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PATAGONIA GOLD S.A.

TECHNICAL REPORT ON THE UPDATED MINERAL RESOURCE ESTIMATE FOR THE CAP OESTE GOLD-SILVER DEPOSIT, SANTA CRUZ PROVINCE, ARGENTINA

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1.0 SUMMARY

1.1 INTRODUCTION

At the request of Mr. Diego Bauret, General Manager of Patagonia Gold S.A. (PGSA), Micon International Limited (Micon) has been retained to complete an update of the mineral resource estimate for the Cap Oeste gold-silver deposit located in Santa Cruz province, southern Argentina and to prepare a technical report that is prepared to the standards of Canadian National Instrument 43-101 (NI43-101) to support its release to the public. PGSA is a 100% owned subsidiary of Patagonia Gold Plc which is listed on the London AIM stock exchange.

Data contained in this report are drawn from original work by PGSA, unpublished data from former owners and explorers of the mining property, Barrick Gold S.A. (Barrick) and Homestake Mining Co. (Homestake). Exploration activities through the 2009 field season have been successful in expanding the limits of the gold-silver mineralization that was the subject of a previous mineral resource estimate (Bow and Sandefur, 2008). As a result of this successful program, PGSA now wishes to update the previous mineral resource estimate with the results from the recently completed drilling campaign. The report includes data and analysis from contractors, consultants, certified laboratories, and Micon's own work. This Technical Report discloses the exploration results obtained from the Cap Oeste deposit as at July 1, 2009 (drilling and assay results up to and including drill hole CO-156-D) and the updated mineral resource estimate prepared by Micon.

Micon's direct knowledge of the property is based on a site visit conducted during the period of May 4 to 9, 2009. During this time period, Micon examined outcrops and the locations of drill holes and surface samples, observed drilling and sampling of diamond drill (DD) holes and reverse circulation (RC) pre-collars, observed logging and sampling procedures, discussed Quality Assurance/Quality Control(QA/QC) methodology and reviewed the overall project details with PGSA staff.

1.2 PROPERTY DESCRIPTION AND LOCATION

The Cap Oeste project area is located in the central portion of Santa Cruz province, in the Department of Rio Chico, southern Argentina. The core resource area is situated within the El Tranquilo I Manifestación de Descubrimiento (MD, or Manifestation of Discovery), within the El Tranquilo block of exploration properties approximately 65 km southeast of the small township of Bajo Caracoles. The closest cities to the project site by road are Perito Moreno (208 km northwest of the project) and Gobernador Gregores (190 km south of the project).

The El Tranquilo I MD claim, which is one of 17 contiguous exploration tenements comprising the El Tranquilo block of properties (60,056 ha), controlled 100% by PGSA. In accordance with the Argentine mining code, all of the exploration properties are spatially registered in the Gauss Kruger Projection and Campo Inchauspe datum system in the corresponding longitudinal belt defined between 68°-70° West.

Surface rights in Argentina are not associated with title to either a mining lease or exploration claim and therefore must be negotiated with the surface landowner on an individual basis. On December, 2008 PGSA bought the Estancia La Bajada surface land title including the farmhouse and outbuildings from Mr. Francisco Novoa. Currently PGSA is negotiating the purchase of the adjacent Estancia El Tranquilo with its surface owner. In November, 2008, PGSA signed an extension to the preexisting Access and Exploration Agreement with Ms. Susana Martinic, the landowner of Estancia El Tranquilo, which permits access, road repair and construction, use of water, trenching and exploration tasks including drilling during the period up until 30 May, 2009. The Agreement is renewable.

The majority of the properties of the El Tranquilo block, including the El Tranquilo property, were acquired as part of a Purchase Agreement signed in February, 2007 between PGSA and the Argentinian exploration subsidiaries of Barrick Gold S.A., namely Minera Rodeo S.A. and Barrick Exploraciones Argentina S.A. Terms and conditions of this Purchase Agreement include:

1. A US$10,000,000 commitment of approved exploration expenditures within a period of five years, of which US$1,500,000 must be invested during the first 18 months. PGSA has already notified Barrick's subsidiaries advising that the investment commitments of US$1,500,000 and US$10,000,000 have been exceeded as of December 31, 2007 and December 31, 2008 respectively.

2. PGSA is required to provide an annual year-end resource estimation statement completed by an independent qualified person and the provision of the data used for the generation of such statements. PGSA delivered the previous September, 2008 Resource Technical Report to Barrick in December, 2008.

3. Barrick Gold S.A. holds the right to 'back-in' up to 70% for any individual property group included in the Purchase Agreement upon written notice, within 90 days upon completion of a 43-101 compliant delineation of a two million ounce gold or gold equivalent Indicated Resource, within the respective property group. This is on a forward looking basis which does not include any resources or reserves produced or undergoing 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.

1.3 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Patagonian region of southern South America is characterized by arid, windy and generally treeless expanses of rolling hills, interspersed with isolated plateaus which rise to elevations of 250 to 1,000 m above sea level (masl). Based on meteorological information sourced from the cities of Perito Moreno and Gobernador Gregores the average annual rainfall at the Project area is estimated to be 300 mm, the majority of which falls in the period June-September. Snow frequently accumulates at the project site between June and August, and infrequent snowfall events can deliver up to 100 mm, based on limited historic data. Temperatures at the project area are characteristic of the central plateau of the Santa Cruz, with short warm summers, and winters with temperatures commonly reaching below 0^{o}C. Based on regional data, the annual average temperature is approximately 8.9^{o}C.

The southeastern portion of the Cap Oeste project area is characterized by a predominant northwest-southeast aligned pattern of undulating hills between elevations of 350 and 500 masl. In the northwestern portion of the project area, topography has a generally low relief and is relatively flat-lying. Vegetation constitutes approximately 50% of the ground cover and is characterized by grass and bushes

Exploration has been conducted in accordance with an approved Environmental Impact Assessment (EIA), which was granted on October 8, 2008 and has an effective duration of two years. PGSA utilizes local communities to source food, accommodation, fuel, minor vehicle repairs and field labour. More specialized goods and services must be obtained in Caleta Olivia Gobernador Gregores or Perito Moreno (Santa Cruz Province), Comodoro Rivadavia (Chubut Province) and Buenos Aires. The local workforce comprises mainly unskilled workers who receive safety, environmental and exploration methodology training. Senior project management and engineering positions are generally filled by professionals from outside the local communities. PGSA has maintained a strong awareness of its responsibilities towards the environment and existing social structures. Careful attention is given to ensure that all exploration work is carried out in strict accordance with the guidelines of the relevant mining and environmental acts, as well as to the high standards of responsibility the company imposes on itself.

1.4 HISTORY

No historic mineral production is known to have occurred within or in close proximity to the Cap Oeste project. The earliest modern exploration in the area was reportedly carried out during the mid 1990s by Western Mining Corporation and Homestake, which initially targeted the area using Landsat imagery. Interpretation of this imagery highlighted the presence of regional-scale, northwest-trending lineaments and large zones of coincident clay alteration which served to focus the reconnaissance mapping and sampling programs. This work led to the staking of exploration claims by Homestake's subsidiary, Minera Patagonia S.A., which were held until they expired in July, 2002. Subsequent to the merger between Barrick Gold Corporation and Homestake Mining, the ground was again staked as the El Tranquilo Project by Barrick's subsidiary, Minera Rodeo S.A.

Patagonia Gold S.A. staked the cateo 'La Bajada' in 2005 and the exploration claims 'Casuarina', 'El Aljibe' and 'El Mangrullo' in 2009. None of these properties are subject to the terms and conditions of the Purchase Agreement signed in 2007 with Barrick .

PGSA visited the project and began negotiations for the purchase of the properties in September, 2006. Subsequent to the Purchase Agreement reached on February 5, 2007, exploration activities commenced that included gridding, surveying, trenching, and drilling programs which are detailed further in Sections 10 through 12 of this Technical Report. As part of its exploration activities on the El Tranquilo land holdings in 2008, PGSA commissioned a mineral resource estimate of the mineralization that had been delineated at the Cap Oeste deposit at that time. The results of the mineral resource estimate have been presented in Bow and Sandefur (2008), and are summarized in Table 1.1.

Table 1.1
Summary of the 2008 Mineral Resource Estimate
(after Bow and Sandefur, 2008)

Classification	Cutoff Grade (g/t Au)	Tonnes	Gold Grade (g/t)	Contained Gold (oz)	Silver Grade (g/t)	Contained Silver (oz)
Total, Indicated	0.30 Oxide + 1.0 Non-Ox	2,306,938	1.81	134,007	42.01	3,115,985
Total, Inferred	0.30 Oxide + 1.0 Non-Ox	1,819,293	2.17	127,046	42.78	2,502,728

1.5 GEOLOGICAL SETTING

Regionally, the Jurassic stratigraphy which hosts precious metal mineralization throughout the Deseado Massif is underlain by an extensive sequence of basement rocks ranging in age from Precambrian to early Jurassic. Younger cover sequences include small windows (less than 300 m in diameter) of flat-lying Tertiary marine sediments (which have filled structural controlled and/or erosional basins) and alkalic basalts, which form extensive plateaus throughout the region. Finally, unconsolidated Quaternary glacial-fluvial sediments form characteristic elevated gravel terraces throughout the massif. Within the project area, the Jurassic volcanic suite is comprised dominantly of rocks assigned to the Bahia Laura Group. The volcanic stratigraphy of the Bahia Laura Group is the best exposed rock sequence in the Deseado Massif, covering more than half of its area, and comprises three formational members:

Bajo Pobre Formation (175-166 Ma): andesitic to basaltic flows, agglomerates, and minor hypabyssal porphyritic intrusive rocks which intercalate upwards with mafic tuffs, conglomerates and sediments. Olivine basalts, common in the lower part of the formation, are thought to be products of fissure eruptions from rifts related to early stages of the Gondwana breakup and continental separation.

Chon Aike Formation (166 – 150 Ma): high-Si, high-K rhyolitic to rhyodacitic ignimbrites, tuffs and lesser volcanic breccias, flows and domes which attain a cumulative thickness up to 1,200 m (Sanders, 2000). Volcanic rocks assigned to the Chon Aike Formation are coincident in space and time with the most significant precious metal deposits in the province.

La Matilde Formation (upper age of approximately 142 Ma): fine grained fossiliferous lacustrine sediments, volcano-sedimentary rocks and airborne tuffs.

The bedrock in the Cap Oeste project comprises a thick (greater than 500 m) sequence of rhyolitic ignimbrite and tuff units of the Chon Aike Formation, overlain by a veneer of Oligocene- to Miocene-aged shallow marine calc-arenite sediments of the Centinela Formation. These are in turn overlain by unconsolidated, Quaternary-aged fluvio-glacial gravels. From information gained from drilling completed throughout the Cap Oeste project area, the local stratigraphy of the Chon Aike Formation has been defined by PGSA geologists into eight sub-horizontal units throughout an approximate 200 by 1,200 m area down to a maximum vertical depth from surface of varying between 100 and 500 m. The surface distribution of the various members of the Chon Aike Formation is strongly controlled by a series of at least two sub-parallel, northwest trending (320^o), moderate to steeply southwest and northeast dipping normal faults, respectively named the Bonanza and Esperanza Faults, that together form a graben structure. Gold and silver mineralization of the Cap Oeste deposit is closely related to these two faults.

1.6 DEPOSIT TYPES

Exploration by PGSA at Cap Oeste is focused principally on discovery and delineation of low sulphidation, gold-silver epithermal mineralization of the type well documented throughout the Deseado Massif (White and Hedenquist (1990 &1994), Corbett, G.J. (2001) and Sillitoe, R.H. (1993)). Mineralization typically comprises banded fissure veins and local vein/breccias characterized by high gold and silver contents and gold:silver ratios of generally greater than 1:10. Mineralized veins and breccias consist of quartz (colloform, banded, and chalcedonic morphologies), adularia, bladed carbonate (often replaced by quartz), and dark sulphidic material termed ginguro-texture (formed by fine grained electrum or Ag-sulphosalts banded with quartz). Discrete vein deposits develop where mineralizing hydrothermal fluids are focused into dilatant structures, producing ore shoots which may host the highest precious metal grades. Low sulphidation style mineralization can also develop where mineralizing fluids flood permeable lithologies to generate large tonnage, low grade disseminated deposits (e.g. Round Mountain, Nevada and McDonald Meadows, Montana).

1.7 MINERALIZATION

Throughout the northern portion of the El Tranquilo Block exploration claims, PGSA has defined at least seven areas hosting either gold-silver mineralization or containing elevated levels of “pathfinder” geochemical metals (e.g. As, Sb, Hg) based on historic Barrick and recent PGSA exploration data. These areas are spatially related to three, 2- to 3-km spaced, northwest to west-northwest trending regional scale mineralized structural corridors, namely the Cap Oeste, Don Pancho and Vetas Norte corridors. These corridors extend throughout an approximate 8-km wide by 10-km long window of variably clay-silica-Fe oxide altered Chon Aike volcanic rocks which is surrounded by post Jurassic cover rocks as described in Section 7.

Gold-silver mineralization at Cap Oeste is predominantly associated with the northwest-trending Bonanza Fault, which dips 40 to 80° to the southwest. Drilling has therefore been orientated towards the northeast (050° true north) along grid lines orthogonal to a baseline azimuth of 140°. The fault juxtaposes crystal-poor ignimbrite to the west with dominantly crystal-rich ignimbrite to the east, reflecting “west side down” normal displacement, and is interpreted to be one of the bounding structures to a Late Jurassic-aged graben.

Drilling completed to date in the immediate Cap Oeste project area and along the strike extension of the Bonanza Fault has defined gold-silver mineralization and/or anomalous indicator geochemical signatures over a strike length exceeding 3.5 km that are broadly coincident with the Bonanza Fault. To date, the majority of the step out drilling at depth along this zone has been focused on defining a series of well developed shoots over a strike length of approximately 1,025 m between sections 9775 N and 10800 N.

1.8 EXPLORATION

Upon signing the purchase agreement with Barrick on February 5, 2007, PGSA began exploration activities throughout the El Tranquilo claim block. The initial emphasis was to validate the Barrick data for the Breccia Valentina and Cap Oeste prospect areas in preparation for the first stage of drill testing in September, 2007.

Work completed to date includes:

- Establishment of local grid baseline points at Cap Oeste at origin 5000 E, 10000 N to allow projection of trench and drill section data on sections perpendicular to the northwest strike of mineralization.
- Geologic mapping at a scale of 1:1,000.
- Excavation and sampling of five trenches, (224 m and 82 channel samples).
- A total of 25,939.93 m in 164 drill holes comprising:
    - Completion of 28 RC drill holes (totaling 1,727 m averaging 66 m in depth and containing 1,759 samples).
    - 58 pre-collar RC/diamond holes totaling 3,611 m of RC pre-collaring (averaging 62.26 m) and totaling 7,348 m of HQ core tails containing 4,968 samples).
    - 70 HQ diamond drill holes (totaling 12,705.5 m averaging 169.41 m in length) and containing a total of 4,583 samples.
    - Three of the diamond holes are twin holes of earlier RC holes: CO-001-R and CO-036-D, CO-009-R and CO-034-D, CO-010-R and CO-035-D.

- A petrographic study of 14 samples in thin and polished sections.

- Visits from international-recognized geological consultants Greg Corbett (2007) and Richard Sillitoe (2008 and 2009).

- Survey topography with a differential GPS and develop a contour map.

- Survey of all drill hole and trench locations in x, y, and z dimensions with a differential GPS.

- IP/resistivity surveys (7 lines totaling 6.3 line-km using the gradient array electrode configuration; 1 line totaling 1.6 km using the pole-dipole electrode configuration). Ground magnetic surveying (10 lines totaling 13 line-km).

1.9 DRILLING

Drilling of RC and diamond holes at Cap Oeste has been carried out in three separate campaigns under contract by Patagonia Drill S.A and Major Drilling S.A. (October through to June 2008) and Major Drilling S.A. (October, 2008 to May, 2009), utilizing truck- and track mounted Universal UDR 650 rigs, respectively. Diamond drilling by Major Drilling S.A. was witnessed by Reno Pressacco representing Micon in April, 2009. Both Patagonia Drill and Major Drilling conducted the drilling in the first campaign (October, 2007 to June. 2008) and then only Major Drilling conducted the drilling in the second and third campaigns (October, 2008 to June, 2009).

Drill hole collars were initially located using a hand-held GPS unit, in addition to triangulation from adjacent, previously drilled and surveyed collars. For each drill hole, the orientation of the drill rods and bit (azimuth and inclination) was defined by PGSA geologists using a Brunton compass. Diamond drilling was carried out on a 24-hour basis using 12-hour, night and day shifts during which PGSA-trained technicians were on site at all times in order to record drilling activities in a Drill Log sheet (e.g. drilling, reaming time, additives, core recovery, down hole survey information) and supervise the extraction of the core from the diamond core barrel and placement into the core cradle. Permanent radio contact was maintained between the PGSA technician at the drill site and the PGSA geologists at base camp. All diamond drilling was of HQ diameter and utilized a 3-m core barrel where ground conditions permitted. In only one case the hole diameter had to be reduced to NQ size (i.e. CO-147A-D). RC drilling was conducted on a 12 hour per day basis, during which the entire drilling and sampling process was supervised by a PGSA geologist on site. As stated previously, due to generally high water table levels and emphasis on achieving good sample quality all RC drilling subsequent to hole CO-010-DR was limited to the top of the water table, and thereafter diamond drilling was used.

Core logging was carried out at Estancia La Bajada, which is situated approximately 5 km from the Cap Oeste Project area. Based on detailed geological mapping completed prior to the drill campaigns, a set of lithology, alteration, and mineralization codes were established and the logging methodology defined in order to standardize nomenclature amongst the geologists involved in the project. Geological information recorded during logging included:

- Lithology - rock type, grain size and composition.
- Alteration - mineral identification, especially type and intensity of clay and silicification.
- Structure - measurement of structural elements relative to the core axis.
- Mineralization type - breccia types, vein composition and widths, sulphide species and concentrations.
- Oxidation - degree of oxidation of rock by weathering including oxidized/partially oxidized (transitional) and unoxidized.

1.10 SAMPLING METHOD AND APPROACH

PGSA field technicians processed each 1-m sample collected during RC drilling programs as follows:

- Weighing on-site of the sample and recording sample weight and type (e.g. dry, moist, wet).
- Riffle splitting to achieve a representative 4-kg sub-sample which was bagged immediately in a plastic polyurethane bag (dry samples), or in polypropylene cloth bags (wet samples).
- Samples were weighed at various times during the drilling process for quality control.
- The rifle splitter was cleaned between each sample interval with compressed air sourced from the drilling rig. The cyclone was thoroughly cleaned between drill holes and every effort made to ensure quality control on-site.

In the case of wet RC drilling conditions, a rotary splitter was utilized in lieu of the conventional cyclone which allowed for a 1/8 and 7/8 split of the bulk 1-m interval. Individual interval samples were taken from the 1/8 split portion of the splitter, placed in consecutively numbered lines peripheral to the drill platform and subsequently weighed when the excess water had drained through the pores of the polypropylene cloth bags. The wet splitter was thoroughly cleaned between each hole to minimize contamination.

During drilling, the diamond core samples were managed according to the following protocol:

- The core barrel was retrieved following completion of each ‘run’ via wire line, after which the core was immediately slid out from the core barrel and placed in a core cradle. For diamond drilling conducted from January-May, 2009, during which the use of a core barrel sleeve tube (HQ3) was implemented, the core was extruded from the core sleeve with the aid of hydraulic pressure.

- During this process care was taken by the contractor and PGSA field technician to ensure that core was maintained intact and maintained in the correct order within the cradle.

- Core was washed and subsequently orientated in order to reconstruct the core in its predrilled in situ position as much as possible. The vertices of any mineralized structures were preferentially aligned with the upper axis of the core.

- In combination with placement of the drilling depth blocks, as defined and provided by the driller, the PGSA technician calculated and marked the individual metre limits on the core.

- Recovery length and percentage of both the total drilled interval and each complete unit depth metre interval was calculated and recorded on the Drill Log sheet.

- Rock quality designation (RQD) for each core run was measured by the PGSA field technician on the sum total interval of individual core pieces that measured over 10 cm in length in any particular core run.

- Core was carefully placed into the numbered wooden core boxes in which metre intervals were marked on core, and core boxes, with wooden dpeth blocks inserted in the corresponding position.

1.11 SAMPLE PREPARATION, ANALYSIS AND SECURITY

Sampling was performed on site, in the case of trenching and RC drilling, and at the Estancia La Bajada base camp, in the case of diamond core. Field technicians were given appropriate training and were supervised by a PGSA geologist. Care was exercised to eliminate sources of potential contamination:

- Wearing of jewelry was prohibited.

- Sample bags and core boxes were closed immediately upon the insertion/placement of the respective sample and kept above the ground surface on pallets.

- Care was taken during the transporting and processing of core samples, and the subsequent storing of samples and core boxes.

- Sample bags were kept in a dust-free environment and individual sample bags were stapled closed and maintained in burlap bags subsequent to sampling, which were immediately zip tied closed.

No sample reduction of any of type was conducted at the base camp other than the splitting in half of the diamond core. The only sample reduction that took place in the field was the splitting of the RC samples.

Alex Stewart Assayers Argentina S.A., which is an international recognized and accredited laboratory compliant to ISO Certified - 9001:2000 standards, was contracted for the geochemical analysis of the samples generated during the two drilling campaigns at the Cap Oeste deposit, and for exploration holes drilled outside the Cap Oeste deposit area. Acme Analytical Laboratories of Vancouver BC, Canada performed check assays on selected samples. Quality control procedures conducted by PGSA include the routine inclusion of certified geochemical standards, blanks and sample duplicates (RC percussion) which are submitted with geochemical samples to the laboratories and check assaying.

1.12 DATA VERIFICATION

Micon began its data verification activities by conducting a site visit on May 4 and 9, 2009, where the field procedures for the drilling program were examined, and representative sections of drill core were reviewed. Micon found that the field procedures that were being used to set up the diamond drill, recover the core, transport the core to the logging facilities and the logging and sampling procedures were all being carried out to the best practices currently in use by the mining industry.

During the site visit Micon completed its own program of check sampling of the Cap Oeste deposit. After a visual examination of the half core remaining in the core box confirmed the presence of hydrothermal alteration accompanied by quartz and sulphide veining, with the assistance of the assay results previously obtained, a total of 10 sample of quarter-core were selected from drill hole CO-108-D in order to provide an independent confirmation of the presence of gold and silver values in those samples. While the check assay results for silver correlate very well with the original assay values, the gold values for three of the 10 samples selected (samples 169315, 169316 and 169317) display significant differences between the original assay values and the check assay results. One possible explanation for these differences is the fact that these check samples comprised material taken from quarter core rather than being performed on the remaining sample pulps from the original sample, which is commonly found to result in a high variance in these types of gold deposits. A second possible explanation for these differences may relate to the existence of a cluster-nugget effect for this deposit.

Micon continued its data verification activities by preparing drill hole cross sections which compared the results of the twin drill holes wherein three diamond drill holes were completed to examine for any bias which may have been introduced into the gold grade values as a result of drilling beneath the water table using reverse circulation drilling methods. No significant discrepancies are noted in the gold values obtained by the two drilling methods for the three twin holes completed.

Micon completed its data verification activities by conducting a spot check of the drill hole database. A total of 14 holes were selected on a semi-random basis, being approximately 9% of the drill hole database, for examination for systematic errors. The information contained in the drill logs and assay sheets was compared to the information contained in the electronic database. Apart from a few minor items of a housekeeping nature, no significant errors were detected.

1.13 MINERAL PROCESSING AND METALLURGICAL TESTING

In order to perform gravity concentration tests, a total of 18 samples weighing between 10 to 13 kg were submitted to Acme Analytical Laboratories which subsequently sub-contracted SGS Minerals to conduct the work. Based on the results it appears that under the above test parameters and conditions the concentration of gold by gravity separation is relatively ineffective with the test results suggesting that this method is able to recover between 10 to 20% of the contained gold of a given sample.

Bottle roll cyanide leach tests have been conducted over 3 periods throughout 2008-2009 by three laboratories to date, including:

1. Batch 1, July 2008: OMAC Laboratories, an affiliate of Alex Stewart Assayers (with an ISO 17025 accreditation) based in Loughrea, County Galway, Ireland.

2. Batch 2, August 2008: Alex Stewart Assay and Environmental Laboratories Ltd, Kara-Balta, Kyrgyzstan.

3. Batch 3, July 2009: SGS Laboratories, Santiago, Chile.

The first batch comprised of 15 samples of gold mineralization only and the samples selected were from the oxidized and partially oxidized portions of fault-hydrothermal breccia-hosted gold mineralization from the Main Shoot. The results from the Batch 1 test samples showed good average recoveries after 6, 12 and 24 hours of 96.3, 97 and 97.3%, respectively. The three highest grade composite samples, between 17.5 to 26.75 g/t Au (average 22.67 g/t Au), returned an average recovery of 98.7, 98.5 and 99% after 6, 12 and 24 hours, respectively.

All but two of the composites tested in the second batch were from un-oxidized core. The gold and silver recoveries from this batch of samples were variable, but the fresh, sulphide-hosted gold-silver mineralization tested in ten samples in Batch 2 returned variable cyanide leach recoveries between 6.9 to 96.1% for gold (averaging 47.7%) and 27.5 to 79.5% for silver (averaging 54.6%), respectively, after 24 hours. The partially oxidized-hosted gold-silver mineralization tested in two samples from Batch 2 returned variable cyanide leach recoveries between 63.25 to 68.5% for gold (averaging 63.3%) and 58.1 to 78.9% for silver (averaging 68.5%), respectively, after a 24-hour leach time. Fresh, sulphide-hosted (NoOx) gold-silver and partially oxidized (POx) mineralization reported differing average gold and silver extraction rates over 6, 12 and 24 hours, respectively.

At the time of writing of this report, SGS Laboratories located in Santiago, Chile was conducting further bottle roll tests on a total of 5 composites based on 18 individual drill intervals from predominantly un-oxidized portions of hydrothermal breccias. These tests are designed to run over leach periods of 48 and 72 hours to determine the rate and continuity of gold and silver recoveries beyond the maximum 24-hour periods tested in the previous batches.

1.14 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

A digital database was provided to Micon by PGSA wherein such drill hole information as collar location, down hole survey, lithology, specific gravity (bulk density) measurements and assays was stored in comma delimited format. The cutoff date for the drill hole database was July 1, 2009 and included all drill hole information up to and including hole CO-156-D.

As the relationship of the gold values with the style of mineralization is examined, it can be seen that while the hydrothermal breccia (Bxh code) has a clear spatial relationship with the gold mineralization, as with many mineralizing systems of this nature, the correlation is not perfect. While some clear situations can be seen in which the hydrothermal breccia plays host to the better gold grades, other occurrences are also present where it can be seen that the hydrothermal breccia carries only low gold values. Indeed, close examination shows that good gold grades can be hosted by other styles of mineralization. As well, gold values in excess of 30 g/t Au can be seen to be hosted by disseminated mineralization. Along with the higher grade gold values, an envelope or halo of lower grade mineralization (typically in the 0.1 to 1.0 g/t Au range) is present both above and below the higher grade values, or completely removed from the hydrothermal breccia.

This situation is a commonplace occurrence in this style of gold-silver deposits, where hydrothermal fluids have exploited the enhanced permeability afforded by faults or fractures whereby these faults acted as channelways for the movement of the fluids. From a mineral resource estimation perspective, Micon's experience has indicated that the most successful approach in these situations (diffuse/stockwork mineralization anticipated to be exploited by means of open pit mining methods) has been to create a three-dimensional model of the volume of rock that has been affected by the mineralizing system, which will then be used to constrain the subsequent steps in the mineral estimation process. In these situations, Micon uses the metal contents themselves to identify the volume of rock that has experienced the precipitation of gold and silver values. On the basis of the preliminary review of the data, Micon notes that a threshold value of 0.1 g/t Au is effective at outlining the affected volume between drill holes on section, and from section to section.

The gold values were displayed on the drill hole traces and were used to establish the outline of the geochemical domain on cross-sections that were spaced nominally at 25 or 50-m centres (viewing windows of ±12.5 or 25 m, as appropriate). In all, interpretation was carried out on 33 cross-sections along a strike length of 1,275 m and to a maximum depth of approximately 85 m elevation RL (approximately 370 m beneath the surface), and the resulting “wobbly polylines” were then linked together to form a three-dimensional solid of the gold geochemical domain.

During the course of construction of the model of the geochemical domain for the Cap Oeste deposit, a small number of drill holes were observed to have short sections inside the interpreted domain outlines for which no assay information was included in the source assay data. Until such time as the cause of these data gaps have been identified, a value of zero was entered for the gold and silver values for these intervals on an interim basis.

Grade capping (or top cutting) was investigated on the raw gold and silver assay values (i.e. all samples contained within the Table Assay) contained within the geochemical domain model in order to ensure that the possible influence of erratic high values do not unduly bias the statistical analyses or grade estimate. Normal histograms were generated from these extraction files for gold and silver assays and the descriptive statistics of the sample data set were generated. Capping values of 50 g/t Au and 2,000 g/t Ag are clearly indicated, resulting in the grades of only nine samples being reduced for gold and the grades of 21 samples being reduced for silver.

Micon examined the distribution of the lengths of the samples contained within the Cap Oeste gold geochemical domain model in relation to the anticipated block sizes and search ellipse criteria that would be utilized for the construction of a grade-block model. In Micon’s opinion, a composite length of 2.0 m was appropriate for this assignment.

A data subset comprising all of the density measurements determined by PGSA field staff that were contained within the geochemical domain model were extracted from the drill hole database for analysis. The average density of these mineralized samples was determined to be 2.22 t/m^3. An analysis of the density of the mineralized samples by oxidation state reveals that the density of the fresh rock is 2.26 t/m^3 while the density of the oxidized portions of the mineralized zone is 2.14 t/m^3.

Upon consideration of the findings of this analysis in context of similar deposits in the region, a program of confirmation of the density readings by an independent, third-party laboratory was conducted whereby a total of 91 samples containing varying gold and silver contents were collected from the same intervals as were determined by PGSA. The average density of these 91 samples as determined by PGSA was 2.33 t/m^3, and this compares to the average density as determined by the Alex Stewart laboratory of 2.51 t/m^3.

The results of these confirmation samples are approximately 7.5% higher than the density of the samples determined by PGSA. Micon recommends that PGSA conduct a review of the procedures that are being used to determine the densities of the various materials in the field to identify the source of the discrepancies in the values between the field and the independent laboratory. Pending the findings of such review, corrective actions can be applied to the existing density data as appropriate.

The analysis of the variographic parameters of the mineralization found in the geochemical domain for the Cap Oeste deposit began with the construction of Omni-directional variograms using the capped, 2-m composited sample data with the objective of determining the global nugget (C0) for the gold and silver data set. An evaluation of other anisotropies that may be present in the data resulted in successful variograms for the three principal directions with model fits ranging from reasonable to poor.

Considering the near-surface location of the mineralization that has been outlined at the Cap Oeste deposit, the conceptual operational scenario contemplates extraction of the gold- and silver-bearing material by means of open pit mining methods, with the metals being extracted by means of a conventional cyanide leach flowsheet. Any higher-grade mineralized material that may be located below the bottom of a potential open pit shell would be extracted by means of underground mining methods and would be processed through the same plant. Given the early stage of discovery of the Cap Oeste deposit, and the fact that the limits of the mineralization have not been defined by drilling, the potential production rate of any open pit operation cannot be defined with any degree of accuracy. Consequently, the selection of block dimensions is preliminary in nature and may need to be revised at a later date as new information permits the identification of the most appropriate mining method(s) and production rates.

An upright, rotated, whole-block model with the long axis of the blocks oriented along an azimuth 320º (i.e. parallel to average the geochemical domain orientation) was constructed using the Gemcom-Surpac v6.1.1 software package. Gold and silver grades were interpolated into the individual blocks for the geochemical domain using the Ordinary Kriging (OK), Inverse Distance to the power 2 (ID^2) and Nearest Neighbour (NN) interpolation methods. A two-pass approach was used wherein the information from the variography analysis described above was used to establish the parameters of the search ellipse for the short range pass.

Validation efforts for the mineral resource estimate at the Cap Oeste deposit consisted of a comparison of the average block grades for the capped and uncapped metal values against the respective informing composite samples. As well, the volumes reported from the block model were compared to the volumes of the solid model of the geochemical domain model. The reconciliation report shows that there is a good correlation for the average block grades estimated using the three interpolation methods, and between the average estimated block grades and the informing composite samples. There is a good fit between the reported volumes for the geochemical domain model, with the block model reporting a slightly more volume in comparison to the original solid model. The slight decline in the values for the gold and silver grades from the composite samples to the block model is a common occurrence and is believed to be due to the declustering effect that takes place during the estimation process.

A preliminary open pit shell was developed using the Surpac software package using the Lerchs-Grossman optimization algorithm and the input parameters presented in Table 1.2.

Due to the polymetallic nature of this deposit (i.e. containing both gold and silver), revenues from both gold and silver contribute to any particular block's profitability. For this reason, the gold and silver grades are used to calculate the revenues and costs for each block within the geochemical domain and derive a net profit for each block (i.e. net profit = revenues – costs).

Table 1.2
Suggested Values for Key Input Parameters, Cap Oeste Optimized Open Pit Shell

Item	Suggested Value
Gold price	US$800/oz (US$25.72/g) (3-yr trailing average = US$773/oz)
Silver price	US$12.50/oz (US$0.40/g) (3-yr trailing average = US$13.67/oz)
Mining cost	US$1.50/ore tonne
Processing cost	US$14.00/ore tonne
G&A	US$5.00/ore tonne
Argentinian royalties	1.85% of mine site value (boca de mina)
Inter-ramp slope angle	52° (all sectors)
Gold recovery	95%
Silver recovery	60%
Sensitivity analyses	Gold price at US$600, US$700, US$900, and US$1,000/oz

The mineral resources in this report were estimated in accordance with the definitions contained in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2004 Edition). The mineralized material was classified into either the Indicated or Inferred mineral resource category on the basis of the search ellipse ranges. Those profitable blocks that are situated above the open pit shell which received interpolated grades that were within the gold variogram ranges were classified as Indicated mineral resources (i.e. those blocks informed with the short-range pass), while the remaining blocks were classified into the Inferred mineral resource category.

As a result of the concepts and processes described above, the mineral resources are considered as all profitable blocks using the base case input parameters that are contained above the US$800/oz Au optimized open pit shell and below the topographic surface. The tonnages and contained metal estimates are presented using a correction factor of +7.5% (as identified by the independent third party laboratory) to the average bulk densities determined by PGSA. The mineral resources are stated using the gold and silver grades as estimated using the OK interpolation method and using the capped metal grades. The estimated mineral resources for the Cap Oeste deposit are set out in Table 1.3.

Table 1.3
Summary of the Estimated Mineral Resources, Cap Oeste Deposit

Category	Tonnes	Au Cap Ok	Oz Au Cap	Ag Cap Ok	Oz Ag Cap
Density = 2.39 t/m^3					
Indicated	5,629,645	1.89	342,120	65.04	11,773,380
Inferred	1,053,990	1.35	45,750	41.34	1,401,030

1. Contained ounces rounded to the nearest 10 oz.
2. The density used to determine the tonnages is derived by application of a correction factor of +7.5% to the average densities as determined by PGSA.
3. Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing or other relevant issues.
4. The quantity and grade of reported Inferred Resources in this estimation are conceptual in nature and there has been insufficient exploration to define these Inferred Resources as an Indicated or Measured Mineral Resource. It is uncertain if further exploration will result in the upgrading of the Inferred Resources into an Indicated or Measured Mineral Resource category.

1.15 RECOMMENDATIONS

Pending the outcome of the test results from the Batch 3 bottle roll cyanidation testing, Micon suggests that consideration be given to examining the gold and silver recovery characteristics for the non-oxide-hosted (fresh) mineralization by means of alternate flow sheets such as flotation/Merrill Crowe.

Micon recommends that the source of the data gaps identified within the geochemical domain boundary be identified and appropriate corrective action is taken in subsequent updates of the mineral resource estimate for the Cap Oeste deposit.

In respect of the assay table of the drill hole database, Micon recommends a slight modification to this table be made in the method for storing assay information from different analytical methods. Micon suggests that separate columns be created (e.g. Au_Final and Ag_Final) to contain the final values of gold and silver that will be used in future mineral resource estimates.

Micon notes, also, that the results for duplicate, blank and standard samples are contained within the body of the assay table as individual records, thus presenting a challenge when exporting of the assay information for use in preparation of mineral resource estimates. Micon recommends that the results for duplicate, blank and standard samples be stored as separate, dedicated worksheets within the database, thereby facilitating the preparation of control charts and exporting of information for other uses.

Micon recommends that PGSA conducts a review of the procedures that are being used to determine the specific gravities of the various materials in the field to identify the source of the discrepancies in the values between the field and the independent laboratory. Pending the findings of such review, corrective actions can be applied to the existing density data as appropriate.

In respect of the establishment of a potential open pit shell for this exercise, Micon utilized the best information available at the time in respect of metallurgical recoveries. Pending the outcome of on-going metallurgical test work, Micon points out that it may become necessary to apply different gold and silver recoveries to the oxide-hosted and fresh hypogene mineralization separately in future runs.

Due to the early stage of development of the Cap Oeste deposit, no geotechnical information was available to aid in the selection of appropriate overall open pit wall slopes. Micon recommends that basic geotechnical information be collected so as to provide preliminary input data to future open pit modeling exercises.

From the results presented above, Micon believes that additional diamond drilling programs are clearly warranted to search for the limits of the Cap Oeste deposit. Such programs would test for the continuation of the gold-silver mineralization along the down-plunge projections of the known mineralized shoots, test the southeastern and northwestern strike projections of the mineralization along the Bonanza Fault, and begin testing the Esperanza Fault for its potential to host additional mineralization.

2.0 INTRODUCTION

At the request of Mr. Diego Bauret, General Manager of Patagonia Gold S.A. (PGSA), Micon International Limited (Micon) has been retained to complete an update of the mineral resource estimate for the Cap Oeste gold-silver deposit located in Santa Cruz province, southern Argentina and to prepare a technical report that is prepared to the standards of Canadian National Instrument 43-101 (NI 43-101) to support its release to the public.

PGSA is a 100% owned subsidiary of Patagonia Gold Plc which is listed on the London AIM stock exchange. In April, 2009 PGSA completed the strategic partnership with Fomento Minero de Santa Cruz Sociedad del Estado (Fomicruz S.E.), an oil and mining company wholly owned by the government of Santa Cruz province and partner of AngloGold Ashanti Limited (AngloGold) at the Cerro Vanguardia gold mine, which will assist with the permitting process and provide oversight for all environmental and social aspects of the development process at the province of Santa Cruz.

Data contained in this report are drawn from original work by PGSA, unpublished data from former owners and explorers of the mining property Barrick Gold S.A. (Barrick) and Homestake Mining Co. (Homestake). Exploration activities through the 2009 field season have been successful in expanding the limits of the gold-silver mineralization that was the subject of a previous mineral resource estimate (Bow and Sandefur, 2008). As a result of this successful program, PGSA now wishes to update the previous mineral resource estimate with the results from the recently completed drilling campaign.

The report includes data and analysis from contractors, consultants, certified laboratories, and Micon's own work. This Technical Report discloses the exploration results obtained from the Cap Oeste deposit as at July 1, 2009 and includes drilling and assay results up to and including drill hole CO-156-D.

Micon's direct knowledge of the property is based on a site visit conducted during the period of May 4 to 9, 2009. During this time period, Micon examined outcrops and the locations of drill holes and surface samples, observed drilling and sampling of diamond drill holes and RC pre-collars, observed logging and sampling procedures, discussed Quality Assurance/Quality Control(QA/QC) methodology and reviewed the overall project details with PGSA staff. The site visit was conducted in the presence of Mr. Diego Bauret, Mr. Marc Sale, Mr. Jorge Brito, and Mr. Gabriel Irusta, all of whom are affiliated with PGSA. Micon is pleased to acknowledge the helpful cooperation of PGSA's management and field staff, all of whom made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.

This report is intended to be used by PGSA subject to the terms and conditions of its agreement with Micon. The scope of work under that agreement comprised the preparation of an updated estimate of the mineral resources for the Cap Oeste deposit along with a report prepared in accordance with the requirements of NI-43-101 for PGSA's use. Except for the purposes legislated under the securities laws of the various jurisdictions in which PGSA operates, any other use of this report by any third party is at that party's sole risk.

2.1 UNITS AND ABBREVIATIONS

Unless otherwise indicated, all currency amounts are stated in United States dollars (US$). The metric system of units is used in Argentina, thus, distance is generally expressed in metres (m) or kilometres (km), area in hectares (ha) and weight in grams (g), kilograms (kg) and metric tonnes (t, 1,000 kg). Gold and silver metal grades are generally expressed in grams per tonne (g/t) gold (Au) and silver (Ag). Additional abbreviations which may appear in this report are provided in Table 2.1.

Table 2.1
List of Abbreviations Pertaining to the Cap Oeste Deposit

Abbreviation	Unit or Term
AA	atomic absorption
Ag	silver
Au	gold
°C	degrees Celsius
Cu	copper
^{o}	degrees
EIA	Environmental Impact Assessment
g	gram
g/t	grams per tonne
g/cm^3	grams per cubic centimetre
GIS	geographic information system
GPS	global positioning system
ha	hectare
IP	induced polarization (geophysical survey)
ICP-ES	Inductively Coupled Plasma-Atomic Emission Spectrometre
ISO	International Organization for Standardization
kg	kilogram
km	kilometre
km^2	square kilometre
kt	1,000 tonnes
L/h	litres per hour
L/s	litres per second
m	metre
metres above sea level	masl
M	million
Ma	million years before present
MD	Manifestación de Descubrimiento/Manifestation of Discovery
NI 43-101 or 43-101	Canadian Securities Administrators' National Instrument 43-101
ounce or oz	troy ounce
PGD	Patagonia Gold Plc
PGSA	Patagonia Gold S.A.
ppb	parts per billion
ppm	parts per million
QA	quality assurance

QC	quality control
RC	reverse circulation
RQD	rock quality designation
s	second
Std. Dev.	standard deviation
t	metric tonne
t/m^3	tonnes per cubic metre
US$	United States dollars
y	year
/	per

3.0 RELIANCE ON OTHER EXPERTS

Micon has reviewed and evaluated the data pertaining to the Cap Oeste deposit and has drawn its own conclusions therefrom. Micon has not carried out any independent exploration work, drilled any holes or carried out any sampling and assaying of material from the property, other than the check sampling to confirm the presence of gold-silver mineralization which is discussed in Section 14 of this report.

While exercising all reasonable diligence in checking, confirming and testing it, in the preparation of this report Micon has relied upon the data provided by PGSA and that found in the public domain.

The status of the mining claims or mineral tenements under which PGSA holds title to the mineral rights for the Cap Oeste property has not been investigated or confirmed by Micon, and Micon offers no opinion as to the validity of the title claimed by PGSA. The description of the property, and ownership thereof, as set out in this report, is provided for general information purposes only.

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

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

The Cap Oeste project area is located in the central portion of Santa Cruz province, in the Department of Rio Chico, southern Argentina (Figure 4.1). The core resource area is situated within the El Tranquilo I Manifestación de Descubrimiento (MD, or Manifestation of Discovery), within the El Tranquilo block of exploration properties approximately 65 km southeast of the small township of Bajo Caracoles. The closest cities to the project site by road are Perito Moreno (208 km northwest of the project) and Gobernador Gregores (190 km south of the project). The property is accessed via the partially-sealed National Highway 40 heading south from Perito Moreno for approximately 166 km, passing via the township of Bajo Caracoles to a junction titled “Cinco Buzones.” This highway infrastructure is currently being upgraded to an all-bitumen double-lane highway. A secondary improved gravel road is then followed east for approximately 42 km to the project site, about five km to the northwest of the Estancia La Bajada.

The Estancia La Bajada, owned by PGSA, comprises a main farmhouse and several outbuildings which provide space for an exploration base camp, including logging, core cutting, sample preparation, and core storage facilities.

Infrastructure improvements to the property include a graded single track road and several secondary side access tracks to drilling platform areas. There are no mineral reserves, historic mine workings, tailings, tailings ponds, or waste deposits in the project area.

4.2 MINERAL TENURE AND TITLE

4.2.1 Exploration Claims

The Cap Oeste project is located within the El Tranquilo I MD claim, which is one of seventeen contiguous exploration tenements comprising the El Tranquilo block of properties (60,056 ha), controlled 100 % by PGSA.

The El Tranquilo I MD claim was largely constituted from a pre-existing cateo claim block titled El Tranquilo (file 404.195/MR/02), and a subsidiary portion originally covered by the La Apaciguada MD (file 405.473/MR/05). The El Tranquilo MD (file 403.094/PATAGONIA/07) was staked in September, 2007 under the “Manifestation of Discovery” covering the last portion released of the original El Tranquilo Cateo.

In accordance with the Argentine mining code, all of the exploration properties are spatially registered in the Gauss Kruger Projection and Campo Inchauspe datum system in the corresponding longitudinal belt defined between 68°-70° West. The location of the Cap Oeste Project area with respect to the El Tranquilo MD claim is displayed in Figure 4.2. The deposit itself is located at approximate Gauss Kruger coordinate 2,390,600E 4,687,900N (Figure 4.3).

Figure 4.1
Project Location

The details of the individual properties contained within El Tranquilo block are provided in Table 4.1. As of July, 2009 the claim titles remain current and are renewed annually by payment of a fee. The renewal is contingent on continued exploration work on the claim within each year. All the MDs are within the legal period prior to which PGSA has to survey individual concessions (pertenencias) so as to eventually constitute a mining concession or ‘Mina’.

Figure 4.2
Location of the Cap Oeste Project Area in Relation to the El Tranquilo I MD Claim

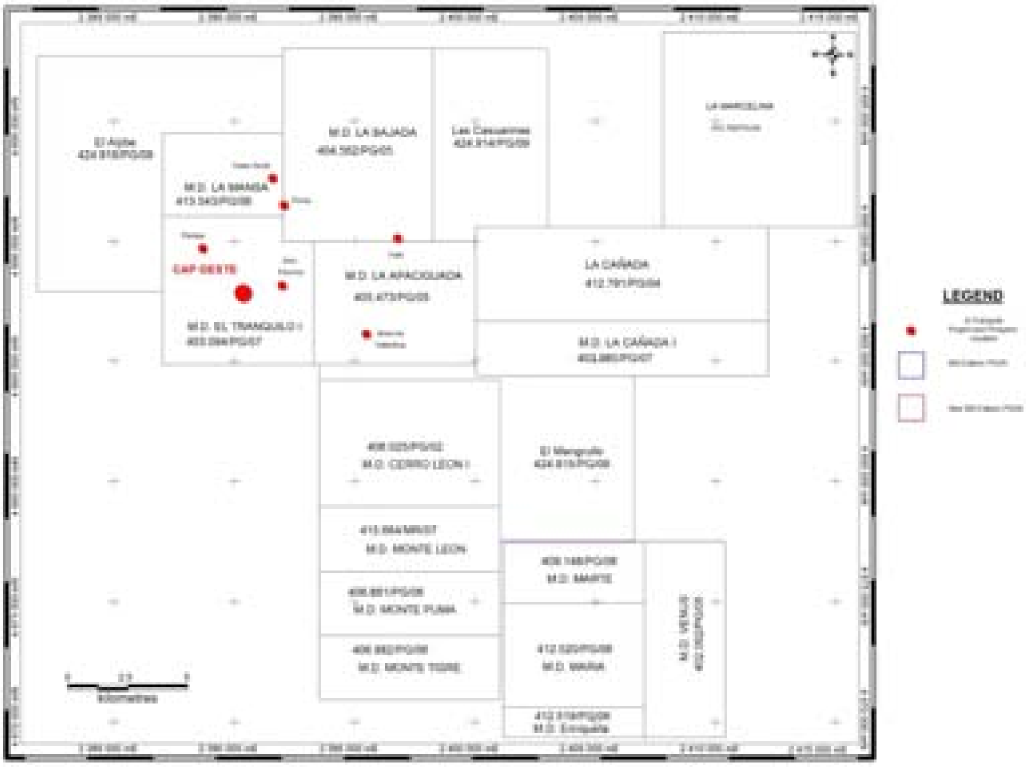
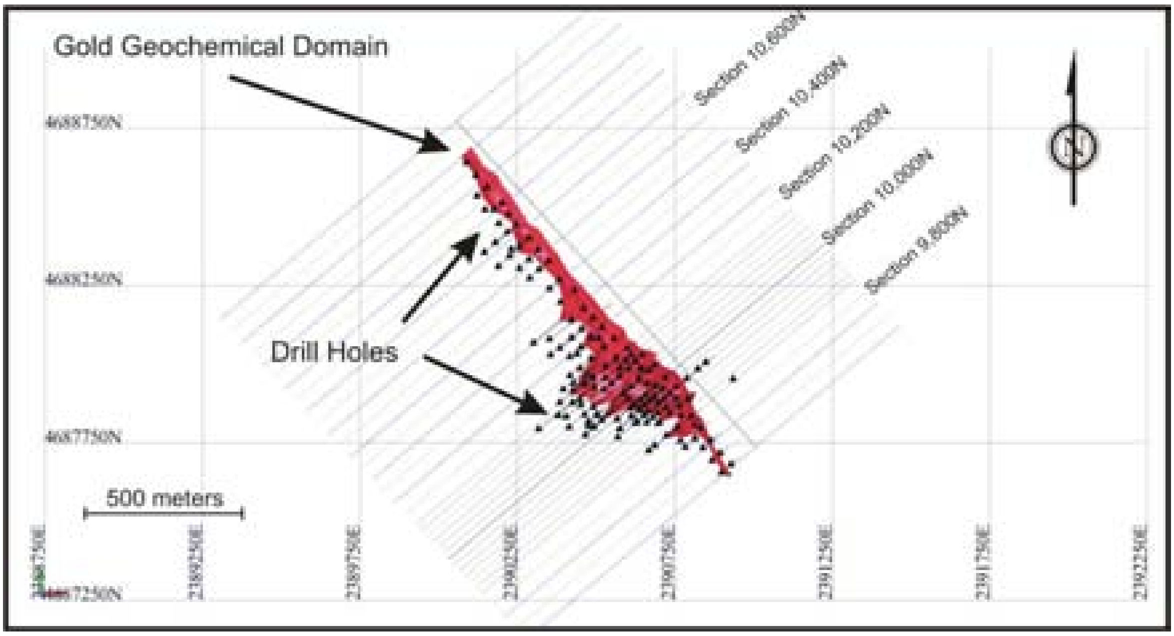


Table 4.1
El Tranquilo Block of Exploration Properties

Name	Property Type	Property File No.	Area (ha)
La Mansa	MD	413.543/MR/06	1,736.50
El Tranquilo I	MD	403.094/PATAGONIA/07	3,736.20
La Apaciguada	MD	405.473/MR705	3,472.50
La Bajada	MD	404.562/PATAGONIA/05	5,000.00
La Cañada	CATEO	412.792/Barrick/04	7,499.10
La Cañada I	MD	403.985/PATAGONIA/07	2,794.50
Cerro León	CATEO	406.025/MR/02	3,968.10
La Marcelina	CATEO	412.792/Barrick/04	6,500.10
Monte León	MD	415.664/MR/07	1,987.40
Monte Puma	MD	406.881/MR/06	2,000.00
Monte Tigre	MD	406.882/MR/06	2,000.00
Marte	MD	409.148/MR/05	2,500.00
María	MD	412.520/MR/05	743.10
Enriqueta	MD	412.519/MR/05	1,500.00
Las Casuarinas	CATEO	424.914/PG/09	3,637.90
El Mangrullo	CATEO	424.914/PG/09	4,275.60
El Aljibe	CATEO	424.914/PG/09	6,704.70

Figure 4.3
Cap Oeste Deposit Location



4.2.2 Surface Rights and Obligations

Surface rights in Argentina are not associated with title either to a mining lease or to an exploration claim and, therefore, must be negotiated with the surface landowner on an individual basis. The Cap Oeste project is transected by the boundary between two contiguous farm properties, namely the Estancia El Tranquilo and the Estancia La Bajada.

In December, 2008, PGSA bought the Estancia La Bajada surface land title including the farmhouse and outbuildings from Mr. Francisco Novoa. At the time of writing, PGSA is negotiating the purchase of the adjacent Estancia El Tranquilo with its surface owner.

In November, 2008, PGSA signed an extension to the pre-existing Access and Exploration Agreement with Ms. Susana Martinic, the landowner of Estancia El Tranquilo, which permits access, road repair and construction, use of water, trenching and exploration tasks, including drilling during the period up until the 30 May, 2009. The Agreement is renewable.

4.2.3 Mineral Property Encumbrances

The majority of the properties of the El Tranquilo block, including the El Tranquilo property, were acquired as part of a Purchase Agreement signed in February, 2007 between PGSA and the Argentinian subsidiaries of Barrick, Minera Rodeo S.A. and Barrick Exploraciones Argentina S.A.

Terms and conditions of this Purchase Agreement include:

1. A US$10,000,000 commitment of approved exploration expenditures within a period of five years, of which US$1,500,000 must be invested during the first 18 months. PGSA has already notified Barrick´s subsidiaries advising that the investment commitments of US$1,500,000 and US$10,000,000 have been exceeded as of December 31, 2007 and December 31, 2008, respectively.

2. PGSA is required to provide an annual year-end resource estimation statement completed by an independent qualified person and the provision of the data used for the generation of such statements. PGSA delivered the previous September, 2008 Resource Technical Report (Bow and Sandefur, 2008) to Barrick in December, 2008.

3. Barrick Gold S.A. holds the right to 'back-in' up to 70% for any individual property group included in the Purchase Agreement upon written notice, within 90 days upon completion of a NI 43-101 compliant delineation of a two million ounce gold or gold equivalent Indicated Resource, within the respective property group. This is on a forward looking basis which does not include any resources or reserves produced or undergoing 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.

As an integral part of the due diligence of both Barrick and PGSA, it was verified that there are no other mineral property encumbrances over the project or block of properties.

The following mining properties included in the El Tranquilo block were granted directly to PGSA, either previous to or subsequent to the signing of the Purchase Agreement with Barrick, and, therefore, are not subject to its terms and conditions.

La Bajada	404.562/PATAGONIA/05
Las Casuarinas	424.914/PG/09
El Mangrullo	424.914/PG/09
El Aljibe	424.914/PG/09

4.3 ENVIRONMENTAL LIABILITIES

No previous mining or significant exploration activity has been conducted on the El Tranquilo block. To the best of Micon's knowledge, the property is not subject to any environmental liabilities related to exploration or mining activities.

4.4 PERMITS

Work at the Cap Oeste project was conducted in accordance with the legal requirement for an approved biannual Environmental Impact Assessment (EIA) for the El Tranquilo Project block, for which the pre-existing one was renewed and subsequently approved and granted on October 8, 2008, with an effective duration of two years.

PGSA has been conducting quarterly baseline water sampling throughout the project area since May, 2007, and have been producing independent reports prepared by a private consultant (BEHA). Results of these studies were included in the most recent EIA for the project and submitted to the appropriate authorities.

PGSA has obtained the relevant permits for the use of water during the drilling campaigns, issued by the pertinent government water resources authority of the Santa Cruz Province (Recursos Hídricos), subsequent to the approval by the corresponding surface owners. No other permits are required for the continuation of exploration and/or definition drilling within the property block.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 CLIMATE, TOPOGRAPHY, AND VEGETATION

The Patagonian region of southern South America is characterized by arid, windy and generally treeless expanses of rolling hills, interspersed with isolated plateaus which rise to elevations of 250 to 1,000 masl. Field work is generally feasible from September to June while mid-winter (June-August) is typically a recess period. In the absence of excessive snow and rain, exploration occasionally continues into this period due to frozen ground conditions which permit access over otherwise wet areas.

The closest meteorological information available is sourced from the cities of Perito Moreno and Gobernador Gregores, which are located at similar elevations to the Project area at straight line distances of 160 and 90 km, respectively. In order to commence baseline environmental studies within the project area a Davis Model Vantage Pro2 wireless weather station was installed by PGSA on 3 November, 2008 within 500 m of the Cap Oeste project area. This equipment records a comprehensive array of meteorological data which are downloaded by PGSA once per month.

Based on meteorological information sourced from the cities of Perito Moreno and Gobernador Gregores, the average annual rainfall in the Cap Oeste area is estimated to be 300 mm, the majority of which falls in the period June-September. Snow frequently accumulates at the project site between June and August, and infrequent snowfall events can deliver up to 100 mm, based on limited historic data. Annual potential evaporation is estimated at between 750 and 1,250 mm. Temperatures at the project area are characteristic of the central plateau of the Santa Cruz, with short warm summers, and winters with temperatures commonly reaching below 0^{o}C. Based on regional data, the annual average temperature is approximately 8.9^{o}C. Average monthly temperatures above 10^{o}C generally occur between November and March, whereas temperatures below 5^{o}C generally occur from June through August. Strong winds (greater that 40 km per hour) occur year round but typically are strongest during the spring and summer months. The dry, windy climate accentuates the aridity of the region by generating an extremely high rate of evaporation and constitutes a strong natural erosive mechanism for the sparse vegetation cover.

The southeastern portion of the Cap Oeste project area is characterized by a predominant northwest-southeast aligned pattern of undulating hills between elevations of 350 and 500 masl. In the northwestern portion of the project area, topography has a generally low relief and is relatively flat-lying. Vegetation constitutes approximately 50% of the ground cover and is characterized by grass and bushes; the former typically include the varieties Stipa sp, Poa sp and Festuca sp which are locally named “coiron”. Subordinate plant species include Neneo (Mulinum sp), Adesmia (Adesmia sp), Calafate (Berberis sp), Senecio (Senecio sp), Zampa (Atriplex sp), and Mata Negra (Verbena sp).

Despite the general scarcity of surface water throughout the area, several significant fresh water springs (each producing more than 4 L/s) occur in a northwest trending geologically-controlled corridor extending from within the northwestern portion of the project area to at least approximately 2 km further to the northwest. Water supplies for drilling and exploration camp amenities are obtained from these local springs and water courses with permission of the surface owners and respective provincial authorities.

5.2 ACCESS AND INFRASTRUCTURE

As described in section 4.1, the project area is accessed from the capital city of Buenos Aires by commercial air service and a network of improved highways. The Ruta 40 highway infrastructure throughout the province of Santa Cruz is currently being upgraded to an all bitumen double-lane highway along its entirety with a multi-million dollar public works program. This project is scheduled to be completed by the end of 2012.

Within each individual regional population centre, including Perito Moreno and Bajo Caracoles, electrical power is supplied via local diesel generators. Within the project area, electrical power is supplied through company-owned or leased generators. The nearby towns generally source local groundwater supplies to meet their needs.

The closest fixed line telephone to the area is situated in Bajo Caracoles (65 km from the project) and since there is no mobile network coverage throughout the project area, communication from the exploration camp at Estancia La Bajada is via satellite phones and satellite-based, broadband internet.

5.3 ENVIRONMENTAL AND SOCIAL RESPONSIBILITY

As described in Section 4, exploration has been conducted in accordance with an approved Environmental Impact Assessment (EIA), which was granted on October 8, 2008 and has an effective duration of two years.

The Santa Cruz Provincial Mining Directorate’s agents, together with representatives from the local communities, have inspected PGSA’s exploration activities, specifically during drilling, and have reportedly expressed satisfaction as to the manner in which the company has carried out operations.

Although once a large wool and mutton producing region, the area is currently uninhabited, destocked, and unproductive as a result of overgrazing, gradual desertification and severe loss of productivity following the eruption of the Hudson Volcano in Chile in 1991. To the extent practical, PGSA utilizes local communities to source food, accommodation, fuel, minor vehicle repairs and field labour. More specialized goods and services must be obtained in Caleta Olivia Gobernador Gregores or Perito Moreno (Santa Cruz Province), Comodoro Rivadavia (Chubut Province) and Buenos Aires. PGSA’s local workforce comprises mainly unskilled workers who receive safety, environmental and exploration methodology training. Senior project management and engineering positions are generally filled by professionals from outside the local communities.

PGSA has maintained a strong awareness of its responsibilities towards the environment and existing social structures. Careful attention is given to ensure that all exploration work is carried out in strict accordance with the guidelines of the relevant mining and environmental acts, as well as to the high standards of responsibility the company imposes on itself.

PGSA has contracted Vector Argentina S.A. as consultant for environmental matters and Empoderar RSE as consultant for community relations throughout the Santa Cruz Province. Under their auspices, public meetings have been conducted which involve open-forum discussions focused on industry best practice policies and social responsibility. Several pamphlets related to prospecting, exploration and community engagement were prepared by PGSA for distribution to surface owners, visitors and various regulatory agencies. Copies of the approved Environmental Impact Studies are available at the PGSA office located in Perito Moreno, for viewing, consultation and clarification of any doubts or enquires from the nearby communities.

6.0 HISTORY

6.1 EARLY HISTORY

No historic mineral production is known to have occurred within or in close proximity to the Cap Oeste project. The earliest modern exploration in the area was reportedly carried out during the mid 1990s by Western Mining Corporation and Homestake Mining, who initially targeted the area using Landsat imagery. Interpretation of this imagery highlighted the presence of regional-scale, northwest-trending lineaments and large zones of coincident clay alteration which served to focus the reconnaissance mapping and sampling programs. This work led to the staking of exploration claims by Homestake's subsidiary, Minera Patagonia S.A., which were held until they expired in July, 2002. Subsequent to the merger between Barrick Gold Corporation and Homestake, the ground was again staked as the El Tranquilo Project by Barrick's subsidiary, Minera Rodeo S.A.

PGSA staked the cateo 'La Bajada' in 2005 and the exploration claims 'Casuarina', 'El Aljibe' and 'El Mangrullo' in 2009. None of these properties are subject to the terms and conditions of the Purchase Agreement signed in 2007 with Barrick.

6.2 HOMESTAKE-BARRICK EXPLORATION

Exploration of the El Tranquilo property claim block by Barrick spanned the four-year period of May, 2002 to May, 2006, at which time the decision was made to divest the project areas. The combined Homestake-Barrick exploration programs included:

- Target generation incorporating information from the Homestake geochemical database, supplemented by ASTER and Landsat Band Ratio image analysis.

- Regional scale geological and structural mapping (at scales of 1:25,000 to 1:100,000) and TM based (satellite imagery) alteration mapping at a scale of 1:50,000.

- Geochemical sampling including 334 lag (a sampling and analytical protocol) samples, 569 regional rock chip samples and 469 sawn channel samples taken from 11 trenches (total 1,694 m).

- Pole-dipole Induced Polarization and resistivity surveying along 8 lines spaced 750 to 2,000 m apart, totaling 27 line-km in length.

- Regionally-spaced ground magnetic surveying along 16 lines spaced 100 m apart, totaling 35.2 line-km.

- Petrographic studies.

As a result of this program of work, several significant gold-silver exploration targets were defined along a series of sub-parallel, northwest-trending structural lineaments which ultimately proved to contain the Cap Oeste (originally referred to by Barrick as the Zona Central), Breccia Valentina, and Vetas Norte prospects. With the assistance of external consultants, conceptual genetic models were developed for the various styles of low sulphidation precious metal mineralization identified in order to help guide subsequent exploration.

As follow-up at Cap Oeste, Barrick took a total of 144 lag samples covering a 600-m long, northwest-trending zone of poorly exposed hydrothermal breccia, silica/hematite flooding, and sheeted, limonitic quartz veining. This sampling returned weakly anomalous gold, silver and mercury values over an approximate 300-m wide by 800-m long area. Barrick tested this anomaly with three trenches (TR 4 –TR 6) totaling 420 m in length, which were excavated perpendicular to the exposed mineralization along a strike length of 270 m . Significant values were returned from two of these trenches, spaced approximately 145 m apart:

- Trench TR-4: 38 m @ 1.0 ppm Au (using 0.25 ppm Au cutoff), including 7.5 m @1.88 ppm Au, and 33 ppm Ag (using 1.5 ppm Au cutoff).

- Trench TR-5: 14.8m @ 0.55 ppm Au (using 0.25 ppm Au cutoff), including 2 m @ 1.05 ppm Au (using 1.0 ppm Au cutoff).

The mineralization was spatially coincident with a prominent chargeability and resistivity anomaly highlighted by the one pole-dipole Induced Polarization (IP) and resistivity survey line that transected the zone.

In summary, the Homestake- Barrick exploration program defined a 10 km by 25 km, northwest-trending, epithermal district hosting extensive zones containing anomalous precious and trace element metal contents, hydrothermal alteration, and coincident chargeability/resistivity targets. Within this area, at least three main corridors have been broadly delineated, namely the Cap Oeste, Breccia Valentina, and Vetas Norte Corridors, as shown in Figure 6.1.

6.3 PATAGONIA GOLD S.A. PROGRAM

PGSA visited the project and began negotiations for the purchase of the properties in September, 2006. Subsequent to the Purchase Agreement reached on February 5, 2007, exploration activities commenced that included gridding, surveying, trenching and drilling programs which are detailed further in Sections 10 through 12 of this Technical Report.

As part of its exploration activities on the El Tranquilo land holdings in 2008, PGSA commissioned a mineral resource estimate of the mineralization that had been delineated at the Cap Oeste deposit at that time. The results of the mineral resource estimate have been presented in Bow and Sandefur (2008), and are summarized in Table 6.1.

Figure 6.1
Regional Structural Corridors - El Tranquilo Property Block

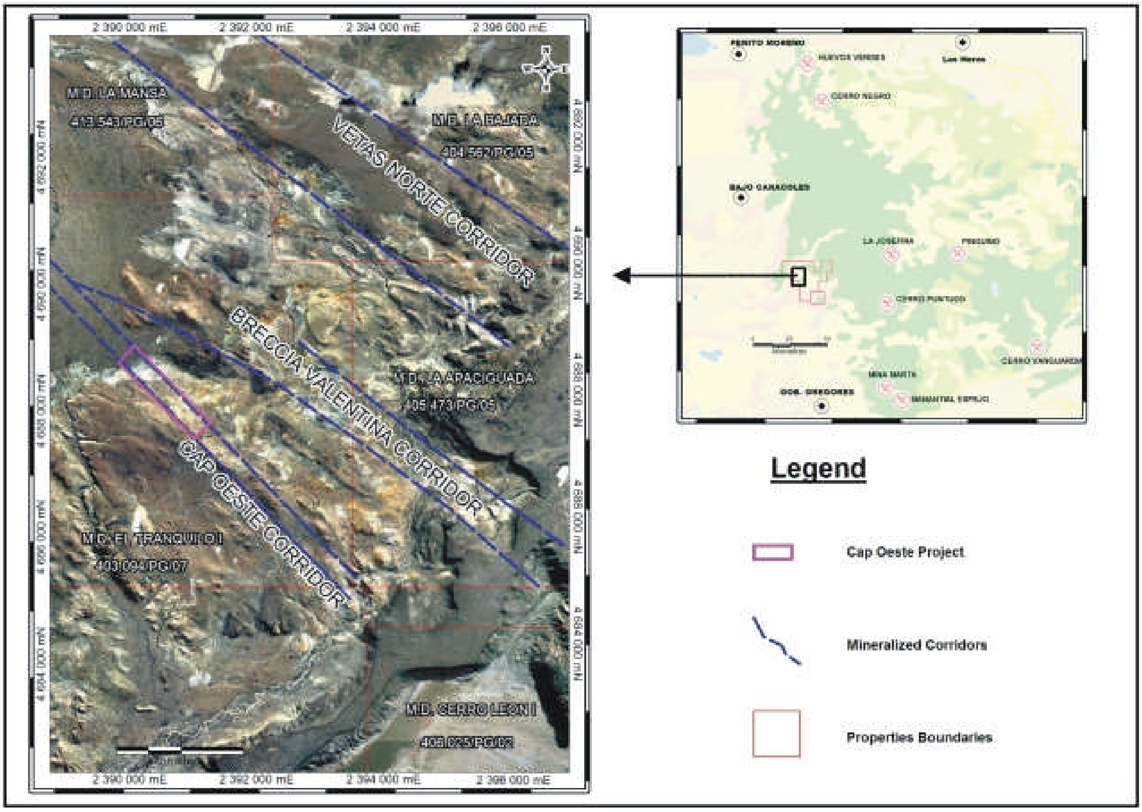


Table 6.1
Summary of the 2008 Mineral Resource Estimate
(after Bow and Sandefur, 2008)

Classification	Gold Cutoff Grade (g/t)	Tonnes	Gold Grade (g/t Au)	Contained Gold (oz)	Silver Grade (g/t Ag)	Contained Silver (oz)
Total, Indicated	0.30 Oxide + 1.0 Non-Ox	2,306,938	1.81	134,007	42.01	3,115,985
Total, Inferred	0.30 Oxide + 1.0 Non-Ox	1,819,293	2.17	127,046	42.78	2,502,728

7.0 GEOLOGICAL SETTING

7.1 REGIONAL SETTING

The Cap Oeste project is contained within the Deseado Massif geological province, which occupies a 70,000 km^2 area located in the northern third of Santa Cruz Province. The geology of Santa Cruz has been mapped and compiled at a scale of 1:750,000, and published by SEGEMAR in 2003 (Figure 7.1).

Both the Deseado Massif and a second uplifted block, the Somuncura Massif (exposed in Chubut and Rio Negro Provinces to the north), are interpreted to have developed during large-scale continental volcanism accompanying extensional rifting of the Gondwanaland supercontinent and the opening of the Atlantic Ocean (Feraud et al., 1999). The bedrock comprises a bimodal suite of andesitic to rhyolitic ignimbrites and tuffs, with lesser quantities of flows and intrusions, which were erupted over a 50 million year interval in the middle to late Jurassic (125 to 175 Ma). Its areal extent places this geological province amongst the most extensive rhyolite platforms worldwide. The Deseado Massif is bordered by two Cretaceous petroliferous basins, the San Jorge Basin to the north, which separates it from the Somuncura Massif, and the Austral-Magallanes Basin to the south. These basins contain thick sequences of non-marine sedimentary rocks which host Argentina's largest producing oil and gas fields.

Regionally, the Jurassic stratigraphy which hosts precious metal mineralization throughout the Deseado Massif is underlain by an extensive sequence of basement rocks ranging in age from Precambrian to early Jurassic. Younger cover sequences include small windows (less than 300 m in diameter) of flat-lying Tertiary marine sediments (which have filled structural controlled and/or erosional basins) and alkalic basalts, which form extensive plateaus throughout the region. Finally, unconsolidated Quaternary glacial-fluvial sediments form characteristic elevated gravel terraces throughout the massif.

Within the project area, the Jurassic volcanic suite is comprised dominantly of rocks assigned to the Bahia Laura Group. The volcanic stratigraphy of the Bahia Laura Group is the best exposed rock sequence in the Deseado Massif, covering more than half of its area, and comprises three formational members:

Bajo Pobre Formation (175-166 Ma): Andesitic to basaltic flows, agglomerates, and minor hypabyssal porphyritic intrusive rocks which intercalate upwards with mafic tuffs, conglomerates and sediments. Olivine basalts, common in the lower part of the formation, are thought to be products of fissure eruptions from rifts related to early stages of the Gondwana breakup and continental separation.

Chon Aike Formation (166 – 150 Ma): High-Si, high-K rhyolitic to rhyodacitic ignimbrites, tuffs and lesser volcanic breccias, flows and domes which attain a cumulative thickness up to 1,200 m (Sanders, 2000). Volcanic rocks assigned to the Chon Aike

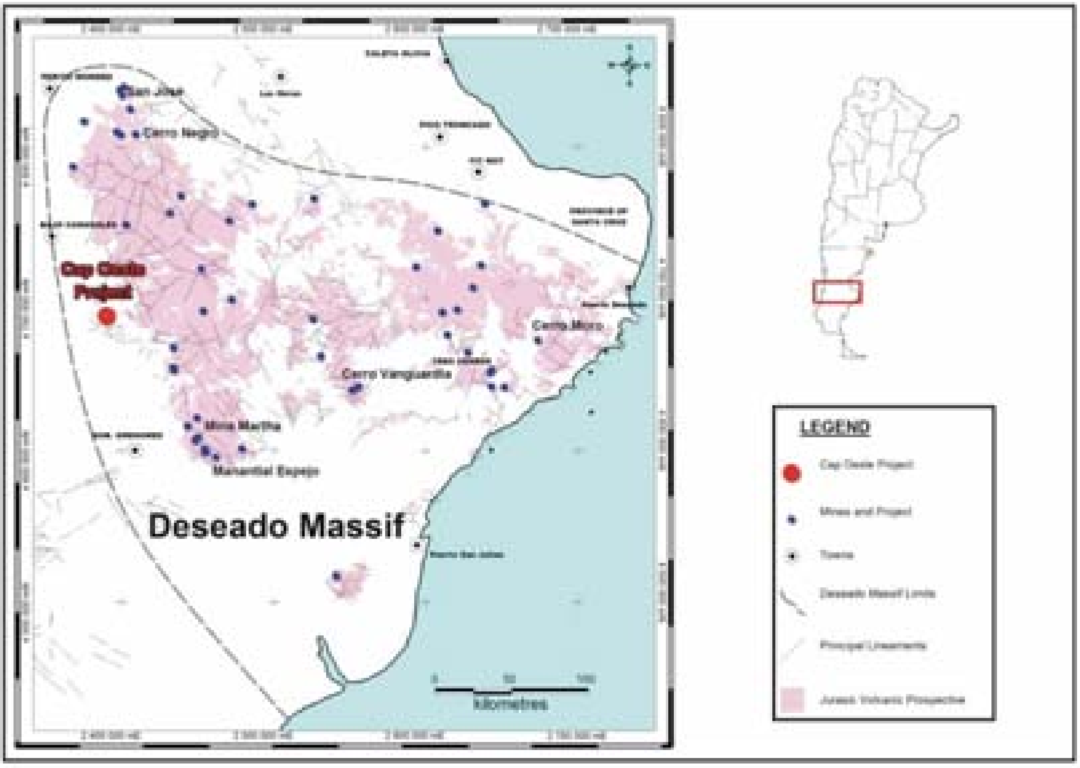
Formation are coincident in space and time with the most significant precious metal deposits in the province.

La Matilde Formation (upper age of approximately 142 Ma): Fine-grained fossiliferous lacustrine sediments, volcano-sedimentary rocks and airborne tuffs.

In a regional structural sense, northwest-southeast extensional faults active during the period of Jurassic volcanism formed a series of grabens, half-grabens and horst blocks. Since the Jurassic, the rocks have been cut by normal faults that probably represent reactivated basement fracture zones. The Jurassic rocks have undergone only minor subsequent deformation and remain relatively flat-lying to gently dipping, except on a local scale proximal to faults and subvolcanic intrusions.

Fault kinematics throughout both the Cap Oeste project and the surrounding region are consistent with regional east-west to northeast-southwest extension as has been documented for many low sulphidation, epithermal precious metal deposits throughout Santa Cruz Province.

Figure 7.1
Regional Geology of the Deseado Massif, Santa Cruz Province, Argentina



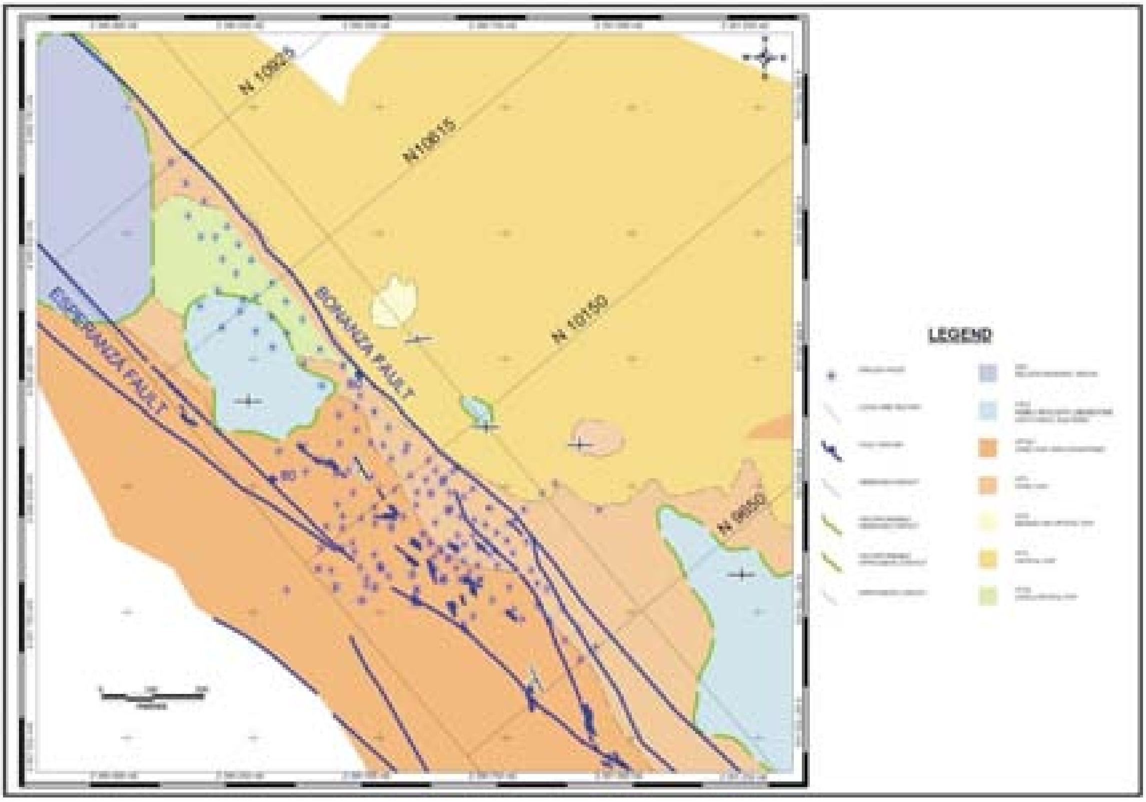
7.2 PROPERTY GEOLOGY

7.2.1 Stratigraphy

The bedrock in the Cap Oeste area comprises a thick (greater than 500 m) sequence of rhyolitic ignimbrite and tuff units of the Chon Aike Formation, overlain by a veneer of Oligocene- to Miocene-aged shallow marine calc-arenite sediments of the Centinela Formation. These are in turn overlain by unconsolidated, Quaternary-aged fluvio-glacial gravels.

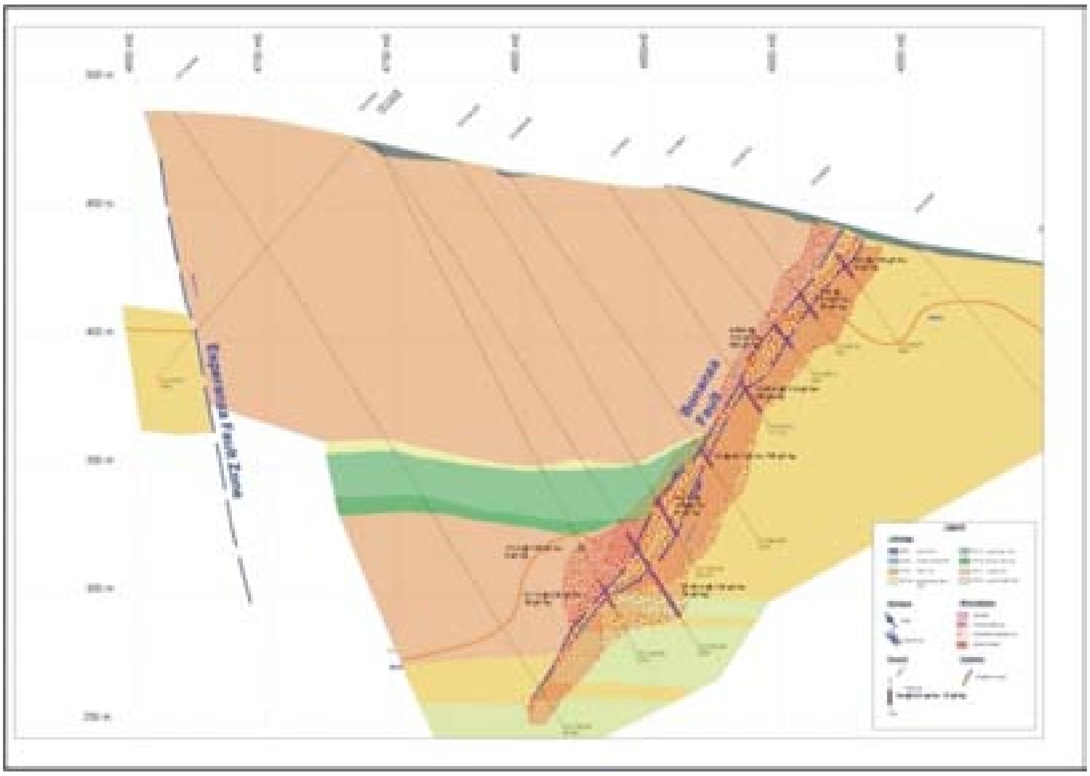
The surface and subsurface distribution of these units defined by mapping and drilling, excluding outcrops of the Quaternary gravel cover, is shown in Figure 7.2.

Figure 7.2
Geology and Structure of the Cap Oeste Project Area



From information gained from drilling completed throughout the Cap Oeste project area, the local stratigraphy of the Chon Aike Formation has been defined by PGSA geologists into eight sub-horizontal units throughout an approximate 200 by 1200 m area down to a maximum vertical depth from surface of varying between 100 to 500 m. The surface distribution of the various members of the Chon Aike Formation is strongly controlled by a series of at least two sub-parallel, northwest-trending (320°), moderate to steeply southwest and northeast dipping normal faults, respectively named the Bonanza and Esperanza Faults, as shown in Figure 7.3.

Figure 7.3
Cross Section 9950 N (Looking Northwest) Showing the Orientations of the Esperanza and Bonanza Faults and Significant Mineralized Intervals



In summary, the upper 200 m of stratigraphy that hosts the Cap Oeste mineralization defined to date has been found to comprise a crystal-poor, rhyolitic, vitric ignimbrite whose distribution is restricted to the hanging wall to the Bonanza Fault and the upper footwall section of the Esperanza Fault. In contrast, the near-surface stratigraphy of the footwall of the Bonanza Fault is dominantly comprised of a quartz-feldspar-biotite crystal-rich ignimbrite unit.

At depth (i.e. below 0 m RL or approximately 450 m below surface), a series of additional units, typically comprising ignimbrite flows ranging from 25 to 100 m in thickness that are separated by thin interbeds of volcano-sedimentary material, are found in the footwall of the Bonanza Fault.

A more detailed description of the individual lithologies and their respective thicknesses is provided below in order of increasing depth from surface, and relative to their positions with the Esperanza and Bonanza Faults.

7.2.1.1 Footwall and Hangingwall to the Esperanza Fault

- (VfTv) Rhyolitic Vitric ash tuff (< 0.25mm diameter) with abundant drusy lined, 2 to 4 cm diameter, flattened lythophysae-rich interval (10 m thick) with weakly welded and partially devitrified volcanic glass ash fragments. This unit comprises the prominent topographic high nominated Cap Oeste, which occurs immediately to the southwest of the mineralized zone. To date, current drilling has intersected a 50-m thick portion of this unit in the footwall to the Esperanza Fault, and throughout the block comprising both the hangingwall to the Esperanza and Bonanza Faults, a 135-m thick portion of this unit has been defined. The relatively increased thickness of this unit in the hangingwall to the Esperanza Fault is interpreted to be a result of the relatively greater preservation of this normally displaced downthrown stratigraphy within the interpreted graben (i.e. between the Esperanza and Bonanza Faults).

- (VfTl) 20-m thick Rhyolitic Lapilli tuff (0.4 to 3 cm in diameter) characterized by a fining upward sequence comprising basal block to lapilli and upper laminated, variably carbonaceous ash tuff 1 to 5 m thick.

- (VfTb) 5 to 10-m thick Rhyolitic Block tuff (>3 cm diameter).

- (VfTv) 70- m thick Rhyolitic Vitric quartz eye ash tuff –moderately welded.

- (VfTvamo) 5-m thick Organic rich laminated rhyolitic ash tuff.

- (VfTx) Rhyolitic quartz, plagiaoclase biotite, crystal coarse ash (0.25 to 4 mm diameter).

Although this lowest unit appears to host proportionally more quartz crystal fragments, it is currently unclear if this unit can or cannot be correlated with the crystal tuff in the footwall to the Bonanza Fault (FB Unit 2). To date, the limit of current drilling has defined a minimum 290 m thickness of this unit in the footwall to the Esperanza Fault and intersected the 80-m thick upper portion of this normally displaced unit in the hangingwall to the Esperanza Fault.

Between sections 10025 N and 10150 N, many of the finer grained units in the lower portion of the stratigraphy in the central graben structure appear to pinch out peripheral to the Bonanza Fault contact, suggesting at least part of the units' deposition was influenced by syn-depositional faulting.

Additionally, to the northwest (between sections 10400 N to 10900 N), a 5- to 40-m thick rhyolite quartz, biotite, plagioclase crystal tuff (rock code VfTxp) containing abundant 0.5-2-cm sized pumice fiamme clasts has been defined by drilling to be present that conformably overlies the vitric tuff unit (rock code VfTv). This unit underlies a veneer of post Jurassic-aged cover rocks, and its lateral extension is confined to between the Bonanza Fault and the Esperanza Fault.

7.2.1.2 Footwall to the Bonanza Fault (FBz)

- (VfTv) 5 to 20-m thick Rhyolitic vitric ash (<0.25 mm) tuff weakly welded and partially devitrified volcanic glass ash fragments. Given the relative position of this unit elsewhere within the volcanic stratigraphy of the project area (i.e. not found stratigraphically conformable above quartz + plagiaoclase + biotite crystal tuff), it is interpreted that this unit may have possibly been deposited unconformably on the underlying Unit 2 (below) as possibly the latter stage of deposition of the much thicker accumulation of vitric tuff defined in the hanging wall side of the Bonanza Fault (i.e. to the southwest).

- (VfTx) +500-m thick Rhyolitic quartz+plagiaoclase+biotite, crystal coarse ash (0.25 to 4-mm), including two, 10 to 20-m thick interbeds of fiamme and lithic lapili and towards the base of the current limit of drilling, 5-m thick interbeds of organic rich laminated ash volcanic units

7.2.2 Paleo-Volcanic Depositional Setting

These volcano-sedimentary sequences are found in the central portion of the graben structure formed between the Esperanza and Bonanza Faults and are interpreted to represent an extra-caldera, paleo-depositional setting in which a depressed area received numerous ignimbrite flows, potentially erupted from more than one ash-flow caldera centre. The depositional setting must have been of low relief, judging by the commonly fine grain size of the epiclastic rocks and the abundance of carbonaceous intervals reflecting vegetation growth, possibly in a lacustrine environment. The lack of coarse-grained epiclastic rocks near the Bonanza Fault may be indicative that a prominent scarp was not present during the volcanism and sedimentation.

In several localities within a 6-km radius of the Cap Oeste project area, relatively small exposures (100 m by 200 m) of dacitic to rhyolitic domes have been identified by regional-scale mapping as intruding the stratigraphic units of the Chon Aike Formation. No age dating has been conducted although the cross-cutting relationships suggest that these dome structures are of a younger age than the Chon Aike units. These domes are typically characterized by auto- and hydrothermally-brecciated carapaces and host a strong flow foliation.

7.3 STRUCTURE

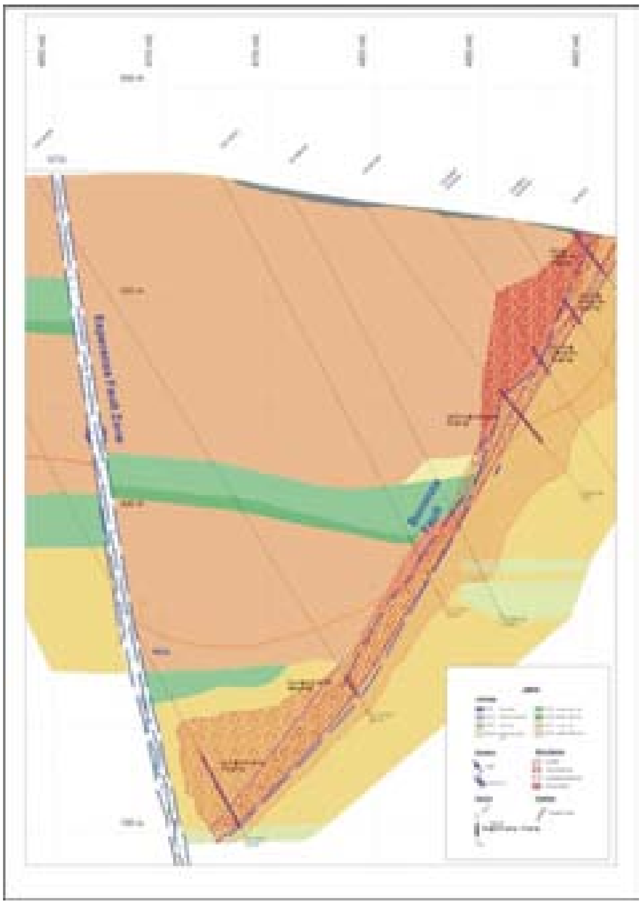
7.3.1 Bonanza Fault

The main gold-silver mineralization defined to date at the Cap Oeste deposit occupies an approximate 800-m long strike length within and immediately adjacent to the curvilinear, northwest (310-320^{o}) trending Bonanza Fault.

The fault dips moderately to steeply (50-70°C) to the southwest and has been defined by mapping and drilling to date over a strike extent exceeding 5 km.

As shown in Figure 7.4, interpretation of the relative displacements of individual stratigraphic units across the Bonanza Fault suggest a normal displacement of the southwestern (i.e. hanging wall) block of at least 180 m down the plane of the fault (i.e. throw of 150 m and heave of 70 m). On a macroscopic scale, indicators of normal displacement include the interpreted fault drag deformation of the hangingwall units adjacent to the Bonanza Fault. These indicators are most prominent between Sections 10000 N and 10100 N.

Figure 7.4
Section 10100 N – (Looking Northwest) Showing Structural Dragging of Stratigraphic Units, Normal Displacement of Stratigraphy Along the Bonanza Fault, and Significant Mineralized Intervals



7.3.2 Cross-Cutting Fracture Corridor

Outcrop mapping between sections 9925 N and 9975 N in the immediate hangingwall to the Bonanza Fault in an area of the interpreted surface expression of mineralization has defined two prominent fracture trends characterized by 10 to 50-cm spaced, narrow (0.5 cm to 2 cm wide), planar, limonitic silica veinlets and hydrothermal brecciation (Figure 7.5). One of the fracture sets occurs parallel to the Bonanza Fault and is interpreted to have formed in response to movement along this fault. The other fracture set is interpreted to correspond to a cross cutting series dipping 80-90° towards 185°-195° (i.e. striking east-west and dipping steeply south). The intersection of these fracture trends is interpreted to have controlled the spatial development of the dominantly west-northwest plunging mineralized shoots along the plane of the Bonanza Fault explained further in Section 9.

Figure 7.5
Outcrop Photo of the Cross Cutting Fracture Corridor (Looking Northwest)

7.3.3 Esperanza Fault

Mapping and drilling peripheral to the main mineralized zone has defined a second, sub-parallel structure located some 220 m to the southwest at surface, referred to as the Esperanza Fault. This fault dips steeply (75-85°) to the northeast and is characterized by a semi-planar, 2 to 20 m wide zone of faulting and fracturing that includes narrow 1 to 2 m wide zones of hydrothermal crackle- and matrix-supported brecciation. This structure has been mapped and intersected by drilling over a strike distance of approximately 1,500 m and has returned high grade gold results at depths below 250 to 300 m below surface (100 m to 150 m RL).

The displacement of the lithologies on either side of the Esperanza Fault appear to have undergone approximately 80 m of down dip displacement in which the eastern hangingwall was down-thrown to the east.

7.3.4 Interpreted Structural Setting

The inclination of the Esperanza Fault with respect to that of the Bonanza Fault, the repetition of the stratigraphy in the foot wall and hangingwall blocks of the former and the differential amount of respective indicated displacement along the Esperanza and Bonanza Faults (i.e. 80 m versus 180 m) suggests that this structural pair bound a northwest trending graben structure that measures approximately 220 m wide at surface (refer to Figures 7.3 and 7.4).

As part of this interpreted fault array, the Esperanza Fault could comprise the subsidiary, antithetic structure to the main Bonanza Fault for which movement along the latter potentially preceded movement along the Esperanza Fault. This would explain how the volcanic stratigraphy in the hangingwall to both the Esperanza Fault and the Bonanza Fault remained sub-horizontal (in southeast-northwest section) during differential movement along the respective faults.

Both from the intersection of the respective Bonanza and Esperanza fault planes in drilling, and the extrapolation of the respective fault planes below the level for which drill information exists, it is interpreted that the graben floor (or the line defined by the intersection of the two fault planes) would comprise a lineation that plunges approximately 10^{o} towards azimuth 320^{o} (i.e. a generally flat lineation oriented along the strike of the structures). This intersection has been interpreted from drilling to date between Section 9950 N and Section 10150 N to occur at approximately depths of 80 m RL and approximately 125 m RL (approximately 300 m below surface), respectively.

No kinematic indicators (e.g. slickensides) have been observed to indicate the direction of movement along either the Esperanza or Bonanza Faults, although observations on a more regional scale suggest a component of oblique movement is possible.

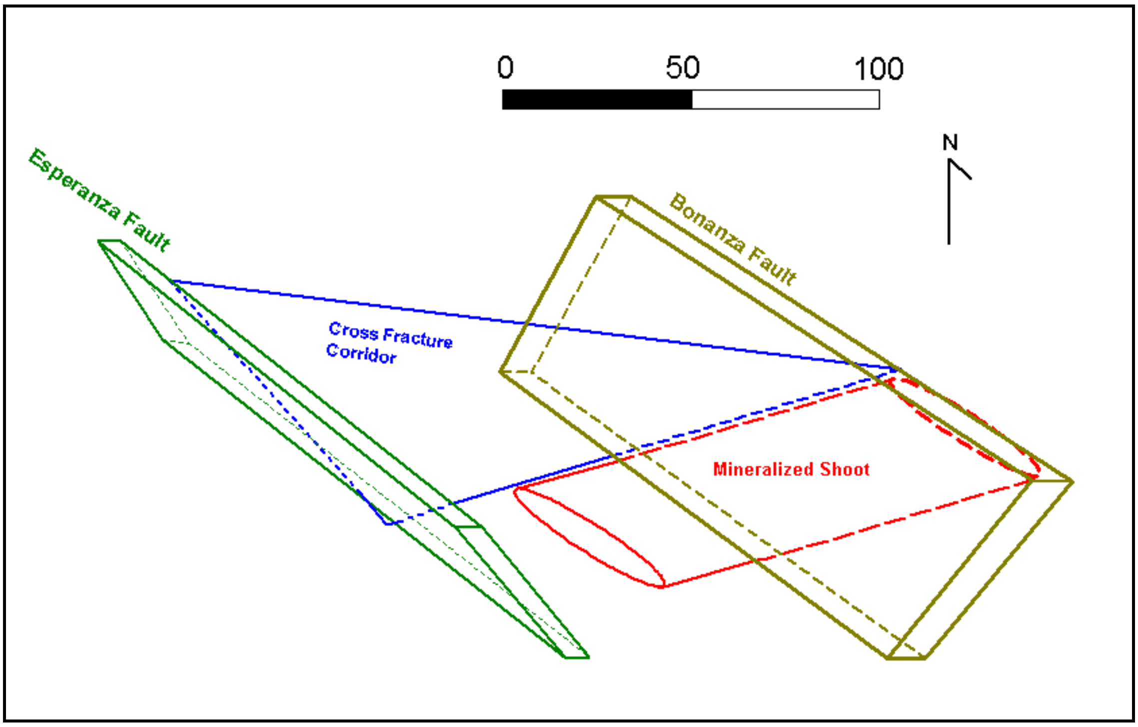
In addition, correlation of individual units within the hangingwall portion of central portion of the graben structure between sections 9950 N to 10150 N indicates a consistent shallow (13^{o}) dip of the stratigraphic package to the northwest, along the axis of the proposed graben and on individual sections, a shallow tilting to the northeast (approximately 5^{o}).

Based on these orientations, it is interpreted that the gentle inclination of the Bonzanza Fault hangingwall block along the graben axis is possibly due to a ‘scissor’ or ‘hinge’ style normal faulting which pivoted down to the northwest from a point to the southeast along the axis of the half graben, and a minor component of northeast side down rotation in the hangingwall block relative to the Bonanza Fault.

Given the different geometrical intersection array between the cross cutting fracture corridor and the Esperanza Fault compared to that of the former and the Bonanza Fault, it is considered possible that the resultant plunge of any significant, mineralized shoot along the Esperanza Fault will be steeply plunging to the east southeast (i.e. dip 80° to azimuth 105°).

An illustration of the interpreted geometries of the various structures discussed above is presented in Figure 7.6.

Figure 7.6
Schematic of Interpreted Fault Geometry and Control of Mineralization at the Cap Oeste Deposit



8.0 DEPOSIT TYPES

Exploration by PGSA at Cap Oeste is focused principally on discovery and delineation of low sulphidation, gold-silver epithermal mineralization of the type well documented throughout the Deseado Massif (White and Hedenquist (1990 and1994), Corbett, G.J. (2001) and Sillitoe, R.H. (1993)). Mineralization typically comprises banded fissure veins and local vein/breccias characterized by high gold and silver contents and gold:silver ratios of generally greater than 1:10. Mineralized veins and breccias consist of quartz (colloform, banded, and chalcedonic morphologies), adularia, bladed carbonate (often replaced by quartz), and dark sulphidic material termed ginguro-texture (formed by fine grained electrum or silver sulphosalts banded with quartz). Discrete vein deposits develop where mineralizing hydrothermal fluids are focused into dilatant structures, producing ore shoots which may host the highest precious metal grades. Low sulphidation style mineralization can also develop where mineralizing fluids flood permeable lithologies to generate large tonnage, low grade disseminated deposits (e.g. Round Mountain, Nevada and McDonald Meadows, Montana).

Studies of alteration patterns and fluid inclusion data show that precious metal precipitation generally occurs between 180 to 240^{o}C, corresponding to depths 150 to 450 m below the paleosurface. Deposits often exhibit the following top to bottom vertical zonation:

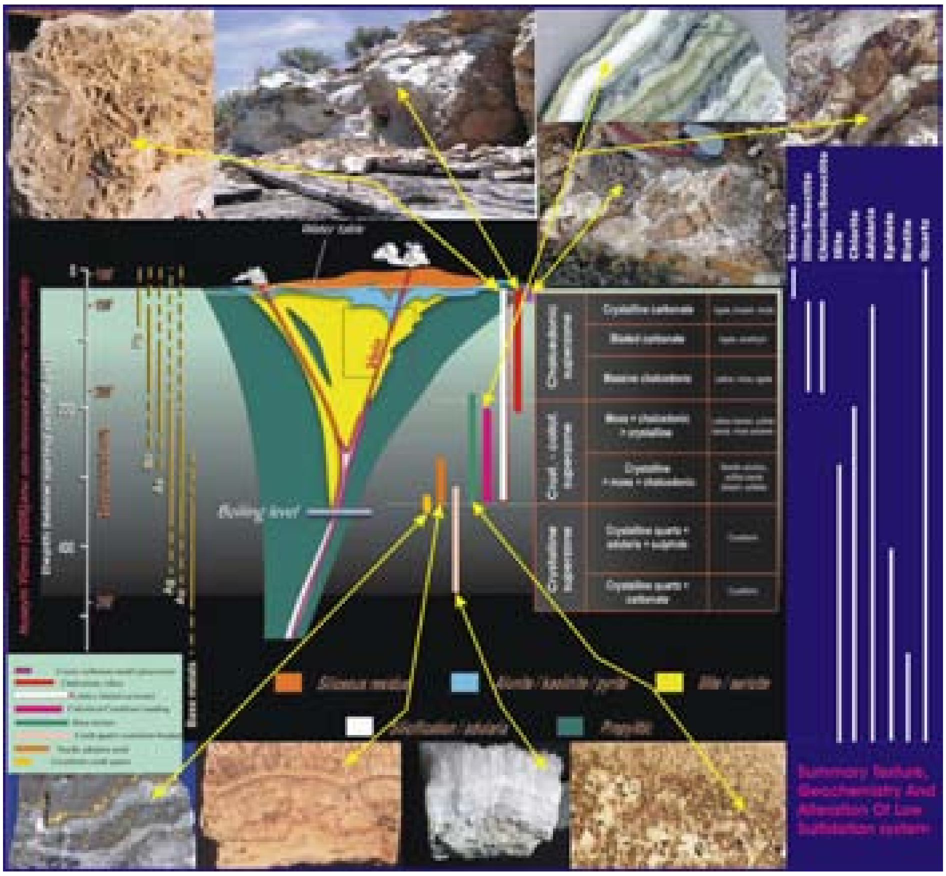
- Precious metals poor, paleosurface, sinter (containing Hg-As-Sb).
- Gold-silver-rich, base metal poor “bonanza zone” (containing Au-Ag-As-Sb-Hg).
- Silver-rich, base metal zone (containing Ag-Pb-Zn-Cu).
- Barren pyritic root.

Alteration styles accompanying low sulphidation epithermal mineralization are controlled by the temperature and pH of the circulating hydrothermal fluids and its distribution, and therefore can also be spatially zoned. Alteration minerals that occur proximal to mineralization include illite, sericite, calcite and adularia, whereas smectite and chlorite typically occur in a more distal setting. Additional variants include pervasive silicification of wall rock as envelopes to quartz veins and breccias, and advanced argillic alteration (alunite, jarosite, kaolinite, vuggy silica) in steam heated horizons at higher structural levels (Figure 8.1).

Based on observations by Sillitoe (2008 and 2009), mineralization at the Cap Oeste deposit is assigned to a shallow epithermal, low sulphidation type of mineralization, specifically:

> *“The presence of fine-grained replacement quartz, widespread illite alteration, abundant marcasite, silver-bearing sulphosalts and late-stage realgar and orpiment combine to confirm that Cap Oeste formed in the epithermal environment, potentially in relative proximity to the paleosurface. The abundance of arsenopyrite, a sulphide that precipitates under reduced conditions, suggests that the prospect is assignable to the low-sulphidation epithermal category.”*

Figure 8.1
Typical Geochemical Zonation, Quartz Types and Alteration Patterns of Low Sulphidation Hydrothermal Systems



The PGSA staff believes that mineralization occurs as a result of a fault-localized combination of hydrothermal breccia, replacement, veinlet and disseminated style body rather than as one or more discrete quartz veins, as is the typical style for similar deposits elsewhere in the Deseado Massif. As described previously, replacement style, low-sulphidation deposits do occur elsewhere and include the disseminated ore bodies in non-welded ignimbrite at Round Mountain, Nevada, the lithic tuff hosted deposit of McDonald Meadows, Montana, and the breccia-hosted orebodies at Ladolam in Lihir Island, Papua New Guinea (Sillitoe, 2008). In contrast to low-sulphidation systems, high-sulphidation epithermal deposits are normally replacement bodies, commonly localized along faults. A high-sulphidation assignation for the Cap Oeste Project has been ruled out by the neutral-pH illite dominated alteration style, and the complete absence of vuggy quartz and associated advanced argillic alteration assemblages.

9.0 MINERALIZATION

9.1 REGIONAL MINERALIZATION

The Deseado Massif volcanic province hosts several producing and advanced stage projects as summarized in Table 9.1.

Table 9.1
Selected Gold-Silver Deposits of the Santa Cruz Deseado Massif, Argentina

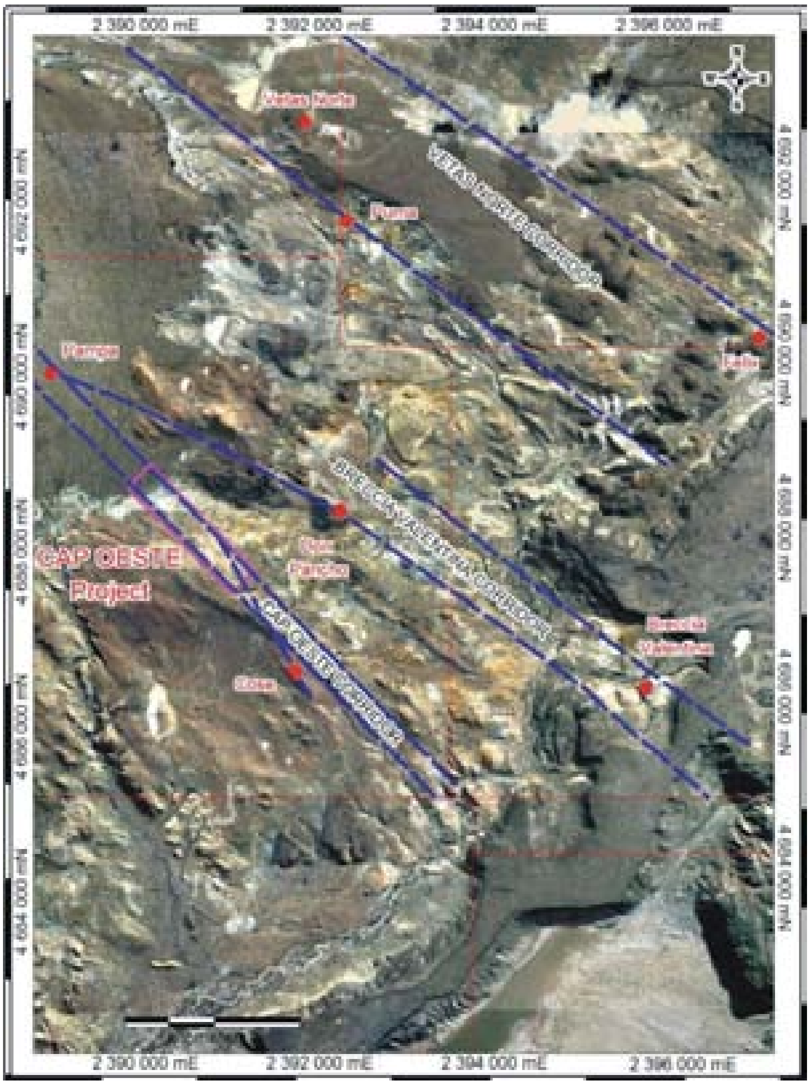
Deposit	Past Production /Remaining Resources (Million Oz)	Resource Metric Tonnes (million)/ Grade (g/t)	Operation Type	Plant Type/ Annual Production (Thousand oz)	Ownership	Data Source
Cerro Vanguardia	**2.5 Au** **Vein** 3.21 Au / 24.9 Ag **Heap Leach** 0.52 Au, 44 Ag	**Vein** 13.62/3.05 Au, 56.4 Ag **Heap Leach** 24.36/0.67 Au, 56.4 Ag	Open Pit/ Planned Underground	CIL /Heap Leach 2008 :166 Au , 2,300 Ag	AngloGold Ashanti 92.5%/ Formicruz 7.5%	'Mineral Resource and Ore Reserve Report 2008' www.hochschildmining.com
Marta Mine	15 Ag /5.68 Ag, 0.006 Au	0.141/1050 Ag, 1.1 Au	Underground	Flotation Concentrate 2,700 Ag, 3.3 Au	Coeur d'Alene Mines Corporation	Reserves Table Dec 2008 http://www.coeur.com/resources
Manantial Espejo	58.3 Ag/ 0.75 Au	12.4/ 146 Ag, 1.88 Au	Open Pit /Underground	CIL 4000 Ag, 0.06 Au	Pan American Silver	Reserves Table Dec 2008 http://www.panamericansilver.com
Cerro Negro Project	2.27 Au, 23.7 Ag	**Eureka** 3.46/12.28 Au, 15.82 Ag **Vein Zone** 8.9/3.21	Planned Open Pit /Underground	Advanced Stage/Feasibility Study	Andean Resources	Andean Resources May 2009 http://www.andean.com.au/
San Jose	44.76 Ag 0.69 Au	4.1 / 7.0 Au, 488 Ag	Underground	CIL/Gravity 54.3 Au, 4,400 Ag	Hochschild Mining 51% plc. /Minera Andes 49%	Reserves and Resources Dec 2008 www.mineraandes.com

Throughout the northern portion of the El Tranquilo Block exploration claims, PGSA has defined at least seven areas hosting either gold-silver mineralization or containing elevated levels of "pathfinder" geochemical metals (e.g. As, Sb, Hg) based on historic Barrick and recent PGSA exploration data. These areas are spatially related to three, 2- to 3-km spaced, northwest to west-northwest trending regional scale mineralized structural corridors, namely the Cap Oeste, Don Pancho and Vetas Norte corridors (Figure 9.1). These corridors extend throughout an approximate 8 km by 10 km window of variably clay-silica-Fe oxide altered Chon Aike volcanic rocks which is surrounded by post Jurassic cover rocks as described in Section 7.

Scout exploration drilling by PGSA has been conducted within an approximate 7-km radius from the Cap Oeste project area at seven prospect areas (Puma, Felix, Pampa, Cose, Vetas Norte, Don Pancho and Breccia Valentina).

Precious metal mineralization intersected at these prospects show a range of structurally controlled, low sulphidation gold-silver mineralization styles including silica poor+iron oxide-sulphide replacement, silica-sulphide-rich hydrothermal breccias and chalcedonic veining, all of which host strong geochemical correlation with elevated values of As, Sb, Hg ±Mo. The style of mineralization intersected at the Pampa and Cose prospect areas, which are located along the interpreted strike continuation of the Bonanza Fault approximately 3 km to the northwest and 1.5 km south of the Cap Oeste project respectively, both share strong similarities in terms of the geochemical signatures and structural controls with that of the mineralization found at the Cap Oeste deposit.

Figure 9.1
El Tranquilo Block Prospect Locations



The Don Pancho prospect is centered on at least two, west-north west trending (300^{o}), subvertical to steep easterly dipping faults where both illite-silica- marcasite-pyrite gold-silver and silver-only, proustite-dominated mineralization are observed. Scout drilling programs completed to date have outlined this mineralization over widths between 5 to 20 m, along a strike length of approximately 150 m and down to a vertical depth of 80 m. The limits of this mineralization have not been defined and the mineralization remains open down dip and along strike to the south east. To the northwest of the Don Pancho prospect, geologic mapping suggests that the Don Pancho structural corridor becomes more west-northwest-trending and eventually intersects with the Cap Oeste Structural Corridor.

At the Puma, Felix and Vetas Norte prospect areas, anomalous to high grade precious metal mineralization intersected by drilling to date is characteristically hosted in shallow to moderate (40^o) dipping, north-northeast- to east-striking, structurally controlled zones currently interpreted as detachment faults that vary in width from between 1 to 25 m. These zones are characterized by banded, opaline to chalcedonic silica veins and hydrothermal breccias that are hosted within wide zones of iron oxide-pyrite-stibnite-arsenopyrite-bearing silica-illite-smectite alteration which have been mapped in outcrop and as float over strike lengths of more than 300 m.

Precious metal mineralization at the Breccia Valentina prospect is best developed within a 150 by 300 m area, throughout which the bedrock comprises altered ash and lapilli tuff and brecciated subvolcanic rhyolite dome units that play host to pervasive silicification and contain disseminated marcasite and arsenopyrite. The most significant gold and silver values to date appear to be associated with a series of steep east-northeast-dipping, 5- to 40-m wide zones that host hydrothermal breccia, sheeted to irregular crystalline/comb quartz/chalcedony veinlets and milled matrix breccia. Proustite (ruby silver) occurs as disseminations in the breccia and tuff matrix, drusy veins, and occasionally with kaolinite in vein selvages. Trace amounts of realgar and orpiment have also been observed. These mineralogical features at Breccia Valentina resemble those at Cap Oeste and are taken as indicative of a similar origin of the mineralization (Sillitoe, 2008).

9.2 PROPERTY MINERALIZATION

9.2.1 Description and Distribution

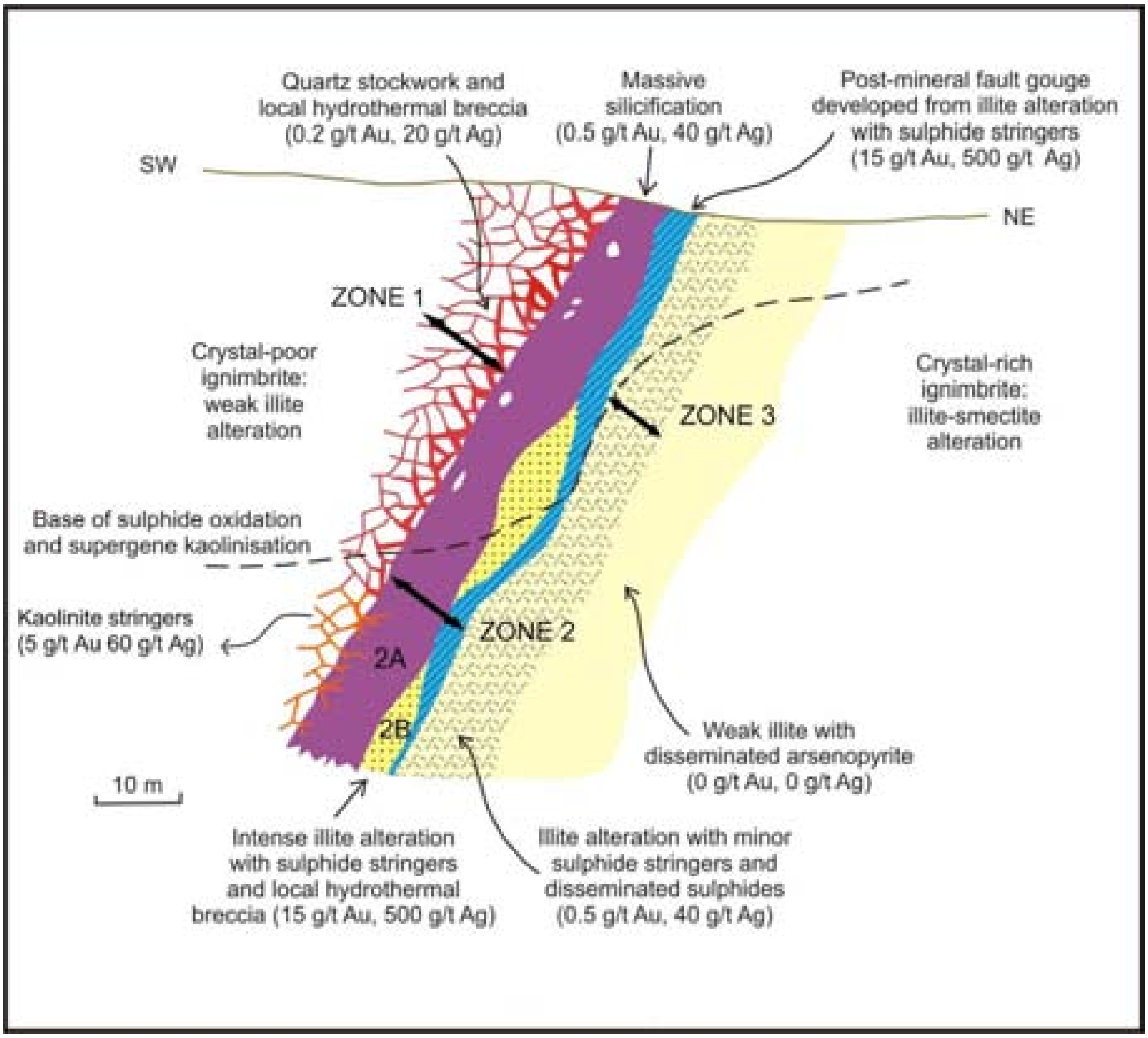
As described in Section 7, gold-silver mineralization at Cap Oeste is predominantly associated with the northwest-trending Bonanza Fault, which dips 40^o to 80° to the southwest. Drilling has therefore been orientated towards the northeast (050° true north) along grid lines orthogonal to a baseline azimuth of 140°. The fault juxtaposes crystal-poor ignimbrite to the west with dominantly crystal-rich ignimbrite to the east, reflecting “west side down” normal displacement, and is interpreted to be one of the bounding structures to a Late Jurassic-aged graben as previously discussed.

Transecting the mineralized zone in section, from the hangingwall to the foot wall of the Bonanza Fault, three successive types of mineralization have been generally defined (Figure 9.2). Distinguishing features of these zones include the following

9.2.1.1 Zone 1 (Hangingwall Crackle Breccias and Veinlets)

In the upper levels peripheral to the Bonanza Fault (within 80 m from surface) this zone is developed over 10- to 40-m true width, preferentially within hangingwall vitric tuff. Irregular, multi-directional, quartz (chalcedony) stockwork veinlets and matrix-supported breccia occur with associated pyrite, goethite, and hematite which report persistently anomalous precious metals averaging of the order of 0.5 g/t Au and 20 g/t Ag.

Figure 9.2
Schematic Section of the Cap Oeste Mineralization
(after Sillitoe, 2008)



Where unoxidized, this zone contains generally low concentrations of disseminated sulphides (<1.0%) and low-order precious-metal values, typically in the order of 0.5 g/t Au and 40 g/t Ag.

This zone tends to narrow and become less well developed with depth, possibly as a result of increasing lithostatic pressure and its affect on ascending hydrothermal fluids and commonly passes a transition to predominantly disseminated mineralization where it intersects the less competent rhyolitic lapilli and block tuff proximal to 300 m RL.

Below a depth of approximately 250 m from surface (approximately 275 m RL) in the hanging wall adjacent to the Bonanza Fault, this zone is manifested as a 10- to 20-m wide zone comprising high grade, drusy quartz lined, kaolinite filled stringers developed predominantly in the lower, generally unoxidized, hangingwall vitric quartz eye tuff and underlying crystal tuff unit. This mineralization typically hosts low concentrations of disseminated sulphides (<1.0%) and moderate to high precious-metal values, typically in the order of 5 g/t Au and 60 g/t Ag.

9.2.1.2 Zone 2a (Fault Zone Silicified Breccia)

Relict hydrothermal breccia textures are preserved within the Bonanza Fault and generally extend 1 to 5 m into the foot wall crystal tuff. Zone 2a breccias are commonly overprinted by pervasive chalcedony+hematite (where oxidized) and disseminated marcasite-pyrite (where unoxidized), thought to be introduced during cyclic re-brecciation and healing events. This zone hosts gold and silver values typically in the range of 0.5 to 1 g/t Au and 40 g/t Ag, respectively.

9.2.1.3 Zone 2b (Fault Zone Sulphide Stringer/Sulphide Matrix Breccia)

Distinctive breccias consisting of silicified clasts cemented by a marcasite-pyrite-illite-chalcedonic silica-rich matrix, are interpreted to have been converted by post-mineral faulting to fine-grained gouge containing clay-altered (illite) and silicified clasts. This gouge is commonly black in color due to the presence of crushed sulphide minerals. This zone varies in width between 5 and 15 m, and occurs most commonly along the contact between the contrasting lithologies that are juxtaposed across the Bonanza Fault. The zone has also been identified along sub-parallel fault splays which locally cut the hangingwall stratigraphy and within underlying footwall rocks (Figure 9.1). This zone hosts gold and silver values typically in the range of 15 g/t Au and 500 g/t Ag, respectively.

9.2.1.4 Zone 3 (Footwall Stringer/Disseminated Zone)

Sheeted to stockwork textured, marcasite-pyrite veinlets and disseminations containing up to 5% fine sulphide occur peripheral and sub-parallel to Zones 2a and 2b, across a true thickness of 10 to 40 m. Precious metal values diminish progressively into the footwall, together with an increase in the smectite:illite clay alteration ratio and a decrease in abundance of arsenopyrite needles. Zone 3 lacks the presence of hydrothermal quartz veinlets or stringers and occasionally hosts rare calcite-filled stringers. This zone hosts gold and silver values typically in the range of 0.5-1.0 g/t Au and 40 g/t Ag, respectively.

Drilling completed to date in the immediate Cap Oeste project area and along the strike extension of the Bonanza Fault has defined gold-silver mineralization and/or anomalous indicator geochemical signatures over a strike length exceeding 3.5 km that are broadly coincident with the Bonanza Fault.

To date, the majority of the step out drilling at depth along this zone has been focused on defining a series of well developed shoots over a strike length of approximately 1,025 m between sections 9775 N and 10800 N, as shown in the longitudinal projections for gold, silver and gold-equivalent grade-thickness products (Figures 9.3, 9.4 and 9.5, respectively).

Figure 9.3
Longitudinal Projection of the Gold Grade-Thickness Product, Cap Oeste Deposit

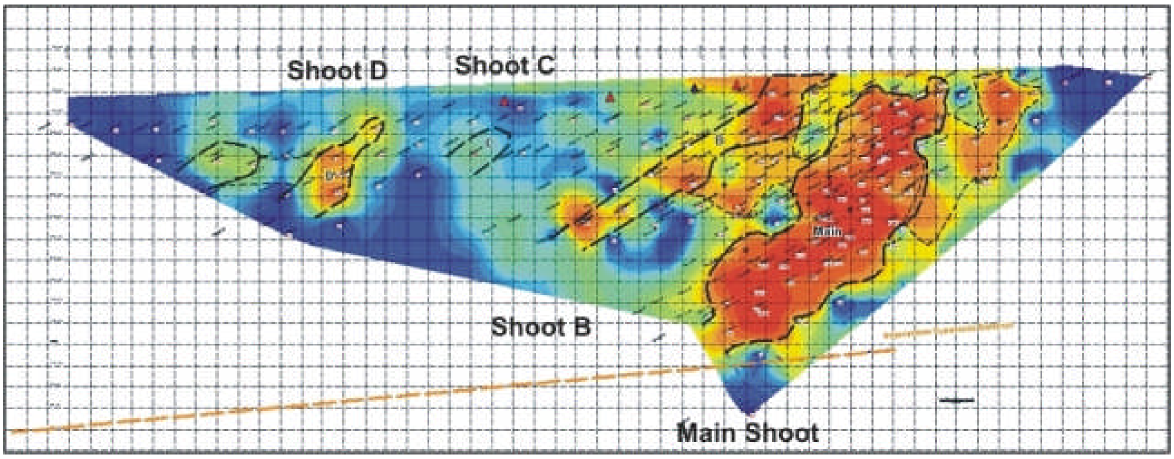


Figure 9.4
Longitudinal Projection of the Silver Grade-Thickness Product, Cap Oeste Deposit

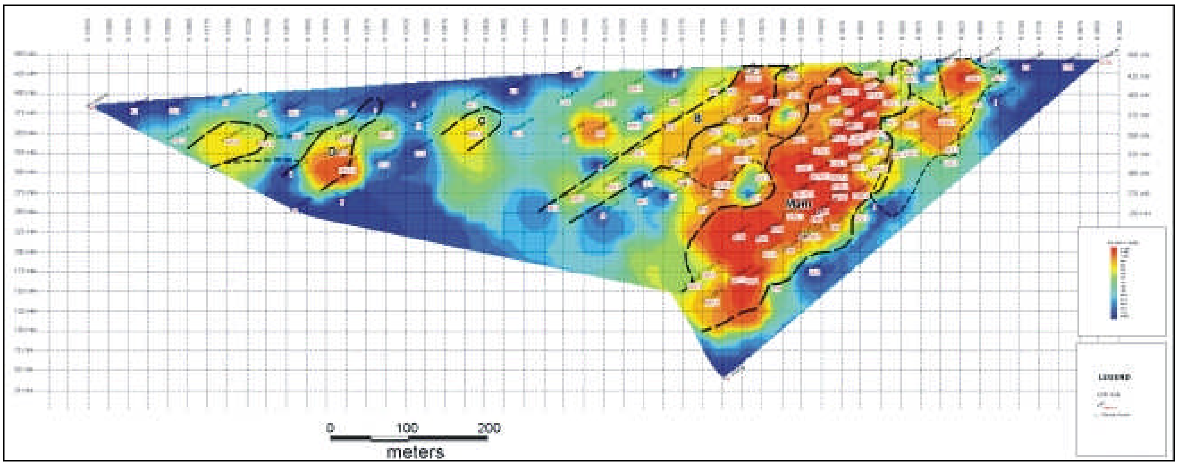
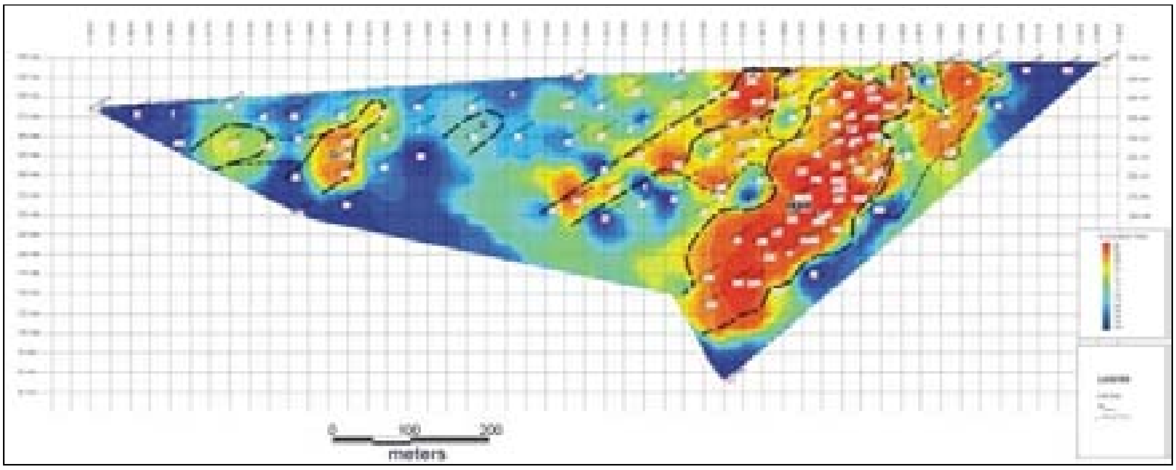


Figure 9.5
Longitudinal Projection of the Gold-equivalent Grade-Thickness Product, Cap Oeste Deposit



These longitudinal projections were generated from the mineralized intersections from drill holes that penetrated the Bonanza Fault as tabulated in Section 11 (refer to Table 11.1). In creating these mineralized intersections, potentially economic grade mineralization was identified by application of a minimum cutoff grade of 0.5 g/t Au or 35 g/t Ag. The core lengths were used in the calculation of the grade-thickness products.

For areas peripheral to the main shoots that contain low to anomalous level gold-silver values, drilled intervals which indicate continuity of mineralization along the Bonanza Fault were selected to maintain continuity on the longitudinal projections.

The longitudinal projection for silver displays a relatively more cohesive medium to high grade silver zone (defined by silver grade x thickness greater than 350 gram-metres) defined by the partial union of the main shoot and Shoot B, compared to the gold long section. With local exceptions, silver values appear to be slightly depleted within 50 to 75 m of the surface, possibly a result of supergene oxidation of hypogene silver sulphide species. Local differences between respective high gold and high silver zones are considered to be due to the presence of differing mineral assemblages, particularly evident by the gold-rich, silver-poor lower portion of Shoot B and high silver-low gold signature of Shoot C. The longitudinal projection for the gold-equivalent gram-metre data essentially confirms the continuity of the individual shoot geometry.

It is currently interpreted that mineralized shoot localization is controlled by the intersection of the Bonanza Fault with the crosscutting fracture corridor described above and subtle strike changes along the former. Additionally, where this structural combination transects more competent lithologies it is believed that there is a tendency for enhanced gold and silver values throughout, or immediately peripheral to, the lower respective contact. Throughout the Cap Oeste project area this appears to have created a repetitive geometrical pattern of a series of at least five shoots developed along the plane of the Bonanza Fault described as follow:

9.2.1.5 Main Shoot

The 'Main Shoot' is the most significant high grade mineralized lens defined to date and can clearly be distinguished on the longitudinal projections of the gold grade-thickness contours.

This shoot is principally defined by a gold grade-thickness composite value of greater than 20 gram-metres, and is interpreted to extend from surface down plunge along the plane of the Bonanza Fault for a distance of approximately 400 m between sections 9900 N and 10150 N. The average height (as measured in a direction perpendicular to the plunge of the shoot) is approximately 70 m and width of the shoot is approximately 10 m.

From surface, the shoot plunges at approximately 50-60^{o} to the northwest to a depth of approximately 100 m below surface (325 m RL), within which the strongest gold mineralization defined to date can be found. Below 325 m RL, this shoot exhibits an overall shallow to moderate rake (40^{o}) with the strongest mineralization being present between sections 9925 N and 10125 N.

With the current level of drill information as of July, 2009, the limits of the Main Shoot remain open down plunge below a depth of approximately 300 m below surface (<125 m RL).

9.2.1.6 Shoot B

Shoot B has been defined by limited trenching at surface (Section 10050 N) and by drilling at depths to approximately 160 m to the northwest of the surface expression of the Main Shoot. From the drilling configuration and results to date, this shoot has been broadly indicated to extend over an approximate down plunge length of 320 m at a plunge of approximately 35^{o} to the northwest along the plane of the Bonanza Fault. The average height and width of the shoot is approximately 35 m and 10 m, respectively.

Further drilling is required to confirm the continuity and peripheral limits of Shoot B as well as confirming the currently untested down plunge potential below a depth of approximately 150 m below surface (<275 m RL).

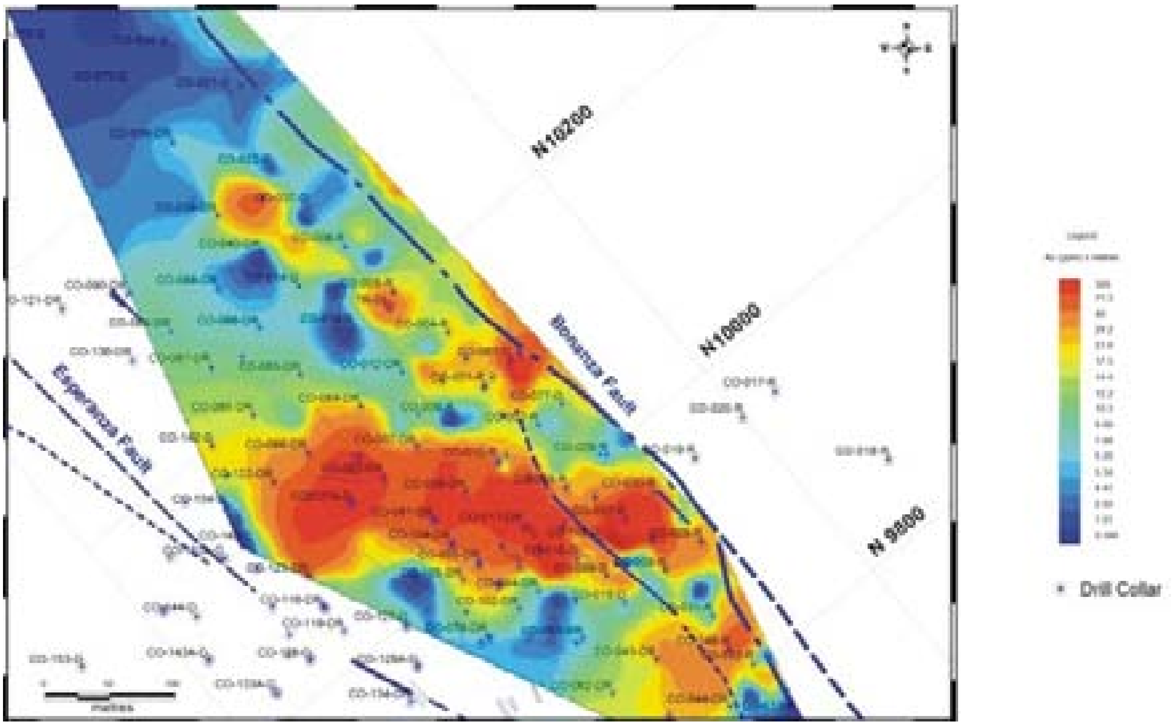
Based on the longitudinal projections and the gold grade contours shown in plan view projection (Figure 9.6), the individual Main and B shoots have the following geometries along the plane of the Bonanza Fault:

- Main Shoot: (between section 9850 N and10150 N). Plunge 35-55° to 280°.
- Shoot B: (between 10075 N and 10325 N). Plunge 30° to 300°.

9.2.1.7 Shoot C

This shoot is defined by a single drill pierce point on the longitudinal projections (C0-073-D) comprising a high grade silver interval of 2.30 m at 0.66 g/t Au, 187.26 g/t Ag. Potential for the enhanced down plunge continuity of this mineralization remains untested by drilling along the hypothetical northwest plunge projection.

Figure 9.6
Contoured Plan for Gold Grade-Thickness Product Showing Au Distribution and Geometry for the Main Shoot and Shoot B Along the Plane of the Bonanza Fault



9.2.1.8 Shoot D

Shoot D is centered approximately 600 m to the northwest of the central outcropping portion of the Main Shoot, between Sections 10550 N and 10775 N. This shoot, as has been defined to date by relatively sparse drilling, is seen to comprise a series of poorly defined, disjointed zones of mineralization. The approximate height of the shoot is 35 m and the approximate width of the shoot is 10 m. The indicated northwest trending plunge length of this shoot is approximately 100 m. Based on the limited level of drilling, the geometry of this shoot is not well-defined. However, it is currently interpreted as holding potential to project to depth maintaining a hypothetical rake angle similar to the other Main Shoot and Shoot B of approximately 35^{o}.

9.2.2 Mineralogy and Paragenesis

Based on observations from drill core, from hand specimens, thin and polished section petrographic samples (total of 14 samples) and studies by computed axial tomography (CAT) scan; 2 samples), the respective mineralogical characteristics of oxide and sulphide assemblages have been determined and are discussed below.

9.2.2.1 Oxide Mineralogy

Partial to complete supergene oxidation of high-grade gold-silver mineralization (Zones 2a and 2b) has occurred to an average depth interval of 70 to 120 m, with the consequent destruction of all sulphide minerals and the development of abundant hematite, jarosite, limonite and kaolinite. The oxide/sulphide boundary is transitional, and generally mirrors the southwest-dipping trace of the fault, with oxidation consistently reaching greater depths on the hangingwall side of the Bonanza Fault. This has been interpreted as being due to the lower rock permeability (i.e. more resistant to the circulation of oxidizing fluids) caused by the preferential development of illite and smectite clays in footwall rocks (Sillitoe, 2008).

Within the zone of oxidation, gold occurs in the native state. Discrete grains of gold (up to approximately 30 µm across) were observed and interpreted to be of both relict hypogene and supergene occurrence (Figure 9.7). The fineness of the gold may have been increased due to preferential silver removal during oxidation of hypogene electrum. Native silver has also been defined by both petrology and CAT scan, some of it potentially being inherited from hypogene assemblages.

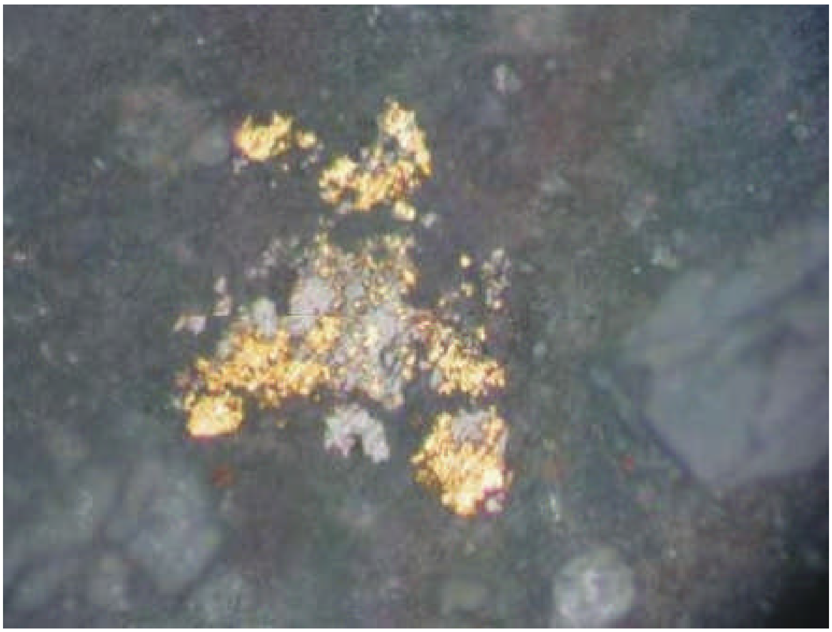
Apart from minor amounts of scorodite ($FeAsO_4 \cdot 2H_2O$), no other supergene minerals have been identified to date and it is assumed that strongly anomalous values of gold, silver, arsenic and antimony may also be hosted in supergene iron oxides. In addition, silver is suspected to be present also as one or more halides including chlorargyrite ($AgCl$), embolite ($Ag(Br,Cl)$), bromargyrite ($AgBr$) and iodargyrite (AgI) given the semi-arid climatic conditions and consequent elevated chloride, bromide and iodide contents of local ground water (Sillitoe, 2008).

As a product of post-drilling superficial oxidation of molybdenite, numerous high grade, sulphide gold-silver drill intervals hosting original elevated concentrations of molybdenite (MoS_2) reflect high visually prominent (i.e. blue staining) concentrations of ilsemannite ($Mo_3O_8 \cdot n(H_2O)$) (Sillitoe, 2009).

9.2.2.2 Sulphide Mineralogy

Based on hand lens observations, the main sulphide minerals at the Cap Oeste deposit are pyrite and marcasite. Pyrite typically occurs as small (less than 0.5 mm) isolated crystals and marcasite as fine (less than 0.2 mm) disseminations. Sulphides occur in different sites including altered phenocrysts (e.g. pseudomorphs of former ferromagnesian and feldspar minerals), altered groundmass of volcanic fragments, in strongly silicified fragments in breccias, as components of hydrothermal breccia matrices and veins, and within fault gouge.

Figure 9.7
Photomicrograph from Drill Hole CO-054-DR (1)
(132-133.1m; 7.86 ppm Au, 87.2 ppm Ag)



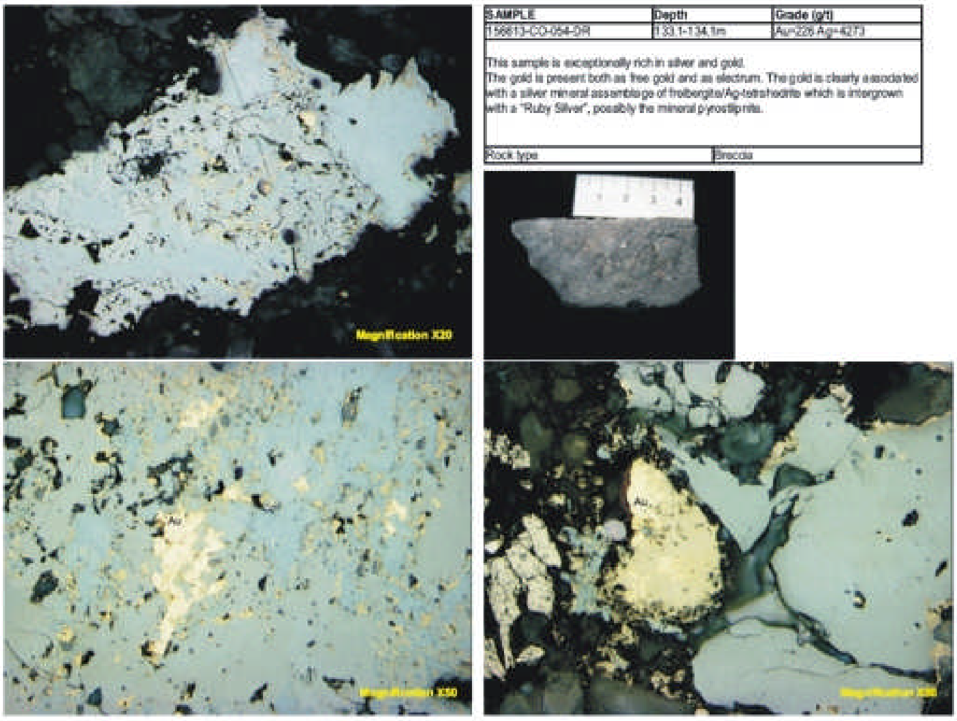
Shows composite aggregate of 10-20 µm sized gold-electrum with argentite-acanthite (pale grey) (Ag_2S) enclosed in quartz and illite-sericite (dark grey), with slight development of supergene Fe oxides (red-brown hue). Plane polarized reflected light, field of view 0.2 mm across (after Ashley, 2008).

In hand specimen the pyrite appears to be early in the paragenetic history of the precious metal mineralization and typically occurs as sub-radiating and bladed aggregates, whereas the marcasite appears to be more closely related to the gold and silver mineralization. Arsenopyrite (FeAsS) is widespread as an accessory to the iron sulphides, particularly in the footwall stringer Zone 3 where it is observed to be paragenetically later than pyrite-marcasite.

Hypogene silver mineralization is characterized dominantly by finely disseminated proustite (Ag_3AsS_3), argentite/acanthite (Ag_2S), sternbergite ($AgFe_2S_3$), lautite (CuAsS), and gold/electrum, either singly or in aggregates. Gold values in excess of 10 g/t Au are observed to occur with concentrations of acicular arsenopyrite without appreciable silver and antimony values, most commonly on the immediate footwall side of the high-grade Main Shoot. Gold/electrum grains identified from petrology are typically in the 10-30 µm size range. In several of the petrology samples hosting high grade hypogene gold-silver mineralization no discrete gold-bearing phases were recognized, suggesting that the cut plane of the section did not expose the precious metal phases and/or a proportion of the gold may be held in arsenopyrite±pyrite or as submicroscopic disseminations.

From the CAT study of hypogene samples, Au and Ag were found to occur both in the native state and as electrum, both of which show a strong association with freibergite ($(Ag,Cu,Fe)_{12}(Sb,As)_4S_{13}$), argentiferous tetrahedrite ($(Cu,Ag)_{10}(Fe,Zn)_2Sb_4S_{13}$) and possibly pyrostibnite (Ag_3SbS_3), as shown in Figure 9.8).

Figure 9.8
Photomicrograph from Drill Hole CO-054-DR (2)
(133.1- 134.1m; 226 ppm Au, 4,273 ppm Ag)



SAMPLE	Depth	Grade (g/t)
156813-CO-054-DR	133.1-134.1m	Au=226 Ag=4273

This sample is exceptionally rich in silver and gold.
The gold is present both as free gold and as electrum. The gold is clearly associated with a silver mineral assemblage of freibergite/Ag-tetrahedrite which is intergrown with a "Ruby Silver", possibly the mineral pyrostilpnite.

Rock type	Breccia

Shows computed axial tomography CAT scan image – showing Au associated with freibergite ($(Ag,Cu,Fe)_{12}(Sb,As)_4S_{13}$) and Ag tetrahedrite ($(Cu,Ag)_{10}(Fe,Zn)_2Sb_4S_{13}$) and possibly pyrostilpnite (Ag_3SbS_3). LHS image represents a rendered two-dimensional image of the distribution of native Au/Ag at the flat surface face of the core sample, the RHS image represents the 'see through' three-dimensional projection showing the pattern produced by the Au/Ag distributed throughout the whole volume of the sample (Ashley, 2008).

Hand specimen observations suggest that tennantite ($(Cu,Fe)_{12}As_4S_{13}$) and argentiferous tetrahedrite ($(Cu,Ag)_{10}(Fe,Zn)_2Sb_4S_{13}$) mineralization, identified on the basis of its characteristic chestnut-colored streak, is broadly confined to Zone 2b, and gives rise to a close correlation between gold, silver, copper, antimony, arsenic and mercury values. There are also minor occurrences of high-grade silver-gold mineralization in the drill hole assay database that lack any associated correlation with elevated copper, arsenic and antimony values. This may perhaps be due to the presence of acanthite (Ag_2S), electrum and/or native silver, all of which have been identified locally in drill core.

In Zone 2b, one or more ruby silver minerals, probably proustite (Ag_3AsS_3), and/or pyrargyrite (Ag_3SbS_3), occur as mono-mineralic veinlets or, where gouge development has taken place, as clastic grains. There is a strong suggestion that these silver sulphosalts minerals were deposited late in the paragenetic history with respect to the rest of the gold-silver mineralization at the Cap Oeste deposit. These were in turn followed by deposition of trace amounts of realgar (As_4S_4) and orpiment (As_2S_3). The geochemical association of silver with other metals described suggests that supergene silver enrichment is not an important contributor to bonanza-grade values, and that appreciable silver introduction as supergene acanthite is unlikely (Sillitoe, 2008). The particle size for individual silver-rich minerals ranges up to 0.5 to 1.0 mm, with local aggregates up to a few millimetres.

9.2.3 Controls on Mineralization

9.2.3.1 Ore Fluid Genesis

The ore fluid responsible for mineralization at the Cap Oeste deposit is postulated to have been focused within dilatant sites along the Bonanza Fault, with its expulsion potentially linked directly to fault-displacement events. The source of the fluid may have been felsic magma similar to that which formed rhyolitic domes a few kilometres distant at Breccia Valentina (Sillitoe, 2008).

Although high-grade mineralization is relatively quartz-poor, adjacent, intensely silicified rocks of Zone 1 are considered as integral and related parts of the mineralizing event. Sillitoe (2008) has postulated that the silicification and associated stockwork development may have occurred early in the depositional history, with the stockworks being the product of fluid over-pressuring and release into the overlying hanging wall of the Bonanza Fault. The decrease in stockwork development with depth would then presumably reflect increasing lithostatic pressure. Quartz precipitation implies declining fluid temperatures, which would be anticipated at progressively shallower levels within, and immediately above, the fault zone. However, fluid that accessed the immediate foot wall of the fault does not appear to have undergone the same degree of cooling; hence the complete absence of both silicification and quartz veining in this region. A lack of open space during the faulting is considered the most likely explanation for the absence of the banded quartz typical of low-sulphidation deposits.

Deposition of high-grade gold-silver mineralization is considered to have overlapped with, or immediately followed, the main silicification event, potentially in multiple, discrete stages. The ore-bearing fluids were focused along the footwall side of the silicified zone, resulting in intense illite-sericite alteration. Gold deposition is considered more likely to have resulted from admixture of ascending fluid with meteoric water than by boiling, given the absence of boiling indicators such as adularia and carbonate-replacement textures. Deposition of ruby silver(s), realgar and orpiment concluded the paragenetic sequence.

Following alteration and mineralization, fault displacement may have continued and been localized by the rheologically weakest part of the fault zone: the intense illite-sericite alteration along the immediate footwall of the massive silicification. Since this zone was also the site of high-grade mineralization, much of the potential ore occurs in fault gouge. In the case of low-sulphidation veins, post-mineral faulting tends to be focused along the immediate contacts of the ore-bearing quartz and, hence, does not normally disturb the high-grade mineralization.

9.2.3.2 Stratigraphic Control

Based on detailed stratigraphic logging of the volcanic litholgies and their spatial relationship with mineralization it is interpreted that host-rock lithology does not act as a fundamental control on the localization of the main mineralized shoots. However the more competent volcanic stratigraphic units (e.g. the moderately welded Rhyolitic Vitric quartz eye ash tuff) appear to have influenced the formation of some of the highest grade and widest portions of the main shoots where they were transected by the structural zones.

9.2.3.3 Structural Control

The interaction of the respective orientations of the Bonanza Fault with that of the cross cutting fracture corridor is interpreted to have potentially created the enhanced dilationary setting within which the enhanced development of the mineralized shoot was created.

10.0 EXPLORATION

10.1 PGSA EXPLORATION PROGRAM

Upon signing the Purchase Agreement with Barrick on February 5, 2007, PGSA began exploration activities throughout the El Tranquilo claim block. The initial emphasis was to validate the Barrick data for the Breccia Valentina and Cap Oeste prospect areas in preparation for the first stage of drill testing in September, 2007.

Work completed to date includes:

- Establishment of local grid baseline points at Cap Oeste at origin 5000E, 10000N to allow projection of trench and drill section data on sections perpendicular to the northwest strike of mineralization.

- Geologic mapping at a scale of 1:1,000.

- Excavation and sampling of five trenches, (224 m and 82 channel samples).

- A total of 25,939.93 m in 164 drill holes comprising :

    1. Completion of 28 RC drill holes (totaling 1,727 m averaging 66 m in depth and containing 1,759 samples).

    2. 58 pre-collar RC/diamond holes totaling 3,611 m of RC pre-collaring (averaging 62.26 m) and totaling 7,348 m of HQ core tails containing 4,968 samples).

    3. 70 HQ diamond drill holes (totaling 12,705.5 m averaging 169.41 m in length) and containing a total of 4,583 samples.

    4. Three of the diamond holes are twin holes of earlier RC holes: CO-001-R & CO-036-D, CO-009-R & CO-034-D, CO-010-R, and CO-035-D.

- A petrographic study of 14 samples in thin and polished sections.

- Visits from international-recognized geological consultants Greg Corbett (2007) and Richard Sillitoe (2008 and 2009).

- Survey topography with a differential GPS and develop a contour map.

- Survey of all drill hole and trench locations in x, y, and z dimensions with a differential GPS.

- IP/resistivity surveys (7 lines totaling 6.3 line-km using the gradient array electrode configuration; 1 line totaling 1.6 km using the pole-dipole electrode configuration). Ground magnetic surveying (10 lines totaling 13 line-km).

10.1.1 Gridding, Topography and Surveying

Local baseline grid points were surveyed with the origin defined at 5000 E, 10000 N. This grid is tied into the Gauss Kruger Projection and Campo Inchauspe Faja 2 datum coordinate system with surveying using a double frequency (L1 and L2), TOPCON Model GB-1000 differential GPS which generally gives precision of X=1 cm, y=1 cm and Z (altitude) =1.5 cm.

The same equipment was employed to survey trench and drill hole collar locations in addition to providing both topographic control and contours. Topographic control was facilitated with the collection of coordinate and altitude data on a 5 m by 5 m grid spacing over a 450-ha area from which the data points were subsequently contoured using triangulation parameters.

10.1.2 Trenching

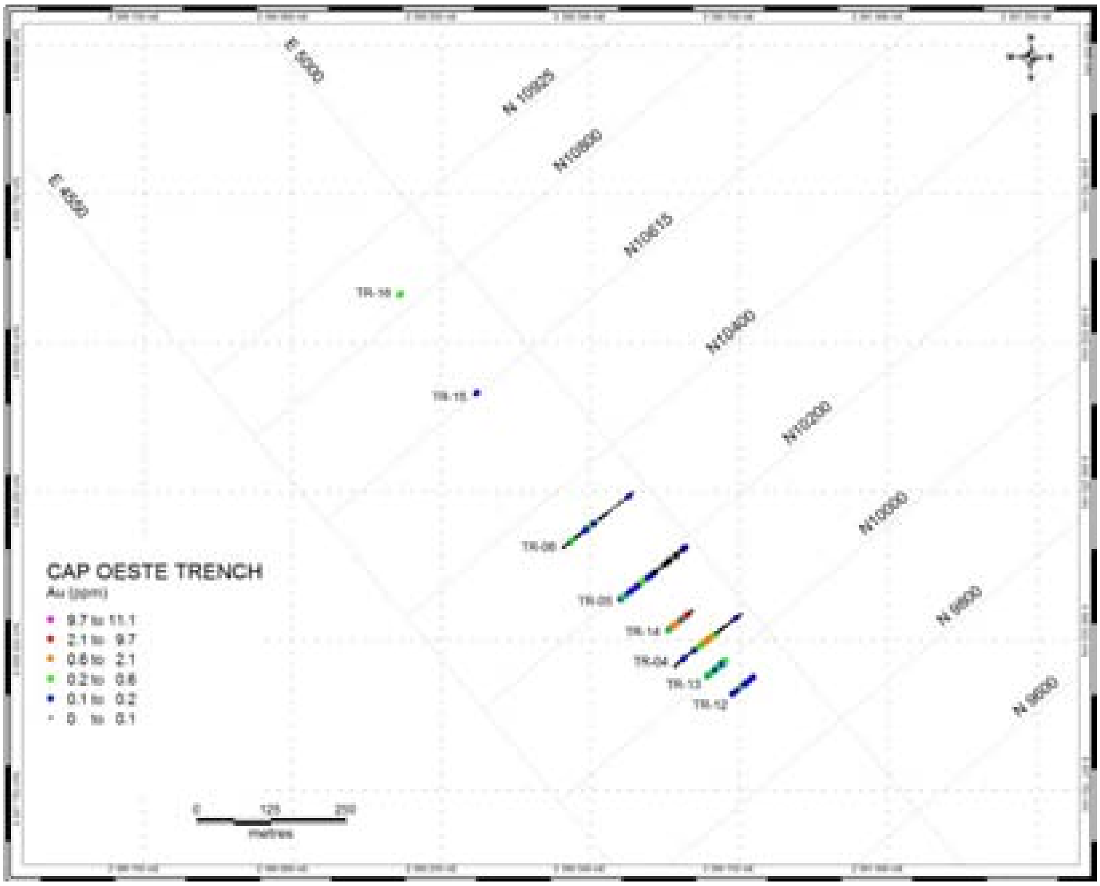
By May, 2007, five trenches totaling 224 m were mechanically excavated (PGTR_12 to PGTR_16; Figure 10-1). Trenches PGTR_12 to PGTR_14 were excavated adjacent to Barrick's original trench TR-4 along 50-m spaced lines, and PGTR_15-16, were excavated 550 m and 750 m , respectively, to the northwest.

The most significant precious metals values reported from trench PGTR_14, which returned 37 m at 0.52 g/t Au (0.2 g/t Au cutoff), including 8 m at 5.77 g/t Au and 17.3 g/t Ag (2.5 g/t Au cutoff).

10.1.3 Geophysics

Based on the observed correlation of gold-silver mineralization with disseminated sulphides and varying degrees of silicification, and the effective application of regionally spaced, pole-dipole IP surveying by Barrick, both pole-dipole array and gradient array geophysical surveys were trialed as potential tools for the detection of additional concealed mineralization. Baseline ground magnetic data were also collected in hopes of mapping fault-related displacements within the volcanic stratigraphy.

Figure 10.1
Cap Oeste Trench Locations



10.1.3.1 Pole-dipole Induced Polarization

Pole-dipole IP surveys were completed along a 1,600-m portion of local grid section 9950 N between 4100 E and 5700 E, across a well-defined, mineralized section. The survey was performed with a dipole spacing of 50 m and through 6 separations (n=1 to 6). The chargeability anomaly which occurs broadly in the centre of the test survey line correlates with the occurrence of up to 10% sulphide below the level of oxidation, within the Bonanza Fault and its immediate foot wall rocks.

Figure 10.2 depicts pole-dipole chargeability survey results along Section 9950 N. The inverted section shows the survey results with geological and drill hole information overlain. Note the apparent correlation of the principal zone of chargeability (coloured in magenta-red) with the footwall to the Bonanza Fault structure.

A zone of high apparent resistivity is offset slightly to the west of the conductivity anomaly (Figure 10.3) and this is interpreted as due to the presence of silicified breccias within the mineralized envelop, augmented by greater degrees of silicification within the vitric tuff unit.

Figure 10.2
Pole-dipole Chargeability Inversion (Section 9950 N) with Superimposed Drilling Faults and Mineralization Showing Coincident High Chargeability with Sulphide-Rich Bonanza Fault

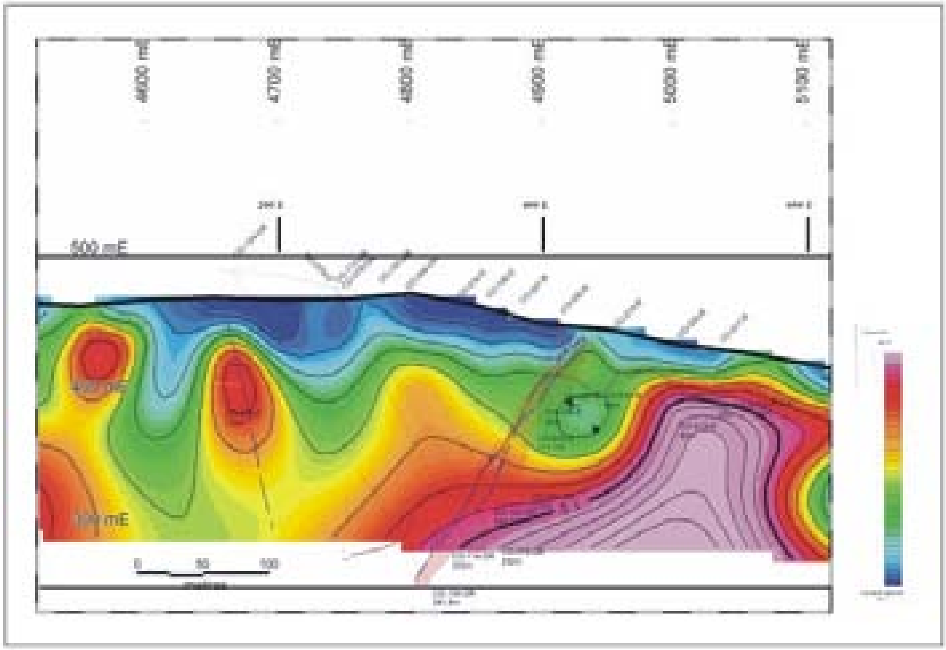
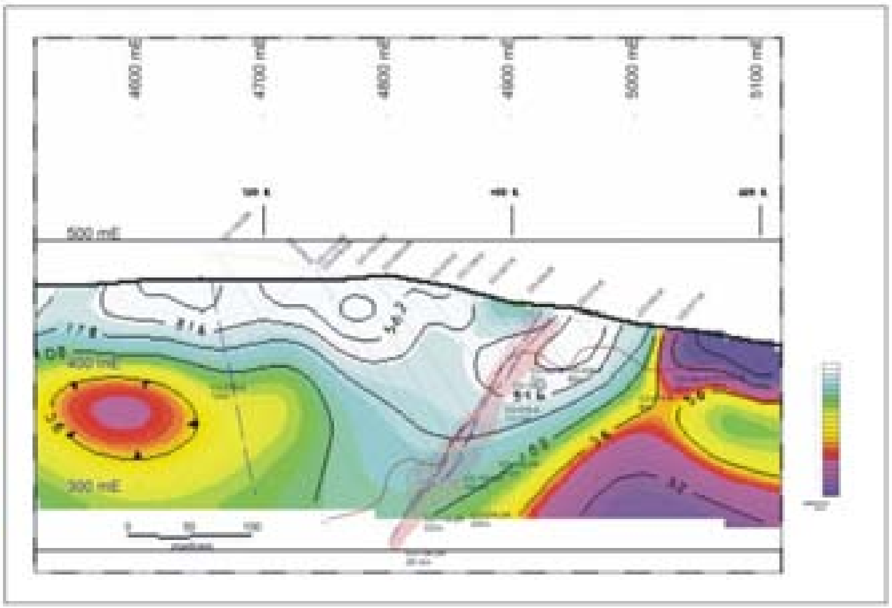


Figure 10.3
Pole-dipole Resistivity Inversion (Section 9950 N) with Superimposed Drilling, Faults and Mineralization Showing Coincident High Resistivity with Silicified Bonanza Fault



10.1.3.2 Gradient Array Induced Polarization

A baseline gradient array IP survey was conducted along 100-m spaced lines to provide approximately 80% coverage of the project area. The gradient array data are presented as plan maps of total chargeability and apparent resistivity (Figures 10.4 and 10.5), both of which are draped with surface geological data and drill hole locations.

Coincident, northwest-trending chargeability and resistivity anomalies are evident in these plots which mirror the strongest mineralized zone between Sections 9800 N and 10350 N. The peak of the chargeability anomaly is observed to be broadly coincident with the southwest dipping Bonanza Fault. Towards the northwest, the anomaly resolves into sub-parallel anomalies which are coincident with the mapped traces of the Bonanza and Esperanza Faults.

Peak resistivity values are interpreted to reflect the combined effects of silicification along the bounding faults augmented by relatively higher resistivity values within the vitric tuff unit mapped within the northwest trending graben. As is the case for the conductivity anomalies, the resistivity anomalies resolve into discrete, linear zones to the northwest of the strongest mineralization, presumably reflecting silicification along the main graben-bounding faults.

Figure 10.4
Gradient Array Chargeability Plan Map Showing Mapped Faults and Drill Hole Locations

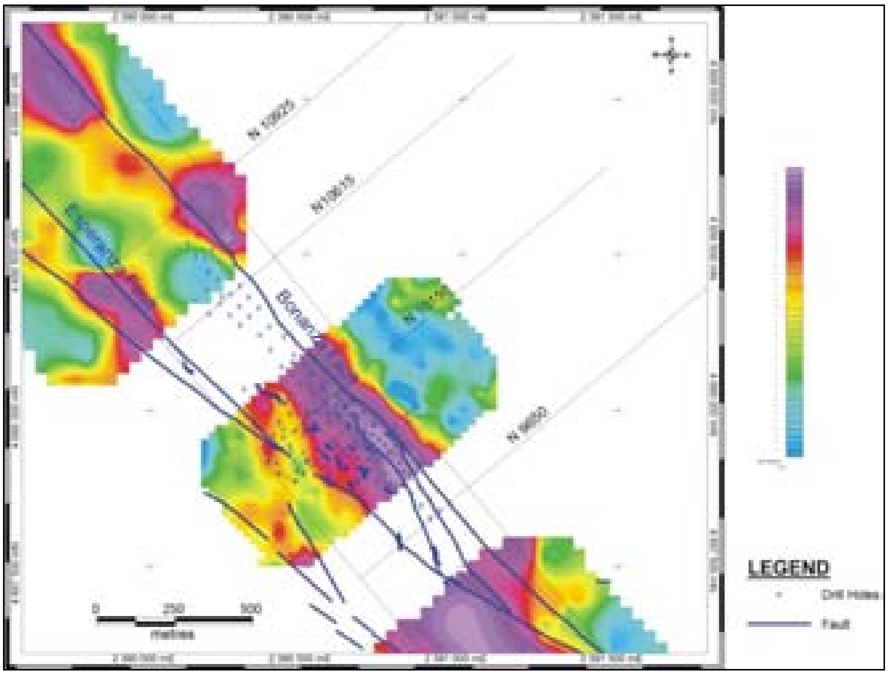
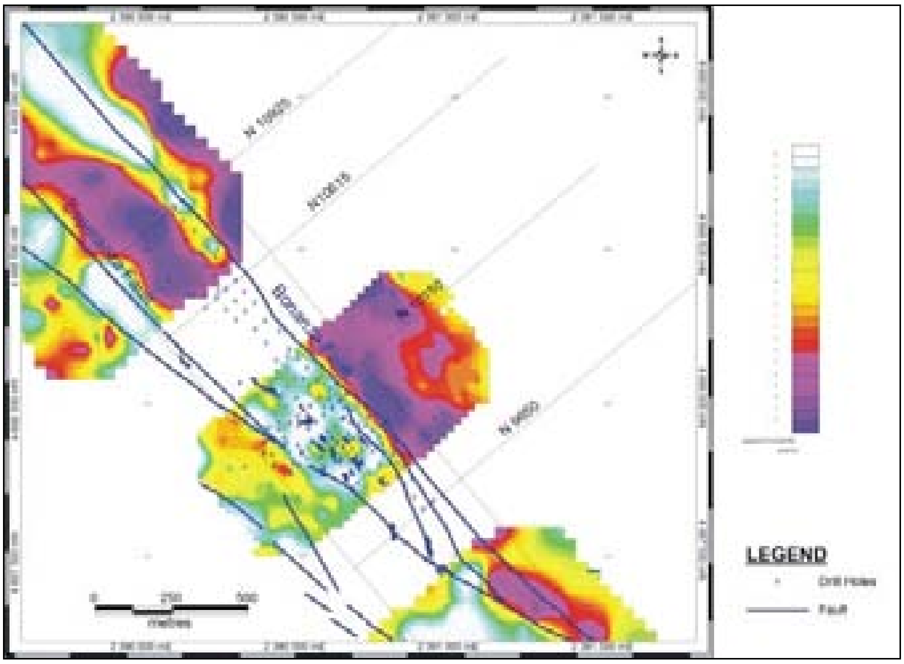


Figure 10.5
Gradient Array Resistivity Plan Map Showing Mapped Faults and Drill Hole Locations



10.1.3.3 Ground Magnetic Surveying

Baseline ground magnetic surveying was carried out, utilizing 10-m spaced sample intervals along 100-m spaced, 1-km long lines throughout the southeastern portion of the project area. Based on initial results from this orientation study, it is considered that further processing of the original data is required in order to determine the effectiveness of this method for structural interpretation of fault geometries within the Jurassic volcanic stratigraphy.

10.1.4 Petrography and Computed Axial Tomography

A suite of 14 samples were selected from HQ drill core and shipped to Dr. Paul Ashley, an experienced petrographic consultant in Australia, for preparation and petrographic analysis. A summary of sample descriptions and interpretations from this study are discussed above.

In addition, two core samples comprising oxidized and un-oxidized mineralized samples were studied using CAT scan at the Department of Mineralogy of the Natural History Museum, London, UK. A summary of sample descriptions and interpretations from this study are discussed above.

A total of 25 additional samples were sent for petrology in July, 2009 the results for which are scheduled to be received by mid-August, 2009.

10.1.5 Interpretation of the Exploration Information

Sawn channel samples taken from PGSA-excavated trenches adjacent to the historic Barrick sampling confirmed the presence of an 8 to 25-m wide zone of stockwork veining and crackle-brecciated vitric tuff in the hangingwall to the Bonanza Fault These samples contained values of the order of 0.3 to 1.0 g/t Au. Samples from the fault zone proper contained limonite-hematite rich milled breccia with up to 11 g/t Au over widths up to 8 m.

The higher grade results reporting to the trenches cut between sections 10050 N to 10175 N correlate with the surface expression of mineralization defined by drilling as pertaining to the northwest Shoot D.

Further trenches along strike defined a contiguous northwest trending, 900-m long by 5 to 15-m wide zone of stockwork veining, faulting, and brecciation containing anomalous gold, silver and trace element (As, Sb, Hg) values. Subsequent geophysical, geochemical, and petrographic studies lent important support to these preliminary results, setting the stage for the follow-up drilling programs described below.

Exploration activities, including trenching, sampling, and logging were carried out by PGSA personnel under supervision of a qualified project geologist. The petrography analysis was undertaken by Dr. Paul Ashley of Australia, an experienced petrographer

10.1.6 Exploration Potential

Exploration potential within the immediate Cap Oeste deposit is considered to be high, as described below.

10.1.6.1 Cap Oeste Project Area

The central high grade portion of the Main Shoot outlined to date comprises an approximate dimension of 10 m wide, 70 m high and >300 m long. Based on the density of current drilling, significant upside remains for the delineation of additional resources along the down plunge projection of the Main, B, C and D Shoots and, additionally, throughout the currently undrilled portions between the high grade portions within each shoot.

Drill testing of the zone in the area of the intersection of the down plunge extension of the main shoot with the potentially favorable intersection of the respective Bonanza and Esperanza Fault planes, at a depth of approximately 300 m below surface (125 m RL).

Significant exploration upside exists for the delineation of additional high grade mineralization on the subsidiary Esperanza Fault based on the low density of drilling to date which has intersected the structure. Additional drill holes will be needed to effectively assess the potential of this structure.

Based on typical geochemical zonation, silica-type and alteration patterns of low sulphidation hydrothermal systems, the trace element geochemical signature of high grade gold-silver mineralization defined to date at the Cap Oeste Project area suggests it is within the upper portions of a well-preserved paleo-hydrothermal system. This interpretation suggests that bonanza grades may be present at depth.

Prospects for location of additional high grade shoots along the extension of the Bonanza Fault are believed to be good, particularly in those portions of the fault with marked variations in strike and where it may be transected by crosscutting subsidiary structures.

10.1.6.2 Regional Prospects- El Tranquilo Claim Block

Exploration to date peripheral to the Cap Oeste deposit area throughout the El Tranquilo claim block comprises a total of 5,938.1 m of RC and diamond drilling, trenching and rock chip sampling completed throughout a total of seven prospect areas. This work has delineated significant mineralization within three areas of the land holdings including the Cap Oeste Structural Corridor along with the Breccia Valentina, and Vetas Norte Corridors.

Cap Oeste Structural Corridor:

Exploration RC and DDH drilling to date has been focused on the testing the continuity of geophysical chargeability anomalies and coincident structural targets along the Cap-Oeste trend (Bonanza Fault) for the presence of additional gold-silver mineralization. This has resulted in the definition of several zones of significant gold-silver mineralization which include:

1. Cose Prospect: located 2 km to the south east of the Cap Oeste Project and centered on an extensive 100 m wide by 500 m long area containing high IP chargeability readings from which results of 18 m grading 2.11 g/t Au, 5.3 g/t Ag were reported from oxide mineralization from a depth of 128 m in hole CSE-002-R, including 4 m grading 4.61 g/t Au, 5.6 g/t Ag from a depth of 142 m.

2. Pampa Prospect: located 2.5 km to the north west of the Cap Oeste Project and centered to the north of an extensive 100 m wide by 800 m long area of high IP chargeability readings from which results of 2.25 m grading 5.71 g/t Au, 3.1 g/t Ag were reported from chalcedonic vein-hosted sulphide mineralization from 114 m depth in hole CX-038-D

Breccia Valentina, and Vetas Norte Corridors:

Within these structural corridors that subparallel the Cap Oeste Trend, limited drilling conducted to date has intersected Au-Ag mineralized structures yielding results including:

Breccia Valentina Corridor:

- Don Pancho Prospect: DPA-003-R: 5 m grading 8.13 g/t Au, and 250 g/t Ag from 23 m.

- Breccia Valentina Prospect: BVA-002-D: 10.5 m grading 2.72 g/t Au , 7.58 g/t Ag from 28 m, and 5 m grading 3.11 g/t Au, 52 g/t Ag.

Vetas Norte Corridor:

- Felix Prospect: FLX-001-R: 1 m grading 63.70 g/t Au and 140 g/t Ag.
- Vetas Norte Prospect: VNO-008-R: 1 m grading 15.8 g/t Au and 9 g/t Ag.

All of the above intersections remain untested in at least one vector either along strike and/or at depth.

Additional conceptual structural and stratigraphic targets remain to be tested throughout the Cap Oeste Project area including permeable lithologies such as the blocky tuff unit which could potentially act as favorable sites for disseminated gold-silver mineralization emanating from the main structurally controlled feeder conduit. The strong correlation between high grade gold-silver mineralization and fault-hosted zones of illite-rich alteration suggests targets will weather recessively and, hence, are expected to be poorly exposed at surface.

11.0 DRILLING

11.1 INTRODUCTION

Drilling of RC and diamond holes (DD) at Cap Oeste has been carried out in three separate campaigns under contract by Patagonia Drill S.A and Major Drilling S.A. (October through to June, 2008) and Major Drilling S.A. (October, 2008 to May, 2009), utilizing truck- and track-mounted Universal UDR 650 rigs, respectively. Diamond drilling by Major Drilling S.A. was witnessed by Reno Pressacco representing Micon in April, 2009.

Both Patagonia Drill and Major Drilling conducted the drilling in the first campaign (October, 2007 to June, 2008) and then only Major Drilling conducted the drilling in the second and third campaigns (October, 2008 to June, 2009).

The drill hole naming convention adopted the following nomenclature:

- Project - prefix CO (Cap Oeste).

- Hole Number - (3-digit number).

- Hole Type - suffixes of R (RC) or D (DDH) – where a DD hole was pre-collared by RC the hole suffix is DR. For example a drill hole name such as CO-016-DR refers to drill hole #16 completed at Cap Oeste using an RC pre-collar.

- In the case where a drill hole deviated significantly and was subsequently abandoned and re-drilled from surface the number of the new hole was the same but the suffix of the new hole included a ‘A’ or in the case of subsequent re-drilling ‘B’. For example, CO-Abandoned hole CO-152-D was replaced by CO-152A-D and subsequently CO-152B-D.

11.1.1 October 2007- June 2008 Drill Campaign

A first phase of RC drilling, designed to test the strongest zones of mineralization as defined by trenching, commenced in October, 2007 along 50-m spaced centers (holes CO-001-R to CO-010-R). Encouraging results led to the continuation and expansion of the program during 2008, specifically:

- The use of diamond drilling in preference to RC drilling to test the deeper (greater than 40 m down dip) portions of the projected zones of mineralization. This was based on the presence of a relatively high water table, the silica-poor, clay-sulphide-rich character of mineralization, and resulting concerns over RC recoveries and ability to obtain representative samples.

- Twinning of first stage RC holes with DDH to check possible influences or biases of wet sample intervals and low recoveries on gold and silver grades. (Three of the diamond holes are twin holes of earlier RC holes namely, CO-001-R & CO-036-D, CO-009-R & CO-034-D, CO-010-R and CO-035-D).

- Drill testing along the whole of the strike length of the breccia/fault zone identified by trenching and testing of zones extrapolated to be present under areas of post mineral cover between previous drill sections.

Most drill holes were collared on 50-m spaced sections and were directed towards an azimuth of 050° and with inclinations between -50° and -70°. This configuration was designed to intersect the southwest dipping mineralized zone as close to perpendicular as possible with increasing depth. One hole (CO-079-D) was directed towards an azimuth of 230° (GK grid, i.e. Local Grid west), in order to intersect and test the Esperanza Fault for the presence of gold-silver mineralization.

11.1.2 October, 2009 - May, 2009 Drill Campaign

From October, 2009 to May, 2009, emphasis was placed on further infill delineation of the Main Shoot with 20 to 25-m spaced drill holes planned to be completed on 25-m spaced sections and further definition of the down plunge extension of the shoot to a depth of approximately 325m below surface (i.e. 100 m RL), through a series of 3 to 5 step-out holes on selected sections.

Initially, the step-out holes were generally drilled with RC pre-collars to the approximate depth of the water table or to a point before the start of the interpolated depth of possible mineralization, after which the universal drill rig was converted to complete the drill hole using conventional coring equipment. During the infill stage drilling between January, 2009 and May, 2009 it was considered that drill hole deviation was best controlled by drilling with conventional core drilling equipment for the entire length of the drill hole.

The drill collar information for the Cap Oeste deposit contained within the drill hole database as of July, 2009 is presented in Appendix I.

11.2 DIAMOND DRILLING METHODS

Drill hole collars were initially located using a hand-held GPS unit, in addition to triangulation from adjacent, previously drilled and surveyed collars. For each drill hole, the orientation of the drill rods and bit (azimuth and inclination) was defined by PGSA geologists using a Brunton compass.

Diamond drilling was carried out on a 24-hour basis using 12-hour, night and day shifts during which PGSA-trained technicians were on site at all times in order to record drilling activities in a Drill Log sheet (e.g. drilling, reaming time, additives, core recovery, down hole survey information) and supervise the extraction of the core from the diamond core barrel and placement into the core cradle. Permanent radio contact was maintained between the PGSA technician at the drill site and the PGSA geologists at base camp.

All diamond drilling was of HQ diameter and utilized a 3-m core barrel where ground conditions permitted. In only one case the hole diameter had to be reduced to NQ size (i.e. CO-147A-D). For diamond drilling conducted from January to May, 2009, the use of a core barrel sleeve tube (HQ3) was implemented prior to entering the zone of interest in order or to maximize the core recovery and sample quality of the drilled interval.

Fresh drilling water was sourced from a series of spring-fed pits excavated in the northeastern portion of the project area within a 2 km distance from the project area. No orientated core surveys were carried out during diamond drilling due to the generally fractured state of the rock.

Daily site visits, which collectively comprised several hours on site time, were made by the PGSA geologist/project geologist for review of drilling progress, drill planning and quality control.

Upon termination of each drill hole during the drill campaigns conducted up until December, 2008, down hole surveys were generally taken by the drill contractor every 50 m utilizing either a Eastman single-shot camera (in the case of Patagonia Drill) or a digital, single shot, FLEXIT down hole survey tool as used by Major Drilling. In the case of the single-shot camera, a down hole photo was produced at the respective depths and in the case of the FLEXIT the hole inclination, direction (azimuth), magnetic field strength, gravity roll angle, magnetic tool face angle and temperature were transcribed from the survey tool onto a paper report.

Depending on the presence and depth of casing in each hole, collar survey photos were generally taken to within 5 to 10 m of the collar. Each photo or series of drill hole orientation surveys were reviewed by both the drill contractor and the PGSA field technician on site, and subsequently recorded in both the drill contractors log and the respective section on the PGSA Drill Log sheet by the PGSA field technician.

During the drill campaign conducted between January and May, 2009, which dominantly comprised the drilling of the deeper, infill holes, each hole was surveyed at 25-m intervals from the collar to a depth of 100 m after which the survey intervals were increased to 50-m intervals to the end of each hole. Holes that were found to be deviating significantly over the first 50 m (i.e. more than 2° inclination and or azimuth) were terminated and were re-drilled. Excessive deviation was encountered in a total of 8 holes including CO-128A-D, CO-133A-D, CO-135A-D, CO-137A-D, CO-143A-D, CO-147A-D, CO-152A-D and, subsequently, CO-152B-D.

For several of the holes drilled during April-May, 2009 PGSA rented a FLEXIT MultiSmart™ multi-shot downhole surveying tool in order to check the accuracy and precision of the downhole survey camera used by Major Drilling and to resurvey several holes drilled/surveyed in previous campaigns. This tool was used to survey the holes on completion at 50-m intervals and the results were then compared to the original surveys conducted by Major during the drilling of the hole. Overall, very close correlation was achieved between the readings taken by the two individual cameras.

Examination of the survey data shows that, overall, there exists a consistent tendency for the diamond drill holes to deviate clockwise to the south east averaging between 2° and 6° over the course of 300 m. Although generally the inclination of the drill hole remained true throughout drilling of each hole, additionally there exists a tendency for the holes to drop in inclination of between 1° and 3° over similar hole lengths.

Following termination of each hole, the collars were marked clearly and permanently with capped PVC tubing cemented in a square concrete base. Following the completion of drilling, the collars were surveyed by a qualified surveyor utilizing a differential GPS.

11.3 DRILL CORE LOGGING

Core logging was carried out at Estancia La Bajada, which is situated approximately 5 km from the Cap Oeste Project area. Based on detailed geological mapping completed prior to the drill campaigns, a set of lithology, alteration, and mineralization codes were established and the logging methodology defined in order to standardize nomenclature amongst the geologists involved in the project. Geological information recorded during logging included:

- Lithology - rock type, grain size and composition.
- Alteration - mineral identification, especially type and intensity of clay and silicification.
- Structure - measurement of structural elements relative to the core axis.
- Mineralization type - breccia types, vein composition and widths, sulphide species and concentrations.
- Oxidation - degree of oxidation of rock by weathering including oxidized/partially oxidized (transitional) and unoxidized.

High resolution digital photographs of each core box were taken by PGSA technicians and are stored as a virtual core library in the PGSA drilling database. The logging process, as conducted by the geologist, involved the definition, marking and numbering of sample intervals on the core and core boxes; sample intervals were based on the above geological criteria in preference to a constant sample length. As a broad guide, minimum and maximum sample intervals of 0.5 and 1.5 m were utilized. Exceptions to this rule were applied in zones of very low recovery where in rare cases several consecutive down hole metre intervals were composited in order to provide a minimum mass of core material for subsequent analysis.

All the graphical and coded logs were recorded on paper log sheets at a scale of 1:100, or entered directly into a digital log template on a laptop computer, addition to the sample intervals and sample numbers defined by the PGSA geologist. This information was subsequently entered digitally by PGSA technicians into an MSAccess database and validated by both the PGSA technician and the geologist. All geological logging information was recorded on sectional plans on a continual basis in order to allow ongoing interpretation of the lithology and mineralization and compilation of a daily summary for PGSA management.

11.4 REVERSE CIRCULATION DRILLING METHODS

RC drilling was conducted on a 12-hour per day basis, during which the entire drilling and sampling process was supervised by a PGSA geologist on site. As stated previously, due to generally high water table levels and emphasis on achieving good sample quality all RC drilling subsequent to hole CO-010-DR was limited to the top of the water table, and thereafter diamond drilling was used.

During RC drilling, a 5¼-inch face-return hammer was utilized and a PVC tube and sealed dust T-box was installed at the collar with which to channel dust away from the drill area and prevent caving around the mouth of the hole. Individual 1-m intervals were clearly marked on the drill mast which acted as a guide for the drilling contractors in sample collection. Subsequent to each 6-m rod change, the hole was routinely conditioned and cleaned prior to the placement of the bulk sample bag beneath the cyclone for the sampling of the subsequent drill interval.

Logging of sieved washed RC drill chips from each interval was accomplished on-site and contemporaneous with the drilling of each hole. Representative drill chips from individual 1-m samples were saved in the respective marked chip trays.

11.5 RESULTS OF DRILLING

A total of 38 geological sections were generated by PGSA geologists using the MapInfo/Discover GIS software from which interpreted lithological boundaries, zones of oxidation, mineralization and structural features were defined. A geological section for 10,000 N showing typical boundaries for lithology, styles of mineralization, oxidation and summary interval results is provided in Figure 11.1.

A summary of significant drill intersections based on a minimum cutoff grade of 0.5 g/t Au for the Cap Oeste project area is presented in Table 11.1. The majority of these drill intersections relate to the two higher grade shoots (Main and Shoot B) and to two less well defined northwestern plunging shoots (Shoots C and D).

As drilling to date has largely been directed to the northeast, intersection of the steeply northeast-dipping Esperanza Fault is limited to only several intervals cut sub-parallel or at a low angle to the core axis. As such, it is believed that the potential of the Esperanza Fault to host significant gold-silver mineralization has not been fully evaluated.

Figure 11.1
Section 10000 N Showing Interpreted Geology and Significant Mineralized Intervals

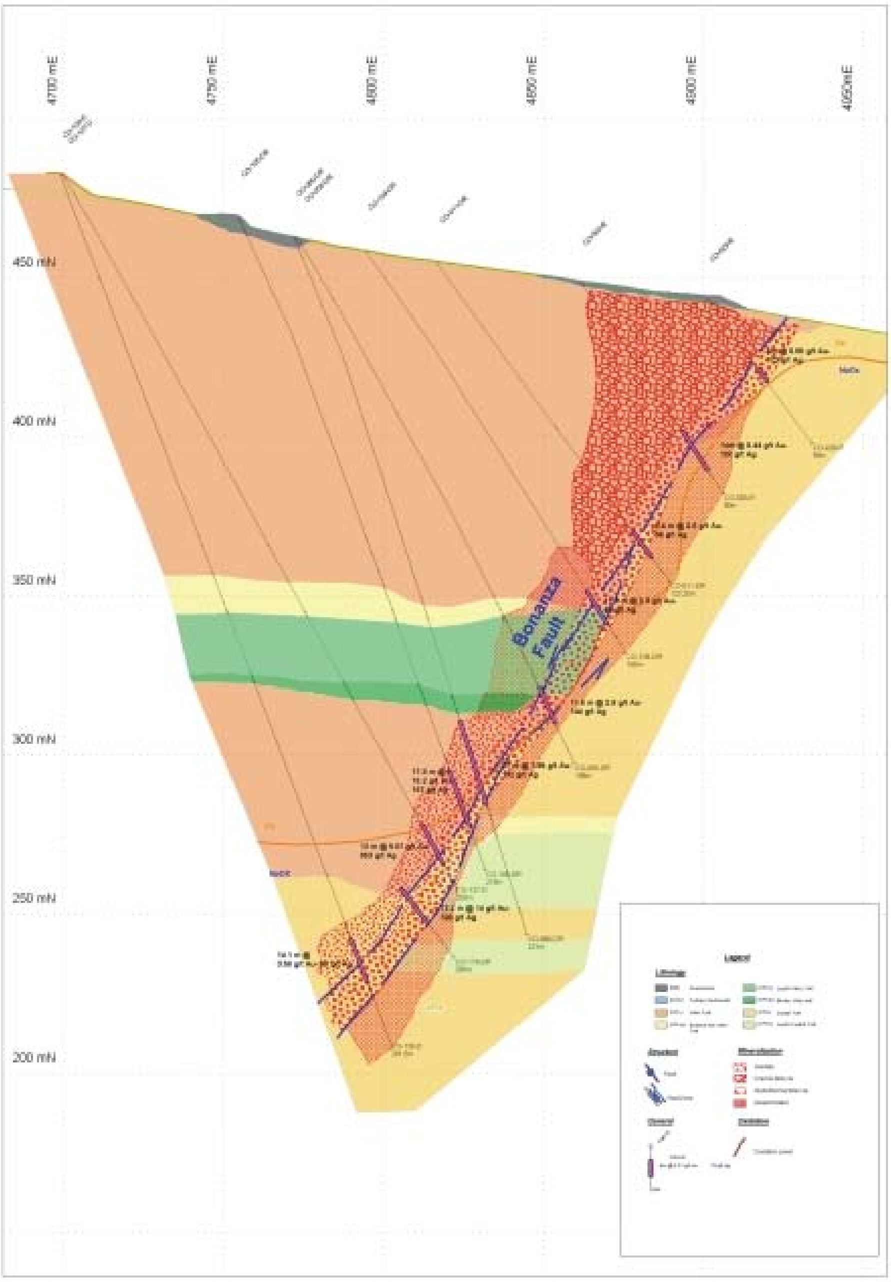


Table 11.1
List of Significant Drill Hole Intersections, Cap Oeste Deposit

Hole No.	Depth (m)	Section	From (m)	Interval (m)	Gold Grade (g/t Au)	Silver Grade (g/t Ag)
CO-001-R	80.00	10100	44.00	13.00	11.78	47
	including		50.00	5.00	29.28	85
	and		65.00	5.00	1.40	28
CO-002-R	74.00	10050	23.00	12.00	0.74	6
	and		48.00	6.00	2.36	135
CO-003-R	80.00	10000	11.00	12.00	0.65	3
	and		57.00	14.00	0.44	107
CO-004-R	56.00	10150	24.00	17.00	0.69	23
CO-005-R	55.00	10200	33.00	22.00	0.70	11
CO-006-R	60.00	10250	12.00	20.00	0.81	10
CO-007-R	70.00	9950	47.00	11.00	3.14	60
	including		49.00	5.00	5.79	57
CO-008-R	70.00	9900	40.00	10.00	3.65	30
	including		41.00	5.00	5.80	33
CO-009-R	120.00	10100	73.00	17.00	0.69	21
CO-010-R	111.00	10050	74.00	37.00	0.77	28
CO-011-DR	123.25	10000	103.00	9.50	2.89	65
	including		106.95	4.70	5.23	133
CO-012-DR	114.00	10150	83.60	29.40	0.51	19
CO-013-DR	123.00	10200	77.30	21.20	0.80	25
CO-014-D	111.25	10250	78.30	11.50	0.61	14
CO-015-D	117.00	9900	75.85	14.35	2.38	19
	including		75.85	3.15	8.58	28
CO-016-D	125.00	9950	91.95	13.45	11.50	389
	including		91.95	3.65	40.28	1,373
CO-022-D	62.95	10330	31.15	14.85	0.72	8
CO-023-D	68.85	10525	31.00	7.00	0.76	1
CO-024-D	78.05	10620	39.10	7.70	0.77	4
CO-025-D	87.00	10675	22.00	9.00	0.68	2
CO-028-R	56.00	9900	11.00	20.00	1.40	18
	including		28.00	2.00	5.28	16
CO-029-R	56.00	10000	27.00	5.00	0.85	173
CO-030-R	60.00	9950	19.00	10.00	1.32	18
CO-031-R	68.00	9900	11.00	11.00	2.27	2
	including		18.00	3.00	7.08	1
CO-032-R	62.00	9850	15.00	5.00	0.77	1
CO-034-D	150.95	10100	77.00	14.10	1.58	65
	including		89.00	2.00	6.17	40
CO-035-D	146.90	10050	112.70	7.30	1.00	13
CO-036-D	108.10	10100	47.10	12.30	14.27	56
	including		52.60	5.30	31.61	100
CO-043-DR	110.00	9900	77.00	7.00	0.70	49
	and		91.00	12.50	0.74	19
CO-044-DR	89.00	9850	55.00	5.00	5.48	33
	including		56.00	3.00	7.77	12
CO-045-D	74.00	10550	35.00	11.40	2.27	1

Hole No.	**Depth (m)**	**Section**	**From (m)**	**Interval (m)**	**Gold Grade (g/t Au)**	**Silver Grade (g/t Ag)**
CO-050-D	111.00	10525	65.00	5.00	1.21	11
CO-051-D	111.00	10625	79.00	12.00	3.20	27
	including		81.00	4.10	5.96	27
CO-053-DR	164.00	9900	120.80	5.20	1.33	128
CO-054-DR	172.00	9950	132.00	7.00	48.11	769
	including		133.10	2.80	118.43	1,875
CO-055-DR	187.00	10000	160.00	11.80	2.79	144
	including		168.30	2.70	9.28	453
CO-056-DR	180.00	10050	116.00	18.00	0.82	49
CO-057-DR	170.00	10100	110.60	30.35	0.58	22
CO-058-D	105.00	10075	57.42	7.28	2.21	355
	including		59.03	0.97	6.13	1,968
CO-059-D	119.00	10025	65.00	22.60	0.56	45
CO-060-D	141.00	9975	88.00	7.00	4.01	51
	including		89.00	4.00	6.15	54
CO-062-DR	153.00	9850	119.90	15.60	1.56	72
CO-065-DR	173.00	10200	140.90	30.10	1.59	18
CO-066-DR	150.00		131.00	11.75	1.63	32
CO-067-DR	46.50	10100	3.00	24.00	1.85	76
	including		23.00	3.00	5.89	401
CO-068-D	56.00	10125	23.00	25.00	0.67	10
CO-069-D	97.50	10550	76.00	9.30	1.18	31
CO-070-D	149.50	10625	127.00	10.20	2.38	178
CO-071-D	150.00	10550	123.10	4.20	1.22	6
CO-074-D	117.00	10700	84.00	11.70	1.03	32
CO-075-D	108.00	10760	78.00	5.50	2.33	78
CO-077-D	51.00	10050	6.00	19.00	0.83	18
CO-078-D	232.00	9950	181.65	37.35	1.04	11
CO-080-DR	231.00	10000	161.00	27.00	7.95	132
	including		170.00	15.20	13.06	206
CO-081-DR	205.00	10050	156.60	17.00	2.24	127
	including		168.20	3.20	8.41	216
CO-082-DR	232.00	10100	172.00	6.00	0.91	32
CO-083-DR	192.00	9900	145.50	5.40	1.39	23
CO-084-DR	214.00	9850	175.00	31.10	1.24	24
	including		179.63	1.82	5.48	143
CO-085-DR	225.00	10200	187.00	6.00	1.16	68
CO-086-DR	226.00	10150	193.90	7.10	4.84	208
	including		196.10	3.90	7.72	314
CO-087-DR	261.83	10250	196.15	9.85	0.87	9
CO-089-DR	211.00	10300	182.35	21.65	1.24	17
CO-090-DR	221.00	10350	192.20	15.30	3.35	20
	including		197.00	2.00	19.70	15
CO-096-DR	137.10	9975	107.25	10.75	3.90	142
	including		111.50	1.75	18.60	739
CO-097-DR	146.80	9975	132.92	6.80	10.92	1,711
	including		132.92	2.62	24.27	3,963
CO-098-DR	182.70	9975	153.80	16.90	3.20	157
	including		163.70	4.00	11.19	557

Hole No.	Depth (m)	Section	From (m)	Interval (m)	Gold Grade (g/t Au)	Silver Grade (g/t Ag)
CO-099-D	102.00	9925	80.10	2.30	51.92	618
	including		80.10	1.18	100.80	953
CO-100-DR	138.00	9925	112.00	4.00	2.24	16
CO-101-DR	192.00	9925	161.20	21.10	1.68	31
	including		163.40	1.35	7.89	111
CO-102-DR	183.20	9950	154.10	15.40	1.36	27
CO-103-DR	221.50	9975	186.25	10.80	2.14	92
CO-104-DR	198.00	10025	171.00	16.75	5.93	1,716
	including		178.00	9.75	8.87	2,466
CO-105-DR	219.00	10000	186.95	17.80	15.18	157
	including		193.10	1.90	97.06	111
CO-106-DR	186.00	10025	156.00	2.00	3.59	2,493
	and		161.00	8.00	1.22	154
CO-107-DR	210.00	10050	181.00	19.60	5.89	246
	including		189.70	8.55	11.07	486
CO-108-DR	92.00	9959	70.10	9.65	14.59	592
	including		70.10	3.90	25.95	595
	and		75.50	1.25	26.50	2,478
CO-109-DR	150.00	10000	127.60	11.70	2.30	49
	including		136.00	2.30	6.49	176
CO-110-DR	177.00	9975	152.30	4.20	9.77	1,470
	including		152.30	2.08	17.93	2,818
CO-111-DR	75.00	9975	53.20	5.30	3.63	800
	including		57.00	1.50	5.21	2,737
CO-112-D	60.00	9925	40.90	4.30	2.30	47
CO-114-DR	222.00	9950	176.00	1.50	7.66	9
	and		194.10	9.10	2.32	39
CO-115-DR	84.00	10125	70.37	9.13	3.00	61
	including		78.00	1.50	13.29	279
CO-116-DR	282.00	10050	258.50	13.15	4.51	98
	including		264.00	5.10	7.90	204
CO-117-DR	134.50	10112	110.50	7.30	3.54	31
	including		110.50	2.50	7.49	38
CO-119-DR	285.00	10025	258.00	13.20	14.02	186
	including		261.00	3.00	29.16	271
	and		265.00	5.30	15.26	270
CO-120-DR	180.00	10125	158.00	10.10	1.99	109
	including		165.00	1.57	9.06	606
CO-121-DR	255.00	10350	216.00	2.00	2.28	19
CO-122-DR	239.00	10150	217.50	4.00	2.53	187
CO-123-DR	282.00	10075	257.90	16.10	5.92	260
	including		257.90	3.10	6.38	487
	and		269.57	3.53	12.41	619
CO-124-DR	246.70	10175	236.50	4.05	2.05	118
CO-125-DR	306.00	10100	278.00	10.00	5.27	860
	including		280.50	2.08	18.91	3,990
CO-126-DR	324.00	10050	283.00	32.00	2.53	20
CO-127-D	255.00	10000	234.50	13.00	5.57	853
	including		244.60	2.90	17.10	2,696

Hole No.	Depth (m)	Section	From (m)	Interval (m)	Gold Grade (g/t Au)	Silver Grade (g/t Ag)
CO-129-D	306.20	10025	278.00	15.80	5.29	126
	including		281.00	7.00	8.40	239
CO-130-D	291.50	10000	258.00	14.10	3.58	60
	including		268.00	3.00	5.38	23
CO-131-D	338.80	10075	279.00	24.00	2.62	23
	including		290.50	3.00	4.79	39
CO-132-D	362.50	10050	280.40	32.70	2.86	45
	including		281.40	2.75	4.95	215
	and		298.65	1.65	5.22	85
	and		305.85	3.80	5.66	22
CO-133A-D	369.00	10025	300.00	22.50	1.92	13
CO-138-D	228.00	9850	203.25	10.05	1.64	13
CO-139-D	282.00	9962	244.70	11.80	15.21	203
	including		249.00	5.10	33.34	372
CO-141-R	133.00	10625	106.00	8.00	2.51	75
	including		111.00	2.00	5.60	134
CO-143A-D	373.30	10075	324	15.60	1.43	23
CO-144-D	353.80	10100	316	33.00	5.87	169
	including		323	1.00	18.00	452
	including		326.50	5.00	10.17	150
	including		346.05	1.65	45.13	2,137
CO-145-D	330.00	10125	271	29.90	7.81	280
	including		289.95	7.05	21.89	1,003
CO-146-D	269.60	10125	256	3.10	2.23	979
CO-147A-D	409.70	10125	323	1.30	13.50	186
CO-148-R	57.00	9825	31	17.00	3.61	137
	including		34	7.00	6.63	310
CO-149-R	127.00	9825	96	19.00	2.14	21
CO-151-R	97.00	10230	71	2.00	1.49	18
CO-150-D	351.00	10025	285.15	4.30	4.18	25
CO-152B-D	345.00	10125	300.94	11.06	4.56	17
	and		315.80	4.40	8.50	23
	Including		317.30	2.90	10.82	24
CO-154-D	306.00	10150	260.85	3.65	3.65	821
	and		289.35	6.30	5.35	45
	Including		292.40	3.25	7.35	24
CO-155-D	366.00	10150	257.90	23.10	5.94	49
	Including		259.00	3.50	6.79	87
	Including		269.45	9.55	9.71	54
	and		300.95	20.50	4.05	189
	Including		313.00	8.45	6.42	366
	and		330.00	12.30	2.60	48
	Including		340.70	1.60	6.66	230

While the limits of oxidation are observed to be highly variable, the base of the oxidized material is broadly coincident with the footwall contact of the Bonanza and Esperanza Faults down to vertical depths of between 70 and 120 m. Generally, the boundary between the zones of complete, partial and no oxidation are sharp (Figure 11.2), with the interval representing the zone of partial oxidation being typically 5 to 10 m wide. The zones of complete and partial oxidation are collectively represented as occurring above the line of oxidation on the sections provided in this report.

Figure 11.2
Example of Transitional Oxidized Zone with Transition to the Hypogene Zone, DDH CO-139-D

12.0 SAMPLING METHODS AND APPROACH

12.1 TRENCH SAMPLES

Trench locations were laid out in the field using a Brunton compass and hand-held GPS. Topsoil removed by the backhoe excavator was stockpiled separately for later backfilling, and trenches were subsequently excavated down to bedrock, or to a maximum depth of 3 m. The trenches were then cleaned and two parallel, 5-cm wide by 5-cm deep slots were mechanically dry sawn into the rock, cleaned, and sampled. Trench sampling and logging were carried out under the supervision of PGSA geologists, and sample intervals were generally marked using a measuring tape following geological criteria. Sampling of the trenches comprised chipping between the two sawn slots with hammer and chisel to the limits of marked sample intervals and placing the broken material in plastic sample bags. Each sample bag is tagged and staple sealed and subsequently transported back to the base camp where each sample weighed and recorded for final laboratory dispatch. Final surveying of the trench locations was completed by a qualified surveyor using a differential GPS.

12.2 REVERSE CIRCULATION SAMPLING METHODS

PGSA field technicians processed each 1-m sample as follows:

- Weighing on-site of the sample and recording sample weight and type (e.g. dry, moist, wet).

- Riffle-splitting to achieve a representative 4-kg sub-sample which was bagged immediately in a plastic polyurethane bag (dry samples), or in polypropylene cloth bags (wet samples). Samples were weighed at various times during the drilling process for quality control.

- The rifle splitter was cleaned between each sample interval with compressed air sourced from the drilling rig. The cyclone was thoroughly cleaned between drill holes and every effort made to ensure quality control on-site.

In the case of wet RC drilling conditions, a rotary splitter was utilized in lieu of the conventional cyclone which allowed for a 1/8 and 7/8 split of the bulk 1-m interval. Individual interval samples were taken from the 1/8 split portion of the splitter, placed in consecutively numbered lines peripheral to the drill platform and subsequently weighed when the excess water had drained through the pores of the polypropylene cloth bags. The wet splitter was thoroughly cleaned between each hole to minimize contamination.

12.3 DIAMOND DRILLING SAMPLING METHODS

During drilling, the diamond core samples were managed according to the following protocol:

- The core barrel was retrieved following completion of each ‘run’ via wire line, after which the core was immediately slid out from the core barrel and placed in a core cradle. For diamond drilling conducted from January-May, 2009, during which the use of a core barrel sleeve tube (HQ3) was implemented, the core was extruded from the core sleeve with the aid of hydraulic pressure.

- During this process care was taken by the contractor and PGSA field technician to ensure that core was maintained intact and maintained in the correct order within the cradle.

- Core was washed and subsequently orientated in order to reconstruct the core in its predrilled in situ position as much as possible. The vertices of any mineralized structures were preferentially aligned with the upper axis of the core.

- In combination with placement of the drilling depth blocks, as defined and provided by the driller, the PGSA technician calculated and marked the individual metre limits on the core.

- Recovery length and percentage of both the total drilled interval and each complete unit depth metre interval was calculated and recorded on the Drill Log sheet.

- Rock quality designation (RQD) for each core run was measured by the PGSA field technician on the sum total interval of individual core pieces that measured over 10 cm in length in any particular core run.

- Core was carefully placed into the numbered wooden core boxes in which metre intervals were marked on core, and core boxes, with wooden depth blocks inserted in the corresponding position.

12.4 DRILL SAMPLE RECOVERY

12.4.1 Diamond Drilling Core Recovery

A summary analysis of the recoveries achieved in the different geological zones and mineralization types, is shown in Table 12.1. Based on results from the 6,732 diamond core intervals drilled throughout the program, overall diamond core recoveries averaged 97.5 %.

Table 12.1
Diamond Drill Recoveries

Geological Zone	Recovery DD Holes (%)
Oxide	96.8
Partial Oxide	97.1
Non Oxide	98.7
Mineralization Type	
Crackle Bx (Zone 1)	98.3
Hydrothermal Bx (Zone 2)	91.7
Disseminated (Zone 3)	97.7

It can be seen that good recoveries were achieved throughout Zone 1 and Zone 3 with average recoveries of 98.3 and 97.7%, respectively. A slight loss of core (average recovery of 91.7%) occurred throughout Zones 2a and 2b, which is likely a consequence of the commonly clay rich fault gouge and fractured rock. Based on this tendency, during the January to May, 2009 drilling campaigns, the use of HQ triple tube diamond drilling through the main zone of interest was implemented.

Generally good recoveries were achieved for non oxide and partially oxidized mineralized zones, averaging 98.7 and 97.1% respectively. Slight core loss (average recovery 96.8%) occurred throughout the oxide zone, likely a product of the friable and clay-rich nature of mineralization.

12.4.2 Reverse Circulation Sample Recovery

The average recoveries for the RC drilling sample intervals were calculated for differing drilling conditions (wet/dry) and geological parameters, including degree of oxidation and mineralized zones, as shown in Table 12.2. The recovery was calculated by dividing the dry weight per metre by the theoretical weight of the volume of rock per metre in which rock densities used were derived from the respective rock density values defined below. In the case of wet RC samples, the wet bulk sample residues (i.e. after splitting) were left to dry prior to weighing to which the recorded weight of the split laboratory sample was subsequently added to calculate recoveries.

Theoretical sample weight/metre values utilized in recovery calculations for non oxide and oxide zones were calculated as follows:

- Oxide: 3.1417 (pi) x 0.066^2 (radius metres squared) x 2.1 (density) = 28.7 kg
- Non oxide: 3.1417 (pi) x 0.066^2 (radius metres squared) x 2.2 (density) = 28.9 kg

The RC drilling recoveries calculated for various geological intervals are shown in Table 12.2. In light of the results of the new information regarding the average bulk densities for the various rock units found at Cap Oeste (see Section 17), the existing estimates of RC sample recovery should be updated with the new information. As well, future RC drilling programs should incorporate the new density data.

Table 12.2
Reverse Circulation Drilling Recoveries

Geological Interval	**Recovery RC Holes (%)**
Oxide Zone	89
Non oxide	98.5
Mineralization Type	
Crackle Bx (Zone 1)	87.6
Hydrothermal Bx (Zone 2)	89
Disseminated (Zone 3)	95

Drilling throughout the oxide zone, yielded good average recoveries throughout which relatively small losses typically occurred preferentially throughout the first 15 to 20 m where supergene clay alteration is strongest and the presence of open space fractures is greatest.

Samples of wet RC drill cuttings, which were limited to the deeper holes from the initial campaign (CO-001-R to CO-010-R), generally reported significantly lower recoveries averaging 49%. These results led directly to the policy of limiting future RC drilling to the interval above the water table subsequent to the first drilling campaign. In addition, twin diamond drill holes were completed adjacent to the initial RC holes where mineralization was intersected below the water table to examine for any significant bias that drilling beneath the water table may have generated.

With respect to the sample recoveries as a function of mineralization type, overall good recovery of 87.6% was achieved within the Zone 1 type mineralization, albeit lower than that achieved for Zone 2 and 3 which reported 89% and 95%, respectively.

Given that Zone 1 type mineralization was predominantly tested in the oxide zone, the lower recoveries are likely a product of the higher propensity for minor loss of clay fines in open space fracture and in permeable portions of the host lithologies. Similarly, recoveries throughout Zone 2 type mineralization were likely affected by the clay rich fault gouge and highly fractured rock conditions typical of this zone.

12.4.3 True Width and Orientation of the Drill Target and Drill Intercepts

The overall form of the mineralized envelope of the Main Shoot at Cap Oeste in section is planar to broadly sigmoidal with an average dip of 55° southwest, with local variations between 40 and 80°. The holes drilled to test the zone (drilled 50 to 70° towards the northeast), generally intersected mineralization at relatively high angles of 60 to 85° with respect to the core axis. Although no orientated core was obtained, these overall angles correlate with those recorded in the structural logging including fault planes, hydrothermal breccia fabrics and sheeted veinlets, relative to the core axis.

Given the consistent orientation of drill holes, the true widths of the intersected mineralization generally equate to approximately 80 to 95% of intersected widths. In a rare number of circumstances mineralization was intersected at a lower acute angle of 55^o which equates to approximately 70 to 85% of the intersected widths.

The overall planar geometry of the mineralized section of the Esperanza Fault zone which dips steeply ($75\text{-}85^o$) to the northeast was partially tested by step-back holes designed principally to test the Bonanza Fault at depths greater than 150-200 m RL. On average these holes intersected this structure at 15 to 25^o to the core axis, for which the true width equates to approximately 20 to 25% of the intersected widths.

13.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

13.1 GENERAL DESCRIPTION

Sampling was performed on site, in the case of trenching and RC drilling, and at the Estancia La Bajada base camp, in the case of diamond core. Field technicians were given appropriate training and were supervised by a PGSA geologist. Care was exercised to eliminate sources of potential contamination:

- Wearing of jewelry was prohibited.
- Sample bags and core boxes were closed immediately upon the insertion/placement of the respective sample and kept above the ground surface on pallets.
- Care was taken during the transporting and processing of core samples, and the subsequent storing of samples and core boxes.
- Sample bags were kept in a dust-free environment and individual sample bags were stapled closed and maintained in burlap bags subsequent to sampling, which were immediately zip tied closed.
- No sample reduction of any of type was conducted at the base camp other than the ½ 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 in Section 12).

13.2 TRENCH SAMPLES

As previously described in Section 10, trench samples were prepared and bagged in the field at the Cap Oeste Project area. Upon arrival at the base camp they were collectively bagged in burlap bags and subsequently labeled, zip-tied, weighed and recorded in the sample dispatch log, and stored ready for shipment.

13.3 REVERSE CIRCULATION DRILL SAMPLES

As previously described, the RC drill samples were collected and prepared at the drilling site. Other than packaging in sealed burlap bags, labeling, documenting and weighing prior to shipment, no other preparation was performed on these samples.

13.4 DIAMOND DRILL CORE SAMPLES

As described above, upon removal from the core tube the drill core was placed in the core cradle and subsequently washed, oriented, marked and the recovery and RQD were measured and recorded.

In order to standardize sampling methodology and allow for reconstruction of the drillhole in ½-core, the convention of utilizing the left hand side of each cut core portion for subsequent laboratory analysis and the right hand piece to be retained as the reference core was applied. At the end of each sample interval, a perpendicular saw cut was made to clearly mark the end of the current sample and beginning of the consecutive sample. During the cutting, the core sample intervals and corresponding numbers were repeatedly crosschecked.

Half-core samples for individual intervals were placed in clean, tagged, plastic sample bags which were immediately closed after sampling, and the corresponding interval in the core was marked with a stapled aluminum tag. After the individual samples were bagged they were placed in numbered burlap bags and subsequently weighed and recorded ready for transport. The marking, sampling, and bagging process was conducted by the PGSA field technicians under supervision of the project geologist.

13.5 STORAGE AND TRANSPORT

Samples pending shipment were stored onsite at Estancia La Bajada in a secure storage area and shipped weekly via a contracted private courier in a closed and locked truck compartment. The samples were transported directly to the designated laboratory in Mendoza, Argentina and were always accompanied by a required provincial transport permit in addition to a shipping dispatch and a letter addressing the particular analyses required, sample numbers, quantity and weights for the laboratory. The PGSA data manager was notified immediately upon reception of the samples in the laboratory by the laboratory staff.

13.6 LABORATORIES, METHODS AND PROCEDURES

Alex Stewart Assayers Argentina S.A., which is an international recognized and accredited laboratory compliant to ISO Certified - 9001:2000 standards, was contracted for the geochemical analysis of the samples generated during the two drilling campaigns at the Cap Oeste deposit, and for exploration holes drilled outside the Cap Oeste deposit area. Acme Analytical Laboratories Ltd. of Vancouver BC Canada performed check assays on selected samples.

13.7 QUALITY CONTROL

Quality control procedures conducted by PGSA include the routine inclusion of certified geochemical standards, blanks and sample duplicates (RC percussion) which are submitted with geochemical samples to the laboratories and check assaying.

13.7.1 Geochemical Standards and Field Duplicates

Quality control measures implemented during the trenching and drilling programs included the submission of a series of certified standard and blanks, which were incorporated and dispatched with the drill samples, according to the following protocol:

- Diamond Drilling: alternate insertion of a laboratory certified laboratory standard or blank for every 10th sample.
- RC Drilling: For every alternate 10th sample, a duplicate sample of the preceding interval was taken as a field duplicate, or a certified laboratory check standard or blank sample was submitted respectively.
- Trenching: For every alternate 10th sample, a duplicate sample of the preceding interval was taken as a field duplicate, or a certified laboratory check standard or blank sample was submitted respectively.

13.7.1.1 Diamond Drilling

In summary, a total of 888 individual standards, with a range of certified gold grades between 0.03 and 47.24 g/t Au, 177 blanks and 174 duplicates were submitted with drill samples for quality control throughout the routine drill sample assay process.

The analytical results for each individual standard were plotted on control charts in which the upper and lower limits were defined by plus or minus 2 and plus or minus 3 standard deviations from the respective certified value, in addition to the plus or minus 10% relative variance from the assigned standard value.

The control charts showed that all gold standards performed within the accepted 3 standard deviation limits of the recommended gold value, with the exception of a total of 18 samples which returned values outside these limits. For each of these failed standard samples, five of the adjacent drilling samples within the batch, relative to the standard, were reanalyzed. As part of these rechecks, a total of 146 drill sample interval pulps were re-analyzed for gold, together with a total of 11 standards.

The results for the original and recheck drill sample interval pulps show a good correlation of within ±10% (Appendix II) and all the standards that were included with the reanalysis returned values within the ±10% variation limits of the certified standard values. As a result, it is considered that the original standards which returned a large variation from the expected values were either erroneously submitted and/or recorded, or that preparation and handling of the standards introduced a degree of error greater than plus or minus 3 standard deviations.

For the quality control of silver, a total of 102 silver standards with recommended value between 52 and 1,419.6 g/t Ag, were submitted with the drill interval samples during the drill campaigns. Assay values received from the laboratory show good correlation within plus or minus 10% of the certified values.

13.7.1.2 Field Duplicates –Trenching

Two field duplicates were taken during sawn trench sampling throughout the Cap Oeste deposit area, which reported good repeatability and correlation within plus or minus 10 to 30% relative error limits.

13.7.1.3 Field Duplicates – RC Drilling

From the total of 174 field duplicates analyzed, a good correlation of within ±10% variation was received for values between 1.5 to 6 g/t Au and an acceptable correlation within ±20% variation was received for values between 0.1 to 1.5 g/t Au, as shown in (Appendix II). Correlation for silver for the field duplicates reported generally within the ±10-20% limits and, apart from a single outlier, indicated an overall slight positive bias of the original assay results.

13.7.1.4 Check Assays

A total of 16 batches of check assay sampling were conducted during 2008 and 2009 for Holes CO-001-R to CO-136-DR, which overall comprises approximately 5% of that total drill sample interval population. These check samples consisted of sample pulps (278 samples, 85% less than 80 µm or -200 mesh ASTM) and coarse rejects (305 samples, greater than 85% less than 1.7 mm or -10 mesh ASTM). These check samples were taken predominantly from significant gold-silver drill intervals, which were collectively submitted with a total of 64 laboratory-certified standards.

These samples were re-submitted to both:

a) The original laboratory (Alex Stewart Assayers S.A.) - comprising 80 pulps and 237 coarse rejects, plus 35 standards.

b) A certified check laboratory (Acme Analytical Laboratories) - comprising 198 pulps and 68 coarse rejects, plus 29 standards.

Additionally, check assaying for silver by the two laboratories was completed, however certified standards containing significant concentrations of silver were not included with these samples. Statistical results for the check assay data were generated in Excel spreadsheets for which the graphical correlation is shown as scatter plots provided in Appendix II. The interpretations of the scatter plots took into consideration the correlation of original and check assay values that were duplicated within plus or minus 10 and 20% limits, the linear regression trends generated by the respective values and the relative precision of the laboratory values reported for the standards that were submitted within the respective check assay batches.

For the check assays of the coarse rejects between the two laboratories, values reported by Alex Stewart Assayers S.A. indicated a minor negative bias compared to that of Acme

Analytical Laboratories of approximately 10%, highlighted particularly in the range of values between 3 and 8 g/t Au. For silver, the same tendency was reported albeit to a lesser degree (2-5%), apart from a high isolated outlier sample which reported a 12% negative bias relative to the Acme Analytical Laboratories result.

From the internal comparison of check assays for Alex Stewart Assayers S.A., the check results from the coarse rejects suggest a slight negative bias (<5%) compared to those of the original results.

Correlation coefficients indicate an excellent overall correlation for all of the gold and silver values for both the coarse rejects and pulps with the independent laboratory (Acme Analytical Laboratories), as well as the internal check of Alex Stewart Assayers S.A.

13.7.1.5 Screen Fire Assays

A total of 24 coarse rejects (95% less than -10 mesh ASTM) were selected from original, individual high, mid-range and low grade sample intervals as determined by assaying performed by the Alex Stewart laboratory and were analyzed by Acme Analytical Laboratories via the screen fire assay technique in order to determine the size/distribution character of gold mineralization.

This technique is designed to examine whether larger gold particles are present in the coarse fraction of the sample and to enable semi-quantitative analysis on the potential presence and effects of coarse gold on grade reproducibility of relatively small (50-g) sample sizes used during routinely analysis.

Sample preparation involves firstly the milling of the coarse reject to 95% less than 200 mesh ASTM (74 µm) after which the undersize is sieved, weighed and split into three subsamples which are each subsequently fire assayed. The oversize is weighed and the entire coarse fraction is subsequently fire assayed for which values over 10 g/t Au are determined with a gravimetric finish.

The weighted-average grade of the sample was then calculated for the average of the three -200 mesh ASTM fractions analyzed and the corresponding + 200 mesh ASTM fraction. The original, individual and combined weighted average gold values are presented in Figure 13.1. Additionally, the coarse gold ratio (calculated by dividing the oversize gold concentration by the combined weighted average gold), in which values greater than 1 generally indicates a significant concentration of gold in the coarse fraction, are shown. The results show good repeatability between the average of the three individual assays of the three -200 mesh ASTM subsamples and in the +200 mesh ASTM fraction.

Following Micon's recommendations, in order to test for the level of repeatability of the high grade gold intervals and potential nugget effects relating to the possible presence of coarse gold, a total of 9 coarse residues from some of the highest grade intervals were re-assayed (Table 13.1). Scatter graphs for the gold and silver results are presented in Figures 13.2 and

13.3, respectively. Results show a high degree of repeatability whereby the respective repeat values returned values within the plus or minus 10 to 15% limits of the original value for both gold and silver.

The combination of the overall good repeatability of both the routine check assay data and high grade re-assay results, and defined presence of gold in the coarse fraction (>74 µm or 200 mesh ASTM) determined by the screen fire analysis, suggests an overall homogenous distribution of fine and coarse gold in the high grade samples that does not negatively influence the level of repeatability achieved by the conventional fire assay technique.

Figure 13.1
Graphical Comparison of Screen Fire Assay Gold Results

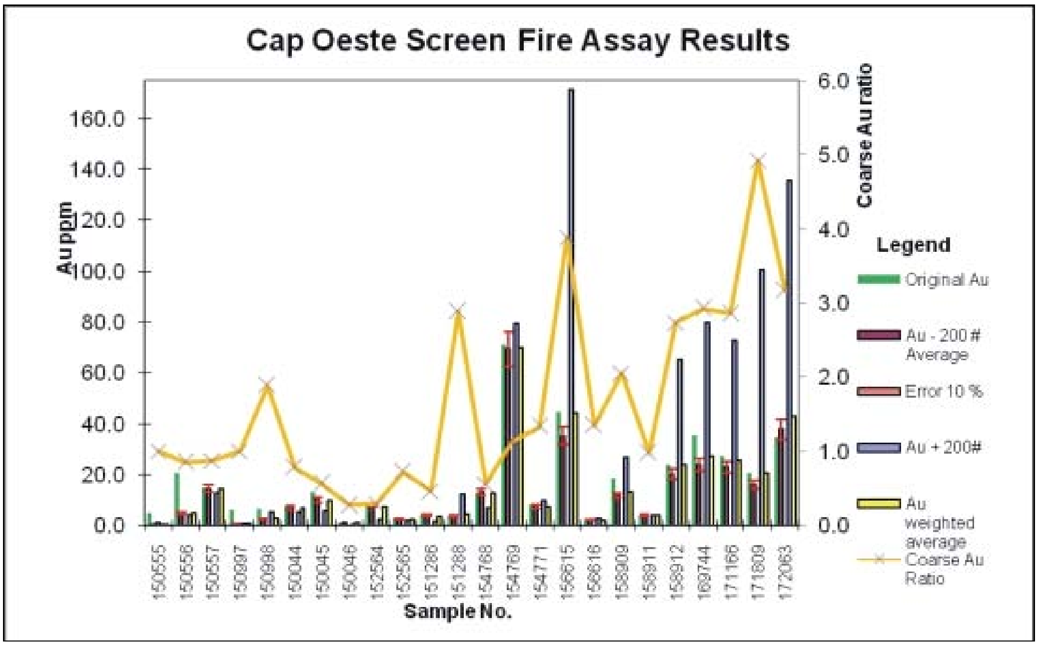
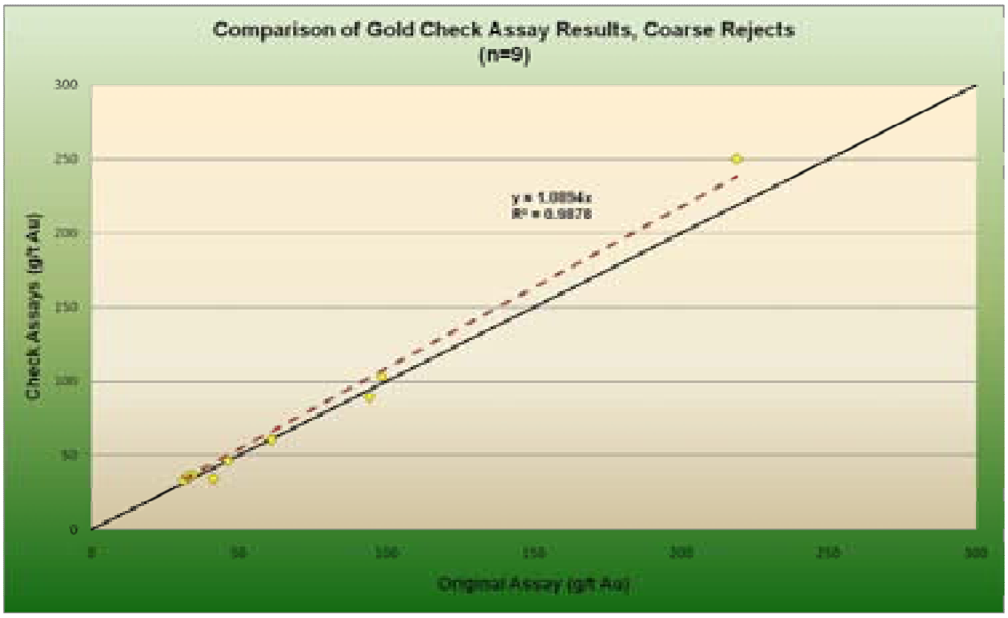


Table 13.1
Comparison of Gold and Silver Re-Assay Results

	Original Results		Check Results using Coarse Rejects	
Gold Assays				
Hole	Sample	Gold (ppm)	Check Sample	Gold (ppm)
CO-016-D	151404	94.28	170777	89.91
CO-054-DR	156613	218.83	170778	250.17
CO-054-DR	156614	61.04	170779	61.07
CO-080-DR	158902	41.29	170781	34.39
CO-105-DR	169213	98.44	170782	103.23
CO-108-D	169316	31.29	170783	33.37
CO-119-DR	169736	34.42	170791	37.01
CO-119-DR	169737	46.22	170792	46.57
CO-125-DR	171027	32.73	170793	35.81

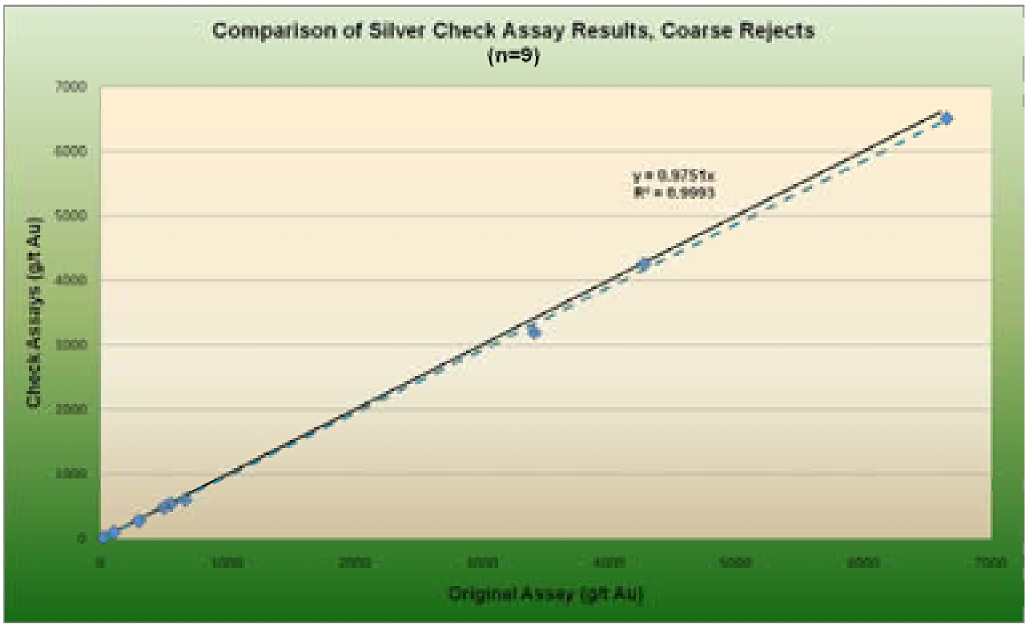
Silver Assays				
Hole	**Sample**	**Silver (ppm)**	**Check Sample**	**Silver (ppm)**
CO-016-D	151404	3410.00	170777	3188.65
CO-054-DR	156613	4273.00	170778	4253.18
CO-054-DR	156614	552.00	170779	543.88
CO-080-DR	158902	24.73	170781	21.42
CO-105-DR	169213	105.00	170782	105.00
CO-108-D	169316	665.00	170783	606.44
CO-119-DR	169736	499.02	170791	487.21
CO-119-DR	169737	300.48	170792	279.81
CO-125-DR	171027	6649.54	170793	6502.77

Figure 13.2
Scatter Plot of Gold Re-Assay Results



Micon concludes the sampling methods, security and analytical procedures employed at the Cap Oeste drilling and trenching programs were carried out by PGSA to acceptable industry and NI 43-101 standards.

Figure 13.3
Scatter Plot of Silver Re-Assay Results



14.0 DATA VERIFICATION

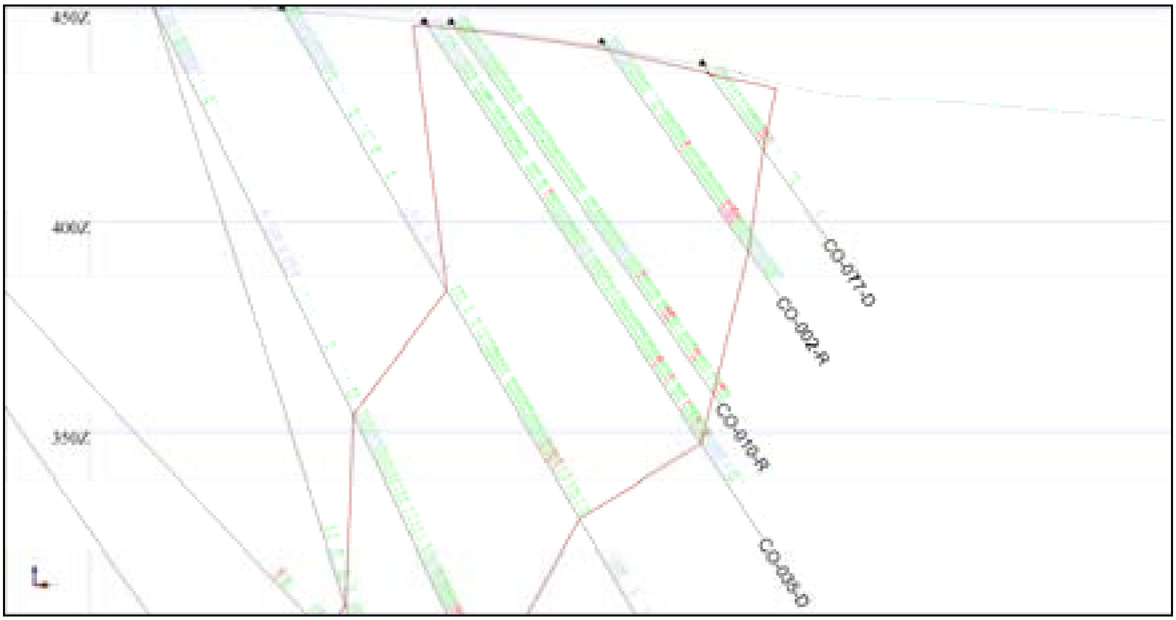
Micon began its data verification activities by conducting a site visit on May 4 and 9, 2009, where the field procedures for the drilling program were examined, and representative sections of drill core were reviewed. Micon found that the field procedures that were being used to set up the diamond drill, recover the core, transport the core to the logging facilities and the logging and sampling procedures were all being carried out to the best practices currently in use by the mining industry.

During the site visit, Micon completed its own program of check sampling of the Cap Oeste deposit. After a visual examination of the half core remaining in the core box confirmed the presence of hydrothermal alteration accompanied by quartz- and sulphide-veining, with the assistance of the assay results previously obtained, a total of 10 samples of ¼-core were selected from drill hole CO-108-D in order to provide an independent confirmation of the presence of gold and silver values in those samples. The samples were submitted to Acme Analytical Laboratories Ltd. located in Vancouver, British Columbia. The gold contents of these samples were determined by means of a fire assay that fused a 50-g aliquot, with the metal content being estimated using an Atomic Absorption spectrograph. Any samples that were found to contain greater than 10 g/t Au were re-assayed by means of a lead-collection fire assay that fused a 50-g aliquot, with the metal content being estimated using a gravimetric finish. The silver contents of these samples were determined using Acme's 8TD method code (Hot Aqua Regia digestion on a 1-g aliquot) with the metal content being estimated using an Atomic Absorption spectrograph. Any samples that were found to contain greater than 200 g/t Ag were re-assayed by means of a lead-collection fire assay that fused a 50-g aliquot, with the metal content being estimated using a gravimetric finish. The numeric results of Micon's check assaying of these 10 samples of drill core is presented in Table 14.1 and a graphical presentation is given in Figures 14.3 and 14.4.

It can be seen that while the check assay results for silver correlate very well with the original assay values, the gold values for three of the 10 samples selected (samples 169315, 169316 and 169317) display significant differences between the original assay values and the check assay results. One possible explanation for these differences is the fact that these check samples comprised material taken from quarter core rather than being performed on the remaining sample pulps from the original sample, which is commonly found to result in a high variance in these types of gold deposits. A second possible explanation for these differences may relate to the existence of a cluster-nugget effect for this deposit (see Figure 9.7).

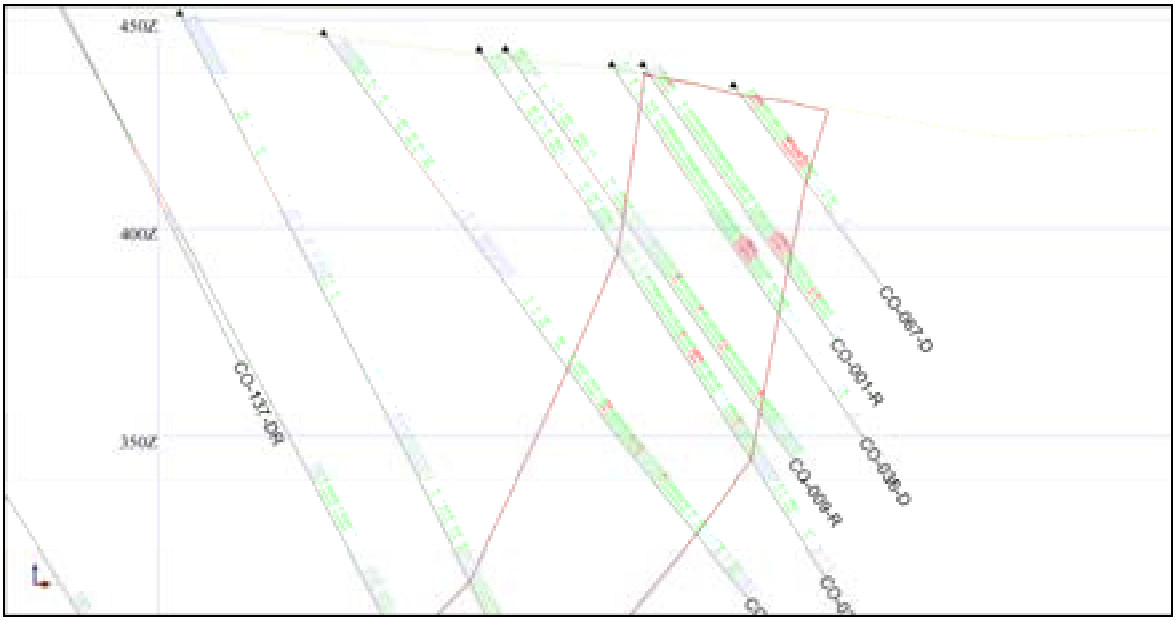
Micon continued its data verification activities by preparing drill hole cross sections which compared the results of the twin drill holes wherein three diamond drill holes were completed to examine for any bias which may have been introduced into the gold grade values as a result of drilling beneath the water table using reverse circulation drilling methods. The results of twin holes CO-010-R/CO-035-D are presented in Figure 14.1 and the results of twin holes CO-001-R/CO-036-D and CO-009-R/CO-034-D are presented in Figure 14.2.

Figure 14.1
Cross Section 10,050 N Comparing Twin Holes CO-010-R and CO-035-D



*Green Assays=0.1 to 1.0 g/t Au, Red Assays=1.0 to 30 g/t Au, Purple Assays>30 g/t Au. Geochemical domain outline (>0.10 g/t Au) as shown

Figure 14.2
Cross Section 10,100 N Comparing Twin Holes CO-010-R and CO-035-D



*Green Assays=0.1 to 1.0 g/t Au, Red Assays=1.0 to 30 g/t Au, Purple Assays>30 g/t Au. Geochemical domain outline (>0.10 g/t Au) as shown

It can be seen that no significant discrepancies are noted in the gold values obtained by the two drilling methods for the three twin holes completed. It is also to be noted that the position of drill holes CO-001-R, CO-009-R and CO-010-R have been displaced 5 m to the north and 5 m to the east from their true positions in these images for the purposes of clarity.

Micon completed its data verification activities by conducting a spot check of the drill hole database. A total of 14 holes were selected on a semi-random basis, being approximately 9% of the drill hole database, for examination for systematic errors. The information contained in the drill logs and assay sheets was compared to the information contained in the electronic database. Apart from a few minor items of a housekeeping nature, no significant errors were detected.

Table 14.1
Results of Micon Check Assays, Drill Hole CO-108-D.

			Original Assay		Micon Check Sample	
From (m)	**To (m)**	**Sample No.**	**Gold (g/t Au)**	**Silver (g/t Ag)**	**Gold (g/t Au)**	**Silver (g/t Ag)**
69.25	70.1	169314	0.140	15	0.089	3
70.1	71.6	169315	24.000	330	10.730	162
71.6	73	169316	29.000	665	21.870	547
73	74	169317	24.600	894	13.830	818
74	74.8	169318	4.610	259	5.091	430
74.8	75.5	169319	0.520	11	0.323	10
75.5	76.75	169321	26.500	2478	28.300	2465
76.75	78.25	169322	1.010	30	1.023	23
78.25	79.75	169323	0.630	25	0.564	13
79.75	81.25	169324	0.600	22	0.423	22

Figure 14.3
Comparison of Gold Check Assay Results, Drill Hole CO-108-D

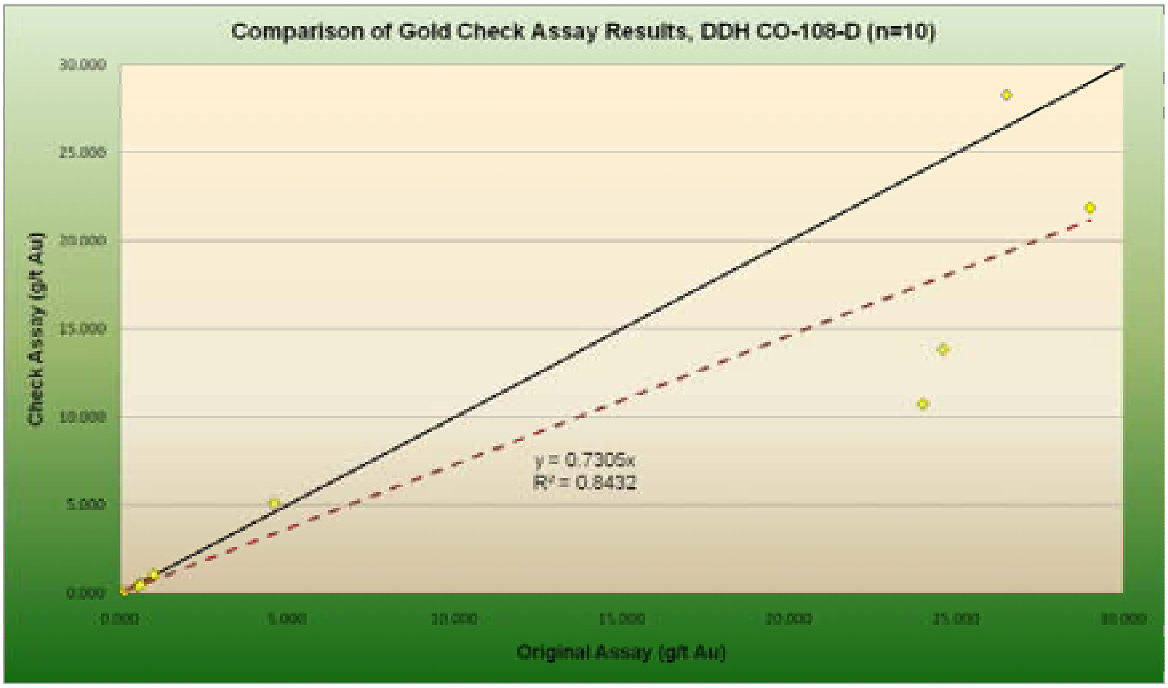
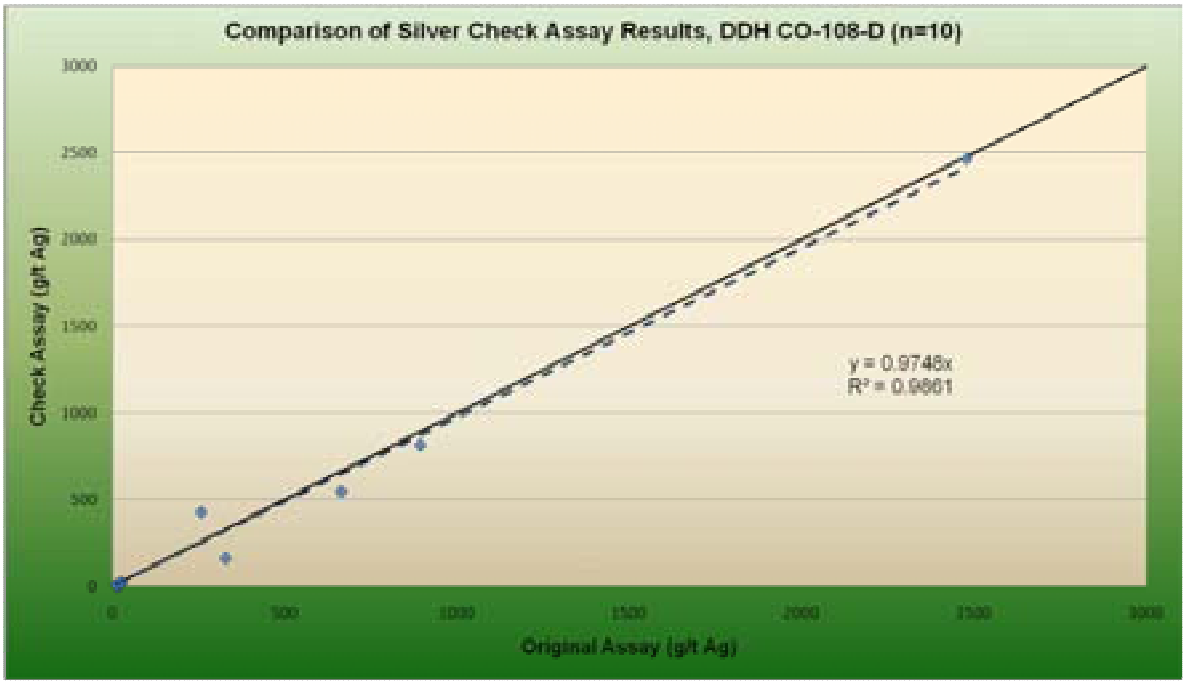


Figure 14.4
Comparison of Silver Check Assay Results, Drill Hole 108-D



15.0 ADJACENT PROPERTIES

As previously discussed, significant precious metal mineralization has been defined in several prospect areas located peripheral to the Cap Oeste deposit within an approximate radius of less than 7 km. These prospect areas are hosted within what have been defined by mapping, geophysics and geochemistry as three, sub-parallel, regional-scale mineralized corridors. Detailed descriptions of the prospects found within the Cap Oeste Structural Corridor, the Breccia Valentina Corridor and the Vetas Norte Corridor have been provided above.

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

16.1 GRAVITY CONCENTRATION TESTING

In order to perform gravity concentration tests, a total of 18 samples weighing between 10 and 13 kg were submitted to Acme Analytical Laboratories which subsequently sub-contracted SGS Minerals to conduct the work.

The samples were firstly milled in a roll crusher to 100% less than 10 mesh ASTM (approximately 2 mm). Subsequently for each sample, two representative 500-g sub-samples were obtained using a rotary splitter, one of which was retained as a reference sample and the other one further pulverized to 100% passing 150 mesh ASTM (105 µm) and analyzed by fire assay to determine the gold head grade. Each sample that returned results over 5 g/t Au was re-analyzed and the gold content was determined by means of a gravimetric finish. The head grades of the samples were found to range from 1.1 g/t to 21.2 g/t Au with an average of 4.6 g/t Au.

The remaining sample (100% less than 10 mesh ASTM) was weighed and used to prepare a pulp with 25% of solids which, following 30 minutes of agitation, was then pumped to the vibrating gravity concentration table at a flow of approximately 15 L/h. Following separation, three products were obtained: a ‘concentrate’, a ‘mixed’ and ‘residue’. The individual end products were filtered, weighed and prepared for gold analysis to determine the gold distribution in the total sample.

The calculated head gold grade of the gravity separated samples was determined using the weights of each product and the respective gold analyses, which were then compared with the analyzed head grade from the original sample split (Table 16.1). Based on the results it appears that under the above test parameters and conditions the concentration of gold by gravity separation is relatively ineffective with the test results suggesting that this method is able to recover between 10 to 20% of the contained gold of a given sample.

Table 16.1
Cap Oeste Gravity Concentration Test Results for 18 Samples

Sample	Product	Weight (kg)	%	Grade (g/t Au)	Calculated Grade (g/t Au)	Analyzed Grade (g/t Au)
170722	Final concentrate	1,414	14.3	20.2	16.5	21.2
	Mixed	5,721	57.7	14.0		
	Residue	2,777	28,0	19.6		
	Total	9,912	100.0			
170723	Final concentrate	1,143	11.5	2.3	2.1	2.1
	Mixed	5,881	59.3	1.6		
	Residue	2,608	26.3	3.3		
	Total	9,632	97.2			
170724	Final concentrate	1,394	15.0	5.9	2.2	1.9

Sample	Product	Weight (kg)	%	Grade (g/t Au)	Calculated Grade (g/t Au)	Analyzed Grade (g/t Au)
	Mixed	4,441	47.9	1.7		
	Residue	3,438	37.1	1.5		
	Total	9,273	100.0			
170725	Final concentrate	1,901	21.4	1.1	1.2	1.1
	Mixed	3,435	38.7	1.0		
	Residue	3,54	39.9	1.3		
	Total	8,876	100.0			
170726	Final concentrate	1,794	20.8	13.0	4.6	3.8
	Mixed	5,032	58.4	1.7		
	Residue	1,784	20.7	4.1		
	Total	8,610	100.0			
170727	Final concentrate	1,558	15.6	5.6	4.9	5.7
	Mixed	5,303	53,0	3.1		
	Residue	3,14	31.4	7.6		
	Total	10,001	100.0			
170728	Final concentrate	1,602	17.1	6.0	4.3	5.1
	Mixed	5,015	53.5	3.0		
	Residue	2,75	29.4	5.8		
	Total	9,367	100.0			
170729	Final concentrate	0,78	9.6	8.1	5.5	5.5
	Mixed	4,455	54.7	2.9		
	Residue	2,907	35.7	8.9		
	Total	8,142	100.0			
170730	Final concentrate	1,196	12.0	3.5	4.6	5.1
	Mixed	5,313	53.4	2.4		
	Residue	3,44	34.6	8.3		
	Total	9,949	100.0			

16.2 BOTTLE ROLL CYANIDATION TESTS

Bottle roll cyanide leach tests have been conducted over 3 periods throughout 2008-2009 by three laboratories to date, including:

1. Batch 1, July, 2008: OMAC Laboratories, an affiliate of Alex Stewart Assayers (with an ISO 17025 accreditation) based in Loughrea, County Galway, Ireland.

2. Batch 2, August, 2008: Alex Stewart Assay and Environmental Laboratories Ltd, Kara-Balta, Kyrgyzstan.

3. Batch 3, July, 2009: SGS Laboratories, Santiago, Chile.

The first batch comprised of 15 samples of gold mineralization only, which were composited from 97 individual course rejects selected from 7 RC and 12 diamond holes. The samples selected were from the oxidized and partially oxidized portions of fault-hydrothermal breccia hosted gold mineralization from the Main Shoot. At the time of selection of these samples, the relative importance of silver was not considered. Consequently, the focus of attention was directed towards the gold contents and recoveries.

The second batch comprised 12 samples of both gold and silver mineralization, which were composited from 97 individual coarse rejects selected from 9 mineralized intervals from 7 diamond holes. These composites comprised material from predominantly non-oxidized portions of fault-hydrothermal breccia hosted and disseminated gold mineralization at Cap Oeste from both the Main and B Shoots.

Similarly, samples submitted for the third batch of both gold and silver mineralization comprised material sourced predominantly from non-oxidized portions of fault-hydrothermal breccia hosted and disseminated gold mineralization from the above-mentioned shoots.

For both of the sample batches analyzed in 2008 (Batches 1 and 2), preparation of the individual drill sample intervals was carried out by Alex Stewart Assayers S.A. in Mendoza, Argentina whereby the selected coarse reject samples throughout mineralized intervals were ground to 95% less than 100 µm (140 mesh ASTM), were homogenized and then split into 800-g pulps. The pulps for the first and second batches were subsequently sent to OMAC in Ireland and Assay and Environmental Laboratories Ltd in Kyrgyzstan, respectively, where composites, each weighing 500 g, were prepared from the different intervals.

Each of the composites was tested as follows:

- 45 element ICP scan after multi acid digestion.
- 50-g Fire assay.
- Active cyanide Leach on each 500-g sample with 1 % NaCN solution with sampling of the pregnant CN liquor after 6, 12 and 24 hours.
- Analysis of gold in solid residue after cyanidation by 50-g fire assay method.

16.2.1 Batch 1 Test Results

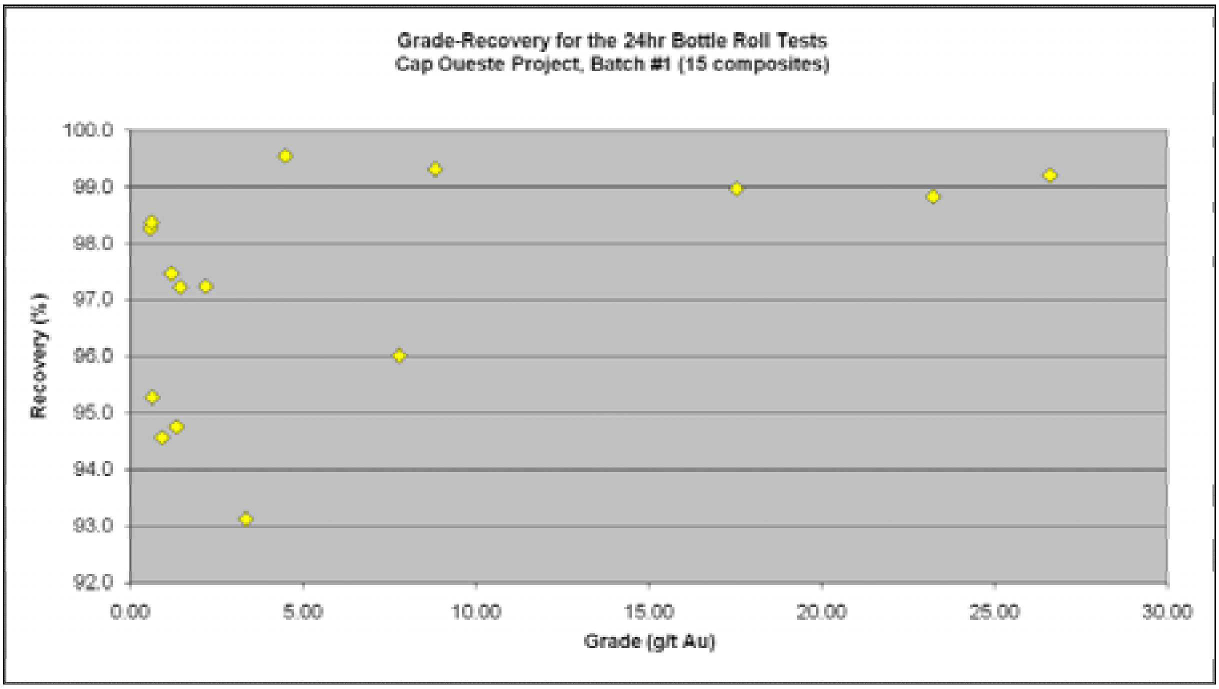
Sample characteristics, trace element geochemistry and bottle roll gold leach results from the first batch are shown in Table 16.2 and in Figure 16.1. In summary, the results showed good average recoveries after 6, 12 and 24 hours of 96.3, 97 and 97.3%, respectively. The three highest grade composite samples, between 17.5 to 26.75 g/t Au (average 22.67 g/t Au), returned an average recovery of 98.7, 98.5 and 99% after 6, 12 and 24 hours respectively.

One of the composites (No. 4) that returned relatively lower recoveries (93.3% recovery after 6 hours) consists of oxidized and partially oxidized mineralized material. The other composite sample (No. 6) with a similar mix of materials returned a higher average recovery of 96.3%. During these tests no lime or cyanide consumption concentrations were analyzed.

Table 16.2
Sample Composite Information and Bottle Roll Test Results, Batch 1

Sample Composite Details					**Mineralization Geochemistry**					**Bottle Roll Recovery (%)**		
Sample Comp.	**Hole No.**	**Oxide State**	**Depth Interval (m)**	**Mineraliz-ation Type**	**As (ppm)**	**Sb (ppm)**	**Fe (%)**	**S (%)**	**Au (ppm)**	**6 h**	**12 h**	**24 h**
1	CO-001-R	Ox	44-50, 55-57	Hyd Bx	138	62	1.1	0.01	1.22	96	96.5	97.5
2	CO-001-R	Ox	50-55	Hyd Bx	213	141	1.2	0.01	23.75	99.2	98.7	98.8
3	CO-006-R	Ox	21-31	Cr Bx	144	45	0.9	0.01	0.86	95.2	95.2	94.6
4	CO-007-R	Ox-POx	49-54	Hyd Bx	2180	185	3.3	0.11	3.7	93.3	93.6	93.1
5	CO-008-R	OX	40-41, 44-50	Hyd Bx	615	113	2.6	0.01	1.37	98	97.2	97.2
6	CO-008-R	Ox-POx	41-44	Hyd Bx	1568	197	5.3	0.05	8.05	96.8	96	96
7	CO-011-DR	Ox	103.9-106.95, 111.65-113.45	Hyd Bx	121	53	1.7	0.01	0.55	96.2	98.3	98.3
8	CO-011-DR	Ox	106.95-111.65	Hyd Bx	124	142	2.2	0.01	4.6	97.5	98.3	99.6
9	CO-015-D	Ox	77.95-79	Hyd Bx-Diss	155	84	1.1	0.01	17.5	99.2	98.8	99
10	CO-028-R	Ox	19-31	Hyd Bx	490	75	2.1	0.01	2.67	93.7	97.5	97.2
11	CO-030-R	Ox	19-29	Hyd Bx	1007	136	4.1	0.01	1.23	91.2	94.3	94.8
12	CO-031-R	Ox	11-18, 20-22	Cr Bx-Hyd Bx	466	65	2.5	0.01	0.61	97.4	98.4	98.4
13	CO-031-R	Ox	18-20	Hyd Bx	701	139	3.5	0.01	8.8	99.7	99.3	99.3
14	CO-036-D	Ox	47.8-51.6, 57.9-60.1	Hyd Bx	125	54	1.1	0.01	0.62	93.4	94.4	95.3
15	CO-036-D	Ox	51.6-57.9	Hyd Bx	114	155	1.3	0.01	26.75	97.6	98.1	99.2
								Statistics				
								Average	6.8	96.3	97	97.2
								Min	0.6	91.2	93.6	93.1
								Max	26.8	99.7	99.3	99.6
								Std. Dev.		2.40	1.79	1.95

Figure 16.1
Gold Grade-Recovery Results for the 24-h Bottle Roll Tests, Batch 1



16.2.2 Batch 2 Test Results

Results for the second batch are provided in Table 16.3. All but two of the composites tested in this batch were from un-oxidized core. Graphs showing the percentage recoveries of gold by selected grade ranges (between 0 to 18 ppm Au and 0 to 154 ppm Au) are provided in Figures 16.2 and Figures 16.3. Graphs showing the percentage recoveries of silver by selected grade ranges (between 0-100 ppm Ag and 0 to 2,500 ppm Ag) are provided in Figures 16.4 and Figures 16.5.

The relationship between arsenic concentration and gold and silver recoveries is shown in Figures 16.6 and 16.7, respectively. Additionally the gold and silver head grades are indicated for each sample on the respective graphs and the two samples sourced from partially oxidized mineralization are annotated by ‘POx’.

Table 16.3
Sample Composite Information and Bottle Roll Test Results, Batch 2

Sample Composite Details					**Mineralization Geochemistry**						**Bottle Roll Recovery (%)**					
Sample Comp.	**Hole No.**	**Oxide State**	**Depth Interval (m)**	**Mineralization Type**	**As (ppm)**	**Sb (ppm)**	**Fe (%)**	**S (%)**	**Au (ppm)**	**Ag (ppm)**	**6 h**		**12 h**		**24 h**	
											Au	Ag	Au	Ag	Au	Ag
1	CO-54-DR	No-Ox	133.10-135.20	Hyd Bx	4725	1181	1.4	0.9	154.00	2469.0	32.1	10.2	53.3	15.7	93.3	27.5
2	CO-54-DR	No-Ox	135.90-138.00	Diss	3637	100	2.2	1.8	2.00	20.2	26.2	34.0	26.8	42.0	31.5	61.2
3	CO-070-D	POx, No-Ox	127.00-130.90	Hyd Bx-Gouge	3739	190	1.8	0.7	1.49	174.0	38.4	31.7	36.2	42.2	38.5	58.3
4	CO-070-D	POx	130.90-133.00	Hyd Bx	1164	96	1.8	0.3	6.02	481.0	86.8	54.6	82.0	66.2	88.0	79.0
5	CO-070-D	No-Ox	133.00-137.20	Diss-Hyd Bx	1663	59	1.8	1.1	1.32	30.5	66.4	65.3	46.6	66.6	50.5	80.6
6	CO-084-DR	No-Ox	176.10-1179.63	Hyd Bx	4236	122	2.1	1.5	1.51	73.3	11.1	31.7	11.3	37.6	11.6	55.9
7	CO-084-DR	No-Ox	179.63-181.45	Hyd Bx	10000	165	3.1	2.4	5.68	130.0	26.6	23.3	24.5	29.9	28.8	49.2
8	CO-084-DR	No-Ox	181.45-191.30	Vein stringers	6387	99	2.1	1.5	1.21	10.7	6.7	24.2	6.8	26.7	6.9	37.7
9	CO-086-DR	No-Ox	197.10-201.00	Hyd Bx-Gouge	3492	233	2.3	1.9	7.30	330.0	77.2	27.4	66.2	34.1	76.2	55.1
10	CR-090-DR	No-Ox	193.00-198.00	Hyd Bx-Gouge	2322	113	1.2	0.6	0.89	30.7	12.6	36.1	12.3	40.0	18.3	72.9
11	CR-090-DR	No-Ox	198.00-200.00	Hyd Bx-Gouge	551	38	1.9	1.6	15.17	34.0	48.3	35.0	60.9	47.3	96.1	73.7
12	CR-090-DR	No-Ox	200.00-205.00	Hyd Bx-Diss	1107	38	2.2	1.9	1.14	3.9	49.9	37.5	63.0	44.9	70.3	56.4
							Statistics									
							Average		16.48	315.61	40.2	34.3	40.8	41.1	50.8	59.0
							Min		0.89	3.90	6.7	10.2	6.8	15.7	6.9	27.5
							Max		154.00	2469.00	86.8	65.3	82.0	66.6	96.1	80.6
							Std. Dev.				26.2	14.3	24.8	14.7	32.7	16.1

Figure 16.2
Gold Grade-Recovery Results for 0-18 g/t Au Head Grades, Batch 2

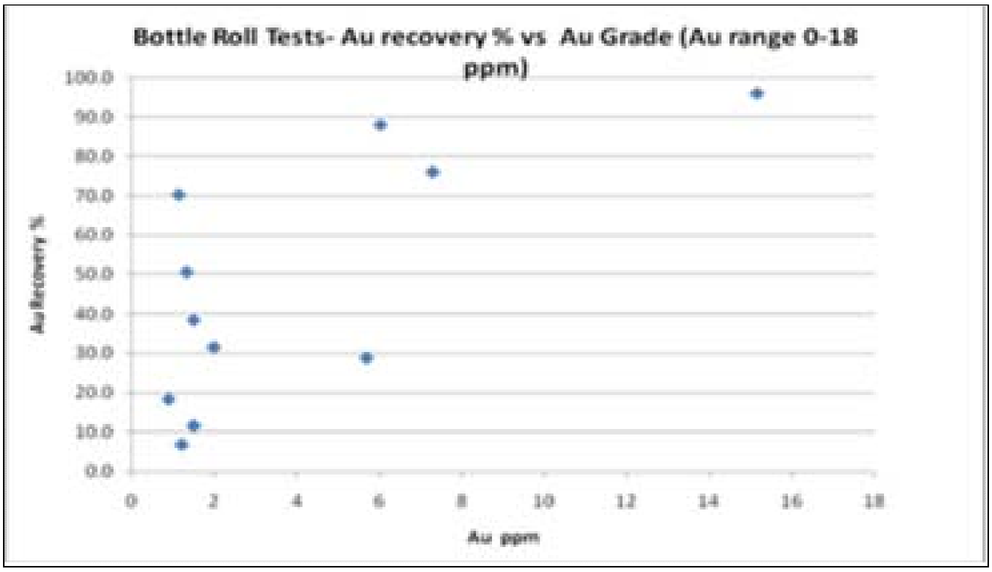


Figure 16.3
Gold Grade-Recovery Results for 0-154 g/t Au Head Grades, Batch 2

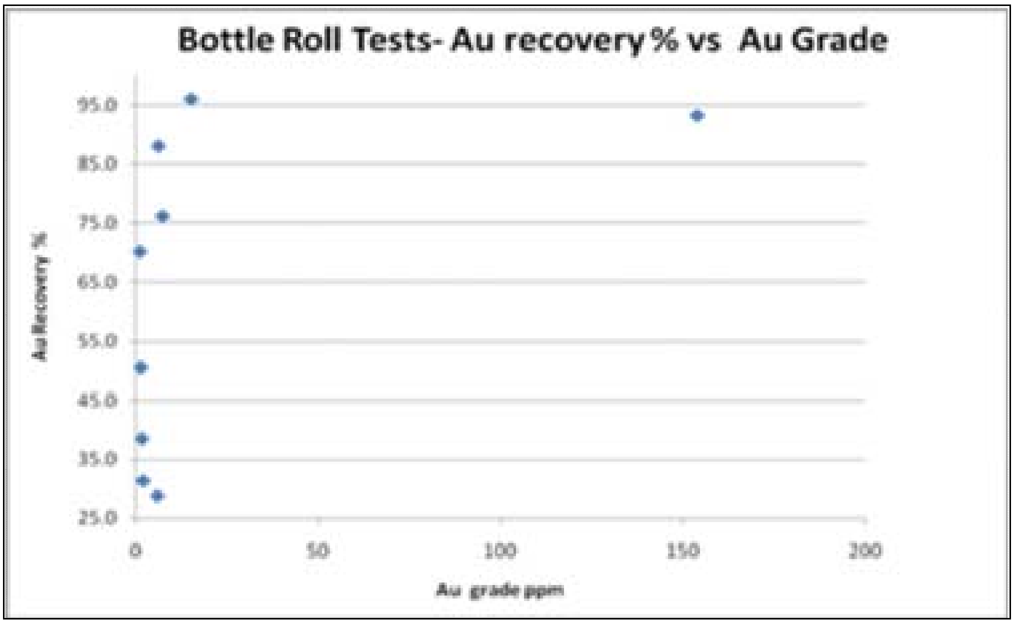


Figure 16.4
Silver Grade-Recovery Results for 0-100 g/t Ag Head Grades, Batch 2

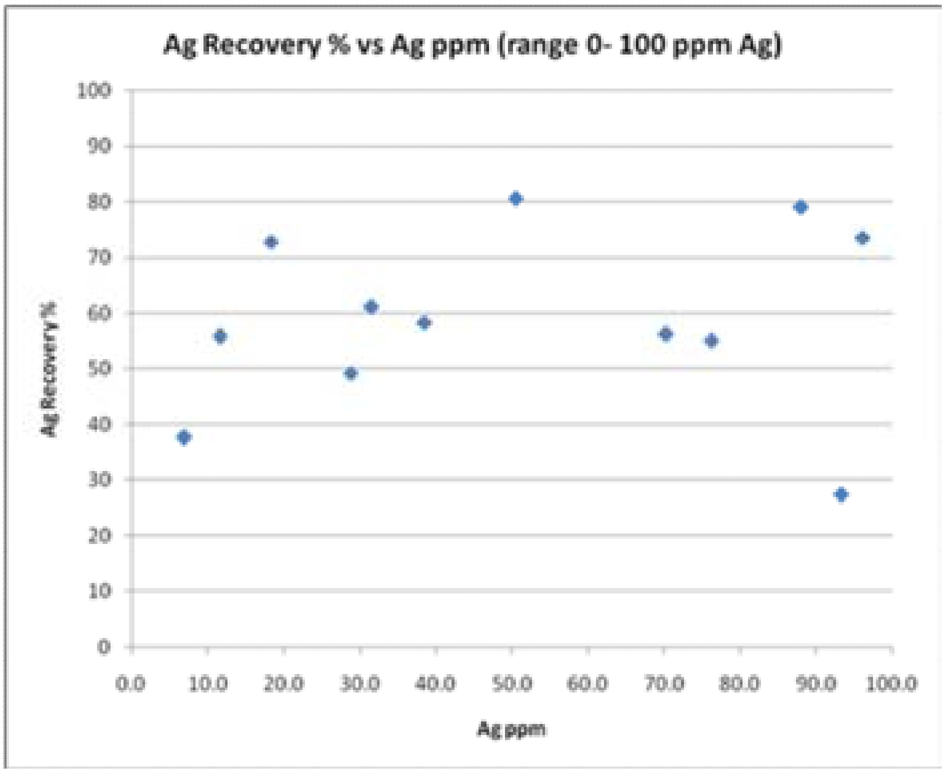


Figure 16.5
Silver Grade-Recovery Results for 0-2,500 g/t Ag Head Grades, Batch 2

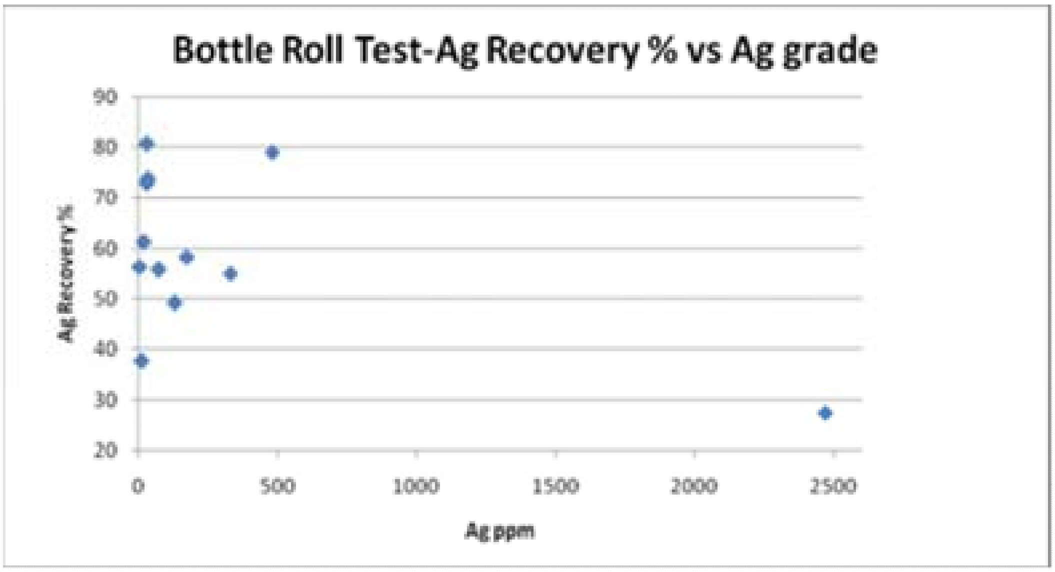


Figure 16.6
Comparison of Arsenic Values vs. Gold Recoveries, Batch 2

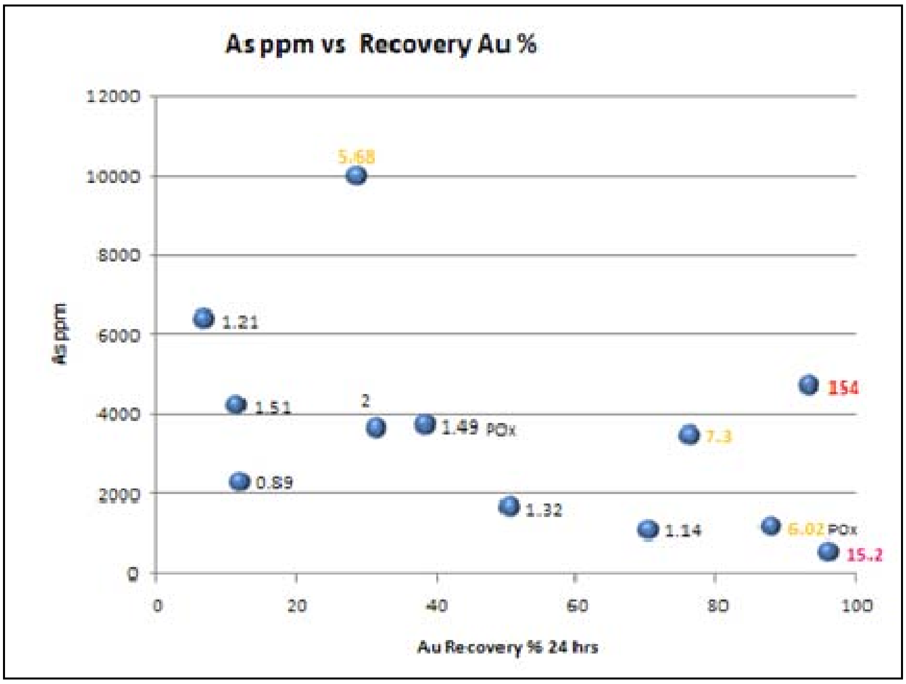
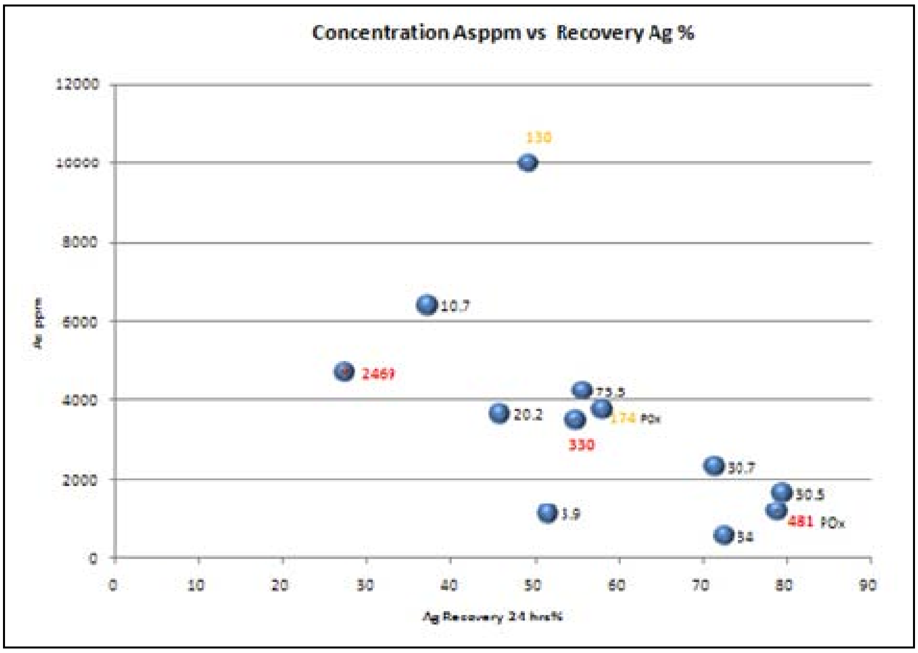


Figure 16.7
Comparison of Arsenic Values vs. Silver Recoveries, Batch 2



16.2.3 Batch 3 Test Results

At the time of writing of this report, SGS Laboratories located in Santiago, Chile was conducting further bottle roll tests on a total of 5 composites based on 18 individual drill intervals from predominantly un-oxidized portions of hydrothermal breccias. These tests are designed to run over leach periods of 48 and 72 hours to determine the rate and continuity of Au and Ag recoveries beyond the maximum 24-hour periods tested in the previous batches.

16.2.4 Discussion of Bottle Roll Results

In summary, the relevant issues relating to the bottle roll test results received from batches 1 and 2 are described as the follows:

16.2.4.1 Batch 1

Oxide gold mineralization tested in 15 samples in Batch 1 indicates that the gold is highly amenable to cyanide extraction of gold whereby an average of 96.3% of gold was leached in the first 6 hours. Partially oxidized mineralization tested in two samples in Batch 1 returned good average recoveries of 95.1%. No analysis for silver recoveries has been conducted to date on any samples from Batch 1.

16.2.4.2 Batch 2

Fresh, sulphide-hosted gold-silver mineralization tested in 10 samples in Batch 2 returned variable cyanide leach recoveries between 6.9 to 96.1% for gold (averaging 47.7%) and 27.5 to 79.5% for silver (averaging 54.6%), after 24 hours.

Partially oxidized-hosted gold-silver mineralization tested in two samples from Batch 2 returned variable cyanide leach recoveries between 63.25 to 68.5% for gold (averaging 63.3%) and 58.1 to 78.9% for silver (averaging 68.5%) after a 24 hour leach time.

Bottle roll extraction periods were limited to a maximum of 24 hours for all the composites, at which point all the tests indicate that leaching was continuing.

Fresh, sulphide-hosted (NoOx) and partially oxidized (POx) mineralization reported differing average gold and silver extraction rates over 6, 12 and 24 hours respectively including:

Gold:
1. 6 h: NoOx 35.7% vs POx 62.6%
2. 12 h: NoOx 37.2% vs POx 59.1%
3. 24 h: NoOx 48.4% vs POx 63.3%

Silver:
1. 6 h: NoOx 22.1% vs POx 43.0%
2. 12 h:, NoOx 30.1% vs POx 53.1%
3. 24 h: NoOx 49.7% vs POx 67.7%

As shown in Figure 16.2 a positive correlation between gold value and gold recovery is evident particularly between the grade range between 0 and18 ppm Au.

As shown in Figure 16.6 (albeit based on a relatively low number of data points), an overall negative correlation is indicated between arsenic concentrations and gold recoveries for arsenic values greater than approximately 6,000 ppm. It is interpreted from comparisons between concentrations of arsenic and gold in the non-oxide (NoOx) mineralization that several populations exist, of differing types of gold-silver mineralization, which are characterized by differing arsenic:gold ratios.

Lime consumption varied between 1.14 and 3.34 kg/t (average 1.59 kg/t) and cyanide consumption varied between 0.26 and 1.32 kg/t (average 0.47 kg/t)

16.2.4.3 Batch 3

Although results from these tests are still in process, preliminary results from bottle roll tests conducted separately on coarser sample fractions (<2 mm or 10 mesh ASTM) over the 48 and 72 hour periods, suggest that good recoveries could be expected for utilizing the finer fraction (<100 µm or <140# ASTM).

17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

17.1 DESCRIPTION OF THE DATABASE

A digital database was provided to Micon by PGSA wherein such drill hole information as collar location, down hole survey, lithology, specific gravity (density) measurements and assays was stored in comma delimited format. The cutoff date for the drill hole database was July 1, 2009 and included all drill hole information up to and including hole CO-156-D. This drill hole information was modified slightly so as to be compatible with the format requirements of the Gemcom-Surpac v6.1.1 mine planning software and was imported into that software package. A number of additional tables were created during the process of creating a grade block model of the mineralization found at the Cap Oeste deposit to store such information as composite assays, zone composites, density, lithologic and mineralization information and assorted domain codes. A description of the revised database is provided in Table 17.1 and a summary of the drill hole collar information and a plan-view map showing the drill hole locations was provided in Section 4 above.

Table 17.1
Summary of the Cap Oeste Drill Hole Database
(as at July 1, 2009)

Table Name	Data Type	Table Type	Records
alteration	interval	time-independent	3,556
assay_raw	interval	time-independent	11,062
collar			164
comp_1m	interval	time-independent	4,884
comp_2m	interval	time-independent	2,507
density	interval	time-independent	1,692
litho	interval	time-independent	1,194
main_shoot	interval	time-independent	77
minr_l	interval	time-independent	1,973
nw_extension	interval	time-independent	119
oxidation	interval	time-independent	410
oxidation_flag	interval	time-independent	315
rc_recovery	interval	time-independent	5,687
recovery	interval	time-independent	6,728
styles			49
survey			709
translation			0
zone_flags	interval	time-independent	144

17.2 GEOLOGIC DOMAIN INTERPRETATION

From reviewing the geological information presented above, it can clearly be seen that the presence of the Bonanza and Esperanza Faults has displaced the stratigraphy in such a manner so as to create a graben structure that measures some 300 m in width at surface. To-date, the majority of the gold-silver mineralization has been found to be associated with the Bonanza Fault, with several additional drill intercepts of significant gold or silver mineralization being clearly hosted within the Esperanza Fault. Geological data collected to-date suggests that the Esperanza Fault may have been, at least in part, synchronous with mineralization emplaced along the Bonanza Fault. Gold and silver values are clearly seen to be hosted in all rock types that are in the vicinity of the Bonanza Fault.

The current geological interpretation discriminates between mineralization associated with hydrothermal breccias (here interpreted to correspond to the location of the Bonanza Fault), veinlets, crackle-textured breccia and disseminated mineralization (Figures 17.1 and 17.2), either within an oxidized or un-oxidized volume of rock (Figure 17.3), and presents an image of a southwesterly-dipping mineralized zone that seems to flatten out with increasing depth.

Figure 17.1
View of Mineralized Breccia, Cap Oeste Deposit
(Interval Grades 9.22 g/t Au. 103 g/t Ag)

Figure 17.2
View of High Grade Mineralized Interval, Cap Oeste Deposit

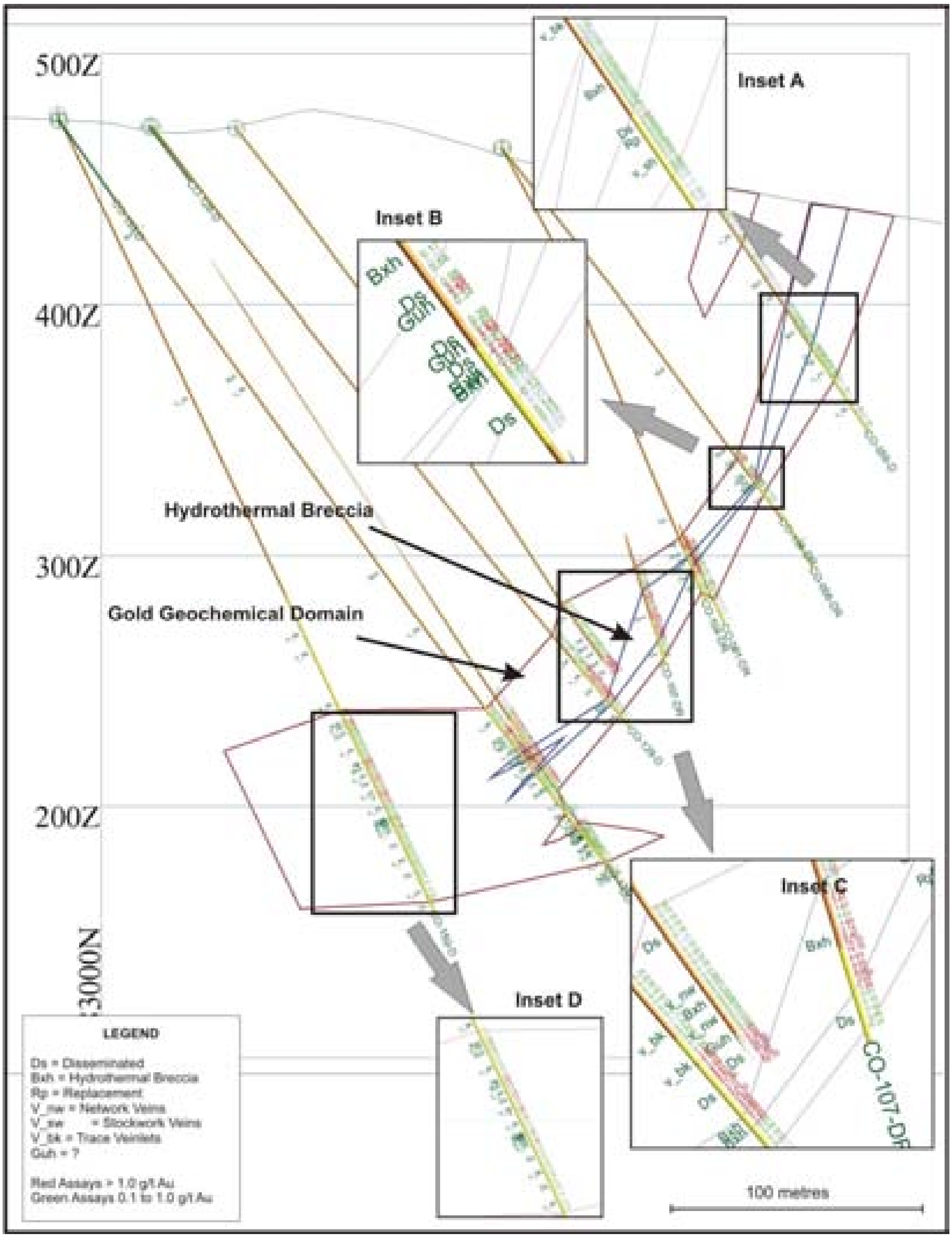
Figure 17.3
Example of Hypogene Oxidation, Cap Oeste Deposit
(Interval Grades 0.84 g/t Au, 25 g/t Ag)

Figure 17.4 presents the detailed drill hole information for cross section 10,025 N where the drill hole traces are colour-coded by host rock type, the gold assays are posted, as are the mineralization codes as per drill hole database. The interpretation of the hydrothermal breccia core (representing the location and orientation of the Bonanza Fault) is presented in blue. As we begin to examine the relationship of the gold values with the style of mineralization it can be seen that while the hydrothermal breccia (Bxh code) has a clear spatial relationship with the gold mineralization, as with many mineralizing systems of this nature, the correlation is not perfect. While some clear situations can be seen in which the hydrothermal breccia plays host to the better gold grades (e.g. DDH CO-107-DR, Inset C on Figure 17.4), other occurrences are also present where it can be seen that the hydrothermal breccia carries only low gold values (e.g. DDH CO-059-D, Inset A). Indeed, close examination shows that good gold grades can be hosted by other styles of mineralization such as the “Diss” and “Guh” codes, as seen in Insets C and B. Indeed, gold values in excess of 30 g/t Au can be seen to be hosted by disseminated mineralization in Inset C. Along with the higher grade gold values, an envelope or halo of lower grade mineralization (typically in the 0.1 to 1.0 g/t Au range) is present both above and below the higher grade values, or completely removed from the hydrothermal breccia (Inset D).

This situation is a commonplace occurrence in this style of gold-silver deposits, where hydrothermal fluids have exploited the enhanced permeability afforded by faults or fractures whereby these faults acted as channelways for the movement of the fluids. The gold and silver contained in these fluids remain in solution until such time as the physical, chemical or temperature conditions are favourable for their deposition, at which time the concentrations of gold and silver are controlled by such mechanisms as the efficiency of precipitation and the amount of fluid that is passing through a given volume. Higher gold and silver values are located in areas of high fluid flow and efficient precipitation mechanisms, while lower metal values are located in areas of lower fluid flow (such as areas of more massive, less fractured rock) and less efficient precipitation mechanisms. The change from the extreme high values to the lowest metal values can be gradational or very sharp, depending upon the depositional history of each deposit. This relationship is conceptually illustrated in Figure 17.5.

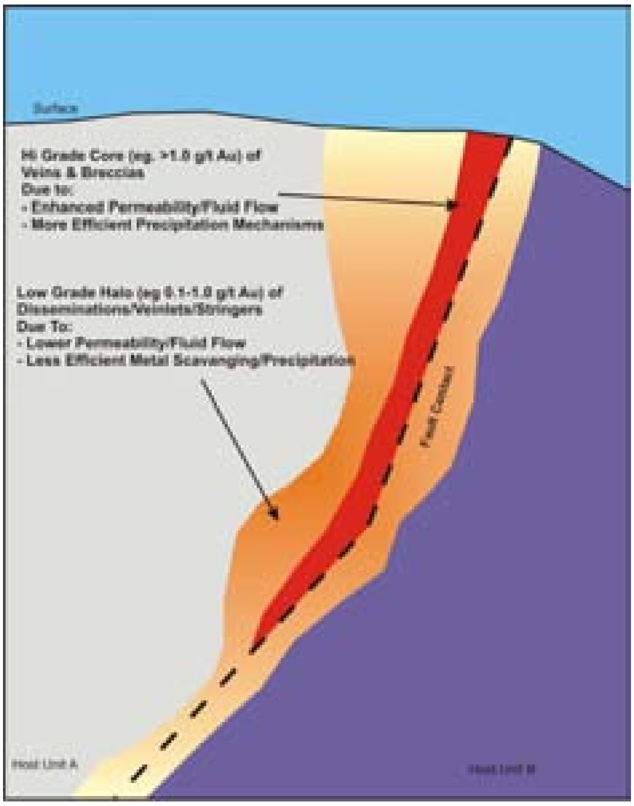
While the details relating to the style of alteration and mineralization at Cap Oeste remain to be determined, Micon has encountered similar situations in regards to the distribution of gold and silver in the past. From a mineral resource estimation perspective, this experience has indicated that the most successful approach in these situations (diffuse/stockwork mineralization anticipated to be exploited by means of open pit mining methods) has been to create a three-dimensional model of the volume of rock that has been affected by the mineralizing system, which will then be used to constrain the subsequent steps in the mineral estimation process. In these situations, Micon uses the metal contents themselves to identify the volume of rock that has experienced the precipitation of gold and silver values. On the basis of the preliminary review of the data, Micon notes that a threshold value of 0.1 g/t Au is effective in outlining the affected volume between drill holes on section, and from section to section.

Figure 17.4
Cross Section 10025 N (Looking Northwest) With Detailed Drill Hole Information and Gold Geochemical Domain



The gold values were displayed on the drill hole traces and were used to establish the outline of the geochemical domain on cross-sections that were spaced nominally at 25 or 50-m centres (viewing windows of ±12.5 or 25 m, as appropriate). The locations of the mineralized contacts were "snapped" to the observed location in the individual drill holes such that the sectional interpretations "wobbled" in three-dimensional space, to either side of the section plane. Along the strike or down-dip projections of the deposit, variable distances of the mineralization were applied on the basis of the overall trend of the zone and the drilling results from adjacent sections.

Figure 17.5
Conceptual Illustration of the Metal Distribution in a Typical Epithermal Gold Deposit



In all, interpretation was carried out on 33 cross-sections along a strike length of 1,275 m and to a maximum depth of approximately 85-m elevation (approximately 370 m beneath the surface), and the resulting "wobbly polylines" were then linked together to form a three-dimensional solid of the gold geochemical domain.

17.3 INCOMPLETE SAMPLING:

During the course of construction of the model of the geochemical domain for the Cap Oeste deposit, a small number of drill holes were observed to have short sections inside the interpreted domain outlines for which no assay information was included in the source assay data. These intervals are in holes CO-106-DR (159-161 m), CO-145-D (305.5-309.7 m) and CO-147A-D (327.3-333.20 m and 360.35-370.35 m).

Several reasons may exist to explain these data gaps such as the presence of a barren dike, missing core (i.e. poor recovery) or lost samples. Until such time as the cause of these data gaps have been identified, a value of zero was entered for the gold and silver values for these intervals on an interim basis. Micon believes that given the small number of intervals in question relative to the total data set, inserting these zero values will not have a major impact upon the average grades of the resource estimate.

Micon recommends that the source of these data gaps be identified and appropriate corrective action is taken in subsequent updates of the mineral resource estimate for the Cap Oeste deposit.

17.4 GRADE CAPPING

Grade capping (or top cutting) was investigated on the raw gold and silver assay values (i.e. all samples contained within the Surpac Table Assay) contained within the geochemical domain model in order to ensure that the possible influence of erratic high values do not unduly bias the statistical analyses or grade estimate. All samples contained within the three-dimensional geochemical domain model of the Cap Oeste deposit were coded in the database and extracted for analysis.

Normal histograms were generated from these extraction files for gold and silver assays (Figures 17.6 and 17.7, respectively) and the descriptive statistics of the sample data set were generated. The grade caps were selected by examining the histogram for the grade at which outlier assays begin to occur. These are generally identified by breaks in slope of the probability plots or gaps in the bins of histograms. As can be seen, capping values of 50 g/t Au and 2,000 g/t Ag is clearly indicated, resulting in the grades of only nine samples being reduced for gold and the grades of 21 samples being reduced for silver. A comparison of the descriptive statistics for the capped and uncapped raw gold and silver assays is presented in Table 17.2.

Figure 17.6
Frequency Histogram of Raw Gold Assays Inside the Geochemical Domain

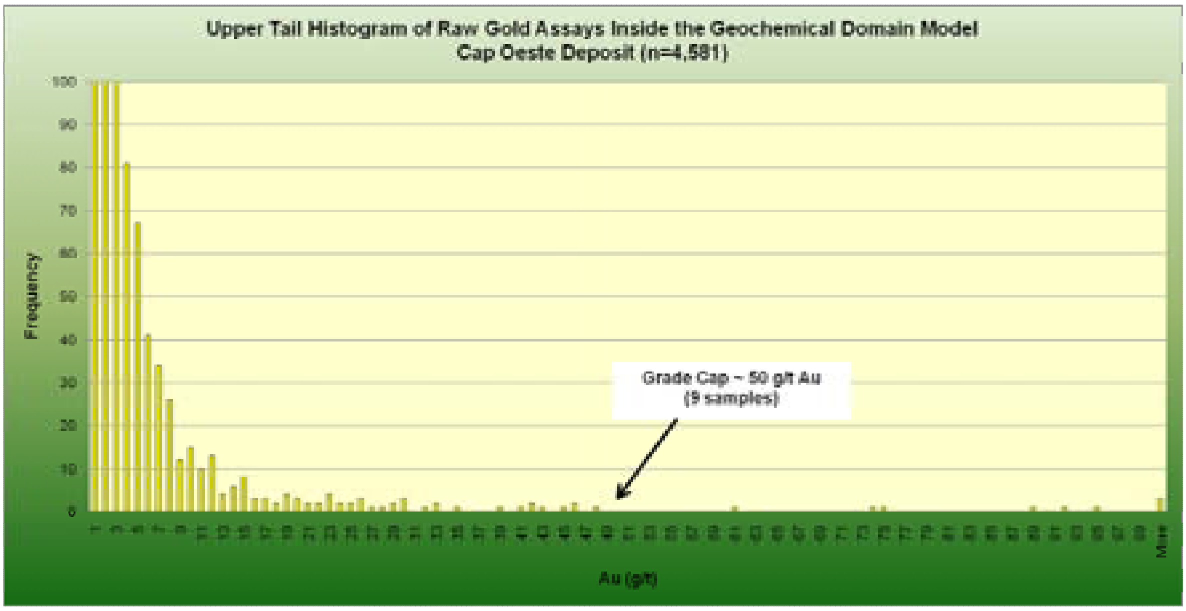


Figure 17.7
Frequency Histogram of Raw Silver Assays Inside the Geochemical Domain

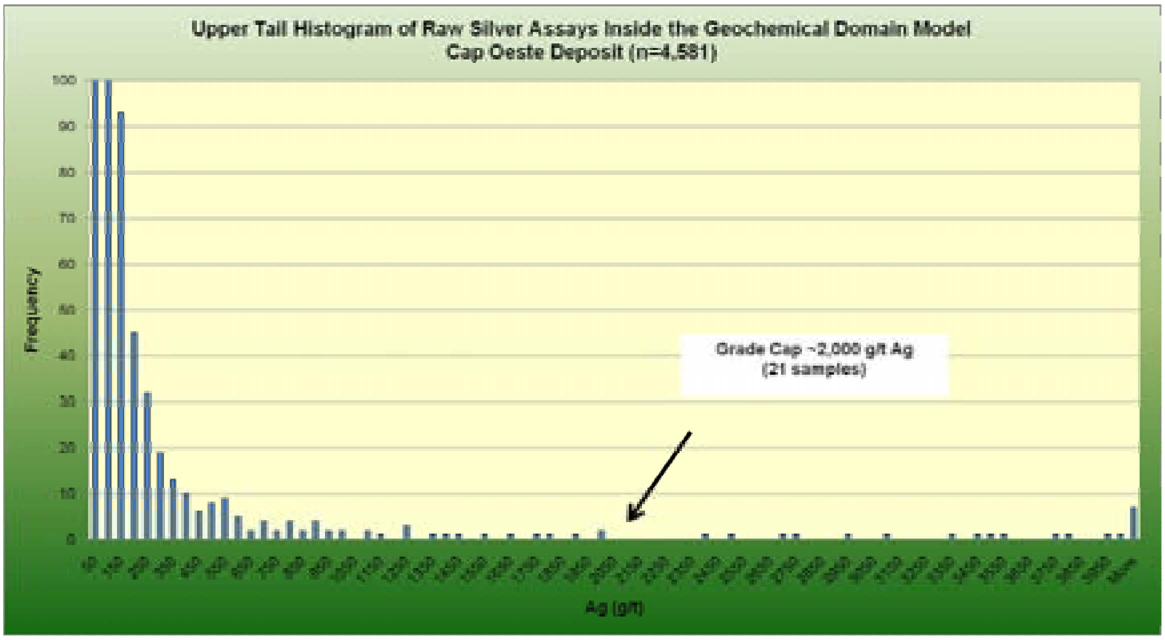


Table 17.2
Summary Statistics for Raw Samples Within the Gold Geochemical Domain Model, Cap Oeste Deposit

Item	Au No Cap (g/t)	Au Cap 50 (g/t)	Ag No Cap (g/t)	Ag Cap 2,000 (g/t)
Arithmetic Mean	1.40	1.30	50.6	41.8
Length Weighted Mean	1.35	1.25	47.9	39.9
Standard Error	0.09	0.06	4.4	2.6
Median	0.35	0.35	6.0	6.0
Mode	0.14	0.14	1.0	1.0
Standard Deviation	5.90	3.96	299.0	177.0
Coefficient of Variation-Arithmetic	4.20	3.04	5.9	4.2
Coefficient of Variation-Weighted	4.38	3.16	6.2	4.4
Sample Variance	34.84	15.71	89,403.0	31,321.4
Kurtosis	546.71	78.89	236.2	86.8
Skewness	18.84	8.03	13.9	8.8
Range	226.00	50.00	7,310.7	2,000.0
Minimum	0.00	0.00	0.0	0.0
Maximum	226.00	50.00	7,310.7	2,000.0
Sum	6,434.42	5,972.92	231,648.85	191,574.56
Count	4,581	4,581	4,581	4,581

17.5 COMPOSITING METHODS

Micon examined the distribution of the lengths of the samples contained within the Cap Oeste gold geochemical domain model in relation to the anticipated block sizes and search ellipse criteria that would be utilized for the construction of a grade-block model. In Micon’s opinion, a composite length of 2.0 m was appropriate for this assignment.

All samples of the uncapped gold and silver assays were composited to an equal length of 2.0 m using the down hole compositing function of the Gemcom-Surpac mine modeling software. In this function, compositing begins at the point in a drill hole at which the zone of interest is encountered and continues down the length of the hole until the end of the zone is reached. As often happens, the thickness of the mineralized zone encountered by any given drill hole is not an even multiple of the composite length. In these cases, if the remaining length was 75% or greater of the composite length (in this case 1.5 m), the composite was accepted as part of the data set. The remaining sample lengths less than 75% of the composite length were retained for consideration in order to ensure a more accurate estimate of the grades of those blocks along the lower contact of the domain model. In all, some 82 of these sample “tails” were retained in the composite data set, ranging from 0.06 m to 1.45 m in length. A comparison of the descriptive statistics for the capped and uncapped composited gold and silver assays is presented in Table 17.3.

Table 17.3
Summary Statistics for 2.0-m Composited Samples Within the Gold Geochemical Domain Model, Cap Oeste Deposit

Item	Au No Cap (g/t)	Au Cap 50 (g/t)	Ag No Cap (g/t)	AgCap 2,000 (g/t)
Arithmetic Mean	1.33	1.24	47.17	39.25
Length-Weighted Mean	1.35	1.26	48.02	39.92
Standard Error	0.09	0.06	4.39	2.81
Median	0.36	0.36	7.04	7.04
Mode	0.13	0.13	1.00	1.00
Standard Deviation	4.60	3.21	220.05	140.78
Coefficient of Variation-Arithmetic	3.46	2.60	4.67	3.59
Coefficient of Variation-Weighted	3.40	2.56	4.58	3.53
Sample Variance	21.16	10.29	48,422.66	19,819.43
Kurtosis	367.94	57.33	120.16	70.42
Skewness	15.20	6.72	10.17	7.74
Range	140.44	47.89	3,757.20	1,948.70
Minimum	0.00	0.00	0.00	0.00
Maximum	140.44	47.89	3,757.20	1,948.70
Sum	3,337.25	3,101.42	118,435.26	98,556.87
Count	2,511	2,511	2,511	2,511

17.6 BULK DENSITY DETERMINATIONS

Measurements of bulk density (specific gravity, SG) were performed on site by PGSA on:

- 170 individual, ½-HQ core pieces from individual 1-m drill core intervals, for which the average dry sample weight was 0.66 kg.

- 1,521 individual, whole HQ core pieces from individual 1-m drill core intervals, for which the average dry sample weight was 1.28 kg.

Based on the 12,705.5 m of available core this sample set thus represents approximately 13% of the total sample population, predominantly from zones of mineralization.

The samples were systematically selected to represent all major lithological, alteration, and mineralization types with differing degrees of oxidization.

17.6.1 Density of All Samples Within the Drill Hole Database

Intervals for density determinations were selected by the project geologist and the process was subsequently carried out by PGSA field technicians under the geologists' supervision.

Samples were chosen from ½-HQ and predominantly whole HQ core samples measuring at least 20 cm long which were sufficiently robust so as not to break up or crumble during the measurement process, and could be wrapped with plastic film without creating excessive air filled cavities.

Prior to weighing of the chosen core samples, an aluminum alloy cylinder of known stable mass was weighed in both air and when submersed in water in order to provide a check that the scales were functioning correctly. No laboratory-specified density has been assigned to the cylinders for direct comparisons of the respective known and calculated density using the immersion technique on site.

For each selected core piece, the dry weight was measured and subsequently the core was securely wrapped in plastic cellophane-wrap and its weight when fully submerged in clean fresh water was recorded.

The geologist also recorded the relevant lithology, mineralization type and oxidized state information for each core piece. The density of each core sample was defined using the following equation:

$$\text{Density} = \frac{\text{weight dry}}{(\text{weight dry} - \text{weight submerged})}$$

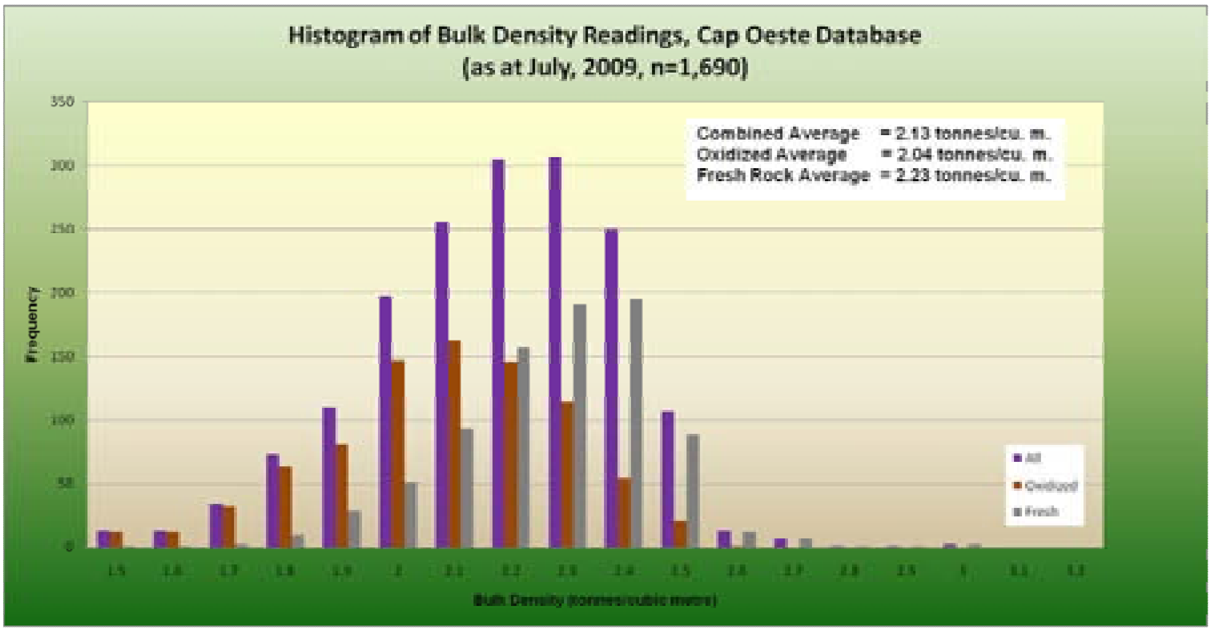
The range of density values calculated from samples representing the spectrum of lithologies, mineralization types and oxidization states are shown in Table 17.4.

Table 17.4
Summary of Specific Gravity (Density) Results, All Samples

Zone	Oxide State	SG Mean	SG Maximum	SG Minimum	SG Std. Dev.	No. Samples
All samples	NA	2.13	2.99	1.26	0.22	1,690
Mineralization Type						
Stockwork-Crackle Breccia (Zone 1)	Oxide	1.99	2.58	1.26	0.22	453
	Non oxide	2.12	2.63	1.37	0.20	419
Fault-Hydrothermal Breccia (Zones 2a, 2b)	Oxide	2.19	2.47	1.86	0.15	82
	Non oxide	2.27	2.77	1.66	0.16	233
Footwall stringer (Zone 3)	Oxide	2.12	2.51	2.67	0.18	80
	Non oxide	2.26	2.99	1.82	0.17	339

The global average of all the density values based on all rock, oxidation and mineralization types for the 1,691 samples is 2.14 t/m^3. The average density for the oxidized and un-oxidized portion of all of the density measurements contained within the drill hole database is 2.04 t/m^3 and 2.23 t/m^3, respectively (Figure 17.8).

Figure 17.8
Histogram of All Density Readings, Cap Oeste Drill Hole Database



17.6.2 Density of Samples Within the Geochemical Domain Model

A data subset comprising all of the density measurements that were contained within the geochemical domain model were extracted from the drill hole database for analysis. As shown in Figure 17.9 the average density of these mineralized samples was determined to be 2.22 t/m^3. An analysis of the density of the mineralized samples by oxidation state reveals that the density of the fresh rock is 2.26 t/m^3 while the density of the oxidized portions of the mineralized zone is 2.14 t/m^3.

17.6.3 Density Confirmation Sampling

Upon consideration of the findings of this analysis in context of similar deposits in the region, a program of confirmation of the density readings by an independent, third-party laboratory was conducted whereby a total of 91 samples containing varying gold and silver contents were collected from the same intervals as were determined by PGSA. These samples were subsequently shipped to the Alex Stewart laboratory where the density of the samples was determined using the same water immersion method as was employed by PGSA. The density of these 91 samples as determined by PGSA was 2.33 t/m^3 and this compares to the average density as determined by Alex Stewart laboratory of 2.51 t/m^3. The results of these confirmation samples are graphically compared in Figure 17.10 where it can be seen that, on average, the density of the samples determined by Alex Stewart are approximately 7.5% higher than the density of the samples determined by PGSA.

Figure 17.9
Histogram of Density Readings within the Geochemical Domain Model, Cap Oeste Deposit

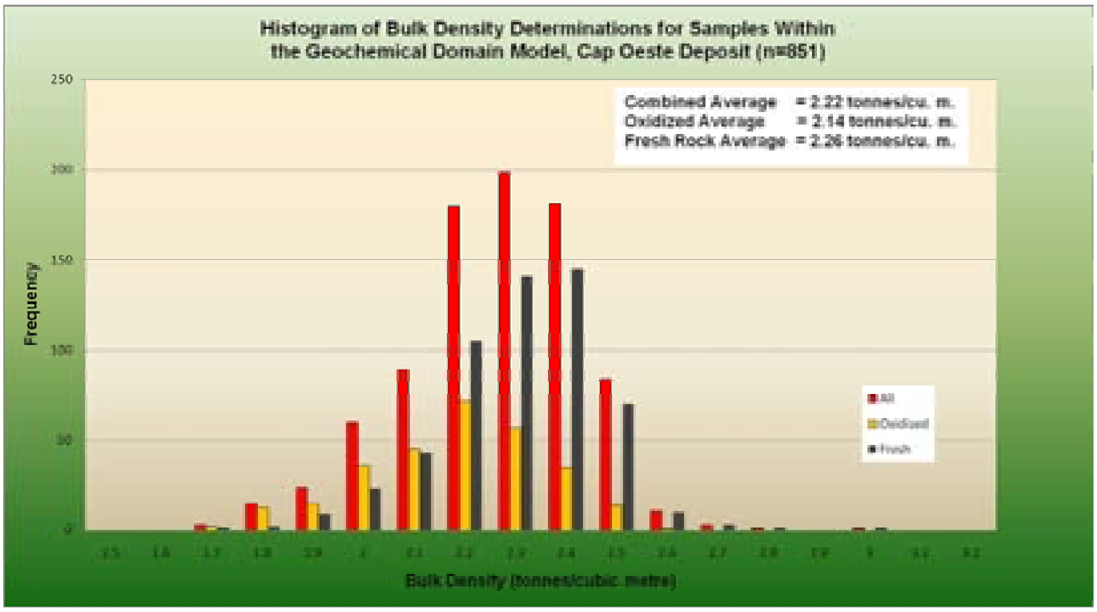
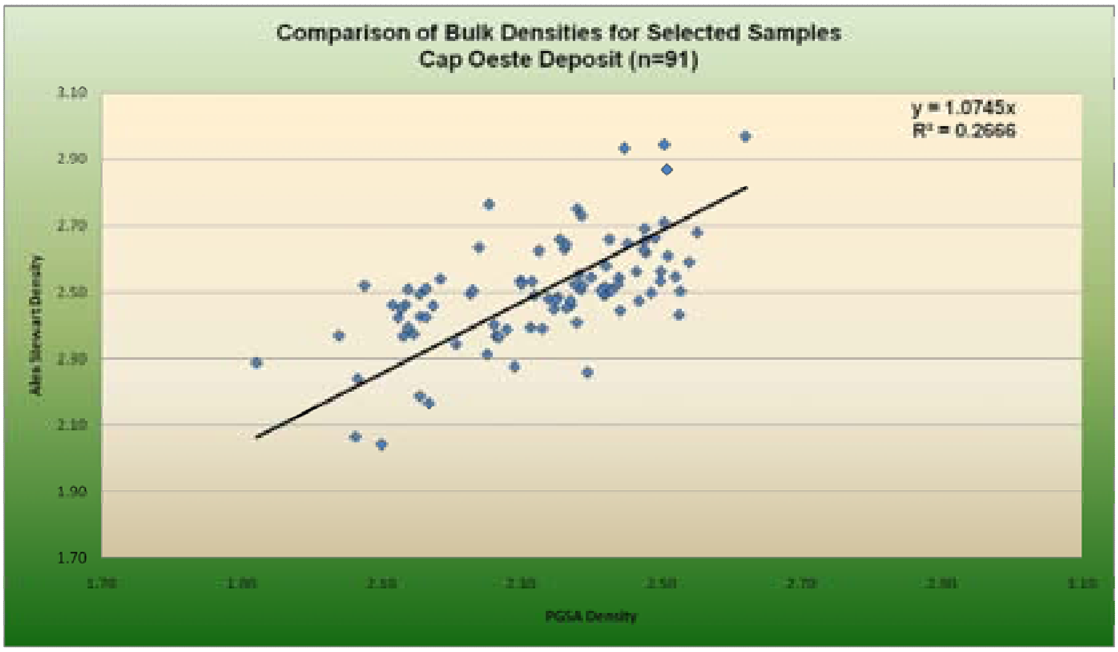


Figure 17.10
Comparison of Specific Gravities of Selected Samples, Cap Oeste Deposit



Micon recommends that PGSA conduct a review of the procedures that are being used to determine the specific gravities of the various materials in the field to identify the source of the discrepancies in the values between the field and the independent laboratory. Pending the findings of such review, corrective actions can be applied to the existing density data as appropriate.

17.7 TREND ANALYSIS

As an aid in carrying out a variography study of the continuity of the gold and silver grades at the Cap Oeste deposit, Micon conducted a short study of the overall trends that may be present in the gold and silver grades at Cap Oeste. For this exercise, a data file was prepared that contained the average gold and silver grades for each drill hole that pierced the geochemical domain model. In the cases where a drill hole intersected two or more mineralized intervals, the gold and silver grades of these multiple intervals were combined on a length-weighted basis and the resulting combined average was plotted at the centroid location of the longest sample interval. The resulting gold and silver grades were contoured on a longitudinal projection and the results are shown in Figure 17.11 and 17.12, respectively. This trend analysis essentially confirms the plunging trends of the mineralized shoots as displayed by the grade-thickness plots presented above.

An examination of the statistical relationship between gold and silver assays revealed that, while gold and silver values found in the Cap Oeste deposit are clearly associated with a hydrothermal mineralizing event, little to no consistent statistical correlation is present between these two metals for this deposit (Figure 17.13).

Figure 17.11
Longitudinal Projection of the Gold Distribution Within the Geochemical Domain Model, Cap Oeste Deposit

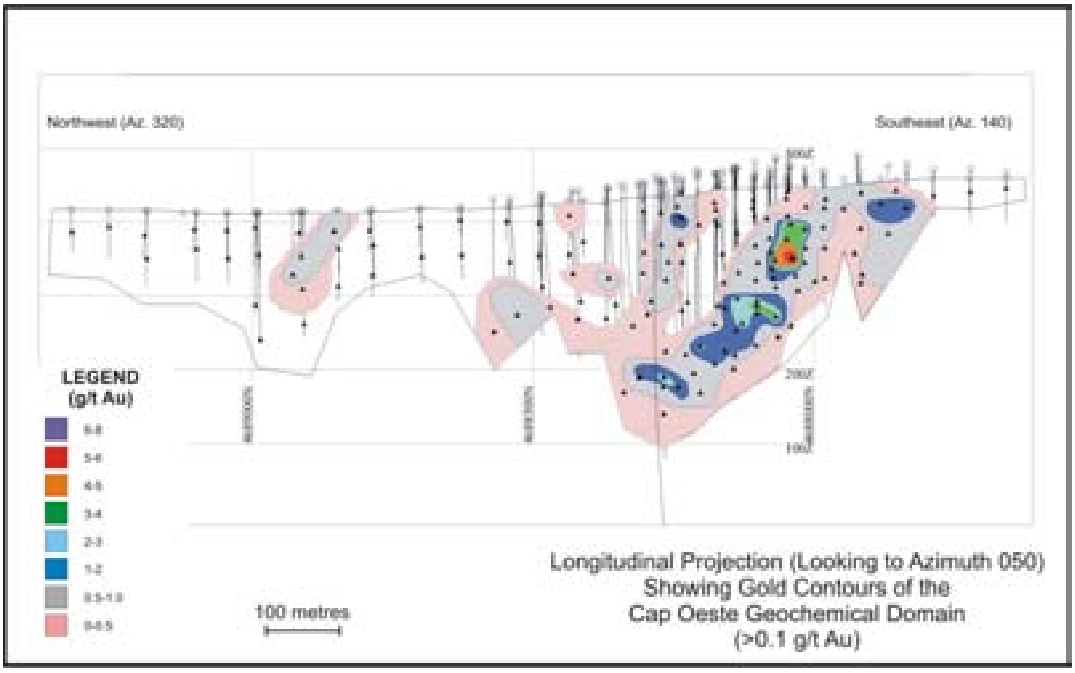


Figure 17.12
Longitudinal Projection of the Silver Distribution Within the Geochemical Domain Model, Cap Oeste Deposit

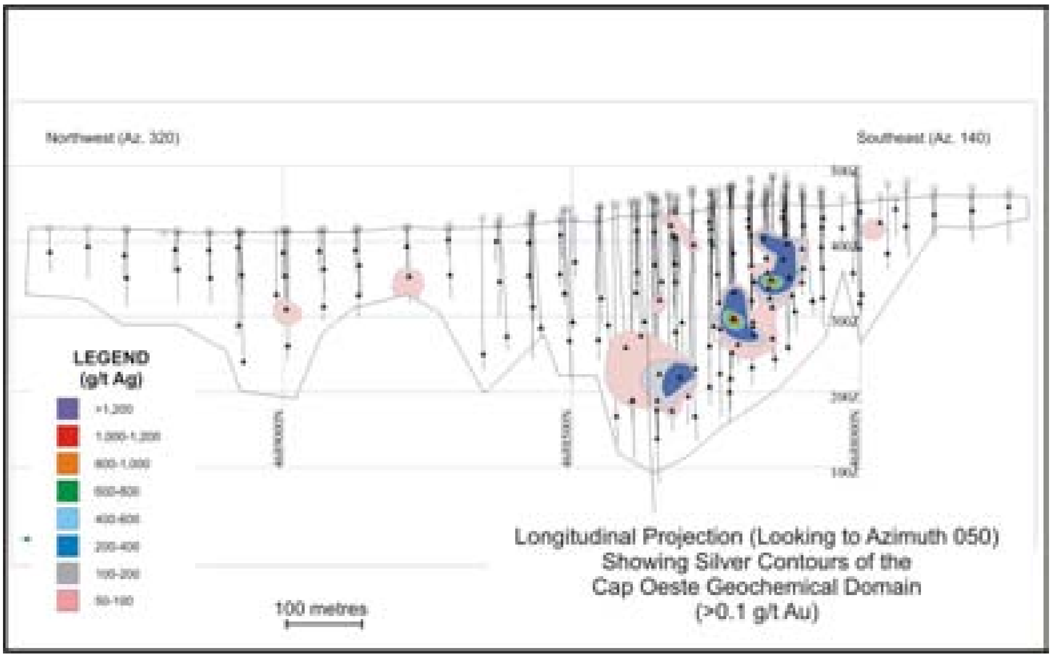
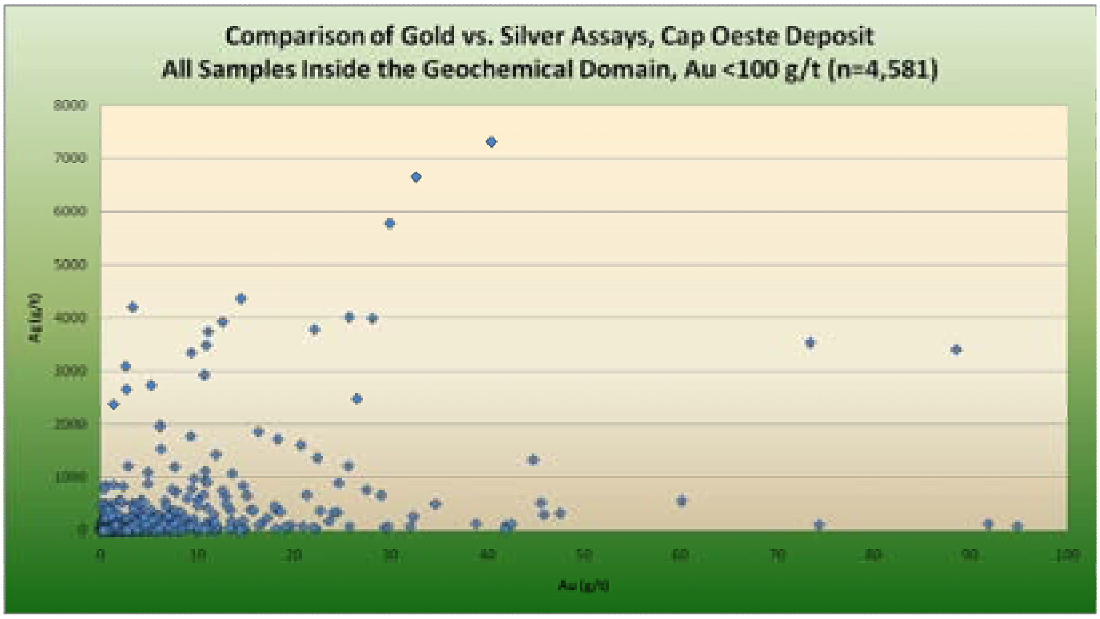


Figure 17.13
Comparison of Gold vs. Silver Assays
(All Samples Inside the Geochemical Domain Model with Au <100 g/t)



17.8 VARIOGRAPHY

The analysis of the variographic parameters of the mineralization found in the geochemical domain for the Cap Oeste deposit began with the construction of Omni-directional variograms using the capped, 2-m composited sample data with the objective of determining the global nugget (C0) for the gold and silver data set. An evaluation of other anisotropies that may be present in the data resulted in successful variograms for the three principal directions with model fits ranging from reasonable to poor (Appendix III). The results of this variography analysis are presented in Table 17.5.

Table 17.5
Summary of Variographic Parameters for the Geochemical Domain Model, Cap Oeste Deposit

Item	Gold (D2)	Silver (D4)
Variogram Type	Spherical	Spherical
Nugget (Downhole)	9.3	14,800
Sill (C1-Downhole)	21.7	33,500
Sill (C2-Downhole)	NA	11,200
Nugget (OmniDirectional)	**9.1**	**11,100**
Sill (C1-OmniDirectional)	**11.4**	**29,300**
Sill (C2-OmniDirectional)	**NA**	**NA**
Anisotropies:		
Down Dip -50°@280 (60° Angular Tol.)	C1= 10.2, Range=11.5m C2=4.7, Range=24m	C1= 18,000, Range=6.1m C2=25,000, Range=22m
Along Strike -45° @ 170 (60° Angular Tol.)	C1=13.1, Range=9.6 C2=10.2, Range = 25.2m	C1=2,850, Range=8.8 C2=48,600, Range = 21.2m
Across Strike -25@050 (45° Angular Tol.)	C1=3.8 Range = 19.8m	C1=5,900 Range = 6.2m
Search Ellipse:		
Major Axis (Pass 2, Short Range)	25m @ 280 (-50°)	25m @ 280 (-50°)
Semi-Major Axis	25m @ 170 (-45°)	20m @ 170 (-45°)
Minor Axis	20m @ 050 (-25°)	10m @ 050 (-25°)
Major/Semi-Major Ratio	1	1.25
Major/Minor Ratio	1.25	2.5
Minimum Number of Points	5	5
Maximum Number of Points	25	25
Search Ellipse Type	Quadrant	Quadrant

17.9 BLOCK MODEL CONSTRUCTION

An upright, rotated, whole-block model with the long axis of the blocks oriented along an azimuth 320º (i.e. parallel to average the geochemical domain orientation) was constructed using the Gemcom-Surpac v6.1.1 software package and the parameters presented in Table 17.6. A number of attributes were also created to store such information as metal grades by the various interpolation methods, distances to and number of informing samples, domain codes, and resource classification codes. These are presented in Table 17.7.

Considering the near-surface location of the mineralization that has been outlined at the Cap Oeste deposit, the conceptual operational scenario contemplates extraction of the gold and silver-bearing material by means of open pit mining methods, with the metals being extracted by means of a conventional cyanide leach flowsheet. Any higher-grade mineralized material that may be located below the bottom of a potential open pit shell would be extracted by means of underground mining methods and would be processed through the same plant. Given the early stage of discovery of the Cap Oeste deposit, and the fact that the limits of the mineralization have not been defined by drilling, the potential production rate of any open pit operation cannot be defined with any degree of accuracy. Consequently, the selection of block dimensions is preliminary in nature and may need to be revised at a later date as new information permits the identification of the most appropriate mining method (s) and production rates.

Table 17.6
Cap Oeste Block Model Parameters

Type	Y (Northing)	X (Easting)	Z (Elevation)
Minimum Coordinates	4688800	2388400	0
Maximum Coordinates	4690500	2392400	600
User Block Size (m)	10	10	5
Min. Block Size (m)	10	10	5
Rotation (^{o})	50.000	0.000	0.000

Table 17.7
List of Block Model Attributes, Cap Oeste Deposit

Attribute Name	Type	Decimals	Background	Description
ag_cap_id2	Real	2	0	Silver by Inverse Distance, Power 2, Capped Grades
ag_cap_nn	Real	2	0	Silver by Nearest Neighbour, Capped Grades
ag_cap_ok	Real	2	0	Silver by Ordinary Kriging, Capped Grades
ag_nocap_id2	Real	2	0	Silver by Inverse Distance, Power 2, Uncapped Grades
ag_nocap_nn	Real	2	0	Silver by Nearest Neighbour, Uncapped Grades
ag_nocap_ok	Real	2	0	Silver by Ordinary Kriging, Uncapped Grades
au_cap_id2	Real	2	0	Gold by Inverse Distance, Power 2, Capped Grades
au_cap_nn	Real	2	0	Gold by Nearest Neighbour, Capped Grades
au_cap_ok	Real	2	0	Gold by Ordinary Kriging, Capped Grades
au_nocap_id2	Real	2	0	Gold by Inverse Distance, Power 2, Uncapped Grades
au_nocap_nn	Real	2	0	Gold by Nearest Neighbour, Uncapped Grades
au_nocap_ok	Real	2	0	Gold by Ordinary Kriging, Uncapped Grades
avg_dist_ag	Real	1	0	Average Distance of Informing Samples, Silver
avg_dist_au	Real	1	0	Average Distance of Informing Samples, Gold
classification	Integer	-	0	1=Measured, 2=Indicated, 3=Inferred
density	Real	2	2.13	Oxidized Mineralized=2.14, Fresh Mineralized=2.26, Oxidized Non-Mineralized=2.04, Fresh Non-Mineralized=2.23
estimate_no	Integer	-	0	CAM=1, Micon=2
kvar_ag_cap	Real	1	0	Kriging Variance, Silver, Capped Samples

Attribute Name	Type	Decimals	Background	Description
kvar_ag_nocap	Real	1	0	Kriging Variance, Silver, Uncapped Samples
kvar_au_cap	Real	1	0	Kriging Variance, Gold, Capped Samples
kvar_au_nocap	Real	1	0	Kriging Variance, Gold, Uncapped Samples
min_zone	Integer	-	0	Domain Codes
nearest_ag	Real	1	0	Distance to Nearest Informing Sample, Silver
nearest_au	Real	1	0	Distance to Nearest Informing Sample, Gold
netval_800	Real	2	0	Nett Value at $800 Gold
no_sample_ag	Integer	-	0	Number of Informing Samples, Silver
no_sample_au	Integer	-	0	Number of Informing Samples, Gold
oxidation	Integer	-	0	109=Oxidized, 110=Fresh
pass_no	Integer	-	0	1=Long Range, 2=Short Range
shoot_no	Integer	-	0	Main=403

Gold and silver grades were interpolated into the individual blocks for the geochemical domain using the Ordinary Kriging (OK), Inverse Distance to the power 2 (ID^2) and Nearest Neighbour (NN) interpolation methods. A two-pass approach was used wherein the information from the variography analysis described above was used to establish the parameters of the search ellipse for the short range pass. The size of the search ellipse was increased for the long-range pass in order to achieve a filling of all blocks within the geochemical domain model. Details regarding the search ellipse parameters have been presented in Table 17.5 above.

“Hard” domain boundaries were used along the contacts of the geochemical domain model in which only that sample data contained within the geochemical domain model were allowed to be used to estimate the grades of the blocks, and only those blocks within the domain limits were allowed to receive grade estimates. The capped, composited grades of all the drill hole intersections were used to derive an estimate of a block’s grade for those locations situated between drill hole pierce points. In this manner, lower grade or barren assay results that occur within the domain boundary were allowed to influence the estimated block grades preventing higher grades from being projected all of the way to the domain limits.

17.10 BLOCK MODEL VALIDATION

Validation efforts for the mineral resource estimate at the Cap Oeste deposit consisted of a comparison of the average block grades for the capped and uncapped metal values against the respective informing composite samples. As well, the volumes reported from the block model were compared to the volumes of the solid model of the geochemical domain model. The reconciliation is presented in Table 17.8. It can be seen that there is a good correlation for the average block grades estimated using the three interpolation methods, and between the average estimated block grades and the informing composite samples. As well, there is a good fit between the reported volumes for the geochemical domain model, with the block model reporting a slightly more volume in comparison to the original solid model. The slight decline in the values for the gold and silver grades from the composite samples to the block model is a common occurrence and is believed to be due to the declustering effect that takes place during the estimation process.

It is to be stressed that the information presented in the reconciliation report is a summation of all blocks contained within the 0.1 g/t Au geochemical domain model. This information is presented for the purposes of validating the accuracy of the block model report only and is not to be regarded as an estimate of the mineral resources for the Cap Oeste deposit.

Table 17.8
Reconciliation Report for the Cap Oeste Deposit Block Model
(All blocks contained within the >0.1 g/t Au geochemical domain)

Item	Volume (m3)	Tonnes	Au Nocap ID^2	Au Cap ID^2	Au Nocap OK	Au Cap OK	Au Nocap NN	Au Cap NN
Block Report	6,025,500	13,376,610	1.11	1.06	1.07	1.02	1.04	0.99
Volume Report	6,010,077	Block model reports 15,423 more cubic metres than the solid model (~34,200 tonnes or 0.2%)						
2-m Composite Averages			1.35	1.26	1.35	1.26	1.35	1.26
Item	**Volume (m^3)**	**Tonnes**	**Ag Nocap ID^2**	**Ag Cap ID^2**	**Ag Nocap OK**	**Ag Cap OK**	**Ag Nocap NN**	**Ag Cap NN**
Block Report	6,025,500	13,376,610	39.38	33.20	40.07	33.73	37.18	31.00
2-m Composite Averages			48.02	39.92	48.02	39.92	48.02	39.92

17.11 OPEN PIT OPTIMIZATION

As described above, the primary conceptual exploitation scenario for the gold-silver mineralization contained in the Cap Oeste deposit involves extraction of the mineralized material by means of open pit mining methods and producing gold and silver metal using a conventional cyanidation flotation flow sheet in a plant that would be located nearby. Any higher-grade mineralized material that may be located below the bottom of a potential open pit shell would be extracted by means of underground mining methods and would be processed through the same plant. A preliminary open pit shell was developed using the Surpac software package using the Lerchs-Grossman optimization algorithm and the input parameters presented in Table 17.9.

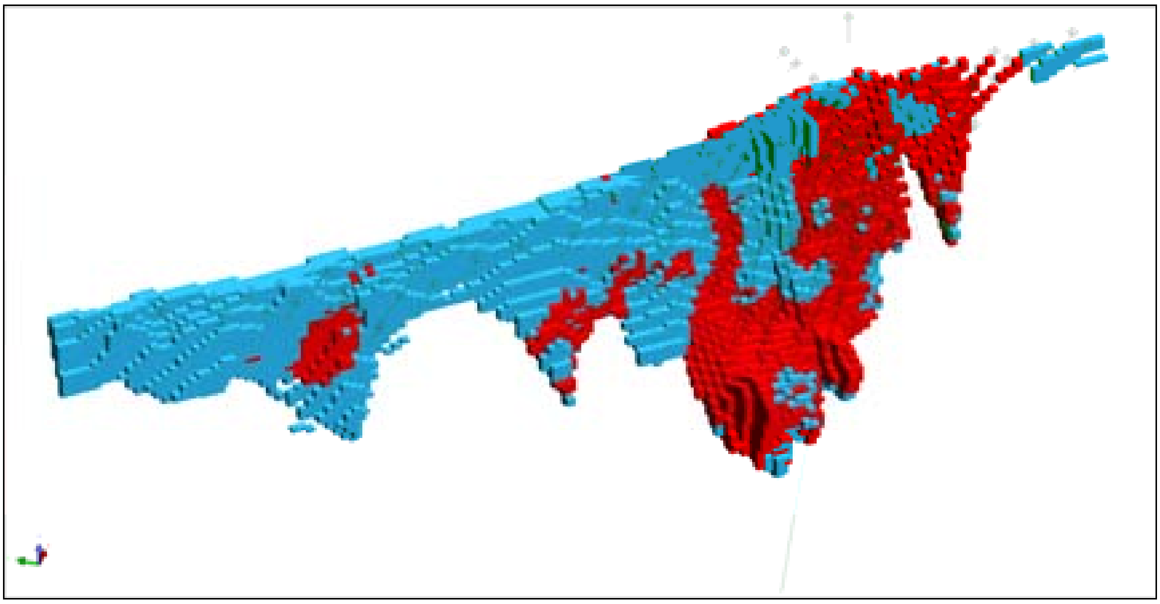
Table 17.9
Suggested Values for Key Input Parameters, Cap Oeste Optimized Open Pit Shell

Item	Suggested Value
Gold price	US$800/oz (US$25.72/g) (3-yr trailing average = US$773/oz)
Silver price	US$12.50/oz (US$0.40/g) (3-yr trailing average = US$13.67/oz)
Mining cost	US$1.50/ore tonne
Processing cost	US$14.00/ore tonne
G&A	US$5.00/ore tonne
Argentinian royalties	1.85% of mine site value (boca de mina)
Inter-ramp slope angle	52° (all sectors)
Gold recovery	95%
Silver recovery	60%
Sensitivity analyses	Gold price at US$600, US$700, US$900, and US$1,000/oz

Given the early stage of the project’s development, no detailed information is available in respect of operating costs for mining, processing and general and administration in respect of a potential open pit mining operation. As well, no geotechnical information is available upon which to estimate an overall slope angle. Consequently, Micon derived estimates for these items on the basis of its experience in the region and from general knowledge. It is to be noted that the estimates presented are only for the purpose of developing an initial optimized open pit shell, and the assumed values will likely change with further detailed work.

Due to the polymetallic nature of this deposit (i.e. containing both gold and silver), revenues from both gold and silver contribute to any particular block's profitability. For this reason, the gold and silver grades are used to calculate the revenues and costs for each block within the geochemical domain and derive a net profit for each block (i.e. net profit = revenues – costs). Figure 17.14 presents a view of the profitability of all the blocks contained within the geochemical domain using a base case gold price of US$800/oz and a silver price of US$12.50/oz.

Figure 17.14
View of Profitable Blocks for the Cap Oeste Geochemical Domain
(Blue = profit <US$0.01/t, Red = profit >US$0.01/t)



Once the profitability of the blocks has been calculated, the software proceeds to determine how many waste tonnes can be moved to achieve the maximum net present value for the resource in question. The resulting surface is presented in Figure 17.15 for the base case scenario of a gold price of US$800/oz and a silver price of US$12.50/oz, and the resulting tonnage report is presented in Table 17.10.

A sensitivity analysis was then carried out in which the impact of a change in the gold price from a minimum of US$600/oz to a maximum of US$1,000/oz, and the resulting tonnage reports are presented in Table 17.11.

Figure 17.15
View of the Whittle LG Shell Using the Base Case Economic Parameters
(Blue = profit <US$0.01/tonne, Red = profit >US$0.01/tonne)

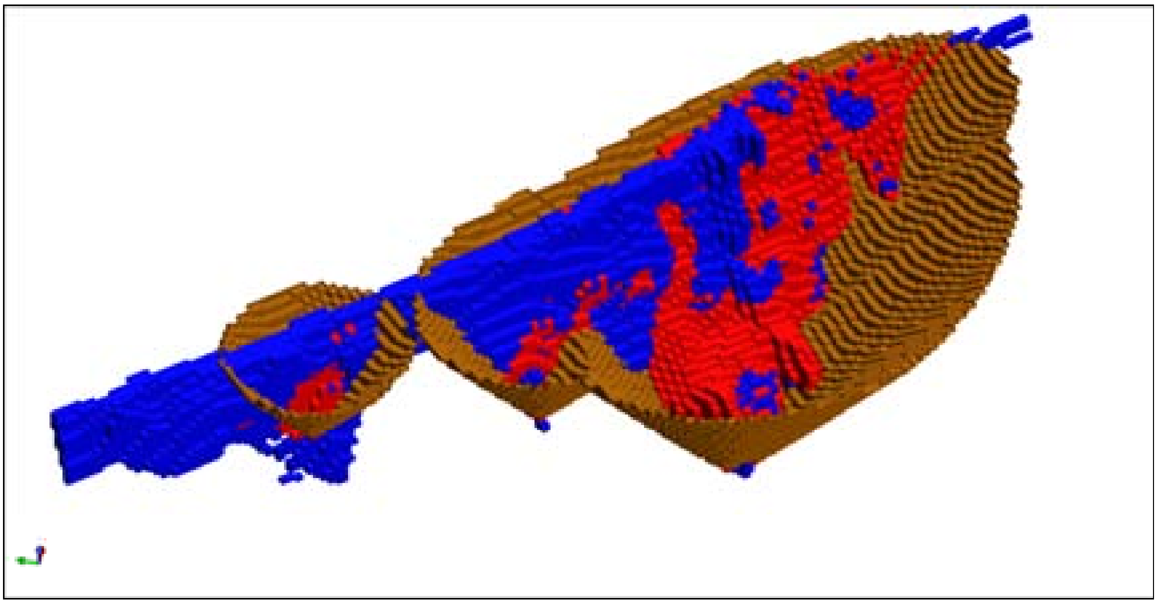


Table 17.10
Summary of Tonnage and Grade for the Base Case Whittle Shell
(Bulk density = 2.22 t/m^3)

Material	Volume	Tonnes	Au Cap OK	Ag Cap OK	Contained ounces Au	Contained ounces Ag
Waste	42,961,500	95,374,530	0.02	0.54	- - - -	- - - -
Ore	2,796,500	6,208,230	1.81	61.30	343,250	7,342,000
Grand Total	**45,758,000**	**101,582,760**	**0.13**	**4.26**		

Table 17.11
Sensitivity Analysis of Tonnage and Grade For Varying Gold Prices, Cap Oeste Deposit
(Bulk density = 2.22 t/m^3)

Material	Volume	Tonnes	Au Cap OK	Ag Cap OK	Contained ounces Au	Contained ounces Ag
US$600/oz Au						
Waste	39,897,000	88,571,340	0.02	0.73		
Ore	2,349,000	5,214,780	2.00	69.59	335,350	11,668,700
Grand Total	**42,246,000**	**93,786,120**	**0.13**	**4.56**		
US$700/oz Au						
Waste	40,598,000	90,127,560	0.02	0.63		
Ore	2,582,000	5,732,040	1.89	64.92	342,800	11,965,400
Grand Total	**43,180,000**	**95,859,600**	**0.13**	**4.47**		
Base Case Scenario (US$800/oz Au, US$12.50/oz Ag)						
Waste	42,961,500	95,374,530	0.02	0.54		
Ore	2,796,500	6,208,230	1.81	61.30	361,300	12,236,800
Grand Total	**45,758,000**	**101,582,760**	**0.13**	**4.26**		
US$900/oz Au						

Material	Volume	Tonnes	Au Cap OK	Ag Cap OK	Contained ounces Au	Contained ounces Ag
Waste	43,670,000	9,6947,400	0.02	0.49		
Ore	2,962,000	6,575,640	1.74	58.83	367,900	12,438,700
Grand Total	**46,632,000**	**103,523,040**	**0.12**	**4.20**		
US$1,000/oz Au						
Waste	43,681,500	96,972,930	0.01	0.44		
Ore	3,091,000	6,862,020	1.69	57.13	372,900	12,605,400
Grand Total	**46,772,500**	**103,834,950**	**0.12**	**4.19**		

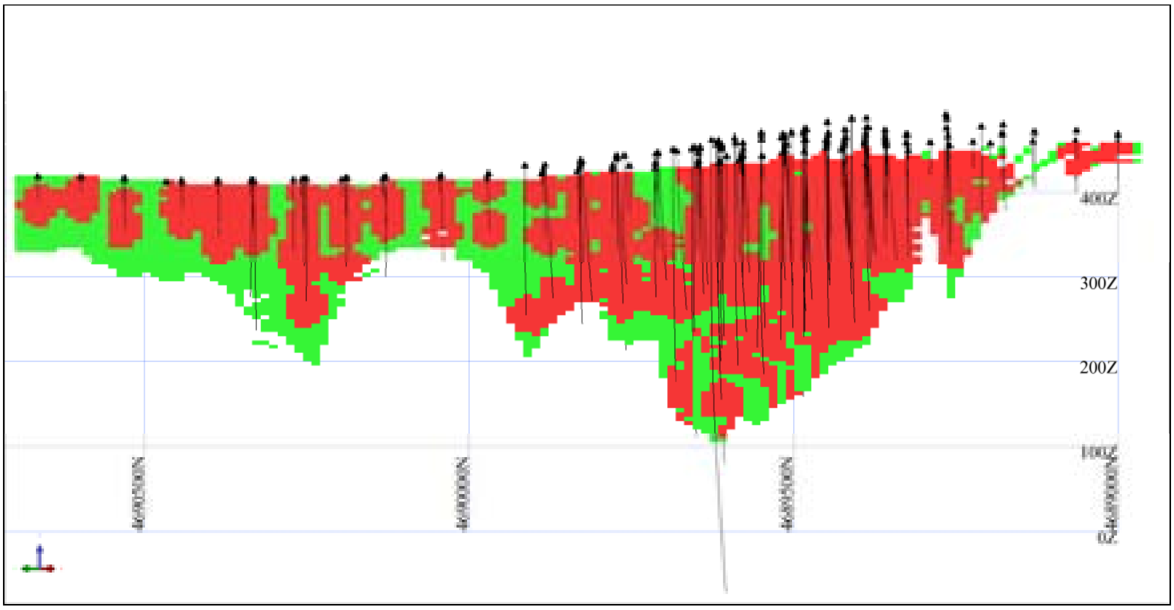
In summary, we can see that the base case pit shell has shown that the mineralized material at Cap Oeste has the potential to be mined by means of open pit mining methods basically to the limits outlined by the current drilling. It appears that potential remains to add to the open pit shell if further economic-grade mineralization could be found along strike to the southeast and to depth down-plunge of the Main Shoot.

17.12 MINERAL RESOURCE CLASSIFICATION CRITERIA

The mineral resources in this report were estimated in accordance with the definitions contained in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2004 Edition).

The mineralized material was classified into either the Indicated or Inferred mineral resource category on the basis of the search ellipse ranges presented in Table 17.4 above. Those profitable blocks that are situated above the open pit shell which received interpolated grades that were within the gold variogram ranges were classified as Indicated mineral resources (i.e. those blocks informed with the short-range pass), while the remaining blocks were classified into the Inferred mineral resource category. A longitudinal image of the classified mineral resources is presented in Figure 17.16.

Figure 17.16
Longitudinal View (Looking Northeast) of the Grade-Block Model for the Geochemical Domain Model, Cap Oeste Deposit
(Red Blocks=Indicated, Green Blocks=Inferred)



17.13 RESPONSIBILITY FOR ESTIMATION

The estimate of the mineral resources for the Cap Oeste gold-silver deposit presented in this report was prepared by Mr. Reno Pressacco, M.Sc.(A), P.Geo., who is a qualified person as defined in NI 43-101, and is independent of Patagonia Gold S.A.

17.14 MINERAL RESOURCE ESTIMATE

As a result of the concepts and processes described above, the mineral resources are considered as all profitable blocks using the base case input parameters that are contained above the US$800/oz Au optimized open pit shell and below the topographic surface. The tonnages and contained metal estimates are presented using a correction factor of +7.5% (as identified by the independent third party laboratory) to the average specific gravities determined by PGSA. The mineral resources are stated using the gold and silver grades as estimated using the Ordinary Kriging interpolation method and using the capped metal grades. The estimated mineral resources for the Cap Oeste deposit are set out in Table 17.12 and are presented in Figure 17.17. A comparison of effect of capping of the gold and silver grades is presented in Table 17.13.

There is a degree of uncertainty associated with the estimation of mineral resources and mineral reserves and their corresponding metal grades. The estimation of mineralization is a somewhat subjective process and the accuracy of the estimate is a function of the accuracy, quantity and quality of available data, the accuracy of statistical computations, and the assumptions used and judgments made in interpreting engineering and geological information. Until mineral reserves or mineral resources are actually mined and processed, and the characteristics of the deposit assessed, their quantity and grade should be considered as estimates only. In addition, the quantity of mineral reserves and mineral resources may vary depending on many factors such as exchange rates, energy costs and metal prices. Fluctuation in metal or commodity prices, results of additional drilling, metallurgical testing, receipt of new information and production and the evaluation of mine plans subsequent to the date of any mineral resource estimate may require revision of such an estimate.

Table 17.12
Summary of the Estimated Mineral Resources, Cap Oeste Deposit

Category	Tonnes	Au Cap OK	Oz Au Cap	Ag Cap OK	Oz Ag Cap
Density = 2.39 t/m^3					
Indicated	5,629,645	1.89	342,120	65.04	11,773,380
Inferred	1,053,990	1.35	45,750	41.34	1,401,030

1. Contained ounces rounded to the nearest 10 oz.
2. The bulk density used to determine the tonnages is derived by application of a correction factor of +7.5% to the average bulk densities as determined by PGSA.
3. Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing or other relevant issues.
4. The quantity and grade of reported Inferred Resources in this estimation are conceptual in nature and there has been insufficient exploration to define these Inferred Resources as an Indicated or Measured Mineral Resource. It is uncertain if further exploration will result in the upgrading of the Inferred Resources into an Indicated or Measured Mineral Resource category.

Figure 17.17
Inclined View of the Cap Oeste Mineral Resources
(Blue=Open Pit Shell, Red Blocks=Indicated, Green Blocks=Inferred)

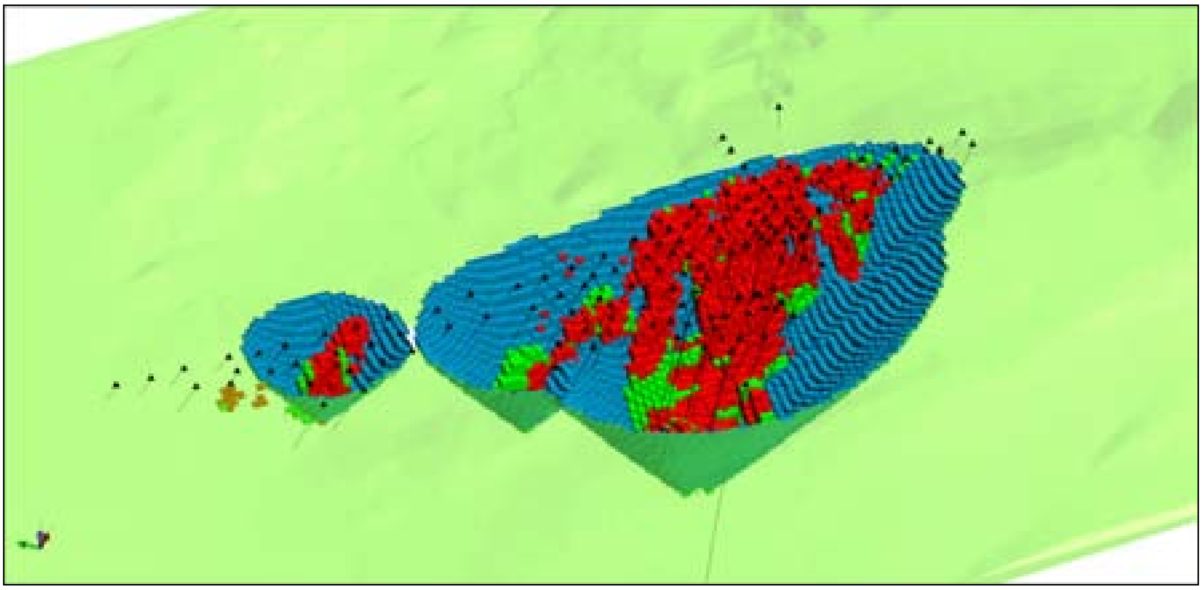


Table 17.13
Comparison of Capped vs. Uncapped Metal Grades, Cap Oeste Deposit.

Category	Tonnes	Au Cap OK	Au Nocap OK	Oz Au Cap	Oz Au Nocap	Ag Cap OK	Ag Nocap OK	Oz Ag Cap	Oz Ag Nocap
Density = 2.39 t/m^3									
Indicated	5,629,645	1.89	2.00	342,120	362,040	65.04	80.12	11,773,380	14,503,120
Inferred	1,053,990	1.35	1.36	45,750	46,090	41.34	47.33	1,401,030	1,604,030

Micon has considered the mineral resource estimates in light of known environmental, permitting, legal, title, taxation, socio-economic, marketing, political and other relevant issues and has no reason to believe at this time that the mineral resources will be materially affected by these items. Given the early stage of exploration for the Cap Oeste deposits, no studies have yet been completed that examine whether the mineral resources may be materially affected by mining, infrastructure or other relevant factors.

18.0 OTHER RELEVANT DATA AND INFORMATION

All relevant data and information in regard to the exploration activities at, and required to support the disclosure of a mineral resource estimate for, the Cap Oeste deposit are included in other sections of this report.

19.0 INTERPRETATION AND CONCLUSIONS

Exploration work by PGSA has been successful in locating the Cap Oeste gold-silver deposit in 2008, and additional delineation drilling during the 2009 field season has been successful in extending the limits of the mineralization down-plunge to a vertical depth of approximately 370 m from surface. The limits of the Cap Oeste deposit have not been defined by the drilling completed to-date, and Micon believes that potential exists to extend the limits of the mineralization along the down-plunge projection of the known mineralized shoots as well as extending the limits of the deposit along strike to the southeast and northwest.

The mineralization occurs in spatial association with a northwest-striking fault (known as the Bonanza Fault) which appears to form the northeastern limit of a graben structure that measures some 300 m in width at the surface. The gold-silver mineralization is associated with a variety of alteration styles and textural settings, and can be hosted by either oxidized or un-oxidized wall rocks.

Metallurgical testing completed to-date are indicating that the gold recoveries may be varying as a function of the oxidation state of the mineralization such that cyanide leach recoveries are substantially reduced for samples of mineralization contained in un-oxidized material. Additional methods of recovering metals may offer improved recoveries.

On the basis of its knowledge of the Cap Oeste mineralization, Micon adopted a different approach to the preparation of an updated estimate of the mineral resources for this deposit than had been utilized in the previous estimate. For this exercise, Micon noted that gold-silver mineralization does not appear to exhibit a consistent spatial relationship to either host rock type, alteration style, or hydrothermal textural forms observed in drill core. Consequently, Micon developed a three-dimensional geochemical domain model that outlined that volume of rock that has been affected by the mineralizing system and noted that a threshold value of 0.1 g/t Au is effective at outlining the affected volume between drill holes on section, and from section to section.

On the basis of its statistical review of the distribution of gold and silver grades, Micon concluded that a capping grade of 50 g/t Au and 2,000 g/t Ag are appropriate values to apply in order to limit the influence of high grade samples upon the mineral resource estimate.

Confirmatory work in respect of the determination of the specific gravities of the various materials encountered at the Cap Oeste deposit has demonstrated that the field procedures being employed result in consistently lower specific gravities by approximately 7.5%.

The primary conceptual exploitation scenario for the gold-silver mineralization contained in the Cap Oeste deposit involves extraction of the mineralized material by means of open pit mining methods and producing gold and silver metal using a conventional cyanidation flotation flow sheet in a plant that would be located nearby. Any higher-grade mineralized material that may be located below the bottom of a potential open pit shell would be extracted by means of underground mining methods and would be processed through the same plant. A grade-block model was prepared according to this conceptual scenario, and an optimized open pit shell was determined using the Lerchs-Grossman algorithm.

The mineralized material was subsequently classified into either the Indicated or Inferred mineral resource category on the basis of the search ellipse ranges presented in Table 17.4 above. Those profitable blocks that are situated above the open pit shell which received interpolated grades that were within the gold variogram ranges were classified as Indicated mineral resources (i.e. those blocks informed with the short-range pass), while the remaining blocks were classified into the Inferred mineral resource category.

The mineral resources are considered as all profitable blocks using the base case input parameters that are contained above the $800 Au optimized open pit shell and below the topographic surface. The tonnages and contained metal estimates are presented using both the average bulk densities determined in the field and using the average bulk densities as determined by the Alex Stewart laboratory. The mineral resources are stated using the gold and silver grades as estimated using the Ordinary Kriging interpolation method and using capped grades. The estimated mineral resources for the Cap Oeste deposit are set out in Table 19.1.

Table 19.1
Summary of the Estimated Mineral Resources, Cap Oeste Deposit

Category	Tonnes	Au Cap OK	Au Nocap OK	Oz Au Cap	Oz Au Nocap	Ag Cap OK	Ag Nocap OK	Oz Ag Cap	Oz Ag Nocap
Density = 2.39 t/m^3									
Indicated	5,629,645	1.89	2.00	342,120	362,040	65.04	80.12	11,773,380	14,503,120
Inferred	1,053,990	1.35	1.36	45,750	46,090	41.34	47.33	1,401,030	1,604,030

1. Contained ounces rounded to the nearest 10 oz.
2. The bulk density used to determine the tonnages is derived by application of a correction factor of +7.5% to the average bulk densities as determined by PGSA.
3. Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing or other relevant issues.
4. The quantity and grade of reported Inferred Resources in this estimation are conceptual in nature and there has been insufficient exploration to define these Inferred Resources as an Indicated or Measured Mineral Resource. It is uncertain if further exploration will result in the upgrading of the Inferred Resources into an Indicated or Measured Mineral Resource category.

Micon believes that this report has met the objectives set out in Section 2 above.

20.0 RECOMMENDATIONS

Pending the outcome of the test results from the Batch 3 bottle roll cyanidation testing, Micon suggests that consideration be given to examining the gold and silver recovery characteristics for the non-oxide-hosted (fresh) mineralization by means of alternate flow sheets such as flotation/Merrill Crowe.

Micon recommends that the source of the data gaps identified within the geochemical domain boundary be identified and appropriate corrective action is taken in subsequent updates of the mineral resource estimate for the Cap Oeste deposit.

In respect of the assay table of the drill hole database, Micon recommends a slight modification to this table be made in the method for storing assay information from different analytical methods. Micon suggests that separate columns be created (e.g. Au_Final and Ag_Final) to contain the final values of gold and silver that will be used in future mineral resource estimates.

As well, Micon notes that the results for duplicate, blank and standard samples are contained within the body of the assay table as individual records, thus presenting a challenge when exporting of the assay information for use in preparation of mineral resource estimates. Micon recommends that the results for duplicate, blank and standard samples be stored as separate, dedicated worksheets within the database, thereby facilitating the preparation of control charts and exporting of information for other uses.

Micon recommends that PGSA conduct a review of the procedures that are being used to determine the specific gravities of the various materials in the field to identify the source of the discrepancies in the values between the field and the independent laboratory. Pending the findings of such review, corrective actions can be applied to the existing density data as appropriate.

In respect of the establishment of a potential open pit shell for this exercise, Micon utilized the best information available at the time in respect of metallurgical recoveries. Pending the outcome of on-going metallurgical test work, Micon points out that it may become necessary to apply different gold and silver recoveries to the oxide-hosted and fresh hypogene mineralization separately in future runs.

Due to the early stage of the development history of the Cap Oeste deposit, no geotechnical information was available to aid in the selection of appropriate overall open pit wall slopes. Micon recommends that basic geotechnical information be collected so as to provide preliminary input data to future open pit modeling exercises.

From the results presented above, Micon believes that additional diamond drilling programs are clearly warranted to search for the limits of the Cap Oeste deposit. Such programs would test for the continuation of the gold-silver mineralization along the down-plunge projections of the known mineralized shoots, test the south-eastern and northwestern strike projection of the mineralization along the Bonanza Fault, and begin testing the Esperanza Fault for its potential of hosting additional mineralization.

MICON INTERNATIONAL LIMITED

“Reno Pressacco” {signed and sealed}

Reno Pressacco, P.Geo.
Senior Geologist
Micon International Limited

September 30, 2009

“Richard Gowans” {signed and sealed}

Richard Gowans, P.Eng.
President
Micon International Limited

September 30, 2009

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CERTIFICATE FOR RENO PRESSACCO

As a co-author of this report on certain mineral properties of Patagonia Gold S.A. located in Santa Cruz Province, Argentina, I, Reno Pressacco, do hereby certify that:

1. I am employed by, and carried out this assignment for

   Micon International Limited
   Suite 900, 390 Bay Street
   Toronto, Ontario
   M5H 2Y2

   tel. (416) 362-5135
   fax (416) 362-5763
   e-mail: rpressacco@micon-international.com

2. I hold the following academic qualifications:

CET (Geological Engineering)	Cambrian College	1982
B.Sc. (Geology)	Lake Superior State College	1984
M.Sc.(A) (Mineral Exploration)	McGill University	1986

3. I am a registered Professional Geoscientist with the Association of Professional Geoscientists of Ontario (Registration Number 0939) Professional Engineers and Geoscientists, Newfoundland and Labrador (Registration Number 05297) and with the Association of Professional Geoscientists of the Province of Manitoba (Registration Number 32726). As well, I am a member in good standing of other technical associations and societies, including the Prospectors and Developers Association of Canada.

4. I have worked as a geologist in the minerals industry for 29 years.

5. I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My experience includes mineral exploration, advanced exploration and mine development, open pit production, environmental compliance, financial evaluation and mine commissioning with a variety of deposit types including gold, silver, copper, zinc, lead, uranium, nickel, platinum-group metals and industrial minerals.

6. I visited the Cap Oeste project site on May 4 and 9, 2009.

7. I am responsible for the preparation of all portions of this Technical Report titled “Technical Report on the Updated Mineral Resource Estimate for the Cap Oeste Gold-Silver Deposit, Santa Cruz Province, Argentina” and dated September 30, 2009, except for Section 16.

8. Other than providing consulting services, I am independent of the issuer for which this report is required, as defined in Section 1.4 of NI 43-101.

9. I have had no prior involvement with the mineral property in question.

10. I have read NI 43-101 and this report has been prepared in compliance with the Instrument.

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

Dated this 30th day of September, 2009

"Reno Pressacco" {signed and sealed}

Reno Pressacco, P.Geo.

CERTIFICATE OF AUTHOR

RICHARD M. GOWANS P.Eng.

As a co-author of this report entitled “Technical Report on the Updated Mineral Resource Estimate for the Cap Oeste Gold-Silver Deposit, Santa Cruz Province, Argentina”, dated September 30, 2009, I, Richard M. Gowans P. Eng. do hereby certify that:

1. I am employed by, and carried out this assignment for
   Micon International Limited
   Suite 900, 390 Bay Street
   Toronto, Ontario
   M5H 2Y2
   tel. (416) 362-5135 fax (416) 362-5763
   e-mail: rgowans@micon-international.com

2. I hold the following academic qualifications:
   B.Sc. (Hons) Minerals Engineering, The University of Birmingham, U.K. 1980

3. I am a registered Professional Engineer of Ontario (membership number 90529389); as well, I am a member in good standing of the Canadian Institute of Mining, Metallurgy and Petroleum.

4. I have worked as an extractive metallurgist in the minerals industry for over 28 years.

5. I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes the management of technical studies and design of numerous metallurgical testwork programs and metallurgical processing plants.

6. I have not visited the project site.

7. I am responsible for the preparation of Section 16 of this report entitled “Technical Report on the Updated Mineral Resource Estimate for the Cap Oeste Gold-Silver Deposit, Santa Cruz Province, Argentina”, dated September 30, 2009.

8. I am independent of the company involved in the Cap Oeste property, as defined in Section 1.4 of NI 43-101.

9. I have had no prior involvement with the mineral property in question.

10. I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.

11. As of the date of this certificate, to the best of my knowledge, information and belief, the sections of this Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make this report not misleading.

Dated this 30th day of September, 2009.

“Richard M. Gowans” {signed and sealed}

Richard M. Gowans, P.Eng.

APPENDIX I
DRILL HOLE COLLAR SUMMARY

Hole Id	Northing	Easting	Elevation	Depth	Dip	Azimuth
CO-001-R	4688010	2390625	438.99	80.00	-55.0	50.0
CO-002-R	4687980	2390667	442.64	74.00	-54.7	52.1
CO-003-R	4687932	2390688	448.8	80.00	-55.1	52.4
CO-004-R	4688051	2390597	431.9	56.00	-54.2	55.9
CO-005-R	4688082	2390555	428.46	55.00	-55.1	57.7
CO-006-R	4688117	2390518	427.08	60.00	-55.1	53.2
CO-007-R	4687908	2390733	454.94	70.00	-54.8	51.8
CO-008-R	4687868	2390764	457.88	70.00	-55.3	50.9
CO-009-R	4687986	2390601	442.68	120.00	-55.0	50.0
CO-010-R	4687952	2390634	447.46	111.00	-55.0	50.0
CO-011-DR	4687902	2390655	454.45	123.25	-54.3	52.5
CO-012-DR	4688021	2390562	437.32	114.00	-58.0	51.0
CO-013-D	4688055	2390524	434.72	123.00	-55.5	48.1
CO-014-D	4688086	2390483	432.05	111.25	-55.1	49.8
CO-015-D	4687843	2390733	460.05	117.00	-56.1	51.2
CO-016-D	4687877	2390696	458.79	111.10	-55.7	50.0
CO-017-R	4688006	2390848	426.22	44.00	-50.0	50.0
CO-018-R	4687953	2390935	427.27	40.00		
CO-019-R	4687954	2390787	436.88	80.00	-50.0	50.0
CO-020-R	4687985	2390823	429.37	50.00	-50.0	50.0
CO-021-D	4688235	2390430	417.66	46.20	-52.0	51.0
CO-022-D	4688177	2390462	421.73	62.95	-52.0	46.0
CO-023-D	4688328	2390348	415.21	68.85	-55.0	50.0
CO-024-D	4688401	2390287	414.81	78.05	-54.3	47.2
CO-025-D	4688446	2390246	413.94	87.00	-56.7	46.9
CO-026-D	4688513	2390199	414.06	69.25	-55.1	42.5
CO-027-D	4688563	2390153	416.31	78.05	-56.3	44.9
CO-028-R	4687890	2390791	449.89	56.00	-53.9	54.0
CO-029-R	4687956	2390719	443.63	56.00	-54.2	50.8
CO-030-R	4687928	2390756	447.67	60.00	-55.0	50.0
CO-031-R	4687833	2390800	455.89	68.00	-53.9	53.5
CO-032-R	4687796	2390831	458.42	62.00	-55.0	50.0
CO-033-R	4687757	2390863	460.88	62.00	-55.0	50.0
CO-034-D	4687986	2390602	442.62	150.95	-55.4	49.4
CO-035-D	4687951	2390636	447.53	146.90	-56.8	49.7
CO-036-D	4688009	2390625	438.98	108.10	-56.0	58.0

CO-037-D	4688147	2390490	424.47	126.15	-53.5	53.5
CO-038-DR	4688197	2390386	422.01	118.60	-56.0	51.0
CO-039-DR	4688140	2390420	425.93	151.00	-57.0	54.0
CO-040-DR	4688112	2390454	429.33	116.00	-54.2	47.6
CO-041-R	4687718	2390893	460.79	56.00	-55.0	50.0
CO-042-R	4687681	2390928	459.35	54.00	-55.0	50.0
CO-043-DR	4687799	2390757	466.88	110.00	-58.4	52.5
CO-044-DR	4687763	2390813	469.44	89.00	-55.9	50.0
CO-045-D	4688364	2390316	414.56	74.00	-53.7	50.3
CO-046-D	4688268	2390382	417.72	65.00	-54.0	51.7
CO-047-D	4688476	2390222	413.39	80.00	-54.9	50.9
CO-048-D	4688599	2390117	417.67	81.00	-54.9	51.3
CO-049-D	4688640	2390087	418.29	72.00	-55.3	52.2
CO-050-D	4688301	2390319	416.74	111.00	-53.1	55.1
CO-051-D	4688374	2390256	414.51	111.00	-53.8	50.6
CO-052-D	4688420	2390217	413.3	111.00	-53.2	53.9
CO-053-DR	4687815	2390701	468.08	164.00	-58.8	51.2
CO-054-DR	4687852	2390667	463.99	172.00	-53.6	54.7
CO-055-DR	4687874	2390621	462.28	186.00	-61.3	52.2
CO-056-DR	4687928	2390611	450.88	180.00	-59.7	56.2
CO-057-DR	4687962	2390573	446.7	170.00	-54.0	50.9
CO-058-D	4687987	2390639	442.87	105.00	-56.1	52.1
CO-059-D	4687939	2390660	448.61	119.00	-55.8	54.5
CO-060-D	4687902	2390686	454.95	141.00	-55.0	52.5
CO-061-DR	4687735	2390838	471.47	82.00	-55.3	50.0
CO-062-DR	4687773	2390724	475.8	153.00	-59.2	46.2
CO-063-DR	4687736	2390783	480.15	120.00	-58.5	52.5
CO-064-DR	4687993	2390530	446.43	161.00	-60.0	49.5
CO-065-DR	4688018	2390484	446.32	186.00	-56.3	50.9
CO-066-DR	4688054	2390452	439.77	150.00	-54.9	50.6
CO-067-D	4688030	2390645	434.27	60.00	-53.4	49.9
CO-068-D	4688031	2390611	435.02	66.00	-55.0	51.9
CO-069-D	4688333	2390286	415.46	102.00	-53.3	52.6
CO-070-D	4688344	2390225	414.79	156.00	-53.3	50.2
CO-071-D	4688305	2390256	416.5	150.00	-53.9	49.9
CO-072-D	4688273	2390288	418.19	144.00	-54.8	51.2
CO-073-D	4688241	2390351	419.84	123.00	-55.7	52.8
CO-074-D	4688448	2390190	413	117.00	-55.5	51.0

CO-075-D	4688492	2390175	412.68	108.00	-60.1	50.9
CO-076-D	4688535	2390122	415.46	123.00	-55.5	49.4
CO-077-D	4687996	2390684	437.34	51.00	-54.6	47.3
CO-078-DR	4687817	2390628	475.83	232.00	-58.1	57.0
CO-079-D	4687813	2390623	476.44	120.00	-49.7	229.9
CO-080-DR	4687872	2390621	462.9	231.00	-72.0	53.6
CO-081-DR	4687906	2390586	457.08	205.00	-63.9	55.8
CO-082-DR	4687939	2390548	451.61	232.00	-62.7	56.0
CO-083-DR	4687812	2390696	468.68	192.00	-72.2	53.2
CO-084-DR	4687742	2390686	486.9	214.00	-56.1	53.2
CO-085-DR	4687987	2390448	447.27	227.00	-55.7	55.3
CO-086-DR	4687958	2390490	454.31	226.00	-55.8	55.2
CO-087-DR	4688024	2390416	443.63	261.83	-61.5	54.9
CO-088-DR	4688084	2390421	433.4	170.00	-55.2	51.1
CO-089-DR	4688051	2390384	437.17	211.00	-51.6	55.3
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CO-091-D	4688311	2390189	415.4	210.00	-53.9	50.6
CO-092-D	4688387	2390180	413.44	168.00	-54.3	48.2
CO-093-D	4688355	2390144	412.95	213.00	-54.6	52.0
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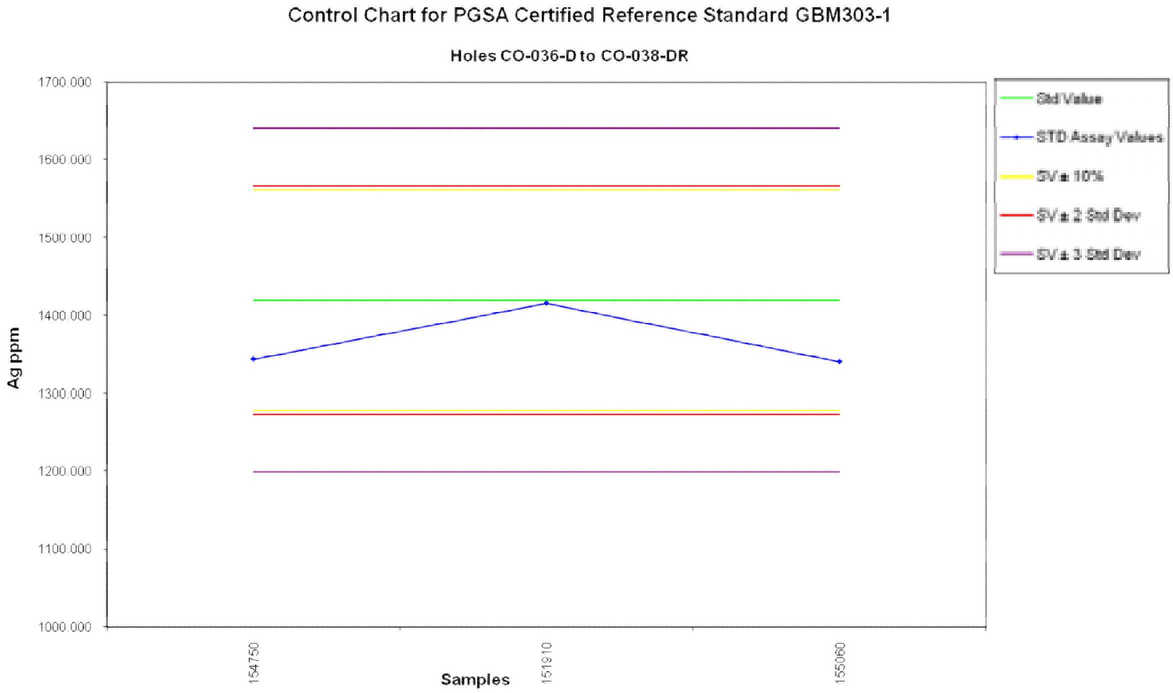
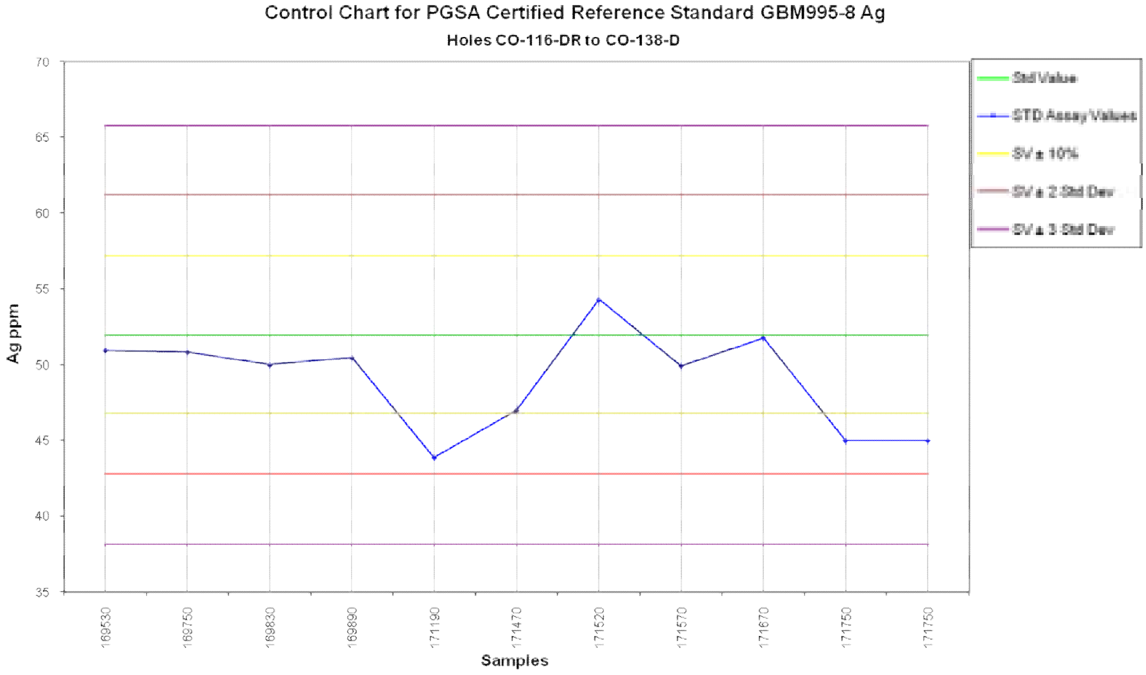
CO-107-DR	4687906	2390587	457.02	210.00	-71.8	57.5
CO-108-D	4687891	2390713	459.15	92.00	-51.7	54.1
CO-109-DR	4687887	2390638	458.44	150.00	-54.9	53.2
CO-110-DR	4687856	2390637	465.84	177.00	-52.9	51.0
CO-111-D	4687924	2390710	450.97	75.00	-54.5	49.4
CO-112-D	4687892	2390753	455.88	60.00	-54.1	51.5

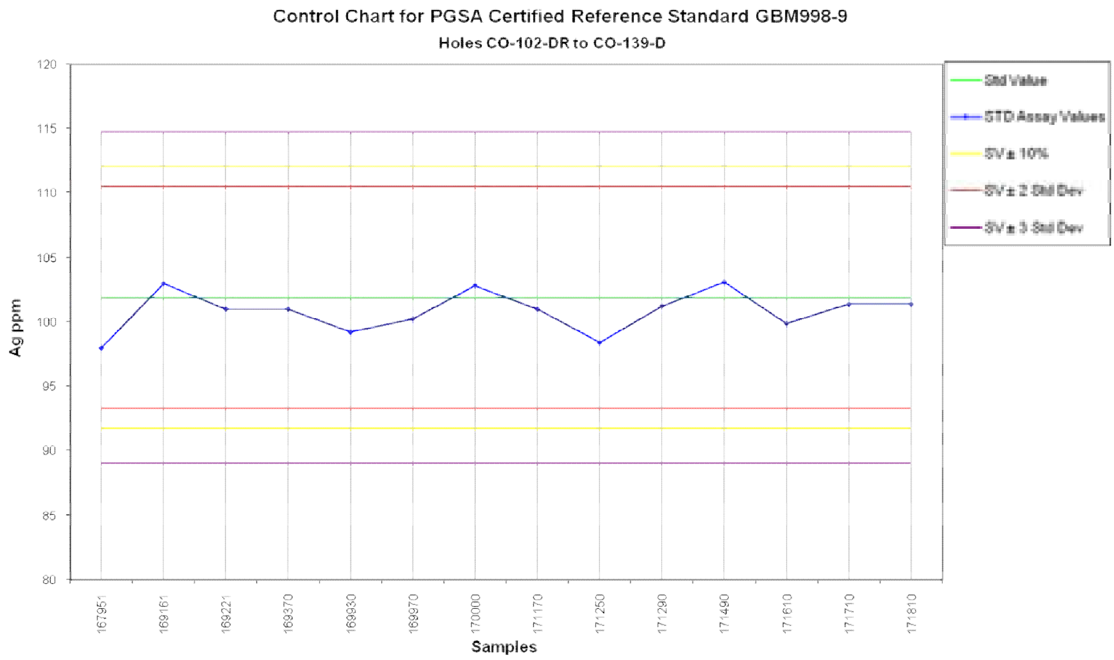
CO-113-D	4687837	2390769	459.55	72.00	-55.5	49.2
CO-114-DR	4687816	2390630	475.91	222.00	-63.3	51.4
CO-115-DR	4688013	2390593	436.81	84.00	-64.5	49.6
CO-116-DR	4687839	2390501	465.6	282.00	-53.3	48.5
CO-117-DR	4687988	2390575	442.69	134.50	-58.0	50.2
CO-118-DR	4688032	2390440	443.94	186.00	-55.8	52.4
CO-119-DR	4687821	2390518	470.41	285.00	-51.5	53.5
CO-120-DR	4687956	2390528	451.6	180.00	-50.6	50.1
CO-121-DR	4688069	2390301	431.57	255.00	-50.8	49.2
CO-122-DR	4687936	2390464	452.16	239.00	-51.7	50.0
CO-123-DR	4687864	2390490	463.2	282.00	-59.3	50.9
CO-124-DR	4687941	2390428	448.9	246.70	-52.0	52.2
CO-125-DR	4687870	2390450	458.82	306.00	-57.1	51.8
CO-126-DR	4687818	2390475	467.94	324.00	-59.9	49.5
CO-127-D	4687826	2390566	482.68	255.00	-60.6	50.7
CO-128A-D	4687793	2390573	487.09	285.00	-65.6	50.1
CO-128-D	4687799	2390491	471.26	27.50	-53.0	50.0
CO-129-D	4687800	2390492	471.22	306.20	-52.6	46.8
CO-130-D	4687825	2390565	482.59	291.50	-69.2	49.8
CO-131-D	4687840	2390462	463.78	338.80	-64.2	48.0
CO-132-D	4687803	2390474	470.35	362.50	-56.2	51.1
CO-133A-D	4687774	2390465	473.66	369.00	-54.3	49.3
CO-133-D	4687773	2390466	473.68	39.00	-55.0	50.0
CO-134-DR	4687767	2390569	487.63	281.60	-55.6	50.0
CO-135A-D	4687841	2390501	465.61	276.00	-48.0	50.5
CO-135-DR	4687838	2390504	465.61	42.00	-48.0	50.0
CO-136-DR	4688029	2390355	437.7	227.65	-58.3	50.7
CO-137A-D	4687919	2390523	458.85	228.40	-61.6	50.4
CO-137-DR	4687920	2390524	459.03	102.00	-63.5	56.6
CO-138-D	4687726	2390666	492.33	228.00	-58.5	52.2
CO-139-D	4687795	2390574	487.07	282.00	-58.1	48.8
CO-140-D	4687830	2390678	466.81	160.00	-59.4	50.1
CO-141-R	4688366	2390231	414.19	133.00	-52.1	50.0
CO-142-D	4687963	2390416	445.74	258.00	-53.0	48.6
CO-143A-D	4687799	2390413	469.65	373.30	-65.1	48.1
CO-143-D	4687799	2390414	469.66	69.00	-66.0	48.0
CO-144-D	4687833	2390404	464.58	353.80	-65.2	50.6
CO-145-D	4687888	2390447	455.81	330.00	-69.9	49.9

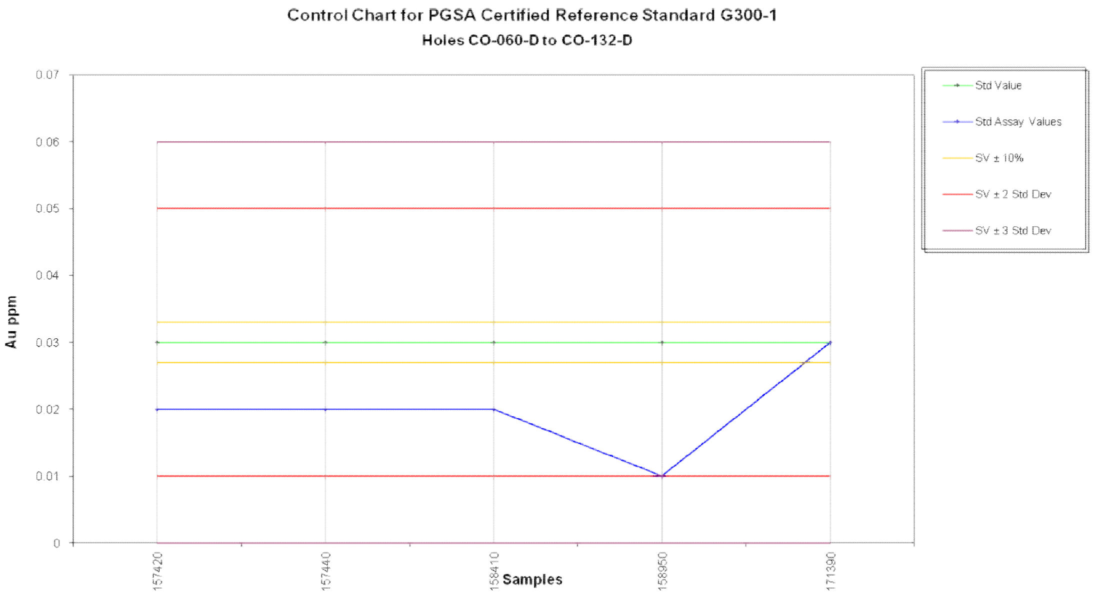
CO-146-D	4687926	2390492	455.93	269.60	-69.8	50.7
CO-147A-D	4687836	2390379	462.13	409.70	-69.1	48.6
CO-147-D	4687837	2390380	462.1	27.00	-69.7	51.7
CO-148-R	4687807	2390813	460.36	57.00	-75.0	50.0
CO-149-R	4687756	2390766	477.55	127.00	-65.0	50.0
CO-150-D	4687774	2390465	475.75	351.00	-64.2	48.5
CO-151-R	4688082	2390508	431.25	97.00	-55.0	50.0
CO-152A-D	4687877	2390425	457.04	23.40	-70.0	48.0
CO-152B-D	4687877	2390425	457.02	345.00	-68.8	49.4
CO-152-R	4688492	2390147	412.42	2.00	-70.0	50.0
CO-153-D	4687794	2390317	462.82	570.00	-71.1	48.9
CO-154-D	4687917	2390427	451.65	306.00	-70.6	48.9
CO-155-D	4687878	2390384	454.19	366.00	-69.7	50.0
CO-156-D	4687920	2390395	450.86	339.00	-69.6	51.5

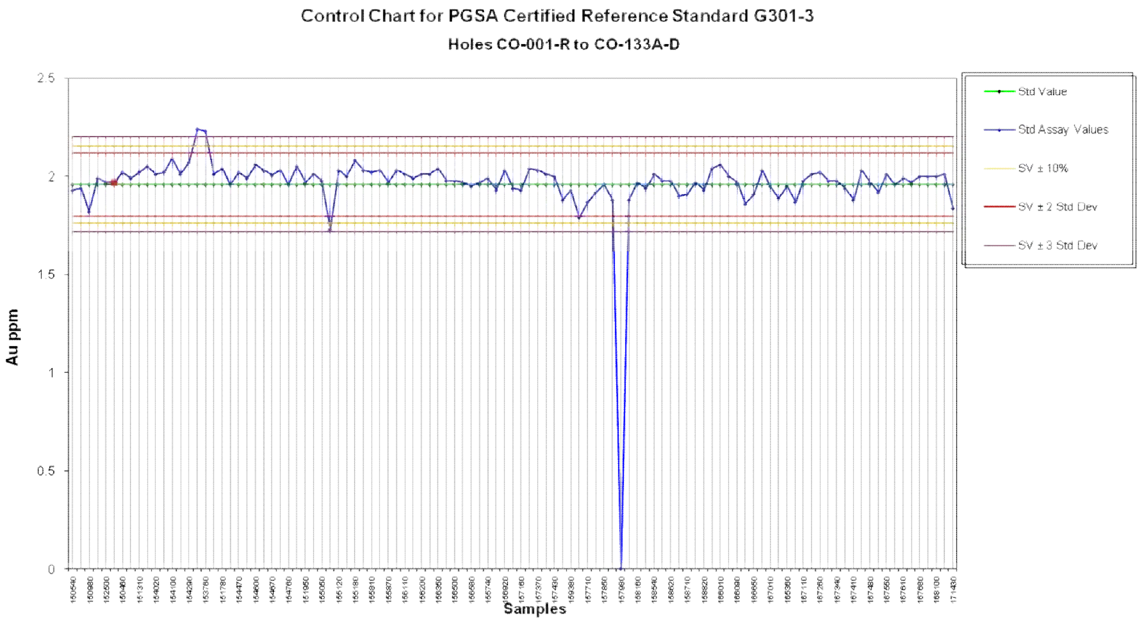
APPENDIX II
QUALITY ASSURANCE/QUALITY CONTROL RESULTS

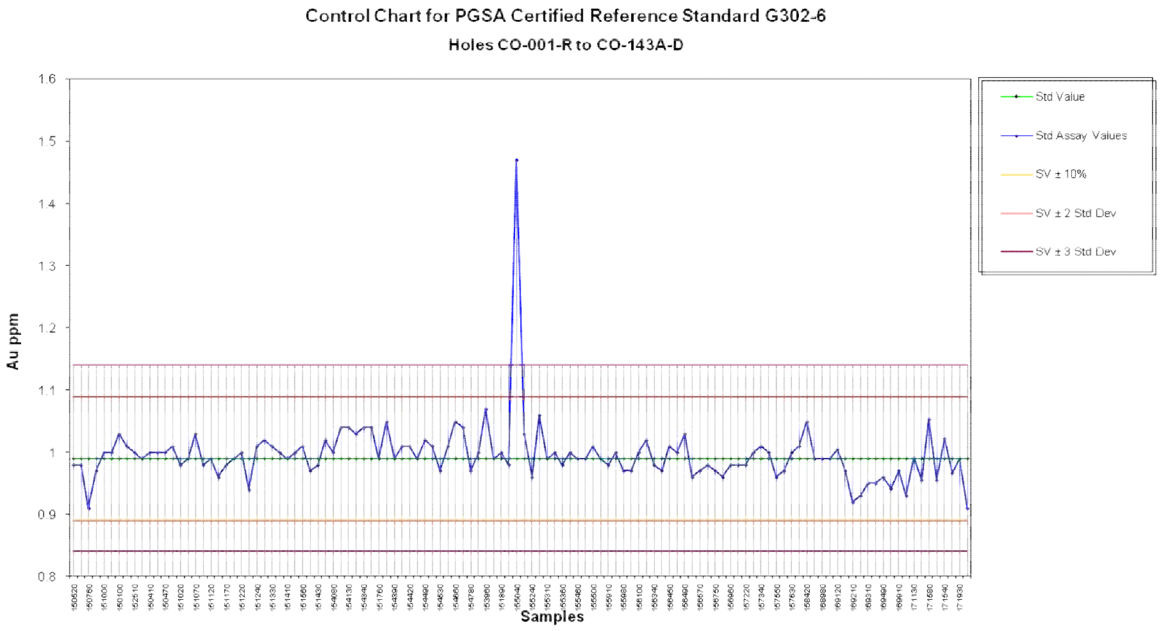

Control Chart for PGSA Certified Reference Standard GBM303-1
Holes CO-036-D to CO-038-DR
Ag ppm
1700.000
1600.000
1500.000
1400.000
1300.000
1200.000
1100.000
1000.000
154750
151910
155060
Samples
Std Value
STD Assay Values
SV± 10%
SV± 2 Std Dev
SV± 3 Std Dev

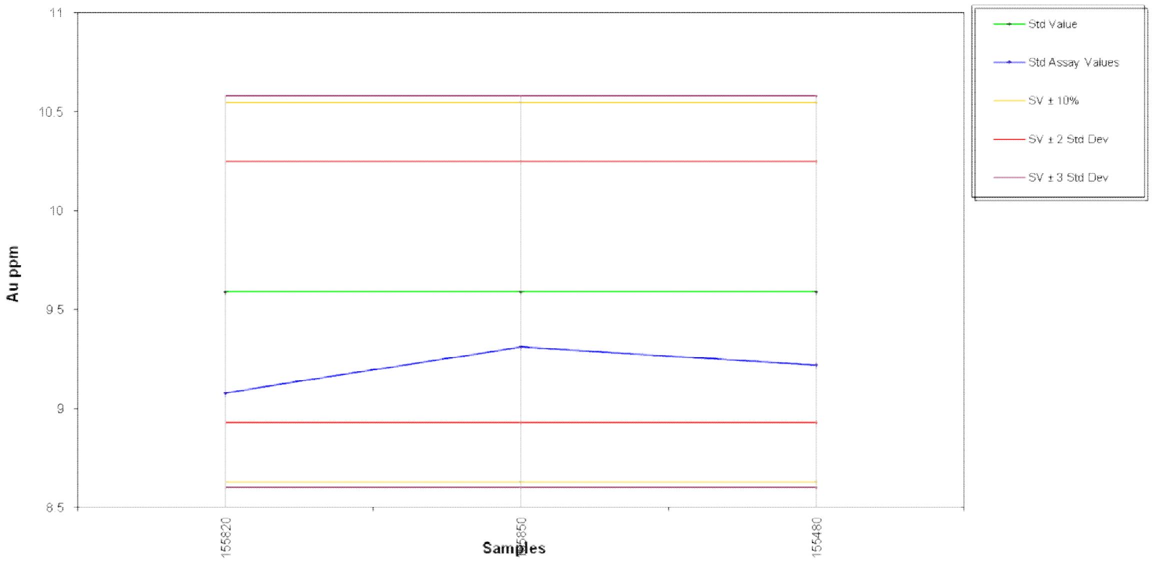

Control Chart for PGSA Certified Reference Standard GBM995-8 Ag
Holes CO-116-DR to CO-138-D
Ag ppm
70
65
60
55
50
45
40
35
169530
169750
169830
169890
171190
171470
171520
171570
171670
171750
171750
Samples
Std Value
STD Assay Values
SV± 10%
SV± 2 Std Dev
SV± 3 Std Dev


Control Chart for PGSA Certified Reference Standard GBM998-9
Holes CO-102-DR to CO-139-D


Control Chart for PGSA Certified Reference Standard G300-1
Holes CO-060-D to CO-132-D

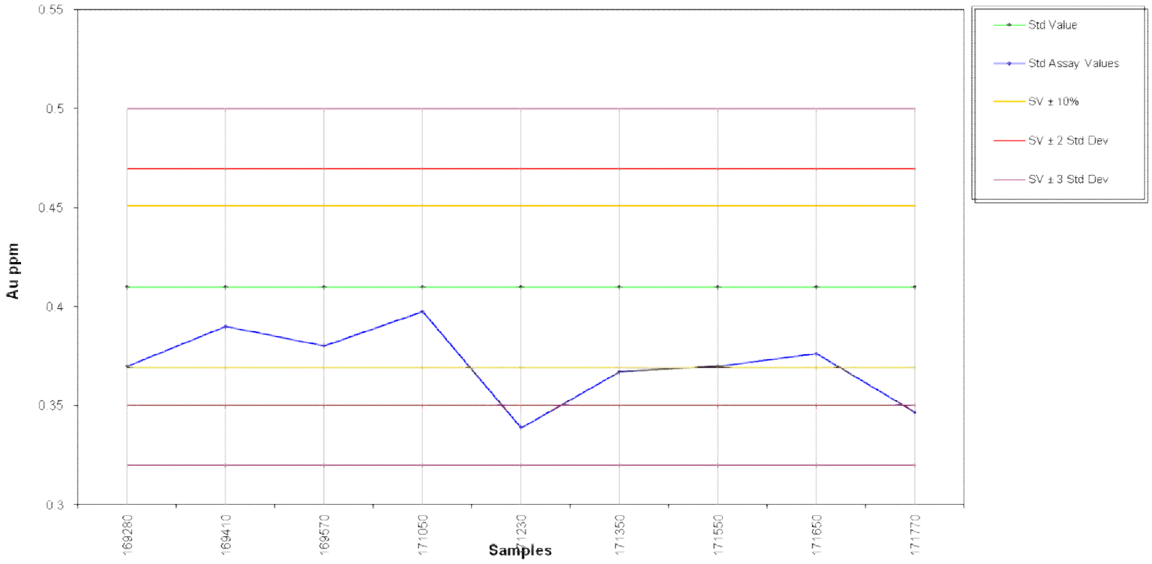

Control Chart for PGSA Certified Reference Standard G301-3
Holes CO-001-R to CO-133A-D


Control Chart for PGSA Certified Reference Standard G302-6
Holes CO-001-R to CO-143A-D



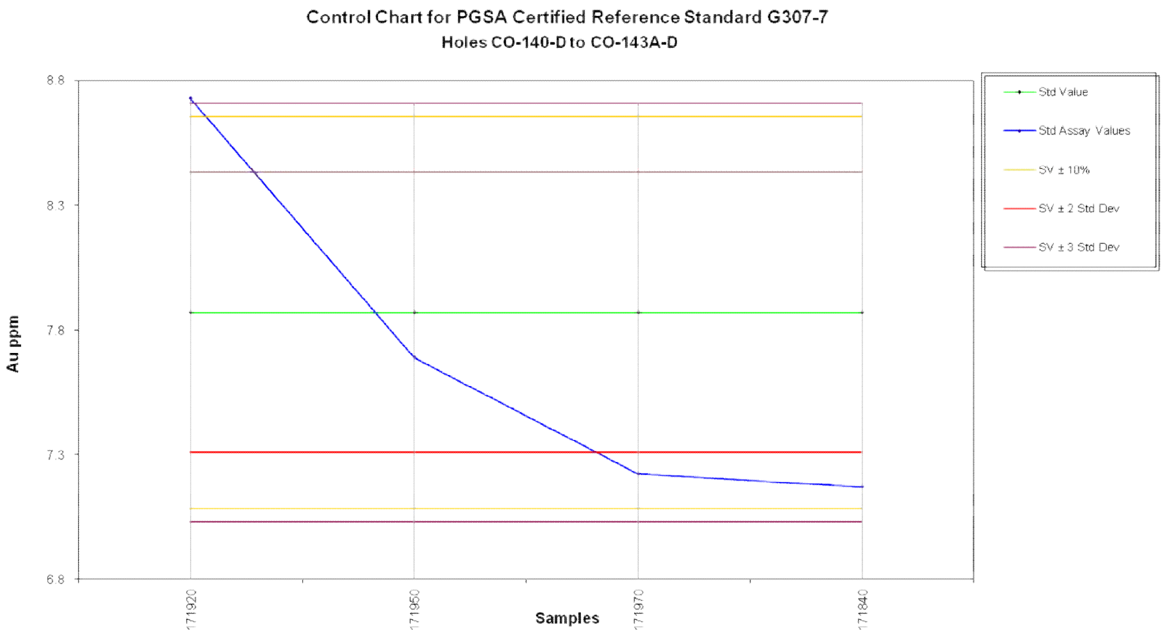
Control Chart for PGSA Certified Reference Standard G305-7

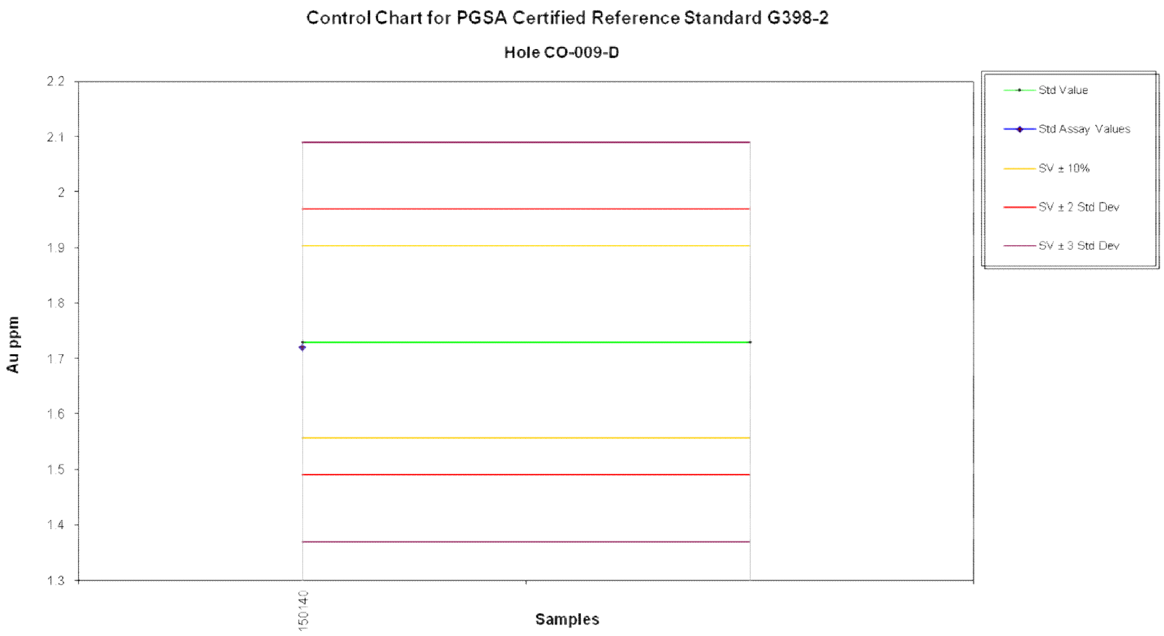
Holes CO-040-DR to CO-044-DR



Control Chart for PGSA Certified Reference Standard G306-1

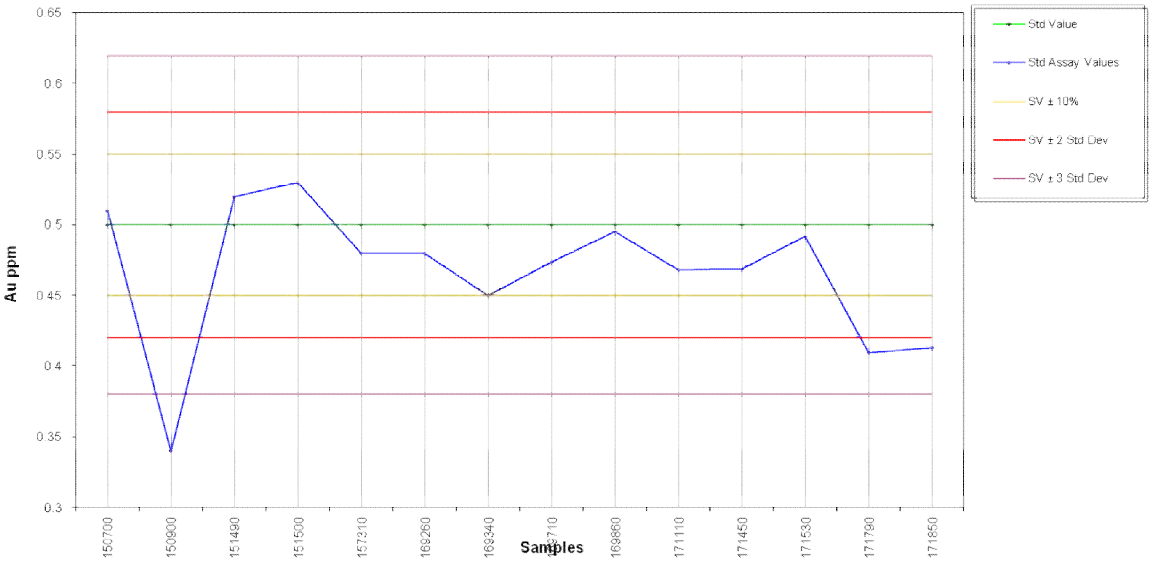
Holes CO-107-DR to CO-139-D


Control Chart for PGSA Certified Reference Standard G307-7
Holes CO-140-D to CO-143A-D


Control Chart for PGSA Certified Reference Standard G398-2
Hole CO-009-D

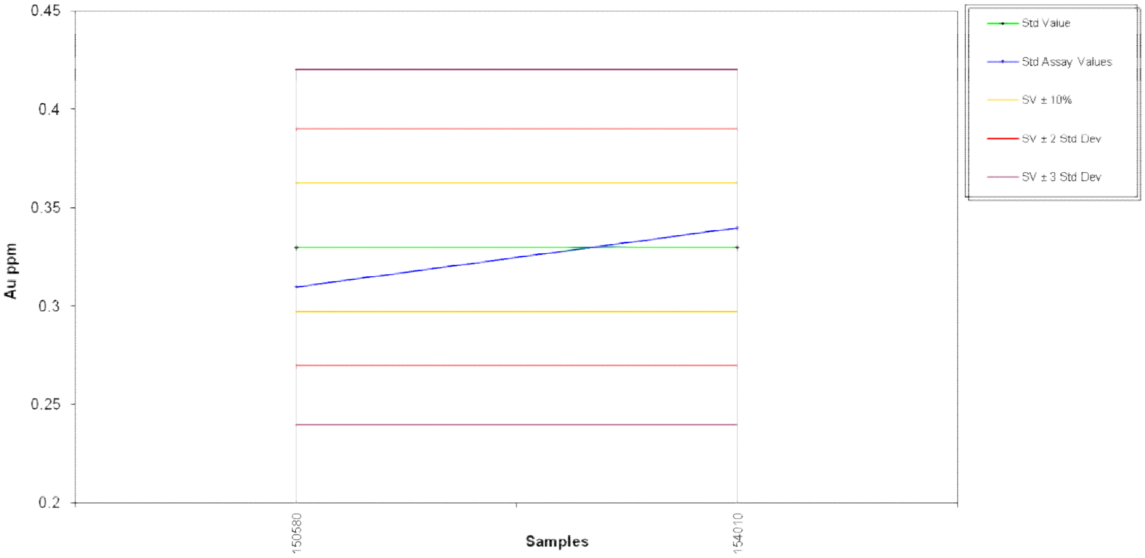
Control Chart for PGSA Certified Reference Standard G398-2

Holes CO-003-R to CO-140-D



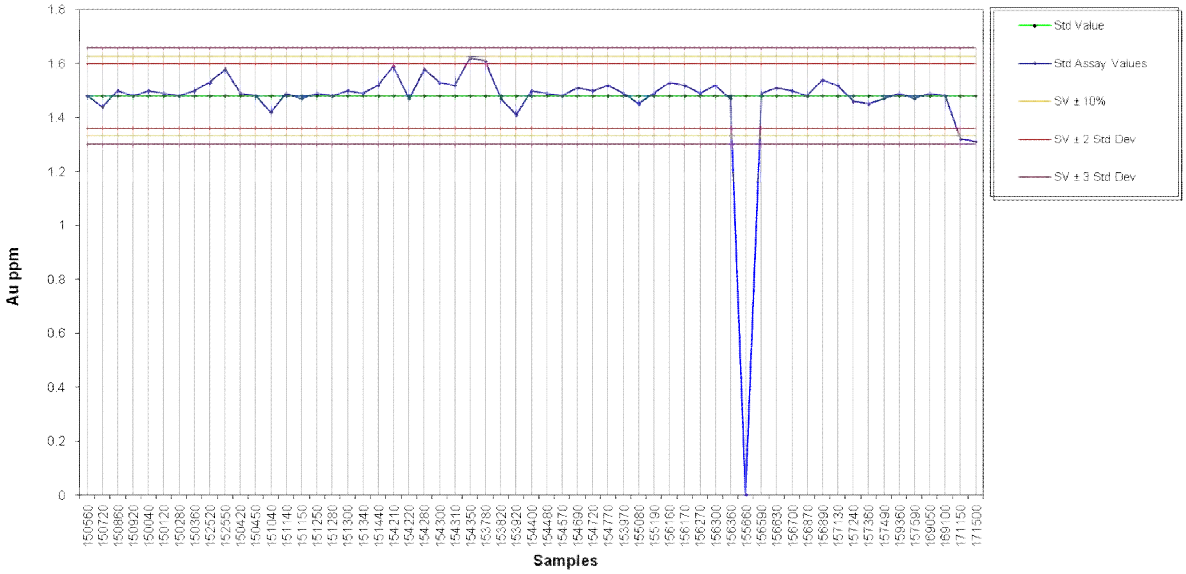
Control Chart for PGSA Certified Reference Standard G398-9

Holes CO-001-R to CO-022-D



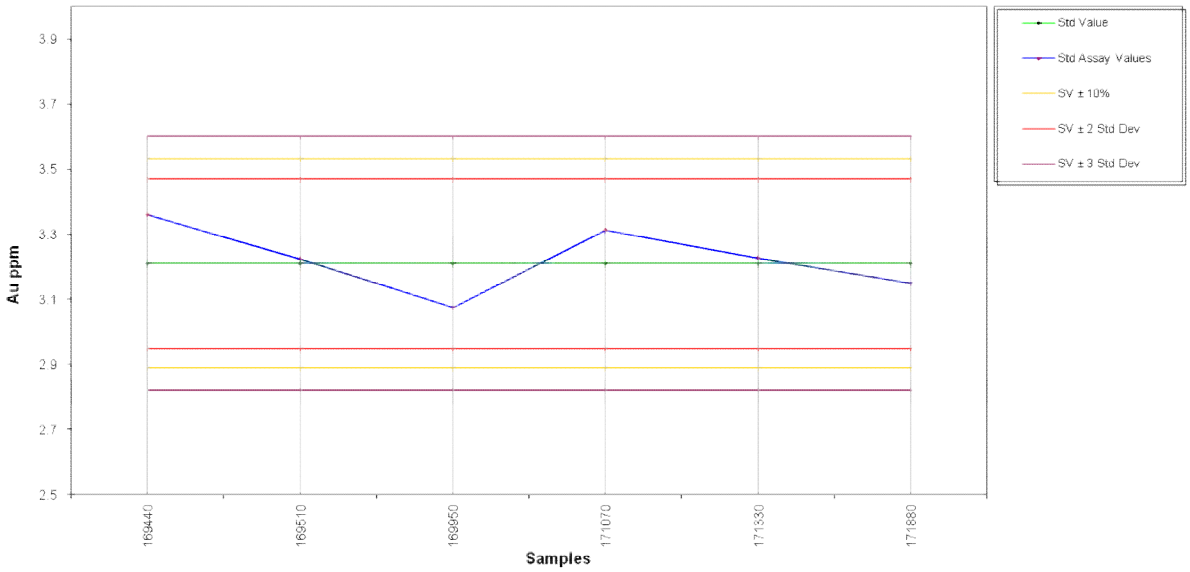
Control Chart for PGSA Certified Reference Standard G900-2

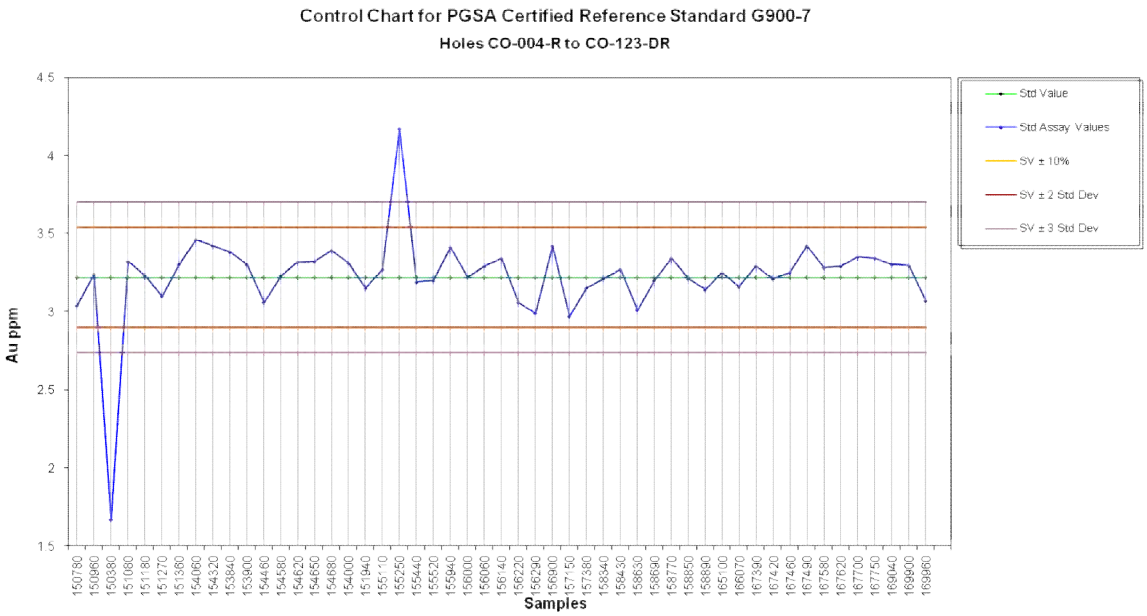
Holes CO-001-R to CO-133A-D

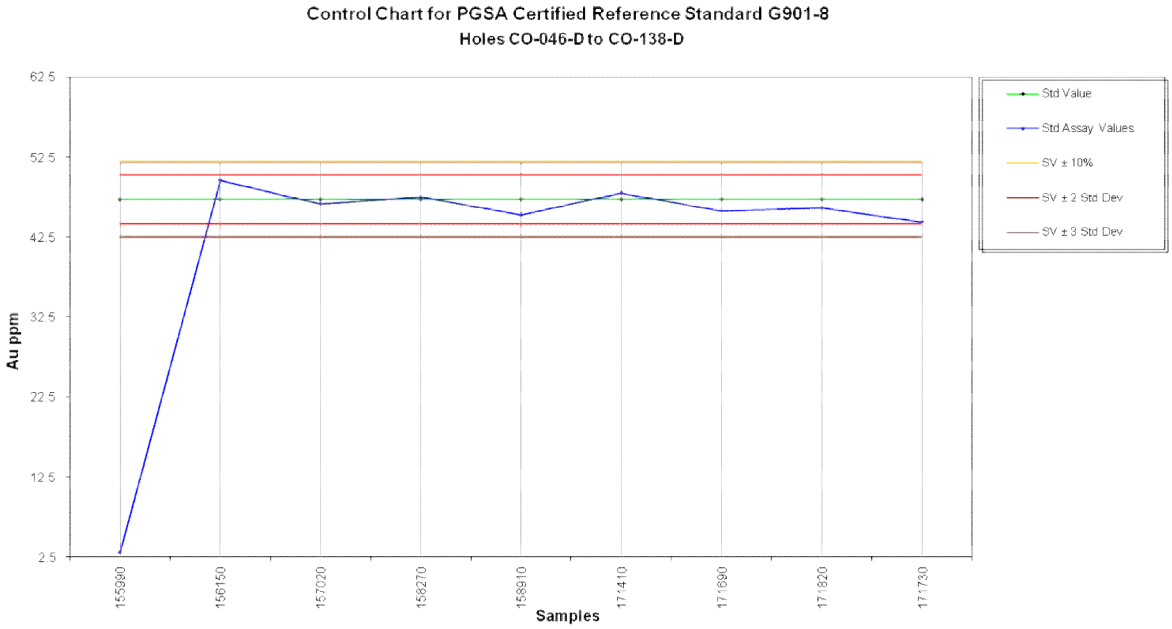


Control Chart for PGSA Certified Reference Standard G900-5

Holes CO-113-D to CO-141-R




Control Chart for PGSA Certified Reference Standard G900-7
Holes CO-004-R to CO-123-DR
4.5
4
3.5
3
2.5
2
1.5
Au ppm
150780
150960
150380
151080
151180
151270
151360
154060
154320
153840
153900
154460
154580
154620
154650
154680
154000
151940
155110
155250
155440
155520
155940
156000
156060
156140
156220
156290
156900
157150
157380
158340
158430
158630
158690
158770
158850
158890
165100
166070
167390
167420
167460
167490
167580
167620
167700
167750
169040
169900
169960
Samples
Std Value
Std Assay Values
SV ± 10%
SV ± 2 Std Dev
SV ± 3 Std Dev

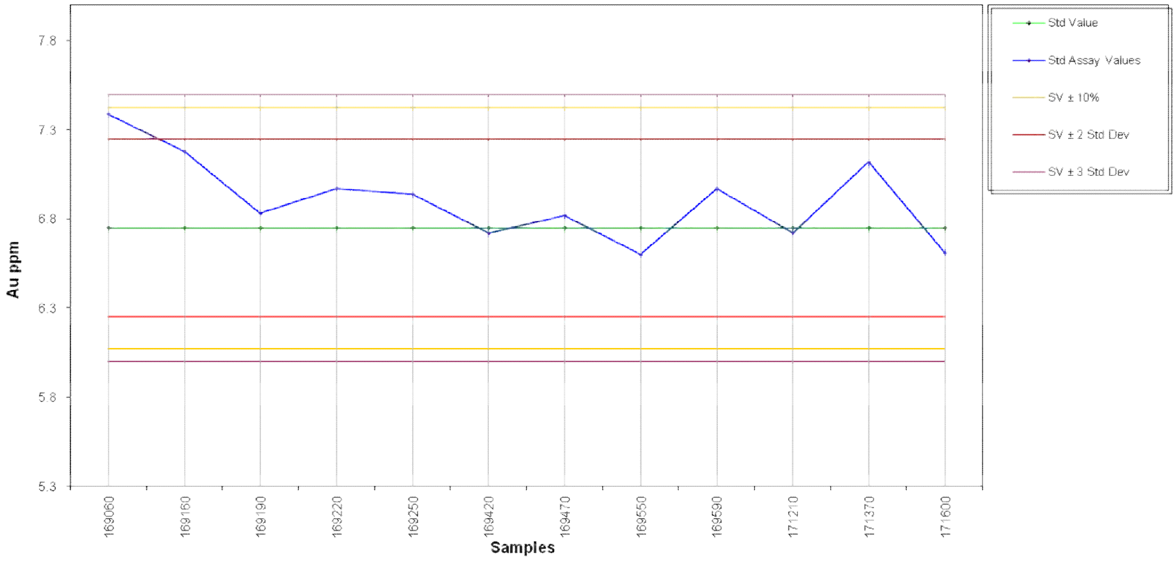

Control Chart for PGSA Certified Reference Standard G901-8
Holes CO-046-D to CO-138-D
62.5
52.5
42.5
32.5
22.5
12.5
2.5
Au ppm
155990
156150
157020
158270
158910
171410
171690
171820
171730
Samples
Std Value
Std Assay Values
SV ± 10%
SV ± 2 Std Dev
SV ± 3 Std Dev

Control Chart for PGSA Certified Reference Standard G903-6

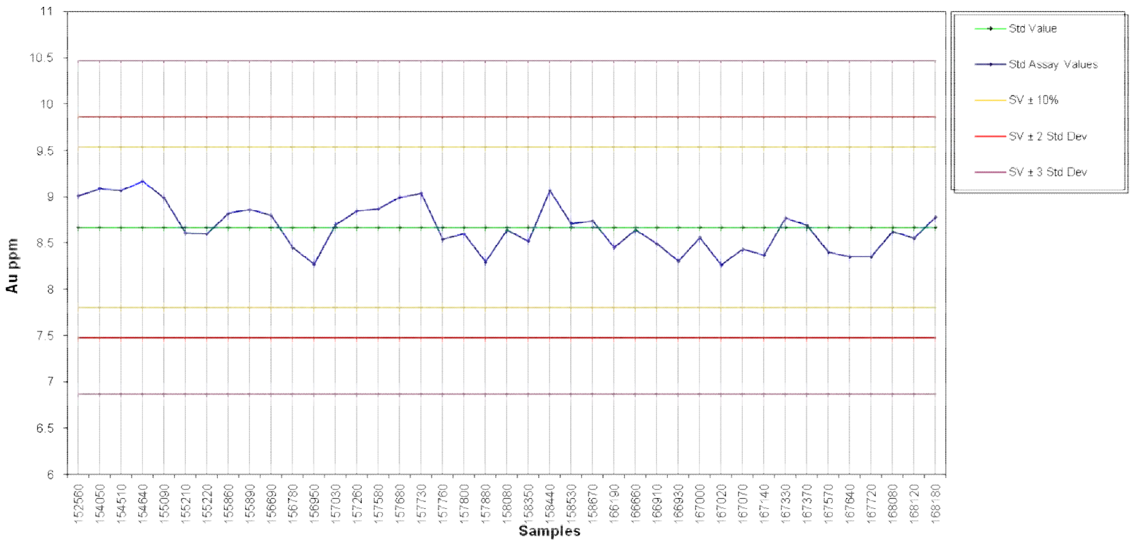
Holes CO-009-R to CO-142-D

Control Chart for PGSA Certified Reference Standard G905-10

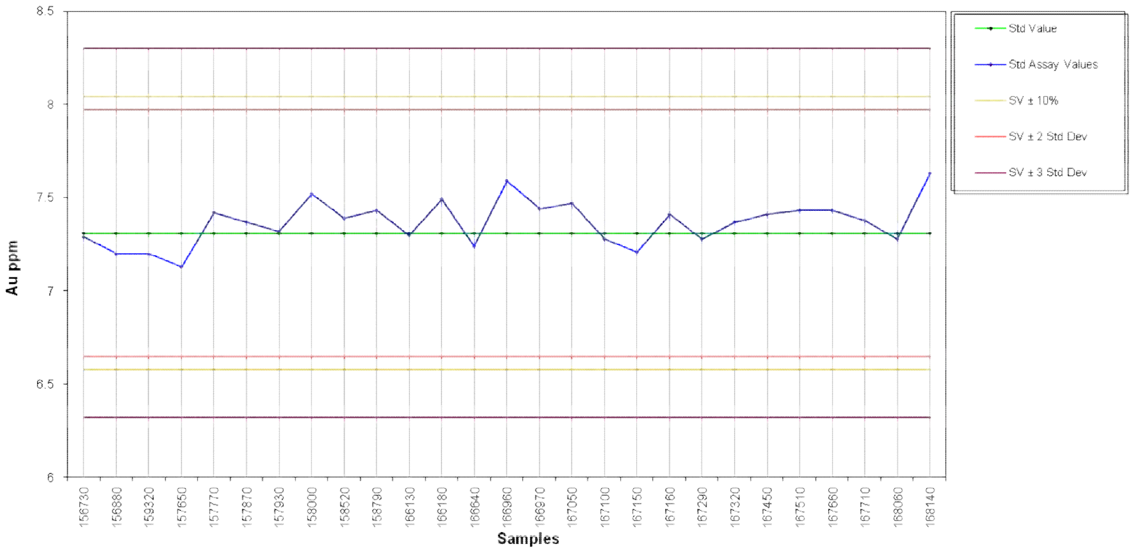
Holes CO-099-D to CO-132-D



Control Chart for PGSA Certified Reference Standard G995-4
Holes CO-011-DR to CO-095-R

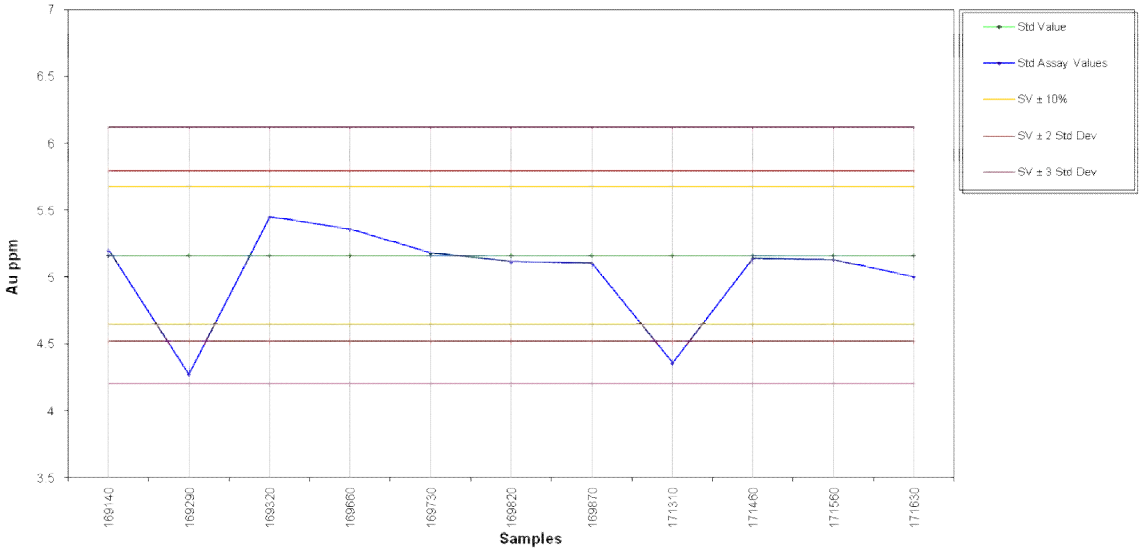


Control Chart for PGSA Certified Reference Standard G997-5
Holes CO-055-DR to CO-095-R



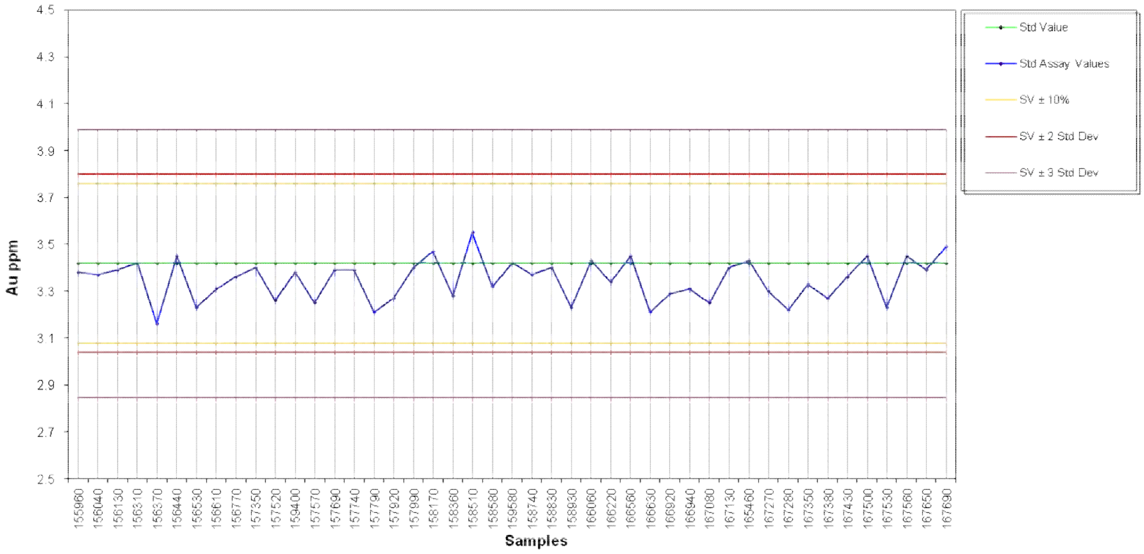
Control Chart for PGSA Certified Reference Standard G997-9

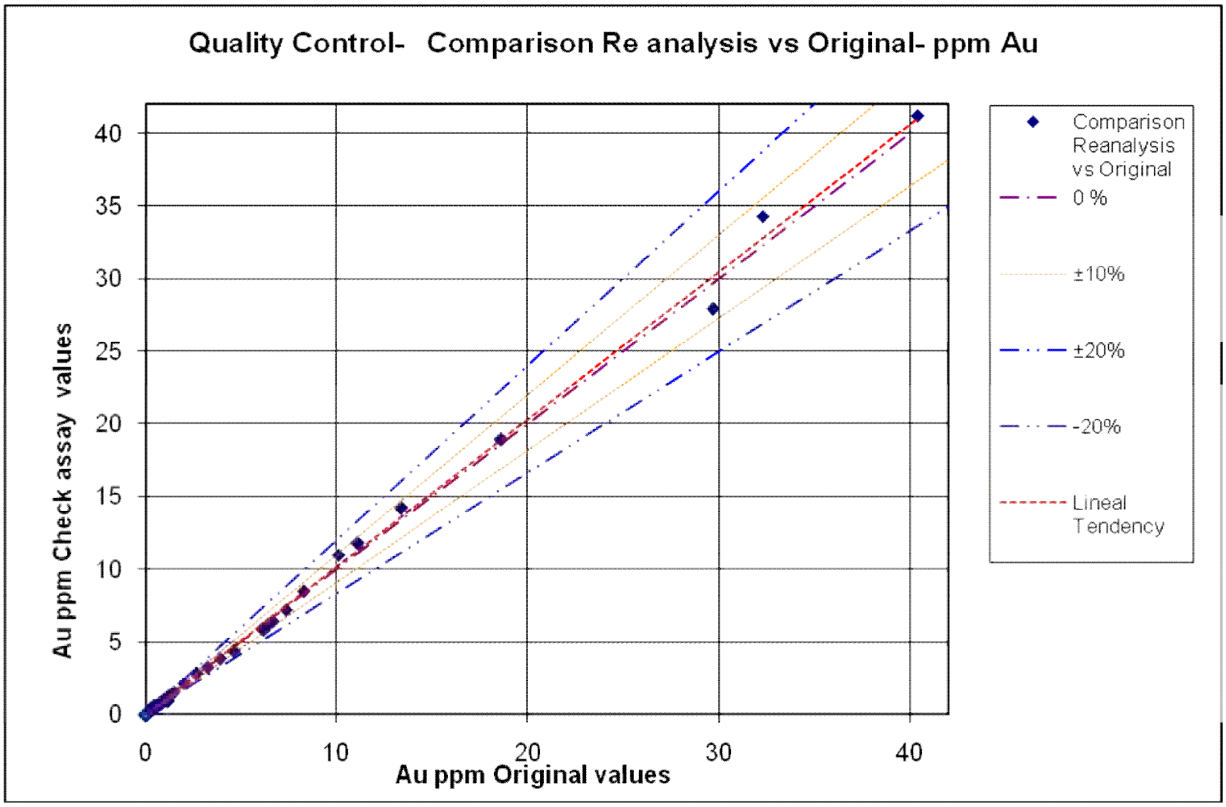
Holes CO-102-DR to CO-136-DR



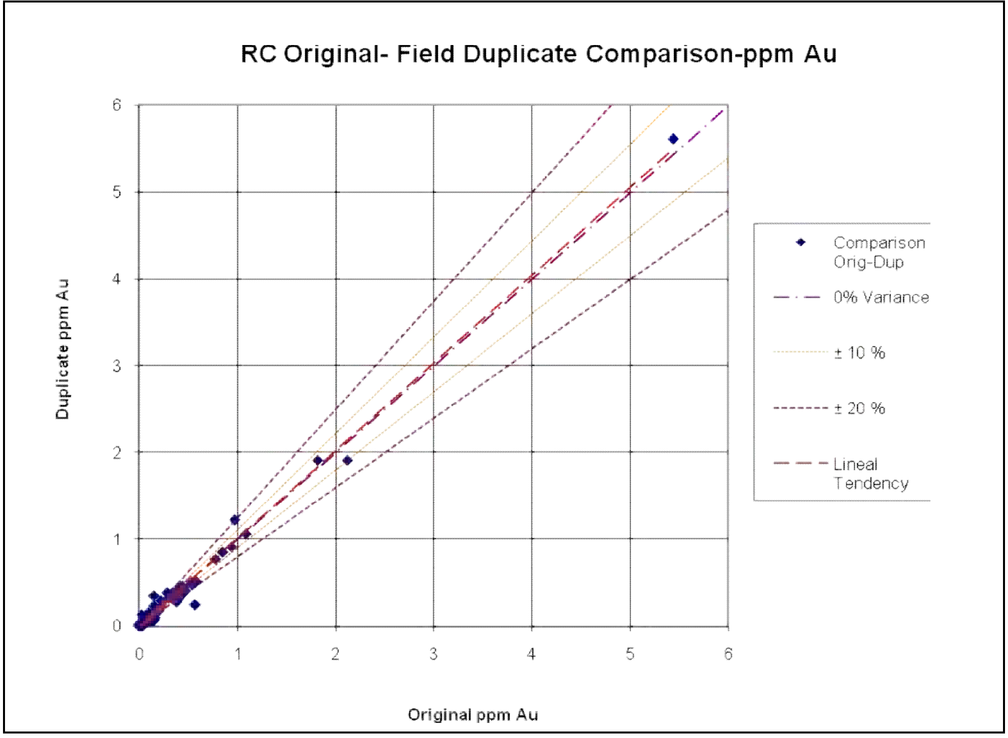
Control Chart for PGSA Certified Reference Standard G999-8

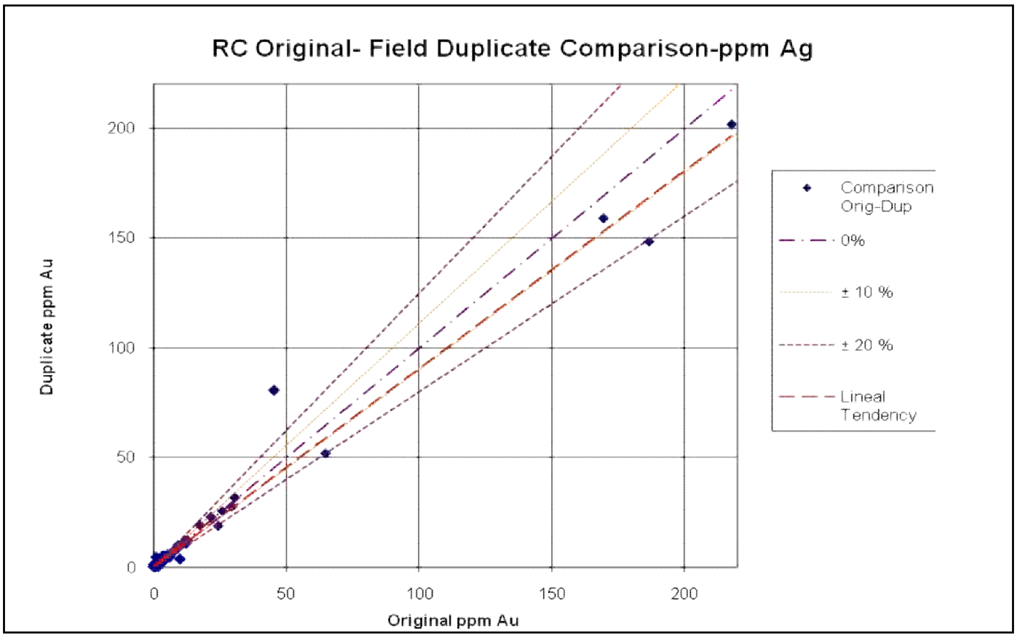
Holes CO-045-D to CO-093-D



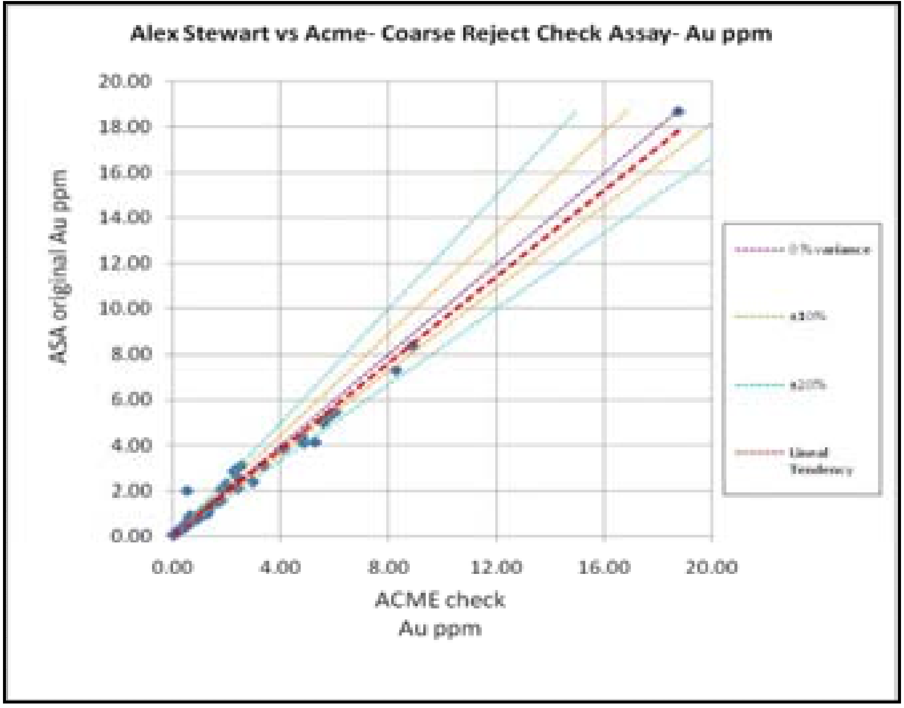

Quality Control- Comparison Re analysis vs Original- ppm Au
Au ppm Check assay values
Au ppm Original values
0
5
10
15
20
25
30
35
40
0
10
20
30
40
Comparison Reanalysis vs Original
0 %
±10%
±20%
-20%
Lineal Tendency

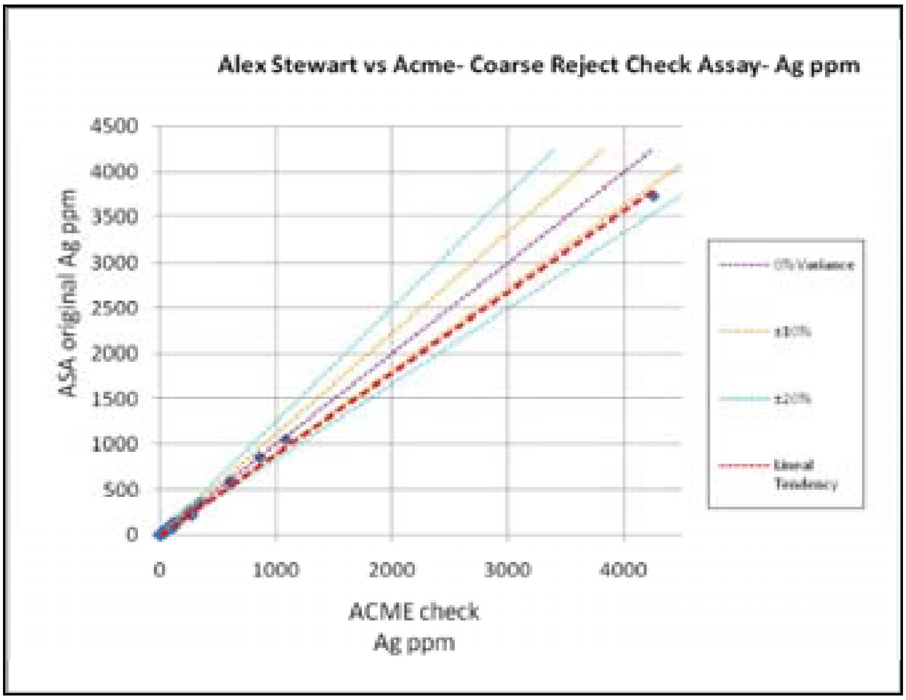
QA/QC- Comparison of original and duplicate sample values for Au and Ag



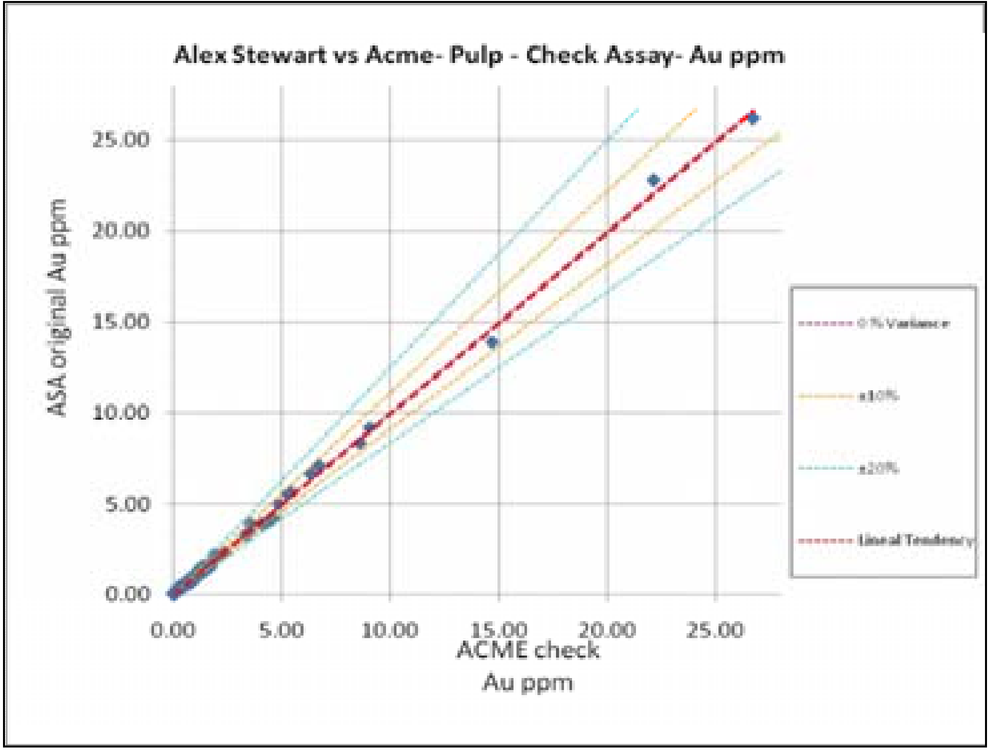


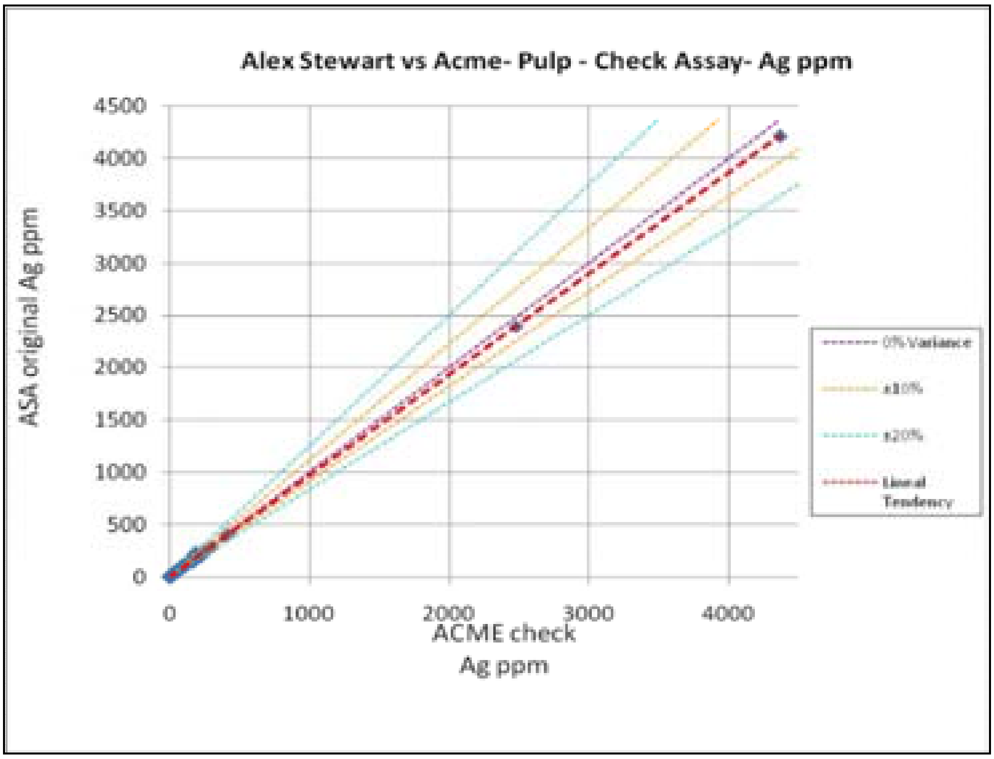
QA/QC- Coarse Rejects - Alex Stewart Assayers S.A. vs Acme Laboratories Au & Ag



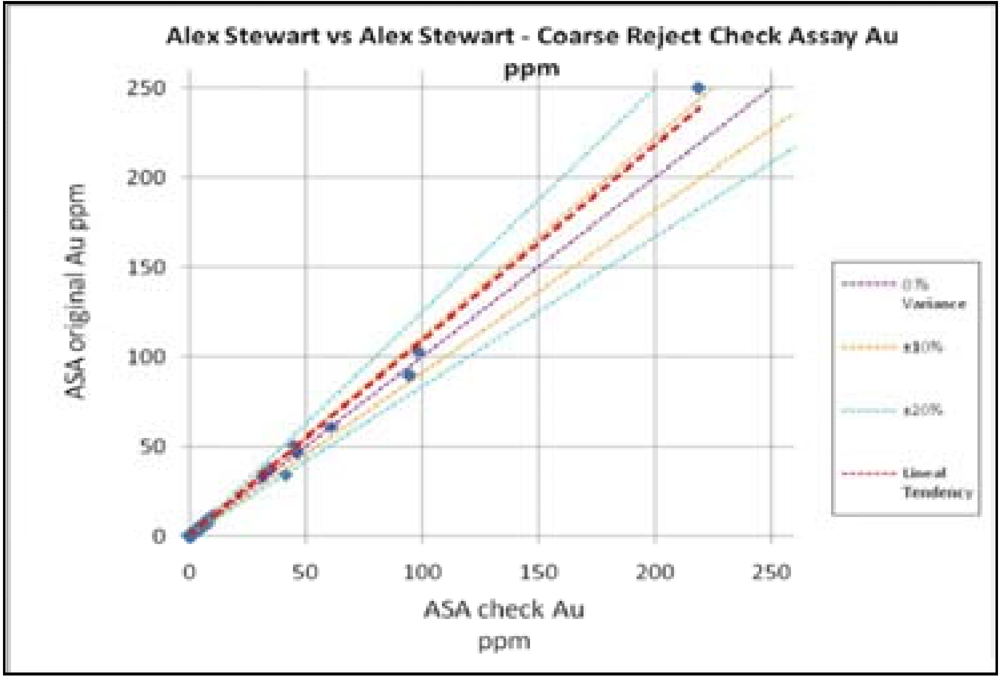


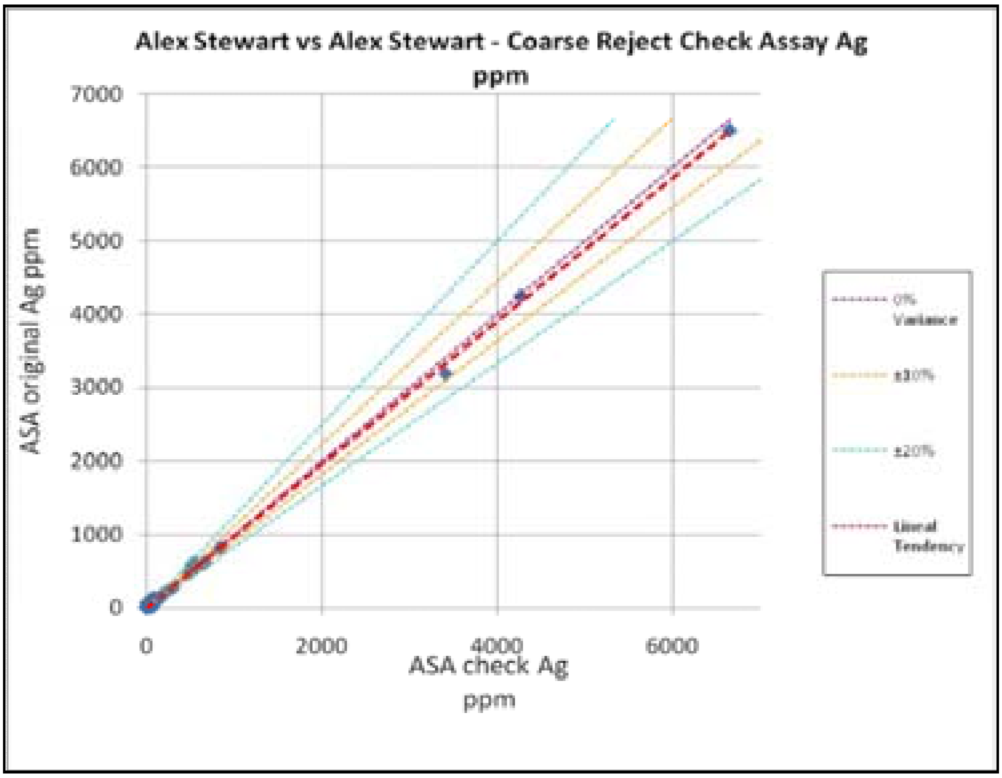
QA/QC- Pulps - Alex Stewart Assayers S.A. vs Acme Laboratories Au & Ag



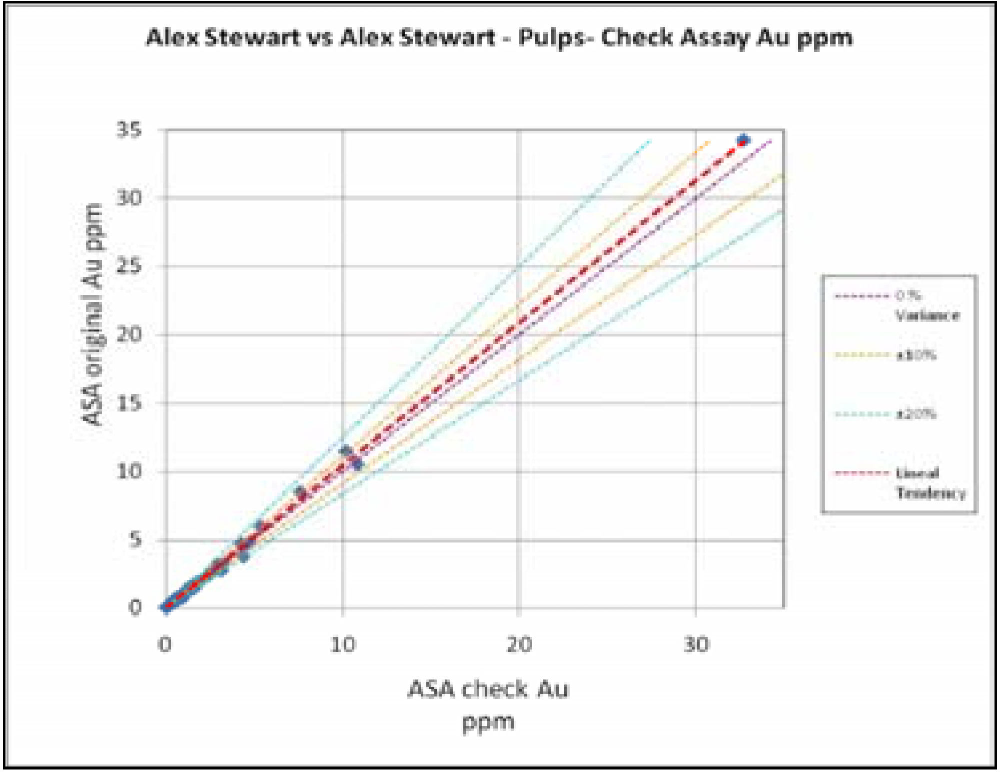


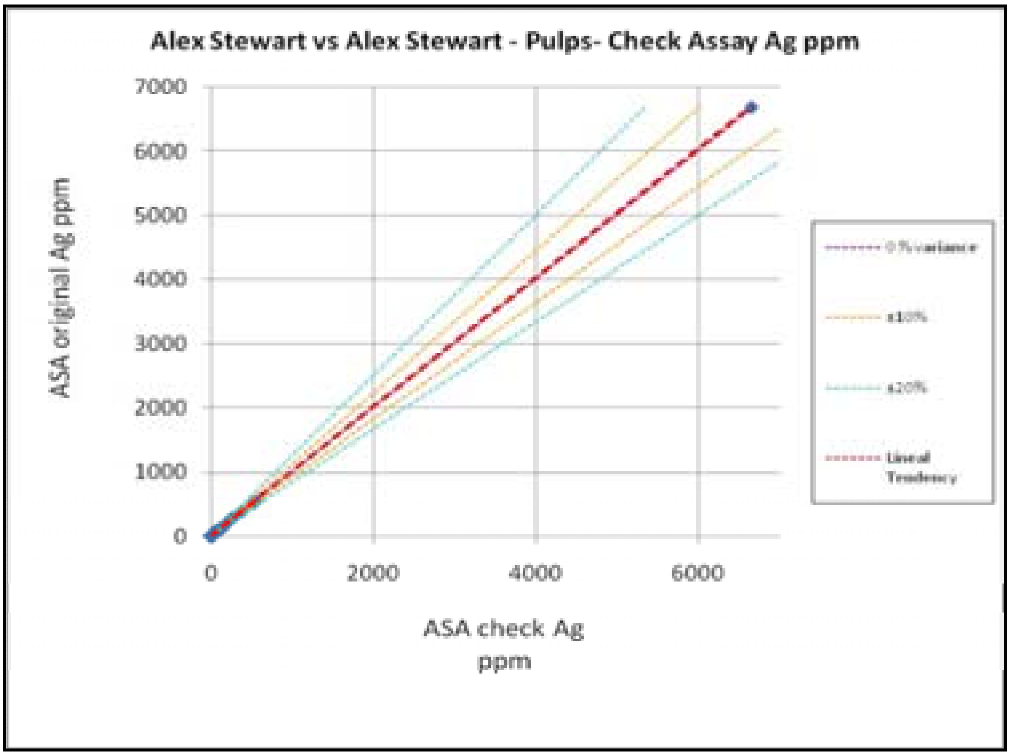
QA/QC- Coarse Rejects- Internal check assay - Alex Stewart Assayers S.A Au & Ag



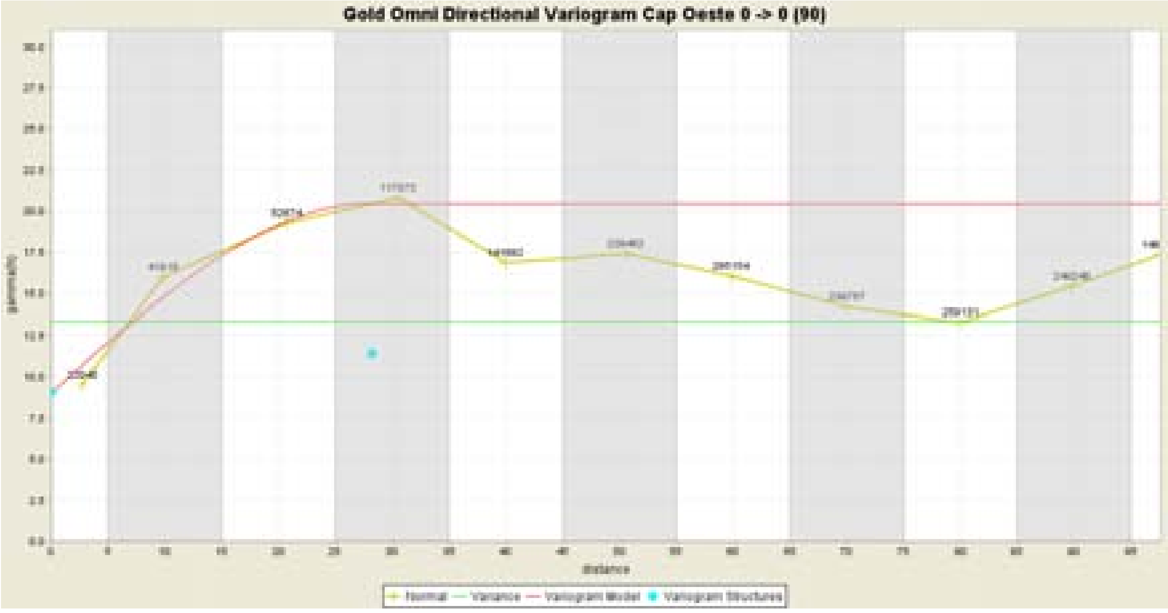


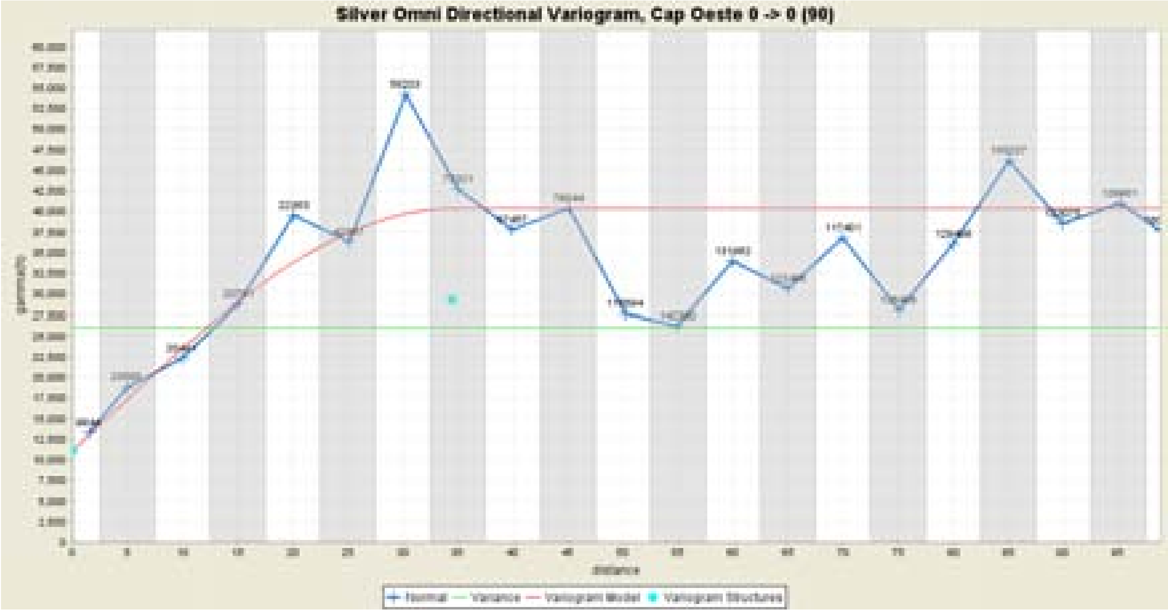
QA/QC- Pulps -Internal check assay -Alex Stewart Assayers S.A Au & Ag

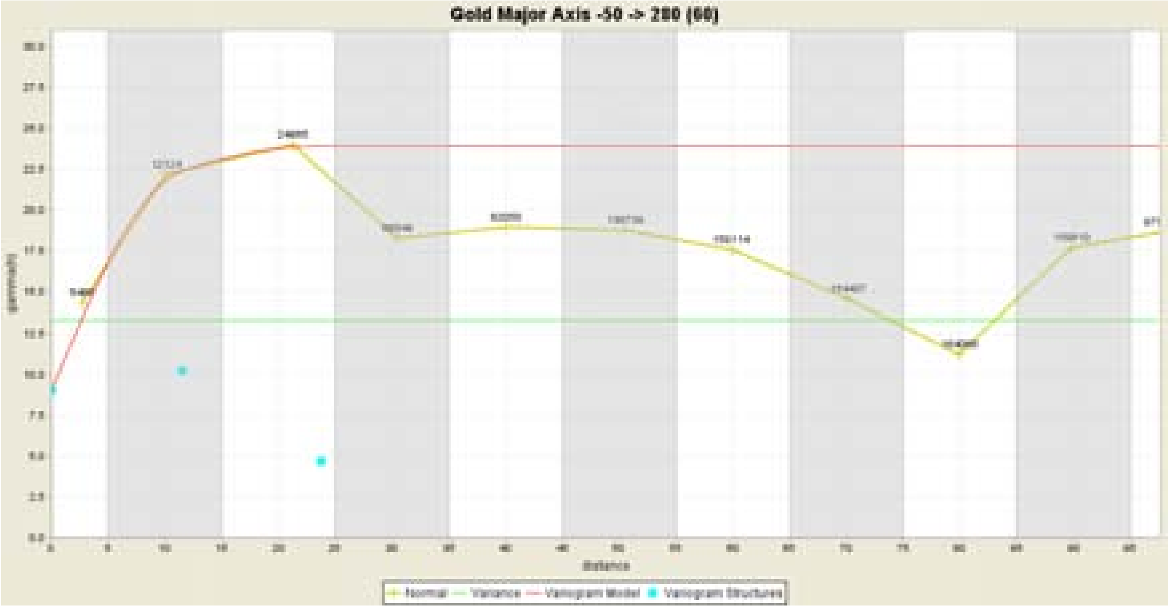


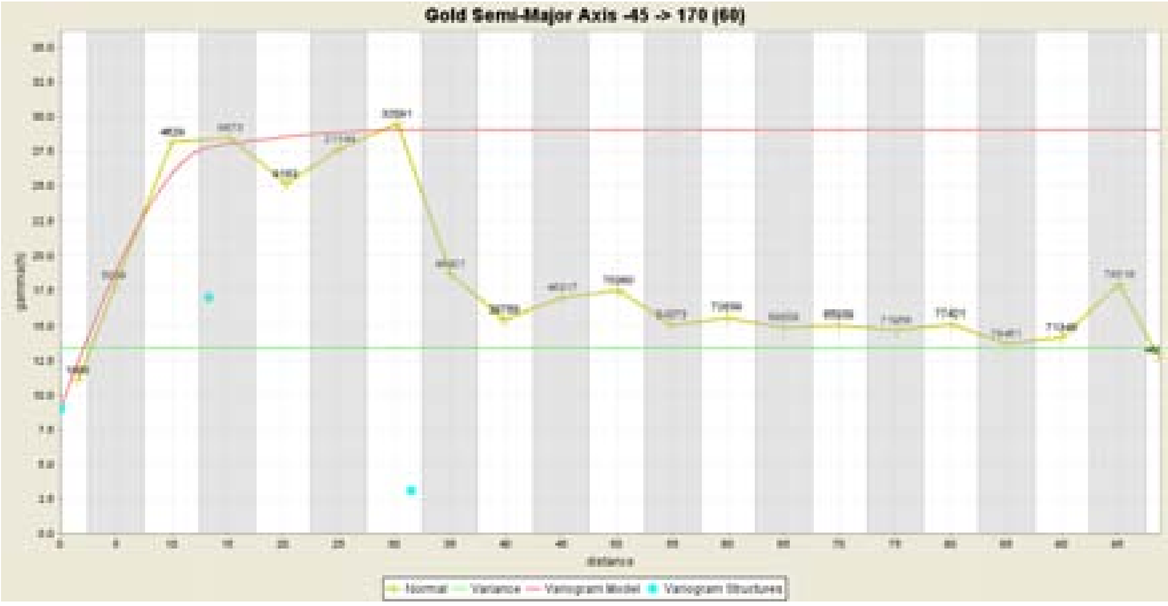


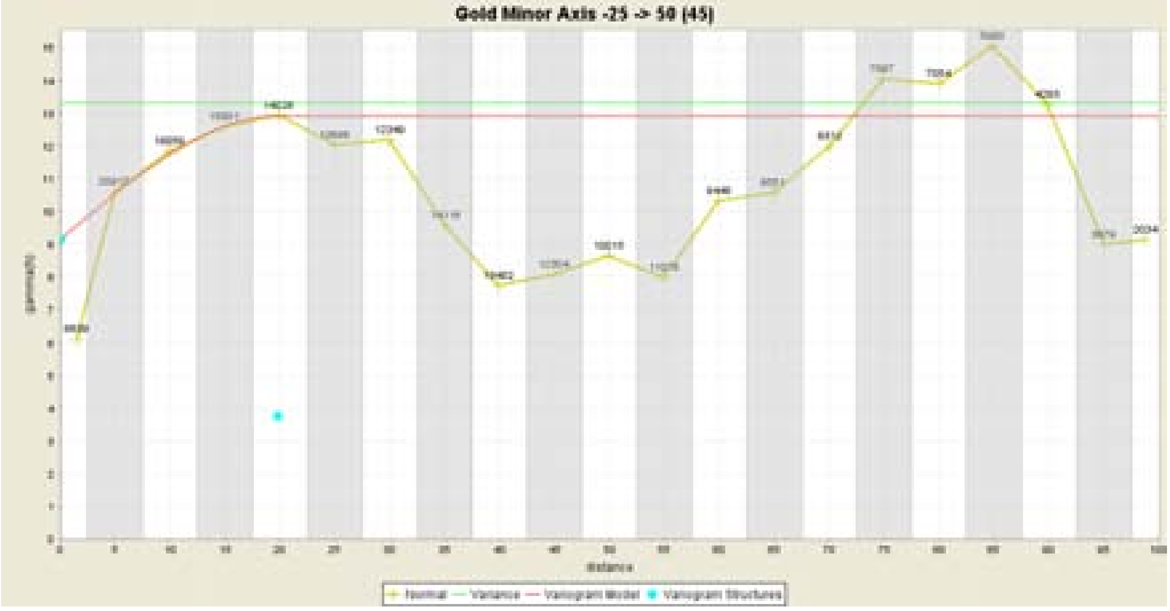
APPENDIX III
GOLD AND SILVER VARIOGRAMS

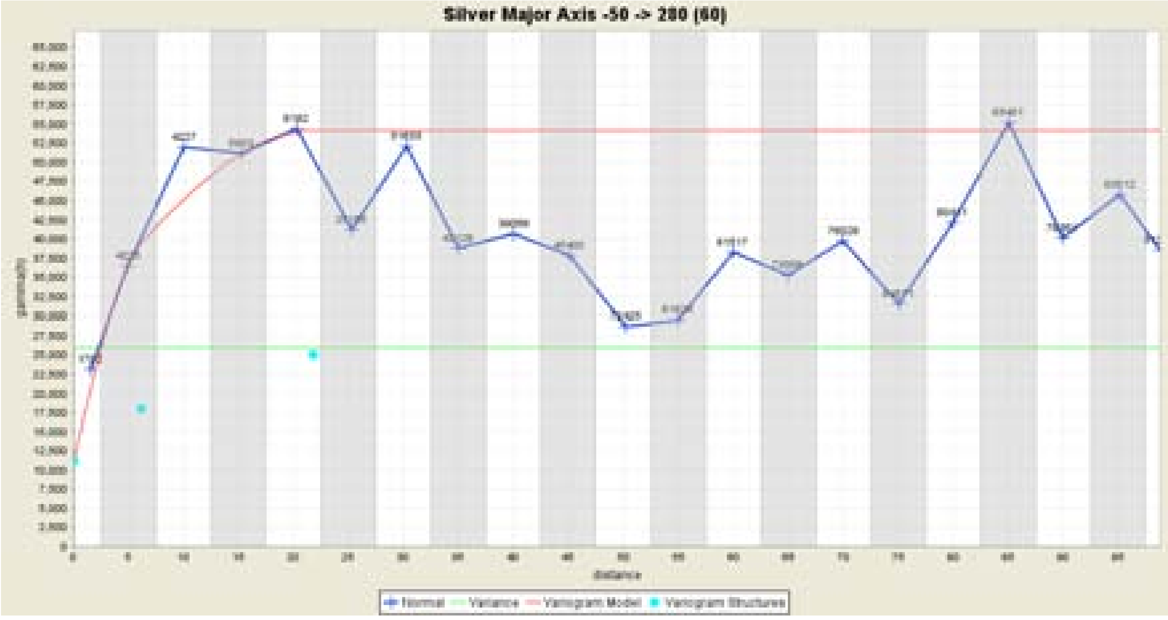

Gold Omni Directional Variogram Cap Oeste 0 -> 0 (90)
gamma(h)
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
22.5
25.0
27.5
30.0
distance
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
Normal
Variance
Variogram Model
Variogram Structures

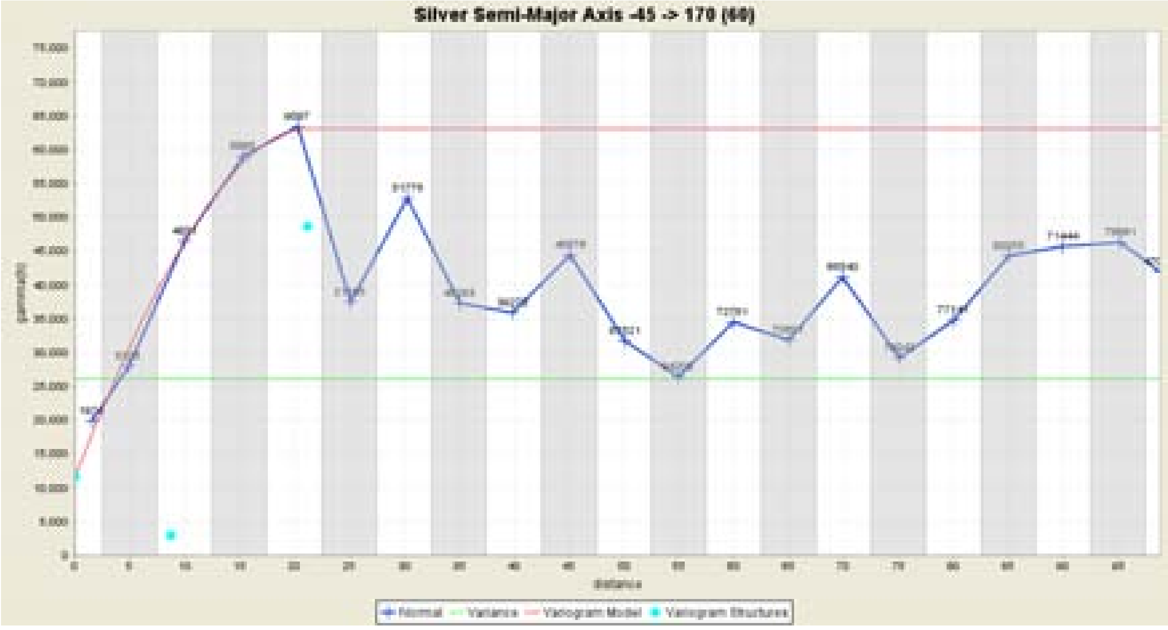

Silver Omni Directional Variogram, Cap Oeste 0 -> 0 (90)
gamma(h)
0
2,500
5,000
7,500
10,000
12,500
15,000
17,500
20,000
22,500
25,000
27,500
30,000
32,500
35,000
37,500
40,000
42,500
45,000
47,500
50,000
52,500
55,000
57,500
60,000
distance
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
Normal
Variance
Variogram Model
Variogram Structures

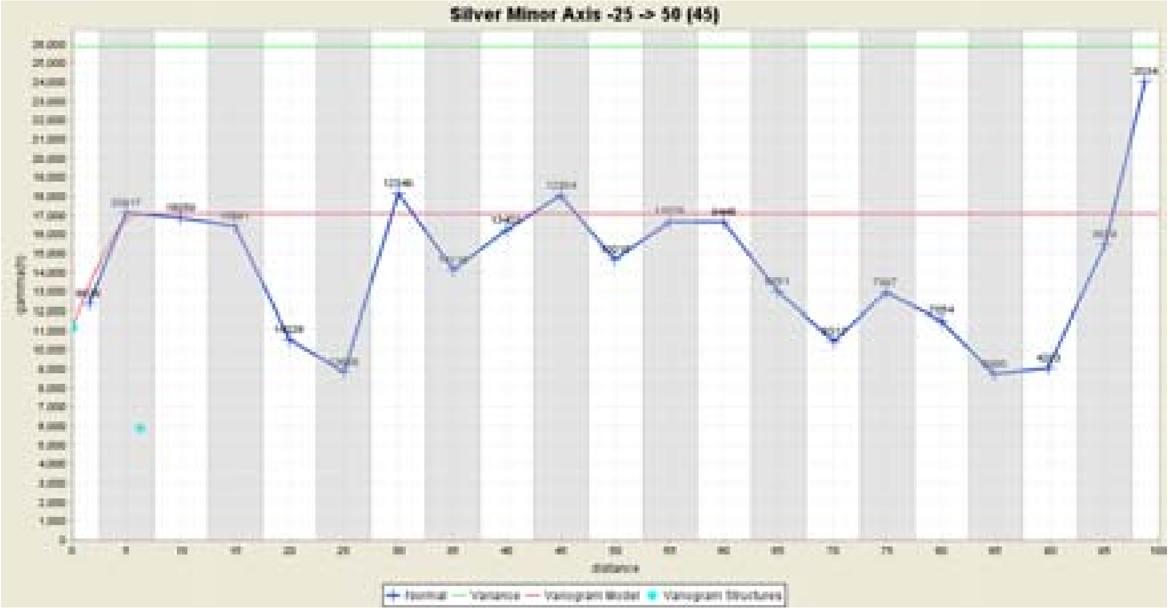

Gold Major Axis -50 -> 280 (60)
(gamma(h))
30.0
27.5
25.0
22.5
20.0
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
distance
Normal
Variance
Variogram Model
Variogram Structures


Gold Semi-Major Axis -45 -> 170 (60)
(gamma(h))
35.0
32.5
30.0
27.5
25.0
22.5
20.0
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
distance
Normal
Variance
Variogram Model
Variogram Structures


Gold Minor Axis -25 -> 50 (45)
gamma(|h|)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
distance
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
Normal
Variance
Variogram Model
Variogram Structures


Silver Major Axis -50 -> 280 (60)
gamma(|h|)
0
2,500
5,000
7,500
10,000
12,500
15,000
17,500
20,000
22,500
25,000
27,500
30,000
32,500
35,000
37,500
40,000
42,500
45,000
47,500
50,000
52,500
55,000
57,500
60,000
62,500
65,000
distance
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
Normal
Variance
Variogram Model
Variogram Structures


Silver Semi-Major Axis -45 -> 170 (60)
gamma(d)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
distance
Normal
Variance
Variogram Model
Variogram Structures


Silver Minor Axis -25 -> 50 (45)
gamma(d)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
13,000
14,000
15,000
16,000
17,000
18,000
19,000
20,000
21,000
22,000
23,000
24,000
25,000
26,000
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
distance
Normal
Variance
Variogram Model
Variogram Structures