

**NI 43-101 Compliant Technical Report  
Lomada Leiva Project  
Santa Cruz Province, Argentina**

Prepared for:  
**Patagonia Gold Plc**

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Prepared by:  
**Chlumsky, Armbrust & Meyer, LLC**

**Robert L. Sandefur, P.E.**

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## **1.0 SUMMARY**

### **1.1 Introduction and Terms of Reference**

This report was prepared by CAM on behalf of Patagonia Gold Plc (PGD) to define and describe 43-101-compliant mineral Resources on the Lomada Leiva deposit within the Albatros claim in Santa Cruz province, Argentina.

The author visited the property on April 21 and 22, 2007.

### **1.2 Property**

The Lomada Leiva deposit lies in the central portion of the Albatross claim (cateo) which is held 100 percent by Patagonia Gold S.A. (PGSA), the Argentine subsidiary of PGD. An agreement exists with the previous owner, Barrick Gold, providing for certain payments to Barrick, which company has certain back-in rights.

The Albatros claim is one of several claims in PGSA's La Paloma project. Another drilled deposit, Breccia Sofia, lies on the Albatros claim, centered about one kilometer north of the center of the Lomada Leiva prospect.

There is no history of mineral production on the Albatros claim.

### **1.3 Geology**

The Lomada Leiva property is located in the northwest part of the Deseado Massif, in Patagonia, southern Argentina. This province is characterized by a sequence of Middle-to-Upper Jurassic volcanic rocks which are partially covered by Cretaceous sediments and volcanoclastic sediments, and by later Tertiary to Quaternary flood basalts and fluvial-glacial sedimentary cover. Widespread epithermal mineralization is hosted by the Jurassic rocks, specifically the Chon Aike Formation and the La Matilde Formation pyroclastic rocks (rhyolitic flows) and volcanoclastics.

On the property, the Jurassic rocks are sub-horizontal, dipping approximately 20 degrees to the east on the property and are at least 400 meters thick. They are cut by a NNE striking sub-vertical master brittle fault zone characterized by fracturing and crackle brecciation with zones of brecciation, and resulted in a mineralized corridor.

## **1.4 Mineralization**

The principal Lomada de Leiva fault zone hosts steeply to sub-vertically dipping low-sulphidation epithermal style banded quartz-chalcedony veins and hydrothermal breccia, the more robust examples of which show a more N to NNW strike, relative to the NNE striking host fault zone.

Gold mineralization at Lomada Leiva clearly is of epithermal gold-silver type, and of the low-sulphidation variant, hosted within a dilational structure. The style of veins is of typical low sulphidation type with banded and comb (crustiform) chalcedonic quartz, minor occurrences of adularia, and very sparse visible sulphides.

## **1.5 Exploration and Drilling**

Exploration at Lomada Leiva has had the objective of proving up the exposed epithermal mineralization. Work between 2002 and 2007 by Barrick and later by PGSA included 102 HQ and NQ core holes, 9 reverse-circulation holes, 10,000 meters of trenching, surface sampling, and ground geophysics. (This includes work at Breccia Sofia, less than a kilometer northeast of Lomada Leiva).

The trenching indicates continuity of the gold mineralization on surface; trench results were used in the construction of grade cells, but were not otherwise used in Resource estimation.

The drilling and trenching confirmed the presence of structurally-controlled, gold-bearing hydrothermal breccias, which cross-cut the previously deposited sequence of volcanic rocks.

## **1.6 Sampling**

Sampling methods employed in the Lomada Leiva drilling and trenching work were carried out by PGSA to acceptable industry standards. Two labs were contracted for analysis of the samples: Acme Labs and Alex Stewart. Acme served as the principal, while Alex Stewart served as the check lab for Au fire assay and ICP.

CAM believes that preparation and analysis of samples are acceptable and within industry standards.

## **1.7 Assaying and QA/QC**

Quality control measures for the diamond drill core included insertion alternately of a standard or blank every 10th sample in the submittal to the principal and check assay lab. Duplicates were inserted every other 10th sample in the case of RC samples and alternately a standard or blank for every other 10th sample. Certified standard and blanks were utilized and are summarized in Appendix 3, along with standard deviations for the



standards and blanks. Results of analyses of the standards submitted indicate good correlation with the original values.

CAM believes that preparation and analysis of samples are acceptable and within industry standards.

## **1.8 Density Measurements**

PGSA carried out density determinations by water-weighing 271 core samples that were either wax-coated or non-coated. The results appear to be conservative (slightly lower density than expected), and are sufficient for Resource estimation. CAM's Resource estimation was carried out using values of 2.18 tonnes per cubic meter for material inside the grade shells, and 2.10 for material outside the grade shells. Further density testing is recommended.

## **1.9 Data Verification**

Data from Barrick and PGSA was validated by CAM utilizing visual review of digital and paper files, as well as computer-aided checking systems, and some physical re-checking of field locations. Validation also included review of historic core samples and volumes of digital and paper data, including maps and assays. Data verification included database searches, certificate validation, and QA/QC test on assay results.

The drillhole databases provided to CAM were converted for use in the MicroMODEL resource modeling and mine planning system. The database included 91 core and RC holes with 10,500 assayed intervals covering 11,913 meters of drillhole.

CAM used automated data processing procedures to produce a clean and consistent database before proceeding with geological modeling. On the basis of statistical checks, CAM believes that the exploration database has been prepared according to industry norms and is suitable for the development of geological and grade models.

## **1.10 Mineral Resources**

CAM visually reviewed sections at nominal 50-meter separation, showing both surface and trench samples and a drill holes. On the basis of this visual review it appeared there was some surficial spreading in the trenches and CAM and Patagonia Gold elected to base the resource estimate on drillholes only, excluding trench data.

The resource model was created by CAM based on the drillhole data exclusively using a nominal 0.3 grade shell drawn around 5 meters length composites. Composites were capped at 9 grams per tonne Au on the basis of the cumulate frequency plot. The Resource was calculated using inverse distance cubed and a sector

search oriented on faces of a cube with search radii of 80 by 50 by 50 meters. The long axis of the search ellipse was oriented North 30 degrees east. A maximum of two points were allowed per sector and a minimum of three composites were required for block estimation.

Although the relative variogram from logs showed a range of 80 meters along the long axis of the deposit, the second structure of this variogram had a range of 30 meters and the indicator variogram at a 0.3-gram per tonne cut off crosses the sill at about 30 meters. For these reasons, CAM believes that drilling on 30-meter centers will be required to characterize resource as Measured and Indicated. Drilling on a 30-meter grid means that all blocks will be within 21 meters of a sample ( $21.21=30*(\sqrt{2})/2$ ). CAM classified blocks as Measured and Indicated if they were within 21.21 meters of the sample point. Blocks further than 21.21 meters were classified as Inferred. CAM believes that once additional holes are drilled in a geostatistical X or L pattern at approximate blasthole separation that it will be possible to reclassify some of the current Indicated Resource as Measured and that additional drilling in the ore zone may allow the 21.21-meter distance to be extended along the strike of the deposit.

The Resource totals in Table 1-1 below are derived from Table 17-3 in this report.

Table 1-1 Resource Totals				
Resource Type	Cutoff (g/t Au)	Tonnes	Au Grade (g/t)	Contained Au (Troy oz)
Measured	0.30	1,427,628	1.125	51,633
Indicated	0.30	3,574,388	0.955	109,713
Measured + Indicated	0.30	5,002,016	1.003	161,346
Inferred	0.30	3,412,271	0.672	73,725
<b>Total</b>	<b>0.30</b>	<b>8,414,285</b>	<b>0.868</b>	<b>235,072</b>
Measured	0.50	951,843	1.491	45,630
Indicated	0.50	2,315,170	1.261	93,859
Measured + Indicated	0.50	3,267,013	1.328	139,489
Inferred	0.50	1,850,623	0.911	54,187
<b>Total</b>	<b>0.50</b>	<b>5,117,635</b>	<b>1.177</b>	<b>193,677</b>
Measured	1.00	454,530	2.357	34,451
Indicated	1.00	1,035,423	1.958	65,194
Measured + Indicated	1.00	1,489,953	2.080	99,645
Inferred	1.00	456,543	1.628	23,890
<b>Total</b>	<b>1.00</b>	<b>1,946,495</b>	<b>1.974</b>	<b>123,535</b>

NOTE: Totals in Table 1-1 of Measured plus Indicated plus Inferred are shown for convenience; however, are not publishable under NI 43-101 rules.

This report does not define mineral Reserves.

### **1.11 Mineral Processing**

Bottle Roll and other tests are in progress for the Lomada Leiva samples. Preliminary results of bottle roll tests indicates an average of 71 percent extraction in 6 hours and 85 percent extraction in 12 hours for oxidized mineral material, derived from sample pulps. While preliminary, these results indicate that oxidized mineralization is amenable to cyanide extraction of gold. Testing is continuing.

### **1.12 Interpretations and Conclusions**

Exploration has defined a zone of significant epithermal gold mineralization at Lomada Leiva, hosted within a structural at least 30 meters wide by 600 meters in length.

Exploration, mainly drilling and trenching, appears to have been carried out to industry standards including the analysis, quality assurance and quality control efforts applied to the exploration work. The delineated significant intercepts indicating the gold mineralization has been verified and substantiated sufficiently to pursue a resource calculation for the Lomada Leiva project.

Oxide mineralization of potentially economic grade is present from surface to at least 60-meter depth. Resource estimates at 0.3 grams per tonne Au cutoff for Lomada Leiva are Measured and Indicated at 161,346 ounces Au. Inferred Resources total 73,725 ounces Au.

### **1.13 Recommendations**

Continued exploration is recommended for the Lomada Leiva and Breccia Sofia areas of the Albatros claim. This would include exploratory and infill drilling (25-meter grid) for the Lomada Leiva in with a goal of bringing the defined Resource up to a Reserve status. Ground geophysics would be needed to aid in location of drill targets.

CAM also recommends that, prior to Reserve estimation, PGSA should carry out additional density measurements, using oven-drying of cores at 105 degrees Celsius, and the cellophane-wrap immersion method.

The exploration Budget is US \$1,000,000 for a two-stage program extending over a 12-month period.

## 2.0 INTRODUCTION

This report was prepared by Chlumsky, Armbrust & Meyer LLC (CAM) for Patagonia Gold Plc (PGD), to define a gold Resource at Lomada Leiva, Argentina, which complies with Canada National Instrument 43-101 (NI 43-101). Data contained in this report is drawn from original works by PGSA, unpublished data from former owners and explorers (Barrick and Homestake), and includes analysis and data from contractors, consultants, certified laboratories, and qualified individuals.

The author's knowledge and inspection of the property is based on a personal inspection of the property on April 21 and 22, 2007. During this visit, the undersigned examined outcrops and the locations of drill holes and surface samples, observed drilling and sampling of both core and RC holes, observed logging and sampling procedures and reviewed the project with Patagonia Gold staff.

### **3.0 RELIANCE ON OTHER EXPERTS**

The staff of Patagonia Gold Plc supplied most of the information in this report. These include Marc J. Sale, Geologist and a Director of PGD, and Joy L. Lester, MS Geology, a consultant to PGD.

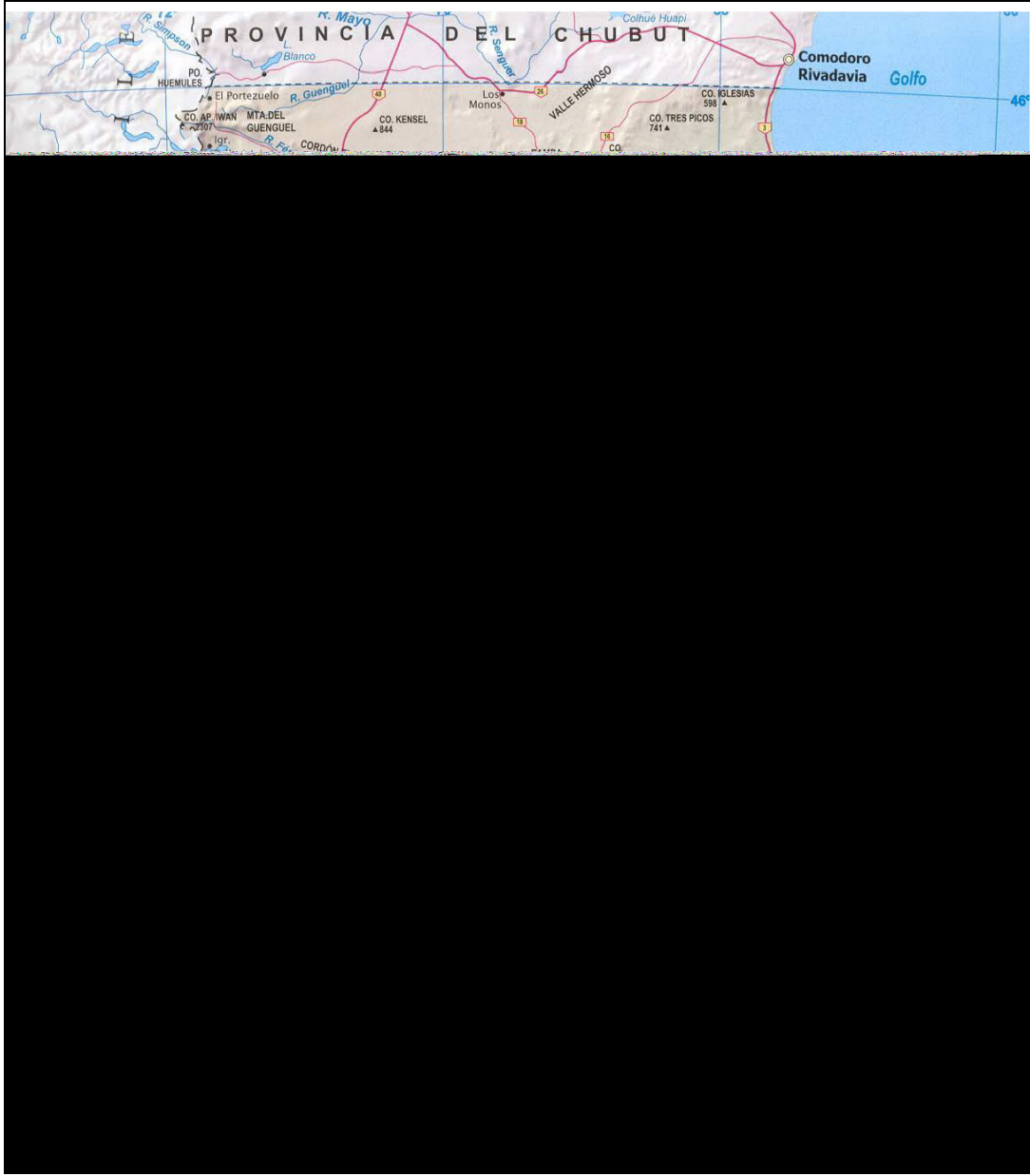
CAM did not independently verify data relating to the claim status, nor agreements with surface or mineral owners.

## **4.0 PROPERTY DESCRIPTION AND LOCATION**

### **4.1 Location**

The Lomada Leiva project is located in north-western Santa Cruz province in Buenos Aires Lake county, southern Argentina in the geographic region of Patagonia. The project is located approximately 49 kilometers southeast of the town of Perito Moreno (Figure 4-1) and is accessed by National Route 40 south of Perito Moreno, and then via a secondary improved road about 16 kilometers to the project site. The property location is presented in the coordinate system uniquely used in Argentina (Gauss-Kruger- F2), as shown on Figure 4-2. A farmhouse and out-buildings (Estancia Rincon) located 20 kilometers from the project site, provide a base for billeting, office and exploration camp, serving also as a logging, core cutting and sample preparation site for the exploration and drilling activities (Figure 4-1).

There are no mineral reserves, mine workings, tailings, tailings ponds, or waste deposits on the property. Important natural features include a prominent topographic feature of the vein breccia resource which transects the property from SW to NE. Improvements in the property include a single track road and several secondary side exits to drill platform areas. A naturally flat and open area exists in the southern portion of the property which serves as a field base for exploration, a driller's camp and storage area during field campaigns.



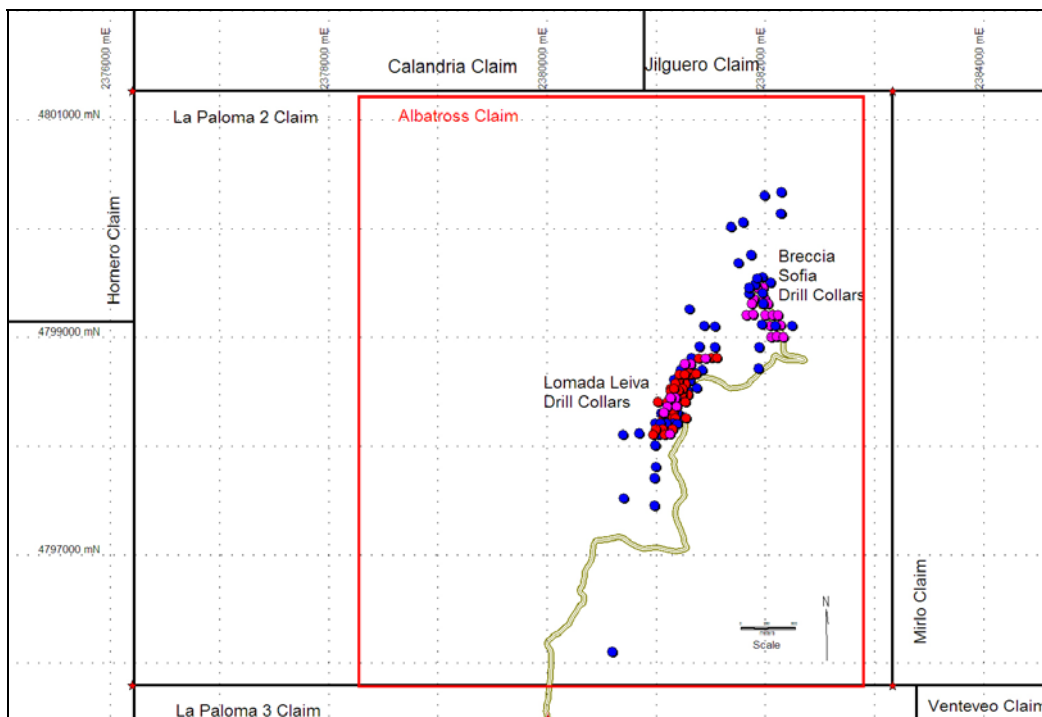
**Figure 4-1**  
**Location map of the Lomada Leiva Project**

## **4.2 Mineral Tenure and Title**

The Lomada Leiva project lies on one of several contiguous properties (mining claims or cateos) comprising 46 hectares that is controlled by Patagonia Gold, S.A., an Argentine subsidiary of PGD., under the common name La Paloma. The Lomada Leiva project is located within the La Paloma 2 claim (original document 404189-MR-02) which constitutes an area of 2.5 hectares (Figure 4-2).

The mineral tenure is held by a cateo (mining claim) and the Manifestation of Discovery (claim rights by work) and is governed by the Argentine federal mining law, and by the mining law of Santa Cruz province. (Argentina is one of the few countries in the world in which mineral rights are vested in the provincial government, not the central government). The Lomada Leiva project constitutes a portion of a claim block formerly named La Paloma 2. The claim was re-staked in November 2006 under the “Manifestation of Discovery” whereby a portion of the original La Paloma 2 claim was released thus reducing the size and renaming the claim to Albatros. Currently this claim or property is officially titled Albatros, Lot 4-7, Fraccion A (Figure 4-2). This title is held 100 percent by PGSA. The claim titles are current and renewed annually by fee. The renewal is contingent on continued exploration work on the claim within each year.

A total station GPS was utilized for the survey of the boundaries of the Albatros claim by previous owners, and was verified by PGSA.



**Figure 4-2**  
**Map of the Albatros claims and Lomada Leiva Drilling Project.**

Limits of the claims surrounding Albatros have been modified, but all are still held by PGSA.

### 4.3 Surface Rights and Obligations

The surface rights are held by land owners Maria Rosa Couto and Teresa Luisa Martinez Aguirre. PGSA has an obligated agreement to pay US\$2,420 per month for compensation of surface impacts and limitations



(grazing and tours). The contract expires June 2008 but is renewable within 30 days of expiration. Obligations include the regulations stated under the Environmental Impact Assessment (EIA).

#### **4.4 Mineral Property Encumbrances**

According to the purchase agreement signed in Feb of 2007 between the buyer (PGSA) and the seller (Barrick Explorations), the following payments and back-in rights have been established:

The seller will receive a cash payment of US\$1,500,000 (United States Dollars one Million Five Hundred Thousands) from the buyer within 90 days of the delineation of a 43-101 Indicated Resource of 200,000 ounces or greater of gold or Gold Equivalent, on the “La Paloma” Property Group.

PGSA is also required to provide an annual year-end resource estimation statement completed by an independent qualified person appointed by the buyer including the data used for generation of such statements.

Barrick has a right to ‘back-in’ up to 70 percent in the relevant property group upon written notice, within 90 days upon competition of a 43-101 compliant delineation of 2 million ounce gold or Gold Equivalent Indicated Resource. This is on a forward looking basis and does not include any resources or reserves produced or under development. Upon exercise of the ‘back-in’ right PGSA must transfer the property group to a separate joint-venture corporation (“JV Company”) which will be free from any and all encumbrances. The back-in right will survive any sale by PGSA of any portion of the property group.

Investment commitments include a minimum expenditure of US\$10,000,000 of approved exploration expenditures over a period of five years.

#### **4.5 Environmental Liabilities**

No environmental liabilities are known to exist at this time.

#### **4.6 Permits**

Work conducted at the Lomada Leiva project was under an approved (Environmental Impact Assessment) EIA for the property/project La Paloma. At this time approval of renewal of the EIA is pending, and is anticipated by October of 2007. The EIA has a life of 2 years. No other permits are required for the scope of works intended for the property. As stated previously the mining claim permits are issued and renewable on a yearly basis by fee and work efforts and the current status is effective with renewal in November 2007.

## 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

### 5.1 Topography, Climate, and Vegetation

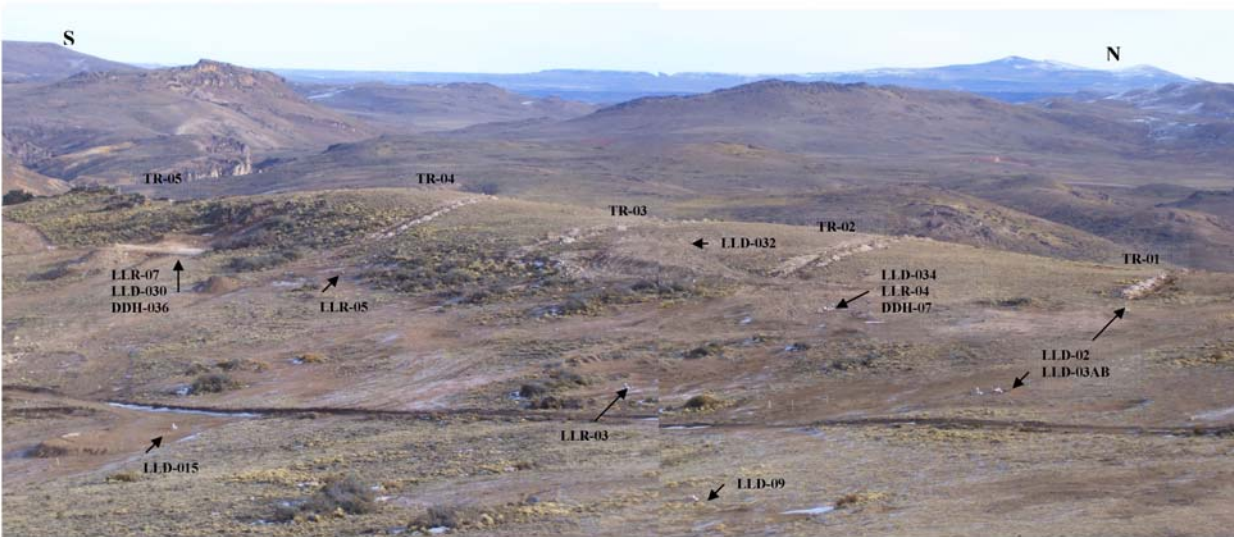
The project is located in the Patagonia region of southern South America. The Andes serve as a precipitation barrier with over 4000 millimeters annually on the western (Chilean) side, to 300 millimeters on the eastern Argentine side and the thus the project area is characterized by arid, windy, open and generally treeless expanses of rolling hills and small, isolated mountainous regions.

The property is in a gently to steeply undulating terrain (Figure 5-1). The main area of exploration is located on a large gently-sloping elongated hill. The northern limit is defined by a steep-walled canyon cut by a perennial stream (Arroyo Feo) flowing from west to east. Elevation varies from 525 to 760 meters above sea level.

The summer climate is typically mild to warm and dry, but windy. The spring and summer are cool to cold with temps ranging from 0 to 20 degrees Celsius and typically most of the precipitation falls during the spring period. The total annual average is less than 400 millimeters. Winter is typically a recess period for work, but activities occasionally continue into this period owing to frozen ground conditions which permits access on the volcanic soils. Temperatures during the winter range from 15 to -10 degrees Celsius. Field operations are feasible from October to July, depending on the arrival of winter and spring.

Vegetation is moderate to scarce in the semi-arid desert environment. Ground cover is around 60 percent and it is characterized by grass and bushes. More common types of grass are *Stipa sp*, *Poa sp* and *Festuca sp* which are locally named "coiron". They are present on most of the project, mainly in the higher areas. Subdominant species are Neneo (*Mulinum sp*), Adesmia (*Adesmia sp*), Calafate (*Berberis sp*), Senecio (*Senecio sp*), Zampa (*Atriplex sp*), and Mata Negra (*Verbena sp*).

Figure 5-1 shows (sections N8450 to N8250- slightly SW oblique view). The TR-# indicates PG trenches. Drill collars are indicated with usual nomenclature LL Lomada Leiva (PGSA) and DDH (Barrick). Reclamation efforts can be distinguished as well as the preservation of the drill collars.



**Figure 5-1**  
**Panorama of the Lomada Leiva Central Drill Area**

## 5.2 Access and Infrastructure

Access to the project site is via the paved National Route 40, 49 kilometers south from the town of Perito Moreno, then 16 kilometers on gravel and unimproved roads over gently rolling topography. Access off-pavement requires 4 x 4 traction vehicles only during infrequent precipitation events. The project is protected by two locked gates.

The nearest community to the project is the town of Perito Moreno with a population of 3,600. The nearest sizable community Comodoro Rivadavia (population 100,000) is approximately 400 kilometers to the east located on the on the Atlantic coast of Argentina (Figure 4-1).

The local community provides basic needs for much of the operations and in favor of community relations an attempt is made to utilize these resources. However, some supplies are purchased in Comodoro Rivadavia. A regional power grid supplies the community, but at the project site power is supplied through company- or contractor-owned generators. The town also has an adequate water supply but for the project site it is obtained from local springs and water courses with permission from local and provincial entities.

The workforce is composed mainly of unskilled workers. These persons are under training by PGSA, mostly from the local community. Several other mines are in operation within the Perito Moreno region, although many of the skilled/professional workers there are solicited from outside of the local community.

## 6.0 HISTORY

### 6.1 Early History

No production is known to have occurred on or near the property. The Western Mining-Homestake venture was apparently attracted to the area by the favorable geological setting, which during the 1990's yielded many gold-silver discoveries in the Deseado Massif.

### 6.2 Homestake-Barrick Exploration

The documented history of the project spans from May of 2002 to the present. The first investigations were undertaken by efforts of a Western Mining and Homestake joint venture, which staked claims in May of 2002 under the subsidiary Minera Rodeo S.A. Later in the same year, Homestake was merged into Barrick.

The Homestake-Barrick work on the La Paloma project was started in mid-2002 and included regional-scale exploration, mapping, surface sampling, and geophysics, for epithermal gold and silver mineralization. Immediately following the conversion of ownership from Homestake to Barrick work commenced on the grassroots study of the claims including a multi-element soil sampling program. These works were on a regional and local scale and one of the results of the outcome was the delineation of the Lomada Leiva target. Other areas of interest nearby yielded by the grassroots campaign included Breccia Sofia and Alero Juana.

The Barrick memos in PGD's possession do not include written protocols for sampling and other procedures used by Homestake and Barrick. It is inferred that Barrick had a QA/QC program in place, because they indicate their standard and blanks on assay results. Some information on RQD and recovery is available in terms of results, but not methods. Since Barrick and Homestake were established, reliable companies at the time, CAM assumes their methodologies to have had a high degree of competency and professionalism.

The total Barrick program at La Paloma included diamond drilling, geophysics (IP-Resistivity, CSAMT and Ground Magnetics), and trenching covering the La Paloma properties. The work areas included the Lomada Leiva project site and the adjacent Breccia Sofia area (discussed in Section 15 of this report). The number of samples of all types was 17,822. Table 6-1 summarizes the Barrick exploration efforts at Lomada Leiva.

<b>Type of Work</b>	<b>Area*</b>	<b>Quantity</b>
Surface Channel	LL	82 samples
Surface Chip	LL	140 samples
Surface LAG	LL	10 samples

Table 6-1 Barrick Exploration Summary Lomada Leiva Project		
Type of Work	Area*	Quantity
Soils	LL	320 samples
Panning	LL	2 samples
Stream Sediments	LL	2 sample
Trenching (3600 m)	LL	1403 samples
SUBTOTAL, surface samples for assay	LL	1959 samples
Geophysics: IP-Resistivity	LL	9200 line-meters
Geophysics: CSAMT	LL	4900 line-meters
Geophysics: real section	LL	12000 line meters
Geophysics: ground magnetics	LL & BS	428 hectares
Mapping (at scales of 1,000 to 30,000) lithology, structure, alteration, mineralization		35 hectares
Topographic survey	LL & BS	entire area
Aerial photography	LL & BS	entire area
Diamond drilling	LL & BS	64 drillholes
Diamond drilling	LL & BS	16,327.85 meters
Diamond drilling	LL & BS	10,833 samples
Petrography, thin sections	LL & BS	73 samples
Pima infrared spectrometry (drill core)	LL & BS	1158 samples
Pima infrared spectrometry (surface samples)	LL & BS	341 samples

\* LL indicates Lomada Leiva; BS indicates Breccia Sofia

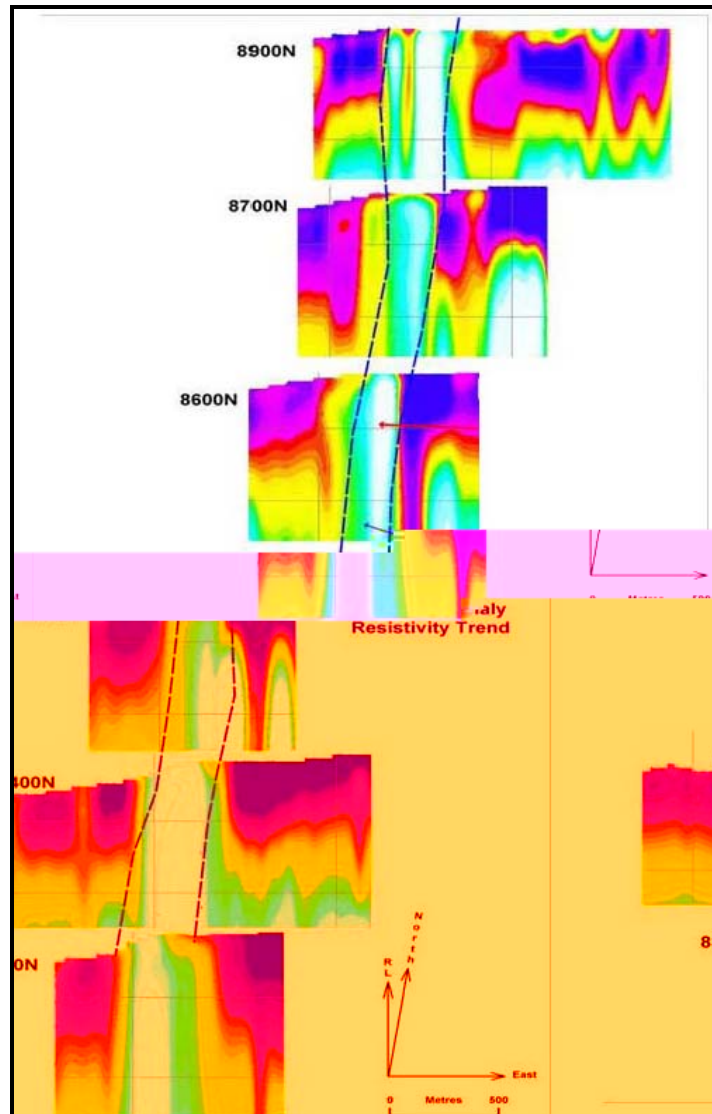
### 6.3 Barrick Results and Conclusions

Figure 6-1 indicates the CSAMT anomaly in the Lomada Leiva area. The anomaly indicates a strong resistor (the blue-green to near-white colors). This resistor coincides with the silicified and mineralized structure of the Lomada Leiva. A second parallel resistor can be noted to the east of the Lomada structural anomaly, and remains untested by drilling.

Barrick Gold (2005) concluded as follows:

*“The delineation of the Lomada de Leiva ore body indicates it is an N-S elongated shape, 600 m long, composed of hydrothermal breccias, which shows gold values up to 4 g/T at surface.*

*Breccia Sofía area, NNE of LL [Lomada Leiva], displays a strong steam heated alteration and breccia outcrops associated to flow domes. It presents three styles of mineralization; 1. - Disseminated ore in a hydrothermal breccia body with amorphous siliceous matrix and iron oxides.*



**Figure 6-1**  
**Barrick CSMT Profiles of the Lomada Leiva**  
**Indicating a Strong Linear Anomaly**

2. - Quartz vein and veinlets with typically epithermal textures and up to 11 g/T Au. 3. - Disseminated ore in flow domes associated hydrothermal breccias and host rock.

As a second step in these two main targets, 3334 m of trenches were opened. The results were especially encouraging at LL [Lomada Leiva] where 40m @1.48 g/T and 28 m@ 1.3 g/T are highlighted.

*At BS, trenches confirmed the previous gold values in the vein zone and ore grade was also found in the host rock with samples that run up to 5 g/t Au.*

*Geophysics (IP) corroborates the continuity of the silicified bodies at depth, which correspond to breccia bodies at surface in both, LL [Lomada Leiva] and BS [Breccia Sofia]. Ground Magnetic survey identified the main structural corridors which control the mineralization.*

*A total of 41 DDH totalizing 9631m were drilled at LL [Lomada Leiva]. Some of the best intercepts are: 37 m @ 4.4 g/t Au at DDH-LP07; 27.6 m @ 6.5 g/t Au at DDH-LP11 and 23.65 m @ 1.4 g/t Au at DDH-LP25. Holes were located in E-W drill fences every 100 m along a base line N-S oriented of 1600 m, crossing the main breccia body and its extensions.”*

#### **6.4 Patagonia Gold Program**

Patagonia Gold S.A (PGSA) began purchase negotiations and visited the property in September 2006. A purchase agreement was reached in February of 2007. PGSA work commenced in early 2007, as described in section 10 of this report.

#### **6.5 Historical Mineral Tonnage**

A 3D model of the mineralized body at Lomada Leiva was constructed by Barrick, based on the drilling results, using Vulcan software. A non-43-101 compliant "Reserve" was calculated at geological category as 300,000 ounces Au. This cannot be substantiated within the 43-101 guidelines, as the data and calculations lack the supporting calculations, parameters, and validations.

## **7.0 GEOLOGICAL SETTING**

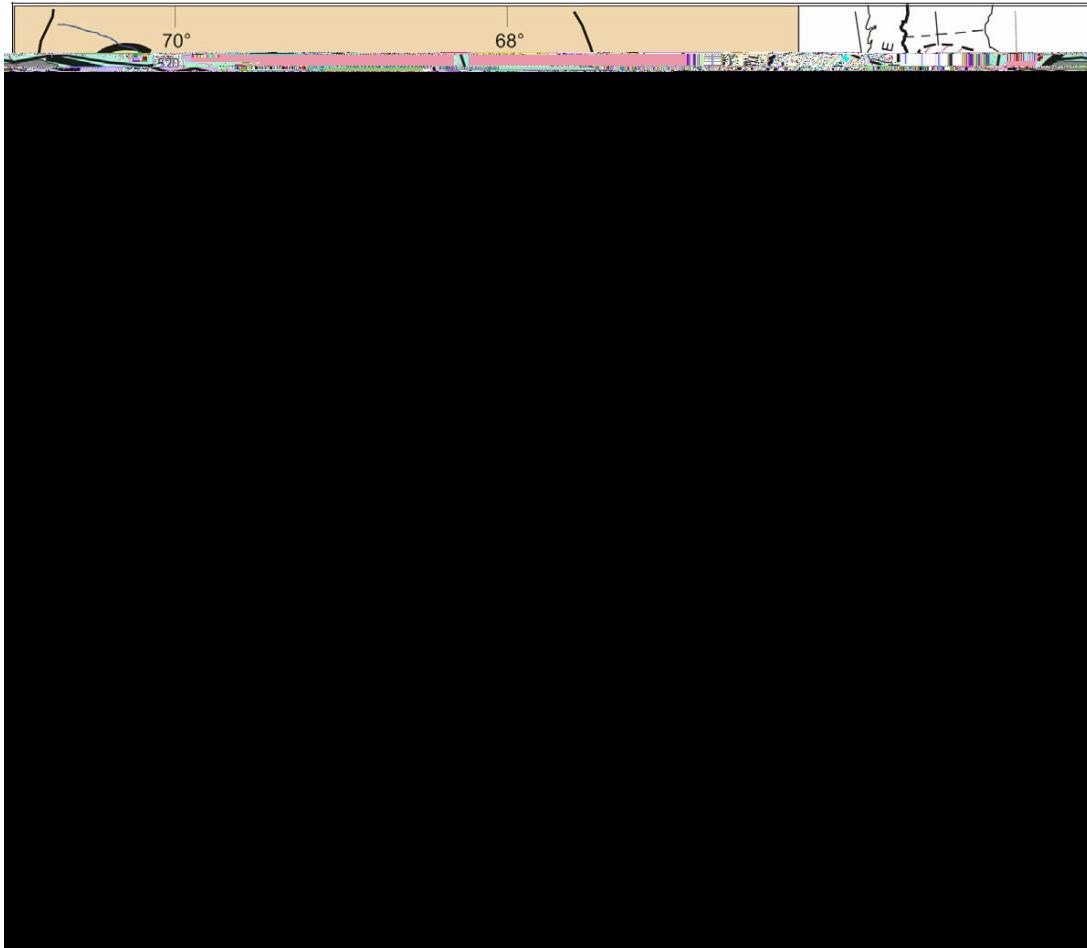
### **7.1 Regional Setting**

The La Paloma properties including the Lomada Leiva project are located in the northwest part of a morphostructural region commonly referred to as the Deseado Massif, in Patagonia, southern Argentina (Figure 7-1).

The geologic framework is characterized by an extensive sequence of Middle-to-Upper Jurassic volcanic rocks which is partially covered by Cretaceous sediments and volcanoclastic sediments, and by later Tertiary to Quaternary flood basalts and fluvial-glacial sedimentary cover. The Middle to Upper Jurassic period represents the most important period of tectono-magmatic activity responsible for the widespread epithermal style mineralization.

The basement is composed of a system of N-S oriented blocks. These define the most important structures of the Deseado Massif, in terms of associated mineralization. These structures are related to a combination of both compression and extension events which occurred during the Mesozoic. During Jurassic extension, two main structural events developed fractures; the El Tranquilo trend NNW (330 degrees) with conjugate fractures at 60 degrees and the Bajo Grande trend WNW (300 degrees) with conjugate fractures at 30 degrees; both cases which manifested sinistral movement (Panza 1982 and 1984).





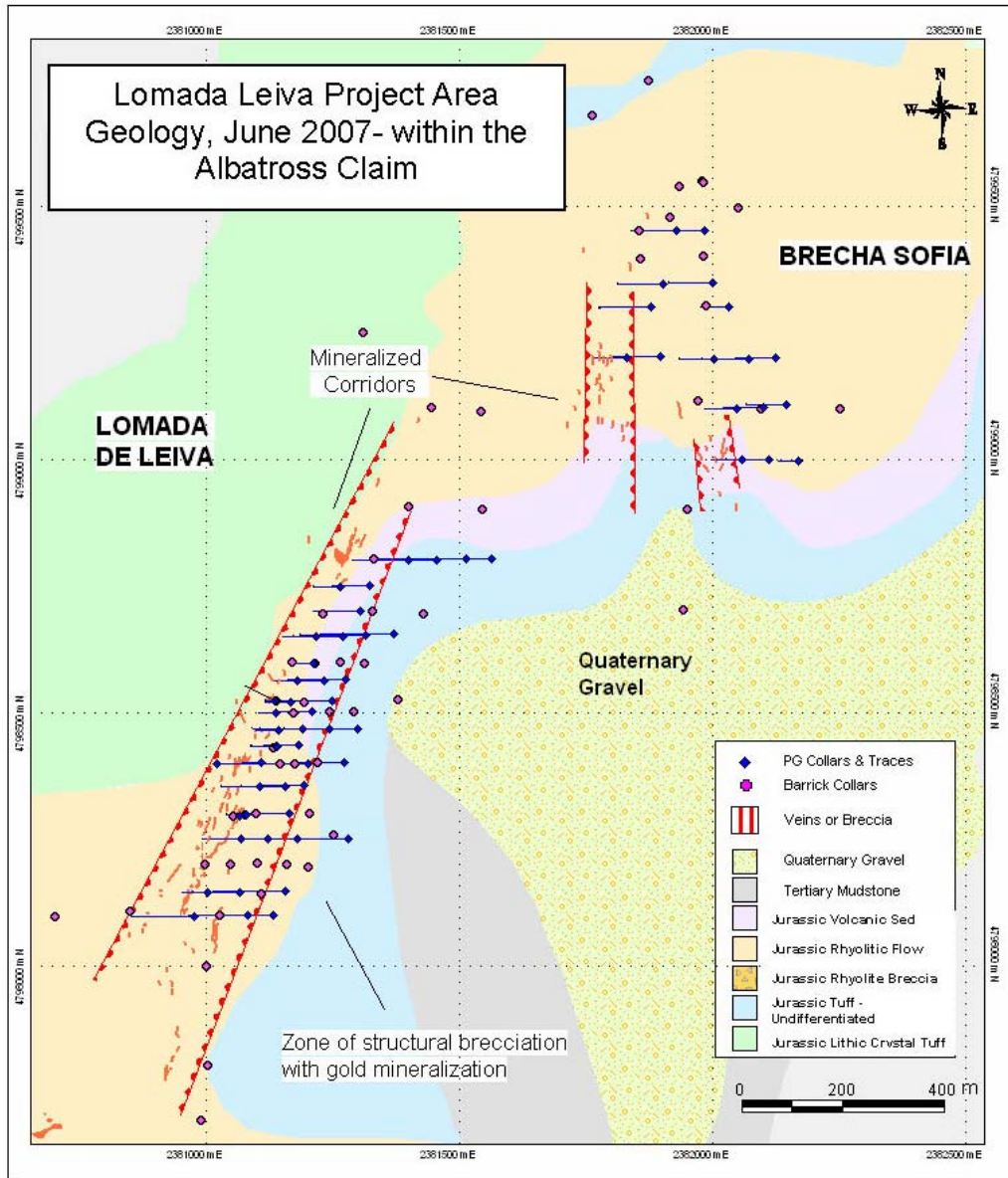
**Figure 7-1**  
**Geologic Map of the Deseado Massif**

## **7.2 Property Geology**

Within the project area, the prospective Jurassic volcanic rocks are the felsic Bahia Laura Group, which is subdivided into the Chon Aike Formation and the La Matilde Formation. The strata are dominantly Jurassic-aged pyroclastic rocks (rhyolitic flow) and volcanoclastic (sedimentary rocks) (Figure 7-2). The Jurassic rocks are sub-horizontal, dipping approximately 20 degrees to the east on the property and are at least 400 meters thick.

The Jurassic units are uncomfortably overlain by Tertiary ash-fall tuffs and mudstone of the Chocloate Fm and Quaternary gravels and glacio-fluvial alluvium. The Jurassic units were cut by a NNE striking sub-vertical master brittle fault zone characterized by fracturing and crackle brecciation with zones of strong tectonic ( $\pm$ hydrothermal) brecciation, and resulted in a mineralized corridor, as shown on Figure 7-2 and described by Callan (2007).

The principal Lomada de Leiva fault zone hosts steeply to sub-vertically dipping low-sulphidation epithermal style banded quartz-chalcedony veins and hydrothermal breccia, the more robust examples of which show a more N to NNW strike, relative to the NNE striking host fault zone. Structural controls on mineralization are discussed in Section 9.2.4 and depicted in Figure 9-2.



**Figure 7-2  
Generalized Geologic Map of the Lomada Leiva and Breccia Sofia Areas**

## 8.0 DEPOSIT TYPES

Gold mineralization at Lomada Leiva clearly is of epithermal gold-silver type, and of the low-sulphidation variant (Panteleyev, 1996), which is hosted within a dilational structure. An idealized model is shown in Figure 8-1 with the specific system of Lomada Leiva indicated in the black circle. The style of veins is of typical low sulphidation type with banded and comb (crustiform) chalcedonic quartz, minor occurrences of adularia, and little to no visible sulphides.

The deposition of precious metals has been proposed to have occurred under the influence of upward migrating boiling fluids channeled along a particular structure. The fluids reached a high level within the system (near surface) and within an acid-sulphate environment (acid cap). Upon mixing with circulating meteoritic waters the result was rapid and localized deposition of the gold. The acid-cap environment was responsible for not only a change in the chemistry of the mineralizing fluids thus producing the precipitation of the gold, but also for the origin of the abundant kaolinization present in the deposit.

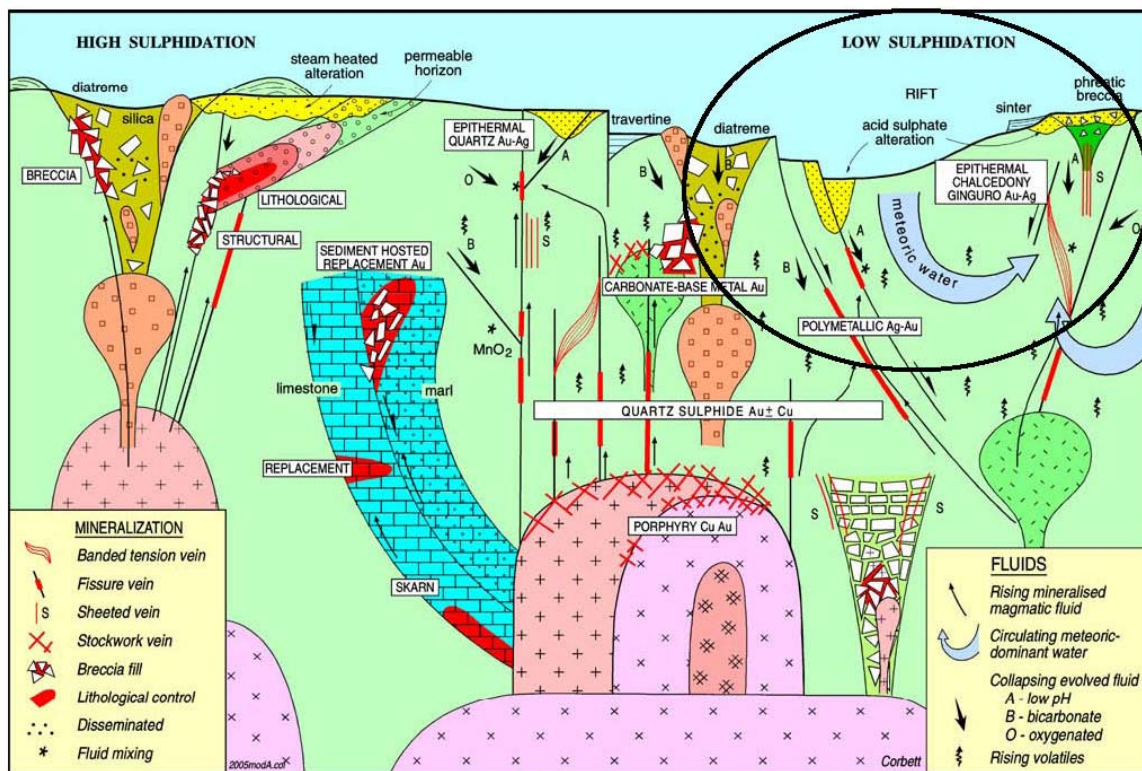


Figure 8-1  
Idealized Diagram of Low and High Sulphidation  
Epithermal Models, Modified From Corbett, 2007

## 9.0 MINERALIZATION

### 9.1 Regional mineralization

Mineralization in the Deseado massif is associated with hydrothermal systems linked with the main volcanic events which occur during the Mesozoic age (Middle to Upper Jurassic). The abundance of gold and silver mineral showings, more than 48 deposits, plus several mines in the Jurassic volcanic rocks prompted Schalamuk et al. (1999) to nominate the region as the “Metallogenic Province of the Deseado”. Among the main deposits in the Deseado Metallogenic Province some significant mines or advanced-staged projects are shown on Table 9-1.

<b>Table 9-1 Selected Gold-Silver Deposits of the Deseado Massif. Data from Company Annual Reports.</b>				
<b>Deposit</b>	<b>Inventory</b>	<b>Inventory Type</b>	<b>Operator</b>	<b>Status</b>
Cerro Vanguardia	3.7 M oz Au 67.2 M oz Ag	2006 Resources (also past prod'n of + 1 M oz Au)	AngloGold - Ashanti	producing
Marta Mine	2.0 M oz Au 50.0 M oz Au	2006 Resources (also past prod'n)	Coeur D'Alene Resources	producing
Manantial Espejo	38.5 M oz Ag	2006 Reserves	Pan American Silver	construction
Cerro Negro Project	0.8 M oz Au	2006 Resource	Andean Resources	advanced exploration
San Jose	0.17 M oz Au 15.8 M oz Ag	2007 Resource	Miners Andes	producing

The most important vein hosted deposits is that of Cerro Vanguardia, a district covering over 350 km<sup>2</sup>. It is one of the world's largest epithermal vein districts with an aggregate strike length of over 240 km of quartz veins (Schalamuk, et.al., 1999).

PGSA's Cerro Vasco property is located 15 km north of the La Paloma properties (Figure 4-1), also in the Deseado Massif. Previous work by Mincorp in 1997 and by PGSA in 2002 indicates a north-south structure about 1200 by 50 meters, including the Emilia Breccia, which has many similarities to the Lomada Leiva breccias. Surface chip samples by Mincorp and by PGSA returned anomalous gold values, including one sample assaying 44.2 ppm Au over 2.85 meters.

Mineralization in the deposits mentioned above is characterized by quartz-chalcedony veins, breccias and stockwork with strong structural control and typical epithermal textures of low-sulphidation style (adularia-sericite type). Most mineralization is related to Jurassic volcanism, specifically felsic volcanics rocks, including ash-flow tuffs of the Chon Aike Formation. Andesite or basaltic andesite of the Bajo Pobre Formation occasionally host significant mineralization.

## 9.2 Property mineralization

Mineralization is evident in two distinct areas of the Albatros property; Lomada Leiva and Breccia Sofia. Figure 7-2 highlights the generalized geology of the NNE trending Lomada Leiva (Leiva hill) and nearby sector of Breccia Sofia. Breccia Sofia (not the focus of this report) is worth noting due to close proximity and significant evidence of gold mineralization (up to 400 ppm Au in a 1-metre drill intercept). The following descriptions of mineralization are restricted to the Lomada Leiva area, while Breccia Sofia is discussed in section 15 (Adjacent Properties).

Lomada Leiva shows hydrothermal breccia and colloform banded veins hosted in a NNE trending dilational structure which cross-cuts the Jurassic volcanoclastic rocks. The age of the mineralization clearly post-dates the Jurassic host rocks, and likely predates that of the unconformable overlying Tertiary sediments; however the exact timing is uncertain.

### 9.2.1 *Distribution and Description*

Mineralization at Lomada Leiva is generally constrained to the NNE structure, in a zone approximately 30 meters wide by 600 long. The mineralization is typically silicic and thus is well-expressed topographically as the Lomada (hill) Leiva. The distribution of the gold appears directly related to breccia and vein host rocks which are localized within the host structure. The host rocks within the structural corridor trend N20-30E, and are inclined up to 70 degrees east.

Within the structural corridor a zone of high grade gold mineralization is positioned generally along the footwall of the structure. Mineral flooding/bleeding upward from the footwall zone is evident in drill core by the presence of abundant hydrothermal stringers, veins, and stock work-like emplacement of the kaolinized phase of the mineralization. The stringer/stockwork presence leaves the hanging wall contact open and creates a wide zone of moderate to low grade mineralization dispersed irregularly throughout the upper reaches of the structural corridor. Thus the hanging wall is not readily defined by any one structure/boundary in particular; rather the deposit bleeds upwards into the volcanic host rocks. Occasionally these intercepts are sub-parallel to the core axis (inclined 50 to 60 degrees to the west).

Gold mineralization has been classified into the following rock types within the Lomada Leiva project (the abbreviations are as found on drill logs):

- **BX H:** Hydrothermal Breccia: matrix to clast-supported, angular to sub-rounded, argillic altered porphyritic volcanic fragments up to 3cm in diameter, pink to creamy orange-brown and red-brown, silicic fine grained matrix with moderate to slight hematite staining. Breccia typically hosts lattice

texture quartz after former carbonate blades (carbonate replacement textures indicative of boiling), white to dark grey banded chalcedonic quartz vein fragments (occasionally hematite-stained), and white fine grained clay (kaolin). The dark bands are described as "ginguro", a Japanese term indicating a fine-grained aggregate of electrum, Ag minerals (argentite, acanthite, polybasite, pyrrargyrite, pearceite, naumannite, aguilarite, hessite), common base-metal sulfide minerals (sphalerite, galena, pyrite, chalcopyrite), with some late hematite.

The hydrothermal breccia can be subdivided visually into silicified white kaolin-rich breccia with occasional intact chaotic contorted kaolin layers or a red breccia with angular kaolin and argillized, or silicified volcanic clasts hosted in a silicified fine-grained hematite matrix. This unit can be of significant thicknesses (up to several meters) or series of transecting veins/fracture fillings less than 10 cm in true width, hosted in volcanoclastic sequences (ignimbrite).

- **BX CR:** Crackle breccia: hosts white or red hydrothermal breccia occasionally, but is mainly a structurally brecciated volcanic host with colloform veinlets and stringers, kaolinization, and occasional silicified overprint. Occasionally appears as a sheared unit. Unit is assumed to represent structural deformation related to the principal mineralizing event. Typically this unit is not silicified.
- **VN:** Vein (s); variety of types but mainly colloform banded white to very dark grey, occasionally hematite stained, ribbon quartz, comb and occasionally cockade textures, kaolin-filled open spaces, and fillings of late iron oxide clay. Typically veins exhibit carbonate replacement textures (CRT) and are very dark (almost black) to grey. Can be up to 2 meters in true width. Veins also appear as micro to cm wide veinlets. Typically the hydrothermal breccia will host angular fragments of this vein composition. Typically the veins are fractures and dislocated.
- **BX:** Structural breccia; fault and intense fracturing of volcanic host rocks. Hosts late clay, and iron oxide, and occasionally kaolin fracture filling. Typically exhibit lieegang banding and intense oxidation. Breccia can be of any phase or timing with respect to the deposit.

### 9.2.2 *Associated Alteration*

Alteration can be segregated into three main categories; primary (deuteric), hydrothermal, and weathering (supergene).

The volcanic sediments typically show propylitic alteration, characterized by chlorite, disseminated pyrite, and minor sericite. This alteration is widespread and is probably related to volcanic processes, and associated deuteric fluids.

Hydrothermal alteration is manifest by the presence of moderate to strong oxidization (hematite-goethite), moderate to strong silicification, illite-smectite and illite-sericite, K-feldspar, and abundant kaolin. The dominant hydrothermal alteration types are silicic, argillic, and potassic. Hydrothermal alteration generally occurs within the NNE tabular structural corridor and is manifest in the hydrothermal breccias silicification and veins over the 30 by 600 meter defined area of the deposit. Hydrothermal alteration results in an increase of the overall competency of the rock owing to the silicification. Argillic alteration is especially strong in the volcanic host rocks immediately below the footwall contact.

Weathering-associated alteration is manifest in the presence of moderate to weak iron-oxide clay, manganese oxide and late kaolin which appears as pervasive flooding, late fracture fillings and coatings, occasional feldspar crystal replacements (by clay) and pseudomorphic boxwork (goethite or hematite). The alteration is due in part to secondary effects of weathering and perhaps late-stage fluid (post-mineralization) movements in the structural corridor.

Oxidation present in the deposit is both hydrothermal and supergene. The hydrothermal alteration reaches depths approximately 200 meters from surface. Oxidation forms a halo surrounding the deposit usually diminishes within 3 meters of the breccia or veins occurrences and terminates with propylitic alteration dominating at depth and peripherally to the hydrothermal zone.

Supergene oxidation is patchy throughout the deposit as well as the volcanic host rocks and can be found at depths up to 200 meters below surface. The supergene oxidation is typically controlled by late fluid movement along fractures and often appears as liesegang bands.

### **9.2.3 Mineralogy**

Information on the mineralogy and paragenesis is derived from a recent petrography study of hydrothermal breccia, crackle breccia and vein samples by Ashley (2007).

The minerals of economic interest are summarized in Table 9-2. The mineral mode based on the petrographic work indicates average modal proportions are composed mainly of quartz, clay (mainly kaolin), oxides (goethite, hematite), K-feldspar, and traces of rutile, biotite, pyrite and gold or gold-electrum. Table 9-4 summarizes the modal abundances of the minerals derived through the petrographic study. Gold occurrences were noted in nearly every sample evaluated in the petrographic work.

Table 9-2 Modal Proportions of Minerals for Lomada Leiva							
MINERALS	Quartz, chalcedony	Clay	Clay	Fe Oxides	Feldspar	Others (Non-ore)	Ore Minerals
		illite- sericite	kaolin	hematite, goethite,	K- Feldspar	rutile, zircon, leucoxene, biotite	gold, chalcopyrite, electrum, pyrite, covellite, manganese oxide
Max	90	5	90	30	40	2	1
Min	10	0	10	1	0	0	0
origin*	H	V, H	H, S	S	V, H	V, H	H, S

\*V = volcanic, H = hydrothermal, S = supergene

In four samples from the LL sector breccia interstices locally display development of “lattice texture” where fine grained crystalline quartz has pseudomorphed former bladed carbonate grains. This texture is interpreted to form by fluid boiling and together with the other textures typical of an epithermal environment.

In general the mineralization at Lomada Leiva containing traces of fine grained (<0.1 mm) pyrite that have been deposited mainly in the hydrothermal breccia matrix. There are indications that rare grains of pyrite occurred in the altered breccia fragments and later quartz veins. In the hydrothermal breccia matrix, pyrite is locally accompanied by scattered grains of gold-electrum up to 40 µm across, although gold-electrum is also hosted directly in quartz.

Pyrite appears to have been oxidized by supergene processes and replaced by hematite-goethite. Occasional gold is associated with this alteration. Various grains of gold were identified in the petrographic analysis. The observed gold particle-size range is sub-micron to 40 µm, and the average occurrence per sample is 10 grains. Gold grains range in color from a strong yellow color of probable high fineness indicating supergene origin, to pale yellow, indicative of hydrothermal electrum (Au,Ag).

According to Ashley (2007), petrographic examination of mineralized samples indicated the following:

- The hydrothermal characteristics (alteration, veining, hydrothermal brecciation, quartz textures) are consistent with the mineralized systems being of epithermal type.
- The parental rocks appear to range from quartz-phyric porphyritic volcanics to tuffs and there might be early hydrothermal brecciation that caused local mixing of volcanic fragments with siliceous sinter fragments.
- Hydrothermal alteration in both sectors might include early potassic alteration, with development of K-feldspar (adularia) ± quartz, but although there is some preservation of potassic alteration in samples, there is evidence of later retrograde replacement by silicic-argillic alteration. Many samples display only silicic-argillic alteration and it is unknown whether earlier potassic alteration was present.



- The clay mineralogy of the argillic alteration is dominated by a kaolinite-type phase, accompanied rarely by a little illite-sericite.
- Hydrothermal brecciation and veining is prevalent in the samples, with infilling by dominant quartz that ranges from very fine grained and chalcedonic to locally medium grained. In places, clay infill is common. Later stage veining and breccia infill is characterized by very fine grained, possibly praline silica, generally pigmented by very finely dispersed Fe oxides.
- Trace quantities of sulphide minerals and precious metal phases have been mainly deposited as part of the silicic-argillic alteration (e.g. in altered rock fragments), with some also being precipitated into the earlier hydrothermal infillings (veins and breccia interstices). The later, Fe oxide-pigmented silica tends to be devoid of mineralization.
- Pyrite, although generally only in trace amounts, would have been relatively ubiquitous as an alteration phase and accompanied in generally tiny amounts by chalcopyrite and rutile.
- Twelve of the fifteen samples in the suite have microscopically visible grains of gold (+/-electrum). Gold (-electrum) is commonly hosted in quartz and clay, and locally with pyrite.
- In most samples, pyrite has been oxidized by supergene processes and replaced by Fe oxides, with which there are local gold grains associated.
- It can be implied that there might have been some effect of supergene oxidation on the nature of gold in some samples, with a change in color, implying an increase in gold fineness with oxidation, and possible re-deposition of gold.

#### 9.2.4 Controls

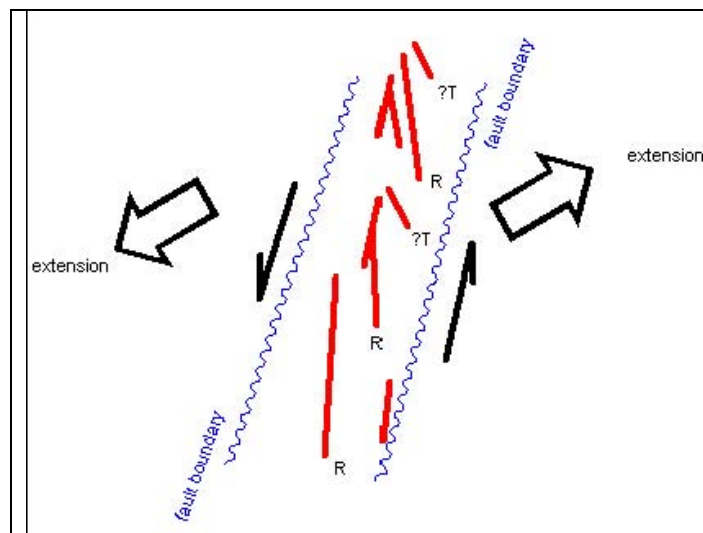
The main controls on mineralization at Lomada Leiva are the conduit for the hydrothermal fluids (structure) and the interaction of the hydrothermal fluid and the acid cap. Because the hydrothermal fluid up-flow focused within NNE dilatant structures this gave rise to banded quartz veins and hydrothermal breccia. Dilatant flexures in through-going structures and subsidiary veins are likely settings for ore shoots and secondary zones of mineralization within the structural zone. These important controls are evidenced by:

- Competent host rocks which host fractures dilate to form banded fissure or sheeted/stockwork veins.
- Mechanisms of gold deposition varying from boiling (associated with adularia or quartz replacing platy calcite) for lowest gold grades, to cooling (chalcedony) for higher gold grades, and mixing of rising mineralized with collapsing surficial low pH or oxygenated waters (as evidenced by kaolin or hypogene haematite respectively) to provide highest gold grades, typically within the black sulphidic ginguero bands.

Cobett (2007) summarizes that Lomada Leiva mineralization occurs as fault-controlled low- sulphidation epithermal mineralization, in which elevated Au is interpreted to occur in pyrite deposited late in the paragenetic sequence. The hydrothermal fluids are probably intrusion- related, although no intrusives are exposed. Higher Au grades occur where mostly oxidized pyrite is in contact with hallosite as evidence of the

mixing of low pH waters with mineralized fluids, an extremely efficient mechanism of Au deposition. Better drill intercepts are recognized in the more dilatant portion of the mineralized fault and in contact with hallosite.

According to Callan's (2007), structural interpretation, banded veins are interpreted to have formed preferentially in more dilational synthetic Riedel fractures (R), which formed at a low angle to the more NNE striking master fault. A left-lateral component of displacement is inferred on the master fault. Some veins may also have formed in more tensional fracture (T) orientations, as shown in Figure 9-2. ENE-WSW extension is indicated, consistent with documented regional principal stresses in the Deseado Massif during the Jurassic.



**Figure 9-1**  
**Schematic Structural Interpretation for Lomada Leiva**

### **9.2.5 Exploration Potential**

Two zones of gold mineralized have been defined within the Albatros property boundary; Lomada Leiva and Breccia Sofia (see section 15 of this report). Mineralization in these zones is located in veins and breccia hosted in volcanoclastic sedimentary rocks. The mineralized zone at Lomada Leiva has the more significant potential.

The potential for further mineralization at Lomada Leiva includes added definition along strike as well as the potential for offsets along strike, and parallel structures (as suggested by CSAMT interpretations, shown in Figure 6-1). The depth of the mineralization is fairly well defined at 200 meters vertical depth, however there are possibilities for additional discovery at depth especially in the southern portion of the defined ore body

where isolated low-grade (greater than 5 ppm Au) chalcedonic veins may be followed to depth in anticipation of enhanced grade with the intersection with the main mineralized structure.

The secondary zone, Breccia Sofia is also worthy of further investigation because of its proximity, similar style of mineralization, and indications of mineralization as discussed in section 15.

## **10.0 EXPLORATION**

Previous work by Homestake-Barrick is described in Section 6 of this report.

Immediately upon the acceptance of the purchase agreement with Barrick (February 5, 2007) Patagonia Gold S.A. began exploration activities on the La Paloma claims. Exploration was conducted using trenching, exploratory and infill drilling in an area of approximately 500 by 900 meters on the Lomada Leiva. This work was aimed at validating the Barrick sampling, and defining additional significant epithermal gold mineralization (Figure 10-1). Additional activities included the investigation of an adjacent prospect at Breccia Sofia, as discussed in section 15.

The exploration work at Lomada Leiva included 38 diamond-drill holes and 9 reverse circulation (RC) holes (Table 10-1), and 11 trenches totaling 7,585 meters, trench, and drilling totaling 6,795 samples, a petrography study, as well as ongoing examinations by qualified consultants. These works were carried out through July 2007 and resulted in the following:

- 18 petrography samples and polished sections, evaluation and report,
- 11 trenches, 482.68 meters and 543 samples,
- 38 diamond drill holes totaling 5,717.58 meters and 4,943 samples,
- 9 RC drill holes totaling 1,386 meters and 1,309 samples

The exploration activities were executed under supervision of a qualified project geologist. Trenching and sampling was carried out by PGSA personnel. Sampling and logging was carried out under the supervision by PGSA and contract geologists. The petrography analysis was undertaken by Dr. Paul Ashley of Australia, an experienced petrographer.

### **10.1 Drilling**

The drilling program is discussed in section 11.

### **10.2 Trenching**

Trenching was achieved by first surveying the surface trace by hand held GPS and the top soil removed by a backhoe excavator. Then the trenches were hand cleaned (with brushes) and mechanically sawn into channels by cutting two parallel rows with 5-centimeter separation. These were cleaned again (brushed and washed) to free them of dust and sawn cuttings, chipped out and then were bagged in 1-meter intervals. The samples were washed clean a final time with water in a sterile environment at the base camp prior to tagging, sealing

and shipment. The sample locations were marked with resistant field tags and later surveyed by a qualified surveyor with the total station differential GPS.

### **10.3 Petrography**

Petrography samples were selected from core previously drilled by Barrick. These were photographed in the core boxes, then mechanical cut and cleaned. Final documentation included photos of the cut slabs and descriptions noted, prior to shipping to the lab in Australia. A summary and excerpts are presented throughout Section 9.2.

### **10.4 Interpretation of the Exploration Information**

Drilling results are discussed in section 11.

The trenching indicates continuity of the gold mineralization on surface and reliability of data indicated by previous exploration by Barrick. Both the location and trend of the mineralized zone were confirmed. The maximum reported results were from trench LLT-010, which showed 19 meters at 3.62 g/t Au, including 3 meters at 8.97 g/t Au and 1 meter at 9.779 g/t Au. The trenching was used to constrain the shell limits, but not used for the resource estimation.

The petrographic analysis confirms the presence of a gold phase related to the hydrothermal event, and a direct link to the kaolinizing event. However there is also indication of a supergene event with gold notable of high fineness hosted in late-stage clay and oxide phases. Indications of primary mineralization were noted by the presence of gold after pyrite (pseudomorphs) and occasional gold hosted in the quartz-bearing phase. Samples for a second petrography study are being prepared at present with a focus on the hydrothermal breccia. There does not appear to be a correlation of gold with the latest-stage quartz stringers notably located in the footwall of the mineralized structure.

## 11.0 DRILLING

### 11.1 Nature of Drilling Program

Drilling was aimed at verifying a resource previously indicated by Barrick as well as delineation of additional resources (Figure 11-1). This included at least 5 twin holes, and two scissor holes. Twin holes were drilled to establish credibility of the Barrick drilling, and to compare the RC and diamond drilling results.

Drilling of reverse circulation (RC) and diamond holes (DDH) were carried out under contract by Patagonia Drill S.A and Major Drilling S.A. both having previously established credibility in Argentina. Drilling by both contractors was witnessed by Robert Sandefur of CAM in April 2007. The two different drilling companies were engaged to complete the drilling campaign in a timely matter, before the close of the working season. Both drilling machines were truck- and track-mounted dual system drills. The Patagonia Drill unit was responsible for only diamond coring at HQ and NQ diameters, while the Major unit completed both diamond (HQ and NQ) and RC by 5 ¼ inch air reverse-circulation with a hammer bit. Both units utilized a 3 meters and 1.5 meter core barrel and typically the core was extracted intact. The preferred core size was HQ and only in two instances in order to maintain continuation of the hole under difficult (fractured) conditions was the core reduced to NQ. This was clearly noted in the daily logs and detailed geologic logs. A core orientation survey was carried out on 5 holes in order to ascertain structural and lithologic orientations.

The parameters of the drilling included a program of 50 meters spaced infill drilling and 100-meter spaced exploration drilling, as shown on Figure 10-1. Three diamond drill holes were pre-collared with RC through over-burden and sterile host rocks. Maximum depth of pre-collar was 161m. The drilling grid was oriented north-south/east-west roughly perpendicular to the trend of the mineralization and nearly all drilling was oriented at 270 degrees or due west (exception one collar a scissor hole oriented 90 or due east). Table 11-1 summarized the collar information of the PGSA Lomada Leiva drilling to date.

Each drillhole was sited and terminated by the qualified geologists; logging was accomplished on-site (for the RC drilling) and a quick log was prepared on site for the diamond core with detailed logging accomplished latter at the base camp. Proposed collars and platforms collars were sited by hand-held GPS, and by triangulation from previously drilled and surveyed collars of Barrick. The orientation of the drill rig (azimuth and inclination) was accomplished by qualified company personnel with hand a held Brunton or Silva compass.

Daily site visits involving at least several hours on-site were made by the PGSA supervisor/project geologist for quality control. Core and RC field samples were removed at least once daily and occasionally more frequently. The drill holes were surveyed down hole by the drill contractors utilizing with a single-shot

camera or a reflex survey tool. The collars were marked clearly and permanently with PVC and concrete, and care was taken to insure preservation of historical collars in the drill area. Following conclusion of the drilling program the collars were surveyed by a qualified surveyor utilizing a total station differential GPS. The drilling was executed to industry standards in a safe, secure, and environmentally responsible manner with the sites cleaned and reclaimed as possible.

Table 11-1 Collar Information for the 2007 PGSA Drill Holes at Lomada Leiva.						
Hole ID	Easting	Northing	Elevation	Azimuth	DIP	Final Depth (m)
LLD-001	2381134.76	4798524.94	729.68	270	-60	39.00
LLD-002	2381142.06	4798466.04	726.22	270	-50	69.10
LLD-003A	2381189.46	4798467.27	723.08	270	-50	60.00
LLD-003B	2381188.23	4798468.65	723.19	270	-50	95.85
LLD-004	2381232.69	4798562.32	728.36	270	-50	135.00
LLD-005A	2381275.15	4798565.11	732.55	270	-50	68.50
LLD-005B	2381275.15	4798565.11	732.55	270	-50	131.60
LLD-006	2381210.93	4798598.40	725.83	270	-62	105.28
LLD-007	2381179.34	4798562.54	729.47	270	-50	77.30
LLD-008	2381397.99	4798801.33	718.14	270	-50	170.80
LLD-009	2381243.42	4798468.48	722.51	270	-50	215.65
LLD-010	2381246.83	4798523.45	727.56	270	-60	201.15
LLD-011	2381216.42	4798650.37	718.98	270	-50	101.95
LLD-012	2381268.46	4798651.42	722.87	270	-50	152.60
LLD-013	2381313.69	4798653.64	728.59	270	-50	200.75
LLD-014	2381303.75	4798700.10	719.97	270	-50	146.50
LLD-015	2381199.52	4798399.14	713.64	270	-60	180.20
LLD-016	2381154.24	4798355.34	713.24	270	-50	134.80
LLD-017	2381161.76	4798300.71	705.48	270	-50	158.20
LLD-018	2381119.84	4798249.97	704.08	270	-50	148.90
LLD-019	2381179.65	4798250.22	696.47	270	-50	212.85
LLD-020	2381068.02	4798249.97	711.34	270	-50	120.00
LLD-021	2381064.25	4798145.86	695.57	270	-50	141.00
LLD-022	2381001.42	4798144.40	702.02	270	-60	99.30
LLD-024	2381156.32	4798146.90	684.35	270	-50	225.00
LLD-025	2380975.15	4798097.71	696.00	270	-50	190.30
LLD-026	2381136.54	4798498.63	728.62	270	-60	66.20
LLD-027	2381166.79	4798521.75	728.49	270	-60	102.10
LLD-028	2381080.37	4798100.17	686.55	270	-50	180.00
LLD-029	2381021.23	4798399.70	716.86	90	-50	188.80
LLD-030	2381066.42	4798297.04	717.66	270	-80	87.00
LLD-031	2381299.11	4798468.65	725.44	270	-50	227.65
LLD-032	2381107.84	4798400.77	725.94	270	-60	76.30
LLD-033	2381271.83	4798401.93	713.37	270	-60	179.80

Table 11-1 Collar Information for the 2007 PGSA Drill Holes at Lomada Leiva.						
Hole ID	Easting	Northing	Elevation	Azimuth	DIP	Final Depth (m)
LLD-034	2381137.67	4798434.42	723.72	270	-60	95.10
LLD-035	2381279.99	4798250.40	683.45	270	-50	259.15
LLD-036	2381368.71	4798655.53	738.70	270	-50	225.00
LLDR-023	2381208.27	4798501.23	725.67	270	-60	142.65
LLDR-037	2381511.96	4798803.93	707.62	270	-50	276.00
LLDR-038	2381563.33	4798804.48	702.38	270	-50	363.25
LLR-001	2381263.15	4798749.32	704.74	270	-50	81.00
LLR-002	2381322.43	4798750.06	714.85	270	-50	117.00
LLR-003	2381181.60	4798435.04	719.62	270	-60	140.00
LLR-004	2381139.87	4798434.15	723.73	270	-61	111.00
LLR-005	2381104.64	4798354.92	719.81	270	-50	120.00
LLR-006	2381193.00	4798357.52	708.58	270	-50	141.00
LLR-007	2381077.40	4798299.75	716.32	270	-61	80.00
LLR-008	2381132.18	4798101.27	681.27	270	-50	155.00
LLR-010	2381453.90	4798800.47	720.37	270	-50	108.00
TOTAL						7103.58

## 11.2 Diamond Drilling Methods

Diamond drilling was carried out under supervised 24-hour shifts. PGSA personnel were always on site at the rig, recoding all activities and supervising the extraction of the core, placement into the boxes, marking, and handling. Recovery was calculated at the rig. Diamond core was handled properly, extracted directly from the core barrel, cleaned and inserted into marked core boxes, which were then sealed (closed) and removed from the site as soon as possible.

## 11.3 Drill Core Logging

Detailed core logging was carried out at the exploration camp. For continuity all of the 38 diamond holes were logged by the same geologist. After a thorough study of the Barrick data and review of Barrick drill core, a set of lithologic, alteration, and mineralization codes were established. The logs were put down on paper and later entered digitally. Logging scales were generally 1:1 or 1:3 depending upon the intervals of interest. Box numbers and depths were validated and documented both by the geologist and trained technicians. High resolution photographs were taken of all drill cores and thus a virtual core library is part of the database. Data was plotted on cross sections for interpretation were incorporated into the exploration drilling program and compared with the daily quick logs from the field.



## 11.4 RC Drilling Methods

RC drilling was executed on a 12 hr day-only shift. Drilling included a sealed collar and dust was channel away from the cyclone. Samples were taken on 1-meter intervals strictly controlled by the drill supervisor. The compression (drill hammer) was backed off between each meter to allow cleanout of the system. The samples were immediately weighed on-site and the resultant recovery was recorded by trained technicians. The samples were then reduced to 4 kilogram samples by rifle splitting twice (at 50 percent). These splits were weighed at various times during each hole for quality control. The rifle splitter, and scale area was cleaned between each sample interval by compressed air blast. The bags were kept clean and were pre-marked prior to drilling of the hole. The samples were prepared immediately (tagged and sealed). The entire drilling and sampling process was supervised continuously by a geologist. The cyclone and sample extraction system were cleaned between drill holes and every effort was made to ensure quality control on-site.

Under wet drilling conditions (such changes were noted in the log), sampling was achieved by column sample (“spear”) with a cut tube. Typically the hole was terminated in these zones, due to difficult sample extraction and blockage of rods. The cyclone was manually cleaned after these conditions were encountered, and the drill system blown out.

RC logging was accomplished on-site and completed with each hole. Representative log samples were saved in properly identified chip trays. Samples were designated by the geologist. Every 20th sample was split and maintained for submittal as a field duplicate.

## 11.5 Results of Drilling

The PGSA drilling program was successful in meeting its objectives, in substantiating the existence of, and in extending, to the gold mineralization delineated by Barrick. Tables 11-2, 11-3, and 11-4 highlight the better intercepts from Barrick and PGSA drilling.

<b>Table 11-2 Barrick Drill Results Significant Intersections from Lomada Leiva</b>			
<b>Hole ID</b>	<b>From</b>	<b>Interval (meters)</b>	<b>Au (ppm)</b>
DDH-LP05	49.00	3.44	3.16
DDH-LP05	86.75	3.29	5.34
DDH-LP05	92.00	5.05	2.26
DDH-LP07	36.00	11.00	5.33
including	38.60	1.40	15.80
DDH-LP07	49.00	17.00	5.45
DDH-LP11	6.80	3.20	5.30

Table 11-2 Barrick Drill Results Significant Intersections from Lomada Leiva			
Hole ID	From	Interval (meters)	Au (ppm)
DDH-LP11	12.00	17.60	9.08
including	15.00	1.00	24.70
DDH-LP12	65.90	8.40	1.84
DDH-LP12	78.65	10.00	3.13
DDH-LP13	70.30	5.75	1.36
DDH-LP14A	105.00	4.00	2.85
DDH-LP20	60.50	4.75	3.90
DDH-LP25	21.00	7.15	2.71
DDH-LP30	116.65	9.05	2.05
DDH-LP35	81.00	4.30	2.08
DDH-LP35	88.35	7.35	4.97
including	89.75	1.40	16.70
DDH-LP36	36.95	12.45	2.59
DDH-LP37	63.80	14.70	5.21
including	74.00	1.00	13.30

Table 11-3 Highest Grade intercepts (> 10 ppm Au) of the PGSA Lomada Leiva Drill Campaign- includes RC and Diamond Holes							
Hole ID	From	To	Au (ppm)	Hole ID	From	To	Au (ppm)
LLD-001	13	14	28.1	LLD-026	28	29	14.1
LLD-026	26	27	24.2	LLR-004	64	65	14.1
LLD-034	63	64	22.2	LLD-006	83	84	13.7
LLD-003B	94	95	20.8	LLD-003B	99	100	13.4
LD-003B	98	99	19.6	LLD-007	50	51	13.1
LLD-026	27	28	18.7	LLR-004	51	52	12.95
LLD-003B	95	96	17.5	LLD-001	16	17	12.8
LLD-026	29	30	16.6	LLD-034	65	66	12.2
LLR-004	57	58	15.4	LLD-026	34	35	11.7
LLD-001	15	16	15.3	LLR-004	53	54	11.5
LLD-001	12	13	14.6	LLD-016	99	102	11.1
LLD-026	23	24	14.5	LLD-016	97	98	10.9
				LLD-034	53	54	10.9

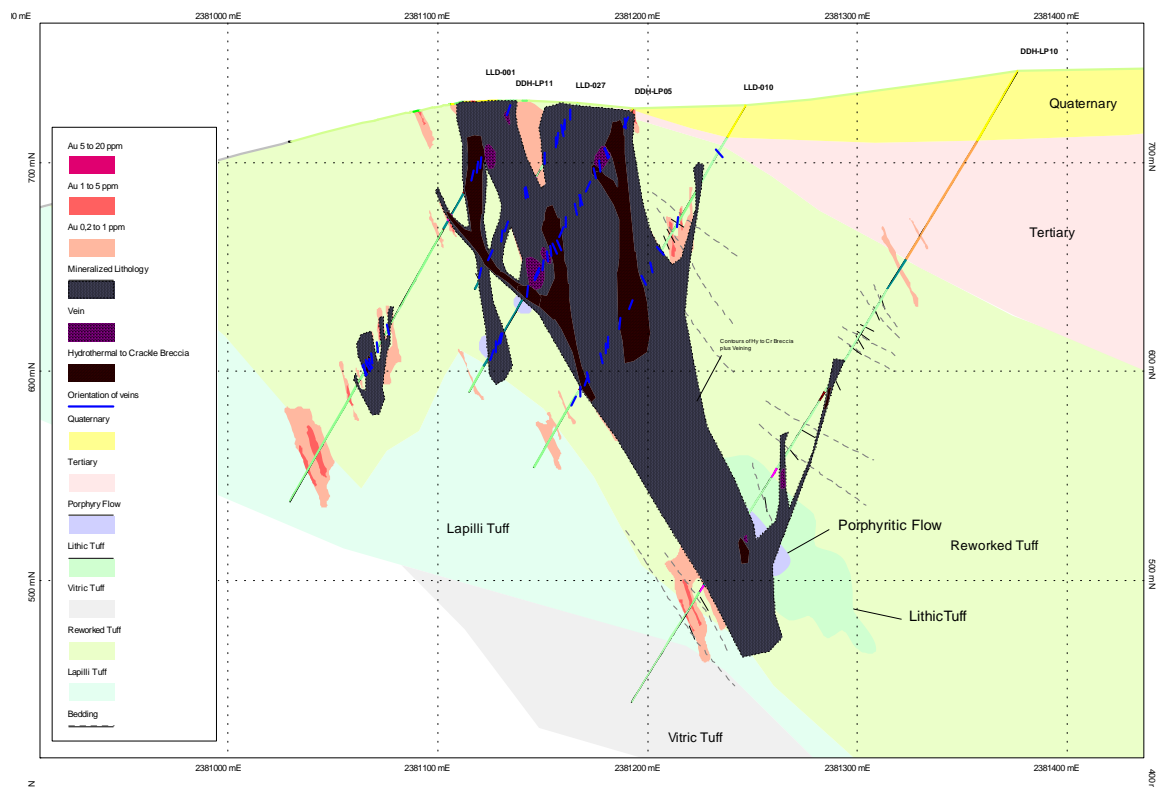
**Table 11-4**  
**SUMMARY of PGSA Diamond Drill hole Intersections**  
**at Lomada Leiva Diamond drill holes LLD-01 to LLD-38**

Hole No.	Depth (meters)	From (meters)	Interval (meters)	Au Grade (g/t)
LPD-01	39.00	9.0	18.0	6.87
	<i>including</i>	10.0	10.0	10.86
LPD-02	69.10	35.0	21.0	4.12
	<i>including</i>	46.0	7.0	5.17
LPD-03B	152.85	85.0	16.0	6.55
	<i>including</i>	94.0	6.0	13.75
LPD-04	135.00	63.0	8.0	1.19
	<i>and</i>	97.0	12.0	1.32
LPD-05B	178.60	<i>no significant intersection</i>		
LPD-06	105.28	64.0	24.0	3.05
	<i>including</i>	82.0	5.0	7.16
LPD-07	77.30	38.0	20.0	2.66
	<i>including</i>	48.0	4.0	5.89
LPD-08	170.80	<i>no significant intersection</i>		
LPD-09	215.65	73.0	12.0	2.01
	<i>and</i>	88.0	10.0	2.07
LPD-10	201.15	<i>no significant intersection</i>		
LPD-11	101.95	38.0	8.0	2.46
LPD-12	152.60	<i>no significant intersection</i>		
LPD-13	200.75	<i>no significant intersection</i>		
LPD-14	146.50	90.0	3.0	2.29
LPD-15	180.20	<i>no significant intersection</i>		
LPD-16	134.80	95.0	19.0	3.60
	<i>including</i>	97.0	5.0	9.00
LPD-17	158.20	137.0	2.0	3.14
LPD-18	148.90	102.0	5.0	3.08
LPD-19	212.85	<i>no significant intersection</i>		
LPD-20	120.00	<i>no significant intersection</i>		
LPD-21	141.00	100.0	8.0	1.29
LPD-22	99.30	29.0	1.0	9.90
LPD-23*	142.65	48.0	7.0	2.48
	<i>and</i>	61.0	6.0	1.77
	<i>and</i>	73.0	6.0	2.23
LPD-24	225.00	<i>no significant intersection</i>		
LPD-25	190.30	<i>no significant intersection</i>		
LPD-26	66.20	19.0	21.0	8.49
	<i>including</i>	21.0	10.0	12.68
LPD-27	102.10	49.0	17.0	3.15
	<i>including</i>	57.0	5.0	5.75
LPD-28	180.00	<i>no significant intersection</i>		

Table 11-4 SUMMARY of PGSA Diamond Drill hole Intersections at Lomada Leiva Diamond drill holes LLD-01 to LLD-38				
Hole No.	Depth (meters)	From (meters)	Interval (meters)	Au Grade (g/t)
LPD-29	188.80	<i>no significant intersection</i>		
LPD-30	87.00	40.0	5.0	2.26
LPD-31	227.65	<i>no significant intersection</i>		
LPD-32	76.30	6.0	10.0	2.54
	<i>and</i>	42.0	11.0	3.00
LPD-33		<i>no significant intersection</i>		
LPD-34	95.10	38.0	36.0	4.78
	<i>including</i>	59.0	7.0	8.86
LPD-35	259.15	<i>no significant intersection</i>		
LPD-36	225.00	<i>no significant intersection</i>		
LPD-37*	276.00	<i>no significant intersection</i>		
LPD-38*	363.25	<i>no significant intersection</i>		
*with RC pre-collar. Intersections may not represent true thickness				

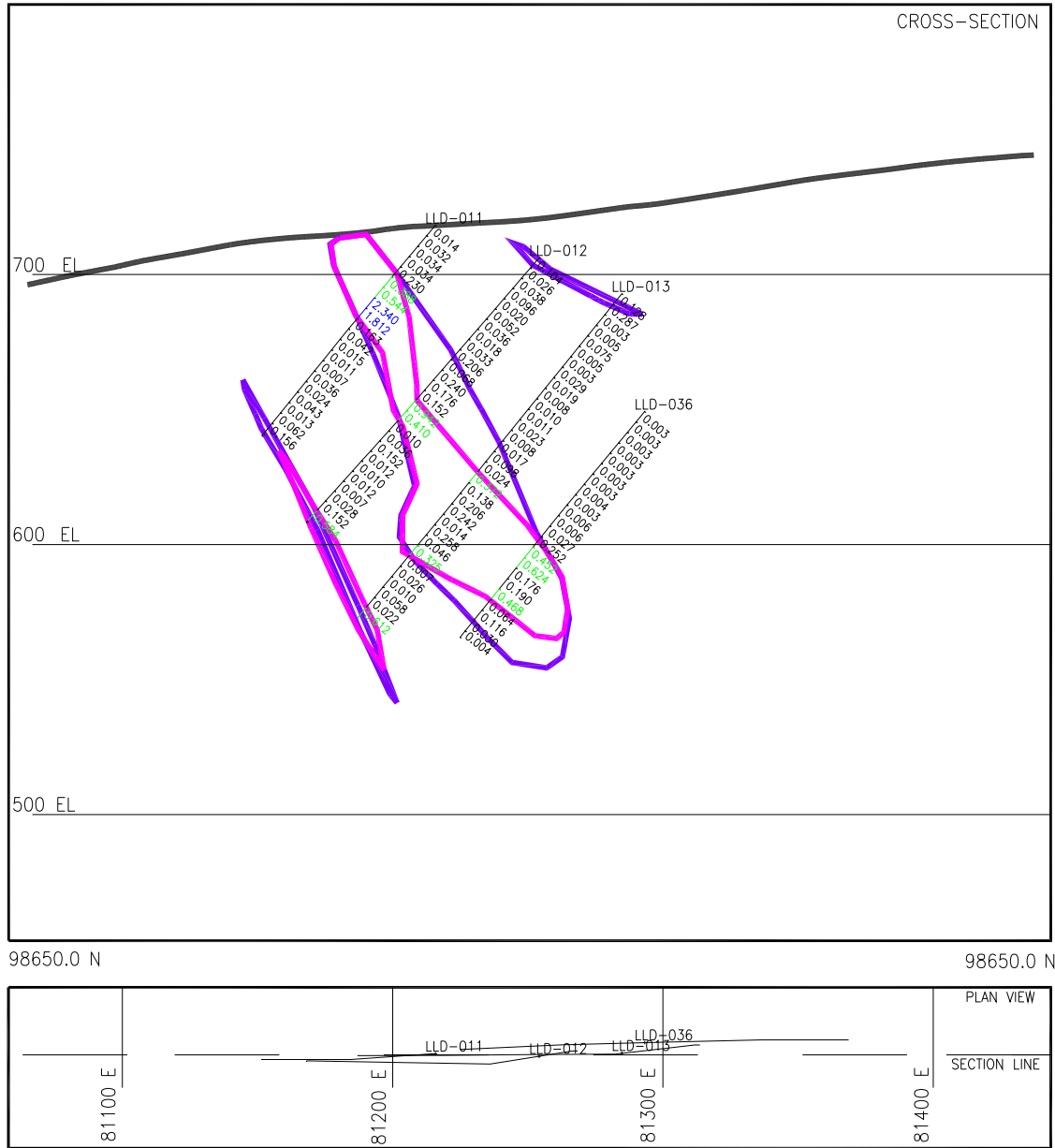
Of the 47 holes drilled in the PGSA campaign, all holes yielded evidence of mineralization (except one LLD-038) with indicated results of at least 0.5g Au over a 2 meter minimum width. Table 11-2 highlights the significant intervals with over 10 ppm Au.

The intersections shown in the three tables above do not indicate true vein width, but true one-meter sample width. Reference to Figure 11-2 shows that the drillholes intercept mineralized structures at angles of 10 to 20 degrees off perpendicular; thus it is expected that, on average, the true widths will be over 90 percent of the intercept width.



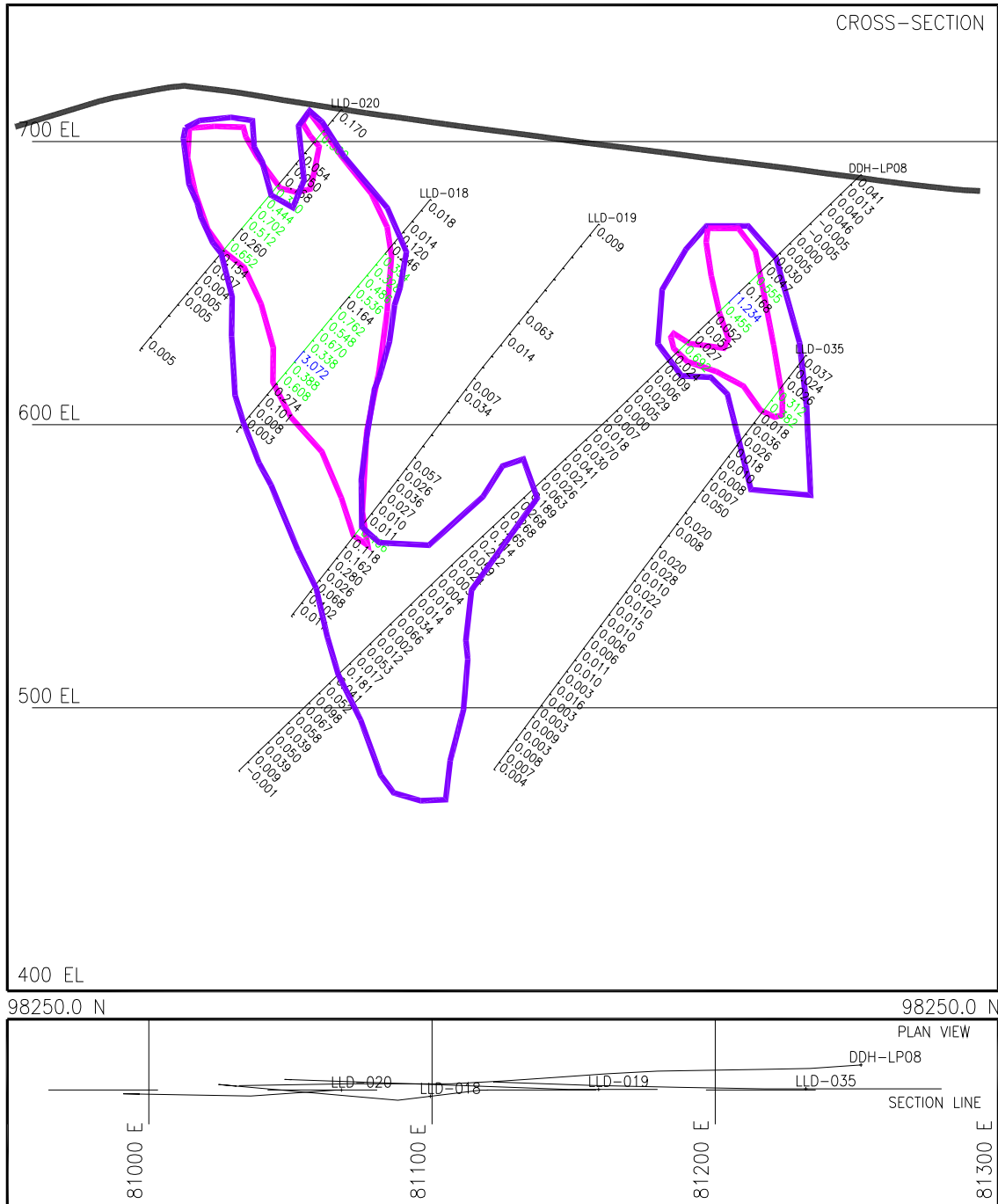
**Figure 11-2**  
**Section N8525 Detailed with Geology, Structure, and Mineralization Polygons**

Figures 11-3 and 11-4 depict the relationship between drill intercepts, breccia morphology, and the 0.3 grams per tonne grade shell. The higher-grade mineralization tends to occur nested within the exterior outline of the hydrothermal breccia.



**Figure 11-3**  
**East-West Cross-Section on Line 98,250 N**

No vertical exaggeration. Outer blue outline represent breccia limits, inner magenta outline is the 0.3 grams per tonne Au grade shell. Note that the section is east-west, looking due north, not perpendicular to the mineralized zone.



**Figure 11-4**  
**East-West Cross-Section on Line 98,650 N**

No vertical exaggeration. Outer blue outline represent breccia limits, inner magenta outline is the 0.3 grams per tonne Au grade shell. Note that the section is east-west, looking due north, not perpendicular to the mineralized zone.

Logging of the nearly 7,000m of drill core and RC chips confirms the presence of structurally-controlled, gold-bearing hydrothermal breccias. These structural zone cross-cuts the previously deposited sequence of volcanogenic sediments.



## 12.0 SAMPLING METHODS AND APPROACH

In general, the same sampling density and methodology was applied to the diamond, RC and trench samples submitted for gold analysis. A total of 6,795 samples were submitted during the PGSA campaign. A one-meter interval was determined for trenches and drill holes prior to commencement of the exploration for the approximate 45,000 square meters of the exploration area and the 6,000 meters of the proposed drilling. This was based on an academic approach to adequately sample the drilled sections or trenches until a control on the mineralization was determined for the deposit.

Once confidence in the style of mineralization was established and it was determined that that the breccia and structures were hosting the mineralization, sampling was scaled back for efficiency (eliminating over-burden and interpreted sterile host rock). This was done by visual determination by the project geologist who was most familiar with the geology and mineralization. However the one-meter interval was maintained for continuity. A deviation from the agreed sampling methodology was applied to RC pre collars for LLDR-037 and LLDR-038, where instead of abandoning the overburden/barren host rock the samples were composited for 2 meter intervals. No zones of interest were encountered visually nor based on assays of these composite intervals.

There were 13 sample intervals submitted with less than one meter, these are summarized in Table 12-1. Most samples represented the end of the hole. Only one reported interval of interest was encountered, in LLD-014

Table 12-1 Sample Intervals Less than 1 Meter				
Hole ID	From	To	Au ppm	Interval Width (meters)
LLD-032	76	76.3	0.015	0.3
LLD-005A	38.5	39	0.009	0.5
LLD-014	146	146.5	8.191	0.5
LLD-005B	178	178.6	0.003	0.6
LLD-012	152	152.6	0.003	0.6
LLD-009	215	215.65	0.028	0.65
LLD-031	227	227.65	0.030	0.65
LLD-013	200	200.75	0.003	0.75
LLD-008	170	170.8	0.003	0.8
LLD-016	134	134.8	0.003	0.8
LLD-033	179	179.8	0.003	0.8
LLD-003B	152	152.85	0.003	0.85
LLD-011	101	101.95	0.026	0.95

## **12.1 Trench Samples**

A total of 543 sawn channel samples were taken from 11 trenches totaling 482.68 meters. Samples were 1 meter in length. Every 20th sample was submitted as a field duplicate. As mentioned previously, appropriate care was taken to eliminate contamination for cuttings and dust by triple washing the samples, to eliminate vegetable and animal debris, and soil. Sample tickets were logged with trench number, traverse length (from to), and sample type.

## **12.2 RC Sampling Method**

RC samples were composed of chip and fine particles derived from the drill hammer and taken immediate at the output of the drill cyclone. As describe previously care was taken to ensure the highest quality of sampling, recovery, and to eliminate sources of contamination. Field rejects were folded and stapled shut prior to abandonment at the platforms. RC samples were taken every meter for the drilled holes and assigned by the logging geologist on site at the drill rig; however samples were only submitted from of zones of interest (determined by logging-lithology and projection on cross sections), thus some materials remain un-sampled such as top soil and overburden. Field duplicates were taken for every 20th sample. In the case of the composite samples for LLDR-037 and LLDR-038 the samples were split as usual then the two separate meter samples were split again and combined into one sample.

## **12.3 Diamond Drilling Samples**

Diamond core was removed from the core barrel into a cradle, washed, measured for recovery, and carefully placed in an organized manner into the numbered core boxes. Depth markers were inserted by the drill supervisor. The boxes were closed and stacked into trucks and transported by PGSA personnel to the Estancia Rincon for sample processing.

## **12.4 Drill Sample Recovery**

### ***12.4.1 Core Recovery***

Recovery for the diamond drilling was calculated using basic sum of accumulation versus drilled length. Overall the recovery averaged 94.12 percent. Core recovery was lower in areas of highly-argillized or weathered rock, generally encountered in two locations near surface or below the footwall of the deposit where the competency was greatly compromised and the host rocks are unsilicified.

Typically recovery loss was greatest in the first 10 meters of the hole where weathering was most pervasive and in very incompetent or argillized zones (generally immediately below the zone of interest). Because the

mineralization typically represented the most competent rock (due to veining and silicification) there was very little loss of recovery in the mineralization.

#### **12.4.2 Sample Recovery**

Recovery of RC drilling materials was calculated by weight per meter drilled. An average one-meter sample weighted 32 kilograms for the 5-inch drill hammer. Actual weight per volume is calculated by:

$$3.1417 (\pi) \times 0.066 \text{ sq (radius meters squared)} \times 2.3 (\text{density}) = 31.4 \text{ kg}$$

Recovery during PGSA'S RC campaign yielded very satisfactory results values typically greater than 90 percent in the zones of interest and average at 29 kilos overall per meter. Losses typically occurred during the first 15-20 meters where drilling conditions were most difficult and argillization (strong weathering) was more pervasive. In these instances the loss of the fine fractions likely contributed to the low recovery. Occasional samples were overweight (up to 45 kilos), likely due to moist conditions, and/or over drilling on behalf of the drill supervisor. This is not uncommon due to the imprecise nature of the RC drilling.

Only 4 instances of substantial loss (3 meters or greater) were reported in the zones of interest. This was due to a combination of faulting or cavities encountered in drilling. The greatest loss in a zone of interest amounted to 68 percent maximum over 6 meters, and included 2 meters at 90 percent loss. Drill hole LLD-022 suffered significant loss from 57.30 to 72.30 meters, this resulted a single composite sample of 11 meters, with only 10 percent recovery over 15 meters. This loss may have had a negative affect any resource-worthy results.

Only 45 samples constituted composite intervals (Table 12-2) (greater than 1 meter) due to loss of recovery. These constitute less than 1 percent of the total population of 5,630 1-metre intervals. Overall loss of recovery in both the diamond and RC will not likely affect the affect the accuracy or reliability of the results except in the case previously noted for LLD-022. All intervals of low recovery are cross referenced in the database for observation and caution in reporting and calculations. Intervals of low recovery in the diamond drilling were generally composites thus the lack of recovery is accounted in the interval width and reported accordingly. Details of this are reported in Section 10.8.

#### **12.5 True Width and Orientation of the Drill Target and Drill Intercepts**

As mentioned earlier and as standard industry practice an optimum drilling program would result in a perpendicular orientation and intersection of the target vein or structure. In the PGSA campaign every effort was employed to maximize this result however small scale fluctuations of the structure, the nature of the unknown orientation of the structure, and drilling constraints resulted in a less than perfect transect of the

mineralization. The intersection was typically 70 to 80 degrees to the structure. True width of vein and mineralized intercepts were well documented in the detailed logging. The average width of veins in mineralization is about 1 meter with a maximum on the order of 3.5 meters. Outside of the mineralization average vein widths are 7 centimeters with maximum width 20 centimeters. The estimates are also close to true widths. The maximum true width of hydrothermal breccia is calculated as 10 meters. However, due to the nature of the irregular stringers and contortions of the breccia a true width is difficult to assign.

## 12.6 Specific Gravity Determinations

Determinations of specific gravity (SG) were undertaken by PGSA on 272 one-meter drill core intervals, of the 5,717 meters of available core. The results thus represent nearly 5 percent of the total population. The samples were systematically selected to represent all major rock types.

### 12.6.1 Specific Gravity Methodology

Specific gravity methods followed the listed process indicated below. The intervals were selected by the project geologist and the process was carried out by technicians under the geologists' supervision. The selected core samples were at least 20 cm long. The geologist classed each sample as either porous (needing wax coating) or non-porous.

Table 12-2 Specific Gravity Determinations		
Sample type:	Wax method	Non-waxed
clean and dry sample	X	X
paint with wax	X	
weigh dry sample	X	X
submerge in water and remove	X	
weigh wet sample	X	
dry sample with a cloth	X	
weigh submerged sample	X	X
Calculate SG: (dry weight)/ (damp weight - submerged weight)	X	X

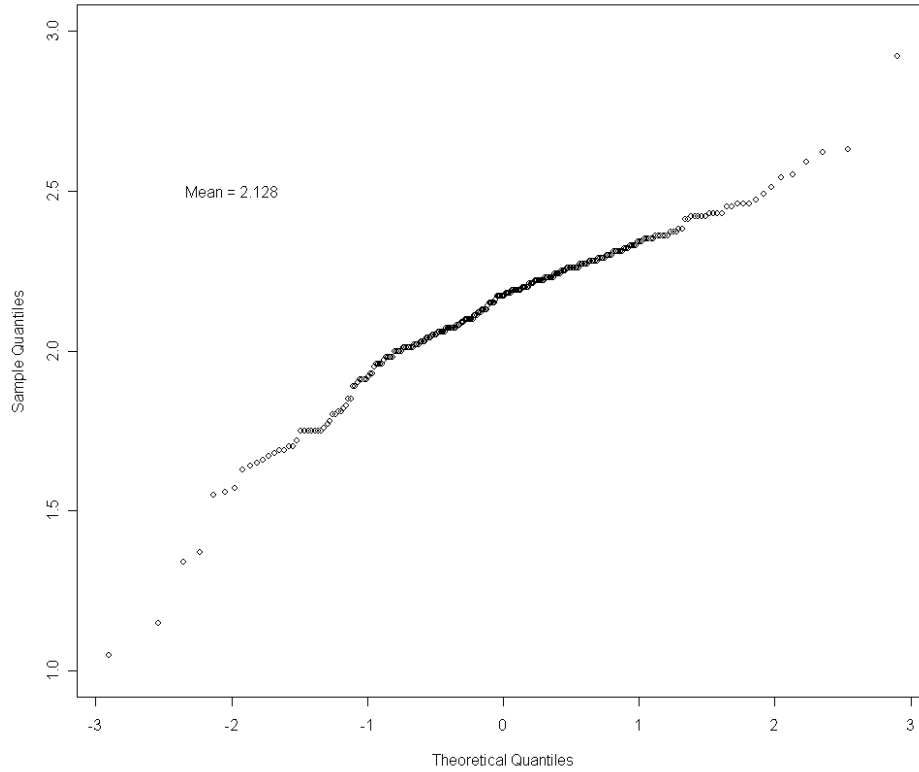
Measurements derived from the waxed samples appeared lower (by as much as 0.40) due to added volume without weight, for both porous and non-porous samples. Thus, only the first half of the drill core samples was evaluated utilizing the wax method. The wax method may have resulted in a low bias (conservative values) for the overall averages.

### 12.6.2 Specific Gravity Results

The range of values (Table 12-3) indicates that the mineralized samples have a higher SG than the volcanic host rocks. The highest values were derived from the vein (100 percent quartz) and gradually drop off with lesser degree of silicification and mineralization for: hydrothermal breccia, then the crackle breccia which hosts volcanic rock, and finally the volcanic host rock with the lowest values.

<b>Table 12-3 Summary of Specific Gravity Results</b>				
<b>Code</b>	<b>Type</b>	<b>Rock Name</b>	<b>SG</b>	<b># Samples</b>
BX CR	Mineralization	Crackle Breccia	2.15	48
BX H	Mineralization	Hydrothermal Breccia	2.23	45
VN	Mineralization	Vein	2.29	8
LT	Host	Volcanic sediment	2.09	166
N =267		Total Average	2.12	100%
		Mineralization Average	2.23	37%

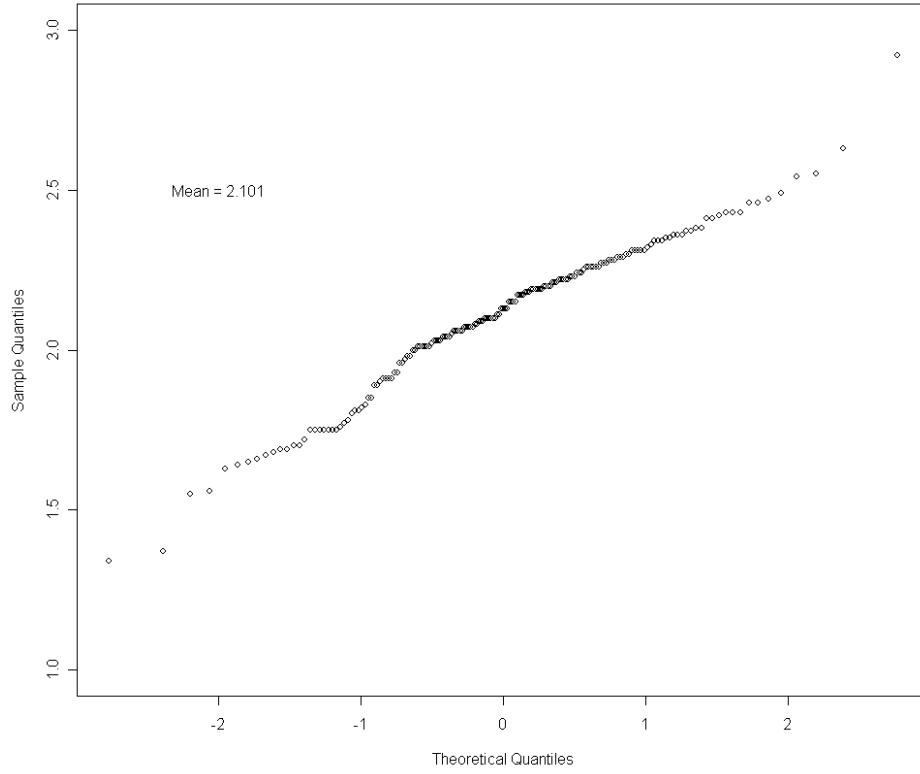
A total of 271 density measurements, all by PGSA, were made available to CAM. CAM ran its standard statistical check procedures on these data as summarized in Section 14. A cumulative frequency plot of all of the 271 data points is shown in Figure 12-1.



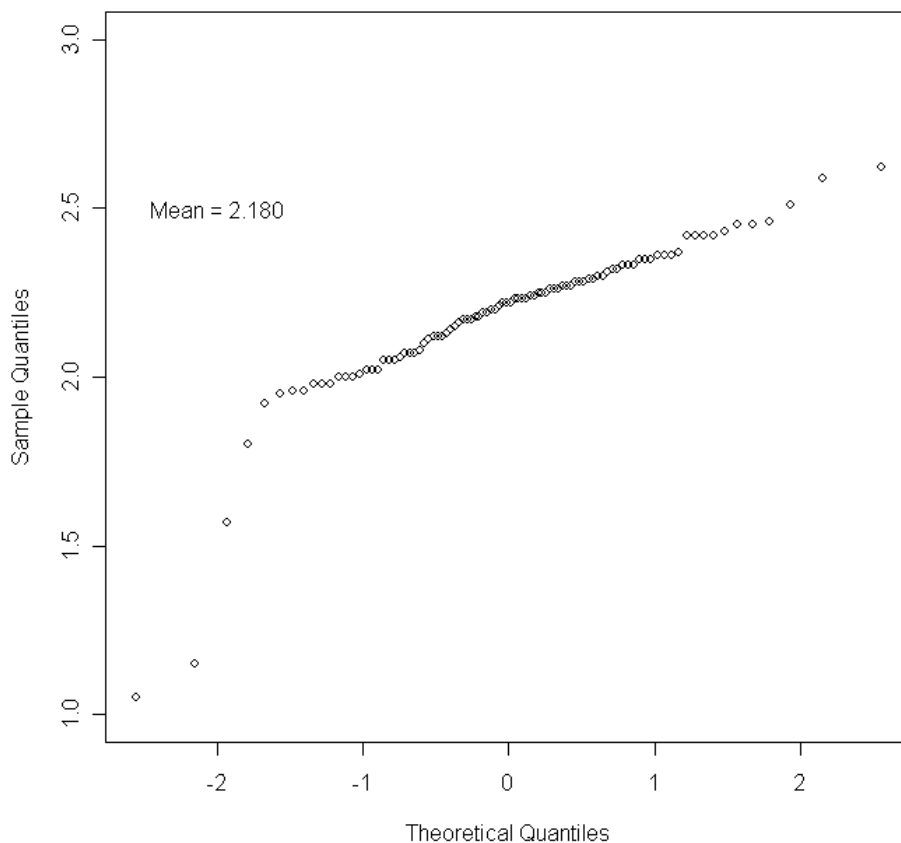
**Figure 12-1**  
**Cumulative Frequency Plot of All Density Measurements**

This plot showed possibly 4 statistically anomalous low values, and one statistically anomalous high-value, with a mean value of 2.13. This number of statistically anomalous measurements is not unusual in density determinations and CAM believes the density data set is of sufficient quantity and quality to allow a resource to be calculated.

PGSA observed that the densities inside the grade shell appeared to be higher than outside the grade shells. Hence, CAM calculated mean densities and constructed cumulative frequency plots outside the grade shell (Figure 12-2) and inside the grade shell (Figure 12-3) and confirmed this difference.



**Figure 12-2**  
**Cumulative Frequency Plot of Density Measurements**  
**Outside the Grade Shell**



**Figure 12-3**  
**Cumulative Frequency Plot of Density Measurements**  
**Inside the Grade Shell**

In CAM's experience with relatively shallow deposits of this type, density also tends to be a function of depth or elevation. A simple visual way to investigate this possibility is to construct box plots.

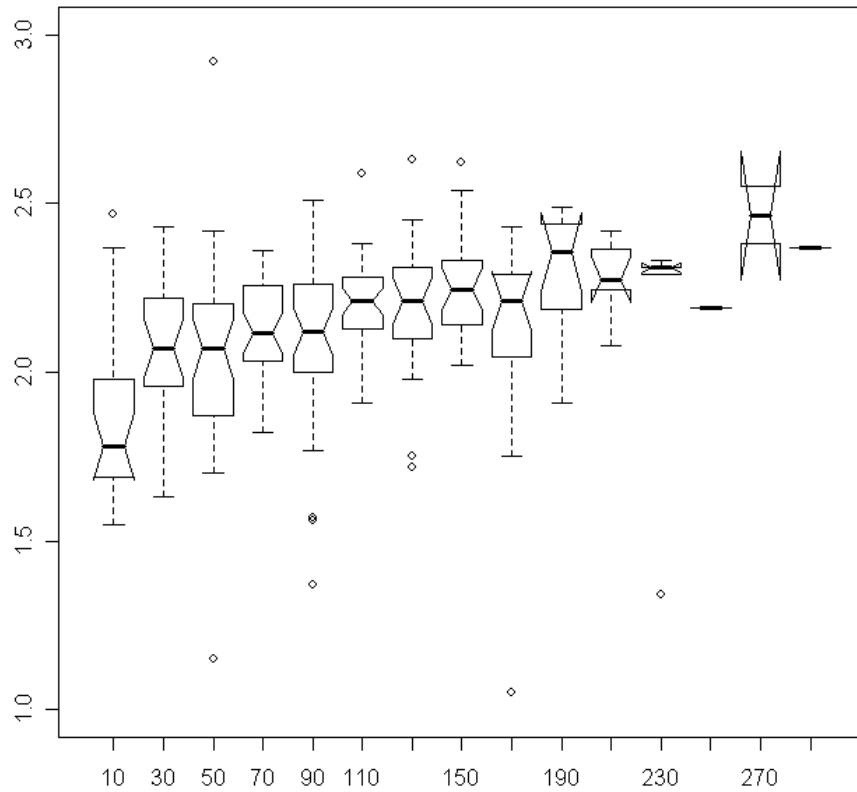
Although box plots are commonly used by (geo)-statisticians for visual comparisons of data as a function of 1 parameter, it should be noted that various boxplot programs use different algorithms and parameters, and that these are not always explained. The boxplots in this section are plotted using the defaults in the statistical package as follows:

1. The top and bottom of the boxes are the 25th and 75th percentiles of the data.
2. The line near the middle of the boxes is the median of the data (50th percentile)
3. The notches give the approximate 95 percent confidence limits on the medians.
4. The whiskers on the top and bottom of the boxes extend above and below the boxes to the last points within 1.5 times the difference between the 25th and 75th percentiles.
5. Points beyond the whiskers described in 4 are probably outliers.

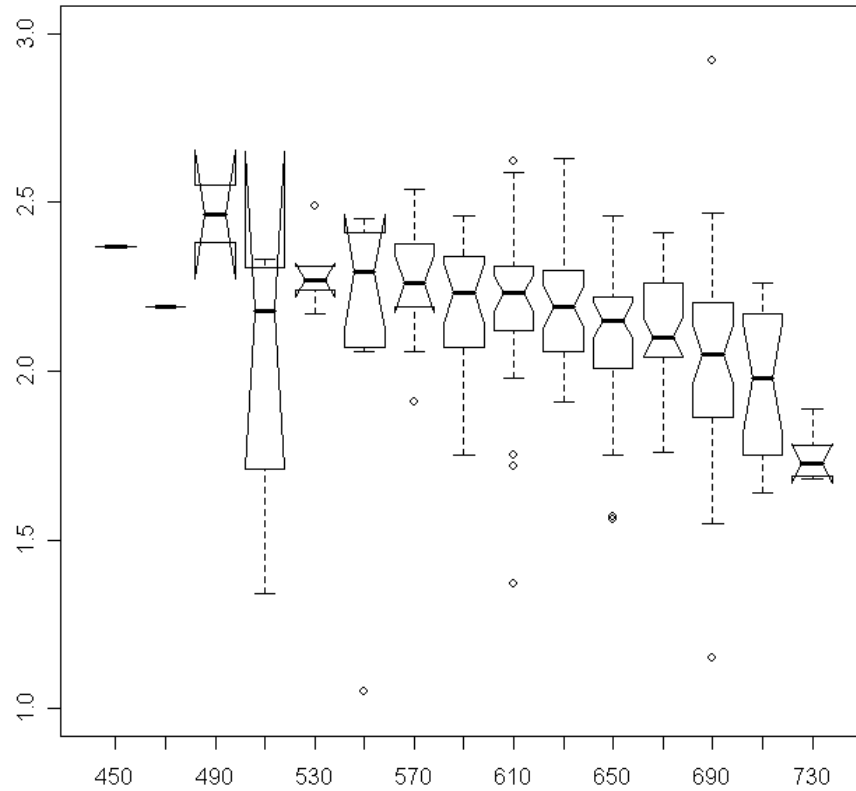


For interpretive proposes:

6. If the notches do not overlap there is a statistically significant difference in the Y values as function of the X values
7. Higher boxes and whiskers indicate more variability. If there are points beyond the whiskers there are probably outliers.



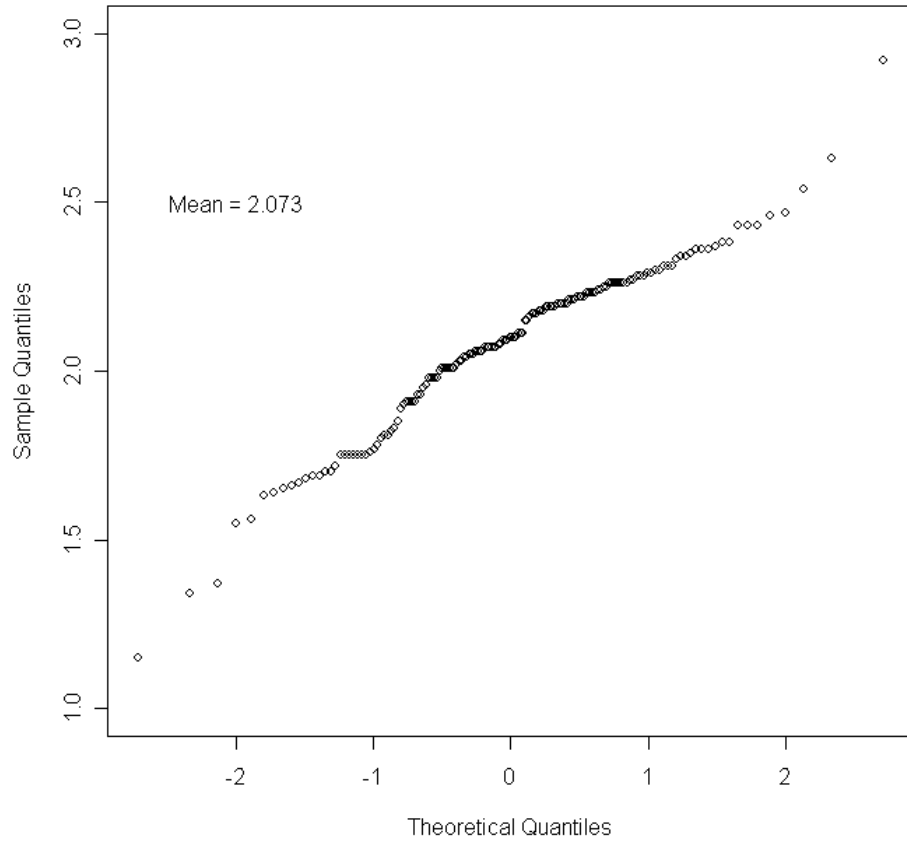
**Figure 12-4**  
**Box Plot of Density versus Down-Hole Distance**



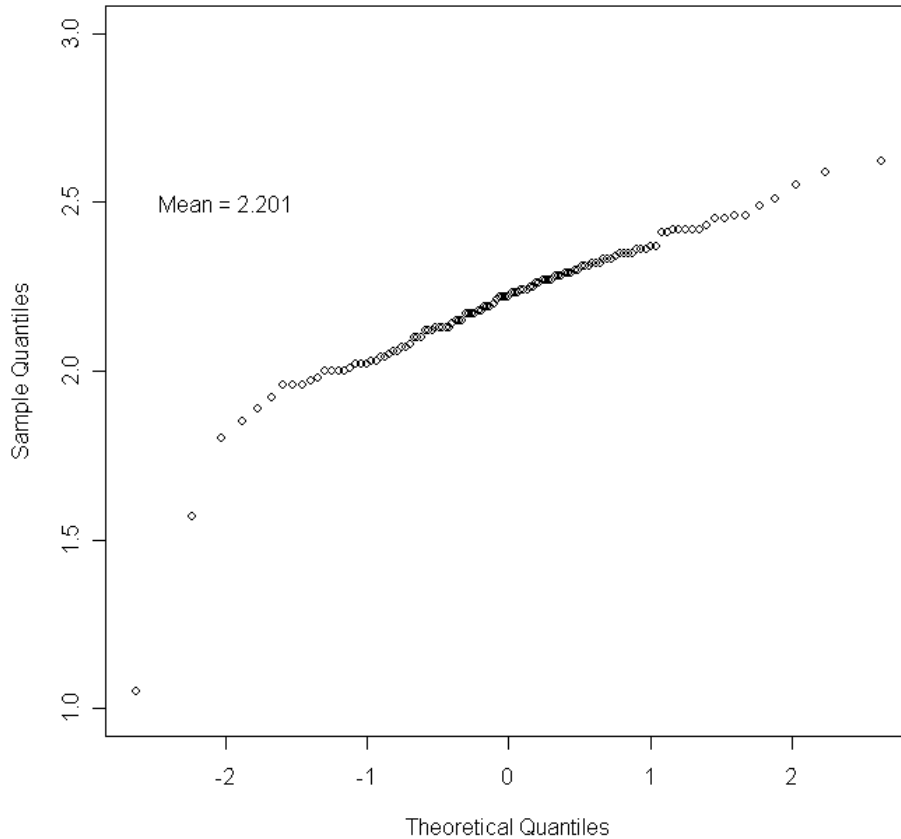
**Figure 12-5**  
**Box Plot of Density versus Elevation**

The two plots showing good correlation with density and downhole distance or elevation; i.e. shallower/higher samples tend to be lighter. For the next resource update CAM suggests that PGSA examine the possibility that downhole distance or elevation is a better predictor of density than position relative to a grade shell boundary.

As mentioned above the CAM grade shells were revisions of the PGSA grade shells to better match composite grades. CAM also examined mean grade as a function of inside and outside the PGSA grade shells.



**Figure 12-5**  
**Cumulative Plot of Densities outside Grade Shells**



**Figure 12-6**  
**Box Plot of Density versus Down-Hole Distance**

CAM opines that the discrepancy noted in waxed versus non-waxed samples, and the low average densities, suggest that the PGSA density determinations are possibly biased toward low densities. The data do appear to be conservative, and are sufficient for Resource estimation. CAM's Resource estimation was carried out using values of 2.18 tonnes per cubic meter for material inside the grade shells, and 2.10 for material outside the grade shells.

CAM recommends that, prior to Reserve estimation; PGSA should carry out additional density measurements, using controlled oven-drying of cores at 105 deg C, and the cellophane-wrap immersion method.

## **13.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY**

### **13.1 General Description**

The sampling methods employed in the Lomada Leiva drilling and trenching work were carried out by PGSA to acceptable industry standards. The sampling was performed at either field locations where the material were derived (trenches and RC drilling) or at the base camp in the Estancia Rincon.

Properly trained employees prepared the samples. Utmost care was exercised to eliminate sources of contamination such as prohibition of the use of jewelry (rings bracelets etc.) while working: Boxes were covered and kept above the ground (on pallets). Workers were refrained from walking on the boxes, sample bags were kept in a sterile environment, individual sample bags were stapled closed and collections in the burlap bags were zip tied closed.

No sample reduction was applied at the base camp to any of the samples other than the splitting of the diamond core. The only sample reduction that took place in the field was the splitting of the RC samples (as described previously). No officer, director, or associate of the issuer was involved in the sampling of any material from the project.

### **13.2 Trench Samples**

As previously described in section 10.2 and 12.2 the trench samples were prepared in the field. Upon arrive at the base camp they we prepared with a final washing, bagged and tagged, labeled, documented, weighted and stored for shipment.

### **13.3 RC Samples**

As previously described in section 10:2 and 12.2 the RC samples were prepared at the field site (drill). Other than packaging in sealed plastic burlap bags, labeling, documenting and weighing for shipment no other preparation was performed on the samples.

### **13.4 Diamond Drill Core**

HQ core and (very infrequently) NQ core samples were prepared by splitting the core in half with a mechanical diamond saw. Prior to the cutting, recovery was calculated on 3 meter intervals (equivalent to the core barrel) and the core was washed, oriented, and marked for cutting with special care taken to ensure that the core was split perpendicular to the structural trend. The core was measured at one-meter intervals. Occasionally a composite sample was necessary due to minimum sample size necessary for analysis (due to recovery variations).

The measurement of the 1 meter samples was constrained by the drill depth markers inserted by the drill supervisor, thus for every 1.5- or 3-metre interval a depth control was utilized as the limit. At the end of the hole, the last sample was normally an irregular value. After the core was cut, technicians prepared the samples by selecting the left hand sample of the split (down hole to the right) for the appropriate intervals. Samples were inserted into sterile poly bags, and were immediately closed and stapled with a sample tag. A second corresponding sample tag was affixed to the corresponding meter in the core box and details of the depth (from to) and hole identification were logged into the sample ticket book. After the individual samples were bagged they were inserted into sealed plastic burlap bags and process exactly same as the RC method described above. The sampling operation was guided and supervised by the project geologist.

### **13.5 Storage and Transport**

Samples pending shipment were stored onsite at the Estancia Rincon in a locked storage area. Shipment was made by either public transport (bus) or private courier in a closed and locked carton or locker. Shipment was directly to the designated Lab in Mendoza, Argentina. A provincial transport guide (permit) accompanied the shipments as well as shipping manifest and a letter addressing the particular analysis, sample numbers, and quantity for the lab. Upon reception the lab notified the PGSA data controller of the arrival.

### **13.6 Labs, Methods, and Procedures**

Two labs were contracted for analysis of the samples: Acme Labs and Alex Stewart. Acme served as the principal lab and provided analysis of Au, multi-element ICP and metallurgical testing (Figures 13-1, 13-2, and 13-3), while Alex Stewart served as the check lab of Au and ICP (Figure 13-4).

Acme Labs, a Vancouver based laboratory, and their branches in Mendoza, Argentina and Santiago, Chile undertook sample preparation, and analysis of Au by fire assays in Argentina and Chile, and by ICP analysis in Vancouver.

Acme are a well-known and reputable laboratory, compliant with ISO 9001-2000 and ISO 17025 Acme also is a participant in the CANMET and Geostats round-robin proficiency tests. Details of Acme's analytical procedures and standards checks are included in Appendix 1.

Alex Stewart. The Alex Stewart laboratory in Mendoza, Argentina was used a secondary lab, to undertake check assays. Alex Stewart is certified as ISO 17025 and 9000. Their methodology is summarized in Appendix 2.

### **13.7 Quality Control**

Quality control measures for the diamond drill core included insertion alternately of a standard or blank every 10th sample in the submittal to the principal and check assay lab. Duplicates were inserted every other 10th sample in the case of RC samples and alternately a standard or blank for every other 10th sample. Certified standard and blanks were utilized and are summarized in Appendix 3, along with standard deviations for the standards and blanks.

The results of the analysis of the standards submitted indicate fairly good correlation with the original values (Appendix 1, Graphs 1 to 9). The poorest performing standard was the very high grade G901-8 (Graph 6). This standard was troublesome due to the fact that the analysis required a second finish (gravimetric) and occasionally there was insufficient material due to this double analysis. Only 8 samples of this standard were submitted. A second problem is with B1 which is below Acme detection, and thus had a lower less correlation. The standard deviation of most samples was less than 1 and acceptable. In the case of G999-8 there were two sample result failures which appear to have affected the standard deviation significantly.

### **13.8 Check Assays**

Check assays have been undertaken, using the following regime:

- 10 percent of the pulps and rejects predominantly from the significant intervals are resubmitted to a) the principle lab (Acme) and b) a certified check laboratory (Alex Stewart).
- An interpretation of scatter plots for the data from the 120 check samples (Annex 1, Graphs 10-12) is based on results received to date which are the first 15 of the 47 drill holes.
- Correlation coefficients (Appendix 3) indicate an excellent correlation for all of the gold values and the rechecks of pulps with the independent lab Alex Stuart, as well as an internal check of Acme.

### **13.9 Adequacies of Sample Preparation, Security, and Analytical Procedures**

CAM believes that preparation and analysis of samples are acceptable and within industry standards. Security measures were always in place and more than adequate to ensure integrity of the samples.

## 14.0 DATA VERIFICATION

Data was validated utilizing visual review of digital and paper files, as well as computer-aided checking systems. This validation also included the physical re-checking (in some case re-surveying) of field locations including survey stations, trenches and drill collars. Validation also included review of historic core samples and volumes of digital and paper data, including maps and assays. Data verification included database searches, certificate validation, and QA/QC test on assay results. Other forms of validation included the twining of drill holes and trenches, re-logging and examination of the historic drill core, and review of the geophysical data.

Minor limitations on validation include the lack of few supporting documents from the historic data set from Barrick. In most cases the data was re-generated, surveyed or duplicated for confirmation.

### 14.1 Drillhole Database

The drillhole databases were provided by PGD to CAM as a Microsoft access (MDB database) for both the Barrick data and PGSA data. These were converted for use in the MicroMODEL resource modeling and mine planning system. Surface topography was provided to CAM as a MapInfo database. This was converted to in AutoCAD drawing for use in the MicroMODEL system. Basic statistics on the drillhole databases are given in Tables 14-1 through 14-3.

<b>TABLE 14-1 PGSA + Barrick Lomada Leiva Drilling Statistics from Assay Database</b>		
<b>Item</b>	<b>Number</b>	<b>Length (m)</b>
Holes	91	16,735.9
Holes with non-collar downhole surveys	91	16,838.2
Non-collar survey records	409	16,669.1
Downhole surveys up	0	0.0
Downhole surveys down	500	16,669.1
Assay intervals (AuBPGSA)	12,620	15,198.4
Assayed intervals (AuBPGSA)	10,500	11,913.3

<b>TABLE 14-2 Barrick Only Lomada Leiva Drilling Statistics from Assay Database</b>		
<b>Item</b>	<b>Number</b>	<b>Length (m)</b>
Holes	42	9,630.5
Holes with non-collar downhole surveys	42	9,630.6
Non-collar survey records	228	9,412.4



TABLE 14-2 Barrick Only Lomada Leiva Drilling Statistics from Assay Database		
Item	Number	Length (m)
Downhole surveys up	0	0.0
Downhole surveys down	270	9,412.4
Assay intervals (AuPPB)	6,993	9,388.0
Assayed intervals (AuPPB)	4,873	6,103.0

TABLE 14-3 PGSA only Lomada Leiva Drilling Statistics from Assay Database		
Item	Number	Length (m)
Holes	49	7,105.4
Holes with non-collar downhole surveys	49	7,207.6
Non-collar survey records	181	7,256.7
Downhole surveys up	0	0.0
Downhole surveys down	230	7,256.7
Assay intervals (AuPGSA)	5,627	5,810.4
Assayed intervals (AuPGSA)	5,627	5,810.4

## 14.2 Database Verification

CAM uses automated data processing procedures as much as possible in constructing geologic databases to assure consistency and minimize errors and costs. These procedures depend heavily on consistent and non-duplicated field labels and drillhole IDs. While many of the issues flagged by these automated procedures are obvious upon visual review, CAM requires a clean and consistent database before proceeding with geological modeling. Common inconsistencies include:

1. Misspellings.
2. Confusion of 0 (zero) and O or o.
3. Inconsistent use of upper and lower case.
4. Inconsistent usage of space \_ and -.
5. Trailing, leading or internal blanks. (CAM routinely changes all blanks to \_ to positively identify this problem)
6. Inconsistent use of leading zeros in hole IDs.

Over the years CAM personnel have developed a procedure for mathematical and statistically validating exploration databases. This check procedure includes:

- Check for duplicate collars.
- Check for twin holes.
- Check of surface collared holes against surface topography

- Check for statistically anomalous downhole surveys.
- Check for overlapping assays
- Check for 0 length assays
- Review of assay statistics by grade class.
- Review of assay statistics by length class.
- Checks for holes bottomed in ore
- Check for assay values successively the same.
- Check for assay spikes.
- Check for downhole contamination by decay analysis.
- Check of total grade thickness by hole.

### **14.3 Verification Results**

Very few anomalies were noted, but these were forwarded to PGD, but the number and type of anomalies were better than industry norms for databases of this size, and even if the anomalies turn out to be errors, they would have no effect on the overall resource estimate. On the basis of these statistical checks, CAM believes that the exploration database has been prepared according to industry norms, and is suitable for the development of geological and grade models.

## 15.0 ADJACENT PROPERTIES

The Breccia Sofia deposit is located on the same claim (Albatros) as Lomada Leiva, and was also previously explored by Barrick (Figure 4-2). Although not the subject of the current Resource estimation, its proximity (less than one kilometer) and geological similarity render it relevant to the discussion of Lomada Leiva. None of the Breccia Sofia assays were used in Resource estimation at Lomada Leiva.

The Breccia Sofia zone is characterized by millimeter-wide, gold-bearing, drusy quartz veinlets and breccia matrix that report up to bonanza gold grades (approximately 400 grams per tonne Au). Barrick's significant drill intercepts are summarized in Table 15-1, with the bonanza intercept indicated as a 3-metre composite yielding 140.61 grams per tonne Au.

<b>Table 15-1 Barrick Exploration Results Significant Intervals Breccia Sofia</b>			
<b>Hole ID</b>	<b>Depth (meters)</b>	<b>Sample Width (meters)</b>	<b>Au (g/t)</b>
DDH-LP42	272.50	3.00	140.61
DDH-LP47	100.00	12.00	2.41
DDH-LP51	251.70	10.00	4.99
DDH-LP54	0.35	17.85	3.50
DDH-LP59	187.00	2.00	8.07
DDH-LP63	101.00	2.00	4.31

During early 2007, PGSA drilled nearly 2,500 meters of RC holes at Breccia Sofia. Table 15-2 lists the most significant intercepts. There were numerous additional intercepts of over 1,000 ppb.

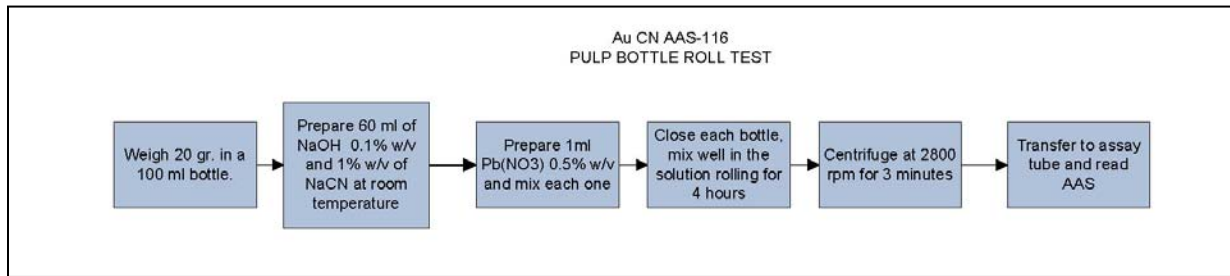
<b>Table 15-2 Most Significant Intervals PGSA Breccia Sofia RC Drilling</b>				
<b>Hole ID</b>	<b>From</b>	<b>To</b>	<b>Meters</b>	<b>Au (ppb)</b>
BSR-002	92	93	1	27,100
BSR-003	177	178	1	7,356
BSR-006	90	94	4	2,870
BSR-006	118	123	5	3,250
BSR-007	80	81	1	3,548
BSR-012	55	59	4	2,970
BSR-012	75	79	4	2,150
BSR-014	70	73	3	4,440
BSR-014	72	73	1	4,130
BSR-015	38	41	3	2,850
BSR-015	48	52	4	17,290

Table 15-2 Most Significant Intervals PGSA Breccia Sofia RC Drilling				
Hole ID	From	To	Meters	Au (ppb)
BSR-016	25	32	7	2,610
BSR-016	49	50	1	5,292
BSR-017	43	44	1	12,400

These indications of mineralization are encouraging, and classify Breccia Sofia area as a priority target for further examination.

## 16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Bottle Roll and other tests are in progress for the Lomada Leiva samples. Since this work is in progress and only preliminary results have been reported at this time, an interpretation of the data is pending. Analysis was performed by Acme Labs (Mendoza, Argentina), as described in Figure 16-1.



**Figure 16-1**  
**Acme Bottle Roll Tests**

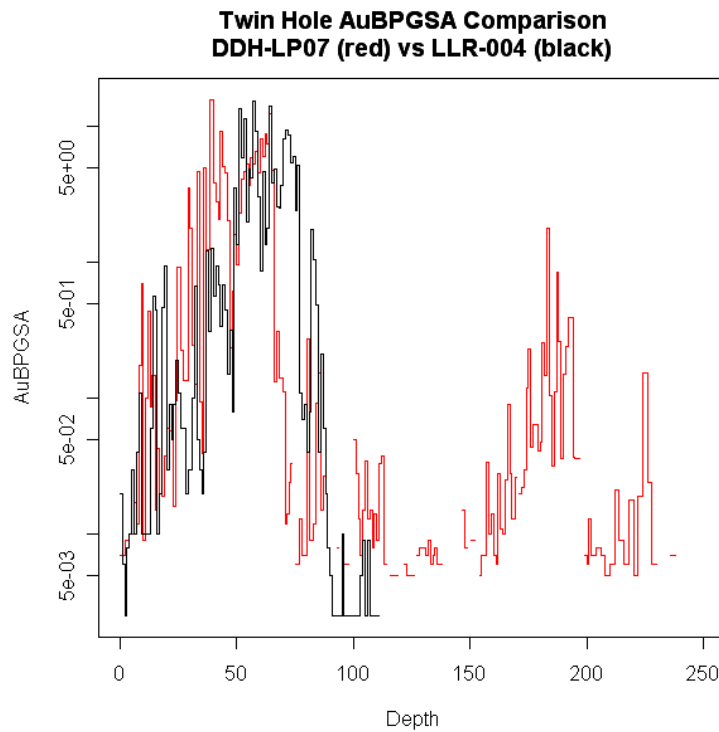
Preliminary results for the Acme bottle roll tests indicates an average of 71 percent extraction in 6 hours and 85 percent extraction in 12 hours for the 20 samples of the oxidized mineral material examined (Acme Lab-BR, 2007). Preliminary results for 20 samples indicate two size populations of gold particles (Acme Lab-SF, 2007); an average of nearly 50 percent is indicated for a fine gold fraction and approximately 20 percent is indicated for the coarse gold fraction.

While preliminary, these results indicate that oxidized mineralization is amenable to cyanide extraction of gold. Testing is continuing.

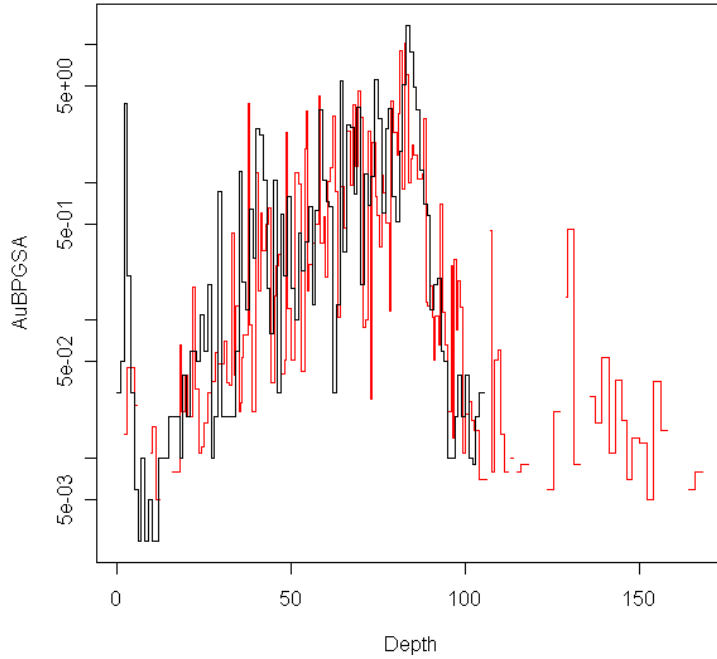
## 17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

### 17.1 Twin Hole Analysis

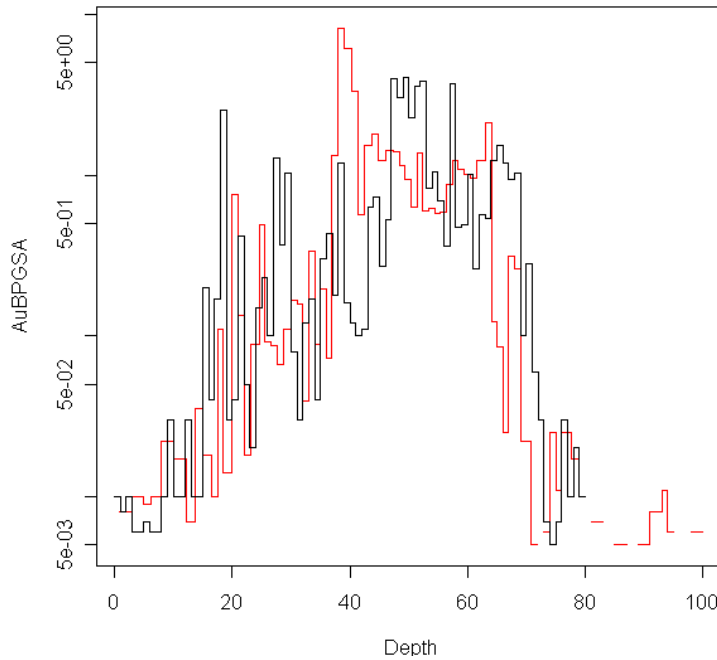
There were 4 twin holes in the dataset provided to CAM. Downhole histograms for these four holes are shown in Figures 17-1 thru 17-4. These figures show a remarkable degree of similarity at the same downhole distance indicating that there is good reproducibility between holes separated by a very small distance.



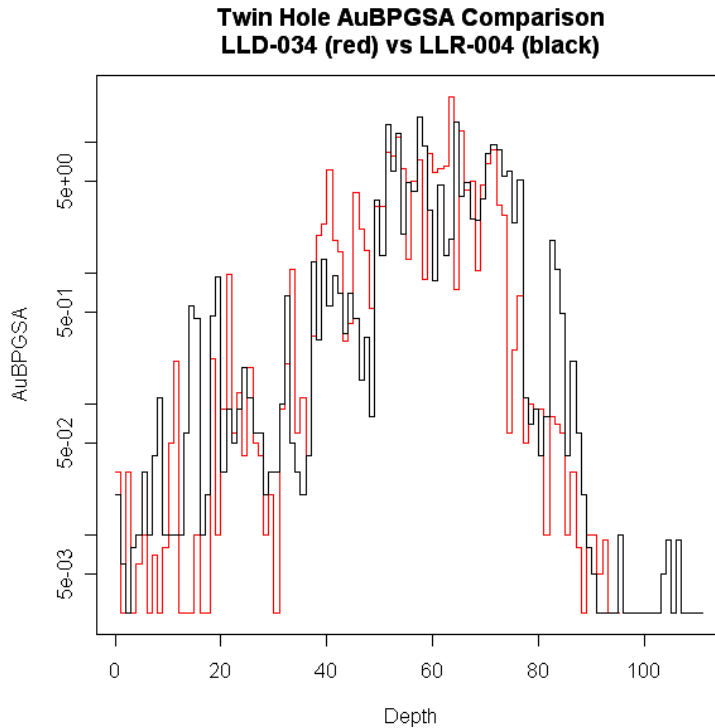
**Figure 17-1  
Twin Hole AuBPGSA Comparison  
DDH-LP07 (red) vs. LLR-004 (black)**



**Figure 17-2**  
**Twin Hole AuBPGSA Comparison**  
**DDH-LP12 (red) vs. LLD-006 (black)**



**Figure 17-3**  
**Twin Hole AuBPGSA Comparison**  
**DDH-LP36 (red) vs. LLD-006 (black)**



**Figure 17-4  
Twin Hole AuBPGSA Comparison  
LLD-034 (red) vs. LLD-004 (black)**

These holes do not entirely replace the need for a set of geostatistical holes to confirm short range mineable continuity but they do provide considerable evidence for short range mineable continuity. Although CAM recommends a set of geostatistical holes be drilled CAM feels that the evidence from the twin holes is sufficiently compelling to allow a portion of the resource to be classified as Measured at this level of development, as discussed further in the Resource Classification section.

## 17.2 Geologic Interpretation

While on-site, CAM reviewed sections on nominal 50 m spacing through the deposit. These sections showed a continuous zone of mineralization is striking approximately north 30 degrees east with a clearly defined central zone. Surface samples, both trench and sawed channels, confirmed the extension of this mineralized zone to the surface. However, the surface zone appeared more diffuse and CAM and PGSA agreed that it was most appropriate to base the resource model on drillhole data only, excluding trench data.

Initially the interpretation of mineralization was based on the lithology constraining the mineralization. These initial interpretations were done by Joy Lester of PGSA. CAM reviewed these initial sections and found that The lithology constraining the mineralization was about the same as a 0.3 gpt Au grade shell.



There were slight algorithmic differences between the MicroMODEL software system being used by CAM to assign X-Y-Z coordinates to the holes, and the MapInfo-based system used by PGSA.

Some of the lithology shells interpreted by PGSA would be diluted to less than 0.3 by the 5 m length composites.

CAM re-plotted the sections and returned them to PGSA for reinterpretation as a 0.3 grade shell. PGSA reinterpreted the sections using the criteria that for a grade shells to be drawn there had to be at least three contiguous composites either on one section or one or two adjacent sections. These sections were returned to CAM for adjustment to match the 5 m length composites.

### 17.3 Construction of Grade Shell

CAM defined a rectangular solid covering the area of the drill holes and the sections. This was oriented north-south to be sub parallel to most of the drill holes. In retrospect it would have probably been better if the drill holes had been oriented at East 30° South to be perpendicular to the orebody, however this could've not have been foreseen at the time that Barrick commenced drilling and CAM is in complete agreement with PGSA's decision to drill on basically the same sections as used by Barrick.

Geometric parameters of the block model are given in Table 17-2.

Table 17-2 PGSA Lomada Leiva Model Geometric Parameters					
Origin (Meters)		Number of		Block Size (Meters)	
Northing	97900.00	Rows	260	Row	5.00
Easting	80500.00	Columns	240	Column	5.00
Elevation	300.00	Benches	100	Bench	5.00
Rotation Angle (0.00)					
MicroMODEL North Subtract = 4700000					
MicroMODEL East Subtract = 2300000					

CAM constructed a block model consisting of values inside and outside the 0.3 grade shell by perpendicular projection to the nearest section with a maximum distance of 50 meters. CAM visually reviewed this model by examining every row, column and bench as a series of movies for each frame corresponds to a row column or bench. A typical frame from a bench movie is shown in Figure 17-5. This figure clearly shows the north 30 degrees east strike of the 0.3 grade shell. It also shows good continuity between sections indicating that the grade shell interpretation is reasonable and ore continuity can be reasonably expected.

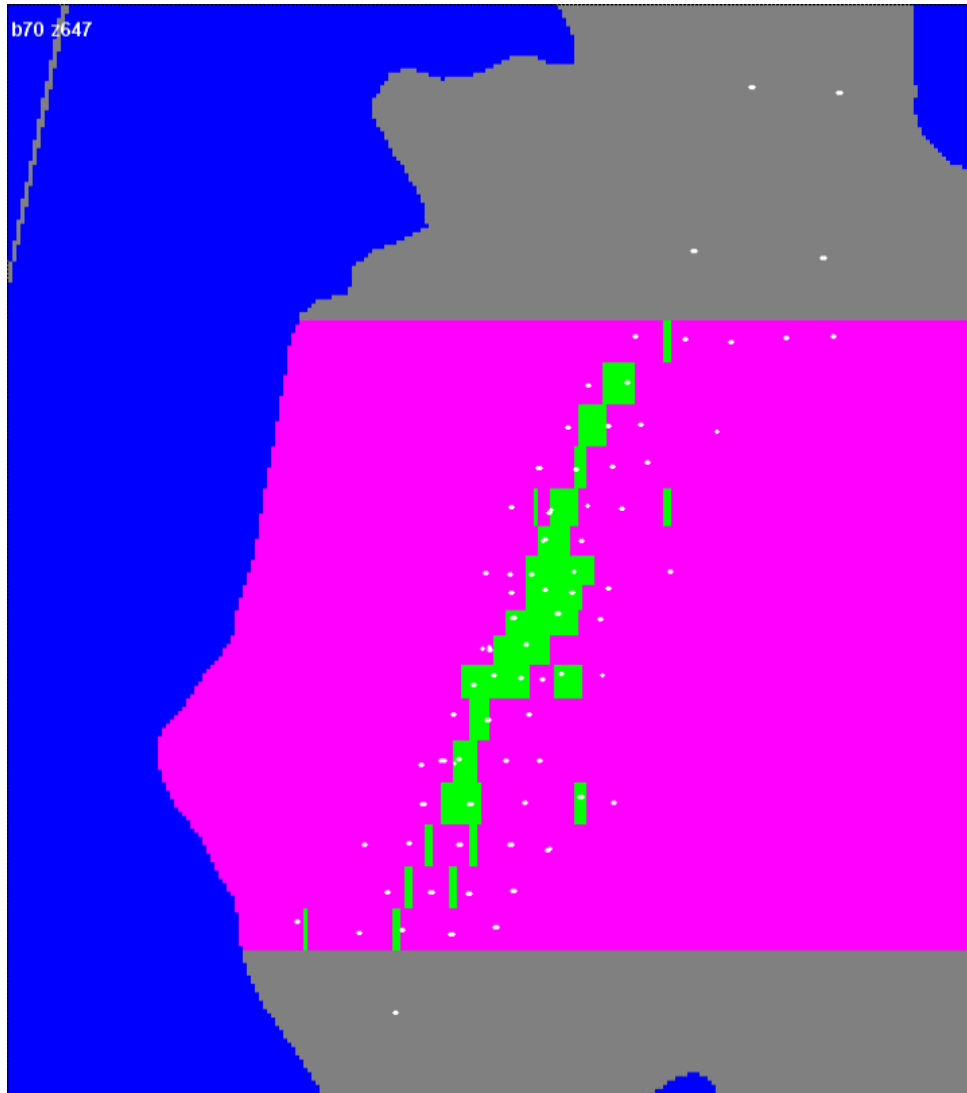
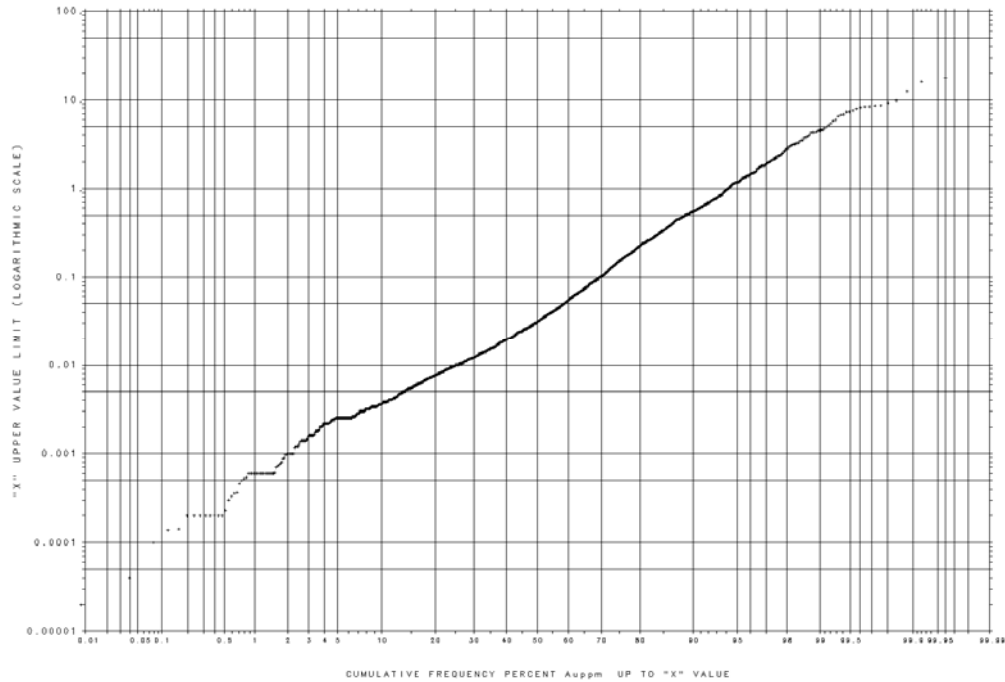


Figure 17-5  
Horizontal Section ("bench view") of 0.3 gpt Au Grade Shell

#### 17.4 Statistics and Geostatistics

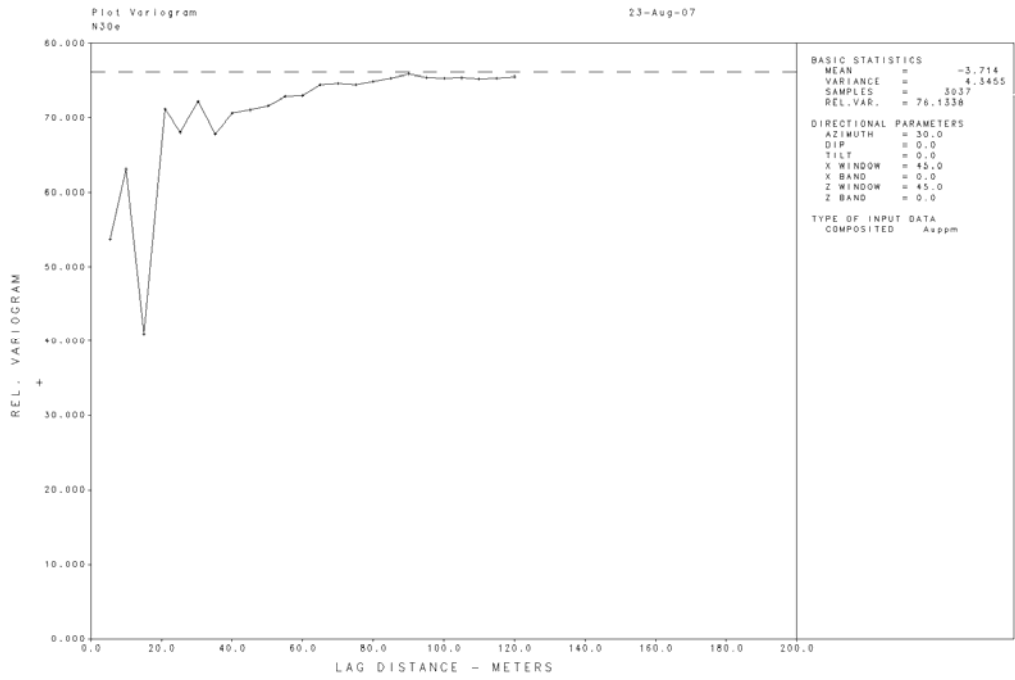
CAM composited the assays to 5-meter length composites (2.5 meters minimum) and assigned composites to the grade shell on the basis of which block within the model the composites centroid fell within. A log cumulative frequency plot (Figure 17-6) of gold plus 0.001 showed a slight upward break at about 9 ppm and CAM capped composites at this value (9 ppm).



**Figure 17-6**  
**Log Cumulative Frequency Plot of Au+0.001 gpt**

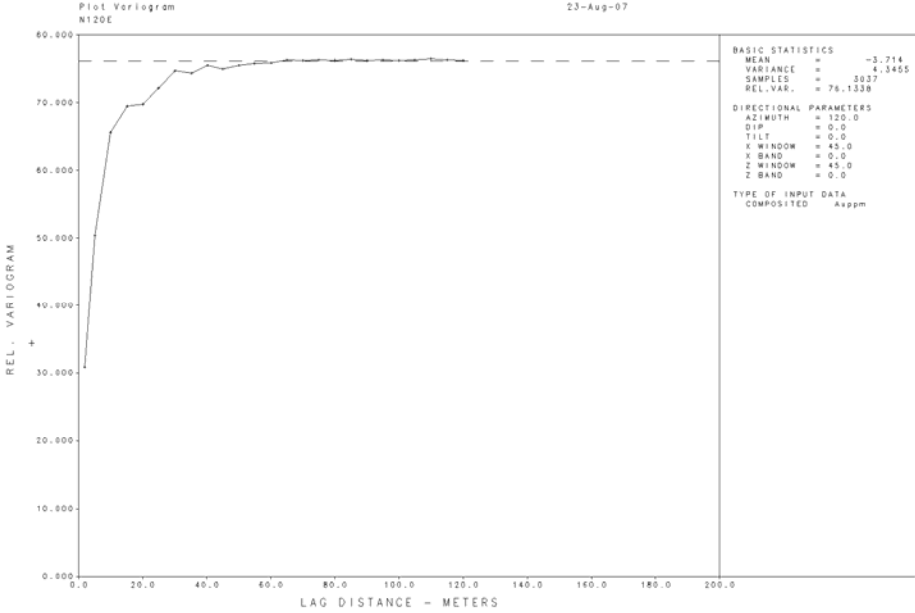
CAM constructed log variograms for both composite gold and composite gold+0.001 gold, north 30 degrees east, north 120 degrees east, vertically and omnidirectionally. For the non-omnidirectional variogram a pyramid half vertex of 45 degrees was used. The north 30 degrees east variogram showed a range of about 80 meters, across strike the range was about 50 meters and down dip the range was somewhat longer.

Initially CAM constructed variograms based on the log of gold composites as omnidirectional, north 30 degrees east, east 30 degrees south and vertically. A 45 degree half vertex angle was used for all variograms except for the omnidirectional where a 90 degree half vertex angle was used. The three directional variogram showed ranges of about 80, 50 and 50 meters respectively. As shown in Figures 17-7, 17-8, and 17-9 respectively



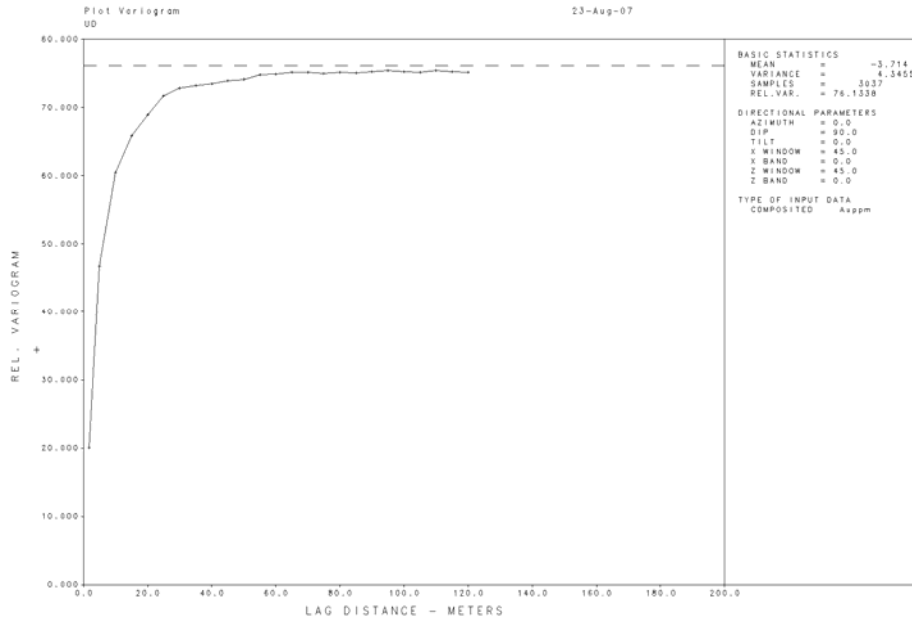
**Figure 17-7**  
**Variogram of log of Gold Composites, North 30° East**

Because of the relatively small number of pairs along strike, Figure 17-7 is quite erratic out to about 30 m., but then shows a range of 80 m. across strike.



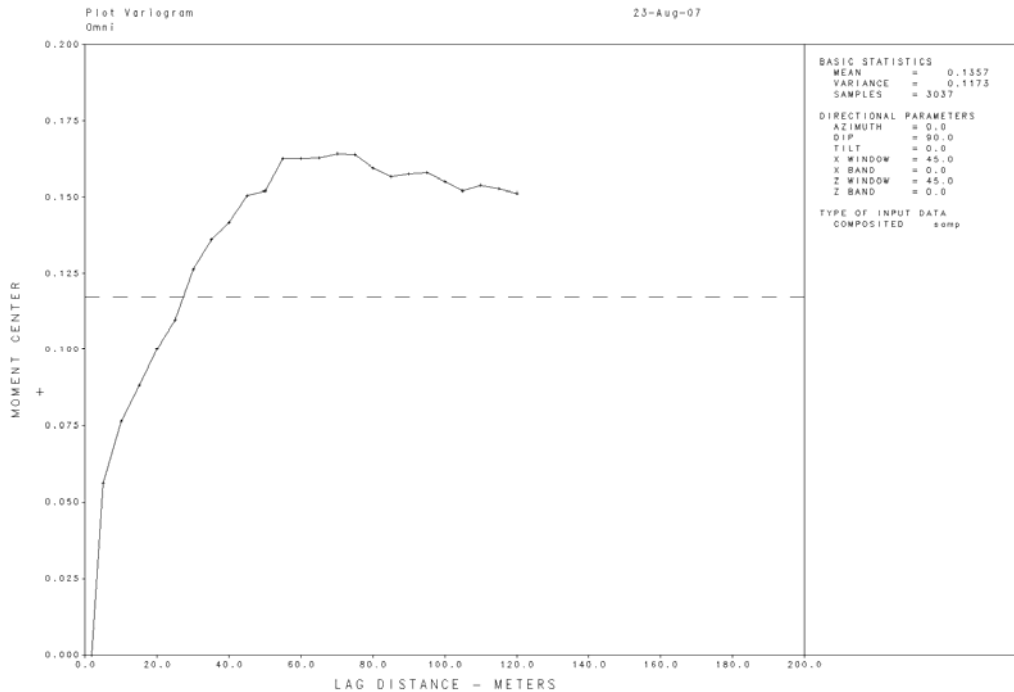
**Figure 17-8**  
**Variogram of log of Gold Composites, East 30° South**

The variogram in Figure 17-8 shows a range of about 50 m down dip.



**Figure 17-9**  
**Variogram of log of Gold Composites, Vertically**

The variogram in Figure 17-9 shows a good structure out to about 30 m and there is an additional structure out to about 80 meters. Much of the data for the project is in ppb and it has been CAM's experience that these data show higher relative variances and longer ranges than for grams per tonne data. One way of eliminating the higher relative variance and longer ranges is to use indicator variograms. An omnidirectional indicator variogram at 0.3 grams per tonne cutoff is shown in Figure 17-10.



**Figure 17-10**  
**Variogram of log of Gold Composites, Omnidirectional**

Figure 17-10 shows a substantial hole effect which is to be expected given the clearly grade-zoned nature of the deposit.

## 17.5 Resource Estimation

For characterization of blocks, CAM chose a search radius of 80 meters along strike, 50 meters across strike, and 50 meters down-dip. The down-dip direction was restricted to 50 meters to avoid the possibility of excessive vertical smearing. The 80-meter distance allowed a block half way between 2 spaced 50-meter sections an opportunity to select composites from two sections on either side of the block.

CAM used a sector search with six sectors each corresponding to the face of a cube, the search ellipse was 80 meters along strike and 50 meters across it and vertical. A maximum of two composites per sector were allowed, for a total of a maximum of 12 composites. Inverse distance cubed was used to estimate the grade of the blocks.

## 17.6 Resource Classification

CAM used the CIM definitions of Measured, Indicated and Inferred Resources. Specifically, the following guidelines were used for quantitative assessment of Resources:

Measured and Indicated Resources should be within plus or -15 percent of actual production in terms of tonnes and contained metal at the 95 percent level of confidence, as calculated on an annual or total basis. This plus or -15 percent guideline is based on the usual standard of accuracy of plus or -15 percent for feasibility studies.

Measured Resources do not require any additional drilling for detailed phase design.

Indicated Resources may require some additional drilling for detailed phase design but they are sufficient for ultimate pit design without additional drilling.

It is been CAM's experience in precious metals deposits, that these criteria are satisfied if the deposit is drilled to a grid spacing at the approximate range of the variogram.

The 0.3 gpt Au indicator variogram showed a substantial hole effect and crossed the sill at about 30 m, so CAM elected to use a range of 30 meters for resource classification. This 30 meters is somewhat conservative, given the ranges observed in the log and relative variograms, but it is been CAM's experience that variograms based on assays in ppb tend to have longer ranges than those based on assays in ppm. Also, because of the clear zoning observed in the deposit it is likely that part of the longer range observed in the indicator variogram is due to zoning. Finally, a range of 30 meters or 100 feet is typical of gold deposits of this type.

It is commonly observed that if a Resource is drilled down to the range of the variogram, it can be classified as Measured and Indicated. If the drilling is on a grid of 30 meters no point is further than 21.21 meters from any sample. Therefore, CAM used the criteria that a block could be regarded as Indicated if it was within 21.21 meters of the nearest sample inside the grade shell. Outside the grade shell, this distance was halved to 11.1 m. Because of the good continuity indicated by the twin holes, CAM classified as Measured Resources those blocks within 11.1 meters (1/2 the indicated distance) of a sample point inside the mineral zone.

Cross-sections showing the spatial relationship of drillholes, grade shells, and breccia outlines, are shown in Figures 11-3 and 11-4.

## **17.7 Resource Tabulation**

Resources as calculated and classified by CAM are given in Table 17-3. Table 17-4 provides a summary of exploration intersections at Lomada de Leiva.

**Table 17-3  
Mineral Resources, Lomada Leiva Deposit**

Resource Type	Au Cutoff PPM	Tonnes	Au Grade PPM	Au Contained Troy Ounces	Avg. no. Holes	Avg. no. Comps	SG
Measured, Within Grade Shells	0.000	2,092,800	0.8258	55,564	3.99	10.05	2.180
Measured, Within Grade Shells	0.001	2,092,800	0.8258	55,564	3.99	10.05	2.180
Measured, Within Grade Shells	0.100	1,988,160	0.8658	55,345	4.03	10.12	2.180
Measured, Within Grade Shells	0.200	1,725,743	0.9738	54,028	4.06	10.17	2.180
Measured, Within Grade Shells	0.300	1,427,628	1.1249	51,633	4.14	10.31	2.180
Measured, Within Grade Shells	0.400	1,155,128	1.3075	48,560	4.21	10.49	2.180
Measured, Within Grade Shells	0.500	951,843	1.4911	45,630	4.26	10.58	2.180
Measured, Within Grade Shells	1.000	454,530	2.3575	34,451	4.32	10.91	2.180
Indicated, Within Grade Shells	0.000	4,814,530	0.7541	116,731	3.89	9.68	2.180
Indicated, Within Grade Shells	0.001	4,814,530	0.7541	116,731	3.89	9.68	2.180
Indicated, Within Grade Shells	0.100	4,717,247	0.7683	116,525	3.91	9.73	2.180
Indicated, Within Grade Shells	0.200	4,216,120	0.8407	113,962	3.96	9.80	2.180
Indicated, Within Grade Shells	0.300	3,474,375	0.9672	108,045	4.05	9.98	2.180
Indicated, Within Grade Shells	0.400	2,813,290	1.1124	100,614	4.13	10.16	2.180
Indicated, Within Grade Shells	0.500	2,286,820	1.2655	93,044	4.19	10.36	2.180
Indicated, Within Grade Shells	1.000	1,026,235	1.9637	64,791	4.24	10.66	2.180
Indicated, Outside Grade Shells	0.000	8,703,450	0.0417	11,662	3.14	9.23	2.100
Indicated, Outside Grade Shells	0.001	8,660,663	0.0419	11,661	3.15	9.24	2.100
Indicated, Outside Grade Shells	0.100	879,375	0.1903	5,381	3.74	10.16	2.100
Indicated, Outside Grade Shells	0.200	207,113	0.3725	2,480	3.47	9.31	2.100
Indicated, Outside Grade Shells	0.300	100,013	0.5187	1,668	3.45	8.80	2.100
Indicated, Outside Grade Shells	0.400	47,775	0.7104	1,091	4.08	9.94	2.100
Indicated, Outside Grade Shells	0.500	28,350	0.8946	815	4.23	9.98	2.100
Indicated, Outside Grade Shells	1.000	9,188	1.3633	403	4.29	9.97	2.100
Total Indicated	0.000	13,517,980	0.2954	128,393	3.40	9.38	2.128
Total Indicated	0.001	13,475,193	0.2964	128,392	3.41	9.39	2.128
Total Indicated	0.100	5,596,622	0.6775	121,906	3.88	9.80	2.167
Total Indicated	0.200	4,423,233	0.8188	116,442	3.93	9.78	2.176
Total Indicated	0.300	3,574,388	0.9547	109,713	4.04	9.95	2.178
Total Indicated	0.400	2,861,065	1.1057	101,705	4.13	10.16	2.179
Total Indicated	0.500	2,315,170	1.261	93,860	4.19	10.36	2.179
Total Indicated	1.000	1,035,423	1.9584	65,194	4.24	10.65	2.179
Total Measured + Indicated	0.000	15,610,780	0.3665	183,957	3.48	9.47	2.135
Total Measured + Indicated	0.001	15,567,993	0.3675	183,956	3.49	9.48	2.135
Total Measured + Indicated	0.100	7,584,782	0.7269	177,250	3.92	9.88	2.170
Total Measured + Indicated	0.200	6,148,975	0.8623	170,469	3.97	9.89	2.177
Total Measured + Indicated	0.300	5,002,015	1.0033	161,347	4.07	10.05	2.178



**Table 17-3  
Mineral Resources, Lomada Leiva Deposit**

Resource Type	Au Cutoff PPM	Tonnes	Au Grade PPM	Au Contained Troy Ounces	Avg. no. Holes	Avg. no. Comps	SG
Total Measured + Indicated	0.400	4,016,192	1.1637	150,265	4.15	10.25	2.179
Total Measured + Indicated	0.500	3,267,013	1.328	139,490	4.21	10.42	2.179
Total Measured + Indicated	1.000	1,489,953	2.0801	99,645	4.26	10.73	2.180
Inferred, Within Grade Shells	0.000	3,554,763	0.5631	64,354	3.40	8.35	2.180
Inferred, Within Grade Shells	0.001	3,554,763	0.5631	64,354	3.40	8.35	2.180
Inferred, Within Grade Shells	0.100	3,468,107	0.5756	64,184	3.45	8.43	2.180
Inferred, Within Grade Shells	0.200	3,032,652	0.635	61,912	3.53	8.59	2.180
Inferred, Within Grade Shells	0.300	2,339,958	0.7493	56,368	3.73	8.93	2.180
Inferred, Within Grade Shells	0.400	1,811,580	0.8663	50,457	3.92	9.23	2.180
Inferred, Within Grade Shells	0.500	1,380,485	0.9964	44,224	4.07	9.54	2.180
Inferred, Within Grade Shells	1.000	444,993	1.6412	23,481	4.17	9.60	2.180
Inferred, Outside Grade Shells	0.000	158,638,988	0.0342	174,220	2.14	6.77	2.100
Inferred, Outside Grade Shells	0.001	156,750,825	0.0346	174,159	2.15	6.79	2.100
Inferred, Outside Grade Shells	0.100	9,711,975	0.1872	58,465	2.57	7.71	2.100
Inferred, Outside Grade Shells	0.200	2,319,450	0.3616	26,964	2.37	6.76	2.100
Inferred, Outside Grade Shells	0.300	1,072,313	0.5035	17,357	2.37	6.73	2.100
Inferred, Outside Grade Shells	0.400	698,775	0.5907	13,270	2.26	6.55	2.100
Inferred, Outside Grade Shells	0.500	470,138	0.6591	9,963	2.17	6.34	2.100
Inferred, Outside Grade Shells	1.000	11,550	1.1027	409	3.34	7.93	2.100
Total Inferred	0.000	162,193,750	0.0458	238,574	2.16	6.80	2.102
Total Inferred	0.001	160,305,588	0.0463	238,513	2.17	6.83	2.102
Total Inferred	0.100	13,180,083	0.2894	122,650	2.80	7.90	2.121
Total Inferred	0.200	5,352,103	0.5165	88,876	3.01	7.78	2.145
Total Inferred	0.300	3,412,270	0.672	73,726	3.29	8.22	2.154
Total Inferred	0.400	2,510,355	0.7896	63,728	3.45	8.47	2.157
Total Inferred	0.500	1,850,623	0.9107	54,187	3.58	8.71	2.159
Total Inferred	1.000	456,543	1.6276	23,890	4.15	9.55	2.178
Total Inside	0.000	10,462,092	0.7035	236,649	3.74	9.30	2.180
Total Inside	0.001	10,462,092	0.7035	236,649	3.74	9.30	2.180
Total Inside	0.100	10,173,515	0.7217	236,054	3.78	9.36	2.180
Total Inside	0.200	8,974,515	0.7968	229,901	3.83	9.46	2.180
Total Inside	0.300	7,241,960	0.9279	216,047	3.97	9.71	2.180
Total Inside	0.400	5,779,997	1.0743	199,631	4.08	9.94	2.180
Total Inside	0.500	4,619,148	1.2316	182,899	4.17	10.16	2.180
Total Inside	1.000	1,925,758	1.9821	122,723	4.24	10.47	2.180
Total Outside	0.000	167,342,438	0.0345	185,882	2.19	6.89	2.100
Total Outside	0.001	165,411,488	0.0349	185,820	2.20	6.92	2.100

**Table 17-3  
Mineral Resources, Lomada Leiva Deposit**

Resource Type	Au Cutoff PPM	Tonnes	Au Grade PPM	Au Contained Troy Ounces	Avg. no. Holes	Avg. no. Comps	SG
Total Outside	0.100	10,591,350	0.1875	63,846	2.67	7.92	2.100
Total Outside	0.200	2,526,563	0.3625	29,444	2.46	6.96	2.100
Total Outside	0.300	1,172,325	0.5048	19,025	2.46	6.91	2.100
Total Outside	0.400	746,550	0.5983	14,362	2.38	6.77	2.100
Total Outside	0.500	498,488	0.6725	10,778	2.28	6.55	2.100
Total Outside	1.000	20,738	1.2182	812	3.76	8.84	2.100
Total	0.000	177,804,530	0.0739	422,531	2.28	7.03	2.105
Total	0.001	175,873,580	0.0747	422,469	2.29	7.06	2.105
Total	0.100	20,764,865	0.4492	299,900	3.20	8.61	2.138
Total	0.200	11,501,078	0.7014	259,345	3.52	8.90	2.162
Total	0.300	8,414,285	0.8689	235,072	3.75	9.30	2.169
Total	0.400	6,526,548	1.0198	213,993	3.88	9.56	2.171
Total	0.500	5,117,635	1.1771	193,677	3.98	9.80	2.172
Total	1.000	1,946,495	1.974	123,535	4.24	10.46	2.179

NOTE: Totals in Table 17-3 of Measured plus Indicated plus Inferred are shown for convenience; however, are not publishable under NI 43-101 rules.

**Table 17-4  
Summary of Exploration Intersections at Lomada de Leiva**

Hole No.	Depth (meters)	SECTION	From (meters)	Interval (meters)	Grade Au (g/t)	Hole No.	Depth (meters)	SECTION	From (meters)	Interval (meters)	Grade Au (g/t)
<b>PGSA Diamond drill holes</b>						<b>PGSA Reverse Circulation holes</b>					
LPD-01	39.00	8525	9.0	18.0	6.87	LLR-03	140.0	8435	123.0	5.0	1.64
<i>including</i>			10.0	10.0	10.86	LLR-04	111.0	8435	49.0	28.0	5.71
LPD-02	69.10	8465	35.0	21.0	4.12	<i>including</i>			51.0	8.0	8.27
<i>including</i>			46.0	7.0	5.17	LLR-05	120.0	8455	58.0	12.0	2.14
LPD-03B	152.85	8560	85.0	16.0	6.55	LLR-07	80.0	8300	47.0	22.0	1.67
<i>including</i>			94.0	6.0	13.75	<i>including</i>			47.0	6.0	3.47
LPD-04	135.00	8560	63.0	8.0	1.19		<i>or</i>		47.0	11.0	2.50
	<i>and</i>		97.0	12.0	1.32						
LPD-06	105.28	8600	64.0	24.0	3.05	<b>Barrick Diamond drillholes</b>					
<i>including</i>			82.0	5.0	7.16	DDHLP-01	207.01	8150	81.1	5.9	1.74
LPD-07	77.30	8560	38.0	20.0	2.66	DDHLP-05	156.95	8525	49.0	3.4	3.16
<i>including</i>			48.0	4.0	5.89		<i>and</i>		86.8	3.3	5.34
LPD-09	215.65	8465	73.0	12.0	2.01		<i>and</i>		92.0	4.4	2.43
	<i>and</i>		88.0	10.0	2.07	DDHLP-07	250.65	8465	36.0	30.0	5.07
LPD-11	101.95	8650	38.0	8.0	2.46	DDHLP-11	220.05	8525	6.8	22.8	7.81
LPD-14	146.50	8700	90.0	3.0	2.29	DDHLP-12	168.2	8600	78.7	10.0	3.13
LPD-16	134.80	8350	95.0	19.0	3.60		<i>and</i>		65.9	8.4	1.84
<i>including</i>			97.0	5.0	9.00	DDH-LP13	193.0	8300	70.3	5.8	1.36
LPD-17	158.20	8300	137.0	2.0	3.14	DDHLP-14A	176.2	8200	105.0	4.0	2.85
LPD-18	148.90	8250	102.0	5.0	3.08	DDHLP-20	243.75	8400	60.5	4.8	3.90

Table 17-4 Summary of Exploration Intersections at Lomada de Leiva												
Hole No.	Depth (meters)	SECTION	From (meters)	Interval (meters)	Grade Au (g/t)		Hole No.	Depth (meters)	SECTION	From (meters)	Interval (meters)	Grade Au (g/t)
LPD-21	141.00	8150	100.0	8.0	1.29		DDH-LP24	201.0	8300	29.0	7.0	1.38
LPD-22	99.30	8150	29.0	1.0	9.90		DDHLP-25	150.00	8600	17.0	11.2	2.06
LPD-23*	142.65	8500	48.0	7.0	2.48		DDHLP-30	221.95	8400	116.7	9.1	2.05
	<i>and</i>		61.0	8.0	1.71		DDHLP-35	120.00	8400	81.0	4.3	2.08
	<i>and</i>		73.0	6.0	2.23			<i>and</i>		88.4	7.4	4.97
LPD-26	66.20	8500	19.0	21.0	8.49		DDHLP-36	100.00	8300	37.0	15.5	2.28
	<i>including</i>		21.0	10.0	12.68			<i>and</i>		57.4	6.7	1.26
LPD-27	102.10	8525	49.0	17.0	3.15		DDHLP-37	104.95	8500	58.2	20.4	4.06
	<i>including</i>		57.0	5.0	5.75							
LPD-30	87.00	8300	40.0	5.0	2.26		<b>PGSA Trenches</b>					
LPD-32	76.30	8400	6.0	10.0	2.54		LLT-001	46.99	8465	21.0	17.0	1.41
	<i>and</i>		42.0	11.0	3.00					31.0	4.0	3.05
LPD-34	95.10	8435	38.0	36.0	4.78		LLT-002	59.28	8435	42.0	8.0	1.76
	<i>including</i>		59.0	7.0	8.86		LLT-003	55.84	8380	46.0	9.0	2.86
										50.0	4.0	4.97
							LLT-008	34.87	8600	8.0	23.0	1.23
							LLT-010	40.96	8525	6.0	18.0	3.89
										9.0	11.0	5.01
							LLT-011	47.57	8500	11.0	19.0	1.77

## 17.8 Resource Recommendations

CAM believes the resource model is suitable for preliminary mine design, and recommends the following actions to facilitate the conversion of the Resource to a Reserve:

1. Do two preliminary pit designs, based on Indicated Resources and Indicated plus Inferred Resources. On the basis of these designs drill one or two holes to each section above and below the pit bottom to define final pit geometry.
2. In addition to the pit bottom design holes, review the sections to see if additional drilling is necessary to define the lateral extent of the ore.
3. Drill geostatistical X or L patterns at blasthole separation with precise downhole surveys in two or three areas of the pit, to confirm the short-range mineable continuity of ore-grade material which is now based on twin holes. If, as expected, these geostatistical holes provide additional confirmation of short-range mineable contiguity at blasthole separation, this may allow additional conversion of some of the Indicated Resource into Measured Resource, and some Inferred into Indicated Resources. If the economics are positive, Proven and Probable Reserves can be defined.
4. Consider using a polygonal grade model to aid in defining the grade shells.

## **18.0 OTHER RELEVANT DATA OR INFORMATION**

The author is not aware of any other information not included herein, the omission of which would tend to make this report misleading.

## **19.0 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES**

This report does not establish or describe any mineral Reserves, or any development or production scenarios.

## 20.0 INTERPRETATIONS AND CONCLUSIONS

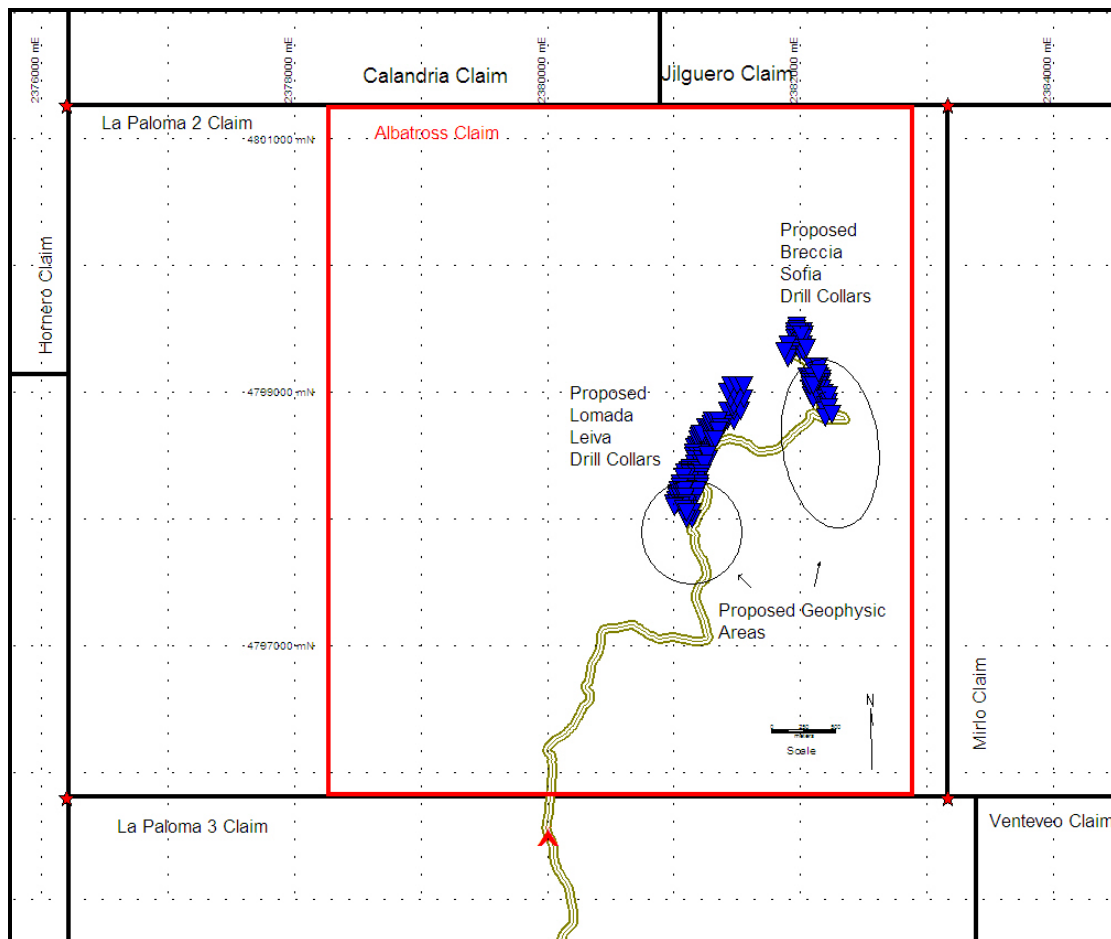
Recent and historic exploration efforts have defined a zone of significant gold mineralization in the Lomada Leiva area. The breccia hosted low sulphidation system is hosted within a structural corridor which has an outcrop expression which trends NNE and is at least 30 meters wide by 600 meters in length. Lomada Leiva is a sigmoid shape complex breccia body with strong silica alteration. It is N-S elongated, 700 meters in length and 100 meters in width. Ore grade is present from surface up to 60 meters in depth. Resource estimates at 0.3 grams per tonne Au cutoff for Lomada Leiva are Measured and Indicated at 161,346 ounces Au. Inferred Resources total 73,725 ounces Au.

Exploration activities most importantly drilling and trenching have been carried out to industry standards including the analysis, quality assurance and quality control efforts applied to the exploration work. The delineated significant intercepts indicating the gold mineralization has been verified and substantiated sufficiently to pursue a resource calculation for the Lomada Leiva project. This work is encouraging and will support the basis for additional efforts to delimit additional resources within and adjacent to the Lomada Leiva including the Breccia Sofia area.

## 21.0 RECOMMENDATIONS

Continued exploration is recommended for the Lomada Leiva and Breccia Sofia areas of the Albatros claim. This would include exploratory and infill drilling (25m grid) for the Lomada Leiva in with a goal of bringing the defined Resource up to a Reserve status.

Exploration recommendations for 2007-2008, include geophysics, drilling (RC and diamond) of up to 10,000 meters in the Lomada Leiva and Breccia Sofia areas, and other surface studies such as mapping and sampling including Breccia Sofia exploration. Figure 22-1 highlights exploration plans for the Lomada Leiva and Breccia Sofia areas. Black circles indicate suggested geophysical study areas.



**Figure 22-1**  
**Exploration Proposal Map (2007-2008)**

The exploration budget is US \$2,000,000 for the next 12 months of work as shown in Table 22-1.

<b>Table 21-1 Recommended Expenditures</b>			
<b>Category</b>	<b>Amount</b>	<b>Basis</b>	<b>Cost, US\$</b>
drilling - core and RC	120 holes @ 80 m	\$ 90/m avg	864,000
geophysics - IP, CSAMT, resistivity	approx 0.8 sq km	field survey and interpretation	75,000
staff, labor, camp expense	6 months	\$ 20,000/mo	120,000
assays and shipping	600 samples	\$ 60/sample	36,000
<b>TOTAL, US\$</b>			<b>1,095,000</b>

Execution of the exploration activities will like be in 2 phases:

Phase 1: Additional infill/exploratory drilling Lomada Leiva and Breccia Sofia mapping and sampling of the same areas and several small geophysical surveys.

Phase 2: Second round drilling divided between the two areas explored in Phase 1, and based on encouraging results of Phase 1.

CAM recommends that, prior to Reserve estimation, PGSA should carry out additional density measurements, using oven-drying of cores at 105 degrees Celsius, and the cellophane-wrap immersion method. The cost for this is entirely labor, and is included in Table 21-1 above.



## 22.0 REFERENCES

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## 23.0 DATE AND SIGNATURE PAGE

Robert L. Sandefur  
1139 South Monaco  
Denver, CO 80224  
Phone (303) 472-3240  
rsandefur@cam-llc.com

I, Robert L. Sandefur, of Denver, Colorado, do hereby certify that:

- I am an Independent Consulting Geostatistician, at the above address
- I am a Certified Professional Engineer (Number 11370) in the state of Colorado, USA, and a member of the American Institute of Mining, Metallurgical and Petroleum Engineers (SME).
- I graduated from the Colorado School of Mines with a Professional (BS) degree in engineering physics (geophysics minor) in 1966 and subsequently obtained a Masters of Science degree in physics from the Colorado School of Mines in 1973.
- I have practiced my profession continuously since 1969.
- 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 purposes of NI 43-101.
- I am the author, of section 17.0, and have overall responsibility for the report except as specifically disclaimed, for the Technical Report entitled “NI 43-101 Technical Report Lomada Leiva Project Santa Cruz province, Argentina” dated August 31, 2007 (the “Technical Report”). The Technical Report is based on my knowledge of the Project Area and resource database covered by the Technical Report, and on review of published and unpublished information on the property and surrounding areas. I conducted the site visit on April 21-22.
- I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
- I am independent of Patagonia Gold or any of their subsidiary companies applying all of the tests in section 1.5 of National Instrument 43-101.
- 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.
- I consent to the filing of the Technical Report with and stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public, of the Technical Report.

Dated this 31st of August, 2007

Handwritten signature of Robert L. Sandefur in cursive script.

---

Robert L. Sandefur, P.E.

## APPENDIX 1

### ACME LABS QA-QC PROCEDURES

Acme Gold Assays:

#### Fire Assay

Au Fire Assay- 50 gram atomic absorption finish, less than 10 g/t Au, .01 g/t detection limit (range 5-10,000 ppb)

Au Fire Assay -50 gram gravimetric finish, if greater than 10 g/t Au, (range 5-1000 ppm)

#### ICP

Group 1E 4 Acid digestion (HCl-NH<sub>3</sub>.HClO<sub>4</sub>-HF) Ag (.5-100), Cu (2-10000), Pb (5-10000), Zn (2-10000) ppm

#### Preparation:

Identify Sample, dry to 60 degrees C, crush totally to 70% below 10#, homogenise and reduce,

### Acme Fractional Screen Fire Assay:

#### **Sample Preparation:**

- 1- The pulverized sample (500g), then is passed through a “200” mesh screen and the “plus” and “minus” fraction is saved.
- 2- All of the “plus” fraction is then fire assayed to get the total Au and. Fire assay (duplicate ) is done on the “minus” fraction.
- 3- The weights and Au results are reported in each fraction.

#### Procedure:

- 1-Use 5K of reject under 10# .
- 2-Use mesh 10; 30; 60; 80; 100; 150; 200#
- 3-Recorder total and fraction weigh.
- 4-Analyzed every fraction pulverized for:

**Gold:** Au-FA(50g)/AAS (5 --10.000ppb) : in the case that the Au-FA(50)/AAS >10 ppm, analyse for gravimetric finish: Au-FA(50)/GRA (5 - 1.000 ppm)

## APPENDIX 2

### ALEX STEWART PROCEDURES

#### Alex Stewart Lab Analysis and Procedures

Fire Assay:

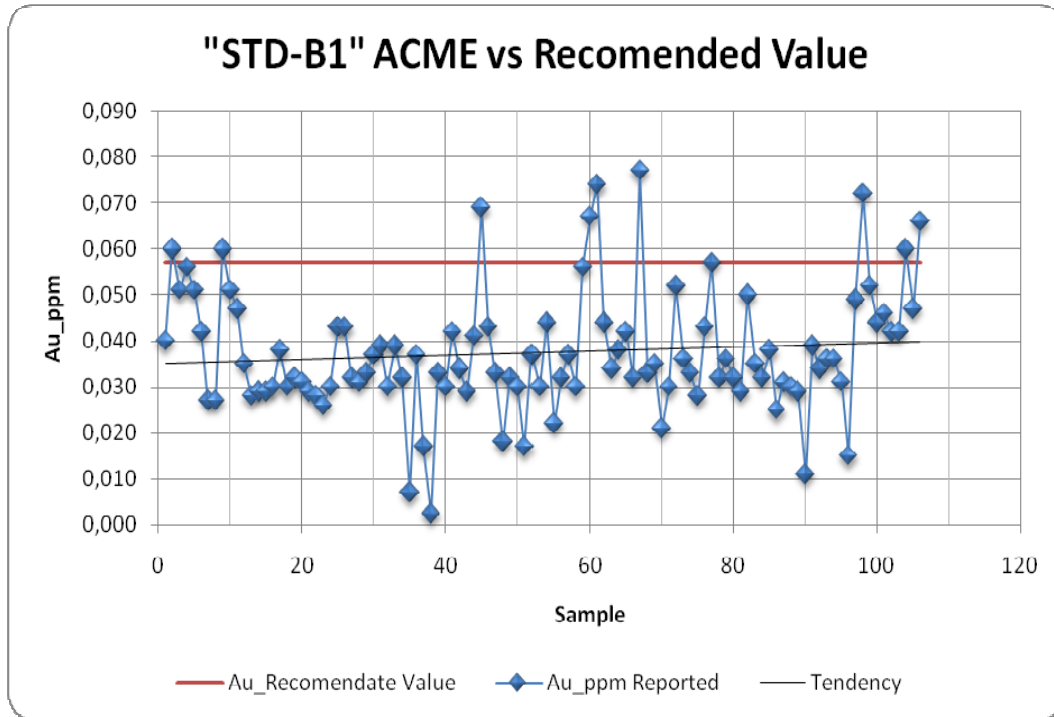
Au Fire Assay- 50 gram atomic absorption finish, less than 10 g/t Au, .01 ppm detection limit

Au Fire Assay -50 gram gravimetric finish, if greater than 10 g/t Au .1 ppm detection limit  
ICP

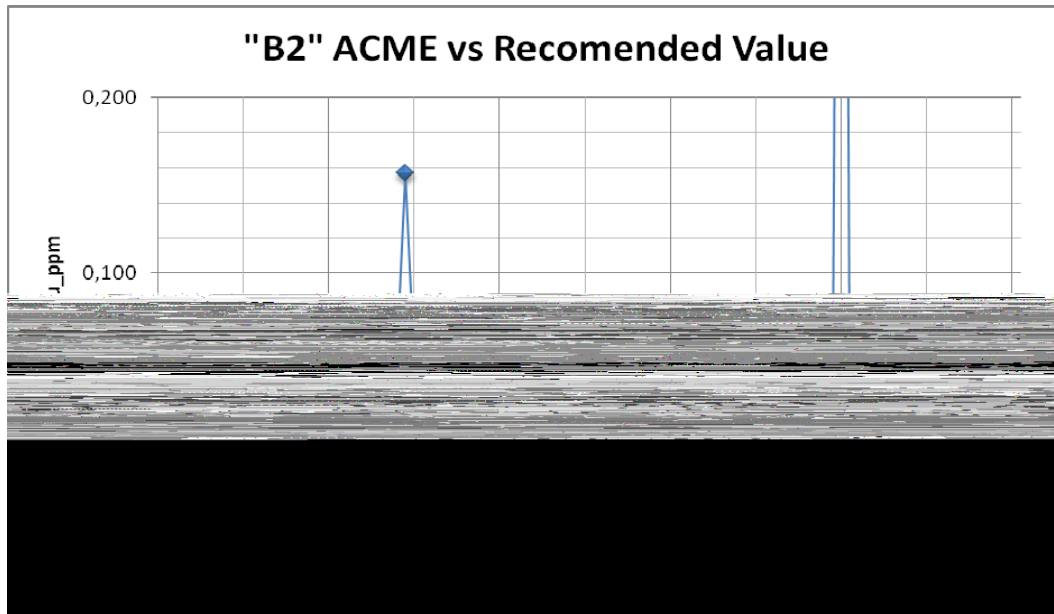
4 Acid digestion (HCl-NH<sub>3</sub>.HClO<sub>4</sub>-HF) Ag (.5-200), Cu (1-10000), Pb (2-10000), Zn (1-10000) ppm

### APPENDIX 3

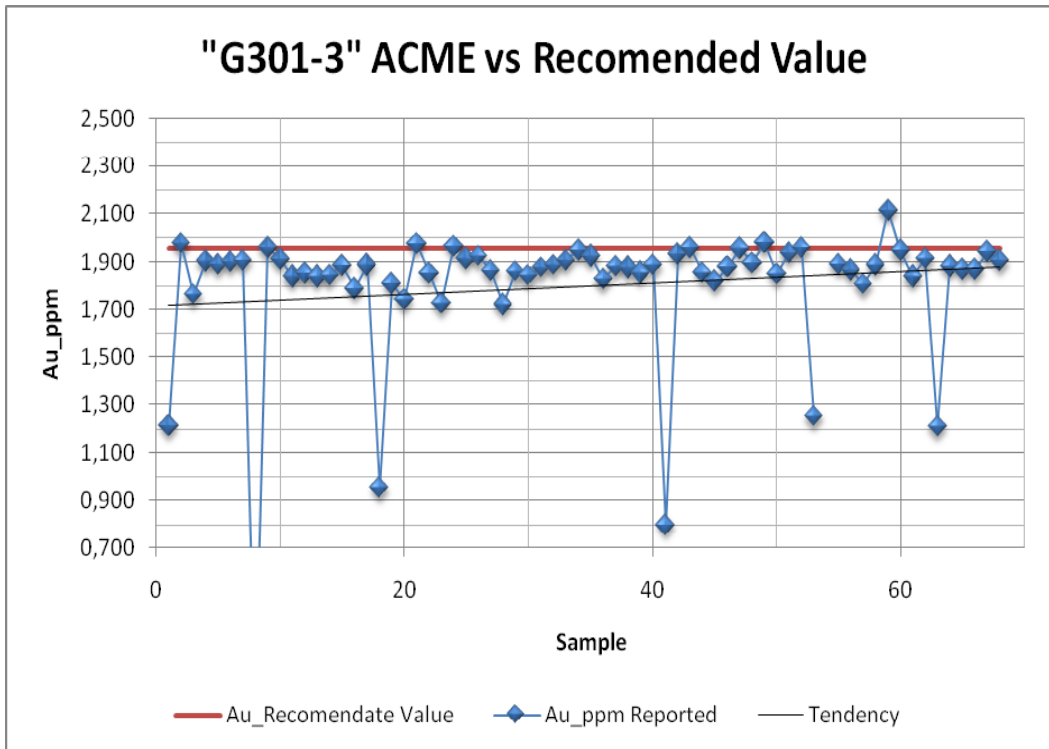
### CHECK ASSAY RESULTS



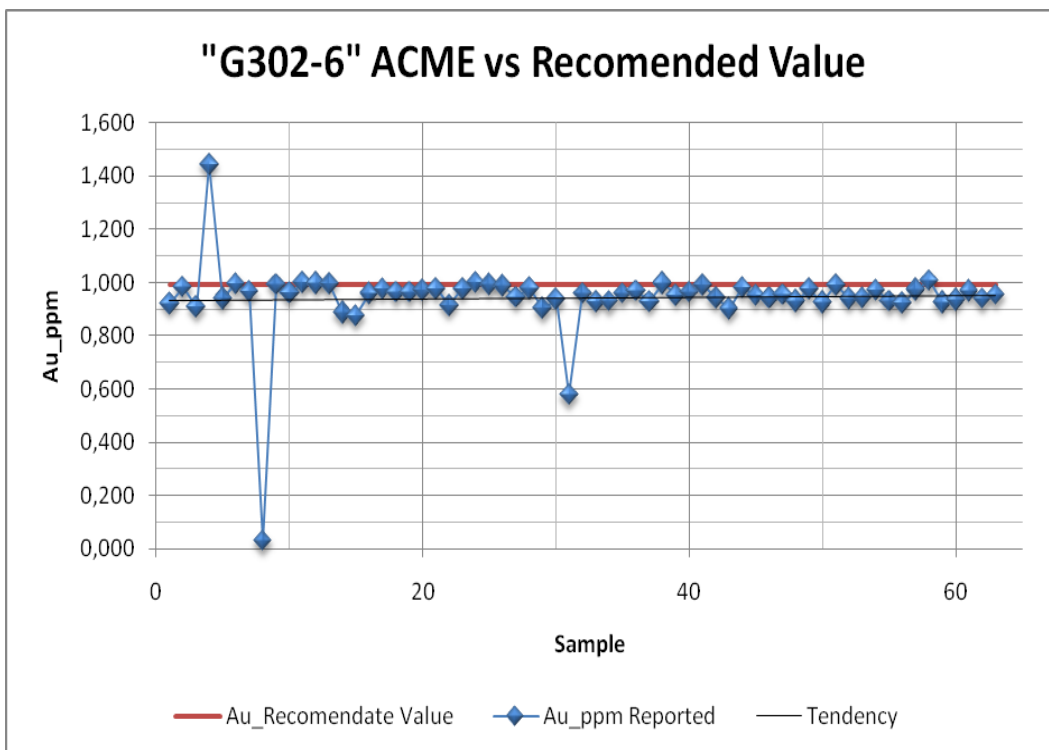
**Graph 1**  
**Performance of Blank B1**



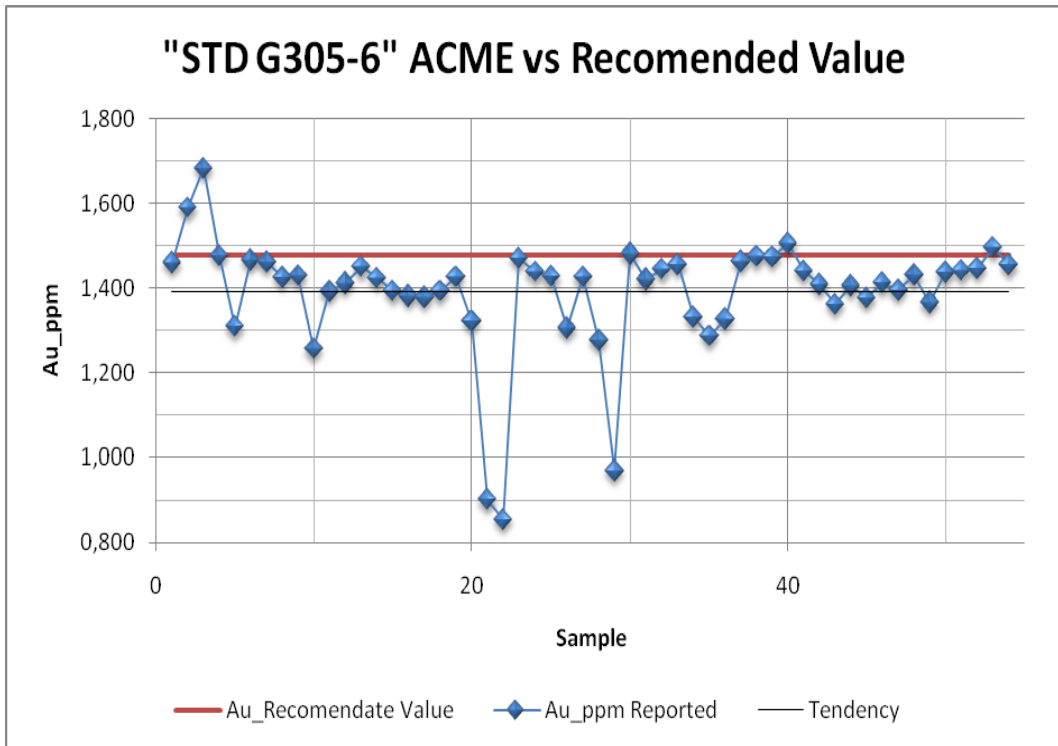
**Graph 2**  
**Performance of Blank B2**



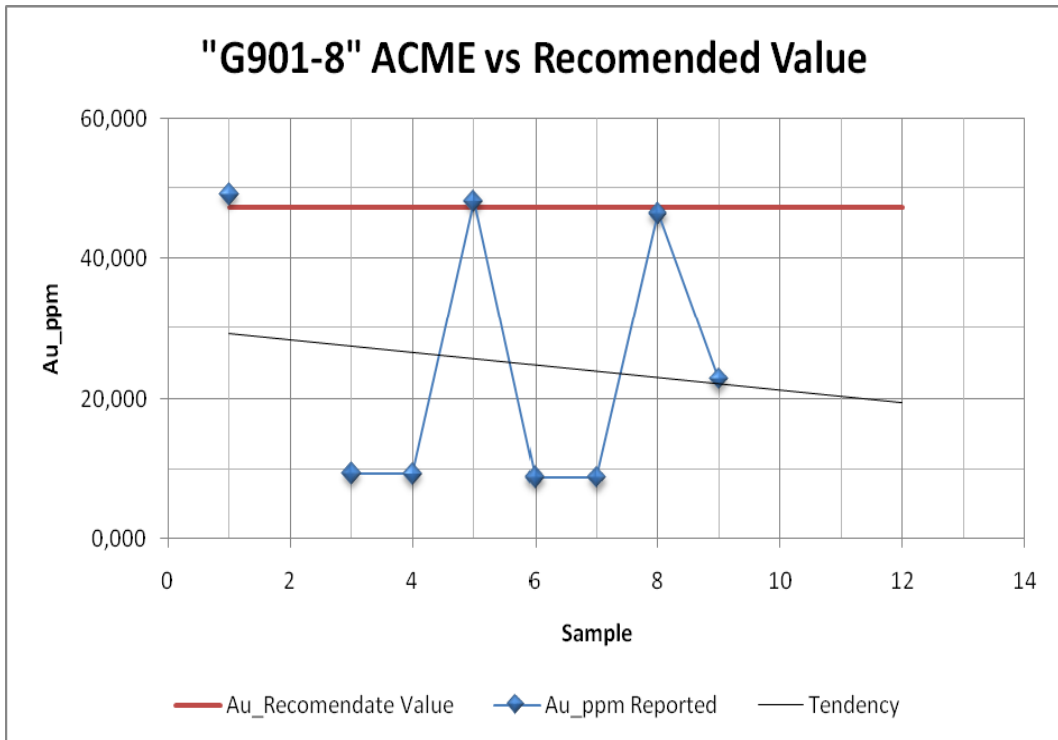
**Graph 3**  
Performance of Standard G301-3



**Graph 4**  
Performance of Standard G302-6



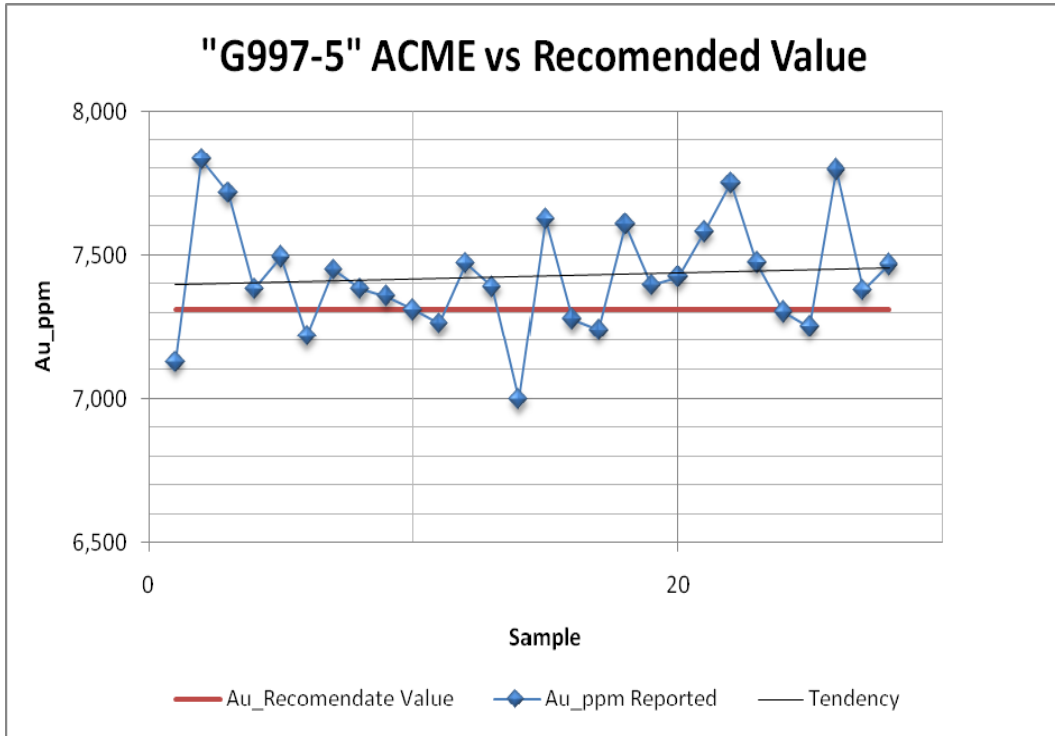
**Graph 5**  
Performance of Standard G305-6



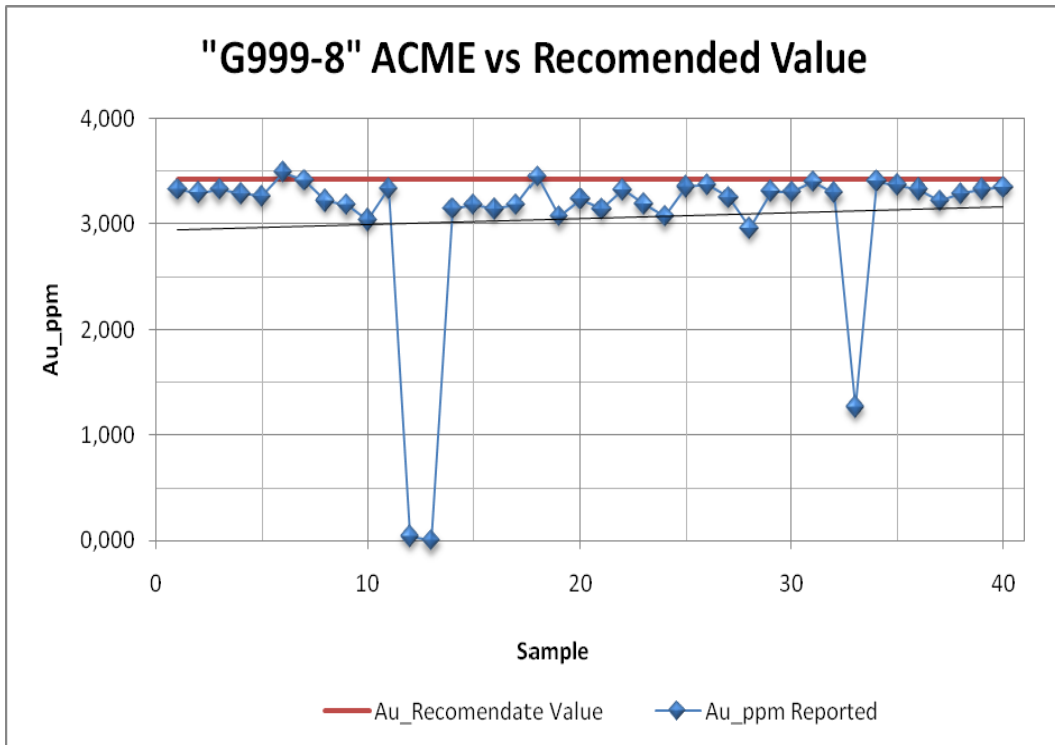
**Graph 6**



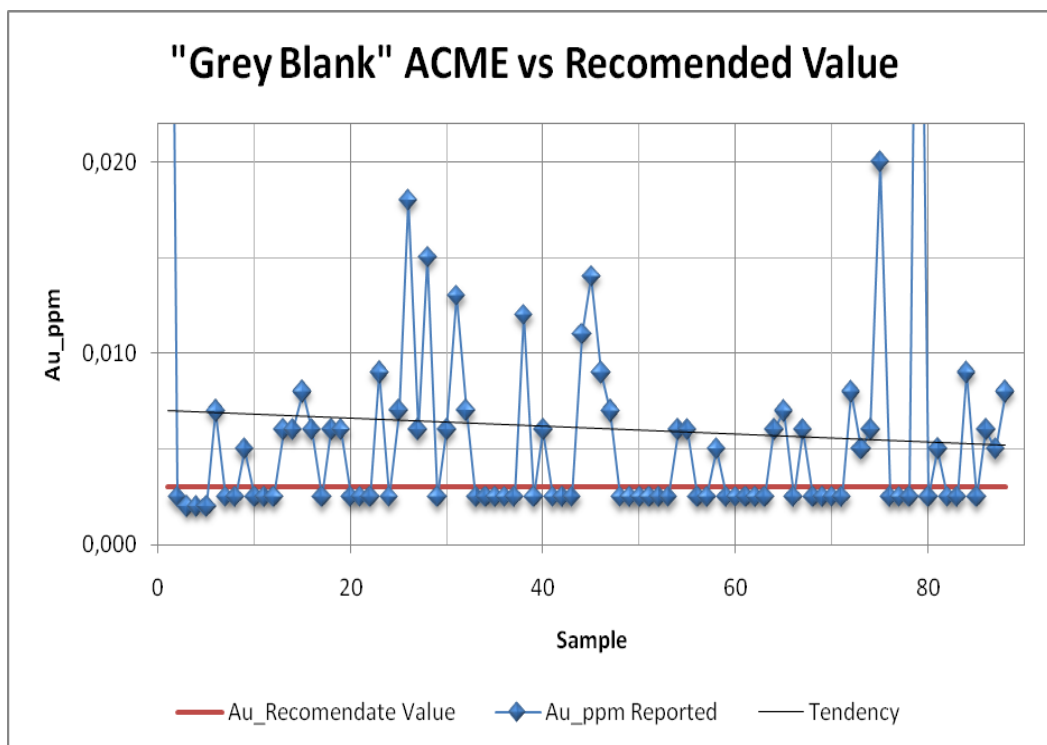
Performance of Standard G901-8



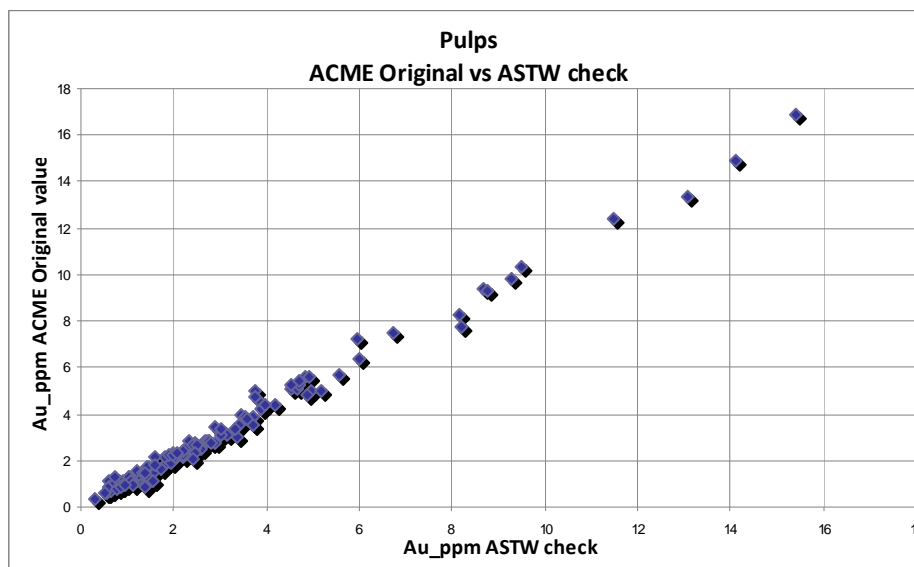
Graph 7  
Performance of Standard G997-5



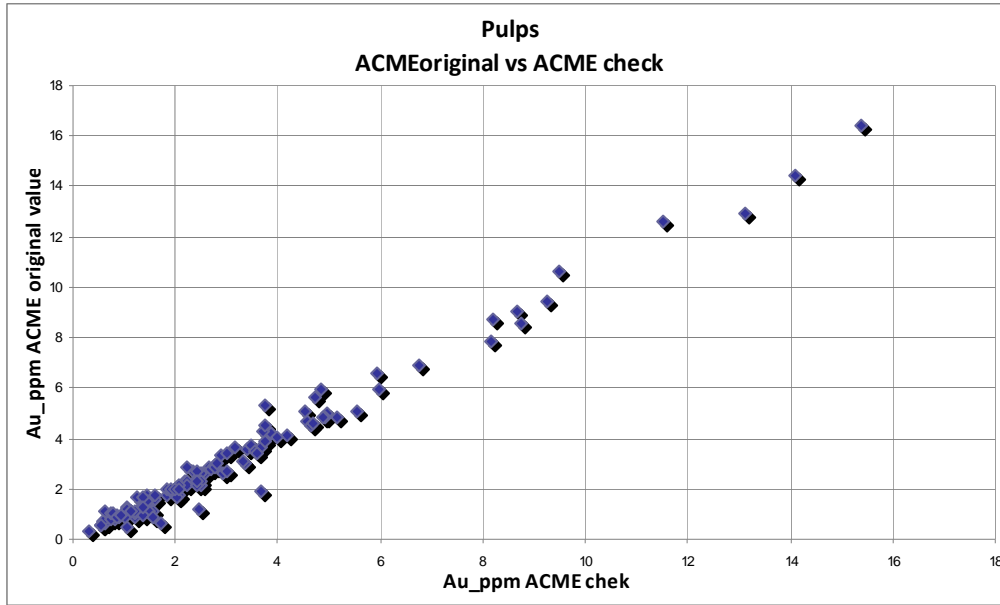
**Graph 8**  
Performance of Standard G999-8



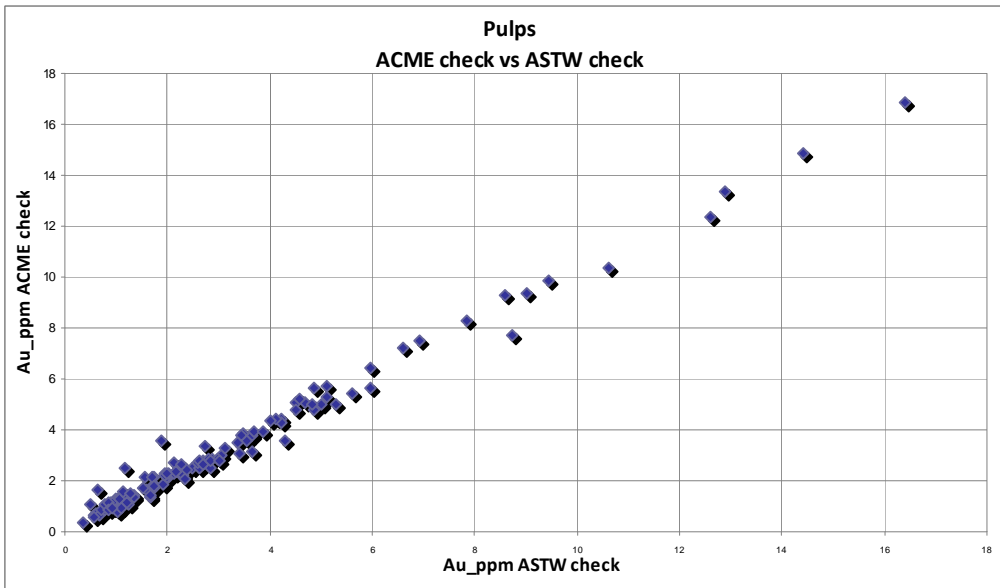
**Graph 9**  
Performance of Blank "Grey Blank"



**Graph 10**  
Performance Original Assays Acme Lab  
Vs. Check Assay of Pulps Alex Stewart Lab



**Graph 11**  
**Performance Original Assays Acme Lab**  
**Vs. Check Assay of Acme Lab Pulps**



**Graph 12**  
**Performance Acme Lab Check Assay (Pulps)**  
**Vs. Check Assay of Pulps Alex Stewart Lab**

Table 1 Standard and Blank Values Utilized for the Lomada Leiva Exploration Source GEOSTATS, Australia										
Product Code	50g Fire Assay Statistics - Gold (ppm)				Aqua Regia Statistics - Gold (ppm)				DESCRIPTION OF SOURCE / MATRIX	Color
	Mean	Stdev	Count	95% CI	Mean	Stdev	Count	95% CI		
G305-6	1,48	0,06	79	0,013	1,43	0,10	36	0,032	Trace Sulphide Ore ex Eastern Goldfields	Light grey
G302-6	0,99	0,05	77	+/- 0.011	0,99	0,09	50	+/- 0.025	Basic Ore - Minor sulphide - Eastern Goldfields	Light grey
G301-3	1,96	0,08	90	+/- 0.017	1,89	0,16	115	+/- 0.03	Low grade Minor Sulphide - Eastern Goldfields	Light grey
G997-5	7,31	0,33	79	+/- 0.073	7,27	0,52	66	+/- 0.125	Diorite ore ex Indonesia.	Light grey
G901-8	47,24	1,55	82	+/- 0.335	no AR				Very high grade sulphide ore - Eastern Goldfields	Medium grey
G999-8	3,42	0,19	94	0,040	3,34	0,20	55	0,050	Fresh Basic Ore ex Kalgoorlie Region	Light grey
Grey Blank	0,00	na	na	na	na				SW Basalt	Grey

Table 2 Blanks Derived From PGSA Sterile Materials		
Code	Au Values	Au FA, 50g ppm
B1	0,057 ppm	Obtained from Pulps and Rejects from PGSA materials
B1	0,041 ppm	Obtained from Pulps and Rejects from PGSA materials

Table 3 Average Value Reported for Standards and Blanks Standard Deviation and Variance						
Standard or Blank ID	Total Samples	Original Value Au ppm	Average Reported Value Au ppm	Standard Deviation	Variance	Coef Var
B1	106	0,057	0,037	0,013	0	0,353
B2	100	0,041	0,062	0,089	0,008	1,44
G301-3	68	1,958	1,797	0,308	0,095	0,171
G302-6	63	0,99	0,943	0,141	0,02	0,15
G305-6	54	1,476	1,391	0,136	0,019	0,098

Table 3 Average Value Reported for Standards and Blanks Standard Deviation and Variance						
Standard or Blank ID	Total Samples	Original Value Au ppm	Average Reported Value Au ppm	Standard Deviation	Variance	Coef Var
G901-8	12	47,24	25,369	16,941	286,99	0,668
G997-5	28	7,31	7,427	0,192	0,037	0,026
G999-8	40	3,42	3,055	0,761	0,579	0,249
Grey Blank	88	0,003	0,006	0,009	0	1,443

Table 4 Correlation Coefficients of Standards and Check Assays			
	Original Value	ACME_Check	ASTW_Check
Avarage	3,12	3,173	3,337
STDD	2,76	2,914	2,944
Varianza	7,62	8,493	8,670
CoefVar	0,88	0,918	0,882
	Correlative coefficient		
Original Value		0,990	0,995
ACME_Check			0,993
ASTW_Check			