MINE DEVELOPMENT ASSOCIATES

MINE ENGINEERING SERVICES

Updated Technical Report of the Zaca Project
Alpine County, California USA

Prepared for

Fronteer
The Science of Discovery

Fronteer Development Group Inc.

November 1, 2007

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TABLE OF CONTENTS

Section *Page*

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LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 EXECUTIVE SUMMARY

This technical report on the Zaca project was prepared by Mine Development Associates ("MDA") at the request of Fronteer Development Group Inc. (Fronteer). The report was written in compliance with disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1. MDA previously authored a technical report pertaining to the Zaca project for NewWest Gold Corporation (Griffith and Ristorcelli, 2006). The information in this report is current as of November 1, 2007 unless otherwise noted.

The Zaca project is 100% owned by a wholly owned subsidiary of Western States Minerals Corporation (WSMC), a privately owned Utah corporation, subject to underlying royalty agreements. The properties comprising the project are leased to a wholly owned subsidiary of NewWest Gold Corporation (NewWest). Fronteer acquired 100% of NewWest, including its leasehold interest in the Zaca project, on September 24, 2007.

The information in this report is essentially identical to that disclosed in the original technical report pertaining to the Zaca project (Griffith and Ristorcelli, 2006) with the exception of the following: (1) the report is prepared for Fronteer; (2) the ownership of the property has been updated; (3) three claims are removed from Appendix A; (4) an update of work related to the remediation of a small amount of acid-rock drainage is provided; and (5) some metric conversions of units are included.

In preparation of this report, MDA has relied on information obtained through a review of private documents and reports, including previous operators' project reports, as well as documents of WSMC and NewWest. Additional information was provided by the authors of this report who had extensive experience on the project during the 1980s. Title to the property was verified as of June, 2005 in an independent title report by Erwin and Thompson LLP (Erwin, 2005); the record title to the project patented and unpatented mining claims, and NewWest's leasehold interest in the claims, is confirmed in an updated mineral status report (Erwin, 2007)

1.1 Introduction

The Zaca project is located in Alpine County, California, about 70 miles south of Reno, Nevada in the Toiyabe National Forest. The project consists of 177 contiguous unpatented lode mining claims covering 2,834 acres (1,147 ha) and four patented mining claims covering 153 acres (62 ha).

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1.2 Geology and Mineralization

The Zaca project lies in the Monitor-Mogul Mining District, which is located in the north-trending Monitor Range. The range is at the western edge of the Basin and Range Province, bounded to the west by the Sierra Nevada Province. The district falls within a large block of volcanic and shallow intrusive rocks. The volcanic rocks are dominantly andesite flows, and intrusive stocks and pipes of rhyolite, andesite and dacite have been emplaced within the flows. The oldest of the andesitic flows has been dated at 12.5 million years. These flows are in excess of 4,000 ft (1,219m) thick and lie directly on the granitic rocks of the Sierra Nevada Batholith in a fault block that has been dropped down on the east side of the Sierra Nevada.

Defined gold resources lie within Colorado Hill, which is in an area dominated by a group of four subvolcanic rhyolite pipes. The pipes have a north-south alignment and intrude Late Miocene Goskey Canyon Andesite. The most prominent pipe is the Pliocene Zaca Rhyolite, which occurs as a composite pipe of flow-banded rhyolite partially surrounded by locally stratified tuff breccia. The Zaca Rhyolite and breccias are hydrothermally altered.

The main zone of gold and silver mineralization and essentially all of the defined resources lie within the Zaca Rhyolite. The mineralization and alteration in the Zaca deposit are typical of intermediate-sulphidation epithermal systems. The precious metals mineralization has 2,000 ft (610m) of known vertical extent and is open at depth. The predominant metal-bearing minerals are pyrite, argentite, freibergite, proustite-pyrargyrite, sphalerite, huebnerite, galena and electrum. Free gold (electrum) occurs as grains averaging 5 microns in diameter and is found mainly in fractures associated with pyrite, proustite-pyrargyrite, or freibergite. The gold is rarely surrounded by silica minerals.

The most common mode of mineral occurrence is as fracture fillings about 1/16 in. wide, most of which are cooling joints. Additional modes of occurrence include wider, irregular veins; disseminations in the rhyolite; in pockets, chimneys and clay (possibly illite) seams; and in fold-like contortions of the foliated rhyolite. Apart from some of the high-grade pockets and chimneys, grade is believed to be controlled primarily by fracture density and the thickness and contents of the fractures.

Kaolinite in unoxidized rock forms a halo or cap associated with the mineralization. Quartz-sericite-illite(?) alteration is most intimately associated with the mineralization. Quartz and locally sericite are present as gangue in mineralized fractures. Alteration envelopes of quartz and sericite, typically several inches wide, may be present adjacent to some of the wider mineralized fractures.

1.3 Exploration and Mining History

Silver was discovered in Monitor Canyon in 1857. Many of the mines in the district were located and commenced operations in the four to six years following the discovery. The mines were operated intermittently by a number of different owners until 1921. Siskon Corporation (Siskon) began to consolidate the district and reactivated some of the old mines for a short period of time in the 1930s.

The various mines on Colorado Hill became known collectively as the Zaca Mine. Between the late 1950s and 1981, the property was leased to a small miner who maintained intermittent production. Companies involved in exploration of Colorado Hill and the surrounding district in the 1960s to 1980s included W. S. Moore Co, Parnasse Co. (Parnasse), Standard Slag Company (Standard Slag), Bear Creek Mining Corporation (Bear Creek), Homestake Mining Company (Homestake), FMC Corp., California Silver, Ltd. (and its U.S. subsidiary California Silver, Inc.) and Baker Resources USA, Inc. (later US Precious Metals, Inc). Their activities included mapping surface geology, geochemistry, geophysics, core and reverse-circulation drilling, reopening of underground workings for sampling and mapping, environmental assessment studies, a pre-feasibility study, and a 1,500-ton (1,360t) pilot heap-leach amenability test.

WSMC entered an earn-in option with California Silver in 1989. WSMC subsequently acquired the remaining interest of California Silver, Ltd in 1990 as well as Baker Resource's interest. WSMC did reverse circulation (RC) drilling on Colorado Hill in 1990. A small drilling program was also conducted on the Morning Star Mine area in 1995. WSMC assigned its entire interest in the project to an associated company, Zaca Resources Corporation (Zaca Resources), in 1995. During 1996 and 1997, significant reverse circulation drilling programs were completed by Zaca Resources on Colorado Hill and a few additional holes were also drilled in outlying target areas.

Records of the production from the Zaca Mine are not complete, although a compilation of known data from the State of California, the U.S. Bureau of Mines, and other reports shows production of 97,810 tons containing 16,404 oz Au, 728,275 oz Ag, which give average grades of 0.168 oz Au/ton and 7.45 oz Ag/ton.

1.4 Drilling and Sampling

Table 1.1 below shows the drilling to date by area and type of drilling. Colorado Hill includes the Zaca Mine while the other areas are nearby prospects and previous producers that are on contiguous claims currently controlled by WSMC.

Table 1.1 Zaca Drilling Summary

Area	Holes	Footage
Colorado Hill – surface/reverse circulation	293	173,035
Colorado Hill – surface/core	44	20,966
Colorado Hill – underground core	15	2,815
Colorado Hill – underground ring	370	3,700
Alpine Mine area – core	25	12,981
Alpine Mine area – reverse circulation	3	2,106
Morning Star Mine area	23	5,435
Peter Pan – Forest City Flat	49	17,615
Other targets on land holdings	69	28,881
Totals	891	267,534

Sampling procedures among the different campaigns varied depending on the operator, type of drilling and industry standard practices at the time the drilling was carried out. The sampling and assaying of the underground drilling done on Colorado Hill was not of sufficient quality to use for calculating grades, however it was useful for determining where mineralization occurs. With the exception of a few drill holes in the Morning Star Mine area, the rest of the drilling met or exceeded industry standard practices at the time the drilling was carried out.

The surface drilling on Colorado Hill that was used to define the Zaca deposit was drilled by California Silver, WSMC, or Zaca Resources. Diamond drill holes (core) were sampled by splitting the core in half with a knife-type core splitter, with one-half submitted to the laboratory for assaying and the other half retained as a record or used later for metallurgical testing. Reverse circulation (RC) holes were sampled at the drill rig immediately after the sample passed through the cyclone. When drilling dry, the RC samples were normally passed through a three-tiered riffle splitter with one-eighth of the sample collected and sent for assay. When drilling wet, samples were normally passed through a rotary splitter with one-half to one-quarter of the sample collected and sent for assay.

1.5 Metallurgical Testing

Both California Silver and WSMC/Zaca Resources performed metallurgical test-work on the Zaca deposit between 1981 and 1997. Some of the work was done by independent labs on contract, and some of it was done in-house. Although there have been a few tests to determine the technical feasibility of recovering the gold and silver values by flotation, the majority of the test-work has been directed to determining and optimizing the parameters to recover the values using heap leaching. Metallurgical test-work culminated in a pilot-scale heap-leach test on a 1,500 ton bulk sample.

- For material crushed to -1/4 inch, gold recovery is expected be approximately 65% and silver recovery is expected to be approximately 45%. High-grade silver values (many ounces/ton) may have different mineralogy and the silver recovery may be significantly lower, but additional test-work on fresh samples would be necessary to determine what recovery should be expected. This potential problem, which affects a small portion of the deposit, may be compounded by the presence of manganese in the form of rhodochrosite.
- Preliminary tests show that gold recoveries may be significantly improved through the use of a Barmac crusher or high-pressure grinding rolls, which are more effective at liberating the mineralization. Additional test-work including a bulk sample test would be necessary to confirm this.

1.6 Mineral Resource Estimation

The Zaca deposit lies almost entirely within the Zaca Rhyolite, with a minor amount of mineralization within the pyroclastic breccia that was intruded by the rhyolite. Mineral domains were defined to control the resource estimation. An attempt was made to relate these domains to geologic controls but more time and information were needed. It is believed that lower-grade mineralization is controlled by irregular fracturing, which if true, would be nearly impossible to define from the dominantly RC drilling. A broad low-grade halo was defined at Zaca around a grade of ~0.01 oz Au/ton. This main mineralized body is football to cylinder-shaped and is roughly 2,000 ft long raking -45^{o} at an azimuth of 140^{o}. The Zaca deposit consists of one principal mineralized zone and two significantly smaller satellite zones.

Internal to the low-grade mineral domains are additional domains defined at approximately ~0.04 oz Au/ton and at ~0.2 oz Au/ton. The mid-grade domain most likely is a result of increased fracturing, and results in zones with irregular shapes; these plunge parallel to and lie within the main low-grade domain. Controls on the highest-grade mineral domain are uncertain.

Silver does not have the same distribution as the gold and was therefore modeled independently. The silver mineralization forms a body that, for the most part, envelopes much of the gold zone and is substantially larger than the gold zones. This broad low-grade zone is about 2000 ft long, 1500 ft wide and extends vertically for at least 2000 ft and is open but narrowing at depth.

Geologic and mineral domain models of the Zaca deposit were constructed on cross sections, and the mineral domain interpretations were then refined on level maps.

Two block models were created, one for gold and one for silver. These were later combined for reporting and for future economic studies. The block models were created with 25 ft x 25 ft x 20 ft blocks. Fields stored in the block model include percent topography, percent of each domain, grade for each domain, block- and zone-diluted grades, resource classification, tons per block, distance to the nearest composite, number of composites and holes used in each estimate, stope, rock type, and oxide classification.

Geostatistics were completed on the composites. The gold and silver grades were estimated by two different methods, once by kriging and once using the nearest neighbor method. Resource reporting uses the kriged grades while checking uses the nearest-neighbor results. Composites from each domain were only used to estimate into blocks from the same domain.

The resources were estimated by WSMC personnel under the direction of MDA. Once completed, the work was audited by MDA, and changes were suggested and made. This was followed by a second review with only minor comments and changes suggested; these changes were again made.

The estimated Measured, Indicated, Measured and Indicated, and Inferred resources based on gold equivalent cutoffs at Zaca are given in Table 1.2. MDA has tabulated the resource based on a calculated gold equivalent grade to fairly represent the *in situ* metal content from the two overlapping metal distributions. The silver to gold ratio is 67 or the equivalent of a $400 gold price and $6.00 silver price. No metallurgical recoveries were used to modify the ratio. There is no guarantee that any or all of the resources will be converted to reserves, but based on historic work and prior economic studies, a good portion of the resource should be converted to reserves.

MDA prepared the resource estimate using Imperial units and the tables in metric units are direct conversions of the Imperial units. Due to rounding, the data in the tables which are in metric units may not appear to balance in the last significant digit.

The Zaca mineral resources are not encumbered by any royalties.

Table 1.2 Zaca Gold and Silver Resources

Imperial Units

Measured Resources

Cutoff (oz AuEq/ton)	Tons	Grade (oz AuEq/ton)	Ounces Gold Eq.	Grade (oz Au/ton)	Ounces Gold	Grade (oz Ag/ton)	Ounces Silver
0.010	8,097,000	0.029	236,000	0.019	151,000	0.704	5,700,000

Indicated Resources

Cutoff (oz AuEq/ton)	Tons	Grade (oz AuEq/ton)	Ounces Gold Eq.	Grade (oz Au/ton)	Ounces Gold	Grade (oz Ag/ton)	Ounces Silver
0.010	18,730,000	0.025	464,000	0.014	266,000	0.707	13,242,000

Measured & Indicated Resources

Cutoff (oz AuEq/ton)	Tons	Grade (oz AuEq/ton)	Ounces Gold Eq.	Grade (oz Au/ton)	Ounces Gold	Grade (oz Ag/ton)	Ounces Silver
0.010	26,827,000	0.026	700,000	0.016	417,000	0.706	18,942,000

Inferred Resources

Cutoff (oz AuEq/ton)	Tons	Grade (oz AuEq/ton)	Ounces Gold Eq.	Grade (oz Au/ton)	Ounces Gold	Grade (oz Ag/ton)	Ounces Silver
0.010	329,000	0.033	11,000	0.018	6,000	1.033	340,000

Metric Units (1)

Measured Resources

Cutoff (g AuEq/t)	Tonnes	Grade (g AuEq/t)	Ounces Gold Eq.	Grade (g Au/t)	Ounces Gold	Grade (g Ag/t)	Ounces Silver
0.34	7,346,000	1.00	236,000	0.64	151,000	24.14	5,700,000

Indicated Resources

Cutoff (g AuEq/t)	Tonnes	Grade (g AuEq/t)	Ounces Gold Eq.	Grade (g Au/t)	Ounces Gold	Grade (g Ag/t)	Ounces Silver
0.34	16,992,000	0.85	464,000	0.49	266,000	24.24	13,242,000

Measured & Indicated Resources

Cutoff (g AuEq/t)	Tonnes	Grade (g AuEq/t)	Ounces Gold Eq.	Grade (g Au/t)	Ounces Gold	Grade (g Ag/t)	Ounces Silver
0.34	24,338,000	0.89	700,000	0.53	417,000	24.21	18,942,000

Inferred Resources

Cutoff (g AuEq/t)	Tonnes	Grade (g AuEq/t)	Ounces Gold Eq.	Grade (g Au/t)	Ounces Gold	Grade (g Ag/t)	Ounces Silver
0.34	298,000	1.15	11,000	0.63	6,000	35.43	340,000

1. The metric units are direct conversions of the Imperial units above, and so may not balance due to rounding.

1.7 Interpretations and Conclusions

MDA, through the reviews and compilations completed for this report, concludes that the Zaca project is a property of merit, and that the Zaca deposit is a significant gold and silver deposit. In addition to the Zaca deposit, the property includes a number of exploration targets that merit additional exploration.

Within the Zaca deposit itself, RC hole ZRD-119 intersected an apparent width of 20 ft grading 2.26 oz Au/ton and 11.0 oz Ag/ton at a depth of 1,300 ft below surface in the Colorado Deep target. Anomalous gold values and silicification, together with a reinterpretation of the previous work, have developed a new target worthy of exploration in the Forest City Flat-Peter Pan area. In addition to these two targets, there are several other areas on the property with known mineralization that are worthy of follow up.

1.8 Recommendations

A two-track program is recommended for the Zaca project. For Phase I the first track is a Preliminary Economic Assessment (PEA) to be conducted on the Zaca deposit, and the second track is an exploration program on other targets within the project. Phase I of the program is described below in Table 1.3.

Table 1.3 Recommendations Cost Estimate – Phase I

Zaca Deposit		
In-house Preliminary Economic Assessment	150,000	
External Preliminary Economic Assessment review	40,000	
Contingencies	20,000	
Subtotal Zaca Deposit		$210,000
Exploration		
Compile all target area data and plan exploration program	$10,000	
Additional mapping, infill sampling, database verification in target areas, ground acquisition (allowance)	45,000	
Legal survey	50,000	
Obtain permits for drilling	10,000	
Forest City Flat-Peter Pan RC drilling: 5,000 ft @ $25/ft (includes site prep, drilling, assaying, geologist, reclamation)	125,000	
Colorado Deep drilling	550,000	
Property maintenance: 1.5 years	75,000	
Compilation of results and reporting	30,000	
Contingencies	90,000	
Subtotal Exploration		$985,000
Total Phase I		**$1,195,000**

Should the Phase I PEA show that placing the Zaca deposit into production is economically attractive, a pre-feasibility study and baseline environmental studies to support the permitting process would be warranted as the Phase II work program. The pre-feasibility study, including establishing that there is a sufficient water supply for the operation, could cost up to approximately $750,000. The additional cost of the necessary permitting activities cannot be predicted with certainty, but it is likely to be in excess of the approximate one-million dollars that it cost in the 1980s.

Should the Phase I exploration program be successful, additional exploration drilling will be warranted as part of the Phase II work. Success is defined as drill intersections that have grades and widths of mineralization that could be economic taking into account the geometry and location of an inferred deposit. Up to one and a quarter million dollars may be justified as the Phase II exploration program.

The two programs, development of the Zaca deposit and the exploration program, are independent. It is possible to proceed to Phase II of either program regardless of the results of Phase I of the other program.

2.0 INTRODUCTION

Mine Development Associates (MDA) has prepared this technical report on the Zaca project at the request of Fronteer Development Group Inc. (Fronteer). MDA previously authored a technical report pertaining to the Zaca project for NewWest Gold Corporation (Griffith and Ristorcelli, 2006). The information in this report is current as of November 1, 2007 unless otherwise noted.

The Zaca project is 100% owned by a wholly owned subsidiary of Western States Minerals Corporation (WSMC), a privately owned Utah corporation, subject to underlying royalty agreements. The properties comprising the project are leased to a wholly owned subsidiary of NewWest Gold Corporation (NewWest). Fronteer acquired 100% of NewWest, including its leasehold interest in the Zaca project, on September 24, 2007.

The purpose of this report is to provide a technical summary of the Zaca project for Fronteer and to satisfy Fronteer's obligation to file a technical report to be made available to the public. The technical report was written in compliance with disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1. The resources for the Zaca deposit were estimated during September through December 2004 by WSMC personnel with the support and guidance of MDA.

The information in this report is essentially identical to that disclosed in the original technical report pertaining to the Zaca project (Griffith and Ristorcelli, 2006) with the exception of the following: (1) the report is prepared for Fronteer; (2) the ownership of the property is updated; (3) three claims are deleted from Appendix A; (4) an update of work related to the remediation of a small amount of acid-rock drainage associated with several of the old mine workings in and around the Zaca project is provided; and (5) some metric conversions of units are included.

The scope of this study included a review of pertinent technical reports and data in possession of WSMC and NewWest relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, resources metallurgy, land issues, and environmental information.

MDA's mandate was to assess the technical merits of the project and determine the adequacy and reliability of the underlying information as well as to comment on substantive public or private documents and technical information listed in Section 21 of this report. The mandate also required on-site inspections and preparation of this independent technical report containing MDA's observations, conclusions, and recommendations. The senior author, David J. Griffith, made use of his historical knowledge of the property, which may not always be specifically referenced. David J. Griffith was Vice President of Exploration for California Silver, Inc. (California Silver), a previous owner of the property, during the period that California Silver owned and explored the property (1980-1988), and spent many hundreds of days on the property during that period. Steven Ristorcelli, co-author of this report, was a senior geologist with California Silver during the latter half of that period, and spent hundreds of days on the property during that time.

With the exception of Section 17, David J. Griffith , the senior author of this report and an associate of MDA, reviewed all of the information relied on for this report, and performed such additional review and tests as he deemed necessary to determine the reasonableness of said information. Steven Ristorcelli, Principal Geologist with MDA and Michael M. Gustin, Senior Geologist with MDA, reviewed the information relied on for Section 17 of this report, and performed such additional review and tests as they deemed necessary to determine the reasonableness of said information.

Due to the historic corporate interrelationships between WSMC, Zaca Resources Corporation (Zaca Resources), and NewWest, the three companies may sometimes be referred to interchangeably in this report.

Currency, units of measure, and conversion factors used in this report include:

Linear Measure

1 inch	= 2.54 centimeters
1 foot	= 0.3048 meter
1 yard	= 0.9144 meter
1 mile	= 1.6094 kilometers

Area Measure

1 acre		= 0.4047 hectare
1 square mile	= 640 acres	= 259 hectares

Capacity Measure (liquid)

1 US gallon	= 4 quarts	= 3.785 liter

Weight

1 short ton	= 2000 pounds	= 0.907 tonne
1 pound = 16 oz	= 0.454 kg	= 14.5833 troy ounces

Analytical Values	percent	grams per metric tonne	troy ounces per short ton
1%	1%	10,000	291.667
1 gm/tonne	0.0001%	1	0.0291667
1 oz troy/short ton	0.003429%	34.2857	1
10 ppb			0.00029
100 ppm			2.917

Currency

All references to dollars ($) in this report refer to currency of the United States.

Frequently used acronyms and abbreviations

AA	atomic absorption spectrometry
Ag	silver
Au	gold
BLM	U.S. Department of the Interior, Bureau of Land Management
CIM	Canadian Institute of Mining, Metallurgical, and Petroleum
cc	cubic centimeter
°F	degrees Fahrenheit
Fronteer	Fronteer Development Group Inc.
ft	foot or feet
g	gram
g/cc	grams per cubic centimeter
g/t	grams per metric tonne
ha	hectare
in	inch
Ma	Millions of years before present
MDA	Mine Development Associates
mi	miles
NewWest	NewWest Gold Corporation or NewWest Gold USA Inc
NSR	net smelter return
oz	troy ounce
oz Ag/ton	troy ounces silver per short ton (oz/ton)
oz Au/ton	troy ounces gold per short ton (oz/ton)
oz AuEq/ton	troy ounces gold equivalent/ton
RC	reverse circulation drilling method
t	metric tonne
ton	short ton
tpd	tons per day
USFS	U.S. Forest Service
WSMC	Western States Minerals Corporation
Zaca Resources	Zaca Resources Corporation

3.0 RELIANCE ON OTHER EXPERTS

MDA has relied almost entirely on data and information provided by WSMC and NewWest, some of which was obtained or derived from prior operators of the Zaca project. Many of the conclusions made in this report are based entirely on the work of these previous operators. Although MDA has reviewed much of the available data and visited the project site, these tasks are dwarfed by the amount of data that exists. MDA believes, however, that the data presented by WSMC and NewWest are generally an accurate and reasonable representation of the project.

This report contains information relating to mineral titles, environmental matters, permitting, regulatory matters, and legal agreements. While the authors are generally knowledgeable concerning these issues in the context of the mineral industry, the authors do not qualify as legal or regulatory experts. The information in the report concerning these matters is presented as required by Form 43-101F1 but is not a professional opinion. Readers requiring assurance on these topics should consult qualified experts.

WSMC and NewWest have provided copies of legal documentation regarding purchase agreements with previous owners of the patented and unpatented mining claims covering the Zaca project, although MDA is not a qualified expert for assessing the legal documents regarding title and the validity of mining claims. NewWest has presented evidence of its due diligence review of the claims and commissioned independent title and updated mineral status reports by Erwin and Thompson LLP (Erwin, 2005, 2007) that document the existing royalty burdens and discuss the title status of the unpatented mining claims, fee lands, and patented mining claims; MDA relies on the conclusions of Erwin (2005, 2007) as to the title of the project properties. The documentation provided by NewWest and the independent title report are referenced or included in this report.

WSMC and NewWest have provided copies of documentation with regard to environmental conditions and permits for the Zaca project. Neither MDA nor the authors are qualified experts with respect to these issues in California or elsewhere, and consequently the firm of Enviroscientists, Inc. of Reno, Nevada was contracted to conduct a short review of the documentation and permitting requirements for a new mine in California.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Zaca project is located in Alpine County, California, about 70 miles south of Reno, Nevada and about 30 miles southeast of Lake Tahoe. The general location of the Zaca project is shown on Figure 4.1. The project lies in the Toiyabe National Forest, approximately 4.5 miles southeast of the small town of Markleeville, California, which is the county seat. The property is approximately at latitude 38º40'N, longitude 119º43'W.

4.2 Land Area

The Zaca project is located in Townships 9 and 10 North, Ranges 20 and 21 East of the Mount Diablo Base and Meridian in Alpine County, California. The property package is made up of patented and unpatented lode mining claims that are primarily surrounded by land controlled by the Department of Agriculture, U.S. Forest Service. The land package and holding costs are summarized in Table 4.1. The holding costs consist of payments of the annual fee to the United States Bureau of Land Management and taxes to Alpine County. Table 4.1 summarizes the land position and Appendix A and B lists the individual unpatented and patented claims, respectively. In addition to the 177 unpatented lode claims that are listed in Appendix A and shown on Figure 4.2, there are five additional unpatented lode claims that may not be valid due to their location monument being on ground that was not open at the time of location (three were listed in Appendix A in the original technical report – these have been removed). The Mineral Resources reported in Section 17 and the Recommendations reported in Section 20 are not affected by the validity or invalidity of these five unpatented lode claims. A U.S. Mineral Survey was completed by California Silver in 1983 that included three unpatented lode claims, which are currently part of the Zaca property. Earlier in the 1980's, a legal survey was completed on these and other unpatented lode claims, which were found to be contiguous. Claims that were acquired after the legal survey was completed are believed to be contiguous, but this has not been verified.

Table 4.1 Zaca Project Land Holdings

Property Type	No. Claims/Approximate Acres	Annual Holding Costs
Unpatented Claims	177 lode claims 2,834 acres (1,147ha)	US$35,942
Patented Claims	4 lots 153 acres (62ha)	$3.060
Totals	2,987 acres (1,209ha)	**US$39,002**

4.3 Agreements and Encumbrances

The following summary is derived from Erwin and Thompson LLP (Erwin 2005, 2007). As MDA is not an expert for assessing the legal validity of claims in the United States, MDA relies on the conclusions of Erwin and Thompson LLP (Erwin 2005, 2007) as to the title of the Zaca property. MDA has also relied on Fronteer to provide full information concerning all corporate relationships and other corporate dealings, current legal title, and environmental permitting pertaining to the Zaca property that are not derived from Erwin and Thompson LLP (Erwin 2005, 2007).

Fronteer obtained its interest in the Zaca project through its acquisition of NewWest. NewWest controls the Zaca project by means of a mining lease with New Zaca LLC, a wholly owned subsidiary of WSMC. New Zaca LLC owns 100% of the Zaca project properties subject to three underlying royalty agreements. There is a 5% Net Smelter Return royalty payable to Kennecott Explorations (Australia) Ltd. (Kennecott) on the Loope claims with the exception of Loope 143 to 146 claims, on which the royalty is 2.5%. This royalty payable to Kennecott is capped at US$2,000,000. In the event that New Zaca LLC abandons any of the original Loope claims, and Kennecott does not exercise its option to retain them, if New Zaca LLC restakes the ground within five years of giving Kennecott notice the royalty will apply to the new claims. There is a 5% Net Smelter Return royalty payable to US Precious Metals, Inc. (previously Baker Resources USA, Inc.) on the Flint patent and Red Gap, Red Gap No. 1, Red Gap No. 2 and Red Gap Annex claims. This royalty applies after all acquisition, exploration and development costs are recovered. The Mineral Resources reported in Section 17 are not subject to the two royalties described above in this paragraph. The third royalty interest is held by NewWest, and therefore has no material effect to its interests in the Zaca project properties.

The unpatented claims expire automatically on September 1 of each year unless the maintenance fees have been paid to the Bureau of Land Management. In addition to paying maintenance fees, it is an annual obligation of the owner of an unpatented mining claim in California to ensure that the claim posts are standing and properly marked. Documents provided by NewWest to MDA indicate that the maintenance fees, which are due prior to September 1, 2007, have been paid.

Taxes on the patented claims are to be paid to Alpine County by September 30 of every year, but they can be paid late along with the required penalty without losing title. The patented claims are real property and are valid as long as the taxes are paid.

4.4 Environmental Liabilities

The US Forest Service undertook "non-time-critical Removal Actions under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (as amended) for Colorado Hill" (Millennium Science and Engineering, 2002a) that was completed in the summer of 2007. The work was conducted under, and funded by, the USFS Interdepartmental Abandoned Mine Lands Watershed Cleanup Initiative. This work involved remediation of low-flow drainage of acidic water associated with several of the old mine workings in and around the Zaca project using an infiltration basin and water retention structure. The most serious occurrences are at the Lower Advance and Lower Colorado levels. The acid rock drainage associated with the old mine workings has been occurring at least since the 1930s, well before WSMC's involvement in the project, and only in recent years have the regulatory agencies determined that any action is necessary.

In March 2007 the US Forest Service and NewWest signed agreements giving the US Forest Service an easement to operate and maintain the infiltration basin and water retention structure (Erwin, 2007). The NewWest August 18, 2006 Prospectus states that, "At no time during the detailed discussions with the USFS regarding the drafting of these agreements was there any suggestion by the USFS that NewWest has a financial obligation to contribute funds to build the water management facilities." However, the possibility exists that NewWest may be asked by the USFS to contribute to the remediation costs at some time in the future.

Figure 4.1 Location Map

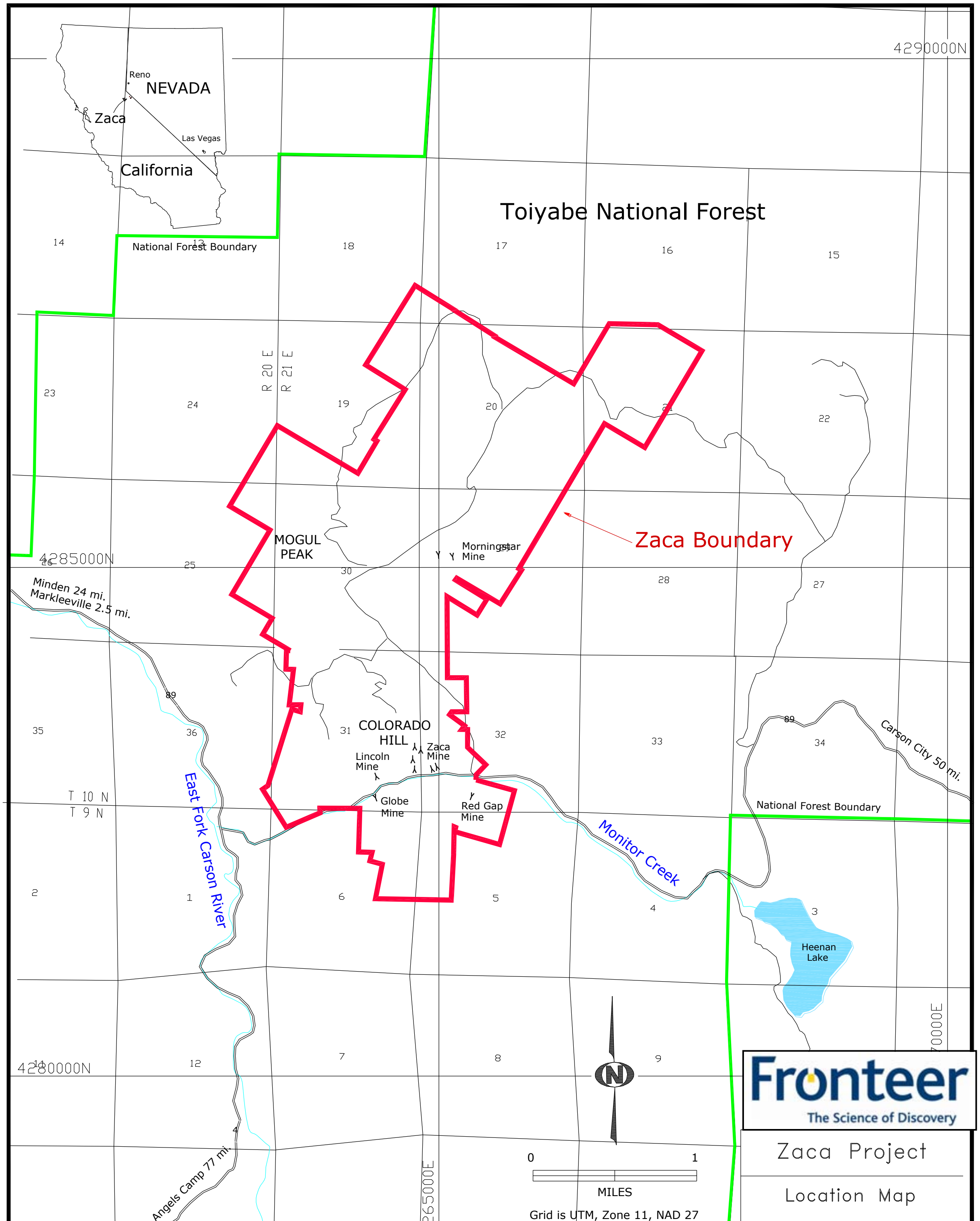
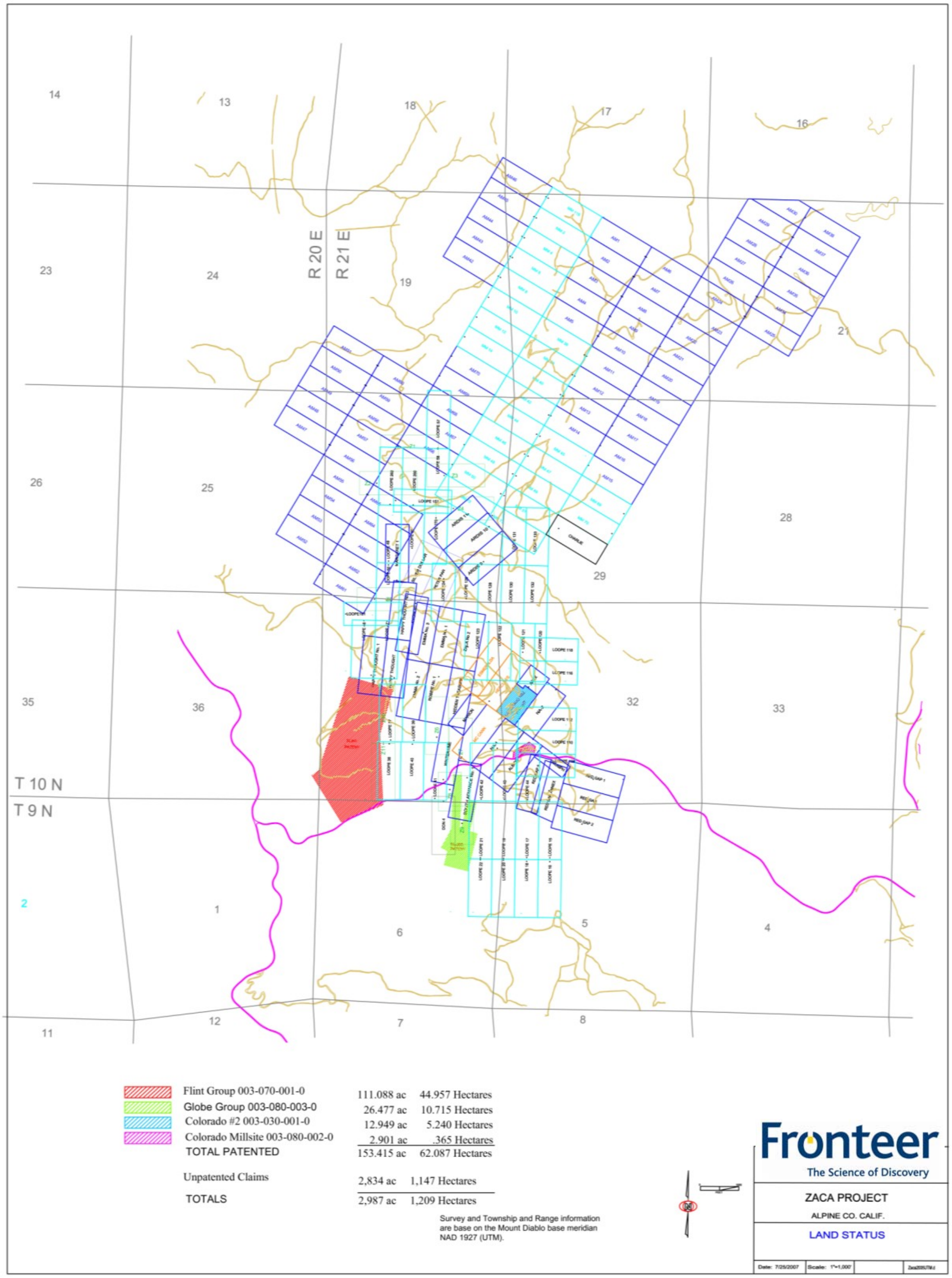


Figure 4.2 Zaca Land Map



4.5 Permits

The Zaca deposit is covered by both patented and unpatented claims. The unpatented claims are on US Forest Service administered federal land. Alpine County, the default lead agency for the State of California, which has jurisdiction over patented claims, has ceded the regulatory role in the past to the US Forest Service with regard to exploration. With regard to permitting for production, Alpine County and the US Forest Service have been co-lead agencies and coordinated the California and federal environmental review requirements.

During 1986, the Zaca project was essentially permitted by California Silver for a 4,000 tons per day open pit mine and heap leaching operation (California Silver, 1986). The project did not proceed due to falling precious metal prices; the permits in place and in progress at that time have since lapsed. However, the background studies, threatened and endangered species studies, and archeological studies done as part of the environmental review process have removed many of the unknowns from the project with respect to potential environmental problems.

Future permitting may be aided by the extensive environmental studies that have been completed as noted above. Permitting to place the Zaca deposit into production will need to address some of the same contentious issues that were raised in the 1980s. The project is located on a California Scenic Highway, so visibility is a significant issue. In addition, California law currently requires backfilling of open pits, which was not the case in the 1980s.

MDA is not a Qualified Person with respect to mine permitting in California, but preliminary inquiries of Enviroscientists, Inc. (personal communication, 2004) indicate that, although the Zaca deposit can legally be permitted as an open pit mine and heap leaching operation, the outcome is uncertain and it is likely to require several years and cost more than the approximately one million dollars that was spent in the 1980s.

5.0 ACCESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, PHYSIOGRAPHY

5.1 Access

Access to the Zaca project from Markleeville is via California State Highway 89 south and then east towards Monitor Pass. The Loope Canyon Road (a U.S. Forest Service road) intersects Highway 89 about 1.5 miles east of its intersection with California State Highway 4 and provides access to an extensive network of U.S. Forest Service roads and company drill roads that traverse the entire property. Both Monitor Pass and Highway 4 are often closed during the winter months.

5.2 Climate

The project area has a climate typical of the east slope of the Sierra Nevada. Colorado Hill lies in a sub-humid climatic regimen and precipitation generally increases with elevation. The bulk of the precipitation falls as snow (70-80%) and averages 35 in. per year at Markleeville (elevation 5,500 ft.), and 16 in. per year at Woodfords (elevation 5,700 ft.) (Slack, et al., 1993). There is no specific data available for the project area. Operations can take place year around, but leaching may be hampered or slowed because of freezing temperatures. Snow removal is necessary during winter months, especially in north-facing areas.

5.3 Local Resources and Infrastructure

Markleeville has a population of about 200 people, a post office, one year-round restaurant and several seasonal restaurants. Most services are located in the Minden-Gardnerville area of Nevada, about 20 road miles north from Markleeville. The closest major urban center is Reno, Nevada, which lies some 65 road-miles north of Markleeville. Reno has a major airport and is served by two transcontinental rail lines and an interstate highway. Travel time from Reno to the property is about 1 ¾ hours.

Although there may be a few people in Alpine County that might be interested in seeking employment at a new mine, the majority of employees would need to come from the Minden – Gardnerville area or Carson City, Nevada. There is a shortage of affordable housing within Alpine County, so any employees that moved to the area would likely settle in the Minden – Gardnerville area (California Silver, 1986).

5.4 Physiography and Vegetation

Elevations in Alpine County range from 5,000 to more than 11,000 ft above sea level. Colorado Hill, where the Zaca Mine is located, ranges in elevation from 6,000 to 7,500 ft. Vegetation is relatively sparse and consists predominantly of scattered pine, juniper, fir, and sagebrush. The Colorado Hill area is drained primarily by Monitor Creek and minor tributaries, which join the East Fork Carson River at the junction of State Highways 4 and 89. The northern and western portion of Colorado Hill is drained by Smith's Creek, which flows directly into the East Fork Carson River.

According to California Silver (1986), there is sufficient room for a mining operation, although power is not available on the property. Water for a mine operation would have to be developed from groundwater resources or purchased from downstream users.

5.5 Other Local Issues

The area has been classified as a zone 3 seismic risk by the US Corp. of Engineers.

6.0 HISTORY OF EXPLORATION AND PRODUCTION

6.1 Exploration and Mining History

Silver was first discovered in Monitor Canyon in 1857. Many of the mines in the district were located and commenced operations in the following four to six years. The mines were operated intermittently by a number of different owners until 1921. A few of the mines were re-activated in the 1930s.

The mines on Colorado Hill became known collectively as the Zaca Mine and were owned by Siskon Corporation (Siskon) between 1937 and 1980. Mr. Claude Lovestedt leased the property and commenced underground mining and milling in the late 1950s, and continued until 1980. Other companies involved in exploration of Colorado Hill and the surrounding district in the 1960s, 1970s and 1980s included W. S. Moore Company, Parnasse Company (Parnasse), Standard Slag Company (Standard Slag), Bear Creek Mining Corporation (Bear Creek), Homestake Mining Company (Homestake), FMC Corp (FMC), California Silver, Ltd. (and its U.S. subsidiary California Silver, Inc.), and Baker Resources USA, Inc. (later US Precious Metals, Inc). Their activities included surface geologic mapping, geochemistry, geophysics, core and reverse-circulation drilling, reopening of underground workings for sampling and mapping, environmental assessment studies, a pre-feasibility study, and a 1,500 ton pilot heap-leach amenability test.

WSMC entered an earn-in option with California Silver in 1989. WSMC subsequently acquired California Silver's remaining interest in 1990. Reverse circulation (RC) drilling was conducted on Colorado Hill in 1991 by WSMC. A small drilling program was also conducted on the Morning Star Mine area in 1995 by WSMC. WSMC assigned its entire interest in the project to an associated company, Zaca Resources in 1995. During 1996 and 1997, major reverse circulation drilling programs were completed on Colorado Hill with a few outlying holes in adjacent areas. These exploration and production activities are summarized in Table 6.1, while drilling programs undertaken at Zaca are summarized in Table 6.2

Numerous tunnels have been developed in the Zaca deposit since 1857. At the present time there are at least eight main levels between approximate elevations 6100 ft and 6800 ft. Underground workings total on the order of 10,000 ft, and can be accessed with maintenance.

Table 6.1 Zaca Mine and Vicinity-Exploration and Production History by Company

Year	Organization	Primary Activity
1857	Mr. L. L. Hawkins	Discovery of the Tarshish Mine
1867 - 1876	Schenectady Mining Company	Limited production of localized complex sulfide ores poor metallurgical recovery [50%]
1879 - 1921	Various Individuals	Limited high-grade production with mill demolition in 1921
1931 – 1936	Unknown Ownership	Production of ~8,000 tons containing 1,300 oz. of silver, 30 oz of gold, 70 lbs. of copper, and 335 lbs. of lead
1937 – 1980	Siskon Corporation	15 holes – 2,815 ft, underground core drilling, 1937 Underground drifting, minor production
1958(?) –1980	Claude Lovestedt	20-Year Mining Lease, mining & milling, 9 holes – 418 ft
1967	U.S. Bureau of Mines	1 diamond core hole – 504 ft
1963 – 1964	W.S. Moore Company	Trenching and drilling on top of Colorado Hill
1970 – 1972	Parnasse Co.	Reconnaissance mapping and geochemistry 5 surface diamond core holes – 8,349 ft 370 underground ring drill holes – 3,700 ft
1979 – 1980	Standard Slag	9 holes – 1,045 ft in the Morning Star area
1980 – 1987	Bear Creek	Mapping and geochemistry 18 holes – 7,245 ft
1981 – 1983	Homestake	Mapping and geochemistry 12 holes – 3,080 ft
1983 – 1984	Baker Resources	Mapping and geochemistry 8 reverse circulation holes – 4,690 ft
1988	Terry Woods	3 holes – 617 ft
1986 – 1987	FMC	Mapping and geochemistry 27 holes – 10,605 ft
1980 – 1988	California Silver	Mapping, geochemistry, geophysics Reopened, mapped, sampled underground workings Diamond core drilling (44 HQ & NQ Holes) Reverse circulation drilling (99 –5-1/8” Holes) Metallurgical test-work, 1,480 ton bulk sample Feasibility study on the Zaca deposit Environmental Assessment and Environmental Impact Report, initiated permitting for development of a 4,500 tpd open pit mine and heap leaching operation Acquired Bear Creek and Terry Woods claims. Additional mapping, sampling and drilling in Alpine Mine and Mogul Canyon areas.
1990 – Present	WSMC/Zaca Resources	Mapping and geochemistry Reverse circulation drilling, 245 holes – 146,205 ft Metallurgical test-work In-house order-of-magnitude economic studies, deposit size and grade calculations

Table 6.2 Zaca Mine and Vicinity Drilling Summary

Area	Holes	Footage
Colorado Hill – surface/reverse circulation	293	173,035
Colorado Hill – surface/core	44	20,966
Colorado Hill – underground core	15	2,815
Colorado Hill – underground ring	370	3,700
Alpine Mine area – core	25	12,981
Alpine Mine area – reverse circulation	3	2,106
Morning Star Mine area	23	5,435
Peter Pan – Forest City Flat	49	17,615
Other targets on land holdings	69	28,881
Totals	891	267,534

In 1937 Siskon drilled the lower portions of the Zaca deposit. Their exploration appears to have targeted high-grade silver zones in the Lower Advance and Lower Colorado Mines, and their small diameter core drilling suffered from poor and mostly unlogged recoveries. The drill logs are incomplete. Both core and sludge samples were assayed for gold and silver, presumably by fire assay methods. In general the sludge assays were higher than the core assays. No documentation regarding a Quality Assurance/Quality Control (QA/QC) program has been found. The logs and assays are suitable for determining where mineralization occurs, but are not suitable for grade calculations. It is believed that Siskon controlled claims on that portion of the land package that they worked.

The 1970-1972 Parnasse program included extensive surface geochemistry, five deep core holes, and 370 underground “ring drilling” holes in the Zaca deposit, probably done with a jackleg drill. Their exploration appeared to target bulk minable precious-metals deposits and porphyry copper and/or molybdenum deposits. The documentation is poor, the analytical technique (DC Emission Spectrography) is not acceptable by modern standards, and no evidence has been found regarding a QA/QC program. The logs and assays are suitable for determining where mineralization occurs, but are not suitable for grade calculations. Parnasse had a large land position of located claims that they controlled outright, and leased portions of what is now the land package from Siskon and others. The complete results have not been reviewed by MDA.

The 1979-1980 Standard Slag, 1980-1987 Bear Creek, 1981-1983 Homestake and 1986-1987 FMC drilling programs explored various targets away from the Zaca deposit. Standard Slag explored the Morning Star area looking for extensions to the known high-sulphidation deposit at the Morning Star Mine. Bear Creek was exploring for a deep-seated molybdenum deposit. Homestake was initially seeking a hot springs-type gold deposit but later broadened their search to include high-sulphidation deposits. FMC was targeting bulk-minable precious metals deposits of any type. The complete results of these programs have not been reviewed by MDA. This drilling was done by reputable companies and it appears that their work was done to accepted industry standards at that time. Although no documentation has been seen with regard to a QA/QC program, MDA considers their results reliable. None of their drill holes are in the area of the Zaca project’s resource. These companies were exploring land that they held by claim location.

Baker Resources explored various exploration targets away from the Zaca deposit. The results have not been reviewed by MDA, but the senior author has personal knowledge of the 1983-1984 Baker

Resources program, and was Vice-President, Exploration for the company during that program. There was no formal QA/QC program, but work was done to industry standard practices at that time. No potentially economic mineralization was discovered in the drilling, and consequently there were no check assays. The results are useful in their findings of no potentially economic mineralization. Baker Resources owned part of the land that they explored and held part of it by location. Their property later became part of the present land package.

The 1988 Terry Woods drilling program was in an area away from the Zaca deposit. It was not managed by exploration professionals and cannot be relied on. The claims were controlled by several members of the Woods family at the time he did the work. The results have not been reviewed by MDA.

The senior author has personal knowledge of the 1980-1988 California Silver program, and was Vice-President, Exploration of that company from about 1981 to 1990. Although the program concentrated on the Zaca deposit, some work was done on other exploration targets in the area. MDA has not reviewed the results of California Silver's work outside of the area of the Zaca deposit. The results of California Silver's program in the area of the Zaca deposit are discussed in the relevant sections of this report below.

Exploration by WSMC on the project focused primarily on the Zaca deposit on Colorado Hill. WSMC conducted a major RC drilling program in 1990 and Zaca Resources conducted additional major drilling programs in 1996 and 1997. These programs totaled 245 reverse circulation holes totaling 146,205 ft of infill and step-out drilling on the Zaca deposit, and testing of other areas on the property. WSMC and Zaca Resources also did additional metallurgical test-work and some background studies for future permitting of the Zaca deposit. In 2004 and 2005 WSMC collected 520 additional soil geochemical samples and completed new geologic mapping in and between the Morning Star Mine, Mogul Canyon, Haypress Flats and Leviathan Canyon areas. All prior data were incorporated into property-wide geologic and geochemical digital compilations useful for target definition. MDA has not reviewed in detail the results of WSMC's and Zaca Resources' work outside of the area of the Zaca deposit.

The drilling done by WSMC and Zaca Resources is discussed in Sections 11, 12, 13 and 14. Metallurgical test-work done by WSMC and Zaca Resources is discussed in Section 16,

The resource estimate based on the work done on the Zaca deposit is described in Section 17 of this report.

6.2 Production History

Records of the production from the Zaca Mine are not complete. However, a compilation of known data from the State of California, the U.S. Bureau of Mines, and other reports is given in Table 6.3, which is probably only a partial record of the total production. Although the majority of the production was from underground, a small amount of ore was produced from the easternmost open trench at the top of Colorado Hill.

Table 6.3 Zaca Mine Historical Gold and Silver Production

Production Period	Mined Tons	Mined Gold (oz)	Mined Gold Grade (oz Au/ton)	Mined Silver (oz)	Mined Silver Grade (oz Ag/ton)	Mined Silver To Gold Ratio
1864 – 1919	43,489	6,970	0.160	374,666	8.62	54
1920 – 1941	8,623	1,189	0.138	27,760	3.22	23
1960 – 1968	14,927	2,754	0.184	111,890	7.50	41
1969 – 1974	16,461	2,865	0.174	117,779	7.15	41
1975 – 1980	14,310	2,626	0.168	96,180	6.72	40
Totals/Average	97,810	16,404	0.168	728,275	7.45	44

6.3 Historic Resource and Reserve Estimates

The resource and reserve figures listed in Table 6.4 are presented as an item of historical interest with respect to a developing exploration target. Later resource and/or reserve estimates are based on data that were not available at the time of the earlier estimates. These historic estimates predate NI 43-101, and as discussed below, some of them do not accurately reflect actual Mineral Resources or Mineral Reserves at the Zaca project.

Table 6.4 Zaca Historical Resource and Reserve Estimates

	Done By	Date	oz Au/ton Cutoff	Tons ($x10^3$)	oz Au/ton	oz Ag/ton	Total Au (oz)	Total Ag (oz)	Strip Ratio	Category[1]
Cal. Silver	Dravo	May 1984	0.010	4,915	0.035	0.52	172,000	2,556,000	2.49	"Resource"[2]
Cal. Silver	Cal. Silver/ PAH	Mar. 1986	0.010	9,406	0.029	0.57	272,800	5,361,000	1.38	"Reserve"[3]
Cal. Silver	Dravo	May 1984	0.015	3,929	0.041	0.54	161,100	2,122,000	3.37	"Resource"[2]
Cal. Silver	Cal. Silver/ PAH	Mar. 1986	0.013	7,933	0.032	0.59	253,900	4,680,000	1.82	"Resource"[3]

[1] As originally reported; categorization does not imply Mineral Resources and Reserves under 43-101.
[2] As reported by Dravo Engineers (1984).
[3] As reported by California Silver (1986) and Pincock Allen & Holt (1986)

In the opinion of MDA, the work done and procedures followed to develop the data used for the above estimations were of sufficient quality that had NI 43-101 been in place at the time, the estimations would have been NI 43-101 compliant Mineral Resource or Mineral Reserve estimates.

7.0 GEOLOGY SETTING

7.1 Regional Geology

This section is summarized from Western States Minerals Corp. (2003).

The Zaca project occurs within the Monitor-Mogul Mining District, which is located in the north-trending Monitor Range at the western edge of the Basin and Range Province. The Sierra Nevada Province is located immediately to the west and, in the vicinity of the project, is separated from the Basin and Range Province by the Genoa Fault (Figure 7.1). The district falls within a large block of volcanic and shallow intrusive rocks. The volcanic rocks are dominantly andesite flows, and intrusive stocks and pipes of rhyolite, andesite and dacite that have been emplaced within the flows. The oldest of the andesitic flows has been dated at 12.5 million years. These flows are in excess of 4,000 ft thick and lie directly on the granitic rocks of the Sierra Nevada Batholith in a fault block that has been dropped down on the eastern side of the Sierra Nevada.

A summary of the stratigraphy is provided below, beginning with the oldest rock unit.

Sierra Nevada Batholith (Kg). The oldest rocks in the area are the granitic rocks of the Sierra Nevada Batholith. These rocks are not exposed at the surface, in underground workings or any of the drill holes on the property, but are known to underlie the volcanic rocks of the Monitor Range.

Tertiary Andesite (Ta). Previous workers subdivided this unit into the Carson River Andesite, the Goskey Canyon Andesite, intrusive andesite and the Haypress Flat Andesite (WSMC, 2003).

The Carson River Andesite is the oldest volcanic rock on the property, dated at 12.5 million years (Ma). It is composed of dark green to black andesitic flows and flow breccias associated with stratovolcano eruptions. It is exposed to the southwest of the Zaca Rhyolite on both sides of Monitor Canyon.

The Goskey Canyon Andesite consists of nearly flat-lying flows that cover the largest portion of the property. These rocks have been dated at 9.6 Ma. They are composed predominantly of andesitic to dacitic tuffs and andesitic to latitic flow breccias. It also contains quartz-latite “birds-eye” porphyry flows. The Goskey Canyon Andesite is in excess of 1,000 ft thick.

Small intrusive bodies of porphyritic augite andesite were emplaced during and shortly after the extrusion of the Goskey Canyon Andesite.

The Haypress Flat Andesite and its equivalent, the Leviathan Peak Andesite, are between 800 and 1,000 ft thick and cover much of the higher ground in the northern portion of the project area. The unit is made up of gray, flow-banded, porphyritic andesite flows and shallow intrusive bodies.

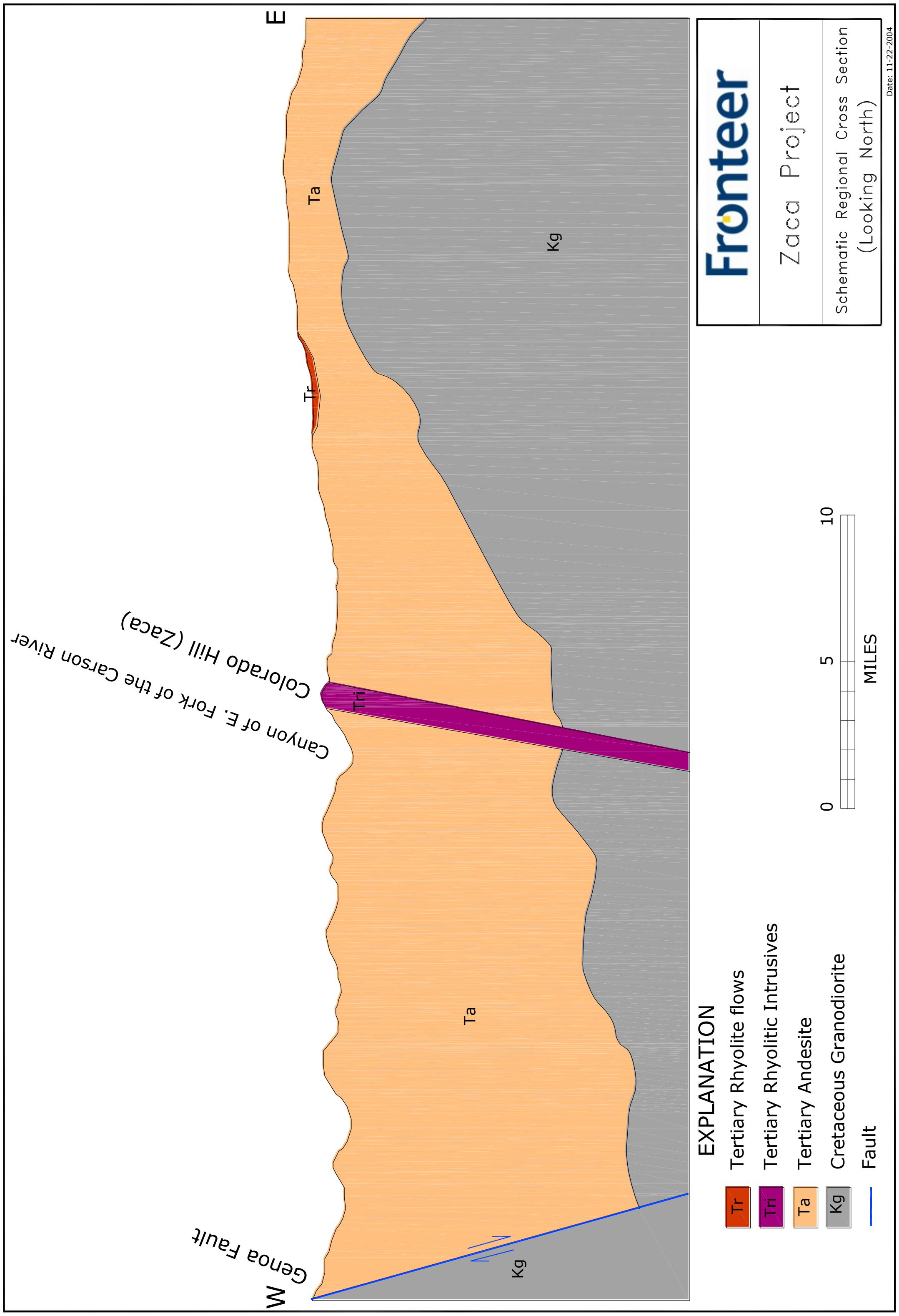
Tertiary Rhyolite Intrusive (Tri). Four rhyolite pipes, which may meld at depth, form this unit. They are, from south to north, the Globe, Zaca, Forest City Flat and Morningstar pipes, and they are described in detail in Section 7.2. At least two of the pipes, Zaca and Forest City Flat, have associated volcanic sediments, chaotic flow breccias, and tuffs and bomb beds, that are interpreted to be explosive ejecta formed during, and as part of the intrusive event. These pipes have been termed diatremes by WSMC and this report will continue with their terminology.

The Zaca pipe, which is the host rock for the Zaca gold-silver deposit, has been dated at 4.85 Ma, although the hydrothermal alteration makes the date suspect. The pipe consists of two distinct rock types, an earlier pyroclastic (intrusive) breccia and a subsequent intrusion of flow-banded rhyolite. Both rock types are altered, with silicification dominating in the pyroclastic breccia. The main alteration type of the flow-banded rhyolite is characterized as adularia-quartz-illite-pyrite. Chill zones and contact rocks have been mapped along the margins at the surface and in the underground workings. The Zaca pipe is the host rock for the majority of the known economic gold and silver mineralization. The Morning Star pipe is slightly different in composition and is composed of pink flow-banded to massive rhyolite, locally with a lithic fragment component.

Tertiary Rhyolite Flows (Tr). Outside of the project area there are rhyolite flows in the upper part of the section.

Regional structure is dominated by north-trending high-angle normal faults and joints that are interpreted as being related to Basin and Range faulting. The Genoa Fault occurs along the western side of the Monitor Range, which is dropped down relative to the Sierra Nevada to the west. The Antelope Valley and Slinkard Valley Faults, both located to the east of the project area, are normal faults with the east sides down. Large displacements are not apparent on structures in the Colorado Hill area.

Figure 7.1 Schematic Regional Geology Section



7.2 Local Geology

This section summarizes the geologic interpretations of Western States Minerals Corp. (2003).

The geology of the southern claim block is dominated by a group of four subvolcanic pipes (Figure 7.2, 7.3). The pipes have a north-south alignment and intrude Late Miocene Goskey Canyon Andesite. The suite of rocks related to the pipes was referred to as the Markleeville Volcanic sequence by Wachter (1971). The pipes are discussed below from south to north.

The Pliocene Globe pipe is a white to gray-white, weakly flow-foliated, fine-grained rhyolitic intrusion with rare quartz phenocrysts. It crops out in, and just south of Monitor Creek. This pipe is presumed to be a near-vertical apophysis of the south-plunging (-65º) Zaca Rhyolite, which is exposed directly to the north on the south slope of Colorado Hill.

The Pliocene Zaca pipe is a composite pipe composed of a grossly stratified tuff breccia, located mainly on the western side of the pipe, and the Zaca Rhyolite and marginal breccia, located on the eastern side of the pipe. The composite pipe is interpreted to represent a two-stage eruption. The earlier stage was explosive and formed a breccia pipe while the younger stage, represented by the Zaca Rhyolite, is an intrusion of rhyolitic magma into the breccia pipe. WSMC geologists have interpreted this breccia pipe to be a diatreme. The Zaca Rhyolite and breccias are hydrothermally altered. The rhyolite protolith was a medium-gray, glassy, locally flow-foliated, and locally auto-brecciated intrusion with quartz and sanidine phenocrysts.

The Forest City pipe is the next pipe north and is centered on Forest City Flat. It is also interpreted by WSMC to be a diatreme. It is separated from the pipe to the south by a narrow septum of brecciated andesite. The pipe is composed of a wide variety of lithologies including ash tuffs and agglomerates. The main lithology has a gray crystal lithic tuff matrix supporting very large andesite fragments, pumice fragments(?), and broken crystals of quartz and sanidine. Lithic fragments and crystals were derived from both rhyolitic and andesitic sources. Steep (-65º), inward-dipping stratification in marginal ash tuff is observable on the eastern side of the pipe. Earlier workers considered this hydrothermally altered unit to be water lain “lake beds” (California Silver, 1984); however the overall oval geometry, steep inward-dipping attitudes that have been mapped in one area near the margin, silicification near the margin, and one drill hole that remained in this unit for its entire 405 ft indicated to WSMC geologists that the unit is more likely a pipe-like feature.

The Morning Star pipe is the northernmost recognized pipe and is located north of Forest City Flat at Peak 7342. The pipe is a small aphanitic rhyolitic(?) intrusion. Biotite, as small phenocrysts, is the only recognizable mineral present. The rock is in part strongly flow foliated, and in part an intrusive breccia. It is distinctive because of its pink coloration.

The only significant structures that have been mapped in the deposit area are within the Zaca Rhyolite. Although these structures do not show major offset, they do partially control the mineralization. Red and brown clay similar to that found in these structures is present in many near surface fractures and open spaces within the Zaca Rhyolite. The West Fault has a known strike length of over 1,000 ft through surface and underground mapping and drilling. All of the past production at Zaca has come from the east side of this fault, whereas most of the mineralization defined by recent drilling of the Zaca deposit is on the west side. The East Fault is the only one of these major structures that extends to the rhyolite contact, offsetting it 25 to 30 ft. The Stewart Fault is continuous for at least 650 ft within the Zaca deposit and forms a “hanging wall fault” to some of the mineralization (California Silver, 1986). These three main structures in the Zaca Rhyolite are characterized by 2 in. to 6 in. of white, brown, or red clay fillings (illite?).

In addition to the three main structures described above there is strong jointing within the Zaca Rhyolite. Individual joints are generally less than 50 ft long and joint spacing is usually less than 10 ft. The dominant joint set is parallel to flow bands in the rhyolite, and locally spacing on this joint set can be so close that the rhyolite has a finely laminated, shaley fabric. Detailed mapping in one of the trenches at the top of Colorado Hill identified two additional joint sets (A and B) (Lanier, 1996). The strike of the banding jointing is perpendicular to the strike of A, and the strike of the intersection of A and B is perpendicular to the strike of B. This orthogonal relationship holds regardless of the local orientation of the banding joints. Lanier (1966) concludes that the pattern formed by these joints indicates that they are cooling joints that were formed as the result of lithification and contraction of the Zaca Rhyolite, and that they provided the main permeability for the mineralizing fluids.

Elsewhere in this report there are references to fractures and fractures/cooling joints. MDA is of the opinion that the great majority of these fractures are cooling joints as described above.

Figure 7.2 Local Geology

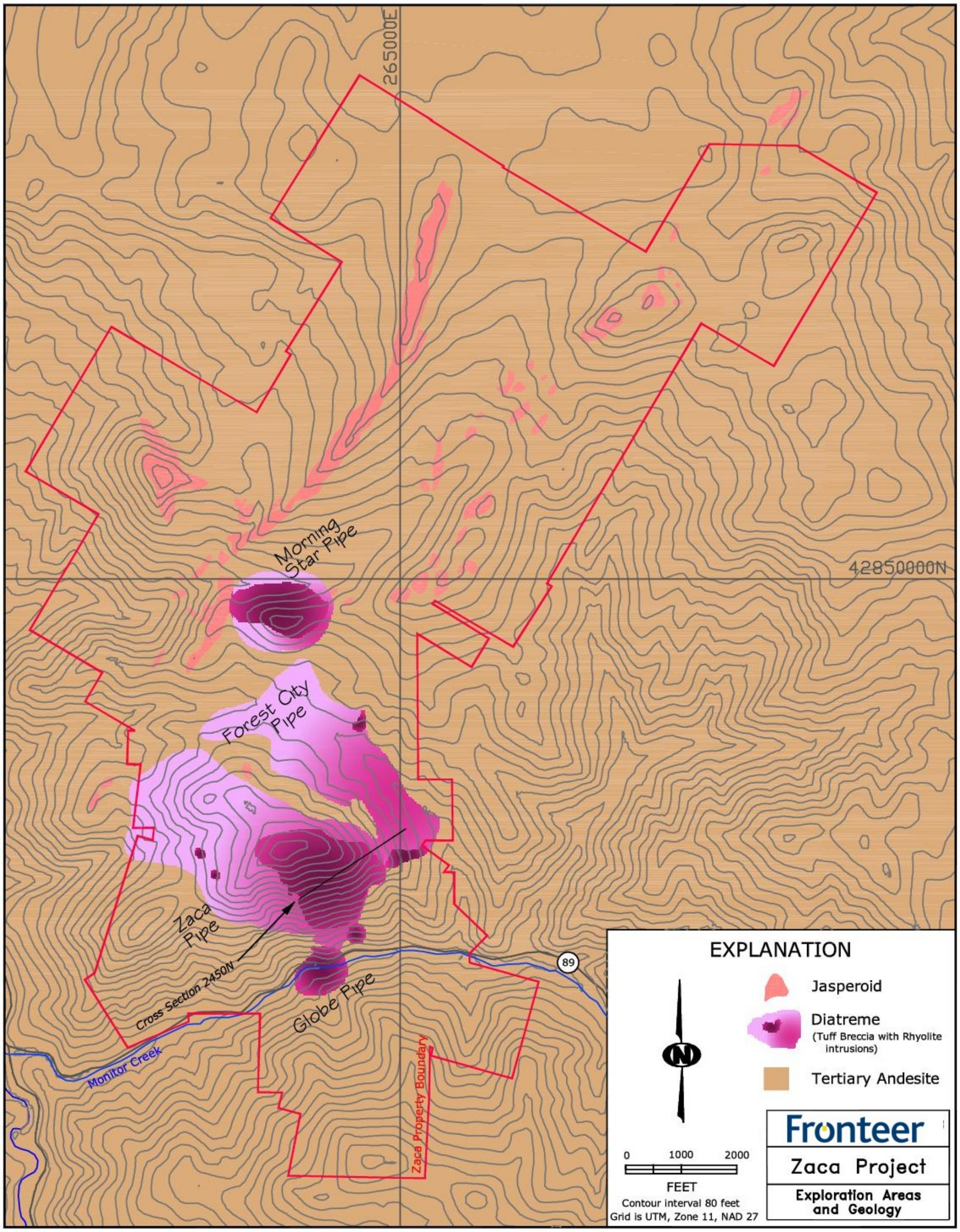
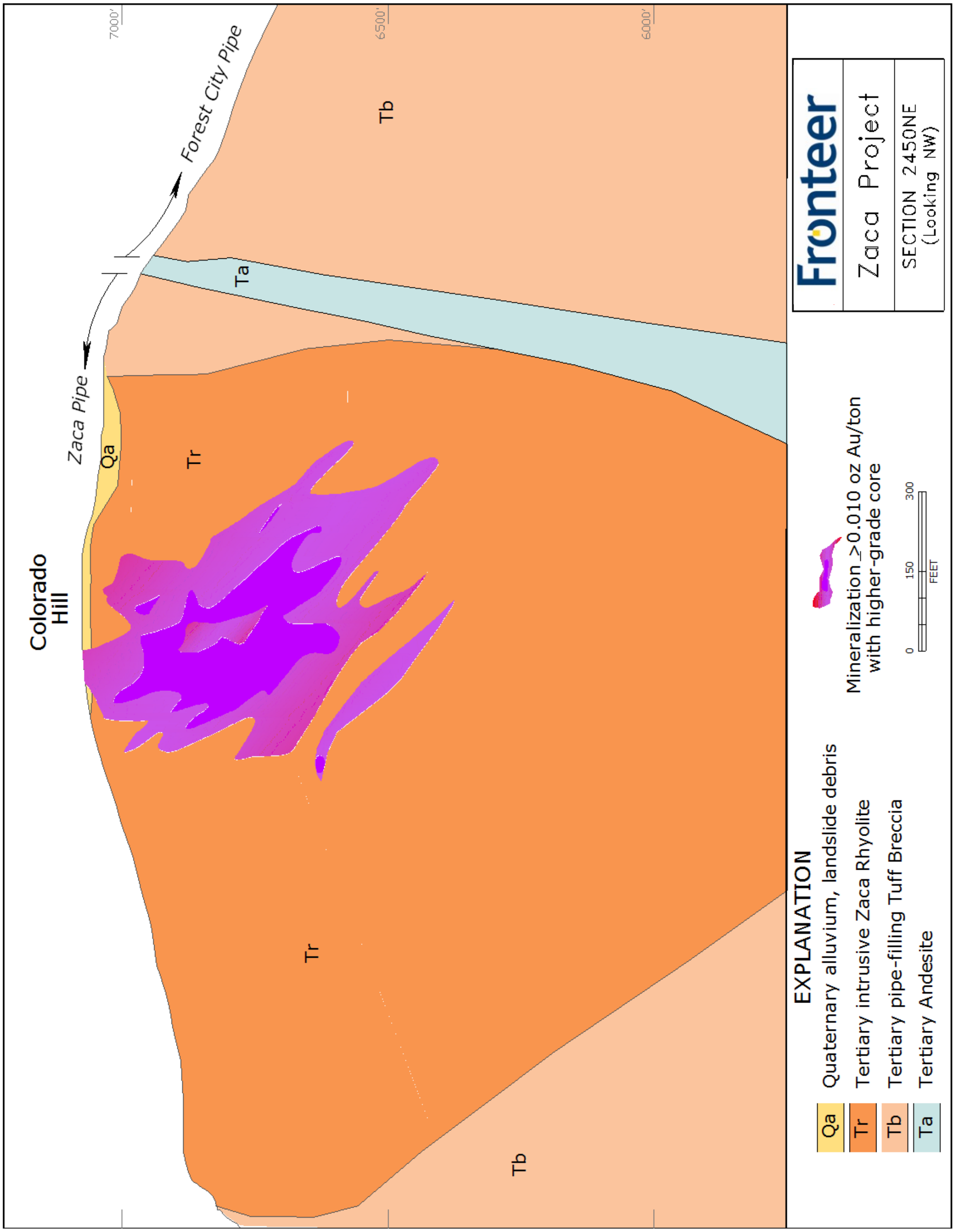


Figure 7.3 Geologic Section



8.0 DEPOSIT TYPE

The Zaca deposit is an intermediate-sulphidation gold-silver system that occurs in a stockwork of cooling joints and/or fractures within a rhyolite pipe. Some of the mineralization occurs in high-grade chimneys within the stockwork. The principal alteration type associated with the mineralization in the rhyolite is adularia-quartz-illite-pyrite. Argillic alteration in the form of kaolinite is less common, but locally dominant. The mineralization is closely associated in time with the intrusion of the host rhyolite. The most similar deposit that the authors are aware of is the now-closed Delamar Mine in southwestern Idaho. Although the Comstock Lode in Nevada has a different structural setting and host rock, it is the nearest intermediate-sulphidation system that has had significant metal production.

High-sulphidation systems are evident in other areas of the Zaca project. These have been found at the Flint, Morning Star Mine, under the silica cap at Kennebec Peak. Of these areas, only the Morning Star Mine has produced any significant mineralization, where a small amount of high-grade enargite ore was shipped directly to a smelter in Swansea, Wales, in the latter part of the 19th century.

Exploration is based on geologic mapping and interpretation guided by the above models and supplemented by geochemical and geophysical prospecting.

9.0 MINERALIZATION

9.1 Zaca Deposit Mineralization and Alteration

This section is summarized from California Silver (1986) and Western States Minerals Corp. (2003).

The main zone of gold and silver mineralization, now known as the Zaca deposit, lies within the Zaca Rhyolite. The Zaca deposit includes what previously was referred to as the Stewart Outcrop Zone, Steve´s Cut, and the various underground mines and workings. The mineralization and alteration in the Zaca deposit are typical of intermediate-sulphidation epithermal systems. Field relationships indicate that the majority of the alteration and mineralization occurred soon after intrusion of the rhyolite.

With the exception of the deepest economically significant mineralization sampled to date at the 5,500 ft elevation, geochemical zoning shows a silver-rich (Ag/Au approx. 25) lower portion and a relatively gold-rich (Ag/Au approx. 10) upper portion. To date, precious-metals mineralization has been found over 1,900 feet of vertical extent. A small zone of silver enrichment (Ag/Au approx. 200) occurs in the eastern part, perhaps formed during surface oxidation. There is also an increase in base metals with depth.

The predominant metal-bearing minerals are pyrite, argentite, freibergite, proustite-pyrargyrite, sphalerite, huebnerite, galena and electrum. Non-metallic gangue minerals include quartz, sericite, illite, kaolinite and other clay minerals, rhodochrosite, selenite, and adularia. Minor amounts of other silver sulfosalts, galena, chalcopyrite, bornite and cerargyrite have also been identified. Most of the pyrite has been altered to limonite, hematite, goethite or jarosite in the oxidized zone. Free gold occurs as electrum in grains averaging five microns in diameter and is found mainly in fractures associated with pyrite, proustite-pyrargyrite, or freibergite. The gold is rarely surrounded by quartz or silica. Sub-microscopic or interstitial gold would not have been detected in the polished sections.

The mineralization occurs in several different modes. The most common mode is as fracture fillings (about 1/16 in. wide). The great majority of these fractures appear to be cooling joints. Mineralization is also present as wider, irregular veins; as disseminations in the rhyolite; in pockets, chimneys, and clay (illite?) seams; and in fold-like contortions in the banding of the rhyolite. Apart from some of the high-grade pockets and chimneys, grade is controlled primarily by fracture density and the thickness and contents of the fractures. Fracture spacing is large in relation to the diameter of the drill holes, so that adjacent holes that are drilled sub-parallel to the mineralized fractures generally do not correlate well at higher grades.

Mineralization is localized: (1) in and adjacent to clay-filled (illite?) faults/cooling joints; (2) in bulges in the rhyolite contact; and (3) in association with multiple chill margins. By far, the majority of the mineralization is found as large, irregularly-shaped zones adjacent to clay-filled faults/cooling joints. The high-grade production from the 1960s and 1970s was dominantly mined from irregular, near-vertical to steeply-inclined stopes. The main mineralized body is football to cylinder-shaped, is roughly 2,000 ft long, and plunges 45^{o} towards 140^{o}. There is one principal mineralized zone and two significantly smaller satellite zones.

Alteration within the rhyolite grades from argillic to quartz-adularia-sericitic and ranges from weak to moderate. Adularia is present as both a gangue mineral in veins and as a replacement mineral in the rhyolite. Some of the argillic alteration is supergene and is associated with jarosite and iron oxides, but kaolinite in unoxidized rock forms a hypogene halo or cap associated with the ore.

Quartz-adularia-sericite-illite(?) alteration is the type most intimately associated with the mineralization. Quartz and locally sericite are present as gangue in mineralized fractures. Alteration envelopes of quartz and sericite, typically several inches wide, may be present adjacent to some of the wider mineralized fractures.

9.2 Other Mineralized Areas

This section summarizes mineralization at Zaca from areas outside of the Zaca Deposit. These areas are located on Figure 9.1

Colorado Deep.

Colorado Deep is located at about 5,500 ft elevation, some 500 ft below the lowest known level of the Zaca Mine and some 500 ft below the highway. Zaca Resources reverse circulation hole ZRD-119 intersected 20 ft (apparent width) grading 2.26 oz Au/ton and 11.0 oz Ag/ton. Based on a review of the drill logs, it appears that the intercept is in the breccia at the eastern contact between the Zaca Rhyolite and the Goskey Canyon Andesite. Five additional holes (ZRD-130, ZRD-131, ZRD-136, ZRD-200 and ZRD-221) were drilled and hit anomalous mineralization ranging up to 0.37 oz Au/ton over an apparent width of 5 ft. Although some downhole surveying was done it does not appear that the density of downhole surveys was sufficient to accurately locate the target intersection or the location of the follow-up holes.

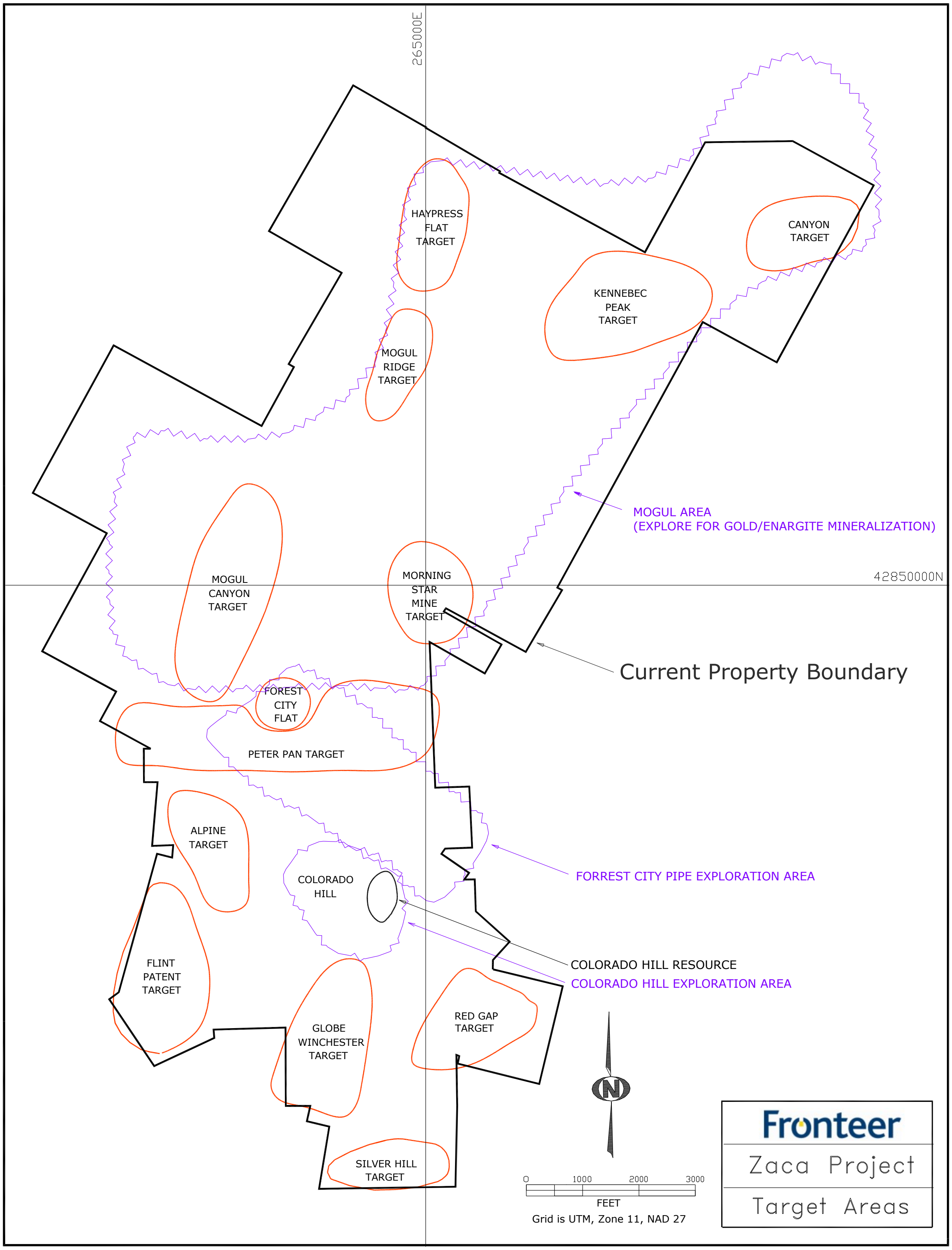
A review of the drill logs shows that none of the five follow-up holes intersected the targeted rhyolite contact. This contact is known to be mineralized elsewhere and historic production from the Lower Colorado and Lower Advance is, in part, related to irregularities in the contact. Due to topography and the apparent attitude of the contact it will be extremely difficult to test this target at a near-perpendicular angle from the surface. It may be necessary to drill from the west workings of the Lower Advance or to extend the Upper Advance level to a point where a drill hole could be collared to test the contact at a more appropriate angle.

No check assays have been found for any of these samples, and some of the original assay certificates have not been found. There are some check assays of what may be parts of the high-grade samples from ZRD-119, but the documentation is not clear. Other drill holes by Zaca Resources on the Zaca deposit compare reasonably well with nearby holes drilled by others, and so despite the apparent lack of check assays MDA is of the opinion that Colorado Deep is a valid target and should be tested.

Alpine Mine Area.

MDA has not reviewed the data associated with the Alpine Mine area but it is known to the authors that gold mineralization, in some cases coarse visible gold, occurs in volcaniclastic rocks.

Figure 9.1 Exploration Targets



Morning Star Mine Area.

Bonanza-type ore in the Morning Star Mine averaged 1 oz Au/ton, 100 oz Ag/ton and 40-45% copper. The ore came from a chimney-like vertical ore shoot that was described as being 10 ft wide, up to 60 ft long and 200 ft down dip to the 200 level of the mine. The Morning Star Mine is a high-sulphidation system with the primary mineralization being gold and enargite. Drilling by Standard Slag in the 1970s and Homestake Mining in the 1980s did not result in a discovery of potentially economic mineralization.

Some of the old data related to the Morning Star Mine and Curtz Mine was discredited by work done by California Silver, however it is a high-sulphidation system, it did produce spectacular high grade, and MDA is satisfied that the drilling by Standard Slag and Homestake can be relied upon for the purpose of guiding further exploration. The above observations are based on the work done by the senior author years ago. MDA has not reviewed the data associated with the Morning Star Mine area.

Forest City Flat-Peter Pan.

According to WSMC (2003) and Lanier (pers. comm.), geochemically anomalous gold values have been encountered by shallow drilling in the Peter Pan portion of the Forest City Flat area. Elevated base metal values were reportedly encountered near the bottom of a 500-foot hole. Field logging of the chips from the RC drill by WSMC personnel indicates that intrusive rocks were encountered in this drilling. A fluid inclusion study found the fluid temperatures to be higher than even the deepest known mineralization in Colorado Hill.

This area has been interpreted by WSMC personnel to be the upper part of an explosive rhyolite pipe, and silicification has been identified near the contact of the tuffaceous material with the older Goskey Canyon Andesite. The drilling to date in this area has all been vertical holes targeted towards either a mineral deposit within the tuffaceous material or a porphyry copper-molybdenum deposit at depth. The possibility of an epithermal gold-silver deposit related to the steeply dipping contact of the pipe has not been tested.

The senior author is of the opinion that the drilling in this area by California Silver, WSMC and Bear Creek can be relied upon to guide further exploration, but the analytical results from the drilling by Parnasse should be treated with skepticism due to the analytical technique used. The senior author believes that the induced polarization surveys done in the 1980s by California Silver and Bear Creek did not test the current exploration hypothesis. MDA has not reviewed the data associated with this area.

Silver Hill.

Four drill holes have been reportedly completed by previous owners but MDA has not reviewed the data associated with this area.

Globe-Winchester.

There are several adits and one drill hole was completed by Parnasse. Analytical data from Parnasse should be treated with skepticism since their analytical technique is only adequate to determine the presence or absence of mineralization. MDA has not reviewed the data associated with this area.

Red Gap.
There are several old adits and two drill holes were completed by Baker Resources. MDA has not reviewed the data associated with this area.

Flint Patent.
Seven drill holes were completed by Baker Resources. MDA has not reviewed the data associated with this area.

Mogul Canyon.
Fourteen drill holes have been completed by Homestake Mining Company, FMC, California Silver and Terry Woods. For the purpose of guiding future exploration, the data from Homestake Mining Company, FMC and California Silver can be relied upon. Data from the work done by Terry Woods may not be reliable. MDA has not reviewed the data associated with this area.

Mogul Ridge.
Eight drill holes were completed by FMC and California Silver. For the purpose of guiding future exploration this data can be relied upon. MDA has not reviewed the data associated with this area.

Haypress Flat.
Nine drill holes were completed by Homestake. For the purpose of guiding future exploration this data can be relied on. MDA has not reviewed the data associated with this area.

Kennebec Peak.
Eleven drill holes were completed by Homestake and FMC(?). For the purpose of guiding future exploration this data can be relied on. MDA has not reviewed the data associated with this area.

Leviathan Canyon.
Four drill holes were completed by previous operators. MDA has not reviewed the data associated with this area.

10.0 EXPLORATION BY ISSUER

Fronteer has not conducted exploration, or any other type of on-site activities, at the Zaca project.

11.0 DRILLING

11.1 Summary

All of the drilling and underground sampling used to calculate the resource in Section 17 of this report was conducted by California Silver, WSMC, or Zaca Resources. The results of the drilling were provided by WSMC to MDA, which conducted such checks and reviews of the results as it considered necessary as described in Sections 14 and 17. A drill hole map is given in Figure 11.1. The drill holes in the mineralized area are drilled sub-perpendicular to the long axis of the mineralization. Mineralized fractures are not necessarily parallel to the long axis of the mineralization and in some cases drill holes intersected these fractures at shallow angles.

11.2 Reverse Circulation Drilling and Logging

California Silver's procedures for drilling and logging were as follows. All California Silver RC holes were given hole names preceded by "CZ". Drill bits were generally 5 to 5½ inches in diameter. Drilling was done dry whenever possible. None of the holes encountered significant quantities of water, however the clay content occasionally required the injection of water during drilling. In early years, a geologist was present on the drill rig and collected chips of the coarser material from every sample interval. The geologist logged the chip samples using a hand lens and the sample was saved in industry standard chip trays for a permanent record. Later, company geotechnicians were responsible for collecting the geologist's sample and saving it in the chip trays. Many of the holes were later relogged using a binocular microscope.

During California Silver's drill programs the collar locations of all drill holes were transit surveyed and, where possible, down hole surveys of the deeper holes were made with a Pajari instrument and, in rare cases, with a Sperry-Sun instrument. All information entered into the computer was double-checked for errors.

No written procedures for the drilling and logging by WSMC or Zaca Resources have been found. All RC holes drilled by WSMC were given hole names preceded by either "ZWR", RC holes drilled by Zaca Resources are prefaced by "ZRD". Drill bits were generally 4 to 4½ inches in diameter. Despite the lack of written documentation, because of the general agreement between WSMC/Zaca Resources RC drill holes and nearby California Silver holes, MDA is of the opinion that the WSMC and Zaca Resources drilling programs sufficiently complied with industry standard practices and that the data generated by WSMC and Zaca Resources are sufficiently reliable.

There is no written documentation of how WSMC and Zaca Resources established drill hole collar locations. WSMC and Zaca Resources reportedly established a network of surveyed stations on Colorado Hill using a professional surveyor and the geologist used a Lietz T1 surveying instruments to locate the location of the collar with respect to the nearest survey station (WSMC verbal communication). MDA is of the opinion that the locations of the drill holes can be relied on. Down-hole surveys were done on some of the deepest holes.

11.3 Core Drilling and Logging

California Silver drilled 44 diamond drill (core) holes ("AZ" prefix). Most holes were collared using HQ equipment and a hole was continued at that size until circulation was lost, at which point it was cased and continued using NQ equipment. A geologist logged the core and designated the sample interval for assaying based on geology. Sample intervals were generally less than 10 feet. The core was then split lengthwise with a knife-type core splitter, and half was placed in a sample bag for assay. The other half was put back in the core box and kept as a permanent record, unless it was later needed for metallurgical testing. The samples were accumulated until there were enough to justify shipping, which was either by bus or by company employee to the assay lab.

For California Silver's drilling the collar locations of all drill holes were surveyed using a transit and, where possible, down-hole surveys of the deeper holes were made with a Pajari instrument or in rare cases with a Sperry-Sun instrument. All information entered into the computer was double checked for errors.

11.4 Underground Workings- Sampling and Mapping

California Silver's procedures for mapping and sampling the underground workings were as follows: The workings were surveyed by transit and chain. The workings were then mapped and marked up for sampling by a geologist, with generally each sample covering less than 10 longitudinal feet of workings. Samples were delineated to best represent that sample interval. The workings were sampled from portal to face. Using small pneumatic hammers, geotechnicians took "continuous chip" samples, which were collected on plastic sheeting and then stored in sample bags. Samples were either shipped by bus or taken directly to the assay lab by company employees.

The Jardine Adit was driven specifically to obtain a bulk sample of the Zaca deposit. In addition to "continuous chip" samples as described above, muck samples were taken from each car by the miners. Geotechnicians bagged and tagged the samples saved by the miners and they were taken to the assay lab by company employees. One or two raise rounds were also driven on the "high-grade" RC intersection that was cut by the Jardine Adit, and this raise was sampled similarly to the adit.

11.5 Drilling Outside of the Resource Area

California Silver drilled a number of RC and core holes outside of the Zaca resource area. These holes were drilled and logged to the same standards as the drill holes within the Zaca resource as described above. WSMC and Zaca Resources also drilled a number of RC holes outside of the Zaca resource area, and the senior author believes that the work was performed consistent with industry standard practices at the time and can be relied on for early-stage exploration work. MDA has not reviewed the results of this work for this report.

Baker Resources drilled a number of reverse circulation drill holes in the Flint and Red Gap areas. Although there was no written QA/QC program, the work was performed in a manner consistent with industry standard practices at the time, and the senior author has confidence in the results. MDA has not reviewed the results of this work for this report.

Bear Creek drilled a number of core holes and reverse circulation drill holes in the Loope Canyon and Forest City Flat area. Although MDA has no first-hand knowledge of Bear Creek's standards on this project, Bear Creek is an experienced mining company and generally worked to industry-accepted standards. MDA is confident that the results of their work can be relied on for early stage exploration work. MDA has not reviewed the results of this work for this report.

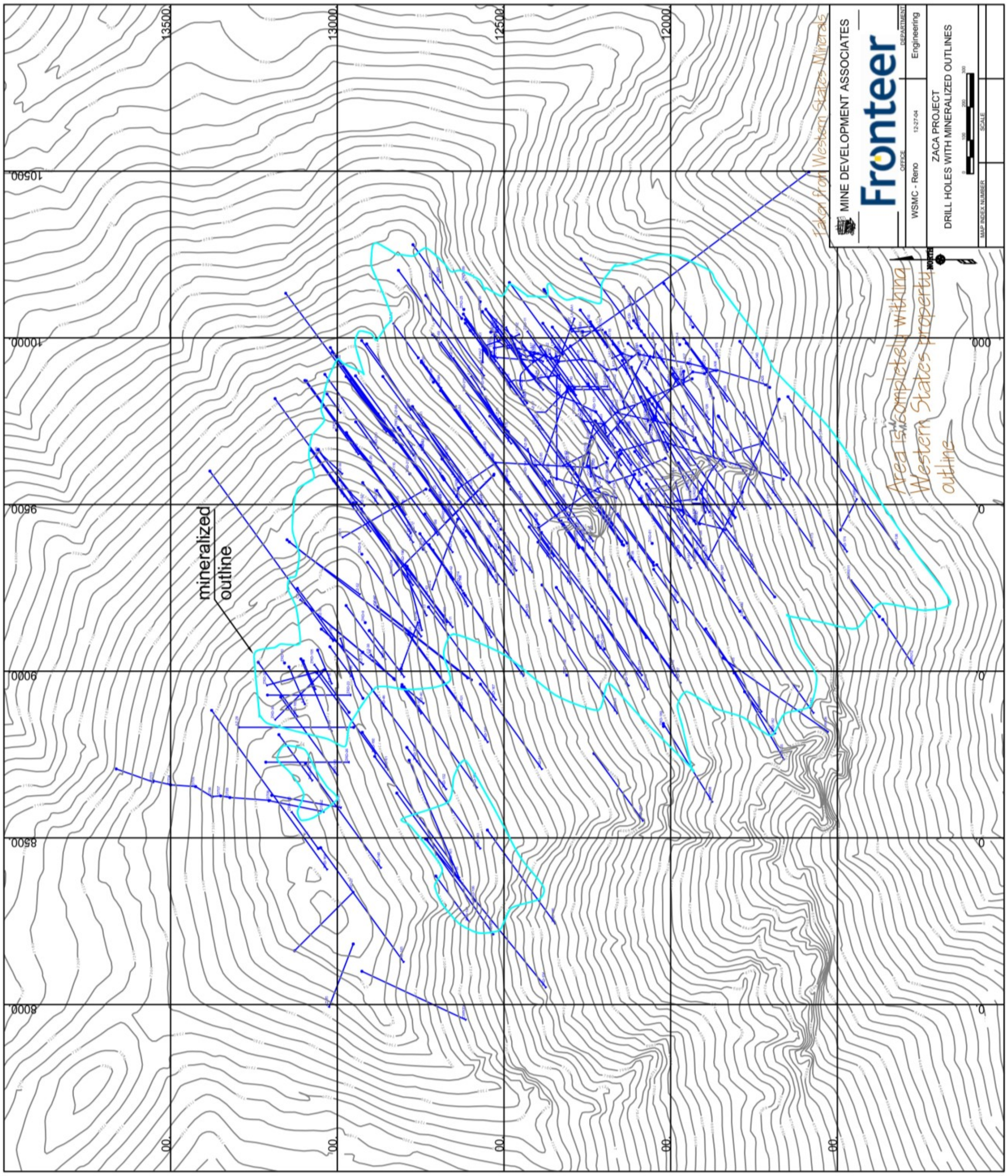
Standard Slag, FMC, and Homestake drilled a number of core holes and reverse circulation drill holes in the Mogul Canyon – Morning Star Mine – Haypress Flat area. Although the senior author has no first-hand knowledge of their standards on this project, they were experienced mining companies and generally worked to accepted industry standards. MDA is confident that the results of their work can be relied on for early stage exploration work. Based on work done under the direction of the senior author during his tenure with California Silver some of the older data around the Curtz and Morning Star Mines is of questionable reliability and its inclusion should be carefully weighed. MDA has not reviewed the results of this work for this report.

Parnasse drilled five deep core holes between Forest City Flat and the Globe. The lack of documentation and the inadequate analytical techniques used prevents the senior author from having confidence in the reported values, however they can be used as a guide for location of mineralization or a major change in rock type. MDA has not reviewed the results of this work for this report.

The Siskon drilling from the underground workings suffered from extremely poor core recoveries, with most of the values reporting in the sludge. Because of this, the results may only be used to indicate the presence of mineralization.

The drill holes discussed in this section are either outside the Zaca resource area or were not used in the resource calculation in Section 17, and consequently are not shown in Fig. 11.1.

Figure 11.1 Drill Hole Plan Map



12.0 SAMPLING METHOD AND APPROACH

12.1 Summary

Much of the sampling and assaying on the Zaca project was done prior to the adoption of the requirements for formal QA/QC programs by securities regulators. Nevertheless, much of the sampling and assaying of the Zaca deposit was done using sound and documented engineering practice and procedures that, with the exceptions noted below, give MDA confidence that the sampling and assaying can be relied on and is representative of the mineralization sampled. All of the drilling and underground sampling used to calculate the resource in Section 17 of this report was conducted by California Silver, WSMC, or Zaca Resources. Rock types and other elements of the geology pertinent to the resource calculation are discussed in Section 17.1.

The senior author was Vice-President of Exploration for California Silver from about 1981 to 1990 and has direct knowledge of the sampling and assaying during that time period. Information about later drilling was gleaned from drill logs, reports provided by WSMC and discussions with WSMC personnel.

12.2 Reverse Circulation Sampling

California Silver's procedures for sampling were as follows: Samples were taken every five feet wherever possible, although in areas believed to be unmineralized samples were taken every ten feet. These sampling intervals were based on standard industry practice. Company geotechnicians were responsible for sampling the cuttings under the direction of a geologist. As the geotechnicians gained experience, the geologist was present less at the drill rig.

When drilling was dry, the sample was passed through a cyclone and then split using a three-tier Jones riffle splitter; typically 1/8th of the sample was collected in a sample bag for assay. The samples were taken to the core shack on the property at the end of each day, where they were kept until shipped to the assay lab.

In the first(?) year, when drilling was done wet, the sample was passed through a cyclone and the same three-tier Jones riffle splitter was typically used to collect a 1/8th split for assay. The samples were collected in Olefin bags and at the end of shift were taken to the core shack to be hung up to dry in the sun. In later years, a rotary splitter was used when drilling wet and a larger amount of sample was retained. The samples were collected in five-gallon buckets and allowed to settle. As much liquid as possible was decanted off and then the solids were transferred to Olefin bags. The samples were taken to the locked core shack and hung up to dry at the end of each shift. In some cases, wet samples were laid out to dry in a designated area outside of the core shack until they were shipped to the assay lab by California Silver employees. Apart from being behind a locked gate, the samples were not otherwise secured.

No written procedures for the drilling and logging by WSMC or Zaca Resources have been found. Despite this, because of the general agreement between WSMC/Zaca Resources RC drill holes and nearby California Silver holes, MDA is of the opinion that the WSMC and Zaca Resources sufficiently complied with industry standard practices and that the data generated by WSMC and Zaca Resources are sufficiently reliable.

12.3 Reverse Circulation Sample Contamination

As part of the Resource calculation described in Section 17, sections were drawn through the Zaca deposit at 50 ft intervals with all the drill holes and the assay information. All the RC holes in areas of economic interest were scanned quickly to evaluate the possibility of both down-hole contamination from high-grade values and cyclical contamination at rod changes. Evidence of significant sample contamination was apparent in two RC holes, and the mineralized boundary was pulled back to be consistent with the surrounding drill holes in the grade modeling.

In addition to this informal approach, MDA examined all the RC and core holes using its proprietary DECAY program. The program compares each sample value to up-hole and down-hole sample values, and graphs the results. If there is significant sample contamination, the up- and down-hole patterns should be different, and the graphs of core holes, which are presumed to have no contamination, and RC holes will be different. No significant difference was noted in the Zaca drill hole database. The program also ranks the holes by contained values as a percentage of the hole length. The top thirty RC holes were re-examined manually for indication of both down-hole contamination from high-grade values and for cyclical contamination at rod changes. No significant problems were found, and it is MDA’s conclusion that, other than the two holes mentioned above, RC sample contamination, if present, could not be definitively identified. Because the geology of the rhyolite and deposit are not unique, subtle contamination would not be noticed.

12.4 Core Sampling

The drill core was examined by a geologist who marked the sample intervals. The sample intervals were generally less than ten feet, and where possible were determined by geological criteria. The core was split lengthwise by a geotechnician using a mechanical knife-type core splitter. Half the core was bagged and shipped for assay, the other half was put back in the core box and kept for a permanent record.

12.5 Underground Sampling

Samples were generally taken at five-foot intervals along existing workings, although in some areas the interval was as great as ten feet. Most samples were taken from the ribs, with the orientation being a compromise between vertical and horizontal mineralized fractures. Occasionally back samples were taken where the orientation of the mineralized fractures precluded taking a representative sample from one of the ribs. Geotechnicians took the samples using small pneumatic chippers to cut a continuous chip sample, which was collected on plastic sheeting before being transferred to a sample bag.

Muck and face samples were taken in the Jardine Adit in addition to the rib samples described above. The muck samples were grab samples taken by the miners from each ore car, and left in a box for a geotechnician to label, bag and ship to the assay lab. The face samples were chip samples taken by a geotechnician from each face exposed on day shift.

12.6 Soil Sampling

Lanier (2006) reports that in the 2004-2005 soil-sampling program, 5 – 10 lb samples were taken using a small spade from below the organic horizon on a nominal 300 x 700 ft grid. MDA did not review any of the sampling protocols for earlier soil sampling programs.

13.0 SAMPLE PREPARATION, ANALYSIS, AND SECURITY

13.1 Sample Preparation

Sample preparation and handling prior to sending the samples to an independent commercial lab is discussed in Sections 12 and 13.3.

There is no written documentation of the sample preparation procedure used by the independent commercial labs that performed the assaying of the California Silver, WSMC or Zaca Resources drilling and sampling programs. Samples from diamond drill holes AZ-1 through AZ-44 and RC drill holes CZ-1 through CZ-73, as well as all of the underground samples, were generally crushed to approximately minus 1/8th inch and then a 150 to 250 gram sub-sample was taken and pulverized to about 80% minus 150 mesh. MDA believes that the sample preparation procedure for all of the ZRD and ZWR series of RC holes was similar to the above.

Despite the lack of written documentation, it is MDA's opinion that the assay data are sufficiently reliable to be used for the calculation of Mineral Resources, as outlined in Section 17.

For the 2004 – 2005 soil-sampling program Lanier (2006) reports that the entire sample was dried and crushed. MDA did not review sample preparation procedures for the earlier soil sample programs.

13.2 Analytical Procedures

Diamond drill holes AZ-1 through AZ-22 were originally fire assayed by Hunter Labs or Western Testing Labs, both of Reno, Nevada. Coarse rejects from over 10% of the total samples were sent to Bondar Clegg in Vancouver for control assays using fire extraction-AA determination.

Diamond drill holes AZ-23 through AZ-33 and reverse circulation drill holes CZ-1 through CZ-11 were fire assayed by Western Testing Labs in Reno, Nevada. Coarse rejects from over 10% of the total samples were sent to Bondar Clegg in Vancouver for checks assays using fire extraction-AA determination.

Problems developed with Western Testing Labs assaying for reverse circulation holes CZ-12 through CZ-37. The coarse rejects for any drill hole of possible economic significance were then re-assayed by Bondar Clegg in Vancouver, and the original Western Testing Labs assay discarded. Check assaying on these holes was done by Hazen Research of Denver, Colorado.

Diamond drill holes AZ-34 through AZ-44, RC holes CZ-38 through CZ-73 and the samples from the Jardine Adit were assayed by Bondar Clegg in Vancouver and check assayed by Chemex Labs in Vancouver. Both labs fire assayed the pulp followed by nitric acid digestion of the bead and an AA finish.

With Bondar Clegg, grades higher than 0.100 oz Au/ton on the initial assay were rerun using a gravimetric determination that was the reported value.

RC holes ZWR-1 to ZWR-15, and ZRD-125 to ZRD-245 were assayed by American Assay Laboratories (American) in Reno, Nevada. Gold was determined by fire extraction from a 30-gram sub-sample followed by an AA finish.

RC holes ZRD-1 to ZRD-124 were assayed by Barringer Research (Barringer) in Reno, Nevada. No written documentation has been found for their analytical technique. A duplicate sample split was taken by Zaca Resources at the drill rig for every 20th sample for many of these holes. The duplicate was typically given the same sample ID as the original sample along with a "B". The duplicate samples were either shipped to Barringer for assay and geochemical analysis with the original samples, or shipped at a later date.

For the 2004 – 2005 soil sampling program Lanier (2006) reports that American Assay Laboratories of Sparks, Nevada performed a 30g fire assay with AA finish on the samples as well as a 74 element research grade ICP analysis. MDA did not review the analytical procedures for the earlier soil sampling programs.

MDA did not review whether these laboratories had any certification at the time they performed the analyses. Most of the analyses relied on for the resource calculation in Section 17 were completed prior to the widespread adoption of certification by laboratories, and some of the laboratories no longer exist. Despite the laboratories' apparent lack of certification, MDA is of the opinion that the analyses used in the resource calculation in Section 17 are sufficiently reliable for that purpose.

13.3 Security

The drill core was kept at the drill rig under custody of the drillers until it was collected by a California Silver employee and taken to the core shack that was kept locked except when California Silver employees were present. Samples of the split core were stored in the locked core shack until they were shipped to the assay lab by a California Silver employee. In addition to being locked, the core shack was located behind a locked gate. With the exception of the senior author who was a director and officer of California Silver, other California Silver directors, officers, and shareholders were not permitted access to the core except in the presence of the senior author or a California Silver employee that reported to him.

For RC drill holes beginning with "CZ", the samples were brought to the core shack by California Silver employees and if necessary, laid out to dry in a designated area outside of the core shack until they were shipped to the assay lab by California Silver employees. Apart from being behind a locked gate, the samples were not otherwise secured. In some cases the samples were taken to the core shack and hung up to dry at the end of each shift. These samples would have been in a locked building for security.

The security protocol for WSMC and Zaca Resources drilling is not known. Despite this lack of documentation, it is MDA's opinion that the results from these holes can be relied on for use in the Resource calculation in Section 17 as well as to guide future early stage exploration.

Samples from the underground workings were secured similarly to the drill core samples.

MDA did not review the security protocol for any of the soil sampling programs.

14.0 DATA VERIFICATION

14.1 Database Audit

An audit was performed on the database used for the resource estimation described in Section 17. Approximately 10% of the data used in the estimate were checked. Drill hole collar coordinates, down hole survey information, sample location and assay values were all checked against either the original data and certificates, or against typewritten drill records and drafted assay plans that were previously checked under the senior author's supervision in 1984 or 1986. Samples for checking were selected to give a balance between core and reverse circulation drilling, drilling campaigns, underground sampling and suspected problem areas.

A total of 3,615 samples were checked in 33 drill holes and two underground levels. The error rate was an acceptable 0.5%. Where an error was found it was corrected. In the course of completing the resource estimate, other errors or inconsistencies that were found were corrected.

Data derived from areas away from the Zaca deposit were not verified.

14.2 QA/QC, Check Samples, Check Assays

California Silver did not have a written QA/QC program, but did have check assays performed by a recognized independent laboratory on approximately 10% of the coarse rejects, with a bias towards zones of potential economic interest. When the calculation of R^2 between the original and check assays fell below 0.85 for gold or 0.95 for silver, the discrepancies were investigated and samples were reassayed if necessary, as discussed in Section 13.2 of this report and Cochrane *et al.* (1984.)

WSMC and Zaca Resources did some check assaying, which was performed by a recognized independent laboratory. In addition, duplicate splits for some holes were taken at the drill rig for assaying by the same laboratory as was used for the original assays. The results of these programs are discussed below by year of drilling.

Table 14.1 below summarizes the results of WSMC and Zaca Resources check and duplicate sample results. Figures 14.1 through 14.8 are scatterplots displaying the results by metal, type, and year. The scatterplots are drawn using logarithmic scales and the regression lines shown in black are the best fit to the data using the equation $y = ax^b$, where y is the check or duplicate assay and x is the original assay. The dashed red line is the equation where a and b are both equal to 1, which is where the samples should plot if the check or duplicate assays exactly matched the original assay. The closer the samples plot to the dashed red line, the better the agreement between the check or duplicate assay and the original assay.

Table 14.1 WSMC and Zaca Resources Check and Duplicate Samples Summary

Year	Type	Metal	N	% of	Original (oz/ton)				Check or Duplicate (oz/ton)				R^2
				Samples	Mean	Median	Min.	Max.	Mean	Median	Min.	Max.	
1990	Check	Au	75	4.90%	0.014	0.008	0.001	0.094	0.013	0.007	0.001	0.09	0.88
1990	Check	Ag	75	4.90%	0.46	0.25	0.06	6.01	0.5	0.27	0.07	6.56	0.92
1996	Check	Au	83	0.60%	0.049	0.027	0.01	0.834	0.04	0.022	0.003	0.477	0.66
1996	Check	Ag	83	0.60%	2.3	1.05	0.05	53.43	1.97	1.15	0.04	16.33	0.86
1996	Duplicate	Au	408	3.20%	0.012	0.003	0	0.621	0.011	0.003	0	0.609	0.71
1996	Duplicate	Ag	367	2.90%	0.56	0.23	0	18.1	0.55	0.22	0	13.21	0.87
1997	Check	Au	150	1.20%	0.031	0.02	0.002	0.291	0.03	0.019	0.002	0.218	0.62
1997	Check	Ag	150	1.20%	1.3	0.52	0.03	14.5	1.21	0.46	0	15.95	0.43

For the 1990 drill program, the original assaying was performed by American Assay in Reno, Nevada and the coarse rejects were resubmitted to them in 2004 using the same sample identifier (Figures 14.1 and 14.2). For the 1996 drill program, the original assaying was done by Barringer in Reno, Nevada and the check assays were done on the coarse rejects in 2004, some by American Assay in Reno and the rest by ALS Chemex (Chemex) in Reno (Figures 14.3 and 14.4). In addition, duplicate samples were taken at the drill rig as discussed above and submitted to Barringer with an "R" or "B" appended to the sample identifier (Figures 14.5 and 14.6). For the 1997 drill program, the original assay was done by American Assay in Reno, Nevada and the check assays were done on the coarse rejects in 2004 by Chemex in Reno (Figures 14.7 and 14.8).

The final values used in the resource calculation are the arithmetic averages of all assays for a particular sample, with the exception of those that were discarded as described above in Section 13.2.

Assessing the underlying database must be done in two parts. California Silver took the time and effort to utilize their quality control samples to "clean" the database as needed. Although there was no rigorous standard that was followed throughout the process, their work would have found errors that would then have been "cleaned up". WSMC and Zaca Resources on the other hand did not perform any quality control work during their exploration and consequently this study showed modest to high variability. Because the resources are based on the two data sets, California Silver's and WSMC/Zaca Resources', and because serious biases were not noted, the database is deemed adequate for resource modeling.

Figure 14.1 1990 Gold Check Assay on Coarse Rejects Scatterplot

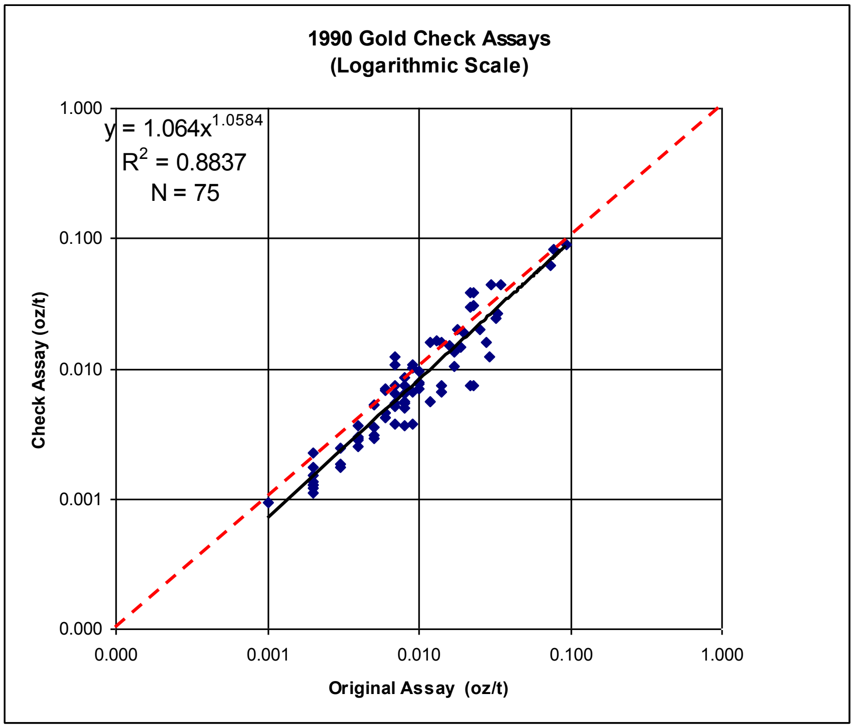


Figure 14.2 1990 Silver Check Assay on Coarse Rejects Scatterplot

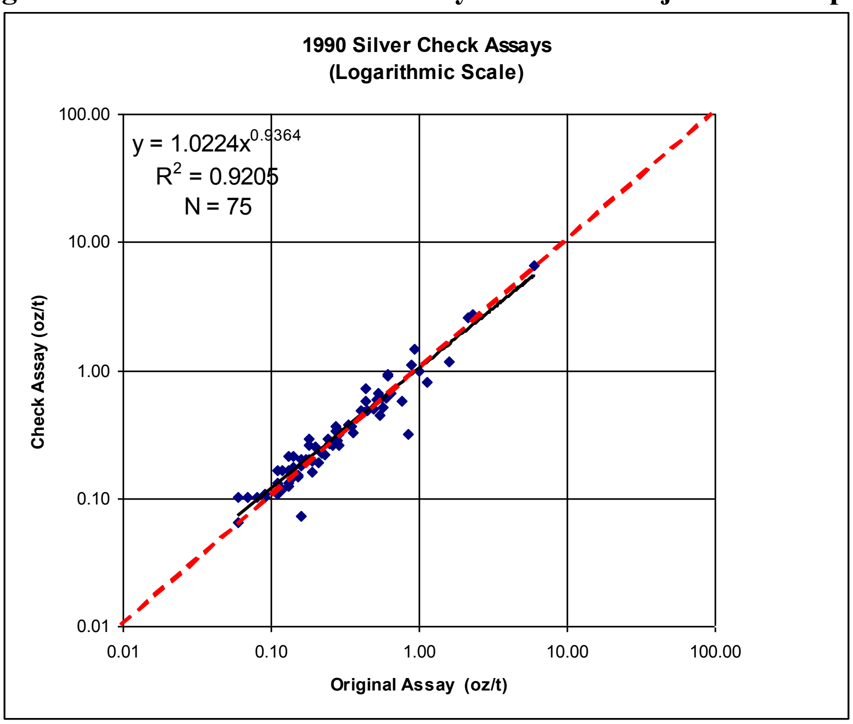


Figure 14.3 1996 Gold Check Assays on Coarse Rejects Scatterplot

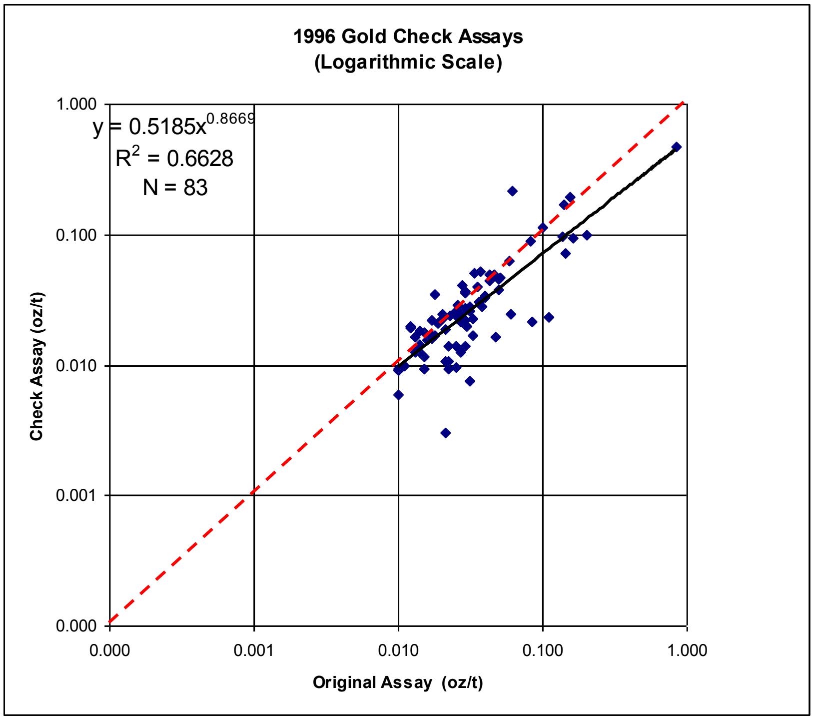


Figure 14.4 1996 Silver Check Assays on Coarse Rejects Scatterplot

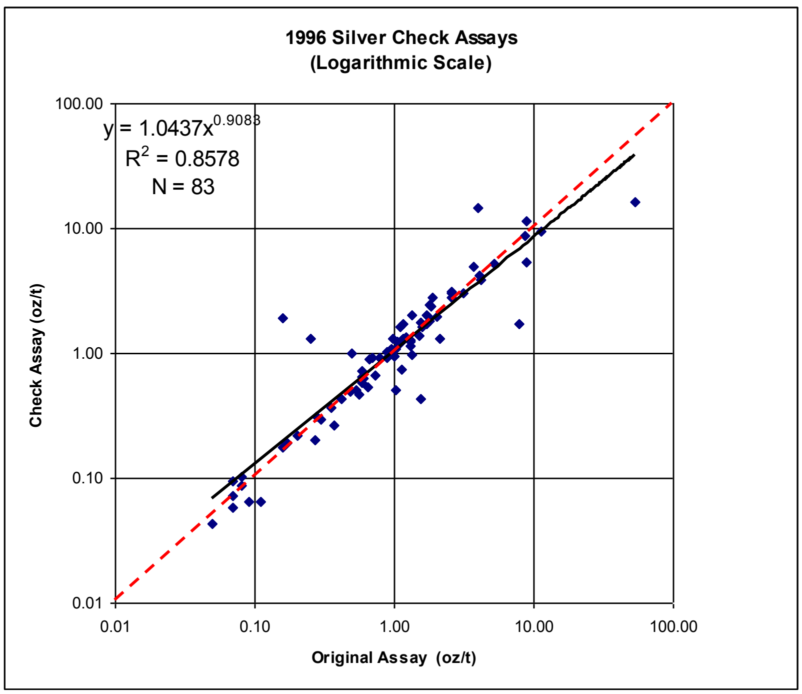


Figure 14.5 1996 Duplicate Gold Assays on Duplicate Splits Scatterplot

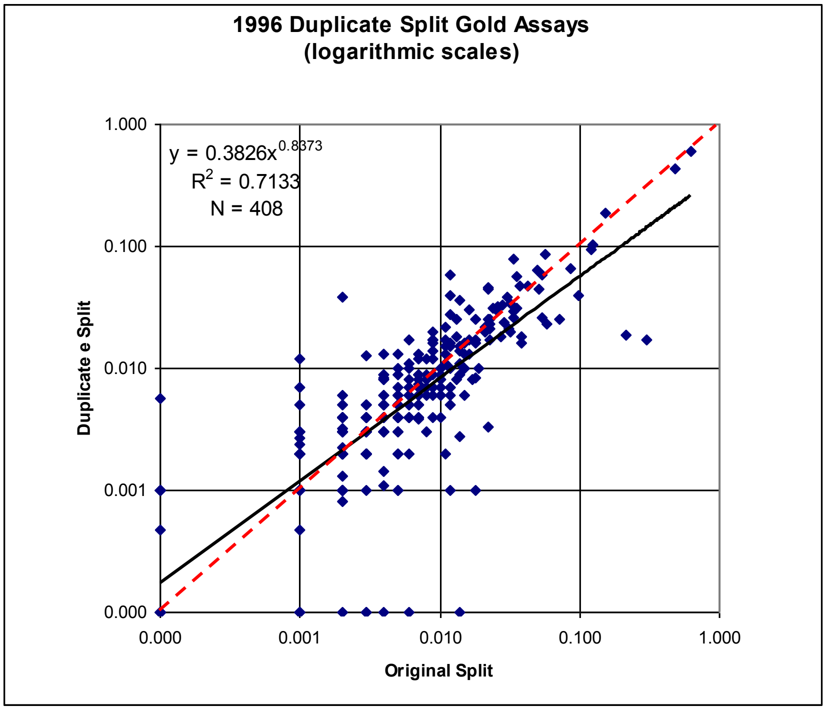


Figure 14.6 1996 Duplicate Silver Assay on Duplicate Splits Scatterplot

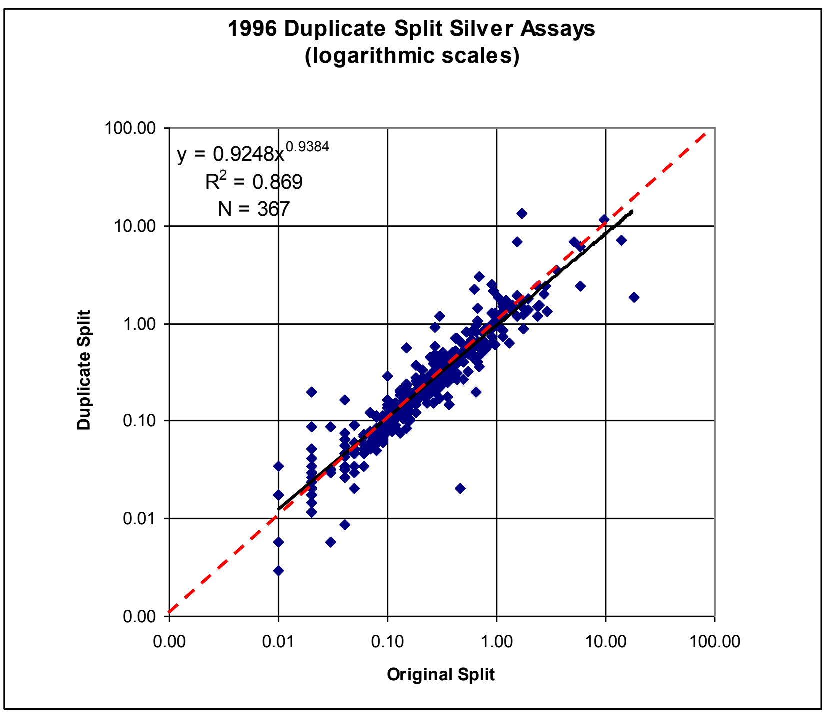


Figure 14.7 1997 Gold Check Assays on Coarse Rejects Scatterplot

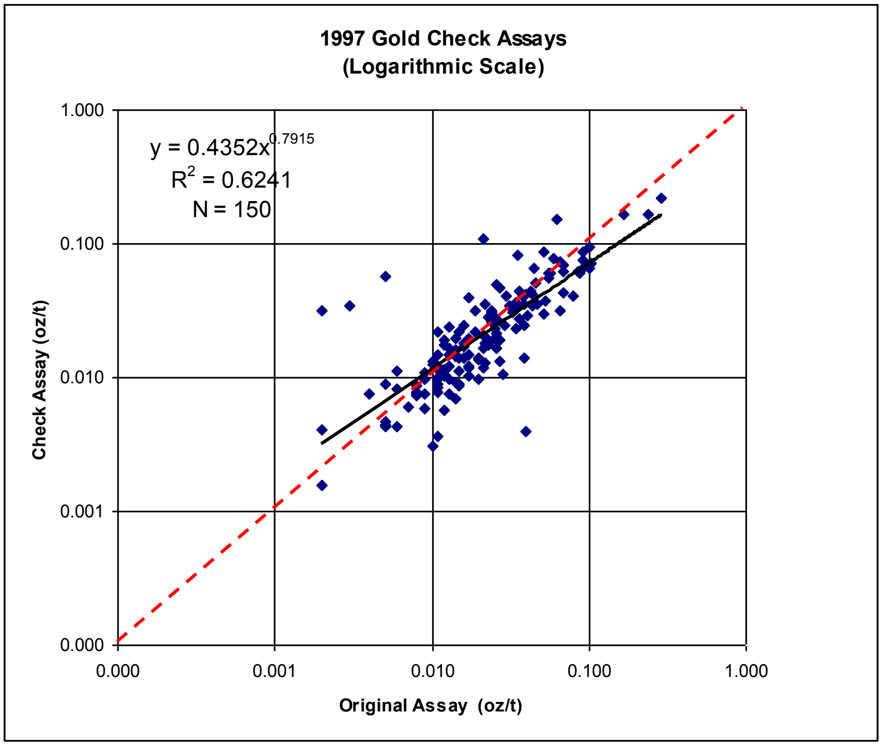
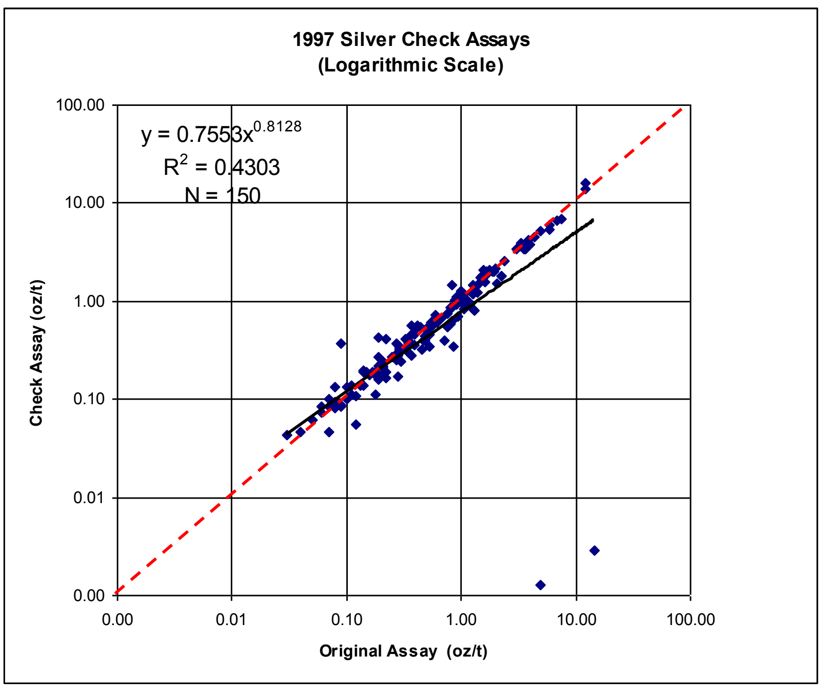


Figure 14.8 1997 Silver Check Assays on Coarse Rejects Scatterplot



MDA did not review the QA/QC, check samples or check assays for any of the soil sample programs.

14.3 Twin Hole and Nearby Sample Comparisons

There are no twin holes at the Zaca deposit; however MDA performed a comparison of gold and silver grades of nearby core and RC samples and between core drilling and underground rib samples. This was done using all the samples in the database without breaking them out in any way except by sampling method. Tables 14.2 and 14.3 and Figures 14.9 and 14.10 show the results of this comparison between core and RC drilling for gold and silver. Tables 14.4 and 14.5 and Figures 14.11 and 14.12 show the results of the comparison between core drilling and underground rib sampling.

The comparison of the RC to the core drilling clearly shows that as the difference expressed as a ratio of the means of the two drilling techniques increases, the difference expressed as a ratio of the standard deviations of the two drilling techniques increases (Figure 14.9a). In other words, when RC Au values are significantly higher than the paired core values, the variance in the RC values is also significantly higher than the core variance. The opposite relationship also holds. These data therefore suggest that the differences observed in the paired mean RC and core Au grades is likely due to outliers, which would mask any demonstrable bias, if any exists. This is consistent with the geologic observation that the mineralization occurs in fractures and that the fracture spacing is large in comparison to the diameter of the sample.

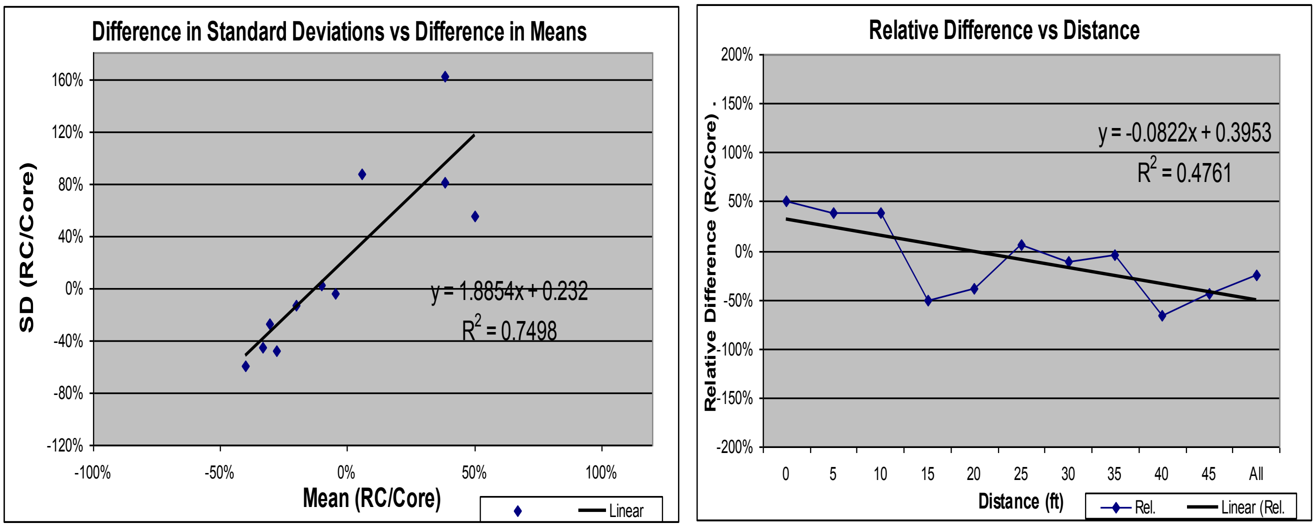
For both gold and the silver, the RC samples are higher grade than their core pairs at lesser distances between the paired samples, and as the distance between the samples increases, the RC samples tend to be lower grade than the core samples (Figures 14.9b and 14.10b). The RC gold grades of the entire set of core-RC sample pairs up to 45 feet apart are lower than the core samples, while the silver grades compare well.

After careful analysis of all of these data, MDA believes that the results from the two drilling techniques are acceptable for use in the resource calculation in Section 17.

Table 14.2 RC vs. Core Au Sample Pairs: Statistics by Distance Between Pairs

C	Core				Difference RC/Core			RC				
Dist. (ft)	Mean (oz/ton)	N	SD (oz/ton)	CV	Mean (%)	SD (%)	CV (%)	Mean (oz/ton)	N	SD (oz/ton)	CV	Rel. Diff. (%)
0	0.006	130	0.011	1.833	50	55	3	0.009	130	0.017	1.889	50
5	0.013	179	0.032	2.462	38	81	31	0.018	179	0.058	3.222	38
10	0.013	185	0.024	1.846	38	163	90	0.018	185	0.063	3.500	38
15	0.018	227	0.051	2.833	-33	-45	-18	0.012	227	0.028	2.333	-50
20	0.018	220	0.050	2.778	-28	-48	-28	0.013	220	0.026	2.000	-38
25	0.017	270	0.031	1.824	6	87	77	0.018	270	0.058	3.222	6
30	0.020	356	0.035	1.750	-10	3	14	0.018	356	0.036	2.000	-11
35	0.022	265	0.049	2.227	-5	-4	0	0.021	265	0.047	2.238	-5
40	0.025	420	0.064	2.560	-40	-59	-32	0.015	420	0.026	1.733	-67
45	0.026	414	0.062	2.385	-31	-27	5	0.018	414	0.045	2.500	-44
All	0.020	2666	0.048	2.400	-20	-13	9	0.016	2666	0.042	2.625	-25

Figure 14.9 RC vs. Core Au Sample Pairs: Statistical Comparisons

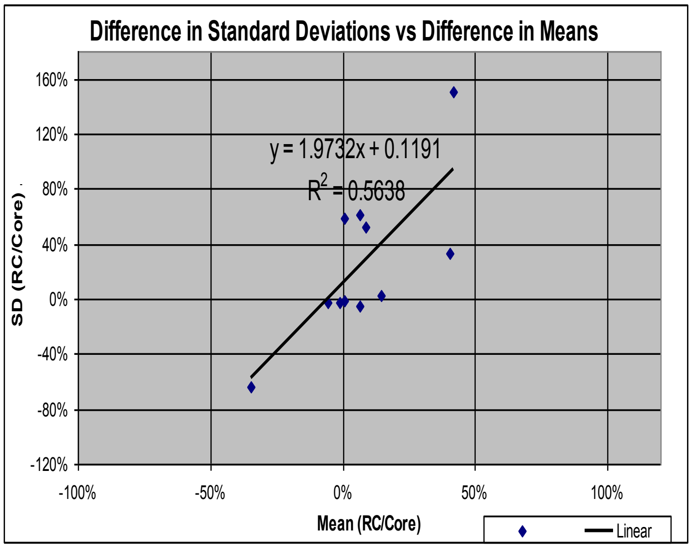


a b

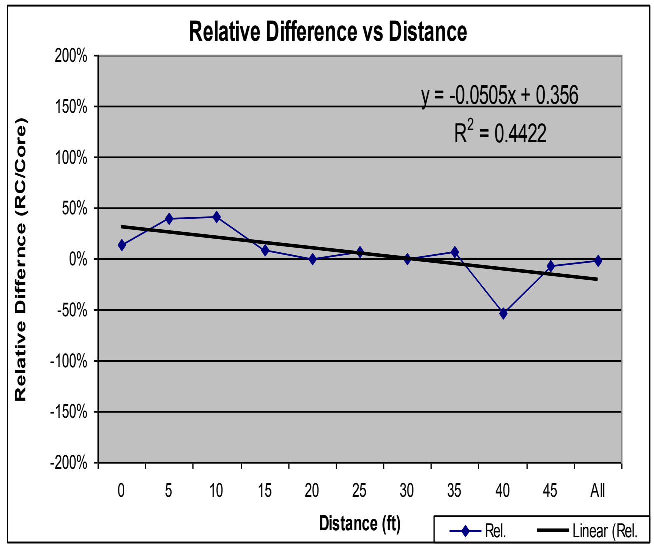
Table 14.3 RC vs. Core Ag Sample Pairs: Statistics by Distance Between Pairs

	Core				Difference RC/Core			RC				
Dist. (ft)	Mean (oz/ton)	N	SD (oz/ton)	CV	Mean (%)	SD (%)	CV (%)	Mean (oz/ton)	N	SD (oz/ton)	CV	Rel. Diff. (%)
0	0.373	130	0.674	1.807	14	3	-10	0.427	130	0.694	1.625	14
5	0.427	174	0.773	1.810	41	33	-5	0.600	174	1.031	1.718	41
10	0.388	175	0.471	1.214	42	151	77	0.550	175	1.183	2.151	42
15	0.349	219	0.425	1.218	9	53	41	0.379	219	0.649	1.712	9
20	0.457	210	0.701	1.534	1	-2	-2	0.460	210	0.689	1.498	1
25	0.511	262	0.768	1.503	6	61	52	0.543	262	1.240	2.284	6
30	0.479	353	0.691	1.443	0	58	58	0.481	353	1.094	2.274	0
35	0.514	268	1.072	2.086	6	-6	-11	0.547	268	1.011	1.848	6
40	0.645	427	1.553	2.408	-35	-64	-45	0.420	427	0.557	1.326	-54
45	0.468	422	0.947	2.024	-6	-3	3	0.441	422	0.922	2.091	-6
All	0.483	2640	0.953	1.973	-1	-3	-1	0.477	2640	0.929	1.948	-1

Figure 14.10 RC vs. Core Ag Sample Pairs: Statistical Comparisons



a



b

There are insufficient nearby samples to derive a meaningful comparison between the underground rib samples and the core samples.

14.4 Sample Recovery

Based on the senior author's review of core drill logs, sample recovery information was systematically logged and was "generally good". For a few samples there was poor recovery due to fractured ground or driller error, but overall core recovery was acceptable. The effect of core recovery on sample bias was not investigated. As is common practice in the industry, sample recovery for RC drilling was not systematically measured. However, because of an acceptable comparison between core and reverse circulation (Section 14.3), sample recovery for the reverse circulation drilling is judged to be adequate. Drilling wet RC was not uncommon and contamination would be very difficult to establish due to the consistent geology. There are a few drill holes that appear contaminated and those holes were restricted by tight zones in the modeling process. Of note is that much of the higher-grade silver mineralization is contained in clay pockets and wet drilling without care could preferentially lose this high-grade material.

15.0 ADJACENT PROPERTIES

There are no significant adjacent properties.

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

16.1 Metallurgical Mineralogy

A mineralogic study using a transmitting and reflecting petrographic microscope determined that the predominant metal-bearing minerals are pyrite, argentite, freibergite, proustite-pyrargyrite, sphalerite, huebnerite, and galena (Cochrane, 1984). Non-metallic gangue minerals include quartz, sericite, kaolinite and other clay minerals, rhodochrosite, selenite, and adularia. Minor amounts of other silver sulfosalts, galena, chalcopyrite, bornite and cerargyrite have also been identified. Free gold occurs as grains averaging five microns in diameter, but grains as large as 40 microns have been seen in polished section. Free gold was noted during core logging. The gold is found mainly in fractures associated with pyrite, proustite-pyrargyrite, or freibergite. The gold is rarely surrounded by quartz or silica. Any sub-microscopic or interstitial gold would not have been detected with the technique used. Approximately 10% of the deposit is oxidized, and in this zone, most of the pyrite has been altered to limonite, hematite, goethite, or jarosite.

16.2 Metallurgical Samples

Both California Silver and WSMC/Zaca Resources performed metallurgical test-work on the Zaca deposit between 1981 and 1997. Some of the work was done by independent labs on contract, and some of it was done "in-house". It is MDA's opinion that the samples used in the metallurgical test-work, taken in their entirety, reliably represent the Zaca deposit. Information about the samples used in test-work dated prior to 1986 is taken from California Silver (1986); information about subsequent test-work is taken from Halbe (no date).

Hazen Research, Inc. (HRI) Preliminary Studies - October 1981
Preliminary cyanide bottle roll tests conducted on composite diamond drill hole assay rejects

Hazen Research, Inc. (HRI) Percolation Test - October 1981
Hazen Research, Inc. performed a column leach test on -3/8 in. particle size material from the same composite sample made from diamond drill assay rejects as above.

Heinen-Lindstrom Associates, Inc. - January 1983
A small column test was performed on diamond drill assay rejects from mineralized sample similar to that use by HRI in 1981.

Hazen Research, Inc. (HRI) - March 1983
Further test-work by HRI was performed on both the original sample (HRI, 1981) and the Heinen-Lindstrom sample (January 1983) to evaluate the marked decrease in recovery during Heinen-Lindstrom's column test.

Hazen Research, Inc. (HRI) - March 1983
Twenty-two bottle roll leach tests were performed on minus 10 mesh composited assay rejects taken from the Jardine Adit (California Silver's bulk sample adit) car samples (muck samples). Column leach

tests were performed on minus 1/4 in., minus 1/2 in. and minus 3/4 in. splits of the sample used for the large column test discussed below.

Hazen Research, Inc. (HRI) - November 1983
A large column test was performed by HRI on minus 1/4 in., agglomerated and pretreated sample in a 30 in. diameter column with a depth of 15 ft. The sample was a composite of individual car (muck) samples from the Jardine Adit.

Field Heap Test (Late 1983-Early 1984)
A 1480 ton field-scale leach test was performed by California Silver (Table 5.2-1). The sample was a composite bulk sample from the Jardine Adit.

California Silver, Inc. (CSI) - October 1984
Nineteen column tests were performed by California Silver between April and October 1984 on splits from the sample used for the Hazen Research large column test.

California Silver, Inc. - October-November 1985
Thirteen column tests were performed by California Silver. The sample for the tests was taken from composites of diamond drill core samples drilled in July 1985.

Dawson Metallurgical Laboratories Inc. – January 1991
Thirteen composite samples were prepared from reverse circulation drill cuttings.

Kappes, Cassiday & Associates - December 1991
Thirty-two split core samples from the 1980 and 1981 core drilling program were made into a high-grade composite, a low grade composite, an average grade composite and an oxide composite.

Kappes, Cassiday & Associates - April 1997
A sample was slabbed off in each of Galerie “B”, the Jardine Adit and the Upper Advance level. A single composite was created by combining the three samples.

16.3 Metallurgical Testing Results

Information about and comments on the results from test-work completed prior to 1986 is taken from California Silver (1986); information about and comments on the results of subsequent test-work is taken from Halbe (no date).

Hazen Research, Inc. (HRI) Preliminary Studies - October 1981
Gold recoveries of 74% to 96% and silver recoveries of 44% to 90% were achieved with top particle sizes ranging from 3/8 in. to 65 mesh. Preliminary test-work demonstrated that the mineralization is also amenable to flotation, however, no further test-work was done because conventional milling was not economically feasible at that time.

Hazen Research, Inc. (HRI) Percolation Test - October 1981

A column leach test on minus 3/8 in. particle size material recovered 75.9% and 38.6% of the gold and silver, respectively.

Heinen-Lindstrom Associates, Inc. - January 1983

Recoveries were very poor (Au - 39%, Ag - 16%) in the column test and a bottle roll test on the same sample, crushed to minus 1/4 in., gave recoveries of gold and silver of 60% and 43%, respectively.

Hazen Research, Inc. (HRI) - March 1983

The test-work demonstrated that the leaching characteristics of crushed mineralization change over a period of time (1-2 years). This appears to be due to oxidation of the iron and sulfide-bearing minerals producing a coating of jarosite that inhibits leaching and also to a breakdown of manganese minerals in the mineralization. This accounts for the poor recoveries obtained in the Heinen-Lindstrom Associates, Inc – January 1983 tests, which were performed on older samples. Evidence indicates that the crushed mineralization must stand at least one year before this occurs.

Hazen Research, Inc. (HRI) - March 1983

Twenty-two bottle roll leach tests were performed on minus 10 mesh material. Gold recoveries ranged from 32% (head assay 0.010 oz Au/ton or less) to 93% (head assay 0.050 oz Au/ton or greater). Silver recoveries averaged 40% for all samples.

Column leach tests were performed on minus 1/4 in., minus 1/2 in. and minus 3/4 in. splits of the sample used for the large column test discussed below. The minus 1/4 in. tests were run with and without agglomeration and pretreatment, and the minus 1/2 in. and minus 3/4 in. tests were run without agglomeration or pretreatment. The highest gold recoveries of 74.7% and 78.5% were obtained in the two minus 1/4 in. sample tests with the agglomerated and pretreated test being the highest. The minus 1/2 in. test gave a 60.3% recovery and the minus 3/4 in. test 67.1%. Silver recoveries were approximately 50% regardless of particle size.

Hazen Research, Inc. (HRI) - November 1983

A large column test was performed by HRI on minus 1/4 in., agglomerated and pretreated sample in a 30 in. diameter column with a sample depth of 15 ft. After 16 days of leaching, gold and silver recoveries were 67% and 46%, respectively. Cyanide consumption was 0.51 lbs/ton.

After the leaching was completed, detoxification tests were done for cyanide neutralization.

Field Heap Test - Late 1983-Early 1984

A 1480 ton field scale leach test was performed by California Silver. The bulk sample, crushed to minus 3/8 in., assayed 0.030 oz Au/ton and 0.46 oz Ag/ton.

A State of Maine 100 tpd Merrill Crowe plant was used to recover the gold and silver from the pregnant solution. The test was controlled by on-site analysis. A small trailer housed an atomic absorption unit and apparatus for monitoring the pH, NaOH, and NaCN content of the solutions. Flow rate to the heap was 0.002 gpm/ft2 at the midpoint of the heap and somewhat less on the slopes. At the conclusion of leaching the precipitate was taken to Tenneco Minerals' Manhattan facility for recovery of the gold and silver doré that was then shipped to the Royal Canadian Mint for refining and ultimate determination of the gold and silver content. Tenneco Minerals used a new crucible in their furnace to smelt the precipitate.

Recovery for the entire heap was 69.7% gold and 34.4% silver based on the gold and silver content of the doré bullion. For the central portion of the heap, recovery was 73.3% gold and 45.7% silver. This can be explained by the slopes not getting sufficient solution. In actual practice the area of the slopes compared to the flat area on top would be minimal. Reagent consumption was 0.41 lbs cyanide/ton and 0.21 lbs sodium hydroxide/ton.

After the leaching was completed, detoxification tests were run until the leachate from the heap met California standards.

California Silver, Inc. (CSI) - October 1984

Nineteen column tests were performed by California Silver between April and October, 1984 on splits from the sample used for the Hazen Research large column test. Gold recoveries ranged from 56% to 74% and silver from 35% to 46%. A column leach test run on Lovestedt mill tailings found them to be amenable to leaching yielding recoveries of 88% gold and 70% silver despite percolation problems. The following conclusions were made from these tests.

- Pretreatment with lime appeared to slightly improve gold recovery while not affecting silver recovery.
- Recovery of both gold and silver appeared to be adversely affected by cyanide concentrations of 3 lbs/ton or higher.
- Agglomeration with 5 lbs/ton of mortar yielded good results while columns agglomerated with 10 lbs/ton of mortar yielded gold and silver recoveries about 15% lower.
- Pretreatment with cyanide aids initial recovery, however, overall recovery may be lower.
- The three sizes tested (minus 1/4 in., minus 3/8 in., and minus 1/2 in.) did not yield conclusively different results, and further testing was required as described in below.

California Silver, Inc. - October-November 1985

Thirteen column tests were performed by California Silver. Open circuit crushed sizes of minus 1/2 in., minus 3/4 in. and minus 1 in. were leached for 60 days as shown. The minus 1/2 in. mineralization columns showed the highest recoveries (67%-72% gold and 40%-45% silver) with the exception of the minus 1 in. oxide columns (72%-75% gold and 27%-31% silver). Permeability was excellent in all columns. Conclusions derived from this test-work are:

- Acceptable recoveries can be obtained from minus 1/2 in. open circuit crushing for sulfide mineralization and 1 in. open circuit crushing for oxide mineralization.
- All mineralization types tested were amenable to heap leaching.
- Recovery of gold and silver was still slowly increasing at the conclusion of the tests.
- Approximately 85% of the soluble gold was recovered after 30 days.
- Cyanide consumption after 30 days was 1.0 lbs/ton.

Dawson Metallurgical Laboratories Inc. – January 1991
Tests were performed to determine if recoveries could be increased by fine grinding and either vat leaching or gravity separation followed by flotation. It was found that gravity followed by flotation had little effect on the residual gold values but did markedly decrease the residual silver values. However fine grinding is not economically feasible for the Zaca deposit.

Kappes, Cassiday & Associates - December 1991
Average grade composite sub-samples were prepared and crushed to -1/2 inch using a jaw crusher, -1/4 inch using a jaw crusher and -1/4 inch using a cone crusher. Sixty day column tests on the three sub-samples recovered 59.58%, 65.23% and 71.15% of the gold, respectively and 36.36%, 41.56% and 54.93% of the silver, respectively. NaCN consumption averaged 1.49 lb/ton and $Ca(OH)_2$ consumption was 1.5 lb/ton. Additional tests on the average grade composite tested the hypothesis that different solution application rates may affect recoveries.

The oxide sample was tested with a 63 day leach and recovered 86.21% recovery of the gold and 54.7% recovery of the silver.

Sub-samples of both the high- and low-grade composites were crushed to -1/2 inch by a jaw crusher and -1/4 inch by a cone crusher. Sixty-three-day column tests were performed on all four products. The high-grade crushed to -1/2 inch released 56.53% of its gold and 38.46% of its silver while the material crushed to -1/4 inch released 74.24% of its gold and 53.45% of its silver. The low-grade crushed to -1/2 inch released 40.0% of its gold and 25.93% of its silver while the material crushed to -1/4 inch released 53.85% of its gold and 40.74% of its silver.

After the leaching was completed acid generation and CAMWET testing was performed on some of the untreated and bottle rolled samples.

Kappes, Cassiday & Associates - April 1997
Testing was performed to evaluate the effect of crushing using a cone crusher, a Barmac crusher and high-pressure grinding rolls (HPGR) on recovery. The cone crusher sub-sample was crushed to -1/4", the Barmac and HPGR sub-samples were crushed to -6 mesh. Nominal 60 day column tests for the cone crushed, Barmac crushed and HPGR crushed sub-samples recovered 81.3%, 83.3% and 91.1% of the gold and 64.9%, 67.6% and 84.5% of the silver respectively. Cyanide consumption averaged 4.07 lb NaCN/ton and hydrated lime consumption averaged 7.16 lb $Ca(OH)_2$/ton. After the leaching was completed detoxification tests on the three sub-samples using a fresh water rinse, hydrogen peroxide rinse and bacteria wash respectively was completed.

16.4 Metallurgical Testing Reviews

The metallurgical test-work described above has been reviewed by independent experienced metallurgists, and MDA has confidence in their observations and recommendations as summarized below.

R.S. Shoemaker

R.S. Shoemaker, an independent consultant to California Silver, reviewed the metallurgical tests performed from 1981 through to 1985. In his first letter report (R.S. Shoemaker Ltd., 1985) he concluded that for all practical purposes the residue assays are essentially constant at 0.01 oz Au/ton, and that although extractions vary somewhat as would be expected they seem to average about 68% and were still rising at the termination of the tests where such data are available. In a subsequent letter report, (R.S. Shoemaker Ltd., 1986), he commented on the California Silver, Inc. - October-November, 1985 test program and stated that he found the work to have been carried out in a very professional manner. He concluded that it should be reasonable to expect that if all oxide, sulfide and mixed oxide-sulfide mineralization is crushed to 1/2 in. closed-side setting the ultimate gold extraction should approximate 70%, and the ultimate silver extraction should be in the range of 40 - 45%.

Doug Halbe

Doug Halbe, an independent consultant to WSMC and Zaca Resources, reviewed the metallurgical test-work performed from 1981 through to 1996. His conclusions are:

- For material crushed to -1/4 inch the gold recovery should be:

  Recovery = 0.76 – (0.0032/Head Grade) expressed as a percent.

  This equation should be valid for material grading from 0.025 – 0.055 oz Au/ton, and possibly up to 0.070 oz Au/ton.
- For material crushed to -1/4 inch the silver recovery should be 0.51 – (0.0464/Head Grade) expressed as a percent. High-grade silver values (many oz/ton) may have different mineralogy and the silver recovery may be significantly lower, but additional testing would be necessary to determine what recovery should be expected. This potential problem may be compounded by the presence of manganese in the form of rhodochrosite.
- Preliminary tests show that gold recoveries may be significantly improved through the use of a Barmac crusher or high-pressure grinding rolls (HPGR) that are more effective at liberating the mineralization. Additional tests including a bulk sample test would be necessary to confirm this.

MDA concurs with Halbe's conclusions. In addition, MDA has noted that some of the 1991 through 1997 tests were performed on old samples. Based on the experience with the Heinen Lindstrom Associates, Inc. - January, 1983 tests that was also conducted on old samples, the recoveries in the 1991 to 1997 tests may be lower than they would have been if fresh samples had been used.

16.5 Metallurgical Process

The metallurgical process will be determined by the Preliminary Economic Assessment (PEA). The two alternatives under consideration are flotation followed by leaching of the concentrates and heap leaching.

17.0 MINERAL RESOURCE ESTIMATE

17.1 Deposit Geology Pertinent to Resource Estimation

The Zaca deposit occurs almost entirely within the Zaca Rhyolite with a minor amount of mineralization within the surrounding breccia that was intruded by the rhyolite, and a small amount in the talus or landslide material that drapes the southeast side of Colorado Hill. Historically it was believed that the Stewart Fault locally formed a hanging wall to much of the mineralization, although some mineralization occurs above it. It was also noted that the West and East Faults locally bounded stopes on several levels but mineralization was found on both sides of the faults. These faults were not systematically logged in all of the RC drilling, although they were interpreted and plotted by hand on the cross sections used for modeling. Mineralization in the Lower Colorado and Lower Advance levels is related to irregularities in the rhyolite – andesite contact. The deep high-grade mineralization at the 5,500 ft elevation appears to be at the contact between the rhyolite and pyroclastic breccia.

Domains of mineralization were broken out to control the grade estimate. An attempt was made to understand these controls on mineralization but more time and information are needed. It is presently believed that lower-grade mineralization is controlled by irregular fracturing, which if true, would be nearly impossible to define from the dominantly RC drilling. A broad low-grade halo was defined at Zaca around a grade of ~0.01 oz Au/ton. This main mineralized body is football- to cylinder-shaped, is roughly 2,000 ft long, and plunges at 45^{o} towards 140^{o}. There is one principal mineralized zone and two significantly smaller satellite zones.

Internal to these three low-grade domains are irregular domains defined at approximately ~0.04 oz Au/ton and at ~0.2 oz Au/ton. The mid-grade domain most likely is a result of increased fracturing, and results in zones with irregular shapes that plunge parallel to the main low-grade domain. Although the shapes of the zones in the highest-grade domain appear odd and have little specific geologic support, these higher-grade zones are similar to the shapes, sizes, and orientations of historic mining stopes developed on higher-grade shoots, often referred to as chimneys.

In previous estimates, all of these domains were estimated together and utilized capping to restrict the impact of the higher-grades. This model used separate domains because there are discrete higher-grade zones as demonstrated by historic mining. In addition, some holes had an anomalously high number of higher-grade intersections, possibly the result of drilling down mineralized structures, and these needed constraining. Figure 17.1 presents a section with the geologic interpretation and the gold domains.

Silver mineralization does not behave the same as the gold mineralization, and is not correlated with the gold. In fact, the silver mineralization forms a body that, for the most part, envelopes much of the gold mineralization and is substantially larger than the gold mineralization. Because of this, a separate silver model was made. This broad low-grade zone is about 2,000 ft long, 1,500 ft wide and extends vertically for at least 2,000 ft and is open but narrowing at depth. Figure 17.2 presents a section with the geologic interpretation and the silver domains.

Figure 17.1 Gold Domains and Geology

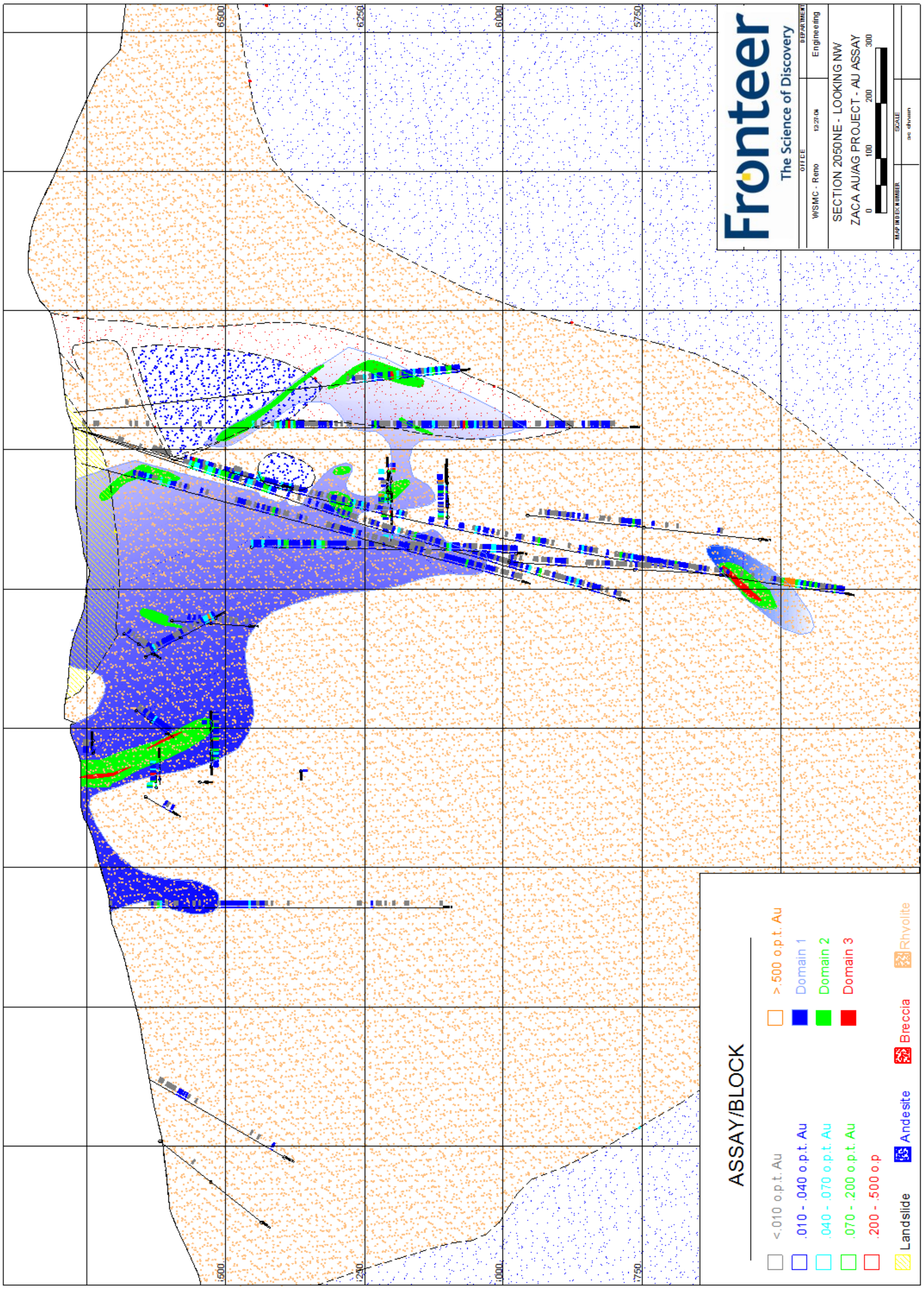
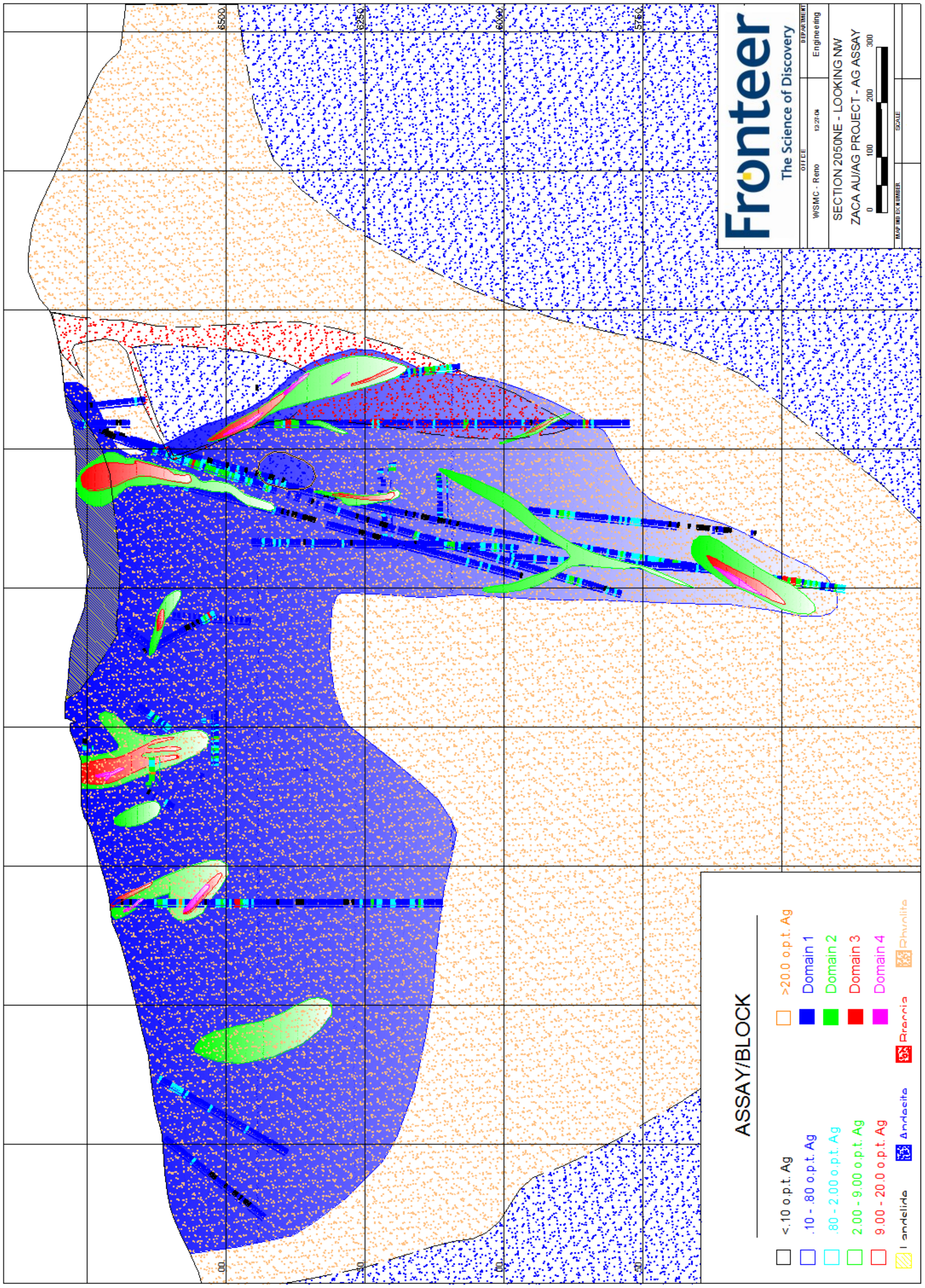


Figure 17.2 Silver Domains and Geology



17.2 Density

Rock densities were tested both by California Silver (Cochrane et al, 1984) and Dravo Engineers (Dravo, Engineers, 1984). California Silver's test-work was done using 23 samples ranging in weight from 10 to 25 lb. Each sample was placed into a bucket containing one gallon of water and weighed. Water was then added until the total volume of rock and water equaled two gallons and again the bucket was weighed. Water was again added so that the bucket contained 2 gallons of water plus the sample, and the bucket was weighed. The specific gravity was calculated as follows:

$$SpecificGravity = \frac{(WrW1 - Ww1)}{(WrW2 - Ww2)}$$

where Ww1 = weight of 1 gallon of water
Wrw1 = weight of 1 gallon of water + sample
Ww2 = weight of 2 gallon volume of water + sample
Wrw2 = weight of 2 gallon water + sample

The calculated specific gravities ranged from 2.15 to 2.79 with a mean of 2.39 (13.4 cubic ft/ton) and a standard deviation of 0.17. Although the number of samples is not large and the differences are rather large, the results are reasonable. MDA recommends that checks be made for changes in specific gravity with depth and/weathering but changes are not expected to be too significant, as most of the mineralization lies in one rock type, the Zaca Rhyolite.

Dravo Engineers collected six core samples and cut the ends at right angles to the core axis. Calipers were then used to measure the height and width of each sample and the volume calculated and the sample weighed. The unit weight values ranged from 144.6 to 152.2 lb/cubic ft (2.32 to 2.44g/cc) with a mean of 148.4 lb/cubic foot (13.5 cubic ft/ton or 2.38g/cc) and a standard deviation of 2.7 lb/cubic ft.

For this estimate, two principal rock types were segregated for density. One was bedrock that has a density of 13.5 ft^3/ton (2.38g/cc), as described above. All bedrock was assigned the same density value because there is no density data for the non-rhyolite rock types in the model (pyroclastics and andesite). The second modeled rock type is talus and overburden, which was assigned a density of 15.5 ft^3/ton (2.07g/cc). There are no measurements for this unit either.

17.3 Resource Model

The Zaca modeling constructed geologic and mineral domains on cross sections, and refined the mineral domain interpretations on level plans. These domains were not strictly grade domains but tended to lean towards that since pertinent geologic information was not available; this was due to the lack of structural information in the RC drill logs and a lack of full understanding of the controls of the mineralization. The domain construction utilized the majority-in/majority-out rule rather than absolute grade shells. All modeling of the Zaca deposit resource was performed using Minesight®.

Summary statistics of the Zaca sample database are shown in Tables 17.1 and 17.2.

Table 17.1 Summary Descriptive Statistics of Gold Assays

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	442							
Easting	36813	9592.2	9507.1			7955.2	10496.4	feet
Northing	36813	12473.1	12450.0			11271.0	13660.9	feet
Elevation	36813	6589.0	6583.9			5216.6	7463.9	feet
From	36813	295.0	340.9			0.0	1595.0	feet
To	36813	300.0	346.1			1.0	1600.0	feet
Length	36813	5.0	5.2	2.6	0.5	0.1	273.0	feet
Au	36813	0.003	0.012	0.050	4.230	0.000	5.536	oz Au/ton
Au Cap	36813	0.003	0.012	0.039	3.331	0.000	1.800	oz Au/ton

Table 17.2 Summary Descriptive Statistics of Silver Assays

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	442							
Easting	36783	9592.2	9506.7			7955.2	10496.4	feet
Northing	36783	12472.6	12449.9			11271.0	13660.9	feet
Elevation	36783	6588.7	6583.8			5216.6	7463.9	feet
From	36783	295.0	341.1			0.0	1595.0	feet
To	36783	300.0	346.3			1.0	1600.0	feet
Length	36783	5.0	5.2	2.6	0.5	0.1	273.0	feet
Ag	36783	0.200	0.496	1.382	2.788	0.000	88.670	oz Ag/ton
Ag Cap	36783	0.200	0.493	1.353	2.744	0.000	88.670	oz Ag/ton

The grade distributions for all assays in the Zaca deposit database were examined in order to identify population breaks (Figure 17.3, 17.4). The gold distribution shows very subtle breaks at about 0.010, 0.040, 0.070, 0.200, and 0.500 oz Au/ton. The silver distribution shows breaks at about 0.10, 0.80, 2.00, 9.00 and 20.0 oz Ag/ton.

Sections oriented at azimuth 234° (parallel the bulk of the drilling and looking northwest) were drawn at 50-ft intervals throughout the deposit. The sections showed topography, drill holes with assays, and rock codes that had been assigned from the drill logs. Simplified geology consisting of the rhyolite, pyroclastic breccia, andesite, alluvium, and landslide were drawn on the sections using data from the drill logs and the surface and underground mapping. These modeled zones were digitized and coded into the model. Solids were created from the digitized outlines.

Stopes were drawn from underground level plans, drill logs and the senior author's memory. Solids were created from the digitized stope outlines, which in turn were used to extract material from the model.

Figure 17.3 Gold Sample Data

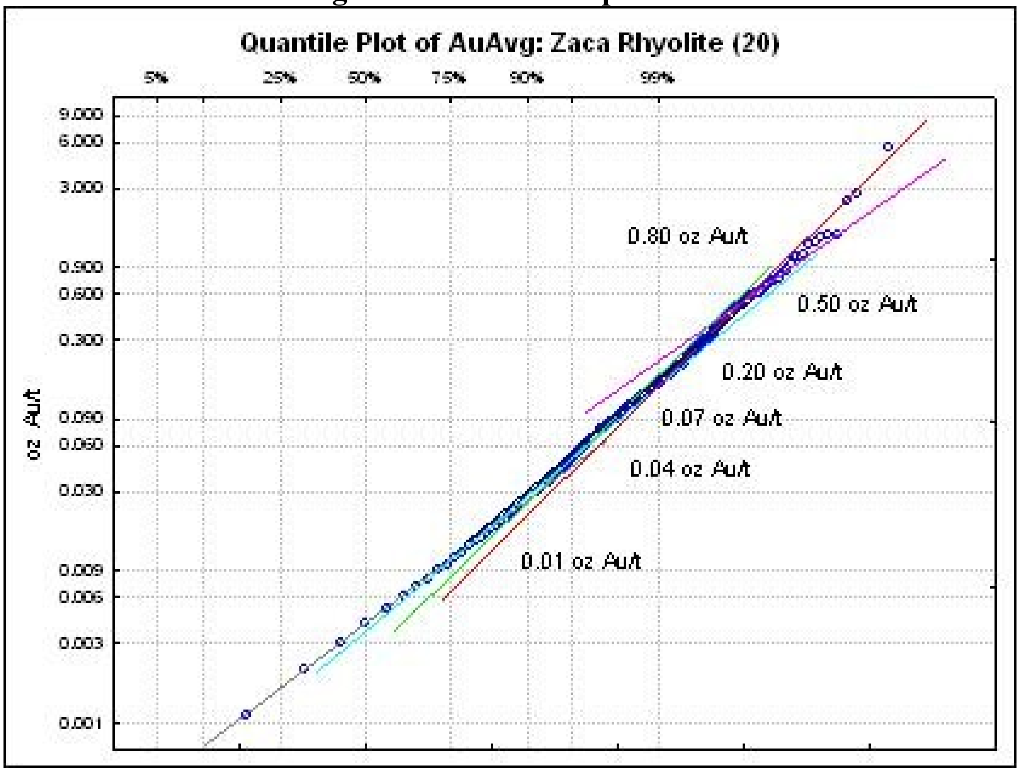
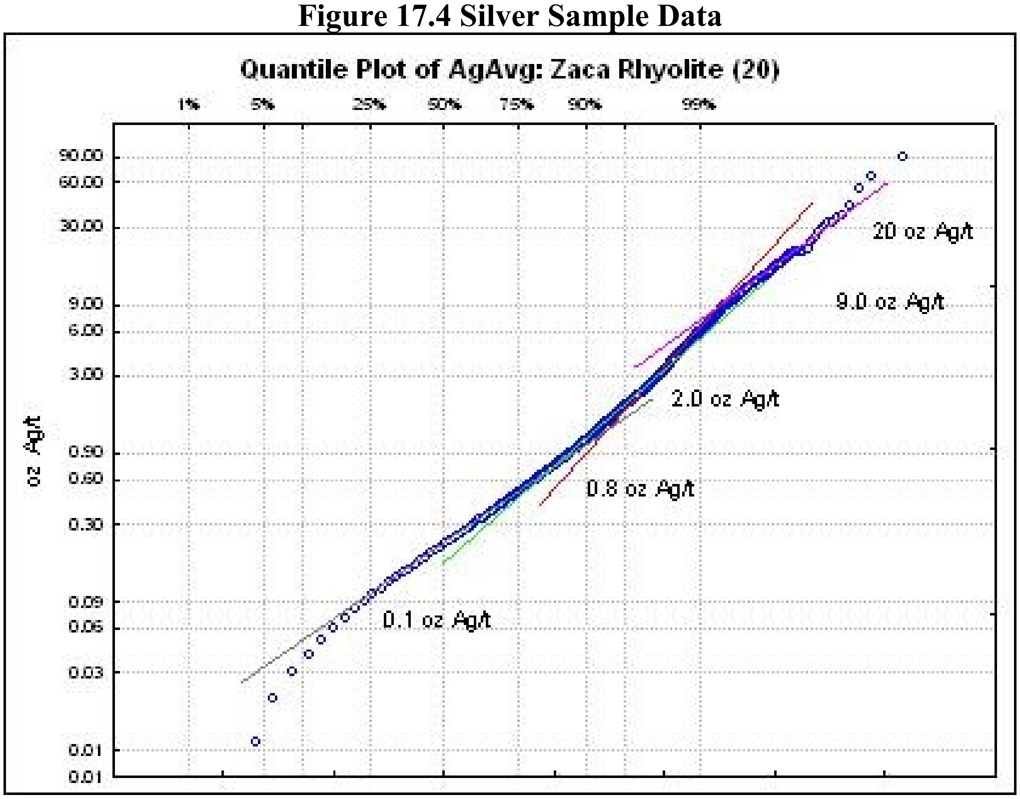


Figure 17.4 Silver Sample Data



New sets of sections were printed with the grades plotted instead of the rock codes (one set for gold and one set for silver), and were reviewed to determine if any of the gold grade populations identified in the grade distribution plot (Figure 17.3) represented continuous zones of mineralization. MDA found that grade domains of 0.010 to 0.040, 0.040 to 0.200, and greater than 0.200 oz Au/ton showed the best continuity, and these grade ranges were assigned to mineral domains 1, 2 and 3, respectively, where they occurred in bedrock, and 11 and 12, respectively, where they occurred in surficial deposits. A cross sectional grade model was created that outlined these domains, guided by the previously completed geologic modeling. The higher-grade zones served to limit the extrapolation of these grades into the surrounding lower-grade mineralization. The geometry and volumes of the higher-grade zones are in some cases a best estimate as there was no geologic information on which to base the definition of these zones. In the end, it was interesting to note that these highest-grade zones were chimney-shaped, not unlike and not too dissimilar in rake and plunge from the high-grade stopes mined in the 1960s and 1970s. The cross sectional grade domain envelopes were then digitized and the digitized grade envelopes were verified and, if necessary, refined on screen. The grade envelopes and geologic solids were sliced and transferred to 20-ft spaced level maps, and the final grade domains were refined and digitized from these plans.

Another set of sections were printed with the silver grades plotted, and were reviewed to determine if any of the silver grade populations identified in the grade distribution plot (Figure 17.4) represented continuous zones of mineralization. MDA found that grade domains of 0.10 to 0.80, 0.80 to 2.00, 2.00 to 9.00 and greater than 9.00 oz Ag/ton showed the best continuity, and these grade ranges were assigned to mineral domains 1, 2, 3 and 4, respectively where they occurred in bedrock, and 11, 12 and 13 respectively where they occurred in surficial deposits. A cross sectional grade model was created on the cross sections that outlined these grade domains, guided by the previously completed geologic modeling. The cross sectional grade domain envelopes were then digitized. The grade envelopes and geologic solids were sliced and transferred to 20-ft spaced level maps, and the final grade zones were refined and digitized from these plans. In the end, the two highest domains were combined.

The cross sectional grade envelopes were used to code the drill hole assays to the appropriate grade domains for gold and silver, respectively. Descriptive statistics and grade distributions of the assays were prepared for each grade domain and were examined and based on the statistics and grade distributions search restrictions and assay caps for each domain were chosen Table 17.3 summarizes the grade domain restrictions and cap values, Appendix C contains the detail by domain and metal.

Table 17.3 Summary of Grade Domain Search Restrictions and Cap Values

Metal	Domain	Search Restriction at (oz/ton)	Cap Value (oz/ton)	Cap Value (g/t)	# Samples Capped
Au	1	none	0.30	10.29	9
Au	2	none	0.90	30.86	5
Au	3	none	1.80	61.71	2
Au	11	none	0.06	2.06	1
Au	12	none	0.12	4.11	1
Au	outside	0.020	0.60	20.57	2
Ag	1	none	9.00	308.57	8
Ag	2	none	13.60	466.29	2
Ag	3	none	15.50	531.43	7
Ag	4	none	none	None	0
Ag	11	none	1.50	51.43	5
Ag	12	none	2.60	89.14	1
Ag	13	none	3.00	102.86	1
Ag	outside	0.600	6.00	205.72	0

17.4 Block Model

Two block models were made, one for gold and one for silver. These were later combined for reporting and for future economic studies. The block models were created with 25 ft x 25 ft x 20 ft blocks. There are 120 rows, 120 columns, and 125 benches. Level-plan domain outlines were projected vertically to calculate a percent of each domain in each block. The percentage area of each grade domain within each block was stored and these were used to weight average the grades of each domain into a zone and block diluted grade. Block diluted refers to those grades that are full block diluted; in other words, all zones including the unmineralized (but estimated) “outside” zone is weight-averaged. Zone diluted refers to that grade that is the weight average of the zones only, and does not take into account external dilution. As future pit optimization will be done on the full block-diluted grades; this report presents the resource as the full block-diluted grades.

Fields stored in the block model include percent topography, percent of each domain, grade for each domain, block- and zone-diluted grades, resource classification, tons per block, distance to the nearest composite, number of composites and holes used in each estimate, stope, rock type, and oxide classification.

17.5 Composites

Sample compositing was done as follows: The highest-grade zones were composited alone as hard boundaries. This approach was chosen as the highest-grade zones showed abrupt grade changes and most probably also relate to geologic features such as chimneys, mineralized structures, and local fractures. All the other zones, including those external to the mineralization, were composited together to 10 ft downhole lengths. This was chosen because the boundaries between unmineralized, low-grade and mid-grade are subtle and gradational. Following this compositing, the composites were coded from the cross-sectional interpretations thereby instilling a gradational change at those contacts. Statistics of the composited grades are given in Appendix C.

17.6 Geostatistics and Estimation Parameters

Geostatistics were completed on the composites. Variogram calculation and modeling was done in Surpac®. Variable lag lengths, directions, and variogram types were used. Data sets broken down into individual domains did not produce usable variograms so each domain modeling used the same variogram model. The global variograms for gold and silver in bedrock are given in Figures 17.5 and 17.6. Although the principal mineralized trend is 140^o and -45^o, the best models were derived when "looking" at 130^o and -55^o.

The gold and silver grades were estimated by two different methods, once by kriging and once using the nearest neighbor method. Resource reporting uses the kriged grades while checking uses the nearest neighbor results. Estimation parameters are given in Table 17.4 for gold and Table 17.5 for silver. Those parameters were used for drill samples only. A second over-writing pass was run with the same parameters but with a search range of 13 ft and using both drill holes and underground samples. Composites from each domain were only used to estimate into blocks from the same domain.

Cross sections of the block model grades are given in Figures 17.7 and 17.8.

Figure 17.5 Gold Global Variogram

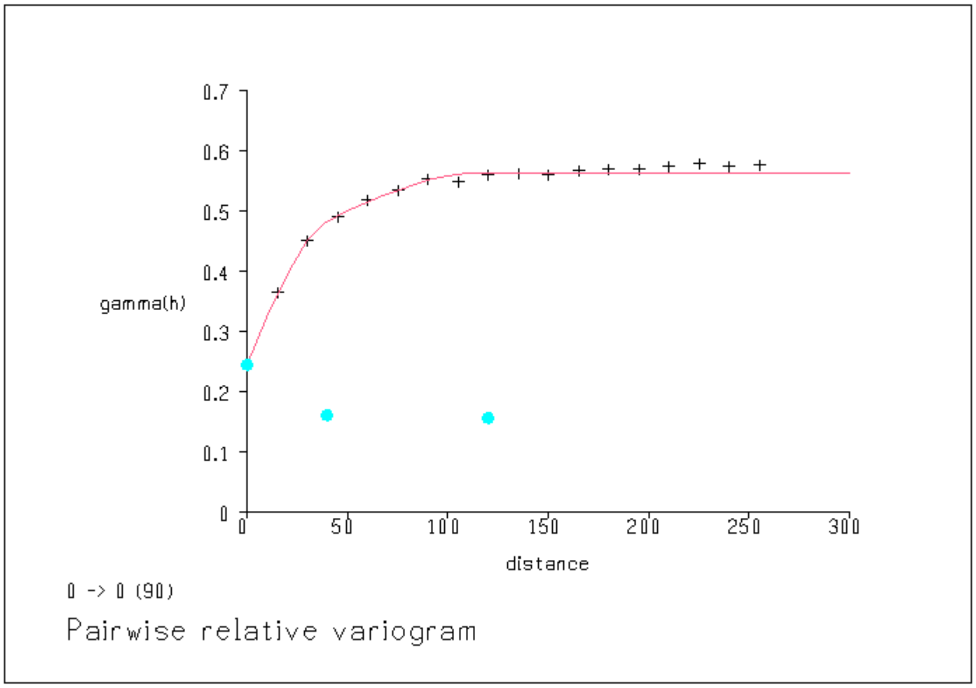


Figure 17.6 Silver Global Variogram

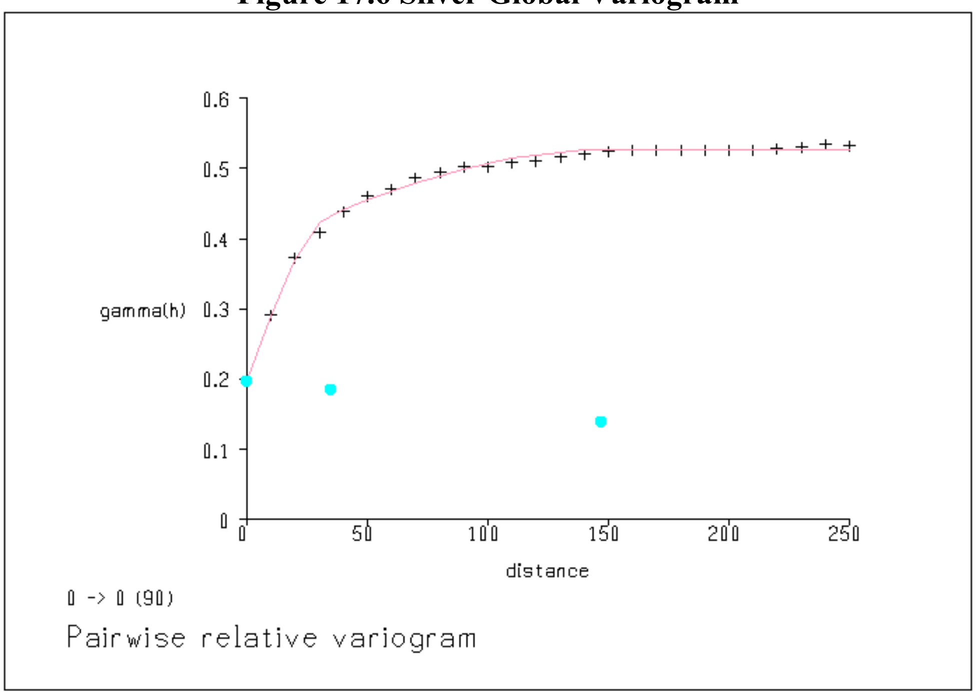


Table 17.4 Summary of Gold Estimation Parameters

Bedrock gold low-grade zone	
Minimum/Maximum composites	2 / 12
Maximum composites per hole	6
Estimation method	Kriging
Nugget (C_0)	0.0028
First sill (C_1) and ranges	.00185: 35 / 15 / 45
Second sill (C_2) and ranges	.0018: 145 / 50 /120
Directions (^{o})	130 / -55 / 0
Search distances	200 / 100 / 150
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Landslide gold low-grade zone	
Minimum/Maximum composites	2 / 10
Maximum composites per hole	2
Estimation method	Kriging
Nugget (C_0)	0.0028
First sill (C_1) and ranges	.00185: 35 / 15 / 45
Second sill (C_2) and ranges	.0018: 145 / 65 /105
Directions (^{o})	130 / -55 / 0
Search distances	200 / 200 / 100
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Bedrock gold mid-grade zone	
Minimum/Maximum composites	2 / 10
Maximum composites per hole	NA
Estimation method	Kriging
Nugget (C_0)	0.0028
First sill (C_1) and ranges	.00185: 47 / 50 / 25
Second sill (C_2) and ranges	.0018: 145 / 65 /105
Directions (^{o})	130 / -55 / 0
Search distances	200 / 100 / 150
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Landslide gold mid-grade zone	
Minimum/Maximum composites	2 / 10
Maximum composites per hole	4
Estimation method	Kriging
Nugget (C_0)	0.0028
First sill (C_1) and ranges	.00185: 47 / 50 / 25
Second sill (C_2) and ranges	.0018: 145 / 65 /105
Directions (^{o})	130 / -55 / 0
Search distances	150 / 150 / 75
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes

Table 17.4 Summary of Gold Estimation Parameters (continued)

Bedrock gold high-grade zone	
Minimum/Maximum composites	1 / 5
Maximum composites per hole	NA
Estimation method	Kriging
Nugget (C_0)	0.0028
First sill (C_1) and ranges	.00185: 47 / 50 / 25
Second sill (C_2) and ranges	.0018: 145 / 65 /105
Directions (^{o})	130 / -55 / 0
Search distances	100 / 40 / 90
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Bedrock gold outside zones	
Minimum/Maximum composites	1 / 10
Maximum composites per hole	4
Estimation method	Kriging
Nugget (C_0)	0.00022
First sill (C_1) and ranges	.00013: 40 / 40 / 35
Second sill (C_2) and ranges	.00018: 200 / 175 /175
Directions (^{o})	80 / -55 / 0
Search distances	225 / 200 / 175
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Range restriction (grade – distance)	0.02 – 25

Table 17.5 Summary of Silver Estimation Parameters

Bedrock silver low-grade zone	
Minimum/Maximum samples	2 / 12
Maximum samples per hole	6
Estimation method	Krige
Nugget (C_0)	2.6472
First sill (C_1) and ranges	2.4892: 30 / 17 /27
Second sill (C_2) and ranges	1.8834:155 /115 /130
Directions (^{o})	130 / -55 / 0
Search distances	200 / 100 / 150
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Landslide silver low-grade zone	
Minimum/Maximum samples	2 / 10
Maximum samples per hole	3
Estimation method	Krige
Nugget (C_0)	0.0502
First sill (C_1) and ranges	0.2297: 110 / 110 / 110
Directions (^{o})	130 / -55 / 0
Search distances	200 / 200 / 200
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Bedrock silver mid-grade zone	
Minimum/Maximum samples	2 / 12
Maximum samples per hole	NA
Estimation method	Krige
Nugget (C_0)	2.6472
First sill (C_1) and ranges	2.4892: 30 / 17 / 27
Second sill (C_2) and ranges	1.8834: 155 /115 /130
Directions (^{o})	130 / -55 / 0
Search distances	200 / 75 / 120
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Landslide silver mid-grade zone	
Minimum/Maximum samples	2 / 10
Maximum samples per hole	4
Estimation method	Krige
Nugget (C_0)	0.0502
First sill (C_1) and ranges	0.2297: 110 / 110 / 110
Directions (^{o})	130 / -55 / 0
Search distances	200 / 200 / 200
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes

Table 17.5 Summary of Silver Estimation Parameters (continued)

Bedrock silver high-grade zone	
Minimum/Maximum samples	2 / 8
Maximum samples per hole	4
Estimation method	Krige
Nugget (C_0)	2.6472
First sill (C_1) and ranges	2.4892: 30 / 17 /27
Second sill (C_2) and ranges	1.8834: 155 /115 /130
Directions (^{o})	130 / -55 / 0
Search distances	150 / 75 / 120
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Landslide silver high-grade zone	
Minimum/Maximum samples	2 / 8
Maximum samples per hole	5
Estimation method	Krige
Nugget (C_0)	0.0502
First sill (C_1) and ranges	0.2297: 110 / 110 / 110
Directions (^{o})	130 / -55 / 0
Search distances	150 / 120 / 150
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Bedrock silver outside zones	
Minimum/Maximum samples	1 / 10
Maximum samples per hole	4
Estimation method	Krige
Nugget (C_0)	2.6472
First sill (C_1) and ranges	2.4892: 30 / 17 / 27
Second sill (C_2) and ranges	1.8834: 155 /115 /130
Directions (^{o})	130 / -55 / 0
Search distances (ft)	225 / 200 / 200
Search directions (^{o})	130 / -55 / 0
Length-weighting	Yes
Range restriction (grade – distance)	0.6 - 50

Figure 17.7 Gold Block Grades

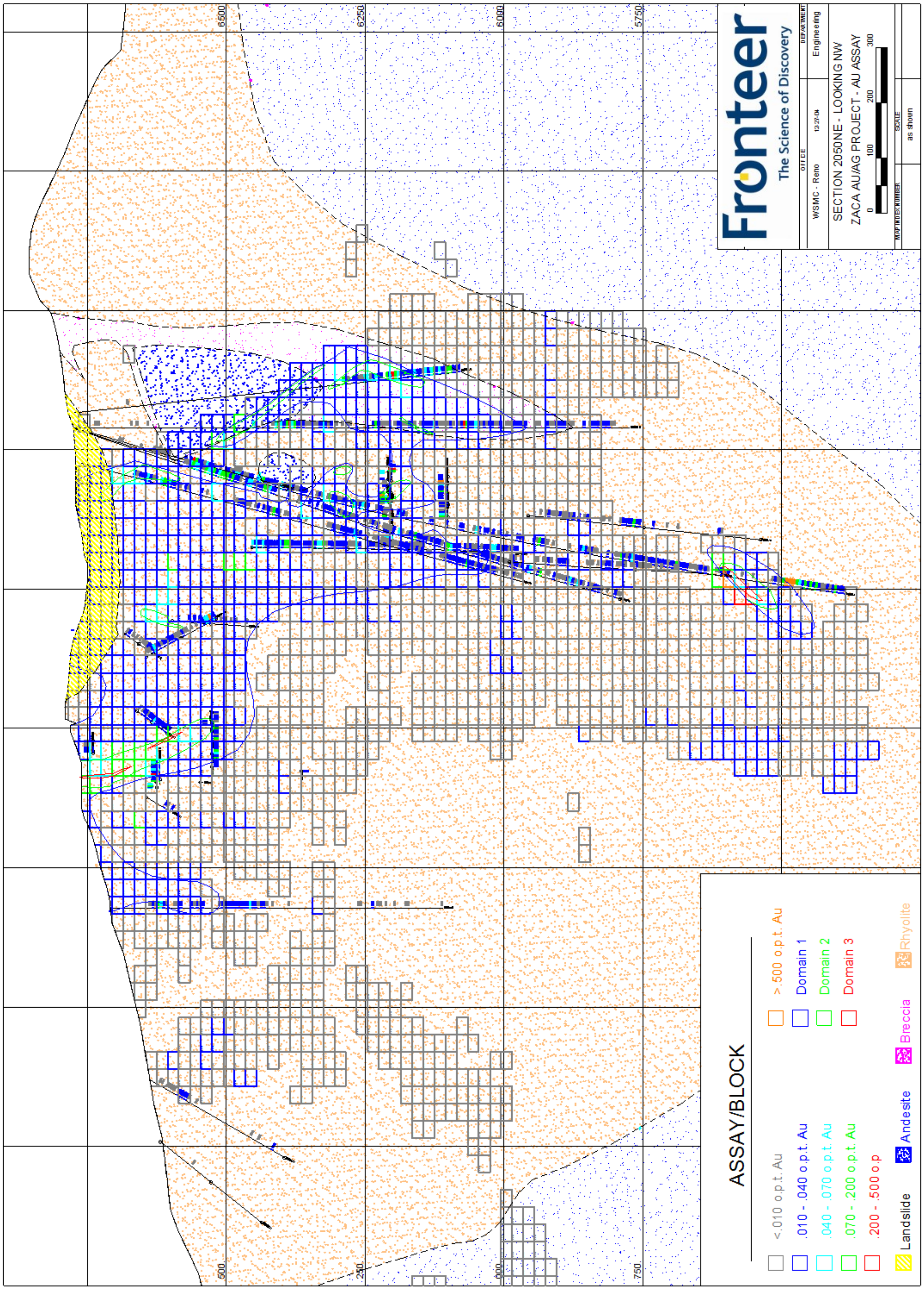
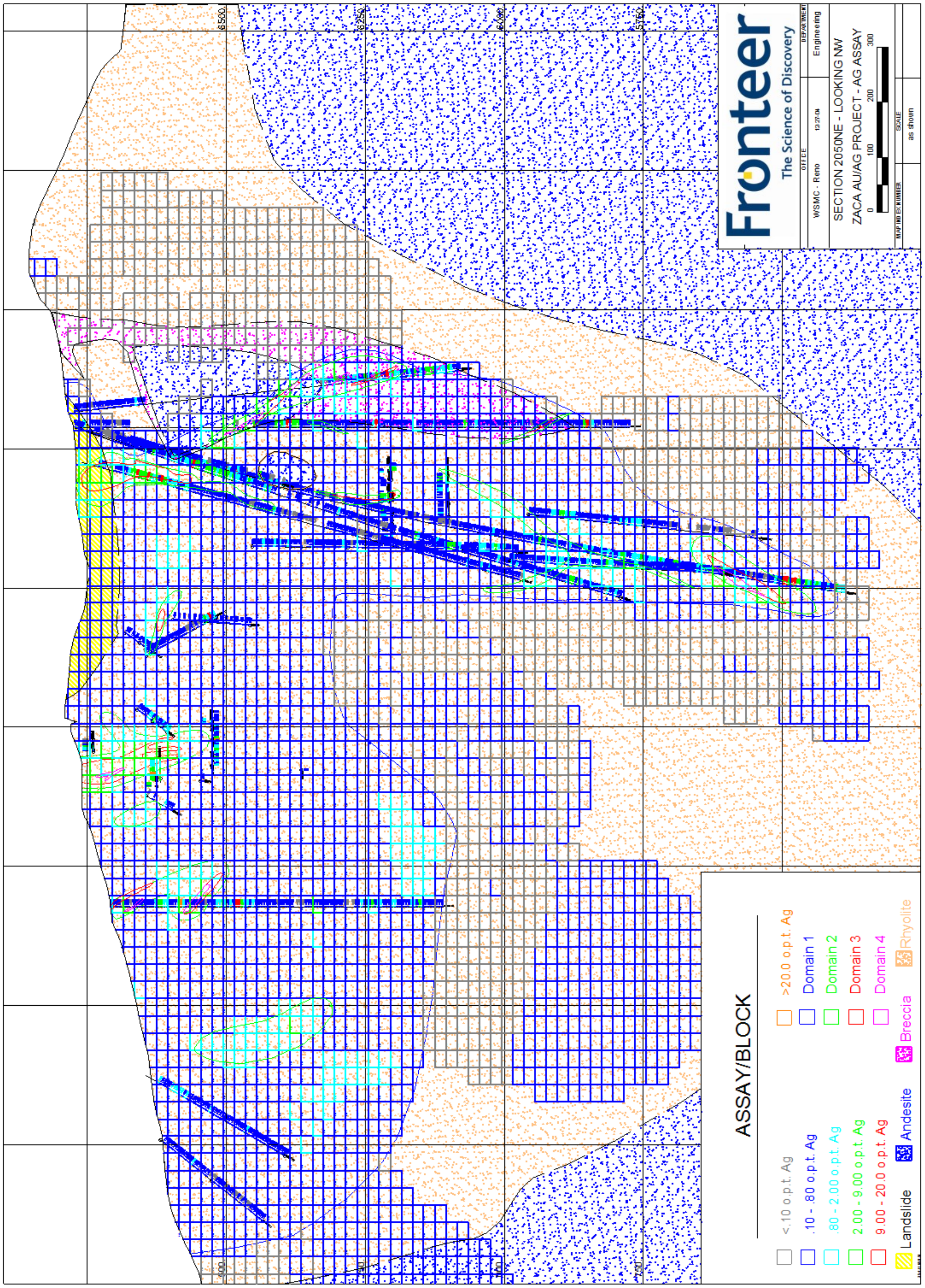


Figure 17.8 Silver Block Grades



17.7 Definitions

The resources stated in this report for the Zaca project conform to the definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), August 20, 2000, and meet the criteria of those definitions, where:

A Mineral Resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material 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.

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, 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.

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, 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.

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 for locations such as outcrops, trenches, pits, workings and drill holes.

17.8 Resources

The modeling and estimate of gold and silver resources were done by WSMC personnel under the guidance of Steve Ristorcelli, MDA Principal Geologist, who is considered to be a Qualified Person by the definitions and criteria set forth in NI 43-101. There is no affiliation between Mr. Ristorcelli and NewWest or WSMC except that of an independent consultant/client relationship. Once the modeling and estimation were completed, MDA undertook an audit of the WSMC work; numerous changes were suggested by MDA and made by WSMC. This was followed by a second review by MDA, which led to only minor comments and suggested changes that again were implemented by WSMC. A third check consisted of comparing the final resource numbers with the previous versions.

The estimated resources based on gold equivalent cutoffs at Zaca are given in Table 17.6 through 17.9 for Measured, Indicated, Measured and Indicated, and Inferred. The base case reported number is at a cutoff of 0.01 oz AuEq/ton. The calculated gold equivalent cutoff grades are used to fairly represent the *in situ* metal content from the overlapping gold and silver deposits. The silver to gold ratio used to calculate the gold equivalency is 67, based on a $400 gold price and $6.00 silver price. No metallurgical recovery data were considered in the calculation of the ratio. The 0.010 oz AuEq/ton cutoff used to define the Zaca mineral resources was chosen to reflect reasonably expected mining and processing methods, i.e., an open pit mine with heap leaching or flotation processing. Feasibility studies, if undertaken, will determine ultimate cutoff grades.

MDA prepared the resource estimate using Imperial units and the tables in metric units are direct conversions of the Imperial units. Due to rounding, the data in the tables which are in metric units may not appear to balance in the last significant digit.

MDA classified Measured material as those blocks that used three or more samples in the resource estimate and the closest sample was less than 30 ft from the block. Indicated was defined from those blocks that used at least two samples to estimate the grade and the closest sample was between 30 and 150 ft from the block. In both cases, the Measured and Indicated material had to lie within the boundaries of the defined mineral zones. The Inferred material was any block that used only one composite in the estimation or was further than 150 ft from a drill hole but in both cases the block needed to reside inside the defined zone boundaries.

There is no guarantee that any or all of the resources will be converted to reserves but based on historic work and prior economic studies, a good portion of the resource should be converted to reserves.

Table 17.6 Zaca Gold and Silver Resources – Measured

Imperial Units

Measured Resources

Cutoff (oz AuEq/ton)	Tons	Grade (oz AuEq/ton)	Ounces Gold Eq.	Grade (oz Au/ton)	Ounces Gold	Grade (oz Ag/ton)	Ounces Silver
0.010	8,097,000	0.029	236,000	0.019	151,000	0.704	5,700,000
0.014	6,587,000	0.033	219,000	0.022	145,000	0.754	4,967,000
0.016	5,853,000	0.036	208,000	0.024	139,000	0.790	4,624,000
0.018	5,144,000	0.038	197,000	0.026	133,000	0.826	4,249,000
0.020	4,477,000	0.041	184,000	0.028	126,000	0.871	3,899,000
0.030	2,339,000	0.057	133,000	0.040	93,000	1.152	2,694,000
0.032	2,073,000	0.060	125,000	0.042	88,000	1.208	2,504,000
0.036	1,653,000	0.067	111,000	0.048	79,000	1.321	2,183,000
0.040	1,358,000	0.074	100,000	0.053	72,000	1.415	1,921,000
0.060	683,000	0.100	68,000	0.073	50,000	1.802	1,231,000
0.080	381,000	0.123	47,000	0.089	34,000	2.315	882,000
0.100	183,000	0.164	30,000	0.115	21,000	3.246	594,000

Metric Units [1]

Measured Resources

Cutoff (g AuEq/t)	Tonnes	Grade (g AuEq/t)	Ounces Gold Eq.	Grade (g Au/t)	Ounces Gold	Grade (g Ag/t)	Ounces Silver
0.34	7,346,000	1.00	236,000	0.64	151,000	24.14	5,700,000
0.48	5,976,000	1.14	219,000	0.75	145,000	25.85	4,967,000
0.55	5,310,000	1.22	208,000	0.81	139,000	27.09	4,624,000
0.62	4,667,000	1.31	197,000	0.89	133,000	28.32	4,249,000
0.69	4,062,000	1.41	184,000	0.96	126,000	29.86	3,899,000
1.03	2,122,000	1.95	133,000	1.36	93,000	39.49	2,694,000
1.10	1,881,000	2.07	125,000	1.46	88,000	41.41	2,504,000
1.23	1,500,000	2.30	111,000	1.64	79,000	45.28	2,183,000
1.37	1,232,000	2.52	100,000	1.82	72,000	48.50	1,921,000
2.06	620,000	3.41	68,000	2.51	50,000	61.79	1,231,000
2.74	346,000	4.23	47,000	3.06	34,000	79.37	882,000
3.43	166,000	5.62	30,000	3.93	21,000	111.29	594,000

1. The metric units are direct conversions of the Imperial units above, and so may not balance due to rounding.

Table 17.7 Zaca Gold and Silver Resources – Indicated

Imperial Units

Indicated Resources

Cutoff (oz AuEq/ton)	**Tons**	**Grade** (oz AuEq/ton)	**Ounces Gold Eq.**	**Grade** (oz Au/ton)	**Ounces Gold**	**Grade** (oz Ag/ton)	**Ounces Silver**
0.010	18,730,000	0.025	464,000	0.014	266,000	0.707	13,242,000
0.014	12,474,000	0.032	394,000	0.020	253,000	0.758	9,455,000
0.016	10,658,000	0.035	368,000	0.023	243,000	0.783	8,345,000
0.018	9,058,000	0.038	341,000	0.026	232,000	0.813	7,364,000
0.020	7,669,000	0.041	316,000	0.029	219,000	0.840	6,442,000
0.030	3,821,000	0.059	224,000	0.043	164,000	1.062	4,058,000
0.032	3,381,000	0.062	211,000	0.046	155,000	1.112	3,760,000
0.036	2,675,000	0.070	187,000	0.052	139,000	1.208	3,231,000
0.040	2,188,000	0.077	169,000	0.058	127,000	1.290	2,822,000
0.060	1,086,000	0.108	117,000	0.084	91,000	1.611	1,750,000
0.080	616,000	0.138	85,000	0.109	67,000	1.968	1,212,000
0.100	392,000	0.166	65,000	0.130	51,000	2.421	949,000

Metric Units [1]

Indicated Resources

Cutoff (g AuEq/t)	**Tonnes**	**Grade** (g AuEq/t)	**Ounces Gold Eq.**	**Grade** (g Au/t)	**Ounces Gold**	**Grade** (g Ag/t)	**Ounces Silver**
0.34	16,992,000	0.85	464,000	0.49	266,000	24.24	13,242,000
0.48	11,316,000	1.08	394,000	0.70	253,000	25.99	9,455,000
0.55	9,669,000	1.18	368,000	0.78	243,000	26.85	8,345,000
0.62	8,217,000	1.29	341,000	0.88	232,000	27.87	7,364,000
0.69	6,957,000	1.41	316,000	0.98	219,000	28.80	6,442,000
1.03	3,466,000	2.01	224,000	1.47	164,000	36.41	4,058,000
1.10	3,067,000	2.14	211,000	1.57	155,000	38.13	3,760,000
1.23	2,427,000	2.40	187,000	1.78	139,000	41.41	3,231,000
1.37	1,985,000	2.65	169,000	1.99	127,000	44.22	2,822,000
2.06	985,000	3.69	117,000	2.87	91,000	55.25	1,750,000
2.74	559,000	4.73	85,000	3.73	67,000	67.46	1,212,000
3.43	356,000	5.69	65,000	4.46	51,000	83.00	949,000

1. The metric units are direct conversions of the Imperial units above, and so may not balance due to rounding.

Table 17.8 Zaca Gold and Silver Resources – Measured and Indicated

Imperial Units

Measured & Indicated Resources

Cutoff (oz AuEq/ton)	Tons	Grade (oz AuEq/ton)	Ounces Gold Eq.	Grade (oz Au/ton)	Ounces Gold	Grade (oz Ag/ton)	Ounces Silver
0.010	26,827,000	0.026	700,000	0.016	417,000	0.706	18,942,000
0.014	19,061,000	0.032	613,000	0.021	398,000	0.757	14,422,000
0.016	16,511,000	0.035	576,000	0.023	382,000	0.785	12,969,000
0.018	14,202,000	0.038	538,000	0.026	365,000	0.818	11,613,000
0.020	12,146,000	0.041	500,000	0.028	345,000	0.851	10,341,000
0.030	6,160,000	0.058	357,000	0.042	257,000	1.096	6,752,000
0.032	5,454,000	0.062	336,000	0.045	243,000	1.149	6,264,000
0.036	4,328,000	0.069	298,000	0.050	218,000	1.251	5,414,000
0.040	3,546,000	0.076	269,000	0.056	199,000	1.338	4,743,000
0.060	1,769,000	0.105	185,000	0.080	141,000	1.685	2,981,000
0.080	997,000	0.132	132,000	0.101	101,000	2.100	2,094,000
0.100	575,000	0.165	95,000	0.125	72,000	2.683	1,543,000

Metric Units [1]

Measured & Indicated Resources

Cutoff (g AuEq/t)	Tonnes	Grade (g AuEq/t)	Ounces Gold Eq.	Grade (g Au/t)	Ounces Gold	Grade (g Ag/t)	Ounces Silver
0.34	24,337,000	0.89	700,000	0.53	417,000	24.21	18,942,000
0.48	17,292,000	1.10	613,000	0.72	398,000	25.94	14,422,000
0.55	14,979,000	1.20	576,000	0.79	382,000	26.93	12,969,000
0.62	12,884,000	1.30	538,000	0.88	365,000	28.04	11,613,000
0.69	11,019,000	1.41	500,000	0.97	345,000	29.19	10,341,000
1.03	5,588,000	1.99	357,000	1.43	257,000	37.58	6,752,000
1.10	4,948,000	2.11	336,000	1.53	243,000	39.38	6,264,000
1.23	3,926,000	2.36	298,000	1.73	218,000	42.89	5,414,000
1.37	3,217,000	2.60	269,000	1.92	199,000	45.86	4,743,000
2.06	1,605,000	3.59	185,000	2.73	141,000	57.78	2,981,000
2.74	904,000	4.54	132,000	3.47	101,000	72.01	2,094,000
3.43	522,000	5.66	95,000	4.29	72,000	92.00	1,543,000

1. The metric units are direct conversions of the Imperial units above, and so may not balance due to rounding.

Table 17.9 Zaca Gold and Silver Resources – Inferred

Imperial Units

Inferred Resources

Cutoff (oz AuEq/ton)	**Tons**	**Grade** (oz AuEq/ton)	**Ounces Gold Eq.**	**Grade** (oz Au/ton)	**Ounces Gold**	**Grade** (oz Ag/ton)	**Ounces Silver**
0.010	329,000	0.033	11,000	0.018	6,000	1.033	340,000
0.014	157,000	0.057	9,000	0.038	6,000	1.363	214,000
0.016	112,000	0.080	9,000	0.054	6,000	1.509	169,000
0.018	105,000	0.076	8,000	0.057	6,000	1.562	164,000
0.020	69,000	0.116	8,000	0.087	6,000	1.725	119,000
0.030	55,000	0.127	7,000	0.109	6,000	1.909	105,000
0.032	55,000	0.127	7,000	0.109	6,000	1.909	105,000
0.036	54,000	0.130	7,000	0.111	6,000	1.926	104,000
0.040	54,000	0.130	7,000	0.111	6,000	1.926	104,000
0.060	44,000	0.159	7,000	0.114	5,000	2.273	100,000
0.080	43,000	0.163	7,000	0.116	5,000	2.279	98,000
0.100	34,000	0.176	6,000	0.147	5,000	2.676	91,000

Metric Units [1]

Inferred Resources

Cutoff (g AuEq/t)	**Tonnes**	**Grade** (g AuEq/t)	**Ounces Gold Eq.**	**Grade** (g Au/t)	**Ounces Gold**	**Grade** (g Ag/t)	**Ounces Silver**
0.34	298,000	1.15	11,000	0.63	6,000	35.43	340,000
0.48	142,000	1.97	9,000	1.31	6,000	46.73	214,000
0.55	102,000	2.76	9,000	1.84	6,000	51.73	169,000
0.62	95,000	2.61	8,000	1.96	6,000	53.55	164,000
0.69	63,000	3.98	8,000	2.98	6,000	59.13	119,000
1.03	50,000	4.36	7,000	3.74	6,000	65.45	105,000
1.10	50,000	4.36	7,000	3.74	6,000	65.45	105,000
1.23	49,000	4.44	7,000	3.81	6,000	66.03	104,000
1.37	49,000	4.44	7,000	3.81	6,000	66.03	104,000
2.06	40,000	5.45	7,000	3.90	5,000	77.92	100,000
2.74	39,000	5.58	7,000	3.99	5,000	78.14	98,000
3.43	31,000	6.05	6,000	5.04	5,000	91.76	91,000

1. The metric units are direct conversions of the Imperial units above, and so may not balance due to rounding.

The potential development of the Zaca resources may be impacted by environmental/permitting factors. The project is located on a California Scenic Highway, so visibility is a significant issue. In addition, California law currently requires backfilling of open pits. Enviroscientists, Inc. is of the opinion that although the Zaca deposit can legally be permitted as an open pit mine and heap leaching operation, the outcome of the permitting process is uncertain (personal communication, 2004). See Section 4.5 for a further discussion of this issue. MDA is unaware of any further unusual title, taxation, marketing, or other such factors that may impact the potential development of Zaca.

17.9 Validation

Validation of this model was done by comparing:

- Cross sectional interpreted zone volumes with bench plan interpreted zone volumes,
- Total ounces from a cross sectional pseudo polygonal model to the final model,
- The final accepted model to a nearest neighbor and inverse distance model,
- Grade distributions of composites and the model, and
- Reviewing the block grades to the composite grades.

The most noteworthy difference in these comparisons was the rather radical loss in volume of the highest grade zones when going from section to plan. This was expected as the highest grade zones are rather restricted volumetrically; where the sectional volumes extended half the distance to the next section, the level plans pinched these zones before reaching midway to the next section and in some cases, depending upon the thickness of the zone, well before reaching the midpoint to the next section.

17.10 Qualifications

During a review of the Zaca deposit data and resource modeling, MDA noted several issues that should be addressed in all future estimates and prior to production. Any changes that might occur from modifying these suggested parameters and data will not have a significant impact on total resources but will affect the ability to better predict and make the model more precise. The issues that require additional study and review include:

Density: Additional density testing should be done in order to support the existing density being used. There is little historic data on which to base this study.

Stope volumes: While the stope volumes are reasonable compared to assumed production, they do not represent correct grades. The modeled extracted material has a mean grade of 0.035 oz Au/ton, well below real production grade. The extracted volume is over 50,000 tons, closer to the recorded production of +60,000 tons. Although historic mining unequivocally extracted higher grades from the stopes, there are insufficient sample data of this high-grade material from which to estimate the grades of the stope volumes.

Controls on mineralization: Presently the controls on mineralization are poorly understood and are represented by domains based principally on grade. While tons, grade and ounces might vary with a more detailed model, significant changes are not expected.

Rock Model Coding: It would be worthwhile to modify the geologic lithology model coding. Like many solid models, there are overlaps and underlaps in contacts, which causes miscoding of the lithology. In this case it is not material because it only affects the density data, and all density blocks are the same except for the alluvium/landslide, and only a few blocks were miscoded.

Review oxide and sulfide zones with respect to metallurgy: It may be worthwhile to investigate the effects of oxidation on the metallurgy, incorporate the oxide zoning to the model and then apply these to future economic studies.

18.0 OTHER RELAVANT DATA AND INFORMATION

MDA is not aware of any other relevant data or information.

19.0 INTERPRETATIONS AND CONCLUSIONS

MDA, through the reviews and compilations completed for this report, concludes that the Zaca project is a property of merit. Work completed both by WSMC/Zaca Resources and previous operators shows that the Zaca deposit is a significant gold and silver deposit. In addition to the Zaca deposit, the property covers a number of exploration targets that merit additional exploration.

19.1 Estimate

Due to the lack of understanding of the controls to the higher-grade mineralization within the Zaca deposit, some of the mineral domains may not accurately reflect the form or precise location of the higher-grade zones. Confident estimation of higher-grade zone geometries and locations will require additional work. Most, if not all, of the higher-grade mineralization lies within likely limits of an open pit and therefore any economic study would not be materially impacted by the possible mislocation of these higher grades zones. In spite of the inability to predict locations and geometries of the higher-grade zones with a high degree of confidence, the resources as presented in Section 17 are a fair representation of the global resources. The historic underground workings demonstrate both a spatial and geometric similarity with the outlines of the highest-grade domains, which adds confidence to the definition of the highest-grade gold zones.

19.2 Metallurgy

For material crushed to -1/4 inch the gold recovery should be 0.76 – (0.0032/Head Grade) expressed as a percent. This equation should be valid for material grading from 0.025 – 0.055 oz Au/ton, and possibly up to 0.070 oz Au/ton. Preliminary tests show that gold recoveries may be significantly improved through the use of a Barmac crusher or high-pressure grinding rolls (HPGR) that are more effective at liberating the mineralization. Additional tests, including a bulk sample test, would be necessary to confirm this.

For material crushed to -1/4 inch the silver recovery should be 0.51 – (0.0464/Head Grade) expressed as a percent. The silver recovery may be significantly lower where the higher-grade silver values (many oz/ton) are primarily due to silver sulphosalts, but additional testing on fresh samples would be necessary to determine what recovery should be expected. This potential problem may be compounded by the presence of manganese in the form of rhodochrosite and should be addressed prior to or as part of any feasibility study.

19.3 Economics

Historical pre-feasibility and feasibility studies on the Zaca deposit in the 1980s showed that at US$425/oz Au and US$12/oz Ag the deposit could be profitably mined, however a quick payback was not possible due to the geometry of the higher-grade mineralization (Dravo Engineers, 1984 and California Silver, 1986). The work completed by WSMC/Zaca Resources since that time has reduced some of the uncertainties with regard to the geometry of the deposit, but costs and the permitting regime have changed. At today's metal prices (approximately US$750/oz Au and US$13/oz Ag) the Zaca deposit merits a PEA to determine if the economics are sufficiently attractive to warrant investing in the permitting and completion of a pre-feasibility study.

A sufficient water supply for a mining operation has not yet been proven, and will need to be addressed as part of the feasibility study.

The most likely place for any mining facilities and waste rock at Zaca is in the Forest City Flat-Peter Pan target area. Consequently the Phase I exploration program should be completed in this area prior to completion of a pre-feasibility study, and any necessary condemnation drilling should be conducted as part of economic evaluations.

19.4 Exploration

There are areas within the Zaca project that are worthy of additional exploration. Of the targets discussed in Section 9.2, the Colorado Deep and Forest City Flat-Peter Pan targets have the most obvious untested potential and would be projects of merit on their own, even without being close to the Zaca deposit.

Due to its high grade, the Colorado Deep target warrants special consideration. The difficulty in evaluating this mineralization is that the target is deep and appears to be controlled by a steeply dipping contact, making it difficult to explore from the surface. If the target can be confirmed with additional drill intersections and geometries and grades infer the existence of a potentially economic deposit, an underground exploration program might be justified. Possible alternatives for confirming the target include directional drilling from the surface, drilling from the west workings of the Lower Advance, and possibly drilling from the western workings or an extension to them in the Upper Advance. Any drilling should attempt to cut the target at a high angle to the mineralization, and should be core drilling due to the need for structural information and the fact that the target is over 500 ft below the water table.

20.0 RECOMMENDATIONS

A two-pronged approach to the Zaca project should be made. On one hand, a Preliminary Economic Assessment (PEA) should be completed to determine if the Zaca project should proceed to permitting and feasibility level studies, and should include a thorough review of the permitting issues that will need to be resolved as part of a full feasibility study. The PEA may be done in-house, but should be reviewed and approved by independent qualified consultants. On the other hand, exploration in the region is justified.

Should the project proceed to the pre-feasibility study stage, the following work should be completed prior to or as a part of the study:

- The use of high-pressure grinding rolls or a Barmac crusher should be investigated to determine if recoveries can be increased, as higher production of fines is reportedly obtained by using this crushing equipment.
- The metallurgical characteristics of the high-grade portion of the silver resource (~100,000 tons grading ~8 oz Ag/ton) needs to be addressed due to potentially different mineralogy as compared with the bulk of the resource.

Prior to initiating mine planning and scheduling for an open pit, or consideration of underground mining the core should be relogged with the object being to determine if there are identifiable controls to the mineralization. If successful, the RC cuttings should then be reviewed in light of the new information to determine if they too should be relogged and the deposit remodeled. Relogging of drill core and cuttings from holes along the east side of the deposit should also be undertaken to better define the contacts between the rhyolite, pyroclastic breccia, and andesite. A new model incorporating additional geologic controls is unlikely to materially impact the global resource, but may have a significant effect on predicting the location of the mineralization and will add confidence to the estimate.

The data for the mineralized areas listed in Section 9.2 should be compiled and reviewed and, where any untested potential exists, an exploration program should be conducted. The locations of previous drilling in these areas should be verified on the ground with respect to the soil sample grid. The existing legal survey should be extended to all of the claims. The Forest City Flat-Peter Pan RC drilling portion of the Phase I recommendations should be completed prior to the PEA since this area is the most likely area for waste dumps and processing facilities for the Zaca deposit.

Fronteer should incorporate the following into its standard operating practices:

- All future core holes and any RC holes over 300 ft in length, except for those that are strictly exploratory, should have downhole surveys completed and documented as a matter of course.
- All future hole collars should be surveyed to an accuracy of +/-0.5 ft, and the survey should be documented.
- A written QA/QC program should be developed and adopted. At a minimum it should include sampling protocols, sample custody procedures and documentation, and check assaying

protocols and reporting. The check assays should be incorporated into the drill-hole database and used in future resources and/or reserve calculations.

Table 20.1 summarizes the costs associated with a recommended Phase I work program, including the PEA for the Zaca deposit and exploration of the various target areas.

Table 20.1 Recommendations Cost Estimate – Phase I

Zaca Deposit		
In-house Preliminary Economic Assessment	150,000	
External Preliminary Economic Assessment review	40,000	
Contingencies	20,000	
Subtotal Zaca Deposit		$210,000
Exploration		
Compile all target area data and plan exploration program	$10,000	
Additional mapping, infill sampling, database verification in target areas, ground acquisition (allowance)	45,000	
Legal survey	50,000	
Obtain permits for drilling	10,000	
Forest City Flat-Peter Pan RC drilling: 5,000 ft @ $25/ft (includes site prep, drilling, assaying, geologist, reclamation)	125,000	
Colorado Deep drilling	550,000	
Property maintenance: 1.5 years	75,000	
Compilation of results and reporting	30,000	
Contingencies	90,000	
Subtotal Exploration		$985,000
Total Phase I		**$1,195,000**

Should the Phase I PEA show that placing the Zaca deposit into production is economically attractive, then pre-feasibility and baseline environmental studies to support the permitting process for the planned operation would be warranted as the Phase II work program. The pre-feasibility study, including establishing that there is a sufficient water supply for the operation, could cost up to approximately $750,000. The additional cost of the necessary permitting activities cannot be predicted with certainty, but it is likely to be in excess of the approximate one-million dollars that it cost in the 1980s.

Should the Phase I exploration program be successful, additional exploration drilling will be warranted as part of the Phase II work. Success is defined as drill intersections that have grades and widths of mineralization that could be economic taking into account the geometry and location of an inferred deposit. Up to one and one-quarter million dollars may be justified as the Phase II exploration program.

The two programs, development of the Zaca deposit and the exploration program, are independent. It is possible to proceed to Phase II of either program regardless of the results of Phase I of the other program.

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22.0 DATE AND SIGNATURE PAGE

Effective Date of report:	November 1, 2007
Completion Date of report:	November 1, 2007

	November 1, 2007
"Steven Ristorcelli"	Date Signed
Steven Ristorcelli, P. Geo.	

	November 1, 2007
"David J. Griffith"	Date Signed
David Griffith	

23.0 CERTIFICATE OF AUTHORS

I, David J. Griffith, do hereby certify that:

1. I am currently a geologist with Y3K Exploration Company, LLC, with offices at 305 Carson View, Markleeville, CA, 96120, USA and an associate of Mine Development Associates with offices at 210 South Rock Blvd, Reno, NV, 89502, USA.

2. I graduated with a Bachelor of Arts degree in English (B.A.), from Queen's University at Kingston in 1970 and a Bachelor of Science (B.Sc., Hon.) degree in Geology from the University of British Columbia in 1973.

3. I am a Registered Professional Geoscientist (P.Geo) with the Association of Professional Engineers and Geoscientist of British Columbia in good standing, and my registration number is 18487. I am a Registered Geologist with the State of California in good standing and my license number is 5778.

4. I am a member in good standing of the Society of Economic Geologists, the Society of Exploration Geochemists, the Society of Mining Engineers, the Geological Society of Nevada and the Prospectors and Developers Association of Canada.

5. I have worked as a geologist in mining exploration and development for over 30 years.

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

7. With the exception of Section 17, Mineral Resource Estimate, I am responsible for the preparation of the technical report titled *Updated Technical Report, Zaca Project, Alpine County, California, USA* and dated November 1, 2007 (the "Technical Report") relating to the Zaca project. I spent hundreds of days working on the project site for previous owners during the period 1980 to 1989.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I am independent of the issuer applying all of the tests in Section 1.4 of National Instrument 43-101.

10. Between 1981 and 1990 I was Vice President of Exploration for Centurion Gold Ltd. and its predecessor companies including California Silver Ltd. and Baker Resources Ltd. and their US subsidiaries that previously owned parts of the Zaca project. Since 1990 I have had no interest, neither direct nor indirect, in those companies.

11. 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.

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

13. 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.

Dated this 1st day of November 2007.

"David J. Griffith"
Signature of Qualified Person

David J. Griffith
Print Name of Qualified Person

I, Steven Ristorcelli, P. Geo., 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, and a member of the Geological Society of Nevada, Society for Mining, Metallurgy, and Exploration, Inc., and Prospectors and Developers Association of Canada.

4. I have worked as a geologist for a total of 28 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 was responsible for Section 17, Mineral Resource Estimate, of the report titled *Updated Technical Report, Zaca Project, Alpine County, California, USA* and dated November 1, 2007 (the "Technical Report") relating to the Zaca project. I spent hundreds of days working on the project site for previous owners during the period 1986 to 1989.

7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

8. I am independent of the issuer applying all of the tests in Section 1.4 of National Instrument 43-101.

9. 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.

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

11. 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.

Dated this 1st day of November 2007.

"Steven Ristorcelli"
Signature of Qualified Person

Steven Ristorcelli
Print Name of Qualified Person

APPENDIX A

UNPATENTED LODE MINING CLAIMS

BLM CAMC#	Claim Name	Book	Page	TWP	RGE	SEC	MER
67170	MM 2	6	144	10N	21E	10	MDB&M
67172	MM 4	6	146	10N	21E	10	MDB&M
67174	MM 6	6	148	10N	21E	10	MDB&M
67176	MM 8	6	150	10N	21E	19	MDB&M
67178	MM 10	6	152	10N	21E	19	MDB&M
67180	MM 12	6	154	10N	21E	19	MDB&M
67182	MM 14	6	156	10N	21E	19	MDB&M
67197	MM 36	6	171	10N	21E	20	MDB&M
67199	MM 38	6	173	10N	21E	20	MDB&M
67201	MM 40	6	175	10N	21E	20	MDB&M
67203	MM 42	6	177	10N	21E	29	MDB&M
67205	MM 44	6	179	10N	21E	29	MDB&M
67206	MM 45	6	180	10N	21E	29	MDB&M
67207	MM 46	6	181	10N	21E	29	MDB&M
67208	MM 47	6	182	10N	21E	29	MDB&M
67209	MM 48	6	183	10N	21E	29	MDB&M
67210	MM 49	6	184	10N	21E	29	MDB&M
67211	MM 50	6	185	10N	21E	30	MDB&M
67212	MM 51	6	186	10N	21E	30	MDB&M
69640	MM 69	6	337	10N	21E	29	MDB&M
69641	MM 70	6	339	10N	21E	29	MDB&M
67213	MM 72	6	187	10N	21E	30	MDB&M
67214	MM 73	6	188	10N	21E	30	MDB&M
97421	MM 116	7	527	10N	21E	17	MDB&M
51982	ARDIS 9	7	334	10N	21E	29	MDB&M

BLM CAMC#	Claim Name	Book	Page	TWP	RGE	SEC	MER
51983	ARDIS 10	7	331	10N	21E	29	MDB&M
51984	ARDIS 11	7	389	10N	21E	30	MDB&M
23640	APEX	7	579	10N	21E	32	MDB&M
		F	9				
23641	ALBION	7	583	10N	21E	32	MDB&M
		F	7				
23642	HERCULES	7	581	10N	21E	31	MDB&M
		F	10				
23643	MARION	7	586	10N	21E	31	MDB&M
		F	336				
23644	ZACA NO. 2	7	592	10N	21E	31	MDB&M
		H	25				
23645	McCANN	7	577	10N	21E	31	MDB&M
		E	19				
23646	ESMERALDA	7	587	10N	21E	31	MDB&M
		F	336				
23647	TRIUMPH	7	575	10N	21E	32	MDB&M
		E	21				
23648	HIDDEN TREASURE	7	594	10N	21E	31	MDB&M
		D	541				
23649	SOUTH ADVANCE NO. 1	7	485	10N	21E	31	MDB&M
		G	359				
24081	HAPPY THOUGHT	7	537	10N	21E	31	MDB&M
		G	290				
24082	HAPPY THOUGHT NO. 1	7	627	10N	21E	31	MDB&M
		G	291				
24083	HAPPY THOUGHT NO. 2	7	623	10N	21E	31	MDB&M
		G	291				
28451	PETER PAN	7	543	10N	21E	30	MDB&M
		1	452				
28452	SILVER DOLLAR	7	625	10N	21E	30	MDB&M
		1	544				

BLM CAMC#	Claim Name	Book	Page	TWP	RGE	SEC	MER
28457	WINTERTIME	7	487	10N	21E	31	MDB&M
		1	67				
28458	ROBBIE #1	7	479	10N	21E	31	MDB&M
		1	67				
28459	EMMA #1	7	475	10N	21E	31	MDB&M
		1	80				
28460	EMMA #2	7	477	10N	21E	31	MDB&M
		1	78				
28461	EMMA #3	7	483	10N	21E	31	MDB&M
		1	82				
66252	MARGARET #1	6	194	10N	21E	30	MDB&M
71919	MONDAY	8	389	10N	21E	31	MDB&M
		7	9				
116861	RED GAP #5	8	125	10N	21E	32	MDB&M
66938	LOOPE #15	6	18	9N	21E	5	MDB&M
66939	LOOPE #16	6	90	9N	21E	5	MDB&M
66941	LOOPE #18	6	91	9N	21E	5	MDB&M
66942	LOOPE #19	6	20	9N	21E	6	MDB&M
66943	LOOPE #20	6	92	9N	21E	6	MDB&M
66944	LOOPE #21	6	21	9N	21E	6	MDB&M
66945	LOOPE #22	6	93	9N	21E	6	MDB&M
66959	LOOPE #37	6	29	10N	21E	31	MDB&M
66960	LOOPE #38	6	30	10N	21E	31	MDB&M
66961	LOOPE #39	6	31	10N	21E	31	MDB&M
66962	LOOPE #40	6	32	10N	21E	31	MDB&M
66963	LOOPE #41	6	33	10N	21E	31	MDB&M
66964	LOOPE #42	6	34	10N	21E	31	MDB&M
66965	LOOPE #43	6	35	10N	21E	31	MDB&M
66966	LOOPE #44	6	36	10N	21E	32	MDB&M
66968	LOOPE #47	6	38	10N	21E	31	MDB&M
66969	LOOPE #48	6	39	10N	21E	31	MDB&M
66970	LOOPE #49	6	40	10N	21E	30	MDB&M
66971	LOOPE #50	6	41	10N	21E	30	MDB&M
66978	LOOPE #57	6	101	10N	21E	30	MDB&M
66979	LOOPE #58	6	48	10N	21E	30	MDB&M

BLM CAMC#	Claim Name	Book	Page	TWP	RGE	SEC	MER
66990	LOOPE #69	6	54	10N	21E	30	MDB&M
148465	LOOPE #108	9	1	10N	21E	32	MDB&M
148467	LOOPE #110	9	7	10N	21E	32	MDB&M
148469	LOOPE #112	9	11	10N	21E	32	MDB&M
148473	LOOPE #116	9	19	10N	21E	32	MDB&M
148475	LOOPE #118	9	23	10N	21E	32	MDB&M
148476	LOOPE #120	9	25	10N	21E	32	MDB&M
148477	LOOPE #121	9	27	10N	21E	32	MDB&M
148478	LOOPE #122	9	29	10N	21E	31	MDB&M
148479	LOOPE #123	9	31	10N	21E	31	MDB&M
148480	LOOPE #124	9	33	10N	21E	30	MDB&M
148481	LOOPE #126	9	35	10N	21E	30	MDB&M
148482	LOOPE #128	9	37	10N	21E	30	MDB&M
148483	LOOPE #130	9	39	10N	21E	29	MDB&M
148484	LOOPE #131	9	41	10N	21E	29	MDB&M
148485	LOOPE #132	9	43	10N	21E	29	MDB&M
148486	LOOPE #133	9	45	10N	21E	29	MDB&M
197320	LOOPE #157	12	218	10N	21E	30	MDB&M
197949	LOOPE #161	12	234	10N	21E	31	MDB&M
185588	LOOPE #260	10	362	10N	21E	30	MDB&M
185590	LOOPE #262	10	364	10N	21E	30	MDB&M
197319	LOOPE #270	12	216	10N	21E	30	MDB&M
28454	RED GAP NO. 1	1	187	10N	21E	32	MDB&M
28455	RED GAP NO. 2	1	189	9N	21E	5	MDB&M
28456	RED GAP ANNEX	1	519	10N	21E	32	MDB&M
260081	CHARLIE	14	99	10N	21E	29	MDB&M

BLM CAMC#	Claim Name	Book	Page	TWP	RGE	SEC	MER
269292	DON 4	14	284	9N	21E	6	MDB&M
269289	RED GAP	14	281	9N	21E	5	MDB&M
269290	LOOPE 17	14	282	9N	21E	5	MDB&M
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282834	AM-3	15	90	10N	21E	20	MDB&M
282835	AM-4	15	91	10N	21E	20	MDB&M
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282837	AM-6	15	93	10N	21E	20	MDB&M
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282839	AM-8	15	95	10N	21E	20	MDB&M
282840	AM-9	15	96	10N	21E	20	MDB&M
282841	AM-10	15	97	10N	21E	20	MDB&M
282842	AM-11	15	98	10N	21E	20	MDB&M
282843	AM-12	15	99	10N	21E	20	MDB&M
282844	AM-13	15	100	10N	21E	20	MDB&M
282845	AM-14	15	101	10N	21E	29	MDB&M
282846	AM-15	15	102	10N	21E	29	MDB&M
282847	AM-16	15	103	10N	21E	29	MDB&M
282848	AM-17	15	104	10N	21E	29	MDB&M
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282850	AM-19	15	106	10N	21E	20	MDB&M
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282853	AM-22	15	109	10N	21E	20	MDB&M
282854	AM-23	15	110	10N	21E	20	MDB&M
282855	AM-24	15	111	10N	21E	21	MDB&M
282856	AM-25	15	112	10N	21E	21	MDB&M
282857	AM-26	15	113	10N	21E	21	MDB&M
282858	AM-27	15	114	10N	21E	21	MDB&M
282859	AM-28	15	115	10N	21E	21	MDB&M
282860	AM-29	15	116	10N	21E	21	MDB&M
282861	AM-30	15	117	10N	21E	21	MDB&M
282865	AM-34	15	121	10N	21E	21	MDB&M
282866	AM-35	15	122	10N	21E	21	MDB&M
282867	AM-36	15	123	10N	21E	21	MDB&M
282868	AM-37	15	124	10N	21E	21	MDB&M

BLM CAMC#	Claim Name	Book	Page	TWP	RGE	SEC	MER
282869	AM-38	15	125	10N	21E	21	MDB&M
282873	AM-42	15	129	10N	21E	19	MDB&M
282874	AM-43	15	130	10N	21E	20	MDB&M
282875	AM-44	15	131	10N	21E	20	MDB&M
282876	AM-45	15	132	10N	21E	20	MDB&M
282877	AM-46	15	133	10N	21E	20	MDB&M
282878	AM-47	15	134	10N	20E	25	MDB&M
				10N	21E	30	MDB&M
282879	AM-48	15	135	10N	20E	24,25	MDB&M
				10N	21E	30	MDB&M
282880	AM-49	15	136	10N	20E	24,25	MDB&M
				10N	21E	19,30	MDB&M
282881	AM-50	15	137	10N	20E	24	MDB&M
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282882	AM-51	15	138	10N	20E	24	MDB&M
				10N	21E	19	MDB&M
282883	AM-52	15	139	10N	20E	25	MDB&M
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282884	AM-53	15	140	10N	20E	25	MDB&M
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282885	AM-54	15	141	10N	20E	25	MDB&M
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282886	AM-55	15	142	10N	20E	25	MDB&M
				10N	21E	30	MDB&M
282887	AM-56	15	143	10N	21E	30	MDB&M
282888	AM-57	15	144	10N	21E	30	MDB&M
282889	AM-58	15	145	10N	21E	30	MDB&M
282890	AM-59	15	146	10N	21E	19	MDB&M
282891	AM-60	15	147	10N	21E	19	MDB&M
282892	AM-61	15	148	10N	20E	25	MDB&M
				10N	21E	30,31	MDB&M
282893	AM-62	15	149	10N	21E	30	MDB&M
282894	AM-63	15	150	10N	21E	30	MDB&M
282895	AM-64	15	151	10N	21E	30	MDB&M
282896	AM-65	15	152	10N	21E	30	MDB&M
282897	AM-66	15	153	10N	21E	30	MDB&M
282898	AM-67	15	154	10N	21E	30	MDB&M
282899	AM-68	15	155	10N	21E	19	MDB&M
282900	AM-69	15	156	10N	21E	19	MDB&M
282901	AM-70	15	157	10N	21E	19	MDB&M

BLM CAMC#	Claim Name	Book	Page	TWP	RGE	SEC	MER
283236	NA-1	15	158	10N	21E	31,32	MDB&M
283237	NA-2	15	159	10N	21E	32	MDB&M
283959	Z1	15	166	10N	21E	30	MDB&M
283956	Z2	15	167	10N	21E	30	MDB&M
283957	Z3	15	168	10N	21E	30	MDB&M
283958	Z4	15	169	10N	21E	30	MDB&M
283960	Z5	15	170	10N	21E	30,31	MDB&M
283961	Z6	15	171	10N	21E	31	MDB&M
283962	Z7	15	172	10N	21E	31	MDB&M
283963	Z8	15	173	10N	21E	31	MDB&M
				9N	21E	6	MDB&M
283964	Z9	15	174	9N	21E	6	MDB&M
283965	Z10	15	175	10N	21E	30	MDB&M
283966	Z11	15	176	10N	21E	30	MDB&M
				9N	21E	6	MDB&M

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APPENDIX B

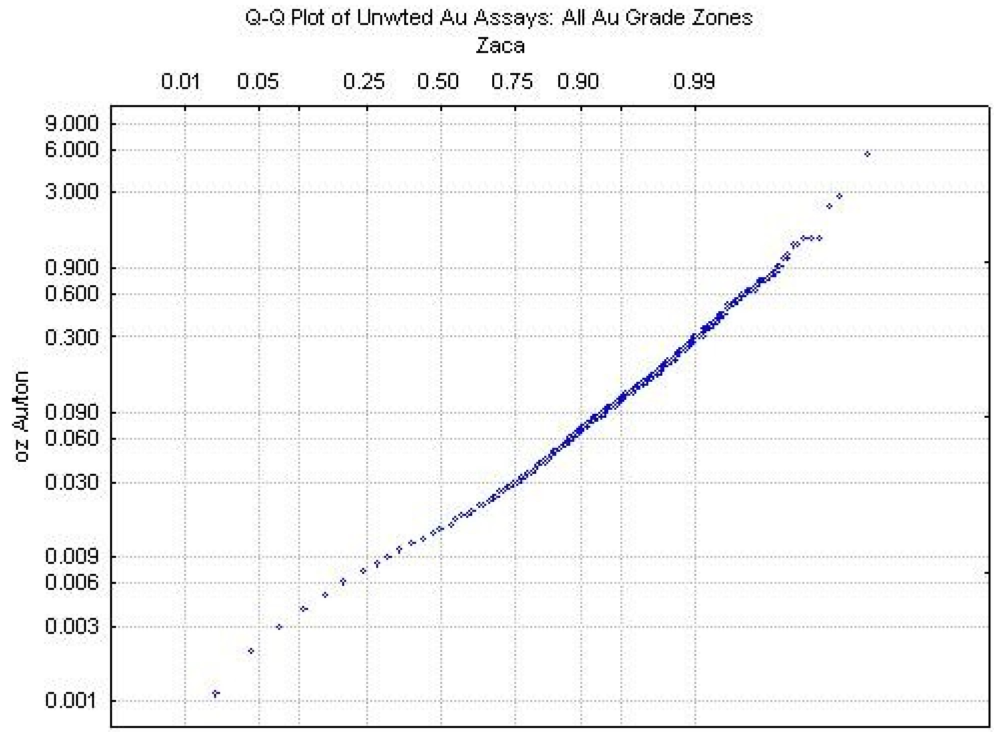
PATENTED MINING CLAIMS

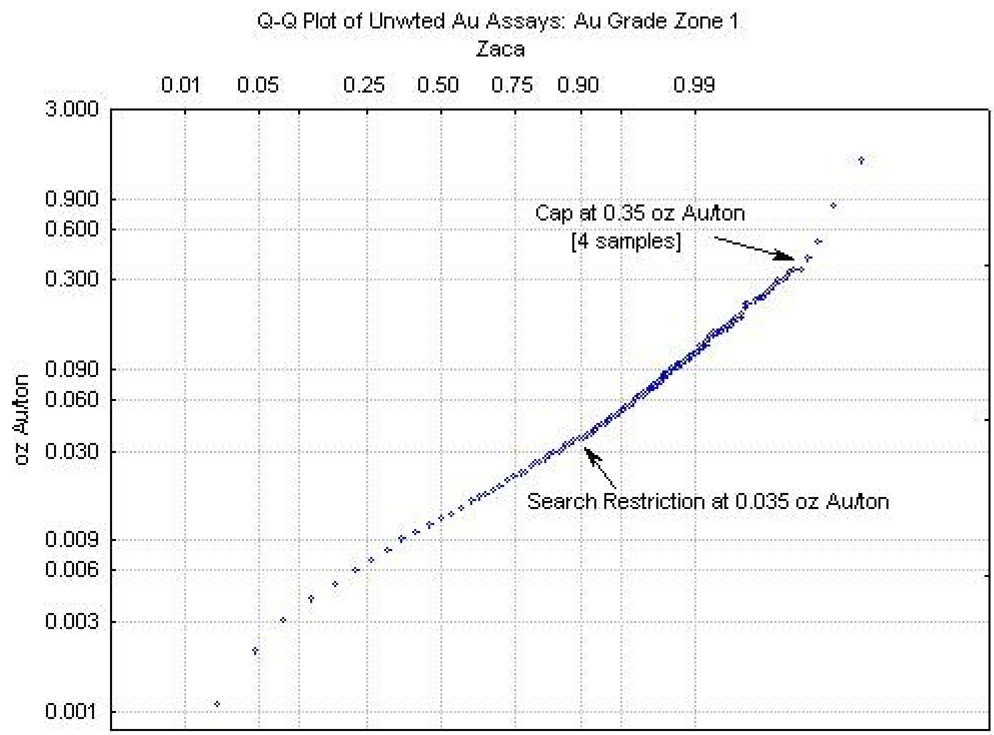
Name	Lot	T.R.	Acres	Assessor's Parcel No.
Flint Silver Mine	53 37	T9N R21E T10N R21E	112.77	003-070-0010
Colorado No. 2 Mine	58A	T10N R21E	13.77	003-080-0010
Colorado Mill Site	58B	T10N R21E	2.23	003-080-0020
Globe	56, 57, 74, 75, 76, 77	T9N R21E T10N R21E	25.10	003-080-0030

Appendix C

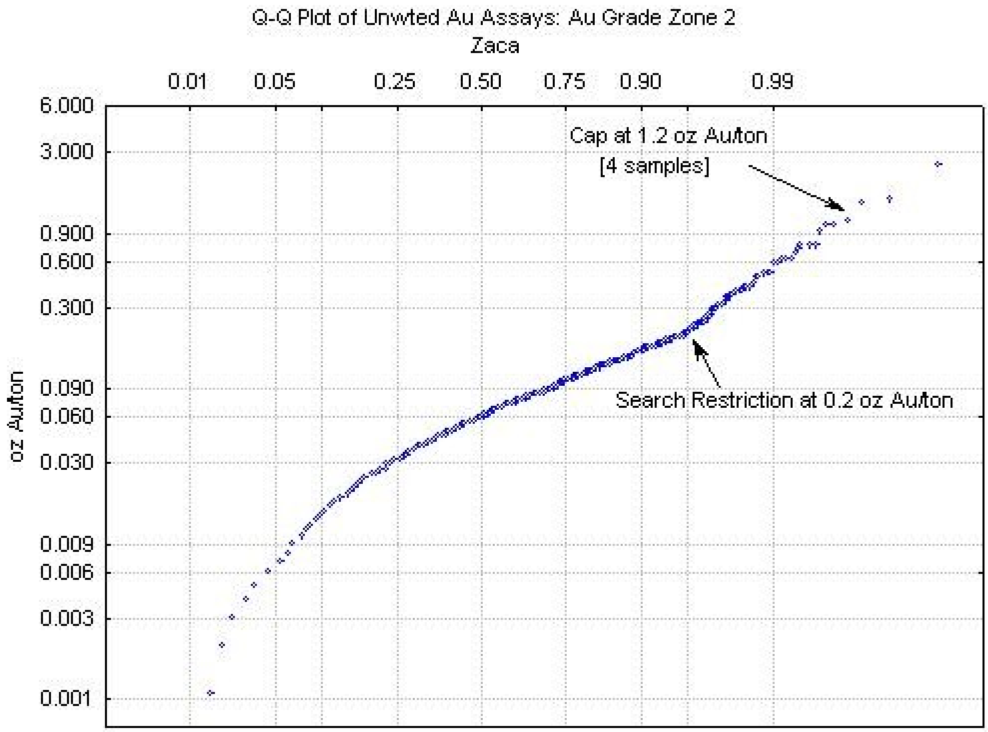
QQ Plots and Detailed Statistics by Domain and Metal

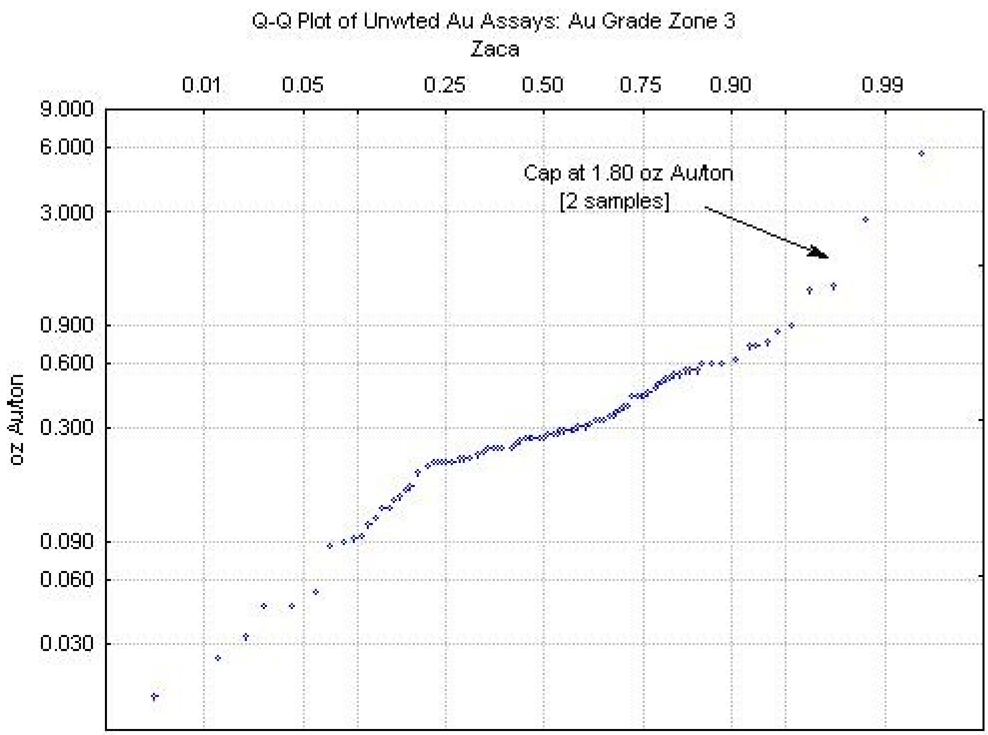
Gold Sample Data by Grade Domain



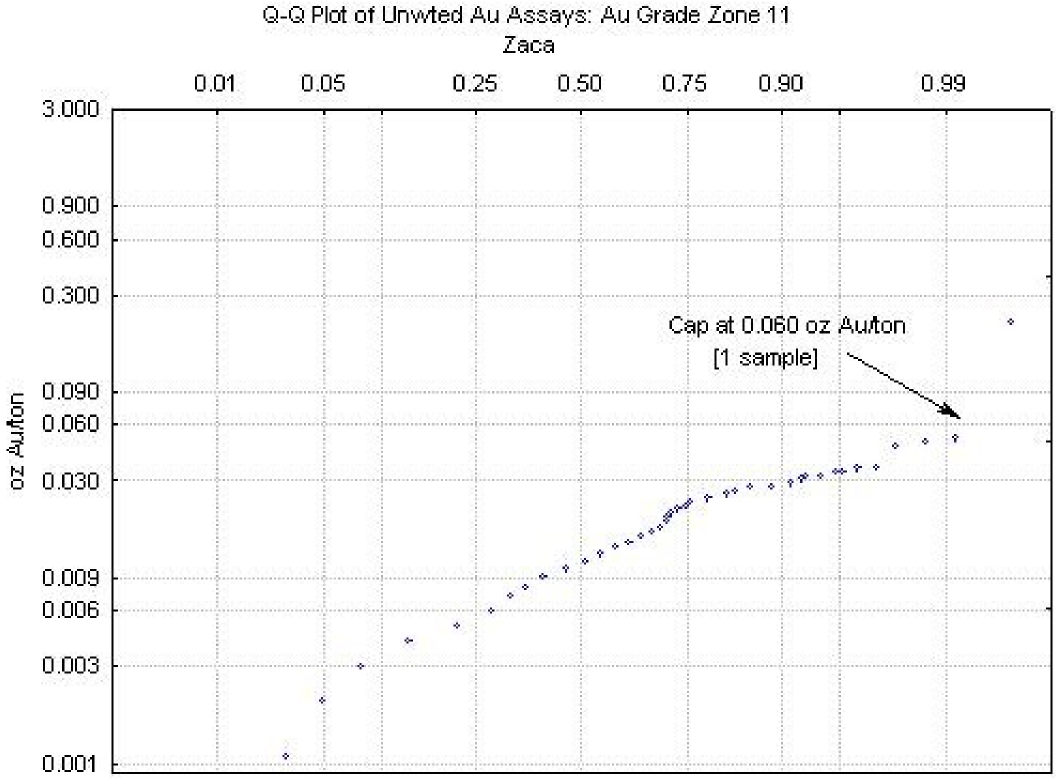


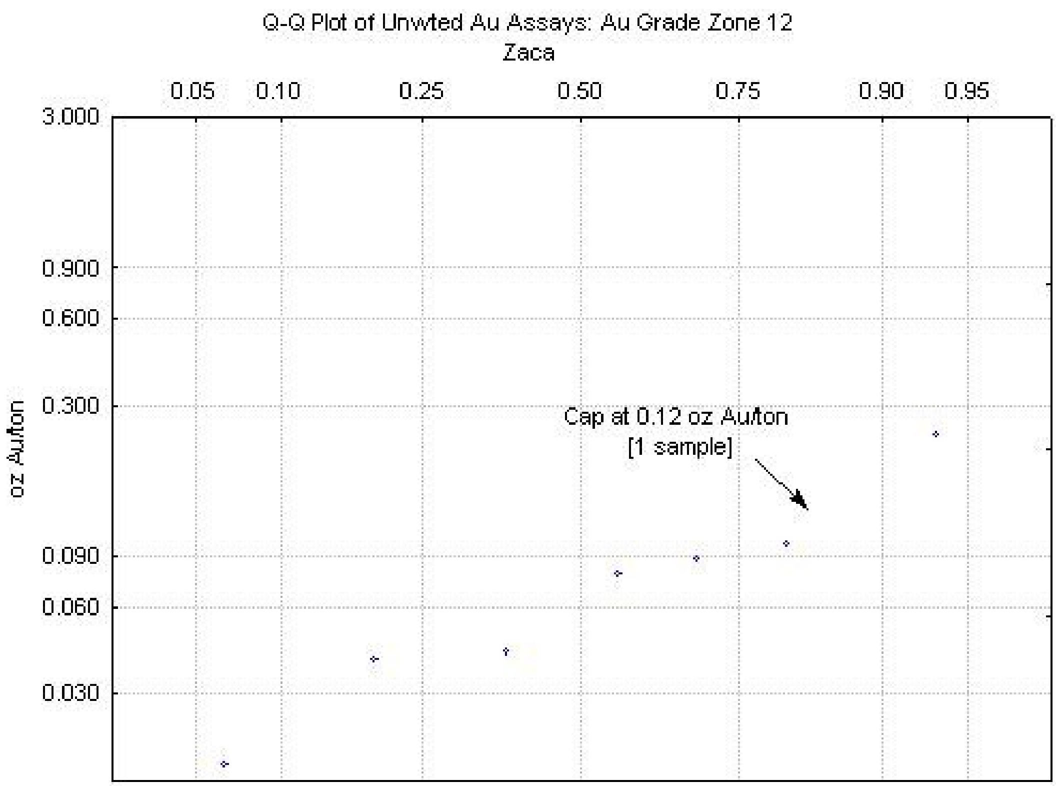
Gold Sample Data by Grade Domain (cont'd)



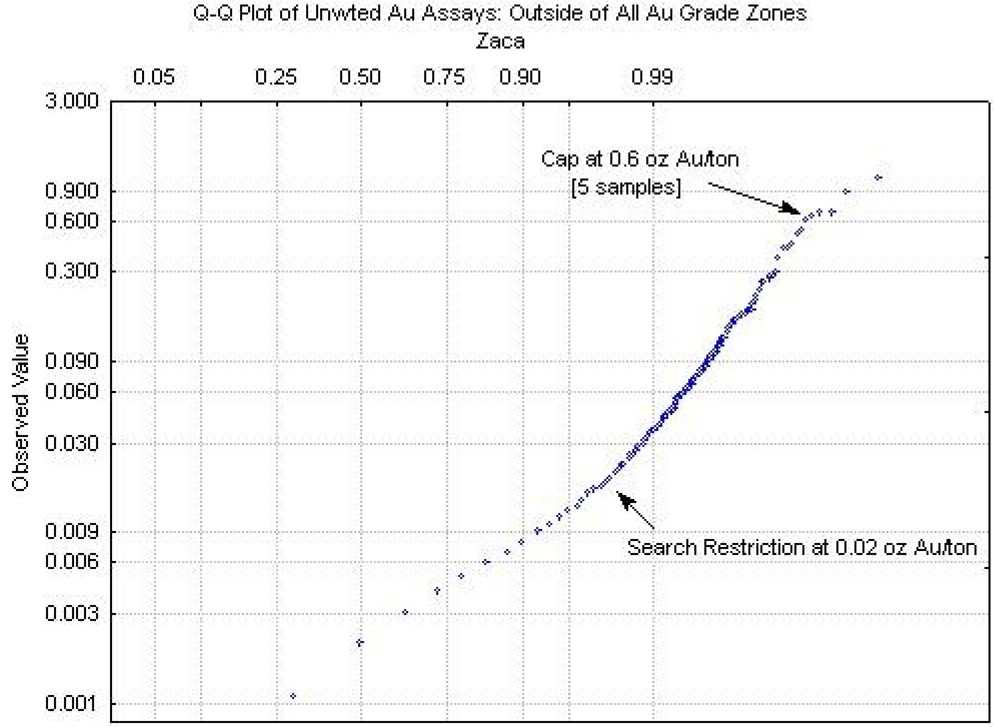


Gold Sample Data by Grade Domain (cont'd)

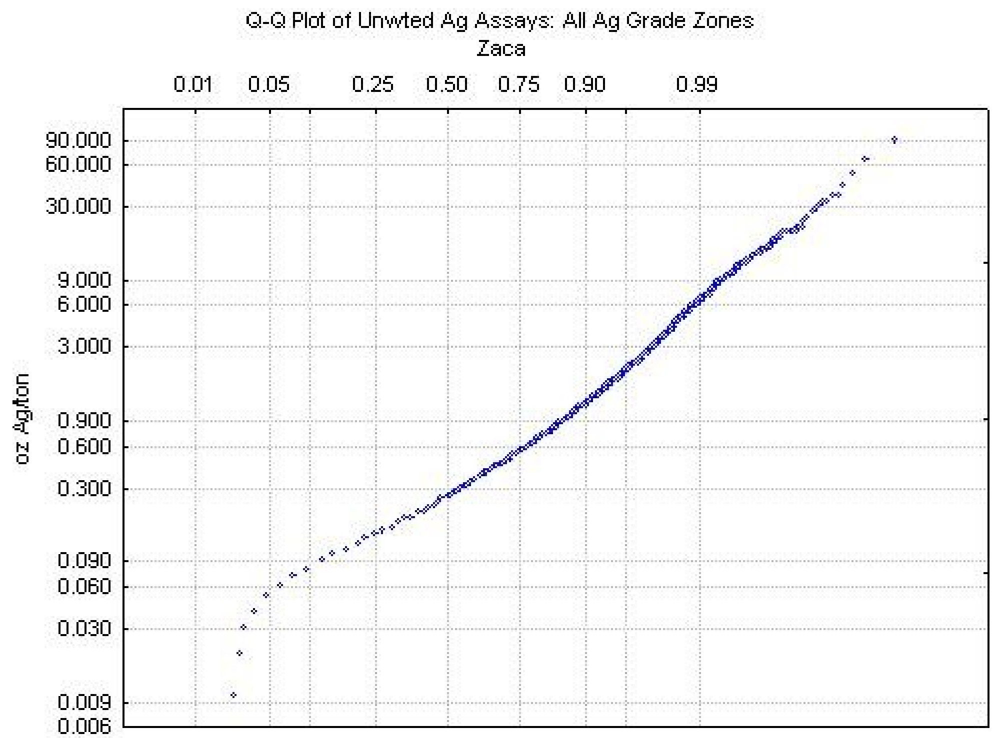




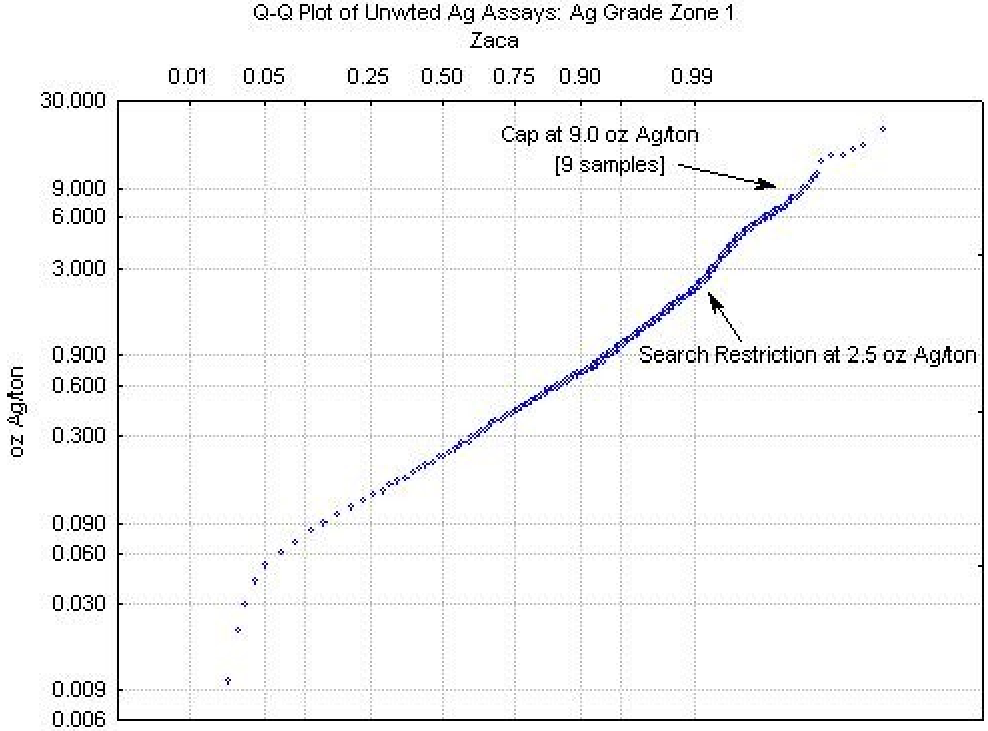
Gold Sample Data by Grade Domain (cont'd)

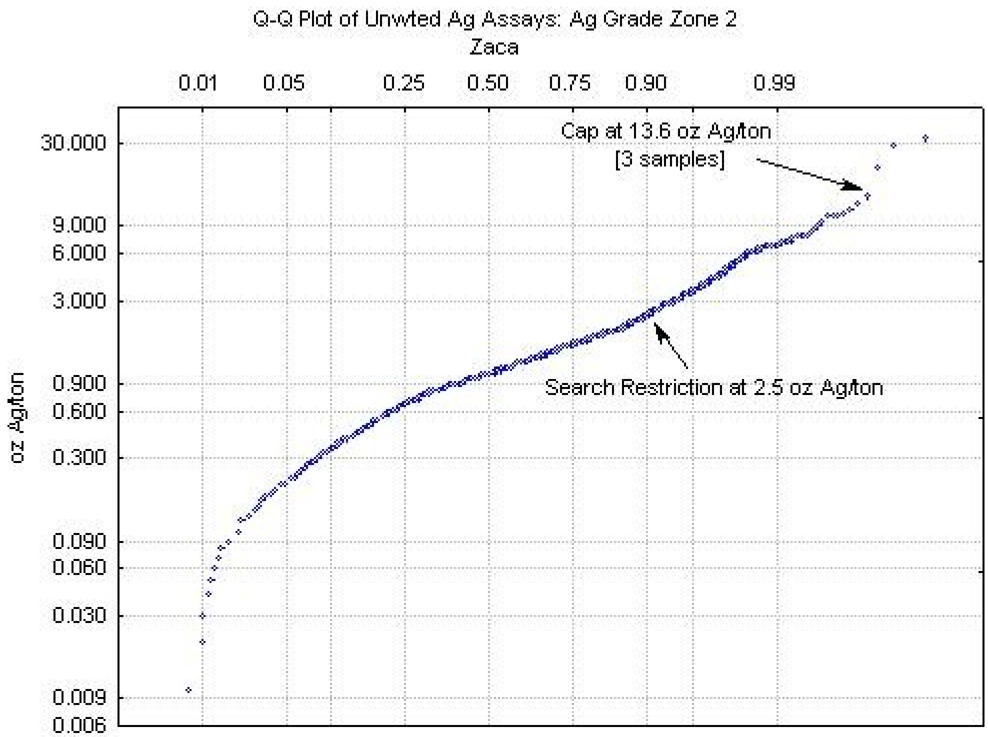


Silver Sample Data by Grade Domain

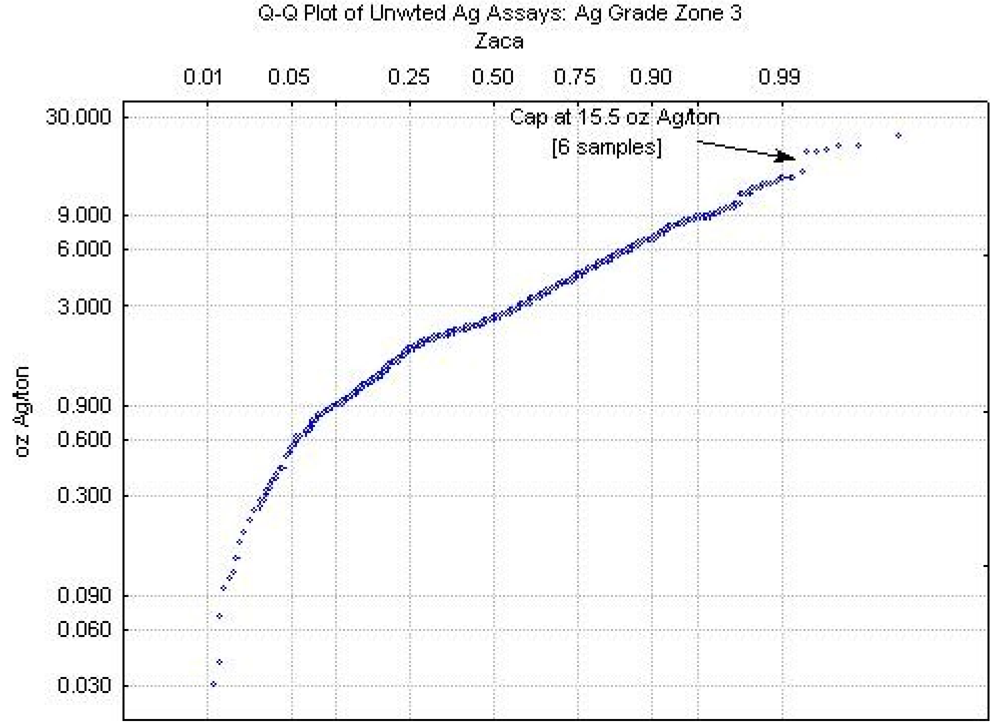


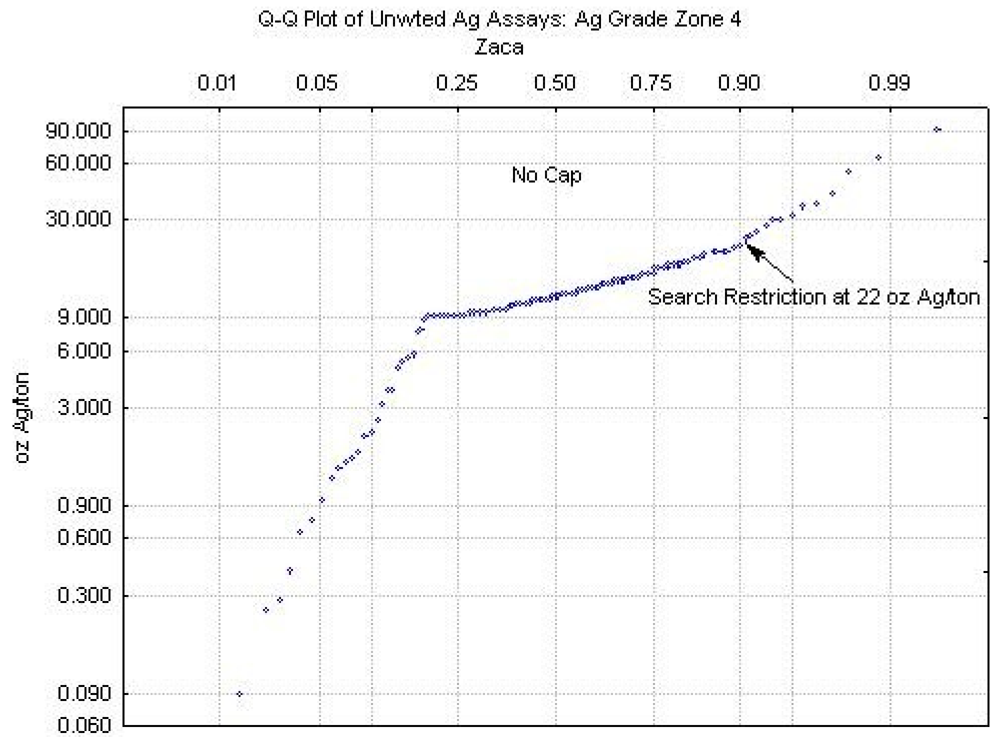
Silver Sample Data by Grade Domain (cont'd)



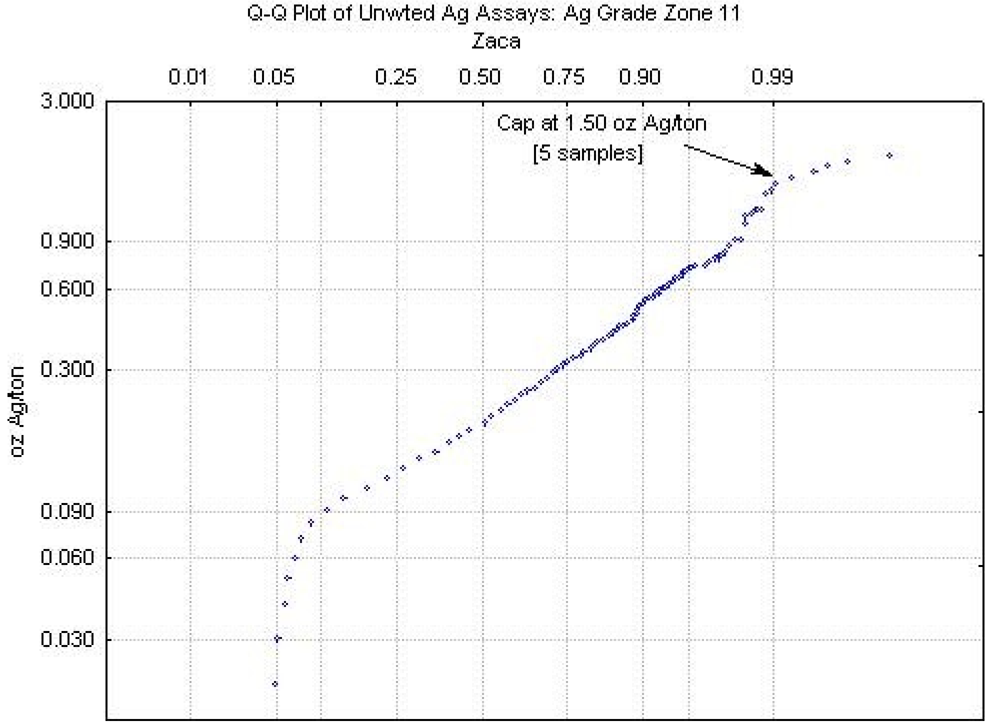


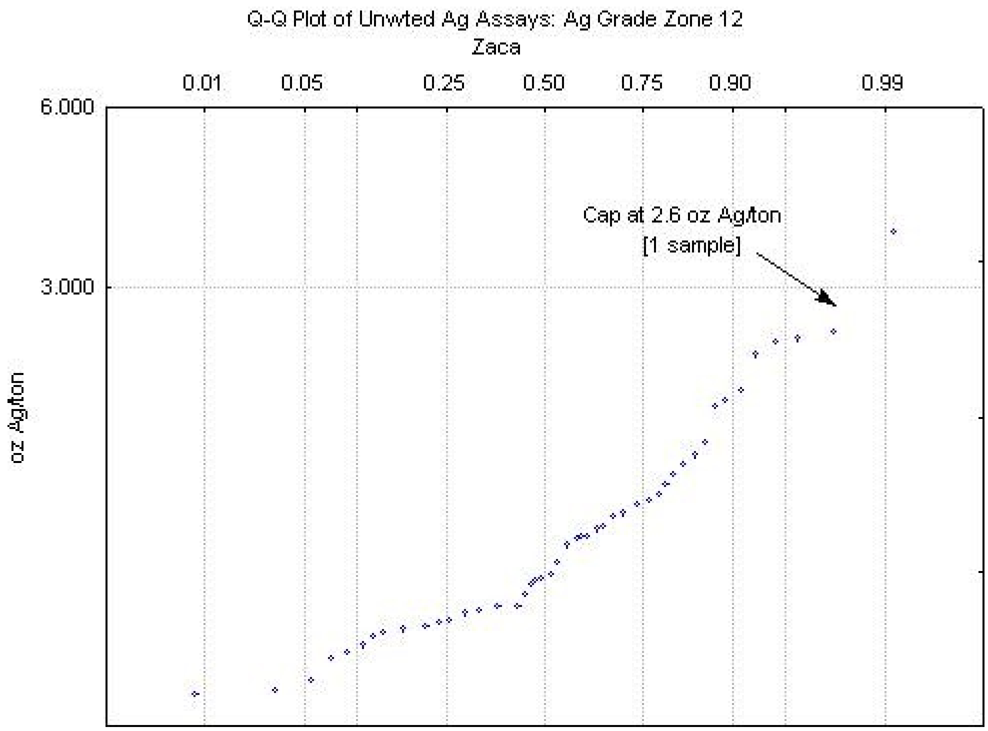
Silver Sample Data by Grade Domain (cont'd)



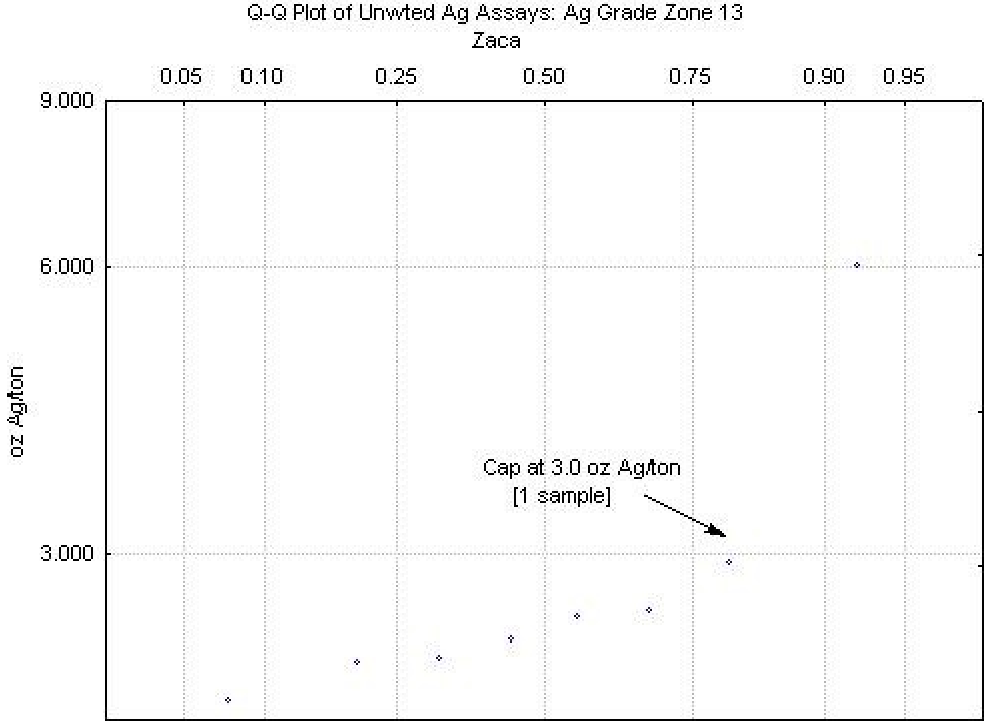


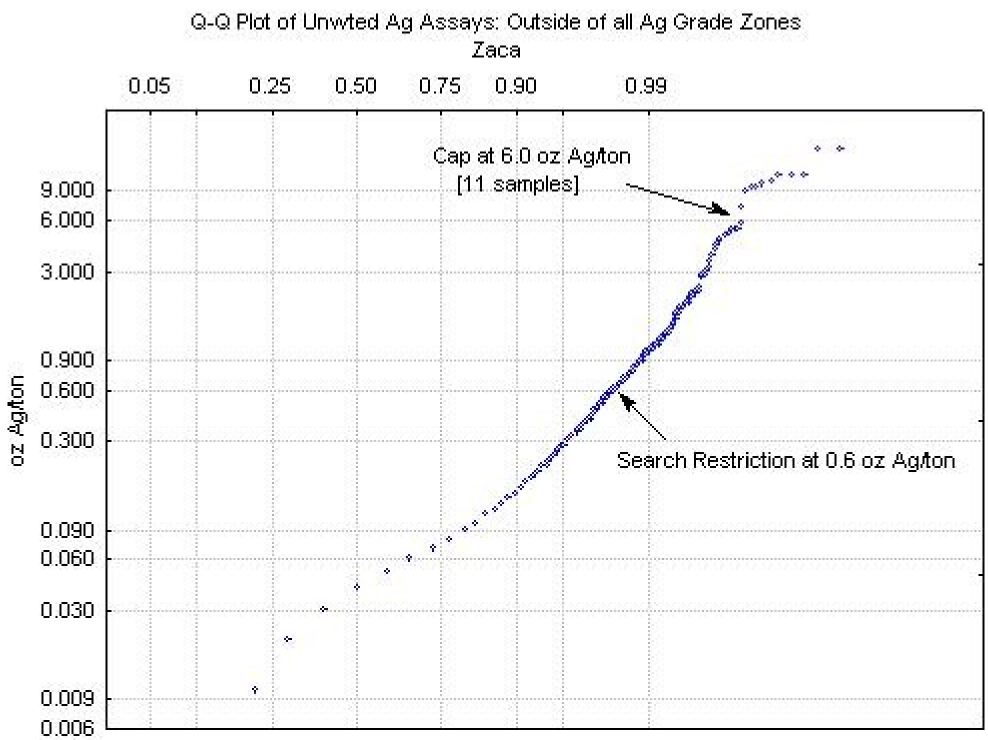
Silver Sample Data by Grade Domain (cont'd)





Silver Sample Data by Grade Domain (cont'd)





Descriptive Statistics of Gold Assays by Grade Domain

Au Assays: All Au Domains								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	328							
Easting	10596	9650.7	9616.1			8248.7	10178.5	feet
Northing	10596	12484.9	12472.9			11909.9	13133.5	feet
Elevation	10596	6592.6	6595.0			5389.0	7392.2	feet
From	10596	300.0	310.2			0.0	1415.0	feet
To	10596	305.0	315.4			1.0	1420.0	feet
Length	10596	5.0	5.2	1.4	0.3	0.1	29.5	feet
Au	10596	0.014	0.031	0.089	2.822	0.000	5.536	oz Au/ton
Au Cap	10596	0.014	0.031	0.066	2.159	0.000	1.800	oz Au/ton

Au Assays: Au Domain 1								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	320							
Easting	8708	9642.3	9599.7			8248.7	10177.7	feet
Northing	8708	12486.7	12483.4			11909.9	13133.5	feet
Elevation	8708	6594.6	6601.0			5389.0	7379.7	feet
From	8708	310.0	319.7			0.0	1415.0	feet
To	8708	315.0	325.0			1.0	1420.0	feet
Length	8708	5.0	5.3	1.4	0.3	0.4	29.5	feet
Au	8708	0.012	0.018	0.028	1.554	0.000	1.473	oz Au/ton
Au Cap	8708	0.012	0.018	0.022	1.232	0.000	0.300	oz Au/ton

Au Assays: Au Domain 2								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	169							
Easting	1563	9658.0	9677.6			8985.8	10178.5	feet
Northing	1563	12509.0	12467.1			11933.1	13096.7	feet
Elevation	1563	6605.1	6573.0			5438.6	7392.2	feet
From	1563	280.0	281.3			0.0	1365.0	feet
To	1563	285.0	286.4			2.0	1370.0	feet
Length	1563	5.0	5.2	1.4	0.3	0.1	12.5	feet
Au	1563	0.058	0.078	0.098	1.247	0.000	2.438	oz Au/ton
Au Cap	1563	0.058	0.077	0.083	1.074	0.000	0.900	oz Au/ton

Descriptive Statistics of Gold Assays by Grade Domain (cont'd)

Au Assays: Au Domain 3								
	Valid N	**Median**	**Mean**	**Std. Dev.**	**CV**	**Min.**	**Max.**	**Units**
Hole ID	48							
Easting	143	9632.1	9665.7			9312.3	10020.6	feet
Northing	143	12393.9	12422.4			11943.7	12736.4	feet
Elevation	143	6569.1	6528.0			5478.1	7114.7	feet
From	143	355.0	357.5			16.5	1325.0	feet
To	143	360.0	362.7			22.0	1330.0	feet
Length	143	5.0	5.2	1.3	0.2	2.0	10.2	feet
Au	143	0.266	0.378	0.529	1.398	0.004	5.536	oz Au/ton
Au Cap	143	0.266	0.346	0.297	0.857	0.004	1.800	oz Au/ton

Au Assays: Au Domain 11								
	Valid N	**Median**	**Mean**	**Std. Dev.**	**CV**	**Min.**	**Max.**	**Units**
Hole ID	31							
Easting	174	9843.9	9834.6			9682.0	10000.0	feet
Northing	174	12061.8	12063.2			11913.6	12332.0	feet
Elevation	174	6534.6	6549.1			6431.2	6681.7	feet
From	174	67.5	63.9			0.0	159.0	feet
To	174	75.0	69.1			5.0	164.0	feet
Length	174	5.0	5.2	1.4	0.3	5.0	20.0	feet
Au	174	0.010	0.015	0.018	1.214	0.000	0.213	oz Au/ton
Au Cap	174	0.010	0.014	0.011	0.781	0.000	0.060	oz Au/ton

Au Assays: Au Domain 12								
	Valid N	**Median**	**Mean**	**Std. Dev.**	**CV**	**Min.**	**Max.**	**Units**
Hole ID	3							
Easting	8	9785.6	9812.5			9712.4	9885.1	feet
Northing	8	11988.5	12001.7			11954.7	12057.5	feet
Elevation	8	6518.1	6526.7			6502.8	6600.3	feet
From	8	37.5	53.1			10.0	100.0	feet
To	8	42.5	58.1			15.0	105.0	feet
Length	8	5.0	5.0	0.0	0.0	5.0	5.0	feet
Au	8	0.060	0.081	0.066	0.820	0.017	0.239	oz Au/ton
Au Cap	8	0.060	0.066	0.034	0.514	0.017	0.120	oz Au/ton

Descriptive Statistics of Gold Assays by Grade Domain (cont'd)

Au Assays: Outside of all Au Domains								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	391							
Easting	26217	9549.0	9463.0			7955.2	10496.4	feet
Northing	26217	12461.8	12440.8			11271.0	13660.9	feet
Elevation	26217	6586.2	6579.4			5216.6	7463.9	feet
From	26217	290.0	353.3			0.0	1595.0	feet
To	26217	295.0	358.5			1.0	1600.0	feet
Length	26217	5.0	5.2	3.0	0.6	0.1	273.0	feet
Au	26217	0.002	0.004	0.012	3.028	0.000	0.671	oz Au/ton
Au Cap	26217	0.002	0.004	0.012	2.969	0.000	0.600	oz Au/ton

Descriptive Statistics of Silver Assays by Grade Domain

Ag Assays: All Ag Domains								
	Valid N	**Median**	**Mean**	**Std. Dev.**	**CV**	**Min.**	**Max.**	**Units**
Hole ID	415							
Easting	28870	9616.2	9579.2			8234.5	10247.9	feet
Northing	28870	12434.7	12414.8			11316.6	13236.6	feet
Elevation	28870	6570.5	6553.3			5264.7	7393.8	feet
From	28870	295.0	336.2			0.0	1575.0	feet
To	28870	300.0	341.4			1.0	1580.0	feet
Length	28870	5.0	5.2	1.5	0.3	0.1	159.0	feet
Ag	28870	0.270	0.613	1.536	2.506	0.000	88.670	oz Ag/ton
Ag Cap	28870	0.270	0.610	1.503	2.465	0.000	88.670	oz Ag/ton

Ag Assays: Ag Domain 1								
	Valid N	**Median**	**Mean**	**Std. Dev.**	**CV**	**Min.**	**Max.**	**Units**
Hole ID	398							
Easting	24100	9588.2	9549.0			8234.5	10247.9	feet
Northing	24100	12476.8	12447.2			11316.6	13236.6	feet
Elevation	24100	6596.4	6575.8			5264.7	7393.8	feet
From	24100	300.0	343.4			0.0	1575.0	feet
To	24100	305.0	348.7			1.5	1580.0	feet
Length	24100	5.0	5.2	1.3	0.2	0.1	29.5	feet
Ag	24100	0.230	0.360	0.536	1.490	0.000	20.290	oz Ag/ton
Ag Cap	24100	0.230	0.358	0.501	1.399	0.000	9.000	oz Ag/ton

Ag Assays: Ag Domain 2								
	Valid N	**Median**	**Mean**	**Std. Dev.**	**CV**	**Min.**	**Max.**	**Units**
Hole ID	246							
Easting	2731	9692.7	9670.4			8968.9	10177.7	feet
Northing	2731	12241.1	12275.0			11475.8	13204.2	feet
Elevation	2731	6442.4	6405.3			5389.0	7349.7	feet
From	2731	360.0	369.5			0.0	1415.0	feet
To	2731	365.0	374.6			1.0	1420.0	feet
Length	2731	5.0	5.1	1.0	0.2	0.5	19.6	feet
Ag	2731	1.030	1.323	1.352	1.022	0.000	32.200	oz Ag/ton
Ag Cap	2731	1.030	1.315	1.222	0.929	0.000	13.600	oz Ag/ton

Descriptive Statistics of Silver Assays by Grade Domain (cont'd)

Ag Assays: Ag Domain 3								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	161							
Easting	1013	9732.5	9716.8			8972.9	10163.5	feet
Northing	1013	12246.4	12279.3			11513.7	13198.4	feet
Elevation	1013	6504.8	6425.9			5438.6	7355.7	feet
From	1013	280.0	315.6			0.0	1365.0	feet
To	1013	285.0	320.7			2.0	1370.0	feet
Length	1013	5.0	5.1	1.0	0.2	1.0	11.5	feet
Ag	1013	2.570	3.401	2.806	0.825	0.000	24.030	oz Ag/ton
Ag Cap	1013	2.570	3.370	2.637	0.783	0.000	15.500	oz Ag/ton

Ag Assays: Ag Domain 4								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	66							
Easting	139	9769.1	9727.7			9160.7	10215.5	feet
Northing	139	12172.0	12271.2			11750.3	13002.0	feet
Elevation	139	6476.7	6413.1			5478.1	6901.0	feet
From	139	280.0	316.6			4.0	1325.0	feet
To	139	285.0	321.6			8.0	1330.0	feet
Length	139	5.0	5.0	0.8	0.2	1.2	10.0	feet
Ag	139	11.300	13.535	10.792	0.797	0.000	88.670	oz Ag/ton
Ag Cap	139	11.300	13.535	10.792	0.797	0.000	88.670	oz Ag/ton

Ag Assays: Ag Domain 11								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	70							
Easting	817	9957.7	9944.3			9682.0	10160.6	feet
Northing	817	12130.6	12153.8			11618.0	12633.9	feet
Elevation	817	6565.5	6569.8			6295.9	6800.4	feet
From	817	55.0	60.5			0.0	198.2	feet
To	817	60.0	66.1			5.0	203.2	feet
Length	817	5.0	5.6	5.6	1.0	5.0	159.0	feet
Ag	817	0.190	0.258	0.236	0.913	0.000	1.900	oz Ag/ton
Ag Cap	817	0.190	0.257	0.228	0.887	0.000	1.500	oz Ag/ton

Descriptive Statistics of Silver Assays by Grade Domain (cont'd)

Ag Assays: Ag Domain 12								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	16							
Easting	62	9832.8	9845.9			9683.4	9961.3	feet
Northing	62	12052.0	12024.7			11913.6	12141.7	feet
Elevation	62	6509.8	6509.8			6431.2	6570.1	feet
From	62	80.0	86.7			35.0	153.0	feet
To	62	85.0	91.7			40.0	158.0	feet
Length	62	5.0	5.0	0.0	0.0	5.0	5.0	feet
Ag	62	0.995	1.192	0.564	0.473	0.630	3.710	oz Ag/ton
Ag Cap	62	0.995	1.175	0.497	0.423	0.630	2.600	oz Ag/ton

Ag Assays: Ag Domain 13								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	2							
Easting	8	9923.1	9922.9			9882.3	9962.9	feet
Northing	8	12068.3	12068.1			12055.5	12080.3	feet
Elevation	8	6515.1	6515.2			6502.8	6527.8	feet
From	8	80.0	80.0			60.0	100.0	feet
To	8	85.0	85.0			65.0	105.0	feet
Length	8	5.0	5.0	0.0	0.0	5.0	5.0	feet
Ag	8	2.500	2.910	1.221	0.420	2.090	6.040	oz Ag/ton
Ag Cap	8	2.500	2.530	0.296	0.117	2.090	3.000	oz Ag/ton

Ag Assays: Outside of all Ag Zones								
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	217							
Easting	7913	9053.5	9242.2			7955.2	10496.4	feet
Northing	7913	12665.4	12578.0			11271.0	13660.9	feet
Elevation	7913	6742.5	6695.3			5216.6	7463.9	feet
From	7913	295.0	358.9			0.0	1595.0	feet
To	7913	300.0	364.0			1.0	1600.0	feet
Length	7913	5.0	5.2	4.8	0.9	1.0	273.0	feet
Ag	7913	0.040	0.062	0.110	1.776	0.000	2.850	oz Ag/ton
Ag Cap	7913	0.040	0.062	0.110	1.776	0.000	2.850	oz Ag/ton