runoff peaks and volumes for design.

Large areas will be disturbed by construction and mining activities and sediment control facilities were designed to store the 10-year, 24-hour design flow event and maintain discharged total suspended solid concentrations approximately equal to preexisting levels. The only two exceptions are the flocculation ponds west of the open pit that will treat the pumped water evacuated from the sumps in the pit before release back into the environment. The flocculation ponds are smaller than the majority of the sediment ponds and cannot store the larger storm events, but the flocculation will settle the suspended solids so that discharge levels are approximately equal to preexisting levels. There are several sediment ponds located throughout the site that range in size between 5,000 and 127,000 cubic meters. Best management practices are employed wherever mining or construction activities will be occurring and soils disturbed in order to reduce the sediment yield.

Roadways and local drainage from facilities will be sloped to drain, and the storm water facilities and diversions are designed to flow into the sediment basins. Wherever a facility crosses a drainage way, the channel is diverted around or culverts installed. The culverts for the access

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and haul roads and diversion canals were designed with sufficient capacity to convey the 10-year, 24-hour design storm event without overtopping.

### Ancillary Facilities

To support the mining and milling operations at Brisas, a number of ancillary facilities will be required. These include a mine equipment maintenance shop, warehouse, reagent storage building, laboratory and administration offices.

Two access roads from Highway 10 will be provided and improved, one leading to the mining area, and one to the process area. A network of service roads will be constructed to allow access to the camp facility, tailings dam, sedimentation ponds, explosives magazine and other remote installations.

A water supply and distribution system will be constructed, using the pit dewatering wells as a source of fresh water. The mill area, mining area and the campsite will each be provided with a sewage collection and treatment system.

Gold Reserve's existing offices in Puerto Ordaz and Caracas will be maintained to provide support to the operating plant.

### Regional Infrastructure

The project site is located in the Guyana region, which makes up approximately one-third of Venezuela's national territory. The main city is Puerto Ordaz, with approximately 700,000 inhabitants, situated on the Orinoco River near its confluence with the Caroní River. Puerto Ordaz has major port facilities, accessible to ocean-going vessels from the Atlantic Ocean, via the Orinoco, a distance of about 200 km.

Puerto Ordaz is the center of major industrial developments in the area, including iron and steel mills, aluminum smelters, iron and bauxite mining, and forestry. These industries are supported by major dams and hydroelectric generating plants on the Caroní River, providing 12,900 MW of electricity.

Puerto Ordaz is a modern urban center with good road and air connections to the rest of Venezuela. There are regular scheduled flights to Caracas and other major cities several times daily.

There are also port facilities 428 km northwest of Puerto Ordaz on the Caribbean coast. Guanta, near Barcelona, would likely be the port of entry for most construction, mining and milling equipment. The port facilities at Puerto Ordaz are generally dedicated to serving bulk carriers. General cargo and containers are not regularly handled. However, it appears that Puerto Ordaz has potential for the development of facilities for the export of copper concentrates in bulk.

The highway system within Venezuela is good, with standards close to those of the United States and Canada. Paved roads in very good to excellent condition provide access to within 3.5 km of the site. Four-lane highways run from Puerto Ordaz both northwest to Barcelona and Guanta, and for 55 km south to Upata.

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The CVG power authority, Electrificación del Caroní C.A. (EDELCA), has constructed power line south from Puerto Ordaz into Brazil. They have constructed a substation at Las Claritas to supply sufficient power for Gold Reserve's Brisas project.

## Owner's Implementation Plan

Upon completion of the bankable feasibility, Gold Reserve Inc. plans to commence several activities in order to initiate the development and construction of the Las Brisas mine and mill complex. This includes initiating detailed engineering, hiring additional highly qualified managers, finalizing permitting to construct and complete financing of the project. In addition, orders will be placed for equipment that requires long lead times for manufacturing and delivery. Likewise, negotiations will be concluded for electrical power, concentrate smelting agreements and final port arrangements.

### Detailed Engineering

Proposals will be solicited from major Engineering, Procurement and Construction Management firms (EPCM) with International experience for the detail design and construction management. This would include the geotechnical consultants required for the final tailings dam design. Gold Reserve would then enter a contract for these services with the selected EPCM firm and anticipates completion of this activity by the first Quarter of 2005. Detailed engineering for earthwork activities, the construction camp and other early construction facilities would commence immediately.

### Environmental

Information from the feasibility study is being used to complete an Environmental and Social Impact Assessment (ESIA) and to complete the permitting required to initiate construction. The ESIA will meet the IFC and World Bank standards for financing international projects. Baseline data for the ESIA was collected in 2004 as well as consolidating data from previous studies in the area. The environmental analysis and assessment is scheduled for completion early in the second quarter of 2005.

At the same time, an Environmental Impact Study is being completed to meet Venezuela requirements. An application will also be prepared to obtain an "Authorization to Affect Natural Resources (AANR)" (*Autorización de Afectación de Recursos Naturales*), which is granted by the Ministry of Environment and Natural Resources (MARN).

In addition, final assessments of air emissions, water quality, geochemistry of tailings and waste rock and other environmental impacts and mitigation are being addressed. This work will be completed and included in the above studies and permit documents. Mitigation of environmental impacts will be included in the detail design work that will commence in the second quarter of 2005.

Community assistance and development programs will be continued and refined. Gold Reserve and the selected EPCM firm will also develop and initiate basic skills training for construction in the km 88 area.

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Project No. R0329700

Las Brisas Project

January 2005

## EPCM Implementation Plan

The EPCM contractor implementation plan will work in conjunction and supplement the owner's implementation plan the initial activities includes:

- Basic and Detail engineering utilizing technical skill and experience required to successfully execute the size of this project is available
- Negotiation with major equipment vendors for purchase of long lead process and mine equipment.
- Prepare and award subcontracts for camp, catering and aggregate crushing plant.
- Assist owners procure to procure and install pit dewatering system
- Prepare and award subcontracts for temporary utilities for construction requirement
- Prepare major subcontracts for work, cleaning of tailings dam area

## Project Schedule

The project schedule was developed based on the following criteria and assumptions:

- The detail engineering, procurement, construction and commissioning planning of the Las Brisas project will be executed from the EPCM design office where the technical skill and experience is available.
- The award of the EPCM contract prior to project funded.
- Award and release for fabrication of major equipment such as SAG mills and Ball mills, crushers transformers and selected mine equipment to support early construction activities.
- Procurement of camp facility
- Start of pre-construction activities such as clearing of tailings dam area, install pit dewatering, constructing of access roads, haul roads and excavation of plant site.

The estimated duration for major activities are:

- |                               |              |
|-------------------------------|--------------|
| • Engineering and Procurement | 18-20 months |
| • Construction                | 24-26 months |
| • Commissioning and Start up  | 3 months     |

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Project No. R0329700

Las Brisas Project

January 2005

## Manpower Requirements

The manpower requirements for the project will include personnel from a major Engineering, Procurement and Construction Management (EPCM) firm, consultants for the mine and tailings dam design and Gold Reserve, Inc. general and administration. Mine maintenance and operations and mill maintenance and operation

The estimated manpower requirement was estimated based on:

- Manhour required for engineering and procurement
- Manhours for construction Management including local hire personnel supports
- Manhours required to design the Mine and Tailings dam
- List of Gold Reserve General and Administration personnel
- List of Mine maintenance and operation
- Mill maintenance and operation Organization Chart.

Manpower requirement in various phases of the project is summarized in Table E-4 below:

**TABLE E-4**  
**Gold Reserves, Inc.**  
**Las Brisas, Venezuela**  
**Feasibility Study**

Manpower requirement in various phases of project is summarizes as follows:

	Engineering and Construction			Operation
	Mid Year -3	Mid Year -2	Mid Year -1	Year 1 to 15
Engineering and Procurement	67	58	0	
Construction Management	6	74	60	
Construction Labor	0	1,350	120	
Sub Contractor	0	440	0	
Commissioning and Start-up	0	0	15	
Subtotal	73	1922	195	
Contractor Services	0	40	40	25
Mine Operation	1	208	283	259-535
Mill Operation	1	3	74	156-235
Brisas Site G & A	2	6	60	104-124
Subtotal	4	257	457	643-903
Puerto Ordaz Admin	15	15	24	28
Caracas Admin	3	3	3	3
<b>TOTAL</b>	<b>95</b>	<b>2197</b>	<b>679</b>	<b>674-934</b>

# Aker Kvaerner

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The Las Brisas organization will employ a total of 18 expatriate in the first 5 years operation and this the number of expatriate will be phased down to 3 as the skill and the experience is transferred to local management personnel.

## Reclamation and Closure

The objectives, criteria and conceptual plans proposed in the Reclamation and Closure Plan will be the subject of future mine management and planning and as such, subject to continuing refinement. The Plan is designed to provide practical onsite guidance for the implementation of the principles outlined and will undergo regular review as appropriate and necessary to update the Plan.

It should be noted that a complete environmental impact assessment program is being conducted according to the laws of Venezuela to satisfy the requirements of the Ministry of Environment and Natural Resources (MARN) and an International Environmental and Social Impact Assessment (ESIA) program is being conducted according to the guidelines of the World Bank Group (International Finance Corporation-IFC). The Plan will satisfy all requirements outlined in these assessments.

There are a number of significant remediation and reclamation components within the Plan, including:

- Closure and reclamation of the tailings storage facilities.
- Closure and reclamation of the open pit area.
- Closure and reclamation of the waste rock stockpile.
- Closure and reclamation of the sediment ponds.
- Closure and reclamation of the access and haul road between the crusher site and the tailings facility.
- Venezuelan Mining Regulations require that all buildings, facilities and equipment owned by GRI at the time of abandonment be turned over to the State. All the facilities will be left intact in anticipation of annexation to the local community for continued beneficial use.

## Concentrate and Gold Sales

Operations at Brisas are expected to produce an annual average of 124,000 tonnes per year of copper concentrate, containing 63 million pounds of copper, and 359,000 ounces of gold. A further 127,500 ounces per year of gold will be produced in the form of doré.

A 20,000 metric tonne concentrate storage and ship loading facility will be constructed in Puerto Ordaz. Copper concentrate will be trucked to this facility for ocean shipment to a smelter, probably in Europe, Japan or Southeast Asia.

Doré will be sold in Venezuela or shipped to the United States, Canada or Europe for refining by one of the internationally-established refiners.

# Aker Kvaerner

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## Project Economic Model

This feasibility study has established that the Las Brisas deposit can be economically developed by open pit mining followed by a gravity circuit, flotation to generate a gold-copper concentrate, and cyanidation of cleaner tailings for gold and silver recovery. This study indicates that 9.2 million ounces of gold in 414 million tonnes of ore at an average gold grade of 0.69 grams per tonne and an average copper grade of 0.13% can be mined and processed economically to recover 7.59 million ounces of gold and 979 million pounds of copper. In addition, approximately 5.6 million ounces of silver are anticipated to be recovered as a by-product with the gold.

Development of the project yields a pre-tax discounted cash flow rate of return of 12.0% and a net present value of \$388 million (5% discount rate) at a gold price of \$400/oz, a silver price of \$5.50/oz, and a copper price of \$1.00 per pound. Total pre-tax cash flow is \$1.04 billion.

Likewise, the Brisas project yields an after-tax discounted cash flow rate of return of 9.1% and a net present value of \$207 million (5% discount rate) at a gold price of \$400/oz, a silver price of \$5.50/oz, and a copper price of \$1.00 per pound. Total after-tax cash flow is \$711 million.

The total initial capital is approximately \$552 million, with an additional \$175 million of sustaining capital (includes final reclamation and VAT) required over the 16 year mine life. The cash operating cost per gold ounce produced is \$154 after by-product credits. When additional production taxes and preproduction stripping are added to the capital costs, total cash and non-cash costs (fully-loaded) are \$263 per ounce.

This feasibility study considers an average annual mining rate of 73 million tonnes over the 15.6 year mine life. This includes 47 million tonnes of waste and 26 million tonnes of ore for an average stripping ratio of 1.81 to 1. Conventional truck and shovel mining methods will be utilized with the processing of ore at 70,000 tonnes per day yielding an average annual production of 486,000 ounces of gold and 63 million pounds of copper over the mine life.

Reserve estimates were based on a gold price of \$350 per ounce, copper price of \$0.90 per pound, and no silver credits. Results from the economic analysis at these prices are shown in Table E-5. Since an after tax total cash flow of \$384 million is achieved the economic criteria for the reserve statement are met.



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Several economic analyses have been completed to provide information on the expected economic performance of the Las Brisas project. All of the economic analyses have been conducted on a 100% equity basis.

**TABLE E-5**  
**Gold Reserves, Inc.**  
**Las Brisas, Venezuela**  
**Feasibility Study**  
**RESERVE CASE AND BASE CASE ECONOMIC EVALUATION**

	Reserve Case	Base Case
Gold Price (\$/troy oz)	\$350	\$400
Copper Price (\$/pound)	\$0.90	\$1.00
Silver Price (\$/troy oz)	\$0.00	\$5.50
<b>Project Economics – Pre-Tax (\$ millions)</b>		
Cash Flow	543	1,037
NPV @ 5%	95	388
NPV @ 10%	(111)	76
IRR	6.8%	12.0%
<b>Project Economics – After Tax (\$ millions)</b>		
Cash Flow	384	711
NPV @ 5%	12	207
NPV @ 10%	(157)	(33)
IRR	5.2%	9.1%
Cash Operating Cost (\$ per oz Gold) <sup>1</sup>	\$171	\$154
Payback (years)	10.8	8.0

(1) Net of copper by-product credit.

## Base Case Evaluation

A base case economic analysis was prepared for the Las Brisas project using a gold price of \$400 per ounce, copper price of \$1.00 per pound, and silver price of \$5.50 per ounce. Results for the base case are summarized in Table E-5. Table E-6 provides a summary of some of the key assumptions and additional detail on the results of the analysis. Cash operating costs are presented for gold on a net of by-product credit basis. Capital costs are also in Table E-6. Project payback is eight years.

# Aker Kvaerner

Project No. R0329700  
Las Brisas Project  
January 2005

**TABLE E-6**  
**Gold Reserve Inc.**  
**Las Brisas, Venezuela**  
**Feasibility Study**  
**BASE CASE KEY ECONOMIC ASSUMPTIONS AND RESULTS**

<b>Base Case Assumptions</b>	
Daily Mill Through-Put	70,000 TONNES/DAY
Mine Life	15.6 Years
<b>Gold Price</b>	\$400/troy ounce
<b>Copper Price</b>	\$1.00/pound
<b>Silver Price</b>	\$5.50/troy ounce
Metallurgical Recovery	
Plant Recovery – Gold	83.1%
Plant Recovery – Copper	86.6%
Net Payable Metal – Gold	82.4%
Net Payable Metal - Copper	83.0%
Life of Mine Production	
Payable Gold	7.59 million troy ounces
Payable Copper	979 million pounds
Average Annual Production	
Payable Gold/year	486,000 troy ounces
Payable Copper/year	63 million pounds
<b>Initial Capital Cost<sup>1</sup> (in millions US 2004 \$)</b>	
MINE	\$106.7 MILLION
Mill	\$276.6 million
Tailings	\$31.6 million
OWNER'S COSTS	\$10.1 million
Pre-Stripping	\$15.2 million
Indirect Costs (includes EPCM and Camp)	\$57.3 million
Contingency	\$54.8 million
<b>Total Initial Capital</b>	<b>\$552.3 million</b>
<b>Capital Costs (in millions US 2004 \$)</b>	
Initial	\$552 million
ONGOING, YEARS 1-16	\$157 million
VAT Expense	\$4 million
Reclamation Expenditure	\$14 million
<b>Total Capital</b>	<b>\$727 million</b>
<b>Working Capital</b>	<b>\$39 million</b>
<b>Cash Operating Costs Per Ore Tonne (in US 2004 \$)</b>	
Mining and Dewatering	\$1.70/ore tonne
Processing	\$2.21/ore tonne
G & A	\$0.39/ ore tonne
Transportation & Freight	\$0.36/ ore tonne
Smelting & Refining	\$0.60/ ore tonne
<b>Total Cash Operating Cost/Ore Tonne</b>	<b>\$5.26/ ore tonne</b>
<b>COST PER OUNCE OF GOLD</b>	
Cash Operating Costs <sup>2</sup>	\$154
EXPLOITATION TAX	\$13
Capital Cost (initial and sustaining)	\$96
<b>Total Costs<sup>3</sup></b>	<b>\$263</b>

(1) A value added tax (VAT) of 15% or \$69 million, is not included in the initial capital as it should be recovered within the first few years of construction and mining.

(2) Net of copper by-product credit.

(3) Net of copper credit and excluding costs incurred to date of approximately US \$80 million.

# Aker Kvaerner

Project No. R0329700

Las Brisas Project

January 2005

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## Major Assumptions

The following is a summary of major assumptions for the economic analysis:

1. The evaluation assumes 100% equity with no debt financing (or gold loan) for a 100% interest in the project.
2. The analysis was done in constant fourth quarter 2004, US dollars with no escalation of operating costs, capital costs, or revenue.
3. Pre-operating, preproduction, and development costs (prior to Year 1) are capitalized until the operation is determined to be substantially complete and ready for operation. These costs are then amortized against the gold ounces of production. In the case of the Las Brisas project the amortization of approximately \$80 million sunk costs and preproduction costs of approximately \$15 million are computed by the units of production method.
4. Working capital for the project consists of initial supply inventory, spare parts, and accounts receivable less accounts payable. Accounts receivable are calculated for monthly revenue based on a 30-day collection period. Accounts payable for cash operating costs are based on a 30-day payment cycle.
5. Income from salvage at the end of the project life is assumed to be zero.
6. Silver is not included in the mine geologic model but has been included in the economic model based on metallurgical test results. Silver provides \$31 million in revenue over the life of the project and has a \$10 million impact on NPV at 5%.
7. Value-added taxes are deducted as an after-tax operating expense and recovered after tax against exploitation tax and income tax. Remaining VAT CERTs are assumed to be sold at 95% of the face value in the open market after holding them in inventory for one year.
8. The study assumes a 34% Venezuelan Corporate income tax rate.
9. The Las Brisas Project is subject to the following exploitation tax which is included in the financial model:
  - 1% of the commercial value in Caracas of refined gold and silver sold in country,
  - 3% of the commercial value in Caracas of refined gold and silver exported (saprolite concession),
  - 4% of the commercial value in Caracas of refined gold and silver exported (hardrock concession),
  - 7% mine-mouth tax on production of copper (net of operating costs).
10. Venezuela is a member of the Andean Community and uses the Andean Community customs tariff. The duty is an ad valorem duty calculated on the cost plus insurance and freight (cif) value of the product. Venezuelan law allows for the exoneration of all or part of the import duties levied upon such equipment and related supplies that are indispensable for the various phases of the mining activities. Pursuant to the exoneration rules contained in the existing law, this feasibility study does not provide for duty taxes on imported goods but does contain a provision for the 1% administration fee, which is not subject to exoneration. With the majority of equipment manufactured outside of Venezuela, the import duty exoneration has been assumed for all major equipment.

# Aker Kvaerner

Project No. R0329700  
Las Brisas Project  
January 2005

## Sensitivity Analysis

Sensitivity analyses were performed on gold price, copper price, metal recovery, capital cost, and operating cost. The sensitivity analyses indicate that project economics are most heavily influenced by metal recovery and the gold price. A 10% change in total metal recovery results in a  $\pm$  \$155 million change in after tax net present value at a 5% discount rate. A \$25 per ounce change in the gold price results in approximately  $\pm$  \$72 million change in after tax net present value at a 5% discount rate. Project economics are also sensitive to changes in operating cost, with a 10% change resulting in a  $\pm$  \$89 million change in after tax net present value at 5%. Project economics are less sensitive to change in capital cost, with a 10% change resulting in a  $\pm$  \$61 million change in after tax net present value at 5%.

**TABLE E-7**

**Gold Reserves, Inc.**

**Las Brisas, Venezuela**

**Feasibility Study**

**ECONOMIC EVALUATION - BASE CASE AND PRICE SENSITIVITY (Gold & Copper move together)**

				<b>Base Case</b>		
Gold Price (\$/ounce)	\$325	\$350	\$375	<b>\$400</b>	\$425	\$450
Copper Price (\$/pound)	\$0.85	\$0.90	\$0.95	<b>\$1.00</b>	\$1.25	\$1.50
Silver Price (\$/troy oz)	\$5.50	\$5.50	\$5.50	\$5.50	\$5.50	\$5.50
<b>Project Economics – Pre Tax (\$ millions)</b>						
Cash Flow	340	573	805	<b>1,037</b>	1,455	1,872
NPV @ 5%	(26)	113	251	<b>388</b>	634	880
NPV @ 10%	(188)	(99)	(11)	<b>76</b>	232	386
IRR	4.5%	7.2%	9.7%	<b>12.0%</b>	15.9%	19.4%
Cash Operating Cost (\$ per oz Gold)	\$174	\$167	\$161	<b>\$154</b>	\$122	\$90

				<b>Base Case</b>		
Gold Price (\$/ounce)	\$325	\$350	\$375	<b>\$400</b>	\$425	\$450
Copper Price (\$/pound)	\$0.85	\$0.90	\$0.95	<b>\$1.00</b>	\$1.25	\$1.50
Silver Price (\$/troy oz)	\$5.50	\$5.50	\$5.50	\$5.50	\$5.50	\$5.50
<b>Project Economics – After Tax (\$ millions)</b>						
Cash Flow	250	404	558	<b>711</b>	988	1,263
NPV @ 5%	(69)	24	116	<b>207</b>	369	531
NPV @ 10%	(209)	(149)	(90)	<b>(33)</b>	70	172
IRR	3.5%	5.5%	7.4%	<b>9.1%</b>	11.9%	14.5%
Cash Operating Cost (\$ per oz Gold)	\$174	\$167	\$161	<b>\$154</b>	\$122	\$90
Payback (years)	12.2	10.5	9.2	<b>8.0</b>	6.4	5.4

# Aker Kvaerner

Project No. R0329700

Las Brisas Project

January 2005

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The following is a summary of major assumptions for the economic analysis:

1. The evaluation assumes 100% equity with no debt financing (or gold loan) for a 100% interest in the project.
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# Aker Kvaerner

Project No. R0329700

Las Brisas Project

January 2005

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**TABLE E-7**

**Gold Reserves, Inc.**

**Las Brisas, Venezuela**

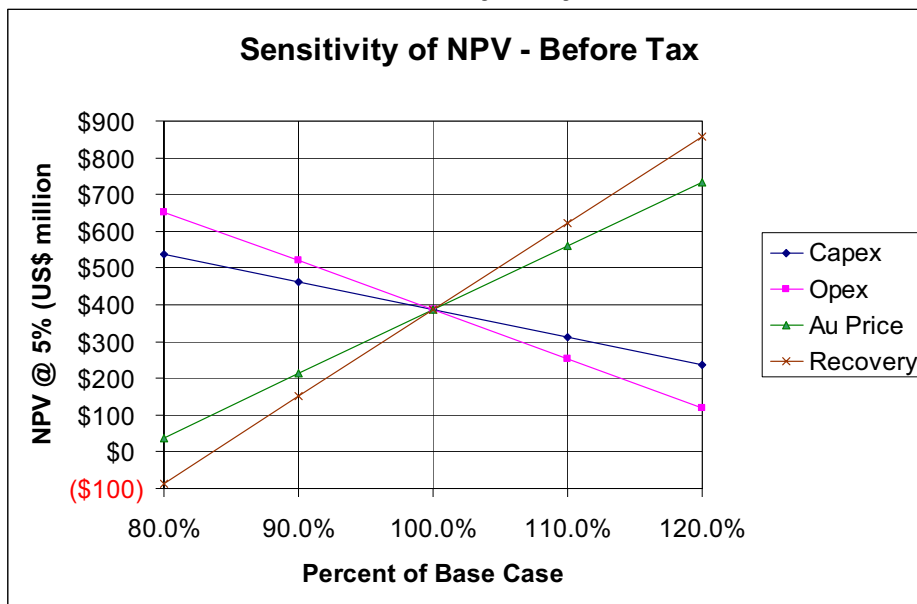
**Feasibility Study**

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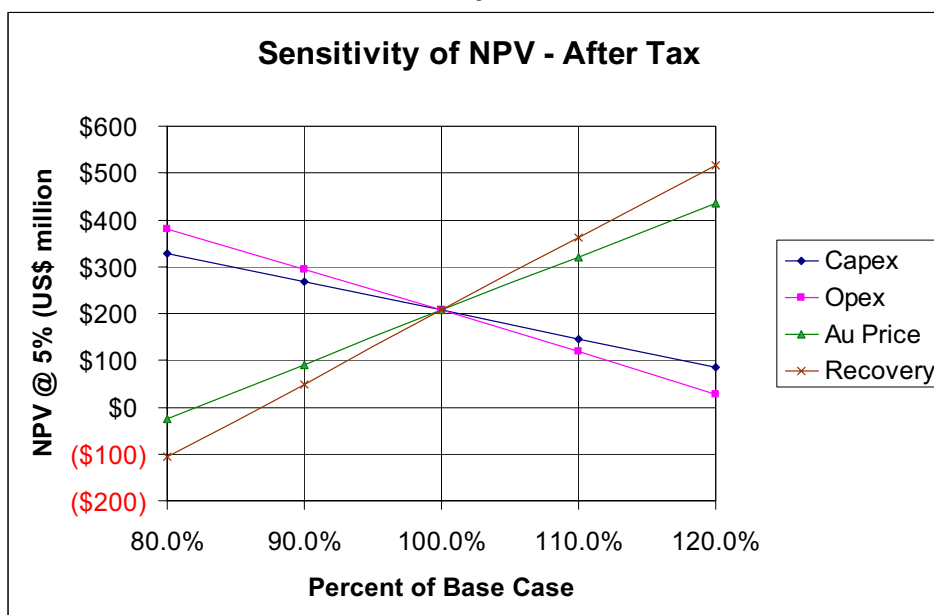
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**Figure 1-1**  
**Gold Reserves, Inc.**  
**Las Brisas, Venezuela**  
**Feasibility Study**



*NPV Sensitivity – Pre-Tax*

**Figure 1-2**  
**Gold Reserves, Inc.**  
**Las Brisas, Venezuela**  
**Feasibility Study**  
**NPV Sensitivity – After Tax**



**APPENDIX H: NEWS RELEASES: LAS BRISAS RESERVES AND RESOURCES**





# Gold Reserve Inc.

NR-05-04

## GOLD RESERVE INCREASES PROVEN & PROBABLE RESERVES TO 10.1 MILLION OUNCES OF GOLD

SPOKANE, WASHINGTON May 17, 2005

**Gold Reserve Inc. (TSX: GRZ – AMEX:GRZ)** is pleased to announce an increase in its proven and probable mineral reserves at the Brisas project. Gold increased to 10.1 million ounces from 9.2 million ounces and copper increased to 1.29 billion pounds from 1.18 billion pounds.

Pincock Allen & Holt, Inc. (“PAH”) of Denver, Colorado has completed the Brisas mineral reserve analysis based on 195,000 meters of diamond drilling in 830 holes. This increase incorporates the Company’s recent 15,000 meter drilling program, the mining and milling costs for the 70,000 tonne per day flotation plant, and the smelter treatment and refining charges for the gold/copper concentrates from the Company’s bankable feasibility study.

The proven and probable mineral reserve estimate is summarized in the following table:

**Brisas Mineral Reserve**

	Reserve Tonnes (millions)	Gold Grade (gpt)	Gold Ounces (thousands)	Copper Grade (%)	Copper lbs. (millions)	Strip Ratio
Proven	206.9	0.726	4,829	0.125	570	
Probable	239.3	0.683	5,255	0.136	720	
Total	446.2	0.703	10,084	0.131	1,290	2.16

The mineral reserve (within a pit design) has been estimated in accordance with the SME Reporting Guide and CIM Standards as adopted by CSA National Instrument 43 – 101, which we believe is substantially the same as SEC Industry Guide 7. The mineral reserve was estimated using metal prices of US \$350 per ounce gold and US \$0.90 per pound copper with an internal revenue cutoff of US \$3.00 per tonne. The qualified persons involved in the reserve estimates are Raul Borrastero, C.P.G. and Susan Poos P.E. of PAH and Brad Yonaka, Exploration Manager and Daniel Thompson, Manager Technical Services for the Company.

Doug Belanger, President, stated, “With the new proven and probable reserves and only 35.8 million shares outstanding, Gold Reserve has over 0.28 ounces of gold per outstanding share, which is the highest in the industry.”

The Brisas operating plan from the January 2005 bankable feasibility study anticipates processing ore at 70,000 tonnes per day, yielding an average annual production of 486,000 ounces of gold and 63 million pounds of copper. Cash operating costs (net of copper by-product at US \$1.00 per pound) are estimated at \$154 per ounce of gold and total costs per ounce, including operating costs and initial and sustaining capital, are estimated at \$263 per ounce of gold.

Gold Reserve Inc. is a Canadian company, currently developing its Brisas gold/copper project in Southeastern Venezuela.

Information regarding Gold Reserve Inc. is located at [www.goldreserveinc.com](http://www.goldreserveinc.com)

Certain statements included herein, including those that express management's expectations or estimates of our future performance, constitute "forward looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995. Forward looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by management are inherently subject to significant business, economic and competitive uncertainties and contingencies. We caution that such forward-looking statements involve known and unknown risks, uncertainties and other risk factors that may cause the actual financial results, performance, or achievements of Gold Reserve to be materially different from our estimated future results, performance, or achievements expressed or implied by those forward looking statements. These are discussed in greater detail in Gold Reserve's filings with the U.S. Securities and Exchange Commission at [www.sec.gov](http://www.sec.gov) and the Annual Information Form and other reports filed with Canadian provincial securities commissions at [www.sedar.com](http://www.sedar.com). Gold Reserve expressly disclaims any intention or obligation to update or revise any forward looking statement whether as a result of new information, events or otherwise.

**FOR FURTHER INFORMATION:**

Internet – [www.goldreserveinc.com](http://www.goldreserveinc.com)

A. Douglas Belanger, President  
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# Gold Reserve Inc.

NR-05-03

## BRISAS MEASURED AND INDICATED GOLD RESOURCE INCREASES TO 12.4 MILLION OUNCES

SPOKANE, WASHINGTON May 13, 2005

Gold Reserve Inc. (TSX: GRZ – AMEX:GRZ) is very pleased to announce a 1.4 million gold ounce and 229 million copper pound increase in the measured and indicated resource at its Brisas project located in Southeastern Venezuela. The measured and indicated gold and copper resources are approximately 12.4 million ounces and 1.6 billion pounds, respectively. The inferred resource at Brisas is an additional 2.46 million ounces of gold and 346 million pounds of copper. The increase in measured and indicated gold and copper resource is in addition to the resource disclosed in the Brisas bankable feasibility study released in January 2005.

The resource estimate incorporates the Company's recent drill program of 15,000 meters and a 0.4 grams per tonne gold equivalent (AuEq) cutoff grade using \$350 per ounce gold and \$0.90 per pound copper. Pincock Allen & Holt of Denver, Colorado is currently completing the proven and probable reserve estimate which is expected to be finalized next week.

Pincock Allen & Holt has completed the resource estimate utilizing various cutoff grades summarized in the following table:

### Brisas Measured and Indicated Resource

Category	AuEq Cutoff	K tonnes	Gold		Copper	
			Gpt	k ozs	%	m lbs
Measured	0.3	285,819	0.636	5,841	0.115	721
	<b>0.4</b>	<b>250,184</b>	<b>0.689</b>	<b>5,541</b>	<b>0.119</b>	<b>656</b>
	0.5	206,653	0.758	5,039	0.127	577
	0.6	156,226	0.861	4,327	0.133	456
Indicated	0.7	120,940	0.953	3,704	0.139	370
	0.3	402,949	0.567	7,351	0.129	1,140
	<b>0.4</b>	<b>332,314</b>	<b>0.640</b>	<b>6,837</b>	<b>0.132</b>	<b>966</b>
	0.5	265,562	0.719	6,139	0.137	802
Measured + Indicated	0.6	193,409	0.834	5,186	0.137	585
	0.7	147,338	0.928	4,398	0.140	454
	0.3	688,768	0.596	13,192	0.123	1,861
	<b>0.4</b>	<b>582,498</b>	<b>0.661</b>	<b>12,378</b>	<b>0.126</b>	<b>1,622</b>
Indicated	0.5	472,215	0.736	11,178	0.133	1,379
	0.6	349,635	0.846	9,513	0.135	1,041
	0.7	268,278	0.939	8,102	0.140	824

### Brisas Inferred Resource

The Brisas inferred resource estimate at various gold equivalent (AuEq) cutoff grades is summarized in the following table:

Category	AuEq Cutoff	k tonnes	Gold		Copper	
			Gpt	K ozs	%	M lbs
Inferred	0.3	178,650	0.490	2,813	0.120	472
	<b>0.4</b>	<b>129,040</b>	<b>0.594</b>	<b>2,464</b>	<b>0.122</b>	<b>346</b>
	0.5	95,492	0.690	2,118	0.124	261
	0.6	63,916	0.835	1,715	0.113	159
	0.7	47,607	0.933	1,428	0.113	118

The geologic resource has been estimated in accordance with the SME Reporting Guide and CIMM Standards as adopted by CSA National Instrument 43 – 101. The gold equivalent (AuEq) cutoff is based on \$350 per gold ounce, \$0.90 per pound copper, anticipated metal recoveries and smelter costs. The qualified persons involved in the resource estimate were Raul Borrastero, C.P.G. and Susan Poos P.E. of Pincock Allen & Holt and Brad Yonaka and Daniel Thompson of Gold Reserve.

The Brisas operating plan from the bankable feasibility study anticipates utilizing conventional truck and shovel mining methods with the processing of ore at full production of 70,000 tonnes per day, yielding an average annual production of 486,000 ounces of gold and 63 million pounds of copper. Initial capital cost and the cash operating cost are estimated to be \$552 million and \$154 per ounce of gold (net of copper by product at \$1.00 per pound), respectively.

Information regarding Gold Reserve Inc. is located at [www.goldreserveinc.com](http://www.goldreserveinc.com)

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**APPENDIX I: NEWS RELEASE: LAS CRISTINAS RESERVES AND RESOURCES**



For Immediate Release

February 13, 2006

RM: 2 - 06

## **Crystallex Announces Updated Reserves at Las Cristinas; Reserves Now Estimated at 13.6 Million Ounces of Gold**

**TORONTO, ONTARIO, February 13, 2006 – Crystallex International Corporation (TSX: KRY) (Amex: KRY)** announced today that Mine Development Associates, (“MDA”) of Reno, Nevada has updated the reserve estimate for the Las Cristinas gold project located in Bolivar State, Venezuela using a gold price assumption of US\$400 per ounce.

The new reserve estimate is as follows:

- Proven and Probable reserves are now estimated at 13.6 million ounces of gold contained in 353 million tonnes of ore grading 1.20g/t gold with a strip ratio of 1.14:1 at US\$400 gold. This reserve is 9% higher than the previous August 2005 estimate of 12.5 million ounces (295 million tonnes grading 1.32g/t gold with a strip ratio of 1.57:1 at US\$350 gold).
- The Measured and Indicated Resource estimate (which include reserves) is unchanged at 17.7 million ounces of gold (501 million tonnes grading 1.1g/t gold).
- The Inferred Resource estimate is unchanged at 4.5 million ounces of gold (163 million tonnes grading 1.1 g/t gold).

Todd Bruce, Crystallex President and CEO commented, “We are very pleased not only to report an increase in reserves of more than a million ounces in response to increasing the reserve calculation gold price from US\$350 per ounce to US\$400 per ounce but also to report a significant reduction in strip ratio from the previous 1.57:1 to 1.14:1. This material reduction in the amount of waste that will be mined to produce a tonne of ore will enhance the project’s already robust economics even further. These positive changes in terms of reserve increases and strip ratio improvements provide further evidence of the Las Cristinas project’s positive sensitivity to rising gold prices, a very valuable attribute in a secular bull market for gold.”

### **Las Cristinas Reserves**

Crystallex previously estimated reserves for Las Cristinas in a National Instrument 43-101 Technical Report filed on SEDAR on August 31, 2005. The August 2005 reserves were developed from Measured and Indicated Resources using a gold price of US\$350 per ounce and variable cutoff grades of between 0.40 and 0.90 grams of gold per tonne (g/t), depending upon material type. The new reserve estimate uses a gold price of US\$400 per ounce; however, it conservatively maintains the pit shell designed using a US\$350 per ounce gold price. For details of the reserve methodologies and assumptions, refer to the Technical Report filed on SEDAR on August 31, 2005.

The reserves are contained in two separate areas: Conductor (“CO”) and Mesones (“MS”).

In-pit reserves, estimated in accordance with CIM Standards and National Instrument 43-101, using a US\$400 per ounce gold price, are as follows:

<b>LAS CRISTINAS RESERVES</b>					
<b>Deposit</b>	<b>Category</b>	<b>Tonnes</b>	<b>Grade (Au g/t)</b>	<b>Ounces</b>	<b>Strip Ratio</b>
CO	Proven	47,824,000	1.29	1,984,000	
	Probable	279,800,000	1.19	10,706,000	
ME	Probable	25,661,000	1.10	903,000	
Total	Proven	47,824,000	1.29	1,984,000	
	Probable	305,461,000	1.18	11,610,000	
<b>Total</b>	<b>Proven &amp; Probable</b>	<b>353,285,000</b>	<b>1.20</b>	<b>13,594,000</b>	<b>1.14:1</b>

The previous US\$350 per ounce reserve estimate as reported in the August 2005 Technical Report filed on SEDAR is reflected below:

<b>PREVIOUS LAS CRISTINAS RESERVE</b>					
<b>Deposit</b>	<b>Category</b>	<b>Tonnes</b>	<b>Grade (Au g/t)</b>	<b>Ounces</b>	<b>Strip Ratio</b>
CO	Proven	40,681,000	1.41	1,840,000	
	Probable	235,660,000	1.30	9,881,000	
ME	Probable	18,489,000	1.27	754,000	
Total	Proven	40,681,000	1.41	1,840,000	
	Probable	254,149,000	1.30	10,635,000	
<b>Total</b>	<b>Proven &amp; Probable</b>	<b>294,830,000</b>	<b>1.32</b>	<b>12,475,000</b>	<b>1.57:1</b>

### Las Cristinas Resources

The resource estimate is unchanged from the Las Cristinas 43-101 Technical Report, filed on SEDAR on August 31, 2005. For explanations of methodologies and resource descriptions and discussions, refer to the August 2005 Technical Report.

<b>LAS CRISTINAS RESOURCES</b>									
<b>Deposit</b>	<b>Measured</b>			<b>Indicated</b>			<b>Measured and Indicated</b>		
	<b>Tonnes</b>	<b>g/t Au</b>	<b>Ounces</b>	<b>Tonnes</b>	<b>g/t Au</b>	<b>Ounces</b>	<b>Tonnes</b>	<b>g/t Au</b>	<b>Ounces</b>
CO	56,619,000	1.21	2,208,000	397,028,000	1.1	13,990,000	453,647,000	1.11	16,198,000
ME	9,405,000	1.20	364,000	37,605,000	0.91	1,099,000	47,010,000	0.97	1,463,000
<b>Total</b>	<b>66,024,000</b>	<b>1.21</b>	<b>2,572,000</b>	<b>434,633,000</b>	<b>1.08</b>	<b>15,089,000</b>	<b>500,657,000</b>	<b>1.1</b>	<b>17,661,000</b>

In addition to the Measured and Indicated Resources detailed above, an Inferred Resource of 4.5 million ounces (163 million tonnes at a grade of 0.9g/t gold) has been calculated for Las Cristinas.

The resource estimate and the revised reserve estimate was prepared in conformity with the requirements set out in National Instrument 43-101 by MDA under the direction of Steven Ristorcelli, P. Geo., and Scott Hardy, P. Eng., both independent qualified person for the purposes of National Instrument 43-101. Mineral Resources include Mineral Reserves. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. Measured and Indicated Mineral Resources are that part of a mineral resource for which quantity and grade can be estimated with a level of confidence sufficient to allow the application of technical and economic parameters to support mine planning and evaluation of the economic viability of the deposit. An Inferred Mineral Resource is that part of a mineral resource for which quantity and grade can be estimated on the basis of geological evidence and limited sampling are reasonably assumed, but not verified.

#### *About Crystallex*

Crystallex International Corporation is a Canadian gold producer with operations and exploration properties in Venezuela. The Company's principal asset is its interest in the Las Cristinas property in Bolivar State that is currently under development. Other assets include the Tomi Mine, certain Lo Increible properties and the Revemin Mill. Crystallex shares trade on the TSX (symbol: KRY) and AMEX (symbol: KRY).

For Further Information:

Investor Relations Contact: A. Richard Marshall, VP at (800) 738-1577

Visit us on the Internet: <http://www.crystallex.com> or Email us at: [info@crystallex.com](mailto:info@crystallex.com)

*NOTE: This Release may contain forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, which involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Crystallex, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Forward-looking statements are subject to a variety of risks and uncertainties, which could cause actual events, or results to differ from those reflected in the forward-looking statements. Should one or more of these risks and uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in forward looking statements. Specific reference is made to "Narrative Description of the Business - Risk Factors" in the Company's Annual Information Form ("AIF"). Forward-looking statements in this release including, without limitation to, statements regarding the expectations and beliefs of management include the following: gold price volatility; impact of any hedging activities, including margin*



*limits and margin calls; discrepancies between actual and estimated production, between actual and estimated reserves, and between actual and estimated metallurgical recoveries; mining operational risk; regulatory restrictions, including environmental regulatory restrictions and liability; risks of sovereign investment; speculative nature of gold exploration; dilution; competition; loss of key employees; additional funding requirements; and defective title to mineral claims or property, as well as those factors discussed in the section entitled "Risk Factors" in Crystallex's AIF, annual report, and elsewhere in documents filed from time to time with the Canadian provincial securities regulators, the United States Securities and Exchange Commission ("SEC"), and other regulatory authorities.*

*ADDITIONALLY: The terms "Mineral Reserve", "Proven Mineral Reserve" and "Probable Mineral Reserve" used in this release are Canadian mining terms as defined in accordance with National Instrument 43-101 - Standards of Disclosure for Mineral Projects under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Mineral Reserves, adopted by the CIM Council on August 20, 2000 as may be amended from time to time by the CIM. These definitions differ from the definitions in the United States Securities & Exchange Commission ("SEC") Guide 7. In the United States, a mineral reserve is defined as a part of a mineral deposit which could be economically and legally extracted or produced at the time the mineral reserve determination is made.*

*The terms "Mineral Resource", "Measured Mineral Resource", "Indicated Mineral Resource", "Inferred Mineral Resource" used in this release are Canadian mining terms as defined in accordance with National Instruction 43-101 - Standards of Disclosure for Mineral Projects under the guidelines set out in the CIM Standards. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability.*

*For a detailed discussion of resource and reserve estimates and related matters see the Company's technical reports, including the Annual Information Form and other reports filed by the Crystallex on [www.sedar.com](http://www.sedar.com).*

*A qualified person has verified the data contained in this release.*

*NOTE TO U.S. INVESTORS: While the terms "mineral resource", "measured mineral resource", "indicated mineral resource", and "inferred mineral resource" are recognized and required by Canadian regulations, they are not defined terms under standards in the United States and normally are not permitted to be used in reports and registration statements filed with the SEC. As such, information contained in this report concerning descriptions of mineralization and resources under Canadian standards may not be comparable to similar information made public by U.S. companies in SEC filings. With respect to "indicated mineral resource" and "inferred mineral resource" there is a great amount of uncertainty as to their existence and a great uncertainty as to their economic and legal feasibility. It can not be assumed that all or any part of an "indicated mineral resource" or "inferred mineral resource" will ever be upgraded to a higher category. Investors are cautioned not to assume that any part or all of mineral deposits in these categories will ever be converted into reserves.*

*The Toronto Stock Exchange has not reviewed this release and does not accept responsibility for the adequacy or accuracy of this news release.*

**APPENDIX J: NEWS RELEASE: LAS BRISAS-CRISTINAS PROJECT CONSIDERED**

## Business Editors/Mining & Metals Writers

SPOKANE, Wash.--(BUSINESS WIRE)--Sept. 8, 2002

Gold Reserve Inc. (TSE:GLR.A)(OTC:GLDR.OB). On Friday, September 6, 2002, the Corporation Venezolana de Guayana ("CVG") announced that they have selected Crystallex International Corporation to negotiate an operating contract for their Las Cristinas property, which is adjacent to Gold Reserve's Brisas property.

According to Gold Reserve, there has been considerable legal and political controversy surrounding the Las Cristinas project and the Company is pleased to see CVG take action to move the Las Cristinas project forward.

Gold Reserve has long advocated that the two projects should be combined to achieve the most favorable economics. From information related to both properties it is now clear that Brisas/Las Cristinas is one large tonnage low grade gold copper deposit measuring some 5 km long and half a kilometer wide containing well over 20 million ounces of gold and over 2 billion pounds of copper.

Last year INGEOMIN, the technical division of the Venezuelan Ministry of Energy and Mines (MEM), completed an analysis of the economic, social, and environmental impact of the combination of the two projects into one mega project that would be the second largest gold mine in Latin America and the sixth largest in the world. INGEOMIN concluded from their analysis that "the most rational way to exploit this important gold deposit was as one single large project that would optimize the economic and social benefits, while minimizing the environmental impact."

The Company has discussed this mega project with the MEM, Ministry of Planning, and the CVG and received very favorable responses. General Francisco Rangel, President of CVG, was quoted last year saying, "CVG's intention is to unify the ore bodies of Las Brisas and Las Cristinas to carry out a macro-mining project that will allow the generation of sustainable employment and development in this zone; we are talking of approximately 3,500 direct jobs. With this initiative, Venezuela would have the second largest mine in Latin America and the sixth in the world."

Gold Reserve is committed to the development of the mining industry of Venezuela having invested over \$70 million in its Brisas project. The Company will await the finalization of the operating contract for Las Cristinas and expect to discuss with the parties the potential to develop the combined gold project in the most rational and economic way possible. On a stand alone basis each project has been projected to have operating costs of approximately \$150 per ounce (net of copper credits). The Company's extensive work on the combined project indicates that operating costs could be dramatically lowered to approximately \$110 per ounce. There would be similar savings in the capital costs per ounce as well. The area between the two current pit designs would add additional reserves and since the orebody is open at depth the economies of scale would also allow for a deeper pit adding more ore reserves, extending the mine life.

Gold Reserve's Brisas project in southeastern Venezuela (using current gold prices) contains a current resource of 9.9 million ounces of gold containing proven and probable reserves of 6.7 million ounces of gold and 871 million pounds of copper. The company has approximately US\$13 million in cash and no debt. With 23.6 million shares outstanding this amounts to 0.28 ounces of gold reserves per share, which is one of the highest in the industry. The market currently capitalizes the ore reserves at approximately US\$4.25 per ounce in the ground net of cash.

The forward-looking information in this press release addresses future events involving known and unknown risks and uncertainties that could cause actual results to vary materially from projected results. These risks and uncertainties include those described in the Company's Annual Information Statement filed on SEDAR and the 20-F filed with the US Securities and Exchange Commission on EDGAR.

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**APPENDIX K: NEWS RELEASES: RECENT LAS BRISAS PERMITS**



# Gold Reserve Inc.

## Gold Reserve Announces Receipt of Permit to Impact Natural Resources for the Aggregate Quarry for the Brisas Project

March 16, 2006

NR 06-03

**Gold Reserve Inc. (TSX: GRZ – AMEX:GRZ)** reported today that the Ministry of the Environment and Natural Resources (“MARN”) in Venezuela has issued to the Company the “Permit to Impact Natural Resources” for the quarry on the Barbarita property which would provide aggregate for the Company’s adjacent Brisas project.

Gold Reserve announced previously that it had been granted the rights to explore and develop a quarry on the Barbarita property for its Brisas project by the Mining Institute (IAMIB) of Bolivar State, Venezuela. Aggregate is required for the construction and operating phase of the Brisas project which is currently expected to produce an average of 486,000 ounces of gold and 63 million pounds of copper annually. The Barbarita concession is located approximately 5 kilometers from the Brisas project site and near the planned mill site.

Doug Belanger, President of Gold Reserve stated, “MARN’s granting of the Permit to Impact Natural Resources for the Barbarita aggregate quarry that would service the Brisas project is an important element for the development of the Brisas mine.”

Gold Reserve Inc. is a Canadian company, which holds the rights to the Brisas gold/copper project and the Choco 5 gold exploration property in Bolivar State, Venezuela. Construction of the Brisas project is expected to commence upon the issuance of the construction permit by the Ministry of Environment and Natural Resources and securing sufficient debt and equity funding.

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# Gold Reserve Inc.

## **Gold Reserve Receives Permits for Detailed Engineering Activities On The Brisas Project**

January 4, 2006

NR 06-01

Gold Reserve Inc. (TSX:GRZ) (AMEX:GRZ) today announced that the Government of Venezuela, through its Ministry of Environment and Natural Resources (MARN), granted its subsidiary Compañía Aurífera Brisas del Cuyuni, C.A., operator of the Brisas Project, additional permits for the Company's continuing detailed engineering activities related to the development of the Brisas gold/copper project.

The permits are for geotechnical drilling to support detailed engineering work related to pit slope analysis, crusher design, process facility design, tailing dam design, and overall site development for the Brisas Project, which is anticipated to utilize conventional open pit mining methods with the processing of ore at full production of 70,000 tonnes per day, yielding an average annual production of 486,000 ounces of gold and 63 million pounds of copper over an estimated mine life of approximately 18 years.

Doug Belanger, President, stated, "We are pleased to receive these permits from the government allowing for the continued development of the Brisas Project in anticipation of the final permitting for construction."

Gold Reserve Inc. is a Canadian company, which holds the rights to the Brisas gold/copper Project and the Choco 5 gold exploration property in Bolivar State, Venezuela. The Brisas Project is estimated to have proven and probable reserves of 10.1 million ounces of gold and 1.29 billion pounds of copper contained in 446 million tonnes with an average grade of 0.70 grams per tonne gold and 0.13% copper. The qualified person involved in the review and evaluation of the reserve estimates contained herein was Daniel M. Thompson, Manager - Technical Services for Gold Reserve. Construction of the Brisas Project is expected to commence upon the issuance of the construction permit by the Ministry of Environment and Natural Resources and securing sufficient debt and equity funding.

Certain statements included herein, including those that express management's expectations or estimates of our future performance, constitute "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995. Forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by management, are inherently subject to significant business, economic and competitive uncertainties and contingencies. We caution that such forward-looking statements involve known and unknown risks, uncertainties and other risk factors that may cause the actual financial results, performance, or achievements of Gold Reserve to be materially different from our estimated future results, performance, or achievements expressed or implied by those forward-looking statements. These are discussed in greater detail in Gold Reserve's filings with the U.S. Securities and Exchange Commission at [www.sec.gov](http://www.sec.gov) and the Annual Information Form and other reports filed with Canadian provincial securities commissions at [www.sedar.com](http://www.sedar.com). Gold Reserve expressly disclaims any intention or obligation to update or revise any forward-looking statement whether as a result of new information, events or otherwise.

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# Gold Reserve Inc.

## GOLD RESERVE RECEIVES BRISAS QUARRY CONCESSION

**SPOKANE, WASHINGTON November 30, 2005**

**NR 05-12**

**Gold Reserve Inc. (TSX: GRZ – AMEX:GRZ)** today announced that the Government of Bolivar State, Venezuela, through its Mining Institute (IAMIB), granted Compañía Aurífera Brisas del Cuyuní, C.A., operator of the Brisas Project and subsidiary of Gold Reserve, a 400-hectare concession for the exploration and exploitation of rock and aggregates to support the Brisas gold/copper project.

The quarry site, located within the Brisas Project area in the Km 88 mining district, is planned to be used for the construction of infrastructure for the Brisas Project which is anticipated to utilize conventional open pit mining methods with the processing of ore at full production of 70,000 tonnes per day, yielding an average annual production of 486,000 ounces of gold and 63 million pounds of copper over an estimated mine life of approximately 18 years.

Doug Belanger, President, stated, "We are pleased that IAMIB has issued our quarry concession, an indication that we are making progress in our efforts to obtain the required permit to start construction on the Brisas Project."

Gold Reserve Inc. is a Canadian company which holds the rights to the Brisas gold/copper project and the Choco 5 gold exploration property in Bolivar State, Venezuela. The Brisas Project is estimated to have 10.1 million ounces of gold and 1.29 billion pounds of copper (proven and probable) in 446 million tonnes at a grade of 0.70 grams per tonne gold and 0.13% copper. Construction of the Brisas Project is expected to commence upon the issuance of the construction permit by the Ministry of Environment and Natural Resources and securing sufficient debt and equity funding.

Certain statements included herein, including those that express management's expectations or estimates of our future performance, constitute "forward looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995. Forward looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by management are inherently subject to significant business, economic and competitive uncertainties and contingencies. We caution that such forward-looking statements involve known and unknown risks, uncertainties and other risk factors that may cause the actual financial results, performance, or achievements of Gold Reserve to be materially different from our estimated future results, performance, or achievements expressed or implied by those forward looking statements. These are discussed in greater detail in Gold Reserve's filings with the U.S. Securities and Exchange Commission at [www.sec.gov](http://www.sec.gov) and the Annual Information Form and other reports filed with Canadian provincial securities commissions at [www.sedar.com](http://www.sedar.com). Gold Reserve expressly disclaims any intention or obligation to update or revise any forward looking statement whether as a result of new information, events or otherwise.

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**APPENDIX L: "GACETA OFICIAL" RECORDING THE LAS BRISAS  
ALLUVIAL AND HARD ROCK MINING CONCESSIONS**

# MINISTERIO DE AGRICULTURA Y CRIA

REPUBLICA DE VENEZUELA.- MINISTERIO DE AGRICULTURA Y CRIA.- Dirección de Personal.- División de Trámites y Controles.- Número 151.- Caracas, 15-04-88 177 y 129°

### RESUELTO:

Por disposición del ciudadano Presidente de la República, se designa al ciudadano FRANK ALBERTO GUERRERO, titular de la cédula de identidad N° 4.566.658, Director de Fomento Pesquero adscrito a la Dirección General Sectorial de Pesca y Acuicultura; y en ejercicio de la facultad que confiere el ordinal 25° de la Ley Orgánica de la Administración Central, en concordancia con el Decreto N° 140 de fecha 17 de septiembre de 1969, sobre Delegación de Firma de los Ministros del Ejecutivo Nacional, se le autoriza para firmar en lo concerniente a la Dirección a su cargo durante el período correspondiente, los siguientes documentos:

- a) Las circulares y comunicaciones de las oficinas dependientes del Ministerio.
- b) La correspondencia dirigida a los funcionarios subalternos, administrativos, judiciales o municipales, de los Estados, del Distrito Federal y de los Territorios Federales que por razón de las Leyes y Reglamentos, deben dirigirse al Ministerio.
- c) La correspondencia postal, telegráfica y radiotelegráfica en contestación a solicitudes dirigidas al Despacho por particulares.

Comuníquese y publíquese, por el Ejecutivo Nacional, MARTIN RAMIREZ BLANCO, MINISTRO DE AGRICULTURA Y CRIA, ENCAJADO

# MINISTERIO DE TRANSPORTE Y COMUNICACIONES

REPUBLICA DE VENEZUELA. MINISTERIO DE TRANSPORTE Y COMUNICACIONES. DESPACHO DEL MINISTRO N° 109 CARACAS, 08 DE ABRIL DE 1.988. AROS: 177° y 129°

De conformidad con lo dispuesto en los Artículos 33, Ordinales 4º y 9º de la Ley Orgánica de la Administración Central y 6º y 31 de la Ley de los Sistemas Metropolitanos de Transporte y por disposición del Ciudadano Presidente de la República, este Despacho,

### CONSIDERANDO

Que la Compañía Anónima Metro de Caracas va a extender su servicio de transporte, en el curso del presente año, de Chacao a los Dos Caminos y de la Paz a El Silencio y el próximo año 1.989 de los Dos Caminos a Palo Verde y que para estas extensiones de servicio se requiere la fijación de tarifas, para lo cual se ha decidido mantener sin ninguna modificación la misma tarifa vigente para los servicios actuales en operación,

### RESUELVE:

ARTICULO 1.- Se establece la siguiente tarifa para el servicio que presta la C.A. Metro de Caracas como operadora del Sistema Metropolitano de Transporte de la Ciudad de Caracas:

#### A) Servicio Ordinario:

Recorrido inicial hasta 4 estaciones Bs. 2,00, y hasta cada 4 estaciones adicionales Bs. 1,00.

B) Servicio de Transporte Integrado Provisional Metrobus-Metro (LA PAZ-CENTRO o CENTRO-LA PAZ); Recorrido inicial hasta 8 estaciones Bs. 3,00 y hasta cada 4 estaciones adicionales Bs. 1,00.

El número de estaciones previsto en esta resolución comprende la estación de entrada y la de salida.

ARTICULO 2.- Los boletos adquiridos antes del 21 de Septiembre de 1.907 podrán ser canjeados en las estaciones del sistema hasta el 20 de Octubre de 1.988, fecha de caducidad de los mismos, previo pago de la diferencia de precio, si la hubiere, entre el boleto original y el nuevo.

ARTICULO 3.- La tarifa establecida en el Artículo 1 será revisada periódicamente a fin de ajustarla, cuando fuere el caso, a las pautas de las Leyes Programas para la Contratación y Financiamiento del Metro de Caracas.

ARTICULO 4.- Los boletos que se expidan, a la tarifa que se establece en el Artículo 1, caducarán un (1) año después de que entre en vigencia cualquier modificación de dicha tarifa. Dentro de ese lapso podrán ser canjeados en las condiciones que determine la resolución respectiva.

ARTICULO 5.- Se deroga la Resolución N° 254 de fecha 14 de Septiembre de 1.987 publicada en la Gaceta Oficial N° 33.802 de la misma fecha.

Comuníquese y Publíquese VICENTE PEREZ CAYENA, Ministro de Transporte y Comunicaciones

# MINISTERIO DE ENERGIA Y MINAS

### TITULO MINERO

Doctor Arturo Hernández Grisanti, Ministro de Energía y Minas de la República de Venezuela: Por cuanto, la Compañía Aurífera "Brisas del Cuyuní, C.A.", Sociedad Mercantil debidamente constituida e inscrita en el Registro de Comercio del Juzgado de Primera Instancia en lo Civil y Mercantil del Primer Circuito de la Circunscripción Judicial del Estado Bolívar, bajo el N° 22, Folios 75 vuelto al 81 del Libro de Registro de Comercio adicional N° 6, de fecha 21 de agosto de 1981, domiciliada en Ciudad Llíbar, Distrito Heres del Estado Bolívar, hábil en derecho para adquirir concesiones mineras, ha llenado las formalidades requeridas por la Ley de Minas, para obtener una (1) concesión de explotación de oro de aluvión, de la Clase Segunda prevista en el artículo 174 de la Ley de Minas, denominada "BRISAS DEL CUYUNI", constante de quinientas hectáreas (500 ha) de superficie, ubicada en jurisdicción del Municipio Dalla Costa, Distrito Roscio (ahora Sifontes) del Estado Bolívar, incluida en la Zona Reservada creada por Decreto N° 375 de fecha 03 de agosto de 1965, publicada en la Gaceta Oficial de la República de Venezuela N° 27.802 de la misma fecha; cuyos linderos son los siguientes: Se toma como punto de referencia el botalón N° 4 o vértice Sur-Este de la concesión vigente denominada Cristina 4, de coordenadas U.T.M. N: 683.125 y E: 671.300, desde este punto, con rumbo Oeste Franco se miden un mil metros (1.000 m), para fijar el botalón N° 1 de la presente parcela; desde este punto, con rumbo Oeste Franco, se miden dos mil metros (2.000 m), para fijar el botalón N° 2; desde este punto, con rumbo Sur Franco se miden dos mil quinientos metros (2.500 m), para fijar el botalón N° 3; desde este punto, con rumbo Este Franco se miden dos mil metros (2.000 m), para fijar el botalón N° 4; y desde este punto, con rumbo Norte Franco se miden dos mil quinientos metros (2.500 m), para llegar al botalón N° 1, con lo cual se cierra el polígono; por tanto, de conformidad con lo ordenado en la Resolución N° 75 de fecha 27 de mayo de 1987, publicada en la Gaceta Oficial de la República de Venezuela N° 33.728, de fecha 29 del mismo mes y año, se expide el presente Título y se confiere a favor de la Compañía Aurífera "Brisas del Cuyuní, C.A.", antes identificada, sus herederos o causahabientes y siempre que se cumplan las disposiciones legales pertinentes, el derecho exclusivo de extraer y aprovechar los minerales indicados, por un período de veinte (20) años, dentro de los límites de la concesión, así como los demás derechos que determina la Ley de Minas, en favor de la concesionaria. De conformidad con lo dispuesto en el artículo 18 del Reglamento de la Ley de Minas, se expresan seguidamente las ventajas especiales que en beneficio de la Nación han sido ofrecidas por la postulante y modificadas mediante comunicación de fecha 11 de abril de 1986. Estas ventajas especiales se rigen por lo dispuesto en la Resolución de este Ministerio N° 148, publicada en la Gaceta Oficial de la República de Venezuela N° 2.210 Extraordinario, del 6 de abril de 1978, vigente para la fecha en que tales ventajas fueron aceptadas por el Ministerio: PRIMERA: Presentar al Ministerio, sujeto a la aprobación de éste, dentro de los veinticuatro (24) meses siguientes a la publicación del Título en la Gaceta Oficial de la República de Venezuela, un estudio de factibilidad que contenga los aspectos contemplados en el artículo 18 de la Resolución N° 148 publicada en la Gaceta Oficial de la República de Venezuela N° 2.210 Extraordinario, de fecha 6 de abril de 1978. La concesionaria presentará además, dentro de los tres (3) meses siguientes a la publicación del Título en la Gaceta Oficial de la República de Venezuela, un estudio de pre-factibilidad junto con un Cronograma de Ejecución, de las actividades a realizarse contemplando plan de trabajo, aspectos técnicos y económicos de sus proyecciones y además a partir de esta fecha, presentará igualmente al Ministerio un informe trimestral sobre el progreso de la ejecución según lo programado en el Cronograma de Ejecución. SEGUNDA: Presentar al Ministerio a satisfacción de éste, para garantizar el cumplimiento de la presentación del estudio de factibilidad que contengan los aspectos contemplados en el artículo 18 de la Resolución

N° 148 publicada en la Gaceta Oficial de la República de Venezuela N° 2.210 Extraordinario, de fecha 6 de abril de 1978, una fianza otorgada por entidad solvente y debidamente autenticada, por la cantidad de cincuenta mil bolívares (Bs. 50.000,00) dentro de los treinta (30) días siguientes a la publicación del respectivo Título en la Gaceta Oficial de la República de Venezuela. **TERCERA:** Pagar como impuesto superficial luego de publicado el Título de la Concesión en la Gaceta Oficial de la República de Venezuela, en lugar de lo establecido en el artículo 84 de la Ley de Minas, hasta tanto no se inicie la explotación dentro del lapso previsto en dicha Ley de diez bolívares (Bs. 10,00) por hectárea durante el primer año; quince bolívares (Bs. 15,00) por hectárea, durante el segundo año; veinte bolívares (Bs. 20,00) por hectárea, durante el tercer año; veinticinco bolívares (Bs. 25,00) por hectárea, durante el cuarto año; treinta bolívares (Bs. 30,00) por hectárea, durante el quinto año; treinta y cinco bolívares (Bs. 35,00) por hectárea y por año desde el sexto año hasta el décimo año inclusive; cuarenta bolívares (Bs. 40,00) por hectárea y por año desde el décimo primero hasta el décimo quinto año inclusive; cuarenta y cinco bolívares (Bs. 45,00) por hectárea y por año desde el décimo sexto año hasta el vigésimo año. **CUARTA:** Transcurrido el lapso previsto en el artículo 24 de la Ley de Minas, sin haberse empezado la explotación y solicitada oportunamente la renovación del Título de conformidad con lo dispuesto en el Ordinal 2° del artículo 55 de esa Ley, el impuesto superficial que se causare a partir del vencimiento del primer Título, se pagará con el incremento de una cantidad equivalente al cincuenta por ciento (50%) del monto del impuesto superficial pagado en el año inmediato anterior. Una vez iniciada la explotación, dicho impuesto se reducirá a la cantidad anual estipulada por hectárea durante el último año de vigencia del primer Título. **QUINTA:** Pagar como impuesto de explotación el tres por ciento (3%) del valor comercial en Caracas del oro refinado. **SEXTA:** Utilizar para la explotación de la concesión el lapso de veinte (20) años, contado a partir de la fecha de publicación del respectivo Título en la Gaceta Oficial de la República de Venezuela, pudiendo prorrogarse su duración si así lo solicitase la concesionaria, con tres (3) meses de anticipación al vencimiento del período original y el Ministerio lo estimase conveniente, sin exceder el máximo de cuarenta (40) años que pauta el artículo 188 de la Ley de Minas para esta clase de concesión. **SEPTIMA:** Iniciar la explotación en el plazo de tres (3) años, contado a partir de la fecha de publicación del respectivo Título en la Gaceta Oficial de la República de Venezuela. A los efectos del cumplimiento de esta ventaja especial, se entiende como inicio en la explotación, todas las actividades realizadas con motivo del desarrollo del proyecto minero y de acuerdo al cronograma para el desarrollo, aprobado por el Ministerio de conformidad con los términos establecidos en la Ventaja Especial Primera. **OCTAVA:** La concesionaria se obliga a manufacturar o refinar en el país el mineral extraído, siguiendo las disposiciones contenidas en el artículo 14 de la Resolución de este Ministerio N° 148 de fecha 21 de marzo de 1978, publicada en la Gaceta Oficial de la República de Venezuela N° 2.210 Extraordinario, de fecha 6 de abril de 1978. **NOVENA:** La concesionaria se obliga a suministrar tecnología a la industria minera y transferencia de ella a favor del país, de acuerdo a lo establecido en el artículo 16 de la Resolución N° 148 de fecha 21 de marzo de 1978 y que a continuación se señalan: 1) El suministro de cualquier información que solicite el Ministerio de Energía y Minas en relación con los sistemas, métodos, procesos, equipos y maquinarias que se proponga utilizar. 2) La constancia escrita y suficiente de que los sistemas, procesos, equipos y maquinarias que se proponga utilizar han sido aprobadas a escala industrial en los aspectos técnicos y económicos y han de utilizar preferentemente insumos y materias primas nacionales. 3) La contratación con prioridad, con firmas consultoras nacionales con motivo de la realización de estudios, planes y cómputos, así como de diseños y construcciones de obras e instalaciones, cuando fuere el caso. 4) El fomento de las actividades de investigación nacional en los sectores de la minería, mineralogía, metalurgia y sectores conexos, con destino a la mejora de los sistemas, métodos y procesos que se proponga utilizar la concesionaria, así como el desarrollo de nuevos aportes técnicos. 5) El establecimiento de un programa de entrenamiento de personal, con el objeto primordial de que éste sea utilizado por la empresa y que, en un lapso no mayor de la mitad de la vida del proyecto calculada por la concesionaria, el noventa y cinco por ciento (95%) del personal necesario para el desarrollo de las actividades relacionadas con la concesión, sin contar el personal obrero, sea venezolano. En ningún caso, dicho lapso excederá de diez (10) años, contado a partir del inicio de la explotación. **DECIMA:** Contribuir al desarrollo del área de ubicación de la concesión, a cuyo efecto se ofrecen los siguientes beneficios regionales: 1) Contribuir al mantenimiento de la carretera de penetración hasta la zona solicitada. 2) Contribuir con medicinas, útiles médico asisten-

cial o equipos médicos por el monto de un mil bolívares (Bs. 1.000,00) mensuales al dispensario médico asistencial más cercano a la zona de la concesión y a partir de la fecha de publicación del Título de la misma en la Gaceta Oficial de la República de Venezuela. **DECIMA PRIMERA:** Tomar las medidas necesarias para garantizar la protección de los bosques, ríos, suelos, fauna, atmósfera y en general la debida protección ambiental. Al efecto la concesionaria se obliga a realizar los estudios necesarios para la obtención de los permisos exigidos por los organismos competentes a nivel nacional. A tales efectos se preparará y presentará al Ministerio del Ambiente y de los Recursos Naturales Renovables (MARNR) así como al Ministerio de Energía y Minas (MEM) antes de proceder a efectuar las actividades de explotación un estudio integral de protección del medio ambiente y la ecología con las medidas conservacionistas y proteccionistas a tomarse así como el plan de reforestación sobre las áreas afectadas. **DECIMA SEGUNDA:** La concesionaria traspasará, cuando el Ministerio lo disponga, al Instituto Autónomo o Empresa Estatal que el Ministerio designe, hasta el veinte por ciento (20%) de las acciones por el valor nominal de las mismas, de la empresa que la concesionaria constituya para realizar los trabajos de extracción, así como también en aquellas que constituya para la industrialización y comercialización del mineral. **DECIMA TERCERA:** A partir del inicio de la explotación la concesionaria sufragará los gastos de pasantía una vez al año a dos (2) estudiantes de Ingeniería de Minas o Geología de las Universidades Nacionales que el Ministerio designe. **DECIMA CUARTA:** Para garantizar el cabal cumplimiento de las obligaciones a que se refieren los numerales anteriores, la concesionaria presentará al Ministerio a satisfacción de éste, una fianza otorgada por entidad solvente y debidamente autenticada por la cantidad de veinte mil bolívares (Bs. 20.000,00) por concesión dentro de los treinta (30) días siguientes a la publicación del Título en la Gaceta Oficial de la República de Venezuela. **DECIMA QUINTA:** La concesionaria se obliga dentro de sus posibilidades, a presentar su cooperación a las entidades de carácter social que se dediquen a la minería, las cuales le serán señaladas por el Ministerio. Asimismo ofrece a estas entidades suministro de su tecnología siempre que no perturbe el desarrollo minero de la concesionaria. Es entendido que las obras y demás mejoras permanentes, además de las maquinarias, útiles, enseres y materiales incluyendo las instalaciones, accesorios, equipos y cualesquiera otros bienes adquiridos con destino al objeto de esta concesión y que formen parte integral de ella sea cual fuere el título de adquisición, pasarán en plena propiedad a la Nación libres de gravámenes y cargas sin indemnización alguna, al extinguirse por cualquier causa la concesión sin que la concesionaria pueda efectuar los retiros de que trata el Parágrafo Único del artículo 61 de la Ley de Minas. En consecuencia dichos bienes deberán ser conservados y mantenidos por la concesionaria en comprobadas condiciones de buen funcionamiento, según los adelantos y principios técnicos aplicables. Además de las causales de caducidad que establece la Ley, será motivo de extinción de los derechos sobre la concesión, el incumplimiento de cualesquiera de las obligaciones arriba mencionadas. Las dudas y controversias de cualquier naturaleza que puedan suscitarse sobre esta concesión y que no puedan ser resueltas amigablemente por las partes contratantes serán decididas por los Tribunales competentes de la República de Venezuela, de conformidad con sus leyes sin que por ningún motivo ni causa puedan ser origen de reclamaciones extranjeras. El presente Título será protocolizado en la Oficina Subalterna de Registro del Distrito Sifontes del Estado Bolívar. Dado, firmado y sellado en el Ministerio de Energía y Minas de la República de Venezuela, en Caracas, a los once días del mes de abril de mil novecientos ochenta y ocho. Años: 177° de la Independencia y 129° de la Federación. Comuníquese y Publíquese.

Por el Ejecutivo Nacional

Dr. Arturo Hernández Grisanti  
Ministro

## MINISTERIO DE LA FAMILIA

REPÚBLICA DE VENEZUELA - MINISTERIO DE LA FAMILIA - DESPACHO DE LA MINIST  
NÚMERO 371, CARACAS, 14 DE ABRIL DE 1988. 177° y 129°

R E S U E L T O:

Por disposición del ciudadano Presidente de la República, se designa a la  
ciudadana MARIA DE LOURDES PERUELA, titular de la Cédula de Identidad N

# GACETA OFICIAL

## DE LA REPUBLICA DE VENEZUELA

AÑO CXXV - MES II

Caracas, jueves 11 de diciembre de 1997

Nº 5.190 Extraordinario

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### MINISTERIO DE RELACIONES INTERIORES

REPUBLICA DE VENEZUELA.- MINISTERIO DE RELACIONES INTERIORES.-  
DIRECCION GENERAL SECTORIAL DEL CEREMONIAL Y ACERVO HISTORICO DE LA NACION.-N.116  
187 y 138 Caracas, 23 de Octubre de 1.997

#### RESOLUCION:

El Ciudadano Presidente de la República, de conformidad con la Ley, ha tenido a bien conferir la Condecoración de la Orden Francisco de Miranda en su PRIMERA CLASE al ciudadano RUMENO ARMAS SALAZAR.

Comuníquese y publíquese.

Por el Ejecutivo Nacional.

**JOSE GUILLERMO ANDUEZA**  
Ministro de Relaciones Interiores

REPUBLICA DE VENEZUELA.- MINISTERIO DE RELACIONES INTERIORES.-  
DIRECCION GENERAL SECTORIAL DEL CEREMONIAL Y ACERVO HISTORICO DE LA NACION.-N.117  
Caracas, 27 de Octubre de 1.997

187 y 138

#### RESOLUCION:

El Ciudadano Presidente de la República, de conformidad con la Ley, ha tenido a bien conferir la Condecoración de la Orden Francisco de Miranda en su SEGUNDA CLASE al ciudadano TRINO GARRIGA.

Comuníquese y publíquese.

Por el Ejecutivo Nacional.

**JOSE GUILLERMO ANDUEZA**  
Ministro de Relaciones Interiores

REPUBLICA DE VENEZUELA.- MINISTERIO DE RELACIONES INTERIORES.-  
DIRECCION GENERAL SECTORIAL DEL CEREMONIAL Y ACERVO HISTORICO DE LA NACION.-N.119  
Caracas, 19 de Noviembre de 1.997

187 y 138

#### RESOLUCION:

El Ciudadano Presidente de la República, de conformidad con la ley, ha tenido a bien conferir la Condecoración de la Orden Francisco de Miranda a los siguientes señores:

#### PRIMERA CLASE:

**JAMES G. OATES**

**GIACOMO ZANDONIEGO**

**ARTURO CASADO SALICETTI**

Comuníquese y publíquese.

Por el Ejecutivo Nacional.

**JOSE GUILLERMO ANDUEZA**  
Ministro de Relaciones Interiores

REPÚBLICA DE VENEZUELA - MINISTERIO DE ENERGIA Y MINAS - DESPACHO DEL MINISTRO. N° 456  
ARACAS, 03 DIC. 1997 187° y 138°

## RESOLUCION

Por cuanto, el ciudadano Paulo Roberto Rabelo P., mayor de edad, brasilero, titular de la cédula de identidad N° 2.237.870, domiciliado en Caracas, actuando en su carácter de Director suplente de la Sociedad Mercantil Minera Loma de Níquel, C.A., antes denominada Corporación Federal de Minas, S.A., inscrita en el Registro Mercantil de la Circunscripción Judicial del Distrito Federal Estado Miranda en fecha 02 de abril de 1991, bajo el N° 6, Tomo 9-A Pro, titular de la concesión caduca de explotación de níquel de manto, denominada "EL TIGRE", ubicada en jurisdicción del Municipio Santos Michelena, Parroquia Tiara del Estado Aragua, cuyo Título fue publicado en la Gaceta Oficial de la República de Venezuela N° 4.490, Extraordinario en fecha 10 de noviembre de 1992, ha solicitado de conformidad con lo dispuesto en el ordinal 2° del artículo 55 de la Ley de Minas, la renovación del respectivo Título de explotación, por cuanto, canceló el impuesto de un mil bolívares (Bs. 1.000,00) según planilla de liquidación N° 1560 de fecha 02 de octubre de 1997 y solicitó la renovación, dentro de los tres (3) meses anteriores al vencimiento del lapso para poner en explotación la concesión, por tanto, se ordena que se expida la renovación del Título de la concesión de explotación de níquel de manto, denominada EL TIGRE, que otorga a la concesionaria un plazo de cinco (5) años para iniciar la explotación, contado a partir de la fecha de publicación de la presente Resolución, en el entendido de que el lapso de duración de veinte (20) años de la concesión se contará desde el 10 de noviembre de 1992, fecha en la cual se publicó el primer Título en la Gaceta Oficial de la República de Venezuela N° 4.490, Extraordinario. Comuníquese y Publíquese.

Por el Ejecutivo Nacional

EVANAN ROMERO  
Ministro (E).

REPÚBLICA DE VENEZUELA - MINISTERIO DE ENERGIA Y MINAS - DESPACHO DEL MINISTRO. N° 451  
CARACAS, 03 DIC. 1997 187° y 138°

## RESOLUCION

Por cuanto, el ciudadano Paulo Roberto Rabelo P., mayor de edad, brasilero, titular de la cédula de identidad N° 82.237.870, domiciliado en Caracas, actuando en su carácter de Director suplente de la Sociedad Mercantil Minera Loma de Níquel, C.A., antes denominada Corporación Federal de Minas, S.A., inscrita en el Registro

Mercantil de la Circunscripción Judicial del Distrito Federal y Estado Miranda en fecha 02 de abril de 1991, bajo el N° 6, Tomo 9-A Pro, titular de las concesiones caducas de explotación de níquel de manto, denominadas "CAMEDAS N° 1 al N° 5", ubicadas en jurisdicción del Municipio Santos Michelena, Parroquia Tiara del Estado Aragua, cuyos Títulos fueron publicados en la Gaceta Oficial de la República de Venezuela N° 4.490, Extraordinario en fecha 10 de noviembre de 1992, ha solicitado de conformidad con lo dispuesto en el ordinal 2° del artículo 55 de la Ley de Minas, la renovación de los respectivos Títulos de explotación, por cuanto, canceló el impuesto de un mil bolívares (Bs. 1.000,00) según planilla de liquidación N° 1560 de fecha 02 de octubre de 1997 y solicitó la renovación, dentro de los tres (3) meses anteriores al vencimiento del lapso para poner en explotación las concesiones, por tanto, se ordena que se expida la renovación de los Títulos de las concesiones de explotación de níquel de manto, denominadas CAMEDAS N° 1 al N° 5, que otorga a la concesionaria un plazo de cinco (5) años para iniciar la explotación, contado a partir de la fecha de publicación de la presente Resolución, en el entendido de que el lapso de duración de veinte (20) años de las concesiones se contará desde el 10 de noviembre de 1992, fecha en la cual se publicó el primer Título en la Gaceta Oficial de la República de Venezuela N° 4.490, Extraordinario. Comuníquese y Publíquese.

Por el Ejecutivo Nacional

EVANAN ROMERO  
Ministro (E).

REPÚBLICA DE VENEZUELA - MINISTERIO DE ENERGIA Y MINAS -  
DESPACHO DEL MINISTRO - N° 452  
Caracas, 03 DIC. 1997 186° y 138°

## RESOLUCION

Por cuanto, la Compañía Aurífera Brisas del Cuyuní, C.A., inscrita en el Registro de Comercio del Juzgado Primero de Primera Instancia en lo Civil y Mercantil del Primer Circuito de la Circunscripción Judicial del Estado Bolívar, en fecha 21 de agosto de 1980, en el Libro adicional N° 6, bajo el N° 22-A, folios vuelto del 75 al 81, modificado según consta en el Registro de Comercio del Juzgado Primero de Primera Instancia en lo Civil, Mercantil y Agrario del Primer Circuito de la Circunscripción Judicial del Estado Bolívar, Libro N° 340, bajo el N° 36, folios 180 al 186, el 26 de enero de 1993 y Registro Mercantil Primero de la Circunscripción Judicial del Distrito Federal y Estado Miranda, bajo el N° 49, Tomo 115-A Pro, el 26 de marzo de 1993, hábil en derecho para adquirir concesiones mineras, ha solicitado el otorgamiento de una (1) concesión de explotación de cobre, molibdeno y oro de veta de las previstas en la Clase Segunda del artículo 174 de la Ley de Minas, denominada UNICORNIO, ubicada en jurisdicción de la Parroquia San Isidro, Municipio Sifontes del Estado Bolívar, con una superficie de quinientas hectáreas (500 ha), por cuanto, analizada dicha solicitud de conformidad con el

artículo 185 de la Ley de Minas, este Ministerio accedió a la misma y dispuso la presentación del plano de la parcela, mediante la Resolución N° 271 de fecha 11 de diciembre de 1996, y la presentación de dicho plano se hizo en tiempo oportuno, de lo cual se dio aviso en la Gaceta Oficial de la República de Venezuela N° 36.129 de fecha 20 de enero de 1997; por cuanto, transcurrido el lapso previsto en el artículo 182 de la Ley de Minas, sin que haya mediado oposición a dicho plano; por cuanto el Departamento Técnico de la División de Concesiones de la Dirección de Minas de este Ministerio, mediante informe de fecha 11 de marzo de 1997, manifestó no encontrar objeciones en relación con lo que exige la Ley de Minas y su Reglamento, por tanto, de conformidad con el artículo 186 "ejusdem", se aprueba el plano de la respectiva parcela y se ordena expedir a nombre de la Compañía Aurífera Brisas del Cayuní, C.A., antes identificada, el Título de la correspondiente concesión, previo el pago de la cantidad de trescientos mil bolívares (Bs. 300.000,00), en cumplimiento a lo establecido en el numeral 4, artículo 25 del Decreto-Ley N° 190, de la Reforma Parcial de la Ley de Timbre Fiscal, publicado en la Gaceta Oficial de la República de Venezuela N° 4.727 Extraordinario, de fecha 27 de mayo de 1994. Dicha tasa se cancelará según planilla liquidada mediante oficio del Ministerio, por órgano de la Dirección de Administración. De conformidad con lo previsto en el artículo 91 de la Ley de Minas, y en concordancia con la Resolución N° 115 del Ministerio de Energía y Minas, de fecha 20 de marzo de 1990, publicada en la Gaceta Oficial de la República de Venezuela N° 34.448 de fecha 16 de abril de 1990, modificadas según comunicaciones consignadas en fechas 12 de septiembre, 05 de diciembre de 1995 y 07 de julio de 1997, respectivamente. PRIMERA: La concesionaria, luego de publicado el Título en la Gaceta Oficial de la República de Venezuela, además de cancelar el impuesto superficial establecido en el artículo 85 de la Ley de Minas, pagará lo previsto en las "Tablas A y B" del artículo 9 de la Resolución N° 115. SEGUNDA: Transcurrido el lapso previsto en el artículo 24 de la Ley de Minas, sin haberse iniciado la explotación y solicitada oportunamente la renovación del Título, de conformidad con lo dispuesto en el Ordinal Segundo del artículo 55 de esa Ley, el monto del pago que se genere, vencido el primer Título, será igual al doble de lo ofrecido en la venta Primera, hasta tanto se inicie la explotación. TERCERA: La concesionaria, además de pagar el impuesto de explotación establecido en el artículo 87 de la Ley de Minas, cancelará la cantidad del tres por ciento (3%) del valor comercial en Caracas para el oro refinado y el seis por ciento (6%) del valor en la mina para los minerales de cobre y molibdeno, tomando en cuenta los aspectos establecidos en la norma 3ra. del artículo 87 de la Ley de Minas, para los efectos del cálculo se entenderá que el valor del mineral en la mina incluye los costos en que se incurra hasta el momento en que el mineral extraído, triturado o no, sea depositado en el vehículo que ha de transportarlo fuera de los límites de la concesión, o a una planta de beneficio o de refinación, cualquiera que sea el sitio donde ésta se localice, previsto en el literal C del artículo 9 de la Resolución N° 115. CUARTA: Utilizar para la explotación de la concesión el lapso de veinte (20) años, contado a partir de la fecha de publicación del respectivo Título en la Gaceta Oficial de la República de Venezuela, pudiendo prorrogarse su duración por períodos sucesivos de diez (10) años cada vez, a juicio del Ministerio y previa solicitud que deberá ser presentada con tres (3) meses de anticipación al vencimiento del período original, sin exceder el máximo de cuarenta (40) años que pauta el artículo 188 de la Ley de Minas. QUINTA: Presentar al Ministerio de Energía y Minas, dentro de los veinticuatro (24) meses siguientes a la fecha de publicación

del Título en la Gaceta Oficial de la República de Venezuela, un estudio de factibilidad técnico-económico, para su consideración en original y dos (2) copias, de acuerdo a la Guía para la Formulación de Proyectos Mineros y Minero-Industriales de la Dirección General Sectorial de Minas y Geología, del Ministerio de Energía y Minas, de conformidad con lo establecido en el artículo 15 de la Resolución N° 115. SEXTA: Para garantizar el cumplimiento de la ventaja anterior, se presentará ante el Ministerio de Energía y Minas a satisfacción de éste, una fianza solidaria otorgada por institución bancaria o empresa de seguros solvente y debidamente autenticada por la cantidad de un millón de bolívares (Bs. 1.000.000,00) dentro de los treinta (30) días siguientes a la publicación del Título en la Gaceta Oficial de la República de Venezuela. Dicha fianza será liberada una vez que el Ministerio apruebe el estudio en cuestión. SEPTIMA: La concesionaria se compromete a incorporar el mayor valor agregado nacional posible mediante cualquier proceso de transformación de los minerales de acuerdo con lo estipulado en el artículo 10 de la Resolución N° 115. OCTAVA: Tomar las medidas necesarias para garantizar la protección de los ríos, bosques, suelos, fauna, atmósfera y en general, la debida protección ambiental. A tales efectos, elaborará y presentará para su aprobación, al Ministerio del Ambiente y de los Recursos Naturales Renovables (M.A.R.N.R.), así como al Ministerio de Energía y Minas (M.E.M.) antes de proceder a ejecutar cualquier actividad de explotación, un estudio integral de protección del medio ambiente y la ecología con las medidas conservacionistas y proteccionistas a tomarse, así como el plan de reforestación sobre las áreas afectadas. NOVENA: La concesionaria se compromete a suministrar al Ministerio de Energía y Minas cualquier información que pidiera solicitar o requerir en relación a los sistemas, métodos, procesos, equipos y maquinarias que se proponga emplear. Igualmente pondrá a disposición de cualquier organismo gubernamental que lo solicite, la tecnología nacional utilizada en el desarrollo de la explotación, así como el procesamiento de los minerales. DECIMA: A partir del inicio de la explotación, la concesionaria sufragará los gastos de pasantías, una vez al año durante dos (2) meses a dos (2) estudiantes de ingeniería de Minas y/o Geología y/o Geofísica de las Universidades o colegios Universitarios Nacionales. DECIMA PRIMERA: La concesionaria se compromete a partir del inicio de la explotación de la concesión, a contribuir con la construcción y mantenimiento de la vía de acceso que comunique el área de la concesión con las comunidades más cercanas, esto para beneficio de sus habitantes y de la misma empresa. DECIMA SEGUNDA: La concesionaria contratará con prioridad a trabajadores que vivan en los alrededores del área solicitada en concesión. DECIMA TERCERA: Todos los estudios técnicos serán realizados por profesionales venezolanos legalmente colegiados. DECIMA CUARTA: La concesionaria se compromete a contribuir con el desarrollo del área de ubicación de la concesión, a cuyo efecto se ofrece: a) Contribuir anualmente con la cantidad de doce (12) salarios mínimos en libros de primaria y útiles escolares o en cualquier otra necesidad de la escuela más cercana al área de la concesión, previo acuerdo con el representante de la comunidad educativa y el Fiscal del Ministerio de la jurisdicción. Los salarios mínimos serán los vigentes para la fecha que le correspondía cumplir con la presente ventaja y se incrementará de acuerdo a la actualización de salario que dicte el Ejecutivo Nacional. Esta ventaja se empezará a cumplir al año siguiente del inicio de la explotación. DECIMA QUINTA: Contribuir con el desarrollo del área de ubicación de la concesión, a cuyo efecto se ofrece: a) Contribuir con un (1) salario mínimo mensual en medicinas y/o materiales médico-quirúrgico para el dispensario más cercano al área de

ubicación de la concesión. Dicho salario mínimo será el vigente para la fecha que le corresponda cumplir con la presente ventaja y se incrementará de acuerdo a las actualizaciones de salario que dicte el Ejecutivo Nacional. Esta ventaja se empezará a cumplir al año siguiente del inicio de la explotación. **DECIMA SEXTA:** La concesionaria presentará al Ministerio de Energía y Minas, a satisfacción de este para garantizar el cumplimiento de las ventajas especiales anteriormente descritas, una fianza de fiel cumplimiento, otorgada por una empresa de seguros o institución bancaria solvente y debidamente autenticada por la cantidad de tres millones de bolívares (Bs. 3.000.000,00), dentro de los treinta (30) días siguientes a la publicación del respectivo Título en la Gaceta Oficial de la República de Venezuela. **DECIMA SEPTIMA:** Queda entendido que las obras y demás mejoras permanentes además de la maquinaria, útiles, enseres y materiales, incluyendo las instalaciones, accesorios, equipos y cualesquiera otros bienes adquiridos con destino al objeto de la concesión y que formen parte integral de ella, sea cual fuere el título de adquisición, pasarán en plena propiedad a la Nación, libres de gravámenes o cargas, sin indemnización alguna al extinguirse por cualquier causa la concesión, sin que la concesionaria pueda efectuar los retiros de que trata el Parágrafo Unico del artículo 61 de la Ley de Minas, para ello la solicitante contraerá las siguientes obligaciones: a) La conservación y el mantenimiento de los bienes en comprobadas condiciones de integridad física y de buen funcionamiento, según los adelantos y principios técnicos aplicables, b) La información escrita al Ministerio de bienes con destino a la concesión minera dentro de los treinta (30) días siguientes a la fecha de cada adquisición. c) La abstención de realizar actos de disposición, desafectación o retiro de cualesquiera de los bienes comprendidos en la reversión, sin previa autorización escrita de este Ministerio, y d) La solicitud debidamente justificada, ante el Ministerio de autorización para el uso de bienes de terceros en los trabajos de la concesión. Además de las causales de caducidad que establece la Ley de Minas, será motivo de extinción de los derechos sobre dicha concesión, el incumplimiento de cualesquiera de las obligaciones arriba mencionadas. Comuníquese y Publíquese.

Por el Ejecutivo Nacional

**EVANAN ROMERO**  
MINISTRO (E)

## MINISTERIO DEL AMBIENTE Y DE LOS RECURSOS NATURALES RENOVABLES

REPUBLICA DE VENEZUELA  
MINISTERIO DEL AMBIENTE Y DE LOS RECURSOS NATURALES  
RENOVABLES

DESPACHO DEL MINISTRO  
NUMERO: 94 CARACAS: 16-07-97

Mediante auto de fecha 18-07-96 dictado por la Contraloría Interna de este Ministerio se ordenó la apertura de una Averiguación Administrativa por la presunta comisión de hechos irregulares en la ejecución del contrato MO-PO-93-001, objeto de la obra "Rehabilitación Integral de las Unidades de Aire Acondicionado del Edificio Sede del Ministerio del Ambiente y de los Recursos Naturales Renovables, Región Monagas", en razón de que se relacionó obra no ejecutada por la cantidad de Doscientos Veinte Mil Doscientos Cuarenta y Tres Bolívares con Sesenta y Nueve Céntimos (Bs. 220.243,69) (folios 1 y 2).

En base a lo que establece el artículo 126 de la Ley Orgánica de la Contraloría General de la República, se le participó al Contralor General de la República sobre la apertura de dicha averiguación a través del oficio Nº 145 de fecha 23-07-96 (folio 3).

El citado hecho irregular se evidenció de la práctica de una verificación administrativa realizada en la Región Monagas en fecha 19-12-94 por el Auditor Rómulo Ramírez Córdova, funcionario adscrito a la Dirección de Control Administrativo de la Contraloría Interna de este Ministerio (folio 5 al 11).

En el procedimiento de sustanciación de esta averiguación administrativa fueron citados y rindieron declaración como testigos los siguientes ciudadanos:

1. **ALEXIS MATTEY**, titular de la cédula de identidad Nº 2.631.429, Jefe de la División de Infraestructura de la Región Monagas de este Ministerio e Ingeniero Inspector del Contrato; citado mediante oficio Nº 098 de fecha 13-10-95, rindiendo declaración el 17-10-95 (folio 91 al 94).
2. **IVAN GOYO**, titular de la cédula de identidad Nº 2.960.453, Ingeniero Agrónomo II adscrito a la Región Monagas de este Ministerio; citado mediante oficio Nº 100 de fecha 13-10-95, rindiendo declaración el 17-10-95 (folios 95 al 97).
3. **NEPTALI HERNANDEZ**, titular de la cédula de identidad Nº 3.320.486, Jefe de la Oficina de Servicios Administrativos de la Región Monagas de este Ministerio; citado mediante oficio Nº 97 de fecha 13-10-97, rindiendo declaración el 17-10-95 (folios 98 al 101).
4. **JESUS RONDON**, titular de la cédula de identidad Nº 5.500.997, Director de la Región Monagas de este Ministerio; citado mediante oficio Nº 101 de fecha 13-10-97, rindiendo declaración el 15-11-95 (folios 102 al 104).

En el presente procedimiento fue citado mediante oficio Nº 015 de fecha 27-02-97, en calidad de indiciado, el funcionario **ALEXIS MATTEY**, titular de la cédula de identidad Nº 2.631.429, Jefe de la División de Infraestructura de la Región Monagas de este Ministerio e Ingeniero Inspector del Contrato MO-PO-93-001, rindiendo declaración en fecha 04-03-97 (folios 129 al 131).

Entre los recaudos que conforman el expediente los cuales reflejan actividades de Instrucción, así como hechos significativos, destacan los siguientes:

1. Documento Principal de Contrato MO-PO-93-001 para la ejecución de la obra "Rehabilitación Integral de las Unidades de Aire Acondicionado del Edificio Sede de la Región Monagas de este Ministerio, ubicado en la Av. Alirio Ugarte Pelayo, Puente Bajo, Guarapiche, Maturín, Estado Monagas" (folio 15).
2. Presupuesto de la obra por UN MILLON NOVECIENTOS NOVENTA Y NUEVE MIL TRESCIENTOS CUARENTA Y SEIS BOLIVARES CON VEINTINUEVE CENTIMOS (Bs. 1.999.346,29) (folios 16 y 17)
3. Valuación de Obra Ejecutada Nº 01 en la que se relaciona un monto de CUATROCIENTOS NOVENTA Y CINCO MIL BOLIVARES (Bs. 495.000,00) (folios 30 y 31).
4. Valuación de Obra Ejecutada Nº 02 en la que se relaciona un monto de UN MILLON TRESCIENTOS CINCUENTA Y SEIS MIL SETENTA Y TRES

000006

Ciudadano  
Ing. Evanan Romero  
Director General Sectorial de  
Geología y Minas (E)  
Ministerio de Energía y Minas  
Torre Oeste, Parque Central  
Caracas

21 OCT. 1997

Me dirijo a usted, de conformidad con lo establecido en el artículo 73 de la Ley Orgánica de Procedimientos Administrativos, para notificarle que esta Dirección General Sectorial, ha decidido otorgar al **MINISTERIO DE ENERGIA Y MINAS**, la aprobación administrativa para la ocupación del territorio con fines de ejecución de actividades de explotación de mineral de oro, cobre y molibdeno de veta, en la parcela denominada **UNICORNIO**, sobre una superficie total de quinientas hectáreas (500 ha), ubicada dentro de los linderos de la Reserva Forestal Imataca, en jurisdicción del Municipio Autónomo Sifontes del Estado Bolívar, según consta en Providencia Administrativa N° 106 de fecha 21-10-97, la cual se anexa a la presente en cinco (5) folios útiles originales.

Contra la decisión expresada en la mencionada Providencia Administrativa, el interesado podrá interponer por ante esta Dirección General Sectorial, el Recurso de Reconsideración dentro de los quince (15) días siguientes al recibo de la presente notificación, de acuerdo a lo previsto en el artículo 94 de la Ley Orgánica de Procedimientos Administrativos.

Atentamente,



Ing. Samuel A. Mendoza M.  
Director General Sectorial  
Servicio Forestal Venezolano.

RECEBIDO  
DIRECCIÓN GENERAL DEL SERVICIO FORESTAL VENEZOLANO  
21 OCT 1997

DB/AZ/SCR/BB/G/ALU  
Anexo: Providencia Administrativa en 5 folios  
cc:  
Dir. Gen. SAAGUAYANA, DGSPQA,  
DGSCA, DGSVyCA,  
DMF y DPyEF, OAL

Recibido por: \_\_\_\_\_  
Firma: \_\_\_\_\_  
Cédula de Identidad: \_\_\_\_\_  
Fecha: \_\_\_\_\_  
(conforme a lo previsto en la Ley Orgánica de Procedimientos Administrativos)