

Report to:



SILVER STANDARD RESOURCES INC.

San Agustin Resource Estimate

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Report to:



SILVER STANDARD RESOURCES INC.

SAN AGUSTIN RESOURCE ESTIMATE

MARCH 2009

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GLOSSARY

UNITS OF MEASURE

Above mean sea level.....	amsl
Acre	ac
Ampere	A
Annum (year)	a
Billion	B
Billion tonnes.....	Bt
Billion years ago.....	Ga
British thermal unit	BTU
Centimetre	cm
Cubic centimetre	cm ³
Cubic feet per minute	cfm
Cubic feet per second	ft ³ /s
Cubic foot.....	ft ³
Cubic inch	in ³
Cubic metre.....	m ³
Cubic yard.....	yd ³
Coefficients of Variation	CVs
Day	d
Days per week	d/wk
Days per year (annum)	d/a
Dead weight tonnes	DWT
Decibel adjusted	dBa
Decibel	dB
Degree	°
Degrees Celsius.....	°C
Diameter	Ø
Dollar (American)	US\$
Dollar (Canadian).....	Cdn\$
Dry metric ton.....	dmt
Foot.....	ft
Gallon	gal
Gallons per minute (US).....	gpm
Gigajoule.....	GJ
Gigapascal	GPa
Gigawatt.....	GW
Gram	g
Grams per litre	g/L
Grams per tonne	g/t

Greater than	>
Hectare (10,000 m ²)	ha
Hertz	Hz
Horsepower	hp
Hour	h
Hours per day	h/d
Hours per week	h/wk
Hours per year	h/a
Inch	"
Kilo (thousand)	k
Kilogram	kg
Kilograms per cubic metre	kg/m ³
Kilograms per hour	kg/h
Kilograms per square metre	kg/m ²
Kilometre	km
Kilometres per hour	km/h
Kilopascal	kPa
Kilotonne	kt
Kilovolt	kV
Kilovolt-ampere	kVA
Kilovolts	kV
Kilowatt	kW
Kilowatt hour	kWh
Kilowatt hours per tonne (metric ton)	kWh/t
Kilowatt hours per year	kWh/a
Less than	<
Litre	L
Litres per minute	L/m
Megabytes per second	Mb/s
Megapascal	MPa
Megavolt-ampere	MVA
Megawatt	MW
Metre	m
Metres above sea level	masl
Metres Baltic sea level	mbsl
Metres per minute	m/min
Metres per second	m/s
Metric ton (tonne)	t
Microns	µm
Milligram	mg
Milligrams per litre	mg/L
Millilitre	mL
Millimetre	mm
Million	M
Million bank cubic metres	Mbm ³
Million bank cubic metres per annum	Mbm ³ /a

Million tonnes	Mt
Minute (plane angle)	'
Minute (time)	min
Month	mo
Ounce	oz
Pascal	Pa
Centipoise	mPa·s
Parts per million	ppm
Parts per billion	ppb
Percent	%
Pound(s)	lb
Pounds per square inch	psi
Revolutions per minute	rpm
Second (plane angle)	"
Second (time)	s
Specific gravity	SG
Square centimetre	cm ²
Square foot	ft ²
Square inch	in ²
Square kilometre	km ²
Square metre	m ²
Thousand tonnes	kt
Three Dimensional	3D
Three Dimensional Model	3DM
Tonne (1,000 kg)	t
Tonnes per day	t/d
Tonnes per hour	t/h
Tonnes per year	t/a
Tonnes seconds per hour metre cubed	ts/hm ³
Volt	V
Week	wk
Weight/weight	w/w
Wet metric ton	wmt
Year (annum)	a

1.0 SUMMARY

Silver Standard Resources Inc. (Silver Standard) has requested that Wardrop Engineering Inc. (Wardrop) prepare a technical report on the San Agustin project in Durango State, Mexico. Information and data for the report were obtained from site visits by Wardrop on October 28 to 30, 2007 as well as from reports received directly from prior operator Geologix Explorations Inc. (Geologix) personnel.

The San Agustin property consists of two mineral claims located in the northern San Lucas de Ocampo District, 4 km north of the village of San Agustin de Ocampo and approximately 100 km north of the city of Durango in the state of Durango, Mexico. The San Agustin property is easily accessible year round. The property was the subject of an option agreement between Silver Standard Resources Inc. (Silver Standard), Geologix, and both of their Mexican subsidiaries, giving Geologix the right to purchase a 100% interest in the property. On February 10, 2009, the property reverted back to Silver Standard as Geologix elected not to exercise its option to acquire the property. This report is to support the release of a mineral resource estimate by Silver Standard for the San Agustin deposit.

The San Agustin project is comprised of two distinct topographic zones, a central zone that consists of low hills with a maximum relief of 100 m, and a flat lying zone that forms an apron around the central hills. A semi-dry climate dominates the San Agustin area and rainfall is limited to approximately 500 mm annually. Electrical power from the main grid is currently available in the town of San Agustin, approximately 6 km from the property.

The immediate area of the San Agustin property has a documented exploration history of about 25 years. A few small adits, shafts, and pits focusing on narrow veins are situated throughout the project area but actual mining appears to have been very limited. Monarch Resources Ltd. carried out a two-phase drilling program in 1997-1998 drilling 65 reverse circulation (RC) drill holes totalling 9,362 m, and 4 diamond drill holes totalling 1,002 m. Late in 2003, Silver Standard Mexico S.A. de C.V. (SSM) undertook an extensive mapping and sampling program including the collection of 1,257 chip samples. This program was followed up by an RC drilling program that consisted of 23 holes totalling 3,890 m. Most of this work was focused on better defining the higher grade areas on Alunite Ridge, now known as the Main Zone. In August 2006, SSM optioned the property to Geologix, who carried out an extensive exploration program on the San Agustin property.

Work completed by Geologix included:

- 19.25 line km of Induced Polarization (IP) survey
- 135 soil samples
- 262 rock samples (grab and chip samples)
- continuous chip sampling of 5,416.5 m in 25 trenches
- continuous chip sampling of 898.5 m of road cuts
- 175 holes totalling 40,679.8 m
- systematic sampling of 95 m of underground workings
- detailed geological and alteration mapping over 3 km²
- re-logging of earlier RC drill hole chips and diamond drill core.

The San Agustin property lies in the Altiplano Subprovince of the Sierra Madre Occidental (SMO). The Altiplano Subprovince is on the east flank of the SMO and is comprised of Jurassic to Late Tertiary sedimentary and volcanic rocks. The oldest rocks on the San Agustin area are Cretaceous siltstones, sandstones, and limestones. These rocks are unconformably overlain by a thick sequence of Tertiary volcanic rocks which characterize the SMO. The sequence is comprised of an older andesite dominated series, and a younger pyroclastic dominated rhyolite series. These two main series are referred to as the Lower Volcanic Series (LVS) and Upper Volcanic Series (UVS) respectively.

Higher grade, structurally controlled mineralization associated with the central zone of sheeted veins was the focus of the recent exploration programs. Drilling and surface sampling has confirmed the presence of the structural zone.

A total of 264 drill holes have been drilled on the property to the end of October 2008; however, results were only available for 240 to complete the estimate on the mineralized zones. The current phase of drilling has been completed and all results are expected by the end of February 2009.

All geological samples have been collected and handled in a professional manner. The practice has been to sample the entire length of all diamond drill holes; sample intervals are geologically constrained and are generally determined on the basis of sulphide content or lithologic contacts. Samples vary in length from 0.25 m to 7.2 m, although 1.5 m is most common. Several laboratories have been used over the life of the San Agustin project; all have been commercially independent laboratories.

Geologix commissioned Process Research Associates Ltd. (PRA) of Richmond, BC to carry out three preliminary metallurgical tests on the San Agustin project. Precious metal recoveries of 93-99% for gold and 82-94% for silver occur in rougher flotation concentrates regardless of the activation method used in the tests. Results, although preliminary in nature, show recoveries of 91% and 92% for lead and zinc, respectively.

In May 2008, Geologix submitted three sets of drill hole composite samples to G&T Laboratory for mineralogical study and processing assessment. The results indicated that bulk sulphide flotation followed by regrinding and cleaning stages can improve the zinc, silver, and gold recoveries. The recoveries for gold, silver, lead, and zinc were 72%, 74%, 50%, and 62%, respectively.

Wardrop estimated, within a Whittle pit shell, that the San Agustin deposit, at a cut-off of \$3.40 RMV in the oxide and \$6.25 RMV in the sulphide, contains capped Indicated resources of 121.0 million tonnes grading 0.41 g/t Au, 12.3 g/t Ag, 0.49% Zn, 0.06% Pb and additional Inferred resources of 91.2 million tonnes grading 0.36 g/t Au, 12.6 g/t Ag, 0.48% Zn, 0.07% Pb.

Based on the exploration of the property to date and the discovery of a significant mineral deposit, the San Agustin property is of sufficient merit to warrant further exploration work. Wardrop recommends the following work program for the property:

- Carry out additional drilling to define the extent of mineralization and to increase sampling density between zones. Wardrop estimates that the drilling program will cost approximately \$3 million.

Carry out detailed metallurgical test work on the mineralization. Wardrop estimates that additional metallurgical test work will cost about \$1 million.

2.0 INTRODUCTION AND TERMS OF REFERENCE

Silver Standard has requested that Wardrop prepare a technical report on the San Agustin project in Durango State, Mexico. The report is to support the release of an updated mineral resource estimation for the San Agustin deposit by Silver Standard. Gilles Arseneau (P.Geo.), Manager of Geology for Wardrop, is responsible for the preparation of this report and the mineral estimate.

2.1 TERMS OF REFERENCE

Information and data for the report were obtained from site visits by Wardrop on October 28 to 30, 2007 as well as from reports received directly from Geologix personnel. Pertinent geological information was reviewed in sufficient detail to prepare this report.

Unless otherwise stated, all units of measurement in this report are metric and all costs are expressed in Canadian dollars. The payable metals gold (Au), silver (Ag), lead (Pb), and zinc (Zn) are priced in United States dollars (US\$) per ounce or per pound. The following abbreviations are used in this report:

Term	Abbreviation
atomic absorption	AA
atomic absorption spectroscopy	AAS
atomic emission spectroscopy	AES
Bondar-Clegg & Company	Bondar-Clegg
cubic feet per metre	cfm
dollar (Canadian)	\$ or C\$
dollar (US)	US\$
Geologix Explorations Inc.	Geologix
Global Positioning System	GPS
gold	Au
gram	g
Induced Polarization	IP
inductively coupled plasma	ICP
kilograms	kg
kilometre	km
La Cuesta International Inc.	La Cuesta
lead	Pb

table continues...

Term	Abbreviation
Lower Volcanic Series	LVS
metre	m
metres above sea level	masl
million tonnes	Mt
Monarch Resources Ltd.	Monarch
National Instrument 43-101	NI 43-101
net smelter returns	NSR
Ore Research and Exploration	Oreas
ounce	oz
parts per billion	ppb
pound	lb
pounds per square inch	psi
Process Research Associates Ltd.	PRA
quality assurance/quality control	QA/QC
quartz-sericite-pyrite	QSP
reverse circulation	RC
Sierra Madre Occidental	SMO
silver	Ag
Silver Standard Mexico S.A. de C.V.	SSM
Silver Standard Resources Inc.	Silver Standard
square kilometre	km²
square metre	m²
tonne (1,000 kg)	t
Upper Volcanic Series	UVS
Wardrop Engineering Inc.	Wardrop
zinc	Zn

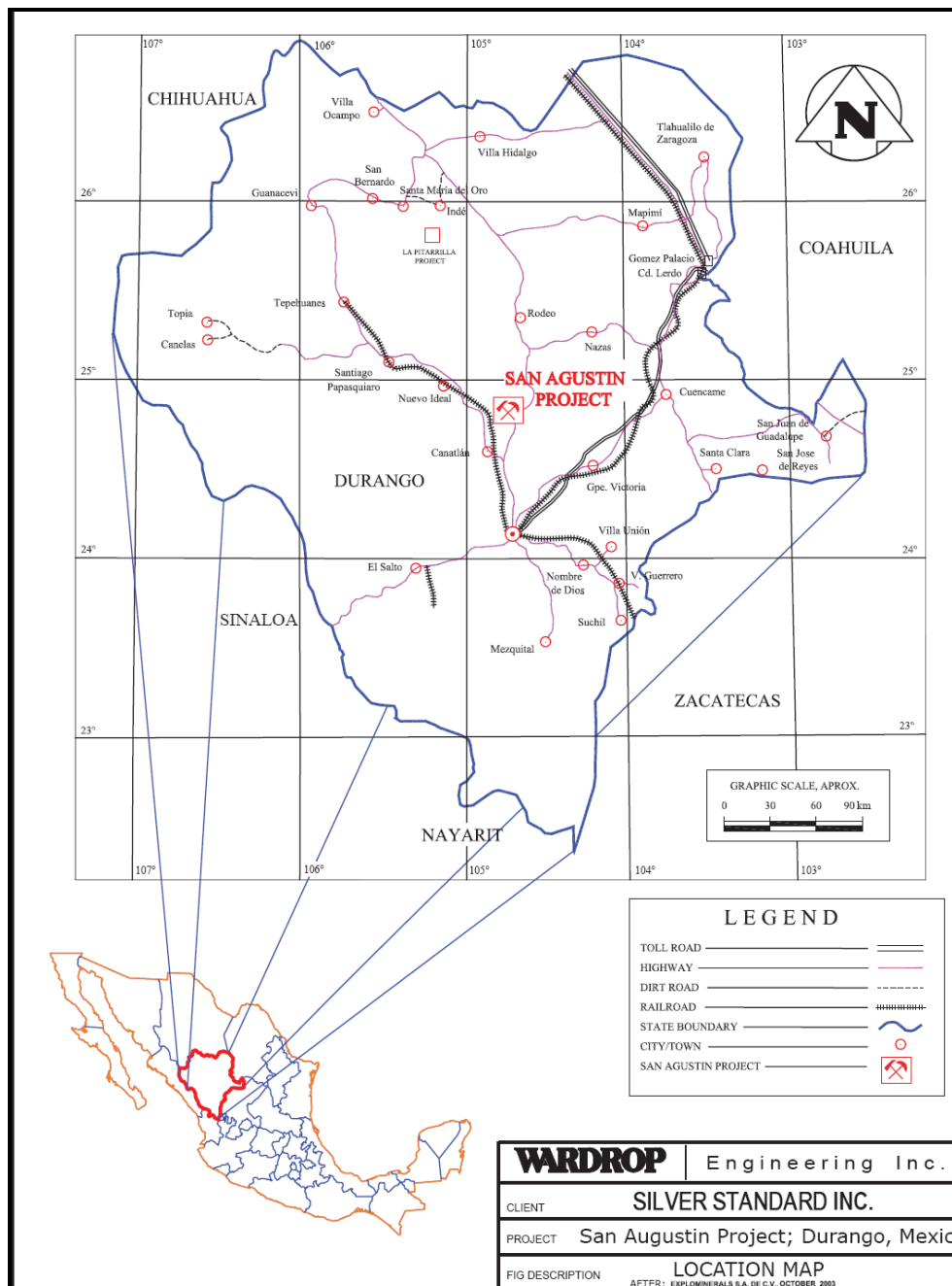
3.0 RELIANCE ON OTHER EXPERTS

Wardrop has not carried out an independent title search for the property referred to in this report; instead, we have relied on information provided by Silver Standard for matters relating to property titles, surface rights, and environmental matters.

4.0 PROPERTY DESCRIPTION AND LOCATION

The San Agustin property consists of two mineral claims located in the northern San Lucas de Ocampo District, 4 km north of the village of San Agustin de Ocampo and approximately 100 km north of the city of Durango in the state of Durango, Mexico (Figure 4.1). It is situated on the San Juan Del Rio topographic map sheet G13D-51 centered near 24°47'24" North and 104°36'00" West.

Figure 4.1 Property Location Map



4.1 MINERAL TENURE

Table 4.1 lists the claims and title number of the exploration concessions for the San Agustin Property. The claims illustrated in Figure 4.2 have been legally surveyed as required in Mexico. The claims are maintained in good standing through semi-annual payments to the Mexican government. The last payment was made in January 2009 to cover the period from January 2009 to June 2009; it totalled \$18,221 (pesos) or approximately CAD\$1,662.98. A payment is due in July 2009 to cover the second half of the year and the amount will differ slightly from previous payments as the Mexican government sets the per hectare rate every six months.

Industrias Peñoles has four small parcels comprising two claims (MKT-A+B E-30898 and MKT-A 30986) contained within the San Agustin claims.

Table 4.1 San Agustin Mineral Claims

Claim Name	Title Number	Expiry Date	Location	Size
San Agustin	219824	April 21, 2053	Durango, Mexico	373.24 ha
San Agustin 1	219825	April 21, 2053	Durango, Mexico	203.00 ha

Surface rights are controlled by two Ejidos and several individual landowners. Letters of consent are obtained before carrying out any work on the property.

4.2 AGREEMENTS

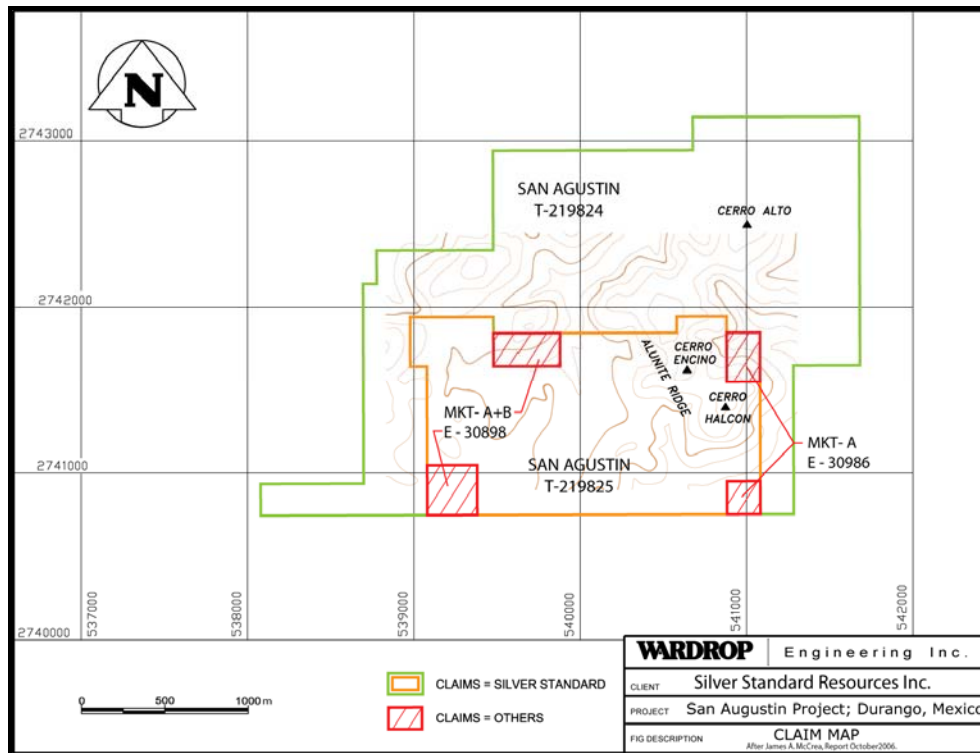
4.2.1 SAN AGUSTIN

The San Agustin and San Agustin I claims are currently 100% owned by Silver Standard, Geologix having elected not to exercise its option to acquire the property. The property was the subject of an option agreement amongst Silver Standard, Geologix, and both of their Mexican subsidiaries, which gave Geologix the right to purchase a 100% interest in the property. On February 10, 2009, Geologix announced that it had decided not to pursue its option to acquire the San Agustin Property.

The property is also subject to an underlying finder's fee agreement (La Cuesta Royalty), whereby the prospectors are paid 2% of exploration expenditures or US\$5,000 semi-annually (whichever is greater), and a 0.25% NSR on any production. Total payments are capped at US\$500,000.

There are no other known royalties, back-in rights, payments, or agreements and encumbrances to which the property is subject. The property has no known environmental liabilities or outstanding issues.

Figure 4.2 Claim Map



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

5.1 ACCESSIBILITY

The San Agustin property is easily accessible year round. Initial access to the area can be gained via paved Highway 45 for 90 km north from Durango to San Lucas de Ocampo. San Agustin can be reached from San Lucas de Ocampo by a 10 km all-weather gravel road. Dirt roads provide access to flat areas within the mineral claims and cat roads allow access to Alunite Ridge, Cerro Alto, and Cerro Halcon.

5.2 PHYSIOGRAPHY

The San Agustin project is comprised of two distinct topographic zones: a central zone that consists of low hills with a maximum relief of 100 m and a flat lying zone that forms an apron around the central hills. Absolute relief varies from 1875 metres above mean sea level (masl) in stream gullies to 2000 masl at the top of Cerro Alto. Numerous intermittent streams bisect the landscape and drainage is almost fan-like away from the central hills to the north. East of the central hills, drainages are more linear and appear to reflect large-scale regional faults.

Vegetation in the area consists of various species of cactus, mesquite, and other thorny bushes. Fertile areas of the flat-lying fans near prominent streams are under cultivation (corn, beans) while the remainder is used as pasture for cattle and burros.

5.3 CLIMATE

A semi-dry climate dominates the San Agustin area and rainfall is limited to approximately 500 mm annually. The climate is temperate with an average annual temperature of 18°C, maximum temperature reaching 35°C, and minimum temperature falling to 2°C. The rainy season is from June through to August, with minimal rainfall occurring from September to May.

5.4 LOCAL RESOURCES

Drill core is being stored in two rented bodegas near the project. One is in San Agustin and is used as a logging, core sawing, core storage, and sample sorting facility for material from Geologix's drilling and trenching programs. The second, in San Lucas de Ocampo, is used for storage of RC chips and sample rejects from earlier drilling campaigns. Office space rental and sleeping accommodations is available from a hotel in nearby San Juan Del Rio.

Electrical power from the main grid is currently available in the town of San Agustin, approximately 6 km from the property. Power that is more suitable for upgrading to a potential mining operation would be available from a power line approximately 20 km to the west of the property. While several small water reservoirs are present on the property, most of the water is used (or reserved) by the local ejidos and landowners for irrigation and watering livestock. Wells could be easily dug or drilled to access additional water supply as water has been encountered in recent diamond drill holes on the property.

The village of San Agustin (~250 inhabitants) also serves as a small supply of unskilled labour for the project as does the town (~1,500 inhabitants) of San Juan Del Rio. Mexican geological and technical personnel generally live further from the project and work on a rotation basis, staying in San Juan Del Rio. Staff for mining operations would likely have to be rotated in and out from larger centres. Contract services and air transportation are available in the city of Durango.

6.0 HISTORY

The immediate area of the San Agustin property has a documented exploration history of about 25 years. A few small adits, shafts, and pits focusing on narrow veins are situated throughout the project area but actual mining appears to have been very limited.

Consejo de Recursos Nacional (Mexican government) conducted exploration in the south and west parts of the property (now the Consejo Property) in the 1980s, focusing on the evaluation of narrow high-grade vein potential. As reported by McLean (1997), the following exploration work was completed:

- 1:10,000 scale geological mapping
- 283 m of trenching
- 872 surface and underground channel samples collected
- 4,339 m drilled in 35 holes
- 151 m of underground exploration including a 93 m deep shaft, 27 m of drifting, 22 m of cross-cut, and 9 m of raise.

While the work resulted in a very small mineral resource being estimated for the property, none of the data from the estimate is available. The reliability of the estimate could not be verified and was deemed not suitable for public disclosure.

The El Carmen property, bordering San Agustin on the east, is the site of a few old workings of unknown date. As far as Silver Standard is aware, it has not seen any modern exploration.

6.1 MONARCH RESOURCES (1996 – 1999)

In late 1996, Monarch Resources Ltd. (Monarch) acquired 4,800 ha in the San Agustin area including the current claims. By early 1997, Monarch had surveyed and staked 204 line kilometres of grid, and collected 3,214 soil samples and 209 rock chip samples, all of which were analyzed at Bondar Clegg in Vancouver, BC.

La Cuesta International Inc. (La Cuesta), original locators of the project working on behalf of Monarch, also investigated San Agustin in 1996. La Cuesta collected 229 rock samples and 37 stream sediment samples over a pyrite and sericite altered datite dome. The work defined a distinct gold anomalous zone over a 1.5 km² area. Additional silver, lead, zinc, arsenic, and mercury anomalies were also detected.

Monarch carried out a Phase I drilling program between May and July 1997. The program consisted of 36 RC drill holes totalling 3,708 m, and 4 diamond drill holes totalling 1,002 m. This program was designed to test 200 ppb to 400 ppb gold anomalies in soil and resulted in the identification of significant zones of mineralization at Alunite Ridge and Cerro Halcon (Figure 4.2). In 1998, an additional 29 RC holes totalling 5,654 m were drilled, concentrating on the further defining the zones located in Phase I. Poorer than expected results from the first 15 holes resulted in the program being cancelled after 29 of a planned 55 holes had been drilled. Despite these setbacks, Monarch geologists still proposed completing the program and carrying out metallurgical test work consisting of bottle roll and flotation tests. Monarch abandoned the property in 1998 or 1999.

Table 6.1 Significant Gold Intersections from Monarch Phase I Drilling

Hole-ID	From (m)	To (m)	Core Length (m) ¹	Au (g/t)	Ag (g/t)	Zn (ppm)
SA-2	0	32	32	0.29	10.42	233
SA-9	70	100	30	0.48	8.75	3,887
SA-13	0	100	100	0.41	9.8	2,243
SA-17	0	86	86	0.42	15.98	2,229
SA-34	70	171	101	0.96	2.59	818

Note: Intersections are stated as core lengths and do not represent true thickness. Most drilling is oriented to intersect the mineralized unit as close as possible to true thickness; however, because of the variable dip of different mineralized zones, core thicknesses do not always relate to true thickness.

6.2 SILVER STANDARD (2002 – 2006)

In December 2002, SSM, a wholly owned subsidiary of Silver Standard, located the current San Agustin claims, to which they were awarded title in April of 2003.

Late in 2003, SSM undertook an extensive mapping and sampling program including the collection of 1,257 chip samples. This program was followed up by an RC drilling program that consisted of 23 holes totalling 3,890 m. Most of this work was focused in better defining the higher grade areas on Alunite Ridge, now known as the Main Zone. In August 2006, SSM optioned the property to Geologix. Geologix carried out exploration on the property during the option period ending in February 2009. This work is described fully in Section 10 of this report.

7.0 GEOLOGICAL SETTING

7.1 REGIONAL GEOLOGY

The San Agustin property lies in the Altiplano Subprovince of the SMO. The SMO is a regionally extensive Eocene to Miocene volcanic field that extends from the US-Mexico border to Central Mexico. The Altiplano Subprovince is on the east flank of the SMO and is comprised of Jurassic to Late Tertiary sedimentary and volcanic rocks.

The oldest rocks on the San Agustin area are Cretaceous siltstones, sandstones, and limestones. These rocks are unconformably overlain by a thick sequence of Tertiary volcanic rocks which characterize the SMO. The sequence is comprised of an older andesite dominated series and a younger pyroclastic dominated rhyolite series. These two main series are referred to as the LVS and UVS, respectively.

The LVS can attain thicknesses of 1,000 m and is dominated by Paleocene and Eocene andesitic lava and pyroclastic rocks with volcanoclastic interbeds. These are extensively exposed to the southwest of San Agustin near San Lucas de Ocampo, and several kilometres to the northwest of San Agustin. The LVS is cut by calc-alkaline dacite to rhyodacite intrusive rocks that occur as domes, sills, and dykes. The UVS unconformably overlies the LVS rocks and can be up to 1,000 m thick. It is dominated by Oligocene and Early Miocene dacite-rhyolite pyroclastic units. Precious metal deposits generally tend to occur in the Lower Series rocks with the Upper Series being largely devoid of precious metals mineralization.

7.2 PROPERTY GEOLOGY

The San Agustin property is underlain by three main rock types: Cretaceous sedimentary rocks, the dacite dome complex, and Tertiary felsic extrusive rocks.

The Cretaceous sedimentary rocks are comprised of thinly bedded siltstones and lesser limestone that occur as rafts within the dacite dome complex. While orientation of these rafts is variable, the larger blocks exposed are mostly aligned with a south-easterly strike and near vertical dips (Barclay, 2007). The siltstone is generally grey to maroon with hematite staining and limonite coatings on fractures and is calcareous in some localities (MacLean, 1997).

The dacite dome complex is the main rock type of interest and underlies a majority of the property. It is exposed sporadically and typically forms areas of low relief.

During Monarch's mapping, four phases were identified within the dacite dome complex and described by MacLean (1997):

- 1) massive porphyritic dacite
- 2) flow banded porphyritic dacite
- 3) brecciated massive porphyritic dacite
- 4) pebble dykes with sub-rounded fragments.

MacLean (1997) provides a detailed description of the first phase:

"The massive porphyritic dacite is typically grey to mauve with phenocrysts of altered feldspar in a fine grained matrix of mostly quartz. Sericite alteration is ubiquitous and biotite books are completely replaced. This dacite is commonly fractured with hematite and limonite coating fractures and also as stockwork veinlets. Sulphide content varies from 1-20%, which is indicated by oxidized veinlets and boxwork textures of cubic casts where pyrite and possible other sulphides have been leached. Where the original sulphide content approached 20%, the dacite has a strong mauve tint. Volumetrically, this phase represents about 70% of dacite exposed in the center part of the grid."

Flow banded rhyolite occurs throughout the dacite exposure, comprising approximately 15% of the exposed rock, but is most prominent along the eastern flank of Cerro Halcon. It is banded on a centimetre-scale and displays variable orientations from flat to nearly vertical. Banding is often accentuated by purple pyrite casts as sulphide mineralization appears to have been aligned along the flow banding. Carapace breccias have been developed locally.

Brecciated massive porphyritic dacite is common throughout the dome complex and comprises approximately 10% of the exposure. It is very similar to the massive dacite but has been fractured and clasts have undergone minor rotation and/or displacement (MacLean, 1997). This material may represent flow or carapace breccia (Burk, 2005).

The final phase of the dacite dome complex is represented by small pebble dykes found throughout the complex. Where seen in exposure, these rarely exceed 5 m² in size and in some cases form narrow vertical pipes cross-cutting the massive dacite. They typically contain sub-rounded to rounded clasts of light grey dacite up to 25 cm in diameter in a fine- grained siliceous matrix. Usually they are clast-supported but locally may be matrix-supported. Fine-grained, un-oxidized pyrite is commonly disseminated throughout the matrix.

Tertiary felsic welded tuffs belonging to the UVS, which are post mineral, outcrop to the south of Alunite ridge and Cerro Halcon, near the southern boundary of the property. This unit consists of flat lying, maroon-pink welded rhyolite tuff and pumaceous tuff. It is typically found capping small hills that appear to overly the dacite.

Quaternary cover overlies most of the flat low lying areas of the property.

7.3 STRUCTURE

Two main structural trends have been identified in the San Agustin area: northwest (320°) trending lineaments and northeast (050 to 060°) trending lineaments, both subvertical. Some of these are likely faults which juxtapose UVS rocks against the dacite dome/sedimentary rocks of the LVS. Definitive offsets have not yet been identified or recognized. Mineralization on the property appears to be related to or associated with the northeast trending structures.

All units on the property are fractured. A report documenting oriented core and outcrop data by Barclay (2007) confirmed the primary NE-SW and NW-SW trends as well as identified additional fracture sets in N-S, E-W, and horizontal orientations. The trends identified were independent of fracture filling so fracture filling mineralogy cannot be used to identify or weight gold-silver or base metal potential in any of the fracture trends.

8.0 DEPOSIT TYPES

San Agustin is a low grade, primarily intrusive and secondarily sediment hosted Au-Ag-Pb-Zn mineral system, characterized by stockwork hosted and, to a lesser extent, disseminated mineralization. The deposit is similar to several breccia hosted deposits found near intrusions in the Sierra Madre area as described by Greybeal (1981). These are most often hosted in felsic volcanic and sedimentary rocks; they show a strong spatial association to intrusive rocks and are characterized by silica-sericite-pyrite alteration. In addition to silver, they may contain variable quantities of gold, lead, zinc, and manganese. Examples of these deposits include the Creede in Colorado, the Candelaria in Nevada, and the Tombstone deposit in Arizona.

9.0 MINERALIZATION

Two main zones of precious and base metal mineralization have been outlined on the San Agustin property. One passes through Cerro Encino and is comprised of the Main Zone and Zone 2; the other trends along the southern flank of Cerro Halcon and is comprised of Zone 4. The two zones are sub-parallel and trend in a NE-SW (050-060) direction (Figure 4.2). Mineralization, as defined to date, is largely horizontal and could be described as irregular blankets covering at least 1,100 m strike extent and up to 350 m widths over Zone 2 and the Main Zone, and 600 m by 350 m in Zone 4. Thicknesses vary from a few metres to over 200 m. In some areas it appears that there are possible steeply dipping feeder zones at depth; however, deep drilling is needed to more fully explore this idea.

Both trends, which cut across geological units, remain open in several directions and require additional drilling to fully define strike, width, and depth extents. Current data suggests that the Main Zone and Zone 4 are actually joined together.

Several additional zones of mineralization have recently been discovered on the property through extensive trenching programs. At present, the extent of these discoveries is not well known.

9.1 MINERALIZATION

The mineralized zones themselves are defined largely by relatively close spaced stockwork veinlets, many of which parallel the large scale regional trends of NE-SW and NW-SE. In the oxide portion of the zones, which extend from 30 to 60 m below surface, the stock work is expressed as hematite and limonite veinlets and fracture coatings. Locally, manganese oxides and jarosite can also be present. In the deeper sulphide portions of the zones, the stockwork veinlets are composed mainly of pyrite. Lesser dark red to black sphalerite is also present either with pyrite or in separate veinlets. Even smaller amounts of galena, chalcopyrite, and arsenopyrite occur locally. Disseminated pyrite and sphalerite are present also. Limited polished thin section analyses have confirmed these sulphide minerals and, in addition, detected traces of covellite, tetrahedrite, and possibly argentite.

The sulphide veinlets are most commonly 0.5 to 1.0 cm wide and often show open space filling textures. They comprise roughly 5% of lower grade intervals and up to 25% of higher grade intervals (Burk, 2005). More rarely, semi-massive to massive veins of pyrite up to 80 cm in true width are present, probably representing stronger structural and/or feeder zones in the stockwork system. Breccia zones also carry similar quantities of sulphide minerals.

There is a basic paragenetic sequence consisting of early pyrite veins, followed by a quartz-pyrite-sphalerite phase with deposition either being in fractures in the early pyrite veins or remaining open space, or in new fractures. Late sparry calcite forms a final type of fracture filling; again, either as a final open space fill in earlier veins or in new fractures. This sequence has been observed in several places in the deposit either as successive in fill or as cross-cutting vein sets.

9.2 ALTERATION

Three main alteration facies are present at San Agustin: quartz-sericite-pyrite (QSP), argillic, and propylitic. In the central part of the dacite dome, complex QSP alteration is very strong with silica primarily in the form of replacements and flooding, and sericite replacing biotite books and feldspars such that it may comprise 40% of the rock. The dacite commonly has a bleached appearance.

Surrounding the zone of QSP alteration is a generally concentric ring of argillic alteration 300 m to 500 m wide. It is manifested as weak to moderate clay alteration of feldspars, and weak clay development and bleaching of the sedimentary rocks. Propylitic alteration is commonly found along the flanks of the dacite, characterized by maroon to dark green colors.

10.0 EXPLORATION

All Exploration described below was carried out by Geologix as they were the operator of the San Agustin property until February 10, 2009. Silver Standard has not carried out exploration on the property since re-acquiring it on February 10, 2009.

Geologix carried out an exploration program on the San Agustin property. Work completed included:

- 19.25 line km of IP survey
- 135 soil samples
- 262 rock samples (grab and chip samples)
- continuous chip sampling of 5416.5 m in 25 trenches
- continuous chip sampling of 898.5 m of road cuts
- 175 holes totalling 40,679.8 m
- systematic sampling of 95 m of underground workings
- detailed geological and alteration mapping over 3 km²
- re-logging of earlier RC drill hole chips and diamond drill core
- compilation of all data into a unified computer database.

11.0 DRILLING

11.1 DATA

A total of 264 drill holes have been drilled on the property to the end of October 2008; data is available for 240 drill holes, and was used to estimate the mineralized zones. Of these, 87 were RC drill holes drilled by either Monarch or Silver Standard. The remainder are diamond drill holes completed by Geologix with the exception of four diamond drill holes (SA-36 to SA-39) drilled by Monarch. Phase III drilling has been completed and results for the last 24 holes are expected by the end of February 2009. The drill hole data used in the resource estimate is summarized in Table 11.1.

Table 11.1 San Agustin Drill Hole Summary

Date	Company	Type	No. Holes	Metres	Average Hole Length	Drilling Contractor
1997	Monarch Phase I	RC	35	3,704	105.82	Boytec Sondajes
1997	Monarch	Diamond	4	1,002	50.48	Boytec Sondajes
1998	Monarch Phase II	RC	29	5,657	195.07	Boytec Sondajes
2004	Silver Standard	RC	23	3,911	170.04	Layne Drilling
2007	Geologix Phase I	Diamond	8	2,699.70	337.46	Intercore Ltd.
2007	Geologix Phase II	Diamond	66	13,571.15	205.62	Intercore Ltd.
2008	Geologix Phase III	Diamond	75	18,759.6	240.51	Intercore Ltd.
Total			240	49,304.45	202.9	

11.2 DRILLING METHODS

The initial RC drilling program in 1997 by Monarch utilized an Ingersol-Rand TH-100 drill with a 750 cfm and 350 psi compressor. For the 1998 program, the same drill with a 900 cfm compressor was used initially; however, as strong water flow was being encountered in many holes below a depth of 70 m, the drill rig was exchanged for an Ingersol-Rand TH-75 drill rig with a 1,200 cfm compressor.

The 1997 diamond drilling was carried out with a skid mounted CS-1000 rig drilling HQ size core.

The type of RC drill rig used for Silver Standard's drilling program in 2004 was not recorded.

All the Geologix drilling is carried out by Intercore Limited using a skid mounted diamond drill producing HQ sized core. Where difficult drilling conditions have been encountered, core size is usually reduced to NQ diameter in order to advance the hole to its target depth and continue collecting core.

11.3 SURVEYING

11.3.1 COLLAR LOCATIONS AND ORIENTATIONS

There is no documentation for methods of drill site location and surveying for any of the Monarch or Silver Standard drill holes. For most holes, a cement plug or block was poured around the casing indicating hole position.

Layout of drill hole locations by Geologix was by hand-held Global Positioning System (GPS) units with an accuracy of 2 to 4 m. The collar marked by plastic PVC piping that is left in the hole is picked up again by hand-held GPS after drilling is completed.

Several control points surveyed around the area and most drill hole collars have now been located using a total station.

11.3.2 DOWN HOLE SURVEYS

No down hole surveys were collected during the Monarch and Silver Standard drilling programs. As a majority of these holes were drilled to depths of less than 200 m and all were at angles of greater than -50, combined with the thicker RC drill string, down hole deviation was probably minimal.

Geologix collected down hole survey information at approximately every 50 m using a digital Reflex down hole survey instrument.

11.3.3 TOPOGRAPHY

CartoData of Zapopan (Jalisco State, Mexico) surveyed the topography at San Agustin with aerial photogrammetry in 2006, covering an area of approximately 6.5 km² over the central portion of the property. Digital topographic contour lines are available for the project area at 1 m intervals.

11.4 RC CHIP AND CORE LOGGING PROCEDURES

11.4.1 RC LOGGING

Monarch and Silver Standard did not document RC chip logging procedures; however, data on chip quality (size), color, alteration, pyrite content, and rock type were collected and entered in handwritten logs.

The 23 holes drilled by Silver Standard in 2004 were never formally logged. Chip samples were collected and given sample numbers that included depth and drill hole number. Geologix re-logged the chips from these holes using the same logging form and criteria as for diamond drill core, which is described below.

11.4.2 CORE LOGGING PROCEDURES

The initial eight holes (Phase I) drilled by Geologix using oriented core methods for structural control. They were then logged using hand written methods. Data collected included basic lithology, alteration, sulphide content, and fracture intensity. Basic geotechnical data was also collected.

All holes for the second phase of drilling were logged directly into a digital logging sheet in order to facilitate quicker and easier transfer of data into the San Agustin database. Data on lithology, structure, alteration, and mineralogy is routinely recorded using text, numeric codes, or percentages, along with some basic geotechnical data. Prior to being sampled, each box of core is photographed using a digital camera and the photos were downloaded to the main office computer in San Juan.

The final logs include a header sheet with collar coordinates and down hole survey data. Assay results for samples and quality assurance/quality control (QA/QC) materials are entered when received.

12.0 SAMPLING METHOD AND APPROACH

12.1 ROCK SAMPLING

Over the course of the project, a large number of rock samples have been gathered from outcrop, old workings, and trenches. There is no documentation of rock sample collection methodology for the Monarch programs.

Silver Standard, as documented by McCrea (2004), collected rock samples along lines laid out on surface exposures of interest. Individual chip samples were collected over widths of 2.5 to 4.0 m using a hammer and chisel. Chips were collected in a manner that was thought to be representative of the interval being sampled, then placed in a plastic sample bag, and secured. Samples were stored in the San Agustin bodega until being delivered to the lab in Durango.

Geologix carried out an extensive trenching program in 2007 totalling approximately 5,000 m. Samples were usually collected over 3.0 m lengths, although shorter intervals were sampled when geological boundaries were present. Continuous chips were collected from bedrock and placed in a sample bag, which was then secured with a plastic zip tie. Samples were then transported to the San Agustin bodega and placed in rice bags that were secured with a numbered security tag. Samples were stored until staff from the ALS-Chemex facility in Guadalajara picked them up and transported them to the lab.

12.2 RC DRILL SAMPLING

During the Monarch RC programs, samples were collected at the drill immediately below the cyclone every 2 or 3 m using a Standard Gilson splitter (MacLean, 1997). It was carried out on this basis from the start to the end of the hole irrespective of geological, alteration, or mineralogical boundaries. When water was encountered, a rotary/wet splitter was used. Samples were split in half with one portion going to the lab (approximately 20 kg) while the other was stored in the bodega near the village of San Agustin.

In 2005, Silver Standard collected samples at the drill on 1 m intervals. According to McCrea (2005), the sample interval was dependent on the drilling equipment used and not based on geological controls or other features of interest. The samples were split three times using a Jones splitter down to 1/8 size, resulting in samples that weighed from 2 to 10 kg. All samples were stored in the company warehouse (bodega) until staff from the ALS-Chemex facility in Guadalajara picked them up and transported them to the lab.

12.3 DIAMOND DRILL SAMPLING

Geologix's practice was to sample the entire length of all diamond drill holes at San Agustin. Sample intervals were geologically constrained and generally determined on the basis of sulphide content or lithologic contacts. Samples vary in length from 0.25 m to 7.2 m, although 1.5 m is most common, particularly for long intervals of more or less consistent mineralization.

Sample intervals are marked on the core boxes by the geologist during core logging. The core is sawn in half longitudinally using a gas-powered diamond blade saw. One half is bagged for analysis and the bag secured with a zip tie; the other half is returned to the core box and kept as a permanent record.

Samples are placed in rice bags, which are secured with a numbered security zip tie. The samples are stored in the bodega until all samples from at least one and usually two entire drill holes are present. The samples are then picked up by staff from the ALS-Chemex sample preparation facility in Guadalajara and transported to the lab. Using this procedure, all samples from a single drill hole usually appear on the same assay certificate.

12.4 DIAMOND DRILL RESULTS

Table 12.1 summarizes the more significant drill results from the Geologix program that have been released to date. Additional assay results are pending release and a large number of samples are currently in the lab for analysis. Assay intervals are stated as core lengths; the true thickness of the mineralized intervals have not been determined as of yet. The mineralized zone is complex but interpreted to be mostly horizontal and drill holes are at a -55° dip, which would return a true width of the mineralized zone of about 58% of the core lengths (Figure 12.1).

Table 12.1 Significant Geologix Diamond Drilling Intersections

Hole #	Zone	From (m)	To (m)	Length (m)	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)
San Agustin Assay Results (Phase I)								
SA-94	Main	42.00	144.00	102.00	1.05	12.00	0.01	0.50
SA-95	Main	35.00	232.00	197.00	1.21	6.92	0.01	0.40
		33.00	238.00	205.00	1.18	6.79	0.01	0.39
SA-96	Zone 2	130.00	414.00	284.00	0.33	20.71	0.17	0.71
SA-97	Zone 2	0.00	306.10	306.10	0.15	3.90	0.02	0.13
SA-98	Zone 2	94.00	228.00	134.00	0.33	21.10	0.10	0.75
San Agustin Assay Results (Phase II)								
SA-103	Main	169.45	264.65	95.20	0.69	3.38	0.01	0.37
SA-105	Trench L	106.00	206.00	100.00	0.31	9.52	0.02	0.23
SA-108	Main	73.80	296.50	222.70	0.64	5.10	0.01	0.53
SA-112	Main	25.00	170.50	145.50	0.62	13.58	0.03	0.44
SA-116	Zone 4	44.00	211.50	167.50	0.26	8.25	0.04	0.81
SA-117	Main	4.55	108.50	103.95	0.57	12.72	0.02	0.35
SA-118	Zone 4	59.00	179.00	121.50	0.55	15.04	0.03	0.76
SA-120	Zone 4	52.50	154.50	102.00	0.32	9.86	0.06	1.03
SA-123	Zone 2	0.00	149.00	149.00	0.28	26.17	0.19	0.40
SA-125	Zone 2	102.00	251.80	149.80	0.25	26.01	0.19	0.51
SA-126	Zone 2	37.60	200.00	163.40	0.30	22.86	0.06	0.46
SA-128	Zone 2	46.50	151.00	104.50	0.46	44.29	0.19	1.76
SA-129	Main Zone	80.00	150.00	70.00	0.55	108.94	0.24	0.51
SA-130	Zone 2	32.00	239.00	207.00	0.48	43.55	0.17	0.50
SA-131A	Zone 2	229.50	389.80	159.70	0.71	58.63	0.15	0.62
SA-132	Zone 2	38.50	255.75	217.25	0.45	25.51	0.23	0.80
SA-133	Zone 2	107.10	323.20	216.10	0.61	30.45	0.29	1.34
SA-138	Main	119.50	241.00	121.50	0.55	25.96	0.12	0.55
SA-140	Zone 2	125.50	229.00	103.50	0.43	22.48	0.08	0.56
SA-141	Main Zone	58.30	157.00	98.70	0.55	4.94	0.01	0.52
SA-142	Main Zone	49.20	267.00	217.80	0.54	4.35	0.01	0.56
SA-143	Main Zone	79.90	197.60	117.70	0.50	5.45	0.01	0.43
SA-145	Main Zone	20.60	231.00	208.40	0.69	6.53	0.01	0.62
SA-150	Main Zone	20.00	132.00	112.00	0.34	7.64	0.02	0.46
SA-156	Zone 4	113.00	217.00	114.00	0.39	7.28	0.03	0.34
SA-163	Zone 4	159.00	270.50	111.50	0.38	12.34	0.06	0.57
SA-165	Zone 4	0.00	132.00	132.00	0.34	14.56	0.04	0.41
San Agustin Assay Results (Phase III)								
SA-169	Trench B	84.00	131.00	47.00	0.23	30.65	0.20	0.84
SA-179	Zone 2	79.05	170.00	92.95	0.21	20.72	0.17	0.51
		211.15	351.90	140.60	0.30	23.78	0.21	0.75

table continues...

Hole #	Zone	From (m)	To (m)	Length (m)	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)
SA-180	Zone 2	70.00	254.00	184.00	0.21	19.28	0.17	0.43
		272.00	350.00	78.00	0.44	9.76	0.06	1.08
SA-182	Zone 2	44.00	356.90	312.90	0.49	23.12	0.15	0.81
SA-184	Zone 2	168.00	374.50	206.50	0.58	13.96	0.06	0.93
SA-185	Zone 2	80.00	207.80	127.80	0.29	19.80	0.12	0.94
SA-186	Zone 2	116.00	294.30	178.30	0.62	19.62	0.13	0.81
SA-187	Zone 2	0.00	151.00	151.00	0.23	27.43	0.15	0.46
		194.00	338.00	144.00	0.31	25.19	0.22	1.49
SA-188	Main Zone	57.00	141.90	84.90	0.35	10.84	0.08	0.55
SA-189	Zone 2	13.00	327.00	314.00	0.36	16.47	0.08	0.66
SA-190	Zone 2	71.00	346.00	275.00	0.61	29.07	0.14	1.07
SA-191	Zone 2	5.20	296.35	291.15	0.59	45.39	0.17	0.59
SA-192	Zone 2	77.00	314.00	237.00	0.51	23.63	0.13	0.87
SA-196	Main Zone	34.00	130.05	96.05	0.79	20.91	0.06	0.97
SA-201	Main Zone	40.00	114.70	74.70	0.48	12.14	0.02	0.68
SA-202	Zone 2	120.50	215.00	94.50	0.38	10.25	0.08	0.52
SA-203	Zone 4	35.00	143.00	108.00	0.18	5.59	0.04	0.55
SA-206	Zone 4	60.00	177.00	117.00	0.32	3.94	0.02	0.67
SA-207	Zone 2	104.00	319.40	215.40	0.35	19.87	0.13	0.69
SA-216	Zone 2	25.00	342.75	317.75	0.32	19.11	0.15	0.89
SA-219	Zone 2	109.00	213.00	104.00	0.23	13.17	0.07	0.27
SA-221	Zone 2	17.00	194.00	177.00	0.37	48.83	0.42	0.43
SA-222	Main Zone	35.00	123.00	88.00	0.60	5.53	0.01	0.89
SA-223	Main Zone	0.00	154.00	154.00	0.33	13.57	0.11	0.70
		162.00	252.50	90.50	0.59	5.71	0.01	0.43
SA-224	Main Zone	23.00	97.00	74.00	0.21	8.32	0.04	1.10
SA-227	Zone 2	69.00	150.90	81.90	0.34	23.42	0.06	0.15
SA-229	Main Zone	8.30	107.00	98.70	0.69	27.79	0.03	0.37
SA-232	Zone 4	27.00	183.00	156.00	0.46	21.22	0.17	1.28
SA-234	Zone 4	48.00	221.55	173.55	0.56	16.59	0.06	0.91
SA-235	Zone 4	62.00	149.00	87.00	0.21	13.33	0.06	0.79
SA-247	Zone 4	24.00	144.00	120.00	0.26	9.14	0.06	0.46

Figure 12.1 Plan View: Phase II Drilling – Zones 2 & 4 and Main Zone

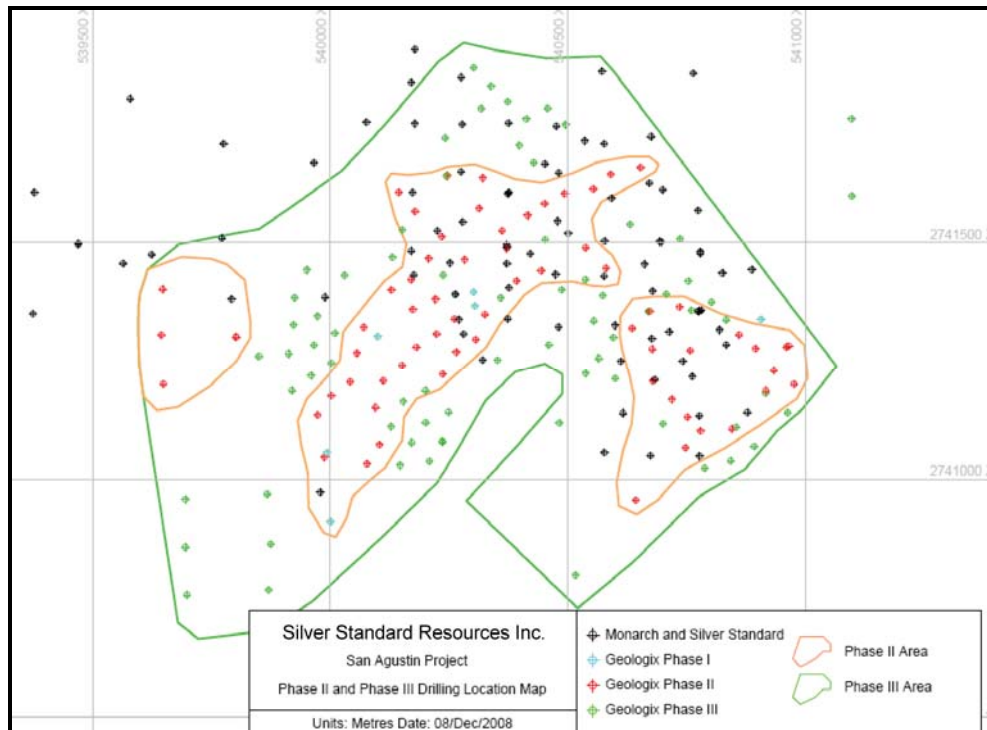


Figure 12.2 Cross Section – Main Zone Section 600

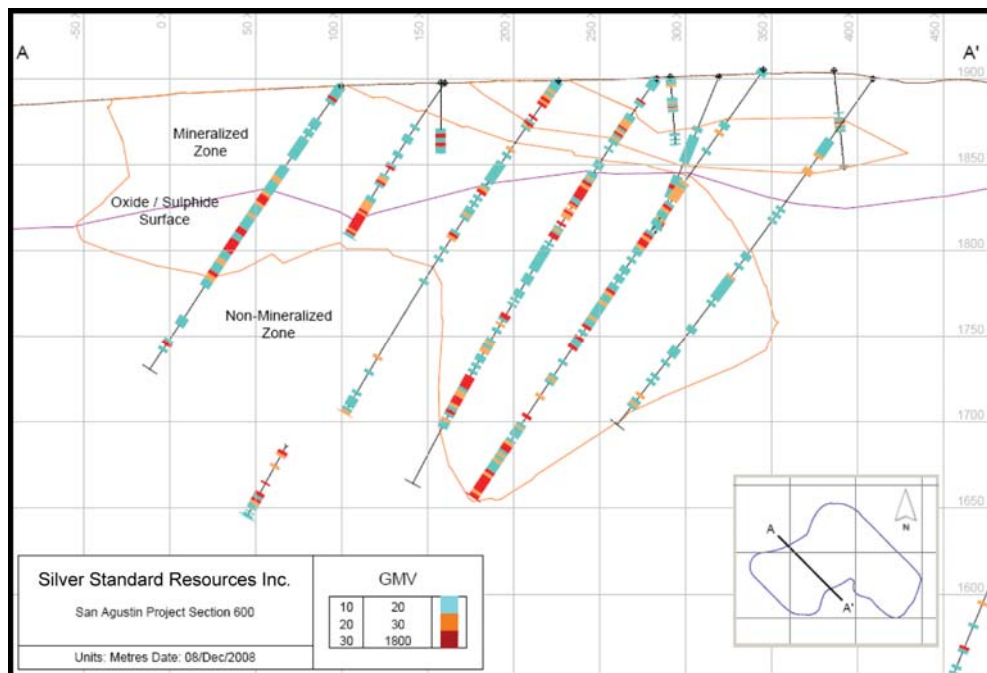
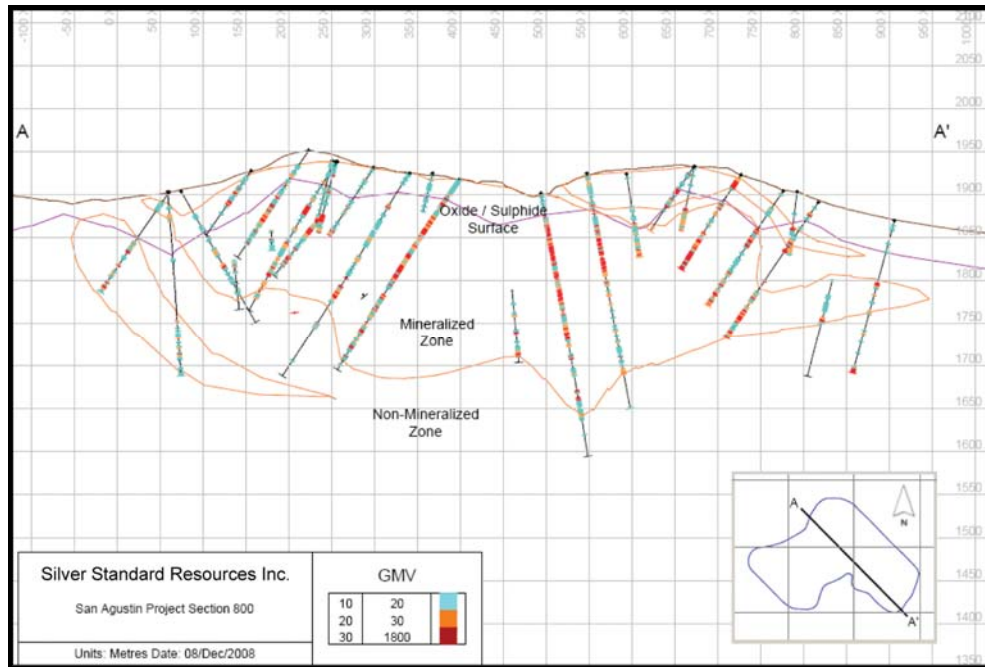


Figure 12.3 Cross Section – Main Zone Section 800



13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Several laboratories have been used over the life of the San Agustin project. For the first 68 holes drilled by Monarch, analysis of samples was performed by Bondar-Clegg & Company (Bondar-Clegg) of North Vancouver, BC. Silver Standard sent surface rock samples to Rocky Mountain Geochemical in Nevada and RC samples to Chemex in North Vancouver, BC. All samples from the Geologix trenching and diamond drilling programs were sent to ALS-Chemex of North Vancouver, BC.

13.1 SAMPLE PREPARATION

Monarch's RC drilling samples were prepared and analyzed at Bondar-Clegg. The samples were weighed and dried before being crushed to 70% passing -10 mesh (2 mm). A 250 gram sub-sample was then split off and pulverized in its entirety to 75% passing -200 mesh (75 µm).

Surface rock samples collected by Silver Standard were forwarded to BSI Inspectorate de Mexico, S.A. de C.V. in Durango for preparation (McCrea, 2004). Samples were crushed to -10 mesh and a 300 gram split was retrieved using a riffle splitter for preparation of a pulp. The pulps were shipped to Rocky Mountain Geochemical for analysis.

Samples from Silver Standard's RC drill holes and from the Geologix trenching and diamond drilling programs were first sent to the ALS-Chemex preparation lab in Guadalajara where they were weighed then dried before being crushed to 70% passing -10 mesh (2 mm). A 250 gram sub-sample was then split off and pulverized in its entirety to 85% passing -200 mesh (75 µm). The pulps were then shipped to the ALS-Chemex facility in North Vancouver, BC, for completion of analytical work.

13.2 ANALYSIS

Analyses performed at Bondar-Clegg and Chemex are as follows:

- Bondar-Clegg:
 - Au by fire assay on a 30 g charge with an atomic absorption (AA) finish
 - Ag, Cu, Pb, Zn, Mo, Bi, As, and Sb by aqua regia digestion and inductively coupled plasma (ICP)
 - Hg by aqua regia digestion and cold vapour AA

- over limit Zn (>10,000 ppm) by aqua regia extraction and ICP.
- Rocky Mountain Geochemical:
 - 8 elements by aqua regia digestion and ICP on a 30 g assay charge
 - Au by fire assay with an AA finish
 - Hg by cold vapor AA
 - Au and Ag over limits re-assayed using fire assay (>10 g/t Au, >100 g/t Ag).
- Chemex & ALS-Chemex:
 - Au by fire assay on a 50 g charge with an AA finish
 - 35 element aqua regia ICP-atomic emission spectroscopy (AES)
 - gold over limits (>10 g/t) by fire assay with a gravimetric finish
 - Ag, Zn, and Pb over limits (>100 g/t, >10,000 ppm and <10,000 ppm respectively) ore grade aqua regia digestion and either ICP-AES or atomic absorption spectroscopy (AAS).

13.3 QUALITY ASSURANCE/QUALITY CONTROL

QA/QC from the initial Monarch and Silver Standard programs is limited. Some check assays were submitted by Monarch at the end of their Phase I program covering the first 35 RC holes. Silver Standard reportedly sent field duplicates from their RC holes to BSI Inspectorate in Durango; however, no data has been located. Fortunately, Monarch and Silver Standard properly stored reject material from most holes drilled on the property. A selection representing 5% of those samples was submitted by Geologix for assaying with standards included.

QA/QC was implemented during the Geologix Phase I diamond drilling program in 2007 whereby standards and blanks were routinely inserted. The program was further strengthened at the start of Phase II when duplicates were included in the program and submissions of samples for check assays from Phase I and Phases II and III were made to Acme Analytical Laboratories.

Geologix regularly reviewed the assay results of the QC samples and, as a result, 252 samples were re-assayed by Chemex. In most cases, mistakes were due to mis-sequencing or mis-labelling and were corrected.

Wardrop reviewed the results of the various QC programs and concluded that the historical and recent sampling were acceptable for the purpose of resource estimation.

13.3.1 RE-ASSAY OF MONARCH AND SILVER STANDARD REJECTS (2007)

Previous check assay programs did not cover the Monarch Phase II and Silver Standard drilling programs. As reject material from these programs was stored,

Geologix collected a total of 182 samples for re-assay. For each sample, the rejects were homogenized, then halved and quartered as necessary to obtain a minimum of 250 g for a new split. Standards were inserted randomly in every 20 samples. The samples were analyzed by ALS-Chemex in Vancouver.

13.3.2 *GEOLOGIX STANDARDS*

Geologix used commercially prepared standards provided by CDN Labs, Rocklabs and Ore Research & Exploration (Oreas). Standards were inserted with each batch of samples shipped to the lab at a rate of one standard for approximately every 20 samples (Figure 13.1). Only rarely and with no systematic pattern did assay results of the standards fall outside of three times the standard deviation of the expected round robin value for the standard. In some cases these samples were re-assayed.

13.3.3 *GEOLOGIX BLANK*

Geologix used pre-packaged sand designed for pool filters as a blank. While results suggest it is analytically blank, the material is quite fine in size and as such passed through the crusher and really only tested the pulverization stage of sample preparation for contamination. A coarser material is recommended to act as an effective blank to test all stages of sample preparation.

13.3.4 *GEOLOGIX DUPLICATE ASSAY PROGRAM*

Geologix submitted a selection of 502 samples (5% of all samples) from its diamond drilling programs as duplicate samples to a second lab (Figure 13.2). The second half of the core-samples were submitted for analysis with the regular shipments to ALS Chemex Laboratories of North Vancouver.

13.3.5 *GEOLOGIX CHECK ASSAY PROGRAM*

Geologix submitted a selection of 5% of all samples from its diamond drilling programs as check samples to a second lab. Of the original 250 gram pulps, 785 sub-samples were submitted for analysis to Acme Analytical Laboratories of Vancouver (Figure 13.3). Standards were inserted randomly every 20 samples.

Figure 13.1 Standards Submitted to Chemex by Geologix

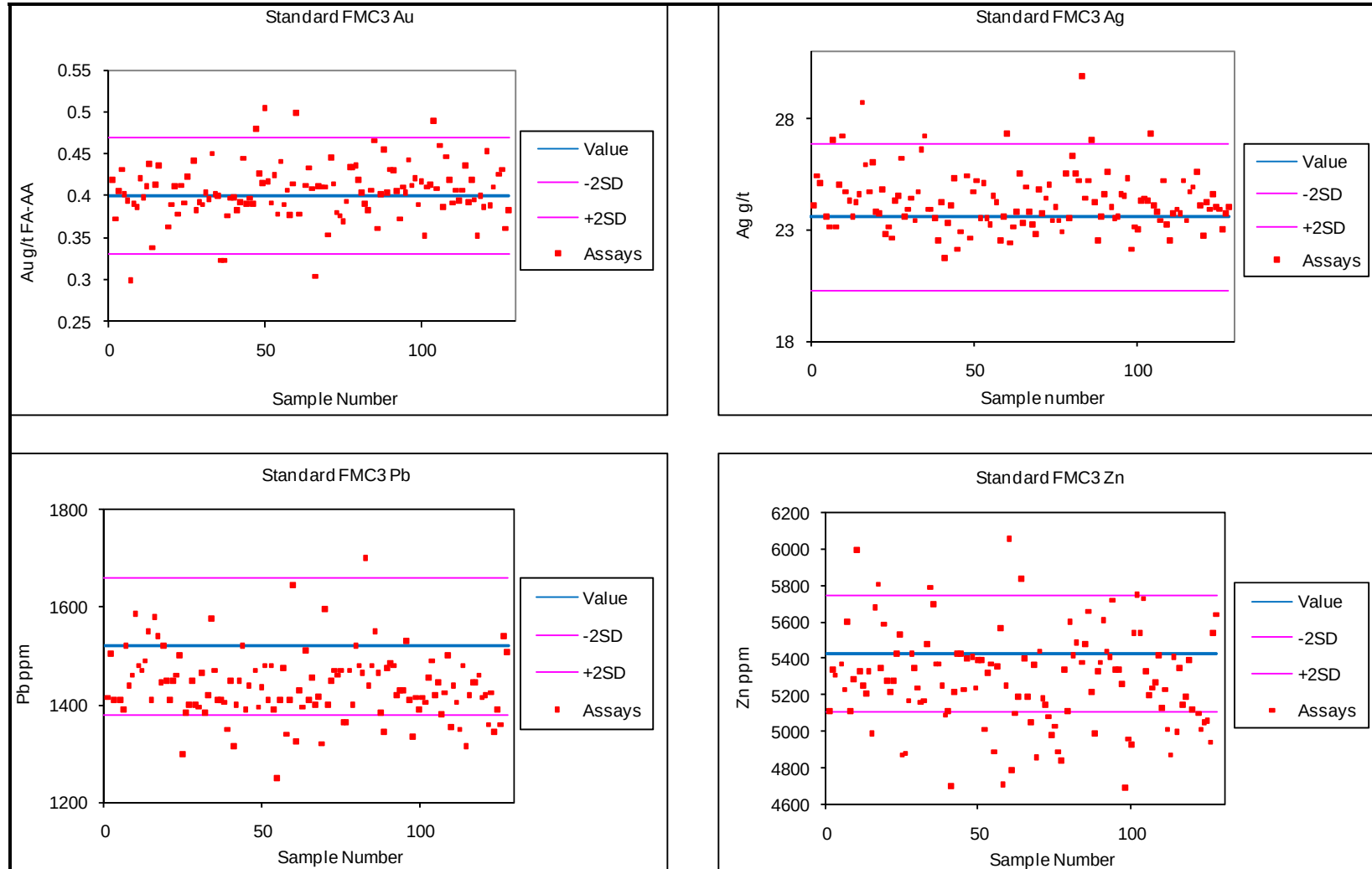


Figure 13.2 Duplicate Samples from Geologix's Drilling Program Submitted to ALS Chemex

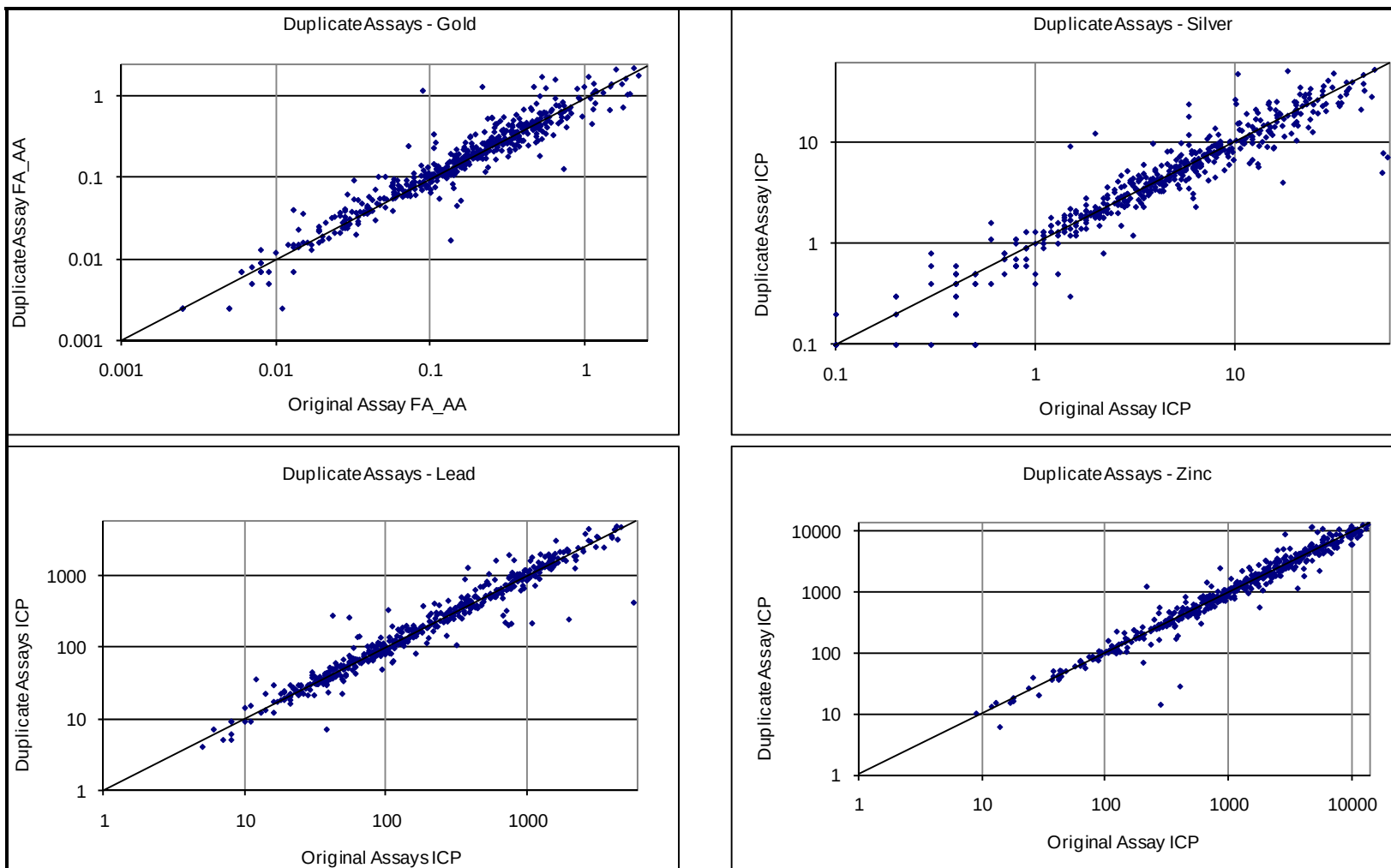
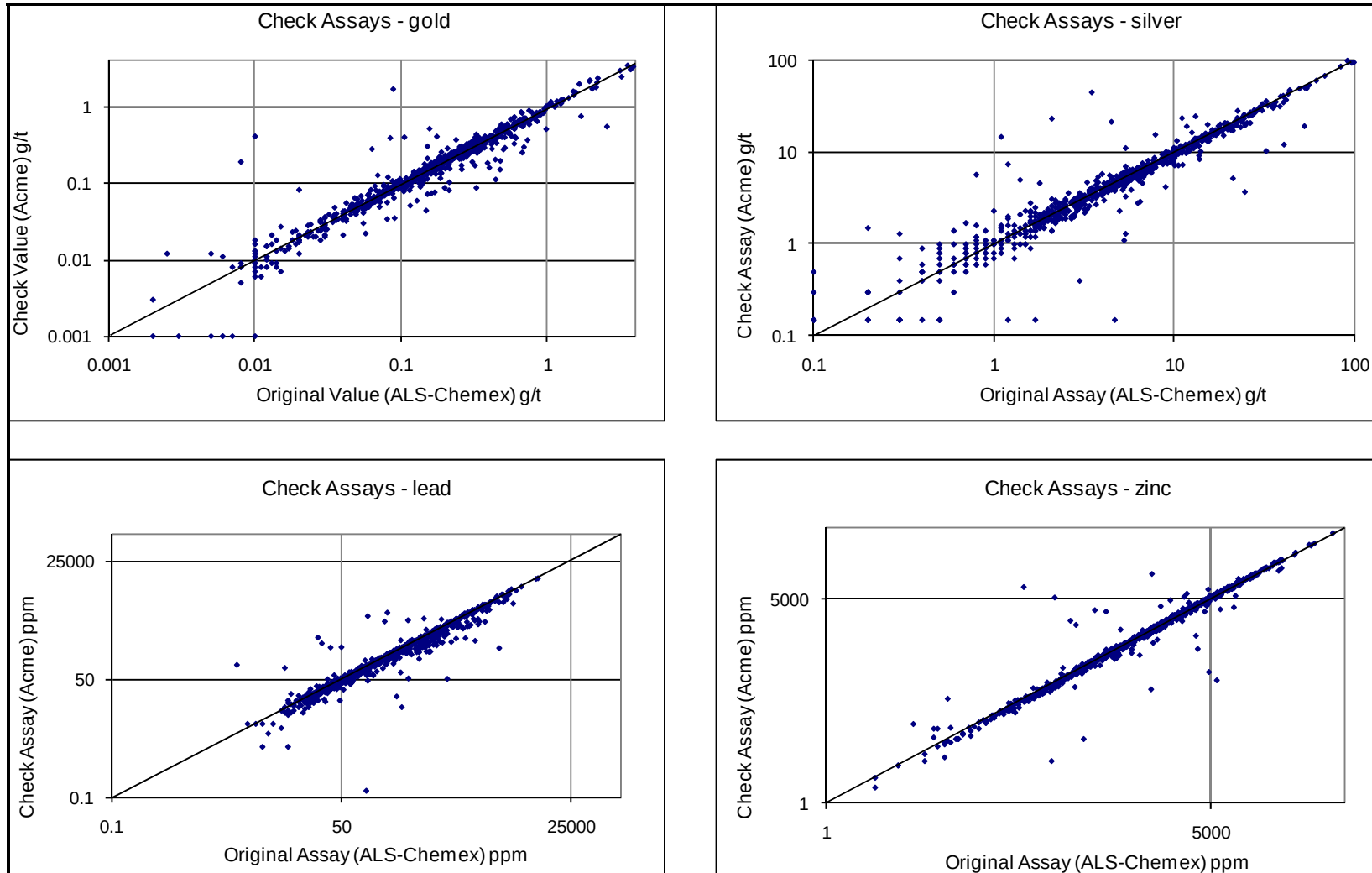


Figure 13.3 Check Assays from Geologix's Drilling Program Submitted to Acme



14.0 DATA VERIFICATION

Wardrop visited the property on October 28 and 29, 2007. During the site visit, at least 20 drill collars were located by GPS; surface geology was examined as well as property access and infrastructure. Drill core was examined for the Main and No. 4 zones and four representative samples were collected for assay. Samples were collected from representative drill intersections to verify the tenor of mineralization. The intent of the check sampling was not to verify the accuracy of the Geologix assays values but to confirm that mineralization was present in grades similar to what had been reported by Geologix. The check samples (Table 14.1) returned values that compare well with the values reported by Geologix.

Table 14.1 Comparison of Wardrop and Geologix Samples

Description	Wardrop Samples					Geologix Samples				
	Sample	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Sample	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)
1 m Chip Sample of Dacite from No. 1 Zone	C048141	0.171	3.8	0.01	0	NS	-	-	-	-
Hole SA109 222.5 to 224 Duplicate of SN2743	C048142	1.3	6	0.01	0.75	2743	0.26	3.5	0.01	0.22
Hole SA96 329 to 331 Duplicate of SN515	C048143	0.747	57.3	0.16	3.02	515	1.29	42	0.17	3.45
Hole SA 120 from 142 to 144 Duplicate of SN 4152	C048144	0.386	6.2	0.01	0.38	4152	0.9	9.4	0.02	0.52

Wardrop carried out a 100% check of the database for interval overlaps, negative intervals, and erroneous outliers (values greater than 100%). Wardrop also validated the digital database by carrying out a random check of about 20% of the historical and first two phases of Geologix's assay data against original assay sheets provided by the assay lab. The most recent Phase III drilling was validated by comparing digital assay data provided independently by the assay lab with the assay data used for the estimate.

Only a few minor errors were identified and corrected, Wardrop concluded that the database was adequate for resource estimation purposes and that the work being carried out by Geologix was in keeping with all industry standards.

15.0 ADJACENT PROPERTIES

Approximately 15 km northeast of San Agustin is Castle Gold Corporation's El Castillo Mine (formerly known as El Cairo). This open pit heap leach operation is forecast to go in production in 2009 exploiting an oxidized high sulphidation epithermal system. The mineralization is hosted in silicified, argillized, and pyritic mantos developed in volcanoclastic rocks and adjacent dacitic sills.

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Geologix commissioned PRA of Richmond, BC to carry out four preliminary metallurgical tests on the San Agustin project. Composite core samples from the Main Zone, Zone 4, and Zone 2. Results of the tests are discussed below.

16.1 PRECIOUS METAL FLOTATION TEST WORK

Precious metal recoveries of 93 to 99% for gold and 82 to 94% for silver occur in rougher flotation concentrates regardless of the activation method used in the tests. Additionally, recoveries remained similar regardless of high, medium, or low head grades. This indicates that, regardless of grade, if precious metals are present, flotation captures the metals to the concentrate. Results of the four flotation tests are summarized in Table 16.1.

Table 16.1 Results of Precious Metal Flotation Tests

Test #	Zone	Drill Hole Composite	Sample Type	Metallurgical Test	Head Grade		Recovery		Flotation Test Design
					Au (g/t)	Ag (g/t)	Au (%)	Ag (%)	
1	4	SA-101	Sulphide	Rougher Con (1-4)	0.17	18.6	96	89	Au, Ag 1 st , Zn 2 nd
2	2	SA-96	Sulphide	Rougher Con (1-4)	0.18	15.2	96	92	Au, Ag, Pb, Zn all at same time
3	Main	SA-95	Sulphide	Rougher Con (1-2) plus Scavenger	1.50	8.5	99	94	Au, Ag only
4	Main	SA-95	Sulphide	Rougher Con (1-4) plus Scavenger	0.50	2.3	93	82	Au, Ag only

16.2 BASE METAL FLOTATION TEST WORK

Preliminary base metal test work was divided into a series of different flotation methods (Table 16.2). Test #1 attempted to float metals separating gold and silver from the zinc concentrate. Recoveries of 84% and 64% for lead and zinc, respectively, were achieved. Test #2 was a simple flotation test designed to recover all metals in a simple rougher circuit. Results show recoveries of 91% and 92% for

lead and zinc, respectively. Tests #3 and #4 used different methods to float gold and silver only without attempting to float lead and zinc.

Table 16.2 Base Metal Flotation Tests

Test #	Zone	Drill Hole Composite	Sample Type	Metallurgical Test	Head Grade		Recovery		Flotation Test Design
					Pb (%)	Zn (%)	Pb (%)	Zn (%)	
1	4	SA-101	Sulphide	Rougher Con (1-4)	0.21	1.19	84	64	Au, Ag 1 st then Zn
2	2	SA-96	Sulphide	Rougher Con (1-4)	0.16	0.56	91	92	All metals at once
3	Main	SA-95	Sulphide	Rougher Con (1-2) plus Scavenger	0.01	0.1	58	43	Au, Ag only
4	Main	SA-95	Sulphide	Rougher Con (1-4) plus Scavenger	0.01	0.94	37	7	Au, Ag only

16.3 PRECIOUS METALS CYANIDE EXTRACTION TEST WORK

Cyanidation recovery test work was conducted on the Main Zone gold and silver mineralization by grinding to 80% passing 200 mesh using 96 hour bottle roll tests. Oxide recovery was 87% and 53% for gold and silver, respectively, indicating that heap leaching the oxide material may be a viable method (Table 16.3). In the sulphide zones, gold and silver recoveries decrease at depth indicating that a finer grind may be required for gold and silver liberation deeper in the sulphide zone.

Table 16.3 Precious Metal Cyanidation Tests

Test #	Zone	Drill Hole Composite	Sample Type	Metallurgical Test	Head Grade		Recovery		Consumption NaCN (kg/t)
					Au (g/t)	Ag (g/t)	Au (%)	Ag (%)	
C1	Main	SA-95 (31-49 m)	Oxide	CN Bottle Roll	1.06	9.5	87	53	0.90
C2	Main	SA-95 (105-140 m)	Sulphide	CN Bottle Roll	2.12	9.5	71	31	1.12
C3	Main	SA-95 (221-232 m)	Sulphide	CN Bottle Roll	0.72	2.8	59	28	0.87

In May 2008, Geologix submitted three sets of drill hole composite samples to G&T Laboratory for mineralogical study and processing assessment. Alternative processing methods to evaluate the precious metals recovery and optimization will be followed in further studies. The results indicated that bulk sulphide flotation followed by regrinding and cleaning stages can improve the zinc, silver and gold

recoveries. The recoveries for gold, silver, lead and zinc were 72%, 74%, 50% and 62%, respectively. The sulphide processing costs has been estimated to be US\$7.9/t milled ore.

17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

Mineral resources at the San Agustin Project were estimated by Wardrop with the use of 3D geological modelling software, GEMS Version 6.1.3, provided by Gemcom Software International. Resources were estimated by Mr. Michael Waldegger then verified and validated by Dr. Gilles Arseneau (P.Geo.), Manager of Geology at Wardrop.

17.1 EXPLORATORY DATA ANALYSIS

Wardrop received text files with drill hole collar locations, borehole deviation survey, assay data, and geology for the Phase III drilling campaign. Each dataset was formatted and appended to the GEMS database.

Drill hole collar locations from the historical drilling were resurveyed by Geologix. In total, 210 drill hole collars have been located using high accuracy GPS and 30 holes were located by handheld GPS.

Wardrop verified approximately 20% of the assay database records against the original paper assay certificates for both the historical and phase one and two drilling programs. Only a few minor errors were identified and corrected in the database. A 100% sample verification was carried out on Phase III drilling results and only two consecutive samples out of 9,268 were out of order. The error was determined to be not material and was not corrected.

Wardrop concluded that the assay and survey database was sufficiently free of error to be adequate for resource estimation of the San Agustin deposit.

17.1.1 ASSAYS

Wardrop determined that there were differences in the silver and lead assay values between the different companies drilling campaigns. The silver and lead assay values were appreciably higher in Geologix's samples as compared to Monarch and Silver Standard samples. The differences were attributed to the fact that historical drilling did not sample Zone 2 which has elevated silver and lead assays. Descriptive statistics on assay data are presented in Table 17.1 and Table 17.2.

Table 17.1 Descriptive Statistics of all Assay Data

	Length (m)	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)
Valid cases	26,806	26,806	26,806	26,806	26,806
Mean	1.82	0.32	9.93	0.05	0.32
Std. error of mean	0.00	0.01	0.22	0.00	0.00
Variance	0.37	0.68	1,263.63	0.01	0.43
Std. Deviation	0.61	0.82	35.55	0.12	0.66
Variation Coefficient	0.34	2.59	3.58	2.65	2.05
rel. V. coefficient (%)	0.21	1.58	2.19	1.62	1.25
Skew	1.76	31.28	31.84	14.40	14.55
Kurtosis	16.16	1751.34	1,763.36	414.91	499.87
Minimum	0.00	0.00	0.00	0.00	0.00
Maximum	14.70	62.30	2,740.00	5.67	30.00
1st percentile	0.80	0.01	0.10	0.00	0.00
5th percentile	1.00	0.02	0.40	0.00	0.00
10th percentile	1.00	0.03	0.80	0.00	0.01
25th percentile	1.50	0.08	1.80	0.00	0.03
Median	2.00	0.17	4.00	0.01	0.12
75th percentile	2.00	0.34	9.20	0.04	0.36
90th percentile	2.35	0.63	19.80	0.11	0.85
95th percentile	3.00	0.95	31.20	0.19	1.31
99th percentile	3.20	2.44	87.29	0.47	2.52

Table 17.2 Descriptive Statistics of Assays within the Modelled Mineralized Zone

	Length (m)	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)
Valid cases	15,234	15,234	15,234	15,234	15,234
Mean	1.78	0.435	14.0	0.07	0.49
Std. error of mean	0.00	0.007	0.4	0.00	0.01
Variance	0.33	0.810	2,013.4	0.02	0.64
Std. Deviation	0.57	0.900	44.9	0.15	0.80
Variation Coefficient	0.32	2.070	3.2	2.35	1.63
rel. V. coefficient (%)	0.26	1.677	2.6	1.90	1.32
Skew	1.03	19.329	26.8	12.22	12.66
Kurtosis	5.53	647.837	1,200.4	289.07	370.44
Minimum	0.15	0.000	0.0	0.00	0.00
Maximum	8.50	43.300	2,740.0	5.67	30.00
1st percentile	0.80	0.017	0.4	0.00	0.00
5th percentile	1.00	0.052	1.2	0.00	0.01
10th percentile	1.00	0.080	1.7	0.00	0.02

table continues...

	Length (m)	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)
25th percentile	1.50	0.142	3.0	0.01	0.08
Median	2.00	0.259	6.2	0.02	0.26
75th percentile	2.00	0.465	13.3	0.07	0.62
90th percentile	2.20	0.822	26.5	0.16	1.20
95th percentile	3.00	1.215	41.1	0.26	1.69
99th percentile	3.00	3.127	131.4	0.60	3.09

17.1.2 CAPPING

Grade capping was considered and evaluated by examining the cumulative frequency distribution, histograms, and decile analysis for gold, silver, lead, and zinc. Wardrop capped 22 gold assays to 10 g/t, 96 silver assays to 200 g/t, 235 lead assays to 0.5%, and 170 zinc assays to 3%

17.1.3 COMPOSITES

A total of 5,562 composites were generated within the wireframes representing the mineralized zones.

Assays were composited to a fixed length of 5 m within and outside of the wireframe representing the mineralized zone. Composites were generated starting from the collar of the drill hole downwards and incorporated all assay data. Composite lengths were interrupted at wireframe contacts. Composited grades were used for the grade interpolation in the block model. Descriptive statistics on composited data within the wireframe representing the mineralized zone are presented in Table 17.3.

Table 17.3 Descriptive Statistics of Composites within the Modelled Mineralized Zone

	Length (m)	Au (g/t)	Au Capped (g/t)	Ag (g/t)	Ag Capped (g/t)	Pb (%)	Pb Capped (%)	Zn (%)	Zn Capped (%)
Valid cases	5,562	5,562	5,562	5,562	5,562	5,562	5,562	5,562	5,562
Mean	4.89	0.421	0.413	13.4	12.3	0.06	0.058	0.48	0.463
Std. error of mean	0.01	0.008	0.007	0.4	0.2	0.00	0.001	0.01	0.006
Variance	0.36	0.371	0.260	815.7	298.6	0.01	0.007	0.32	0.228
Std. Deviation	0.60	0.609	0.510	28.6	17.3	0.12	0.082	0.56	0.477
Variation Coefficient	0.12	1.445	1.235	2.1	1.4	1.88	1.409	1.18	1.031
rel. V. coefficient (%)	0.17	1.937	1.656	2.9	1.9	2.52	1.890	1.58	1.383
Skew	-5.87	9.947	6.434	13.1	4.7	6.95	2.509	4.36	1.839
Kurtosis	35.55	164.814	68.398	267.7	32.1	83.29	7.161	47.82	4.054
Minimum	0.00	0.000	0.000	0.0	0.0	0.00	0.000	0.00	0.000
Maximum	5.00	16.070	10.000	787.0	200.0	2.22	0.500	11.65	3.000
1st percentile	1.02	0.030	0.029	0.6	0.6	0.00	0.002	0.00	0.002
5th percentile	5.00	0.073	0.072	1.5	1.5	0.00	0.003	0.01	0.010
10th percentile	5.00	0.100	0.100	2.0	2.0	0.00	0.005	0.03	0.030
25th percentile	5.00	0.170	0.170	3.6	3.6	0.01	0.008	0.12	0.123
Median	5.00	0.286	0.286	6.9	6.9	0.02	0.023	0.32	0.316
75th percentile	5.00	0.482	0.482	14.4	14.4	0.07	0.072	0.63	0.632
90th percentile	5.00	0.785	0.785	26.3	26.1	0.16	0.160	1.11	1.093
95th percentile	5.00	1.102	1.102	38.5	38.4	0.24	0.234	1.49	1.461
99th percentile	5.00	2.721	2.633	111.5	92.8	0.55	0.412	2.45	2.203

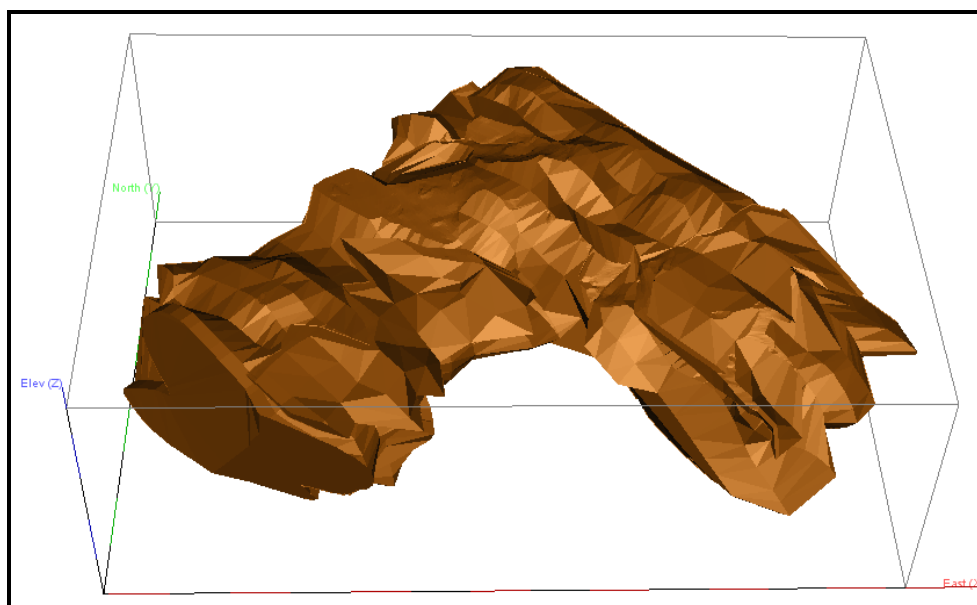
17.2 BULK DENSITY

Density determinations were carried out on 137 core sample from 26 diamond drill holes by Geologix. Wardrop estimated a global bulk density by averaging all measurements within a given rock type and determined that the oxide mineralized material has a bulk density of 2.4 t/m^3 and the sulphide mineral zone has a bulk density of 2.76 t/m^3 .

17.3 GEOLOGICAL INTERPRETATION

One mineralized envelope was interpreted by Wardrop on the basis of dollar equivalent value. The dollar value was estimated by using metal prices of \$550/oz gold, \$10/oz silver, \$0.50/lb lead, \$1/lb zinc, and assuming 100% recovery for all metals. Polyline representing a US\$10 cut-off were generated on northwest sections at 50 m intervals. The polylines honoured the drill hole assay boundaries in 3D. Wireframes were generated from the lines and then clipped against the overburden-bedrock surface (Figure 17.1). The footwall of a fault zone was interpreted and used to differentiate the Main Zone from Zone 2. Mineralization appears to be cut-off to the south west by a fault. A surface representing the oxide-sulphide boundary was modelled by Laplace gridding of drillhole intersections with the sulphide zone.

Figure 17.1 Mineralized Zones Clipped to Overburden Viewed from the South



17.4 SPATIAL ANALYSIS

Geostatisticians use a variety of tools to describe the pattern of spatial continuity, or strength of the spatial similarity of a variable with separation distance and direction. The correlogram measures the correlation between data values as a function of their separation distance and direction. The distance at which the correlogram reaches the maximum variance is called the "range of correlation" or simply the range. The range of the correlogram corresponds roughly to the more qualitative notion of the "range of influence" of a sample; it is the distance over which sample values show some persistence or covariance.

Using Sage 2001 software, variography was completed for each commodity for each zone at San Agustin. Directional sample correlograms were calculated along horizontal azimuths of 0, 30, 60, 90, 120, 150, 180, 210, 240, 270, 300, and 330 degrees. For each azimuth, sample correlograms were also calculated at dips of 30 and 60 degrees in addition to horizontally. Lastly, a correlogram was calculated in the vertical direction. Using the 37 correlograms, an algorithm determined the best-fit model. This model is described by the nugget (C_0), two nested structure variance contributions (C_1 , C_2), ranges for the variance contributions and the model type (spherical or exponential). After fitting the variance parameters, the algorithm then fits an ellipsoid to the 37 ranges from the directional models for each structure. The final models of anisotropy are given by the lengths and orientations of the axes of the ellipsoids.

Correlograms were calculated for gold, silver, lead, and zinc. The correlograms were modelled with a nugget and two nested spherical structures for gold, silver, zinc, and lead in each zone (Table 17.4).

Table 17.4 Correlogram Data

Element	Model	Z Rotation	Y Rotation	Z Rotation	X Range	Y Range	Z Range
Au Main Zone	$C_0=0.246$						
	$C_1=0.486$	45	-19	66	113.2	13.5	43.1
	$C_2=0.268$	21	22	26	106.9	72	387
Au Zone 2	$C_0=0.468$						
	$C_1=0.360$	-6	86	-29	64	45.5	13.1
	$C_2=0.172$	-73	74	51	121	398	215.4
Au Zone 4	$C_0=0.615$						
	$C_1=0.267$	48	44	55	207	16.2	37.1
	$C_2=0.118$	116	-7	39	81	791.2	460.8
Ag Main Zone	$C_0=0.2$						
	$C_1=0.667$	58	-9	48	106	14.1	37.7
	$C_2=0.133$	-3	83	29	94.5	368.7	540.7

table continues...

Element	Model	Z Rotation	Y Rotation	Z Rotation	X Range	Y Range	Z Range
Ag Zone 2	C ₀ =0.1						
	C ₁ =0.758	-58	7	44	37.6	102.9	30.1
	C ₂ =0.142	11	-49	5	121.5	679.2	257.8
Ag Zone 4	C ₀ =0.1						
	C ₁ =0.758	37	-15	39	50	109.4	11.4
	C ₂ =0.142	15	4	-11	78.6	365	172.2
Pb Main Zone	C ₀ =0.342						
	C ₁ =0.498	3	28	7	9.5	27.2	108.5
	C ₂ =0.16	56	-47	-8	342.9	1075.7	119.4
Pb Zone 2	C ₀ =0.109						
	C ₁ =0.715	48	5	-24	36.8	29.5	65
	C ₂ =0.176	90	-21	66	93	614.3	244.7
Pb Zone 4	C ₀ =0.486						
	C ₁ =0.357	-9	-22	64	163.3	50.9	79.3
	C ₂ =0.157	20	-6	99	1289.4	153.7	219.8
Zn Main Zone	C ₀ =0.141						
	C ₁ =0.61	-7	34	6	22	37.8	32.4
	C ₂ =0.249	67	-14	-13	320.5	1088.1	54.7
Zn Zone 2	C ₀ =0.243						
	C ₁ =0.567	-16	35	-18	82.4	97.5	56.5
	C ₂ =0.19	-17	-27	39	1664.9	540.6	202
Zn Zone 4	C ₀ =0.314						
	C ₁ =0.418	43	83	7	61.6	114.4	21.7
	C ₂ =0.268	4	8	12	296	147	53.3

Note: Rotation angles were set to correspond to the Gemcom Software's rotational convention, which follows the right hand rule with rotation about Z-axis being positive when X moves towards the Y-axis; rotation about the Y-axis is positive when Z moves towards the X-axis.

17.5 RESOURCE BLOCK MODEL

A rotated block model was prepared with parameters presented in Table 17.5.

Table 17.5 Block Model Parameters, Origin in UTM NAD83 Coordinates

Model	Origin	No. of Blocks	Block Size
Easting	539200	120 columns	15 m
Northing	2741400	100 rows	15 m
Elevation	2000	35 levels	15 m

Rotation: -45°

Rotation in GEMS is anti-clockwise around the origin.

The block model project was prepared as a partial model and contains a folder for Ore and Waste. The project also includes a standard folder that also contains waste grades and is a fully diluted model.

The Ore, Waste, and Standard folders contain the following block models: rock type, percent, density, class, capped and uncapped gold, silver, lead, and zinc grades.

17.5.1 ROCK TYPE MODEL

The rock type model was coded with integer rock codes from the modelled 3D wireframes as described in Table 17.6. Unless otherwise stated, the selection of blocks for coding was based on the block being more than 0.001% by volume within a wireframe using a needling accuracy of nine needles per block oriented vertically.

Table 17.6 Block Model Rock Codes

Rock Type	Block Model Code
Air	0
Oxide Waste	99
Sulphide Waste	199
Zone 1 Oxide	100
Zone 1 Sulphide	200
Zone 2 Oxide	102
Zone 2 Sulphide	202
Zone 4 Oxide	104
Zone 4 Sulphide	204

The rock type model in the Ore folder was prepared in the following sequence:

1. All blocks in the model were initialized to air, rock code 0.
2. All blocks with at least 0.001% of their volume filled by a wireframe representing mineralized zone were re-coded to 100.
3. All blocks coded 100 that were greater than 50% below the oxide-sulphide surface were re-coded to 200.
4. Blocks in Zone 2 were re-coded to 102 and 202 (oxide and sulphide), and within Zone 4 to 104 and 204 (oxide and sulphide).

The rock type model in the waste folder was prepared in the following sequence to optimize the blocks for waste material:

1. All blocks in the model were initialized to air, rock code 0.
2. All blocks with at least 0.001% of their volume filled by a wireframe representing the waste zone were re-coded to 99.

3. All blocks greater than 50% below the oxide-sulphide surface were re-coded to 199.

The rock type model in the Standard folder was prepared in the following sequence:

1. All blocks in the model were initialized to air, rock code 0.
2. All blocks within the waste wireframe unclipped to the mineralized zones were re-coded as 99.
3. All blocks within the wireframes representing the mineralized zones were re-coded as 100.
4. All ore blocks less than 50% within the mineralized wireframes and not intersecting the ground surface were re-coded as waste, 99.

17.5.2 PERCENT MODEL

The percent model represents the volume of a wireframe contained within any given block. The percent model can be used to weight the volume of each block during resource reporting in order to estimate an accurate tonnage of mineralized material within the model.

A needling accuracy level of nine needles per block oriented vertically was used to generate the percent models. A value was assigned to a block if 0.001% of its volume was contained within a wireframe.

Percent models in the Ore and Waste folders were updated using the wireframes.

The percent model in the Standard rock type folder was calculated by summing the percent models from the Ore folder and the Waste folder.

17.5.3 DENSITY MODEL

The density model was updated by rock type as outlined in Table 17.7.

Table 17.7 Block Model Density by Rock Type

Rock Type	Density
Oxide	2.4
Sulphide	2.76

17.6 GRADE INTERPOLATION

Gold, silver, lead, and zinc grades were interpolated into blocks using ordinary kriging.

The grades were interpolated, as summarized in Table 17.8, into the Main Zone and Zone 2 using composites coded from those zones only. Grades were interpolated into Zone 4 from composites coded from Zone 4 only.

An additional condition was applied to grades for zinc due to the sharp grade transition across the oxide sulphide boundary. Zinc grades were interpolated into the oxide blocks using composites coded from the oxide zone only and into sulphide blocks using composites coded from the sulphide zone only, thereby treating the oxide sulphide boundary as a hard boundary for zinc grades.

Table 17.8 Sample Selection Criteria for Grade Interpolation

Domain	Coded Composites Used for Grade Interpolation (Au, Ag, and Pb)	Coded Composites Used for Grade Interpolation (Zn)
100	100, 200, 102, 202	100, 102
200	100, 200, 102, 202	200, 202
102	100, 200, 102, 202	100, 102
202	100, 200, 102, 202	200, 202
104	104, 204	104
204	104, 204	204

Interpolation was carried out in two passes using a different search ellipse for each pass as outlined in Table 17.9. For both passes, grades were interpolated only if 7 samples from at least 3 holes were found within the search ellipse, and no more than 3 samples per hole or 18 samples in total were used to interpolate grade within a block. Pass two only interpolated grades into blocks that had not been interpolated during the first pass interpolation.

Table 17.9 Search Ellipse Parameters

Element	Axes Rotation	Ranges (m)	Maximum Samples per Hole	Minimum Samples	Maximum Samples
Pass 1	Z = 0	X = 40	3	7	18
	Y = 0	Y = 75			
	Z = 0	Z = 40			
Pass 2	Z = 0	X = 100	3	7	18
	Y = 0	Y = 100			
	Z = 0	Z = 60			

Note: Rotation angles were set to correspond to the Gemcom Software's rotational convention, which follows the right hand rule with rotation about Z-axis being positive when X moves towards the Y-axis; rotation about the Y-axis is positive when Z moves towards the X-axis.

A recoverable metal value (RMV) was calculated for each mineralized block by performing a simple manipulation of the block model parameters based on prices and recovery rates as listed in

Table 17.10 and the following formula:

$$\text{USD EQ} = \text{Au (g/t)} \times 14.63 + \text{Ag (g/t)} \times 0.28 + \text{Pb\%} \times 8.59 + \text{Zn\%} \times 15.12$$

Table 17.10 Metal Prices and Recovery Rates

	Au	Ag	Pb	Zn
Value	\$631.97/oz	\$11.63/oz	\$0.78/lb	\$1.11/lb
Recovery	72%	74%	50%	62%

17.7 MINERAL RESOURCE CLASSIFICATION

Mineral resources were classified in accordance with definitions provided by the CIM as stipulated in NI 43-101. The San Agustin mineral resources are classified by Wardrop as Indicated and Inferred.

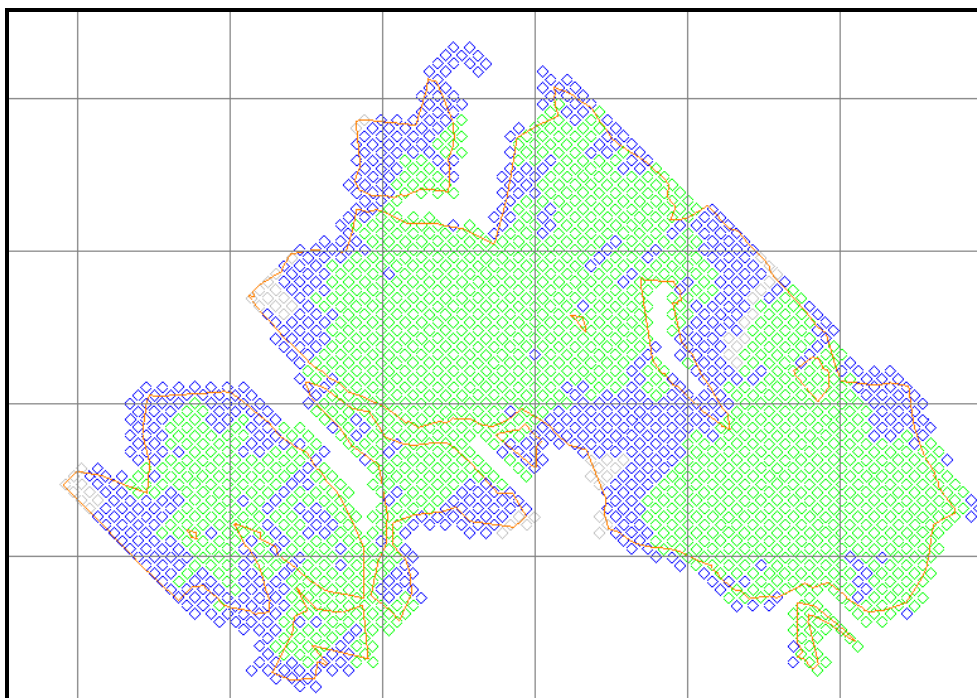
The San Agustin block model contains 31,960 partial blocks coded as oxide and sulphide from the Main Zone, Zone 2, and Zone 4. There are 15,604 blocks classified as Indicated and 15,026 classified as Inferred. There were 1,330 blocks within the mineralized zones left unassigned.

The classification model was based on the restrictive search parameters derived from the variogram range for gold, and based as follows:

- Blocks that were interpolated during pass one were assigned to the Indicated category.
- Blocks interpolated during pass two were assigned to the Inferred category.
- Blocks that had not been interpolated during either pass were left unassigned.

The result was a variable width contiguous zone of indicated blocks oriented along the main axis of the deposit flanked by inferred blocks.

Figure 17.2 Block Model Classification at 1857.5 masl Elevation



Note: Indicated blocks are green; Inferred blocks are blue; grid spacing at 200 m.

17.8 MINERAL RESOURCE TABULATION

A Mineral Resource as defined in NI 43-101 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 reasonable prospect of economic extraction is determined by applying a reasonable cut-off to the estimated mineral resource. Because the mineralization at San Agustin occurs both in narrow veins and as disseminations and stockworks, and because some mineralized blocks occur outside of the modelled mineralized envelopes, Wardrop decided to use a Whittle optimized pit to establish the reasonableness of economic extraction. The pit was generated using parameters that are assumed to be reasonable for the size of the deposit being evaluated as defined in Table 17.11.

Table 17.11 Whittle Pit Parameters

Input for Pit Optimization	2008
Ore Mining Cost	\$1.05
Waste Mining Cost	\$1.05
G&A Costs	\$0.45
Sulfide Processing Cost	\$4.75
Oxide Processing Cost	\$1.90
Reclamation Cost Allocation	\$0
Metal Price (Gold)	\$632
Metal Price (Silver)	\$11.60
Metal Price (Lead)	\$0.78
Metal Price (Zinc)	\$1.11
Overall Recovery (Gold)	72%
Overall Recovery (Silver)	74%
Overall Recovery (Lead)	50%
Overall Recovery (Zinc)	62%
HL Recovery (Gold)	68%
HL Recovery (Silver)	40%
Dore Shipping and Refining Gold	4.10
Dore Shipping and Refining Silver	0.06
Concentrate Shipping and Smelting (Lead)	0.16
Concentrate Shipping and Smelting (Zinc)	0.22
Specific Gravity – Ore Oxide	2.40
Specific Gravity – Ore Sulphide	2.76
Specific Gravity – Waste	2.76
Throughput (t/d)	50,000
Overall Pit Slope	45

Wardrop estimated, within the pit shell, that the San Agustin deposit, at a cut-off of \$3.40 RMV in the oxide and \$6.25 RMV in the sulphide, contains capped Indicated resources of 121.0 million tonnes grading 0.41 g/t Au, 12.3 g/t Ag, 0.49% Zn, 0.06% Pb and additional Inferred resources of 91.2 million tonnes grading 0.36 g/t Au, 12.6 g/t Ag, 0.48% Zn, 0.07% Pb as outlined in Table 17.12.

Table 17.12 San Agustin Mineral Resources (Capped)

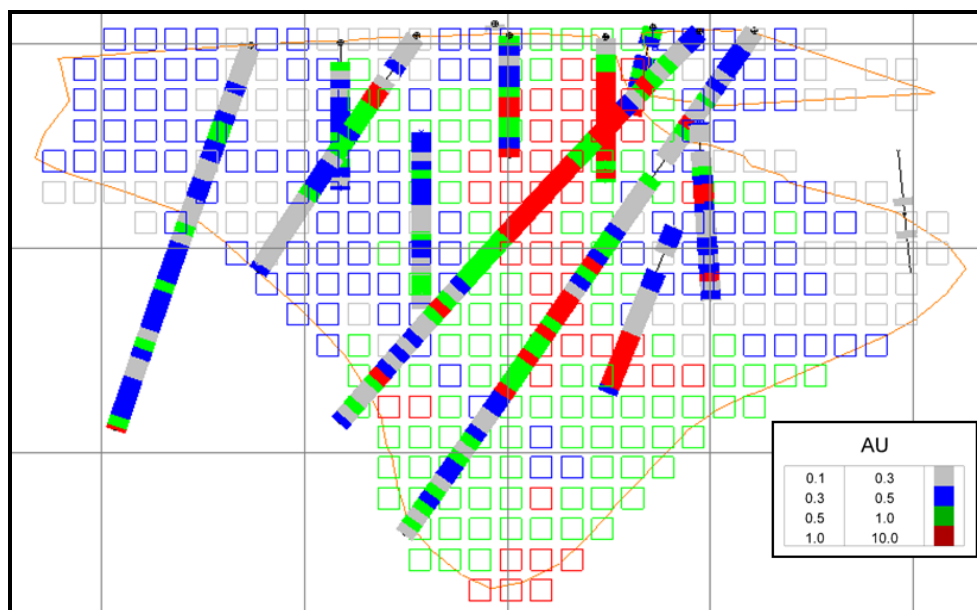
Ore Type	Classification	Tonnes (Mt)	Au (g/t)	Ag (g/t)	Zn (%)	Pb (%)
Oxide	Indicated	21.1	0.40	16.0	0.18	0.07
	Inferred	11.3	0.35	15.4	0.18	0.08
Sulphide	Indicated	99.9	0.41	11.5	0.55	0.06
	Inferred	79.9	0.36	12.2	0.52	0.06
Total	Indicated	121.0	0.41	12.3	0.49	0.06
	Inferred	91.2	0.36	12.6	0.48	0.07

17.9 BLOCK MODEL VALIDATION

Wardrop completed a detailed visual validation of the San Agustin block model. The model was checked for proper coding of drill hole intervals and block model cells, in both section and plan. Coding was found to be correct. Grade interpolation was examined relative to drill hole composite values by inspecting sections and plans. The checks showed good agreement between drill hole composite values and model cell values (Figure 17.3).

Wardrop also estimated the resource using isotropic inverse distance weighted to the second power. There was a 3% increase in grade at a zero cutoff indicating that the reported resources using ordinary kriging were valid.

Figure 17.3 Cross Section 650N with Drill Hole Composites



Note: showing capped gold equivalent grade (g/t) and 15 x 15 m blocks displaying interpolated capped gold grade (g/t). Grid spacing of 100 m displayed.

18.0 OTHER RELEVANT DATA AND INFORMATION

18.1 OUTSTANDING ISSUES

To the author's knowledge, there are currently no known environmental, permitting, legal, title, taxation, socio-economic, or political issues that adversely affect the property.

18.2 MINING AND INFRASTRUCTURE

The property is accessible by road and within 4 km of a power line. The infrastructure in the area is considered good. Mining methods would be determined after a preliminary assessment and would depend on the success of future exploration. The mining method would likely be open pit and processing would be done by conventional milling or heap leaching.

19.0 INTERPRETATION AND CONCLUSIONS

Several mapping, sampling, and drilling programs have been completed since the discovery of anomalous gold at the property in the mid-1980s. Information collected from these past programs resulted in the discovery of mineralization hosted in a quartz-sericite-pyrite altered, massive to flow-banded dacite dome. Higher grade structurally controlled mineralization associated with the central zone of sheeted alunite veins is the focus of the current exploration programs. Drilling and surface sampling has confirmed the presence of the structural zone.

A significant gold-silver deposit has been identified on the property through the drilling carried out to date. The most efficient manner to determine the reasonable prospect of economic extraction for this style of deposit is to evaluate the deposit with a Whittle pit based on reasonably generous pit parameters. Wardrop estimated, within the pit shell, that the San Agustin deposit, at a cut-off of \$3.40 RMV in the oxide and \$6.25 RMV in the sulphide, contains capped Indicated resources of 121.0 million tonnes grading 0.41 g/t Au, 12.3 g/t Ag, 0.49% Zn, 0.06% Pb and additional Inferred resources of 91.2 million tonnes grading 0.36 g/t Au, 12.6 g/t Ag, 0.48% Zn, 0.07% Pb.

Further drilling is warranted to delineate the mineralization as it remains open in many locations. Additional targets on the property, identified through trenching, remain to be evaluated.

20.0 RECOMMENDATIONS

Based on the exploration of the property to date and the discovery of a significant mineral deposit, the San Agustin property is of sufficient merit to warrant further resource work. Wardrop recommends the following work program for the property:

- Carry out additional drilling to define the extent of mineralization and to increase sampling density between zones. Wardrop estimate that \$3 million should be allocated towards drilling.

Carry out detailed metallurgical test work on the mineralization. Wardrop estimates that additional metallurgical test work will cost about \$1 million.

21.0 REFERENCES

Barclay, 2007 Investigation of Structural Fabric Orientation and Trends for the San Agustin Project, San Juan Del Rio, Durango, Mexico – Internal report to Geologix Explorations Inc., 16 p.

Burk, R., 2005 File Notes – San Agustin Au-Ag Project – Deposit Models & Exploration Potential – Internal Memo to Silver Standard Resources Inc.

Greybeal, F. T., 1981 Characteristics of Disseminated Silver Deposit in the Western United States, Arizona Geological Society Digest volume XiV, pp 271-281

MacLean, P.J., 1997 Summary of Activities Interim Report 1997 Jan.-Sept. San Agustin Project internal Report to Monarch Resources Inc., 58 p.

McCrea, J. A., 2006, Technical Report on the San Agustin Property, Revised, October 10, 2006, Geologix Explorations Inc., 39 p.

G&T, October 10, 2008, Preliminary Metallurgical Assessment of the San Agustin Project.

22.0 CERTIFICATE OF QUALIFIED PERSONS

I, Dr. Gilles Arseneau, P.Geo., of North Vancouver, do hereby certify that as the author of the report entitled **SAN AGUSTIN RESOURCE ESTIMATE – MARCH 2009**, dated March 30, 2009 I hereby make the following statements:

- I am Manager of Geology with Wardrop Engineering Inc. with a business address at #800 – 555 W. Hastings St., Vancouver, BC.
- I have a B.Sc. in Geology from the University of New Brunswick (1979), a M.Sc. in Geology from the University of Western Ontario (1984), and a Ph.D. in Geology from the Colorado School of Mines (1995).
- I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (License #25474).
- I have practiced my profession in mineral exploration continuously since graduation. I have over twenty years of experience in mineral exploration and I have eight years experience preparing mineral resource estimates using block-modelling software.
- 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 fulfil the requirements to be a “qualified person” for the purpose of NI 43-101.
- I am responsible for all sections of the technical report. I visited the property on October 28 and 29, 2007.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- As of the date of this Certificate, to my knowledge, information, and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
- I am independent of the Issuer as described in Section 1.4 of NI 43-101.
- I have read NI 43-101 and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

Signed and dated this 30th of March at Vancouver, British Columbia

“Original Document, Revision 02 signed and sealed by Gilles Arseneau, Ph.D. P.Geo.”

Gilles Arseneau, Ph.D., P.Geo.
Wardrop Engineering Inc.
Manager of Geology