FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C.  20549

Report of Foreign Private Issuer Pursuant to Rule 13a-16 or 15d-16 of the Securities Exchange Act of 1934

For the month of November 2006

Commission File Number:  001-31819

Gold Reserve Inc.
(Exact name of registrant as specified in its charter)

926 W. Sprague Avenue, Suite 200
Spokane, Washington 99201
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F   X    Form 40-F _____

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes          No    X

If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b):  82-____________

Filed with this Form 6-K is the following, which is incorporated herein by reference:

99.1  NI 43-101 Technical Report, Brisas Project, Venezuela, Feasibility Update

Certain statements included herein, including those that express management's expectations or estimates of our future performance or concerning the Brisas Project, 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 at this time, 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 risks that may cause the actual financial results, performance, or achievements of Gold Reserve Inc. to be materially different from our estimated future results, performance, or achievements expressed or implied by those forward-looking statements. Numerous factors could cause actual results to differ materially from those in the forward-looking statements, including without limitation, concentration of operations and assets in Venezuela; corruption and uncertain legal enforcement; requests for improper payments; regulatory, political and economic risks associated with Venezuelan operations (including changes in previously established legal regimes, rules or processes); the ability to obtain or maintain the necessary permits or additional funding for the development of the Brisas Project; in the event any key findings or assumptions previously determined by us or our experts in conjunction with our 2005 bankable feasibility study (as updated or modified from time to time) significantly differ or change as a result of actual results in our expected construction and production at the Brisas Project (including capital and operating cost estimates); risk that actual mineral reserves may vary considerably from estimates presently made; impact of currency, metal prices and metal production volatility; fluctuations in energy prices; changes in proposed development plans (including technology used); our dependence upon the abilities and continued participation of certain key employees; and risks normally incident to the operation and development of mining properties. This list is not exhaustive of the factors that may affect any of the Company's forward-looking statements.  Investors are cautioned not to put undue reliance on forward-looking statements.  All subsequent written and oral forward-looking statements attributable to the Company or persons acting on its behalf are expressly qualified in their entirety by this notice. The Company disclaims any intent or obligation to update publicly these forward-looking statements, whether as a result of new information, future events or otherwise.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Gold Reserve Inc.
(Registrant)

Date: November 29, 2006
By:   s/ Robert A. McGuinness
Name:    Robert A. McGuinness
Title:   Vice President - Finance & CFO

EXHIBIT INDEX

99.1  NI 43-101 Technical Report, Brisas Project, Venezuela, Feasibility Update

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# NI 43-101 Technical Report, Brisas Project, Venezuela, Feasibility Update

Prepared for
Gold Reserve, Inc.

October 30, 2006
34424

Prepared by

Pincock, Allen & Holt

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# 1.0 Executive SUMMARY

The Brisas Project is a gold-copper deposit located in the Kilometer 88 mining district of Bolivar State in southeast Venezuela. Before its acquisition by Gold Reserve Inc. (GRI) in 1992, local owners and also illegal miners worked the property on a small scale. Shallow pitting and hydraulic methods were used to mine the upper saprolite zone, and coarse gold was recovered by gravity concentration. GRI has carried out a major exploration drilling program on the concession, resulting in the definition of a large, gold-copper deposit.

The operating plan proposes a large open pit mine containing proven and probable reserves of approximately 10.4 million ounces of gold and 1.3 billion pounds of copper in 484.6 million tonnes of ore grading 0.67 grams of gold per tonne and 0.13 percent copper, at a revenue cutoff grade of $3.04 per tonne for hard rock and $3.24 for saprolite. The revenue cutoffs were based on a gold price of $400 per ounce and a copper price of $1.15 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 456,000 ounces of gold and 60 million pounds of copper over an estimated mine life of approximately 18.5 years.

This Technical Report is based on the Brisas Project Feasibility Study dated January 2005, with the following Updates:

A new resource model was developed by Pincock, Allen & Holt (PAH) with the addition of 84 new drillholes in late 2004. The information is presented in the PAH report "Supplement to the January 2005 Brisas Feasibility Study", dated November 2005.

A new capital cost estimate with a minor modification to the process flowsheet was developed by SNC Lavalin to update the feasibility costs from 4th Quarter 2004 costs to 1st Quarter 2006 costs. The information is presented in the SNC report "Project Scope and Definition Document", dated April 2006.

A new mine design and production schedule based on new project costs was developed by Marston and Marston (Marston). The information is presented in the Marston report "Brisas Project Resource and Reserve Update," dated October 2006.

A new project economic model was developed by GRI and validated by PAH. This model uses updated capital and operating costs and was used for the economic information presented in this Technical Report.

This Technical Report assumes an economic base case utilizing a three-year rolling average price of $470 per ounce gold, $7.90 per ounce silver, and $1.80 per pound copper. At such prices, cash operating costs (net of copper byproduct credits) are estimated at $142 per ounce of gold and total costs per ounce, including operating costs and initial and sustaining capital would be $253 per ounce of gold. Initial capital costs are currently estimated at $638 million with another $45 million in working capital. All amounts are in U.S. dollars.

## 1.1 Location

The Brisas Project is located in the Kilometer 88 mining district of Bolivar State in southeast Venezuela at Latitude 6 degrees 10' North and Longitude 61 degrees 28' West. The property is approximately 3.5 kilometers west of the Kilometer 88 marker on Highway 10. Las Claritas is the closest town to the property.

The project site is located in the Guyana region, which covers approximately one-third of Venezuela's national territory. The main nearby large city is Puerto Ordaz, with approximately 700,000 inhabitants, situated on the Orinoco River near its confluence with the Caroni River. Puerto Ordaz has major port facilities accessible to ocean-going vessels from the Atlantic Ocean via the Orinoco, a distance of about 200 kilometers. There is regularly scheduled airline service to Puerto Ordaz from various cities within Venezuela.

Highway 10 provides paved access from Puerto Ordaz, which is 373 kilometers northwest of the property, to within 3.5 kilometers of the project site. Unpaved roads provide the remaining 3.5 kilometers of access. Upgrading the unpaved roads is part of the infrastructure improvements plan for the project area.

## 1.2 Ownership

The main mineralized area at the Brisas Project is contained within the 500-hectare (1,235 acre) Brisas Del Cuyuni alluvial and hardrock Concession. The Concession measures 2,500 meters (1.5 miles) north-south and 2,000 meters (1.25 miles) east-west. GRI also controls several other concessions either adjacent to or near the Brisas Concession.

According to GRI, mineral ownership consists of Brisas alluvial production concession originally granted in 1988 and acquired by GRI in 1992 with the acquisition of Compania Aurifera Brisas del Cuyuni S.A. The hardrock production concession immediately below the alluvial concession was applied for by GRI in 1993 and was ordered to be issued by the Ministry of Energy and Mines (MEM) in December 1997. The concession was granted to GRI in early 1998 and the official record of "veta" (hard rock) rights was published in the "Gaceta Official De La Republica De Venezuela" on March 3, 1998. The combined alluvial concession and hardrock concession are referred to as the Brisas Concession.

Other applications for mineral rights have been submitted for small tracts of land immediately adjacent to the Brisas Concessions. These include the 15-hectare NLNAV1 to the north, the 21-hectare NLEAV1 to the east and the 32-hectare NLSAV1 to the south. GRI has received the contract for mineral rights on NLEAV1 and NLSAV1 and has applied for the rights to NLNAV1.

Additionally, in 1999, GRI acquired the 1,433-hectare (3,541 acres) El Pauji Concession and contracts with Corporation Venezolana de Guyana (CVG) for the 4,950-hectare (12,232 acres) Barbara property, the 847-hectare (2,162 acres) Zuleima property and the 1644-hectare (4,062 acres) Lucia property. Early in 2004 Gold Reserve obtained contracts for the 499-hectare (1,232 acres) Esperanza and the 50-hectare (123 acres) Yusmari properties. Barbara is located approximately 2.6 kilometers (1.6 miles) south of the Brisas Concession and will be the site for tailings and waste rock disposal facilities. Esperanza, El Pauji, and Zuleima are located west and south of the Brisas Concession and will be used for waste rock disposal. The Yusmari property is adjacent and located on the northeast corner of the Brisas Concession and is within the ultimate pit boundary. The Lucia property is located 7.8 kilometers southwest of the Brisas Concession and its use for the Project is yet to be determined.

In 2005, GRI was granted the rights to explore and develop a rock quarry in the 400-hectare Barbarita concession. This concession is located totally within the Barbara property in the northeast corner.

## 1.3 Geology

The Brisas Project is 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 of the shield 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 the Imataca, Pastora and Roraima provinces are found in the vicinity of the Brisas deposit.

The Brisas Concession itself lies within a portion of the lower Caballape Formation volcanic and volcanic-related sedimentary rocks. The units present are (1) andesitic to rhyolitic tuffaceous volcanic beds, (2) related sedimentary beds, and (3) a tonalitic intrusive body. All rocks have been tilted and subjected to lower greenschist facies metamorphism. In the main mineralized trend, moderate to strong foliation is oriented N 10 E and dipping 30 to 55 degrees NW. This foliation appears to be parallel to the original bedding and tends to be strongest in the finer-grained rocks. A much weaker foliation orientation appears in outcrop exposures, striking NNW and dipping to the SW.

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 have displacement on the order of tens of meters. Quartz veins populate the concession and have been noted both in outcrop and in drill intersections. The most common are sets of thick, boudinaged, and en echelon vein structures that follow foliation/bedding orientation. They are thought to relate in part to movement of quartz during metamorphism. Other quartz veins exist in various orientations within the property.

## 1.4 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.

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 degrees SW along foliation. 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 the Brisas Project, but it possesses the highest Au and Cu grades.

The bulk of ore mineralization occurs in disseminated, coalescing, lensoid 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 remains at a similar thickness from the northern concession boundary for a distance of 1.4 kilometers south, after which it tapers rapidly. Alteration minerals characteristic of these lenses are epidote, chlorite, secondary biotite, and sericite.

The Au in the stratiform lenses is highly disseminated but only roughly associated with high occurrences of pyrite. Fine-scale sub-sampling of 3-meter assay intervals indicates good correlation between Au and small (<1 cm) calcite/quartz veins. Correlation also exists with zones of high occurrence of epidote and in lapilli-sized lithic fragments that have been partially to completely replaced by epidote and sulfides. Sub-sampling evidence also suggests that Au is more evenly distributed through the rock near the center of the large mineralized lenses than it is near the margins.

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. 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 3-meter core interval. There is a high degree of correlation between chalcopyrite and Au grade, though Cu grades in these shears are sub-economic.

## 1.5 Exploration

GRI began exploration activity in late 1992 and continued various drilling programs through the present time. A total of 977 drill holes with a total drilled length of 207,751 meters have been completed by GRI at Brisas as of September 2006. Of these holes 802 representing 189,985 meters of drilling were drilled specifically for exploration on the Brisas Concession. The remaining holes were drilled for hydrologic, geotechnical, and metallurgical testing. In some cases the test holes were assayed and used in modeling.

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 exploration drilling was performed using standard diamond core-barrel recovery techniques although some auger drilling was carried out at the beginning of the exploration campaign. Auger holes (A holes) are generally very shallow and are scattered throughout the project area and in between later-drilled core holes; many auger holes are outside the pit area. Also, about half of the auger holes were deepened using regular core hole drilling techniques (AD holes). Auger holes were included in the resource estimation process.

The resource/reserve estimate presented in this report includes drilling results up to hole D845 drilled in March 2005. A summary of drilling at the Brisas Project from 1993 through 2006 is shown in Table 1-1. The drilling also included drill holes for metallurgical, geotechnical, hydrological testing, and independent verification. Condemnation drilling has been performed in the waste dump areas, and to a limited extent, in the tailings dam area. None of the drill results in the tailings dam area has yielded geological or geochemical information suggestive of potential ore deposits.

TABLE 1-1
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Drilling Summary

| Year | Auger Drilling | | Auger Diamond Drilling | | Diamond Drilling | | Total | | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | Holes | Meters | Hole | Meters | Hole | Meters | Holes | Meters | |
| 1993 | 14 | 404 | 3* | 77 | 36 | 5,120 | 50 | 5,601 | |
| 1994 | 57 | 1,528 | 59 | 12,649 | 5 | 422 | 121 | 14,600 | |
| 1995 | | | 9 | 1,926 | 99 | 18,997 | 108 | 20,923 | |
| 1996 | | | | | 252 | 50,221 | 252 | 50,221 | |
| 1997 | | | | | 219 | 67,946 | 219 | 67,946 | |
| 1999 | | | | | 13 | 5,726 | 13 | 5,726 | |
| 2003-2004 | | | | | 126 | 34,670 | 126 | 34,670 | |
| 2005 | - | - | - | - | 20 | 2,291 | 20 | 2,291 | Non-Exploration Not in Model |
| 2006 | | | | | 68 | 5,775 | 68 | 5,775 | Non-Exploration Not in Model |
| Total Drilling | 71 | 1,932 | 68 | 14,652 | 838 | 191,168 | 977 | 207,751 | |

Note: * Auger completed but not counted until diamond portion completed in 1994.

## 1.6 Resource Modeling and Estimation

It has been observed for some time within the Brisas Project 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 strike, dip, and across the ore zones.

Gold and copper composite values were capped according to the statistical review of the data 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 6 meter down hole composites that fell within the grade envelopes. Only blocks within the grade envelopes received an Au or a Cu grade. The ordinary kriging (OK) interpolation method was used for all runs.

Table 1-2 tabulates the measured, indicated and inferred resources at the Brisas Project and shows the tonnage/grade variability at various gold equivalent (AuEq) cutoff grades. Gold equivalent calculations are based on metal prices of $400/ounce Au, and $1.15/lb Cu, anticipated metal recoveries, and smelter costs.

The measured and indicated resource at a 0.4 AuEq cutoff grade is estimated as 573.9 million tonnes at a gold grade of 0.66 gpt and a copper grade of 0.13 percent. In addition, the inferred resource at the Brisas Project is estimated as 114.9 million tonnes at 0.59 gpt gold grade and 0.12 percent copper grade at a 0.4 AuEq cutoff grade. The inferred resources include the inferred mineralization both within and outside the mineral envelopes. This resource estimate is inclusive of the reserve estimate.

TABLE 1-2
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Mineral Resource Estimate

| | | | Gold | | Copper | |
|---|---|---|---|---|---|---|
| Category | AuEq Cutoff | k tonnes | gpt | k ozs | % | M lbs |
| | 0.3 | 285,405 | 0.634 | 5,817 | 0.114 | 717 |
| | 0.4 | 250,565 | 0.686 | 5,527 | 0.119 | 657 |
| Measured | 0.5 | 207,448 | 0.755 | 5,034 | 0.126 | 576 |
| | 0.6 | 165,410 | 0.834 | 4,437 | 0.135 | 492 |
| | 0.7 | 129,741 | 0.918 | 3,830 | 0.144 | 412 |
| | 0.3 | 391,430 | 0.565 | 7,110 | 0.126 | 1,087 |
| | 0.4 | 323,371 | 0.637 | 6,621 | 0.130 | 927 |
| Indicated | 0.5 | 258,354 | 0.717 | 5,952 | 0.135 | 769 |
| | 0.6 | 201,578 | 0.802 | 5,198 | 0.140 | 622 |
| | 0.7 | 154,756 | 0.893 | 4,441 | 0.145 | 495 |
| | 0.3 | 676,835 | 0.594 | 12,927 | 0.121 | 1,804 |
| Measured | 0.4 | 573,936 | 0.658 | 12,148 | 0.125 | 1,584 |
| + | 0.5 | 465,802 | 0.734 | 10,986 | 0.131 | 1,345 |
| Indicated | 0.6 | 366,988 | 0.816 | 9,635 | 0.138 | 1,114 |
| | 0.7 | 284,497 | 0.904 | 8,271 | 0.145 | 906 |

Note: AuEq based on the "Smelter Case". AuEq = Au (gpt) + Cu (%) * 1.16

| | | | Gold | | Copper | |
|---|---|---|---|---|---|---|
| Category | AuEq Cutoff | k tonnes | gpt | k ozs | % | M lbs |
| | 0.3 | 161,853 | 0.482 | 2,508 | 0.115 | 410 |
| | 0.4 | 114,937 | 0.590 | 2,182 | 0.116 | 294 |
| Inferred | 0.5 | 84,319 | 0.691 | 1,873 | 0.116 | 216 |
| | 0.6 | 60,928 | 0.801 | 1,569 | 0.112 | 150 |
| | 0.7 | 45,770 | 0.896 | 1,319 | 0.111 | 112 |

Note: AuEq based on the "Smelter Case". AuEq = Au (gpt) + Cu (%) * 1.16
(*) Inferred resources include both within and outside the mineral envelopes.

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 the current drill hole database is sufficient for generating a feasibility level resource model.

## 1.7 Mine Design and Reserve Estimate

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. Based on the results of optimization analysis, an ultimate pit was designed. A production schedule was then developed based on a nominal 50/50 blend of the two hard rock ore types. This schedule resulted in an average production rate of 25.2 million tonnes of hard rock ore and on average 51.8 million tonnes of waste per year over the 18.5 years of the project. During the first four years of the project, 9.6 million tonnes of oxide saprolite ore and 13.1 million tonnes of sulfide saprolite ore are mined. This saprolite material is stockpiled separately. The sulfide saprolite is fed to the crusher at a rate of 1.95 million tonnes per year. Oxide saprolite is fed to the mill at a rate of 0.25 mtpy while the sulfide saprolite is processed. When milling of sulfide saprolite is completed, the oxide saprolite rate is increased to 0.70 Mtpy.

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 coordinate; however, both occur on either side of this line.

Design of the ultimate pit was based on the results of a Whittle Lerchs-Grossmann (LG) pit shell analysis. Whittle is a software package that uses the LG 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 Concession area maximizes the metal recovery on the Brisas Concession.

Since the Brisas Project 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. As a result, the revenue cutoff grades of $3.04 per tonne for hard rock and $3.24 per tonne for saprolite were used to estimate reserves. Revenue of this amount covers the costs for processing, general and administration, reclamation, stockpile re-handle for saprolite and selling. Mining costs are not included since an incremental cutoff assumes mining is a sunk cost.

Using the revenue per tonne cutoff grades of $3.04 and $3.24 based on metal prices of $400 per ounce for gold and $1.15 per pound for copper, reserves for the ultimate pit were calculated. Total proven and probable reserves for the Brisas Project are estimated at 484.6 million tonnes of ore at a gold grade of 0.67 grams per tonne and a copper grade of 0.13 percent. There are a total of 952.3 million tonnes of waste in the pit resulting in a strip ratio (waste/ore) of 1.96. Table 1-3 summarizes these reserves by category.

Table 1-3
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Reserve Estimate Based on Revenue Cutoffs of $3.04 for
Hard Rock & $3.24 for Saprolite

| Reserve Category | Tonnage (000's) | Au Grade g/t | Au grams (000's) | Au ounces (000's) | Cu Grade percent | Cu tonnes | Cu M pounds |
|---|---|---|---|---|---|---|---|
| Proven | 226,252 | 0.69 | 156,517 | 5,032 | 0.12 | 272,376 | 600 |
| Probable | 258,398 | 0.64 | 166,628 | 5,357 | 0.13 | 334,397 | 737 |
| Total Ore | 484,649 | 0.67 | 323,145 | 10,389 | 0.13 | 606,773 | 1,338 |
| Waste | 952,304 | | Strip Ratio | | 1.96 | | |
| Total In Pit | 1,436,953 | | | | | | |

Note: Revenue is based on metal prices of $400/oz for gold & $1.15/lb for Copper.

PAH believes that the reserve estimate shown in Table 1-3 is reasonable and meets the definitions as stated by Standards for Disclosure for Mineral Projects, Form 43-101F1 and Companion Policy 43-101CP dated December 23, 2005.

The reserve estimate in Table 1-3 is based on the assumption that the pit backslope extends onto the Las Cristinas Concession, which will require a backslope agreement. GRI received approval of its operating plan from MEM in February 2003, which included the extension of the backslope onto the Las Cristinas Concession. Also in October 2006, GRI and Crystallex International Corporation (Crystallex) proposed to MARN to move a water diversion channel on the southern part of the Las Cristinas Concession, further northward, away from the Brisas pit. This proposal, if approved, should allow GRI to formalize a backslope agreement. Crystallex has been granted an operations contract to the adjacent Las Cristinas property (see section 15.0 Adjacent Properties).

PAH has not reviewed the GRI MEM approved 2003 operating plan or Crytallex's proposed diversion channel. According to GRI, Corporacion Venezolana de Guyana (CVG) and MIBAM has indicated to GRI that a backslope agreement is probable. PAH believes that the backslope assumption is valid because backslope agreements are a common practice in the mining industry and the government agencies have been favorable toward an agreement. Also, the backslope agreement would allow Las Cristinas/CVG to mine onto the Brisas Concession in the event its mine plan reaches the border area first. Discussions with MIBAM/CVG are ongoing. In the event an agreement is not reached, the reserve estimate will have to be reduced significantly.

## 1.8 Development and Operations

### 1.8.1 Mine Plan and Operation

A mine production schedule based on open pit mining methods utilizing hydraulic shovels and 236 tonne trucks was developed. Additionally, the schedule targeted a 0.1 percent average copper grade to produce a 24 percent copper concentrate grade with a blend of the two hard rock ores. Overall the split between these two ore types is 57 percent northern hard rock and 43 percent southern hard rock. Because of this split the target was to have at least 50 percent northern hard rock.

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 ore mining is completed in Year 3 but milling is not completed until Year 19. Mining of sulfide saprolite ore ends in Year 6 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 re-handling.

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 downdip extension of the existing ore body. However, stripping requirements would likely prevent the pit from economically expanding into the waste disposal area.

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. It is envisioned that mining of ore would occur on both shifts in order to minimize stockpiling and re handling. Scheduled work time is 10.5 hours per shift which allows 30 minutes for meals, 30 minutes of delays, and 30 minutes lost during shift change.

### 1.8.2 Plant Operation

The plant will operate an estimated 360 days per year with 90 percent availability. Hard rock ore will be processed at a design rate of 3,240 dry tonnes per hour, or 70,000 dry tonnes per day. The hard rock blend will average 57 percent North and 43 percent South ore, equivalent to 25.2 million tonne per annum. Additionally, 5,400 tonnes per day of sulfide saprolite and 2,000 tonnes per day of oxide saprolite will be processed until these resources are exhausted.

Average concentrate production over the life of the mine will be 117,000 tonnes per year at a grade of 24 percent copper and 90 g/t of gold and 103 g/t silver. The gold content of the concentrate averages 343,000 oz/yr. Gold recovered as gravity concentrate and as dore metal produced by cyanide leaching will average 123,000 oz/yr, silver in the dore will average 84,000 oz/yr.

Tailings will be stored in a 7.5 million square meter tailings pond. About 8 percent of the tailings will be from the cyanidation plant and will be subjected to Air SO2 cyanide destruction before being combined with the flotation concentrator tailings for discharge to the tailings pond.

### 1.8.3 Project Economics

A Base Case economic analysis was prepared for the Brisas Project using a gold price of $470 per ounce, copper price of $1.80 per pound, and silver price of $7.90 per ounce. The Base Case is based on the three year rolling average for metal prices as of September 2006. Results for the Base Case are summarized in Table 1 4. Table 1 5 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 in Table 1 5. Project payback is just under seven years.

Development of the project yields a pre tax discounted cash flow rate of return of 15.4 percent and a net present value of $783 million (5 percent discount rate) at a gold price of $470/oz, a silver price of $7.90/oz, and a copper price of $1.80 per pound. Total pre tax cash flow is $1.91 billion.

Likewise, the Brisas Project yields an after tax discounted cash flow rate of return of 11.4 percent and a net present value of $445 million (5 percent discount rate) at a gold price of $470/oz, a silver price of $7.90/oz, and a copper price of $1.80 per pound. Total after-tax cash flow is $1.28 billion.

TABLE 1 4
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Reserve Case and Base Case Economic Evaluation

| | Reserve Case | Base Case |
|---|---|---|
| Gold Price ($/troy oz) | $400 | $470 |
| Copper Price ($/pound) | $1.15 | $1.80 |
| Silver Price ($/troy oz) | $0.00 | $7.90 |
| Project Economics Pre Tax ($ millions) | | |
| Cash Flow | 713 | 1,906 |
| NPV @ 5% | 120 | 783 |
| NPV @ 10% | (135) | 268 |
| IRR | 6.9% | 15.4% |
| Project Economics After Tax ($ millions) | | |
| Cash Flow | 497 | 1,283 |
| NPV @ 5% | 8 | 445 |
| NPV @ 10% | (199) | 66 |
| IRR | 5.1% | 11.4% |
| Cash Operating Cost ($ per oz Gold)1 | $213 | $142 |
| Payback (years) | 11.6 | 6.7 |

(1) Net of copper by product credit and includes production taxes.

TABLE 1 5
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Base Case Key Economic Assumptions and Results

| Base Case Assumptions | |
|---|---|
| Daily Mill Throughput | 70,000 tonnes/day |
| Mine Life | 18.5 Years |
| Gold Price | $470/troy ounce |
| Copper Price | $1.80/pound |

| | |
|---|---|
| Silver Price | $7.90/troy ounce |

Metallurgical Recovery

| | |
|---|---|
| Plant Recovery - Gold | 82.7% |
| Plant Recovery - Copper | 86.8% |
| Net Payable Metal - Gold | 81.0% |
| Net Payable Metal - Copper | 83.2% |

Life of Mine Production

| | |
|---|---|
| Payable Gold | 8.41 million troy ounces |
| Payable Copper | 1,113 million pounds |

Average Annual Production

| | |
|---|---|
| Payable Gold/year | 456,000 troy ounces |
| Payable Copper/year | 60 million pounds |

Initial Capital Cost 1 (in millions US 2006 $)

| | |
|---|---|
| Mine | $76.6 |
| Mill | $241.5 |
| Tailings | $14.1 |
| Infrastructure | $65.8 |
| Owners Costs | $65.3 |
| Pre Stripping | $18.3 |
| Indirect Costs (includes EPCM and Camp) | $97.0 |
| Contingency | $59.4 |
| Total Initial Capital | $638.0 |
| Initial Working Capital | $44.5 |

Capital Costs (in millions US 2006 $)

| | |
|---|---|
| Initial | $682.5 |
| Sustaining Capital | $157.2 |
| Reclamation Expenditure | $36.4 |
| Total Capital | $876.1 |

Cash Operating Costs Per Ore Tonne (in US 2006 $)

| | |
|---|---|
| Mining and Dewatering | $2.08 |
| Processing | $2.59 |
| G & A | $0.42 |
| Transportation & Freight | $0.34 |
| Smelting & Refining | $1.02 |
| Total Cash Operating Cost/Ore Tonne | $6.45 |

Cost Per Ounce of Gold

| | |
|---|---|
| Cash Operating Costs2 | $126 |
| Exploitation Tax | $16 |
| Capital Cost (initial and sustaining) | $111 |
| Total Costs2 | $253 |
| Total Costs3 Excluding Sunk Costs | $245 |

(1) A value added tax (VAT) of 14% or $73 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, for purposes of the economic model, sunk costs of approximately $70 million. Total expenditures, capitalized and costs expensed, on the Brisas Project since its acquisition by the Company in 1992 totals over US$100 million.

The total initial capital is approximately $638 million, with an additional $45 million in initial working capital and $157 million of sustaining capital required over the 19 year mine life. The cash operating cost per gold ounce produced is $126 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 $253 per ounce.

Reserve estimates were based on a gold price of $400 per ounce, copper price of $1.15 per pound, and no silver credits. Results from the economic analysis at these prices are shown in Table 1-4. Since an after tax total cash flow of $497 million is achieved the economic criteria for the reserve statement are met.

## 1.9 Conclusions

### 1.9.1 Adequacy of Procedures

PAH and various other firms and independent consultants have reviewed the methods and procedures utilized by GRI at the Brisas Project to gather geological, geotechnical, and assaying information and found them reasonable and meeting generally accepted industry standards for a bankable feasibility level of study.

### 1.9.2 Adequacy of Data

PAH believes that the Brisas Project has conducted exploration and development sampling and analysis programs using standard practices, providing generally reasonable results. PAH believes that the resulting data can effectively be used in the subsequent estimation of resources and reserves.

### 1.9.3 Adequacy of Feasibility Study

This Technical Report is based on the January 2005 Feasibility Study prepared by Aker Kvaerner, the supplement to the January 2005 Brisas Project Feasibility Study prepared by PAH dated November 2005, the Project Scope and Definition Document prepared by SNC Lavalin dated April 2006, and the Brisas Resource and Reserve Update prepared by Marston dated October 2006. PAH believes that this Feasibility Study and subsequent updates have been prepared using standard industry practices and provides reasonable results and conclusions.

### 1.9.4 Compliance with Canadian NI 43-101 Standards

PAH believes that the current drill hole database is sufficient for generating a feasibility level resource model for use in resource and reserve estimation. Recovery and cost estimates are based upon sufficient data and engineering to support a reserve statement. Economic analysis using these estimates generates a positive cash flow, which supports a reserve statement.

At a 0.4 gpt AuEq cutoff grade the measured and indicated resource is 573.9 million tonnes at a gold grade of 0.66 gpt and a copper grade of 0.13 percent. Included in this resource is a proven and probable reserve of 484.6 million tonnes of ore at a gold grade of 0.67 gpt and a copper grade of 0.13 percent based on a value cutoff of US$3.04 per tonne for hard rock and $3.24 per tonne for saprolite.

PAH believes that the resource and reserve estimates have been calculated utilizing acceptable estimation methodologies. The classification of measured and indicated resources, stated in Table 1-2, and proven and probable reserves, stated in Table 1-3, meet the definitions as stated by Standards for Disclosure for Mineral Projects, Form 43-101F1 and Companion Policy 43-101CP dated December 23, 2005.

## 1.10 Recommendations

The Brisas Project Feasibility Study dated January 2005 and the subsequent updates provide reasonable results and conclusions and meet the requirements of a Feasibility Study. As the project continues to move from the feasibility stage into the design and construction phases there are areas of the project that should be given additional consideration beyond what has been completed so far. Below is a list of recommendations to consider as the project advances:

Additional geotechnical studies to evaluate steepening the pit slopes should be investigated. At the present time Vector Colorado LLC., is completing a detailed study of pit slope stability. Six oriented core holes have been drilled. An acoustic televiewer has been used on four of the holes to demonstrate fracture orientation. A report is in progress and will be finalized in the 4th Quarter of 2006.

PAH recommends additional testwork on the oxide saprolite ores to see if there is any detrimental effect on the sulfide ore flotation by adding the oxide ores to the flotation circuit PAH recommends conducting bench-scale batch grinding and flotation tests with the following ore blends:

| | Test 1 | Test 2 |
|---|---|---|
| Hard Rock, North ore | 50% | 51% |
| Hard Rock, South ore | 41% | 42% |
| Sulfide saprolite | 6% | 7% |
| Oxide saprolite | 3% | 0% |

PAH recommends a geochemical assessment of the potentially acid generating material in the waste rock piles to determine long term treatment options. Studies thus far show that the overall material has a net neutralizing potential, and 250 additional ABA tests have been conducted. A geochemical model is being developed to address the makeup of the surface and ground waters over the life of the project.

## 2.0 Introduction and Terms of Reference

Pincock, Allen and Holt (PAH) was retained by Gold Reserve Inc. (GRI) to write a Technical Report, that meets Canadian National Instrument 43-101 requirements for the Brisas Project, in the Km 88 region of Venezuela. This report was prepared for disclosure of the results of the studies that have been completed since the January 2005 Brisas Project Feasibility Study. The resource and reserve estimates were conducted in accordance with the Standards for Disclosure for Mineral Projects, Form 43-101F1 and Companion Policy 43-101CP dated December 23, 2005.

Previous work by PAH on the Brisas Project includes the preparation of the resource model, mine plans, resource and reserve estimates, and economic model for the Brisas Project Feasibility Study of January 2005 (Feasibility) by Aker Kvaerner (AK). Additionally, in November 2005 PAH issued a supplement to the Feasibility based on additional drill hole information. This resource model is the same as that used in this report. Marston has used the PAH resource model to develop a new mine design, production schedule, and resource and reserve estimates.

### 2.1 Qualified Persons and Participating Personnel

The principal authors of this report are Susan Poos, Richard Addison, and Richard Lambert, all registered professional engineers.

Ms. Poos has been involved with the project since January 2004. In

February 2004, she visited the project site. Ms. Poos was responsible for the development of the resource and reserve estimates reported in the Feasibility and this Technical Report. She was also responsible for developing the mine design and production schedules on which the reserve estimate was based.

Mr. Addison reviewed the metallurgy and processing portions of the Feasibility that were written by AK and the Project Scope and Definition Document by SNC. Based on this review he wrote the applicable sections of this report.

Mr. Lambert developed the mine capital and operating cost estimates, as well as the economic model for the Feasibility, he has updated the capital and operating costs in the current economic model. He has provided the corresponding sections for this report.

## 2.2 Terms and Definitions

GRI refers to Gold Reserve Inc., PAH refers to Pincock, Allen & Holt and its representatives, SNC refers to SNC Lavalin, Marston refers to Marston & Marston, Inc. and its representatives, AK refers to Aker Kvaerner Metals Inc., BGC refers to Bruce Geotechnical Consultants, Inc., Vector refers to Vector Colorado, LLC. Brisas Project refers to the Brisas del Cuyuni Project located near Km88, Venezuela including the proposed mine area, process plant location, and other related facilities. Brisas Concession refers to the Brisas alluvial concession and the Brisas hard rock concession beneath the alluvial concession. CVG refers to Corporation Venezolana de Guyana, MEM refers to Ministry of Energy and Mines, MIBM refers to the Ministry of Basic Industries and Mining, a new ministry that resulted from the recent reorganization of MEM, and MARN refers to the Ministry of Environmental and Natural Resources. Feasibility or Feasibility Study refers to the Brisas Project Feasibility Study of January 2005 prepared by Aker Kvaerner of Houston. Supplement refers to the Supplement to the January 2005 Brisas Feasibility Study prepared by PAH and dated November 2005. Au is the abbreviation for gold. Cu is the abbreviation for copper. Ag is the abbreviation for silver.

Resource and Reserve definitions are as set forth in Canadian Institute of Mining, Metallurgy and Petroleum, CIM Standards on Mineral Resource and Mineral Reserves - Definitions and Guidelines adopted by CIM Counsel on December 11, 2005.

## 2.3 Units

All capital and operating costs are in first quarter 2006 United States dollars ($) unless otherwise noted. Commodity prices are in United States dollars ($) unless otherwise noted. Precious metal grades are described in terms of grams per metric tonne (g/t or gpt), with tonnages stated in dry metric tonnes. Copper grades are stated in terms of weight percent based on dry metric tonnes.

Salable precious metals are described in terms of troy ounces. Salable copper is described in terms of pounds or metric tonnes, as noted.

## 2.4 Source Documents

The source documents for this report are:

Las Brisas Pre-feasibility Study dated February 1988 prepared by J.E.MinCorp for GRI.

Brisas Del Cuyuni Project Review of 250 Million Tonne Pre-feasibility Open Pit dated April 1999 by BGC for GRI.

Brisas Project Feasibility Study dated January 2005 prepared by AK for GRI.

Supplement to the January 2005 Brisas Feasibility Study dated November 2005 prepared by PAH for GRI.

Project Scope & Definition Document dated April 2006 prepared by SNC for GRI

Brisas Project Resource & Reserve Update dated October 2006 prepared by Marston for GRI

# 3.0 RELIANCE ON OTHER EXPERTS

This report was prepared for Gold Reserve Inc. (GRI) by the independent consulting firm of Pincock, Allen & Holt (PAH), to report the results of an update to the Brisas Project Feasibility Study that was completed in January 2005. This Technical Report is based largely on information originally presented in the January 2005 Feasibility Study by Aker Kvaerner (AK), for which PAH provided the geology, mining, and economic sections under a subcontract to GRI. Information contained in this report is based on information available to PAH at the time of the report, including information generated by PAH as well as information supplied by GRI and other third party sources. PAH believes that the information contained herein will be reliable under the conditions and subject to the limitations set forth herein. PAH does not guarantee the accuracy of third party information that was reviewed by PAH, including property legal title information, geotechnical issues, environmental issues, and process issues.

This TR is based in part on information prepared by other parties. PAH has relied primarily on information provided as part of the following reports:

BGC Engineer Inc., April 29, 1999, Brisas Del Cuyuni Project Review of

250 Million Tonne Pre Feasibility Open Pit

J.E. MinCorp, a division of Jacobs Engineering Group, Inc., February 1988, Las Brisas Pre Feasibility Study

Aker Kvaerner Metals Inc., January 2005, Brisas Project Feasibility Study

SGS Lakefield Research Limited, February 1, 2005, An Investigation of Copper and Gold Recovery from Las Brisas Samples

Vector Colorado, LLC, December 2005, Hydrology and Pit Dewatering Addendum 1

AATA International, December 2005, Environmental and Social Impact Assessment, Final Draft Version 1.03.

SNC Lavalin, April 2006, Project Scope & Definition Document

PAH believes that this information is reliable for use in this report.

PAH has not conducted land and mineral rights legal title evaluations and has relied on information provided by Gold Reserve pertaining to property ownership, which PAH believes is reliable. PAH has not conducted detailed permitting evaluations required by Venezuelan Mining and Environmental Laws, for which PAH has only relied on public reports, opinions, verbal assessments, third party reports, and confirmations by Gold Reserve personnel who are experienced professionals, which PAH believes to be accurate.

## 4.0 Property, Description and Location

The Brisas Project is located in the Km 88 mining district of Bolivar State in south eastern Venezuela (Figure 4 1). This section presents information on the property location, description, and ownership. Additionally, it provides information on environmental liabilities and permitting requirements.

Information in this section on land status and legal title were provided to PAH by GRI. PAH has not conducted a detailed review of the land status and legal title.

### 4.1 Property Location

The Brisas Project is located in the Km 88 mining district of Bolivar State in south eastern Venezuela at Latitude 6 degrees 10 feet North and Longitude 61 degrees 28 feet West, (Figure 4 1). The property is approximately 3.5 kilometers west of the Km 88 marker on Highway 10. Las Claritas is the closest town to the property.

### 4.2 Description

The main mineralized area at the Brisas Project is contained within the 500 hectare (1,235 acre) Brisas Concession. The Concession measures 2,500 meters (1.5 miles) north south and 2,000 meters (1.25 miles) east west. GRI also controls several other concessions either adjacent to or near the Brisas Concession. Table 4-1 summarizes the status of the concessions controlled by GRI. These concessions are shown in Figure 4 2.

### 4.3 Ownership

According to GRI, mineral ownership consists of the Brisas alluvial production concession originally granted in 1988 and acquired by GRI in 1992 with the acquisition of Compania Aurifera Brisas del Cuyuni C.A. The hardrock production concession immediately below the alluvial concession was applied for by GRI in 1993 and was ordered to be issued by the Ministry of Energy and Mines (MEM) in December 1997. The concession was granted to GRI in early 1998 and the official record of "veta" (hard rock) rights were published in the "Gaceta Official De La Republica De Venezuela" on March 3, 1998.

Other applications for mineral rights have been submitted for small tracts of land immediately adjacent to the Brisas Concessions. These include the 15 hectare NLNAV1 to the north, the 21 hectare NLEAV1 to the east and the 32 hectare NLSAV1 to the south. GRI has received the contract for mineral rights on NLEAV1 and NLSAV1 and has applied for the rights to NLNAV1.

In 1999, GRI completed acquisition of the 1433 hectare (3541 acres) El Pauji concession and contracts with Corporacion Venezolana de Guyana (CVG) for the 4,950 hectare (12,232 acres) Barbara property, the 844 hectare (3,086 acres) Zuleima property and the 2.5 hectare (6 acres) Lucia property.

TABLE 4-1
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Land Status Summary

| Concession/ Parcel | Legal Status | Total Area | Activity | Occupation of Territory Authorization (AOT) Official N | Occupation of Territory Authorization (AOT) Surface to Occupy | Natural Resources Disturbance Authorization (AARN) Official N | Natural Resources Disturbance Authorization (AARN) Surface to Affect |
|---|---|---|---|---|---|---|---|
| BRISAS | Mining Title | 500 Ha. | Alluvial Gold Exploitation | N 42.42.43.0408 | 500 Ha. | N 01 00 19 05 253/2004 | 2.16 Ha. |
| UNICORNIO | Mining Title | 500 Ha. | Vein Gold, Copper and Molybdenum Exploitation | N 000606 | 500 Ha. | | |
| BARBARA | Contract Concession | 4,950 Ha. | Alluvial and Vein Gold and Diamond Exploration and Exploitation | N 00168 | 4,950 Ha. | N 01 00 19 05 425/2004 | 568.3306 Ha. |
| BARBARITA | Mining Title | 400 Ha. | Rock Aggregate Quarry | N 00168 | 400 Ha. | N 01 00 19 05 093 | 14.09 Ha. |
| ZULEIMA | Contract Concession | 844 Ha. | Alluvial and Vein Gold and Diamond Exploration and Exploitation | N 00170 | 844 Ha. | N 01 00 19 05 427/2004 | 13.2573 Ha. |
| LUCIA | Contract Concession | 2,525 Ha. | Alluvial and Vein Gold and Diamond Exploration and Exploitation | | | | |
| NLEAV1/ NLSAV1 | Mining Contract | 58.21 Ha. | Alluvial and Vein Gold and Diamond Exploration, Development and Exploitation | N 000419 | 52.86 Ha. | N 01 00 19 05 423/2004 | 6,440 m2 |
| ESPERANZA | Contract Agreement | 500 Ha. | Alluvial and Vein Gold and Diamond Exploration, Development and Exploitation | N 42.42.43.0681 | 262.71 Ha. | N 01 00 19 05 482/2004 | 7.0211 Ha. |
| YUSMARI | Contract Agreement | 50 Ha. | Alluvial and Vein Gold and Diamond Exploration, Development and Exploitation | N 42.42.43.0681 | 50 Ha. | N 01 00 19 05 484/2004 | 1.94 Ha. |
| EL PAUJI | Exploitation Certificate | 1,850 Ha. | Alluvial and Vein Gold and Diamond Exploration and Subsequent Exploitation | N 42.42.43.414 | 1,850 Ha. | N 01 00 19 05 486/2004 | 3.7973 Ha. |

Figure 4 1 Brisas Location Map
GRAPHIC NOT INCLUDED

Figure 4 2 Brisas Concession Map
GRAPHIC NOT INCLUDED

Early in 2004, GRI obtained lease agreements for the 500 hectare (1236 acres) Esperanza and the 50 hectare (123 acres) Yusmari properties. Barbara is located approximately 2.6 kilometers (1.6 miles) south of the Brisas Concession and will be the site for tailings and waste rock disposal facilities. Esperanza, El Pauji, and Zuleima are located west and south of the Brisas Concession and will be used for waste rock disposal. The Yusmari property is adjacent and located on the northeast corner of the Brisas Concession and is within the ultimate pit boundary. The Lucia property is located 7.8 kilometers southwest of the Brisas Concession and its use for the Project is yet to be determined.

In 2005, GRI was granted the rights to explore and develop a rock quarry in the 400 hectare Barbarita concession. This concession is located totally within the Barbara property in the northeast corner.

The original Brisas alluvial concession was granted for a 20 year term in 1988 and has two 10 year renewal periods, which may be extended at the discretion of the MEM. The sale of gold from the alluvial concession is subject to a three percent exploitation tax if sold outside Venezuela and one percent tax if sold within the country to the Central Bank of Venezuela.

The Brisas hardrock concession was granted in 1998 for a 20 year term and also has two 10 year renewal periods, which may be extended at the discretion of the MEM. The sale of gold from the hardrock concession is subject to a 4 percent exploitation tax if sold outside Venezuela and one percent tax if sold within the country to the Central Bank of Venezuela. Copper is subject to a seven percent tax of the "mine mouth" value.

A new Venezuela mining law was enacted late in 1999. This law changed the exploitation tax rates for certain minerals and metals. However, the Brisas Concession Agreement granted by the Ministry of Energy and Mines included a contractual agreement on exploitation taxes. The concession agreement also pre-dates the new law. The agreement rates have been used in the economical calculations for this feasibility study.

As of January 2005 a new Ministry was created called the Ministry of Basic Industries and Mining (MIBM). The new Ministry has responsibility for all mining properties and concessions and now has jurisdiction over CVG.

## 4.4 Royalties and Exploitation Taxes

There are not any royalties associated with the Brisas Project; however, the Project is subject to mining / exploitation taxes. These taxes include the following:

One percent of the commercial value in Caracas of refined gold and silver sold in country,

Three percent of the commercial value in Caracas of refined gold and silver exported (saprolite concession),

Four percent of the commercial value in Caracas of refined gold and silver exported (hardrock concession),

Seven percent mine mouth tax on production of copper (net of operating costs).

## 4.5 Environmental Liabilities

The Brisas Project has areas of historical mining where timber and vegetation have been cleared by artisan miners. Baseline (soils, water, aquatic, and human health) surveys have been conducted over the past ten years and continue today. Monitoring will establish the levels, if any, of residual mercury, metals and other contaminants from previous mining activities. The assessment and potential costs of the existing environmental liabilities, if any, were not contained in the Feasibility. GRI has indicated that these issues have been addressed in the Environmental and Social Impact Assessment (ESIA) and considers these liabilities to be minimal.

The Feasibility Study does include costs and plans for water management, site closure, and reclamation. In addition, it includes a plan to isolate and encapsulate any potential acid generating waste rock. Preliminary geo-chemistry test results indicated the process plant tailings are generally benign.

## 4.6 Status of Required Permits

Two separate but parallel Environmental and Social Impact Assessments (ESIAs) have been prepared for the project. The ESIAs are intended to meet Venezuelan regulatory requirements and international financing institutions guidelines, respectively. The objectives of the studies are to define the project boundaries; establish environmental and social baseline conditions; identify significant and non-significant issues to be analyzed; develop measures that will avoid, minimize or mitigate potential impacts; and propose monitoring programs to track impacts. The overall objective is that the project will meet Venezuelan regulatory requirements, as well as international environmental and social standards including World Bank, Equator Principles, and the International Cyanide Management Code.

The Feasibility states that the ESIAs are to provide determinations of issues, mitigation measures, and monitoring programs. The ESIA studies are intended to be complete, or fully define and commit to completeness, in order to meet adequacy requirements for international/World Bank Standards. Three Venezuelan agencies, the Ministry of Environment and Natural Resources (MARN), the Ministry of Basic Industries and Mining Energy and Mines (MIBM), and the Corporacin Venezolana de Guyana (CVG) are reviewing the ESIA (which was submitted in July 2005), permits, and authorizations for the project.

The project is located within the Imataca Forestry Reserve. A 1996 decree zoned the reserve allowing mining within 40 percent of the reserve area including the Brisas Project area. A 2004 decree instituted sustainable development, multiple use, water quality, biodiversity, conservation, indigenous people consideration, and environmental monitoring requirements upon development activities within the reserve.

GRI has indicated the exploration and exploitation Authorization to Occupy the Territory (AOT) and operating plan has been approved by MEM for the project area. GRI has developed a project schedule and timetable for obtaining the required permit for mining the property.

The major permit and authorizations required for the property include the Venezuela Environment and Social Impact Assessment, Authorization to Occupy the Territory, Authorization to Affect National Resources, Registry of Environmental Harmful Activities, emissions, and efficient permits.

## 5.0 ACCESSIBILITY, CLIMATE, PHYSIOGRAPHY, AND INFRASTRUCTURE

Project accessibility, climate, physiography, and infrastructure are addressed within this section of the report.

### 5.1 Access

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 Caroni River. Puerto Ordaz has major port facilities, accessible to ocean going vessels from the Atlantic Ocean, via the Orinoco River, 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 Caroni River, providing 12,900 MW of electricity (1995).

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.

El Dorado, which is 88 kilometers north of the project site on Highway 10, is the nearest population center of any size. Las Claritas is a small town located on Highway 10 near the project access road.

Highway 10 provides paved access from Puerto Ordaz, which is 373 kilometers northwest of the property, to within 3.5 kilometers of the project site. Unpaved roads provide the remaining 3.5 kilometers of access. Upgrading the unpaved roads is part of the infrastructure improvement plans for the project area.

### 5.2 Climate

The climate is tropical with high temperatures and humidity year round. Temperatures are fairly uniform with average highs around 35 degrees C and average lows around 23 degrees C. Rainfall occurs throughout the year with heavier amounts falling during May through October. Total annual rainfall is 3 meters. There are extensive plans for surface and ground water control so that mining can be conducted year round.

### 5.3 Physiography

Terrain in the mine area is relatively flat with elevations ranging from 125 to 145 meters above sea level. Near the plant site and tailings disposal areas the terrain goes from being relatively flat to fairly steep. The tailings disposal site design has used this as an advantage by constructing the dam in the flat area and using the hillside as the back of the tailings disposal facility. Elevations in the plant and tailings disposal area range from 130 to 200 meters above sea level. The plant site will be at 190 meters above sea level.

Most of the area is covered by moderately dense sub Amazon rainforest. Trees range from 25 to 35 meters in height. Low lying areas tend to be wet and swampy. There are a few small pits left by artisan miners that are filled with water.

### 5.4 Infrastructure

To support the mining and milling operations at the Brisas Project, a number of ancillary facilities will be required. These include a mine equipment maintenance shop, warehouse, reagent storage building, laboratory, and administration offices. A 1,600 man construction camp will be prepared and will be converted to a 650 man operation camp. The operational man camp size is based on the assumption that approximately half the work force is away on scheduled time off due to crew rotations. Currently, there is a small camp with several cinder block buildings that can house up to 100 people. This camp has been used to support the exploration programs.

Two unpaved roads are used to access the project from Highway 10. Plans are to improve these to provide access to the mining area and 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.

The CVG power authority, Electrificacion del Caroni C.A. (EDELCA), has constructed a power line south from Puerto Ordaz into Brazil. The authority has also constructed a substation at Las Claritas which has sufficient power to supply the Brisas Projects.

Gold Reserve's existing offices in Puerto Ordaz and Caracas will be maintained to provide support to the operation.

## 6.0 HISTORY

This section provides a brief history of Gold Reserve Inc. ("GRI") and the Brisas Project.

### 6.1 The Company

GRI is an exploration and mining company incorporated in 1998 under the laws of the Yukon Territory of Canada. It is the successor to Gold Reserve Corporation, a Montana USA corporation formed in 1956. GRI is traded on the American Stock Exchange and the Toronto Stock Exchange under the symbol "GRZ."

The Company's primary mining asset, the Brisas Project, is a gold/copper deposit located in the Km 88 mining district of the State of Bolivar in southeastern Venezuela. The Brisas Project consists of the Brisas alluvial concession, the Brisas hard rock concession beneath the alluvial concession, and applications for other mineralization contained in these concessions, as well as contracts and concessions for mineralization, such as gold, copper and molybdenum and infrastructure use on land parcels contiguous to the existing concessions. The Company holds its interest in the Brisas Project through its ownership in Gold Reserve de Barbados, Ltd., Gold Reserve de Venezuela, C.A. and Compania Aurifera Brisas del Cuyuni, C.A.

### 6.2 The Brisas Project

Small miners identified gold mineralization and began working in small pits and extracting gold from the alluvial material in the late 1970s. In 1988, a local miner acquired the mineral rights to mine the alluvial (saprolite) ore. In the late 1980s the property was leased to a Venezuelan company, Inversiones 871010, C.A., which constructed a small vat leaching and process plant. The lessee had difficulty operating the plant at a profit and stopped making the lease payments to the owner and subsequently abandoned the property. The historical gold production on the property is unknown.

The Brisas alluvial concession was acquired in August 1992 with the acquisition of Compania Aurifera Brisas del Cuyuni C.A. In that same year, Inversiones 871010, C.A. filed suit claiming ownership rights to the Brisas alluvial concession. In December 1994, a settlement agreement related to the ownership dispute was reached giving GRI clear and unencumbered title to the Brisas alluvial concession. Title to the Brisia hard rock concession was granted in March 1998.

Prior to 1992, no known drill holes existed on site. Initial work by GRI included surface mapping, regional geophysical surveys, and geochemical sampling. Several anomalies were identified on the property and drilling and assaying began in 1993. The presence of a large strata bound gold-copper mineralization was discovered in both alluvial and hard rock material early in the drilling program. Additional work followed with petrology, mineral studies, density test, metallurgical sample collection and laboratory test work.

Initial exploration drilling by GRI commenced in 1993 utilizing both auger and core drilling methods. A majority of the exploration and development drilling took place in 1996 and 1997. From 1996 on, all exploration drilling has been completed utilizing diamond drill core rigs. Additional drilling was also completed in 1999, 2003, 2004 and 2005. As of April 2005, 889 holes had been drilled of which 750 are diamond core holes. This represents 183,104 meters of core drilling, and 199,685 total meters of drilling, core and auger. All split core is stored on site. Since 2005, an additional 88 holes have been drilled on the property for geotechnical and other studies. These holes have not been included in any resource modeling because they were not drilled for exploration purposes.

Independent verification by Behre Dolbear & Company of drilling, assaying and data collection procedures was undertaken in 1997 and verification of the computer database, mine modeling procedures and reserve estimate was completed in 1998. The results of the audits concluded that GRI procedures met or exceeded industry standards. In addition, assay laboratories provided reliable and acceptable results. Behre Dolbear also completed another review of an updated computer mineralization model and a proven and probable reserve estimate in March 1999. In September 2003, Behre Dolbear completed its own proven and probable reserve estimate meeting the requirements of Canadian National Instrument 43-101.

### 6.3 Sequence of Studies

J.E. MinCorp, a division of Jacobs Engineering Group, Inc. completed a pre-feasibility study on the Brisas Project in February 1998. In addition, a supplement to the pre-feasibility study was completed in August 1998, addressing the merits of the Cominco Engineering Services Ltd. (CESL) hydro-metallurgical process. The CESL process was a method of treating copper concentrates on site by pressure oxidation, acid leaching with SX-EW recovery of copper in the form of copper cathode, and gold recovery by a cyanide leach of the solids.

Work completed since 1998 and directed at project optimization includes updating the mine computer model and ultimate pit designs, mine planning and optimization of cutoff grades, and updated slope stability design criteria. In addition, work was completed on mill tailings characterization and analysis of physical properties, cyanide destruction test, and settling and thickening tests for plant design criteria.

GRI commenced work for a bankable feasibility study in the last quarter of 2003. Several major engineering and consulting companies were selected to complete the work necessary for the feasibility study. They were Aker Kvaerner, an engineering and construction company specializing in mining and mineral processing; Vector Colorado, a tailings dam design, geotechnical and hydrology specialist; and Pincock Allen & Holt for the mineral resource and reserve estimate, pit design, mine planning and mine cost estimating. This Feasibility Study was completed in January 2005. In addition, AATA International and Ingenieria Caura, S.A. were selected to complete an Environmental and Social Impact Assessment (ESIA) Study to World Bank & IFC Standards for meeting Equator Principles criteria.

Since the Feasibility Study, several additional studies have been completed. These include the Supplement prepared by PAH in November 2005, the Project Scope and Definition Document prepared by SNC Lavalin in April 2006, and the Resource and Reserve Update completed by Marston in October 2006. The combination of the Feasibility Study and these subsequent studies provide the basis of this Technical Report.

During the first half of 2004 several optimization studies were conducted to determine the most economic process plant option and production rate. As a result of the studies and in combination with the PAH mineable reserve update of July 2004, a 70,000 tonne per day process plant was chosen. Gold will be recovered by gravity methods from the grinding circuit, flotation of a copper concentrate, and cyanidation of the cleaner tailings. It was also determined that the best option for copper production would be to produce the copper concentrate and sell it to smelter companies. Neil Seldon & Associates, Ltd. was selected to determine the best options for selling the copper concentrate, the estimated terms for treatment cost and payable metals, and to initiate future negotiations with smelter companies.

Approximately $70 million has been spent on the development of the Brisas Project. It includes the acquisition, exploration and development drilling, assaying, metallurgical test work, field geo-technical work, a pre-Feasibility Study, feasibility study, detailed design, and environmental studies.

## 7.0 GEOLOGIC SETTING

### 7.1 Project Geology

The Brisas Project is 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 of the shield 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 and will be described briefly.

Rocks of the Imataca province constitute the oldest terrain in the Venezuelan Guayana Shield and include quartzo feldspathic gneiss, felsic and mafic granulites, and iron formation. This province is located along the Orinoco River in the northern portion of the Guayana Shield. Rocks in the terrain are tightly folded, highly metamorphosed, and have ages ranging from 3700 Ma to 2150 Ma. The oldest age represents the protolith, whereas the younger age represents the Trans-Amazonian orogeny of Lower Proterozoic age. The Imataca Province is known for iron deposits hosted by banded iron formations.

The Pastora Province is separated from the Imataca terrain by the Guri fault on its northern edge and extends to the Km 88 gold district in the south. This province is characterized by several penecontemporaneous tholeiitic and calc alkaline volcano-sedimentary sequences. Rock types that have been described and not necessarily present in all sequences include pillow basalt, andesite, dacite, rhyolite, tuffaceous and pyroclastic sediments, graywacke, pelite, tuff, and chemical sedimentary rocks. Rocks of the province were metamorphosed to greenschist facies and intruded at various levels by granitic rocks of the Supamo Complex (2230 - 2050 Ma). This petrologic assemblage constitutes the granite-greenstone belts of Lower Proterozoic age, which extends into Guyana, Suriname, French Guiana, and Brazil. The Trans-Amazonian orogeny (2150 - 1960 Ma) was a period of deformation, metamorphism, magnetism, and enrichment of previously deposited gold bearing volcano-sedimentary rocks in the Venezuelan part of the Guayana Shield as well and in the other mentioned countries. Rocks of this province have been intruded by Lower Proterozoic (1850 - 1650 Ma) and Mesozoic (210 - 200 Ma) diabase dikes, sills, and gabbroic bodies related to crustal extension.

The Roraima Province of Middle Proterozoic age (1600 Ma) is exposed to the south of the Km 88 district. This province includes sedimentary rocks of continental origin that were laid uncomformably on top of the granite greenstone terrain. These rocks are not metamorphosed, have horizontal to low angle dips and are intruded by Mesozoic diabase dikes and sills.

### 7.1.1 District Geology

The Km 88 district lies wholly within the lower Proterozoic greenstone terrain of the Pastora Province. It is bordered to the south by a 1,000 meter vertical escarpment of the Roraima Province sedimentary sequence.

### 7.1.2 Sequence of Units

The greenstone belt present in the Km 88 district (Figure 7 1) consists of four formations, listed below oldest to youngest:

1) Lower Carichapo Group meta lavas, meta tuffs, amphibolites, and ferruginous quartzites.

2) Lower Proterozoic greenstone basalts, andesites, tuffaceous rocks, pyroclastic breccias, and metagraywackes. These rocks are lithologically similar to the Caballape Formation defined in the Botanamo district to the north east, but geographically isolated. For convenience, they are referred to as Lower Caballape in this report.

3) Granites and granodiorites of the Supamo Complex.

4) Diabasic and gabbroic dikes and sills of Lower Proterozoic and Mesozoic ages.

The position and coverage of the above units have been established, at least on a regional scale, through aerial photos. Ground reconnaissance by government missions and more recently by private entities has either confirmed or mapped modifications to the aerial interpretations. The present geologic map is a composite of the above work. Rocks of the Carichapo Formation surround the Brisas Concession to the southwest, southeast, east, and north. They generally correspond to areas of higher topographic expression and are not commonly host to significant gold deposits. Greenschist volcanic and volcano sedimentary rocks of calc alkaline composition (called Lower Caballape Formation in this report) constitute the major units present in the areas of gold deposits, including the Brisas and Las Cristinas properties. On Figure 7 1 they have been divided into two units. The older unit covering the Brisas Concession consists primarily of intermediate tuffaceous rocks, and the younger unit to the west consists of intermediate to felsic tuffs, lavas, and volcano sedimentary rocks. This sequence of rock units corresponds to areas of low, flat topography, forming hills only where the rock mass is more silicified. Relatively unfoliated intrusions of Supamo Complex granites are restricted to the south, east, and northeast, where they are topographically indistinct from the greenschist volcanics. All of the above units are intruded by Lower Proterozoic and Mesozoic diabases and gabbroic bodies, both as large mapable features, and as thin dikes and sills occurring in the volcanic units.

### 7.2 District Structure

Structure of the Pastora Supamo terrain at the regional level is poorly understood, partly due to a thick weathered horizon and dense vegetation. Integration of mapping data at a scale of 1:5000 with interpretation of remote sensing data at a 1:250,000 scale indicates that two major structural domains affect the Km 88 district.

Side Looking Radar imagery shows linear features that strike N30W. Ground reconnaissance and drilling on the Brisas Project confirms that these linear features are related to small scale joint and fracture sets, and large scale faults.

FIGURE 7 1 GEOLOGICAL MAP OF KM 88 DISTRICT
GRAPHIC NOT INCLUDED

Some of these features have been intruded by diabase dikes. In addition, zones of quartz veining, some of which are associated with gold mineralization, have a N30W orientation.

Mapping of road cuts, mining pits, and rock exposures in the Km 88 area show a pervasive foliation orientation of NS to N25E, averaging N10E, and dipping 30 to 55 degrees NW. This information is restricted to areas where small mining has exposed rock with visible structure. To the north of the Brisas Project, the possible existence of a large fold in the volcanic strata has been reported, swinging the orientation to N30W. This change is coincident with a large mafic dike that strikes N45E, the only large feature of this orientation in the district. At the southern boundary of the Brisas Project and to the southwest, strikes swing to a N30W orientation.

### 7.2.1 Site Geology

The Brisas Project includes the Brisas property, and the properties of La Esperanza, Yusmari, El Pauji (composed of six adjacent lots), Zuleima, Barbara, and Barbarita (see Figure 3 1). This section will first focus on the project site as a whole, then on the Brisas property itself and the contained gold/copper deposit in greater detail.

Rocks from the Carichapo Formation, younger greenschist volcanics, Supamo Complex, and later diabase and gabbroic bodies occur within the boundary of the Brisas Project.

The lower Carichapo rocks occur primarily in eastern Barbara and Barbarita properties, and touch the southeast corner of the Brisas property. Locally they consist of (1) well foliated volcanic tuffaceous rocks, mafic flow units, and (2) amphibolites. They are distinct from the gold bearing greenschist volcanics in that recognizable primary textures are absent.

Lower Caballape Formation greenschist tuffaceous and volcano-sedimentary rocks cover the majority of the Brisas property, La Esperanza, and the northern part of El Pauji. Foliation orientations vary, with a strong N10E strike in the Brisas property to NS and N30W in La Esperanza and El Pauji. Primary textures are readily visible in fresh exposures of this formation.

Granites of the Supamo Complex occur throughout much of the Barbara and Zuleima properties, and show little to no foliation. There has been no direct evidence of the contact between this unit and the metamorphosed volcanics. In other parts of the Pastora Province, this lack of contact information has proved problematic in determining age relationships between the granites and the volcanics (such as the Lower Caballape Formation). It is assumed, in the Km 88 district, that Supamo granites post-date the extrusive volcanic formations.

Younger, relatively unweathered and unfoliated diabase and gabbro bodies occur scattered throughout the Brisas Project. The most significant occurrence of diabase rock is a large dike with a curving NS strike (convex to the west) that forms the ridge in Barbarita. This unit interfingers on a fine scale with amphibolites and lesser gabbroic bodies and exhibits a low degree of surficial weathering. Thin mafic dikes also occur throughout the Brisas, Barbara, and El Pauji properties, all subvertical with a N30W strike. Several elliptical gabbro bodies exist in the Lucia property, and a larger gabbro body is thought to exist in the southwest of the Barbara property.

## 7.3 Detailed Geology of the Brisas Project

The Brisas Concession itself lies within a portion of the lower Caballape Formation volcanic and volcanic related sedimentary rocks (Figure 7-2). The units present are (1) andesitic to rhyolitic tuffaceous volcanic beds, (2) related sedimentary beds, and (3) 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 the Brisas Project 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 N10E and dipping 30 to 55 degrees NW. This foliation appears to be parallel to the original bedding and tends to be strongest in the finer grained rocks. A much weaker foliation orientation appears in outcrop exposures, striking north-northwest and dipping to the southwest.

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 have displacement on the order of tens of meters. These dikes are thought to be related to the Mesozoic diabase intrusions present throughout the district. Quartz veins populate the Concession and have been noted both in outcrop and in drill intersection. The most common are sets of thick, boudinaged, and en echelon vein structures that follow foliation/bedding orientation. They are thought to relate in part to movement of quartz during metamorphism. Other quartz veins exist in various orientations that cannot be definitively linked to the structural elements described above.

### 7.3.1 Rock Units

There are two general categories of rock units: weathered and unweathered rock. Weathered rock is further defined by degree of oxidation and mineral replacement due to weathering processes (see Figure 7-3). Unweathered rock is further defined by lithology into various subdivisions of volcanic extrusive or intrusive units.

### 7.3.2 Weathered Rock and Saprolite

Oxidized Saprolite. A red brown to yellow saprolite occurs in almost all parts of the concession from the surface to an average depth of 24 meters. It is absent in the few areas where hard rock material outcrops. It is composed of clays, quartz, and hard ferruginous material in which all sulfide minerals have been oxidized and most other rock forming minerals have been broken down to clay minerals and quartz.

Sulfide Saprolite. Sulfide saprolite, varying in thickness from less than 1 meter to 80 meters, occurs immediately below oxidized saprolite. The water table constitutes the contact between the two and is generally sharp. It is noted on the geologic logs as BOS (base of oxidized saprolite). Sulfide saprolite is predominantly clay with both primary and secondary sulfides, the original rock having been broken down

Figure 7-2. SURFACE GEOLOGY OF THE BRISAS PROPERTY (SAPROLITE REMOVED)
GRAPHIC NOT INCLUDED

Figure 7-3. TYPICAL WEATHERING COLUMN FOR THE VOLCANIC ROCKS OF THE BRISAS PROPERTY
GRAPHIC NOT INCLUDED

beyond recognition. Fragments of hard tuffaceous rock can occur. The initial occurrence of hard rock fragments in this unit (or in oxidized saprolite) is denoted on the geologic logs by the acronym BAS (base of 100 percent clay material). This boundary can exist in either sulfide or oxidized saprolite. The sulfide saprolite is well developed in the mineralized zone of the concession, but can be quite thin or absent in areas distal to mineralization.

Weathered Rock. Weathered rock is a label for any hard rock existing in a state of intense weathering, but not sufficiently broken down into clay to qualify as a saprolite. In general it falls between two contacts noted on geologic logs as BZM (base of mixed clay/hard rock material) and BDM (base of weathering). In practice it is logged as the original rock type or as schist in the event that the original texture cannot be distinguished. Below the BDM, rock exists in a state of weathering in which the only chemical change is the leaching of calcite. The base of this layer is denoted as BDL (base of leaching), below which the rock is considered completely fresh.

7.3.3 Unweathered Rock

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Schist Units. The classification of schist is used when the original tuffaceous texture of the rock units has been erased by metamorphic processes. Schistosity is developed parallel to bedding, so schist units generally, but not always, follow dip of the tuffaceous units. Two types of schist have been defined: chlorite sericite biotite schist and quartz sericite pyrite schist.

Volcanic Units. The original unweathered rock types are calc alkaline volcanic tuffs, generally of andesitic to dacitic composition. Occurrences of tuffaceous units reworked by sedimentary processes have been noted, but not to any great extent. Nomenclature of tuffaceous units has been established through observation of core, petrographic analysis, and geochemical data. Bedding and, to a lesser extent, graded bedding are commonly recognized. In general, feldspar crystal abundances are counted only with crystals exceeding 1 mm in diameter, and the field term of a lapilli is a pyroclast exceeding 2 mm in diameter. The following ternary diagram (Figure 7-4) illustrates the composition of the various volcanic rock types recognized on the Concession.

a) Vitric Tuff. Vitric tuff (TV) is a fine grained, crystal poor tuffaceous volcanic rock usually black in color where not highly sericitized. It consists predominantly of glassy material, now devitrified, from the fallout of ash sized particles. By definition it contains less than 10 percent feldspar crystals and less than 10 percent lithic fragments. It varies from a finely banded volcanic sediment, to more massive mud flow type deposit which may contain lapilli pyroclasts, to a fine grained massive texture. It is fully gradational into TVC-M and TL units (defined later).

b) Crystal Vitric Tuff. Crystal vitric tuff (TVC-M) is defined as a tuffaceous unit having 10 percent to 40 percent feldspar crystals, and less than 10 percent lithic fragments. Locally the crystal content can drop as low as 10 percent but averaged over an entire depositional unit must exceed 10 percent. The upper boundary of 40 percent crystals is arbitrarily set, local fluctuations being ignored. When lapilli are observed and amount to more than a few percent of the rock mass, the unit is described as a lapilli bearing TVC-M or TV.

FIGURE 7-4. Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Ternary Diagram for Classification of Tuffaceous Units
Each corner represents a rock consisting entirely of the component listed
DIAGRAM NOT INCLUDED

c) Crowded Crystal Vitric Tuff. Crowded crystal vitric tuff (TVC-C) is defined as a tuffaceous unit having greater than 40 percent feldspar crystals and less than 10 percent lithic fragments. It commonly contains significant mafic minerals (e.g., amphibole altered to biotite). If more than a few percent lithic fragments are observed, the unit is described as a lapilli bearing TVC-C.
Crowded crystal vitric tuff commonly resembles andesite porphyry, but numerous small lithic lapilli and grain size variations refute this possibility.

d) Lithic Tuff. Lithic tuff (TL) is defined as a tuffaceous unit containing greater than 10 percent lapilli sized fragments. This definition is used without regard to presence or absence of feldspar crystals in the matrix, as field rock descriptions do not allow for further textural distinction. The fragments in some cases appear to be pieces of tuffaceous rock, presumably torn from its location by later volcanic activity. Pumice fragments have also been noted. It has been found to be important as a marker horizon, as it has an unmistakable texture and for the most part is observed in thin but easily definable units.

Intrusive Units. There are three mineralogically and texturally distinct occurrences of intrusive units, which vary from basaltic to dioritic in composition, all of which are younger than the tuffaceous units described above.

a) Mafic Dikes. This fine-grained, probably hypabyssal rock has a prominent spinifex texture defined not by olivine, but rather by feldspar grains. They are unaltered, unfoliated, and magnetic. There are six such dikes on the concession, striking generally N40W, spaced 200-600 meters apart. They range from less than 1 meter to over 5 meters in width. Cross cutting relationships indicate that they are the youngest rocks on the Concession.

b) Intermediate Coarse Grained Intrusive. A coarse grained tonalitic intrusive has been identified in only one area in the eastern part of the Concession. It appears to be amorphous in shape and drilling has not encountered a lower contact. It is a coarse grained, equigranular rock in large part unfoliated, but cut by discrete zones of strong deformation, both with and without sulfides and alteration. Zones of fracture controlled chalcopyrite are also present, though the body does not exhibit economic Au or Cu mineralization. The only contacts observed to date are with TVC-C and are difficult to pinpoint as the two units can appear similar in hand sample. In one drill hole, it is cut by a mafic dike. The equigranular texture, high quartz content, and grain size are diagnostic. TVC-C, with which it is sometimes confused, tends to have much greater variation in crystal content.

c) Intermediate Aphanitic Sill/Dike. Intermediate hypabyssal intrusives occur as sill like bodies less than 1 meter thick. These intrusives are usually aphanitic and are weakly foliated. They are useful as marker horizons within the volcaniclastic pile.

### 7.3.4 Stratigraphy

A stratigraphic column for the concession has been defined (Figure 7-5) from the lithologic interpretation of over 800 drill holes and is presented below in outline form (oldest to youngest):

A) The lowest grouping is a sequence of crystal and crowded crystal tuffaceous units that have a uniform appearance with very gradual changes in crystal percentages. The base of this sequence has not been reached by drilling.

B) A thick crystal vitric tuff and underlying vitric tuff that appears only in the northern part of the Concession (north of 682,500 N). South of this line the unit either pinches out, or drilling has been insufficient at depth to properly define it.

C) A 150-200 meters thick sequence consists of rapidly alternating TL, TV, and TVC-M units. A prominent band of TL defines the base. Within this group only the TL bands and one TV bed are found to be laterally continuous, though even they are highly variable in thickness and extent. The bulk of economic Au mineralization occurs within this sequence. A sill of intermediate composition exists near the base of this sequence and is traceable throughout the concession. The entire sequence thins toward the south, narrowing to less than 100 meters at 681,500 N.

D) A TV unit greater than 200 meters thick appears throughout the concession and contains minor TVC-M and TL bands. Much of this unit has a very even texture, and the contact with the underlying unit is readily apparent in most drill holes.

Figure 7-5. VOLCANIC STRATIGRAPHIC COLUMN OF THE BRISAS PROPERTY.
GRAPHIC NOT INCLUDED

E) A poorly defined sequence of TL, TV, TVC-M, and TVC-C units overlies (D), but is well outside, the mineralized zone and only encountered in a few condemnation drill holes to the west. This area has a strongly developed foliation, to the point where many units have been lumped together as schist.

F) A diorite/tonalite intrusive feature exists on the eastern edge of the Concession that appears to postdate emplacement of the tuffaceous units, as it cross cuts the stratigraphy. However, information about the contact between this body and the tuffaceous units is limited. No strong mineralization has been discovered in or at the margins of this body.

## 8.0 DEPOSIT TYPES

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 first three types are encountered within the proposed pit geometry. A more detailed description of the mineralization follows in Section 9.0 of this report.

## 9.0 MINERALIZATION

### 9.1 Types

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.

### 9.1.1 The Blue Whale Body

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 degrees 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 at the Brisas Project, but it possesses the highest Au and Cu grades.

Mineralogically, the Blue Whale is a sericite tourmaline pyrite chalcopyrite quartz schist, with a smaller volume of quartz tourmaline sulfide breccia. The schist is fine grained and exhibits an almost complete alteration of the original rock. What appears to have been feldspar crystals and lapilli fragments are now replaced by tourmaline, and in some cases tourmaline bands occur in multiple deformed sheath fold structures. It is unclear whether the tourmaline itself has undergone this deformation, or if it has replaced minerals in a preexisting structure. Thin quartz veins that cut the schist also show varying degrees of deformation, both brittle and ductile. Gold and Cu grades are highly variable in the schist, normally increasing toward the contacts between the schist and the breccia. Pyrite/chalcopyrite is up to 25 percent of the rock mass, with abundant chalcopyrite and molybdenite.

The quartz tourmaline breccia portion of the Blue Whale exhibits the highest Au and Cu grades of the Brisas Project. Tourmaline has completely replaced blocks of the breccia, while quartz has flooded the matrix. This rock does not show the strong ductile deformation of the sericite pyrite quartz schist. Chalcopyrite is the dominant sulfide, with lesser pyrite, bornite, covellite, and molybdenite. Other alteration minerals present are sericite, rutile, calcite, albite, siderite, and minor anhydrite (the latter occurring in undeformed, crosscutting veinlets).

### 9.1.2 Disseminated Au+pyrite+/ Cu

The bulk of ore mineralization occurs in disseminated, coalescing, lensoid 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 described in part (C) of the stratigraphy (see Figure 9 1), 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 remains at a similar thickness 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.

The Au in the stratiform lenses is highly disseminated but only roughly associated with high occurrences of pyrite. Fine scale sub sampling of three meter assay intervals indicates good correlation between Au and small (<1 cm) calcite/quartz veins. Correlation also exists with zones of high occurrence of epidote, and in lapilli sized lithic fragments that have been partially to completely replaced by epidote and sulfides. Sub sampling evidence also suggests that Au is more evenly distributed through the rock near the center of the large mineralized lenses than it is near the margins. In section, east west contours of gold grades at 0.75 or 1.0 g/t show a geometry that essentially mimics contours drawn at 0.40 g/t.

### 9.1.3 Disseminated High Cu/Low Au

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 as far south as 681,900N. Within the stratigraphic column, these lenses generally occupy the TV and TVC M units described as sequence (B) of the stratigraphy (Figure 9 1). 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.

### 9.1.4 Au bearing Shear Zones

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.

### 9.1.5 Alteration

Alteration of the original rock forming minerals, such as amphibole and feldspar, and addition of elements such as boron and sulfur, is a result of hydrothermal, metamorphic, and weathering processes. The overprinting of these three processes has created a number of gradational alteration assemblages, which include varying amounts of quartz, secondary biotite, chlorite, sericite, calcite, epidote, metallic sulfides, tourmaline, magnetite, and minor fuchsite and anhydrite.

Hydrothermal alteration is most intense within the Blue Whale body, and in other isolated pockets of similar appearance scattered throughout the main mineralized trend. The alteration type of the breccia approaches a greissen, with components of phyllic alteration in the schist. In many cases within the breccia pipe, fragments have been completely replaced by tourmaline, and associated zones of quartz may be a result of tourmalinitization of feldspars. Petrographic analysis shows two separate phases of growth in some tourmaline crystals. Massive occurrences of sulfides typically show an earlier phase of pyrite formation with subsequent fracturing and infilling of fractures by chalcopyrite.

Figure 9-1 E-W SECTION AT 683000N LITHOLOGIC WITH Au AND Cu MINERALIZED

Weaker propylitic alteration is present in tuffaceous units surrounding the Blue Whale body as strong calcite+epidote+pyrite and calcite+chlorite+pyrite+epidote+chalcopyrite assemblages. Typically, in lenses of high Cu/low Au mineralization, the alteration package is more potassic (high secondary biotite+chlorite+ sericite). Many veins with these alteration assemblages are highly deformed, indicating emplacement prior to metamorphism.

Metamorphic alteration occurs throughout the concession and is thought to be the result of regional burial. Petrographic analysis identifies both biotite grade and chlorite grade metamorphic facies, occurring in the lower mesozone and upper epizone, respectively. This corresponds to a temperature range of 300 to 500 degrees C, and hydrostatic pressures. The Au+pyrite+/-Cu disseminated lenses appear to be associated with fluids present during this metamorphic event. The primary orientation of schistosity is thought to be parallel to bedding, with a weakly developed secondary schistosity at about 10 degrees to bedding. Some chlorite and epidote formation may be attributed to subsequent retrograde metamorphism. Overprinting this initial metamorphism is an alteration assemblage possibly related to a tensional event that resulted in the development of barren calcite+/ quartz veins.

Weathering has resulted in the breakdown of the above mineral assemblages according to their compositions, ultimately resulting in the formation of smectite, illite, and kaolinite. Pyrite is retained in the unoxidized material, though is typically very fine grained and sub- to euhedral, suggesting secondary formation. Chalcocite is present in areas of high copper. Above the water table iron oxides have formed after sulfide minerals, releasing free gold. The assemblage most resistant to this process is the Blue Whale breccia, due to the high silica and tourmaline content.

### 9.1.6 Trace Element Geochemistry

A total of 55 samples were chosen for geochemical analysis of trace elements, and of this number, 28 were analyzed for major rock forming elements. Samples were chosen to provide a range of rock types and a range of locations relative to the mineralized trend. Results indicate some trends both on a concession wide scale and also within the Blue Whale body. 'Anomalous' levels of trace elements are determined by comparing the values to established background levels for similar rock types.

The mineralized trend is defined by anomalous Au, Cu, Mo, Ag, and W. Anomalous Cr exists in all parts of the Concession, but does not target the main mineralized trend. The Blue Whale body is characterized by higher levels of Mo, Ag, Sn, W, Cd, and Hg, though not all these elements occur in anomalous concentrations. Cu and Ag increase down plunge within the Blue Whale body, while W, Mo, and Hg decrease down plunge. A clear constant proportionality exists between the elements Cu and Ag in all samples.

Background levels of Sb and As occur over the majority of mineralized zone. They rise to anomalous levels (>1 ppm Sb and >2 ppm As) in the southern part of the main mineralized trend, and continue to be anomalous to the southern concession boundary.

Plotting immobile elements on a $SiO_2$ vs. $Zr/TiO_2$ diagram indicates an original andesitic composition for the volcaniclastic rocks with very little compositional spread. The mafic dikes plot as sub alkaline basalts. The coarse grained intrusive plots as quartz diorite, a classification that is compositionally analogous to the tuffaceous units.

Major element percentages (analyzed as oxides) do not indicate any clear enrichment or depletion in relation to the mineralized zone. These elements were not used for rock classification as original compositions have undoubtedly been changed due to metamorphism and hydrothermal alteration.

## 9.2 Geological Model

Surface mapping and evidence gathered from logging of drill core yields a rough model for the formation of the host rocks and Au/Cu mineralized body on the Brisas Concession. Below, in outline form, is a chronology of possible events leading to present day.

I Initially, there was deposition of tuffaceous units during the Lower Proterozoic in a shallow marine to sub aerial environment.

II – Regional compression caused closure of the shallow basin, folding the tuffaceous units on a large scale. On the Brisas Concession, this activity manifested itself in tilting the strata (the fold axis is not observed on the Concession).

III- Burial of volcanic package. During this time the rocks may have been metamorphosed to greenschist facies.

IV – Occurrence of high temperature hydrothermal activity rich in Au+Cu+Mo associated with the Blue Whale and some of the disseminated lenses. Blue Whale probably constituted the primary tensional feature acting as fluid conduit.

V- Partial erosion of overlying material and occurrence of another phase of mineralization, which was lower temperature, Au rich, and Cu poor. Mineralization occurred in a relatively tight structure, causing broad lenses of disseminated ore rather than more concentrated vein or shear related Au enrichment.

VI – Later influx of hydrothermal fluids yielding barren quartz/calcite veins.

VII – Fractures developed in a NW SE orientation during a phase of crustal extension (Transamazonian), and one of these fractures appears to have formed preferentially along the plane of weakness associated with the Blue Whale.

VIII – The NW SE fractures were filled by mafic intrusive material in the Late Proterozoic to Mesozoic.

IX - Erosion of overlying material exposed both the Blue Whale body and the disseminated mineralized lenses. Development of a pronounced weathering profile.

### 9.2.1 Genesis of Deposit

There appear to be two phases of Au and/or Cu mineralization on the concession. The first is associated with the emplacement of the Blue Whale breccia body, and the second with the large Au rich disseminated lenses parallel to bedding of tuffaceous units. The following is a hypothesis of the structural and mineralogical event that led to deposit formation.

Stage 1 (Blue Whale breccia, step IV listed above)

The balance of evidence suggests that the Blue Whale body is a purely structural feature. It is a dilational zone of weakness that has acted, at some point after deposition of the tuffaceous rocks, as a conduit for mineralizing fluids. Based on structures seen within the Blue Whale, this occurred before or during regional metamorphism. The initial pulse of mineralization probably occurred when the system was relatively young. Brecciation, on a limited scale, took place along a preexisting fracture with fluids rich in B, Cu, Au, and lesser Mo. Alteration in and directly around this feature was intense, causing complete replacement of breccia fragments by tourmaline, massive quartz, and copper that roughly targets the Blue Whale in plan view. A possible deposit analogy is of a copper porphyry forming over a magmatic source (yet to be discovered) that was very rich in boron. A peraluminous granite might fit the boron requirements, and a sufficient volume of basaltic/andesitic rock could provide the copper. Thin lenses of high Cu and Mo extending away along bedding/foliation planes could be the result of periodic high confining pressures within the Blue Whale that forced mineralizing fluids outward along these planes. The fluids replaced crystals and lithic fragments, evidence of which can be viewed in drill core.

Stage 2 (disseminated Au lenses, step V listed above)

The bulk of Au mineralization at the Brisas deposit appears to have been emplaced after formation of the Blue Whale mineralization. It occurs over a wide area and the highest Au grades do not occur in proximity to the Blue Whale. Although on a small scale Au appears to link with zones of higher schistosity and development of alteration minerals, on a larger scale it appear that this fluid phase targeted the distinctive lithologic zone of thin, variable tuffaceous rocks described in Part C of stratigraphy. The bedding discontinuities and relatively porous lithic fragments of this zone may therefore be the overriding factor in mineralization. The fluid pressures must have been high to disseminate them through an unfractured volcanic pile rather than along obvious shear planes or fractures.

Mineralogically, this phase of deposition bears some similarity to the high temperature B, Cu, Au, and Mo fluid phase proposed for the Blue Whale, specifically in regards to the formation of disseminated lenses. Geometrically, this package of lenses plunges to the south, where it can still be detected by deep drilling. This pattern is similar to what is observed in the Blue Whale.

### 9.2.2 Later Remobilization

Remobilization may have affected the distribution of Au at later times, and one example of this is the Au occurrences at the edges of quartz veins and shears in the south part of the concession. Quartz veins with edges exhibiting high concentrations of Cu sulfides exist in the northern part of the property. In addition, metamorphism may have occurred more than once, each time changing slightly the distribution of Au and Cu. However, these effects are probably not substantial, as the planar geometry of the Au mineralization still exists in the disseminated lenses and the sharp jump in Au and Cu grades still closely define the boundaries of the Blue Whale body.

## 10.0 PROJECT EXPLORATION

GRI began exploration on the Brisas Project in late 1992 after its acquisition of the property. Prior to 1992, no known drill holes existed on the property. Local miners working in small pits dug in the alluvial material had identified gold mineralization. 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. The presence of large quantities of stratabound gold and copper mineralization was identified in both saprolite and hard rock material early in the drilling program. Additional work followed with petrology, mineral studies, density tests, metallurgical sample collection and laboratory test work. Several drilling campaigns have taken place at the Brisas Project and continue to present times.

### 10.1 Exploration Model

Emphasis of exploration on the concession focuses on following the mineralized lenses downdip to the west and down plunge to the south. Drilling originally concentrated at the surficial exposure of the Blue Whale, and continued to the west and south where the mineralized lenses were found to extend at depth. The convention of drilling at an inclination of 60 degrees and at a bearing of N 90 degrees 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. Occasional drill holes are placed underneath areas of intense working by small scale miners to test the extent of additional gold occurrences.

Geochemical sampling on the surface follows a program of total coverage of the concession area, along with a widely spaced drilling grid of holes to depths of at least 200 meters. Any suspected gold targets found by these methods are followed up by additional surface sampling or drilling.

## 11.0 PROJECT DRILLING

GRI began exploration activity in late 1992 and continued various drilling programs through the present time. A total of 977 drill holes with a total drilled length of 207,751 meters have been completed by GRI at Brisas as of September 2006. Of these holes, 802 representing 189,985 meters of drilling were drilled specifically for exploration on the Brisas Concession. The remaining holes were drilled for hydrologic, geotechnical, and metallurgical testing. In some cases the test holes were assayed and used in modeling.

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 exploration drilling was performed using standard diamond core barrel recovery techniques although some auger drilling was carried out at the beginning of the exploration campaign. Auger holes ("A" holes) are generally very shallow, and are scattered throughout the project area and in between later-drilled core holes; many auger holes are outside the pit area. Also, about half of the auger holes were deepened using regular core hole drilling techniques ("AD" holes). Auger holes were included in the resource estimation process.

The resource/reserve estimate presented in this report includes drilling results up to hole D845 drilled in March 2005. A summary of drilling at the Brisas Project from 1993 through 2006 is shown in Table 11 1. The drilling also included drill holes for metallurgical, geotechnical, hydrological testing, and independent verification. A drill hole location map is shown in Figure 11 1. Table 11 2 shows the drilling that has been conducted only within the Brisas Concession through 2006.

TABLE 11 1
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Study
Project Drilling Summary

| | Auger Drilling | | Auger- Diamond Drilling | | Diamond Drilling | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Holes | Meters | Hole | Meters | Hole | Meters | Holes | Meters | Comments |
| 1993 | 14 | 404 | 3* | 77 | 36 | 5,120 | 50 | 5,601 | |
| 1994 | 57 | 1,528 | 59 | 12,649 | 5 | 422 | 121 | 14,600 | |
| 1995 | | | 9 | 1,926 | 99 | 18,997 | 108 | 20,923 | |
| 1996 | | | | | 252 | 50,221 | 252 | 50,221 | |
| 1997 | | | | | 219 | 67,946 | 219 | 67,946 | |
| 1999 | | | | | 13 | 5,726 | 13 | 5,726 | |
| 2003-2004 | | | | | 126 | 34,670 | 126 | 34,670 | |
| 2005 | | | | | 20 | 2,291 | 20 | 2,291 | Non Exploration Not in Model |
| 2006 | | | | | 68 | 5,775 | 68 | 5,775 | Non Exploration Not in Model |

| Total Drilling | 71 | 1,932 | 68 | 14,652 | 838 | 191,168 | 977 | 207,751 |
|---|---|---|---|---|---|---|---|---|

Note: * Auger completed but not counted until diamond portion completed in 1994.

FIGURE 11-1 DRILL HOLE LOCATION MAP
GRPAHIC NOT INCLUDED

TABLE 11-2
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Brisas Concession Drilling Summary

| Type of Drilling | Brisas Concession |
|---|---|
| Auger Exploration Drilling | 71 |
| Total Length Auger Exploration Drilling (m) | 3,891 |
| Diamond Exploration Drilling | 731 |
| Total Length Diamond Exploration Drilling (m) | 186,094 |
| Metallurgicall Drilling (Diamond) | 9 |
| Total Length Metallurgical Drilling (m) | 2,031 |
| Audit Drilling (Diamond) | 8 |
| Total Length Audit Drilling (m) | 2,268 |
| Geotechnical Drilling (Diamond) | 30 |
| Total Length Geotechnical Drilling (m) | 4,564 |
| Hydrologic Test Drilling (Diamond) | 25 |
| Total Length Hydrologic Test Drilling (m) | 2,270 |
| Total Number of Drill Holes | 874 |
| Total Length of Drilling (m) | 201,118 |
| Total Exploration Drill Holes | 802 |
| Total Length of Exploration Drilling (m) | 189,985 |

## 11.1 Drill Hole Collar Surveys

The field location of the drill hole collars before drilling and collar surveying after drilling for all auger and core holes at the Brisas Project have been performed by Surco, S.A., a local survey firm based in El Callao, Venezuela. This company was also responsible for establishing the Concession boundaries and setting up permanent survey reference points within the Concession. The base for all surveys was Global Positioning System (GPS) defined and checked by the survey company with a traverse from a nearby GPS station (Las Cristinas) with satisfactory accuracy.

## 11.2 Downhole Surveys

The setting up of the bearing and inclination of the drill rig was made with compass and inclinometer. All core holes were surveyed with a Sperry Sun photographic instrument mounted inside a rod that can be inserted into the drill hole using the drill equipment, recording azimuth and dip at varying depths by technicians employed by Gold Reserve. The first photo was normally taken at a depth of around 20 m (without casing), a second photo at 6 m below the cased intervals (below the saprolitic zone) and a photo for every 100 to 150 m thereafter. The reading on the developed film was checked by a geologist and the information entered into a field book.

## 11.3 Core Logging

The logging format for the Brisas Project had several changes through the different drilling stages as adjustments to Rock Quality Data ("RQD") measurements and standardization of lithologic and alteration codes were made. The latest changes, which defined logging techniques being currently followed, were implemented after drill hole D95, and many of the previous holes were re-logged to avoid differences in log readings. Two different log forms, geotechnical and geological, were completed when logging.

The geotechnical log completed for each hole included depth, bit diameter, core recovery, rock hardness, sampling intervals, and RQD. Core recoveries were generally good averaging about 96 percent. An average recovery of 87 percent was obtained in saprolite, and 98 percent in hard rock. The core recovery for the Blue Whale was 91 percent. RQD as measured by GRI, is the ratio between the cumulative length of naturally unfragmented/unfractured core longer than 0.1 meters and the total core length within a 3.0 m standard measurement interval. RQD readings were obtained before sampling and/or destruction of the core and recorded in the logs. Drilling was normally performed with HQ diameter (2.5 in. or 6.35 cm) to the saprolite-hard rock contact where bits were changed to NQ diameter (1 7/8 in. or 4.76 cm). Due to the characteristics of saprolite and other intensely weathered rock, RQD readings were not made above the hard rock saprolite contact.

Detailed geological logs were recorded on a form with the following information:

hole number, summary of location (coordinates, elevation), drilling company, geologist, and date; and,

log description, including rock type, degree of oxidation and weathering, intensity and type of alteration, sulfide mineralization, veining or other structure(s) (jointing, fracturing and brecciation), and rock color. Alteration and mineralization minerals were quantitatively estimated and recorded, as well as all other parameters, for computer input.

A summary log was then completed from the detailed information, along with a graphical interpretation of the log, as well as gold and copper assay results. Logging procedures followed by GRI were well established and have been followed by all geologists, with minor changes, through the different exploration stages. Quality was assured through the use of an internal manual: "Procedures for geological logging at Brisas del Cuyuni", which provides guidance in the use of geological terms, defines different lithological units, structure and visual evaluation of alteration and mineralization contents.

## 11.4 Twin Drilling Verification

Twin hole tests were run occasionally throughout the Brisas Project drilling program. A total of seven twin holes were drilled at different times and locations within the property. Both the initial and the twin were core holes. A more detailed discussion of twin hole data results is presented in Section 14 of this Technical Report.

## 11.5 Condemnation Drilling

Condemnation drilling has been performed extensively on the Brisas Concession. Both condemnation and geotechnical drilling has been performed on the waste dump areas and plant site. Geotechnical drilling was conducted on the tailings dam area for which some assay information was obtained. None of the drilling of these areas has yielded geological or geochemical information suggestive of potential ore deposits, and therefore no additional condemnation drilling is recommended.

# 12.0 SAMPLING METHODOLOGY

## 12.1 Drilling Sampling

In auger drilling, each 3 meter auger flight was lifted onto a table and the soft saprolite was peeled off, dried and prepared for assaying. In core drilling the soft saprolite was cut longitudinally by machete and the hard rock core cut by a standard Clipper 12 inch diamond saw. Half of the core was placed back in the core box for storage while the other half was placed in metal trays for drying in a fuel oil boiler for sample preparation.

GRI has maintained a full record of split core for the entire drill program. This core is stored in labeled boxes, each capable of holding six 1 meter length segments. The boxes are cataloged and stacked in a covered, guarded storage facility, from which they can be summoned for geologic review.

The sampling interval was generally 3 meters, with the exception of samples adjacent to the saprolite-hard rock contact, where in some cases adjustments were made to differentiate sample types, or in a few holes located in exploration areas outside the main mineralized zone (e.g., D722-D727), where a 1m interval was used. The sample size was nominally 8 kg in weight for the 3 meter sample.

The gold and copper mineralization at the Brisas Project is broadly disseminated and amenable to bulk mining. The deposit is proposed to be mined on 6 meter benches in ore zones and 12 meter benches in waste zones. In PAHs opinion, the 3 meter sample length is adequate and generally provides sufficient resolution in defining the ore and waste zone boundaries for the mineralization except perhaps for the Blue Whale zone which tends to be narrower and of higher grade than the rest of the deposit and hence, a shorter interval may have allowed for better boundary definition. On the other hand, the longer interval will tend to incorporate some dilution to the model.

## 12.2 Bulk Density Determination Sampling

From 1994 to 1997, there was an ongoing program totaling hundreds of field measurements of bulk densities and moisture contents. The following methods were used for bulk density measurements:

Method 1: known volumes were excavated from road or trench cuts and weighed;

Method 2: boxes of drill core were weighed and adjusted for the box weight and estimated volume of core loss; and

Method 3: individual core pieces were weighed and volumes estimated by volume displacement.

Moisture content was measured by weighing new core, drying it overnight and re-weighing it.

# 13. 0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

## 13.1 Drilling Sample Analysis

Sample preparation including drying, crushing and pulverizing, was performed on site at GRI's own sample preparation facility using the sample preparation routine summarized in Figure 13-1. The sample pulps were shipped to assay labs in Puerto Ordaz (Monitor and Triad) during the earlier campaigns before 1999. The Triad lab currently located at Minera Hecla's La Camorra mine site was used for the later round of drilling (2003-2004). After drying, all samples were crushed to 90 percent passing minus 8 mesh (2.36 mm). Half of the crushed sample was bagged and sorted for reference; and a split of about 500 grams from each sample was pulverized to 95 percent passing minus 150 mesh (0.106 mm). Crushing was carried out with 6x4 inch Morse and 4x8 inch Marcy jaw crushers and a roll crusher. Pulverizing was accomplished with Bico puck and ring pulverizers, although Bico disk pulverizers were also available. Pulverizer cleaning with barren sand was performed after every ten samples. QA/QC procedures include sending pulps to ACME Labs in Vancouver for checking one of every 20 samples and introduction of standards prepared with the Brisas Project ore by Hazen Labs for one of every 30 samples. Retained pulps and crushed reference materials of samples sent to analysis are located in storage rooms at the Brisas Project site.

Assay laboratories used during the early stages of the Brisas Project drilling were Barringer Research Labs (Barringer) and Bondar Clegg Labs (Bondar Clegg). Monitor Laboratories (Monitor) was used as the primary assay laboratory and Triad Laboratory (Triad) was used as the check assay laboratory from 1994 to 1999 when checks established confidence for these two local labs based then in Puerto Ordaz, Venezuela. For the 2003-2004 drilling programs, the Triad lab currently located at Minera Hecla's La Camorra mine site was used. There is no other commercial laboratory currently in Venezuela. Triad works with Acme labs in Vancouver, Canada, for check assaying purposes and is also a member of the round robin program.

Analytical methods used for the early stage of the drilling programs were metallic screen analysis for gold and geochemical analysis for copper. During 1994-1999, all pulp samples were analyzed for gold by fire assay (FA) with an atomic absorption (AA) finish; samples over 1.5 ppm Au were re-assayed with 1.0 assay ton FA with a gravimetric finish. Copper assays were performed using standard AA with long iodide titration verification when values were obtained above 0.3 percent copper. A second pulp of every tenth sample was sent to Triad for check assaying using similar assay methods and procedures.

For the 2003-2004 drilling programs, samples were prepared on site and pulps sent to Triad. The Triad lab has a certified assayer. The lab routinely runs samples for Hecla's La Camorra mine where it is located, and other companies operating in Venezuela. Assaying control procedures include log record and tag identification of samples, a control list, blank and rejects run on about 10 percent of samples, assay check runs on one of about every 15 samples. Crucibles are specific to individual projects and are discarded if necessary when a sample runs above a certain value. Gold analyses were performed by fire assay with an AA finish. Copper analyses were performed by standard geochemical analysis with an AA finish. PAH toured the Triad lab in February 2004 and found it to be reasonably well operated. The capacity of this lab is about 600 assays a day.

## 13.2 Drilling Sample Check Analysis

The Brisas Project generates a large amount of assay information consisting of original assays, checks and standards that were routinely received. These data are kept both in original hardcopy and in digital format. Assays are checked for correct sample number, intervals, actual values from the lab(s) and finally for conflicts within the primary lab, and between the primary lab and the check lab. If samples have conflicts (i.e., [A-B]/[A+B] > 33 percent variance), they are reviewed and if necessary the labs are requested to re-assay. In some cases, there are up to five check assays for a given sample interval, as shown in Table 13.1 for several high grade gold assays. Figure 13-2 is a scatter plot showing the original assays and check assays for the same group of samples. For standards, the tolerance is a variance of 12 percent for both Cu and Au. For drill holes with serious standard conflicts, the entire drill hole may be requested to be re-assayed. Once the conflicts are resolved, all assay data are kept in an "Accepted Assays" spreadsheet under the control of the project manager. The analysis of assays through the use of the spreadsheet as a control has provided a reliable method of determining conflicts between primary and check labs. This method was designed by GRI in 1995 with subsequent audits and modifications by independent parties (Mark Springett 1995, Behre Dolbear 1997). The actual assay value included in the drill hole database and utilized in modeling is the average of all accepted assays for a given sample interval. The procedures for handling the check assay data are acceptable and provide reasonable assurance that no errors exist in the basic modeling information derived from such data.

TABLE 13-1
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Check Assays for High Grade Gold Values

| Au Assays (g/t) | Original | Check 1 | Check 2 | Check 3 | Check 4 |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Count | 54 | 54 | 52 | 38 | 17 |
| Min | 2.73 | 3.63 | 3.83 | 4.66 | 5.04 |
| Max | 46.08 | 47.45 | 50.33 | 48.87 | 55.79 |
| Range | 43.35 | 43.82 | 46.50 | 44.21 | 50.75 |
| Average | 13.56 | 14.05 | 14.66 | 14.14 | 17.25 |
| Var | 96.16 | 97.67 | 125.69 | 115.13 | 217.42 |
| St. Dev. | 9.81 | 9.88 | 11.21 | 10.73 | 14.75 |
| Coef. Var | 0.72 | 0.70 | 0.76 | 0.76 | 0.86 |
| Corr.Coef. | | 0.96 | 0.95 | 0.94 | 0.89 |

Figure 13-1 GOLD RESERVE'S SAMPLE PREP FLOWSHEET
GRAPHIC NOT INCLUDED

Figure 13-2 HIGH GRADE Au ORIGINAL AND CHECK ASSAY COMPARATIVE GRAPH
GRAPH NOT INCLUDED

## 13.3 Density Analysis

From 1994 to 1997, there was an ongoing program totaling hundreds of field measurements of bulk densities and moisture contents. The following methods were used for bulk density measurements:

Method 1: known volumes were excavated from road or trench cuts and weighed;

Method 2: boxes of drill core were weighed and adjusted for the box weight and estimated volume of core loss; and

Method 3: individual core pieces were weighed and volumes estimated by volume displacement.

Moisture content was measured by weighing new core, drying it overnight and re-weighing it.

Mr. Mark Springett, an independent mining consultant contracted by GRI, completed a study of 304 samples in July 1996. Triad Laboratories supervised on-site measurements using the latter two methods in 1997 to provide an independent check of the determination. The density results from those studies were utilized for the Brisas Project Pre-feasibility Study (1997). In addition, more data were collected and tested during July and August 1998. A total of 2,450 dry density measurements and 3,409 wet density measurements exist in the database and were used in subsequent density average estimations.

In place dry bulk densities and moisture content for different rock/alteration types were compiled by GRI for resource/reserve studies based on all valid information using a weighted average method (Table 13-2). The densities were used in the January 2005 Feasibility Study and subsequent studies and are grouped by rock type and degree of weathering. The main groups are oxide saprolite, sulfide saprolite, weathered rock, unweathered rock, and Blue Whale material. An additional category was created for schist because it consistently has a lower density for either weathered or unweathered rock than other rock types that are generally considered as "tuff".

TABLE 13-2
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Bulk Densities and Moisture Contents by Rock Type

| Rock Type | Dry Bulk Density (t/m3) | Moisture Content |
|---|---|---|
| Oxide Saprolite | 1.43 | 23% |
| Sulfide Saprolite | 1.72 | 16% |
| Weathered Hard Rock (schist) | 2.29 | 8% |
| Weathered Hard Rock (tuff) | 2.38 | 6% |
| Unweathered Hard Rock (schist) | 2.77 | 1% |
| Unweathered Hard Rock (tuff) | 2.89 | 0% |
| Blue Whale | 2.76 | 1% |

# 14.0 DATA VERIFICATION

## 14.1 Data Verification and Validation

GRI's QA/QC program included the insertion of assay standards prepared by certified labs with the Brisas Project core samples into the mainstream samples, and routine checks by a secondary lab as explained in Section 13. Labs used for standards included Hazen Research, Triad, and CDN Resource Laboratory in Canada. One standard sample was inserted for every 20 samples and one check sample was sent to a secondary lab for every 10 samples throughout the drilling campaigns, except for 2003-2004 when 1 in 20 samples were checked and 1 in 30 samples was a standard.

The reliability of assay results was tested throughout the drilling programs including several specific detailed studies by independent parties. Mr. Mark Springett carried out studies on the reliability of sampling and assaying in 1995 and 1996 and concluded that the results from the labs (250 samples) showed a satisfactory level of precision and were unbiased relative to each other. Behre Dolbear (BD) performed an independent check assay program of 36 samples from six holes in 1997 to check assays produced by Monitor or Triad labs against results from a third lab (Bondar Clegg). Samples were selected with values at different ranges of gold grades. BD's check assay results showed high correlation coefficients for both gold (0.92) and copper (0.99) and mean values within about 5 percent of each other for both metals.

In 1997, GRI and BD jointly drilled six core holes under BD's direct supervision and conducted assays independently at different labs. BD concluded that procedures utilized to collect assay data met or exceeded industry standards and that the assay results from all labs (Bondar Clegg, Monitor and Triad), were reliable.

After assays are received by the project manager a copy is forwarded to the technical department. Archives of both digital (diskette) and certified paper copies from the lab are maintained in the Technical office files. Assay results are transferred from ASCII format into Microsoft Excel spreadsheets by the technicians. This procedure involves copying from the digital form as well as some hand entered values. The entered values are checked by the technician and then approved by the project manager. No other personnel other than the technical office staff are permitted to transfer the assay data, and the computer database is controlled solely by the manager.

PAH conducted several data verifications and validations for the January 2005 Feasibility Study. PAH visited the Brisas Project facilities, toured the lab preparation and core shack areas, and inspected the core and several drill sites during the 2003-2004 drilling campaign in February 2004. PAH visited GRI's offices in Spokane, Washington to review the original drill hole logs and assay sheets in April 2004.

PAH verified the drill log data and assays against the drill hole database used for the Brisas Project feasibility study. Ten holes located in ten different vertical sections throughout the Brisas Project were checked for collar location, downhole survey, assaying and geological/geotechnical information. Minor discrepancies were found in survey and lithology information between the database and the logs; no errors or discrepancies were found on assay information. It was found that several holes in the early stages of the drilling campaigns were not surveyed for downhole deviation (e.g., most AD holes and some D holes). All AD holes were apparently given an average of the deviation observed in the few (about 20 percent) that did have deviation measurements. The downhole deviation can be up to about 40 meters on long holes (e.g., AD85 at a depth of 362 meters), however, the average depth of the AD holes is 214 meters and the average depth of the A holes is 27 meters. The number of holes affected is less than 10 percent of the current database and the area covered has been drilled at closer spacing by later campaigns with deviation measurements. Therefore, the lack of down hole surveying in these holes does not appear to greatly influence the model. Also, auger holes were visually inspected in cross sections and showed generally good agreement with the much more abundant surrounding core hole data.

## 14.2 Twin Drilling Verification

Twin hole tests were run occasionally throughout the drilling program. A total of seven twin holes were drilled at different times and locations within the property (Figure 14-1). Both the initial and the twin were core holes. Visual inspection of twin drill hole intersects on cross section indicates overall a very good correspondence of mineralized areas in terms of location, length of the zones, and distribution of Au and Cu grades (Figure 14-2), although the comparison of individual samples shows some variability due to natural deposit local variations (nugget effect).

Table 14-1 shows a summary of the twin hole data. The comparison shows good reproducibility of sampling data, but also suggests consistently lower grades mainly for Au, but also for Cu in the twin or A holes, relative to the original core holes. It should be noted that while this apparent bias may be due, at least partially, to the highly variable distribution of gold within the deposit, it is in some cases, also the result of having a single very high grade assay skewing the overall average for the hole(s) as seen in Table 14-2, for example for holes D404/D404A and D498/D498A. Without these assays the results compare much closer.

The A holes and a few others were drilled in 1999 by GRI under the direct supervision of the consulting firm Behre Dolbear (BD) as part of an independent verification of the drilling and assaying programs at the Brisas project. In order to better understand the apparent bias on the A holes, PAH requested that GRI drill a hole (D754) as a twin hole to one of another BD holes drilled in 1999 (D614). As seen in Table 14-1, the PAH hole returned average grades slightly lower than the BD hole for Au and about the same grade for Cu, indicating that a bias more likely does not exist on the sampling and assaying data and as such the twin hole data generally confirm the original assay results.

TABLE 14-1
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Twin Hole Data (Au and Cu grade)

| | Initial Hole | | | | | Twin Hole ("A" Hole) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Interval | | | | | | | | | Ratio(Au) | Ratio(Cu) |
| Drill Site # | Length | Hole ID | Length | Au(gpt) | Cu(%) | Hole ID | Length | Au (gpt) | Cu(%) | Twin/Orig. | Twin/Orig. |
| 1 | 350 | D548 | 353 | 0.389 | 0.042 | D548A | 350 | 0.369 | 0.038 | 0.949 | 0.905 |
| 2 | 119 | D328 | 155 | 0.499 | 0.251 | D328A | 303 | 0.390 | 0.207 | 0.782 | 0.825 |
| 3 | 210 | D260 | 211 | 0.392 | 0.099 | D260A | 369 | 0.376 | 0.097 | 0.959 | 0.980 |
| 4 | 148 | D404 | 148 | 0.850 | 0.391 | D404A | 160 | 0.655 | 0.372 | 0.771 | 0.951 |
| 5 | 341 | D498 | 383 | 0.407 | 0.016 | D498A | 341 | 0.372 | 0.016 | 0.914 | 1.000 |
| 6* | 179 | D476 | 179 | 0.183 | 0.015 | D637 | 200 | 0.190 | 0.014 | 1.038 | 0.933 |
| 7 | 251 | D754 | 252 | 0.428 | 0.236 | D614 | 251 | 0.450 | 0.229 | 1.051 | 0.970 |
| Overall Ave. | 1,598 | All Samples | 1,681 | 0.427 | 0.119 | All Samples | 1,974 | 0.391 | 0.112 | 0.916 | 0.938 |
| Overall Ave. without high grade outliers | 1,598 | All Samples | 1,681 | 0.406 | 0.117 | All Samples | 1,974 | 0.391 | 0.112 | 0.963 | 0.961 |

* DH Traces are 7 to 12 m apart

TABLE 14 2
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Twin Hole Data (Average Au and Cu grade Maximums and Minimums)

| | Initial Hole | | | | | | Twin Hole ("A" Hole) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Interval | | | | | | | | | | |
| Drill Site # | Length | Hole ID | Au(Max) | Au(Min) | Cu(Max) | Cu(Min) | Hole ID | Au(Max) | Au(Min) | Cu(Max) | Cu(Min) |
| 1 | 350 | D548 | 2.924 | 0.011 | 0.680 | 0.003 | D548A | 2.018 | 0.011 | 0.244 | 0.002 |
| 2 | 118 | D328 | 1.92 | 0.044 | 1.368 | 0.011 | D328A | 1.369 | 0.054 | 1.304 | 0.011 |
| 3 | 210 | D260 | 1.615 | 0.040 | 0.847 | 0.004 | D260A | 1.639 | 0.027 | 0.375 | 0.007 |
| 4 | 148 | D404 | 5.188 | 0.030 | 4.345 | 0.002 | D404A | 4.067 | 0.005 | 4.404 | 0.003 |
| 5 | 341 | D498 | 4.376 | 0.018 | 0.234 | 0.001 | D498A | 2.371 | 0.005 | 0.195 | 0.001 |
| 6* | 179 | D476 | 1.111 | 0.005 | 0.078 | 0.001 | D637 | 0.995 | 0.005 | 0.056 | 0.001 |
| 7 | 251 | D754 | 2.93 | 0.020 | 1.432 | 0.005 | D614 | 4.029 | 0.018 | 1.326 | 0.001 |

* DH Traces are 7 to 12 meters apart

Figure 14 1   TWIN CORE HOLE LOCATION MAP
GRAPHIC NOT INCLUDED

Figure 14 2   TWIN CORE HOLES SHOWING GOLD ASSAYS SECTION 682300N
GRAPHIC NOT INCLUDED

## 15.0 Adjacent Properties

Adjacent to the northern boundary of the Brisas Project is the Las Cristinas property. It includes a continuation of the gold copper mineralization found on the Brisas Project with the same north northeast striking, northwest dipping broad shear structures.

Four contiguous concessions known as Las Cristinas 4, 5, 6, and 7 make up the property (Figure 4 2). In total these concessions cover an area that is 5 by 2 kilometers. Exploration was conducted by Minera Las Cristinas C.V. (MINCA), a joint venture between Placer Dome de Venezuela C.A. (Placer Dome) as 70 percent shareholder, and Corporation Venezolana de Guyana (CGV) as a 30 percent shareholder. The joint venture drilled over 1,000 holes with a total length of over 110,000 meters. Placer Dome completed a Feasibility Study for the project in March 1996. Construction began on the project August 2, 1997 but was suspended on July 15, 1999 due to low gold prices and property title lawsuit issues. At the time construction was suspended it was estimated that Placer Dome had spent $118 million on the project.

CVG controls the property at the present time; however, it granted an operations contract to Crystallex International Corporation (Crystallex) in September 2002. A resource/reserve estimate for the project was completed by Mine Development Associates (MDA) on April 30, 2003. These results were filed on SEDAR as the Technical Report titled "Resources and Reserves, Las Cristinas Gold and Copper Deposits, Bolivar State, Venezuela" prepared by MDA. The measured and indicated resource was estimated at 439 million tonnes with an average gold grade of 1.09 gpt for a total of 15 million contained ounces based on a gold cutoff grade of 0.5 gpt. Proven and probable mineral reserves were estimated at 224 million tonnes with an average gold grade of 1.33 g/t containing 9.54 million ounces.

Subsequent to the filing of the 2003 Technical Report by MDA there has been other resource and reserve estimates released by Crystallex, and an updated Technical Report was filed on SEDAR in August 2005 based on a new Development Plan. This Technical Report shows proven and probable reserves at Las Cristinas are 294 million tonnes grading 1.32 gpt for a total of 12.5 million contained ounces.

The Feasibility Study for Las Cristinas was completed in 2004 and a Development Plan in 2005 by SNC Lavalin. Currently, Crystallex is in the process of advancing the project.

## 16.0 Metallurgy and Mineral Processing

The Brisas Project consists of four ore types. The quantities and grades of these ores are summarized in Table 16-1. Hard rock ore comprises about 95 percent of the ore with the remainder split approximately into 42 percent oxide saprolite and 58 percent sulfide saprolite ores. Metallurgical testwork has been conducted on all four ore types and on blends that simulate the blends projected for the industrial operation. This section describes the metallurgical testwork that has been conducted and provides a brief description of the Feasibility process plant design.

TABLE 16-1
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Ore Processing, Ore Types and Grades

| Ore Type | Quantity (million tonnes) | Gold Grade (grams/tonne) | Copper Grade (percent) |
|---|---|---|---|
| Saprolite | | | |
| Oxide | 10 | 0.79 | 0.05 |
| Sulfide | 13 | 0.78 | 0.10 |
| Total/Average | 23 | 0.78 | 0.07 |
| Hard Ore | | | |
| North ore | 264 | 0.56 | 0.21 |
| South ore | 198 | 0.80 | 0.03 |
| Total/Average | 462 | 0.66 | 0.13 |
| TOTAL AVERAGE | 485 | 0.67 | 0.13 |

## 16.1 Metallurgical Testwork

As is common in the development of mining projects, there have been a series of sample collection and testing campaigns for the Brisas Project leading to the development of an acceptable flow sheet and processing strategy. From 1992 to January 2005, 20 different metallurgical test programs and mineralogical investigations were completed on the Brisas Project ores. In addition, there were five pressure oxidation test programs using copper concentrate and six tailings analysis and characterization reports were completed.

The earlier test programs were as follows:

Flotation and cyanidation testwork on oxide and sulfide saprolite composites by Lakefield, 1994.

Gravity, flotation, and cyanidation testwork on oxide saprolite, sulfide saprolite, and hard rock composites by Hazen, 1996.

Gravity, flotation, and cyanidation testwork on six composites made up from oxide saprolite, sulfide saprolite, and four major hard rock samples by RDI, 1997.

Grinding testwork on hard rock samples by MacPhearson, 1997. Grinding testwork has produced a Gross Autogenous Work Index of 21.3 and a Bond Ball Mill Work Index of 15.4.

Pilot plant testing of a large bulk sample obtained from a small shaft and underground development in the north area of hard rock ore. The purpose of this campaign was to generate a large quantity of concentrate to evaluate several hydrometallurgical and two pyrometallurgical processes to treat the concentrates on site. Following the testwork it was decided not to pursue on site concentrate treatment for the present. The tests were conducted by Lakefield, 2004.

The latest testwork was conducted by Lakefield and reported in January, 2005. The testing was done on all four ore types, comprising the following six groups of samples:

Oxide Saprolite (Sept. 2004): Composite sample obtained from four hand augured samples
Sulfide Saprolite (Sept. 2004): Composite sample obtained from 27 drill hole intervals
Hard Ore North (May 2004): Composite sample obtained from 31 drill hole intervals
Hard Ore South (May 2004): Composite sample obtained from 29 drill hole intervals
Hard Ore North (Sept. 2004): Composite sample obtained from 25 drill hole intervals
Hard Ore South (Sept. 2004): Composite sample obtained from 25 drill hole intervals

PAH reviewed maps of the locations of the samples used in the latest testwork in relation to the current mine in order to assess whether they were representative of the planned production. Based on this review, PAH considers the samples representative. The two saprolite sample composites each weighed about 100 kilograms; the four hard rock samples each weighed about 75 kilograms. The head assays of the composites were close to the average ore grades of the ore deposit they represent.

The intention is to process the saprolite ores in conjunction with the hard ores. Saprolite sulfide ore will constitute about 7 percent of the ore feed during the first seven years of operation and cease thereafter. Oxide saprolite ore will constitute about 3 percent of the ore feed throughout the life of the mine.

Earlier flotation testwork on the hard rock drill composites conducted at all three testwork laboratories (Hazen, Lakefield, and RDI) had shown that the north ore can produce a marketable copper/gold concentrate but that the south ore could not. Accordingly, Lakefield, in the latest tests, conducted a series of tests of various blends of the north and south ore composites. The tests undertaken were as follows:

Gravity separation (22 tests)
Batch flotation to determine optimum flotation conditions (18 tests)
Locked cycle flotation (8 tests)

The testing program followed the intended flow sheet which incorporates conventional mineral dressing processes: SAG and ball mill primary grinding, gravity separation, froth flotation, cyanidation, CIL, carbon elution and electrowinning to recover gold. The process flow sheet is discussed in the next sub-section of this report, Section 16.2, Plant Design.

The locked cycle tests were examined more closely as they provide a better indication of actual mill performance than do batch tests alone. The locked cycle tests completed in the latest test program used the flotation conditions determined by the batch floatation tests. Results of this testwork are summarized in Table 16-2. The locked cycle tests were completed using three different ratios of North and South Hard rock ores, 50% N:50% S; 60% N:40% S; 40%N 60%S. A minimum of two locked cycle tests were completed on these three blends. There is a possibility that the processing of the sulfide saprolite ore in conjunction with the hard rock ores could deleteriously affect the process. Therefore, a fourth ore blend was tested in locked cycle, which incorporated sulfide saprolite in the following ratios: 52% N:41% S:7% sulfide saprolite. An arithmetic average of the results for the locked cycle tests is shown in Table 16-3.

By blending both north, south, and saprolite ores it is possible to obtain an acceptable concentrate grade, and that is the planned operating strategy for the project. The addition of sulfide saprolite to the process feed did not appear to compromise copper concentrate grade or metal recoveries. The latest locked cycle test results compared favorable to the values used for the process Design Criteria in the Feasibility Study.

Prior to 2006 the plans had been to feed the oxide saprolite directly to the cyanide leach circuit, bypassing the flotation circuit. In 2006, it was decided that it was more economic to feed the oxide saprolite to the flotation circuit at a reduced rate. It is surmised that the small proportion of this stream in the plant feed (about 2 1/2 percent) will not adversely affect the flotation of the other ores. While this is probably true, PAH considers it worthwhile testing it and has included this as one of the recommendations.

Cyanide leaching tests of the cleaner scavenger tails generated in the hard ore flotation tests showed this to work acceptably, though cyanide consumption was high when a high concentration of cyanide was used. At 1 gram per liter cyanide concentration, cyanide consumption varied from 1.6 to 3.3 grams per tonne of material treated; tests at 0.5 grams per liter cyanide strength reduced cyanide consumption by about 30 percent.

In summary, PAH considers the sampling and testwork acceptable except for testing the effect of adding saprolite oxide ore to the flotation feed, as mentioned previously.

TABLE 16-2
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Ore Processing, Testwork Summary

| Item | Units | Value |
|---|---|---|
| Head Grade | | |
| Gold | grams/tonne | 0.69 |
| Copper | percent | 0.15 |
| Recovery | | |
| Gold | | |
| Gravity concentrate | percent | 14.9 |
| Flotation concentrate | percent | 49.5 |
| Cleaner scavenger tails | percent | 16.6 |
| Total | percent | 81.0 |
| Copper | percent | 86.6 |
| Copper Concentrate Grades | | |
| Average | percent | 22.1 |

TABLE 16-3
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Average of the Results for the Locked Cycle Tests

| Ore Blend Ratio North:South: Sulfide Sapr | Product | Assay Cu,wt% | Assay Au,g/t | Recovery Cu,wt% | Recovery Au,g/t |
|---|---|---|---|---|---|
| 50:50 | Gravity Conc. | | 1911 | | 17.1 |
| | Copper Conc. | 23.2 | 63 | 83.1 | 46.4 |
| | 1st Cleaner Scav. Tail. | 0.30 | 2.38 | 14.4 | 23.1 |
| | Rougher Tail | 0.004 | 0.10 | 2.57 | 13.4 |
| | Head | 0.147 | 0.713 | 100.0 | 100.0 |
| 60:40 | Gravity Conc. | | 3030 | | 13.7 |
| | Copper Conc. | 23.3 | 55 | 87.5 | 52.0 |
| | 1st Cleaner Scav. Tail. | 0.21 | 1.785 | 10.5 | 22.3 |
| | Rougher Tail | 0.004 | 0.08 | 2.05 | 12.0 |
| | Head | 0.160 | 0.635 | 100.0 | 100.0 |
| 40:60 | Gravity Conc. | | 3563 | | 14.5 |
| | Copper Conc. | 18.25 | 61.7 | 86.9 | 50.9 |
| | 1st Cleaner Scav. Tail. | 0.16 | 1.81 | 10.9 | 21.6 |
| | Rougher Tail | 0.003 | 0.105 | 2.2 | 13.1 |
| | Head | 0.125 | 0.715 | 100.0 | 100.0 |
| 52:41:7 | Gravity Conc. | | 478 | | 17.9 |
| | Copper Conc. | 28.7 | 70.1 | 85.7 | 41.9 |
| | 1st Cleaner Scav. Tail. | 0.23 | 2.3 | 10.8 | 21.4 |
| | Rougher Tail | 0.006 | 0.15 | 3.5 | 18.8 |
| | Head | 0.15 | 0.760 | 100.0 | 100.0 |

## 16.2 Plant Design

Aker Kvaerner completed the Feasibility plant design and cost estimates in early 2005. SNC made some minor modifications to the circuit in early 2006, primarily changing the leach circuit from Carbon in Pulp (CIP) to Carbon In Leach (CIL).

Principal ore processing parameters for the intended plant are presented in Table 16-4. The values are based on testwork results that proceeded issue of the latest testwork report. All of the parameters are in good agreement with the latest testwork with the exception of gold recovery and concentrate grade, both of which are marginally higher than the latest testwork results. The difference in gold recovery is within the expected range of accuracy of this parameter. The higher copper concentrate grade is based on the fact that the quantity of final concentrate produced in the laboratory test was so small that it became diluted with gangue mineral; this problem should not occur in an industrial plant. A simplified flow diagram of the plant is shown in Figure 16-1. A listing of the principal equipment is given in Table 16-5.

Table 16-4
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Ore Processing, Principal Parameters

| Item | Units | Value |
|---|---|---|
| Processing Rate | | |
| Hard ore | | |
| Annual | million tonnes/year | 25.2 |
| Daily | tonnes/day | 70,000 |
| Saprolitic ore | | |
| Oxide (for 17.5 years) | tonnes/day | 2,000 |
| Sulfide (for 7 years) | tonnes/day | 5,400 |
| Ore Grade | | |
| Gold | grams/tonne | 0.67 |
| Copper | percent | 0.13 |
| Recovery | | |
| Gold | percent | 83 |
| Copper | percent | 87 |
| Concentrate Grade | | |
| Gold | grams/tonne | 90 |
| Copper | percent | 24 |
| Capital Cost | | |
| Mill | $ millions | 242 |
| Tailings - Stage 1 | $ millions | 14 |
| Operating Cost | $/tonne milled | 2.59 |

The plant design is conventional, using some of the largest processing machinery currently available. There will be two grinding/flotation lines. A gravity concentrate will be recovered in the grinding circuit and will be shipped directly as gravity concentrates. The ore processed through the grinding and

FIGURE 16 1 SIMPLIFIED OVERALL PROCESS FLOW DIAGRAM
DIAGRAM NOT INCLUDED

TABLE 16 5
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Ore Processing, Principal Equipment List

| Item | Description | Quantity Oper. | Quantity S'by. | Power (kW each) |
|---|---|---|---|---|
| FLOTATION CIRCUIT | | | | |
| Primary crusher | Gyratory, 60 in x 89 in | 1 | | 600 |
| Crusher discharge feeder | Apron, 8 ft wide | 1 | | 375 |
| Transfer conveyor | Belt, 84 in wide | 1 | | 500 |
| Saprolite sulfide stockpile | 9 million tonnes | 1 | | |
| Saprolite oxide stockpile | 9 million tonnes | 1 | | |
| Saprolite crusher feeder | Apron, 3 ft wide | 1 | | 45 |
| Saprolite crusher | MMD 625 toothed roll | 1 | | 150 |
| Overland conveyor | Belt, 60 in wide, 5.5 km long | 1 | | 4,480 |
| Coarse ore stockpile | Conical, 35,000 tonnes live | 1 | | |
| Reclaim feeders | Apron, 5 ft wide | 6 | | 55 |
| Reclaim conveyors | Belt, 60 in wide | 2 | | 300 |
| SAG mills | 36 ft dia. x 19 ft long | 2 | | 13,500 |
| Ball mills | 22 ft dia. x 36.5 ft long | 4 | | 9,325 |
| Pebble crusher | Nordberg HP500 | 2 | | 375 |
| Cyclone feed pumps | 20 in x 18 in. | 4 | | 1,100 |
| Cyclone banks | 26 in | 4 | | |
| Gravity concentrators | | 4 | | 55 |
| Rougher flotation cells | 160 cu. m., banks of 6 | 4 | | 188 |
| Regrind mills | Metso VTM1250 Vertimill | 2 | | 932 |
| First cleaners | 130 cu. m., bank of 3 | 1 | | 150 |
| Cleaner scavenger | 130 cu. m., bank of 2 | 1 | | 150 |
| Second cleaners | 17 cu. m., bank of 5 | 1 | | 30 |
| Third cleaners | 17 cu. m., bank of 3 | 1 | | 30 |
| Fourth cleaners | Column, 2.8 m. dia. | 2 | | |
| Concentrate thickener | High rate, 9 m dia. | 1 | | 8 |
| Concentrate filter | Pressure, 45 sq. m area | 1 | | |
| Concentrate storage bunker | 1,200 tonne capacity | 1 | | |
| Tailings thickeners | High rate, 72 m dia. | 1 | | 22 |
| Tailings pumps | 18 x 16 in. | 2 | 2 | 375 |
| CONCENTRATE SHIPPING | | | | |
| Conc. transport trucks | Rear dump, 18 tonne capacity | 25 | | |
| Port conc. storage bldg. | 20,000 tonne capacity | 1 | | |
| Ship loading system | Hopper and belts | 1 | | |
| CYANIDATION CIRCUIT | | | | |
| Pre leach thickener | High Rate, 30 m dia. | 1 | | 8 |
| CIL tanks | Stirred tanks, 13.6 m dia. x 14 m high | 6 | | 75 |
| Carbon processing | Stripping and electrowinning | 1 | | |
| Carbon reactivation | Rotary kiln, electric heat | 1 | | 1,000 |
| Refinery | Induction furnace | 1 | | 125 |
| Cyanide destruction | Inco Air SO2 system | 1 | | |

flotation plant will be a blend of North and South hard ore with about 7 percent saprolite sulfide ore in the feed for the first seven years of operation and about three percent saprolite oxide ore throughout the life of the mine. A cyanidation leaching system will process the cleaner flotation tails.

Flotation concentrate will be trucked to Puerto Ordaz and loaded onto ships for transport to smelters. Gravity concentrate and the dore produced from cyanidation of the flotation cleaner scavenger tails will be shipped to overseas refineries.

Tailings will be placed in a conventional tailing containment close to the plant. Initially, borrow from inside the tailing containment will be used to dam three sides on a gently inclined plane to build a horseshoe shaped enclosure with an edge length of about 3 kilometers. The dam wall will be periodically raised using mine waste rock, using the "centerline" method of raising the wall. The dam will have sufficient capacity for the full amount of the ore to be mined. Decant water will be reclaimed and recycled to the plant and excess will be discharged into the general drainage.

## 17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

This report was prepared for GRI to update the results of the Brisas Project Feasibility Study that was completed in January 2005. This Technical Report is based largely on information originally presented in the January 2005 Feasibility Study by Aker Kvaerner (AK), for which PAH provided the geology, mining, and economic sections under a subcontract to GRI. In addition, subsequent studies by PAH, SNC Lavalin and Marston have updated resources, reserves and capital and operating costs. Information contained in this report is based on information available to PAH at the time of the report, including information generated by PAH as well as information supplied by GRI and other third party sources. PAH believes that the information contained herein will be reliable under the conditions and subject to the limitations set forth herein. PAH does not guarantee the accuracy of third party information that was reviewed by PAH, including property legal title information, geotechnical issues, environmental issues, and process issues.

PAH developed the resource model and Marston developed the resource and reserve estimates based on information provided by GRI and other consultants. These estimates are based on the latest operating plans and financial information regarding the project.

## 17.1 Coordinate System, Surveying, and Topography

GRI provided digital topographic information for the Brisas and Barbara Concessions and the surrounding area. Information for the Brisas and Barbara concessions was based on detailed surveys of the concessions that were contracted by GRI. These surveys were completed during numerous programs, the last of which was completed in early 2005. Modeling and resource and reserve estimates were based on the GRI April 2005 topography.

As a check of drill hole collar elevation integrity, drill hole collar elevations were compared against digital topography on vertical sections and plans, both showing good agreement.

## 17.2 Sample Database

As discussed in Section 11, GRI began exploration activity in late 1992 and continued various drilling programs through the present time. A summary of the drill hole database used for resource modeling is shown in Table 17-1. Drill holes that were drilled since April 2005 are not included in the summary. They were not used in resource modeling because they were not drilled for exploration purposes. A drill hole location map is shown in Section 11 (Figure 11-1).

TABLE 17-1
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Drill Hole Database Summary

| Item | |
|---|---|
| Total Number of Drill Holes | 874 |
| Number of Auger Holes | 71 |
| Number of Core Holes | 803 |
| Total Drilling Length (m) | 201,118 |
| Number of Sample Intervals | 63,015 |
| Number of Samples with Au Assays | 62,684 |
| Number of Samples with Cu Assays | 61,090 |
| Shortest Drill Hole (m) | 4.5 |
| Longest Drill Hole (m) | 998.1 |
| Maximum North (m) | 683,109.9 |
| Minimum North (m) | 680,561.4 |
| Maximum East (m) | 670,851.0 |
| Minimum East (m) | 668,442.6 |
| Maximum Collar Elevation (m) | 147.0 |
| Minimum Collar Elevation (m) | 128.3 |
| Number of Holes Surveyed Downhole | 738 |
| Number of Vertical Holes (Dip: -90 to -85 degrees) | 201 |
| Number of Inclined Holes | 632 |
| Flattest Inclined Hole Dip Angle (degrees) | -45.0 |
| Number of Horizontal Holes | 0 |

## 17.3 Resource Model Setup

As discussed earlier, the primary mineralized zones have been weathered to saprolite near the surface. The thickness of the saprolite clays is generally around 60 meters. Copper in the saprolite zone has been significantly redistributed due to supergene leaching and enrichment. Gold in saprolite, however, appears to have limited redistribution as indicated by the continuity of gold grade distribution from hard rock to saprolite.

A weathering profile model was constructed to account for vertical variations in rock types and in the distribution of the copper mineralization. Three dimensional surfaces were constructed for the bottom of the oxide saprolite, sulfide saprolite and weathered rock horizons using the corresponding drill hole intercepts. The weathering profile model largely controlled the rock density model as well (Table 17-2).

The mineralized zones consisted of modeling the Blue Whale zone, the Au mineral envelope, and the Cu mineral envelope as described below.

TABLE 17-2
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Rock Type and Density Model Codes

| Rock Type | Rock Code | Dry Bulk Density (t/m3) |
|---|---|---|
| Air | 0 | 0 |

| | | |
|---|---|---|
| Oxide Saprolite | 11 | 1.43 |
| Sulfide Saprolite | 12 | 1.72 |
| Weathered Hard Rock (Schist) | 13 | 2.29 |
| Weathered Hard Rock (Tuff) | 13 | 2.38 |
| Unweathered Hard Rock (Schist) | 1 | 2.77 |
| Unweathered Hard Rock (Tuff) | 1 | 2.89 |
| "Blue Whale" | 61 | 2.76 |

Drill hole sample values were composited into 6 meter down hole intervals to normalize the different sampling intervals found in the database. The compositing process simulates the grade distribution typically encountered in a mining operation. The averaging effects of compositing can also be used to incorporate some dilution into the project. A downhole composite was selected over a bench composite to maintain a constant composite length since some holes are vertical and many inclined.

## 17.4 Mineralized Rock Model

It has been observed for some time within the Brisas Project that the mineralization generally follows a structural trend that is sub-parallel to the rock unit trend present in the area. Attempts by GRI geologists to define other clear controls of mineralization such as lithological controls to improve the modeling have proven to be inconclusive except for the Blue Whale rock zone and the weathering profile. The experience at the Brisas Project also shows that gold is stable during the weathering process and hence the original gold distribution is unchanged. However, copper is unstable because of weathering and is generally leached out from the oxide saprolite zone and locally enriched in the sulfide saprolite zone by supergene process. Furthermore, the gold and copper occurrence within the property varies for each metal as seen previously in the geology and mineralization discussion. 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.

The Blue Whale was digitized on vertical sections spaced 25 meters apart following the lithologic contacts and assay values. The interpretations on section were then transferred to plan views spaced 6 meters apart to be used as reference. A mineralized envelope was then digitized on a bench by bench basis following a similar approach as the vertical sections. Finally, the bench envelopes were linked together to define a 3D solid that represents the Blue Whale mineralization.

The Cu mineral envelope was generated section by section spaced 50 or 25 meters apart using a nominal 0.08 percent cutoff grade. Generally, a minimum of two adjacent composites (on same hole) and at least two holes were needed to make a zone. The general geologic trend of the mineralization both on strike and downdip was followed for weathered rock and hard rock; for saprolite (both oxide and sulfide) a generally horizontal trend was applied. Section interpretations were then linked together to construct a 3D solid.

The Au mineral envelope was generated section by section spaced 50 or 25 meters apart using a nominal 0.25 gpt cutoff grade. Generally, a minimum of two adjacent composites (on same hole) and at least two holes were needed to make a zone. The general geologic trend of the zone on strike and downdip was followed throughout. Section interpretations were linked together to construct a 3D solid.

A block model was constructed in Gemcom (R) software with the following geometry (Table 17-3).

TABLE 17-3
Gold Reserve Inc.
Brisas Project, Venezeula
Feasibility Update
Block Model Geometry

| | Northing | Easting | Elevation |
|---|---|---|---|
| Origin (sw top corner) | 680,000 | 668,000 | 150 |
| Block Size (meters) | 10 | 10 | 6 |
| Number of Columns | 300 | | |
| Number of Rows | 400 | | |
| Nubmer of Levels | 140 | | |
| Rotation | 0 | | |

Blocks were tagged with codes for air or rock types as follows (Table 17-4):

TABLE 17-4
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Mineral Envelope Model Codes

| Metal | Zone | Rock Code |
|---|---|---|
| Gold | Air | 0 |
| | Within 0.25 gpt Mineral Envelope | 10 |
| | Blue Whale | 61 |

| | | | |
|---|---|---|---|
| | Outside Mineral Envelope | | 1 |
| Copper | Air | | |
| | Within 0.08% Mineral Envelope | Oxide Saprolite | 22 |
| | Within 0.08% Mineral Envelope | Sulfide Saprolite | 21 |
| | Within 0.08% Mineral Envelope | Hard Rock | 20 |
| | Blue Whale | | 61 |
| | Outside Mineral Envelope | Oxide Saprolite | 12 |
| | Outside Mineral Envelope | Sulfide Saprolite | 11 |
| | Outside Mineral Envelope | Hard Rock | 1 |

## 17.5 Statistical Analysis and Variograms Grade Estimation and Validation

Since the Feasibility Study was completed, 24 additional exploration diamond holes were drilled. These drill holes were included in the resource model updated by PAH in April 2005, which is the basis for the resource and reserve estimates contained in this technical report. Mineral envelopes were adjusted to incorporate this additional drilling. No new variograms were run for this update considering that the new drilling was quite localized and relatively minor when compared to the vast amounts of already existing data. Variogram model parameters were the same as those used for the Feasibility Study model.

### 17.5.1 Gold Review

Examination of the log probability plot for uncapped 6 meter composites within the interpreted grade envelope shows a break in the distribution around 4 to 5 g/t with another break around 8.5 g/t indicating some mixing of grade populations that have not been completely segregated. PAH does not believe that that this minor mixing is significant (Figure 17 1). The coefficient of variation (CV) for these uncapped composites is 1.58.

Capping of grades was conducted to adjust for the effects of statistical outlier grades. Capping was a judgment call about mineralization distributions based on the understanding of the overall geologic environment and trading off the capping threshold against estimation parameters to yield a final result that looks appropriate. Gold composites were capped at 8.5 g/t.

Based on the geologic description of the deposit, it appears that the portion of the distribution over the 4 to 5 g/t threshold is that which is more distinctly structurally controlled versus the more disseminated mineralization below the threshold. A look at composite maps and computed indicator variograms for continuity of grades above that threshold show inconclusive results. While one may see a grouping of two high grades in the same vicinity, one most often sees lone higher grades intermixed with grades below the threshold. This suggests that trying further to delineate zones within the mineralized envelope would not be worthwhile.

The log-probability plot of uncapped Blue Whale composites shows a single distribution with a somewhat high grade tail (Figure 17 2). This suggests that the Blue Whale mineralization is defined fairly well by the geologic controls, or that its complexity may not be fully evidenced by the relatively small number of composites. For this distribution an 8.5 g/t capping threshold was applied to composites.

Capping these two distributions lowers their Coefficient of Variations (CV) to 1.23 for the mineralized envelope and 0.92 for the Blue Whale. The CV for the Blue Whale distribution is down to a level where linear estimation techniques should perform reasonably well. However, the CV for the mineralized envelope is at a level where straight forward linear techniques often result in overly smoothed estimates.

FIGURE 17 1 Log Probability Plot of Uncapped 6m Composite
GRAPH NOT INCLUDED

FIGURE 17 2 Log Probability of Uncapped Blue Whale Composites
GRAPH NOT INCLUDED

Generally, in a distribution with a CV less than 1, linear estimation techniques such as inverse distance or linear kriging work well. A CV greater than two, more often than not, requires indicator kriging. Between one and two is a gray area that, unfortunately, seems to include a large number of gold deposits. In this CV range, single indicator techniques such as restricted kriging or the use of parameters for linear techniques that minimize smoothing, while not giving too much influence to the high-grades through multiple estimation passes, work well. The Brisas model uses ordinary kriging (OK) with multiple passes, based on the nested structures of the variograms.

Figures 17 3 through 17 6 show computed correlograms for the gold mineralized envelope and the Blue Whale and fit spherical models. Two structures were modeled for each direction: 1) ranges of 31 and 130 meters in the strike direction; 2) ranges of 28 and 144 meters in the dip direction; and, 3) ranges of 21 and 50 meters across the dip direction. For the Blue Whale one structure was modeled with ranges of 81 and 126 meters.

### 17.5.2 Copper Review

Copper 6 m composite distributions for the different rock types within the mineralized envelope, i.e., Zone 20 (hardrock), Zone 21 (ox sap), and Zone 22 (sulf sap) were examined. Grade capping is less of an issue for copper than it is for gold. The Cu distributions seem to have few outliers and, even uncapped, have CVs less than or equal to one, indicating better behaved population distribution. Figure 17 7 shows the log probability plot of uncapped 6 meter copper composites and Figure 17 8 shows the log probability plot of uncapped 6 meter composites for the Blue Whale only

The estimation strategy for copper is similar to that for gold: 1) capping of composite values; 2) a multi pass estimation based on the variogram nested structures; and, using ordinary kriging.

For the copper distributions, capping values were set for Zone 20 at 1.5 percent, Zone 21 at 0.8 percent, and Zone 22 at 1.0 percent.

Figures 17 9 through 17 11 show the computed correlograms for Zone 20 in the deposit orientations. The oxide saprolite Zone 21 only had 88 composites, and a correlogram in this zone alone could not be computed. In the sulfide saprolite Zone 22, horizontal and vertical correlograms (Figure 17 12) were computed.

FIGURE 17 3 Correlogram for Gold Zone 10 Strike
GRAPH NOT INCLUDED

FIGURE 17 4 Correlogram for Gold Zone 10 Dip
GRAPH NOT INCLUDED

FIGURE 17 5 Correlogram for Gold Mineralized Envelope Across Dip
GRAPH NOT INCLUDED

FIGURE 17 6 Correlogram for Blue Whale
GRAPH NOT INCLUDED

FIGURE 17 7 Log Probability Plot of Uncapped 6m Composites for all Cu
GRAPH NOT INCLUDED

| Item | Cu | Natural Logs | |
|---|---|---|---|
| Number | 4307 | Number | 4307 |
| Mean | 0.227364 | Mean | 0.77374 |
| Minimum | 0.005 | Minimum | 2.30103 |
| Maximum | 1.4175 | Maximum | 0.151523 |
| Variance | 0.036015 | Variance | 0.120756 |
| St. Dev. | 0.189776 | St. Dev. | 0.347499 |

FIGURE 17 8 Log Probability Plot for Blue Whale of Uncapped 6m Composites for Cu
GRAPH NOT INCLUDED

| Item | Cu | Natural Logs | |
|---|---|---|---|
| Number | 156 | Number | 156 |
| Mean | 2.784102 | Mean | 0.255018 |
| Minimum | 0.1825 | Minimum | 0.73874 |
| Maximum | 20.6051 | Maximum | 1.313975 |
| Variance | 9.697541 | Variance | 0.159999 |
| St. Dev. | 3.114087 | St. Dev. | 0.399999 |

FIGURE 17 9 Correlogram for Copper Zone 20 Strike
GRAPH NOT INCLUDED

FIGURE 17 10 Correlogram for Copper Zone 20 Dip
GRAPH NOT INCLUDED

FIGURE 17 11 Correlogram for Copper Zone 20 Perpendicular to Dip
GRAPH NOT INCLUDED

FIGURE 17 12 Correlogram for Copper Zone 22
GRAPH NOT INCLUDED

### 17.5.3 Summary

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. Variograms for both Au and Cu downhole composites were computed. Three dimensional variograms were run for different orientations including strike, dip, and across the ore zones (Table 17 5).

TABLE 17 5
Gold Reserve Inc.
Brisas Project, Venezuela

Feasibility Update
Variogram Models

| Metal | Zone | Direction | Azimuth | Dip | Nugget | Sill 1 | Range 1(m) | Sill 2 | Range 2(m) |
|---|---|---|---|---|---|---|---|---|---|
| Gold | Mineral Envelope | Major | 185 | 0 | 0.4484 | 0.3395 | 30.8 | 0.1647 | 130.1 |
| | Saprolite and | Semi Major | 275 | 35 | 0.4636 | 0.2433 | 28.2 | 0.2762 | 144.5 |
| | Hard Rock | Minor | 95 | 55 | 0.5649 | 0.2399 | 21.1 | 0.1861 | 50.1 |
| | Blue Whale | Average | 185 | 35 | 0.5703 | 0.2923 | 81.4 | 0.1964 | 126.2 |
| Copper | Mineral Envelope | Major | 185 | 0 | 0.1063 | 0.6563 | 45.3 | 0.2179 | 172.1 |
| | Hard Rock | Semi Major | 275 | 35 | 0.6460 | 0.1647 | 76.2 | 0.1469 | 156.4 |
| | | Minor | 95 | 55 | 0.3744 | 0.3862 | 15.8 | 0.2856 | 54.1 |
| | Mineral Envelope | | | | | | | | |
| | Saprolite | Average | 185 | 90 | 0.3437 | 0.5590 | 41.5 | 0.1365 | 76.1 |

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 (Table 17-6). PAH does not believe the composite grade capping will have a great influence on the overall model but it could locally prevent grade overestimation.

TABLE 17-6
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Capping Grades for 6M Downhole Composites

| Metal | Population | Capping Grade | # Comps Capped |
|---|---|---|---|
| Gold | Mineral Envelope | 8.5 gpt | 44 |
| | Blue Whale | 8.5 gpt | 9 |
| Copper | Oxide Saprolite | 0.8% | 2 |
| | Sulfide Saprolite | 1.0% | 9 |
| | Hard Rock | 1.5% | 29 |
| | Blue Whale | 1.5% | 36 |

## 17.6 Grade Estimation and Validation

The gold and copper grade interpolations for the mineral envelopes only used the 6 meter downhole composites that fell within the grade envelopes. Only blocks within the grade envelopes received an Au or a Cu grade. The ordinary kriging (OK) interpolation method was used for all runs. Grade estimation parameters for Au and Cu are shown on Tables 17-7 and 17-8 respectively.

TABLE 17-7
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Gold Grade Estimations Parameters

| | | Search Direction | | | Search Distance | | | Min. Comps Per | Max. Comps Per | Max. Comps Per | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Pass | Y Azim | Y dip | X dip | Y | X | Z | block | block | hole | Method |
| Within Gold | 1 | 185 | 0 | 35 | 30 | 30 | 20 | 3 | 8 | 2 | OK |
| Mineral | 2 | 185 | 0 | 35 | 130 | 140 | 20 | 3 | 8 | 2 | OK |
| Envelope | 3 | 185 | 0 | 35 | 130 | 140 | 20 | 1 | 8 | | OK |
| Blue | 1 | 185 | 0 | 35 | 100 | 50 | 12 | 3 | 8 | 2 | OK |
| Whale | 2 | 185 | 0 | 35 | 100 | 50 | 12 | 1 | 8 | | OK |
| Outside Mineral Envelope | 1 | 185 | 0 | 35 | 130 | 140 | 20 | 1 | 8 | | OK |
| Outside Min. Env. when Au>0.25 gpt | 1 | 185 | 0 | 35 | 20 | 20 | 10 | 1 | 8 | | OK |

TABLE 17-8
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Copper Estimations Parameters

Min. Max. Max.

| Zone | Pass | Search Direction Y Azim | Y dip | X dip | Search Distance Y | X | Z | Comps Per block | Comps Per block | Comps Per hole | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Within Copper | 1 | 185 | 0 | 35 | 45 | 75 | 15 | 3 | 8 | 2 | OK |
| Mineral Envelope | 2 | 185 | 0 | 35 | 170 | 150 | 20 | 3 | 8 | 2 | OK |
| Hard Rock | 3 | 185 | 0 | 35 | 170 | 150 | 20 | 1 | 8 | | OK |
| Blue | 1 | 185 | 0 | 35 | 100 | 50 | 12 | 3 | 8 | 2 | OK |
| Whale | 2 | 185 | 0 | 35 | 100 | 50 | 12 | 1 | 8 | | OK |
| Within Copper | 1 | 185 | 0 | 0 | 40 | 40 | 12 | 3 | 8 | 2 | OK |
| Mineral Envelope | 2 | 185 | 0 | 0 | 75 | 75 | 20 | 3 | 8 | 2 | OK |
| Saprolite | 3 | 185 | 0 | 0 | 75 | 75 | 20 | 1 | 8 | | OK |
| Outside Copper Mineral Envelope | 1 | 185 | 0 | 35 | 170 | 150 | 20 | 1 | 8 | | OK |
| Outside Min. Env. when Cu>0.08% | 1 | 185 | 0 | 35 | 20 | 20 | 10 | 1 | 8 | | OK |

The local grade bias was checked by visually inspecting the block grades against the nearby drill hole composite grades both on sections and plans. The block grade distribution generally compares reasonably well with the nearby composite values. Figures 17-13 and 17-14 are cross sections showing the grade block model and drill hole composites for Au and Cu, respectively.

Figure 17-13 Composites and Blocks Au Distribution - Section 682400N
DIAGRAM NOT INCLUDED

Figure 17-14 Composites and Blocks Cu Distribution - Section 682700N
DIAGRAM NOT INCLUDED

## 17.7 Resource Classification

Concurrently to the grade interpolation runs, a "distance model" storing the distance to the nearest composite, and the "number of composites used in the interpolation model" were constructed for every block within the mineral envelopes. These models were used to classify resources. A block located inside the mineral envelope, within 30 meters about the range of gold variogram first structure - on strike and dip of the nearest sample point, and with at least five composites (i.e., three drill holes) used in the interpolation, is considered measured. The average distance for the measured category blocks is 18 meters. A block located inside the mineral envelopes and within 30 to 70 meters, about half the range of gold variogram second structure- on strike and dip of the nearest composite, and with at least three composites (i.e., two drill holes) used in the interpolation, is considered indicated. The average distance for the indicated category blocks is 37 meters. Blocks located inside the envelopes farther than 70 meters but less than a full variogram range from a sample point, and/or having less than three composites used in the interpolation, are considered inferred (average distance is 90 meters).

Besides the measured, indicated, and inferred resources located within the Au and Cu mineral envelopes, other inferred resources are considered likely to exist outside the envelope. In order to quantify this inferred resource, grade interpolation routines affecting only blocks outside the envelopes were run for both Cu and Au. No constraining mineral envelope was constructed. All composites were allowed to participate in the interpolation. The search radii were parallel to the main trends of the deposit as shown in Tables 17-7 and 17-8.

## 17.8 Resource Statement

Table 17-9 tabulates the measured, indicated, and inferred resources and shows the tonnage/grade variability at various gold equivalent cutoff grades. The gold equivalent grade states the total metal content in terms of gold grade. This is done by calculating a copper to gold ratio based on value. Gold equivalent calculations are based on metal prices of $400/ounce Au, and $1.15/lb Cu, anticipated metal recoveries, and freight, smelter and refining costs. A gold equivalent of 1.16 grams per tonne per percent copper was calculated based on the results of the economic analysis.

At a 0.4 AuEq cutoff grade the measured and indicated resource is 573.9 million tonnes at a gold grade of 0.66 gpt and a copper grade of 0.13 percent. In addition, the inferred resource is estimated as 114.9 million tonnes at 0.59 gpt Au grade and 0.12 percent copper grade at a 0.4 AuEq cutoff grade. The inferred resources include the inferred mineralization both within and outside the mineral envelopes. This resource estimate is inclusive of the reserve estimate.

The planned pit area is, for the most part, well covered by the existing drilling that provides sufficient definition for the establishment of measured and indicated resources. The deeper west side of the pit, however, is limited by a large amount of inferred resources along the downdip extension of the mineralized zone.

TABLE 17-9
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update

Mineral Resource Estimate

| Category | AuEq Cutoff | k tonnes | Gold gpt | Gold k ozs | Copper % | Copper M lbs |
|---|---|---|---|---|---|---|
| | 0.3 | 285,405 | 0.634 | 5,817 | 0.114 | 717 |
| | 0.4 | 250,565 | 0.686 | 5,527 | 0.119 | 657 |
| Measured | 0.5 | 207,448 | 0.755 | 5,034 | 0.126 | 576 |
| | 0.6 | 165,410 | 0.834 | 4,437 | 0.135 | 492 |
| | 0.7 | 129,741 | 0.918 | 3,830 | 0.144 | 412 |
| | 0.3 | 391,430 | 0.565 | 7,110 | 0.126 | 1,087 |
| | 0.4 | 323,371 | 0.637 | 6,621 | 0.13 | 927 |
| Indicated | 0.5 | 258,354 | 0.717 | 5,952 | 0.135 | 769 |
| | 0.6 | 201,578 | 0.802 | 5,198 | 0.14 | 622 |
| | 0.7 | 154,756 | 0.893 | 4,441 | 0.145 | 495 |
| | 0.3 | 676,835 | 0.594 | 12,927 | 0.121 | 1,804 |
| Measured | 0.4 | 573,936 | 0.658 | 12,148 | 0.125 | 1,584 |
| + | 0.5 | 465,802 | 0.734 | 10,986 | 0.131 | 1,345 |
| Indicated | 0.6 | 366,988 | 0.816 | 9,635 | 0.138 | 1,114 |
| | 0.7 | 284,497 | 0.904 | 8,271 | 0.145 | 906 |

Note: AuEq based on the "Smelter Case". AuEq = Au (gpt) + Cu (%) * 1.16

| Category | AuEq Cutoff | k tonnes | Gold gpt | Gold k ozs | Copper % | Copper M lbs |
|---|---|---|---|---|---|---|
| | 0.3 | 161,853 | 0.482 | 2,508 | 0.115 | 410 |
| | 0.4 | 114,937 | 0.590 | 2,182 | 0.116 | 294 |
| Inferred | 0.5 | 84,319 | 0.691 | 1,873 | 0.116 | 216 |
| | 0.6 | 60,928 | 0.801 | 1,569 | 0.112 | 150 |
| | 0.7 | 45,770 | 0.896 | 1,319 | 0.111 | 112 |

Note: AuEq based on the "Smelter Case". AuEq = Au (gpt) + Cu (%) * 1.16
(*) Inferred resources include both within and outside the mineral envelopes.

## 17.9 Reserve Estimation

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. Based on the results of optimization analysis, an ultimate pit was designed. A production schedule was then developed based on a target of 0.1 percent copper grade to produce a 24 percent copper concentrate grade with a blend of the two hard rock ores. This schedule resulted in an average production rate of 25.2 million tonnes of hard rock ore and on average 51.8 million tonnes of waste per year over the 18.5 years of the project. During the first four years of the project, 9.6 million tonnes of oxide saprolite ore and 13.1 million tonnes of sulfide saprolite ore are mined. Saprolite material is stockpiled separately. The sulfide saprolite is fed to the crusher at a rate of 1.95 million tonnes per year (mtpy) for a nominal seven years. Oxide saprolite is fed to the mill at a rate of 0.25 mtpy while the sulfide saprolite is processed. When milling of sulfide saprolite is completed, the oxide saprolite rate is increased to 0.70 mtpy.

Using this production schedule, capital and operating cost estimates were developed for the project, including the mine and processing plant. These estimates were then incorporated into an economic model to determine the viability of the project based on metal prices of US$400 per ounce for gold and US$1.15 per pound for copper. Sensitivity analyses on metal prices, and capital and operating costs were then conducted.

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.

### 17.9.1 Optimization Analysis

Design of the ultimate pit was based on the results of a Whittle Lerchs Grossmann 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. Whittle pit shells do not provide a reserve estimate because roads and ramps are not incorporated and the shapes produced may not be practical due to real world or physical constraints.

This Whittle analysis was conducted in April 2005 and was based on the results of the Feasibility Study. Results of this analysis were the basis for the pit design on which the reserve statement in this report is based. Subsequent to the Whittle analysis and pit design the economics including metal prices used for the reserve were modified to incorporate the latest estimates. These revised economic parameters (US$400 per ounce for gold and US$1.15 per pound for copper) were used for reserve estimation only. A brief Whittle analysis using these revised economic parameters was conducted to see the impact. As expected it produced a similar Whittle pit shell configuration. The difference was not significant enough to justify developing new pit designs, production schedules, and economics.

The April 2005 Whittle analysis was based on the economic and physical parameters shown in Table 17-10 and the recovery information in Table 17-11. Blocks in the inferred resource category were treated as waste and assigned a negative value equal to the mining cost. Pit shells were allowed to cross the concession boundary to maximize the recovery of metal on the Brisas Concession.

A range of shells were developed to determine the project's sensitivity and the basis for the designed ultimate pit. As expected the tonnes increased and the grade decreased as the metal prices increased because increasing the metal price increases the revenue per tonne and thus the tonnage available for milling.

TABLE 17-10
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Pit Optimization Parameters

| Description | Units | Value |
|---|---|---|
| Metal Prices | | |
| Gold | $/t oz | 350.000 |
| Copper | $/lb | 0.900 |
| Production Tax/Royalty | | |
| Percentage of Au Sold Domestically | % | 33.33 |
| Tax Rate on Gold Sold Domestically | % | 1.00 |
| Tax Rate on Exported Gold From Saprolite Ore | % | 3.00 |
| Tax Rate on Exported Gold From Hard Rock Ore | % | 2.33 |
| Copper Tax Rate | % | 1.70 |
| Operating Costs | | |
| Waste Mining Cost | $/waste tonne | 0.46 |
| Incremental Mining Cost | | |
| By Depth - Waste & Ore | $/Bench (6 m) | 0.012 |
| Oxide Saprolite Ore Mining Cost | $/ore tonne | 0.71 |
| Ore Mining | $/ore tonne | 0.46 |
| Milling | $/ore tonne | 2.21 |
| G&A | $/ore tonne | 0.39 |
| Reclamation - Facilities, | | |
| Waste Dumps, Tailings | $/tonne ore | 0.035 |
| Total Ore Operating Cost | $/tonne ore | 3.10 |
| Total Ore Operating Costs Excluding Mining | $/tonne ore | 2.64 |
| Smelting & Refining Related Charges | | |
| Gold Deduct from Concentrate | % | 1.00 |
| Copper Deduct from Concentrate | % | 1.00 |
| Smelter Recovery - Gold Dore | % | 99.90 |
| Smelter Recovery - Gold From Concentrate | % | 99.90 |
| Gold in Concentrate Grade - Saprolite | g/t | 89.20 |
| Gold in Concentrate Grade - Hard Rock | g/t | 89.20 |
| Copper Concentrate Grade - Saprolite | % | 24.00 |
| Copper Concentrate Grade - Hard Rock | % | 24.00 |
| Concentrate Transportation Cost | $/tonne conc | 78.32 |
| Smelting Cost | $/tonne conc | 77.79 |
| Copper Refining Cost | $/lb payable Cu | 0.078 |
| Gold Refining - Dore | $/payable oz Au | 6.00 |
| Physical Parameters | | |
| Oxide Saprolite Density | tonnes/m3 | 1.44 |
| Sulfide Saprolite Density | tonnes/m3 | 1.68 |
| Southern Hard Rock Density | tonnes/m3 | 2.84 |
| Northern Hard Rock Density | tonnes/m3 | 2.86 |
| Saprolite Overall Pit Slopes By Sector with North set to 0 | | |
| Sector 0 - 33 | degrees | 19.1 |
| Sector 33 - 71 | degrees | 31.2 |
| Sector 71 - 127 | degrees | 25.7 |
| Sector 127 - 187 | degrees | 23.0 |
| Sector 187 - 266 | degrees | 38.0 |
| Sector 266 - 333 | degrees | 32.7 |
| Sector 333 - 0 | degrees | 19.1 |
| Hard Rock Overall Pit Slopes By Sector with North set to 0 | | |
| Sector 0 - 71 | degrees | 50.6 |
| Sector 71 - 127 | degrees | 31.7 |
| Sector 127 - 187 | degrees | 46.7 |
| Sector 187 - 0 | degrees | 50.6 |

TABLE 17-11
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Metal Recoveries
Gold Recovery Input Parameters

| Ore Type | Units | Mill Feed Grade Minimum | Mill Feed Grade Maximum | Mill Recovery | Smelter Pay For | Payable |
|---|---|---|---|---|---|---|
| Oxide Saprolite Ore | | | | | | |
| | g/t | 0.001 | 0.051 | 10.00% | 99.82% | 9.98% |
| | g/t | 0.052 | 0.100 | 75.00% | 99.82% | 74.87% |
| | g/t | 0.101 | 0.500 | 88.00% | 99.82% | 87.85% |
| | g/t | 0.501 | 0.690 | 90.00% | 99.82% | 89.84% |
| | g/t | 0.691 | 0.990 | 91.00% | 99.82% | 90.84% |
| | g/t | 0.991 | 1,000.000 | 92.00% | 99.82% | 91.84% |
| Sulfide Saprolite Ore | | | | | | |
| | g/t | 0.001 | 0.500 | 55.00% | 98.80% | 54.34% |
| | g/t | 0.501 | 0.590 | 63.00% | 98.80% | 62.24% |
| | g/t | 0.591 | 0.690 | 68.00% | 98.80% | 67.18% |
| | g/t | 0.691 | 0.790 | 73.00% | 98.80% | 72.12% |
| | g/t | 0.791 | 0.890 | 76.00% | 98.80% | 75.09% |
| | g/t | 0.891 | 0.990 | 78.00% | 98.80% | 77.06% |
| | g/t | 0.991 | 1,000.000 | 80.00% | 98.80% | 79.04% |
| Hard Rock Ore w/ Cu North | | | | | | |
| | g/t | 0.001 | 0.500 | 70.00% | 98.48% | 68.93% |
| | g/t | 0.501 | 0.590 | 76.00% | 98.48% | 74.84% |
| | g/t | 0.591 | 0.690 | 78.00% | 98.48% | 76.81% |
| | g/t | 0.691 | 0.790 | 80.00% | 98.48% | 78.78% |
| | g/t | 0.791 | 0.890 | 83.00% | 98.48% | 81.73% |
| | g/t | 0.891 | 0.990 | 89.00% | 98.48% | 87.64% |
| | g/t | 0.991 | 1,000.000 | 90.00% | 98.48% | 88.63% |
| Hard Rock Ore w/o Cu South | | | | | | |
| | g/t | 0.001 | 0.500 | 60.00% | 98.48% | 59.09% |
| | g/t | 0.501 | 0.590 | 68.00% | 98.48% | 66.96% |
| | g/t | 0.591 | 0.690 | 72.00% | 98.48% | 70.90% |
| | g/t | 0.691 | 0.790 | 75.00% | 98.48% | 73.86% |
| | g/t | 0.791 | 0.890 | 79.00% | 98.48% | 77.80% |
| | g/t | 0.891 | 0.990 | 85.00% | 98.48% | 83.70% |
| | g/t | 0.991 | 1,000.000 | 90.00% | 98.48% | 88.63% |

Copper Recovery Input Parameters

| Ore Type | Units | Mill Feed Grade Minimum | Mill Feed Grade Maximum | Mill Recovery | Smelter Pay For | Payable |
|---|---|---|---|---|---|---|
| Oxide Saprolite Ore | | | | | | |
| | % | 0.001 | 0.050 | 0.00% | 0.00% | 0.00% |
| | % | 0.051 | 0.075 | 0.00% | 0.00% | 0.00% |
| | % | 0.076 | 0.125 | 0.00% | 0.00% | 0.00% |
| | % | 0.126 | 0.175 | 0.00% | 0.00% | 0.00% |
| | % | 0.176 | 0.250 | 0.00% | 0.00% | 0.00% |
| | % | 0.251 | 0.500 | 0.00% | 0.00% | 0.00% |
| | % | 0.501 | 100.000 | 0.00% | 0.00% | 0.00% |
| Sulfide Saprolite Ore | | | | | | |
| | % | 0.001 | 0.050 | 10.00% | 95.83% | 9.58% |
| | % | 0.051 | 0.075 | 42.00% | 95.83% | 40.25% |
| | % | 0.076 | 0.125 | 50.00% | 95.83% | 47.92% |
| | % | 0.126 | 0.175 | 58.00% | 95.83% | 55.58% |
| | % | 0.176 | 0.250 | 66.00% | 95.83% | 63.25% |
| | % | 0.251 | 0.500 | 80.00% | 95.83% | 76.67% |
| | % | 0.501 | 100.000 | 85.00% | 95.83% | 81.46% |
| Hard Rock Ore North | | | | | | |
| | % | 0.001 | 0.020 | 40.00% | 95.83% | 38.33% |
| | % | 0.021 | 0.035 | 55.00% | 95.83% | 52.71% |
| | % | 0.036 | 0.060 | 68.00% | 95.83% | 65.17% |
| | % | 0.061 | 0.110 | 70.00% | 95.83% | 67.08% |
| | % | 0.111 | 0.140 | 79.00% | 95.83% | 75.71% |
| | % | 0.141 | 0.200 | 82.60% | 95.83% | 79.16% |
| | % | 0.201 | 0.400 | 86.20% | 95.83% | 82.61% |
| | % | 0.401 | 1.000 | 93.00% | 95.83% | 89.13% |
| | % | 1.001 | 100.000 | 93.50% | 95.83% | 89.60% |
| Hard Rock Ore South | | | | | | |
| | % | 0.001 | 0.020 | 40.00% | 95.83% | 38.33% |
| | % | 0.021 | 0.035 | 55.00% | 95.83% | 52.71% |
| | % | 0.036 | 0.060 | 68.00% | 95.83% | 65.17% |
| | % | 0.061 | 0.110 | 70.00% | 95.83% | 67.08% |
| | % | 0.111 | 0.140 | 79.00% | 95.83% | 75.71% |
| | % | 0.141 | 0.200 | 82.60% | 95.83% | 79.16% |
| | % | 0.201 | 0.400 | 86.20% | 95.83% | 82.61% |
| | % | 0.401 | 1.000 | 93.00% | 95.83% | 89.13% |
| | % | 1.001 | 100.000 | 93.50% | 95.83% | 89.60% |

## 17.9.2 Mine Design

In general the same pit design parameters were used as in the Feasibility Study with the pit slopes being the only significant change. A bench height of 6 meters was used in the saprolite and weathered rock and 12 meters was used in the hard rock. Haul roads were incorporated into the pit design using a 35 meter width for two lane roads and a 20 meter width for single lane roads. Road grades were maintained at 10 percent in most of the pit; however, they were decreased to 8 percent in the saprolite and increased to 12 percent in the bottom of the pit. Overall the pit design shown in Figure 17-15, which is the basis for the reserve estimate, is similar to the Feasibility Study, with the most noticeable difference being a further push to the west side and a change to a two lane road from a single lane road in the west wall of the pit. This was done to shorten the haulage distance to dumps on the west side of the pit and to allow better access to the west side of the pit so that waste stripping could be deferred.

Pit slopes were modified from the Feasibility Study based on a preliminary review by GRI and BGC of the geotechnical parameters in relationship to the Feasibility Study ultimate pit design and some of the information acquired as part of the Feasibility Study. This review resulted in a simplification of the pit slope configuration. Two pit slope sectors were defined for use in the saprolite and weathered rock and two others were defined for the hard rock. Figures 17-15 and 17-16 show the design sectors and inter-ramp slope angles for the saprolite and hard rock, respectively. A face angle of 70 degrees was assumed in all the sectors and for all the rock types. Inter-ramp pit slopes were controlled by varying the catch bench width.

Dumps designs were revised from the Feasibility Study designs. The same design parameters were used but the dump was split into a North and South dump. In the Feasibility Study the plan was to divert the river around the dump. Subsequent to the Feasibility Study the decision was made by GRI to split the dump rather than divert the river. A river crossing has been included in the plan to access the South dump. Currently, this crossing is envisioned as a set of culverts with a rock cover. Figure 17-17 shows the revised mine layout with the ultimate pit and waste dump designs.

Figure 17-15 Saprolite and Weathered Hard Rock Slope Sectors
DIAGRAM NOT INCLUDED

Figure 17-16 Fresh Rock Slope Sectors
DIAGRAM NOT INCLUDED

Figure 17-17 Overall Project Layout
DIAGRAM NOT INCLUDED

### 17.9.3 Cutoff Grade

Since the Brisas Project has two metals, gold and copper, a cutoff grade based on a single metal does not account for the value provided by the other metal. As a result, either an equivalent metal cutoff grade, such as the equivalent gold cutoff used in the resource report, or a revenue cutoff has to be used. For reserve reporting, a revenue cutoff grade of $3.04 per tonne for hard rock and $3.24 per tonne for saprolite was used, since it is more straightforward than an equivalent metal cutoff grade. This approach is consistent with previous reporting practices for this project. Table 17-12 shows the parameters used to develop the revenue cutoff.

Table 17-12
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Revenue per Tonne Cutoff Grade Calculation Parameters

| Description | Units | Value |
|---|---|---|
| Milling Costs | $/ore tonne | 2.54 |
| G&A Costs | $/ore tonne | 0.42 |
| Incremental Reclamation Costs | $/ore tonne | 0.08 |
| Ore Operating Costs Excluding Mining | $/ore tonne | 3.04 |
| Saprolite Rehandle Costs | $/ore tonne | 0.20 |
| Hard Rock Revenue per Tonne Cutoff Grade | $/ore tonne | 3.04 |
| Saprolite Revenue per Tonne Cutoff Grade | $/ore tonne | 3.24 |

In order to report the tonnages in the ultimate pit based on a revenue cutoff, a revenue per tonne block model was developed. As part of this process, mill gold and copper recoveries were generated for the block model. Recoveries were assigned by rock type using the values in Table 17-11 except for oxide saprolite where the values in Table 17-11 were reduced by 20 percent. Oxide saprolite recoveries were reduced with the change in the process flowsheet to mill the material with the hard rock as opposed to the Feasibility Study which fed the oxide saprolite directly to the cyanidation circuit.

Using the mill recoveries and the economic parameters in Table 17-13, a revenue per tonne block model was developed for reserve reporting. To determine the total revenue per tonne the value from gold and copper were added together. Metal values were calculated by multiplying the metal grade by the mill recovery and smelter recovery. Selling costs are per unit of metal costs that are incurred by the project after the product leaves the mill including freight, smelting, refining, and royalties.

Table 17-13
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Parameters for Revenue Model & Gold Equivalent Ratio

| Parameter | Units | Value |
|---|---|---|
| Gold Price | $/t. oz | 400.00 |
| Copper Price | $/lb | 1.15 |
| Gold Freight, Smelting, Refining | $/t. oz | 5.08 |
| Copper Freight, Smelting, Refining | $/lb | 0.43 |
| Mill Recovery | % | See Table 17-11 |
| Payable Gold | % | 98.76 |
| Payable Copper | % | 95.88 |
| Gold Production Tax | % | 3.00 |
| Copper Production Tax | % | 1.44 |
| Au Equivalent Ratio | | 1.16 |

The economic parameters used for the revenue model were derived from the economic model for the project based on the latest operating plans for the project. These parameters are different from those used in the optimization analysis because the optimization was done in early 2005 and the revised parameters reflect the work that has been completed since that time.

## 17.10 Reserve Statement

A reserve estimate based on metal prices of $400 per ounce for gold and $1.15 per pound for copper was developed. Using a revenue cutoff of US$3.04 per tonne for hard rock and $3.24 in saprolite produces a proven and probable reserve of 484.6 million tonnes of ore at a gold grade of 0.67 grams per tonne and a copper grade of 0.13 percent. Table 17-14 shows the Brisas Project reserves by category.

PAH believes that the reserve estimate shown in Table 17-14 is reasonable and meets the CIM standards for a reserve estimate based on CIM Standards of Mineral Resources and Reserves Definitions and Guidelines adopted by the Canadian Institute of Mining (CIM) Council on December 11, 2005.

Table 17-14
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Reserve Estimate Based on Revenue Cutoffs of $3.04 for Hard Rock & $3.24 for Saprolite

| Reserve Category | Tonnage (000's) | Au Grade g/t | Au grams (000's) | Au ounces (000's) | Cu Grade percent | Cu tonnes | Cu M pounds |
|---|---|---|---|---|---|---|---|
| Proven | 226,252 | 0.69 | 156,517 | 5,032 | 0.12 | 272,376 | 600 |
| Probable | 258,398 | 0.64 | 166,628 | 5,357 | 0.13 | 334,397 | 737 |
| Total Ore | 484,649 | 0.67 | 323,145 | 10,389 | 0.13 | 606,773 | 1,338 |
| Waste | 952,304 | | Strip Ratio | | 1.96 | | |
| Total In Pit | 1,436,953 | | | | | | |

Note: Revenue is based on metal prices of $400/oz for gold & $1.15/lb for Copper.

The reserve estimate in Table 17-14 is based on the assumption that the pit backslope extends onto the Las Cristinas Concession, which will require a backslope agreement. GRI received approval of its operating plan from MEM in February 2003, which included the extension of the backslope onto the Las Cristinas Concession. Also in October 2006, GRI and Crystallex International Corporation (Crystallex) proposed to MARN to move a water diversion channel on the southern part of the Las Cristinas Concession, further northward, away from the Brisas pit. This proposal, if approved, should allow GRI to formalize a backslope agreement. Crystallex has been granted an operations contract to the adjacent Las Cristinas property (see section 15.0 Adjacent Properties).

PAH has not reviewed the GRI MEM approved 2003 operating plan or Crytallex's proposed diversion channel. According to GRI, Corporacion Venezolana de Guyana (CVG) and MIBAM has indicated to GRI that a backslope agreement is probable. PAH believes that the backslope assumption is valid because backslope agreements are a common practice in the mining industry and the government agencies have been favorable toward an agreement. Also, the backslope agreement would allow Las Cristinas/CVG to mine onto the Brisas Concession in the event its mine plan reaches the border area first. Discussions with MIBAM/CVG are ongoing. In the event an agreement is not reached, the reserve estimate will have to be reduced significantly.

## 17.11 Summary and Conclusions

### 17.11.1 Adequacy of Procedures

PAH and various other firms and independent consultants have reviewed the methods and procedures utilized by GRI at the Brisas Project to gather geologic, geotechnical and assaying information and found them reasonable and meeting generally accepted industry standards for a feasibility level of study.

### 17.11.2 Adequacy of Data

PAH believes that the Brisas Project has conducted exploration and development sampling and analysis programs using standard practices, providing generally reasonable results. PAH believes that the resulting data can effectively be used in the subsequent estimation of resources and reserves.

### 17.11.3 Compliance with Canadian NI 43-101 Standards

PAH believes that the current drill hole database is sufficient for generating a feasibility level resource model for use in resource and reserve estimation. Recovery and cost estimates are based upon sufficient data and engineering to support a reserve statement. Economic analysis using these estimates generates a positive cash flow, which supports a reserve statement.

PAH believes that the resource and reserve estimates included in this report conform to international standards such as the CIM definitions as adopted by Canadian National Instrument NI 43-101.

### 17.11.4 Exploration Potential

The Brisas deposit is still open along the downdip direction and the resource is mostly limited by drilling. Exploration potential on the Brisas Project 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.

## 18.0 OTHER RELEVANT DATA AND INFORMATION

PAH is not aware of any other relevant data or information that should be included in this Technical Report.

## 19.0 INTERPRETATION AND CONCLUSIONS

### 19.1 Adequacy of Procedures

PAH and various other firms and independent consultants have reviewed the methods and procedures utilized by GRI at the Brisas Project to gather geological, geotechnical, and assaying information and found them reasonable and meeting generally accepted industry standards for a bankable feasibility level of study.

### 19.2 Adequacy of Data

PAH believes that the Brisas Project has conducted exploration and development sampling and analysis programs using standard practices, providing generally reasonable results. PAH believes that the resulting data can effectively be used in the subsequent estimation of resources and reserves.

### 19.3 Adequacy of Feasibility Study

This Technical Report is based on the Brisas Project Feasibility Study prepared by Aker Kvaerner Metals Inc., dated January 2005, the Supplement to the Feasibility Study prepared by PAH dated November 2005, the Project Scope and Definition Document prepared by SNC Lavalin, dated April 2006, and the Las Brisas Project Resource and Reserve Update prepared by Marston, dated October 2006. PAH believes that this Feasibility Study and the supporting documents were prepared using standard industry practices and provides reasonable results and conclusions.

### 19.4 Compliance with Canadian NI 43-101 Standards

PAH believes that the current drill hole database is sufficient for generating a feasibility level resource model for use in resource and reserve estimation. Recovery and cost estimates are based upon sufficient data and engineering to support a reserve statement. Economic analysis using these estimates generates a positive cash flow, which supports a reserve statement.

At a 0.4 gpt AuEq cutoff grade the measured and indicated resource is 573.9 million tonnes at a gold grade of 0.66 gpt and a copper grade of 0.13 percent. Included in this resource is a proven and probable reserve of 484.6 million tonnes of ore at a gold grade of 0.67 gpt and a copper grade of 0.13 percent based on a value cutoff of US$3.04 per tonne for hard rock and $3.24 for saprolite.

PAH believes that the resource and reserve estimates have been calculated utilizing acceptable estimation methodologies. PAH is also of the opinion that the classification of measured and indicated resources, stated in Table 17-9, and proven and probable reserves, stated in Table 17-14, meet the definitions as stated by Standards for Disclosure for Mineral Projects, Form 43-101F1 and Companion Policy 43-101CP dated December 23, 2005.

## 20.0 RECOMMENDATIONS

The Brisas Project Feasibility Study dated January 2005 provides reasonable results and conclusions and, in PAH's opinion, meets the requirements of a Feasibility Study. This Technical Report is based on the Feasibility Study, the Supplement to the Feasibility Study prepared by PAH dated November 2005, the Project Scope and Definition Document prepared by SNC Lavalin, dated April 2006, and the Brisas Project Resource and Reserve Update prepared by Marston, dated October 2006. As the project has moved from the feasibility stage into the design and construction phase additional information has been gathered. As the project continues to move forward, there are areas of the project that should be given additional consideration. Below is a list of recommendations to consider:

PAH recommends additional geotechnical studies to evaluate steepening the pit slopes. At the present time Vector Colorado LLC., is completing a detailed study of pit slope stability. Six oriented core holes have been drilled. An acoustic televiewer has been used on four of the holes to demonstrate fracture orientation. A report is in progress and will be finalized in the 4th Quarter of 2006. Estimated cost to complete the work is $50,000.

PAH recommends additional testwork on the oxide saprolite ores to see if there is any detrimental effect on the sulfide ore flotation by adding the oxide ores to the flotation circuit PAH recommends conducting bench scale batch grinding and flotation tests with the following ore blends:

| | Test 1 | Test 2 |
|---|---|---|
| Hard Rock, North ore | 50% | 51% |
| Hard Rock, South ore | 41% | 42% |
| Sulfide saprolite | 6% | 7% |
| Oxide saprolite | 3% | 0% |

PAH estimates these tests would cost $20,000.

PAH recommends a geochemical assessment of the potentially acid generating material in the waste rock piles to determine long term treatment options. Studies thus far show that the overall material has a net neutralizing potential, and 250 additional ABA tests have been conducted. A geochemical model is being developed to address the makeup of the surface and ground waters over the life of the project. Vector is currently undertaking a geochemical model to look at long term chemistry of the waste rock piles. PAH estimates that this work will cost an additional $25,000.

## 21.0 REFERENCES


1) J.E. MinCorp, a division of Jacobs Engineering Group, Inc., February 1988, Las Brisas Pre-Feasibility Study.

2) BGC Engineer Inc., April 29, 1999, Brisas Del Cuyuni Project Review of 250 Million Tonne Pre Feasibility Open Pit .

3) Aker Kvaerner Metals Inc., January 2005, Las Brisas Project Feasibility Study.

4) SGS Lakefield Research Limited, February 1, 2005, An Investigation of Copper and Gold Recovery from Las Brisas Samples.

5) Pincock Allen & Holt, November 2005, Supplement to the January 2005 Brisas Feasibility Study.

6) Vector Colorado, LLC, December 2005, Hydrology and Pit Dewatering Addendum 1.

7) AATA International, December 2005, Environmental and Social Impact Assessment, Final Draft Version 1.03.

8) SNC Lavalin, April 2006, Project Scope & Definition Document.

9) Marston & Marston, Inc., October 2006, Brisas Project Resource & Reserve Update.


## 22.0 ADDITIONAL REQUIREMENTS FOR DEVELOPMENT PROPERTIES

This section provides additional information on the planned mine and process plant operation. Additionally, it provides information on the capital and operating costs as well as the over all project economics.

### 22.1 Mining Operations

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 51.8 million tonnes of waste per year over the 18.5 years of the project. During the first four years of the project 9.6 million tonnes of oxide saprolite ore and 13.1 million tonnes of sulfide saprolite ore will be mined. The saprolite material is stockpiled separately. Sulfide saprolite is fed to the crusher at a rate of 1.95 mtpy for a nominal seven years. Oxide saprolite is fed to the crusher at a rate of 0.25 mtpy while the sulfide saprolite is processed. When milling of sulfide saprolite is completed, the oxide saprolite rate is increased to 0.70 mtpy.

Total reserves are estimated at 484.6 million tonnes of ore at a gold grade of 0.67 grams per tonne and a copper grade of 0.13 percent with a strip ratio of 1.96 tonnes of waste per tonne of ore. Reserves are based on $400/oz gold price and $1.15/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.

Development of the mine production schedule was based on targeting a 0.1 percent average copper grade to produce a 24 percent copper concentrate grade with a blend of the two hard rock ores. Overall the split between these two ore types is 57 percent northern hard rock and 43 percent southern hard rock. Because of this split the production target was to have at least 50 percent northern hard rock.

Both of the saprolite ores will be 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 will be completed in Year 3 but milling will not begin until Year 2 and will be completed in Year 19. Mining of sulfide saprolite ore ends in Year 6 but milling will not be 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 dumps located to the west of the pit. There is the potential for the waste rock dumps to be located over the down dip extension of the existing ore body. However, stripping requirements would likely prevent the pit from economically expanding into the waste disposal area.

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 30m3 hydraulic shovels, 18m3 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. The General Manager is included in the Project overhead 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.

## 22.2 Recoverability

The final ore milling and copper and gold recovery processes used as the basis for the 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 1st cleaner flotation tailing for recovery of additional gold.

Optimization of the flotation process.

Mineralogy of the four primary ore types and various flotation products.

Mineralogy of final tailings.

Metallurgical testing to support trade off studies of alternative processing routes for both ores and concentrates.

Detailed chemical analysis of concentrates and final tailings to support environmental studies and smelting inquiries.

Physical testing of ores, concentrates and tailings to support the engineering activities relevant to the completion of the Feasibility Study.

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.

Previous plans had been to separately feed the oxide saprolite to the cyanide leach circuit, bypassing flotation. Although doing so is expected to result in 20 percent higher gold recovery than feeding it to flotation, it incurs higher capital and operating costs. A tradeoff study determined that feeding the oxide saprolite to flotation was the better alternative, despite the lower recovery. However, it is possible that blending the oxide saprolite with the other ore types may adversely affect the flotation response of the other ores types, though this would be minimized by spreading the addition of oxide saprolite out over the life of the mine. Still, PAH recommends testing the flotation reaction of the oxide saprolite to determine the effect using the same ratio of ore types as planned for the operation. Should the processing of oxide saprolite with the other ore types prove problematical, it could be eliminated with little effect on production.

Sulfide saprolite has recoverable amounts of copper minerals which makes direct leaching of the sulfide saprolite problematic. Test work indicated that introduction of sulfide saprolite at about 8 percent of the total feed (5,400 tonnes per day) does not harm the flotation circuits.

Test work indicated that a mill feed grade equal to or greater than 0.10 percent copper was required to reliably produce a marketable concentrate. To maintain a minimum copper grade of 0.10 percent 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. Concentrate grades are estimated to be 24 percent copper.

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 Feasibility Study and subsequent Project Scope & Definition Document process design criteria.

## 22.3 Markets and Contracts

Gold and copper markets are mature global markets with reputable smelters and refiners located throughout the world. Market prices for gold are over $500.00 per troy ounce. Copper prices are above $3.00 per pound.

Operations at the Brisas Project are expected to produce an annual average of 119,000 tonnes per year of copper concentrate, containing 63 million pounds of copper, and 343,000 ounces of gold. A further 123,000 ounces per year of gold will be produced in the form of gravity concentrates and dor.

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.

Gravity concentrates and dor will be sold in Venezuela or shipped to the United States, Canada or Europe for refining by one of the internationally established refiners.

Since the project is in the development stage and actual production will not begin for over two years, contracts are in negotiation for gold and copper sales.

## 22.4 Environmental Considerations

The Feasibility includes a plan for 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.

A complete Environmental and Social Impact Assessment (ESIA) program has been conducted according to the laws of Venezuela to satisfy the requirements of the Ministry of Environment and Natural Resources (MARN) and an international ESIA program is being conducted according to the guidelines of the World Bank Group (International Finance Corporation IFC) and the Equator Principles. The Venezuelan ESIA was submitted to the Venezuelan government in July 2005. The international ESIA is nearing completion and will be submitted to the financial institutions to satisfy all requirements outlined in these assessments.

There are a number of significant remediation and reclamation components within the existing 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.

Closure and reclamation costs are currently estimated by SNC at $36.44 million.

## 22.5 Taxes

The principal taxes levied in Venezuela are:

a general income tax (lSLR) levied on both legal entities and individuals.

a value added tax (IVA) levied up to the consumer level;

various taxes including exploitation taxes imposed on mining related activities.

### 22.5.1 Income Tax

The law sets up three tax tables or tariffs. Tariff 2 is applicable to stock corporations, (such as GRIs Venezuelan operation) limited liability companies, partnerships limited by shares, associations, establishments, corporations, legal and economic entities not specifically mentioned by the law, and foreign companies and corporations of any kind. The maximum Tariff 2 tax rate is 34 percent. There are no surcharges or surtaxes imposed as such on corporate income. Likewise, there are no excess profit taxes. Operating losses may be carried forward for three years to be offset against taxable profits. For the economic model an income tax rate of 34 percent was applied.

### 22.5.2 Value Added Tax

Impuestos Valor Agregado or value added tax (VAT), a general sales tax, is levied on the value added in respect of taxable supplies of goods and services as well as in respect of the import of goods and services into Venezuela. Historically there have been two mechanisms provided by law to minimize or eliminate the companys exposure to VAT. The first, "VAT Recovery", provides for the recovery of VAT paid via a credit from the Republic. The second is, "VAT Exoneration", which provides for a complete exoneration of VAT on imported items. Recently the President of Venezuela announced that he planned to exempt certain capital assets and goods not produced in country from VAT and import taxes. Notwithstanding obtaining an exemption or exoneration of VAT on imported items, domestic purchases will continue to be subject to VAT and thereafter the recovery program. The current VAT rate, as of January 2006, was 14 percent.
The Company expects to make
application to SENIAT for the VAT Tax recovery system in the event the recent announcement by the President of Venezuela is not implemented. The Company expects to be approved to participate in the recovery system. As it is unclear when, and if a VAT tax exoneration will be obtained or if the Presidents plans are implemented, the VAT tax on domestic and external purchases is included in the economic model under

the recovery system.

#### 22.5.3 Resource Taxes

The Brisas Project is subject to the following exploitation tax, which is included in the financial model:

One percent of the commercial value in Caracas of refined gold and silver sold in country,

Three percent of the commercial value in Caracas of refined gold and silver exported (saprolite concession),

Four percent of the commercial value in Caracas of refined gold and silver exported (hardrock concession),

Seven percent mine mouth tax on production of copper (net of operating costs).

#### 22.5.4 Customs Duties

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, the Feasibility Study and the current economic model do not provide for duties on imported goods but does contain a provision for the one percent 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.

### 22.6 Capital and Operating Cost Estimates

#### 22.6.1 Capital Cost Details

Initial capital expenditures listed in Table 22-1 of $638 million are detailed as follows:

Mining Equipment includes all major mining equipment and mine support equipment ($77 million). No contingency has been included.

Mine Development Costs include preproduction expenses of $18 million. No additional contingency was applied to these estimates.

Mill Equipment capital of $242 million includes all crushing, conveying, gold recovery and refining equipment, and mine infrastructure (truck shop, warehouse, administration building, laboratory, etc.). Engineering, procurement and construction management costs ($97 million), plus a 10 percent contingency have been included in these estimates ($59 million).

Tailings Dam ($14 million) includes all earthwork, construction, liner systems and structures associated with these facilities for the first stage of construction. A 10 percent contingency has been included in these estimates.

Working Capital ($45 million) shown in Table 22-1 includes current assets less current liabilities including outstanding receivables less payables, and inventory items including spares, parts inventory, and initial reagent charges. Costs for spares and initial fills have been subtracted from the capital totals and allocated to inventory and appears as working capital in the balance sheet for this analysis. Working capital is based on 30 days of revenue in accounts receivable and 30 days of operating costs in accounts payable.

#### 22.6.2 Operating Cost Summary

The Brisas Project facility will process around 485 million tonnes of ore over its planned 19 year mine life. In the first seven years of production the plant will process a combination of hard rock and oxide and sulfide saprolites. In the seventh year of operation the sulfide saprolites will be exhausted. Oxide saprolite will continue to be processed through the life of the project. The hard rock ore will be processed at a rate of 70,000 tonnes per day or 25.2 million tonnes per year. The estimated average operating costs for the project life are shown in Table 22-2.

TABLE 22-1
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Base Case Key Economic Assumptions and Results

Base Case Assumptions

| | |
|---|---|
| Daily Mill Throughput | 70,000 tonnes/day |
| Mine Life | 18.5 Years |
| Gold Price | $470/troy ounce |
| Copper Price | $1.80/pound |
| Silver Price | $7.90/troy ounce |

Metallurgical Recovery

| | |
|---|---|
| Plant Recovery - Gold | 82.7% |
| Plant Recovery - Copper | 86.8% |
| Net Payable Metal - Gold | 81.0% |
| Net Payable Metal - Copper | 83.2% |

Life of Mine Production

| | |
|---|---|
| Payable Gold | 8.41 million troy ounces |
| Payable Copper | 1,113 million pounds |

Average Annual Production

| | |
|---|---|
| Payable Gold/year | 456,000 troy ounces |
| Payable Copper/year | 60 million pounds |

Initial Capital Cost 1 (in millions US 2006 $)

| | |
|---|---|
| Mine | $76.6 |
| Mill | $241.5 |
| Tailings | $14.1 |
| Infrastructure | $65.8 |
| Owners Costs | $65.3 |
| Pre-Stripping | $18.3 |
| Indirect Costs (includes EPCM and Camp) | $97.0 |
| Contingency | $59.4 |
| Total Initial Capital | $638.0 |
| Initial Working Capital | $44.5 |

Capital Costs (in millions US 2006 $)

| | |
|---|---|
| Initial | $682.5 |
| Sustaining Capital | $157.2 |
| Reclamation Expenditure | $36.4 |
| Total Capital | $876.1 |

Cash Operating Costs Per Ore Tonne (in US 2006 $)

| | |
|---|---|
| Mining and Dewatering | $2.08 |
| Processing | $2.59 |
| G & A | $0.42 |
| Transportation & Freight | $0.34 |
| Smelting & Refining | $1.02 |
| Total Cash Operating Cost/Ore Tonne | $6.45 |

Cost Per Ounce of Gold

| | |
|---|---|
| Cash Operating Costs2 | $126 |
| Exploitation Tax | $16 |
| Capital Cost (initial and sustaining) | $111 |
| Total Costs2 | $253 |
| Total Costs3 Excluding Sunk Costs | $245 |

(1) A value added tax (VAT) of 14% or $73 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, for purposes of the economic model, sunk costs of approximately $70 million. Total expenditures, capitalized and costs expensed, on the Brisas Project since its acquisition by the Company in 1992 totals over US$100 million.

TABLE 22-2
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Base Case Average Operating Costs

| Category | Units | Average Annual Cost |
|---|---|---|
| Mine | $million/year | $54.6 |
| Mill | $million/year | $68.0 |
| G&A | $million/year | $11.0 |
| Transportation & Offsite Treatment | $million/year | $35.7 |
| Total | $million/year | $169.3 |
| AverageTotal Cost/Ore Tonne | $/tonne | $6.45 |
| AverageTotal Cost/Hard Rock Ore Tonne | $/tonne | $6.76 |

## 22.7 Economic Analysis

This Feasibility Study and subsequent studies have established that the Brisas Project 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 Update indicates that 10.4 million contained ounces of gold in 485 million tonnes of ore at an average gold grade of 0.67 grams per tonne and an average copper grade of 0.13 percent can be mined and processed economically to recover 8.6 million ounces of gold and 1.2 billion pounds of copper. In addition, approximately 8.8 million ounces of silver are anticipated to be recovered as a by-product with the gold, based on the metallurgical testwork.

Payable metals over the life of the mine after treatment deducts will be approximately 8.4 million ounces of gold, 1.1 billion pounds of copper, and 7.0 million ounces of silver.

A Base Case economic analysis was prepared for the Brisas Project using a gold price of $470 per ounce, copper price of $1.80 per pound, and silver price of $7.90 per ounce. The Base Case is based on the three year rolling average for metal prices as of September 2006. Results for the Base Case are summarized in Table 22 3. Table 22 1 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 in Table 22 1. Project payback is less than seven years.

Development of the project yields a pre tax discounted cash flow rate of return of 15.4 percent and a net present value of $783 million (5 percent discount rate) at a gold price of $470/oz, a silver price of $7.90/oz, and a copper price of $1.80 per pound. Total pre tax cash flow is $1.91 billion.

Likewise, the Brisas Project yields an after tax discounted cash flow rate of return of 11.4 percent and a net present value of $445 million (5 percent discount rate) at a gold price of $470/oz, a silver price of $7.90/oz, and a copper price of $1.80 per pound. Total after tax cash flow is $1.28 billion.

The total initial capital is approximately $638 million, with an additional $45 million in initial working capital and $157 million of sustaining capital required over the 19 year mine life. The cash operating cost per gold ounce produced is $126 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 $253 per ounce.

Reserve estimates were based on a gold price of $400 per ounce, copper price of $1.15 per pound, and no silver credits. Results from the economic analysis at these prices are shown in Table 22 3. Since an after tax total cash flow of $497 million is achieved the economic criteria for the reserve statement are met. Silver is not included in the reserve estimate but has been included in the economic model based on metallurgical test results.

TABLE 22 3
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Reserve Case and Base Case Economic Evaluation

| | Reserve Case | Base Case |
|---|---|---|
| Gold Price ($/troy oz) | $400 | $470 |
| Copper Price ($/pound) | $1.15 | $1.80 |
| Silver Price ($/troy oz) | $0.00 | $7.90 |
| **Project Economics Pre Tax ($ millions)** | | |
| Cash Flow | 713 | 1,906 |
| NPV @ 5% | 120 | 783 |
| NPV @ 10% | (135) | 268 |
| IRR | 6.9% | 15.4% |
| **Project Economics After Tax ($ millions)** | | |
| Cash Flow | 497 | 1,283 |
| NPV @ 5% | 8 | 445 |
| NPV @ 10% | (199) | 66 |
| IRR | 5.1% | 11.4% |
| Cash Operating Cost ($ per oz Gold)1 | $213 | $142 |
| Payback (years) | 11.6 | 6.7 |

(1) Net of copper by product credit and includes production taxes.

## 22.8 Base Case Evaluation

### 22.8.1 Major Assumptions

The following is a summary of major assumptions for the economic analysis:

1. The evaluation assumes 100 percent equity with no debt financing (or gold loan) for a 100 percent interest in the project.

2. The analysis was done in constant 1st Quarter 2006 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. The Brisas Project economic model assumes the amortization (computed by the units of production method) of sunk costs of approximately $70 million and

preproduction costs of approximately $33 million. Total expenditures, capitalized and costs expensed, on the Brisas Project since its acquisition by the Company in 1992 totals over US$100 million.

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 $56 million in revenue over the life of the project and has a $20 million impact on NPV at 5 percent.

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 percent of the face value in the open market after holding them in inventory for one year.

8. This Update includes income and exploitation taxes as described in Section 22.5.

9. 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 percent 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.

### 22.8.2 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 percent change in total metal recovery results in a + $140 million change in after tax net present value at a 5 percent discount rate. A $25 per ounce change in the gold price results in approximately + $74 million change in after tax net present value at a 5 percent discount rate. Project economics are also sensitive to changes in operating cost, with a 10 percent change resulting in a + $124 million change in after tax net present value at 5 percent. Project economics are less sensitive to change in capital cost, with a 10 percent change resulting in a + $56 million change in after tax net present value at 5 percent. Results of the price sensitivity analyses are shown in Table 22-4. All the analyses were done on a 100 percent equity basis.

TABLE 22-4
Gold Reserve Inc.
Brisas Project, Venezuela
Feasibility Update
Economic Evaluation
Base Case and Price Sensitivity (Metal prices move together)

| | | | Base Case | | |
|---|---|---|---|---|---|
| Gold Price ($/ounce) | $370 | $420 | $470 | $520 | $570 |
| Copper Price ($/pound) | $0.80 | $1.30 | $1.80 | $2.30 | $2.80 |
| Silver Price ($/troy oz) | $3.90 | $5.90 | $7.90 | $9.90 | $11.90 |

| Project Economics Pre Tax ($ millions) | | | | | |
|---|---|---|---|---|---|
| Cash Flow | 187 | 1,043 | 1,909 | 2,833 | 3,756 |
| NPV @ 5% | (173) | 303 | 783 | 1,298 | 1,812 |
| NPV @ 10% | (312) | (23) | 268 | 580 | 892 |
| IRR | 2.0% | 9.5% | 15.4% | 20.9% | 25.8% |

| Project Economics After Tax ($ millions) | | | | | |
|---|---|---|---|---|---|
| Cash Flow | 152 | 714 | 1,283 | 1,894 | 2,504 |
| NPV @ 5% | (189) | 128 | 445 | 785 | 1,124 |
| NPV @ 10% | (320) | (126) | 66 | 272 | 478 |
| IRR | 1.7% | 7.0% | 11.4% | 15.6% | 19.3% |

| Cash Operating Cost | | | | | |
|---|---|---|---|---|---|
| ($ per oz Gold)1 | $245 | $194 | $142 | $82 | $24 |
| Payback (years) | 17.3 | 10.2 | 6.7 | 5.2 | 4.3 |

(1) Net of copper by product credit and includes production taxes.

## 23.0 ILLUSTRATIONS

The illustrations supporting the various sections of the report are located within the relevant sections immediately following the references to the illustrations, for ease of use. An index of tables and illustrations is provided in the table of contents at the beginning of the report.

## 24.0 CERTIFICATE OF QUALIFIED PERSON

Richard J. Lambert
165 S. Union Blvd., Suite 950
Lakewood, CO 80228
303-986-6950

As an author of the report entitled "NI 43-101 Technical Report, Brisas Project, Venezuela, Feasibility Update" dated October 30, 2006 (the "Technical Report") and prepared on behalf of Gold Reserve, Inc. (the "Issuer"), I, Richard J. Lambert, P.E., do hereby certify that:

1. I am a Principal Mining Engineer with the international consulting firm of Pincock, Allen & Holt and have been so since October 2004. My current position is Vice President of Mining and Geological Services.

2. I am a Registered Professional Engineer in the state of Wyoming (#4857), the state of Idaho (#6069), and the state of Montana (#11475).

3. I am a graduate of the Mackay School of Mines at the University of Nevada, Reno with a Bachelors of Science degree in Mining Engineering in 1980, and Boise State University, with a Masters of Business Administration degree in 1995. I have practiced my profession continually for 26 years.

4. I am a member of the Society for Mining, Metallurgy, and Exploration (SME) since 1975 and a Registered Member (#1825610) since May 2006.

5. I am responsible for the preparation of Sections 1-6, general information; Section 15, and Sections 18-23, final information. I have not visited the Las Brisas Project site.

6. Since 1980 I have been involved in mine engineering, mine management, mine operations and mine financial analyses, involving copper, gold, silver, nickel, cobalt, uranium, oil shale, phosphates, coal and base metals located in the United States, Canada, Zambia, Madagascar, Turkey, Bolivia, Chile, and Venezuela.

7. As a result of my education and experience, I am a Qualified Person as defined in National Instrument 43-101.

8. As of the date of the certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to disclose to make the technical report not misleading.

9. I am independent of the Issuer in accordance with Section 1.4 of National Instrument 43-101.

10. I have not received, nor do I expect to receive, any interest, directly or indirectly, from Gold Reserve, Inc., any affiliate, or associate company.

11. I have read National Instrument 43-101, Forms 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public.

Dated at Lakewood, Colorado, this 30th day of October 2006.

s/ Richard J. Lambert, P.E.

Richard J. Lambert, P.E.

Susan R. Poos
3900 S. Wadsworth Blvd., Suite 440
Lakewood, Colorado 80235
Phone (303) 969-8468
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spoos@marston.com

I, Susan R. Poos, P.E., am a professional mining engineer under the employ of Marston & Marston, Inc. 3900 S. Wadsworth Blvd., Suite 440 in the city of Lakewood, Colorado, in the USA.

1. I am a registered professional engineer in the states of Colorado (No. 30975), and Texas (No. 87589) and a Registered Member of the Society of Mining, Metallurgy and Exploration (SME).

2. I graduated from Colorado School of Mines with a B.S. in Mining Engineering in 1982 and from Purdue University with an M.Sc. in Industrial Engineering in 1987. I have practiced my profession continuously since 1988.

3. Since 1988 I have been involved in mine design, mine management, and reserve estimation in both open pit and underground operations, involving copper, gold, coal, iodine, and base metals located in the

United States, Canada, Mexico, Chile, Argentina, Russia, Panama, and Indonesia.

4. As a result of my education and experience, I am a Qualified Person as defined in National Policy 43-101.

5. I am presently Vice President and Mining Consultant with the international consulting firm of Marston & Marston, Inc. and have been so since October 2005.

6. I visited the Brisas project in February 2004. During this visit I discussed the plan of operation with the personnel, observed the planned pit and waste dump areas, reviewed drill core and toured the existing facilities.

7. I have assisted in the preparation of this report entitled "NI 43-101 Technical Report, Brisas Project, Venezuela, Feasibility Update" dated October 30, 2006. I prepared the mine plans, production schedule and mineral resource and reserve estimates that are contained this report. I am responsible for Sections 7 through 14 and 17 and the applicable portions of Sections 1, 2, 6, 19, 20, and 22.

8. The sources of information are noted and referenced in the report. The information provided by the various parties is to the best of my knowledge and experience is correct.

9. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

10. I am independent of Gold Reserve Inc., in accordance with the application of Section 1.4 of National Instrument 43-101.

11. I have read National Instrument 43-101and Forms 43-101F1 which became effective December 30, 2005. This report has been prepared in compliance with NI 43-101 and Form 43-101F1.

12. This report, as well as its conclusions and recommendations, are based on the examination of available data and discussions with involved technical personnel from Gold Reserve Corporation and Pincock, Allen & Holt.

Dated at Lakewood, Colorado, this 30th day of October, 2006.

s/ Susan R. Poos, P.E.

Susan R. Poos, P.E.

Richard Addison, P.E., C Eng, Eur.Ing.
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dick.addison@pincock.com

I, Richard Addison, P.E., C Eng, Eur.Ing., do hereby certify that:

1. I am currently an associate Principal Process Engineer of:

Pincock, Allen & Holt
165 S. Union Blvd., Suite 950
Lakewood, CO 80228
USA

2. I graduated from the Camborne School of Mines in England as an Honors Associate in 1964 and subsequently obtained a Master of Science degree in metallurgical engineering from the Colorado School of Mines in 1968. I have practiced my profession continuously since 1964.

3. I am a Registered Professional Engineer (#3198) in the state of Nevada, USA, a Charted Engineer in the U.K. (#20), and a registered European Engineer in the EEC (#111916). I am a member of the American Institute of Mining, Metallurgical, and Petroleum Engineers, the Mining and Metallurgical Society of America, and the Institute of Materials, Minerals and Mining in the U.K.

4. I have worked as a metallurgical engineer for a total of 42 years since my graduation from university and have been involved in the evaluation and operation of mineral properties for gold, silver, copper, lead, zinc, tin, aluminum, iron, gypsum, limestone, barite, sulfur, pyrite, oil shale, coal, and diamonds in the United States, Canada, Mexico, Dominican Republic, Honduras, Nicaragua, Costa Rica, Panama, Venezuela, Guyana, Peru, Ecuador, Bolivia, Argentina, Chile, Spain, Portugal, Britain, Bulgaria, Indonesia, Papua New Guinea, the Philippines, Japan, Tunisia, Ghana, Zambia, South Africa, Russia, Kyrghyzstan, and Australia.

5. I am responsible for the preparation of Section 16, Metallurgy and Mineral Processing.

6. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the proposed of NI 43-101.

~~7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.~~

~~8. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.~~

~~Dated in Lakewood, Colorado, this 30th day of October 2006.~~

~~s/ Richard Addison, P.E., C.Eng, Eur.Ing.~~

~~Richard Addison, P.E., C Eng, Eur. Ing.~~