MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES

Technical Report on the La Preciosa Project, Durango State, Mexico

Prepared for

ORKO SILVER CORP.

March 31, 2009

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1.0 EXECUTIVE SUMMARY

Orko Silver Corp. ("Orko") engaged Mine Development Associates ("MDA") to prepare an updated estimate of the mineral resources at Orko's La Preciosa project in the State of Durango, Mexico. The engagement specified the preparation of an independent resource estimate and the preparation of a technical report in compliance with Canada's National Instrument 43-101 and its Companion Policy. NI 43-101 specifies that a resource estimate must comply with the Canadian Institute of Mining, Metallurgy and Petroleum's ("CIM") Standards on Mineral Resources and Reserves, Definitions and Guidelines" adopted by the CIM in August 2000 and modified with adoption of the "CIM Definition Standards - For Mineral Resources and Mineral Reserves" in 2005.

Orko Silver Corp. provided the text and information regarding the status of mining rights of the La Preciosa property to MDA. The information provided to MDA was compiled by, researched by, and approved by Orko and their legal counsel. The authors of this report are not "Qualified Persons" for assessing the validity of mining rights, and therefore MDA has incorporated the work of Orko's staff and legal counsel. Additionally, the authors are not qualified persons with respect to Mexican mining and/or environmental law. Readers requiring assurance on such matters of law should consult qualified experts.

1.1 General Description of the La Preciosa project

The La Preciosa project, operated by Orko's Mexican subsidiary *Orko Silver de Mexico S.A. de C.V,* is located 47km northeast of the city of Durango, Durango State, Mexico. The project lies on the eastern flank of the Sierra Madre Occidental, on the highlands of the Mexican Altas Llanuras, an extensive volcanic plateau characterized by narrow, northwest-trending fault-controlled ranges separated by wide flat-floored basins.

The La Preciosa project hosts silver-bearing vein mineralization with associated gold, zinc and lead. Orko controls eight concessions, a total of 1134.13 hectacres, at La Preciosa, and separately, an additional three concessions (31,288.9 hectacres) on the adjacent Santa Monica and San Juan projects. Contracts are in place to provide surface rights for exploration.

The La Preciosa property is dominated by a northwest-trending ridge (La Preciosa Ridge), along which the main veins are located, and most of the historical mining occurred. Drifting on the La Gloria and Abundancia veins provides approximately 2.5 km of accessible underground workings located on the north end of this ridge. The Luz Elena vein and the recently discovered Martha vein are also located in this area. This northern area of past production is the location of the present exploration camp, and a stockpile of mineralized material on the order of 10,000 tonnes. There are also historic mines and associated underground workings at the south end of the ridge.

Total past production at La Preciosa is thought to be on the order of 30,000 tonnes, and occurred mainly during the late 1800s, as underground production from the Abundancia vein and the La Gloria vein. Recent exploration began in 1981 when Luismin S.A. de C.V. ("Luismin") conducted a limited two-year sampling and drilling program. In 2003 Orko entered into an option agreement on the property from Luismin.

1.2 Exploration History

Luismin explored at La Preciosa in 1981 and 1982. They conducted detailed channel sampling of surface outcrops in the Zona Oriente and the main vein systems. Seven diamond drill core holes (two underground and five from surface) were completed for a total drill meterage of 1,319m. The holes predominantly tested the Abundancia and La Gloria veins 50m to 75m below the primary underground workings (the 2065 level). The data for the Luismin drill holes are available to Orko and are in the current database, although the Luismin assays were not used in the estimation.

To provide access to trackless mining and drilling equipment, Luismin enlarged portions of the Abundancia and La Gloria vein underground workings to a 3m by 3m dimension. Underground channel sampling was conducted at two- to three-meter intervals along these drifts. In addition, a total of 450m of underground workings along the Abundancia vein and 408m along the La Gloria vein were chip sampled. In total, 1,365 chip samples were collected underground by Luismin. Luismin extracted approximately 11,730 tonnes of material from the underground and the stockpiles remain largely intact.

Only limited work was completed by Luismin after 1982. A single 313m hole was drilled by Luismin in the eastern vein-breccia system in 1994 (Zona Oriente). The drill hole intersected a series of variable silicified zones and veinlet stockwork anomalous in silver, gold, lead, zinc and mercury, but did not pass through the complete structure. A small-scale bench metallurgical test was performed on a sample of material extracted from the Abundancia and La Gloria veins (see Section 16.0).

In December 2003, Orko Gold Corp. negotiated a joint-venture option agreement with Luismin. Geologic mapping and surface sampling began in 2004 and target areas were identified for more detailed work. Core drilling began in 2005 and continued through 2008. Significant mineralization was encountered in numerous vein systems including the deeper, larger-tonnage Martha vein, first drilled in November 2006 and the assays from which were received beginning in February 2007. As of the effective date of this report, 388 diamond drill core holes for 150,443m have been drilled on the La

Preciosa property, almost entirely by Orko. All drilling at La Preciosa is core and most holes inclined to the east.

In January 2005, Orko contracted 40 line-kilometers of 3D IP resistivity and chargeability surveys on the La Preciosa property. The geophysical surveys were conducted over the north part of the main structures, extending across the central valley and the vein-breccia of Zona Oriente and the northern projection of the main structures. Weak geophysical signatures were seen on the ridge where the main mineralized veins are known, but the method was inconclusive beneath the basalt cover to the north along the same vein trend. A large, multi-line chargeability anomaly was observed in the central valley beneath the basaltic cover.

An exploration geochemical sampling program was conducted over the southern part of La Preciosa in 2008. A total of 1,167 soil samples were collected from the "B" soil horizon. Strong multi-element geochemical anomalies were found for the Veta Nueva, El Orito, El Orito Norte, and Nancy veins.

The initial NI 43-101 compliant resource estimate on the La Preciosa property was completed in January 2006. Over the next two years, four updates (Inferred Resource Estimates II-V) were completed, culminating in the March 2008 Inferred Resource Estimate V which included all drill data available at that time. Inferred Resource Estimate V, using a 100 g AgEq/t cut-off, was 15.35 million tonnes grading 190.0 g Ag/t and 0.321 g Au/t, for a silver-equivalent grade of 209.2 g AgEq/t.

1.3 Geology of the La Preciosa District and Property

The oldest rock within the La Preciosa property is a Cretaceous-age metamorphic series consisting of graphitic schist, chlorite schist and layers of quartzite. Above the metamorphic units is a thick package of Cretaceous polymictic conglomerate containing lenses of arkosic sandstone. This sedimentary package is overlain by andesite tuff and andesite agglomerate of the regional Tertiary-age Lower Volcanic Series. The Cretaceous conglomerate and Tertiary Lower Volcanic andesitic rocks are the main hosts for the veins, although vein mineralization does extend into the basement metamorphic rocks. The youngest rocks are basalt flows which erupted from several Pleistocene-age volcanic vents and which now fill the lower valleys.

The La Preciosa property covers a series of Tertiary-age gold and silver-bearing epithermal quartz veins which contain barite, fluorite and lesser quantities of base metals, primarily zinc and lead. There are two major vein and vein-breccia systems exposed on a series of hills and ridges which are separated by a flat-floored valley roughly 800m wide. The main vein system on La Preciosa Ridge consists of dominantly northward-striking and westward-dipping veins (*e.g.*, Abundancia, La Gloria, Luz Elena, Chabelita, Martha, Nueva, Sur, El Orito, El Orito Norte), plus east-striking, south-dipping cross-cutting veins (*e.g.*, Transversal, Esperancita, Carmen). The eastern vein-breccia system (Zona Oriente, Zona Oriente Extension) strikes northwest, and is interpreted to be a surface expression of the Martha Vein.

The La Preciosa Ridge vein system has been traced on surface for over 5km and drilling has revealed that the veins continue to the north beneath the basalt cover. The veins are also interpreted to extend farther south of known exposures. Individual veins have been traced for up to 2.4km. Within the main vein system, the Abundancia, La Gloria, Luz Elena, and Martha veins have been explored in the most detail and contain the majority of the resources estimated and discussed in this report. They have steep to shallow dips and the Abundancia and La Gloria veins are known to coalesce at depth. Thicknesses vary from 1.5 to 26m wide for the Abundancia vein, 1.5 to 17m for La Gloria and 1.5 to 23m for Martha veins.

La Preciosa mineralization is composed of poly-phase veins of quartz, often banded, smoky, druzy, chalcedonic and/or amethystine, with a substantial number of barite laths. Fluorite is also found as gangue. Sulfide mineralization is scarce on surface and in the shallow underground workings. Drill core contains disseminated sphalerite, galena, pyrite and acanthite, plus iron and manganese oxides. Acanthite and minor native silver are considered to be the primary silver-bearing minerals at La Preciosa. There is often silicification and lower-grade gold and silver enrichment in the wallrock adjacent to the veins. Kaolinite alteration is common, as are patches of sericite and more distal propylitic chlorite, epidote and pyrite. Where drilled, the Martha vein in general has less barite and a higher proportion of sphalerite, galena and pyrite, compared to the Abundancia and La Gloria veins. Lead and zinc in the economic portions of the Martha are 0.3% and 0.5%, respectively; copper averages 190ppm in the same zone.

The Martha vein, which strikes N~30°W and dips ~20°W, contains the majority of the resource presented in this study. The Martha vein is a mineralized zone or "lode" of stockwork, silicification, breccias, veins, vein breccias, veinlets; it is comprised of a combination of multiple styles of mineralization. This broader zone of the Martha vein ranges from ~1m thick to ~60m thick and probably averages ~15m. Generally one but occasionally more, high-grade veins or vein-breccias exist within the thickness of the vein zone. The high-grade vein zones range from ~<1m thick to ~20m thick and average ~5m. To date, the Martha has been identified over a strike length exceeding 3,000m and a dip distance exceeding 1,500m.

1.4 The La Preciosa Database

The drill-hole database compiled and constructed by Orko, and then checked and modified by MDA, contains data for all 388 drill holes completed by Luismin and Orko All of the drilling is diamond drill core and the drilling is well documented. At present, Inspectorate is the primary analytical lab, and SGS Mineral Services in Durango is the secondary lab. Up until around drill hole BP07-90, SGS Labs was the primary lab and Inspectorate was the secondary lab. Assaying by Inspectorate is done in the U.S, whereas SGS' assays are done in Canada.

Besides the analytical data, the La Preciosa database contains collar location, down-hole survey data, and geology data for all of the Orko and Luismin drill holes. The geology data consist of lithology and vein coding for every sample interval. The database also includes geotechnical data (core recovery and

RQD readings) and over 70,000 rock density determinations taken from the Orko core and using the immersion method. Close to one hundred volumetric density measurements on pieces of core from the southern half of the Martha vein also exist.

The Orko database includes analytical results for 762 Luismin underground chip samples. These samples were collected from along the Abundancia and La Gloria veins and have been used by Orko and MDA for spatial control on the vein models.

During a review of Quality Assurance and Quality Control ("QAQC") procedures, some issues were noted, including inadequate characterization of the standards used. To provide for adequate verification of the assays used in the estimate, MDA and Orko agreed on a program of re-analyses, some done at the original labs and some done at a third lab. Orko has completed a series of round-robin testing on the standards now in use at the project. QAQC procedures and issues are described in Section 14.2.2.

After all of MDA's work with the La Preciosa project, including field inspections, the database review, and the QAQC review, MDA came away with the belief that the La Preciosa deposit is as stated in this report, that the quality of Orko's work is for the most part very good, and that the grades in Orko's assay database are a fair reflection of the grades of the deposit.

1.5 Mineral Processing and Metallurgical Testing

Agitation cyanidation testing on 13 composites has determined that on feed grading 200 g/t Ag, at a grind of about 70% minus 200 mesh, and with 96 hours of retention time, almost all silver extractions will be 90%, plus or minus 2%.

Gold response to cyanidation is a function of oxidation. Sulfide mineralization (observed throughout the Martha zone) yields extractions of only 45%, increasing to 80% in the oxide zones. The consumption of sodium cyanide is quite high at 2 kg/t at the apparent optimum condition, but can increase to 10 kg/t if the cyanide concentration is raised from the optimum of 2 g/l NaCN to 4 g/l NaCN.

Very limited flotation testing (Martha sulfide) reported 84.3% and 67.9% recovery on silver and gold, respectively, into rougher concentrate. Cyanide leaching of the rougher flotation tailing increased the combined silver and gold recoveries to 97% and 80%, respectively. In a single test, tailing leaching did not report a reduction in cyanide consumption compared to whole-ore cyanidation.

Additional laboratory flotation testing should be undertaken on the Martha oxide composite #12, since it represents the bulk of the entire resource. If that study reports success, other composites should then be examined for flotation response, probably with tailing cyanidation.

1.6 Resource Estimate

A summary of the La Preciosa resource is presented in Table 1.1. The resource is undiluted and will, once a mining plan is designed, necessarily be diluted by surrounding mineralized but lower-grade material. It is premature to assess the amount of dilution until a mining method is selected and applied to the resource. The fact that the resource is just over half Inferred material is a function of the wide-spaced drilling. With infill drilling and a sound QAQC program, much of the Inferred material could become Indicated and some of the Indicated could be upgraded to Measured. The gold to silver ratio used for determining gold to silver equivalency is 60. This is the ratio which is used to define the silver-equivalent grade, and does not include any factor for metallurgical recovery or relative extractive costs.

Table 1.1 Summary of La Preciosa Silver and Gold Resources

All veins		Undiluted	Indicated			
Cutoff	**Tonnes**	**Ag grade**	**Ag grade**	**Silver**	**Au grade**	**Gold**
(g AgEq/t)		(g AgEq/t)	(g Ag/t)	Ounces	(g Au/t)	Ounces
100	10,637,000	201	185	63,230,000	0.27	94,000
All Veins		**Undilued**	**Inferred**			
Cutoff	**Tonnes**	**Ag grade**	**Ag grade**	**Silver**	**Au grade**	**Gold**
(g AgEq/t)		(g AgEq/t)	(g Ag/t)	Ounces	(g Au/t)	Ounces
100	12,087,000	200	185	71,754,000	0.25	97,000

1.7 Recommendations

MDA has found the work done and data collected by Orko at La Preciosa to be high quality. Issues noted by MDA to Orko were for the most part remedied. Their methodical and thoughtful exploration efforts have added significant value to this project, reduced risk, and increased confidence. The continuity of the mineralized zone is clear and predictable.

Issues that should be addressed in the future include a) getting a better understanding of the variability of metallurgical recovery spatially and those geological characteristics that affect it, and b) taking more density measurements of veins in a manner that fairly reflects the open spaces found in well-mineralized material.

MDA finds the La Preciosa deposit to be a project of merit and deserving of additional work. The project should transform from purely an exploration project emphasizing the discovery of new and expansion of existing resources to a project that includes some development work, beginning with an economic evaluation, and including infill drilling, more metallurgical sampling and modeling, and geotechnical assessments.

2.0 INTRODUCTION AND TERMS OF REFERENCE

Orko Silver Corp. ("Orko") engaged Mine Development Associates ("MDA") to prepare an updated estimate of the mineral resources at Orko's La Preciosa project in the State of Durango, Mexico. Orko's Mexican subsidiary is Orko Silver de Mexico S.A. de C.V. The engagement specified the preparation of an independent resource estimate and the preparation of an updated technical report in compliance with Canada's National Instrument 43-101 (hereinafter referred to simply as NI 43-101) and its Companion Policy. NI 43-101 specifies that a resource estimate must comply with the Canadian Institute of Mining, Metallurgy and Petroleum's ("CIM") Standards on Mineral Resources and Reserves, Definitions and Guidelines" (hereinafter referred to as "the CIM Standards") adopted by the CIM in August 2000 and modified with adoption of the "CIM Definition Standards - For Mineral Resources and Mineral Reserves" in 2005. The present report describes MDA's updated resource estimate, following the format specified by Form 43-101 F1.

The La Preciosa project, about 49 air kilometers northeast of the city of Durango, Mexico, hosts silver-bearing vein mineralization with associated gold, zinc and lead. The veins have steep to shallow dips and are found in Tertiary volcanic rocks and Cretaceous polymictic conglomerates and with a very small volume of veins in the footwall basement metamorphic rocks. Orko discovered the Martha vein, which now represents the bulk of the resources at La Preciosa and augments the already known La Gloria and Abundancia veins.

Historic mining of the La Preciosa veins is documented as having begun in the 1800s, though there is evidence for much earlier mining. Underground mining stopped in the early 1900s but small-scale mining was active again in the 1970s. Total past production, reportedly, did not exceed 30,000 tonnes (personal communication to Whiting, 2004). Recent exploration began in 1981 with a limited two-year sampling and drilling program by Luismin S.A. de C.V. ("Luismin"). Little exploration work was conducted from 1982 until 2003 when Orko entered into an option agreement on the property from Luismin (Orko news release dated Dec 1, 2003). After geochemical sampling and geophysical programs, core drilling began in 2005 and continues to the present. Significant mineralization was encountered in numerous vein systems including the deeper, larger-tonnage Martha vein discovered in 2006 with hole BP06-77. As of the effective date of this report, 388 diamond drill core holes for 150,443m have been drilled on the La Preciosa property, almost entirely by Orko.

The initial independent NI 43-101 compliant resource estimate on the La Preciosa property was completed in January 2006 (Gunning and Whiting, 2006). Over the next two years, four updates (Inferred Resource Estimates II-V) have been completed, culminating in the March 2008 Inferred Resource Estimate V which included all drill data up through hole BP07-149. Inferred Resource Estimate V, using a 100 g AgEq/t cut-off, was 15.35 million tonnes grading 190.0 g Ag/t and 0.321 g Au/t, for a silver-equivalent grade of 209.2 g AgEq/t.

In the preparation of the present updated resource estimate and report, MDA has consulted the historical data, reports and memoranda by others, and the results of Orko's exploration work, including drilling.

All of these various sources of information are cited in this report where the respective information is used, and they are listed in Section 21.0, References.

Ristorcelli visited the La Preciosa project site June 17 to June 19, 2008. More recently, Ronning and Ristorcelli visited the project September 4 to September 8, 2008. During the field visits, MDA reviewed available historical data, examined mineralized exposures underground and in surface exposures, provided advice and assistance, prepared sectional interpretations for the resource estimate, reviewed drilling and sampling procedures, and verified the digital database used for the resource estimate.

The present state of knowledge of the La Preciosa project is based on the efforts of many individuals, particularly Orko's staff and consultants who have conducted the exploration since Orko acquired the project in 2003. Ben Whiting, Orko's Chief Geologist and co-author of this report, and Alejo Monsivais, Orko's project manager, contributed information, understanding and insight into the project and geology that is incorporated into this report.

The principal sources of information used in the preparation of this report are as follows:

> Gunning, D.R. and Whiting, B.H., 2006, Technical report – Mineral resource estimate on La Preciosa silver-gold deposit, Durango State, Mexico for Orko Silver Corporation, dated March 4, 2006, 49 p. (plus maps)
>
> Whiting, B.H., 2007, Technical report – Mineral resource estimate III on La Preciosa silver-gold deposit, Durango State, Mexico for Orko Silver Corporation, dated March 31, 2007, 64 p. (plus maps)
>
> Whiting, B.H., 2008, Technical report – Mineral resource estimate V on La Preciosa silver-gold deposit, Durango state, Mexico. for Orko Silver Corporation, dated March 31, 2008, 64 p. (plus maps)

2.1 Frequently Used Acronyms, Abbreviations, Definitions, and Units of Measure

In this report, measurements are generally reported in metric units and currency is in US dollars, unless otherwise noted. The following are definitions of acronyms and abbreviations used in this report:

Ag	silver
AgEq	silver equivalent grade: silver plus sixty times the gold grade
Au	gold
CIM	Canadian Institute of Mining, Metallurgy, and Petroleum
core	diamond core-drilling method
Cu	copper
g/t	grams per metric tonne
ha	hectare

kg	kilogram
km	kilometer or kilometre
ITRF 92	international terrestrial reference frame 1992
m	meter or metre
oz	troy ounce (12 oz to 1 pound)
Pb	lead
QAQC	quality assurance and quality control
RQD	rock-quality designation
tonne	metric ton
UTM	universal transverse Mercator
WGS 84	World Geodetic System 1984
Zn	zinc
Orko	Orko Silver Corp.
MDA	Mine Development Associates, the authors of this technical report

2.2 Geographic Coordinates

Project maps, survey data, and the digital drill hole database at the La Preciosa project all are in UTM coordinates based on ITRF 92, an internationally recognized datum that, for practical purposes, is very similar to WGS 84. The UTM zone is 13.

3.0 RELIANCE ON OTHER EXPERTS

Orko Silver Corp. provided the text and information regarding the status of mining rights of the La Preciosa property to MDA. The information provided to MDA was compiled by, researched by, and approved by Orko and their legal counsel. The authors of this report are not "Qualified Persons" for assessing the validity of mining rights, and therefore MDA has incorporated the work of Orko's staff and legal counsel Eduardo Bravos Campos, *apoderado* (Campos, November 3, 2008) as presented, except where minor grammatical edits and formatting were warranted. The documentation provided by Orko is referenced and included in this report (Appendix A). MDA has classified the resources from a technical standpoint, while relying on Orko's and Orko's legal counsel's work for mining rights and contractual issues. In fact, all of the information in Section 4.0 has been provided to MDA by Orko. MDA and the authors are not qualified to assess the validity of the information in Section 4.0, and therefore the authors present the information with no opinion.

In parts of this report, notably Section 4.0, references are made to matters of Mexican mining and/or environmental law. Because the authors are not qualified persons with respect to such law, readers requiring assurance on matters of law should consult qualified experts. MDA has included a summary report by pH Environmental Consultants (January 23, 2009) in Section 4.3.

MDA has relied almost entirely on data and information derived from work done by Orko, a small portion of which has been derived from its predecessor operators of the La Preciosa project. MDA has reviewed much of the available data and made site visits, and has made judgments about the general reliability of the underlying data. Where deemed either inadequate or unreliable, the data were either eliminated from use or procedures were modified to account for lack of confidence in that specific information. In cases where it was unclear whether problematic data were material to the outcome of the resource estimate, MDA did not rely on such data.

4.0 PROPERTY DESCRIPTION AND LOCATION

The following information on location is derived from the March 2008 Updated Technical Report (Whiting, 2008) except for the details of the La Preciosa concessions (shown in Table 4.1), which were provided by Orko's legal counsel (Campos, November 3, 2008). Section 4.3 describing environmental and permitting issues has been provided by and is the responsibility of Servicios de Consultoría Ambiental (Servicios de Consultoría Ambiental, 2008), a contractor to Orko. MDA and the authors are not experts in legal, land, environmental, or permitting issues in Mexico and are not qualified to offer an opinion on this information. The information in this section is presented by MDA as required by NI 43-101 with no opinion expressed or implied as to the accuracy of the specific content.

4.1 Location

La Preciosa property is located 47km northeast of the city of Durango, in the Municipality of Panuco de Coronado within Durango State, Mexico (Figure 4.1). The UTM NAD-27 coordinates of the center of the block are 2,701,000 North 555,600 East (Zone 13R). In Mexico, the location of a concession is determined by the location of a single claim monument (*mojonera*), with all corners being located based on surveyed distances and bearings from that monument. These distances and bearings must be determined by a licensed surveyor. The mojonera, or monument, may be placed outside of the surveyed claim boundaries. Although the perimeter lines may not have been partially or entirely surveyed, the method of locating the claim corners constitutes a legal survey.

4.2 Mineral Rights, Agreements, and Encumbrances

Orko's legal counsel in Mexico is Sr. Eduardo Bravo Campos, a licensed lawyer, qualified to practice law in Mexico. In a letter dated June 12, 2008, addressed to GMP Securities L.P., BMO Capital Markets Inc., Haywood Securities Inc. and Macquarie Capital Markets Canada Ltd., Sr. Bravo Campos described the eight mining concessions listed in Table 4.1 as "validly registered to Orko Silver de Mexico S.A. de C.V." and "… in full force and effect, free from all charges, encumbrances, liens and other security and are valid and enforceable in accordance with their terms".

In November of 2008 Sr. Bravo Campos provided a document addressed to MDA outlining the La Preciosa concessions and land contracts (Campos, November 3, 2008 and Appendix A). Sr. Bravo Campos stated that Orko controls eleven concessions in the area. Eight of these concessions, also described in the letter of June 12, 2008, comprising 1134.1288ha, are part of the La Preciosa project. The remaining three concessions are from the adjacent Santa Monica and San Juan properties, which are also controlled by Orko. Figure 4.2 shows their locations and Table 4.1 and Table 4.2 list those concessions with details of each. The locations of the resources with respect to the limits of the concessions is given in Figure 11.1. Orko (written communication, March 7, 2009) states that there is a 3% royalty on certain claims obtained from Luismin (La Preciosa, Lupita, Frac. La Preciosa, San Patricio, La B). There are no further obligations to Luismin.

On June 21, 2004, Orko entered into an option agreement with Wheaton River Minerals Ltd (now Goldcorp Inc) for the adjacent Santa Monica concessions. On October 27, 2008 Orko acquired 100% ownership of this property.

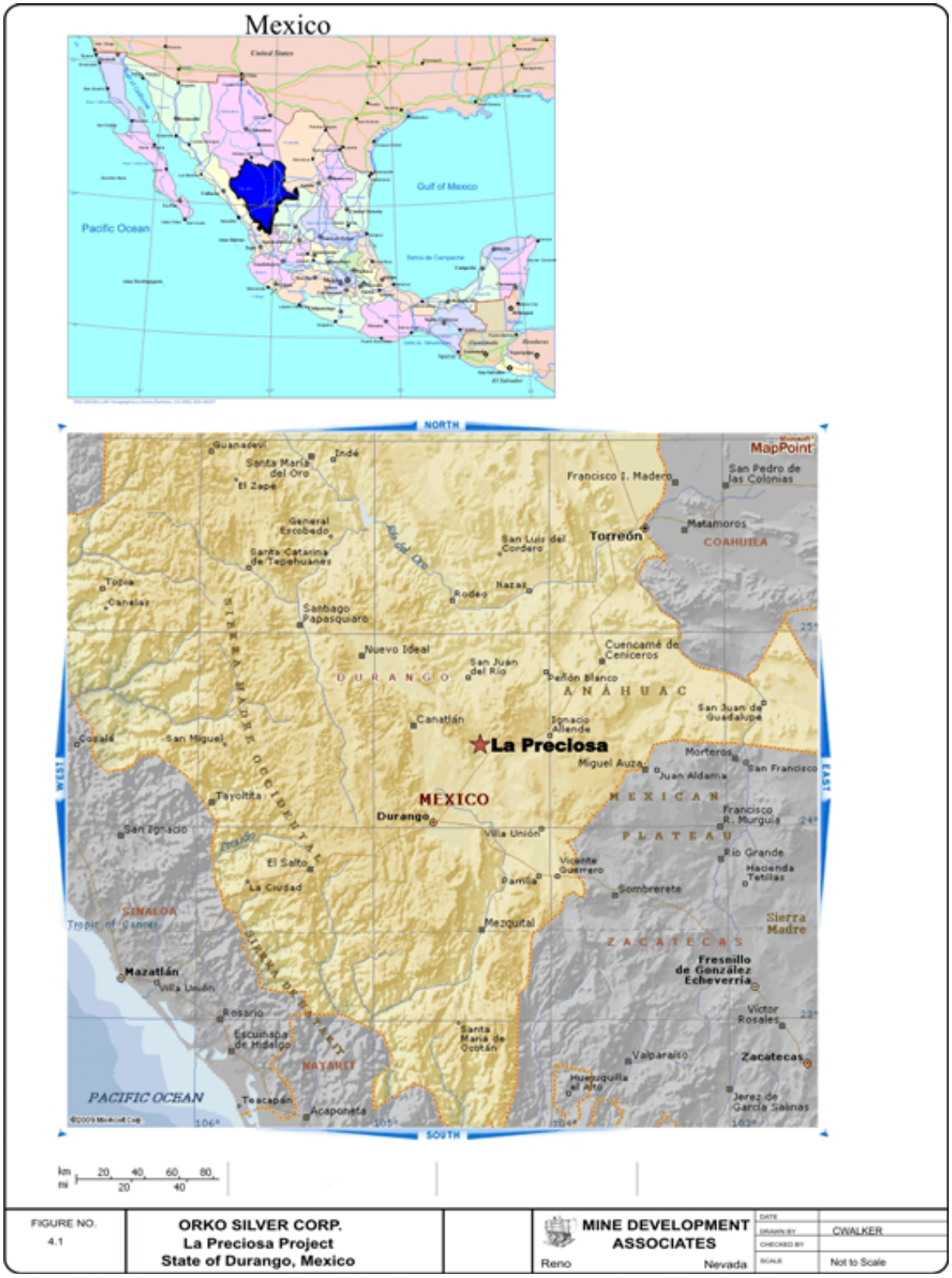
On April 25, 2006, Orko entered into a joint venture agreement with Silver Standard Resources Inc, for the adjacent San Juan concessions.

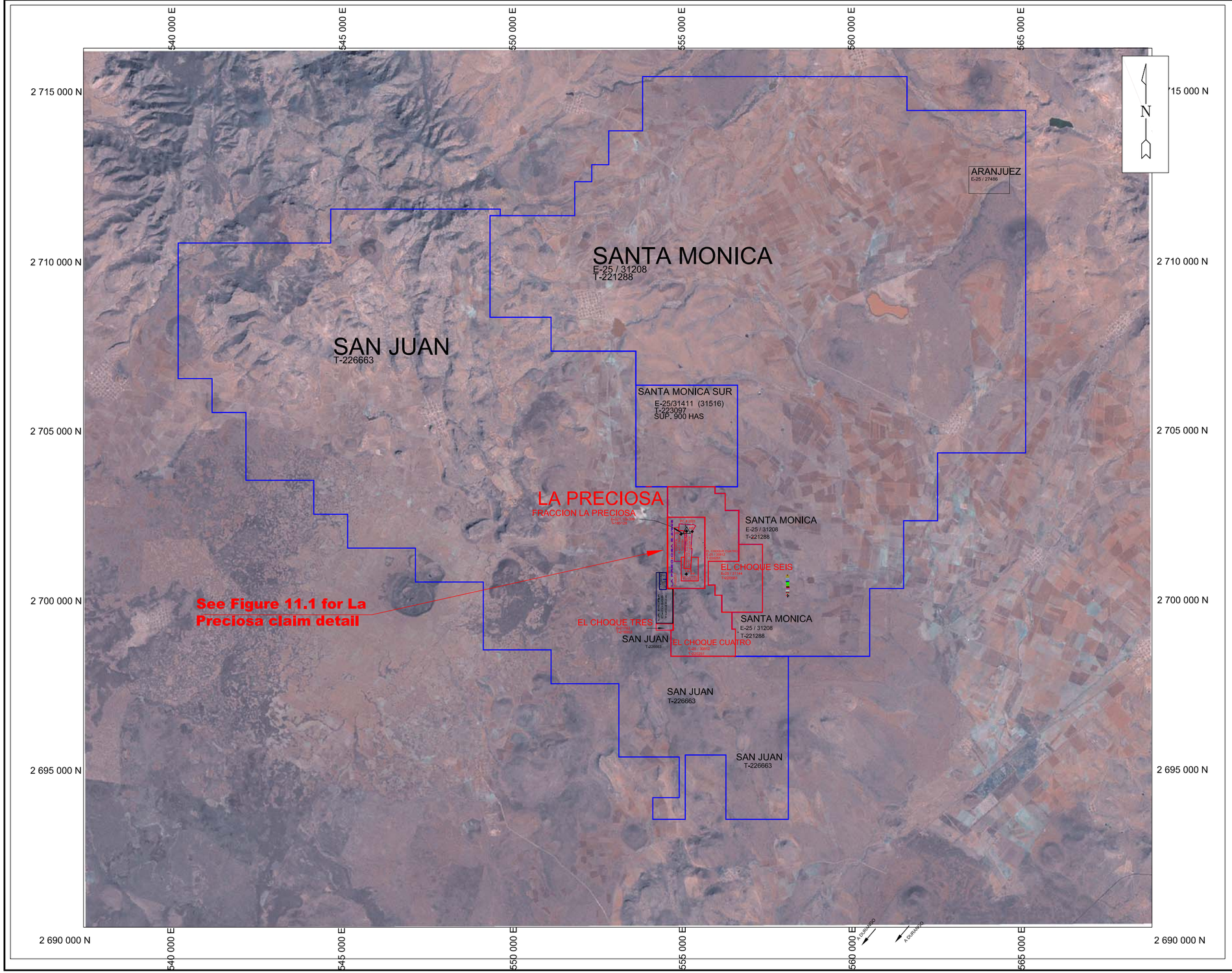
Because the San Juan and Santa Monica concessions are controlled by Orko, and are adjacent to La Preciosa, there are references to them in this report. The Santa Monica property and the San Juan property are not the subjects of this report. Additional information on these properties can be found in Section 15.0.

There are three contracts for surface rights.

- A contract between the "Ricardo Flores Magon" Ejido and Orko, allowing passage and temporary occupation of communal land, known as *ejido* land. This access covers an area 4,888m long by 4.5m wide. It includes the right of use of the access road to the mining camp and mining facilities. It also provides for a temporary, continuous and peaceful occupation of parceled out ejido land.
- A contract between the "Ricardo Flores Magon" Ejido and Orko revising the dimensions of the surface rights from the same ejido land.
- A temporary land occupation agreement was reached between Orko and Mr. Froylan Garcia Higareda, who acted as Legal Representative of Mrs. Petra Higareda Briseño. The agreement allowed for a temporary land occupation for drilling platforms and for roads on the rustic terrain of the Ex-Hacienda "La Luna", municipality of Pánuco de Coronado, State of Durango, and for carrying out exploration work.

Figure 4.1 Location Map





0 1 2 3 4 5
kilometers

Figure 4.2 Concession Map

ORKO SILVER DE MEXICO S.A. DE C.V.

PROYECTOS LA PRECIOSA, SAN JUAN Y SANTA MONICA

PLANO TOPOGRAFICO CON LOTES MINEROS

Topografía: INEGI G13D62, G13D63, G13D72 y G13D73	Revisó: Ben Whiting	Autorizó: Ben Whiting
Dibujó: Miguel D. e Irene D.	Esc: 1:50,000 m	Plano No. 1

Table 4.1 La Preciosa Concessions

(from Campos, November 3, 2008)

"LA PRECIOSA" PROJECT

No	Lot	Record	Title	Validity		Area	Municipality
				From	To	Hectares	STATE
1	La Preciosa	321.1-2/398	182517	07/15/1988	07/14/2038	143.6119	Pánuco de Coronado Durango
2	Lupita	321.1/9-303	182584	08/12/1988	08/11/2038	27.1878	Pánuco de Coronado Durango
3	Frac. La Preciosa	321.1/2-399	185128	12/14/1989	12/13/2039	2.5249	Pánuco de Coronado Durango
4	San Patricio	321.42/919	189616	12/05/1990	12/04/2040	29.4740	Pánuco de Coronado Durango
5	La B	2/1.3/01962	214232	09/06/2001	09/05/2051	28.2006	Pánuco de Coronado Durango
6	El Choque Tres	2/1/02251	218953	01/28/2003	01/27/2053	10.0000	Pánuco de Coronado Durango
7	El Choque Cuatro	025/30812	220251	07/02/2003	07/01/2053	644.1296*	Pánuco de Coronado Durango
8	El Choque Seis	025/31144	220583	09/02/2003	09/01/2053	249.00007	Pánuco de Coronado Durango
TOTAL "LA PRECIOSA" PROJECT AREA						1134.1288	

* There is a discrepancy of ~14 hectares between the reported and the calucalated area

Table 4.2 Adjacent Concessions Controlled by Orko

"SANTA MONICA" PROJECT

Lot	Record	Title	Validity		Area Hectares	Municipality STATE
			From	To		
Santa Monica	025/31208	221288 EXPLORATION	01/20/2004	01/19/2010 SIX YEARS	16385.4570	Pánuco de Coronado Durango Mexico
Santa Monica Sur	025/31411	223097	10/15/2004	10/14/2054	900.0000	Pánuco de Coronado Durango Mexico

"SAN JUAN" PROJECT

Lot	Record	Title	Validity		Area Hectares	Municipality STATE
			From	To		
San Juan	025/31434	22663 EXPLORATION	02/17/2006	02/16/2056 [FIFTY] YEARS	14003.4737	Pánuco de Coronado Durango Mexico

4.3 Environment and Permitting

Mr. Patricio Eugenio Herrera, pH Environmental Consultants (January 23, 2009), provided an assessment of the environmental situation at Orko's La Preciosa project. It is presented here in a translated version and is also given in Appendix B in its original form in Spanish.

> *By this means, I inform you that pH Environmental Consultants is a Firm that brings together a group of Mexican experts in the field of environment and natural resources where I serve as a technical coordinator. Also, pH Environmental Consultants was hired by "Orko Silver de Mexico S.A. de C.V" to gather information needed for preparing a Preventive Environmental Impact Report for "La Preciosa" Mining Exploration Project, under the conditions required by*

the General Law of Ecological Equilibrium and Environmental Protection in regards to Environmental Impact Assessments. "La Preciosa" Project is located in the municipalities of Canatlán and Pánuco de Coronado, State of Durango, Mexico, specifically 45km North East from the city of Durango, State of Durango, Mexico. The Report has been completed and submitted to the Secretariat of Environment and Natural Resources for its evaluation. Once reviewed, the Secretariat shall grant Authorization in regards to Environmental Impact. This Authorization is an essential requirement in order to continue with the development of the project aforementioned.

Our work consisted on the following: i) three visits to the project site with the purpose of gathering field information in regards to: current and future mining activities, characteristics of the physical and biological environment of the site, pre-existing mining activities, etc. This was accomplished with the assistance of the Orko Silver de Mexico S.A. Ltd. staff. ii) Information processing, a second stage where this information was compared against the specifications in the Mexican Official Standards that regulates mining explorations. Once the project was in compliance with the standards the Report aforementioned was prepared and it included geo-referenced maps, surface analysis, description of the physical environment, prevention measures and environmental protection, etc. iii) The last step was the submission of the Report to the Secretariat for its evaluation. The description of the submitted document is presented below.

Herrera J.N.. Trillo F., Herrera P., October, 2008, Preventive Environmental Impact Report – "La Preciosa" Mining Exploration Project. By pH Environmental Consultants on behalf of Orko Silver de Mexico S.A. de C.V., 86 pages plus maps

As a result, the Secretariat of Environment and Natural Resources issued Authorization in matters of Environmental Impact for development of the Project, official document dated November 25 2008. This Authorization is stated in the following document.

Peralta-Duran, R.A. 2008, Asunto: Resolucion en material de impacto ambiental para el proyecto de exploracion minera directa "La Preciosa". Secretaria de Medio Ambiente y Recursos Naturales, Delegacion Federal Durango Subdelegacion de Gestion para la Proteccion Ambiental y Recursos Naturales, 8 p.

(Peralta-Duran, R.A. 2008, Subject: Resolution in regards to the Environmental Impact of "La Preciosa" Mining Exploration Project. Secretariat of Environment and Natural Resources, Federal Delegation Durango, Sub-Delegation and Management for Environmental Protection and Natural Resources, 8 p.)

As stated in the official document issued by the competent federal authorities in matters of environment and considering the analysis and studies performed by pH Consultants that were used to prepare the Preventive Environmental Impact Report that led to the resolution and authorization, in my personal opinion, "Orko Silver de Mexico SA CV " complies with the

> *regulations contained in the Mexican Federal Law that regulate environmental issues. Consequently, the company has no legal impediments, in this context, to continue its exploration work in accordance with the terms and conditions of the Authorization in regards to Environmental Impact, established in the official document dated on November 25 of 2008 abovementioned.*

Campos (Nov. 3, 2008) states that the "Company has all necessary rights to permit the Company to carry out its exploration programs and operations as presently contemplated and carried out by the Company." Whiting (written communication, March 5, 2009) states his opinion is that there is nothing known that would preclude mining at La Preciosa.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The information in this section is taken, with minor changes, from the Updated Technical Report by Whiting (2008).

Access to La Preciosa property from Durango city is via Highway 40 northeast to the town of Francisco I. Madero. From this point a secondary paved road leads north through the villages of Lazaro Cardenas and Francisco R. Serrano (La Noria) to the westward turnoff to the village of Francisco Javier Mina. At Francisco Javier Mina, the road changes to gravel heading southward. The mine access road is a gravel road, extending eastward to the portal and main camp of the project. The total distance is approximately 84km. Travel time is approximately 90 minutes. Work can be conducted in all seasons. Durango is a major mining centre in the region, where labor and specialized tradesmen can be located, as well as most of the required equipment and parts for current and future programs.

La Preciosa lies near the eastern side of the Sierra Madre Occidental, on the western edge of the Mexican Altas Llanuras, an extensive volcanic plateau characterized by narrow, northwest trending fault-controlled ranges separated by wide flat-floored basins. In the Durango area, the basins have elevations of 1,900m to 2,100m, and the higher peaks rise to 3,000m. The climate is generally dry with sporadic, heavy rainfall in rainstorms during the hot summer months. The average precipitation in the property area is about 600mm, mainly falling between May and October. The winter months are cool and dry. Snow is rare, but nighttime temperatures below the freezing mark are common in the higher locations. Yearly average temperatures are about 25º Celsius. Grasses and small shrubs along with several varieties of cacti make up most of the vegetation on the steep hillsides, with larger bushes and mesquite trees near springs and streams.

The broad valley to the east in the Santa Monica concession is underlain by Quaternary basalt and basin-and-range gravels. The surface is occupied by many farmers with fields of frijoles (Mexican beans) and maize (summer corn). Both the quality of infrastructure and the population density increases towards the city of Durango. There is no electrical power on La Preciosa property other than diesel generators, but the nearby village of Francisco Javier Mina (population ~800) and the town of Francisco I. Madero (population ~5000) are serviced by the commercial electrical grid. The main power grid for Durango follows the road from Durango to Torreon. Madero also has a Pemex gas station and the services of metal fabricators and mechanics shops. A railway line is present near the south boundary of the property; the railway has a direct line to Torreon, site of the nearest metal smelter.

Water for drilling is currently being obtained from the reservoir in Francisco Javier Mina on a monthly rate contract, hauled by tanker trucks to water tanks adjacent to the drilling areas. For a production scenario, a groundwater source in the thick gravels on the plain to the east would need to be secured. This is the approach which was successfully applied by the neighboring Avino mine, 20km to the northeast, a former producing mine that is not presently in production.

The La Preciosa property is dominated by a northwest-trending ridge (La Preciosa Ridge), along which the main veins are found, and most of the historical mining occurred. Drifting on the La Gloria and Abundancia veins provides approximately 2.5 km of accessible underground workings located on the north end of this ridge. The Luz Elena vein and the recently discovered Martha vein are also located in this area. This northern area of past production is collectively referred to as the Mina La Preciosa, and is

the location of the present exploration camp, and a stockpile of mineralized material on the order of 11,730 tonnes. There are also historic mines and associated underground workings at the south end of the ridge, in the El Orito Sector. An additional area of interest, the vein-breccia of Zona Oriente, which may be a surface expression of the Martha Vein, is located northeast of the main La Preciosa Ridge. Area locations are given in Figure 7.2.

The property has ample land for the construction of any proposed mine or mill structures and facilities, including tailings storage, waste disposal areas and heap leach pads. Surface rights are coordinated through the Ejido Councils (farm owners collectives) of Lazaro Cardenas for the eastern side, Francisco Javier Mina for the northern side and Ricardo Flores Magon for the western side. Any future surface utilization and construction will require negotiating with the Ejido Councils involved. Separate surface access contracts are also in place with some independent ranch owners who are not members of Ejido Councils.

Presently the property has several buildings recently constructed by Orko and used for exploration work, and sample and core storage.

6.0 HISTORY

(*Much of the exploration history section is taken from Whiting (2008) with just minor changes.)*

See Section 10.0 for a more detailed discussion of the historic exploration results.

6.1 Exploration and Mining History

Initial discovery of mineralization may date back to the time of the Conquistadors. A coin dated 1736 was found in one of the nearby streams. Early miners, operating in the era of Porfirio Diaz (1876-1911), concentrated mainly on small-scale mining of Abundancia and La Gloria veins at the north end of the ridge, which became known as Mina La Preciosa. This may also have been the time when drifting took place on a vein at the south end of the ridges at Mina El Orito. The onset of the Mexican Revolution in 1910 brought a halt to this work. Between 1970 and 1979, Sr. Vicente Aguirre resumed selective small-scale mining operations. Total past production did not exceed 30,000 tonnes. Many of the underground workings are accessible.

Recent exploration began with Luismin in 1981. Operating as Minera Thesalia, a joint venture between Tormex S.A. and the Compania Minera Minas San Luis (aka, Luismin), Luismin conducted detailed channel sampling of surface outcrops in the eastern breccias (Zona Oriente) and main vein systems and completed a geophysical survey consisting of a single east-west line of IP resistivity across the property.

Luismin also drilled seven diamond drill core holes (two underground and five from surface) for a total drill meterage of 1,319m. The holes predominantly tested the Abundancia and La Gloria veins 50m to 75m below the primary underground workings (the 2065 level). The 1981 through 1982 drill program was terminated, reportedly, due to falling metal prices. Core from Luismin's program was split and the remaining half is intact and is currently stored on site. The data for the Luismin drill holes are available to Orko and are in the current database, although the Luismin assays were not used in the estimation.

To provide access to trackless mining and drilling equipment, Luismin enlarged the main 2065 level (within the Abundancia and La Gloria vein underground workings) to a 3m x 3m dimension over approximately 60% of the drifts. Underground channel sampling was conducted at two to three meters intervals along the drifts. In addition, a total of 450m of underground workings along the Abundancia vein and 408m along the La Gloria vein were chip sampled. In total, 1365 chip samples were collected underground by Luismin. Luismin extracted approximately 11,730 tonnes of material from the underground and put it in the stockpiles in front of the portal. Whiting estimated a grade of 0.43g Au/t and 157 g Ag/t (Whiting, *et. al.*, 2006). The stockpiles remain largely intact.

Only limited work was completed by Luismin after 1982. A single 313m hole was drilled by Luismin in the eastern vein-breccia system in 1994 (Zona Oriente). The drill hole intersected a series of variable silicified zones and veinlet stockwork anomalous in silver, gold, lead, zinc and mercury, but did not pass through the complete structure. A small-scale bench metallurgical test was performed on a sample of material extracted from the Abundancia and La Gloria veins (see Section 16.0).

6.2 Orko Exploration History

In December 2003, Orko Gold Corp. negotiated a joint-venture option agreement with Luismin. An independent property examination, including eight surface rock samples for verification of historical data, was performed in early 2004 on behalf of Orko (Sivertz, 2004). Geologic mapping and surface sampling began in 2004 and target areas were identified for more detailed work.

In January 2005, 40 line-kilometers of 3D IP resistivity and chargeability surveys were completed on the La Preciosa property. The geophysical surveys were conducted over the north part of the main structures (Mina La Preciosa), extending across the central valley and the eastern vein-breccia (Zona Oriente) and northward to Cerro Prieto and the northern projection of the main structures (La Preciosa Norte). Weak geophysical signatures were seen on the ridge where the Mina La Preciosa veins are known, but the method was inconclusive beneath the basalt cover to the north along the same vein trend. A large, multi-line chargeability anomaly was observed in the central valley beneath the basaltic cover.

Orko's core drilling program began in 2005 with the initial drilling targeting the Mina La Preciosa veins. The 2005-08 drilling programs successfully intersected the Abundancia, La Gloria and Luz Elena veins in multiple intercepts, as well as oblique intercepts of Esperancita and Carmen veins. Commencing with drill hole BP06-77, the deeper and thicker Martha vein structure was identified. As of the effective date of this report, 388 diamond drill core holes for 150,443m have been drilled on the La Preciosa property, almost entirely by Orko.

6.3 History of Resource Estimates

6.3.1 Luismin Estimate

The information presented concerning the Luismin resource estimate is taken from Whiting (2008). The authors have not reviewed the Luismin procedures or results and so cannot and do not judge the reliability of this estimate as it is rendered immaterial with the estimation and publication of subsequent estimates using more information. The information is presented here for historic purposes and the Luismin estimate is superseded by later estimates done on behalf of Orko, including the resource estimate presented in this report.

In the 1980s, Luismin staff prepared several preliminary resource estimates, which were in-house and do not meet the current NI 43-101 reporting requirements for disclosure of Reserves and Resources. These estimates relied heavily on the underground chip sampling results with only limited drilling. The studies showed a general "Resource" in all categories of approximately 320,000 tonnes (actually reported as 320,692 tonnes) in the Abundancia and La Gloria veins, grading 238 g Ag/t, 0.70 g Au/t and 0.17% Pb (Medina-Araujo, 1995). The "Proven and Probable Reserves" stood at 30,000 tonnes grading 319 g Ag/t, 1.0 g Au/t, with 0.55% Pb and Zn combined (Sivertz, 2004).

6.3.2 Orko Estimates – 2006 through 2008

Beginning with Inferred Resource Estimate I [note, estimates made on behalf of Orko and predating this estimate were named Roman numeral one ("I") to five ("V")] in January 2006, a series of five 43-101 compliant resource estimates were completed for Orko. Whiting (2008) states that all resource estimates were prepared on longitudinal sections, with changes in dip of the veins taken from 100m cross sections for volumetric adjustments. Multiple mineral-shoot locations, defined by structure and underground sampling, were interpreted on the longitudinal sections. Contiguous mineral zones were constrained by drill-intersection minimum cut-offs of 100 g AgEq/t and 150 g AgEq/t over true vein widths greater than 1.5m. The mineral-shoots were projected a maximum of 25m vertically below drill intercepts. Immersion-method specific gravity data was available for every sample submitted during the 2005 to 2007 programs and was used for volume to tonnage determinations. Grades were then estimated by weighted average (weighted by true thickness) of all drill intercepts within each mineral-shoot. Silver-equivalent was calculated as the silver assay plus 60 times the gold assay (100% relative recovery was assumed), and did not include the metal values of the lead and zinc assays.

6.3.2.1 Orko Resource Estimate I – January 2006

The initial independent estimate was released on January 19, 2006 and was based on the first 25 Orko holes (through BP05-25) plus the seven previous Luismin core holes. This initial drilling targeted the Abundancia and La Gloria veins and therefore all of the initial resources are in these two veins. Using a cut-off grade of 150 g AgEq/t, Inferred Resource Estimate I totaled 2.72 million tonnes grading 227.2 g Ag/t and 0.462 g Au/t for a silver-equivalent grade of 255.0 g Au/t (Gunning and Whiting, 2006).

6.3.2.2 Orko Resource Estimate II – September 2006

Inferred Resource Estimate II was released on September 7, 2006 and included data up to hole BP06-38. The resource is based on drilling targeting the Abundancia, La Gloria and Abundancia Zona Sur veins. Using a cut-off grade of 100 g AgEq/t, Inferred Resource Estimate II totaled 4.05 million tonnes grading 207.4 g Ag/t and 0.384 g Au/t for a silver-equivalent grade of 230.4 g/t. Alternatively, at a 150 g AgEq/t cutoff, Inferred Resource Estimate II totaled 3.42 million tonnes grading 235.0 g Ag/t and 0.435 g Au/t for a silver-equivalent grade of 261.1 g/t (Whiting, 2006).

6.3.2.3 Orko Resource Estimate III – March 2007

Inferred Resource Estimate III was released on March 13, 2007 and included data up to drill hole BP06-76. Using a 100 g AgEq/t cut-off, the Estimate III totaled 5.72 million tonnes grading 192.9 g Ag/t and 0.345 g Au/t, for a silver-equivalent grade of 213.6 g AgEq/t. At 150 g AgEq/t cut-off, the estimate was 4.39 million tonnes grading 229.9 g Ag/t and 0.396 g Au/t, for a silver-equivalent of 253.7 g AgEq/t (Whiting, 2007).

6.3.2.4 Orko Resource Estimate IV – October 2007

Inferred Resource Estimate IV, the second independent estimate, was released on October 1, 2007 and included data up to drill hole BP07-120. The Martha vein, first identified in drill hole BP06-77, represented a significant new target. The Martha vein is relatively flat lying, dipping an average of 20° to the west, and had been interpreted in plan view using polygonization rather than longitudinal section. For the Martha vein, a minimum true thickness of 2.00m was applied. Using a 100 g AgEq/t cut-off, the estimate totaled 10.36 million tonnes grading 199.7 g Ag/t and 0.328 g Au/t, for a silver-equivalent of 219.4 g AgEq/t. At a 150 g AgEq/t cut-off, the estimate was 6.88 million tonnes grading 256.6 g Ag/t and 0.387 g Au/t, for a silver-equivalent of 279.8 g AgEq/t (Whiting and Gunning, 2007).

6.3.2.5 Orko Resource Estimate V – March 2008

Inferred Resource Estimate V was released on March 31, 2008 and included data up to hole BP07-149. Using a 100 g AgEq/t cut-off, estimate V was 15.35 million tonnes grading 190.0 g Ag/t and 0.321 g Au/t, for a silver-equivalent of 209.2 g AgEq/t. At a 150 g AgEq/t cut-off, the estimate was 11.72 million tonnes grading 224.2 g Ag/t and 0.355 g Au/t, for a silver-equivalent of 245.5 g AgEq/t (Whiting, 2008).

7.0 GEOLOGIC SETTING

Much of the information on both regional and district geology was obtained from Whiting (2008). Other sources are acknowledged where used. Figure 7.1 *shows the regional geology.*

7.1 Regional Geology

The La Preciosa property is located in a geological subprovince known as the "Altas Llanuras" or "High Plains," on the eastern flank of the Sierra Madre Occidental (Figure 7.1). The Altas Llanuras subprovince is a volcanic highland composed of Tertiary (Paleocene) to Quaternary (Pleistocene) sequences of andesite, dacite-rhyolite and basalt which in turn rest on a basement of Cretaceous and earlier calcareous and metasedimentary rocks. The present "basin and range" topography reflects a series of north- to northwest-trending linear grabens along the range fronts.

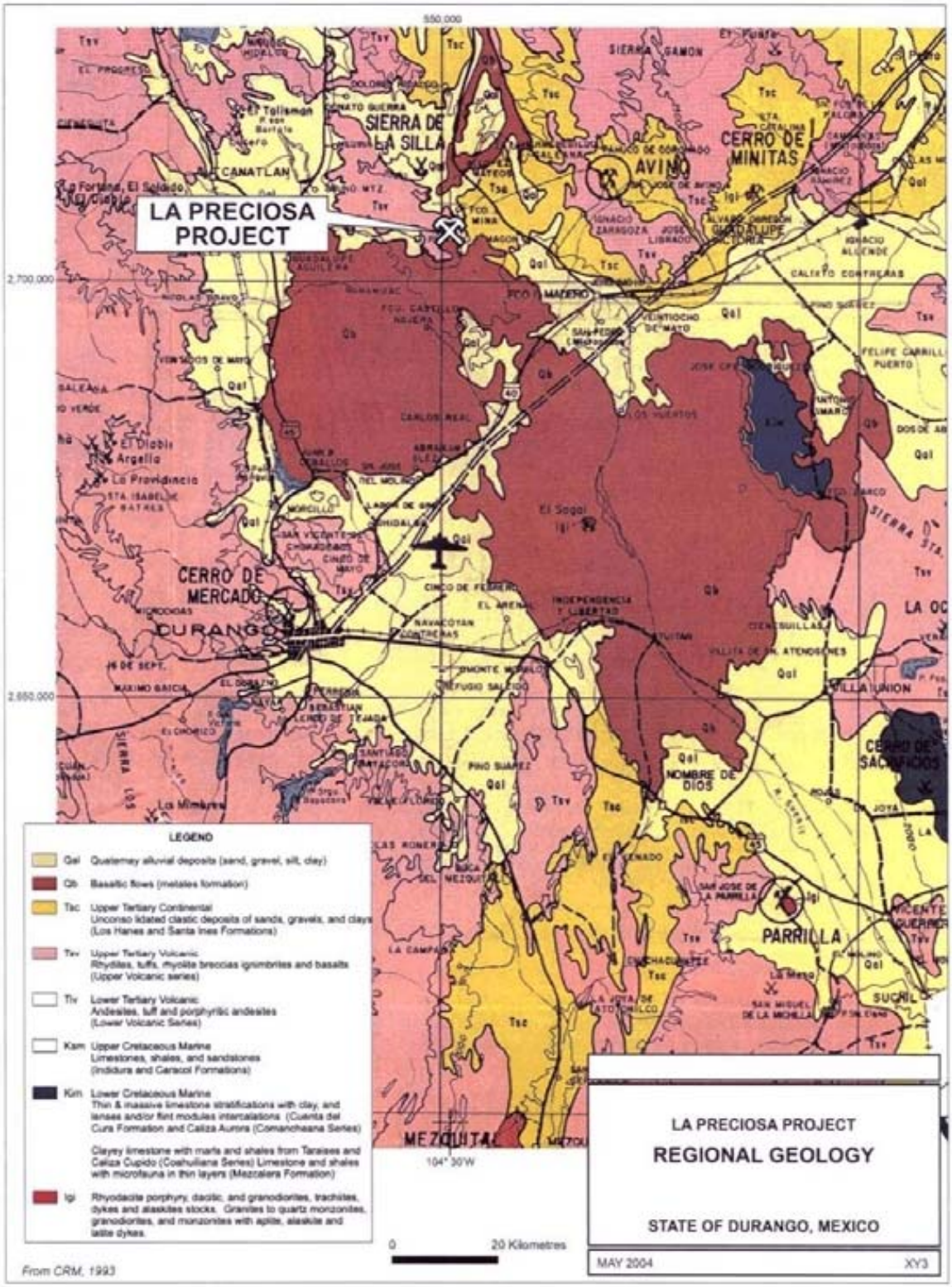
In the region north of the city of Durango, metasedimentary rocks of Cretaceous age are exposed in small windows through the Tertiary volcanic rock cover. These consist of mudstone, shale, limestone, and conglomerate with volcanic, sedimentary and limestone clasts. This corresponds with metasedimentary and polymictic conglomerate units found in drill core on La Preciosa.

The Cretaceous rocks are covered by a sequence of andesite tuff, flows and agglomerate of the Paleocene-Eocene age Lower Volcanic Series. This corresponds to the rocks exposed on the ridges on La Preciosa and in many of the drill holes.

In the surrounding ranges, the Lower Volcanic Series is overlain by thick sequences of rhyolite and dacite ignimbrite, tuff and volcanic breccia of the Oligocene-age Upper Volcanic Series. In the lower hills, these rocks do not crop out and may have been eroded. The Upper Volcanic Series is not exposed on La Preciosa, but is exposed in cliffs to the west of La Preciosa. A good regional overview has been published in a Geological Society of America fieldtrip guidebook (Aranda-Gomez *et al.*, 2003).

The basins and parts of the lower hills are covered with varying thicknesses of Pliocene to Pleistocene basalt that erupted from numerous vents now marked by small volcanic cones and domes that dot the plains. Several volcanic vents have been mapped on the property, including the prominent Cerro Prieto La Mina.

Figure 7.1 Regional Geology
(from Whiting and Gunning, 2007)



7.2 District Geological Setting

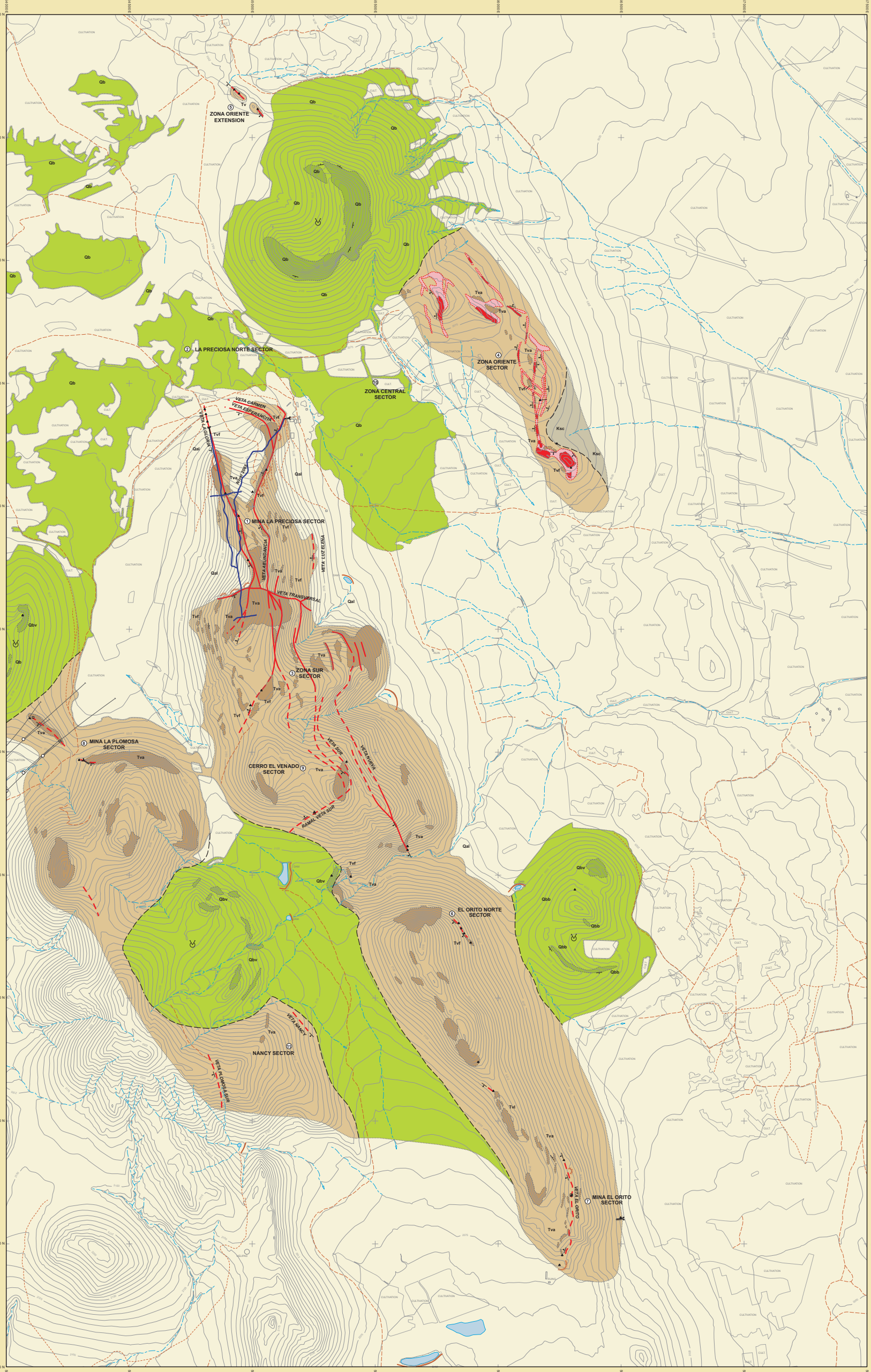
The oldest rock within the La Preciosa property, found only in deeper drill core, is a Cretaceous-age metasedimentary series consisting of graphitic schist, chlorite schist and layers of quartzite. Above the metamorphic units is a thick package of Cretaceous unmetamorphosed polymictic conglomerate containing lenses of arkosic sandstone. This sedimentary package is overlain by andesite tuff and andesite agglomerate of the regional Tertiary-age Lower Volcanic Series. In places the flows are porphyritic, or glomeroporphyritic and tuffs are partly welded (Love, 2005). Rhyolites of the Tertiary Upper Volcanic Series are not found in the immediate study area, but can be seen on cliffs further to the west on the San Juan property. The Cretaceous conglomerate and Tertiary Lower Volcanic andesitic rocks are the main host rocks for the veins, although vein mineralization does extend into the basement metamorphic rocks. There are a few dioritic dikes and micro-sills in deeper core, but intrusive rocks are generally rare. The youngest rocks are basalt flows which erupted from several Pleistocene-age volcanic vents and which now fill the lower valleys. Cerro Prieto, Cerro Blanco and Cerro La Chicharronera are prominent examples of the volcanic vents.

The La Preciosa property covers a series of Tertiary-age gold and silver-bearing epithermal quartz veins which contain barite, fluorite (Love, 2005) and lesser quantities of base metals, primarily zinc and lead. There are two major vein and vein-breccia systems exposed on a series of hills and ridges which are separated by a flat-floored valley roughly 800m wide. The main vein system on La Preciosa Ridge (Figure 7.2) consists of dominantly northward-striking and westward-dipping veins (*e.g.*, Abundancia, La Gloria, Luz Elena, Chabelita, Martha, Nueva, Sur, El Orito, El Orito Norte), plus east-striking, south-dipping cross-cutting veins (*e.g.*, Transversal, Esperancita, Carmen). The eastern vein-breccia system (Zona Oriente, Zona Oriente Extension) strikes northwest and is interpreted to be a surface expression of the shallowly dipping Martha Vein. A sub-parallel north-northwest-trending vein system (La Plomosa, La Plomosa Sur, El Vaquero, Nancy, Nancy Sur) is exposed on the hills immediately to the west of La Preciosa Ridge, mostly on the San Juan concession.

The La Preciosa Ridge vein system (Figure 7.2) has been traced on surface for over 5km and drilling has revealed that the veins continue to the north beneath the basalt cover. The veins are also interpreted to extend farther south of known exposures. Individual veins have been traced for up to 2.4km. Within the main vein system, the Abundancia, La Gloria, Luz Elena and Martha veins have been explored in the most detail. The Abundancia and La Gloria veins coalesce at depth, with the intersection having a shallow northward plunge. The merged vein continues as the Abundancia vein. Thicknesses vary from 1.5 to 26m wide for Abundancia, 1.5 to 17m for La Gloria and 1.5 to to over 35m for Martha veins. There is often lower-grade gold and silver enrichment in the wallrock adjacent to the veins.

LA PRECIOSA PROJECT - Durango, Mexico

Geology / 2005-08 Drill Hole Locations / Resource Estimate Area



MAP SYMBOLS

- Index contour
- Indefinite contour
- Depression contour
- Stream / river
- Intermittent stream
- Indefinite stream
- Footpath
- Rough road
- Gravel road
- Paved road
- Building

Contour Interval: 5m

GEOLOGICAL LEGEND

- Alluvial cover (cultivated fields labelled, many underlain by thin basalt)
- Quaternary basalt : Qbm - massive; Qbv - vesicular; Qbb - breccia
- Veins and silicic breccia zones
- Tertiary volcanics (intermediate) : Tva - agglomerate and volcanic breccia; Tvl - lapilli tuff; Tvf - fine-grained tuff
- Cretaceous sedimentary units : Ksc - conglomerate; (metasediments noted at depth in drill hole BP94-01)
- cl Alteration is spotty in volcaniclastics
  - cl : chloritization
  - bi : biotitization
  - ep : epidotization
- Geological contact (approximate)
- Limit of outcrop / subcrop
- Rock sample site with number (Feb. 2004)
- Rock sample site with number (June-July 2004)
- Quaternary volcano
- Vein orientation
- Bedding orientation
- Terrero (rock dump)
- BP-6 Drill hole (Note : BP-1 to 7 drilled in 1981-82, Mina La Preciosa; BP94-01 drilled in 1994, Zona Oriente)
- BP05-02 2005-07 drill hole
- Adit, old underground mining "Level 2065", widened in early 1980's, mostly drifts
- Area of Resource Estimate

TARGET AREAS

1. **MINA LA PRECIOSA SECTOR** - 2.5 km underground development, surface sampling, 54 drill holes
2. **LA PRECIOSA NORTE SECTOR** - projection of veins beneath shallow basalt cover, 13 drill holes
3. **ZONA SUR SECTOR** - surface sampling, 23 drill holes
4. **ZONA ORIENTE SECTOR** - surface sampling of silicic breccias, 7 drill holes
5. **ZONA ORIENTE EXTENSION** - minor surface sampling
6. **EL ORITO NORTE SECTOR** - new vein discovery
7. **MINA EL ORITO SECTOR** - 800m of antique mine workings, 6 drill holes
8. **MINA LA PLOMOSA SECTOR** - 80m of antique mine workings
9. **CERRO EL VENADO SECTOR** - surface sampling of veins, 9 drill holes
10. **ZONA CENTRAL SECTOR** - geophysical IP anomaly, 1 drill hole
11. **NANCY SECTOR** - new vein discovery, Nancy Vein and La Plomosa Vein

January 2009

There are 2.5km of underground drifts following the Abundancia and La Gloria veins, and additional drifting along a small portion of the Transversal vein, demonstrating continuity of the vein structures. These workings are over 100 years old, though about 60% of the drifts were enlarged and re-sampled about 25 years ago by Luismin. There is a winze that leads down to workings 50m below the main 2065m level in the Abundancia vein, but very little drifting and stoping exists below the 2065 level. There are also several raises and small stopes which break through to surface on the Abundancia and La Gloria veins above the 2065 level.

At the farthest south exposures, the El Orito vein was drifted upon for several hundred meters over a century ago, but has had no modern underground exploration. There has been some drilling by Orko in 2006 at Orito.

Structural examination shows that La Preciosa Ridge may be a rotated horst, with the graded bedding within the andesite tuff and agglomerate dipping eastward at 30°. This could have importance when interpreting paleo-horizons of Ag-Au precipitation.

The deep Martha vein, in Mina La Preciosa sector, was discovered in late 2006 and was first incorporated into Resource Estimate IV. This shallowly-dipping vein was the principal target for 2008 diamond drilling and now contains the largest part of the resource on La Preciosa property. Mineralization is found in metamorphic rocks at depth, works its way through the conglomerate unit, then follows the angular unconformity at the base of the andesite. Where the andesite / conglomerate contact dips to the east, the Martha vein ascends through andesite and is either truncated by younger basalt, or flares into veinlets and silicified breccias bodies in Zona Oriente.

The east-west Transversal vein occupies a south-dipping normal fault, with the Zona Sur area representing the short-offset, down-dropped block. Surface trenching and early drilling results (Orko news releases, February 8, 2006 and September 18, 2007) have shown that the Transversal vein is also mineralized; however, it has not been included in resource estimates. The Transversal vein represents the southern boundary of the Mina La Preciosa sector.

The Abundancia vein continues south of the Transversal vein in Zona Sur sector and contains multiple intercepts. As it is in a structurally separate sector, it has been interpreted apart from the main Abundancia vein.

The Luz Elena vein, structurally below the Abundancia vein, has been intercepted multiple times but only a small portion meets the requirements for inclusion in the present estimate.

The Esperancita vein, a “transversal-type” east-west structure, has been tested with just five holes and shows potential to contain economic mineralization.

8.0 DEPOSIT TYPES

La Preciosa is considered to be a low- to intermediate-sulfidation silver and gold epithermal deposit typical of the Mexican silver belt. Low-sulfidation vein systems are commonly characterized by their low sulfide contents, quartz-adularia-sericite alteration mineralogy, and lack of extensive wallrock alteration. High-sulfidation vein systems are commonly characterized by sulfur saturation leading to the presence of native sulfur and sulfide minerals, quartz-alunite alteration mineralogy and extensive wallrock alteration. Most Mexican silver deposits are usually not at the end member classifications and often fit in the intermediate-sulfidation position.

Buchanan (1981) proposed an idealized model for epithermal systems, incorporating a series of sub-vertical veins that bifurcate and pass upward into a mushroom shaped sub-horizontal "silica cap" at or near the paleosurface. Deep in the system, the veins often have a base metal root, with increasing precious metals near the boiling level of vein emplacement. Bonanza-grade gold and silver mineralization may occur near this level. The highest levels in the system, including the silica cap, commonly have anomalous mercury, arsenic and antimony geochemistry with low precious and base metals values.

The geology and style of mineralization at La Preciosa are similar to those of other silver producing districts in the western Americas. Mexico is host to many silver-gold districts, alternating with Peru as the largest silver producer in the world.

The following comments are intended to provide examples of mining districts that have geology and mineralization similar in general style to those of the La Preciosa property. There is no intention to draw direct comparisons between La Preciosa and any other mining district other than for the purposes of guiding exploration efforts. Tonnages and grades vary widely among deposits of similar types and the writers do not imply that tonnages and grades described for other deposits should be assumed to exist at La Preciosa.

In Mexico, the Topia, Guadalupe y Calvo and Tayoltita districts have numerous mineralized veins in the older volcanic rocks underlying the rhyolitic Sierra Madre Occidental ignimbrite cap, similar to La Preciosa. Guadalupe y Calvo is somewhat unusual in that it has a low silver-to-gold ratio of 20:1. Topia is a classic polymetallic fissure-vein district with a silver-to-gold ratio of 830:1. This compares to a silver-to-gold ratio of 767:1 at La Preciosa.

"*Total historical production for the Topia district has been estimated at 30 million ounces of silver. The recorded production for 1952-1999 exceeds 15 million ounces of silver, as well as 18,500 ounces of gold, 48,000 tonnes of lead and 44,500 tonnes of zinc. The on-site mill complex treated the ore and produced lead and zinc concentrates that were shipped to the Peñoles smelter in Torreon. Records for Peñoles' 38 years of production indicate average mill head grades of 437 g/t silver, 0.87 g/t gold, 3.9% lead and 4.2% zinc. Overall average metal recoveries were silver-86%, gold-55%, lead-94% and zinc-85%.*" (Arseneau, *et al.*, February 2007).

After a period of exploration and development, Great Panther reopened the Topia mine in December 2005 with limited test production. During 2008, the Topia plant processed 35,358 tonnes of ore at average grades of 322 g Ag/t, 0.71 g Au/t, 2.48% Pb and 2.91% Zn, and achieved overall recoveries of 87.3% for Ag, 87.8% for Au, 88.5% for Pb and 86.9% for Zn (Great Panther News Releases April 7, Jul 14 & Oct 7, 2008 and January 13, 2009).

The Tayoltita mine in the San Dimas district, located approximately 150km southwest of La Preciosa, has an historic silver-to-gold ratio of about 90:1 and production of over 30 million tonnes extracted from over 80 veins. The three main deposits in the San Dimas district (Tayoltita, Santa Rita and San Antonio) are high-grade, low-sulfidation, silver-gold epithermal vein deposits. Early production reported more silver; more recent production has higher gold grades. Recent exploration by Luismin at Tayoltita has expanded the resource and moved material to the reserves categories. Currently the proven and probable reserves are reported at 4,680,000 tonnes with 381 g/t Ag and 5.41 g/t Au for a total of 57,300,000 oz Ag and 814,000 oz Au. Current production at the Tayoltita – San Dimas operations stands at 2,100 tonnes per day. In addition there are inferred resources reported at 17,550,000 tonnes with 324 g/t Ag and 3.29 g/t Au for a total of 183,000,000 oz Ag and 1,850,000 oz Au. (Goldcorp website December 7, 2008)

The famous Fresnillo silver mining district in neighboring Zacatecas State contains many high-grade silver vein deposits. Fresnillo, like La Preciosa, is located on the eastern side of the Sierra Madre Occidential mountains. One of the larger, classic veins of this camp is the Santo Niño vein. At surface, the vein is not well exposed, occurring as a small stockwork and veinlets. The Santo Niño vein was discovered by drilling at a depth of ~300m below surface and has now been followed for 2.5km in length, 500m in depth and a width of 0.1 to 4.0m (average 2.5m). The discovery hole in 1975 intersected 1,087 g Ag/t, 1.62 g Au/t, 0.4% Pb and 0.7% Zn over a true width of 3.0m. This vein has become the largest silver producer in the Fresnillo camp (Gemmel *et al.*, 1988). Production to date in the Fresnillo camp has exceeded 1.2 billion ounces of silver. Production in 2007 was 34.4 million ounces silver and 280,000 ounces gold for a silver-to-gold ratio of 123:1 (Megaw, 2008). In December 2008, Jaime Lomelin, CEO of Fresnillo PLC, announced that they were proceeding to develop a "Fresnillo-II" mine south of the main Fresnillo mine (Lomelin, 2008).

For an example in another region, there are three prominent silver-gold districts in the Peruvian central Andes (Caylloma, Orcopampa and Arcata). These have been described as quartz-adularia-sericite type, silver-rich, polymetallic and base metal veins. The silver-to-gold ratio in these deposits is generally more than 300:1. As at La Preciosa, the mineralization occurs in fissure-filling veins along sub-parallel faults, at unconformable contacts between rock units, and cutting andesitic flows, breccias and pyroclastics. Each of these districts has multiple veins within areas of 10 to 15 km^2, with individual veins generally less than 2m in thickness, but up to 3km in length. Mineralization is reported to occur over a vertical interval of 300 to 400m. The combined historic production and reserves of these three Peruvian districts was estimated to range between 8 and 9 million tonnes at grades of 400 g Ag/t and 1.3 g Au/t (Erickson and Cunningham, 1993).

9.0 MINERALIZATION

Acanthite, pseudomorphed after argentite or as microcrystalline to amorphous grains, possibly with minute electrum, is considered to be the primary silver-bearing mineral at La Preciosa. Texturally, it can appear as sub-metallic black "ginguro" blebs and bands, similar to other epithermal systems worldwide (Corbett, 2002; Gutierrez et al., 2004; Shikazono and Shimizu, 1988). There is also a partial correlation between Pb and Ag analyses, suggesting that some of the galena may be argentiferous. Historical reports make reference to native silver in minute grains in druzy quartz (Medina-Araujo, 1995). A micro-XRD (X-Ray Diffractometry) laboratory study on Martha vein drill core also identified the presence of native silver (Freckelton and Flemming, 2009).

La Preciosa mineralization is composed of poly-phase veins of quartz, often banded, smoky, druzy, chalcedonic and/or amethystine, with a substantial number of barite laths. Petrographic work by Love (2005) also identified fluorite as a gangue mineral in the quartz veins. Sulfide mineralization is scarce on surface and in the shallow underground workings. Drill core contains disseminated sphalerite, galena, pyrite and acanthite, plus iron and manganese oxides. The presence of mangano-calcite has been noted in several drill holes, but is not uniformly distributed. In shallower drilling, pyrolusite and limonite often appear on fracture surfaces and in some areas hydrothermal hematite is present.

Wall rocks adjacent to the veins are silicified, particularly between the La Gloria and Abundancia veins. There is spotty proximal kaolinite alteration, as well as patches of sericite. Distal propylitic alteration consisting of chlorite with minor epidote and pyrite, is common.

The principal vein is the Martha Vein, a N~30°W-striking and ~20°W-dipping mineralized zone. It can be considered a mineralized zone or "lode" of stockwork, silicification, breccias, veins, vein breccias, veinlets and general mix of multiple styles of mineralization. Within this broader zone, the Martha zone, or "lode", ranges from ~1m thick to ~60m thick and probably averages ~15m. Generally one but occasionally more, high-grade veins or vein breccias exist within the thickness of the vein zone. The high-grade vein zones range from ~<1m thick to ~20m thick and average ~5m. To date, the Martha has been identified over a strike length of approximately 3,000m and a dip distance exceeding 1,500m.

The Martha vein in general has less barite and a higher proportion of pale, low-iron content sphalerite, galena and pyrite, compared to the Abundancia and La Gloria veins. In Zona Oriente, a surface expression of the Martha vein where it flares into veinlets and silicified breccias bodies, pale green fluorite is present as a late stage mineral replacing barite laths.

At the neighboring San Sebastian mine, the poly-phase veins exhibit an emplacement timing extending over several million years (29 to 31 Ma), with variations in temperature of emplacement (Allen, 2006). A similar setting is likely for the veins at La Preciosa. The original discoveries and those veins that had some production strike north and dip moderately to steeply to the west, in the hanging wall of the Martha vein. They strike for a distance of around 1,300m, are lost to the north and feather out into widespread poorly defined mineralization to the south.

10.0 EXPLORATION

No significant exploration is reported on the La Preciosa property before 1981 though the history of underground mining indicates interest in the property for well over 200 years. Recent exploration began with Luismin in 1981. Only limited work was completed post-1982 until Orko's exploration effort, which began in 2004 and continues until the present day. The data presented for Luismin and Orko's pre-2008 exploration work are derived from Whiting (2008).

10.1 Luismin Exploration (1981-2002)

Luismin conducted an exploration program in 1981 to 1982. This work consisted of a) detailed channel sampling of surface outcrops in the eastern vein-breccia (Zona Oriente, now thought to be a surface expression of the Martha Vein) and main vein systems, b) geophysical surveying of a single induced polarization (IP) line and c) drilling to explore the Abundancia and La Gloria veins.

Luismin drilled seven diamond drill core holes (BP-1 and BP-5 from underground, BP-3, -4, -6, -6A and -7 from surface; there was no BP-2). Total meterage drilled was 1,319m. The holes were mainly drilled west to east across the Abundancia and La Gloria veins and tested a 400m strike length roughly 50m to 75m below the 2065 level. The best results were from underground hole BP-1, which hit a true width of 13.6m assaying 232.0 g Ag/t and 0.1 g Au/t. The 1981-1982 drill program was terminated, reportedly, due to falling metal prices. Core from Luismin's program was split and the remaining half is intact and currently stored on site. The data for the Luismin drill holes is available to Orko and is included in the current database but not used for the present estimate.

The Luismin geophysical survey consisted of a single east-west IP resistivity line across the north end of La Preciosa ridge, extending eastward to Zona Oriente. Specific details of the survey are not available, however, a weak response was interpreted for the area of Abundancia and La Gloria veins, plus a weaker response on the silicified mounds of Zona Oriente. The low sulphide content and low contrast between quartz veins and enclosing silicified andesite could be the reason for the lack of a stronger response.

To provide access to trackless mining and drilling equipment, Luismin enlarged 60% of the drifts to 3m x 3m on the main 2065m level within the Abundancia and La Gloria vein underground workings. The material from this slash-out is stored on the ore stockpile patio in front of the portal. Underground channel sampling was conducted at 2m to 3m intervals along the drifts. In addition, a total of 450m of underground workings along the Abundancia vein and 408m along La Gloria vein were chip sampled. In total, 1365 chip samples were collected underground by Luismin; there are 761 in the 2008 database.

Table 10.1 and Table 10.2 contain assay sections of the two veins explored underground by Luismin. The underground sample data presented here is grouped in 25m lengths along strike with the grade weight averaged by channel sample thickness. Maximum vein width from the channel sampling is limited by the physical width of the drifts. The underground assay grades were used in the initial

resource estimate completed by Luismin in 1982. The more recent estimates completed by Orko (Section 6.3.1) and the current MDA estimate (Section 17.0) use the underground results only for spatial control on the vein geometry.

Table 10.1 Underground Channel Sampling – Main Level – La Gloria Vein

From: North	To: North	Interval	No. of Channels	Average Width (m)	Au (g/t)	Ag (g/t)	Ag-Eq (g/t)
14,750	14,775	A	0				
14,775	14,800	B	12	0.58		35.6	35.6
14,800	14,825	C	13	0.93		90.0	90.0
14,825	14,850	D	13	0.80	0.170	193.6	203.8
14,850	14,875	E	13	0.93	0.257	256.5	272.0
14,875	14,900	F	10	0.85	0.779	232.7	279.5
14,900	14,925	G	11	1.23	1.029	247.3	309.0
14,925	14,950	H	13	1.57	0.414	94.5	119.4
14,950	14,975	I	15	2.35	0.465	88.0	115.9
14,975	15,000	J	12	2.33	0.718	187.3	230.4
15,000	15,025	K	9	4.19	1.020	234.9	296.1
15,025	15,050	L	9	3.74	0.436	212.9	239.0
15,050	15,075	M	14	2.53	0.445	267.5	294.1
15,075	15,100	N	5	2.90	*	195.1	195.1
15,100	15,125	O	13	3.07	1.254	223.3	298.5
15,125	15,150	P	13	3.09	1.357	191.0	272.4
15,150	15,175	Q	12	2.43	0.615	124.9	161.8
15,175	15,200	R	4	1.82	0.474	79.5	108.0

* Sampling data for gold is missing for interval "N".

Table 10.2 Underground Channel Sampling – Main Level – Abundancia Vein

From: North	To: North	Interval	No. of Channels	Average Width (m)	Au (g/t)	Ag (g/t)	Ag-Eq (g/t)
14,750	14,775	A	14	1.99	0.391	168.6	192.0
14,775	14,800	B	12	1.87	0.185	209.2	220.3
14,800	14,825	C	13	1.93	0.188	206.7	218.0
14,825	14,850	D	9	2.06	0.233	154.4	168.4
14,850	14,875	E	0				
14,875	14,900	F	11	1.70	0.139	97.0	105.4
14,900	14,925	G	12	1.21	0.199	169.0	180.9
14,925	14,950	H	10	2.54	0.640	150.3	188.7
14,950	14,975	I	14	3.14	0.488	138.9	168.1
14,975	15,000	J	12	2.61	0.883	175.5	228.5
15,000	15,025	K	12	2.93	0.652	244.8	284.0
15,025	15,050	L	11	2.81	0.649	264.8	303.7
15,050	15,075	M	14	1.38	0.914	250.8	305.6
15,075	15,100	N	14	1.90	0.454	98.2	125.5
15,100	15,125	O	14	2.25	1.069	202.6	266.8
15,125	15,150	P	13	2.37	0.452	93.4	120.5
15,150	15,175	Q	14	2.92	0.671	157.9	198.1
15,175	15,200	R	14	1.72	0.883	238.2	291.2

Only limited work was completed by Luismin after 1982. A single 311m hole was drilled by Luismin in the eastern vein-breccia system in 1994 (Zona Oriente, now known as Martha). The hole intersected a series of variable silicified zones and veinlet stockwork anomalous in silver, gold, lead, zinc and mercury, but did not pass through the complete structure. A small-scale bench metallurgical test was performed on a sample of material extracted from the Abundancia and La Gloria veins (see Section 16.0).

10.2 Orko Exploration (2004 to present)

An independent property examination was performed in early 2004 by George Sivertz on behalf of Orko (Sivertz, 2004). The work included eight surface rock samples for verification of historic data. In June/July 2004, the La Preciosa property was geologically mapped by Ben Whiting at a scale of 1:5,000, identifying target areas for detailed work (Whiting, 2004). Eight hand samples were examined in thin section by David Love at Queen's University (Love, 2005).

In January 2005, Orko contracted the services of SJ Geophysics of Delta, BC, Canada, to conduct a 3D-IP resistivity and chargeability geophysical survey. The geophysical survey was over the north part of the main structures (Mina La Preciosa), extending across the central valley and the eastern vein-breccia (Zona Oriente) and northward to Cerro Prieto and the northern projection of the main structures (La Preciosa Norte). Forty line-kilometers were run at 100m line spacing and 25m station spacing. A weak geophysical signature can be seen on the shallow near surface response high on the ridge where the veins are known, but the method was inconclusive beneath the basalt cover to the north. A large, multi-line chargeability anomaly was delineated beneath the basaltic cover in the valley between La Preciosa Ridge and Zona Oriente.

An exploration geochemical sampling program was conducted over the southern part of La Preciosa in 2008. The sample grid starts on Cerro El Venado heading southward, with east-west lines. On the ridges line spacing was 100m and sample spacing was 25m along lines. In areas of the flats, the sample spacing was 50m. The entire grid stretches 5km north-south and averages 2km east-west. It is contiguous with the neighboring soil grid on the San Juan property to the west. On the La Preciosa grid 1,167 soil samples were collected, while 1,164 were collected on the San Juan grid. Soil samples were collected from the "B" soil horizon. On the La Preciosa property, strong multi-element geochemical anomalies were found for the Veta Nueva, El Orito, El Orito Norte, and Nancy veins. These are locations for further exploration in 2009.

Orko commenced diamond drilling in March 2005 on La Preciosa Ridge, targeting the Abundancia and La Gloria veins and also intersecting the Luz Elena vein at depth and to the east of the Abundancia vein. The first 25 drill holes totaling 10,261m were completed within these target areas by late October 2005. These initial core holes were the basis for the first independent resource estimate ("Inferred Resource Estimate I") released in January 2006 (Gunning and Whiting, 2006). During 2005, an additional six core holes, named BB05-01 to BB05-06 (1,911m) were drilled within the Zona Oriente area located 1km northeast from the La Preciosa Ridge historic mine areas. These holes were not included within the

initial January 2006 resource estimate but are in the current database and are within the current resource model boundaries.

Drilling continued through late 2005 and a second core rig was added in 2006. The 2006 drilling demonstrated continuations of the La Preciosa Ridge vein mineralization both to the south - intersecting the Abundancia Zona Sur vein - and north - targeting the Esperancita vein. Drilling also moved east, targeting the up-dip portions of the Luz Elena vein. Data for holes up to BP06-38 for a total of 16,335m of core drilling were used to complete the second resource estimate, prepared in-house by Orko ("Inferred Resource Estimate II") released in September 2006 (Whiting, 2006). A single exploratory hole was drilled between La Preciosa Ridge and Zona Oriente, named BC06-01 (451m) and six exploratory holes were drilled to the far south at El Orito named BO06-01 to BO06-06 (2,526m). Upon completion of hole BP06-76 for a total of 29,296m, the third estimate, also prepared by Orko, ("Inferred Resource Estimate III") was released in March 2007 (Whiting, 2007), not including the seven exploratory holes.

Late-2006 drilling on the north side of La Preciosa Ridge resulted in the discovery of the Martha vein, first identified in drill hole BP06-77. The Martha vein is relatively flat lying, dipping an average of 20° to the west, and was encountered at depth below the more steeply dipping La Preciosa Ridge veins.

Two additional drill rigs were added to the program in 2007. Later drilling in 2007 targeted both the shallow La Preciosa veins with the drill holes extending at depth to intercept the Martha vein. The fourth resource estimate, an independent one, ("Inferred Resource Estimate IV") was released on October 1, 2007 (Whiting and Gunning, 2007). This estimate included data up through drill hole BP07-120 for a total of 51,008m of core drilling. The Martha vein was the primary target for the mid to late-2007 drill program and the vein was extended both to the south and further up-dip to the east. In 2007, Orko re-entered and extended nine holes drilled in 2006 which were initially completed just above the projected Martha vein depth. The fifth and latest historic resource estimate, done in-house by Orko, ("Inferred Resource Estimate V") was released in March 2008 and included the data through drill hole BP07-149 for a total of 63,177m of core drilling (Whiting, 2008). At this point, the Martha vein had been expanded to cover an area 2,000m north-south and 1,600m east-west in the model, but remained open to the south and west. The northern extension has not been found and the eastern end crops out or abuts against the recent basalt.

In 2008, drilling continued with four rigs from January to October and with two rigs from October to December. The principal target continued to be the Martha vein to the up-dip eastward side and along strike to the south-southeast. The final hole for 2008 was BP08-354, adding 70,737m for the year and bringing the total La Preciosa drilling by both Luismin and Orko to 150,443m.

Westcoast Mineral Testing Inc. ("WMT") of North Vancouver, BC, Canada, was contracted to provide direction for metallurgical testwork. Initially five buckets of core rejects sample material were assembled for the Martha, Abundancia, La Gloria, Luz Elena and Transversal veins and a composite sample was prepared. WMT also provided guidance in examining the metallurgical work done by Hecla (see Metallurgy section).

11.0 DRILLING

11.1 Drilling Summary and Database

A total of 388 diamond drill core holes for 150,443m have been completed on the La Preciosa property as shown in (Table 11.1). A map of the drill holes is given in Figure 11.1. The drilling has been predominantly angled from west to east at varying dips. Only 18 holes are vertical. A list of drill holes is given in Appendix C.

Table 11.1 La Preciosa Core Drilling Summary

Company	Year	# of Holes	Meterage
Luismin	1981-1982 and 1994	8	1,630
Orko	2005 to present	380	148,813
Total		**388**	**150,443**

11.2 Drilling by Luismin

On La Preciosa, the historic 1981-82 Luismin drilling of 7 holes totaling 1,318.95m, amounts to only 1% of the drill core for this study. The core was either BQ-size or AX-size and split by a screw-chisel core splitter. Half of the samples were submitted to the Luismin Labs in Durango for testing. The remaining half core is stored in the original core boxes in core storage building No. 1 on site and is accessible. Results from the 1981-82 drilling are in good agreement with the results from the 2005-08 drilling. Luismin's drilling is further described in section 6.1 of this report.

11.3 Drilling by Orko

Orko's drilling program began on March 21, 2005 with the arrival on-site of a Longyear-38 diamond drill rig. Major Drilling International ("Major") was the drill contractor for this and all subsequent drill rigs on the property through 2008. Due to positive results, a second rig, a Longyear-44, was added in 2006 and third and fourth drill rigs, Longyear-38A and -38B, were added in 2007. Through 2008, the four rigs were drilling until October when the number of drill rigs was reduced to two. In December 2008 these last two rigs were shut down. Drilling has been done at approximate 100m centers with the current focus on extending the Martha vein mineralization.

All diamond core holes were started in wireline HQ-size core, with reduction to NQ-size core at approximately 260m down-hole depth. Reflex© survey measurements were taken every 50m down hole. Recovery and RQD were calculated for every drill run with most drill runs at the full run length of 3.15m. Recovery was consistently of high quality as discussed in Section 11.5.

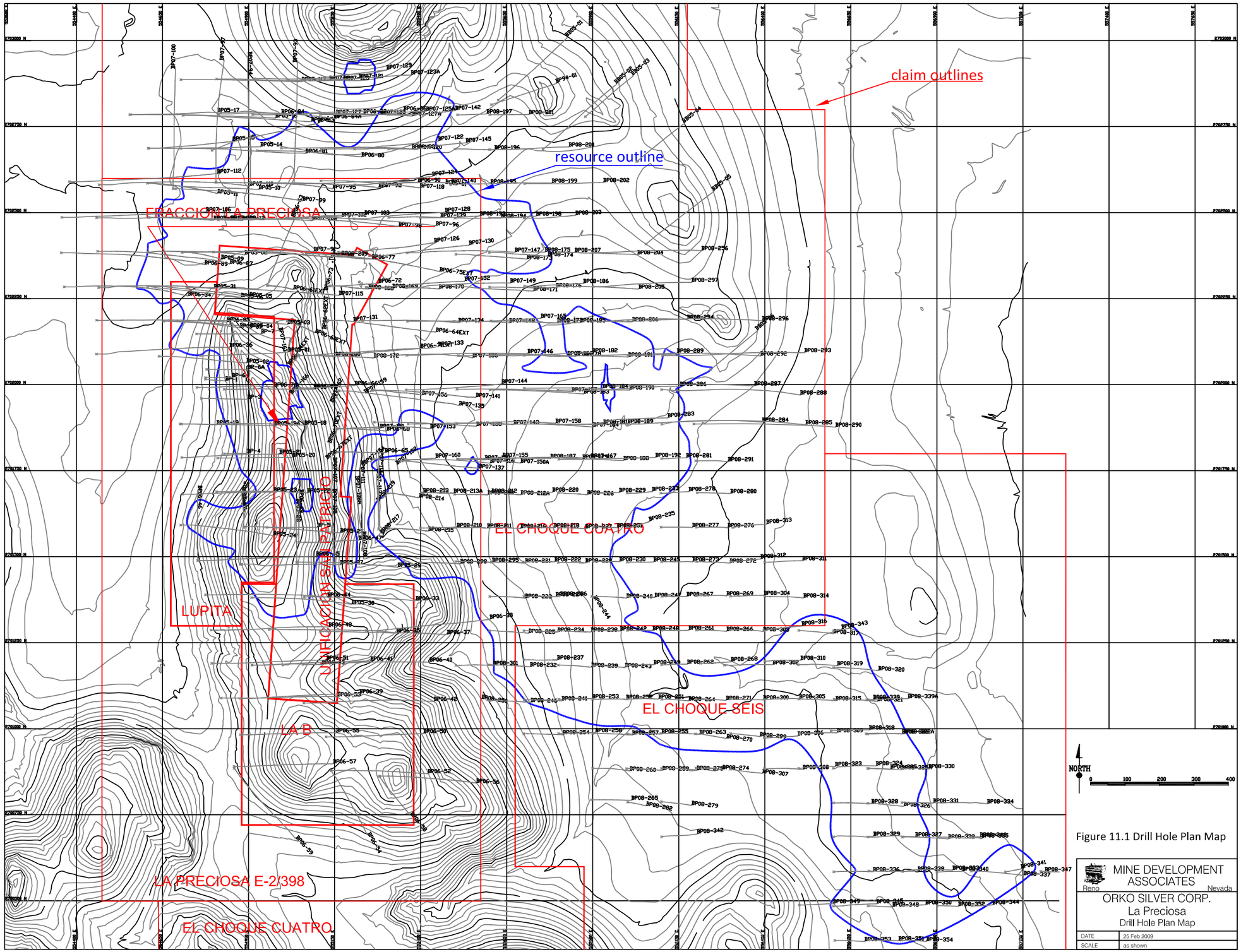


Figure 11.1 Drill Hole Plan Map

11.4 Orko Drilling Procedures

The following is a summary of the La Preciosa drilling procedures reviewed and noted by MDA while on site in the summer 2008. When procedures herein are prefaced by "reportedly," that only means that the procedure was not observed by MDA, but was reported by Orko. There is no reason to believe that the procedure was not as stated, and the term "reportedly" does not imply such; it merely communicates that the procedure was not observed directly by MDA.

All drilling at La Preciosa is core and most holes incline to the east; 18 holes are vertical. All holes begin with HQ-size core but some are reduced to NQ when the amount of drill rod in the hole exceeds the capacity of the equipment for HQ drilling. Drilling is done on 100m centers and is progressing in a systematic manner to the south following the Martha vein, whose known extent is still increasing. Drill sites are surveyed and drill-hole set ups are given back-sites for drill-hole orientations. The drillers insert wooden blocks between all core runs, which are marked in both feet (because the rods are in feet) and meters (because the project is in meters). Reflex© down-hole measurements are taken on 50m intervals by the drillers and recorded on sample sheets designed especially for this information. Reportedly, a geologist must see the core from the bottom of the hole and be present to end the hole.

Once the holes are completed, a PVC pipe is placed in the hole and a cement block is made at the collar. The holes are well marked. An independent surveyor is reportedly contracted to survey the collars after the holes have been completed, typically doing the surveys in batches of 20 holes. Surveying is done using a UTM coordinate system based on ITRF 92, an internationally recognized datum that, for practical purposes, is very similar to WGS84. The UTM zone is 13.

While drilling, core is kept at the drill rig and is picked up once a day by Orko technicians, who, reportedly, tape the boxes shut with duct tape prior to hauling them to one of five core sheds. At the core shed, technicians clean the boxes and the core. They mark the boxes with the box numbers and the depths and check the depths marked on the blocks. Technicians then record core recovery and RQD, the latter for lengths of both 10cm and 20cm. The technicians lay out two boxes of core and labels for photographing. Print photographs are then taken of all core. The procedures are considered very good, and the two technicians' work reviewed by MDA was high quality. Orko geologists complete a quick log of the geology at this stage.

The core is then stacked on the racks until a geologist is ready to log the hole, at which time the core is removed from the racks and laid out for logging. The geologists log the core with descriptive text, a graphic log, and a four-column graphic display of relative strengths of four types of alteration. The geologists also determine sample locations and mark the core to show where samples start and end and the line that should be cut. The logging detail and quality is good. MDA did not check for consistency between loggers, something that should be monitored vigilantly by Orko.

11.5 Drill-Hole Database

The Orko drill-hole database compiled and constructed by Orko, and then checked and modified by MDA, contains data for all 388 drill holes completed by Luismin and Orko All of the drilling is diamond drill core and the drilling is well documented (Table 11.2).

Table 11.2 La Preciosa Drill-Hole Database: Summary

Item	Value
Number of Drill Holes	388
Total Length (m)	150,443
Average Drill Hole Length (m)	388
Number of Drill-Hole Assays	89,127
Meters Sampled & Assayed	63,507
Average Sample Length (m)	0.71

Besides the analytical data, the La Preciosa database contains collar location, down-hole survey data, and geology data for all of the Orko and Luismin drill holes. The geology data consists of lithology and vein coding for every sample interval. The database also includes geotechnical data (core recovery and RQD readings) and over 88,000 rock density determinations taken from the Orko core and using the immersion method. Close to one hundred volumetric density measurements on pieces of core from the southern half of the Martha vein also exist.

The Orko database includes analytical results for 762 Luismin underground chip samples. These samples were collected from along the Abundancia and La Gloria veins and have been used by Orko and MDA for spatial control on the vein models.

11.6 Core Recovery

Core recovery data has been recorded for the Orko core holes but there is no core recovery data for the eight Luismin drill holes. The Orko technicians determined core recovery by measuring total lengths of recovered core between the drill run blocks and dividing with the drill interval length marked on the drill run blocks. The calculated recovery percentages, along with rock quality determination ("RQD") data, were recorded in a unique geotech database. MDA observed the core recovery determination procedures while on-site and believe the procedures were very good and Orko's work is of high quality. The only concern is that the calculations of core recovery, RQD, and density are done manually using a hand calculator. This procedure could be error-prone, and it can easily be circumvented to avoid potential errors. The raw data should be entered manually into a spreadsheet and calculations should be done using spreadsheet formulas. Table 11.3 summarizes the core recovery and RQD data for all rock types.

Table 11.3 Summary of Core Recovery and RQD

	Core Recovery%	RQD on 10 cm	RQD on 20 cm
count	48679	48679	48679
minimum	0.00	0.00	0
maximum	100.00	100.00	100
average	93.33	56.90	36.72

12.0 SAMPLING METHOD AND APPROACH

12.1 Luismin Sampling

The sampling methods and approach used by Luismin for the 1981-82 program are not described in detail in the available reports. Whiting (2008) states *"The author is familiar with the company, its operations, and its personnel and believe that the techniques used at La Preciosa meet the industry standards of the time. Existing evidence, such as the regularly spaced, clearly marked and legible samples, and neatly stored diamond drill core, indicate that professional care was exercised during all sampling operations. It is known that the drill core was split with a screw-wedge core splitter and that the samples were taken to the Luismin Lab in Durango for analyses."*

MDA did not view the Luismin core but did go underground and observed the Luismin sample locations, which had been sprayed on the ribs and backs. MDA did note that, after 26 years, not all the numbering was legible.

12.2 Orko Core Sampling

MDA reviewed Orko's core sampling procedures at the site. The description that follows in section 12.2.1 is based on MDA's observations but largely conforms to that given by Whiting (2008) and in recent email communications from Whiting to the other authors.

12.2.1 2008 MDA Review of Sampling Procedures

The following is a summary of Orko's sampling procedures reviewed and noted by MDA while on-site.

After geologic logging is complete, the geologist determines sample locations and marks a line along which the core is to be cut. The core boxes are stacked back on the core racks until the core cutters are ready to saw that core. The core cutters cut core only and perform no other tasks. Core is sawn using water-cooled diamond cutting saws. The core cutters receive the core boxes and cut along the lines drawn by the geologists. The entire sample is left in the core boxes, which are then moved to the sampling area behind *bodega* 4. At this location, bags and tags are labeled and samples are placed in the bags. The core boxes are again returned to the racks for storage while the plastic bags containing the samples are moved to *bodega* 3 for density measurements (see Section 12.3).

After measuring density, the sample bags are tied, placed in rice bags (ten per rice bag), recorded, and driven by Orko staff to Inspectorate Labs sample-preparation facility in Durango, a drive of about 90 minutes. At no point in the process, from the diamond drill rig to the intake platforms at the commercial laboratories, are the samples out of the possession of company personnel.

Inspectorate is the primary lab, and SGS Labs in Durango is the secondary lab. Assaying by both companies is done in the US and Canada, respectively. Up until around drill hole BP07-90, SGS Labs was the primary lab and Inspectorate was the secondary lab. Subsequent to that hole, the lab's responsibilities were reversed, in the hope of improving turn-around time.

12.2.2 Sample Lengths

Orko's sampling criteria up through the summer 2008 had led to a predominance of very short sample lengths. Median sample length for all samples was less than 0.5m with the median vein sample length at <0.4m. At the time, the minimum sample length was 0.05m. In MDA's opinion, the criteria used for sample locations were so subtle that more often than not the sample breaks seemed arbitrary, whether considered in light of geology or of precious metal content. After reviewing the logging, and then using statistical methods to compare sample lengths versus analytical results, MDA concluded that the sample lengths were too short. Efforts by geologists, including the authors, to estimate silver grades visually have not proven to be consistently successful, as a consequence of which there was little correlation between sample length and assay grade. MDA was concerned that the somewhat arbitrary breaks could lead to introduced error in sample lengths and therefore in assay weighting in the model. As a result of MDA's analysis, Orko changed the sampling criteria and increased the sample lengths.

12.3 Density Measurements

Orko routinely collected one density measurement from each sample interval, resulting in a density database that has over 88,000 records. An analysis of the density data and a description of how MDA arrived at the average densities used for the resource estimate is provided in Section 17.2. The following describes the density determination procedures as noted by MDA.

The principal set of density measurements is done on half core using the immersion technique. One sample is taken from the sample bag and weighed on an electronic scale. The scales are always reset to 0 if they don't settle back to 0 on their own. MDA checked one scale's calibrations with a given standard weight and it measured accurately. The sample selected for density measurement is then placed in a calibrated cylinder and the volume of displaced water is recorded. The technician divides the sample weight by the volume of displaced water to calculate the density.

MDA noted two concerns with the density measurements. The less important issue is that the samples are not oven dried, and measurements do not exist to show whether or not drying is needed before measuring the density. It is likely that the samples were "quite dry", but this was not demonstrated.

The more important concern is the presence of vugs within the mineralized vein samples. In some cases, vugs are common and significant and in others they are not. The problem is that there is no systematic recording of the amount of vugs, and the density measurement does not account for surficial vugs. The described procedures in use at La Preciosa will not correctly measure the *in situ* density

because the surficial vugs fill with water and therefore the volume is measured incorrectly low, yielding a density measurement that is too high. MDA believes that in at least a few cases this could be over five percent.

At MDA's request, Orko measured the density for 92 vein samples by taking precise measurements of the dimensions of cylindrical core specimens and then dividing the core dry weight by the core volume. The procedure used pieces of whole core cut into 10cm to 30cm lengths perpendicular to the core axis. The samples were then dried and weighed repeatedly until the weights did not change after subsequent dryings. After taking several (three to five) micrometer measurements of the length and also of the diameter of the core, the volume was calculated from ($pi * r^2 *$ length). The sample weight divided by the volume provides the specific gravity. The draw-back to this work is that the previously sampled vein material cannot be retested, since the core was cut in half for assaying, thereby rendering volume measurements imprecise. The results of the volumetric density measurements are described in Section 17.2.

13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

The following information on the 2005-2007 sampling program is taken from Whiting (2008). The procedures have continued to be substantially the same as those Whiting described, from then until the present time.

For the 2005-07 programs, the drill core was taken from the drill pad sites in taped shut boxes directly to the core storage facilities on the property, where it was logged and sampled. Individual samples were placed in durable plastic bags, with a numeric sample tag inserted inside the bag and the sample number written on the outside of the bag. Secured sacks, containing approximately 10 samples each, were transported by Orko personnel directly to the SGS Mineral Services preparation laboratory, or Inspectorate Labs, both of which are in Durango, Mexico. At no time were the samples out of the control of either Orko, SGS or Inspectorate personnel.

At the preparation laboratory, samples were numerically ordered, individually crushed, with a sub-sample taken for pulverization. The remaining crushed sample was returned to its plastic bag and placed in its sack. This portion, referred to as the reject sample, was picked up from the preparation laboratory and returned to the La Preciosa site for potential re-analysis in the future. The pulp from the pulverization process was placed in sturdy kraft paper bags and boxed for shipment to SGS Mineral Services analytical laboratory in Toronto, Canada, or Inspectorate Labs in Reno, Nevada, USA, both certified testing sites.

At the SGS analytical laboratory in Toronto, the pulps were analysed by several methods. Gold was determined by Fire Assay, with a lower detection limit of 5 ppb Au. Silver was determined by Atomic Absorption Spectrometry, which has a calibrated lower limit detection of 0.3 g Ag/t and an upper limit threshold of 300 g Ag/t. Samples with silver content > 300 g/t were subsequently re-analysed by fire assay with a gravimetric finish.

All samples were run through an Inductively Coupled Plasma analyses for 40 element spectral determination, on a strong acid digestion. This method reports values well for elements in minerals which are digestible in the acid, however, minerals resistant to the acid may give only partial values. Oxides, sulfides and carbonates yield full digestion, thus the base metal values are accurate.

The procedure yields results for Ag > 2 ppm, Al > 0.01%, As > 3 ppm, Ba > 1 ppm, Be > 0.5 ppm, Bi > 5 ppm, Ca > 0.01%, Cd > 1 ppm, Co > 1 ppm, Cr > 1 ppm, Cu > 0.5 ppm, Fe > 0.01%, K > 0.01%, La > 5 ppm, Li > 1 ppm, Mg > 0.01%, Mn > 2 ppm, Mo > 1 ppm, Na > 0.01%, Ni > 1 ppm, P > 0.01%, Pb > 2 ppm, Sb > 5 ppm, Sc > 0.5 ppm, Sn > 10 ppm, Sr > 0.5 ppm, Ti > 0.01%, V > 2 ppm, W > 10 ppm, Y > 0.5 ppm, Zn > 0.5 ppm and Zr > 0.5 ppm. For some of the elements there is an upper threshold of calibration. Silver has a 10 ppm upper threshold and is thus not used for the project where half of the samples exceed this value. The

base metals Pb and Zn and the element Ba have an upper threshold of > 10,000 ppm, thus only those exceeding 1% needed to be re-analysed by alternate methods.

The laboratory procedures at Inspectorate Labs in Reno are very similar to those of SGS Mineral Services. The exceptions are with the silver, where instrument calibration has a lower detection limit of 0.1 g [Ag]*/t and an upper limit threshold of 200 g Ag/t. Samples with silver content > 200 g/t were subsequently re-analyses by fire assay, with a gravimetric finish.*

14.0 DATA VERIFICATION

14.1 Database Audit

14.1.1 Down-Hole Survey Table

MDA audited Orko's down-hole survey table while at the project site in September of 2008. The audit was done by manually comparing data in the digital survey table to data on the original records at the project site. The records at the site were assumed to be correct. Of 2,669 down-hole survey records then available, MDA checked 476, or 17%. The following error rates were found:

	Error Count	Error Percent
Depth	3	0.6%
Azimuth	23	4.8%
Dip	3	0.6%
Total Errors	29	6.0%
Total Significant Errors	9	1.9%

"Significant Error" is a subjective term that is somewhat misleading in the case of these down-hole surveys. For example, an error of 10° in a dip entry was considered significant, but since any such errors had correct entries above and below them, they would have a negligible effect on the locations of assays and no discernible effect on the resource estimate. As with the rest of the auditing, all errors found were corrected. In addition, 15 drill holes were located with a GPS and their azimuths and dips were recoreded. The data in the field matched well with the database.

14.1.2 Assay Table

Orko has provided MDA with several iterations of an assay table that contains the following fields. Only those fields relevant to this resource estimate are listed:

Hole ID
Sample ID
From (meters)
To (meters)
A rock type code ("vein" is treated as a rock type)
A vein code (identifies veins by name)
Gold
Silver
Lead
Zinc
Copper

Barium
Lab batch file identifier

In order to audit the assay table, MDA requested that the two principal labs Orko had used, SGS and Inspectorate, email all of the related batch files to MDA. About 80% of the batch files MDA used came to MDA directly from the labs. The remainder were given to MDA by Orko, as the labs had some difficulty identifying batch files by project in their archives.

MDA used the batch files to build an assay table completely independently of Orko, and that table was then compared to Orko's, using queries in Microsoft Access© software.

The initial comparison was done using the assay tables (MDA's and Orko's) as they stood in mid-August 2008. A number of batches have been added to Orko's assay table since then, as recently as January 2009, whereas MDA's independent assay table is current to mid-December 2008. Nevertheless, approximately 70,000 of the 94,936 assay records in Orko's assay table have been cross-checked against MDA's independent assay table.

During the period August 2008 through January 2009 MDA and Orko maintained a series of email discussions as to issues that arose in comparing assay tables. All such issues were dealt with, one party or the other making corrections in their respective tables as necessary.

The assay table used for the resource estimate described in this report is Orko's. MDA's independent assay table was intended as a check on Orko's, not as replacement for it.

When MDA first looked at Orko's database in the summer of 2008, MDA noted that it appeared to be considerably cleaner than most of the "starting" databases that MDA receives, in terms of data compilation and data entry. After the iterations through the latter part of 2008, MDA believes that Orko's database is exceptionally clean.

14.2 Quality Control and Quality Assurance

MDA reviewed the quality control and quality assurance ("QAQC") data supplied by Orko, for the purpose of judging whether those data provided adequate support for the assay data used in the resource estimate. MDA are not specialists in QAQC matters and are not qualified persons in terms of analytical chemistry and laboratory procedures. The sole purpose of the review was to determine whether the data produced by Orko's QAQC program supported MDA's confidence in the analytical results.

14.2.1 Historic QAQC

MDA has no information as to QAQC procedures that may have been implemented by operators before Orko acquired the La Preciosa project. While the work done by Luismin is included in Orko's database,

the information is used only for guiding geological interpretations and outlining mineralized zones. Luismin's assay data were not used in the resource estimation.

14.2.2 Orko QAQC

Orko maintained a QAQC program throughout their work at La Preciosa. It consisted primarily of the insertion of standards and blanks into the sample sequence. For the bulk of the drilling program, the protocol was that every tenth sample be a QAQC sample, alternating consistently between a blank and a standard. Thus with only an inconsequential number of exceptions, every sample number ending in "0" is either a standard or a blank. The standards and blanks together comprised over 10,000 records, as of January 2009. Usually, all of the standards inserted in a given sample batch were from the same supply of standard material.

As a check of Inspectorate, which produced the bulk of the assay data in the Orko database, Orko had ALS Chemex ("Chemex") analyze 331 pulps from five drill holes that had been initially prepared and analyzed by Inspectorate.

Another interlab check consisted of running 134 samples from drill hole BP07-102 through three labs; Inspectorate did the primary analysis, SGS analyzed a replicate from the coarse reject material and Chemex did an analysis using the pulp prepared by SGS.

14.2.2.1 Discussion of Standards and Blanks

Early in the program at La Preciosa, Orko made use of commercial standards, one certified for gold and silver and one certified only for gold. However, the commercial standards were used in a very small proportion of the assay batches, all of which were analyzed at SGS.

For most of the program Orko used standards prepared from material obtained at the project site. Standards came from a stockpile of mineralized material near the Luismin portal. Blanks came from piles of unmineralized basalt, made by farmers clearing boulders from their fields.

The material for the standards and blanks was sent to SGS, whose metallurgical department used it to prepare the standards. SGS also provided the analytical characterization for each standard and blank, typically based on about 150 analyses. Although the certificates that accompany these standards and blanks do not state what analytical method was used, SGS advised Orko and MDA in an email that they were analyzed by aqua regia digestion, ICP-AES finish.

MDA did a thorough review of the available data from the standards and blanks and documented the work in a memorandum to Orko in December of 2008. The QAQC program was extensive, but problematic, in that a number of issues came to light.

- The lack of round-robin testing of the Orko standards and blanks meant that it was difficult to establish a reasonable accepted value and range. The mean and standard deviation of SGS's series of analysis provided a data set whose bias, if any, was unknown and whose precision was, expectedly very good, better than could reasonably be achieved on a routine basis by a lab processing the standards in batches of real samples.
- Over the duration of the program Orko prepared and used four different standards and four different blanks. There was a problem with record-keeping in the field, so that the identity of many standards wasn't clear. MDA notes that the record-keeping problem was specific to the standards and blanks. MDA does not suspect that there was any systematic problem in the identification and labeling of real samples, which was done at a completely separate part of the sample handling process.
- Results from the standards were looked at on a batch-by-batch basis, but were not systematically monitored and charted over time. As a consequence, analytical failures that became apparent with after-the fact charting were not followed up on a timely basis. This was compounded by the uncertainty as to the identities of standards, which made the identification of failures uncertain.
- Trends in the results of standards over time, indicating either variation in the quality of the standard concerned or changes in the lab, were not spotted.
- In a number of instances, standards were analyzed by one analytical method, whereas the samples of greatest interest were analyzed by a different method. This occurred because at Inspectorate, all silver below 200 ppm was analyzed using an ICP method, whereas that above 200 ppm was analyzed using a fire assay gravimetric method. If a standard was under 200 ppm it was analyzed by ICP, whereas high grade samples in the same batch were analyzed by fire assay, and vice versa.

After reviewing the data from the standards, MDA concluded that the data neither revealed any systematic analytical problems, nor provided assurance that no such problems existed. MDA worked with Orko to find a way, after the fact, to overcome these deficiencies. See section 14.2.2.3.

14.2.2.2 Discussion of Pulp Duplicates and Coarse Reject Duplicates

MDA reviewed the results of the 331 pulp duplicates run at both Inspectorate and Chemex. Some biases were identified between labs, but they were generally within ranges that MDA considers tolerable for the purpose of the present resource estimate. Figure 14.1 shows an illustration of the types of biases identified.

Figure 14.1 Relative Difference Chemex vs Inspectorate

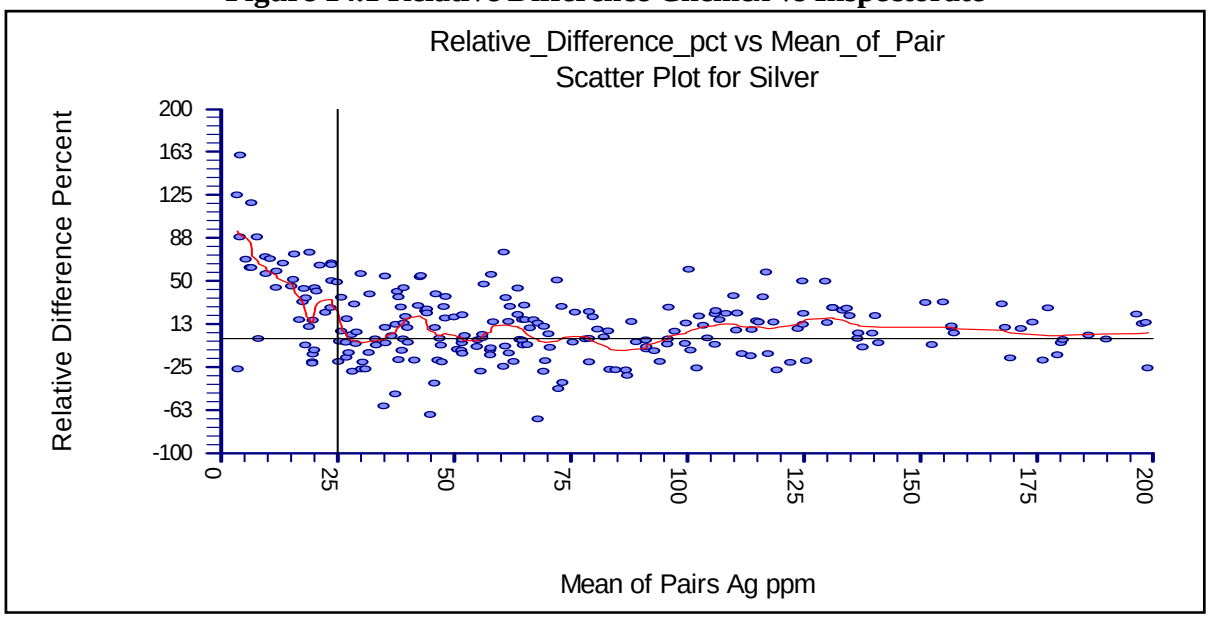


Figure 14.1 shows relative differences, calculated as (Inspectorate assay-Chemex assay)/(lesser assay), as percent. The red line is a 10-point moving median. Some outliers are not shown, to allow for scale. Where the red line is above the black horizontal zero line, it indicates that Inspectorate's silver is higher than Chemex'. At greater than about 25 ppm Ag, Inspectorate's silver analyses tend to be, on average, about 5% higher than Chemex'. Subsequent testing by Orko and MDA using a commercial silver standard showed that Chemex' results for the standard were very good but tended to be slightly on the low side, which may in part explain why Chemex' results are slightly lower than Inspectorate's in this chart.

Orko's "Three Lab Comparison" compared pulp duplicates between Chemex and SGS, and coarse reject replicates between Inspectorate and SGS. MDA found the results to show differences within normal expected tolerances.

14.2.2.3 Resolution of Issues

After all of MDA's work with the La Preciosa project, including field inspections, the database review, and the QAQC review, MDA came away with the belief that the La Preciosa deposit is as stated in this report, that the quality of Orko's work is for the most part very good, and that the grades in Orko's assay database are a fair reflection of the grades of the deposit. Unfortunately, solely because of the issues with the standards, MDA was unable to state that the QAQC data provided support for that belief.

There is no way to correct the problems with the standards after the fact. All except the very latest standards have been fully consumed, so that retroactive round-robin testing would not be possible.

However, MDA and Orko agreed that confidence in the assay data was achievable, and collaborated on the following additional tests:

1. The current standard in use at the La Preciosa project, known as Orko 10, was submitted to five laboratories for a round-robin test program. At the time of writing, an evaluation of the results of the round-robin had been done using data from four of the five labs.
2. Even using the data from the earlier problematic standards, it was evident that in some batches from both Inspectorate and SGS, there had been failures in analyzing the standards. The percentage of failures was, in MDA's experience, typical for a project of this scope. These errors have been dealt with by selecting relevant samples from those batches and submitting them to the same lab for re-analysis. For control of the re-analyses, the Orko 10 standard was used. At the time of writing, no re-analyses have been received from SGS, but results for the reanalysis of 362 samples have been received from Inspectorate, resolving the identified failures in the Inspectorate batches.
3. Because the resource at La Preciosa is confined to readily identifiable veins, it was possible to identify a suite of samples consisting of one from each mineralized vein intercept. Some of these samples had originally been analyzed at SGS but most had been analyzed at Inspectorate. A list of pulps was given to each lab, which pulled the pulps from storage and sent them to MDA's office in Reno. MDA re-numbered the pulps to have a continuous number sequence, and inserted a commercial silver standard, a commercial gold standard and a commercial blank at selected, unequal intervals. These were delivered to Chemex in Reno, where they were analyzed for gold and silver. Not all of the selected pulps were retrievable, but Chemex analyzed 179 pulps from Inspectorate and 61 from SGS. The results of Chemex' re-analyses served to support MDA's confidence in Orko's analytical data. More details are described in section 14.2.2.6.
4. Using the same lists of samples as employed for item 3, Orko selected 267 bags of coarse reject material from storage and delivered them to Inspectorate in Durango, to have new pulps prepared and analyzed. The purpose of these coarse reject preparation duplicates ("CR duplicates") was to check whether there might be any issues of inconsistencies in results introduced during the crushing, pulverizing and sample size reduction process. This test further served to support MDA's confidence in Orko's analytical data. Details are described in section 14.2.2.7.

14.2.2.4 Results of the Orko 10 Round Robin

At the time of writing, the following results were available from four out of five labs in an Orko-designed round-robin test series of the Orko 10 standard.[1] The results are summarized in Table 14.1, below:

[1] As a postscript, MDA received results from a 5th lab, too late to be evaluated for this discussion.

Table 14.1 Summary of Silver in Orko 10 Round Robin

Lab	*ALS*	*ALS*	*IAC*	*IAC*	*IPL*	*IPL*	*SGS*	*Total*
Method	FA-Grav	ICP-AES	AA	ICP	ICP	ICP 4 acid	ICP	
Count	50	50	50	50	50	50	50	350
Mean	141.7	141.2	151.2	134.3	136.4	136.0	145.3	140.8
Median	142	139	150	134.2	136.4	134.6	146.5	141.3
Std. Dev.	3.96	10.5	7.5	8.2	9.0	10.1	4.3	9.7
Min	126	122	141	121.2	118	116.6	134	116.6
Max	149	183	184	155.8	156.7	165.2	154	184
Std. Err.	0.56	1.49	1.05	1.16	1.27	1.42	0.61	0.52

Notes: "ALS" means "ALS Chemex"
"IAC" means "Inspectorate America Corporation" or "Inspectorate"
"IPL" means "International Plasma Laboratories"
"SGS" means "SGS"

SGS initially ran 150 analyses, as opposed to 50 each at the other labs. To avoid over-weighting results from SGS, MDA used a random number generator to select 50 out of SGS's 150 samples, as indicated in Table 14.1.

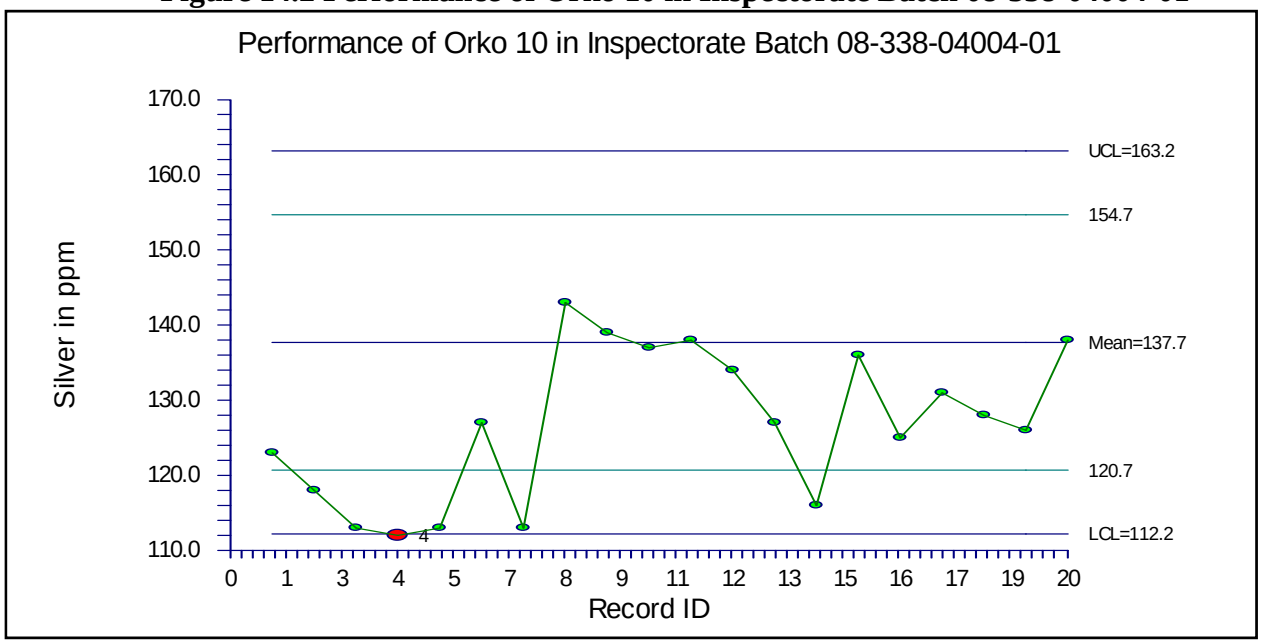
After considering the results for the seven sets of results in Table 14.1, MDA decided not to use the atomic absorption results from Inspectorate (IAC AA) and the results from SGS, for establishing preliminary control parameters for Orko 10. Leaving those out resulted in a mean of 137.66 ppm Ag with a standard deviation of 8.48 ppm Ag.

For the purpose of the present report MDA has not evaluated the gold results from the Orko 10 round-robin, as MDA has not used Orko 10 with any gold data.

14.2.2.5 Re-Analyses of Samples from Failed Batches

Key samples from batches in which analyses of the Orko "X" standards appeared to have failed, were selected for re-analysis by the same labs that originally analyzed the samples, Inspectorate and SGS. At the time of writing, no results of new analyses have been received from SGS. A batch of 362 silver re-analyses has been received from Inspectorate. These re-analyses were done with the Orko 10 standard and the Orko 9 blank inserted. Figure 14.2 illustrates Inspectorate's performance on Orko 10 during the re-runs.

Figure 14.2 Performance of Orko 10 in Inspectorate Batch 08-338-04004-01



As is evident in Figure 14.2, Inspectorate's results for this standard were mediocre. All analyses fell within the ± 3 standard deviation control limits, except for one low-side failure that was just on the line. However, the results are biased low, with the second through fifth analyses quite low, more than two standard deviations below the mean. Having four analyses in sequence biased so low is a failure, but having the bias on the low rather than the high side means that the results are overly conservative rather than overly optimistic. MDA concluded that the re-runs serve as a useful check on the original data.

Of the 362 samples re-run at Inspectorate, 52 had silver contents above 10 ppm Ag, in either or both of the old and new analyses. MDA did a statistical comparison of the old and new silver data. It is summarized in Table 14.2.

Table 14.2 Comparison of Results from Inspectorate Batch Failure Re-Runs

Variable	*Count*	*Mean*	*Standard Deviation*	*Standard Error*
Ag_ppm_New	52	127.8	232.1	32.2
Ag_ppm_Old	52	130.9	238.7	33.1
Difference	52	-3.1	11.8	1.6

A Wilcoxon Signed Rank test for a difference in medians suggests that the old and new analyses cannot be shown to be different, at the 95% confidence level, on the basis of their medians. MDA concluded that as a group the new analyses from samples in the earlier failed batches are, if anything, slightly conservative, but not meaningfully different from the original analyses. MDA chose to retain the original analyses in the assay table. The fact that the samples were not distinguishable as a group does not mean that there were no individual failures, and this sample set should be reviewed in more detail prior to another iteration of the resource estimate for the La Preciosa project.

14.2.2.6 Re-Analysis of 240 Pulps at ALS Chemex

As described in section 14.2.2.3, Orko and MDA elected to obtain a pulp from one sample in every vein intercept and have it analyzed at an alternative lab. Pulps were obtained from storage at SGS and Inspectorate, and analyzed at ALS Chemex ("Chemex").

In order to monitor the results of the pulp re-assays, supplies of a gold standard, a silver standard and a blank were obtained from WCM Minerals, of Burnaby, British Columbia. These standards were delivered with certificates showing the analyses on which the recommended values are based. The recommended values are shown in Table 14.3.

Table 14.3 Parameters for WCM Standards

Identity	*Element*	*Mean*	*Standard Deviation*
BL 108 (blank)	Au<5 ppb, Ag<0.3 ppm		
PM 405	Gold	0.290 g Au/tonne	0.010 g Au/tonne
PM 1124	Silver	228 g Ag/tonne	10.3 g Ag/tonne

All of the pulps were analyzed for gold and silver using Chemex method code ME-GRA21, a fire assay with a gravimetric finish, using a 30-gram sub-sample. On receiving the results, MDA noted that there appeared to be problems in the gold analyses of standard PM405 using this method and consulted Chemex. Subsequently, Chemex determined that there were problems analyzing relatively low gold concentrations, similar to or less than those of the standard, using method ME-GRA21, and re-ran the samples using Au-AA23, a method employing fire assay prep followed by atomic absorption, using a 30 gram sub-sample. In the case of three samples, there was not sufficient material remaining to do the re-runs using Au-AA23.

On the silver standard, PM 1124, Chemex' performance was very good, with a slight low bias, as shown in Figure 14.3 and Figure 14.4.

Figure 14.3 Performance of PM1124 in ALS Chemex Batch RE09011236

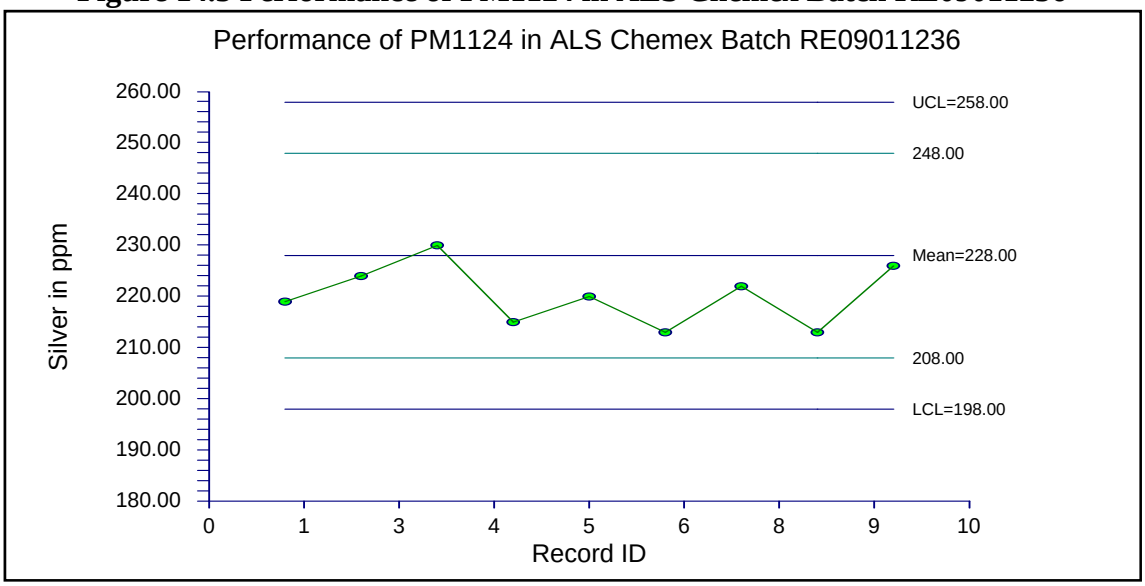
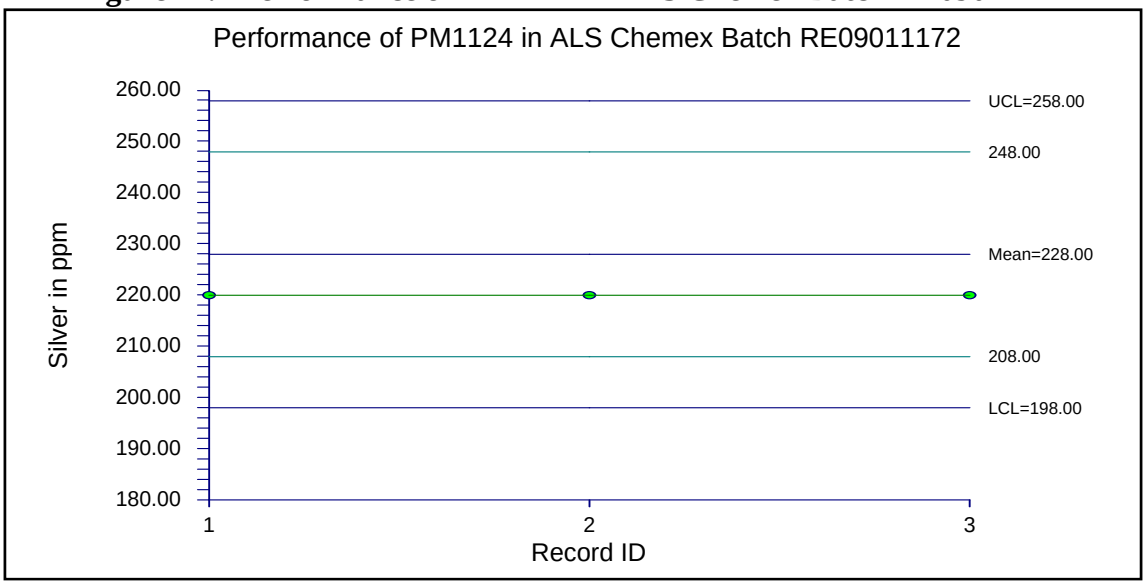


Figure 14.4 Performance of PM1124 in ALS Chemex Batch RE09011172



By contrast with its performance on the silver standard, Chemex' performance on the gold standard, PM405, using the first method (ME-GRA21), was erratic. As noted above, this resulted in Chemex re-running the gold analyses using method Au-AA23. Chemex' performance on PM405 in the Au-AA23 re-runs is illustrated in Figure 14.5 and Figure 14.6.

Figure 14.5 Performance of PM405 in ALS Chemex Batch RE09011236 (re-runs)

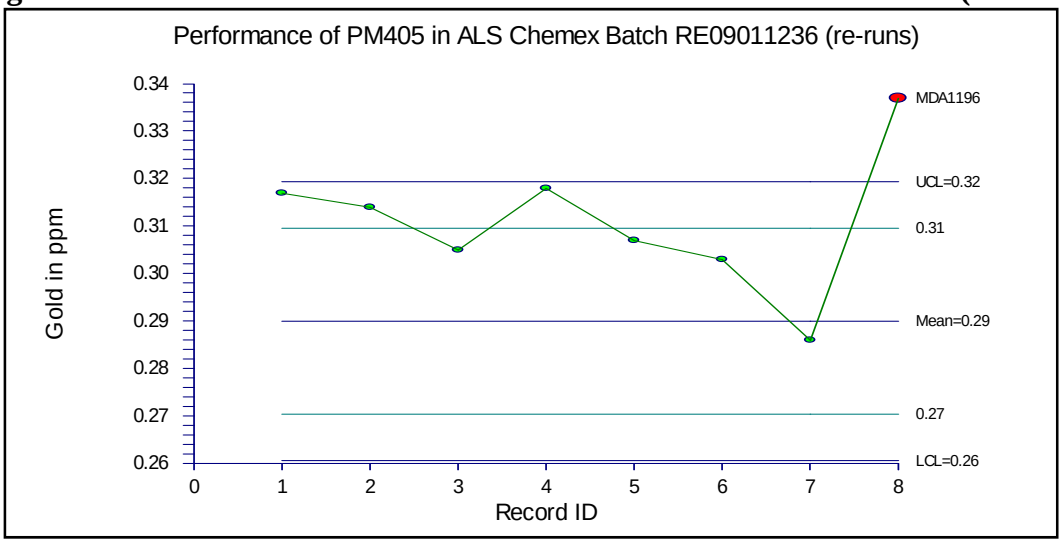
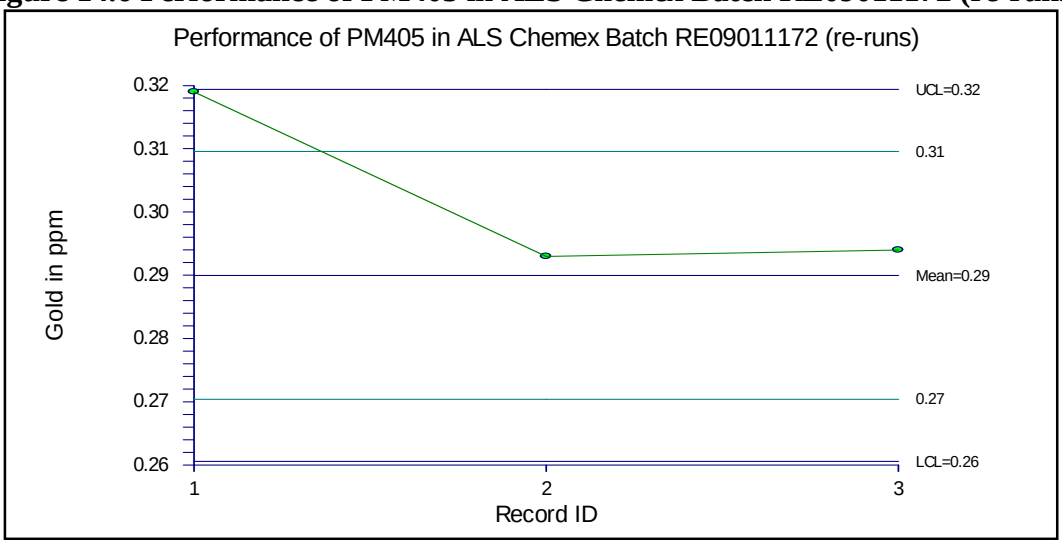


Figure 14.6 Performance of PM405 in ALS Chemex Batch RE09011172 (re-runs)



It is evident in Figure 14.5 and Figure 14.6 that, while there is only one clear failure, Chemex' gold analyses of standard PM 405, using method Au-AA23 give results that are biased on the high side.

MDA used relative difference charts and basic statistical tests such as the Wilcoxon Signed-Rank Test to compare the original silver results obtained by Inspectorate ("IAC" in some of the accompanying graphs) or SGS to those obtained by Chemex. The relative difference charts appear in Figure 14.7 and Figure 14.8.

Figure 14.7 Silver in Chemex Re-Runs of IAC Pulps

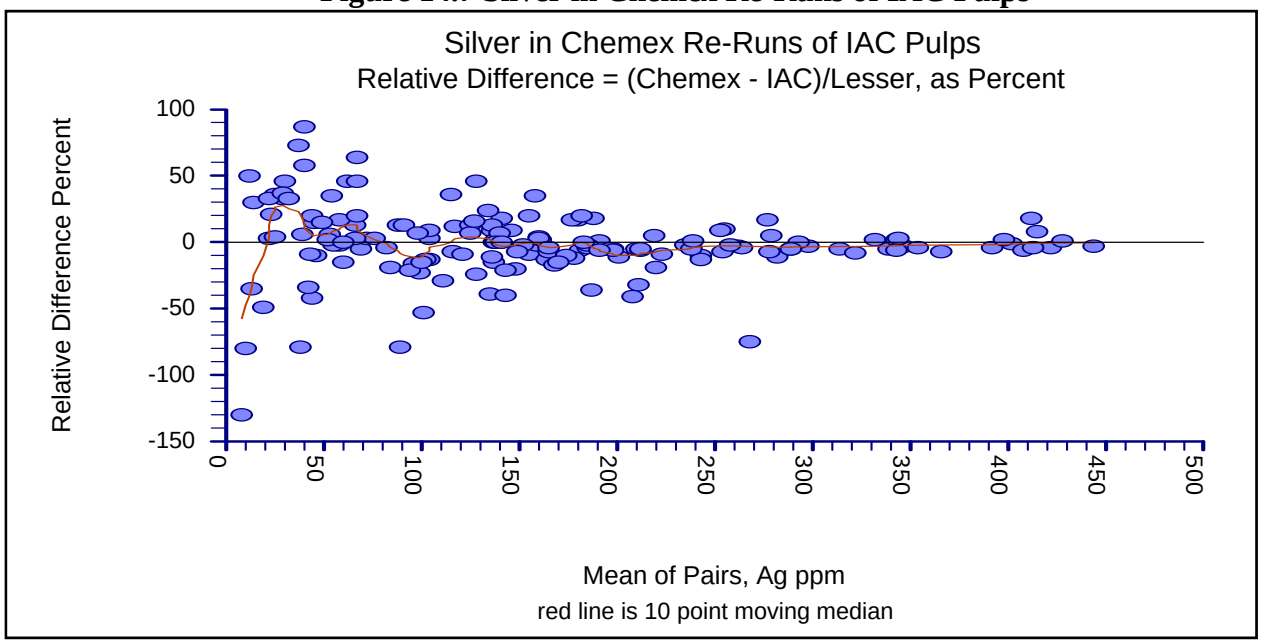


Figure 14.8 Silver in Chemex Re-Runs of SGS Pulps

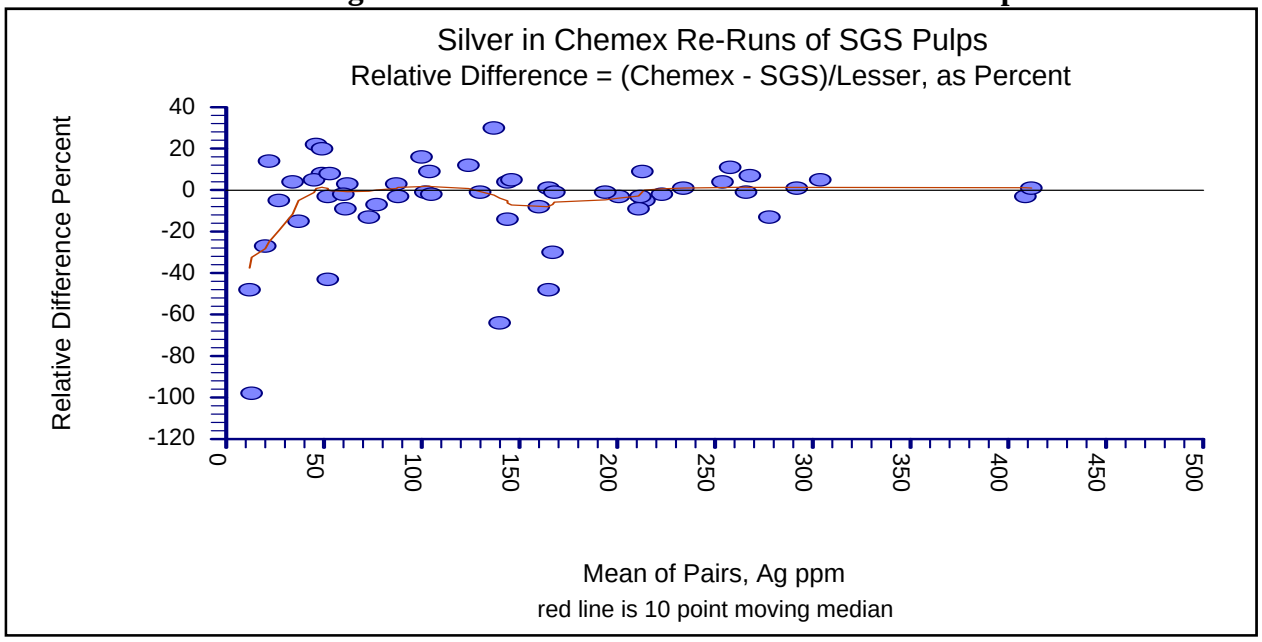


Figure 14.7 and Figure 14.8 are "filtered" in the sense that the scale has been chosen to show reasonable detail where most of the samples of interest lie, thus excluding some high grade silver outliers. On both charts, points falling above the zero line represent samples in which Inspectorate's or SGS' results are lower than Chemex', whereas points falling below the zero line represent samples in which Chemex' results are lower.

In the range of silver values of interest, above about 50 ppm Ag, there is, overall, a slight low bias on the part of Chemex relative the other labs. It is similar to the low bias apparent in Chemex analyses of standard PM1124, so does not necessarily show that the results from the other two labs are too high. MDA believes that the results of the silver re-analyses by Chemex, as a group, compare well with the original analyses, and MDA has elected to continue to use the original silver analyses for this resource estimate. It is, however, also evident in Figure 14.7 and Figure 14.8 that there are a few individual samples in which Chemex' results are considerably lower than Inspectorate's or SGS'. These instances should be checked individually prior to another iteration of the resource estimate for La Preciosa.

As noted above, there is a quite apparent high bias using Chemex' method Au-AA23. This must be taken into account when considering using Chemex' gold analyses to validate the earlier ones. However, on reviewing the data, the Chemex results for gold compare reasonably well with the earlier ones, taking into account that gold is expected to be present in a particulate form that can cause considerable variation between analyses.

Relative difference charts for gold appear in Figure 14.9 and Figure 14.10.

Figure 14.9 Gold in Chemex Re-Runs of IAC Pulps

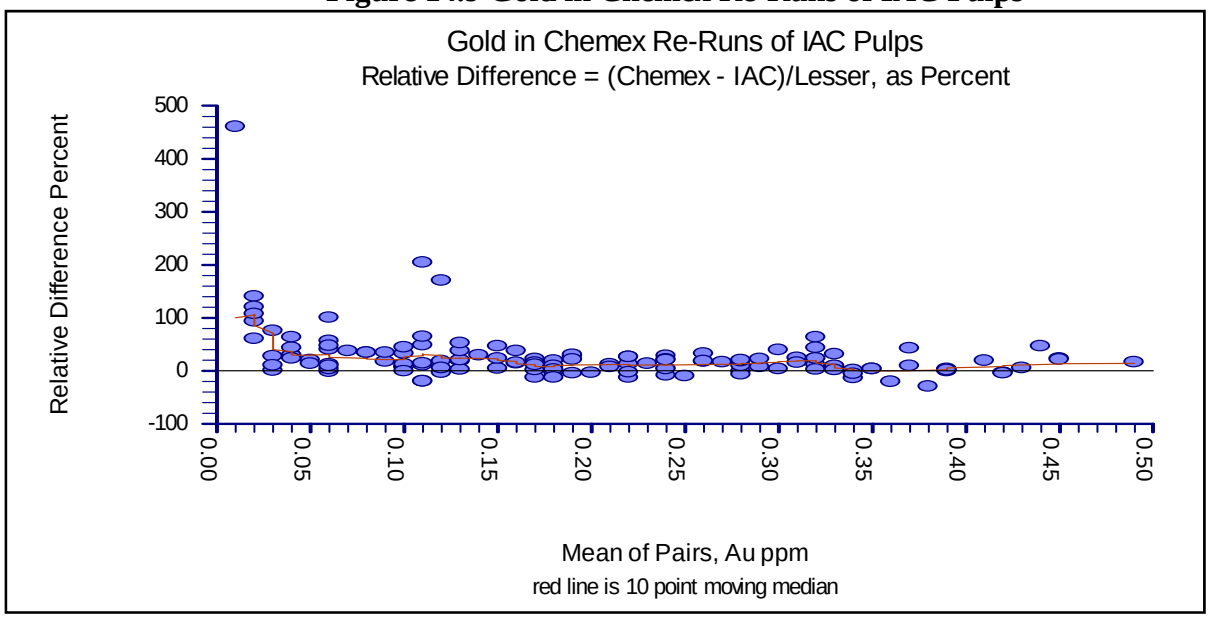


Figure 14.9 is scaled to show that Chemex' gold results exhibit a slight high bias relative to Inspectorate, as evidenced by the red moving median line staying persistently above the 0 relative difference line. As a consequence of the scaling, some outlying values are not shown. A signed rank test suggests that the difference in medians is probably real; that is, Chemex' gold results are biased higher than Inspectorate's. Recalling that Chemex also gave results with a high bias for the gold standard PM405, the comparison of Chemex vs. Inspectorate in Figure 14.9, while not definitive, tends to lend credence to Inspectorate's gold results; as found in Orko's database.

Figure 14.10 Gold in Chemex Re-Runs of SGS Pulps

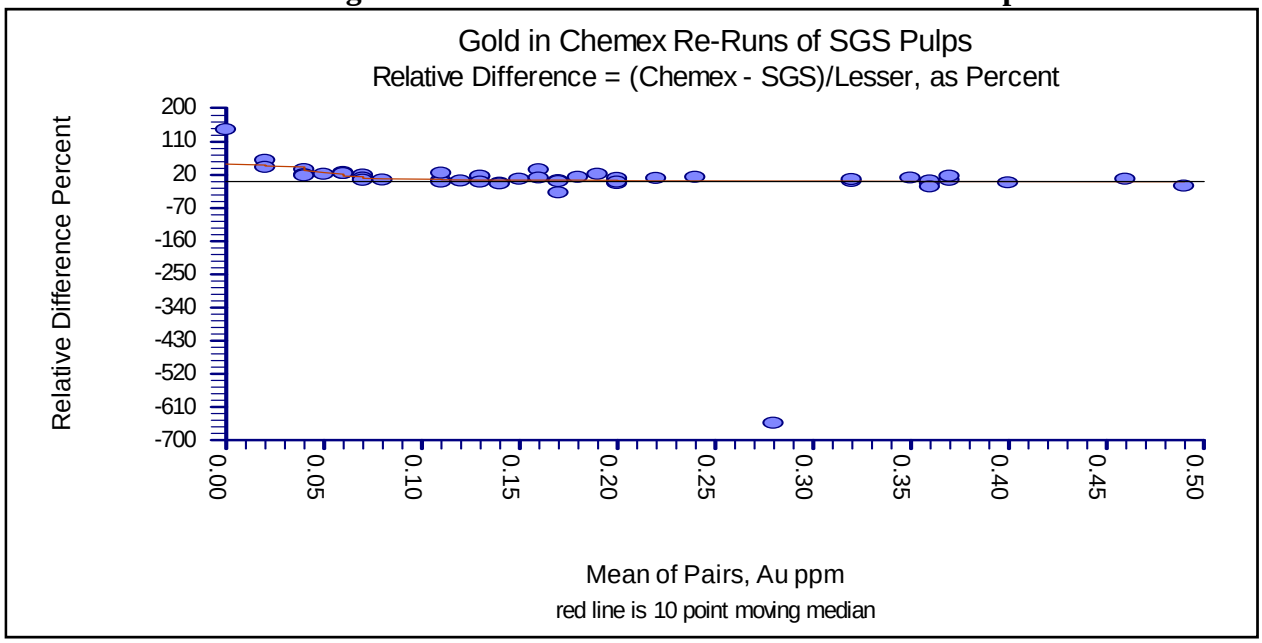


Figure 14.10, like Figure 14.9, is scaled, as a result of which some high gold values are not shown. One outlier, with a relative difference of less than -600 percent is evident; in other words, Chemex' gold analysis for this sample using method Au-AA23 was very much lower than SGS' gold analysis. However, for the same sample, Chemex' ME-GRA21 gold analysis was significantly higher than SGS'. MDA concludes that the particular sample in question may have contained particulate gold, making it hard to obtain consistent analytical results using either of the methods employed. That matter aside, in general Chemex shows a slight high bias in its gold analyses, relative to SGS, and a signed rank test suggests that the slight apparent high bias may well be real. Taking that into account, the comparison of Chemex vs. SGS in Figure 14.10, while not definitive, tends to lend credence to SGS' gold results, which are found in Orko's database..

For the present resource estimate, MDA concludes that it is appropriate to use the gold grades in the resource database, as a group. Individual cases in which the gold analyses by Chemex differed significantly from those by Inspectorate or SGS should be followed up before the next iteration of a resource estimate for this project.

14.2.2.7 Coarse Reject Preparation Duplicates

At MDA's request, Orko selected 267 bags of coarse reject material from storage and delivered them to Inspectorate in Durango, to have new pulps prepared and analyzed. The purpose of these coarse reject preparation duplicates ("CR duplicates") was to check whether there might be any issues of inconsistencies in results introduced during the crushing, pulverizing and sample size reduction process.

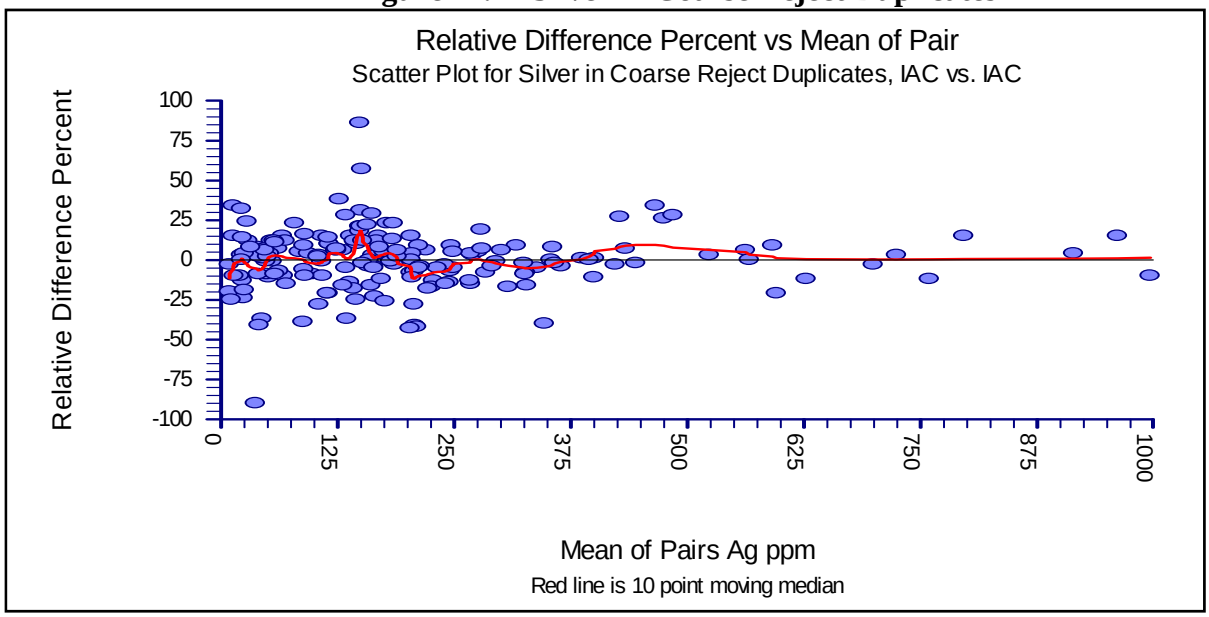
Of the coarse rejects selected for re-processing, 75 had originally been processed and analyzed by SGS and 192 had originally been processed and analyzed by Inspectorate. All of the checks were done at Inspectorate. A consequence of doing all of the checks at one lab, instead of using both labs, is that the results for the two groups of samples give somewhat different information. Results for the 192 samples

that were originally processed by Inspectorate give an indication of how consistent Inspectorate's sample handling and preparation procedures are. Results for the 75 samples that were originally processed by SGS show whether there is any bias between the labs that could be ascribed to their sample handling and preparation procedures.

Results of the analyses of the 192 CR duplicates of samples that were processed both initially and for these checks at Inspectorate show that the silver re-analyses give reasonably consistent results.

Figure 14.11 is a percent relative difference plot that shows the magnitude of the differences between the previous and the new silver analyses of the CR duplicates.

Figure 14.11 Silver in Coarse Reject Duplicates



The scales of the axes in Figure 14.11 have been selected to show some detail, but as a consequence a few outliers are not visible in the plot.

Table 14.4 compares some statistical parameters of the original silver analyses and the new cr duplicate silver analyses. A T-test and a Wilcoxon signed rank test suggest that the old and new populations of silver analyses cannot be distinguished based on their means or medians, respectively, at the 95% confidence level.

Table 14.4 Statistical Comparison of Silver Analyses in CR Duplicates, IAC vs IAC

Variable	*Count*	*Mean*	*Standard Deviation*	*Standard Error*	*95.0% LCL of Mean*	*95.0% UCL of Mean*
Original Ag ppm	192	255.1	374.8	27.0	201.7	308.4
New Ag ppm	192	252.9	376.8	27.2	199.3	306.6
Difference	192	2.1	55.0	4.0	-5.7	10.0

Notes: "LCL" means lower confidence limit, "UCL" means upper confidence limit

The gold re-analyses do not show unequivocally that the preparation and size reduction process gives

consistent results. There appears to be a slight low bias of the new gold analyses relative to the original ones. A signed rank test suggested that the bias could well be real. A comparison of the new with the original gold analyses is shown graphically in Figure 14.12 and statistically in Table 14.5.

Figure 14.12 Gold in Coarse Reject Duplicates

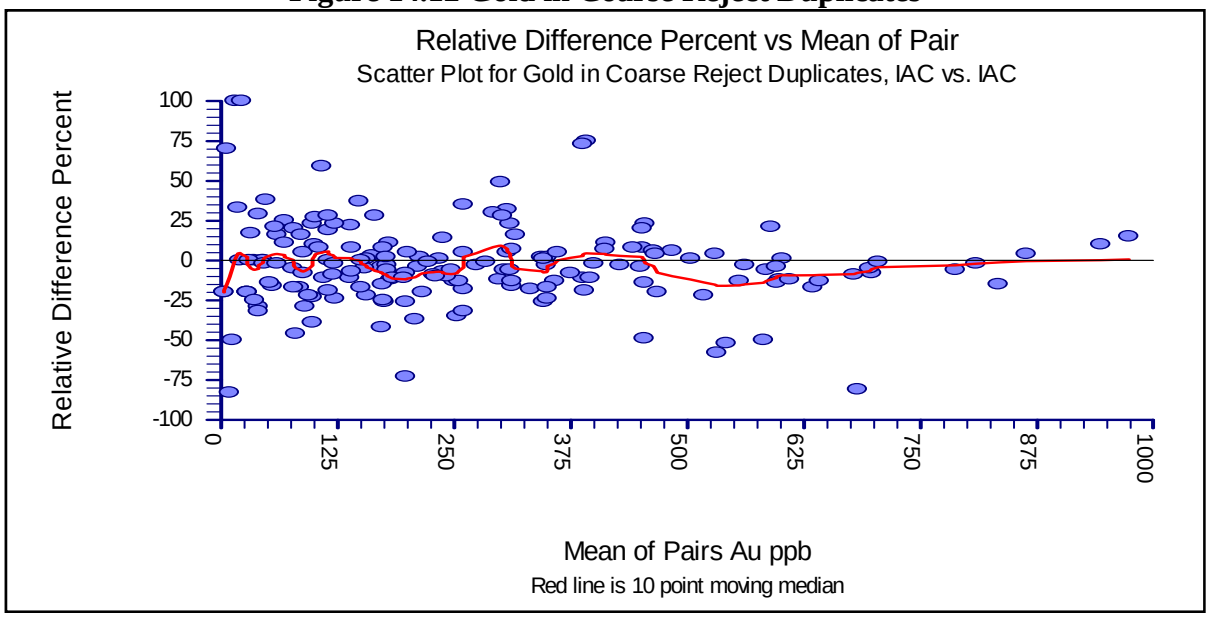


Table 14.5 Statistical Comparison of Gold Analyses in CR Duplicates, IAC vs IAC

Variable	*Count*	*Mean*	*Standard Deviation*	*Standard Error*	*95.0% LCL of Mean*	*95.0% UCL of Mean*
Original Au ppb	178	278.4	221.5	16.6	245.6	311.2
New Au ppb	178	267.5	210.2	15.82	236.53	298.6
Difference	178	10.9	63.9	4.8	1.4	20.3

Notes: "LCL" means lower confidence limit, "UCL" means upper confidence limit

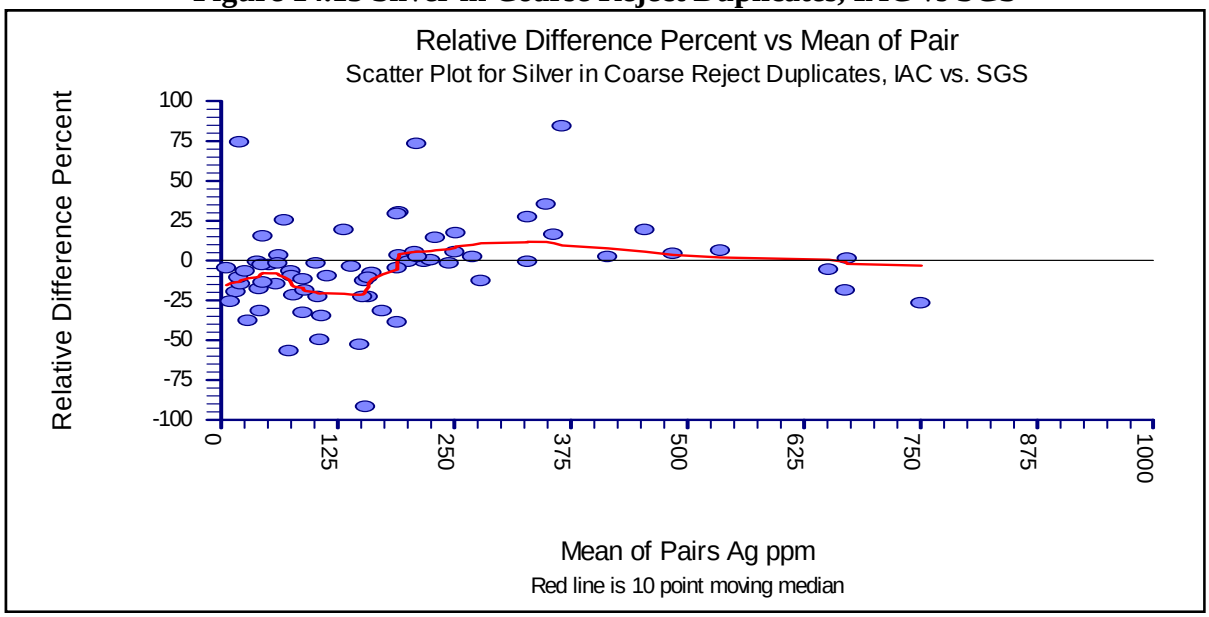
There are a number of possible explanations for why the gold analyses of the CR duplicates, done at the same lab, might be biased low relative to the original gold analyses. One reason, offered speculatively by MDA, is that particulate gold in the coarse rejects might have undergone some gravity classification in the sample bags during storage and transportation. While silver should be subject to similar classification effects, they might be less apparent given silver's much higher grades and different manner of occurrence.

MDA concludes that although some bias is evident in the gold results, for practical purposes the CR duplicate samples run at Inspectorate, the same lab that did the original preparations and analyses, suggest that the lab's procedures yield acceptable precision.

Seventy-five of the CR duplicates that were done at Inspectorate used coarse reject material that had originally been crushed by SGS, who had also done the first round of preparations and analyses using that material. These 75 CR duplicate analyses can't provide information as to the precision of either lab, but they can act as a check as to whether, when starting with the same coarse crush material, the two labs yield comparable results.

Figure 14.13 and Table 14.6 show comparisons of the silver results from the two labs.

Figure 14.13 Silver in Coarse Reject Duplicates, IAC vs SGS



In Figure 14.13, the red "moving median" line suggests that below about 200 ppm Ag, Inspectorate has a low bias relative to SGS, whereas above about 200 ppm Ag, Inspectorate has a somewhat high bias. 200 ppm Ag is the point at which Inspectorate changes from silver analyses using an ICP method to silver analyses using a fire assay gravimetric method. The shift in bias from low to high near 200 ppm Ag is probably due to the change in analytical methods, rather than to any sample preparation issues.

Table 14.6 Statistical Comparison of Silver Analyses in CR Duplicates, IAC vs SGS

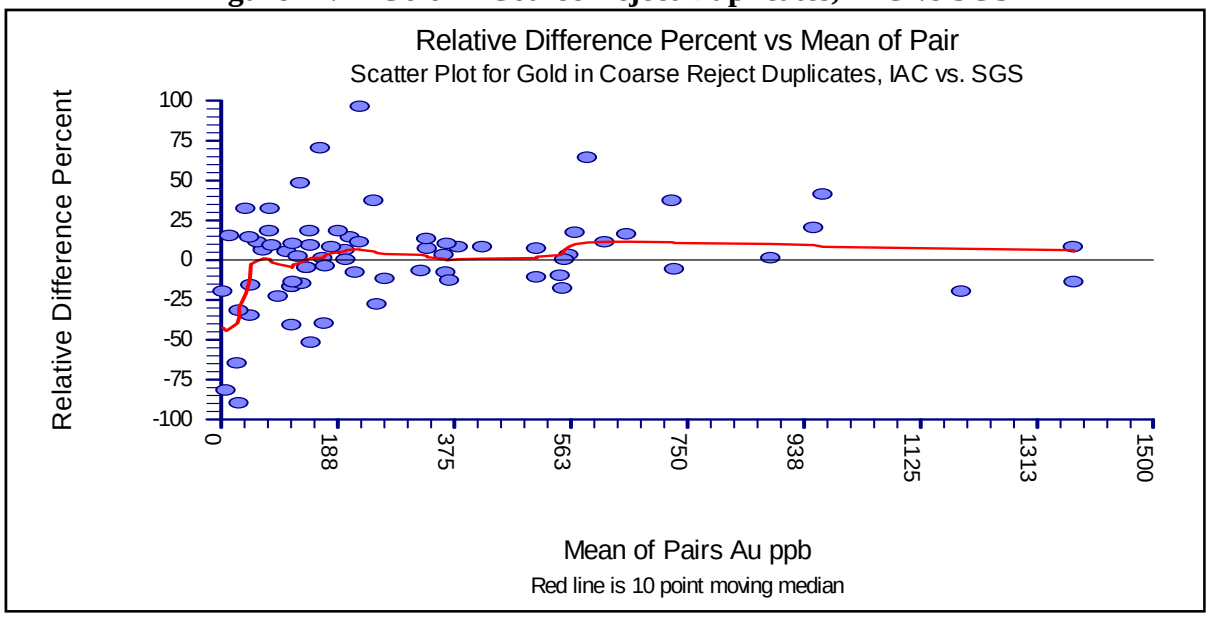
Variable	*Count*	*Mean*	*Standard Deviation*	*Standard Error*	*95.0% LCL of Mean*	*95.0% UCL of Mean*
Original Ag ppm	75	230.6	328.0	37.9	155.2	306.1
New Ag ppm	75	229.4	332.7	38.4	152.9	306.0
Difference	75	1.2	49.7	5.7	-10.3	112.6

Notes: "LCL" means lower confidence limit, "UCL" means upper confidence limit

For the full range of silver values, the results from Inspectorate are not statistically distinguishable from those of SGS. A more thorough evaluation, dividing the results into groups at the 200 ppm Ag level, might yield different results.

Figure 14.14 and Table 14.7 show comparisons of the gold results from the two labs.

Figure 14.14 Gold in Coarse Reject Duplicates, IAC vs SGS



The moving median line in Figure 14.14 suggests that Inspectorate is producing slightly higher gold analyses than SGS did, starting from the same coarse rejects, originally crushed by SGS. Comparing the means in Table 14.7 gives the same impression. A T-test and a signed rank test suggest that the means and medians of the gold data sets from the two labs are indistinguishable at the 95% confidence level.

Table 14.7 Statistical Comparison of Gold Analyses in CR Duplicates, IAC vs SGS

Variable	*Count*	*Mean*	*Standard Deviation*	*Standard Error*	*95.0% LCL of Mean*	*95.0% UCL of Mean*
Original Au_ppb	75	377.6	617.7	71.3	235.5	519.8
New Au_ppb	75	380.4	511.4	59.0	262.8	498.1
Difference	75	-2.8	187.9	21.7	-46.0	40.5

Notes: "LCL" means lower confidence limit, "UCL" means upper confidence limit

The coarse reject duplicate comparisons did not raise any issues that would place the analyses in Orko's project database in doubt.

14.2.2.8 Conclusions Concerning Orko QAQC

The deficiencies in the QAQC data from the La Preciosa project, notably those related to the preparation, use and monitoring of standards, led to a situation in which MDA, while believing in the merits of the project and the general integrity and quality of the available data, was unable to use the QAQC data to support that belief. The steps described in Sections 14.2.2.3 through 14.2.2.6 have done much to alleviate that problem. There are still deficiencies in the QAQC data for the La Preciosa project. Among them are those instances, evident in the relative difference charts in the preceding sections, in which two assays from the same pulp were quite different. These are too few to put the global resource estimate in doubt, but they should be followed up and resolved individually as the

project moves forward. Of more consequence is the insufficient number of coarse reject replicate (preparation duplicate) analyses. Those that are available all come from one drill hole. Such replicates would provide information as to the quality of the sample preparation, and how much error is inherent in that process, for the particular style of mineralization in this deposit. The lack of such data is one reason why this estimate does not include any measured material.

The recent round-robin testing of the project silver standard now in use means that, going forward, there will be data available from one well-characterized standard. MDA recommends the use of more than one standard at a time, with the several standards having silver and gold values in different parts of the grade ranges of interest. It would be prudent to use some commercial standards, in addition to one or more project standards.

QAQC data should be monitored and charted as it is received, enabling results to be tracked in real time, to spot problems early. A project of the importance of La Preciosa merits having a manager of QAQC on the staff dealing with these issues on a day-to-day basis. Such a manager may have other tasks in addition to QAQC, but the latter should be the primary task.

14.3 Core Recovery Evaluation and Sample Integrity

Attempting to evaluate the effect of core recovery on sample integrity, MDA evaluated core recovery and RQD by lithology; Figure 14.15 and Figure 14.16 show the relationship. The core-recovery ranges from 91% to 96% for the lithologic groups shown. The lowest core recovery is in the mineralized intervals of vein (“VEIN”), stockwork (“STWK”) and stringers (“STRS”). MDA also found, using the global data set, a clear relationship between higher grade and lower core recovery. This led MDA to evaluate the grade/core recovery relationship using only data from the mineralized zones and veins. Using this data set there appeared to be little to no relationship between core recovery and grade (Figure 14.17 and Figure 14.18). In other words, the core recovery of mineralized material tends to be lower than that of unmineralized material, but within the mineralized material itself, there appears to be little or no grade bias induced by variations in core recovery.

Figure 14.15 Core Recovery by Lithology

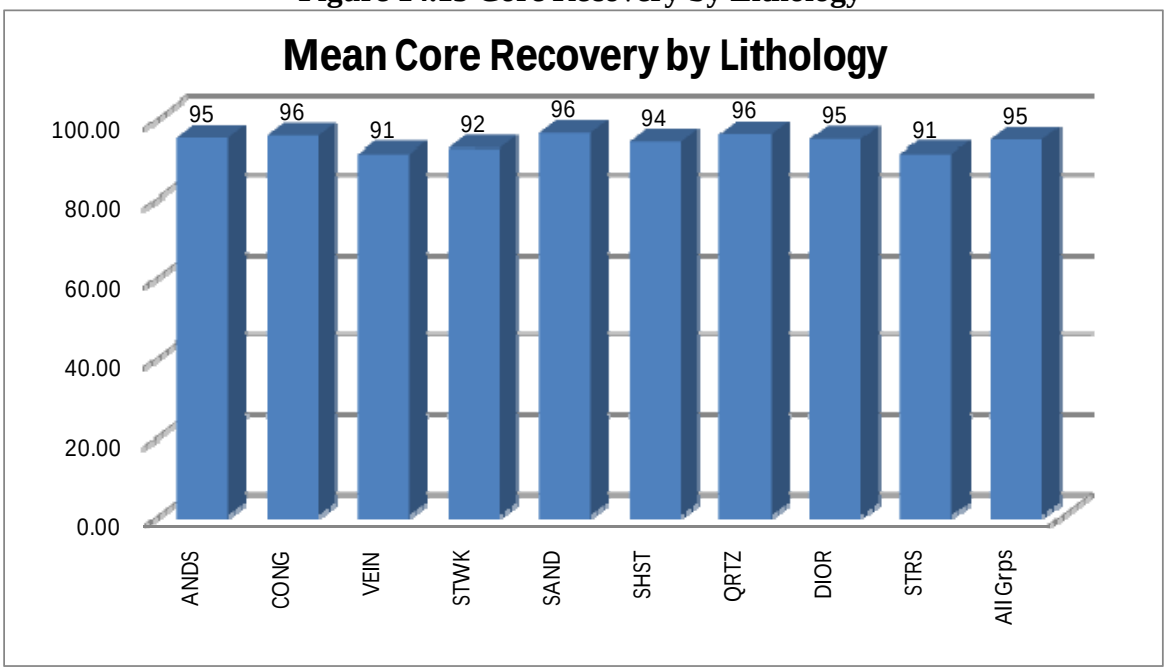


Figure 14.16 RQD by Lithology

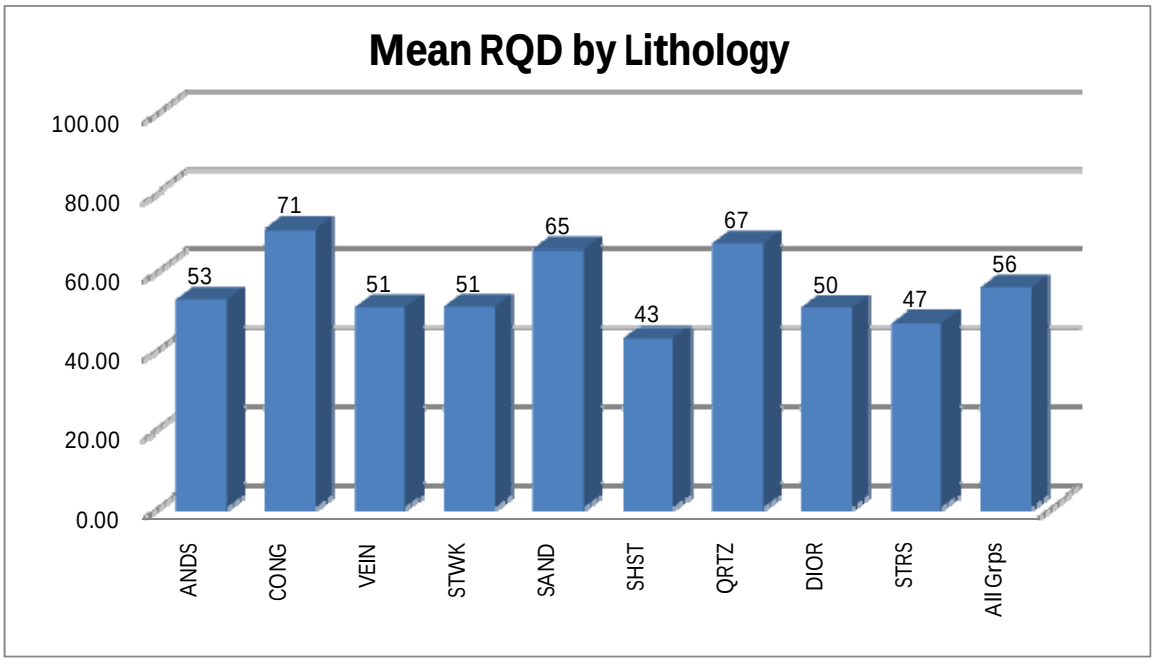


Figure 14.17 Silver Grade by Core Recovery

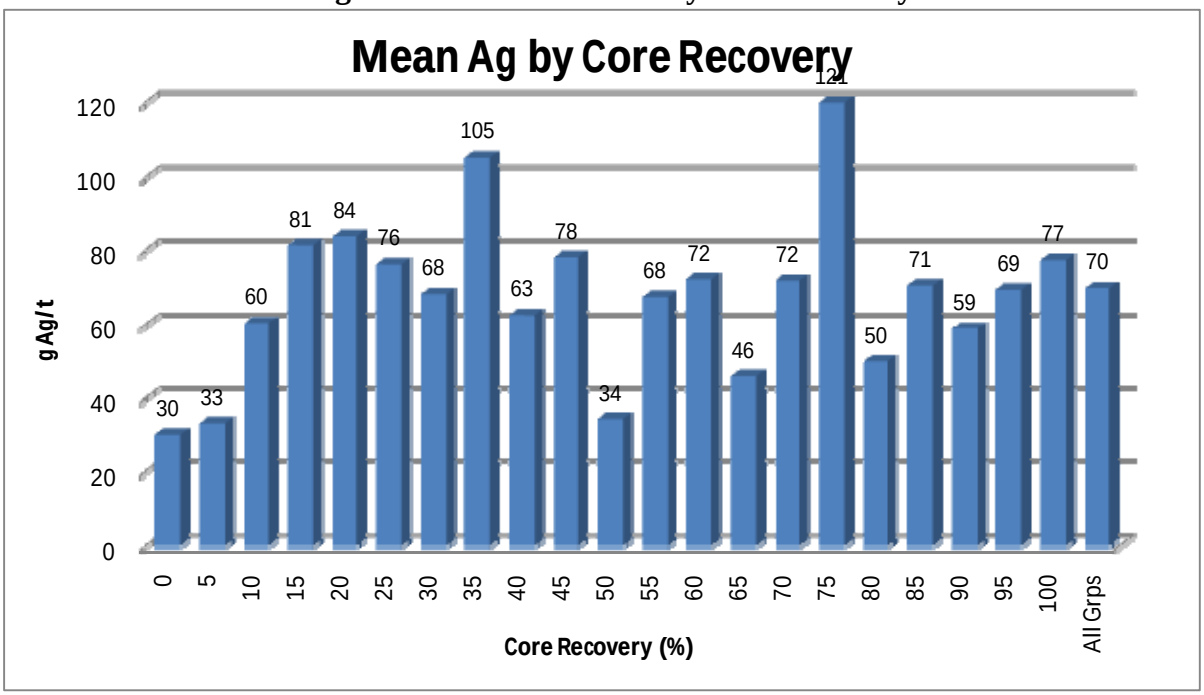
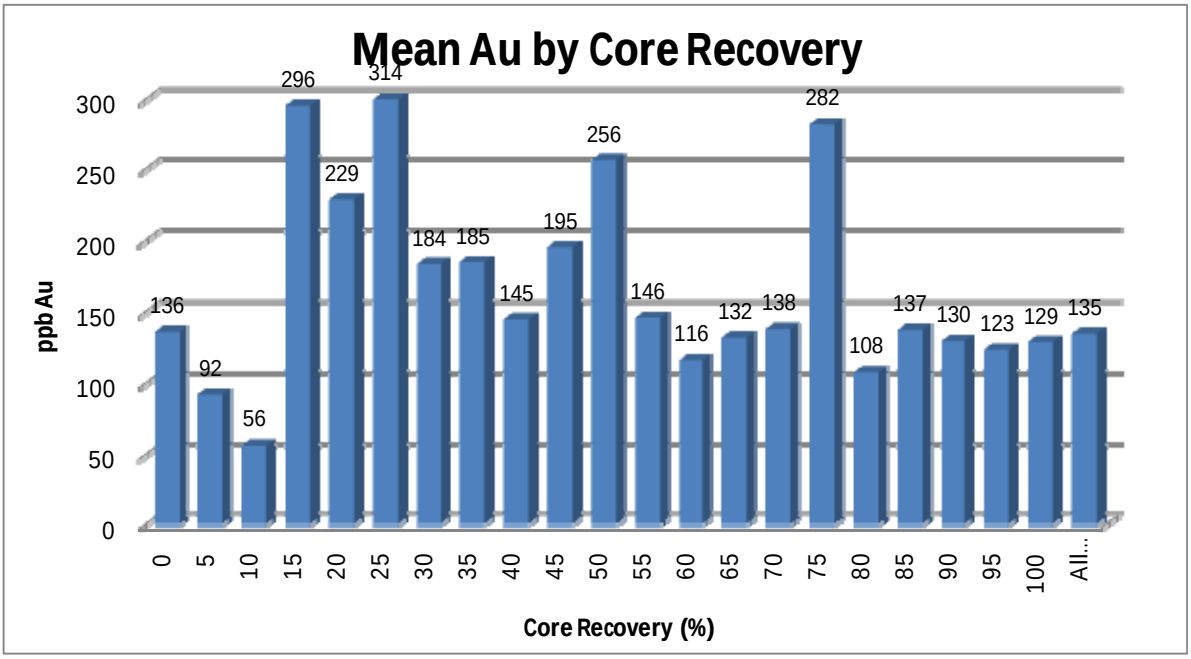


Figure 14.18 Gold Grade by Core Recovery



14.4 MDA Site Visits and Data Verification

14.4.1 June 2008 Site Visit

Mr. Ristorcelli visited the La Preciosa project site June 17 to June 19, 2008. This initial site visit familiarized MDA with the project status and procedures and led to recommendations which would improve the effectiveness, completeness and reliability of these procedures. A review of the drilling and sampling procedures, including analysis of both the sample lengths and density determination, was conducted. The QAQC procedures and results were also reviewed (see Section 14.2), while the preliminary database was evaluated and procedures were recommended for constructing and auditing the final database. An initial review of the geologic logging indicated that the work was of high quality, which would allow for good geological and modeling interpretations.

Ristorcelli and Ronning visited the site during the period September 4 through September 8, 2008. During this visit MDA again reviewed Orko's field procedures, did most of the modeling of the mineral domains on sections, and did those parts of the database audit that required access to original field records.

14.4.2 Data Verification – MDA Core Sampling

During Mr. Ristorcelli's June 2008 site visit, eighteen samples of quarter core (half of the remaining half core) were collected at precisely those same half core sample intervals taken by Orko. The samples were chosen by MDA. Once chosen, the samples remained with MDA during transfer to the core cutting area, during cutting, and until they were delivered to Inspectorate Labs in Durango. Orko was not aware of which samples were which until after delivery of the samples to Inspectorate. The assay results for MDA's sampling are shown in comparison to the original Orko assays in . MDA believes that these values are expected and they support the Orko data. The samples were taken only to demonstrate independently the existence of mineralization; they were not meant for QAQC and the few numbers of samples could not be expected to do so. However, the high variance is noteworthy and not inconsistent with geostatistics and the very high nugget. Orko should do follow-up on assessing the reproducibility of samples at all stages of sampling from, cutting core to crushing to pulverizing and extracting the sample aliquot.

Table 14.8 La Preciosa Drill-Hole Database: Sample Statistics by Metal

			MDA						MDA / Orko					Orko					
Holename	From	To	MDA	Au (ppb)	Ag (ppm)	Pb (ppm)	Zn (ppm)	Cu (ppm)	Au (%)	Ag (%)	Pb (%)	Zn (%)	Cu (%)	Au (ppb)	Ag (ppm)	Pb (ppm)	Zn (ppm)	Cu (ppm)	Sample ID
BP07-158	334.33	334.66	1	372	415.8	4246	16600	274.0	24%	90%	21%	98%	11%	300	219.0	3513	8405	246	56937
BP07-158	334.66	335.10	2	934	241.8	4353	15100	233.0	-30%	12%	19%	95%	14%	1330	215.3	3649	7754	204	56938
BP07-158	335.10	335.60	3	8640	2050.5	1790	3383	355.0	185%	95%	90%	-12%	123%	3035	1049.4	940	3866	159	56939
BP07-158	336.43	336.63	4	65	36.7	826	4374	28.0	-6%	-5%	-38%	-30%	-13%	69	38.8	1339	6215	32	56944
BP08-210	400.07	400.51	5	602	17.9	1591	19700	80.0	-40%	-49%	-59%	-65%	-59%	1008	34.8	3854	56900	194	77781
BP08-210	401.68	401.88	6	1478	114.0	20800	3592	1941.0	52%	30%	-7%	-33%	17%	970	87.5	22300	5381	1657	77787
BP08-210	402.08	402.28	7	313	62.6	14400	40600	417.0	10%	-19%	-40%	-23%	-64%	285	77	24200	53000	1155	77789
BP07-103	188.59	188.84	8	621	3850.2	14900	99600	457.0	-9%	-35%	-45%	-1%	-10%	685	5897.4	27300	101000	509	28247
BP07-103	188.84	189.10	9	215	1684.6	4632	21800	211.0	139%	106%	104%	34%	15%	90	818.3	2276	16300	184	28248
BP07-103	189.10	190.77	10	40	130.5	158	350	23.0	33%	-5%	-4%	-9%	5%	30	136.9	164	385	22	28249
BP07-144	353.71	354.65	11	62	192.4	343	1557	36.0	-10%	18%	0%	-4%	0%	69	163.6	343	1616	36	46447
BP07-144	354.65	355.07	12	110	60.0	989	1564	61.0	-24%	-17%	8%	-19%	2%	145	72.4	915	1932	60	46448
BP07-144	355.07	355.62	13	132	130.9	300	583	32.0	-28%	-54%	-8%	-14%	-24%	183	286.8	326	675	42	46449
BP07-144	355.62	356.20	14	866	698.7	5013	4922	127.0	6%	32%	24%	-22%	-6%	815	531.2	4053	6324	135	46451
BP07-141	419.59	419.83	15	20	60.7	7852	38200	54.0	100%	87%	102%	51%	64%	10	32.4	3893	25300	33	43757
BP07-141	420.24	420.64	16	10	15.9	3619	22300	34.0	300%	35%	131%	78%	467%	3	11.8	1569	12500	6	43761
BP07-141	428.81	429.40	17	135	74.1	262	765	17.0	-37%	3%	-13%	30%	467%	215	71.6	302	589	3	43781
BP07-141	429.40	429.99	18	820	895.5	2684	3383	125.0	-10%	20%	22%	63%	2%	916	743.8	2200	2076	122	43782
Mean				858	596	4931	16576	250	52%	2%	-14%	-4%	-6%	564	583	5730	17234	267	
Median				264	131	3152	4648	103	6%	-13%	41%	-26%	-20%	250	150	2238	6270	129	
Maximum				8640	3850	20800	99600	1941	185%	-35%	-24%	-1%	17%	3035	5897	27300	101000	1657	
Minimum				10	16	158	350	17	300%	35%	-4%	-9%	467%	3	12	164	385	3	

15.0 ADJACENT PROPERTIES

Goldcorp Inc. (through its subsidiary Luismin), Grupo Mexico and Peñoles, the three biggest silver producing companies in Mexico, are reported to have large land holdings in this region of Durango State.

The nearest mine is the Mina Avino of Avino Silver & Gold Mines Ltd., 20km to the northeast of La Preciosa, near the town of Panuco de Coronado. As a point of general non-technical interest, it is said that the conquistador Coronado spent one winter here. The original discovery of mineralization probably dates from the early Spanish period. The current mine operated from 1976 to 2001, primarily from the east-west striking Avino vein hosted in andesite. Mill throughput reached 1,000 tonnes per day in the 1990s, but mining was suspended in 2001, reportedly due to low metal prices. Mill capacity is 1,200 tonnes per day. The Avino veins were reported to grade approximately Ag 140 g/t, Au 1.4 g/t and Cu 0.5%. Past production is reported to be "*about 497 tonnes of silver, 3 tonnes of gold, 11,000 tonnes of copper, as well an apparently undocumented amount of lead*" (de Ruijter, 2006). The de Ruijter report also cites a previous Minestart technical report that estimated an inferred resource of 2,091,074 tonnes grading 95.5 g/t Ag and 0.53 g/t Au within the Avino tailings. Currently, the Avino property has an additional inferred resource for the San Gonzalo deposit at 444,250 tonnes grading 332 g Ag/t, 2.61 g Au/t, 1.5% Zn and 1.0% Pb (Avino press release, July 25, 2008).

San Sebastian mine, located 60km to the east of La Preciosa, contains a number of productive vein systems including Francine, Don Sergio and Andrea. Production by Hecla Mining Ltd. from the Francine vein was silver with significant gold values. Mineralization occurs in poly-phase chalcedonic quartz veins with an average width of 1.6 m. Production from the Don Sergio vein was gold with some silver values. The operation in the early 2000s was approximately 500 tonnes per day. Production totaled 460,000 tonnes grading 825 g Ag/t and 10.48 g Au/t. Several epithermal veins exist within the San Sebastian valley. The Francine, Professor, Middle and North vein systems are hosted within a series of shale units interbedded with fine-grained sandstone. The Don Sergio, Jessica, Andrea, and Antonella veins located in the Cerro Pedernalito area, about 6km from the Francine vein, are hosted in the same formation, with the addition of dioritic intrusive rocks. Mining ceased in 2005, however Hecla continued to explore to 2008 and have defined an Inferred resource in the Hugh Zone beneath the Francine vein, of 1,036,000 tonnes grading 250 g Ag/t, 0.39 g Au/t, 2.1% Cu, 2.9% Pb and 4.4% Zn (Redak, 2008).

La Parrilla Mine of First Majestic Silver Corp, is located near the Durango–Zacatecas border, approximately 65km southeast of the city of Durango and 80km south of La Preciosa. It is currently in production at a rate of 800 tonnes per day. First Majestic is focusing exploration on the La Rosa/Los Rosarios, San Marcos, San José, San Nicolás, Vacas, Quebradilla, La Luz and Recuerdo structures. Most of the silver ore presently being mined comes from Los Rosarios, La Rosa, San Jose, and San Marcos mines. The silver-lead-zinc mineralization is hosted in vein-fault zones, breccias and replacement bodies. These occur within the porphyritic diorite intrusive rocks and in the adjacent

limestone, skarn, and hornfels rocks. While the geology is different than that at La Preciosa, it does illustrate another example of precious metal mineral endowment in the region.

Past production at First Majestic's La Parrilla is estimated at 1.2 million tonnes grading 321 g Ag/t, 1.8% Pb and 1.7% Zn. In January 2008, proven and probable reserves stood at 0.55 million tonnes grading 326 g Ag/t, 0.59% Pb and 0.43% Zn. This is accompanied by measured and indicated resources of 2.7 million tonnes grading 287 g Ag/t, 0.13 g Au/t, 1.95% Pb and 2.48% Zn, plus inferred resources of 4.2 million tonnes grading 230 g Ag/t, 0.13 g Au/t, 1.45% Pb and 1.57% Zn (Lopez and Addison, 2008).

There are numerous other precious metal exploration and expansion projects underway in Durango State and adjacent areas, including Metates, La Cienega, Pitarrilla, Guanacevi, San Agustin, Peñasquito, Santa Cruz, Tayoltita and Topia (Whiting *et al.*, 2008). Neighboring Zacatecas state is also very active.

Orko has an ownership interest in the adjacent San Juan and Santa Monica properties immediately contiguous with La Preciosa.

To the west of La Preciosa is the large San Juan property, a joint-venture project between Orko (75%) and Silver Standard (25%). Orko has conducted prospecting, geological mapping, ASTER alteration satellite imagery studies, plus soil and rock surface sampling. Vein targets La Plomosa, La Plomosa Sur, El Vaquero, San Juan, Esmeralda, Nancy Sur and the down-dip projection of the Nancy vein are all on the San Juan property. La Plomosa vein has approximately 80m of historic drifting. A grab sample from the dump at La Plomosa ran Ag 278.8 g/t and Au 0.198 g/t. A phase one exploratory drilling program was conducted by Orko, consisting of eight holes totaling 3554m, revealing that La Plomosa may be faulted off. La Plomosa is the only target drilled to date on the San Juan property (Whiting *et al.*, 2008).

To the north and east of La Preciosa is the large Santa Monica property, which was originally a joint venture between Orko and Goldcorp Inc and is now wholly owned by Orko. A work program has been completed, including ASTER alteration satellite imagery, geological mapping in the Mesa de los Panuqueños area, sampling of 706 rock float samples and 1,920 soil samples, and a 212km IP geophysical survey. This work lead into an exploratory drilling program of six holes totaling 2498m. The drilling revealed that the major valley between Mina Avino and La Preciosa is a large graben structure and a substantial aquifer. No source for the Mesa de los Panuqueños mineralized boulders was found. Remaining targets on the Santa Monica property are the extensions northwest and southeast of La Preciosa's Martha vein, which have yet to be tested (Whiting et al., 2009).

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

This section of the report has been compiled by and is the responsibility of Mr. Gary Hawthorn of Westcoast Mineral Testing Inc., a metallurgist and consultant to Orko.

16.1 Metallurgical Testing

16.1.1 Historical Testing

The following is quoted directly (in italics) from the Technical Report for Orko dated March 31, 2008

The historical Luismin reports have some brief descriptions of a preliminary metallurgical testing and bulk processing of mineralized rock extracted from the Abundancia and La Gloria veins during the slashing of the underground workings. Most of this testing was designed to determine the amenability of the material to serve as process feed to concentration in the Avino mill. In 1988, Comision de Fomento Minero completed three tests on 9 kg samples ground to 3/4, 1/2, and 3/8 inch size, as well as a finer 65% passing through a -200 mesh. A cyanide concentration of 0.2% NaCN, with incorporated lime to maintain a pH at 11, yielded the following result [Contreras-Patiño, 1988].

[Table 12 –]Comision de Fomento Minero – Metallurgy Test Results

Sample Size	*Heads Au g/t*	*Heads Ag g/t*	*Tails Au g/t*	*Tails Ag g/t*	*Recovery % of Au*	*Recovery % of Ag*
-3/4	*0.45*	*254*	*0.32*	*240*	*28.9*	*5.5*
-1/2	*0.45*	*254*	*0.26*	*233*	*42.2*	*8.3*
-3/8	*0.45*	*254*	*0.20*	*210*	*55.5*	*17.3*
65%-200	*0.45*	*254*	*0.12*	*41*	*73.3*	*83.9*

Preliminary results indicate that this material does not seem amenable to heap leaching, but does leach well after a relatively coarse grind. Recoveries may be even better at finer grinds (e.g. 80% minus 200 mesh).

16.1.2 Recent Testing

In the period from late 2007 to the present, bench-scale testing has investigated the response to both flotation and agitation cyanidation. In sequence, the following has been completed:

- Stage 1: On a master composite prepared from five composites from diamond drill core, by Orko, a single rougher flotation test and three agitation cyanidation tests were performed. The cyanidation tests were identified as Orko C1 – C3.

- Stage 2: Twelve composites from drill core assay rejects, were prepared by Hecla Mining Company ("Hecla"), and all were subjected to bottle roll cyanidation testing at a cyanide concentration of 1 g/l. All tests were reported in triplicate as tests C1 – C36.
- Stage 3: Orko subsequently undertook additional cyanidation testing mainly to investigate cyanide concentrations of 2 and 4 g/l.
- Stage 3 continued: At that time, a single flotation test was performed on a sulfide composite that had been prepared for Orko. The flotation tailing was subjected to bottle roll cyanidation.

An internal report for Orko by Gary Hawthorn, P.Eng "Mineral Processing Review", Feb 23, 2009 provides details of these tests, which are summarized below.

Stage 1 – by Orko

Westcoast Mineral Testing Inc (WMT) of North Vancouver, BC, prepared a single master composite, grading 0.4 g Au/t and 300 g Ag/t. This master composite was subjected to a single flotation test (by WMT; Hawthorn, G., 2008) plus three agitation cyanidation tests by Process Research Associates (PRA) of Richmond B.C. Five composites, from the veins shown in Table 16.1, were used to make the master composite. These original composites have been retained intact.

Table 16.1 Table Orko - Met Composites

Composite	*No. of*	*Ag*	*Au*	*Pb*	*Zn*	*Cu*
	samples	**(g/t)**	**(ppb)**	**(ppm)**	**(ppm)**	**(ppm)**
Veta La Gloria	26	310	328	1,887	2,364	108
Veta Abundancia	18	250	379	3,114	3,694	125
Veta Martha	40	261	291	1,092	2,815	130
Veta Tansversal	13	236	147	2,610	2,827	59
Veta Luz Elena	19	445	510	2,220	4,869	206

The rougher-only flotation test (W-07-35) results shown in Table 16.2 demonstrate modest recoveries of both gold and silver, with very limited potential to increase recoveries by any change in process variables.

The overall ratio of concentration was quite high, and could potentially be increased by cleaning, since the F-1 concentrate contained only about 35% sulfide of which pyrite dominated.

The tailing screen assay indicated that neither the gold nor the silver recovery could be significantly increased at a finer grind.

Table 16.2 Rougher Flotation Test

OVERALL FLOTATION

Product	WT%	Ag - g/t	Au - g/t	Pb%	Fe%	Zn%
F-1 Rougher conc.	1.4	14,360	8.26	4.41	9.4	6.63
F-2 Rougher conc.	1.4	1,905	3.20	2.58	9.3	4.74
O/A Rougher conc.	2.8	8,001	5.68	3.48	9.3	5.67
Rougher tailing	97.2	84	0.21	0.21	2.7	0.26
Feed – calc	100.0	308	0.37	0.30	2.9	0.41
Feed - from composite grades		300	0.33	0.21		0.33

DISTRIBUTION -%

Product	Ag	Au	Pb	Fe	Zn
F-1 Rougher conc.	64.6	31.3	20.2	4.5	22.4
F-2 Rougher conc.	8.9	12.7	12.3	4.6	16.7
O/A Rougher conc.	73.5	44.0	32.5	9.1	39.1
Rougher tailing	26.5	56.0	67.5	90.9	60.9
Feed	100.0	100.0	100.0	100.0	100.0

Because of the poor results from the flotation test, the study shifted to the investigation of agitation cyanidation by PRA. The first cyanidation test (Orko - C1) demonstrated the potential for improved recoveries of both gold and silver, so two additional tests investigated grind sensitivity and cyanide concentration.

Three cyanidation tests, all of 96 hr duration and all as timed tests, were undertaken by PRA. The results are summarized below in Table 16.3.

Table 16.3 Three Cyanidation Tests

Test	NaCN	Grind	Extraction%		NaCN Consumption
	g/l	P_{80} microns	Ag	Au	kg/t
C1	2		75.8	81.6	2.14
C2	1	80	64.9	78.5	0.72
C3	4	97	89.1	88.0	2.56

This test series determined the following:

- Silver recovery is sensitive to both grind and cyanide concentration.
- Gold extraction is essentially insensitive to grind and cyanide concentration.
- Leaching time must exceed three days to reach maximum extraction.
- These tests suggest that silver extraction will be low unless the cyanide concentration is sufficiently high to incur a cyanide consumption > 2 kg/t.
- It would appear that the optimum silver recovery will require a grind that is at least as fine at P80 = 100 microns (80% passing 100 microns).
- There were no significantly elevated concentrations of any of the normal cyanicides in the pregnant leached solution ("pls").

The screen assay on the leached residue for test C3 indicates that gold extraction is not grind sensitive but silver extraction will benefit from finer grinding. This characteristic was later demonstrated by almost all of the composites.

Stage 2 – by Hecla Mining Company

In mid-2008, Hecla prepared 12 composites from diamond drill rejects.

These composites represented the major mineralized zones (Abundancia and La Gloria veins) and included both oxide and sulfide composites from the Martha zone.

The Hecla tests were also run at PRA as follows:

- Nominal P80 = 80 microns
- NaCN concentration = 1 g/l
- pH = 10.5
- Leaching time: 72 hrs for the first six composites, then 96 hrs for the last six.
- All as kinetic tests
- All included tailing screen assays.

The summarized results are presented in Table 16.4.

Table 16.4 Hecla Testwork

Sample	Description	P_{80} size	Extraction		Residue		Consumption (kg/t)	
ID		(microns)	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	NaCN	Lime
1	Abundancia - low	89	77.0	67.1	0.04	20	0.9	1.1
2	Abundancia - medium	88	83.9	70.9	0.05	45	1.1	0.7
3	Abundancia - high	79	81.0	80.1	0.09	73	0.8	0.9
4	Gloria - low	52	77.9	72.3	0.03	16	1.0	1.3
5	Gloria - medium	85	85.2	75.3	0.04	43	1.1	0.9
6	Gloria - high	80	85.2	67.0	0.05	132	1.1	0.8
8A	Martha sulfide - 1	52	39.7	83.5	0.18	20	1.9	1.1
8B	Martha sulfide - 2	78	51.7	79.6	0.24	42	1.6	1.0
9	Martha sulfide - 3	77	43.9	76.2	0.27	67	1.7	1.0
10	Martha mixed	78	72.7	81.3	0.05	8	1.5	1.1
11	Martha mixed	82	80.0	83.9	0.07	38	1.9	1.0
12	Martha oxide	82	85.4	75.6	0.06	49	1.8	1.0
Average O/A		77	72.0	76.1	0.10	46	1.4	1.0
Average "oxide"			80.9	74.8	0.05	47	1.3	1.0
Average sulfide			45.1	79.8	0.23	43	1.7	1.1

The testing reported the following:

- Low extraction of silver, averaging 76%, but with very little difference between the oxide and sulfide composites.
- Gold extraction from the three Martha sulfide composites of 45.1%, increasing to 80.9% with the "oxides".
- A somewhat elevated sodium cyanide consumption ranging 0.9 – 1.9 kg NaCN/t, averaging 1.7 kg NaCN/t.

Stage 3 – Orko

On reviewing the previous test results, the following important processing characteristics became relevant.

Cyanidation:

- The cyanide concentration needs to be increased. Although 2 g NaCN/l may be adequate, 4 g NaCN/l was used to assure technical success,
- To reasonably demonstrate completion, the test time needs to be 96 hours.

Cyanidation testing by PRA was therefore performed on six composites of drill core rejects. That necessitated some re-compositing of the Hecla composites to achieve silver grades of 200 g Ag/t.
A summary of the results from PRA tests (C37-42) is tabled below in Table 16.5.

Table 16.5 Orko Testwork

	Sample	P_{80} size	Extraction		Residue		Consumption (kg/t)	
Test No	ID	(microns)	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	NaCN	Lime
C37	#2A	90	88.1	88.1	0.05	23	10.09	1.03
C38	#5A	91	91.0	91.3	0.05	18	10.98	0.68
C39	#8B	96	63.7	87.8	0.19	26	10.50	0.73
C40	#11	90	81.8	92.0	0.06	18	9.85	1.11
C41	#12	83	89.6	92.0	0.05	18	10.35	0.68
C42	#Orko 3	101	60.2	89.5	0.17	28	10.82	0.87

The leaching kinetic curves for both silver and gold are shown below. The shortfall in gold extraction with the two Martha sulfide composites is clearly demonstrated in Figure 16.1 and Figure 16.2. The Orko Martha vein (Veta Martha) composites were not described as being “sulfide” but the metallurgical data strongly suggest that that is the case.

Figure 16.1 Silver Extraction Kinetics

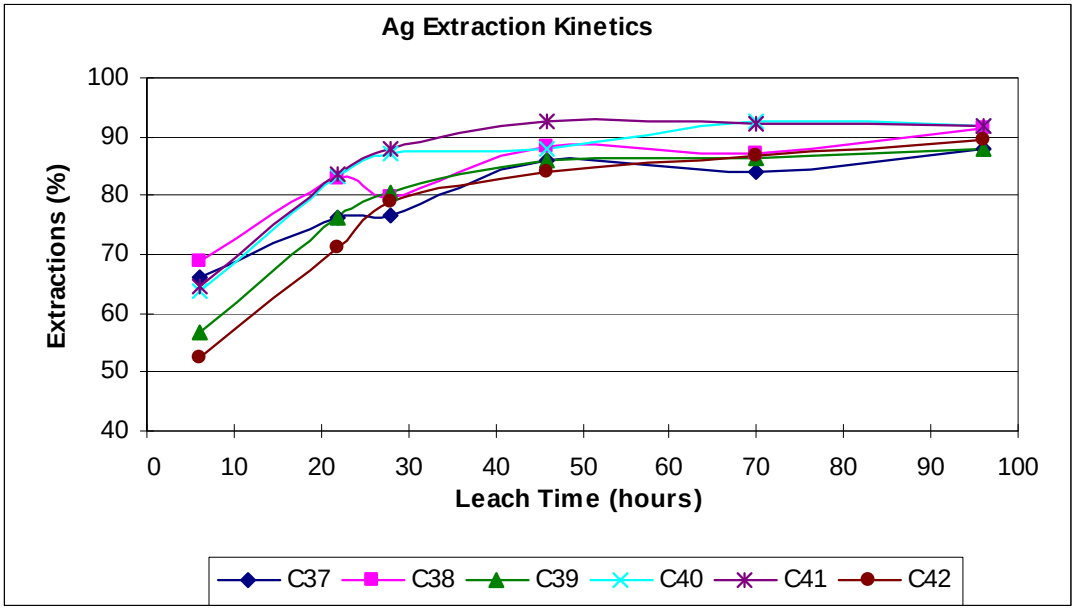
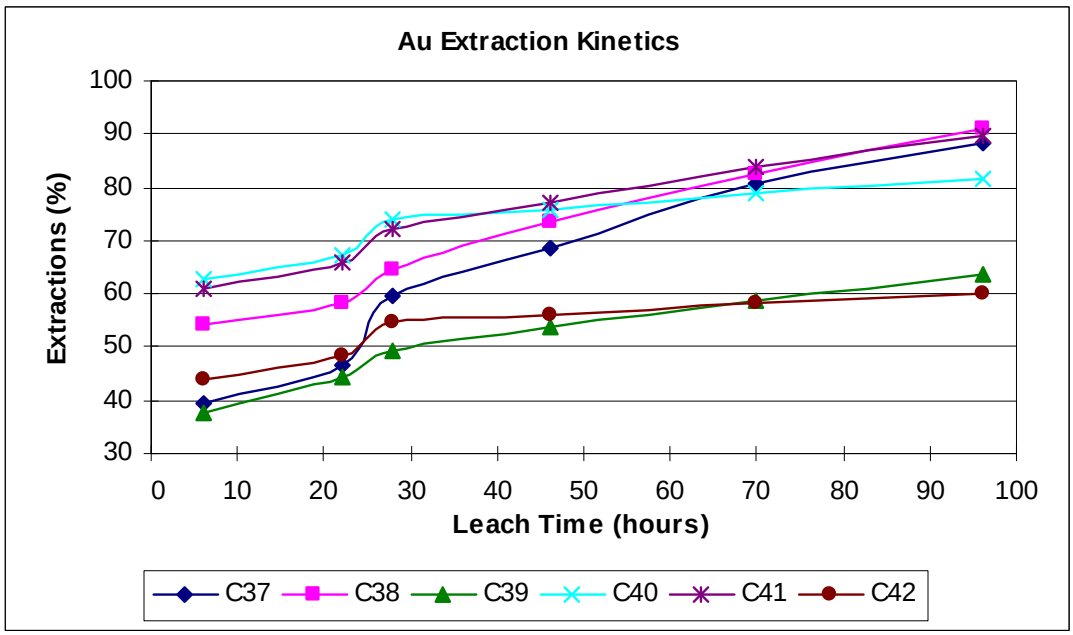


Figure 16.2 Gold Extraction Kinetics



On reviewing these results, the Martha sulfide composite 8B was subjected to flotation testing, followed by tailing cyanidation (Hawthorn, G., 2008). The results for that test (W-09-02) are shown below in Table 16.6.

Table 16.6 Flotation Testwork on Composite 8B

		Assays - g/t		Distribution -%	
Product	**WT%**	**Ag - g/t**	**Au - g/t**	**Ag**	**Au**
Cleaner conc.	4.7	3,493	7.95	80.7	64.3
Cleaner tlg.	2.2	327	0.96	3.6	3.7
Rougher conc.	6.9	2,478	5.71	84.3	67.9
Rougher tlg.	93.1	34	0.20	15.7	32.1
Feed - calc	100.0	204	0.58	100.0	100.0
Feed - average calc grade		206	0.49		
Feed - assay grade		197	0.45		

Although the 84.3% silver recovery by flotation was not as high as the 87.8% reported in the cyanidation test, the grind in the flotation tests was appreciably coarser at about P80 = 130 microns.

The tailing screen assay data do not exhibit any potential to increase silver recovery with a finer grind, so an even coarser grind may be optimum.

In the following series of cyanidation tests, four of the previous (C37 – 42) tests were repeated at 2 g NaCN /l as the only variable.

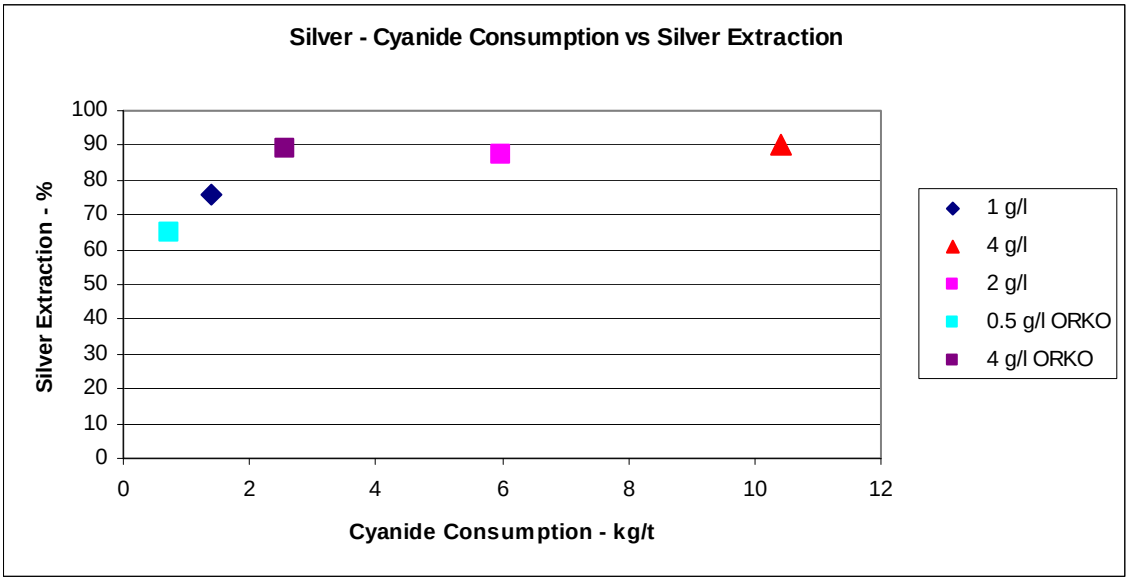
The fifth sample was the rougher tailing from the above flotation test on Martha sulfide composite 8B, with results as shown below in Table 16.7.

Table 16.7 Rougher Tailing from Flotation Testwork on Composite 8B

Test No	Sample	P_{80} size	Extraction		Residue		Consumption (kg/t)	
	ID	(microns)	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	NaCN	Lime
C43	#2A	93	85.8	86.1	0.06	28	5.7	1.4
C44	#5A	91	90.3	88.1	0.04	27	6.1	1.3
C45	#8B Flotation Tails	99	79.8	79.8	0.05	6	5.0	0.8
C46	#11	102	87.6	89.0	0.05	29	6.1	1.0
C47	#12	89	88.5	86.4	0.05	29	5.9	0.9
Average	exclude C45	94	88.0	87.4	0.05	28	6.0	1.1

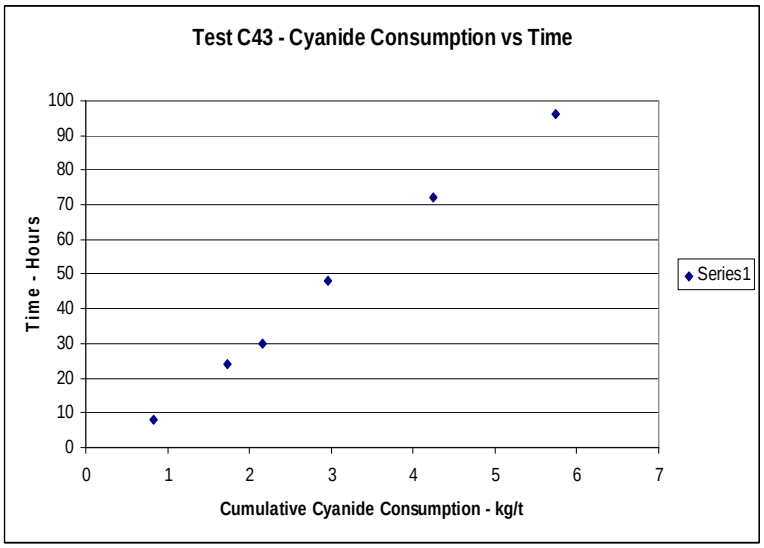
The graph shown in Figure 16.3 compares cyanide consumption and silver extraction. Although there were some unintended differences in the test variables, the curve represents the silver recovery relationship at a nominal grind of P80 = 80 – 90 microns, with feed grading 200 g Ag/t, and with 96 hrs retention time.

Figure 16.3 Silver – Cyanide Consumption *vs.* Silver Extraction



However, note that in many of the tests the leaching of both gold and silver was not complete in 72 hr (Hecla tests 1 – 18) or in 96 hrs in tests C19-47. Additional extraction is therefore technically feasible, but the incremental cyanide consumption will discourage that because of a never diminishing consumption of cyanide, as shown below in Figure 16.4 for typical test C43.

Figure 16.4 Incremental Cyanide Consumption



16.2 Metallurgical Options

16.2.1 Mineralogical Considerations

The deportment of gold and silver in the various flotation and cyanidation tests suggests the following:

- The vast majority of the silver is present as argentite (acanthite) that is mainly relatively fine grained, but sufficiently exposed for cyanide leaching to be effective.
- On the Martha sulfide 8A composite, the increased gold and silver recovery in flotation plus tailing cyanidation compared to straight cyanidation indicates that some portion of both metals are encapsulated in sulfides.
- In the case of the Martha sulfide mineralization, increased gold encapsulation occurs when compared to oxide mineralization.

16.2.2 Cyanidation

At this stage of the project, whole-ore agitation cyanidation has been demonstrated to achieve a consistent 90% silver extraction on feed grading 200 g Ag/t, while consuming approximately 2 kg NaCN/t. This occurs with both oxide and sulfide mineralization from all of the major mineralized zones.

Decreasing the cyanide concentration below 2 g NaCN/l will decrease both cyanide consumption and silver extraction.

At 2 g NaCN/l concentration, gold extraction will be approximately 45% from the Martha sulfide and approximately 81% from oxide ores.

Increased leaching time beyond 96 hrs will increase both gold and silver extraction at a cyanide concentration of 2 g NaCN/l. Because the composites consistently demonstrated a sustaining appetite for cyanide, the economics of incremental retention time will be modest.

Finer grinding beyond the laboratory nominal P80 = 80 – 90 microns, will improve silver, but not gold extraction, but once again the economics will represent a modest increment.

From an open pit mining perspective, the deposit is variably and deeply weathered and no matter what the metallurgical data indicates, it appears that separate processing of oxide and sulfide mineralization is not feasible.

Throughout this report, the term “extraction” is used to represent the portion of the metal that reports to pregnant solution. In operating plants, it is not possible to recover all of that metal into Doré, and typically about 1% of the extracted metal is lost in plant tailing in the normal counter-current decantation (CCD) circuit. Filtration of the plant tailing will significantly decrease the loss of both silver and gold, as well as that of cyanide and lime.

16.2.3 Flotation

A single flotation test (W-07-35) on the Orko master composite reported poor rougher-stage gold and silver recoveries, at 44.0% and 73.5%, respectively. However, even without cleaning the majority of both metals reported to concentrate grading > 14 kg Ag/t and 8 g Au/t.

Because of the poor performance of flotation, and with no apparent opportunity to increase metal recoveries, the investigation shifted to agitation cyanidation.

Later, when the cyanidation testing determined that 90% silver extraction incurred abnormally high consumption of cyanide, a single flotation test was done on the Hecla Martha 8A sulfide composite, followed by cyanidation of the flotation tailing. That test achieved gold recoveries similar to that which is achieved by direct cyanidation of oxide mineralization, confirming partial sulfide locking of gold.

In the same test, silver recovery increased significantly to a total of 97% (84.3% in flotation and the balance in cyanidation). This also demonstrated that some of the silver is locked in floatable sulfides at the achieved grind of 53% - 200 mesh.

16.3 Other Comments

16.3.1 Cyanide Soluble Gold and Silver

In late 2008, when the metallurgical response was believed to be difficult to predict, the Inspectorate (Reno) assay lab undertook a series of cyanide soluble gold and silver assays on pulps in an attempt to determine the global metallurgy of gold and silver at much less cost than $C1,300 for a cyanidation test.

The results were highly inconsistent, and bore no useful relationship to the bottle roll cyanidation tests at PRA.

The intended cyanide soluble assaying of retained pulps was therefore abandoned.

16.3.2 Cyanide Consumption

Typically, an elevated consumption of cyanide, as was reported in these tests, can be explained by ICP analysis of the final pregnant solution. Normally that is demonstrated by elevated extractions of some or all of: Cu, Zn, and Fe. That did not occur in any of the tests that included ICP analyses.

In all cases, the cyanide consumption did not follow the normal pattern with an initial requirement, normally within the first two hours, followed by small increments. In all tests, the rate of cyanide consumption was more-or-less constant with time.

Note that of the total cyanide consumption, the stoichiometric requirement for 200 g Ag/t as argentite (Ag_2S) is only 0.35 kg NaCN/t, far less than the minimum of 2 kg NaCN/t that was required during this testwork to achieve 90% extraction.

Test C43 on the Hecla 8A flotation tailing, revealed the same pattern of sustained cyanide consumption as in the whole ore bottle tests. The Hecla 8A flotation tailing had been washed and dried, so the elevated cyanide consumption could not be attributed to "soluble salts'.

It may useful in the next test series to perform cyanide speciation assaying on the pulps from one of the tests to check on cyanide soluble sulfur. This is an improbable explanation, but in the absence of the obvious, it is worthwhile.

16.3.3 Flotation Concentrate

The possible production of flotation concentrate does not incur an obligation to sell that concentrate. Cyanide leaching at the mine site is a possible alternative.

16.4 Recommendations

Normally, at this stage of a project additional variability testing cannot be justified. However, because of the elevated consumption of cyanide, the possible role of flotation on the oxide mineralization needs to be investigated.

Three-dimensional modeling of the various mineralized zones by MDA determined that the Hecla metallurgical composites were spatially representative of the various zones. Unless the ongoing drilling program has altered that conclusion, additional bench-scale testing should be undertaken on the Hecla "average grade" composites or new composites from the Hecla composites as was done in tests C37 – 38 and C43 – 44.

The first test should investigate flotation of the Hecla #12 oxide composite, since it appears to represent the major source of mineralization. The tailing from that test should be bottle roll leached, as in PRA test C45, to determine the cumulative effect of flotation and tailing cyanidation.

17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

The La Preciosa deposit is made up of multiple veins but is dominated by the Martha vein. The other named veins that were modeled are Luz Elena, Abundancia, and La Gloria. Four other veins were modeled but are only classified as Inferred and are unnamed (Figure 17.1). The Martha vein, a shallow west-dipping mineralized zone, is by far the largest and is also the deepest of the veins. The other veins may be considered steep hanging wall offshoots of the Martha. Even though global distributions of gold and silver are spatially similar, the gold has poor correlation with silver and consequently, within the large, lode-like, mineralized zone the gold and silver were modeled separately.

17.1 Database

The 2008 La Preciosa database was constructed and maintained by Orko and MDA audited that database. Errors found were resolved and corrected (Section 14.1). Descriptive statistics of the final database used for resource modeling is presented in Table 17.1. The reconstructed database has all significant data, and each sample interval is assigned an integer code representation that reflects both the sample type (*e.g.*, "1" for core and "3" for underground channel sample) and whether or not the data should be used (*e.g.*, the Luismin samples were not used for grade estimation and neither were the underground samples). Geotechnical (core recovery and RQD) data were also compiled and discussed earlier in this report.

There are 388 drill holes (150,443m) in the entire database, and all were used for sectional domain modeling (unless they were historic data contradicting logic and new data). In addition, underground sampling was entered into the database as 406 "drill holes" (867m). There are 88,821 gold assays and 89,127 silver assays in the January 2009 (post-model) database. Of the total average assays, 86 gold assays and 131 silver assays were historic and not used in the grade estimation. Descriptive statistics of all of the data in the database used for estimation ("USE"=1) are given in Table 17.1. Data in Table 17.2 describes the database that was used for grade estimation, which was completed prior to the latest update to the drill-hole database description just given. The Luismin samples were not used in estimation. (Table 17.1)

CAD CONTROL BLOCK REF:p:\orko\reports\43-101\figures\figures_in_report\fig_17.1_sec_agau-_zones-2285.dwg
DATE:11/28/2005

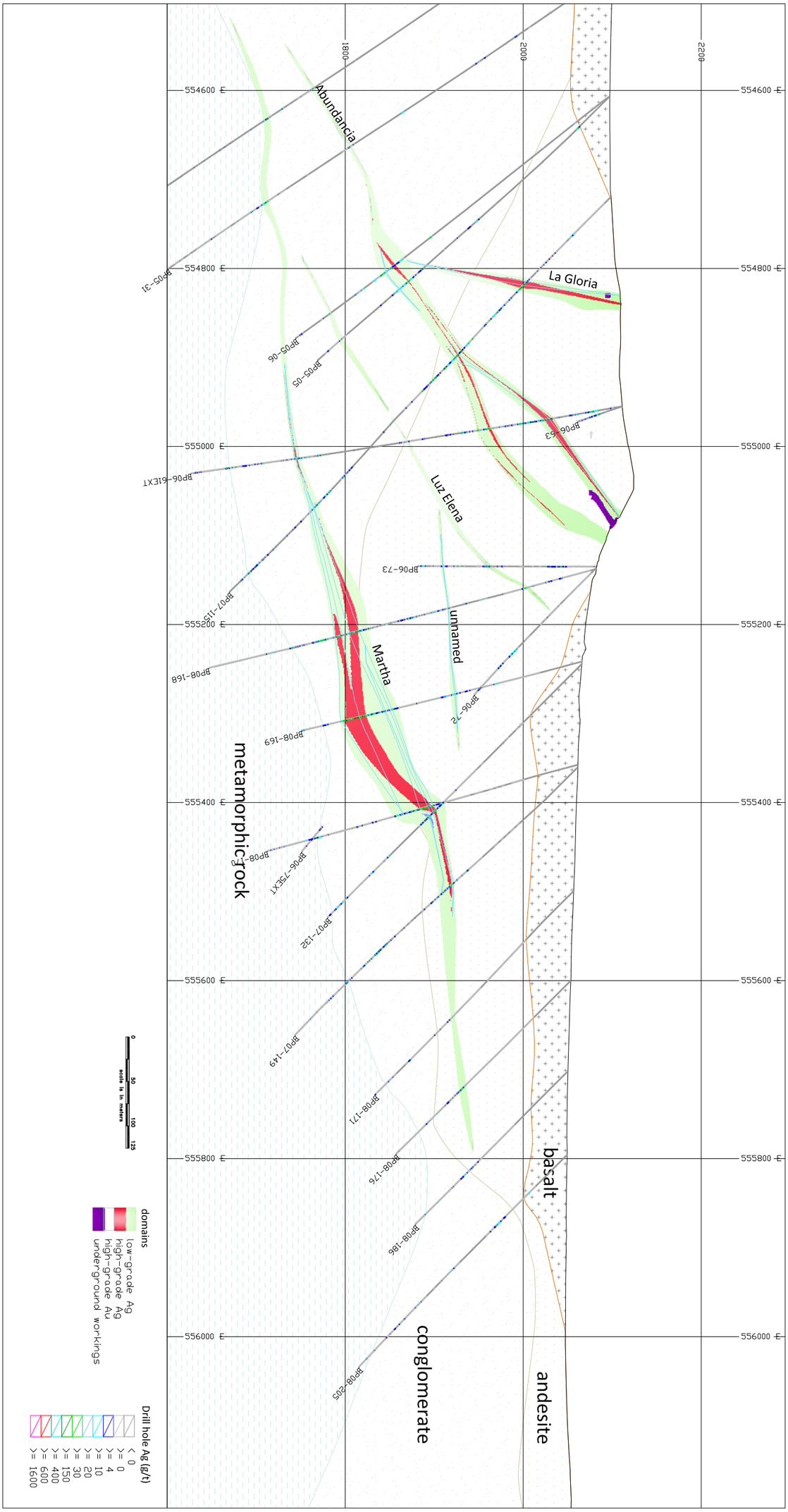


FIGURE NO. 17.1

ORKO SILVER CORP.
La Preciosa
Silver and Gold Model in Section

AS A MUTUAL PROTECTION TO OUR CLIENTS, THE PUBLIC, AND MDA ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS, OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

MINE DEVELOPMENT ASSOCIATES
Reno Nevada

DATE	25 Feb 2009
DRAWN BY	C Walker
CHECKED BY	S Ristorcelli
SCALE	as shown

Table 17.1 Descriptive Statistics of La Preciosa Database: All Data

All data	Use multiple			Type multiple				
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Holename	769							
East	87,582					554366	556876.3	m
North	87,582					2698981	2703009	m
Elevation	87,582					1496.52	2205.34	m
From	87,582					0	649.8	m
To	87,582					0.2	649.83	m
Length	87,582		1.62			0.01	311.25	m
Au	80,503	2.5	37.7	316.5	8.4	0.1	67400	ppb
Ag	80,808	1.6	14.5	73.6	5.1	0.0	5897	g/t
Pb	80,184	37	268	2349	9	1	555000	ppm
Zn	79,866	148	549	2824	5	1	306000	ppm
Cu	80,185	17	40	205	5	0	26900	ppm
Ba	78,731	139	830	2490	3	1	189000	ppm
SG	72,703	2.53	2.52	0.17	0	1.04	5.35	g/cm3
ZoneS	86,782					10	121	
ZoneG	86,782					10	121	
Alt	87,582							
Rock	87,582							
CoreRecovery	85,957					0	100	%
RQD	85,957					0	100	%
RQD20	85,957					0	100	
Use	87,582					-1	1	
Type	87,582					1	3	
Lith	87,582							alpha
Vein	5,503							alpha

Table 17.2 Descriptive Statistics of the La Preciosa Database: Data Used

All data	Use 1			Type 1		Used in estimate		
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Holename	725							
East	86,015					554366	556605.6	m
North	86,015					2698981	2703009	m
Elevation	86,015					1570.3	2205.34	m
From	86,015					0	649.8	m
To	86,015					0.2	649.83	m
Length	86,015		1.33			0.01	100	m
Au	79,915	2.5	28.0	282.5	10.1	2.5	67400	ppb
Ag	79,916	1.6	11.6	68.4	5.9	0.0	5897	g/t
Pb	79,435	36	241	2334	10	1	555000	ppm
Zn	79,118	145	527	2800	5	1	306000	ppm
Cu	79,436	16	38	191	5	0	26900	ppm
Ba	78,723	139	830	2490	3	1	189000	ppm
SG	72,658	2.53	2.52	0.17	0	1.04	5.35	g/cm3
ZoneS	85,624					10	121	
ZoneG	85,624					10	121	
Alt	86,015							alpha
Rock	86,015							alpha
CoreRecovery	85,957					0	100	%
RQD	85,957					0	100	%
RQD20	85,957					0	100	
Use	86,015					1	1	
Type	86,015					1	1	
Lith	86,015					0	0	alpha
Vein	4,655					0	0	alpha

17.2 Specific Gravity

Issues relating to density or specific gravity measurements are discussed in Section 12.3. This section discusses how MDA arrived at the average specific gravities used in the resource estimate, in light of the issues described in Section 12.3.

In February of 2009 there were 88,558 density, or specific gravity ("sg"), measurements done using the water immersion method, available for the La Preciosa project. Orko's staff takes density measurements from every core sample, prior to that sample being shipped to the lab. Those measurements are done using a conventional water immersion method. MDA observed this being done, and it is done carefully. There is one significant issue with the measurements and one issue wihich may affect the result a small amount. The rock being measured is not sealed in any way prior to immersion. This allows water to enter vugs and other pore spaces in the rock on immersion, which will result in an overly high specific gravity being calculated. MDA has observed vugs and other open spaces in the core from mineralized veins at La Preciosa. Such vugs may have dimensions of several millimeters. Furthermore, while the core is left to air dry, the core is not tested to assess if it was in fact dry.

MDA suggested that Orko try using a "dry volumetric" method to estimate the specific gravity. This method involves thorough drying of whole cylinders of core, and accurate measuring of their length, diameter and weight. The measured dimensions include the vug or pore space as part of the core. The weight and calculated volume are used to derive a specific gravity.

Ultimately MDA received from Orko 92 records of dry volumetric density measurements, each accompanied by measurements from the same assay interval using the immersion method. All of these were from vein or mineralized material. Note that while the matching pairs of density measurements each came from one sample interval, they were not done on precisely the same specimen of rock. The dry volumetric measurements were done before the core was split; the immersion method measurements were done on material selected from the assay sample bag, after the core was split.

MDA fully expected the 92 immersion method measurements to yield a higher specific gravity than the 92 dry volumetric determinations. To MDA's considerable surprise, the opposite proved to be true. The dry method yielded an average specific gravity of about 2.50 and the immersion method yielded an average specific gravity of about 2.42.

In an attempt to understand why this occurred, MDA did a statistical study of the populations of density data, using probability graph techniques described by Sinclair (1981) and software developed by Bentzen and Sinclair (2003). The conclusions from MDA's study are:

- It is evident that with both methods of measuring specific gravity, samples were drawn from more than one population of specific gravities. For the purpose of this discussion, these will be called "density types." In other words, within each data set, the material sampled was not consistent.

- The dry density method sampled material having two density types; the immersion method sampled material having three density types:
    - About 10% of the immersion method samples represent a density type having a mean specific gravity ("sg") of about 2.2. This low-sg density type is not represented in the dry method data set. As a consequence, the average sg for the total immersion method data set is reduced relative to the average sg for the total dry method data set. It may be that the low-sg material is a friable type that could not be measured using the dry method.
    - Just under 20% of each data set represents a density type having a mean specific gravity of 2.31 to 2.33. A t-test suggests that this could represent the same type of material in both data sets.
    - About 80% of the dry method samples represent a density type having a mean specific gravity of about 2.54, while about 70% of the immersion method samples represent a density type having a mean specific gravity of about 2.49. A t-test suggests that these results are statistically different. Nevertheless, the difference between 2.54 and 2.49 is only half that between 2.51 and 2.41 obtained using the full data sets.

MDA then looked at the complete set of immersion method specific gravity measurements from veins incorporated in the resource estimate. The measurements were segregated into two groups, those in the Martha vein and those in other veins. The results were:

- Martha vein (1,609 instances): sg 2.57 (as expected, higher than the 2.5 obtained from the dry volumetric method)
- Other veins (591 instances): sg 2.54 (same comment as above)

These results using the entire set of immersion method specific gravity data from the veins are distinctly different from the results using only the 92 records that accompanied the dry volumetric measurements. MDA concludes that when the dry volumetric method was implemented, something happened that resulted in a considerable selection bias being applied, inadvertently, to the material selected for immersion method measurements.

For this resource estimate, MDA has elected to use a specific gravity of 2.5 for vein and mineralized material, the same as the average of the 92 dry volumetric density measurements. This is probably a conservative choice.

Since there are no dry-volumetric method specific gravity data for the various unmineralized lithologies that form the wallrocks at La Preciosa, MDA used the water immersion specific gravity data to arrive at specific gravity estimates for those rocks. Analysis of water immersion method specific gravity sample measurements was done in the context of logged lithology (Table 17.3), using the more than 70,000 measurements that were available as of October 2008. The mean of the measured values was factored

down by 2% because the samples were not coated, there is always a selection bias when choosing samples, and the measurements were done on air-dried samples. These data are the basis for assigned specific gravity measurements for the country rock in the La Preciosa block model. The coded country rocks in the block model and their assigned densities are: metamorphic basement-2.55 g/cm^3; conglomerate-2.5 g/cm^3; andesite-2.45 g/cm^3; and basalt-2.45 g/cm^3.

Table 17.3 General Descriptive Statistics of Specific Gravity Samples by Lithology: Immersion Method

Lithology	Valid N	Mean	Minimum	Maximum	2%	Accepted	Units
Andesite	28333	2.49	2.01	3.19	2.44	2.45	g/cm3
Conglomerate	11635	2.53	2.01	3.19	2.48	2.50	g/cm3
Vein	3511	2.55	2.01	3.19	2.50	2.50	g/cm3
Stockwork	917	2.53	2.01	3.14	2.48		g/cm3
Sandstone	836	2.50	2.02	2.97	2.45		g/cm3
Schist	4586	2.59	2.01	3.19	2.54	2.55	g/cm3
Quartzite	52	2.52	2.01	2.93	2.47	2.45	g/cm3
Diorite	1357	2.58	2.05	3.17	2.53	2.55	g/cm3
Stringers	708	2.53	2.05	3.11	2.48		g/cm3
All Groups	72605	2.52	2.01	3.19			g/cm3

17.3 Resources

17.3.1 Geologic Models and Mineral Domains

MDA began the modeling process on site with paper cross sections. MDA used angles to core axes, drill sample assay grades of multiple metals, geologic logs, and core photos to build both the geological interpretation as well as the silver and gold domains. In the end, the interpretations did not materially contradict Orko's interpretations and where they did, Orko and MDA came to a resolution accepted by both parties.

The principal modeled lithologic types are listed in Table 17.4 along with short descriptions. These units were used both for coding rock density into the model and to guide the mineral-domain modeling.

Table 17.4 List of Lithologic and Alteration Units Defined

Code	Unit	Description
140	Basalt	recent undifferentiated basalt flows
130	Andesite	undifferentiated andesitic rocks
120	Conglomerate	sedimentary clastic unit by far dominated by conglomerate
110	Metamorphic	schist, slate, and intrusive diorite

Note: There are sub-sets of these units that have not been segregated for this study.

Block coding was done from surfaces made of these contacts as block in – block out.

17.3.2 Underground Workings

MDA extracted all high-grade material from the resource model that was estimated into or within 10m of the digitized workings presented by Orko. This amounted to a total of 410,000 tonnes extracted. Some of this would still be in place but has been removed from the resource for reasons of ore sterilization or the difficulty of mining it next to open stopes.

17.3.3 Metallurgical/Oxide Model

No oxide model could be made as the geological logged data about oxidation is not in a form that could easily be used. Likely there is a relationship between metallurgical recovery and oxidation, but this could not be incorporated in this model. This is an important task that must be addressed for future resource estimates.

17.3.4 Mineral Domain Model

Gold and silver domains were modeled separately. The silver model relied on geologic descriptions and grade ranges of ~4 g Ag/t to ~30 g Ag/t for a low-grade domain, which generally describes a lode style of mineralization. The higher-grade silver domain over ~30 g Ag/t represents veins, vein breccias and breccias. The gold was modeled in a high-grade zone only where the low-grade silver zone is also the low-grade gold zone. The higher-grade gold zone is not well understood geologically and it does not necessarily coincide with the higher-grade silver zones. It was defined as being over roughly ~0.1 g Au/t. But the zones were often broad and wide zones of ~<0.1+ g Au/t could be included. While globally the two metals occur in the same general area, locally the distributions are different. The domains and veins modeled are presented with a short description in Table 17.5. Cross sections illustrating the gold and silver domains are given in Figure 17.1.

Table 17.5 List of Modeled Veins

Code	Vein	Description
10	Martha stockwork	shallow, west-dipping vein
11	Martha vein	shallow, west-dipping vein
20	Martha HW stockwork	shallow, west-dipping vein
21	Martha HW vein	shallow, west-dipping vein
30	Luz Elena stockwork	shallow, west-dipping vein
31	Luz Elena vein	shallow, west-dipping vein
40	Abundancia stockwork	shallow to steep, west-dipping vein
41	Abundancia vein	shallow to steep, west-dipping vein
50	La Gloria stockwork	steep, west-dipping vein
51	La Gloria vein	steep, west-dipping vein
60	Unnamed stockwork	steep, west-dipping vein
61	Unnamed vein	steep, west-dipping vein
70	Unnamed stockwork	steep, west-dipping vein
71	Unnamed vein	steep, west-dipping vein
120	Unnamed stockwork	flat vein
121	Unnamed vein	flat vein

Once the domains were drawn on paper sections, checked, and iterated back and forth between sections, they were digitized, checked for accuracy and completeness, and cleaned up. These domains were snapped to drill holes, smoothed, and made into solids, which in turn were used to code the assay database. Block coding was done from the solids for both percentages and integer codes for each domain. Assay statistics by domain are given in Appendix E for silver and gold for all those samples deemed useable, namely, not underground channel samples and not historic drill data (USE=1). Capping levels were chosen based on quantile plots of the domain grade distributions, coefficients of variation, and a review of the locations of samples. Each domain has a different capping level (Appendix E).

17.4 Compositing

Once the samples were capped (see Appendix E for the capping limits of each domain), they were down-hole composited into 3m composites, honoring contacts. Appendix E presents the descriptive statistics of the composite database used for silver and gold, respectively. Following compositing and statistical analyses of those composites, correlograms were constructed in multiple directions, lag lengths, and windows, using all grades and in some cases different grade ranges. The variography was done with various combinations of mineral domains and each mineral domain independently. In all cases for silver, correlogram ranges were short, ranging from 20 to 40m and with very high nuggets of approximately 75 to 80%. For gold, correlogram ranges were also short, ranging from 10 to 50m with high nuggets, but not as high as silver, of approximately 50% to 80%.

17.5 Estimation

The estimation parameters were defined considering the geology, drill spacing, correlograms, results from point validation, and the quantile plots of grades in each domain. Inverse distance squared estimation was chosen as the base case, while estimates were also made by Kriging and nearest neighbor as checks. The inverse distance squared estimate was chosen as the base case because it better reflected local distributions as opposed to the Kriged estimate which was excessively smooth. Estimation parameters are presented in Appendix F. The minimum number of samples was one with a maximum of 12, except in the short 5m final overwriting estimation pass, which had a minimum of two samples. Two composites at the most per hole were used to estimate a block's grade. Each domain was estimated separately. At contacts of domains, percentages of each domain in each block were coded, and these were used for weight averaging the grades.

17.6 Resource

MDA classified the resource in order of increasing geological and quantitative confidence, taking into account the confidence in the underlying data. The classification categories of Inferred, Indicated and Measured are in compliance with Canadian National Instrument 43-101 and the "CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines," issued in 2000 and modified with adoption of the "CIM Definition Standards - For Mineral Resources and Mineral Reserves" in 2005. CIM mineral resource definitions are given below:

Mineral Resource

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase 'reasonable prospects for economic extraction' implies a judgment by the Qualified

Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable. These assumptions must be presented explicitly in both public and technical reports.

Inferred Mineral Resource

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.
Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

Indicated Mineral Resource

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions.

Measured Mineral Resource

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be

estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.

Because of the requirement that the resource exists "in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction," MDA is reporting the resources at cutoffs that are reasonable for deposits of this nature and for the expected mining conditions and methods. The resources presented for La Preciosa are based on silver-equivalent cutoff grades. Those cutoff grades are 100 oz AgEq/t. MDA considered metal prices, recovery, mining method and economics to derive the reported cutoff. Although preliminary in nature, MDA believes there is sufficient information to make reasonable estimates on projected economic cutoffs that should not be materially different, under similar economic situations, after obtaining more information.

The silver-equivalent calculation is based on long-term average gold and silver metal prices. To keep consistent with prior reporting by Orko a ratio of 60 to 1 for gold to silver was used to establish the silver-equivalent value. Silver-equivalent calculations reflect gross metal content and are not adjusted for metallurgical recoveries or relative processing and smelting costs. The silver-equivalent grades were used only for establishing cutoff grades. Tabulating the material in this manner presents a more accurate presentation of the spatial association of gold and silver while at the same time giving full credit to both elements.

Resource classification considered distance to the nearest sample, geologic confidence, and mineral domain continuity. Because this project will most likely be an underground resource, all of the above-cutoff resources tabulated in this estimate lie within the defined veins. While grades were estimated outside the veins, these grades were used for dilution only. If an open pit mining scenario does become an option, then that material lying outside the veins and below the reported cutoff grades could be reported as Inferred if the cutoff grade is lowered to reflect this scenario. There are no Measured resources at La Preciosa at this time because of the early stage of resource delineation and the lack of understanding of the continuity of the higher-grade material.

For a block to be classified as Indicated, it had to be classified for:

- silver if the block was at least partially if not wholly inside a silver domain and
  - the block must be within 15m of a single vein composite for all veins except Martha *or*
  - the block must be within 30m of a single vein composite in Martha *or*
  - the block must be within 40m of a single vein composite but be estimated by at least five composites from at least two different holes *and*
  - the block must lie at least partially inside defined vein limits *but*
  - not be within any of the four (20, 60, 70, or 120) un-named veins.

or

- gold if the block was at least partially if not wholly inside a gold domain and
  - the block must be within 15m of a single vein composite for all veins except Martha *or*
  - the block must be within 30m of a single vein composite in Martha *or*
  - the block must be within 40m of a single vein composite but be estimated by at least five composites from two different holes *and*
  - the block must lie at least partially inside defined vein limits *but*
  - not be within any of the four (20, 60, 70, or 120) un-named veins.

The requirements for any block to be classified as Inferred were that the block lie within any of the defined veins and not be Indicated. In all cases, the mineralization must lie within a defined vein to be classified at all and reported.

The model blocks are 10m north by 5m east by 3m vertical. Table 17.6 presents the Indicated and Inferred La Preciosa resources. Details by vein are given in Appendix F. Figure 17.2 and Figure 17.3 present cross-section examples of the block model for silver and gold, respectively.

The resource is reported undiluted and will, once a mining plan is designed, necessarily be diluted by surrounding mineralized but lower-grade material. It is premature to assess the amount of dilution until the mining method is applied to the resource. The fact that the resource is just over half Inferred material is a function of the wide-spaced drilling but also a function of the QAQC work, which required and still requires additional evaluation. With infill drilling and a sound QAQC program, most of the Inferred material should become Indicated and some of the Indicated could be upgraded to Measured. The gold to silver ratio used to establish the silver-equivalent value is 60 and does not include any factor for metallurgical recovery or relative extractive costs.

Table 17.6 Indicated Silver and Gold Resources for La Preciosa

Undiluted		Indicated				
Cutoff (g AgEq/t)	**Tonnes**	**Ag grade** (g AgEq/t)	**Ag grade** (g Ag/t)	**Silver** Ounces	**Au grade** (g Au/t)	**Gold** Ounces
50.00	14,839,000	165	150	71,710,000	0.25	120,000
75.00	12,643,000	183	168	68,170,000	0.26	106,000
100.00	**10,637,000**	**201**	**185**	**63,230,000**	**0.27**	**94,000**
125.00	8,649,000	222	205	56,900,000	0.29	80,000
150.00	6,625,000	247	229	48,800,000	0.31	66,000
200.00	3,725,000	306	285	34,140,000	0.36	43,000
250.00	2,206,000	364	340	24,090,000	0.41	29,000

Undiluted		Inferred				
Cutoff (g AgEq/t)	**Tonnes**	**Ag grade** (g AgEq/t)	**Ag grade** (g Ag/t)	**Silver** Ounces	**Au grade** (g Au/t)	**Gold** Ounces
50.00	17,218,000	162	149	82,242,000	0.23	128,000
75.00	14,780,000	179	165	78,364,000	0.23	111,000
100.00	**12,087,000**	**200**	**185**	**71,754,000**	**0.25**	**97,000**
125.00	9,718,000	221	205	64,107,000	0.26	81,000
150.00	7,669,000	243	226	55,837,000	0.28	68,000
200.00	4,480,000	293	276	39,705,000	0.29	42,000
250.00	2,258,000	360	340	24,700,000	0.33	24,000

17.7 Resource Estimate Discussion

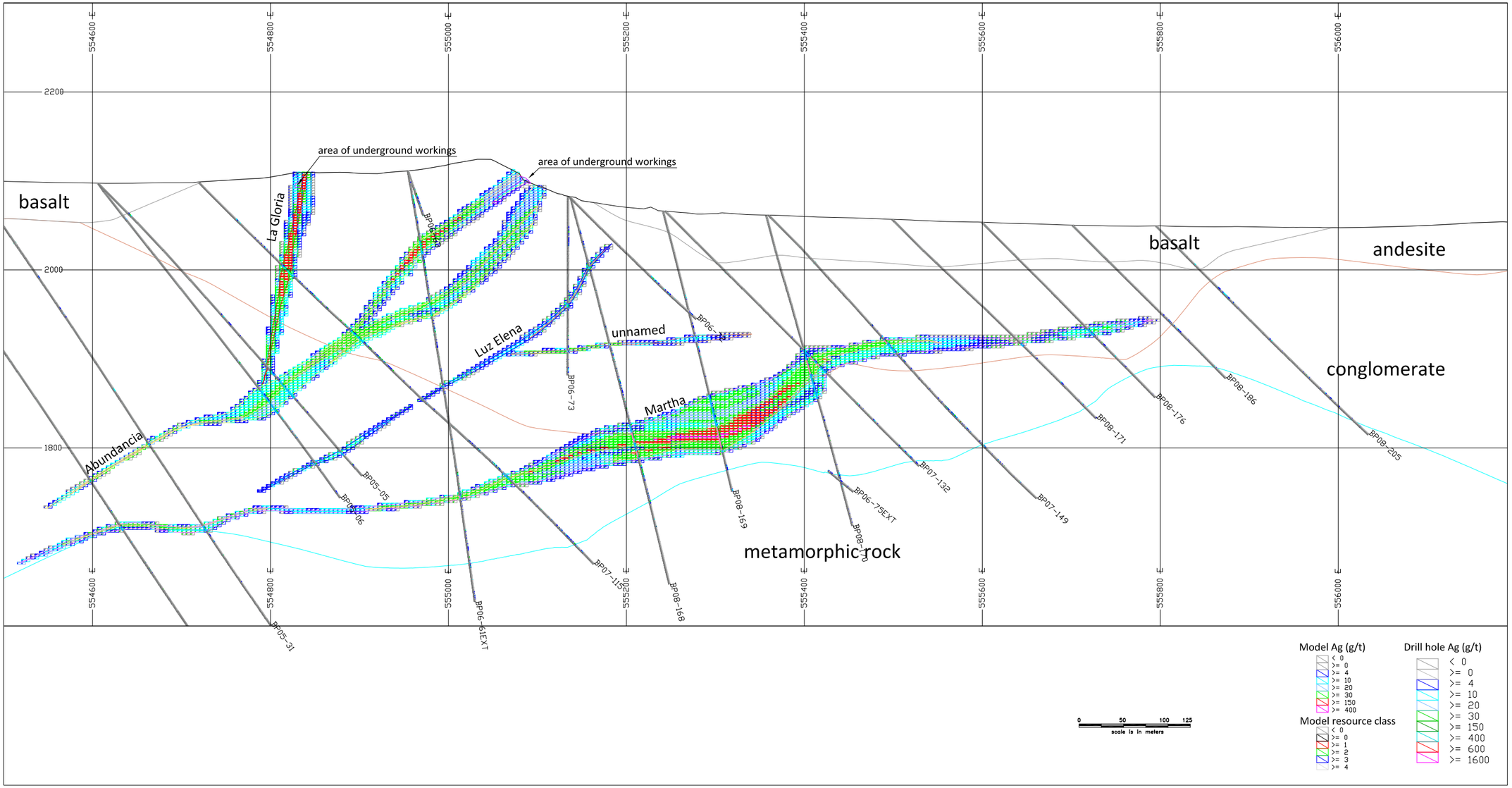
MDA began this process impressed by the caliber of work and data gathering done by Orko. During the process some issues, principally those relating to QAQC and density determinations, were identified, and have been or are being addressed. MDA remains confident in the quality of the project and the work being done by Orko. With the issues being dealt with, there is reason to believe that much of the Inferred could be upgraded to Indicated and some of the Indicated upgraded to Measured, given more understanding and infill drilling.

MDA performed several checks on the estimate during and after the estimation process: volume checks, point validation, comparisons of estimation method results, and assay-composite-model checks. The volumes of the solids matched the block model volumes. Point validation showed that estimation results were not sensitive to estimation parameters. While some bias was noted between the inverse distance and Kriged models, MDA believes the inverse distance model to be more representative of the mineralization.

MDA compared unbiased bench composite grades with the coincident block in which the composite exists. Overall, the inverse distance model was 11% lower grade than the coincident uncapped silver composited assays and 8% lower grade than the coincident capped-silver composited assays. All of these differences in grade between the composites and block grades occur in the higher grades of over 100 g Ag/t. This effect was magnified significantly in the Kriged model check. This low bias should dissipate with further infill drilling.

Comparing the nearest neighbor, inverse distance, and Kriged block models, it is clear that the Kriged model, due to the very high nugget, smoothed out the high and low grades. The inverse distance model better reflected the distribution of the nearest neighbor blocks with materially less but still some smoothing. While the comparison was adequate for the Martha vein, the comparison was not as good for the hanging wall veins. MDA used these criteria to choose the inverse distance model for the final reported number. All the previously-described testing of the estimation was done using the final block model, but prior to the final run, which included the addition of new holes received since October 2008.

A second update to the database was made in Janury of 2009. This new drilling was received by MDA too late to update the block model. As such, a simple cross sectional estimate of those newly defined resources located on strike of the Martha and where mineralization was expected to be, was completed. Those resources were included in the project-wide Inferred total and represent about 8% of the Inferred material. It should be stated that the post-model drilling did provide strong support for the model as had been completed prior to that drilling.



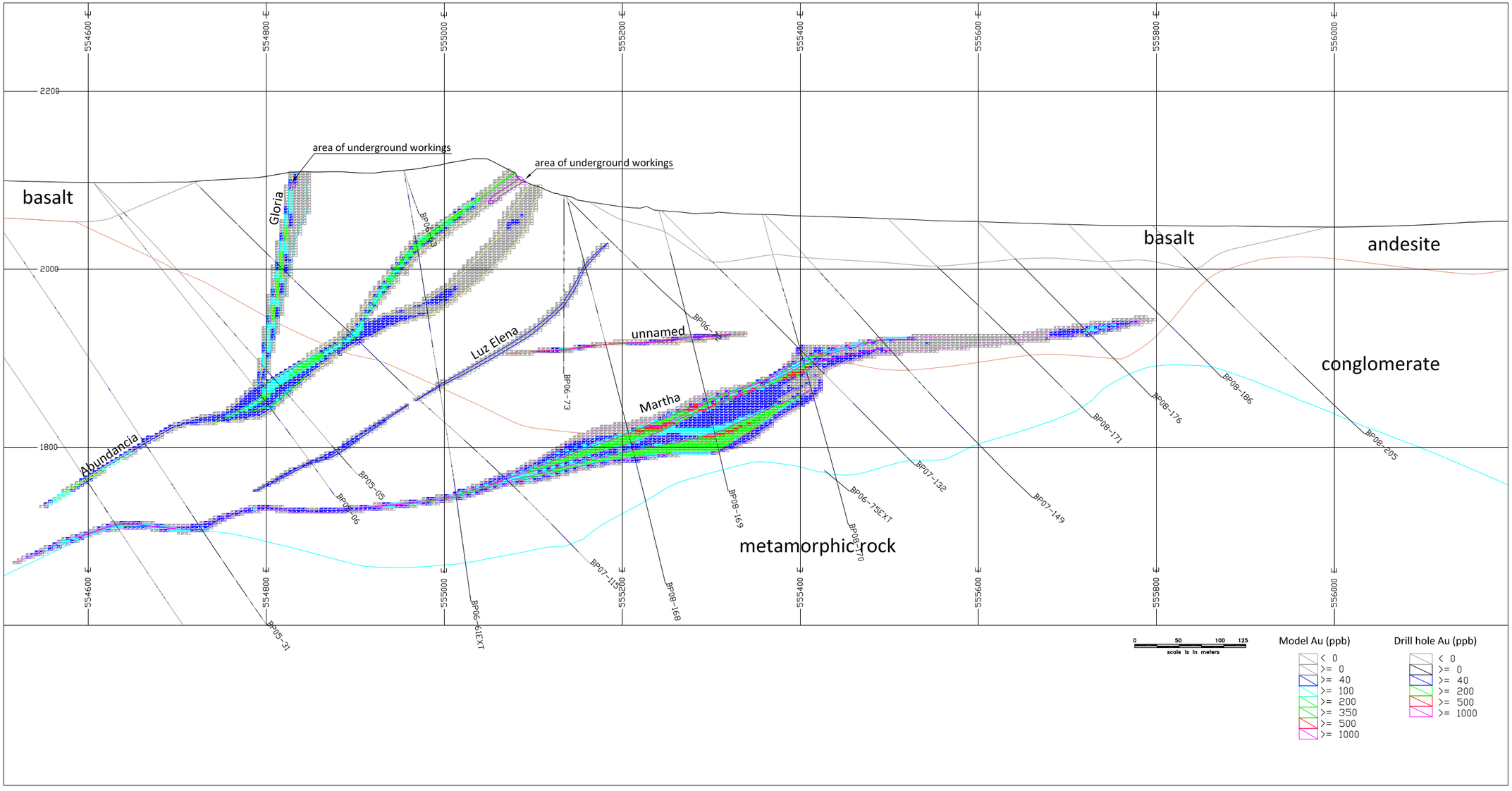
DATE	25 Feb 2009
DRAWN BY	C Walker
CHECKED BY	S Ristorcelli
SCALE	as shown

MINE DEVELOPMENT ASSOCIATES
Reno Nevada

ORKO SILVER CORP.
La Preciosa
Ag Block Model Grades in Section

FIGURE NO.
17.2

CAD CONTROL BLOCK REF:p:\orko\reports\43-101\figures\figures_in_report\fig_17.2_sec_ag_model-2285_north 2702285.00.dwg
DATE:11/28/2005



DATE	25 Feb 2009
DRAWN BY	C Walker
CHECKED BY	S Ristorcelli
SCALE	as shown

MINE DEVELOPMENT ASSOCIATES

Reno Nevada

ORKO SILVER CORP.
La Preciosa
Au Block Model Grades in Section

FIGURE NO.
17.3

CAD CONTROL BLOCK REF:p:\orko\reports\43-101\figures\figures_in_report\fig_17.3_sec_au_model-2285.dwg
DATE:11/28/2005

18.0 OTHER RELEVANT DATA AND INFORMATION

MDA is not aware of any data or information not addressed in this report that could have an impact on the results of the resource estimate or the conclusions expressed herein.

19.0 INTERPRETATION AND CONCLUSIONS

MDA has found the work and data collected by Orko at La Preciosa to be high quality. Issues noted by MDA to Orko were for the most part remedied. Orko's methodical and thoughtful exploration efforts have added significant value to this project, reduced the project's risk, and increased the confidence that can be placed in the data.

19.1 Exploration Potential and Upside

While the resources outlined by Orko and estimated for this study are substantial, it appears that potential to expand the resources remains. Multiple exploration targets have been identified on the La Preciosa property:

- The Martha vein continues south of the block model used in to estimate the resource in this study. It has been designated as the "Martha South" target area.
- To the northwest of Cerro Prieto La Mina are outcrops with quartz-fluorite veinlets and silicification in andesite, similar to Zona Oriente, potentially marking the upper level of a vein. West of these outcrops has been designated as the "Martha North" target area.
- A strengthening of the veins south along La Preciosa ridge, accompanied by soil geochemical anomalies, highlight the potential for the Veta Nueva and El Orito veins in the "El Orito Norte" target area.
- Similar vein outcrops and soil geochemical anomalies occur over the Nancy vein.
- The highest gold value obtained to date was from the El Orito vein at "Mina El Orito" target .

19.2 Resource Development

The continuity of the mineralized zone is clear and predictable; however, the continuity of the potentially economic-grade vein within the mineralized zone is not yet clearly defined. A preliminary economic assessment needs to be done to determine what cutoff is required. That continuity of potentially economic grade may exist, but has not been demonstrated as of yet in part because of the lack of an economic study but also because of the wide-spaced exploration drilling which was, justifiably, focused more on increasing resources than on infill drilling. Clearly, the next phase of drilling should at least include some infill drilling to help determine the continuity of the higher grades. The next phases of drilling and development should concentrate on defining the higher-grade areas because clearly grade is the most critical issue at this point.

19.3 Project Issues

Other issues which should be addressed in future work include a) getting a better understanding of the variability of metallurgical recovery spatially and those geological characteristics that affect it, and b) taking more density measurements of veins in a manner that fairly reflects the open spaces found in well-mineralized material.

20.0 RECOMMENDATIONS

MDA finds the La Preciosa deposit to be a project of merit and deserving of additional work. The project should transform from purely an exploration project emphasizing the discovery of new and expansion of existing resources to a project that includes some development work, beginning with an economic evaluation, and including infill drilling, more metallurgical sampling and modeling, and geotechnical assessments. As such, Orko and MDA have compiled a two-phase program of development.

20.1 Phase I

An economic assessment is of primary importance. Within such a study, Orko should decide if and how much of the resource might be economic in open pit mining and how much must be mined from underground. An assessment of mining costs will help define those areas that would be economic and relegate those sub-economic areas to lower priority. The economic assessment will require input from metallurgists and mining engineers but should consider permitting issues. Along with these studies, Orko should continue with exploration drilling aimed at expanding the resource and should commit some funds for in-fill drilling to evaluate the continuity of the higher-grade zones.

Ancillary studies should also be undertaken including 1) assessing the reproducibility of samples at all stages of sampling, from cutting core to crushing to pulverizing and extracting the sample aliquot, 2) additional density evaluations of the vein, and 3) continued geologic modeling on cross sections with an emphasis on that mineralization that is not yet in the resource due to the lack of perceived continuity. Table 20.1 lists the costs of the program which totals US$ 3.6 million.

Continued exploration drilling will be to extend known mineralization and test multiple new targets. This is to include for consideration, but is not limited to, the Martha Vein to the northwest of Cerro Prieto La Mina and southeast of Cerro La Chicharonera. New targets include El Vaquero, El Orito Norte, Nancy, Nancy Sur, La Plomosa Sur, Dany, San Juan, Esmeralda and Flores Magon.

Total costs for Phase I are presented in Table 20.1.

Table 20.1 Phase I Recommendation Costs

Task	Cost (US$)	Comments
Economic Assessment	$75,000	Economic evaluation and definition of project needs
Exploration Drilling	$3,000,000	Resource expansion and exploration
Metallurgical testwork	$75,000	Sampling, testing, evaluation
Miscellaneous studies	$20,000	Sub-sampling, density, and additional section modeling
Surface and Community Relations	$100,000	Road access, community outreach, etc.
Contingency (rounded)	$327,000	10%
TOTAL	**$ 3,600,000**	Rounded

20.2 Phase II

If the economic assessment completed for Phase One is positive, then work on the project should make a serious transition toward development engineering, but again, not at the complete expense of continuing with exploration. The project should begin with a major development-drilling program and culminate in a pre-feasibility study. Table 20.2 lists the estimated costs of such a program, which total US$ 10.4 million. Phase I delineation drilling will be done in a to-be-defined most economic area, which is currently drilled at 100m centers and be done in an area considered most economic, which has not yet been defined. The drilling has been done on 100m centers and the drill spacing should be tightened to less than 50m centres. A program of about 100 holes is anticipated but the program design would be modified after receiving the results of the preliminary economic assessment.

Table 20.2 Phase II Recommendation Costs

Task		Cost (US$)	Comments
Exploration Drilling	$	3,000,000	Resource expansion and exploration
Development/Infill Drilling	$	6,000,000	Resource development and definition
Metallurgical testwork	$	200,000	Sampling, testing, evaluation
Miscellaneous studies	$	100,000	Sub-sampling Density Low-grade modeling
Pre-feasibility	$	150,000	economic evaluation and definition of project needs
Contingency (rounded)	$	945,000	20%
TOTAL	**$**	**10,400,000**	**rounded**

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Whiting, B.H., 2009, Discovery and delineation of La Preciosa: A major epithermal silver-gold deposit in Durango, Mexico. presented at *Open Session – Making the Grade*, Prospectors and Developers Association, International Convention, Toronto, Canada, 1-5 March 2009.

See also: Websites for Orko Silver Corporation, Goldcorp Inc., Silver Wheaton, Hecla Mining Company, Avino Silver and Gold Mines Ltd.

22.0 DATE AND SIGNATURE PAGE

Effective Date of report: March 31, 2009

The data on which the contained resource estimates are based was current as of the Effective Date.

Completion Date of report: March 31, 2009

"Steve Ristorcelli" ***March 31, 2009***

Date Signed:

Steven Ristorcelli, P. G.

"Peter Ronning" ***March 31, 2009***

Date Signed:

Peter A. Ronning, P.Eng.

"Ben Whiting" ***March 31, 2009***

Date Signed:

Ben Whiting, P.Eng.

"Gary Hawthorn" ***March 31, 2009***

Date Signed:

Gary Hawthorn, P.Eng.

23.0 AUTHOR'S CERTIFICATE AND SIGNATURE PAGE

I, Steven Ristorcelli, P. G., do hereby certify that:

1. I am currently employed as Principal Geologist by:

Mine Development Associates, Inc.
210 South Rock Blvd.
Reno, Nevada 89502.

2. I graduated with a Bachelor of Science degree in Geology from Colorado State University in 1977 and a Master of Science degree in Geology from the University of New Mexico in 1980.
3. I am a Registered Professional Geologist in the states of California (#3964) and Wyoming (#153) and a Certified Professional Geologist (#10257) with the American Institute of Professional Geologists.
4. I have worked as a geologist continuously for a total of 29 years since my graduation from undergraduate university.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I am one of the authors of the report entitled "Updated Technical Report on the La Preciosa Project, Durango State, Mexico" and dated March 31, 2009. I take co-responsibility for all sections of Technical Report except for Section 17.0 for which I take full responsibility and Section 16.0. I visited the project during the periods February 9, 2005 to February 12, 2005; March 17, 2005 to March 27, 2005; October 5 to October 11, 2007; and January 9 to January 16, 2008.
7. I have had no prior involvement with the property or project.
8. To the best of my knowledge, information and belief, this technical report contains all the scientific and technical information that is required to be disclosed to make this technical report not misleading.
9. I am independent of Orko Silver Corporation and all their subsidiaries as defined in Section 1.4 of NI 43-101 and in Section 3.5 of the Companion Policy to NI 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
1. The Technical Report contains information relating to mineral titles, permitting, environmental issues, regulatory matters and legal agreements. I am not a legal, environmental or regulatory professional, and do not offer a professional opinion regarding these issues.
2. A copy of this report is submitted as a computer readable file in Adobe Acrobat© PDF© format. The requirements of electronic filing necessitate submitting the report as an unlocked, editable file. I accept no responsibility for any changes made to the file after it leaves my control.

Dated this 31st day of March, 2009

"Steven Ristorcelli"

Signature of Qualified Person
Steven Ristorcelli

Print Name of Qualified Person

I, Peter Arthur Ronning, P.Eng. of RR 6, 1450 Davidson Road, Gibsons, B.C., Canada, V0N 1V6, hereby certify that:

1. I am a consulting geological engineer, doing business under the registered name New Caledonian Geological Consulting, at the address set out above.
2. I am a graduate of the University of British Columbia in geological engineering, with the degree of B.A.Sc. granted in 1973. I also hold the degree of M.Sc. (applied) in geology, granted by Queen's University in Kingston, Ontario, in 1983.
3. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia, Registration Number 16,883.
4. I have worked as a geologist and latterly as a Professional Engineer in the field of mineral exploration since 1973, in many parts of the world.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association as defined in NI 43-101 and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101 with respect to the contents of those parts of The Technical Report that I wrote, or participated in writing.
6. I am one of the authors of the report entitled "Updated Technical Report on the La Preciosa Project, Durango State, Mexico" and dated March 31, 2009. I take co-responsibility for all of the report except Sections 15, 16 17.1 and 17.3 through 17.7. I visited the La Preciosa property for the period September 4 through September 8, 2008.
7. Prior to summer of 2008, when the work leading up to the present report began, I had not had any involvement with the La Preciosa property nor with Orko Silver.
8. To the best of my knowledge, information and belief, this technical report contains all the scientific and technical information that is required to be disclosed to make this technical report not misleading.
9. I am independent of Orko Silver Corporation and all their subsidiaries as defined in Section 1.4 of NI 43-101 and in Section 3.5 of the Companion Policy to NI 43-101. I may inadvertently be the beneficial owner of an interest in any publicly traded company through participation in mutual funds over whose portfolios I have no control.
10. I have read National Instrument 43-101 and Form 43-101F1, and The Technical Report has been prepared in compliance with those documents.
11. The Technical Report contains information relating to mineral titles, permitting, environmental issues, regulatory matters and legal agreements. While I am generally knowledgeable concerning these issues in the context of the mineral industry I am not a legal, environmental or regulatory professional, and do not offer a professional opinion regarding these issues.

12. A copy of this report is submitted as a computer readable file in Adobe Acrobat© PDF© format. The requirements of electronic filing necessitate submitting the report as an unlocked, editable file. I accept no responsibility for any changes made to the computer file after it leaves my control.

"P. Ronning"

Peter A. Ronning, P.Eng.
March 31, 2009

CERTIFICATE OF QUALIFIED PERSON

BERNARD HENRY (BEN) WHITING

a) I, **Bernard Henry Whiting**, of 427 Garrett Street, New Westminster, BC, Canada, Professional Geologist, do hereby certify that:

b) I am a co-author of the report titled; "Updated Technical Report on the La Preciosa Project, Durango State, Mexico", with effective date of March 31, 2009.

c) I am a graduate of the University of British Columbia and hold a Bachelor of Science (B.Sc.) degree 1979 and a Master of Science (M.Sc.) degree 1989 in geological sciences.

   I am a professional geologist and have practiced my profession on a full time basis in Canada, USA, Mexico, Peru, Chile, Brazil, Venezuela, and elsewhere in South America, Europe, Asia and Oceania since 1979. I have also taught as an Adjunct Professor of geological sciences 1995-2006 and mining engineering 2000-2005 at Queen's University and mining engineering 1989 at the University of British Columbia.

   I have been a registered Professional Geoscientist (P.Geo.) member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) since 1991 and of the Association of Professional Geoscientists of Ontario (APGO) since 2002. I am also a Fellow of the Society of Economic Geologists (SEG) and a member of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) and La Asociación de Ingenieros de Minas Metalurgistas y Geólogos de México (AIMMGM).

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

d) I have conducted multiple visits to the project site over a period of five years, the most recent of which was on 2 to 12 of February 2009.

e) I am responsible for the preparation of Sections 7, 8, 9, 10, 11, 12.1, 12.2, 13. 14.2.1, and 15 of this report utilizing data gathered in the field in my role as Chief Geologist and information summarized in the references of this report.

f) I am not independent of Orko Silver Corporation and all their subsidiaries as defined in Section 1.4 of NI 43-101 and in Section 3.5 of the Companion Policy to NI 43-101.

g) My prior involvement on La Preciosa Project included the preparation of the initial Geology Map, 2004, and I supervised the geophysical and diamond drilling programs, 2005-08, for Orko

Silver Corporation (and its predecessor: Orko Gold Corporation), as well as having authored numerous reports and presentations on the project.

h) I have read National Instrument 43-101, Companion Policy 43-101CP and Form 43-101F1 and this technical report has been prepared in compliance with that instrument.

i) To the best of my knowledge, information and belief, this technical report contains all the scientific and technical information that is required to be disclosed to make this technical report not misleading.

/sig/ B.H. Whiting

_____

B. H. (Ben) Whiting, M.Sc., P.Geo.

Dated at Vancouver, British Columbia this 31 Day of March, 2009.

CERTIFICATE OF QUALIFICATION – Gary Hawthorn, P.Eng. (B.C.)

1. I, Gary William Hawthorn, of 2806 Thorncliffe Drive, North Vancouver, BC, am a Professional Mineral Processing Engineer.
2. I graduated with a degree of B. Sc. in Mining Engineering from Queen's University, Kingston Ontario, in 1964.
3. I am a registered professional engineer in the Province of British Columbia, since 1972, and for the purposes of this report I am an independent qualified person.
4. I have worked as a mineral processing engineer for 44 years and as a professional engineer for 36 years.
5. My experience includes 18 years, mainly as a mill superintendent for Cominco Ltd. and Placer Development Ltd.
6. Starting in 1982 I have been self employed as a consulting Mineral Processing Engineer, and since 1988 have operated as Westcoast Mineral Testing Inc.
7. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience.
8. I am independent of Orko Silver Corporation and all their subsidiaries as defined in Section 1.4 of NI 43-101 and in Section 3.5 of the Companion Policy to NI 43-101.
9. I am responsible for the preparation of the Section 16.0 of the Technical Report, "Updated Technical Report on the La Preciosa Project, Durango State, Mexico" and dated March 31, 2009.
10. I have not visited the subject property.
11. To the best of my knowledge, information and belief, this technical report contains all the scientific and technical information that is required to be disclosed to make this technical report not misleading.
12. My prior involvement with the project was limited to overseeing metallurgical testing in 2007 and 2008.
13. I have read NI 43-101, Form 43-101F1, and 43-101CP. The Technical report has been prepared in compliance with those regulations.

Dated Vancouver, BC this 31th day of March, 2009.

Gary Hawthorn

Signature of Qualified Person

Appendix A

Concession Title Study

Lic. Juan Bravo Cuevas y Asociados
Bufete Jurídico Fundado en 1953

Durango, Dgo., México, a 3 de Noviembre de 2008

STEVEN RISTORCELLI
stever@mda.com
MINE DEVELOPMENT ASSOCIATES
210 S. Rock Blvd.
Reno, Nevada, E.U.A. 89502
Tel. 775-856 57 00
Fax.775-856-60 53

STEVEN RISTORCELLI:

Soy abogado con licencia y calificado para ejercer leyes en México. Se me ha solicitado por la empresa "**ORKO SILVER DE MÉXICO", S.A. DE C.V.**, a través de los **Señores Varenka Bishop y Ben Whiting**, Administradora y Geólogo, respectivamente, que proporcione opinión jurídica sobre los derechos de los lotes mineros que a continuación mencionaré, en tal virtud no tengo ningún impedimento en hacerlo, manifestando previamente a ello que el suscrito es originario y vecino de esta ciudad de Durango, Durango México, nacido el día 21 de marzo de 1960, con domicilio en Calle Constitución Número 415 Norte, Zona Centro, CP 34000, egresado de la Escuela de Derecho, hoy Facultad de Derecho de la Universidad Juárez del Estado de Durango, en el mes de diciembre de 1983, habiendo ingresado al Bufette Jurídico "Lic. Juan Bravo Cuevas y Asociados" inicialmente como Pasante en el año de 1979, y desde aquella época hasta la actualidad, en forma continua e ininterrumpida he ejercido mi profesión, contando con título de Licenciado en Derecho, y con cédula profesional número 893328 expedida ésta última por la Dirección General de Profesiones dependiente de la Secretaria de Educación Pública, en tal virtud como abogado tengo una práctica de más de veinticuatro años, amén de fungir actualmente como **DIRECTOR** de nuestro Despacho Jurídico en comento, el cual fue fundado en el año de 1953 por mi padre el Señor Licenciado Don Juan Bravo Cuevas.

I am a lawyer licensed and qualified to practice law in Mexico. I have been requested by the company "ORKO SILVER MEXICO", SA DE CV, through Varenka Bishop and Ben Whiting, manager and Geologist, respectively, to provide legal opinion on the rights of mining continued to mention that, in such a virtue I have no impediment in doing so, saying previously that this is originally signed by me and I am a resident of this town of Durango, Durango Mexico, born on March 21, 1960, residing at No. 415 North Street Constitution, Zona Centro, CP 34000, a graduate of

Constitución 412-415 Nte.
Zona Centro
34000 Durango, Dgo., México

bravocuevas@hotmail.com
eduardobravocampos@prodigy.net.mx
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Tel.Fax. 01 (618)
811 94 18, 811 0158,
811 1582, 811 8490
811 4185

the Law School , Faculty of Law Juarez University of the State of Durango, in December 1983, having entered the Legal buffet "Lic. Juan Bravo Cuevas and Associates "as a clerk originally in the year 1979, and from that time until today, on a continuous and uninterrupted matter I have exercised my profession, with degree of Master of Law, and professional identity card number issued 893,328 latter by the Directorate General of profession under the Ministry of Education, under such a practice as a lawyer I have more than twenty-four years, in addition to currently serving as Director of our Legal Office mentioned, which was founded in the year 1953 by my father the Lawyer Mr. Don Juan Bravo Cuevas

En virtud de mi actividad profesional, soy Abogado y Apoderado General de la negociación mercantil denominada **"ORKO SILVER DE MÉXICO", S.A. DE C.V.**, persona moral debidamente constituida conforme a las Leyes Mexicanas, y registrada en el Registro Público de Minería, dependiente de la Secretaría de Economía, habida cuenta de contenerse mis facultades en la Escritura Pública **NÚMERO 34,544, VOLÚMEN 554**, de fecha **20 OCTUBRE 2007**, asi como en la diversa **NÚMERO 35,343, VOLÚMEN 563, 15 MAYO 2008**, ésta última debidamente inscrita en el Registro Público de la Propiedad de la ciudad de México, D.F., bajo el **FOLIO MERCANTIL 13996 *1**

By virtue of my profession, I am a lawyer and General Representative of the trade negotiation known as "ORKO SILVER MEXICO", SA DE CV, moral person duly constituted under Mexican law, and registered with the Public Registry of Mining, a branch of the Ministry of Economy, in view of my powers contained in the Deed NUMBER 34,544, VOLUME 554, dated 20 OCTOBER 2007 As well as the diverse NUMBER 35,343, VOLUME 563, 15 MAY 2008, the latter duly entered in the Public Registry of Property of Mexico City, DF, under the FOLIO TRADE 13,996 * 1.

Consecuentemente y respecto de la referida empresa **"ORKO SILVER DE MÉXICO", S.A. DE C.V.**, no tengo ningún inconveniente de emitir una opinión legal de validez de los **FUNDOS MINEROS**, que a continuación cito, que se encuentran libre de cualquier compromiso, y que son los siguientes:

Accordingly and in respect of that company "ORKO SILVER MEXICO", SA DE CV, I have no problem to issue a legal opinion on validity of the founders MINERS, which I quote below, which are free from any commitment, which are as follows:

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34000 Durango, Dgo., México

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eduardobravocampos@prodigy.net.mx
ebravocampos@prodigy.net.mx

Tel.Fax. 01 (618)
811 94 18, 811 0158,
811 1582, 811 8490
811 4185

PROYECTO "LA PRECIOSA"

No.	LOTE	EXPTE.	TITULO	VIGENCIA		SUPERF.	MPIO. EDO.
				DE	A	Has.	
1	La Preciosa	321.1-2/398	182517	15/07/1988	14/07/2038	143 6119	Pánuco de Coronado Dgo.
2	Lupita	321.1/9-303	182584	12/08/1988	11/08/2038	27 1878	Pánuco de Coronado Dgo.
3	Frac. La Preciosa	321.1/2-399	185128	14/12/1989	13/12/2039	2.5249	Pánuco de Coronado Dgo.
4	San Patricio	321.42/919	189616	05/12/1990	04/12/2040	29.4740	Pánuco de Coronado Dgo.
5	La B	2/1.3/01962	214232	06/09/2001	05/09/2051	28 2006	Pánuco de Coronado Dgo.
6	El Choque Tres	2/1/02251	218953	28/01/2003	27/01/2053	10.0000	Pánuco de Coronado Dgo
7	El Choque Cuatro	025/30812	220251	02/07/2003	01/07/2053	644.1296	Pánuco de Coronado Dgo.
8	El Choque Seis	025/31144	220583	02/09/2003	01/09/2053	249.00007	Pánuco de Coronado Dgo.
TOTAL SUPERFICIE PROYECTO "LA PRECIOSA":						1,134.1288	

PROYECTO "SANTA MÓNICA"

LOTE	EXPTE.	TITULO	VIGENCIA		SUPERF.	MPIO. EDO.
			DE	A	Has.	
Santa Mónica	025/31208	221288 EXPLORACIÓN	20/01/2004	19/01/2010 SEIS AÑOS	16,385.4570	Pánuco de Coronado Durango México
Santa Mónica Sur	025/31411	223097	15/10/2004	14/10/2054	900.0000	Pánuco de Coronado Durango México

Ahora bien, también existe con independencia de los citados **PROYECTOS MINEROS**, uno diverso denominado **"SAN JUAN"**, que está también en proceso de adquisición por parte de **"ORKO SILVER DE MÉXICO"**, S.A. DE C.V., proporcionando a continuación los datos correspondientes:

However, it also exists independently of such mining projects, a variety named "SAN JUAN", which is also in the process of acquiring from "ORKO SILVER MEXICO", SA DE CV, then providing the data

PROYECTO "SAN JUAN"

LOTE	EXPTE.	TITULO	VIGENCIA		SUPERF.	MPIO. EDO.
			DE	A	Has.	
San Juan	025/31434	226663 EXPLORACIÓN	17/02/2006	16/02/2056 CINCUENTA AÑOS	14.003,4737	Pánuco de Coronado Durango México

Por otra parte me permito a continuación mencionar los nombres de los contratos y/o convenios de servidumbre legal de paso y ocupación temporal en terrenos en el cual la negociación mercantil denominada **"ORKO SILVER DE MÉXICO", S.A. DE C.V.**, lleva a cabo los trabajos geológicos de exploración correspondientes a los citados proyectos:

On the other hand I would then mention the names of contracts and/or legal agreements servitude of passage and temporary occupation on land where the trade negotiation known as "ORKO SILVER MEXICO", SA DE CV, carried out geological exploration work on those projects:

1.- Contrato de servidumbre legal de paso y ocupación temporal de terrenos ejidales con el Ejido "Ricardo Flores Magon", representado por los Señores Ernesto Berúmen Ibarra, Emilio Barrientos Valles, Rogelio Reyes Ortega y Agapito Ontiveros Reyes, en su calidad de Comisariado Ejidal, respecto de la ocupación temporal, continua y pacífica de 241-15-00 hectáreas, en el cual se constituyó una servidumbre legal de paso, perenne, continua, aparente e indivisible, con una longitud de 4,888 metros por 4.50 metros de ancho, incluyéndose el derecho de vía de camino de acceso al campamento e instalaciones mineras, con superficie de camino de 02-20-00 hectáreas; la ocupación temporal continua y pacífica del terreno ejidal aparcelado con una superficie de 111-25-00 hectáreas, para el efecto de que se realicen perforaciones, barrenos, levantamientos topográficos, geológicos, muestreos, etc., amén de que intervino por parte de **"LA COMPAÑÍA"**, la empresa titular anterior de las concesiones mineras, denominada **"DESARROLLOS MINEROS SAN LUIS", S.A. DE C.V.**

1.- Contract for legal servitude of passage and temporary occupation of ejido land with the Ejido "Ricardo Flores Magon", represented by the Lords Berumen Ernesto Ibarra, Emilio Barrientos Valles, Rogelio Reyes Ortega and Agapito Reyes Ontiveros, as the Commissariat ejido, for the temporary, continuous and peaceful 241-15-00 hectares, which constituted a legal servitude of

passage, perennial, continuous, apparently indivisible, with a length of 4888 meters by 4.50 meters wide, including the right to route of access road to the camp and mining facilities, with a surface road 02-20-00 hectares, the temporary occupation of the continuous and peaceful aparcelado ejido land with an area of 111-25-00 hectares, to the effect that undertake drilling, shots, surveying, geological, sampling, etc., as well as speaking from "THE COMPANY", the previous holder of mining concessions, known as the "DESARROLLOS MINEROS SAN LUIS", SA DE C.V

"DESARROLLOS MINEROS SAN LUIS", S.A. DE C.V., transfirió a **"ORKO SILVER DE MÉXICO", S.A. DE C.V.**, los derechos de este contrato.

"DESARROLLOS MINEROS SAN LUIS," S.A. DE CV, transferid to "ORKO SILVER MEXICO", SA DE C.V., the rights of this contract.

2.- En relación al contrato de servidumbre antes mencionado, derivó un convenio con el Ejido "Ricardo Flores Magón", en el cual intervino ya directamente un servidor como Apoderado de **"ORKO SILVER DE MÉXICO", S.A. DE C.V.**, el cual tuvo por objeto la superficie de terreno indicada anteriormente, y se amplió en 81-93-34 hectáreas, del mismo Ejido, todo ello por acuerdo de asamblea en la misma fecha del convenio, 29 de junio de 2008, habiendo intervenido por parte del citado Ejido su **COMISARIADO EJIDAL** en comento y **PRESIDENTE DEL CONSEJO DE VIGILANCIA**.

2.- In connection with the contract of servitude mentioned above, derived an agreement with the Ejido "Ricardo Flores Magon," in which he intervened directly and server as a Trustee of "ORKO SILVER MEXICO", SA DE CV, which was designed from the ground surface above, and was expanded in 81-93-34 hectares, the same Ejido, all by agreement of assembly on the same date of the agreement, June 29, 2008, having spoken by the Ejido said its Commissioner commented on ejido and Chairman of the Supervisory Board

3.- Por otra parte se celebró convenio de ocupación temporal entre la empresa **"ORKO SILVER DE MÉXICO", S.A. DE C.V.**, con el **SR. ING. FROYLAN GARCIA HIGAREDA**, como **APODERADO LEGAL** de la **SRA. PETRA HIGAREDA BRISEÑO**, respecto de la ocupación temporal de una superficie de 104-01-41 hectáreas para las plazas de barrenación y caminos en la superficie del terreno rústico de la Ex – Hacienda "La Luna" Municipio de Pánuco de Coronado, Estado de Durango, en donde intervine también como apoderado de dicha empresa para realizar de manera enunciativa más no limitativa los siguientes trabajos de exploración: Mapeo geológico, muestreo, estudios geoquímicas, geofisicos, levantamientos Topográficos, barrenación con recuperación de núcleo, ensayes químicos y Pruebas metalúrgicas.

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811 1582, 811 8490
811 4185

Lic. Juan Bravo Cuevas y Asociados
Bufete Jurídico Fundado en 1953

3.- On the other hand was held temporary occupancy agreement between the company "ORKO SILVER MEXICO", SA DE C.V., with the SR. ING. Froylán GARCIA HIGAREDA, as legal representative of the SRA. PETRA HIGAREDA Briseno, for the temporary occupation of an area of 104-01-41 hectares for roads and parking barrenación on the surface of the rough terrain of the Ex - Hacienda "La Luna" Pánuco City of Coronado, State of Durango , Where he also spoke as a proxy for the company to carry out more enunciative not limited to the following exploration work: geological mapping, sampling, geochemical surveys, geophysical surveys, barrenación with core recovery, testing chemical and metallurgical tests.

Lo anteriormente expuesto BAJO PROTESTA DE DECIR VERDAD y en mi carácter de Representante Legal de la Empresa.

The above under protest to tell the truth and in my capacity as Legal Representative of Enterprise

EDUARDO BRAVO CAMPOS
APODERADO
"ORKO SILVER DE MÉXICO", S.A. DE C.V.
NÚMERO 34,544
VOLÚMEN 554
20 OCTUBRE 2007
Y
NÚMERO 35,343
VOLÚMEN 563
15 MAYO 2008
FOLIO MERCANTIL 13996 *1

c.c.p. "ORKO SILVER DE MÉXICO", S.A. DE C.V.
At'n. Varenka Bishop
varenka@hotmail.com
Ben Whiting
benwhiting@shaw.ca
CEL. 126.31.54

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Appendix B

pH Environmental Consultants Memorandum (in Spanish)

Patricio Eugenio Herrera Pedroza
Santa Cruz No. 221
Fracc. La Forestal C.P. 34217
Durango, Dgo, México.
Tel. (618) 12 90 210 y 1180520
Cel. (618) 1453711
RFC: HEPP-621014-KC5

SERVICIOS DE CONSULTORÍA AMBIENTAL

Fecha: Enero 23, 2009
Num. Ref.: PHCA.-004/2009

Para:

Mr. Steve Ristorcelli
Mine Development Associates
Reno, Nevada 89502
USA.
stever@mda.com

Mr. Steve Ristorcelli

Por este conducto le manifiesto que pH Consultores Ambientales, denominación comercial que aglutina a un grupo de expertos mexicanos en materia de medio ambiente y recursos naturales, empresa en la cual el suscrito funge como coordinador técnico, fue contratada por la compañía "Orko Silver de México S.A. de C.V." para preparar los documentos relativos a un **Informe Preventivo de Impacto Ambiental**, en los términos que establece el Reglamento de la Ley General del Equilibrio Ecológico y la Protección al Ambiente en materia de Evaluación del Impacto Ambiental, para el "**Proyecto de Exploración Minera Directa La Preciosa**" ubicado en los municipios de Canatlán y Pánuco de Coronado en el Estado de Durango, México, específicamente a 45 km al NE de la Ciudad de Durango, Durango, México. Dicho documento fue preparado e ingresado para su evaluación ante la Secretaría de Medio Ambiente y Recursos Naturales, como requisito ineludible para esta a su vez, otorgara la Autorización en Materia de Impacto Ambiental, indispensable para el desarrollo del proyecto mencionado.

Dicho trabajo consistió en: **i)** visitar en tres ocasiones el proyecto, para recabar información de campo relacionada con las obras pretendidas y en desarrollo, las características del medio físico y biológico del sitio, las obras mineras preexistentes, etc., ello con la cooperación del personal Orko Silver de México S.A. de C.V., **ii)** una segunda etapa de gabinete en donde se procesó la información para compararla con las especificaciones de la Norma Oficial Mexicana que regula las exploraciones mineras y, una vez establecida la conformidad del proyecto con la Norma se elaboró el estudio mencionado, incluyendo planos georreferenciados, análisis de superficies, descripción del medio físico, medidas de prevención y protección ambiental, etc., **iii)** la última etapa consistió en el ingreso del documento ante la Secretaría para que fuese evaluado. La descripción del documento se presenta a continuación.

Herrera J.N., Trillo F., Herrera P., Octubre, 2008, Informe preventivo de impacto ambiental – Proyecto de exploración minera directa "La Preciosa". Por pH Consultores Ambientales para Orko Silver de México S.A. de C.V., 86 páginas más planos.

Como resultado del trámite la Secretaría de Medio Ambiente y Recursos Naturales, con fecha 25 de noviembre del año 2008, emitió **Autorización en Materia de Impacto ambiental para el desarrollo del proyecto** misma que se plasma en el siguiente documento:

Peralta-Duran, R.A. 2008, Asunto: Resolución en material de impacto ambiental para el proyecto de exploración minera directa "La Preciosa". Secretaria de Medio Ambiente y Recursos Naturales, Delegación Federal Durango Subdelegación de Gestión para la Protección Ambiental y Recursos Naturales, 8 p.

Como lo establece en el oficio resolutivo citado emitido por las autoridades federales competentes en materia de medio ambiente y considerando los análisis y estudios efectuados por pH Consultores, previo a la preparación del Informe Preventivo de Impacto Ambiental que dio origen al resolutivo y autorización, **en mi opinión profesional, "Orko Silver de México S.A. de C. V." cumple de manera apropiada con las regulaciones aplicables contenidas en las Leyes Federales Mexicanas que regulan la materia de medio ambiente y por consecuencia la compañía no tiene impedimentos de naturaleza jurídica en dicha materia, para continuar con sus trabajos de exploración** en apego a los términos y condicionantes de la **Autorización en Materia de Impacto Ambiental**, contenida en el oficio resolutivo del 25 de Noviembre del 2008 mencionado.

Reciba un afectuoso saludo.

Atentamente.

Patricio Eugenio Herrera

Copia.- Mr. Ben Whiting, P.Geo.- Chief Geologist Orko Silver Corporation.- 2610-1066 West Hastings Street Vancouver, BC V6E 3X2, Canada.- benwhiting@shaw.ca

Appendix C

List of Drill Holes

Hole name	Easting	Northing	Elevation	Depth
BB05-01	555625.34	2702826.88	2085.22	403.86
BB05-02	555755.40	2702683.65	2069.54	400.81
BB05-03	555878.43	2702778.61	2081.57	251.16
BB05-04	556027.88	2702648.41	2068.19	251.46
BB05-05	556055.00	2702408.34	2059.89	352.04
BB05-06	556242.41	2702043.60	2035.94	251.46
BC06-01	555487.76	2702580.86	2071.46	451.34
BO06-01	556143.93	2698983.05	2082.52	318.52
BO06-02	556058.50	2699084.62	2084.36	349.61
BO06-03	556063.30	2698980.65	2078.71	351.74
BO06-04	556054.15	2699184.81	2093.83	350.22
BO06-05	555980.80	2699085.28	2081.37	153.92
BO06-05A	555973.93	2699085.01	2081.21	400.81
BO06-06	555943.62	2699184.35	2085.08	401.42
BP05-01	554760.33	2702083.38	2117.06	364.85
BP05-02	554639.69	2702082.18	2102.54	385.27
BP05-03	554755.98	2702187.03	2109.37	348.69
BP05-04	554653.39	2702184.63	2099.95	362.41
BP05-05	554606.62	2702284.89	2096.71	443.18
BP05-06	554606.62	2702284.89	2096.71	446.23
BP05-07	554653.39	2702184.63	2099.95	416.45
BP05-08	554607.09	2702384.94	2094.95	450.00
BP05-09	554607.09	2702384.94	2094.95	487.38
BP05-10	554606.54	2702585.43	2096.59	440.13
BP05-11	554605.92	2702585.51	2096.54	431.14
BP05-12	554610.85	2702485.58	2096.54	393.00
BP05-13	554610.00	2702485.68	2096.58	437.39
BP05-14	554609.42	2702686.94	2095.76	500.28
BP05-15	554608.65	2702687.00	2095.69	477.62
BP05-16	554556.73	2702784.73	2095.43	566.93
BP05-17	554554.90	2702784.53	2097.85	506.27
BP05-18	554813.02	2701886.67	2132.34	345.95
BP05-19	554705.74	2701885.14	2112.40	148.00
BP05-19A	554701.18	2701885.75	2111.92	400.51
BP05-20	554810.07	2701786.46	2136.55	318.21
BP05-21	554705.97	2701788.09	2116.53	406.60
BP05-22	554806.97	2701688.84	2150.92	382.52
BP05-23	554708.76	2701681.64	2124.43	400.81
BP05-24	554702.98	2701591.87	2128.38	400.81
BP05-25	554890.26	2701587.21	2206.40	400.51
BP05-26	554886.03	2701584.07	2206.31	150.27
BP05-27	554880.12	2701478.24	2205.39	400.51
BP05-28	555040.15	2701482.18	2196.81	238.96
BP05-29	555039.87	2701483.91	2196.97	400.81
BP05-30	554908.59	2701380.81	2198.31	400.81
BP05-31	554464.16	2702281.66	2100.23	601.98
BP05-32	554876.26	2701477.15	2204.68	251.16
BP06-33	555062.03	2701382.98	2188.32	500.48
BP06-34	554364.29	2702284.08	2101.93	640.84
BP06-35	554960.12	2701288.07	2193.39	485.10
BP06-36	554457.96	2702088.82	2101.43	601.07
BP06-37	555107.87	2701282.47	2187.97	501.09

Hole name	Easting	Northing	Elevation	Depth
BP06-38	555241.49	2701285.23	2175.20	501.00
BP06-39	554874.93	2701087.92	2158.81	495.00
BP06-40	555058.08	2701186.70	2182.69	501.09
BP06-41	554910.30	2701184.79	2172.27	484.91
BP06-42	555060.50	2701074.67	2187.70	501.00
BP06-43	554909.64	2701184.80	2172.22	400.81
BP06-44	554774.82	2701389.05	2146.99	501.40
BP06-45	554754.23	2701488.86	2147.55	500.79
BP06-46	554752.19	2701488.70	2147.35	296.27
BP06-47	555046.43	2701541.70	2200.65	308.46
BP06-48	554790.79	2701286.58	2145.39	500.48
BP06-49	555045.77	2701541.95	2200.74	201.17
BP06-50	555125.05	2700976.40	2203.33	406.91
BP06-51	554792.86	2701189.85	2142.34	500.79
BP06-52	555140.17	2700878.75	2199.54	400.81
BP06-53	554820.43	2701089.24	2140.06	500.48
BP06-54	555139.78	2700877.63	2199.54	300.23
BP06-55	554876.42	2700982.47	2151.84	400.51
BP06-56	555281.44	2700862.37	2205.80	400.00
BP06-57	554857.90	2700890.44	2148.28	401.42
BP06-58	555280.10	2700861.16	2205.64	200.86
BP06-59	554858.32	2700885.16	2148.19	400.51
BP06-60ext	555011.81	2702184.61	2136.28	517.25
BP06-61ext	554954.54	2702287.51	2110.86	489.81
BP06-62ext	555128.64	2702186.69	2088.14	480.06
BP06-63	554954.60	2702288.55	2110.89	300.84
BP06-64ext	555130.30	2702186.63	2088.14	488.90
BP06-65	555159.51	2701804.17	2126.00	203.30
BP06-66	555048.48	2701990.24	2149.81	251.46
BP06-67ext	555157.93	2701804.30	2126.18	556.87
BP06-68	555158.16	2701871.75	2121.43	200.25
BP06-69	555047.06	2701990.05	2150.22	275.84
BP06-70ext	555156.23	2701871.86	2121.92	514.20
BP06-71ext	555045.71	2702084.47	2130.13	533.10
BP06-72	555136.07	2702286.74	2082.02	197.82
BP06-73	555134.43	2702286.75	2082.01	200.25
BP06-74ext	555043.85	2702084.41	2130.19	516.33
BP06-75ext	555067.63	2702380.96	2094.50	521.51
BP06-76	554749.79	2701991.73	2116.63	350.52
BP06-77	554951.64	2702382.14	2097.06	462.38
BP06-78	554793.85	2702680.86	2091.13	455.68
BP06-79	554829.03	2701986.37	2137.76	383.13
BP06-80	554924.79	2702680.09	2083.68	416.66
BP06-81	554703.34	2702686.40	2094.45	520.60
BP06-82	554911.66	2702784.32	2088.13	450.19
BP06-83	554709.79	2702782.46	2093.81	518.16
BP06-84	554819.11	2702790.20	2088.82	250.55
BP06-84A	554813.09	2702786.64	2088.82	471.53
BP06-85	554458.53	2702186.94	2100.88	601.37
BP06-86	555012.40	2702786.35	2096.57	506.58
BP06-87	554461.27	2702387.36	2101.62	601.68
BP06-88	554995.34	2702687.20	2084.25	500.48

Hole name	Easting	Northing	Elevation	Depth
BP06-89	554355.60	2702383.15	2102.59	649.83
BP06-90	555036.49	2702583.96	2076.81	496.21
BP07-100	554680.76	2702568.87	2094.97	501.09
BP07-101	554707.02	2702383.93	2093.32	584.30
BP07-102	554811.70	2702478.70	2089.08	519.38
BP07-103	554907.61	2702480.15	2086.27	465.43
BP07-104	554704.51	2702481.38	2091.88	549.86
BP07-105	555147.94	2701479.26	2137.59	401.42
BP07-106	554357.34	2702485.93	2102.71	610.82
BP07-107	555147.94	2701479.86	2137.54	401.42
BP07-108	555230.95	2701519.76	2094.64	78.33
BP07-108A	555230.98	2701522.11	2094.47	401.42
BP07-109	554458.41	2702484.68	2101.59	580.34
BP07-110	554465.98	2702580.78	2097.78	632.16
BP07-111	555231.00	2701522.73	2094.36	346.56
BP07-112	554379.67	2702589.87	2098.55	613.87
BP07-113	555278.15	2701579.69	2080.44	322.17
BP07-114	555278.19	2701580.67	2080.41	303.89
BP07-115	554719.92	2702281.86	2097.74	616.92
BP07-116	555355.29	2701782.11	2059.78	386.18
BP07-117	554703.53	2702886.24	2093.20	504.14
BP07-118	555110.22	2702592.19	2076.78	407.52
BP07-119	554807.11	2702888.04	2091.17	470.61
BP07-120	555110.52	2702684.84	2086.00	386.18
BP07-121	554916.20	2702889.09	2099.98	438.61
BP07-122	555207.58	2702684.56	2087.14	349.61
BP07-123	555105.98	2702883.76	2126.10	101.80
BP07-123A	555106.67	2702883.75	2126.13	391.36
BP07-124	555209.00	2702580.82	2076.49	334.37
BP07-125	555208.66	2702785.40	2106.59	106.38
BP07-125A	555209.71	2702785.48	2106.61	301.45
BP07-126	555160.97	2702385.33	2073.58	412.70
BP07-127	555108.70	2702785.25	2103.29	65.23
BP07-127A	555107.98	2702784.94	2102.67	388.32
BP07-128	555206.08	2702482.08	2071.23	379.48
BP07-129	555012.59	2702883.51	2113.31	434.04
BP07-130	555250.78	2702374.20	2067.22	409.65
BP07-131	555230.50	2702185.60	2067.11	336.50
BP07-132	555243.61	2702282.72	2065.99	404.47
BP07-133	555170.06	2702089.50	2080.96	443.18
BP07-134	555232.21	2702185.94	2066.87	443.18
BP07-135	555162.89	2701981.41	2097.79	519.68
BP07-136	555269.16	2702084.73	2064.60	424.89
BP07-137	555264.47	2701783.42	2082.65	495.00
BP07-138	555265.26	2701890.74	2078.69	458.42
BP07-139	555306.87	2702485.70	2069.22	313.03
BP07-140	555287.08	2702583.37	2075.33	300.84
BP07-141	555260.81	2701983.46	2071.55	439.52
BP07-142	555306.32	2702785.06	2103.91	276.45
BP07-143	555363.75	2701885.39	2057.09	437.08
BP07-144	555358.02	2701984.88	2057.28	399.90
BP07-145	555306.62	2702684.75	2086.00	328.27

Hole name	Easting	Northing	Elevation	Depth
BP07-146	555360.16	2702085.12	2057.02	510.24
BP07-147	555360.60	2702383.23	2065.68	450.19
BP07-148	555361.46	2702184.10	2057.64	437.08
BP07-149	555360.23	2702281.83	2060.86	438.00
BP07-150	555507.30	2701783.29	2047.44	158.86
BP07-150A	555507.27	2701784.07	2047.49	381.30
BP07-151	555156.57	2701871.94	2121.55	508.10
BP07-152	555354.31	2701781.82	2059.93	456.29
BP07-153	555157.25	2701872.02	2121.51	564.79
BP07-154	555261.35	2701783.47	2082.73	506.88
BP07-155	555506.79	2701784.25	2047.34	415.75
BP07-156	555259.48	2701983.29	2071.35	449.88
BP07-157	555505.32	2701986.50	2047.52	474.57
BP07-158	555504.59	2701887.44	2045.81	415.75
BP07-159	555258.83	2701983.43	2071.38	418.49
BP07-160	555354.04	2701780.29	2059.82	401.42
BP07-161	554982.40	2702182.20	2134.86	516.33
BP07-162	555161.95	2701982.36	2097.65	437.08
BP07-163	555509.19	2702084.41	2050.35	450.19
BP07-164	555606.60	2701884.83	2043.03	427.94
BP07-165	555497.70	2702184.11	2052.82	370.94
BP07-166	555045.63	2701990.10	2149.85	507.19
BP07-167	555603.65	2701785.39	2042.12	421.84
BP07-91	554798.13	2702385.12	2093.13	401.42
BP07-92	554905.14	2702586.87	2083.42	502.01
BP07-93	555032.95	2702584.26	2076.84	501.09
BP07-94	554905.54	2702587.69	2083.41	500.48
BP07-95	554805.58	2702587.61	2090.28	490.42
BP07-96	555108.53	2702485.28	2075.83	468.48
BP07-97	554805.38	2702588.26	2090.30	500.18
BP07-98	555008.66	2702485.07	2082.49	456.80
BP07-99	554687.89	2702569.14	2094.65	522.43
BP08-168	555137.17	2702286.79	2082.00	449.28
BP08-169	555241.14	2702282.39	2066.06	324.31
BP08-170	555357.27	2702281.75	2060.87	361.49
BP08-171	555498.78	2702284.40	2056.68	320.34
BP08-172	555044.40	2702085.41	2130.18	473.66
BP08-173	555502.40	2702378.67	2061.06	318.52
BP08-174	555599.43	2702383.84	2059.16	251.16
BP08-175	555698.14	2702385.06	2056.40	89.00
BP08-176	555599.94	2702283.42	2052.97	276.15
BP08-177	555604.68	2702184.93	2050.68	271.19
BP08-178	555600.68	2702084.06	2047.53	354.18
BP08-179	555699.18	2701785.57	2039.19	364.54
BP08-180	555043.68	2702085.44	2130.22	464.52
BP08-181	555702.58	2701885.81	2040.20	330.40
BP08-182	555700.99	2702085.14	2043.19	276.45
BP08-183	555601.37	2701984.59	2045.61	379.78
BP08-184	555700.74	2701989.44	2041.91	324.31
BP08-185	555699.90	2702185.18	2047.08	231.08
BP08-186	555701.64	2702286.16	2049.78	242.93
BP08-187	555603.35	2701785.61	2042.29	361.49

Hole name	Easting	Northing	Elevation	Depth
BP08-188	555801.43	2701782.88	2036.31	306.02
BP08-189	555799.28	2701884.43	2037.49	293.83
BP08-190	555798.68	2701984.27	2039.59	300.84
BP08-191	555800.18	2702083.87	2041.55	290.78
BP08-192	555899.92	2701785.17	2034.18	288.04
BP08-193	555398.91	2702484.53	2067.38	306.02
BP08-194	555499.74	2702484.09	2066.00	230.73
BP08-195	555499.25	2702582.63	2071.70	208.48
BP08-196	555499.54	2702684.80	2079.94	203.00
BP08-197	555506.87	2702784.09	2087.15	201.78
BP08-198	555599.52	2702485.12	2063.60	215.49
BP08-199	555610.08	2702585.01	2068.97	269.75
BP08-200	555600.72	2702682.97	2075.52	324.31
BP08-201	555600.64	2702784.25	2082.53	227.69
BP08-202	555702.33	2702584.15	2064.62	327.36
BP08-203	555700.24	2702483.77	2060.44	208.49
BP08-204	555802.60	2702384.43	2052.70	324.61
BP08-205	555795.45	2702285.33	2049.12	334.37
BP08-206	555800.73	2702185.10	2045.28	312.12
BP08-207	555801.24	2702384.50	2052.86	181.66
BP08-208	555498.56	2701681.16	2052.91	363.93
BP08-209	555066.63	2702380.74	2094.33	416.66
BP08-210	555399.33	2701583.29	2067.41	413.61
BP08-211	555500.88	2701584.22	2054.76	379.78
BP08-212	555600.67	2701684.39	2043.92	24.38
BP08-212A	555603.02	2701684.43	2043.77	326.14
BP08-213	555402.01	2701685.64	2061.37	23.47
BP08-213A	555404.91	2701685.70	2061.33	389.23
BP08-214	555302.95	2701684.68	2074.00	437.69
BP08-215	555308.05	2701582.51	2072.52	452.02
BP08-216	555600.35	2701584.93	2045.97	339.55
BP08-217	555307.45	2701582.52	2072.55	467.56
BP08-218	555700.28	2701586.32	2039.00	331.32
BP08-219	555302.39	2701684.70	2074.04	462.08
BP08-220	555699.07	2701686.04	2038.53	327.36
BP08-221	555605.22	2701483.87	2045.40	379.17
BP08-222	555697.81	2701484.43	2040.37	346.56
BP08-223	555600.86	2701384.03	2051.01	395.02
BP08-224	555699.80	2701384.04	2046.18	366.98
BP08-225	555600.70	2701284.68	2056.61	440.13
BP08-226	555799.97	2701685.06	2035.77	330.40
BP08-227	555801.56	2701583.96	2036.11	313.03
BP08-228	555799.58	2701483.12	2036.68	311.20
BP08-229	555901.51	2701684.41	2033.60	288.84
BP08-230	555901.39	2701486.14	2032.53	293.83
BP08-231	555901.49	2701586.56	2032.36	276.45
BP08-232	555598.43	2701185.59	2056.79	464.52
BP08-233	555999.71	2701684.73	2031.78	285.29
BP08-234	555699.88	2701284.82	2049.31	388.32
BP08-235	555999.85	2701585.97	2030.47	309.68
BP08-236	555799.64	2701385.56	2039.12	27.74
BP08-237	555700.12	2701200.15	2050.54	400.51

Hole name	Easting	Northing	Elevation	Depth
BP08-238	555799.75	2701284.45	2041.88	388.32
BP08-239	555799.80	2701184.90	2042.50	404.16
BP08-240	555898.12	2701384.55	2033.48	300.84
BP08-241	555700.56	2701084.05	2055.72	438.30
BP08-242	555899.57	2701284.76	2035.07	306.63
BP08-243	555901.81	2701183.74	2035.63	360.27
BP08-244	555897.58	2701384.58	2033.48	343.51
BP08-245	556000.13	2701483.85	2028.65	309.68
BP08-246	555601.54	2701081.70	2073.77	479.76
BP08-247	556001.55	2701384.39	2028.55	302.06
BP08-248	556000.34	2701285.49	2028.89	315.77
BP08-249	555998.13	2701183.83	2029.76	303.89
BP08-250	555600.89	2701081.61	2073.79	488.90
BP08-251	555999.87	2701085.98	2030.34	357.84
BP08-252	555899.70	2701085.46	2035.84	399.17
BP08-253	555800.92	2701085.69	2043.35	401.42
BP08-254	555699.72	2700985.53	2064.30	452.02
BP08-255	556001.35	2700984.58	2030.78	392.58
BP08-256	555899.65	2702383.90	2052.31	441.05
BP08-257	555899.98	2700985.88	2035.59	438.00
BP08-258	555800.95	2700985.82	2046.78	424.89
BP08-259	555998.16	2700884.02	2034.45	400.51
BP08-260	555899.51	2700884.82	2037.54	424.59
BP08-261	556100.33	2701285.92	2024.79	316.68
BP08-262	556099.80	2701185.62	2025.32	306.93
BP08-263	556097.80	2700986.28	2029.34	415.75
BP08-264	556100.66	2701085.52	2026.47	308.15
BP08-265	555896.14	2700793.20	2038.14	444.40
BP08-266	556200.62	2701286.41	2021.97	349.61
BP08-267	556100.74	2701384.33	2025.48	328.27
BP08-268	556213.49	2701190.12	2021.69	362.41
BP08-269	556199.81	2701386.43	2023.87	359.97
BP08-270	556198.44	2700984.92	2026.29	370.64
BP08-271	556200.87	2701085.57	2024.35	340.46
BP08-272	556201.81	2701485.39	2025.11	364.85
BP08-273	556099.93	2701485.19	2026.37	330.40
BP08-274	556199.64	2700885.73	2029.49	316.99
BP08-275	556099.81	2700884.64	2031.38	419.41
BP08-276	556200.52	2701585.23	2026.57	364.85
BP08-277	556098.18	2701585.61	2027.72	333.45
BP08-278	556097.76	2701684.43	2029.46	319.13
BP08-279	556099.39	2700787.88	2034.33	355.40
BP08-280	556203.39	2701685.70	2027.68	370.03
BP08-281	556099.91	2701784.80	2031.74	291.69
BP08-282	556001.73	2700786.45	2037.45	224.33
BP08-283	555901.19	2701884.93	2035.27	315.47
BP08-284	556001.13	2701885.23	2034.40	543.76
BP08-285	556100.44	2701884.90	2034.12	601.98
BP08-286	555900.06	2701984.79	2038.45	367.28
BP08-287	556006.76	2701997.82	2037.98	510.24
BP08-288	556100.07	2701985.32	2035.64	574.84
BP08-289	555900.35	2702085.60	2040.85	355.70

Hole name	Easting	Northing	Elevation	Depth
BP08-290	556193.79	2701885.61	2032.30	583.39
BP08-291	556199.07	2701778.57	2030.69	392.28
BP08-292	556001.93	2702084.82	2040.27	538.89
BP08-293	556102.31	2702084.00	2038.89	580.64
BP08-294	555900.48	2702183.78	2044.14	389.23
BP08-295	555501.78	2701485.86	2066.81	435.95
BP08-296	556001.79	2702184.51	2043.17	549.86
BP08-297	555900.93	2702284.95	2047.86	421.84
BP08-298	555400.28	2701483.11	2098.87	470.61
BP08-299	556300.44	2700985.85	2026.24	375.00
BP08-300	556299.13	2701086.24	2022.01	379.78
BP08-301	555502.32	2701184.04	2069.34	461.47
BP08-302	556282.89	2701184.52	2020.18	399.90
BP08-303	556299.41	2701287.03	2022.25	386.48
BP08-304	556300.14	2701385.21	2023.48	395.02
BP08-305	556398.94	2701085.31	2026.04	424.89
BP08-306	556397.97	2700972.89	2026.70	418.80
BP08-307	556299.28	2700882.00	2029.87	373.68
BP08-308	556398.45	2700884.00	2028.55	437.60
BP08-309	556500.28	2700985.67	2026.14	468.17
BP08-310	556399.68	2701196.06	2018.91	415.75
BP08-311	556399.56	2701484.01	2022.92	444.09
BP08-312	556300.76	2701486.16	2024.54	392.28
BP08-313	556307.16	2701584.93	2024.33	392.28
BP08-314	556399.88	2701384.86	2022.08	443.79
BP08-315	556498.96	2701086.03	2025.64	458.42
BP08-316	556397.00	2701285.15	2021.25	434.64
BP08-317	556498.72	2701285.59	2016.56	451.10
BP08-318	556592.24	2700993.80	2024.58	498.04
BP08-319	556497.00	2701185.96	2016.16	453.24
BP08-320	556599.68	2701178.17	2013.99	514.20
BP08-321	556601.13	2701085.54	2024.17	520.29
BP08-322	556698.57	2700984.48	2021.50	412.70
BP08-322A	556694.18	2700985.40	2021.58	501.09
BP08-323	556498.38	2700884.64	2026.73	462.38
BP08-324	556598.68	2700885.15	2024.30	511.15
BP08-325	556701.55	2700884.31	2022.49	253.29
BP08-325A	556698.68	2700884.82	2022.58	402.34
BP08-326	556699.65	2700783.10	2021.33	444.09
BP08-327	556699.95	2700685.36	2022.37	543.76
BP08-328	556599.96	2700784.32	2024.45	479.76
BP08-329	556599.88	2700685.81	2024.08	502.01
BP08-330	556798.32	2700884.20	2017.20	322.17
BP08-331	556798.50	2700785.36	2018.59	373.99
BP08-332	556799.57	2700684.95	2019.83	577.29
BP08-333	556800.30	2700584.74	2025.74	578.21
BP08-334	556899.90	2700785.18	2014.67	600.15
BP08-335	556902.06	2700685.00	2018.71	549.25
BP08-336	556600.12	2700584.20	2026.59	502.62
BP08-337	556999.72	2700586.12	2019.09	602.59
BP08-338	556702.06	2700586.53	2023.99	541.02
BP08-339	556699.81	2701084.22	2020.51	60.05

Hole name	Easting	Northing	Elevation	Depth
BP08-339A	556696.05	2701083.81	2020.50	477.62
BP08-340	556899.71	2700583.65	2022.78	299.92
BP08-341	557098.61	2700583.91	2016.70	202.39
BP08-342	556099.93	2700685.76	2037.15	427.94
BP08-343	556599.92	2701284.67	2015.23	99.67
BP08-344	557001.42	2700484.85	2024.03	236.83
BP08-345	556599.25	2700484.37	2035.54	516.33
BP08-346	556999.15	2700685.67	2015.54	105.77
BP08-347	557201.82	2700585.45	2014.02	212.45
BP08-348	556700.03	2700484.75	2031.80	294.74
BP08-349	556500.09	2700487.64	2054.77	379.78
BP08-350	556800.22	2700485.42	2029.75	278.89
BP08-351	556700.60	2700385.67	2035.50	349.30
BP08-352	556900.88	2700485.54	2027.13	252.07
BP08-353	556603.31	2700384.68	2038.95	333.45
BP08-354	556796.97	2700385.38	2030.42	303.89
BP-1	554774.37	2702015.88	2065.00	123.50
BP-3	554762.84	2701959.74	2118.79	195.00
BP-4	554829.28	2701798.96	2141.92	197.20
BP-5	554953.33	2701585.07	2086.00	146.60
BP-6	554774.86	2702020.24	2121.56	156.45
BP-6A	554778.24	2702044.28	2122.01	187.10
BP-7	554748.69	2702147.32	2111.69	313.10
BP94-01	555605.34	2702813.59	2085.78	311.25

Appendix D

Metallurgical Testing
Mineral Processing Review – Feb 24-09

MINERAL PROCESSING REVIEW

FOR

ORKO SILVER CORP

LA PRECIOSA SILVER – GOLD DEPOSIT

DURANGO, MEXICO

February 23, 2009

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F - Composites

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1.0 INTRODUCTION

This report summarizes the laboratory testing that has been undertaken in the period 2007 to early 2009 on several composites that have been prepared from diamond drill core assay rejects.

2.0 HISTORICAL TESTING

The following is quoted directly (in italics) from the Technical Report for ORKO dated March 31, 2008

The historical Luismin reports have some brief descriptions of a preliminary metallurgical testing and bulk processing of mineralized rock extracted from the Abundancia and La Gloria veins during the slashing of the underground workings. Most of this testing was designed to determine the amenability of the material to serve as process feed to concentration in the Avino mill. In 1988, Comision de Fomento Minero completed three tests on 9 kg samples ground to 3/4, 1/2, and 3/8 inch size, as well as a finer 65% passing through a -200 mesh. A cyanide concentration of 0.2% NaCN, with incorporated lime to maintain a pH at 11, yielded the following result.

Table 12 – Comision de Fomento Minero – Metallurgy Test Results

Sample Size	*Heads Au g/t*	*Heads Ag g/t*	*Tails Au g/t*	*Tails Ag g/t*	*Recovery % of Au*	*Recovery % of Ag*
-3/4	*0.45*	*254*	*0.32*	*240*	*28.9*	*5.5*
-1/2	*0.45*	*254*	*0.26*	*233*	*42.2*	*8.3*
-3/8	*0.45*	*254*	*0.20*	*210*	*55.5*	*17.3*
65%-200	*0.45*	*254*	*0.12*	*41*	*73.3*	*83.9*

Preliminary results indicate that this material does not seem amenable to heap leaching, but does leach well after a relatively coarse grind. Recoveries may be even better at finer grinds (e.g. 80% minus 200 mesh).

3.0 RECENT TESTING

In the period from late 2007 to the early 2009, bench scale testing has investigated the response to both flotation and agitation cyanidation.

In sequence, the following studies have been completed.

3.1 Stage 1 – ORKO

Orko provided to Westcoast Mineral Testing Inc (WMT) of North Vancouver, BC, 5 composites (see Appendix F for details), each of 10 kg, from drill core assay rejects. These were used to prepare a single master composite, grading a nominal 0.4 g/t Au and 300 g/t Ag. This master composite was subjected to a single flotation test (by WMT) plus three agitation cyanidation tests by Process Research Associates (PRA) of Richmond B.C.

The original 5 composites have been retained intact.

ORKO - Met Composites

Composite	No. of Samples	Assays Ag (g/t)	Au (ppb)	Pb (ppm)	Zn (ppm)	Cu (ppm)
Veta La Gloria	26	310	328	1,887	2,364	108
Veta Abundancia	18	250	379	3,114	3,694	125
Veta Martha	40	261	291	1,092	2,815	130
Veta Tansversal	13	236	147	2,610	2,827	59
Veta Luz Elena	19	445	510	2,220	4,869	206

3.1.1 Flotation – Test W-07-35

The rougher-only flotation test (W-07-35) results as shown below demonstrate modest recoveries of both gold and silver, with very limited potential to increase recoveries by any change in process variables.

Overall Flotation

Product	WT %	Ag - g/t	Au - g/t	Pb %	Fe %	Zn %
F-1 Rougher conc.	1.4	14,360	8.26	4.41	9.4	6.63
F-2 Rougher conc.	1.4	1,905	3.20	2.58	9.3	4.74
O/A Rougher conc.	2.8	8,001	5.68	3.48	9.3	5.67
Rougher tailing	97.2	84	0.21	0.21	2.7	0.26
Feed – calc	100.0	308	0.37	0.30	2.9	0.41
Feed - from composite grades		300	0.33	0.21		0.33

Distribution - %

Product	Ag	Au	Pb	Fe	Zn
F-1 Rougher conc.	64.6	31.3	20.2	4.5	22.4
F-2 Rougher conc.	8.9	12.7	12.3	4.6	16.7
O/A Rougher conc.	73.5	44.0	32.5	9.1	39.1
Rougher tailing	26.5	56.0	67.5	90.9	60.9
Feed	100.0	100.0	100.0	100.0	100.0

The following test conditions were used:

- Grind - 42 % - 200 mesh (P80 = 200 microns)
- Frother - DF 250
- Collector – initially 9 g/t of Cytec 3418A then 30 gm potassium amyl xanthate (PAX)
- pH – natural @ 8.8
- Copper sulphate was added at the final stage of flotation, but it did not result in any flotation increment.

The overall ratio of concentration was quite high, and could be significantly increased by cleaning, since the F-1 concentrate contained only about 35 % sulphide of which pyrite dominated.

Assaying of the first of two rougher concentrates reported: 9.4 % Fe, 6.6 % Zn and 4.4 % Pb,

Given the high ratio of concentration, any future testing probably will not benefit from differential flotation and the Cytec selective collector 3418A should be eliminated and only PAX be used throughout the test.

The tailing screen assay data, shown below indicated that neither the gold nor the silver recovery could be significantly increased at a finer grind.

Rougher Tailing

Mesh	Wt %	Ag - g/t	Au - g/t
	18.4	110	0.16
65			
	12.9	89	0.16
100			
	15.7	74	0.17
150			
	10.1	64	0.17
200			
	12.9	69	0.16
325			
	30.0	84	0.32
Total	100.0	84	0.21
By assay		84	0.24

The recoveries of silver and gold, at 73.5 and 44.0 %, respectively, did not encourage the use of flotation for the global deposit.

The use of a single master composite was a cost effective method to review the global deposit, but subsequent metallurgical data indicated that the gold in the Martha sulphide has a different response than does the gold in the oxide mineralization.

3.1.2 Cyanidation Testing – ORKO – PRA C1 – C3

Note that PRA identified these 3 tests as C1 – C3, later using the same identification for the first 3 tests in the Hecla series. To avoid any confusion, these tests are referenced as "ORKO C1 – C3".

Because of the poor results from the flotation test, the study immediately shifted to the investigation of agitation cyanidation. The first cyanidation test (ORKO - C1) demonstrated the potential for improved recoveries of both gold and silver, so two additional tests were performed to investigate grind sensitivity and cyanide concentration.

Three cyanidation tests, all of 96 hours duration and all as timed tests, were undertaken by PRA. The results are summarized below.

Test	NaCN g/l	Grind – P80 microns	Extraction %		NaCN Consumption - kg/t
			Ag	Au	
C1	2	227	75.8	81.6	2.14
C2	1	80	64.9	78.5	0.72
C3	4	97	89.1	88.0	2.56

The gold assays in the leached residue were at a single significant figure value, so the differences in the reported gold extractions are not as precise as the calculations suggest.

This test series determined the following:

- Silver recovery is sensitive to both grind and cyanide concentration.
- Gold extraction is essentially insensitive to grind and cyanide concentration.
- Leaching time needed to achieve or exceed 3 days to reach completion.
- Although test C3 achieved the highest silver recovery, the extent to which grind and cyanide concentration contributed to those results is uncertain, so future testing should investigate cyanide concentrations of 2 g/l.
- These tests suggest that silver extraction will be low unless the cyanide concentration is sufficiently high to incur a cyanide consumption > 2 kg/t.
- It would appear that the optimum silver recovery will require a grind that is at least as fine at P80 = 100 microns.
- There were no significantly elevated concentrations of any of the normal cyanicides in the pregnant leached solution (pls).

The screen assay on the leached residue for test C3, below, indicates that gold extraction is not grind sensitive but silver extraction will benefit from finer grinding. This characteristic was later demonstrated by almost all of the composites.

ORKO Test C3 Leached Residue – Screen Assays

Size Fraction	**Wt %**	**Assay**	
Tyler Mesh	**(%)**	**Au, g/t**	**Ag, g/t**
+105	16.3	0.11	63.2
-105+74	15.6	0.10	39.7
-74+53	13.1	0.12	35.4
-53+37	10.3	0.12	35.6
-37	44.7	0.09	24.0
Calculated	100.0	0.10	35.5

The kinetic curve for test C3 demonstrated that 3 days of agitation leaching is required to achieve completion, so the 96 hour testing period is justifiable to achieve a flattened curve.

At this stage of the testing it appeared that agitation cyanidation would be superior to flotation. However, subsequent testing reported leaching characteristics that later resulted in a second examination of flotation.

3.2 Stage 2 – Hecla – PRA tests C1 - 36

In mid-2008, Hecla Mining Company (Hecla) prepared 12 composites from diamond drill rejects (see appendix F for details).

These composites represented the known major mineralized zones and included both oxide and sulphide composites from the Martha zone. The selection of the sulphide composites is significant since drill core logging had observed both oxide and sulphide mineralization, so there was a need to evaluate possible differences in metallurgical responses between the two "rock types".

Hecla Met Composite Summary

			Grade - Ag g/t - Hecla Data			
PRA Sample No.	Composite Description	No. of Samples	Weighted Avg From Individual Samples	Composite Assays	Compo Screen Assaying	Back Calc from Met Testing
1	Abundancia low composite	28	56	51	52	60
2	Abundancia medium composite	23	150	144	140	154
3	Abundancia high composite	25	375	367	371	364
4	Gloria low composite	16	42	52	54	57
5	Gloria medium composite	24	152	161	153	172
6	Gloria high composite	20	380	395	375	400
8A	Martha sulphide composite 1	53	130	126	124	125
8B	Martha sulphide composite 2	44	231	182	212	197
9	Martha sulphide composite 3	33	316	275	285	280
10	Martha mix composite 1	29	43	40	43	41
11	Martha mix composite 2	29	218	201	234	217
12	Martha oxide composite	45	195	195	196	195

		Grade - Au g/t - Hecla Data		
PRA Sample No.	**Composite Description**	**Composite Assays**	**Compo Screen Assaying**	**Back Calc from Met Testing**
1	Abundancia low composite	0.12	0.21	0.15
2	Abundancia medium composite	0.29	0.35	0.29
3	Abundancia high composite	0.36	0.41	0.50
4	Gloria low composite	0.12	0.11	0.14
5	Gloria medium composite	0.23	0.22	0.30
6	Gloria high composite	0.34	0.30	0.34
8A	Martha sulphide composite 1	0.24	0.33	0.29
8B	Martha sulphide composite 2	0.45	0.44	0.49
9	Martha sulphide composite 3	0.38	0.39	0.47
10	Martha mix composite 1	0.11	0.14	0.18
11	Martha mix composite 2	0.26	0.29	0.36
12	Martha oxide composite	0.34	0.35	0.41

The sample tags were difficult to read on arrival at PRA, so there was no composite No. 7.

The comparative assay data is significant since it shows acceptable repeatability of the composite grades by several procedures.

The Hecla tests were also run at PRA as follows:

- Nominal P 80 = 80 microns
- NaCN concentration = 1 g/l
- pH = 10.5
- Leaching time: 72 hours for the first 6 composites, then 96 hours for the last six.
- All as kinetic tests
- All included tailing screen assays and ICP analyses of the final pregnant solutions.

The summarized results are tabled below.

Sample	Description	P_{80} size	Extraction		Residue		Consumption (kg/t)	
ID		(microns)	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	NaCN	Lime
1	Abundancia - low	89	77.0	67.1	0.04	20	0.9	1.1
2	Abundancia - medium	88	83.9	70.9	0.05	45	1.1	0.7
3	Abundancia - high	79	81.0	80.1	0.09	73	0.8	0.9
4	Gloria - low	52	77.9	72.3	0.03	16	1.0	1.3
5	Gloria - medium	85	85.2	75.3	0.04	43	1.1	0.9
6	Gloria - high	80	85.2	67.0	0.05	132	1.1	0.8
8A	Martha sulphide - 1	52	39.7	83.5	0.18	20	1.9	1.1
8B	Martha sulphide - 2	78	51.7	79.6	0.24	42	1.6	1.0
9	Martha sulphide - 3	77	43.9	76.2	0.27	67	1.7	1.0
10	Martha mixed	78	72.7	81.3	0.05	8	1.5	1.1
11	Martha mixed	82	80.0	83.9	0.07	38	1.9	1.0
12	Martha oxide	82	85.4	75.6	0.06	49	1.8	1.0
Average O/A		77	72.0	76.1	0.10	46	1.4	1.0
Average "oxide"			80.9	74.8	0.05	47	1.3	1.0
Average "sulphide"			45.1	79.8	0.23	43	1.7	1.1

The testing reported the following:

- Low extraction of silver, averaging 76 %, but with very little difference between the “oxide” and “sulphide” composites.
- Gold extraction from the three Martha sulphide composites of 45.1 %, increased to 80.9 % with the “oxides”.
- A somewhat elevated cyanide consumption ranging 0.9 – 1.9 kg/t, averaging 1.7 kg/t.

Although the global gold feed grade is a modest < 0.3 g/t, it does provide an increment of economic recovery, so the impact of gold extraction cannot be ignored.

The following can be concluded for the test series.

- Many of the tests did not completely leach at either 72 or 96 hours. This is attributable to a low (1 g/l) cyanide concentration, and not necessarily a result of insufficient leaching time.

- The gold is not grind sensitive, although it does leach quite slowly.
- Silver recovery will generally increase somewhat at a grind finer than the nominal P80 = 80 microns in these tests.
- Based upon the previous ORKO tests the cyanide concentration needs to be increased to a minimum of 2 g/l the next test series.
- In terms of gold recovery, the Martha sulphides achieve significantly lower gold recoveries than with the "oxide" composites. This may be relevant to the mineral processing options.

3.3 Stage 3 – ORKO – PRA Tests C37- 47

3.3.1 Tests C37-42

On reviewing the previous Hecla test results, the following important processing characteristics became relevant to subsequent cyanidation testing.

- A grind of P80 = 80 microns appeared to be more-or-less optimum
- The cyanide concentration needs to be increased. Although perhaps 2 g/l is adequate, 4 g/l was used to assure technical success,
- To reasonably demonstrate completion, the test time needs to be 96 hours.

Cyanidation testing was therefore performed on six composites. That necessitated some re-compositing of the Hecla composites to achieve silver grades of 200 g/t.

The tested composites for this series were as shown below.

Sample Description		Zone	Composite prep
Hecla	2A	Abundancia	400 gm of Hecla 2 and 100 gm of Hecla 3
Hecla	5A	Gloria	400 gm of Hecla 5 and 100 gm of Hecla 6
Hecla	8B	Martha sulphide composite 2	original Hecla compo
Hecla	11	Martha mix composite 2	original Hecla compo
Hecla	12	Martha oxide composite	original Hecla compo
ORKO	3	Veta Martha	original Veta Martha compo

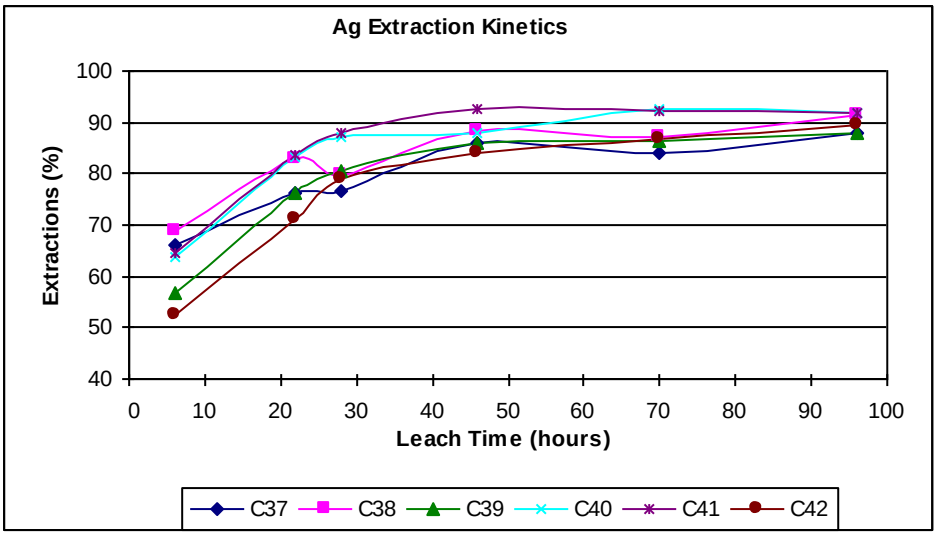
The composites were all leached as shown below, and all were subjected to tailing screen assaying and ICP analysis of the pls.

Note that a high 4 g/l of cyanide concentration was used in these tests since the much earlier PRA test C3 (in the stage 1 ORKO testing) resulted in technical "success" without reporting significantly elevated cyanide consumption compared to a 2 g/l cyanide concentration.

A summary of the results from PRA tests (C37-42) is tabled below.

Test No	Sample	P_{80} size	Extraction		Residue		Consumption (kg/t)	
	ID	(microns)	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	NaCN	Lime
C37	#2A	90	88.1	88.1	0.05	23	10.09	1.03
C38	#5A	91	91.0	91.3	0.05	18	10.98	0.68
C39	#8B	96	63.7	87.8	0.19	26	10.50	0.73
C40	#11	90	81.8	92.0	0.06	18	9.85	1.11
C41	#12	83	89.6	92.0	0.05	18	10.35	0.68
C42	#ORKO 3	101	60.2	89.5	0.17	28	10.82	0.87

The leaching kinetic curves for both silver and gold are shown below. The shortfall in gold extraction with the two Martha sulphide composites is clearly demonstrated. The ORKO Veta Martha composites was not described as being "sulphide" but the metallurgical data strongly suggests that that is the case.



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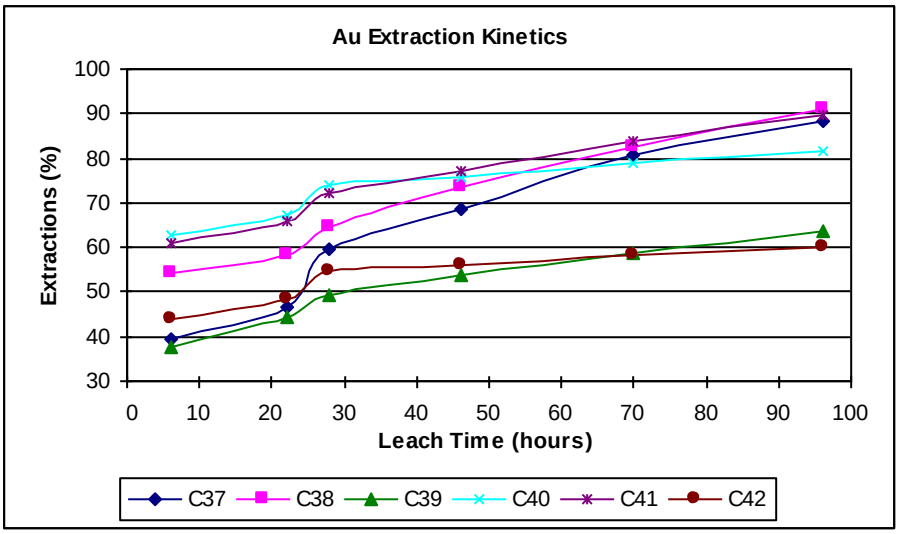


The following features were noteworthy.

- The silver extractions were in the narrow range of 88.1 – 92.0%, averaging 90.1 %, thereby determining once again that the silver metallurgy is similar in both oxide and sulphide material.
- The consumption of cyanide was very high at a typical 10 kg/t. This is unexplained by the analysis of the pls.
- The kinetic curves consistently show that silver leaching has reached completion in 48 hours, but gold is still leaching at 96 hours. This is a very uncommon feature, and may encourage extended leaching times if cyanidation of flotation concentrate has a role in this project.
- As had been reported in the Hecla testing, gold recovery is significantly lower in the Martha sulphide composite, as it is with the ORKO # 3 (Martha) composite.

3.3.2 Flotation

On reviewing these results, the Martha sulphide composite 8B was subjected to flotation testing, followed by tailing cyanidation.

The results for that test (WMT / W-09-02) are shown below.

		Assays - g/t		Distribution - %	
Product	**WT %**	**Ag - g/t**	**Au - g/t**	**Ag**	**Au**
Cleaner conc.	4.7	3,493	7.95	80.7	64.3
Cleaner tlg.	2.2	327	0.96	3.6	3.7
Rougher conc.	6.9	2,478	5.71	84.3	67.9
Rougher tlg.	93.1	34	0.20	15.7	32.1
Feed – calc	100.0	204	0.58	100.0	100.0
Feed - average calc grade		206	0.49		
Feed - assay grade		197	0.45		

Although the 84.3 % silver recovery was not as high as the 87.8 % reported in the comparable whole ore cyanidation test on the same composite, the grind in the flotation tests was appreciably coarser at about P80 = 130 microns.

The gold recovery was almost identical to that of the comparable whole ore cyanidation test.

As shown below, the tailing screen assay data does not exhibit any potential to increase silver recovery with a finer grind, so an even coarser grind may be optimum.

Rougher Tailing

Mesh	WT %	Ag - g/t	Au - g/t
	28.3	41	0.13
150			
	18.4	30	0.08
200			
	53.3	32	0.28
Total	100.0	34	0.20

Although flotation concentration yields a concentrate that must be dealt with unlike the convenience of marketing Dore from a cyanidation circuit, possible attractive feature of flotation include:

- A probable significant coarser grind than with whole ore cyanidation, resulting in significant savings in capital and opcost.
- Possibly sell the flotation concentrate, although it is improbable that this will be the most economical disposition of that product.
- Undertake very fine regrind (perhaps finer than P 80 = 40 microns) on the estimated 5 % of the feed weight that reports to flotation concentrate then cyanide leach it. The leaching recoveries have not been demonstrated on the flotation concentrate, but they can be inferred from the companion bottle roll cyanidation

tests. The testing however suggests that a fine grind prior to cyanide leaching may decrease the silver grade of the tailing by 5 – 10 g/t (with respect to ore), representing a possible 2.5 – 5.0 % increase in silver recovery.

3.3.3 Cyanidation – PRA C43-47

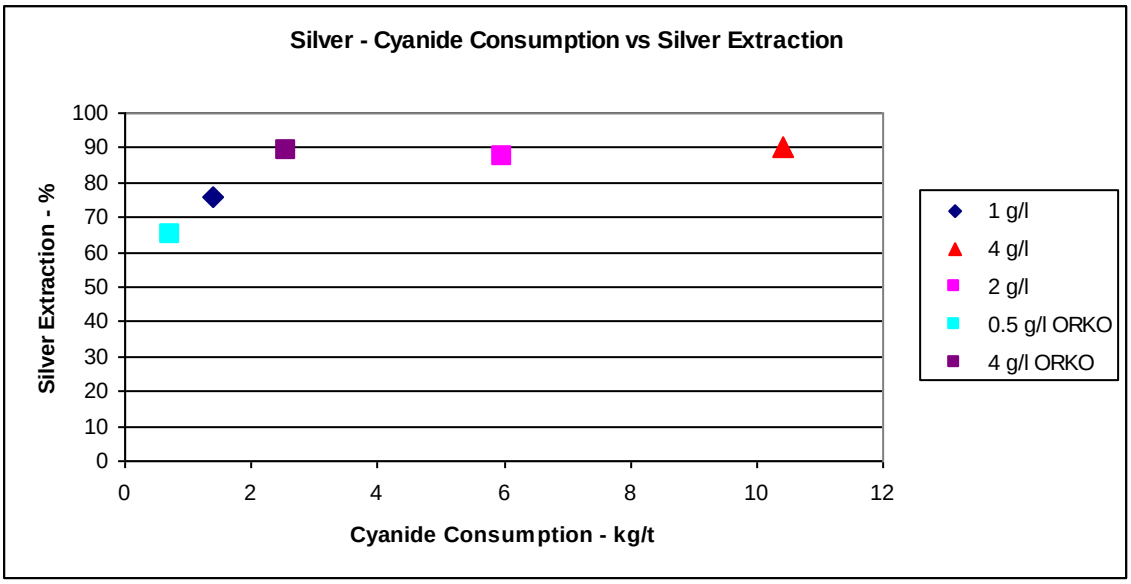
In the following series of cyanidation tests, four of the previous (C37 – 42) tests were subjected leaching at 2 g/l NaCN as the only variable.

The fifth sample was the rougher tailing from the above flotation test on Martha sulphide composite 8B.

Sample Description		Source	Composite prep
Hecla	2A	Abundancia	400 gm of Hecla 2 and 100 gm of Hecla 3
Hecla	5A	Gloria	400 gm of Hecla 5 and 100 gm of Hecla 6
Hecla	8B	Martha sulphide composite 2 (1)	original Hecla compo
Hecla	11	Martha mix composite 2	original Hecla compo
Hecla	12	Martha oxide composite	original Hecla compo

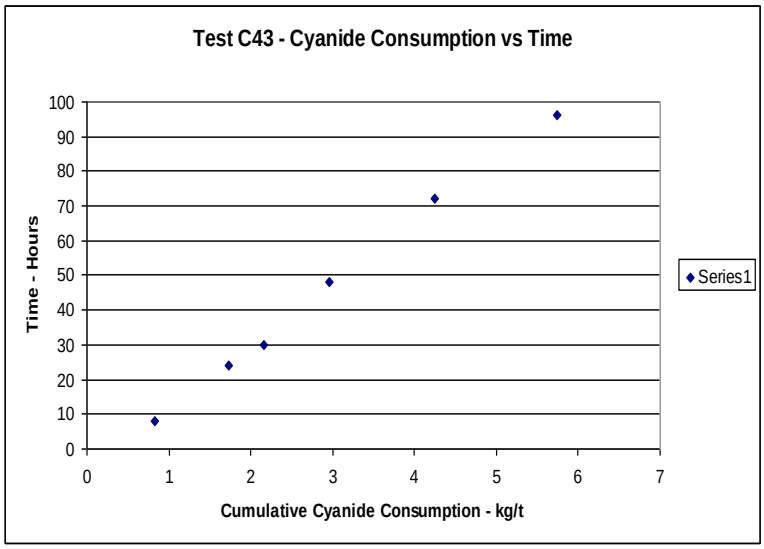
Note: (1) – the flotation tailing from WMT test W-09-02.

Test No	Sample	P_{80} size	Extraction		Residue		Consumption (kg/t)	
	ID	(microns)	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	NaCN	Lime
C43	#2A	93	85.8	86.1	0.06	28	5.7	1.4
C44	#5A	91	90.3	88.1	0.04	27	6.1	1.3
C45	#8B Flotation Tails	99	79.8	79.8	0.05	6	5.0	0.8
C46	#11	102	87.6	89.0	0.05	29	6.1	1.0
C47	#12	89	88.5	86.4	0.05	29	5.9	0.9
Average	exclude C45	94	88.0	87.4	0.05	28	6.0	1.1



The above graph compares cyanide consumption and silver extraction. Although there were some unintended differences in the test variables the curve represents the silver recovery relationship at a nominal grind of P80 = 80 – 90 microns, with feed grading 200 g/t Ag, and with 96 hours retention time.

However, note that in many of the tests the leaching of both gold and silver was not complete in 72 hr (Hecla tests 1 – 18) or in 96 hours in tests C19-47. Additional extraction is therefore technically feasible, but the incremental cyanide consumption will discourage that because of a never diminishing consumption of cyanide, as shown below for typical test C43.



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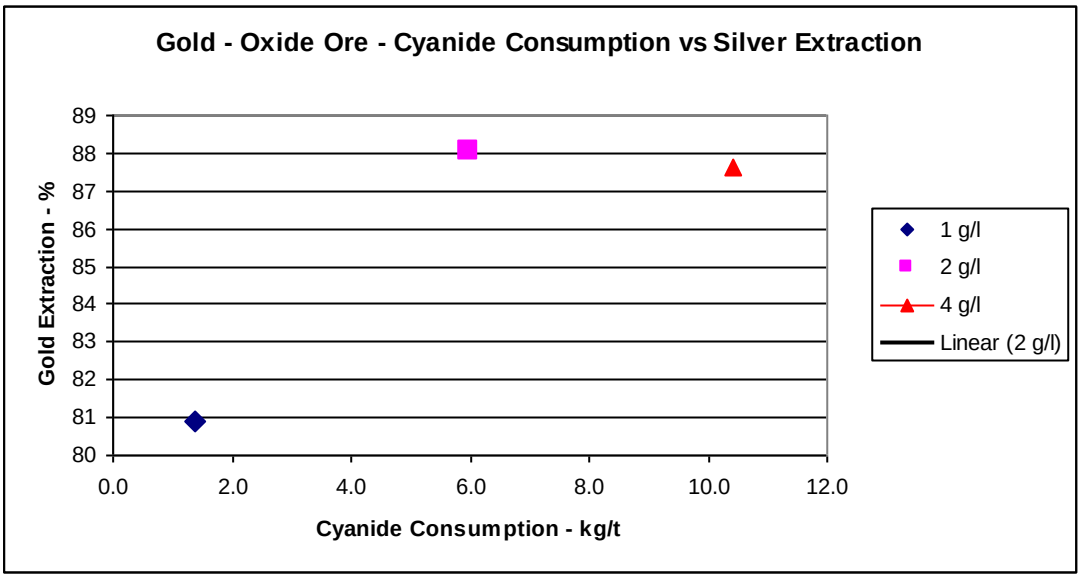
Because the gold extraction is sensitive to oxidation, only data from comparable oxide composites is shown below.



3.4 Metallurgical Options

3.4.1 Mineralogical Considerations

The deportment of gold and silver in the various flotation and cyanidation tests suggests the following:

- The vast majority of the silver is present as argentite (acanthite) that is mainly relatively fine, but sufficiently exposed for cyanide leaching to be effective.
- On the Martha sulphide 8A composite, the increased gold and silver recovery in flotation plus tailing cyanidation compared to straight cyanidation indicates that some portion of both metals are encapsulated in sulphides.
- In the case of the Martha sulphide mineralization, there is increased gold encapsulation compared to oxide mineralization.

3.4.2 Cyanidation

At this stage of the project, whole ore agitation cyanidation has been demonstrated to achieve a consistent 90 % silver extraction on feed grading 200 g/t Ag, while consuming approximately 2 kg/t of cyanide. This occurs with both oxide and sulphide mineralization from all of the major mineralized zones.

Decreasing the cyanide concentration below 2 g/l will decrease both cyanide consumption and silver extraction.

At 2 g/l cyanide concentration, gold extraction will be approximately 45 % from the Martha sulphide and approximately 81 % from "oxide" ores.

Increased leaching time beyond 96 hours will increase both gold and silver extraction at a cyanide concentration of 2 g/l NaCN. Because the composites consistently demonstrated a sustaining appetite for cyanide, the economics of incremental retention time will be modest.

Finer grading beyond the laboratory nominal P 80 = 80 – 90 microns, will improve silver, but not gold extraction, but once again the economics will represent a modest increment.

From an open pit mining perspective, the deposit is variably and deeply weathered and no matter what the metallurgical data indicates, it appears that separate processing of oxide and sulphide mineralization is not feasible.

Throughout this report, the term "extraction" is used to represent the portion of the metal that reports to pregnant solution. In operating plants, it is not possible to recover all of that metal into Dore, and typically about 1 % of the extracted metal is lost in plant tailing in the normal counter-current decantation (CCD) circuit. Filtration of the plant tailing will significantly decrease the loss of both silver and gold, as well as that of cyanide and lime.

3.4.3 Flotation

A single flotation test (W-07-35) on the ORKO master composite reported poor rougher stage gold and silver recoveries, at 44.0 and 73.5 %, respectively. However, even without cleaning the majority of both metals reported to concentrate grading > 14 kg/t Ag and 8 g/t Au.

Because of the poor performance of flotation, and with no apparent opportunity to increase metal recoveries, the investigation shifted to agitation cyanidation.

Later, when the cyanidation testing determined that 90 % silver extraction incurred abnormally high consumption of cyanide, a single flotation test on the Hecla Martha 8A sulphide composite, followed by cyanidation of the flotation tailing, was performed. That test achieved gold recoveries similar to that which is achieved by direct cyanidation of oxide mineralization, confirming partial sulphide locking of gold.

In the same test, silver recovery increased significantly to a total of 97 % (84.3 % in flotation and the balance in cyanidation). This also demonstrated that some of the silver is locked in floatable sulphides at the achieved grind of 53 % - 200 mesh.

3.5 Other Comments

3.5.1 Cyanide Soluble Gold and Silver

In late 2008, when the metallurgical response was believed to be difficult to predict, the Inspectorate (Reno) assay lab undertook a series of cyanide soluble gold and silver assays on pulps in an attempt to determine the global metallurgy of gold and silver at much less cost than $ C 1,300 for a cyanidation test.

The results were highly inconsistent, and bore no useful relationship to the bottle roll cyanidation tests at PRA.

The intended cyanide soluble assaying of selected assay pulps was therefore abandoned.

3.5.2 Cyanide Consumption

Typically, an elevated consumption of cyanide, as was reported in these tests can be explained by ICP analysis of the final pregnant solution. Normally that is demonstrated by elevated extractions of some or all of: Cu, Zn, and Fe. That did not occur in any of the tests that included ICP analyses.

In all cases, the cyanide consumption did not follow the normal pattern with an initial consumption within the first 2 hours, followed by much smaller increments. In all tests, the rate of cyanide consumption was more-or-less constant with time.

Note that of the total cyanide consumption, the stoichiometric requirement with 200 g/t of Ag as argentite (Ag_2S) is only 0.35 kg/t, far less than the minimum of 2 kg/t that is required to achieve 90 % extraction.

Test C43 on the Hecla 8A flotation tailing, revealed the same pattern of sustained cyanide consumption as in the whole ore bottle tests. The Hecla 8A flotation tailing had been washed and dried, so the elevated cyanide consumption could not be attributed to “soluble salts’.

It may useful in the next test series to perform cyanide speciation assaying on the pls from one of the tests to check on cyanide soluble sulphur. This is an improbable explanation, but in the absence of the obvious, it is worthwhile.

3.5.3 Flotation Concentrate

The possible production of flotation concentrate does not incur an obligation to sell that concentrate. Cyanide leaching at the mine site is a possible alternative.

3.6 RECOMMENDATIONS

Normally, at this stage of a project additional variability testing cannot be justified because the parameters have been defined and the process metallurgy is acceptable. However, because of the elevated consumption of cyanide, the role of flotation on oxide mineralization needs to be investigated.

Three dimensional modeling of the various mineralized zones by MDA determined that the Hecla metallurgical composites are spatially representative of the various zones. Unless the ongoing drilling program has altered that conclusion, additional bench scale testing should be undertaken on the Hecla "average grade" composites or new average grade composites prepared from the 12 Hecla composites as was done in tests C37 – 38 and C43 – 44.

The first test should investigate flotation of the Hecla # 12 oxide composite, since it appears to represent the major source of potential plant feed. The tailing from that test, should be bottle roll leached as in PRA test C45, to determine the cumulative effect of flotation and tailing cyanidation.

Appendix E

Assay and Composite

SILVER SAMPLE ASSAYS

Silver Zone	*10*	*Use*	*1*	*Type*	*1*		*Cap*	*500*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	4,368		0.57			0.01	5.91	m
Au	4,353	30.0	59.6	213.0	3.6	2.5	11040	ppb
Ag	4,353	10.6	18.7	39.8	2.1	0.0	1642	g/t
AgC	**4,353**	**10.6**	**18.5**	**33.4**	**1.8**	**0.0**	**500**	**g/t**
Pb	4,341	249	585	1816	3	1	56800	ppm
Zn	4,323	816	1502	3288	2	19	110000	ppm
Cu	4,340	24	47	113	2	1	4534	ppm
Ba	4,289	300	1081	1856	2	1	32100	ppm
Silver Zone	**11**	**Use**	**1**	**Type**	**1**		**Cap**	**1600**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	2,120		0.51			0.01	3.35	m
Au	2,119	153.0	314.3	836.9	2.7	2.5	33736	ppb
Ag	2,119	80.3	164.4	289.2	1.8	0.9	4037	g/t
AgC	**2,119**	**80.3**	**159.0**	**247.6**	**1.6**	**0.9**	**1600**	**g/t**
Pb	2,119	860	2935	10063	3	10	327000	ppm
Zn	2,119	1720	4981	12866	3	32	306000	ppm
Cu	2,119	60	190	884	5	1	21300	ppm
Ba	2,110	370	1577	6475	4	2	189000	ppm
Silver Zone	**20**	**Use**	**1**	**Type**	**1**		**Cap**	**40**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	16		0.76			0.2	1.85	m
Au	16	35.5	48.9	43.8	0.9	2.5	219	ppb
Ag	16	17.9	27.6	26.7	1.0	2.5	83	g/t
AgC	**16**	**17.9**	**20.0**	**13.1**	**0.7**	**2.5**	**40**	**g/t**
Pb	16	178	210	215	1	18	950	ppm
Zn	16	897	957	539	1	308	2260	ppm
Cu	16	26	31	25	1	3	88	ppm
Ba	12	1175	1492	812	1	490	3140	ppm
Silver Zone	**21**	**Use**	**1**	**Type**	**1**		**Cap**	**100**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	12		0.86			0.2	2	m
Au	12	35.5	92.9	219.6	2.4	2.5	1410	ppb
Ag	12	40.3	70.3	144.4	2.1	4.1	1000	g/t
AgC	**12**	**40.3**	**41.0**	**25.1**	**0.6**	**4.1**	**100**	**g/t**
Pb	12	262	507	704	1	81	2710	ppm
Zn	12	1145	1239	646	1	290	2910	ppm
Cu	12	26	61	195	3	10	1420	ppm
Ba	11	2200	3585	2217	1	756	7000	ppm

Silver Zone	*30*	*Use*	*1*	*Type*	*1*		*Cap*	*150*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	537		0.60			0.05	14.3	m
Au	533	29.0	48.3	101.2	2.1	2.5	1900	ppb
Ag	533	14.6	23.7	45.5	1.9	0.4	566	g/t
AgC	**533**	**14.6**	**21.3**	**27.1**	**1.3**	**0.4**	**150**	**g/t**
Pb	522	184	368	1070	3	1	17900	ppm
Zn	522	523	784	1291	2	11	17000	ppm
Cu	522	22	39	83	2	1	1430	ppm
Ba	496	2600	3089	3505	1	31	39900	ppm
Silver Zone	**31**	**Use**	**1**	**Type**	**1**		**Cap**	**1000**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	125		0.54			0.04	2.58	m
Au	125	86.0	196.5	264.3	1.3	2.5	2160	ppb
Ag	125	94.0	222.2	471.1	2.1	1.8	3762	g/t
AgC	**125**	**94.0**	**178.5**	**224.1**	**1.3**	**1.8**	**1000**	**g/t**
Pb	124	440	1393	2678	2	18	24800	ppm
Zn	124	1041	2870	3875	1	102	22400	ppm
Cu	124	55	128	160	1	4	770	ppm
Ba	108	3026	5700	8563	2	32	59000	ppm
Silver Zone	**40**	**Use**	**1**	**Type**	**1**		**Cap**	**120**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	1,155		0.75			0.01	22	m
Au	1,143	30.0	51.1	72.6	1.4	2.5	759	ppb
Ag	1,143	17.1	24.1	49.0	2.0	0.0	1425	g/t
AgC	**1,143**	**17.1**	**21.7**	**20.6**	**0.9**	**0.0**	**120**	**g/t**
Pb	1,086	180	413	3162	8	4	131000	ppm
Zn	1,086	576	968	2520	3	14	61200	ppm
Cu	1,086	26	42	61	1	1	1110	ppm
Ba	974	2725	3874	4163	1	25	41000	ppm
Silver Zone	**41**	**Use**	**1**	**Type**	**1**		**Cap**	**1500**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	564		0.58			0.04	2.97	m
Au	560	114.5	221.7	408.8	1.8	2.5	5351	ppb
Ag	560	85.9	163.2	292.2	1.8	6.8	5897	g/t
AgC	**560**	**85.9**	**154.7**	**211.0**	**1.4**	**6.8**	**1500**	**g/t**
Pb	551	555	1466	3867	3	11	47800	ppm
Zn	551	951	2044	4029	2	46	101000	ppm
Cu	551	49	128	836	7	3	26900	ppm
Ba	498	3213	5291	8456	2	10	156000	ppm

Silver Zone	*50*	*Use*	*1*	*Type*	*1*		*Cap*	*80*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	195		0.64			0.02	2.18	m
Au	194	43.0	54.1	70.9	1.3	2.5	1245	ppb
Ag	194	14.2	18.6	21.5	1.2	0.6	230	g/t
AgC	**194**	**14.2**	**17.4**	**14.2**	**0.8**	**0.6**	**80**	**g/t**
Pb	177	185	380	474	1	4	2730	ppm
Zn	177	683	1062	861	1	15	4032	ppm
Cu	177	24	50	70	1	4	601	ppm
Ba	156	1383	3008	4952	2	28	44400	ppm
Silver Zone	**51**	**Use**	**1**	**Type**	**1**		**Cap**	**700**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	172		0.57			0.04	2.2	m
Au	169	165.0	225.3	200.3	0.9	7.0	997	ppb
Ag	169	121.0	167.7	168.0	1.0	5.5	1091	g/t
AgC	**169**	**121.0**	**165.2**	**157.5**	**1.0**	**5.5**	**700**	**g/t**
Pb	162	577	1076	1528	1	12	8400	ppm
Zn	162	1270	1604	1462	1	208	14500	ppm
Cu	162	58	93	129	1	9	951	ppm
Ba	144	3316	6669	9185	1	64	55300	ppm
Silver Zone	**60**	**Use**	**1**	**Type**	**1**		**Cap**	**50**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	50		0.67			0.09	2	m
Au	50	30.0	36.1	22.6	0.6	2.5	107	ppb
Ag	50	12.0	16.5	18.2	1.1	3.9	113	g/t
AgC	**50**	**12.0**	**14.8**	**10.8**	**0.7**	**3.9**	**50**	**g/t**
Pb	50	137	285	301	1	6	1361	ppm
Zn	50	494	1068	1186	1	108	5262	ppm
Cu	50	19	37	54	1	4	397	ppm
Ba	43	615	6866	13151	2	59	50200	ppm
Silver Zone	**61**	**Use**	**1**	**Type**	**1**		**Cap**	**600**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	25		0.80			0.29	2	m
Au	25	115.0	241.2	199.9	0.8	2.5	746	ppb
Ag	25	79.2	177.4	186.0	1.0	2.4	689	g/t
AgC	**25**	**79.2**	**173.4**	**175.7**	**1.0**	**2.4**	**600**	**g/t**
Pb	25	842	1615	2708	2	67	13300	ppm
Zn	25	671	3013	10560	4	104	58200	ppm
Cu	25	66	87	73	1	4	346	ppm
Ba	20	1250	8113	12374	2	163	37400	ppm

Silver Zone	*70*	*Use*	*1*	*Type*	*1*		*Cap*	*none*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	81		0.42			0.19	2.43	m
Au	81	35.0	74.2	119.9	1.6	2.5	738	ppb
Ag	81	14.2	27.8	31.9	1.2	3.1	173	g/t
AgC	**81**	**14.2**	**27.8**	**31.9**	**1.2**	**3.1**	**173**	**g/t**
Pb	81	100	402	663	2	5	3274	ppm
Zn	81	575	1028	1133	1	84	6359	ppm
Cu	81	20	96	203	2	2	1223	ppm
Ba	79	379	575	647	1	46	3101	ppm
Silver Zone	**71**	**Use**	**1**	**Type**	**1**		**Cap**	**400**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	24		0.45			0.18	1.04	m
Au	24	38.5	154.2	272.7	1.8	2.5	1219	ppb
Ag	24	70.1	168.9	363.3	2.2	5.0	1633	g/t
AgC	**24**	**70.1**	**99.8**	**94.8**	**0.9**	**5.0**	**400**	**g/t**
Pb	24	253	1144	1320	1	31	3410	ppm
Zn	24	438	1234	1130	1	219	4709	ppm
Cu	24	28	91	105	1	4	327	ppm
Ba	17	431	1264	1387	1	214	4377	ppm
Silver Zone	**120**	**Use**	**1**	**Type**	**1**		**Cap**	**250**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	135		0.45			0.14	1.76	m
Au	135	29.0	71.0	114.4	1.6	2.5	610	ppb
Ag	135	13.8	27.1	56.8	2.1	1.3	833	g/t
AgC	**135**	**13.8**	**25.2**	**35.0**	**1.4**	**1.3**	**250**	**g/t**
Pb	135	156	331	530	2	14	3885	ppm
Zn	135	565	908	866	1	45	5850	ppm
Cu	135	33	58	85	1	2	605	ppm
Ba	135	622	1445	1733	1	7	8230	ppm
Silver Zone	**121**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	32		0.46			0.2	1.35	m
Au	32	68.0	188.6	214.4	1.1	5.0	748	ppb
Ag	32	85.0	154.1	138.8	0.9	4.4	640	g/t
AgC	**32**	**85.0**	**154.1**	**138.8**	**0.9**	**4.4**	**640**	**g/t**
Pb	32	510	763	837	1	2	2950	ppm
Zn	32	1160	1268	754	1	105	3700	ppm
Cu	32	52	69	43	1	8	163	ppm
Ba	32	3330	4094	3280	1	60	12200	ppm

Silver Zone	*99*	*Use*	*1*	*Type*	*1*		*Cap*	*200*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	76,013		1.41			0.01	100	m
Au	70,018	2.5	16.6	258.7	15.5	2.5	67400	ppb
Ag	70,019	1.1	5.3	34.4	6.4	0.0	3906	g/t
AgC	**70,019**	**1.1**	**4.6**	**15.9**	**3.4**	**0.0**	**200**	**g/t**
Pb	69,652	28	137	1681	12	1	555000	ppm
Zn	69,353	119	334	1812	5	1	258000	ppm
Cu	69,654	15	33	127	4	0	14600	ppm
Ba	69,273	119	696	2049	3	1	94600	ppm

GOLD ASSAYS

Gold Zone	***10***	***Use***	***1***	***Type***	***1***		***Cap***	***600***
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	4,942		0.56			0.01	5.91	m
Au	4,927	30.0	48.4	72.3	1.5	2.5	2150	ppb
AuC	4,927	30.0	47.6	59.1	1.2	2.5	600	ppb
Ag	**4,927**	**12.6**	**28.1**	**83.5**	**3.0**	**0.0**	**2849**	**g/t**
Pb	4,915	260	622	1728	3	1	56800	ppm
Zn	4,897	812	1564	3589	2	19	110000	ppm
Cu	4,915	23	56	497	9	1	21300	ppm
Ba	4,863	384	1384	4372	3	1	189000	ppm
Gold Zone	**11**	**Use**	**1**	**Type**	**1**		**Cap**	**4000**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	1,546		0.49			0.01	3.35	m
Au	1,545	276.0	462.5	1025.8	2.2	2.5	33736	ppb
AuC	1,545	276.0	429.7	502.8	1.2	2.5	4000	ppb
Ag	**1,545**	**90.0**	**191.4**	**313.9**	**1.6**	**0.9**	**4037**	**g/t**
Pb	1,545	1216	3791	11883	3	11	327000	ppm
Zn	1,545	2319	6224	14768	2	34	306000	ppm
Cu	1,544	101	219	508	2	1	14700	ppm
Ba	1,536	179	699	1354	2	2	17600	ppm
Gold Zone	**20**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	23		0.84			0.2	2	m
Au	23	32.0	37.3	23.6	0.6	2.5	103	ppb
AuC	23	32.0	37.3	23.6	0.6	2.5	103	ppb
Ag	**23**	**26.3**	**30.9**	**23.6**	**0.8**	**2.5**	**83**	**g/t**
Pb	23	201	224	166	1	18	747	ppm
Zn	23	955	973	475	0	290	2190	ppm
Cu	23	25	29	19	1	3	88	ppm
Ba	19	1430	2813	2160	1	756	7000	ppm
Gold Zone	**21**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	5		0.63			0.2	1.16	m
Au	5	219.0	265.1	351.5	1.3	16.0	1410	ppb
AuC	5	219.0	265.1	351.5	1.3	16.0	1410	ppb
Ag	**5**	**52.3**	**147.3**	**246.3**	**1.7**	**17.8**	**1000**	**g/t**
Pb	5	950	1096	1078	1	57	2710	ppm
Zn	5	1360	1784	829	0	690	2910	ppm
Cu	5	72	142	343	2	8	1420	ppm
Ba	4	1525	2018	1020	1	490	3140	ppm

Gold Zone	*30*	*Use*	*1*	*Type*	*1*		*Cap*	*600*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	608		0.59			0.05	14.3	m
Au	604	30.5	47.9	92.0	1.9	2.5	1900	ppb
AuC	604	30.5	45.9	62.3	1.4	2.5	600	ppb
Ag	**604**	**16.3**	**34.9**	**70.7**	**2.0**	**0.4**	**699**	**g/t**
Pb	593	189	427	1361	3	1	24800	ppm
Zn	593	559	866	1428	2	11	17000	ppm
Cu	593	23	38	70	2	1	1430	ppm
Ba	564	2750	3503	4720	1	31	59000	ppm
Gold Zone	**31**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	54		0.63			0.04	2.58	m
Au	54	226.5	343.5	316.3	0.9	31.0	2160	ppb
AuC	54	226.5	343.5	316.3	0.9	31.0	2160	ppb
Ag	**54**	**130.9**	**308.2**	**633.9**	**2.1**	**0.8**	**3762**	**g/t**
Pb	53	670	1877	2506	1	111	11200	ppm
Zn	53	1480	4229	4714	1	278	22400	ppm
Cu	53	93	228	210	1	18	1110	ppm
Ba	40	2073	3660	5961	2	35	23000	ppm
Gold Zone	**40**	**Use**	**1**	**Type**	**1**		**Cap**	**800**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	1,413		0.72			0.04	22	m
Au	1,400	35.0	54.9	122.5	2.2	2.5	4860	ppb
AuC	1,400	35.0	52.9	63.9	1.2	2.5	800	ppb
Ag	**1,400**	**20.9**	**36.2**	**71.4**	**2.0**	**0.0**	**1425**	**g/t**
Pb	1,351	211	474	2886	6	4	131000	ppm
Zn	1,351	601	1019	1524	1	20	20400	ppm
Cu	1,351	28	57	489	9	1	26900	ppm
Ba	1,218	2870	4336	5727	1	25	156000	ppm
Gold Zone	**41**	**Use**	**1**	**Type**	**1**		**Cap**	**2500**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	306		0.61			0.01	2.32	m
Au	303	215.0	329.1	458.4	1.4	2.5	5351	ppb
AuC	303	215.0	315.3	333.0	1.1	2.5	2500	ppb
Ag	**303**	**121.4**	**203.4**	**366.1**	**1.8**	**1.4**	**5897**	**g/t**
Pb	286	738	2085	5296	3	29	47800	ppm
Zn	286	1184	2741	6834	2	14	101000	ppm
Cu	286	61	122	169	1	6	1765	ppm
Ba	254	1816	3950	6049	2	10	41500	ppm

Gold Zone	*50*	*Use*	*1*	*Type*	*1*		*Cap*	*none*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	253		0.66			0.02	2.2	m
Au	249	46.0	60.4	65.6	1.1	2.5	750	ppb
AuC	249	46.0	60.4	65.6	1.1	2.5	750	ppb
Ag	**249**	**19.9**	**33.6**	**54.4**	**1.6**	**0.8**	**570**	**g/t**
Pb	231	249	445	579	1	4	6690	ppm
Zn	231	794	1121	829	1	15	4032	ppm
Cu	231	29	51	63	1	4	601	ppm
Ba	203	2253	4670	7193	2	36	55300	ppm
Gold Zone	**51**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	114		0.49			0.04	2	m
Au	114	236.5	327.4	205.0	0.6	40.0	1245	ppb
AuC	114	236.5	327.4	205.0	0.6	40.0	1245	ppb
Ag	**114**	**164.0**	**228.9**	**183.0**	**0.8**	**0.6**	**1091**	**g/t**
Pb	108	626	1421	1840	1	40	8400	ppm
Zn	108	1389	1847	1803	1	92	14500	ppm
Cu	108	65	122	162	1	8	951	ppm
Ba	97	1540	4593	7955	2	28	43700	ppm
Gold Zone	**60**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	64		0.67			0.09	2	m
Au	64	31.5	46.0	36.7	0.8	2.5	176	ppb
AuC	64	31.5	46.0	36.7	0.8	2.5	176	ppb
Ag	**64**	**16.0**	**24.6**	**28.1**	**1.1**	**2.4**	**144**	**g/t**
Pb	64	161	550	1699	3	6	13300	ppm
Zn	64	494	1935	7333	4	104	58200	ppm
Cu	64	24	43	63	1	4	397	ppm
Ba	55	767	6360	11662	2	59	50200	ppm
Gold Zone	**61**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	11		0.95			0.29	2	m
Au	11	300.0	388.8	169.2	0.4	114.0	746	ppb
AuC	11	300.0	388.8	169.2	0.4	114.0	746	ppb
Ag	**11**	**330.4**	**292.2**	**194.1**	**0.7**	**70.6**	**689**	**g/t**
Pb	11	1270	1746	1851	1	521	8150	ppm
Zn	11	953	1225	638	1	454	2387	ppm
Cu	11	98	108	52	0	50	191	ppm
Ba	8	1660	11964	16708	1	163	37400	ppm

Gold Zone	*70*	*Use*	*1*	*Type*	*1*		*Cap*	*none*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	100		0.42			0.18	2.43	m
Au	100	35.0	63.6	80.7	1.3	2.5	385	ppb
AuC	100	35.0	63.6	80.7	1.3	2.5	385	ppb
Ag	**100**	**18.6**	**39.3**	**46.9**	**1.2**	**3.1**	**290**	**g/t**
Pb	100	100	508	820	2	5	3410	ppm
Zn	100	539	1049	1129	1	84	6359	ppm
Cu	100	20	90	186	2	2	1223	ppm
Ba	93	384	692	859	1	46	4377	ppm
Gold Zone	**71**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	5		0.53			0.22	0.7	m
Au	5	305.0	569.1	408.5	0.7	50.0	1219	ppb
AuC	5	305.0	569.1	408.5	0.7	50.0	1219	ppb
Ag	**5**	**76.5**	**417.5**	**674.6**	**1.6**	**9.9**	**1633**	**g/t**
Pb	5	613	1734	1526	1	58	3300	ppm
Zn	5	825	1526	1151	1	405	3280	ppm
Cu	5	87	173	142	1	7	327	ppm
Ba	3	405	489	230	0	379	985	ppm
Gold Zone	**120**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	154		0.44			0.14	1.76	m
Au	154	30.0	54.6	61.2	1.1	2.5	303	ppb
AuC	154	30.0	54.6	61.2	1.1	2.5	303	ppb
Ag	**154**	**15.7**	**34.0**	**45.6**	**1.3**	**1.3**	**273**	**g/t**
Pb	154	152	336	530	2	2	3885	ppm
Zn	154	606	932	856	1	45	5850	ppm
Cu	154	33	56	80	1	2	605	ppm
Ba	154	758	1865	2251	1	7	12200	ppm
Gold Zone	**121**	**Use**	**1**	**Type**	**1**		**Cap**	**none**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	13		0.59			0.2	1.31	m
Au	13	440.3	76.2	748.0	9.8	67.0	748	ppb
AuC	13	440.3	76.2	748.0	9.8	67.0	748	ppb
Ag	**13**	**209.4**	**76.2**	**832.6**	**10.9**	**11.1**	**833**	**g/t**
Pb	13	1117	76	2950	39	263	2950	ppm
Zn	13	1383	76	4968	65	565	4968	ppm
Cu	13	99	76	220	3	45	220	ppm
Ba	13	2812	76	11000	144	48	11000	ppm

Gold Zone	*99*	*Use*	*1*	*Type*	*1*		*Cap*	*350*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	76,013		1.41			0.01	100	m
Au	70,018	2.5	16.6	258.7	15.5	2.5	67400	ppb
AuC	70,018	2.5	14.4	33.0	2.3	2.5	350	ppb
Ag	**70,019**	**1.1**	**5.3**	**34.4**	**6.4**	**0.0**	**3906**	**g/t**
Pb	69,652	28	137	1681	12	1	555000	ppm
Zn	69,353	119	334	1812	5	1	258000	ppm
Cu	69,654	15	33	127	4	0	14600	ppm
Ba	69,273	119	696	2049	3	1	94600	ppm

SILVER COMPOSITES

SilverZone	***10***			***MaxGrade(usingcappedassays)***				***266***
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	1,001		2.44			0	3	m
Au	998	33.8	59.6	113.8	1.9	2.5	2679	ppb
Ag	998	12.6	18.7	18.6	1.0	2.0	271	g/t
AgC	**998**	**12.6**	**18.5**	**17.2**	**0.9**	**2.0**	**266**	**g/t**
Pb	991	291	586	1007	2	15	27111	ppm
Zn	987	914	1504	2185	1	22	66392	ppm
Cu	991	27	47	79	2	1	2707	ppm
Ba	972	445	1081	1621	1	6	19391	ppm
SilverZone	**11**			**MaxGrade(usingcappedassays)**				**1177**
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	445		2.41			0	3	m
Au	445	201.8	314.2	401.4	1.3	2.5	4444	ppb
Ag	445	106.0	164.4	185.5	1.1	11.1	1552	g/t
AgC	**445**	**106.0**	**159.0**	**160.6**	**1.0**	**11.1**	**1177**	**g/t**
Pb	445	1070	2934	5414	2	70	48216	ppm
Zn	445	1889	4977	8071	2	123	63183	ppm
Cu	445	71	190	599	3	6	11940	ppm
Ba	442	627	1577	4428	3	10	71975	ppm
SilverZone	**20**			**MaxGrade(usingcappedassays)**				**40**
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	7		1.76			0.8	3	m
Au	7	41.0	49.0	21.9	0.4	20.5	89	ppb
Ag	7	20.2	27.7	25.5	0.9	5.3	83	g/t
AgC	**7**	**18.0**	**20.0**	**11.1**	**0.6**	**5.3**	**40**	**g/t**
Pb	7	183	209	111	1	24	314	ppm
Zn	7	836	955	300	0	681	1407	ppm
Cu	7	26	31	21	1	9	78	ppm
Ba	4	1526	1496	628	0	1177	3140	ppm
SilverZone	**21**			**MaxGrade(usingcappedassays)**				**100**
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	5		2.06			0.2	3	m
Au	5	55.9	92.8	202.6	2.2	17.8	1410	ppb
Ag	5	45.0	70.2	140.0	2.0	31.5	1000	g/t
AgC	**5**	**45.0**	**41.0**	**11.2**	**0.3**	**31.5**	**100**	**g/t**
Pb	5	397	507	343	1	199	1570	ppm
Zn	5	1239	1240	350	0	690	1637	ppm
Cu	5	29	61	202	3	17	1420	ppm
Ba	4	3188	3581	1574	0	1759	5137	ppm
SilverZone	**30**			**MaxGrade(usingcappedassays)**				**103**

	ValidN	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	148		1.96			0	3	m
Au	138	35.0	48.3	50.5	1.0	2.5	264	ppb
Ag	138	16.9	23.7	28.4	1.2	1.4	236	g/t
AgC	**138**	**16.9**	**21.3**	**16.8**	**0.8**	**1.4**	**103**	**g/t**
Pb	133	198	368	591	2	1	6475	ppm
Zn	133	548	784	828	1	15	4477	ppm
Cu	133	25	39	50	1	3	1430	ppm
Ba	123	2357	3092	2676	1	56	15956	ppm
SilverZone	**31**			**MaxGrade(usingcappedassays)**				**734**

	ValidN	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	37		1.82			0.4	3	m
Au	37	152.0	196.6	185.1	0.9	17.5	903	ppb
Ag	37	111.8	223.0	383.0	1.7	24.3	2608	g/t
AgC	**37**	**111.8**	**178.5**	**170.3**	**1.0**	**24.3**	**734**	**g/t**
Pb	36	750	1400	1875	1	95	11200	ppm
Zn	36	1474	2872	2848	1	178	10559	ppm
Cu	36	59	128	132	1	15	544	ppm
Ba	29	2926	5694	5634	1	33	19649	ppm
SilverZone	**40**			**MaxGrade(usingcappedassays)**				**87**

	ValidN	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	353		2.36			0	3	m
Au	343	36.1	51.1	54.8	1.1	2.5	525	ppb
Ag	343	17.9	24.1	23.0	1.0	1.2	262	g/t
AgC	**343**	**17.8**	**21.7**	**12.7**	**0.6**	**1.2**	**87**	**g/t**
Pb	313	222	413	1365	3	4	15849	ppm
Zn	313	608	968	1565	2	20	20457	ppm
Cu	313	29	42	41	1	1	345	ppm
Ba	259	3048	3874	3229	1	55	28057	ppm
SilverZone	**41**			**MaxGrade(usingcappedassays)**				**754**

	ValidN	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	142		2.27			0	3	m
Au	141	157.0	221.6	268.2	1.2	10.0	2186	ppb
Ag	141	112.4	163.4	164.4	1.0	12.2	1185	g/t
AgC	**141**	**112.4**	**154.9**	**128.8**	**0.8**	**12.2**	**754**	**g/t**
Pb	136	658	1466	2191	1	29	13053	ppm
Zn	136	1396	2043	2109	1	166	13108	ppm
Cu	136	62	127	462	4	10	7244	ppm
Ba	112	3178	5292	4843	1	110	20764	ppm

SilverZone	***50***			***MaxGrade(usingcappedassays)***				***54***
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	59		2.11			0	3	m
Au	59	46.6	54.1	36.7	0.7	7.3	174	ppb
Ag	59	16.5	18.6	10.7	0.6	4.1	54	g/t
AgC	**59**	**16.5**	**17.4**	**9.1**	**0.5**	**4.1**	**54**	**g/t**
Pb	50	244	380	344	1	25	1399	ppm
Zn	50	996	1061	780	1	113	3215	ppm
Cu	50	34	49	57	1	6	334	ppm
Ba	37	1843	3003	3510	1	55	13579	ppm
SilverZone	**51**			**MaxGrade(usingcappedassays)**				**476**
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	42		2.28			0.3	3	m
Au	42	212.1	225.4	127.9	0.6	16.0	592	ppb
Ag	42	149.3	167.6	106.8	0.6	20.0	476	g/t
AgC	**42**	**149.3**	**165.1**	**102.9**	**0.6**	**20.0**	**476**	**g/t**
Pb	37	759	1075	914	1	79	4035	ppm
Zn	37	1207	1603	993	1	496	4473	ppm
Cu	37	63	93	90	1	9	493	ppm
Ba	28	4283	6678	7025	1	227	22524	ppm
SilverZone	**60**			**MaxGrade(usingcappedassays)**				**39**
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	18		1.86			0.4	3	m
Au	18	38.3	36.1	12.5	0.3	2.5	64	ppb
Ag	18	14.5	16.5	10.9	0.7	4.5	58	g/t
AgC	**18**	**14.5**	**14.8**	**7.6**	**0.5**	**4.5**	**39**	**g/t**
Pb	18	225	285	227	1	25	905	ppm
Zn	18	499	1068	1057	1	148	3540	ppm
Cu	18	23	37	48	1	7	328	ppm
Ba	13	948	6915	13223	2	238	50200	ppm
SilverZone	**61**			**MaxGrade(usingcappedassays)**				**299**
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	8		2.50			1.5	3	m
Au	8	183.1	241.4	138.1	0.6	91.9	518	ppb
Ag	8	169.6	177.8	107.9	0.6	40.1	305	g/t
AgC	**8**	**169.4**	**173.9**	**103.5**	**0.6**	**40.1**	**299**	**g/t**
Pb	8	988	1618	1780	1	234	5611	ppm
Zn	8	805	3015	5307	2	318	15266	ppm
Cu	8	83	87	48	1	29	174	ppm
Ba	6	1214	8092	11038	1	959	30591	ppm

SilverZone	*70*			*MaxGrade(usinguncappedassays)*				*63*
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	14		2.43			0.4	3	m
Au	14	41.6	74.5	79.0	1.1	2.5	293	ppb
Ag	14	22.9	27.8	16.7	0.6	5.1	63	g/t
AgC	**14**	**22.9**	**27.8**	**16.7**	**0.6**	**5.1**	**63**	**g/t**
Pb	14	113	404	613	2	31	1860	ppm
Zn	14	761	1027	1048	1	271	4145	ppm
Cu	14	29	97	173	2	8	639	ppm
Ba	12	345	574	430	1	122	1412	ppm
SilverZone	**71**			**MaxGrade(usingcappedassays)**				**317**
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	6		1.80			0.9	3	m
Au	6	130.3	155.8	203.1	1.3	24.0	709	ppb
Ag	6	75.4	171.6	298.6	1.7	39.5	1015	g/t
AgC	**6**	**75.4**	**100.5**	**78.4**	**0.8**	**39.5**	**317**	**g/t**
Pb	6	957	1146	1108	1	80	3269	ppm
Zn	6	1109	1233	970	1	344	2918	ppm
Cu	6	82	91	95	1	8	316	ppm
Ba	3	573	1273	1308	1	466	3067	ppm
SilverZone	**120**			**MaxGrade(usingcappedassays)**				**64**
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	29		2.08			0.3	3	m
Au	29	35.4	71.0	57.8	0.8	8.0	197	ppb
Ag	29	21.3	27.0	20.1	0.7	6.5	101	g/t
AgC	**29**	**21.3**	**25.1**	**14.9**	**0.6**	**6.5**	**64**	**g/t**
Pb	29	175	331	340	1	14	1629	ppm
Zn	29	555	907	679	1	186	2960	ppm
Cu	29	33	59	67	1	10	433	ppm
Ba	29	626	1442	1537	1	23	6330	ppm
SilverZone	**121**			**MaxGrade(usinguncappedassays)**				**277**
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	9		1.61			0.3	3	m
Au	9	172.1	188.6	138.4	0.7	27.5	365	ppb
Ag	9	172.4	154.3	86.2	0.6	53.4	277	g/t
AgC	**9**	**172.4**	**154.3**	**86.2**	**0.6**	**53.4**	**277**	**g/t**
Pb	9	512	761	571	1	14	1497	ppm
Zn	9	1117	1262	597	0	184	2727	ppm
Cu	9	58	69	26	0	24	102	ppm
Ba	9	5350	4114	2542	1	97	7235	ppm

SilverZone	*99*			*MaxGrade(usingcappedassays)*				*200*
	ValidN	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	35,992		1.26			0	3	m
Au	18,395	5.4	16.6	121.2	7.3	2.5	13516	ppb
Ag	18,395	1.3	5.4	19.3	3.6	0.1	1891	g/t
AgC	**18,395**	**1.3**	**4.6**	**10.8**	**2.3**	**0.1**	**200**	**g/t**
Pb	18,174	33	137	641	5	1	45373	ppm
Zn	18,094	131	334	937	3	1	53214	ppm
Cu	18,174	17	33	73	2	0	8300	ppm
Ba	17,957	167	697	1674	2	1	43109	ppm

GOLD COMPOSITES

Gold Zone	*10*			*Max Grade (using capped assays)*				*501*
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	1,110		2.49			0	3	m
Au	1,107	37.5	48.4	44.8	0.9	2.5	501	ppb
AuC	1,107	37.5	47.6	41.2	0.9	2.5	501	ppb
Ag	1,107	16.0	28.1	47.6	1.7	2.0	1012	g/t
Pb	1,100	313	621	1104	2	12	51000	ppm
Zn	1,096	943	1562	2485	2	22	110000	ppm
Cu	1,100	28	56	307	6	1	7536	ppm
Ba	1,081	567	1385	3048	2	6	68598	ppm
Gold Zone	11			Max Grade (using capped assays)				3086
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	345		2.19			0	3	m
Au	345	326.2	462.7	497.1	1.1	42.6	6065	ppb
AuC	345	326.2	429.9	331.5	0.8	42.6	3086	ppb
Ag	345	126.0	191.5	220.6	1.2	4.2	2199	g/t
Pb	345	1488	3794	6792	2	83	83399	ppm
Zn	345	2774	6236	9733	2	123	117000	ppm
Cu	345	110	219	320	1	8	3169	ppm
Ba	342	343	699	1220	2	4	14635	ppm
Gold Zone	20			Max Grade (using capped assays)				83
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	9		2.16			1.1	3	m
Au	9	33.1	37.3	19.6	0.5	20.5	83	ppb
AuC	9	33.1	37.3	19.6	0.5	20.5	83	ppb
Ag	9	24.0	31.0	20.9	0.7	5.3	83	g/t
Pb	9	194	224	120	1	24	443	ppm
Zn	9	918	972	260	0	681	1448	ppm
Cu	9	27	29	17	1	18	78	ppm
Ba	6	1960	2814	1780	1	1149	5754	ppm
Gold Zone	21			Max Grade (using capped assays)				1410
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	2		1.55			0.2	2.9	m
Au	2	798.5	265.9	365.0	1.4	187.0	1410	ppb
AuC	2	798.5	265.9	365.0	1.4	187.0	1410	ppb
Ag	2	544.5	147.8	271.9	1.8	89.0	1000	g/t
Pb	2	1317	1096	151	0	1064	1570	ppm
Zn	2	1274	1783	349	0	690	1859	ppm
Cu	2	737	143	408	3	54	1420	ppm
Ba	1	2018	2018	0	0	2018	2018	ppm

Gold Zone	*30*			*Max Grade (using capped assays)*				*264*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	**159**		**2.03**			**0**	**3**	**m**
Au	**150**	**35.5**	**47.9**	**46.2**	**1.0**	**2.5**	**264**	**ppb**
AuC	**150**	**35.5**	**45.9**	**40.1**	**0.9**	**2.5**	**264**	**ppb**
Ag	**150**	**19.6**	**34.9**	**46.8**	**1.3**	**4.4**	**338**	**g/t**
Pb	**145**	**210**	**429**	**833**	**2**	**1**	**13500**	**ppm**
Zn	**145**	**645**	**867**	**878**	**1**	**15**	**4477**	**ppm**
Cu	**145**	**28**	**38**	**43**	**1**	**3**	**1430**	**ppm**
Ba	**134**	**2436**	**3492**	**3145**	**1**	**56**	**59000**	**ppm**
Gold Zone	**31**			**Max Grade (using capped assays)**				**1610**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	**26**		**1.32**			**0**	**3**	**m**
Au	**26**	**257.0**	**343.1**	**263.1**	**0.8**	**76.5**	**1610**	**ppb**
AuC	**26**	**257.0**	**343.1**	**263.1**	**0.8**	**76.5**	**1610**	**ppb**
Ag	**26**	**165.5**	**310.1**	**633.1**	**2.0**	**0.8**	**3762**	**g/t**
Pb	**25**	**1243**	**1891**	**2375**	**1**	**214**	**11200**	**ppm**
Zn	**25**	**2505**	**4217**	**4019**	**1**	**278**	**15100**	**ppm**
Cu	**25**	**215**	**230**	**191**	**1**	**18**	**1110**	**ppm**
Ba	**19**	**2082**	**3665**	**6054**	**2**	**35**	**23000**	**ppm**
Gold Zone	**40**			**Max Grade (using capped assays)**				**383**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	**393**		**2.47**			**0**	**3**	**m**
Au	**382**	**40.1**	**54.9**	**73.7**	**1.3**	**2.5**	**1300**	**ppb**
AuC	**382**	**40.1**	**52.9**	**47.9**	**0.9**	**2.5**	**383**	**ppb**
Ag	**382**	**23.9**	**36.2**	**40.3**	**1.1**	**2.5**	**262**	**g/t**
Pb	**355**	**251**	**474**	**1170**	**2**	**15**	**15660**	**ppm**
Zn	**355**	**664**	**1019**	**1081**	**1**	**20**	**10658**	**ppm**
Cu	**355**	**32**	**57**	**212**	**4**	**4**	**4310**	**ppm**
Ba	**297**	**3434**	**4337**	**3729**	**1**	**33**	**28329**	**ppm**
Gold Zone	**41**			**Max Grade (using capped assays)**				**1140**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	**91**		**2.03**			**0.1**	**3**	**m**
Au	**91**	**263.0**	**329.3**	**284.8**	**0.9**	**25.0**	**1908**	**ppb**
AuC	**91**	**263.0**	**315.5**	**222.1**	**0.7**	**25.0**	**1140**	**ppb**
Ag	**91**	**157.9**	**204.2**	**260.9**	**1.3**	**11.3**	**2282**	**g/t**
Pb	**81**	**694**	**2095**	**3482**	**2**	**175**	**19142**	**ppm**
Zn	**81**	**1408**	**2750**	**3977**	**1**	**236**	**24490**	**ppm**
Cu	**81**	**74**	**122**	**139**	**1**	**24**	**1087**	**ppm**
Ba	**64**	**2440**	**3951**	**4701**	**1**	**22**	**27420**	**ppm**

Gold Zone	*50*			*Max Grade (using capped assays)*				*177*
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	72		2.27			0.2	3	m
Au	72	50.0	60.4	36.6	0.6	7.3	177	ppb
AuC	72	50.0	60.4	36.6	0.6	7.3	177	ppb
Ag	72	20.4	33.6	33.7	1.0	4.1	179	g/t
Pb	63	312	445	386	1	17	1737	ppm
Zn	63	975	1122	715	1	110	2941	ppm
Cu	63	38	51	51	1	6	334	ppm
Ba	47	3200	4659	5360	1	114	21965	ppm
Gold Zone	51			Max Grade (using capped assays)				1245
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	30		1.87			0.2	3	m
Au	30	287.9	326.9	156.0	0.5	108.0	1245	ppb
AuC	30	287.9	326.9	156.0	0.5	108.0	1245	ppb
Ag	30	202.0	229.1	107.1	0.5	26.0	431	g/t
Pb	26	880	1421	1236	1	118	4363	ppm
Zn	26	1256	1844	1240	1	92	4953	ppm
Cu	26	79	122	131	1	28	661	ppm
Ba	20	1450	4613	6115	1	146	20092	ppm
Gold Zone	60			Max Grade (using capped assays)				132
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	19		2.26			0.3	3	m
Au	19	41.6	46.1	24.3	0.5	16.5	132	ppb
AuC	19	41.6	46.1	24.3	0.5	16.5	132	ppb
Ag	19	20.5	24.6	15.3	0.6	6.6	60	g/t
Pb	19	273	554	1363	2	50	8673	ppm
Zn	19	490	1957	6156	3	147	38968	ppm
Cu	19	30	43	42	1	9	212	ppm
Ba	14	930	6368	10041	2	238	33860	ppm
Gold Zone	61			Max Grade (using capped assays)				608
	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
Length	5		2.08			0.7	3	m
Au	5	353.0	388.9	153.7	0.4	260.7	608	ppb
AuC	5	353.0	388.9	153.7	0.4	260.7	608	ppb
Ag	5	357.6	293.4	156.6	0.5	79.2	448	g/t
Pb	5	1310	1750	859	0	521	2798	ppm
Zn	5	953	1225	582	0	744	2067	ppm
Cu	5	96	107	48	0	50	191	ppm
Ba	3	1338	11983	17977	2	915	37400	ppm

Gold Zone	*70*			*Max Grade (using capped assays)*				*293*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	**18**		**2.34**			**0.4**	**3**	**m**
Au	**18**	**49.2**	**63.8**	**58.8**	**0.9**	**2.5**	**293**	**ppb**
AuC	**18**	**49.2**	**63.8**	**58.8**	**0.9**	**2.5**	**293**	**ppb**
Ag	**18**	**33.7**	**39.5**	**29.8**	**0.8**	**5.1**	**209**	**g/t**
Pb	**18**	**141**	**511**	**737**	**1**	**26**	**3410**	**ppm**
Zn	**18**	**716**	**1052**	**1064**	**1**	**293**	**4709**	**ppm**
Cu	**18**	**27**	**91**	**159**	**2**	**9**	**639**	**ppm**
Ba	**13**	**394**	**690**	**583**	**1**	**122**	**2004**	**ppm**
Gold Zone	**71**			**Max Grade (using capped assays)**				**1219**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	**3**		**0.87**			**0.6**	**1.3**	**m**
Au	**3**	**419.1**	**570.8**	**457.2**	**0.8**	**297.0**	**1219**	**ppb**
AuC	**3**	**419.1**	**570.8**	**457.2**	**0.8**	**297.0**	**1219**	**ppb**
Ag	**3**	**76.5**	**421.7**	**845.9**	**2.0**	**48.5**	**1633**	**g/t**
Pb	**3**	**3160**	**1751**	**1894**	**1**	**266**	**3300**	**ppm**
Zn	**3**	**1545**	**1537**	**1432**	**1**	**595**	**3280**	**ppm**
Cu	**3**	**298**	**175**	**174**	**1**	**39**	**327**	**ppm**
Ba	**1**	**489**	**489**	**0**	**0**	**489**	**489**	**ppm**
Gold Zone	**120**			**Max Grade (using capped assays)**				**145**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	**33**		**2.03**			**0.1**	**3**	**m**
Au	**33**	**40.8**	**54.7**	**37.7**	**0.7**	**3.8**	**145**	**ppb**
AuC	**33**	**40.8**	**54.7**	**37.7**	**0.7**	**3.8**	**145**	**ppb**
Ag	**33**	**26.2**	**33.9**	**23.6**	**0.7**	**4.9**	**115**	**g/t**
Pb	**33**	**166**	**336**	**349**	**1**	**22**	**1356**	**ppm**
Zn	**33**	**561**	**932**	**691**	**1**	**177**	**2678**	**ppm**
Cu	**33**	**42**	**56**	**63**	**1**	**9**	**433**	**ppm**
Ba	**33**	**761**	**1863**	**1867**	**1**	**23**	**5743**	**ppm**
Gold Zone	**121**			**Max Grade (using capped assays)**				**748**
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	**8**		**0.96**			**0.2**	**1.4**	**m**
Au	**8**	**455.1**	**440.3**	**205.4**	**0.5**	**67.0**	**748**	**ppb**
AuC	**8**	**455.1**	**440.3**	**205.4**	**0.5**	**67.0**	**748**	**ppb**
Ag	**8**	**229.1**	**208.9**	**195.9**	**0.9**	**11.1**	**833**	**g/t**
Pb	**8**	**1003**	**1114**	**896**	**1**	**263**	**2632**	**ppm**
Zn	**8**	**1538**	**1387**	**795**	**1**	**565**	**4968**	**ppm**
Cu	**8**	**109**	**99**	**56**	**1**	**45**	**220**	**ppm**
Ba	**8**	**887**	**2826**	**2932**	**1**	**48**	**6764**	**ppm**

Gold Zone	*99*			*Max Grade (using capped assays)*				*350*
	Valid N	**Median**	**Mean**	**Std.Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	**35,992**		**1.26**			**0**	**3**	**m**
Au	**18,395**	**5.4**	**16.6**	**121.2**	**7.3**	**2.5**	**13516**	**ppb**
AuC	**18,395**	**5.4**	**14.4**	**23.6**	**1.6**	**2.5**	**350**	**ppb**
Ag	**18,395**	**1.3**	**5.3**	**19.3**	**3.6**	**0.0**	**1891**	**g/t**
Pb	**18,174**	**33**	**137**	**641**	**5**	**1**	**45373**	**ppm**
Zn	**18,094**	**131**	**334**	**937**	**3**	**1**	**53214**	**ppm**
Cu	**18,174**	**17**	**33**	**73**	**2**	**0**	**8300**	**ppm**
Ba	**17,957**	**167**	**697**	**1674**	**2**	**1**	**43109**	**ppm**

Appendix F

Estimation Parameters

SILVER

Description	Parameter
Disseminated (10) Martha Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram) (in plane of vein):	150/0/0
Search (m): major/semimajor/minor (vertical)	260/260/4
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	60/100
Composites	From capped assays
High-Grade (11) Martha Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram) (in plane of vein):	150/0/0
Search (m): major/semimajor/minor (vertical)	150/150/4
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	500/100
Composites	From capped assays
Disseminated and High-Grade (10 and 11) Martha Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram) (in plane of vein):	150/0/0
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (20) Upper Martha Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	150/0/-15
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Ag/t and distance in m)	none
Composites	From capped assays
High-Grade (21) Upper Martha Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	150/0/-15
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From capped assays
Disseminated and High-Grade (20 and 21) Upper Martha Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	150/0/0
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (30) Luz Elena Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-30
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From capped assays
High-Grade (31) Luz Elena Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-30
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	400/100
Composites	From capped assays
Disseminated and High-Grade (30 and 31) Luz Elena Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/-30
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (40) Abundancia Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-40
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From capped assays
High-Grade (41) Abundancia Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-40
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	400/100
Composites	From capped assays
Disseminated and High-Grade (40 and 41) Abundancia Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/-30
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (50) La Gloria Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	165/0/-70
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From capped assays
High-Grade (51) La Gloria Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	165/0/-70
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From capped assays
Disseminated and High-Grade (50 and 51) La Gloria Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	165/0/-70
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (60) Unnamed Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-40
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From capped assays
High-Grade (61) Unnamed Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-40
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From capped assays
Disseminated and High-Grade (60 and 61) Unnamed Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/-40
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (70) Unnamed Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-50
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From uncapped assays
High-Grade (71) Unnamed Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-50
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From capped assays
Disseminated and High-Grade (70 and 71) Unnamed Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/-50
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (120) Unnamed Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/0
Search (m): major/semimajor/minor (vertical)	100/100/50
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From capped assays
High-Grade (121) Unnamed Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/0
Search (m): major/semimajor/minor (vertical)	100/100/50
Inverse distance power	2
High-grade restrictions (grade in g Ag/t / distance in m)	none
Composites	From uncapped assays
Disseminated and High-Grade (120 and 121) Unnamed Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/0
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

GOLD

Description	Parameter
Disseminated (10) Martha Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram):	150/0/0
Search (m): major/semimajor/minor (vertical)	260/260/4
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	60/100
Composites	From capped assays
High-Grade (11) Martha Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram):	150/0/0
Search (m): major/semimajor/minor (vertical)	150/150/4
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	500/100
Composites	From capped assays
Disseminated and High-Grade (10 and 11) Martha Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	150/0/0
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (20) Upper Martha Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	150/0/-15
Search (m): major/semimajor/minor (vertical)	200/200/60
Inverse distance power	2
High-grade restrictions (grade in g Au/t and distance in m)	none
Composites	From capped assays
High-Grade (21) Upper Martha Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	150/0/-15
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
Disseminated and High-Grade (20 and 21) Upper Martha Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	150/0/-15
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (30) Luz Elena Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-30
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
High-Grade (31) Luz Elena Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-30
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	400/100
Composites	From capped assays
Disseminated and High-Grade (30 and 31) Luz Elena Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/-30
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (40) Abundancia Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-40
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
High-Grade (41) Abundancia Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-40
Search (m): major/semimajor/minor (vertical)	150/150/40
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
Disseminated and High-Grade (40 and 41) Abundancia Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/-40
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (50) La Gloria Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	165/0/-70
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
High-Grade (51) La Gloria Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	165/0/-70
Search (m): major/semimajor/minor (vertical)	200/200/50
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
Disseminated and High-Grade (50 and 51) La Gloria Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	165/0/-70
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (60) Unnamed Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-40
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
High-Grade (61) Unnamed Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-40
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
Disseminated and High-Grade (60 and 61) Unnamed Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/-40
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (70) Unnamed Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-50
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From uncapped assays
High-Grade (71) Unnamed Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/-50
Search (m): major/semimajor/minor (vertical)	100/100/30
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
Disseminated and High-Grade (70 and 71) Unnamed Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/-50
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Description	Parameter
Disseminated (120) Unnamed Vein – 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/0
Search (m): major/semimajor/minor (vertical)	100/100/50
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From capped assays
High-Grade (121) Unnamed Vein– 1st Pass	
Samples: minimum/maximum/maximum per hole	1/12/2
Rotation/Dip/Tilt (variogram and searches)	180/0/0
Search (m): major/semimajor/minor (vertical)	100/100/50
Inverse distance power	2
High-grade restrictions (grade in g Au/t / distance in m)	none
Composites	From uncapped assays
Disseminated and High-Grade (120 and 121) Unnamed Vein – 2nd Pass	
Samples: minimum/maximum/maximum per hole	2/12/2
Rotation/Dip/Tilt (variogram): same as 1st Pass	180/0/0
Search (m): major/semimajor/minor (vertical)	5/5/5
Inverse distance power	2
Composites	From uncapped assays

Appendix G

Resources by Vein

Martha Undiluted Indicated

Cutoff (g AgEq/t)	Tonnes	Ag grade (g AgEq/t)	Ag grade (g Ag/t)	Silver Ounces	Au grade (g Au/t)	Gold Ounces
50.00	10,646,000	167	150	51,450,000	0.28	94,000
75.00	8,861,000	188	170	48,520,000	0.29	84,000
100.00	**7,394,000**	**208**	**189**	**44,900,000**	**0.31**	**75,000**
125.00	5,987,000	230	210	40,480,000	0.33	64,000
150.00	4,603,000	258	237	35,040,000	0.36	53,000
200.00	2,719,000	317	293	25,600,000	0.41	36,000
250.00	1,684,000	375	348	18,840,000	0.46	25,000

Martha Undiluted Inferred

Cutoff (g AgEq/t)	Tonnes	Ag grade (g AgEq/t)	Ag grade (g Ag/t)	Silver Ounces	Au grade (g Au/t)	Gold Ounces
50.00	12,701,000	166	151	61,752,000	0.24	100,000
75.00	10,798,000	184	169	58,724,000	0.25	88,000
100.00	**8,777,000**	**207**	**191**	**53,764,000**	**0.27**	**77,000**
125.00	7,121,000	229	212	48,487,000	0.28	65,000
150.00	5,733,000	251	233	42,917,000	0.30	56,000
200.00	3,459,000	303	284	31,575,000	0.31	35,000
250.00	1,699,000	383	360	19,680,000	0.37	20,000

Luz Elena Undiluted Indicated

Cutoff (g AgEq/t)	Tonnes	Ag grade (g AgEq/t)	Ag grade (g Ag/t)	Silver Ounces	Au grade (g Au/t)	Gold Ounces
50.00	539,000	176	167	2,900,000	0.15	3,000
75.00	479,000	190	182	2,800,000	0.14	2,000
100.00	433,000	201	193	2,690,000	0.14	2,000
125.00	358,000	219	212	2,440,000	0.13	1,000
150.00	262,000	249	241	2,030,000	0.13	1,000
200.00	167,000	289	282	1,510,000	0.12	1,000
250.00	52,000	437	424	710,000	0.23	-

Luz Elena Undiluted Inferred

Cutoff (g AgEq/t)	Tonnes	Ag grade (g AgEq/t)	Ag grade (g Ag/t)	Silver Ounces	Au grade (g Au/t)	Gold Ounces
50.00	461,000	181	171	2,540,000	0.16	2,000
75.00	409,000	196	187	2,450,000	0.15	2,000
100.00	382,000	203	195	2,390,000	0.14	2,000
125.00	338,000	215	207	2,250,000	0.14	2,000
150.00	225,000	253	244	1,770,000	0.15	1,000
200.00	140,000	299	290	1,310,000	0.16	1,000
250.00	67,000	386	373	800,000	0.21	-

Abundancia **Undiluted** **Indicated**

Cutoff (g AgEq/t)	Tonnes	Ag grade (g AgEq/t)	Ag grade (g Ag/t)	Silver Ounces	Au grade (g Au/t)	Gold Ounces
50.00	2,738,000	155	144	12,660,000	0.19	17,000
75.00	2,453,000	166	155	12,220,000	0.19	15,000
100.00	2,035,000	182	172	11,220,000	0.17	11,000
125.00	1,621,000	200	189	9,850,000	0.18	10,000
150.00	1,228,000	220	208	8,220,000	0.20	8,000
200.00	558,000	281	267	4,790,000	0.23	4,000
250.00	307,000	330	314	3,090,000	0.27	3,000

Abundancia **Undiluted** **Inferred**

Cutoff (g AgEq/t)	Tonnes	Ag grade (g AgEq/t)	Ag grade (g Ag/t)	Silver Ounces	Au grade (g Au/t)	Gold Ounces
50.00	2,493,000	142	130	10,450,000	0.20	16,000
75.00	2,228,000	152	141	10,090,000	0.18	13,000
100.00	1,852,000	164	154	9,180,000	0.17	10,000
125.00	1,355,000	184	173	7,520,000	0.19	8,000
150.00	940,000	204	193	5,820,000	0.20	6,000
200.00	389,000	249	237	2,960,000	0.20	3,000
250.00	167,000	285	272	1,460,000	0.22	1,000

Gloria **Undiluted** **Indicated**

Cutoff (g AgEq/t)	Tonnes	Ag grade (g AgEq/t)	Ag grade (g Ag/t)	Silver Ounces	Au grade (g Au/t)	Gold Ounces
50.00	917,000	173	160	4,730,000	0.21	6,000
75.00	850,000	181	169	4,610,000	0.21	6,000
100.00	775,000	190	177	4,420,000	0.21	5,000
125.00	683,000	201	187	4,120,000	0.22	5,000
150.00	532,000	218	205	3,500,000	0.23	4,000
200.00	281,000	262	248	2,240,000	0.24	2,000
250.00	163,000	287	274	1,440,000	0.21	1,000

Gloria **Undiluted** **Inferred**

Cutoff (g AgEq/t)	Tonnes	Ag grade (g AgEq/t)	Ag grade (g Ag/t)	Silver Ounces	Au grade (g Au/t)	Gold Ounces
50.00	977,000	163	153	4,800,000	0.17	5,000
75.00	900,000	171	161	4,650,000	0.17	5,000
100.00	741,000	189	178	4,240,000	0.19	5,000
125.00	632,000	202	191	3,870,000	0.20	4,000
150.00	515,000	217	205	3,390,000	0.21	3,000
200.00	293,000	250	238	2,250,000	0.19	2,000
250.00	163,000	275	265	1,390,000	0.17	1,000

All other veins **Undiluted** **Inferred**

Cutoff (g AgEq/t)	Tonnes	Ag grade (g AgEq/t)	Ag grade (g Ag/t)	Silver Ounces	Au grade (g Au/t)	Gold Ounces
50.00	585,000	156.8	142.9	2,690,000	0.23	4,000
75.00	444,000	186.3	171.1	2,440,000	0.25	4,000
100.00	335,000	219.4	203.7	2,190,000	0.26	3,000
125.00	272,000	243.9	226.8	1,990,000	0.29	2,000
150.00	257,000	250.4	233.5	1,930,000	0.28	2,000
200.00	198,000	271.8	253.2	1,610,000	0.31	2,000
250.00	161,000	282.9	263.8	1,370,000	0.32	2,000