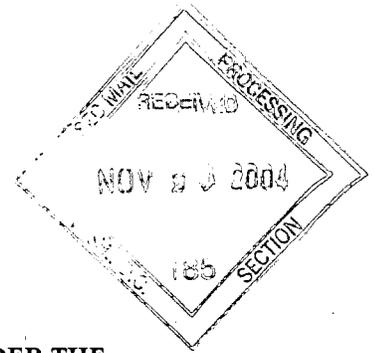


UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549



Form 6-K

REPORT OF FOREIGN ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE
SECURITIES EXCHANGE ACT OF 1934

For the month of November, 2004.

Commission File Number



Western Silver Corporation

(Translation of registrant's name into English)

Suite 1550, 1185 West Georgia Street, Vancouver, B.C., V6E 4E6, Canada
(Address of principal executive office)

PROCESSED

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Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Note: Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

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Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934. Yes No

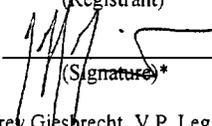
If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): 82-

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Western Silver Corporation
(Registrant)

Date: November 26, 2004

By: 
(Signature)*

Jeffrey Gipsbrecht, V.P. Legal

* Print the name and title under the signature of the signing officer.

SEC 1815 (11-02)

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SNC-LAVALIN
Engineers & Constructors



MINERA PENASQUITO S.A. DE C.V.

PEÑASQUITO PROJECT

PRELIMINARY
MINERAL RESOURCE ESTIMATE

March 2003

Notice to Reader Amended and Restated Effective November 8, 2004

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EXECUTIVE SUMMARY

Minera Penasquito, S.A. de C.V. ("Minera Penasquito"), a wholly owned subsidiary of Western Copper Holdings Ltd. ("Western Copper") awarded a contract for the completion of a Mineral Resource Estimate and Scoping Study on the Peñasquito Project to SNC-Lavalin Engineers & Constructors Inc ("SNC-Lavalin") on July 9, 2001.

This summary outlines the facts on which SNC-Lavalin's opinions are based, and highlights of those opinions. The sources of information provided to SNC-Lavalin by others, including historical and background information, as set out below, as well as other qualifications and other information relevant to SNC-Lavalin's opinion, are contained in the main body of the report.

This report summarizes mineral resource estimates completed by SNC-Lavalin for the Peñasquito deposit based on all data available before February 28, 2003. It also identifies the necessary work to be completed in order to proceed to the next stage, a Scoping Study, and to conform to the National Instrument 43-101 ("NI 43-101"), issued by the Canadian Securities Administrators (CSA). The mineral resource estimate is classified according to the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Reserves, Definitions and Guidelines, as required by National Instrument 43-101.

Western Copper's Peñasquito deposit is located in the Concepción del Oro district, Zacatecas State, Mexico at approximately 24° 45' N latitude/101°30'W longitude.

The Peñasquito deposit was discovered as early as the late 1800's. The property remained unexplored until Kennecott Exploration Ltd. ("Kennecott") started examining the property in 1992. Between 1994 and 1997 Kennecott completed several geophysical and geochemical surveys, a 250 hole rapid air drilling program, and both reverse circulation and diamond drillholes.

In 1998 Western Copper acquired a 100% interest in the property from Kennecott and completed a diamond drilling program and some geophysical work in the same year. In 2000 Western Copper optioned the property to Minera Hochschild S.A. ("Hochschild"), a company that completed 4,601 meters of drilling. Hochschild returned the property to Western Copper after completing the analysis of the drill results. Western Copper, through their Mexican subsidiary Minera Penasquito completed a total of 22,829.8 meters of drilling during 1998 and 2002.

According to Western Copper, mineral resources for the Peñasquito deposit have not been estimated prior to SNC-Lavalin involvement nor publicly disclosed.

Mining concessions held by Minera Penasquito in the Peñasquito district cover an area of 37,986 hectares and consist of a total of 13 concessions. Seven of them have the exploitation rights, the remaining six concessions held exploration rights.



The regional geology comprises a series of thick marine sediments deposited during the Jurassic and Cretaceous Periods and consisting of a sequence of carbonaceous and calcareous turbidic siltstones and interbedded sandstones underlain by a limestone sequence. The oldest rocks in the region are the Caopas Formation, a series of complexly folded and metamorphosed marine volcanics and volcanoclastic rocks of felsic to intermediate composition with pelitic sediments. These rocks are unconformably overlain by the Triassic aged Huizachal Formation, a series of redbed siltstones and sandstones with interbedded red andesites.

Local geology is dominated almost entirely by the rocks of the Mexico Geosyncline. The Chile Colorado prospect is hosted entirely within the rocks of the Caracol Formation.

Alteration of Chile Colorado includes varying levels of quartz-sericite, quartz-sericite-pyrite and quartz-sericite-pyrite-carbonate alteration. Alteration appears to be strongly controlled by both structure and lithology. In general, the intensity of the alteration appears to be related to the porosity of the host rock units as the beds are intersected by fault and fracture zones. Sandstones generally tend to exhibit a higher degree of alteration than the finer siltstones.

Mineralization of the Ag-Zn-Pb Chile Colorado anomaly occurs as both veining and narrow fracture filling, which have been interpreted to represent stockworks. Areas where the veining and fracture filling is most intense generally correspond to the areas of highest grade.

Within the Peñasquito area, exploration drilling has identified three distinctive zones of mineralization: the Chile Colorado, Azul Breccia and Outcrop Breccia zones. Among the three, the Chile Colorado zone is the one that is best understood and explored with a database of quality and quantity to allow mineral resource estimation.

ALS Chemex laboratories in Vancouver, B.C, has analyzed the drill core samples for all main variables, namely silver, gold, lead and zinc. ALS Chemex analyzed samples for Kennecott, Hochschild and Western Copper drilling campaigns.

A comprehensive quality assurance/quality control ("QA/QC") program has been in place for most of the drilling completed by Western Copper. The QA/QC program included the regular submission of standards and blanks, generally comprising one in twenty, equivalent of 5% of all samples submitted to the laboratory. In addition, randomly selected samples have been submitted to Acme Analytical Laboratories in Vancouver for check assay.

Mr. Wesley Hanson, P.Geol., a former SNC-Lavalin's Senior Geologist, completed the site visit during the period of May 1 through May 6, 2002. This visit provided the opportunity to view Minera Penasquito field procedures first hand and also afforded SNC-Lavalin's geologist the opportunity to examine fresh core, review the core stored in the core library and collect a limited number of samples from Minera Penasquito core library to verify field observations. SNC-Lavalin also completed a small independent sampling program.



It is SNC-Lavalin's opinion that the reported methods and procedures used to collect the raw data supporting the mineral resource estimate meet industry standards.

Preliminary metallurgical test work carried out by Kennecott in 1995 - 1997 and by Hochschild in 2001 indicate that mineralization from Peñasquito is amenable to treatment by flotation. Western Copper also completed preliminary heavy media separation ("HMS") tests in 2002. All this work is of a preliminary nature and further metallurgical testwork is required.

Orebody modelling and grade interpolation was performed by SNC-Lavalin using the Datamine software program. A three-dimensional block model limited by lithological constraints was generated to represent the Chile Colorado zone. Grades for silver were interpolated into blocks of the model using the multiple indicator kriging method; grades for gold, lead and zinc were interpolated using an ordinary kriging method. The block model was then successfully verified using different methods of grade interpolation.

SNC-Lavalin estimated mineral resources for the Chile Colorado zone of the Peñasquito deposit as of March 2003. The estimate was prepared using the cut-off grade of 4.00 US\$/t NSR that, in SNC-Lavalin's opinion, is appropriate for the mineral estimate at this time. The mineral resources categorized as indicated are estimated to be **118 million tonnes (Mt) at an average grade of 41.9 g/t Ag, 0.36 g/t Au, 0.38% Pb and 0.89% Zn.**

In addition, a total of **59 Mt of inferred mineral resources at an average grade of 28.98 g/t Ag, 0.31 g/t Au, 0.24% Pb and 0.69% Zn** were also estimated at the same cut-off grade at the Chile Colorado zone.

As required by National Instrument 43-101, SNC-Lavalin notes that the economic potential of the mineral resource estimate has not been investigated nor demonstrated and presently does not constitute a mineral reserve estimate.



NOTICE TO READER

Revised November 2004

This document contains the expression of the professional opinion of SNC-Lavalin Engineers & Constructors Inc. ("SNC-Lavalin") as to the matters set out herein, using its professional judgment and reasonable care. It is to be read in the context of the agreements dated July 19, 2001 and July 12, 2002 (the "Agreements") between SNC-Lavalin and Minera Penasquito S.A. de C.V. (the "Client"), and the methodology, procedures and techniques used, SNC-Lavalin's assumptions, and the circumstances and constraints under which its mandate was performed. This document is written solely for the purpose stated in the Agreements, and for the sole and exclusive benefit of the Client, whose remedies are limited to those set out in the Agreement. This document is meant to be read as a whole, and sections or parts thereof should thus not be read or relied upon out of context.

SNC-Lavalin has, in preparing the estimates, followed methodology and procedures, and exercised due care consistent with the intended level of accuracy, using its professional judgment and reasonable care, and is thus of the opinion that there is a high probability that the estimate falls within the specified error margin. However, no warranty should be implied as to the accuracy of estimates. Unless expressly stated otherwise, assumptions, data and information supplied by, or gathered from other sources (including the Client, other consultants, testing laboratories and equipment suppliers, etc.) upon which SNC-Lavalin's opinion as set out herein is based has not been verified by SNC-Lavalin; SNC-Lavalin makes no representation as to its accuracy and disclaims all liability with respect thereto.

Except to the extent forbidden by law, SNC-Lavalin disclaims any liability to the Client and to third parties in respect of the publication, reference, quoting, or distribution of this report or any of its contents to and reliance thereon by any third party.



1.0 INTRODUCTION AND TERMS OF REFERENCE

1.1 Introduction

Minera Penasquito, S.A. de C.V. ("Minera Penasquito") awarded a contract for the completion of a Mineral Resource Estimate and Scoping Study on the Peñasquito Project to SNC-Lavalin Engineers & Constructors Inc ("SNC-Lavalin").

This report summarizes mineral resource estimates for the Peñasquito deposit based on all data made available to SNC-Lavalin before February 28, 2003 and identifies any necessary future work to be completed in order to proceed to the next stage, a Scoping Study, and to conform to the National Instrument 43-101, issued by the Canadian Securities Administrators.

SNC-Lavalin worked with Minera Penasquito in the planning of a staged drill program for the project. The objective of the drill program was to minimize costs while collecting sufficient data to allow mineral resources to be estimated in accordance with the requirements of NI 43-101. As a result, the drill program was planned in a series of stages, phase 1, 2 and 3, with each stage contingent on the results of the previous stage.

A site visit by a Qualified Person is a requirement of NI 43-101. This report contains the observations and recommendations resulting from the site visit completed by SNC-Lavalin's Senior Geologist, Wesley Hanson, P.Geol. The site visit was completed May 1 through May 6, 2002.

1.2 Proposal to Minera Penasquito S.A. de C.V.

SNC-Lavalin proposed to provide the following services to Minera Penasquito:

- Mineral resource estimates addressing the requirements of CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines, as required by NI 43-101.
- A site visit by SNC's geologist as required by NI 43-101 completed during drilling campaign to observe field procedures.
- Collection of independent samples using care and custody protocols.
- Random verification of digital data files through manual comparison to the original sources.
- Modeling and grade interpolation.
- A report summarizing the results and detailing the basis, information and techniques used to construct the model and estimate mineral resources as well as recommendations for future exploration activities and studies.



Note that the following services were not performed:

- The care and custody protocols;
- Mineral reserve estimates;
- Independent investigation on process, metallurgy, mining, economics, marketing, environmental, socio-economic and governmental issues.

1.3 Terms of Reference

Minera Penasquito refers to Minera Penasquito, S.A. de C.V., a Mexican mining company; Western Copper refers to Western Copper Holdings Ltd.; Hochschild refers to Minera Hochschild S.A.; Kennecott refers to Minera Kennecott, S.A. de C.V.; SNC-Lavalin refers to SNC-Lavalin Engineers & Constructors Inc.

1.4 Basic Design Parameters utilized in Mineral Resource Estimates

The following assumptions and parameters were used in the resource estimates:

- CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council August 20, 2000;
- Database assembled by Western Copper and verified by SNC-Lavalin;
- Topography created from drillhole collar information;
- Metal prices representing the projected future prices;
- All units metric;
- United States currency;
- Qualifying persons involved in preparation and content of this report are: Wesley Hanson, P. Geo, Senior Geologist and Zofia Ashby, P. Eng., Senior Mining Engineer, both of SNC-Lavalin during the completion of their assignments.

1.5 Basis of the Study

This report addresses requirements of mineral resource estimates for the Peñasquito deposit, as the term mineral resource estimate is defined in the CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines, as per requirements of National Instrument NI 43-101. Throughout the report the specific requirements of NI 43-101 are referred to and any noted deficiencies are described.

The resource estimations provided in this study were developed from the database of samples reportedly collected by others. Although care was taken to verify a selected



portion of the provided data in the manner described herein, SNC-Lavalin has not, except as provided herein, taken steps to independently confirm the existence of mineralization as described in the said database.

A list of abbreviations used in this study document is provided in Section 1.6.

Throughout this report single page tables and figures are typically inserted following the page on which the reference is made. More complex tables, figures and drawings that are referred to in the text are typically placed in appendices at the end of the report.

1.6 Abbreviations and Symbols

<p>Weight</p> <p>µg microgram kg kilogram tonne metric tonne t metric t oz troy ounce (31.1035g) g gram st short ton dmt dry metric tonne w mt wet metric tonne</p>		<p>Energy</p> <p>kWh kilowatt-hour cal calorie kcal kilocalorie MWh megawatt-hour A ampere Btu British Thermal Units V volt W watt J joule</p>	
<p>Distance</p> <p>mm millimetre cm centimetre m meter km kilometre in inch ft foot dia. diameter</p>		<p>Power</p> <p>hp horsepower kW kilowatt kVA Kilovolt-amperes MW megawatt MVA megavolt-amperes</p>	
<p>Area</p> <p>cm² square centimetre m² square meter ha hectare km² square kilometre ft² square foot in² square inch</p>		<p>Money</p> <p>US\$ United States dollar US¢ United States cents CD\$ Canadian Dollars CD¢ Canadian cents</p>	
<p>Volume</p> <p>m³ cubic meter L litre yd³ cubic yard USg United States gallon USgpm US gallon per minute t/d metric tonne per day t/a metric tonne per year ft³ cubic foot SCFM standard cubic foot per minute Nm³/h normal cubic metres per hour ACFM actual cubic metres per minute A m³/h actual cubic metres per hour bbl barrels L/s litres per second</p>		<p>Temperature</p> <p>°C Degree Celsius °F Degree Fahrenheit K Kelvin (SI Standard)</p>	
<p>Velocity</p> <p>mph mile per hour km/h kilometre per hour ft/s foot per second</p>		<p>Prefixes</p> <p>µ micro (one-millionth) m milli (one-thousandth) k kilo (thousand) M mega (million) G giga (billion)</p>	
		<p>Time</p> <p>s second min minute h hour d day a annum</p>	
		<p>Concentration</p> <p>g/L gram per litre g/t gram per tonne ppm part per million g/m³ grain per cubic metre opt, oz/st ounce per short ton oz/dmt ounce per dry metric tonne</p>	



2.0 PROPERTY DESCRIPTION

2.1 Location and Access

Except as noted, the information in this section was provided by Western Copper.

The Peñasquito Project area covers approximately 37,986 hectares.

The Peñasquito Project is located in the Concepción del Oro district, Zacatecas State, Mexico at approximately 24° 45' N latitude/101°30'W longitude. The property is located approximately 12 kilometres west of the village of Mazapil.

Figure 2.1-1 is a general location map for Zacatecas state reprinted from the Geological-Mining Monograph of the State of Zacatecas, 1992 Edition.

Access to the project is provided through a series of well maintained paved, cobble and gravel roads. The town of Concepción del Oro, located approximately 34 km to the east, lies along Mexican highway 54, a well maintained, paved highway accessing the major centres of Zacatecas, approximately 250 km to the southwest and Saltillo, approximately 125 km to the northeast.

From Concepción del Oro, approximately 12 km of cobble road rises up and over the mountains. This road, though well maintained, is rough and includes two sharp switchback turns. Once the mountain pass has been traversed, the road switches again to pavement, through the village of Mazapil to a point approximately 3 km east of the Outcrop Breccia that lies within the Peñasquito claim group.

Minera Penasquito has indicated that the state has recently surveyed the road and plans to extend the pavement as far as Peñasco this year. There is a paving project at the other end of the highway near Nieves, approximately 150 km southeast of Mazapil. It is Minera Penasquito's understanding that the eventual plan is to pave the road from Mazapil to Nieves and put in a new east access that will cross the head of Mazapil Valley and connect to the paved road at Las Lajas which is already connected to the Zacatecas-Saltillo Highway.

Figure 2.1-2 is a general location map of Zacatecas state reprinted from the Geological-Mining Monograph of the State of Zacatecas, 1992 edition, showing some of the infrastructure discussed above.

Figure 2.1-1: General Location Map – Peñasquito Project

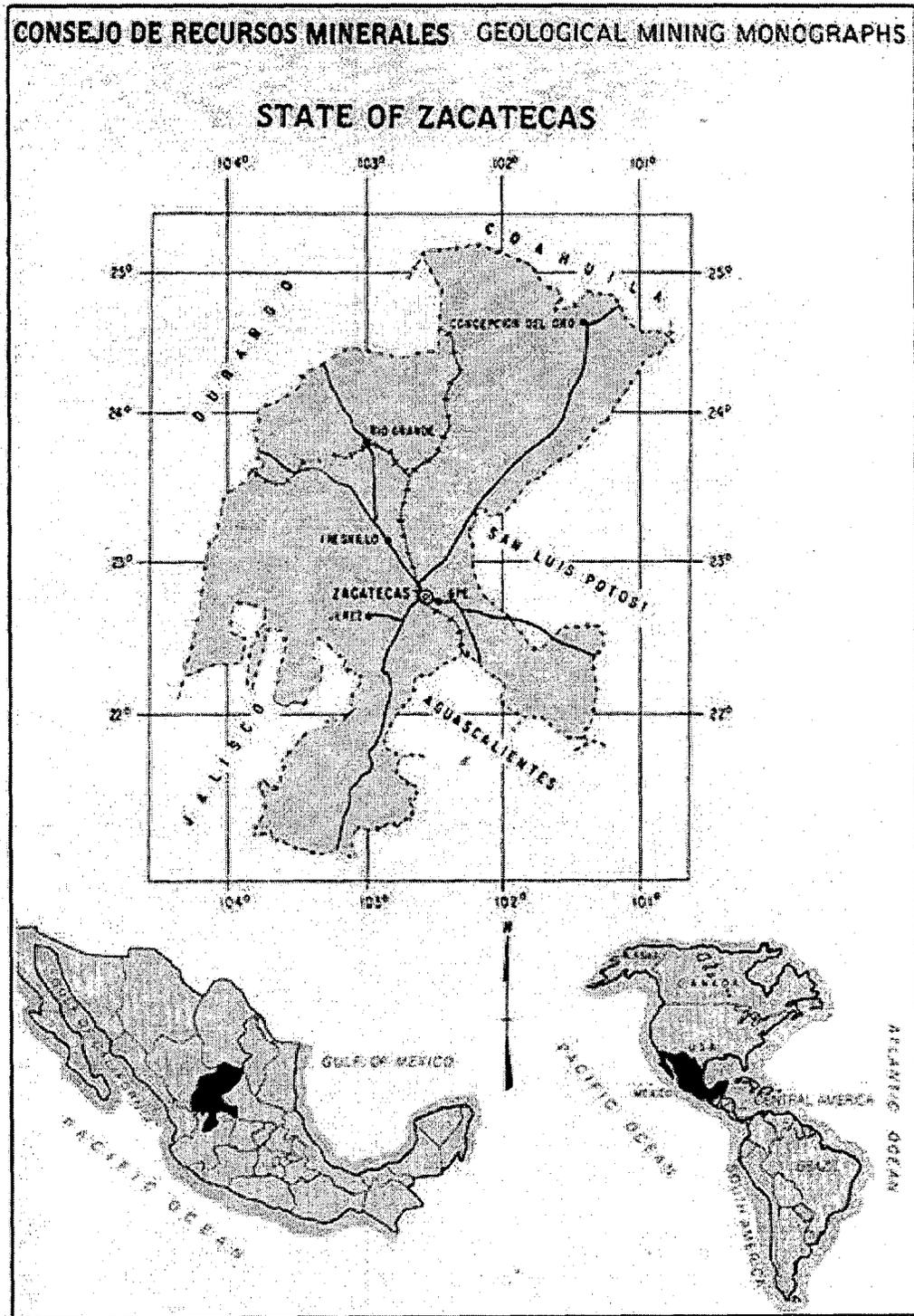
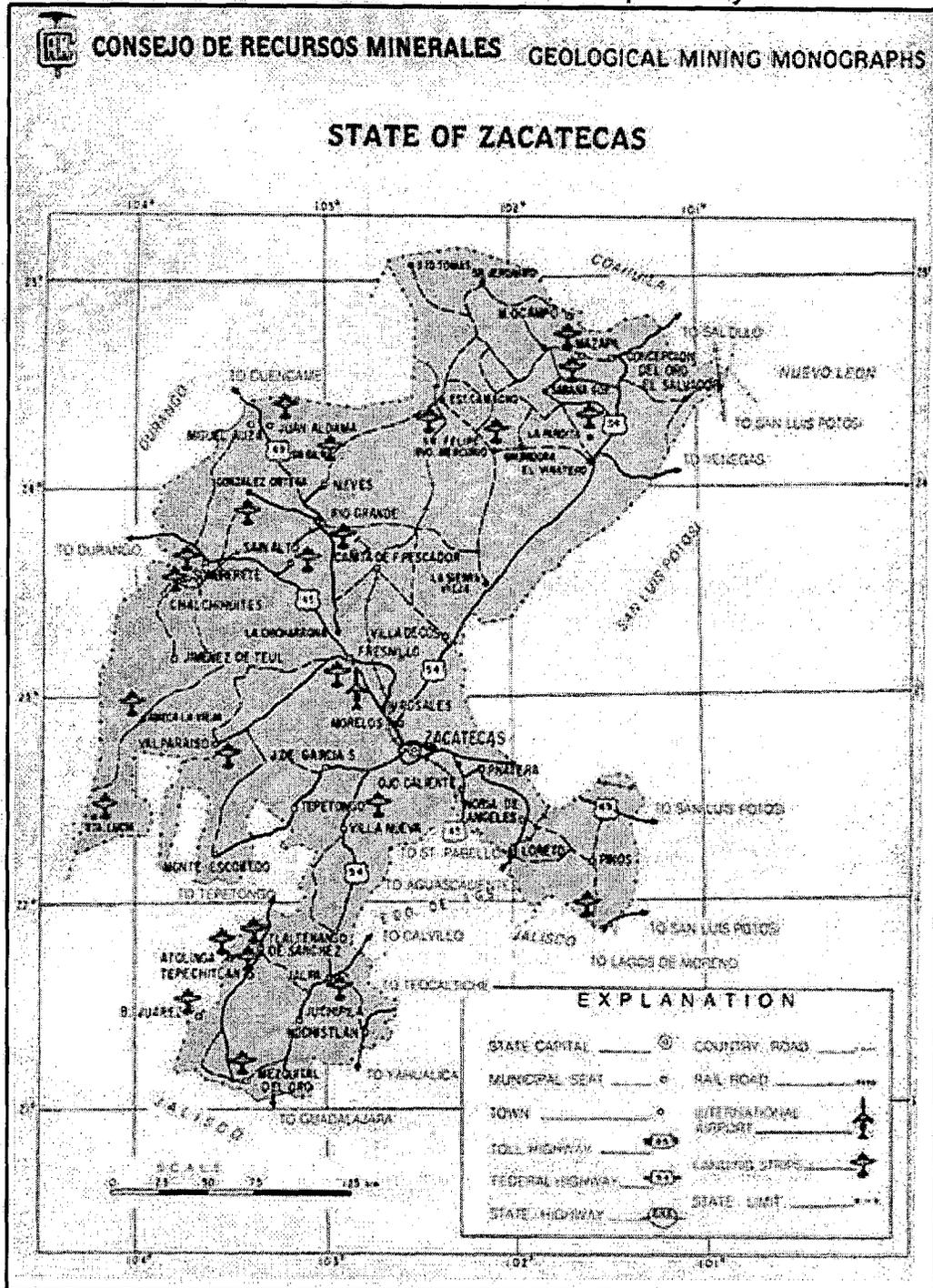




Figure 2.1-2: Location and Infrastructure – Peñasquito Project



2.2 Title and Ownership

Section 2.2 provides a description of title to the Peñasquito property provided by Western Copper.

According to Western Copper the property is 100% owned by Western Copper through their Mexican subsidiary Minera Penasquito.

Western Copper has provided SNC-Lavalin with a legal opinion regarding title and related matters to the mining concessions held by Minera Penasquito prepared by qualified Mexican Attorney Dr. Francisco Heiras Mancera, dated February, 2002.

The property list of mining concessions comprising the Peñasquito project contains information provided by Western Copper as at March 13, 2003 and is presented in Table 2.2-1:

Table 2.2-1: List of Peñasquito Mining Concessions

No	Name	Type	Title	File No.	Area (Ha)	Date Issued	Expiry Date
1	El Peñasquito	Exploitation	196289	43/885	2.00	16-Jul-93	11-Jul-11
2	La Pena	Exploitation	203264	07/1.3/547	58.00	28-Jun-96	27-Jun-46
3	Las Penas	Exploitation	212290	07/1.3/00983	40.00	29-Sep-00	28-Sep-50
4	Alfa	Exploitation	201997	7/1.3/485	1100.00	11-Oct-95	11-Oct-45
5	Beta	Exploitation	211970	8/1.3/01187	2054.78	18-Aug-00	17-Aug-50
6	Mazapil	Exploitation	218409	07/13591	1476.00	5-Nov-02	4-Nov-52
7	Mazapil 2	Exploitation	218420	7/13597	2396.68	5-Nov-02	4-Nov-52
8	Mazapil 5	Exploration	208719	7/13852	50.00	11-Dec-98	10-Dec-04
9	Red Concha	Exploration	215503	7/13859	23304.69	7-Nov-00	6-Nov-06
10	Mazapil 4	Exploration	215450	7/13881	4355.10	22-Feb-02	6-Nov-06
11	Mazapil 6	Exploration	208719	93/16896	36.00	22-Feb-02	21-Feb-08
12	Mazapil 3 F.I	Exploration	217001	93/17880	1950.00	14-Jun-02	13-Jun-08
13	Mazapil 3 F. II	Exploration	217002	93/25905	1161.97	14-Jun-02	13-Jun-08
	Total:				37985.91		

According to Dr. Francisco Heiras Mancera:

- All concessions of the Peñasquito project are legally and beneficially held by Minera Penasquito, S.A. de C.V., a Mexican mining company duly incorporated pursuant to the laws of Mexico;
- The core mining concessions (numbered 1-5 in the above table) were acquired from Minera Kennecott, S.A. de C.V. ("Kennecott") on March 13, 1998 including the title holding, the rights derived from the mining concessions as well as the obligations of



Kennecott to the former concession holders. The remaining concessions were acquired subsequently by Western Copper.

- The title for each of the concessions is valid until the date set out in Table 2.2-1, subject to fulfilling the requirements of the Mexican mining legislation including payment of annual fees and taxes.

SNC-Lavalin has not reviewed any information with respect to royalty or underlying agreements during the preparation of this report.

2.3 Historical Information

The following section is summarized from historical Kennecott and Minera Penasquito reports stored at site and made available to SNC-Lavalin.

The Concepción del Oro district is a historically active mining district in Mexico with roots dating back to the 16th century. Several small mining operations are still active in the area and several larger operations have been abandoned as the deposits were exhausted.

The Peñasquito property may have been examined as early as the late 1800's. Some minor shafts were completed in the area in the 1950's but the property remained largely unexplored until Kennecott Exploration Ltd. began examining the property in 1992 when one of their senior geologists examined what is now referred to as the Outcrop Breccia, a quartz-feldspar porphyry, Caracol sediment breccia situated near the centre of the claim group.

Kennecott explored the Peñasquito Project extensively from 1994 through to 1997, completing several geophysical and geochemical surveys. A large, 250 hole rapid air blast ("RAB") drilling program which defined numerous, coincident anomalies throughout the claim holdings was completed during the 3rd and 4th quarters of 1997. Kennecott also completed both reverse circulation and diamond drillholes to test the Outcrop Breccia pipe and the centre of the system.

In 1998, Western Copper acquired a 100% interest in the property from Kennecott. Western Copper completed a diamond drilling program and some geophysical work in 1998. Western Copper focused their exploration efforts on the Chile Colorado Zone and the Azul Breccia Pipe targets.

Western Copper optioned the property to Minera Hochschild S.A. in 2000. Hochschild proceeded to complete 4,601 metres of drilling centered mainly on the Chile Colorado anomaly. Hochschild returned the property to Western Copper after completing their analysis of the drill results.

Western Copper, through their Mexican subsidiary Minera Penasquito, completed 6906 metres of drilling on the Chile Colorado anomaly in the spring of 2002. Encouraged by



the results, Minera Penasquito commissioned a follow up program that was ongoing until February 2003.

According to Western Copper, mineral resources for the Peñasquito deposit have not been yet estimated independently. The previous owners completed in-house internal estimates, but their results have not been publicly disclosed nor available for SNC-Lavalin.

2.4 Topography and Environment

The terrain is typical of the central portion of Mexico with the deposit hosted on the floor of a broad valley surrounded by moderately rounded mountains. The property is approximately 1900 metres above sea level. Numerous arroyos cut through the valley.

The area is very arid with most precipitation occurring in June and July. According to the Geological Mining Monograph, the mean temperature and precipitation where the property is located is 22° C and 700 mm respectively. Rainfall is more common during the summer months.

Numerous types of cacti and palm trees dominate vegetation near the project area.

2.5 Infrastructure

The following section, describing the local infrastructure, was taken from the Geological Mining Monograph of the State of Zacatecas, published in 1992 by the Consejo de Recursos Minerales, augmented through discussions with Minera Penasquito staff.

Zacatecas state features a large highway system which includes three federally managed highways, numbers 45, 54 and 49. Highway 45 crosses the entire state from the southeast to the northwest. Highway 54, connecting the major centres of Guadalajara and Monterrey, crosses the entire state from the southwest to the northeast. Highway 49 connects the central mining region (Fresnillo and Zacatecas) and the south-eastern mining region (Real de Angeles and Pinos) to the state of San Luis Potosi to the east.

Several paved and gravel state roads and gravel trails connect into the state highway system providing access throughout the state of Zacatecas.

Electricity to the town of Mazapil is supplied by the main Mexican power grid via a 34 kW access line. The access line originates in Zacatecas and follows highway 54 to Concepción del Oro. The closest generating stations are located in Torreon and Monterrey.



Government highway maps indicate that there are two railheads in close proximity to the project area. One at Terminal, located approximately 10 km to the northeast; the second at Concepción del Oro, approximately 22 km to the east.

One international airport located approximately 20 km to the northeast of Zacatecas services the entire state.

The state offers a broad network of microwave and satellite communications. Both local and long distance telephone service covers most of the state. Telephone and internet service is available at Minera Penasquitos' offices in Mazapil.

Water is typically scarce but diamond drilling indicates the presence of a perched water table at a depth of between 50 – 90 metres from surface. Although no test work has been completed, the numerous wind driven water wells observed in the area and the well that provides the drill with water, suggest that there may be an aquifer with the potential to provide water for the project.

Minera Penasquito states that the well providing water to the drill(s) features an electric submersible pump run by a 4 cylinder diesel generator. The well has provided sufficient water to operate two drills continuously during a two month period.

Several underground mines were observed to be operating in the immediate area. Most of these operations are small and employ a modest workforce.

In May 2002, Minera Penasquito maintained a three-room office/bunkhouse trailer and a large warehouse facility just outside Mazapil. The warehouse is used to store diamond drill core and select sample rejects. It also serves as a warehouse for field supplies. The core splitting area is added on to the rear of the building and this area features it's own water tanks. Water must be hauled to the tanks by truck. The site has electricity and the office/bunkhouse trailer can accommodate two people.

Additional accommodations (hotels) and dining facilities (restaurants) are available locally in the town of Mazapil.

In October, 2002, Minera Penasquito notified SNC-Lavalin that they currently maintain a six bedroom house in the village of Mazapil. This facility can accommodate 10 people.

2.6 Conclusions and Recommendations

SNC-Lavalin has not seen or reviewed any legal documents with respect to the royalty payments or any other obligations Western Copper has to meet. SNC-Lavalin has not conducted an independent investigation on legal titles on the property and rely solely on information provided by Western Copper for the purposes of this report.

Minera Penasquito reported that it was not actively collecting environmental data at the site during this drill campaign. SNC-Lavalin recommends that Minera Penasquito



acquire a basic weather station, which will allow for the manual collection of temperature and precipitation data at the site. Collection of the environmental baseline data, particularly for the annual precipitation is required for any feasibility study. Collecting this data early in the project's life will be beneficial later in the project's development.

SNC-Lavalin considers the available infrastructure at the site to be adequate to support the planned exploration of the deposit. Continued development of the project will require additional infrastructure development, the exact requirements of which fall outside the scope of SNC-Lavalin's site visit.



3.0 GEOLOGY

Unless otherwise noted, the information in Section 3.0 of this Report has been based on the following sources:

- Information provided by Western Copper for all Kennecott, Hochschild and Western Copper drilling campaigns in a form of electronic database, field notes, reports;
- A site visit by SNC-Lavalin's geologist in May 1-6, 2002 and discussions between SNC-Lavalin and Western Copper at that time.

3.1 Regional Geology

The regional geology of the area is well understood and has been extensively mapped. The contents of this section are derived from two sources. The first is a 1:50000 scale Mexico Government map entitled: Geologic Map and Structure Sections, Concepción del Oro District, Zacatecas, Mexico. The second source of information is an October 2001 report prepared by Tom Turner entitled: Reconnaissance Exploration Survey for the Peñasquito Project, Municipio de Mazapil, Zacatecas, Mexico.

Concepción del Oro lies within the Mexico Geosyncline, a 2.5 km thick series of marine sediments deposited during the Jurassic and Cretaceous Periods and consisting of a 2,000 metre thick sequence of carbonaceous and calcareous turbidic siltstones and interbedded sandstones underlain by a 1,200 metre thick limestone sequence.

The oldest rocks in the region are the Caopas Formation, a series of complexly folded and metamorphosed marine volcanics and volcanoclastic rocks of felsic to intermediate composition with pelitic sediments. The age of the Caopas Formation is unknown.

These rocks are unconformably overlain by the Triassic aged Huizachal Formation, a series of redbed siltstones and sandstones with interbedded red andesites. The top of the Huizachal Formation is defined by evaporate gypsum beds.

The Huizachal Formation is unconformably overlain by a thin conglomerate unit known as the La Joya Formation. This in turn is overlain by the Jurassic to Cretaceous aged sedimentary rocks of the rocks of the Mexico Geosyncline.

The youngest rocks in the district are the late Eocene to mid Oligocene aged intrusive rocks and breccia pipes. The intrusives tend to be of felsic to intermediate composition and generally tend to be localized along the horst and graben structural zones.

Figure 3.1-1 shows the Geological Column as presented in the Geological-Mining Monograph of the State of Zacatecas, 1992 edition.

Table 3.1-1 summaries the regional geological column.



Table 3.1-1: Geological Column – Peñasquito Project Area

Period	Epoch	Unit	General description and comments
Paleogene	Oligocene	Intrusives	Felsic to intermediate composition intrusive stocks, dykes, sills and stockworks
		Mazapil Conglomerate	Conglomerate unit
	Eocene		Granodiorite
	Paleocene		
Cretaceous		Parras Shale	Predominantly shales
		Caracol Formation	Interbedded shales and sandstones, minor calcareous and carbonaceous sections <i>Host for Peñasquito mineralization</i>
		Indidura Formation	Primarily shales and calcareous siltstones with minor argillaceous limestones
		Cuesta del Cura Limestone	Limestones
		La Pena Formation	Increasing chert, limestones
Jurassic		Cupido Limestone	Limestone with minor chert <i>Historic unit hosting significant mineralization</i>
		Taraises Formation	Limestones, argillaceous limestones <i>Historic unit hosting significant mineralization</i>
		La Caja Formation	Predominantly calcareous siltstones with minor limestones
		Zuloaga Formation	Predominantly limestone with minor chert
		unconformity	
		La Joya Formation	Thin basal conglomerate
Triassic		unconformity	
		Huizachal Formation	Top denoted by evaporate gypsum beds Redbed siltstones and sandstones with interbedded porphyritic red andesites
		unconformity	
		Caopas Formation	Metamorphosed and complexly folded felsic to intermediate volcanic and volcanoclastic rocks with pelitic sediments

Sources: Turner, 2001
1:50,000 Geology Map of the Concepción del Oro District

3.2 Local Geology

According to Turner (2001), the local geology is dominated almost entirely by the rocks of the Mexico Geosyncline. The oldest rocks in the area are the Upper Jurassic aged, massive to coarsely bedded limestones of the Zuloaga Limestone.

These rocks are overlain by the La Caja Formation, a series of thinly bedded phosphatic cherts and silty to sandy limestones that may be fossiliferous.



The La Caja Formation is overlain by the limestones and argillaceous limestones of the Taraises Formation which in turn are overlain by the limestones of the Cupido Formation, one of the more favourable host rock units for much of the mineralization previously mined in the area.

The Cupido limestones are overlain by the cherty limestones of the La Pena Formation, deposited during the Lower Cretaceous Period. These rocks are in turn overlain by the Cuesta del Cura limestone.

The Indidura Formation, a series of shales and calcareous siltstones and argillaceous limestones overlie the Cuesta del Cura limestone.

The Upper Cretaceous Period rocks of the Caracol Formation, consisting primarily of interbedded shales and sandstones, overlie the Indidura Formation. These rocks dominate the geology in the Peñasquito Project area and are overlain by the Tertiary aged Mazapil Conglomerate.

A large granodiorite stock is believed to underlie the entire area and the sediments described above are cut by numerous intrusive dykes, sills and stocks of intermediate to felsic composition. The intrusives are interpreted to have been emplaced from the late Eocene to mid-Oligocene Epochs and have been dated at 30-40 M years in age.

3.3 Chile Colorado Geology

According to Minera Penasquito, the Chile Colorado anomaly is hosted entirely within the rocks of the Caracol Formation. The bedding appears to be largely flat based on observations from the drill core where the dip of the hole generally tends to equal the core angles of the bedding. Soft sediment textures are common throughout the sediments.

Outcrop in the area is extremely rare with only one small (1,000 m²) outcrop occurring to the north of the anomaly. This outcrop, known as the Outcrop Breccia, is a quartz feldspar breccia with fragments of Caracol sediments and quartz feldspar porphyry. It is believed that this breccia is Tertiary aged, closely related to the periods of intrusive activity.

A second breccia, known as the Azul Breccia, occurs to the south of the Outcrop Breccia and lies immediately north of the Chile Colorado anomaly. This breccia has the same composition and is of the same age as the Outcrop Breccia.

The Chile Colorado zone is localized along the southern margin of the Azul Breccia pipe, which is localized at the intersection of two structural trends.

A large granodiorite stock is interpreted to be present at depth (+1000 metres). This interpretation is based on analysis of geophysical data collected by Kennecott and

Western Copper during earlier field programs. To date, drilling has not intersected this intrusive.

Numerous dykes, sills and stockworks crosscut the Caracol sediments following both minor faults and fracture zones. To date, three principle directions have been identified with NS, EW and WNW directions.

3.4 Geological Model and Legend

The geology, both on a regional and local scale, is well understood. All of the Peñasquito professional field personnel had a strong understanding of the geology of the deposit and were very effective at communicating this knowledge.

Minera Penasquito has developed a geological legend for the project, which is derived from the geological legend defined by the regional mapping of the district. This has established a direct link to the regional geology and is extremely useful in maintaining the continuity of the mapping at both a regional and local scale.

The geological legend currently being used is somewhat simplified but appears to be effective in describing the geology at a deposit level. A summary of the geological legend used in the logging is provided in Table 3.4-1.

Table 3.4-1: Simplified Property Geological Legend

	Code	Description
Sedimentary Rock		
Alluvium	Qal	Alluvium: Unconsolidated gravels - Caliche conglomerate
Sandstone	Kuc(SD)	Caracol: Coarse bedded, calcareous turbidite sandstone
Siltstone	Kuc(SLS)	Caracol: Laminar bedded calcareous turbidite siltstone with interbedded sandstone beds. May be peletic and carbonaceous with common soft sediment deformation
Intrusive Rock		
Sediment Chert Diatreme Breccia	Bxc	Grey, hydrothermal breccia containing 50 - 80% clasts of Caracol sediments in a milled Caracol matrix
Intrusive Diatreme Breccia	Bxa	Grey to white hydrothermal breccia with dominant Caracol clasts and lesser quartz, feldspar porphyry clasts in a milled Caracol matrix. Commonly quartz - sericite altered
Veins		
Sulphide Vein	Svn1	Coarse grained weakly banded sphalerite-galena-argentite with minor pyrite
	Svn2	Coarse grained pyrite with lesser sphalerite-argentite and late quartz carbonate
Carbonate Vein	Cvn	Banded, opaque white to oyster carbonate vein with minor pyrite and occasional galena-sphalerite.

3.5 Structure

According to Minera Penasquito, the Peñasquito deposit sits in a flat-bottomed syncline lying between two anticlines that form ridges to the north and south of the project area. Bedding planes in the Caracol Formation suggest a flat to gentle dip to the west.

Minera Penasquito have identified three fault-fracture sets affecting the property. The first is oriented SE with a steep NE dip, the second N with steep E dips and the third E with steep N dips. The SE trending set is dominant and exhibits left-lateral displacement. Secondary faults, parallel to this dominant set, have a flat dip to the SW and reverse displacement. The faults have been interpreted to have been active before, during and after mineralization.

Stockwork veins and breccia dykes have been mapped at Chile Colorado and have been noted in all three directions described above. Locally, these veins and dykes are interpreted by Minera Penasquito to form a stair step pattern from NE to SW. The Chile Colorado deposit has been slightly offset by post-mineral movement along the SE striking faults.

The two diatreme breccia pipes identified in the project area are interpreted to have formed along a dominant SE striking faults and fault splays to the N and E.

3.6 Alteration

According to Minera Penasquito, Chile Colorado includes varying levels of quartz-sericite, quartz-sericite-pyrite and quartz-sericite-pyrite-carbonate alteration. Alteration appears to be strongly controlled by both structure and lithology. In general, the intensity of the alteration appears to be related to the porosity of the host rock units as the beds are intersected by the fault and fracture zones. Sandstones generally tend to exhibit a higher degree of alteration than the finer siltstones.

Minera Penasquito has interpreted the alteration at Peñasquito to be phyllic, grading into a retro-skarn assemblage at depth approaching the buried intrusives. Tables 3.6-1 and 3.6-2 summarize the primary and secondary alteration the Chile Colorado deposit.



Table 3.6-1: Chile Colorado Primary Hydrothermal Alteration Classification

PC-Alteration:

Weak-moderate disseminated pyrite with pyrite-calcite veinlets. Pyrite bands often occur along bedding and adjacent to the pyrite-calcite veinlets. Trace-minor sphalerite-galena may be present in the veinlets. The host sediment is soft, calcareous and not bleached.

Weak QSPC-Alteration:

Weak to moderate silicification with moderate disseminated pyrite and pyrite-calcite veinlets. This alteration is an important host for vein and sandstone-hosted mineralization. The altered sediments are hard, calcareous and not bleached.

Moderate-Advanced QSPC-Alteration:

Moderate to advanced silicification with disseminated pyrite, pyrite-calcite and pyrite veinlets. This alteration is also an important host for vein and sandstone-hosted mineralization. The altered sediments are hard, calcareous and moderately bleached.

QSP-Alteration:

Advanced silicification with abundant disseminated pyrite with pyrite and pyrite-quartz veinlets, minor fluorite. This is a minor host for veinlet and breccia dike mineralization and an important host for disseminated sandstone-hosted mineralization. The altered sediments are hard and non-calcareous with an intense mottled bleach.

QSPCT-Alteration:

A retrograde skarn alteration assemblage of quartz-sericite-pyrite-calcite-tremolite. The presence of tremolite bands parallel to bedding and calcite veinlets are the two factors utilized to identify this alteration type in the field. The altered sediment is hard, siliceous, has weak carbonate in matrix and an intense mottled bleach with white tremolite bands.

QSPG-Alteration:

Also a retrograde skarn alteration noted by the presence of minor grossularite in quartz veinlets and disseminated in the matrix. It is considered to be a poor host for both vein and disseminated mineralization. The altered rock is hard, pyritic, weakly calcareous with an advanced bleaching.



Table 3.6-2: Chile Colorado Secondary Hydrothermal Alteration Classification

<p><u>Propylitic Alteration:</u></p> <p>A dull gray-green alteration with chlorite-epidote-calcite-pyrite-sericite-silica alteration mineral suite with calcite-pyrite and quartz-pyrite veinlets. Weak disseminated and veinlet copper mineralization is common. Thin granodioritic dikes may occur with this alteration.</p> <p><u>Clay-Calcite Alteration:</u></p> <p>A late veinlet-fracture controlled clay alteration with calcite-pyrite-clay-talc veinlets. Hematite and sulfosalts partially replace primary disseminated groundmass pyrite. Hematite and sulfosalts are also present in calcite-pyrite-sphalerite veinlets. This alteration may be a potential important host for late disseminated and veinlet mineralization. The alteration has a white mottled colour with spots of clay-talc and clay selvages that rim pyrite-calcite-clay-talc veinlets.</p>

Minera Penasquito have interpreted a late clay-carbonate alteration overprint and also have identified propylitic alteration adjacent to the intermediate dykes that they believe is a late stage alteration feature.

The outermost alteration shell consists of disseminated pyrite with pyrite-calcite veinlets ("PC"). This grades into weak to advanced quartz-sericite-pyrite-carbonate alteration ("QSPC") followed by quartz-sericite-pyrite ("QSP") alteration and quartz-sericite-pyrite-tremolite ("QSPCT") and quartz-sericite-pyrite-grossularite ("QSPCG") alteration.

Rocks in the Chile Colorado area also exhibit a weak to moderate hornfelsing resulting in an increase in the overall hardness of the host rocks.

Minor clay sericite alteration has been identified but is not common.

Oxidation extends from surface to approximately 80 metres down from surface.

3.7 Mineralization

According to Minera Penasquito, the Ag-Zn-Pb mineralization of the Chile Colorado anomaly occurs as both veining and narrow fracture filling, which have been interpreted to represent stockworks. Areas where the veining and fracture filling is most intense generally correspond to the areas of highest grade.

Site personnel have also identified low grade mineralization associated with tight, fine fracture filling and disseminated mineralization which appears to be related to sandstone beds. The current geological model for the property suggests that the Ag-Zn-Pb

mineralization may form elongate ore bodies radiating outward from fracture fill and veining mineralization where sandstone beds are cut by the former style of mineralization.

Historical documents note that the local mineralogy is dominated by sphalerite, pyrite and galena with minor amounts of argentite, tetrahedrite, chalcopyrite and pyrhotite and rare native silver and gold. Minera Penasquito's geologists have not noted either pyrhotite or native gold in the drill core examined to date and have indicated that pyargyrite is common. The site geologists have also identified polybasite in the drill core and believe that there is another mineral (yet to be identified) with the polybasite that produces the red streak.

Fluorite is also common where sphalerite and galena are abundant.

Sphalerite and galena with carbonate and pyrite, tend to occur as massive veins generally 1 – 30 cm in thickness. This mineralization also occurs as fine fracture filling in very tight, narrow fractures and also as fine grained disseminated grains within the coarse grained sandstone units. The amount of each mineral is highly variable from one fracture filling to another.

Pyrite, sphalerite and galena have also been observed as discrete crystals and accretions within sandstone units. Pyrite also tends to be localized along carbon partings in the sedimentary beds and can also be occasionally observed in the siltstones.

Late stage carbonate and pyrite fracture filling can be observed throughout the sediments.

In addition to the veining, fracture filling and disseminated mineralization, fine grained pyrite, galena and sphalerite have been observed within the matrix of the sedimentary and intrusive breccias.

Table 3.7-1 summarizes mineralization codes utilized in drill core coding.

Table 3.7-1: Chile Colorado Mineralization Codes

Mineralization Code	Mineralization Description
SfPy	Sulfide Vein. Sediment Hosted: Sph-Ga-Argentite with minor Py-carbonate (Associated with alterations: Arg, SeSi & Sf)
PySf	Sulfide Vein. Sediment Hosted: Py with lesser Sph-Argentite and late Qtz-Carbonate. (Associated with alterations: SeCa & SeSi)
CaPy	Carbonate Vein. Sediment/Breccia Hosted: With minor Py & occasional Ga-Sph.
CaSf	Calcite-Py-Ga-Sph veinlets. Breccia hosted: Ga-Sph-carbonates in a core, Py peripheral.



3.8 Conclusions and Recommendations

During the site visit SNC-Lavalin reviewed selected core available from Minera Penasquito core library. In Chile Colorado SNC-Lavalin observed core geological units consistent with units described in Section 3. The geology is dominated by calcareous and carbonaceous sandstones and siltstones, which exhibit definite bedding planes and occasional soft sediment deformation. The rocks observed during the site visit are consistent with the description of the Caracol Formation as described for Chile Colorado.

SNC-Lavalin noted that the geological legend builds on the geological legend used to map the region. This promotes consistency in the geological data and allows the easy transfer of data between the regional and the local geological model.

The geological legend currently in use is well suited towards defining the lithology of the deposit through the rock codes currently in use. This information should be readily transferable into an electronic database system. An alpha-numeric classification system has been considered for the vein stockwork mineralization observable in the core but this system has not been implemented. Minera Penasquito notes that the veins show great variation in width and mineralogy, both in the horizontal and vertical directions. Minera Penasquito also notes that there appear to be repeated episodes of vein formation which overprint one another. Minera Penasquito contends that the complexity of the veining at Chile Colorado is difficult to represent using an alpha-numeric coding system and instead, have chosen to describe these vein stockwork features using graphic logs with brief descriptions of the mineralogy.

SNC-Lavalin recommends that Minera Penasquito continue efforts towards developing a geological coding system that defines the intensity or nature of fracture filling or veining within a drillhole. SNC-Lavalin is of the opinion that this information is crucial for the purpose of resource estimation. Currently, the geological logging relies on the graphic log to present the frequency and nature of fracture filling and veining. SNC-Lavalin strongly recommends that Minera Penasquito develop an alpha-numeric coding system which describes the intensity and nature of the fracture filling/veining within each drillhole. Every effort should be made to examine the drill core to determine how subtle variations in the frequency and nature of the fracture filling and veining is related to the grade of the mineralization.

SNC-Lavalin noted some faulting in the drill core examined during the site visit. In one instance, a significant fault zone featured sub-angular to sub-rounded fragments of Caracol sediments in a matrix consisting of fault gouge. The fault appeared to be re-healed with extensive carbonate infill and minor silicification of the matrix and significant sphalerite, galena and pyrite in-filling.

SNC-Lavalin observed most of the alteration assemblages described above in fresh core drilled during the site visit. The quartz-sericite and quartz-sericite-pyrite (+/- carbonate) were readily identifiable in the drill core. Minera Penasquito's field geologists were very familiar with the alteration coding system and consistently agreed on the type and intensity of the alteration displayed in the core.



SNC-Lavalin considers the geological legend used to log the core to be sufficiently detailed to isolate the alteration within each hole.

During the site visit, SNC-Lavalin was able to review and independently log some core from hole WC16. SNC-Lavalin has included a copy of the geological log in Appendix A. Observation of the core confirms that the mineralogy described above is valid. Sphalerite, galena and pyrite occur as fracture filling and veins, generally less than 2 cm in thickness but occasionally as massive veins, less than 0.5 metres in thickness. These minerals can occur alone or in combination with each other and often include significant carbonate.

Argentite is rare and difficult to distinguish with a hand lens. To assist in identifying the minerals present Minera Penasquito may wish to consider the purchase of a binocular microscope.

SNC-Lavalin did observe the disseminated pyrite (+/- sphalerite and galena) within the sandstone units, which also commonly contained very tight, fine fracture filling mineralization. It was difficult to say with certainty that galena and sphalerite were present in the sandstone as disseminated grains but both minerals could definitely be identified as fracture filling.



4.0 EXPLORATION, PROCEDURES AND METHODOLOGY

The following Sections 4.1 through 4.3 summarize information contained in Kennecott and Minera Penasquito Exploration Reports and a review of several Kennecott and Minera Penasquito maps depicting the geophysical and geochemical results and a drillhole database. The reported factual information and observations in these reports is assumed to be fully, fairly and accurately described. Sections 4.4 and 4.5 contain SNC-Lavalin notes and observation generated during the site visit of the property.

4.1 Geophysics

Kennecott completed numerous air and ground based geophysical surveys on the Peñasquito claim groups between 1994 through to 1997. The aeromagnetic survey of the region defined an 8 km x 4 km, NS trending magnetic high centered roughly on the Outcrop Breccia.

Kennecott completed air and ground based magnetic surveys, airborne radiometric surveys, gravity and induced polarization surveys over most of the claims. Kennecott also completed a Controlled-Source Audio-Frequency Magneto-Telluric ("CSAMT") surveys that detect changes in resistivity to depths of up to 400 metres and can identify and outline rudimentary induced polarity ("IP") chargeability anomalies. Western Copper also completed an additional CSAMT survey on the Chile Colorado and Azul Breccia anomalies in 1998.

Magnetometer surveys suggest the presence of deep-seated granodiorites.

In almost all instances, the geophysical surveys indicated the presence of numerous anomalies scattered across the project area.

4.2 Geochemistry

Kennecott completed an extensive rapid air blast ("RAB") drilling campaign across much the Peñasquito project area after the discovery of the Chile Colorado deposit. This program, designed to systematically test the entire project area, consisted of 250 holes. The holes penetrated the extensive overburden cover and collected chip samples from the top of the bedrock unit. Analytical results confirmed the presence of many of the anomalies, which had been discovered during the numerous geophysical surveys as well as outlining other, previously unknown anomalies.

Only two RAB holes tested the western portion of the Chile Colorado with a single hole drilled in the eastern portion of the Chile Colorado.



4.3 Exploration Drilling

Since 1992, the Peñasquito property has been explored by different operators during various drilling campaigns. Table 4.3-1 summarized exploration drilling activities during this period in the Peñasquito project area provided by Western Copper and Figures 4.3-1 and 4.3-2 show the location of drillholes on the entire property and Chile Colorado area only. A list of all drillholes and their collar coordinates is included in Appendix B, Table 1.

Exploration drilling concentrated in three different areas: Chile Colorado, Azul Breccia and Outcrop Breccia. Drilling patterns vary for these three areas: approximately 50 x 50 meters in the centre of the Chile Colorado zone, irregular 100 x 100 m in the Azul Breccia and a larger irregular pattern in the Outcrop Zone. Presently, only Chile Colorado is drilled sufficiently to allow mineral resource estimation.

Table 4.3-1: Summary of Drilling Activities for the Peñasquito Project

Drilling Campaign	Period	Drilling Type	Hole Names	Number of Drillholes	Meters of Drilling	Average Hole Length (m)
Kennecott	1995-1997	Reverse Circulation, Diamond Drilling	PN01- PN71	71	23,324.71	328.52
Western Copper	1998	Diamond Drilling	WC01-WC09	9	3,184.90	353.88
Hochschild	2000	Diamond Drilling	MHC01-MHC14	14	4,601.16	328.66
Western Copper	2002	Diamond Drilling	WC10-WC54	45	19,644.90	436.55
Totals/Averages				139	50,755.67	365.15

Kennecott completed their drilling throughout the Peñasquito area: approximately 23 holes were drilled in the Outcrop Breccia zone, 15 holes in the Azul Breccia, 13 holes in the Chile Colorado zone and the remaining holes scattered irregularly outside these zones. Initially Kennecott drilled vertical holes in attempt to get a good geological information but after completing the first 10-12 holes the drilling switched orientation to azimuth mostly 0° or 180° and an average hole dip from 60 to 70. An average hole length of Kennecott drilling is 328.5 meters, with 14 holes having a length exceeding 500 meters. The drillholes are a mixture of reverse circulation and diamond drilling with many holes drilled using both methods: the upper part utilizing reverse circulation and the deeper portion drilled with diamond drilling.

Eleven out of fourteen holes completed by Hochschild tested the Chile Colorado area. Their length range from a minimum of 245 meters to a maximum of 452.3 meters and average length of 328.7 meters. Prevailing drilling orientation of Hochschild holes is azimuth of 90° (or perpendicular to this direction) and an average dip that varies between 50 and 70°.



Western Copper drilling activity concentrated mostly on the Chile Colorado zone where a total of 42 holes were located. The remaining holes are located as follows: 8 holes in the Azul Breccia, 1 hole in the Outcrop Breccia and 3 holes outside of main zones. The holes were drilled approximately 400 meters deep, most of them directed 90° E or 180° W with approximate dip of 60°.

Core recovery is reported by Western Copper to be very good, approximately 94% in oxides and 98% in sulphides.



Figure 4.3-1: Peñasquito Property – Drillhole Location and Traces

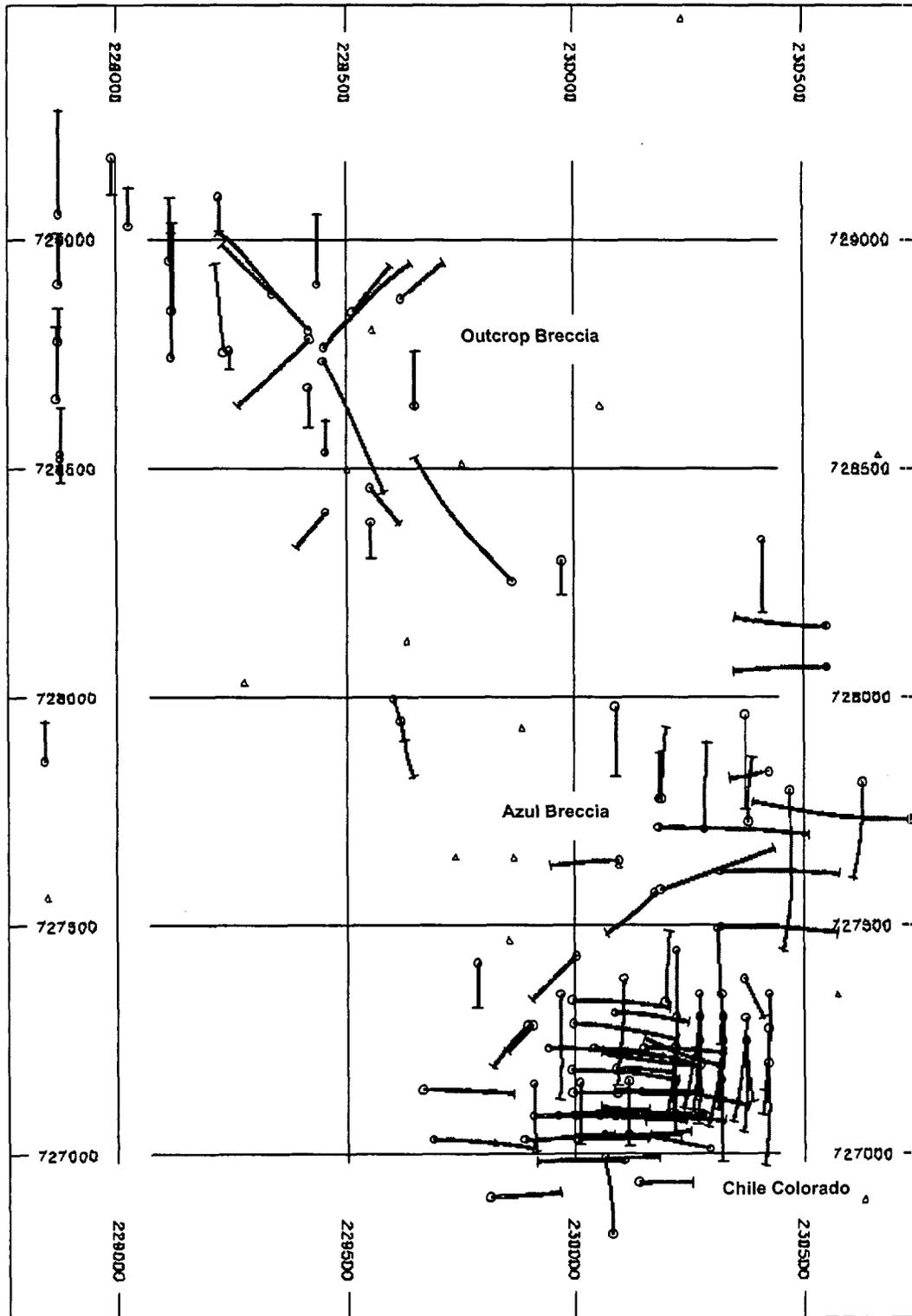
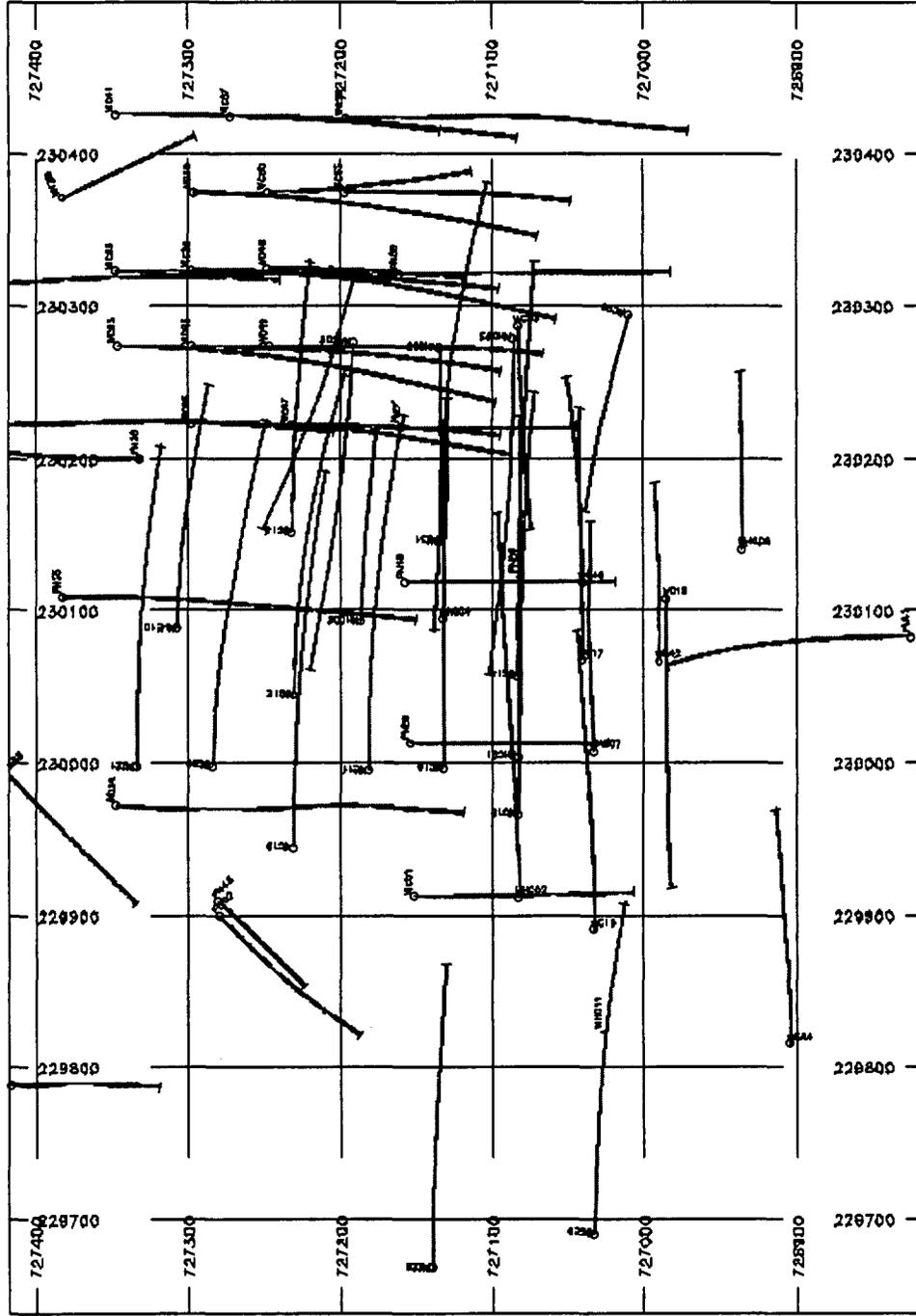




Figure 4.3-2: Chile Colorado Area – Drillhole Location and Traces



4.4 Procedures and Methodology

4.4.1 General Documentation

SNC-Lavalin reviewed the available documentation during the site visit. The data was stored in file cabinets and map racks in the project office. The available data consisted of copies of the historical drill logs, sections and plans of the completed drilling, geophysical and geochemical base maps and other relevant project information.

Original assay certificates were available for the diamond drillholes completed by Western Copper. Original assay certificates were not available at site for either the Kennecott or Hochschild drilling programs.

The geological legend used for logging the core was immediately available, both in the files posted on the bulletin board and appended to each section.

The geological sections and plans are hand drafted and well maintained. These sections include all the historical drill data and the information collected during the ongoing drilling. New data is added by hand once the hole is completed to continue the refinement of the geological model.

Regional geological data is largely in the form of Mexican government maps supplemented by some internal reports.

4.4.2 Hole Location and Alignment

At the time of the site visit, Minera Penasquito was locating all drillhole collars by a compass and chain survey from completed drillholes. A Minera Penasquito geologist checked the drill location and alignment once the drill was moved on to the set up and prior to drilling commencing.

4.4.3 Collar and Down-hole Surveys

Minera Penasquito personnel indicated that the drillhole collars have not been accurately surveyed using precision instrumentation. Unsatisfied with the historical collar coordinates as a result of an obvious error, Minera Penasquito completed a chain and compass survey of the hole collars in September, 2001. This survey assumed that the co-ordinates of hole PN-26 were accurate. The chain and compass surveys were closed loop surveys that closed to within 3 metres. All drillhole collars are identified with a concrete monument, allowing all holes to be identified at a later date. The monument is placed directly over the hole collar on completion of each hole.

Later, to rectify this Minera Penasquito completed an independent survey of all the drillhole collars located on the Chile Colorado anomaly. This survey was completed by an independent local contractor and utilized precision instrumentation. Minera Penasquito has informed SNC-Lavalin that the hole collars were surveyed by an independent surveyor, Carrillo Gallegos Consultores on September 19, 2002.

Minera Penasquito personnel indicated that down-hole surveys are completed by the drilling contractor using a single shot, through the bit, survey instrument. Drillholes are surveyed on completion of each hole as the drill rods are being pulled from the hole. A company representative does not currently supervise the down-hole surveying.

4.4.4 Core Transportation and Preparation for Logging

According to Minera Penasquito personnel, the core boxes are sealed at the drill site and loaded into the back of a pick up truck to be transported to the logging facility. The drillers record the box number on each box and provide depth markers at the end of each run.

Once the core arrives at the logging facility, the boxes are laid out in order and the tops are removed. The core is washed to remove grease and dirt. The depth markers are checked and the core is measured into one metre intervals. The depth from and to for each box is noted on both the top and bottom covers of each box.

4.4.5 Geotechnical Logging and Core Photography

According to Minera Penasquito personnel, the core is logged geotechnically prior to any other work being completed. The geotechnical logging is being completed according to the standard geotechnical logging procedures, which were provided to Minera Penasquito by SNC-Lavalin prior to the commencement of drilling.

As part of the geotechnical logging, the core is photographed using a high resolution digital camera. All drill core is photographed wet and each photograph includes details regarding the hole number and interval with each photograph.

4.4.6 Geological Logging

According to Minera Penasquito personnel, the geological legend used to log the core is derived from the geological legend on a regional scale. The geological legend is sufficiently detailed to describe both the lithology and alteration. The geological legend does not provide an alpha-numeric coding system to represent structural and/or mineralogical details though that information is currently recorded in the logs through graphic representation and detailed descriptions.

The geological logging is very detailed, providing more than adequate details on the down-hole geology.

4.4.7 Sample Layout

Minera Penasquito reports that it is currently sampling the entire drillhole length. Samples are laid out in 2.0 metre intervals from bedrock to the end of each hole. Where necessary, the sample length is adjusted to geological boundaries. Occasionally, this may result in one sample that is less than 2.0 metres with the following sample laid out to be in excess of 2.0 metres in order to resume the 2.0 metre sample spacing.



Once a hole has been laid out, the senior geologist examines the core and defines the primary sample contacts. This data is imported into an Excel spreadsheet program which defines the sample number and intervals for the drillhole being sampled. The geologist also inserts the necessary standards and blanks. The resulting printout is then used to record the sample intervals in the core boxes. Each sample interval is permanently marked, complete with the sample number, at the beginning and end of each sample interval using the printout as a guide.

4.4.8 Sample Splitting

According to Minera Penasquito personnel, all samples are being sawn in half using diamond core saws. Once the samples have been laid out in the logging area, the core is transferred to the splitting area. The core splitters use the permanent sample information recorded in each box to label each sample bag. The core is then sawn with half the core placed in the sample bag and the remaining half returned to the core box as a permanent record. The sample bags are then placed in order outside the sample splitting area.

The water is changed twice per shift in an effort to reduce contamination.

4.4.9 Quality Assurance and Quality Control

Minera Penasquito indicated that blank and standards are being inserted into the sample stream on a regular basis as part of the Quality Assurance and Quality Control ("QA/QC") procedures. The insertion rate is currently one in twenty (1 in 20) or 5% in total. The blanks and standards are taken from standard reference materials ("SRM's") which were generated by Kennecott from their reject library. Hazen Research, a qualified laboratory prepared the SRM's and the grades of the SRM's were independently verified at two other analytical facilities, namely: Rocky Mountain Geochemical Corporation of Salt Lake City ("RMGC") and Commercial Testing and Engineering of Golden, Colorado. Kennecott prepared four separate standards; low Au-Ag, low Pb-Zn, high Au-Ag, high Pb-Zn and a blank sample which are being used by Minera Penasquito during this drill program.

Table 4.4-1 summarizes the grades of each standard.

Table 4.4-1: Summary of SRM Grades

Standard	Au g/t	Ag g/t	Pb %	Zn %
Low Au-Ag	0.434	23.3	0.272	0.254
High Au-Ag	0.819	37.4	0.177	0.298
Low Pb-Zn	0.656	81.2	1.047	1.966
High Pb-Zn	0.396	70.6	1.463	4.832



A review of the documentation outlining the preparation of the SRM's does not indicate any significant errors or omissions. However, the reports do not provide sufficient detail concerning the physical preparation of the SRM's to categorically state that they were properly prepared.

The SRM's are pre-packaged as sample pulps and are inserted into the sample stream after the core has been split. The samples are being prepared at the ALS Chemex laboratory in Guadalajara. From there, the sample pulps are shipped to ALS Chemex in Vancouver for analysis. As ALS Chemex completes both the sample preparation and analysis, the SRM's cannot be considered as blind samples.

4.4.10 Sample Shipment

According to Minera Penasquito personnel, samples are laid out in sequence once they have been split. Once the SRM's and blanks have been inserted, the sample tags are added to the bags, the bags are sealed and placed into larger sacks for shipment. The sample tags are added by cross-referencing the sample number on the bag to the sample number on the master sample sheet, to ensure that the bags are properly tagged.

Once the samples have been packed, the bags are stored at site until ALS Chemex can pick them up.

4.5 Sample Preparation and Analysis

4.5.1 Sample Preparation

According to Western Copper, all samples were prepared by ALS Chemex in Guadalajara. The procedure, according to Chemex, follows their standards as described below:

- The entire sample is passed through a primary crusher to yield a crushed product. Rock chips and drill samples are crushed to better than 70% of the sample passing 2.0 mm.
- A split is taken using a stainless steel riffle splitter.
- The crushed sample split weighing 250 grams is ground using a ring mill pulverizer. The pulverizer uses a chrome steel ring set. All samples are pulverized to greater than 85% of the ground material passing through a 75 micron screen.

4.5.2 Assaying Procedures

According to Western Copper, ALS Chemex in Vancouver, which is a primary laboratory, performs all Minera Penasquito assaying. According to Chemex, assaying procedures comprise of the following steps:



- A conventional analysis utilizing as sample decomposition nitric aqua regia digestion and inductively coupled plasma with atomic emission spectroscopy (ICP-AES) is used for the whole suite of components.

A prepared sample (0.50 grams) is digested with aqua regia. The resulting solution is diluted with demineralized water, mixed and analyzed by inductively coupled plasma with atomic emission spectroscopy.

Lead, silver and zinc are analyzed by nitric aqua regia digestion with (AAS) with atomic absorption spectroscopy.

A prepared sample (0.2 to 2.0 grams) is digested with concentrated nitric acid. After cooling, hydrochloric acid is added to produce aqua regia and the mixture is digested. The solution is then diluted with demineralized water, mixed and then analyzed by atomic absorption spectrometry against matrix-matched standards. The detection limits for this method are:

Table 4.5-1: Detection Limits for Different Elements for AAS Analytical Method

Element	Symbol	Detection Limit	Upper Limit
Lead	Pb	0.01%	30.0%
Silver	Ag	0.30 g/t	1500 g/t
Zinc	Zn	0.01%	30.0%

- Silver grades that exceed upper limit of AAS methods and gold grades are analyzed using fire assay fusion with gravimetric finish.

A prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents in order to produce a lead button. The lead button containing the precious metals is coupled to remove the lead. The remaining gold and silver bead is parted in dilute nitric acid, annealed and weighed as gold. Silver, if requested, is determined by the difference in weights. The detection limits for this method are summarized in the following table:

Table 4.5-2: Detection Limits for Different Elements for Fire Assaying Method

Element	Symbol	Detection Limit	Upper Limit
Gold	Au	0.05 g/t	1,000 g/t
Silver	Ag	5.00 g/t	10,000 g/t



4.5.3 Check Assaying

A. Check Assaying - Kennecott Drilling

The following table contains results of check assaying provided by Western Copper for the Kennecott drilling program. Samples were collected from a range of holes from PN15 through PN50. Individual variances between pairs of originals and checks vary noticeably for some pairs, but in general, the results between both the original and check sample populations show a good correlation. Differences between mean grades for the original samples and their checks vary from 1.09% to 5.33%; which is considered a very good match. According to Western Copper, RMGC laboratory performed the analysis of check assays.

Table 4.5-3: Results for Check Assaying for Kennecott Drilling

Item	Ag	Au	Pb	Zn
Number of Samples	131	131	131	131
Original Mean Grade	139.98	1.267	1.476	3.86
Check Assay Mean Grade	132.52	1.253	1.450	3.77
Difference	5.33%	1.09%	1.73%	2.31%

B. Check Assaying - Results for Hochschild Drilling

There are no recorded results of any check assays completed for Hochschild samples.

C. Check Assaying - Results for Phase 1 & 2 Drilling

A check assay program was completed in November 2002 for a total of 277 samples between two laboratories: Chemex and Acme, both ISO 9002 certified. These samples collected from two holes WC17 and WC33 were submitted to both laboratories and analyzed. The results of both analyses are summarized in Table 4.5-4.

Table 4.5-4: Results for Check Assaying for Phase 1 & 2 Drilling

Item	Ag	Au	Pb	Zn
Number of Samples	277	277	277	277
Chemex Mean Grade	43.57 g/t	0.167 g/t	0.478%	0.504
Acme Mean Grade	43.12 g/t	0.206 g/t	0.482%	0.524
Difference	1.1%	-23.3%	-1.0%	-3.9%
Correlation Factor	1.00	0.98	1.00	1.00

Generally, the results of the checks assays shipment sent to Acme show a good agreement with the original results from the primary laboratory, with the exception of gold values. Table 4.5-4 shows that average grades for silver, lead and zinc are within the acceptable levels of accuracy and their correlation coefficients are very good being equal to 1.0. Gold grades display high variability of 23% lower for average Chemex

results. Close scrutiny of the individual gold samples reveals that most of the values are below the detection limit of 0.07g/t and it appears that they obscure analysis. The analysis of values above this detection limit show better correlation and differences between average grades was reduced to 12.4% with the Chemex mean grade higher than the Acme results.

The following graphs represent scatterplots for individual grade values derived by different laboratories:

Figure 4.5-1: Silver Check Assays – Chemex Originals vs Acme Checks

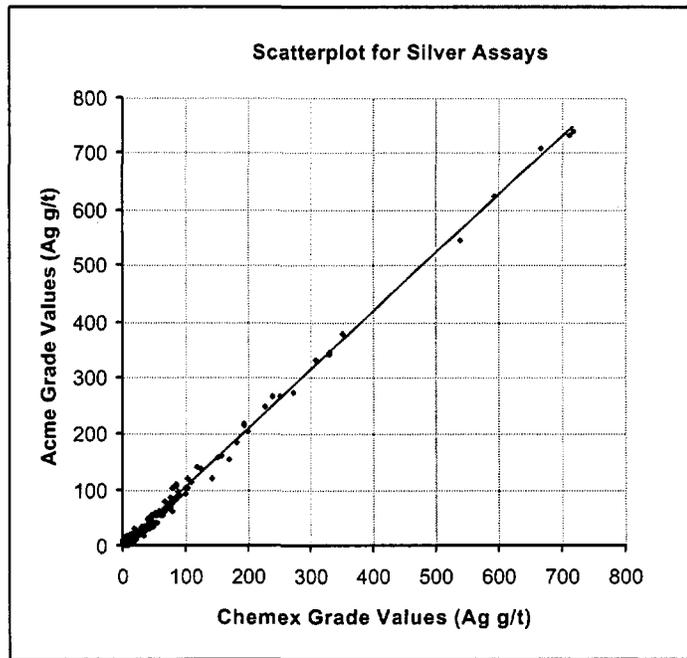


Figure 4.5-2: Gold Check Assays – Chemex Originals vs Acme Checks

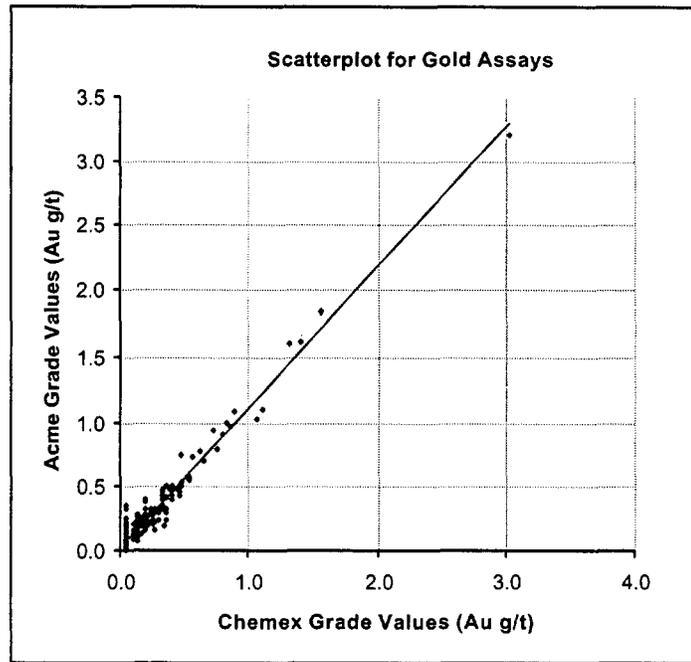


Figure 4.5-3: Lead Check Assays – Chemex Originals vs Acme Checks

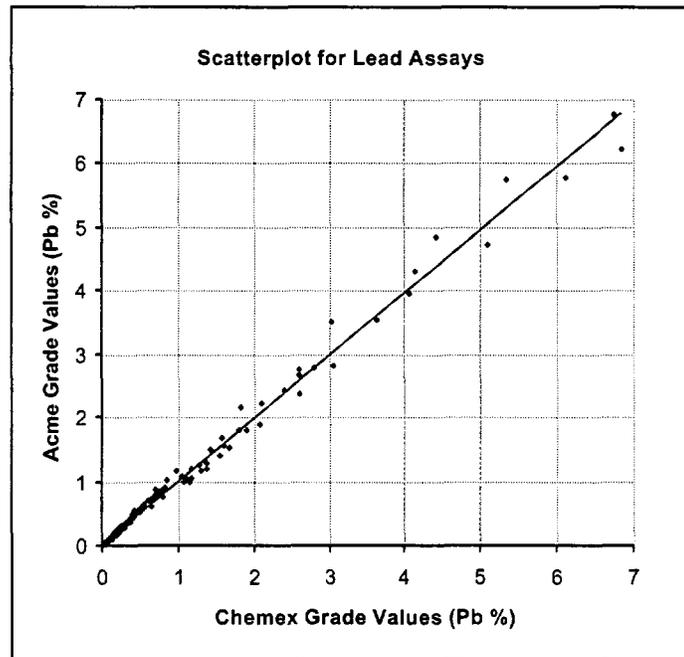
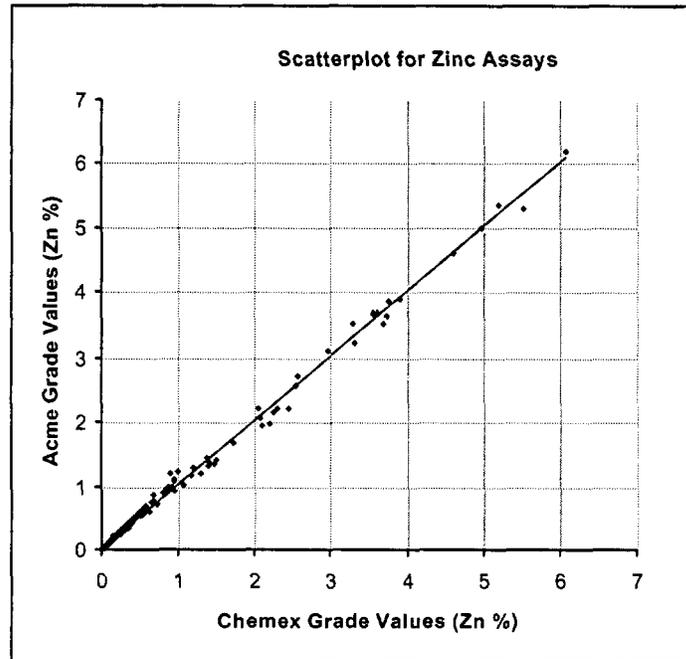


Figure 4.5-4: Zinc Check Assays – Chemex Originals vs Acme Checks



D. Check Assaying - Results for Phase 3 Drilling

A check assay program was completed a total of 184 samples from phase 3 drilling between two laboratories Chemex and Acme. These samples collected from holes ranging from WC42 to WC52 were submitted to both laboratories and analyzed. The results of both analyses are summarized in Table 4.5-5.

Table 4.5-5: Results for Check Assaying for Phase 3 Drilling

Item	Ag	Au	Pb	Zn
Number of Samples	183	183	96	96
Chemex Mean Grade	94.73 g/t	0.523 g/t	2.158%	1.806%
Acme Mean Grade	99.81 g/t	0.568 g/t	2.130%	1.819%
Difference	5.4%	8.7%	-1.3%	0.7%

In general, the results between both the original and check sample populations show a good correlation. Differences between mean grades for the original samples and their checks vary from -1.3% for Pb to 8.7% for Au which is considered a very good agreement.

The following graphs represent scatterplots for individual grade values derived by different laboratories:

Figure 4.5-5: Scatterplots for Check Assay Program of Phase 3 Drilling for Ag and Au

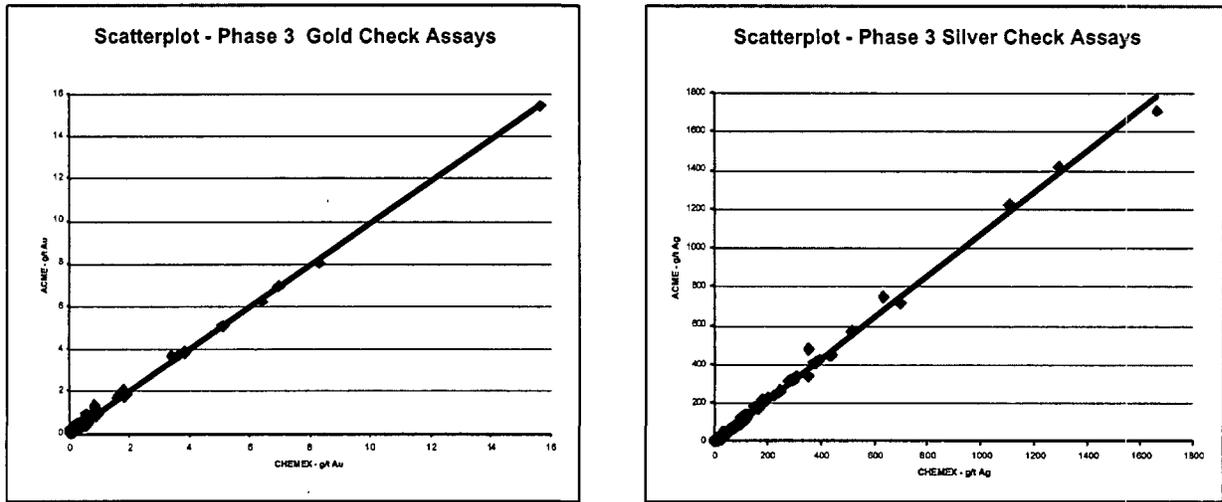
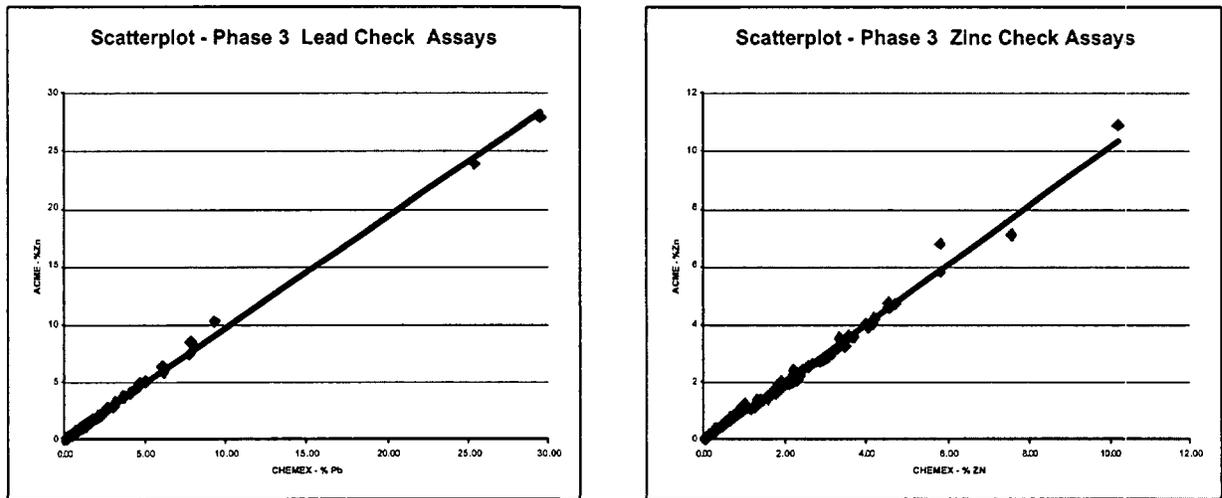


Figure 4.5-6: Scatterplots for Check Assay Program of Phase 3 Drilling for Pb and Zn





4.5.4 Standards

A. Standards for Kennecott Drilling

A total of 6 excel spreadsheets were provided on March 15, 2003 with standard assays for Kennecott drilling. There are some ambiguities regarding these standards and comments included in the files indicated that not all results are completed. SNC-Lavalin has not included this information in our analyses.

B. Standards for Hochschild Drilling

An excel spreadsheet file was provided with standard assays for Hochschild sampling by Western Copper. Individual standards were not coded by appropriate groups, though. SNC-Lavalin separated this population according to standards provided by Western Copper and isolated three different groups as presented in Table 4.5-6. It appears that Hochschild performed standards assaying for the three groups only: Low Pb-Zn, High Pb-Zn and Blanks.

Table 4.5-6: Hochschild Sampling - Comparison of Standards Assaying

Metal	Description	Low Au-Ag	Low Pb-Zn	High Au-Ag	High Pb-Zn	Blanks
	No of Samples		39		45	39
Au (g/t)	Standard Grade		0.656		0.396	<0.07
	Average Grade	Not Available	0.624	Not Available	0.408	0.003
	Difference		-4.82%		3.03%	
Ag (g/t)	Standard Grade		81.200		70.600	<0.34
	Average Grade	Not Available	75.949	Not Available	69.622	0.354
	Difference		-6.47%		-1.38%	
Pb (ppm)	Standard Grade		10460		14625	<300
	Average Grade	Not Available	9856	Not Available	14048	0.002
	Difference		-5.77%		-3.9%	
Zn (ppm)	Standard		19655		48320	<13
	Average	Not Available	20505	Not Available	48900	0.005
	Difference		4.32%		1.20%	

The results of standards display a reasonable correlation. Differences between average assay values vary from -6.5% to 4.3%.

C. Standards for Phase 1 & 2 Drilling

Western Copper states that standards are regularly inserted into a sample stream. SNC-Lavalin has analyzed a set of results from assaying standards for Phase 1 & 2 drilling. This comparison was done for a total of 349 standards of holes from WC10 to WC41 of phase 1 & 2 of Western Copper drilling. The standards (see Section 4.4.9) were inserted into the main stream of samples shipped to the primary laboratory. Table 4.5-7 presents the result of these analyses.



Table 4.5-7: Phase 1 & 2 Drilling - Comparison of Standards Assaying

Metal	Description	Low Au-Ag	Low Pb-Zn	High Au-Ag	High Pb-Zn	Blanks
	No of Samples	53	65	97	58	76
Au (g/t)	Standard Grade	0.434	0.656	0.819	0.396	<0.07
	Average Grade	0.435	0.590	0.797	0.373	0.040
	Difference	0.14%	-10.03%	-2.67%	-5.92%	
Ag (g/t)	Standard Grade	23.3	81.200	37.4	70.6	<0.34
	Average Grade	23.265	73.921	34.258	67.204	0.443
	Difference	-0.15%	-8.96%	-8.40%	-4.81%	
Pb	Standard Grade	2723	10460	1771	14625	<300
	Average Grade	0.258	0.979	0.168	1.374	0.005
	Difference	-5.17%	-6.42%	-4.99%	-6.04%	
Zn	Standard	2540	19655	2977	48320	<13
	Average	0.290	2.056	0.283	4.631	0.006
	Difference	14.27%	4.59%	-4.95%	-4.15%	

The results of standards display a reasonable correlation. It should be noted that analyses of the database of these standards identified some standards obviously misplaced or improperly coded. Switching the location of these misplaced standards would reduce differences between the actual standard assaying and the standards themselves.

D. Standards for Phase 3 Drilling

A total of 106 standards and blanks from phase 3 drilling were assayed. Generally, the results of standards assaying show a good agreement between standards/blanks values and the results of assaying. The difference between the original standards and mean values varies from -10.6% and +8.3%. Table 4.5-8 presents a comparison of standards for the phase 3 of drilling.

Table 4.5-8: Phase 3 Drilling - Comparison of Standards Assaying

Metal	Description	Low Au-Ag	Low Pb-Zn	High Au-Ag	High Pb-Zn	Blanks
	No of Samples	15	21	26	22	22
Au	Standard Grade	0.434	0.656	0.819	0.396	<0.07
	Average Grade	0.427	0.596	0.770	0.390	0.063
	Difference	-1.54%	-9.12%	-5.98%	-1.52%	
Ag	Standard Grade	23.300	81.200	37.400	70.600	<0.34
	Average Grade	20.827	76.048	34.904	76.491	1.873
	Difference	-10.62%	-6.35%	-6.67%	8.34%	
Pb	Standard Grade	2723	10460	1771	14625	<300
	Average Grade	0.254	1.001	0.171	1.472	0.010
	Difference	-6.72%	-4.29%	-3.64%	0.67%	
Zn	Standard	2540	19655	2977	48320	<13
	Average	0.254	2.052	0.290	4.952	0.016
	Difference	0.10%	4.42%	-2.75%	2.48%	

4.5.5 Metallurgical Testing

According to information provided by Western Copper, metallurgical tests have been performed on the deposits as follows:

- December 1995 by Dawson Metallurgical Laboratories, Inc. (Utah) for Kennecott - flotation and cyanide leach tests;
- August 1996 by Dawson Metallurgical Laboratories, Inc. for Kennecott - flotation tests on two new samples;
- September 1997 by Dawson Metallurgical Laboratories, Inc. for Kennecott - flotation tests and flotation tailings leaches on nine new samples;
- March 2001 in-house tests by Hochschild – flotation tests;
- November 2002 MSRDI for Western Copper – sink-float testing of Peñasquito sulfide Pb, ZN, Ag resources and bottle roll testing of oxide Au samples WC-20 and WC-21.

The following summary of all metallurgical testing is extracted from the report prepared in February 2003 by Mr. Jaakko Levanaho, an independent consultant to Western Copper:

“The metallurgical testwork on Peñasquito project performed to date includes the following:

1. *Flotation testwork on selected drill core samples and one composite sample.*
2. *Cyanide leach testwork to test an option to use heap leach for the low grade ore to recover silver and gold.*
3. *Heavy media separation testwork to increase the head grade by rejecting non sulfide gangue before grinding.*
4. *Leach testwork on flotation tailings to recover gold and silver.*
5. *Mineralogical investigations of concentrate samples.*

The leach testwork has not been successful as it produced quite low silver recoveries. Therefore no leach options will be included in the scoping study.

Heavy media separation produced promising results with high grade ore, mixed results on medium grade ore and poor results from low grade ore. For the scoping study purposes it has been assumed that 25% of the feed material will be rejected from the ore with the loss of 5% of metals.

Flotation tests performed to date should be considered preliminary. In general the results are very promising, good base and precious metal recoveries have been obtained from both lead and zinc flotation tests. Many if not most lead zinc mines in operation to day have much more difficult metallurgical characteristics



than Peñasquito. The tests which produced the best metallurgical results from both lead and zinc circuits are two separate tests, it needs to be confirmed that the metallurgical results used as target metallurgy can be produced from lead and zinc circuits simultaneously.

The flotation tests have been performed as open circuit cleaner tests and recoveries reported as rougher flotation recoveries. This procedure does not take into account the losses occurring in the cleaner flotation circuit. Once the optimizing of the flotation circuit has proceeded further, lock cycle flotation tests should be performed to provide more reliable metallurgical forecasts for the major ore types of the Peñasquito ore.

It is not clear from the testwork provided if significant amounts of gold and silver are associated with pyrite, therefore the pyrite flotation circuit is not included. If future testwork indicates that commercial quantities silver or gold could be recovered into pyrite concentrate, the pyrite flotation could be added at a later stage.

Mineralogical investigations indicate that the ore is generally coarse grained and metal bearing minerals easily liberated at about 100 micron size range. The lead flotation circuit does not seem to require regrinding, however there are indications that zinc metallurgy may benefit from a regrinding circuit. Although only one large metallic silver grain was found during microscopic investigations, it may be an indication that a centrifugal concentrator or a flash flotation cell in the grinding circuit may increase gold and silver recoveries...."

SNC-Lavalin did not review or audit metallurgical testwork as it is not a part of our scope of work. At this time SNC-Lavalin acknowledges that the metallurgical testing was performed for Kennecott and Western Copper and agrees with J. Levanaho that work done in the past is of a preliminary nature and requires additional testing.

4.6 Conclusions and Recommendations

SNC-Lavalin did not review or audit the raw data collected from the various geophysical surveys. Many of the anomalies outlined by the geophysical surveys have been confirmed through diamond drilling and assaying, eliminating the necessity to verify the results. One exception to this is the interpreted presence of intrusives at depth. To date, drilling has not intersected any deep-seated intrusive bodies. The current geological model suggests that these deep seated intrusive bodies may have been the engine which produced the mineralization in the area. The CSAMT results suggest that there may be a deep seated intrusive body between 900 – 1000 metres from surface but drilling to date has not attempted to confirm this interpretation.

SNC-Lavalin did not validate any of the RAB drilling data or extensively review the results. The anomalies outlined by the RAB drilling program were noted to be coincident



with anomalies defined by the geophysical surveys. In addition, several of the RAB anomalies are confirmed through diamond drilling.

SNC-Lavalin did not observe any written procedures with respect to geological logging or sampling of the core. A written procedure outlining the methodology used to complete the geotechnical logging was noted in the file system.

SNC-Lavalin recommends that Minera Penasquito fully document all field procedures, from spotting a drillhole through to shipment of the samples to ALS Chemex in Guadalajara. The written procedures should be stored in a readily accessible location and initialled by everyone who is hired to perform the work as described. Written procedures for the following tasks are recommended:

- Spotting drillhole locations
- Verifying drill alignment and setting the drill tower angle
- Collar surveys
- Down-hole surveys
- Transporting core to the logging area
- Preparing the core for logging and sampling
- Geotechnical logging
- Core photography
- Geological logging
- Sample layout
- Sample splitting
- Quality Control and Quality Assurance
- Sample Shipping
- Data entry
- Database security

Each procedure should thoroughly and completely describe the field procedures to be used for each task. The procedures should also include the following details:

- Task Name
- Task Description
- Required Materials
- Delegated Responsibility



- Supervisor
- Copies of all procedures should be stored at the site office at all times.

SNC-Lavalin recommends that a complete comprehensive library should be kept on site. In addition to copies of all procedures, copies of all the available data should also be kept on site for reference. This includes copies of all analytical results, independent reports, geological reports, audits, reviews, claim status reports and any other information relevant to the property status. A thorough overview of each stage of exploration activity should be documented and stored at site. This overview should identify the exploration methods used and summarize the results of each program.

SNC-Lavalin also recommends that Minera Penasquito institute a Visitor's Logbook, which records all visitors to the site.

SNC-Lavalin did not have an opportunity to observe the field procedures for moving the drill onto a new set up. In discussion, the contract drill crews stated that the drillhole location and angle of the drill head are verified prior to the start of drilling.

The reported procedures and methodology used to spot proposed drillhole locations is acceptable practice given the stated closure of the chain and compass surveys of the historical drill collars.

SNC-Lavalin recommends that Minera Penasquito personnel directly supervise the down-hole surveys effective immediately. Down hole surveys should be taken at the target depths as the hole is being advanced as opposed to once the hole is completed. By collecting the surveys as the hole is advanced, field personnel will be able to identify poor tests and monitor hole performance.

SNC-Lavalin recommends that in the absence of accurate collar surveys to determine the direction of drilling, Minera Penasquito should institute a policy where a down hole survey is completed approximately 15 metres into bedrock.

SNC-Lavalin did not observe any areas of concern regarding the handling or preparation of the core for logging.

SNC-Lavalin directly observed geotechnical logging and core photography during the site visit. No errors or omissions were noted during the site visit. The geologist completing and supervising this work was extremely diligent and his field notes were very neat and legible.

SNC-Lavalin observed the core logging practices and found them to be very thorough and professional, although the lack of a suitable alpha-numeric coding system to represent the intensity and nature of veining and fracture filling is an oversight that should be addressed immediately. Although this data is currently recorded on the drill logs, it is not readily transferable into a digital database for further processing.



SNC-Lavalin did not observe any significant errors or omissions in the observed sample layout process.

SNC-Lavalin observed the core splitting process and noted no serious errors or omissions in the observed samples, although the limited water resources increase the potential for contamination. SNC-Lavalin recommends that Minera Penasquito assay the drill cuttings from the saws to check for the possibility of contamination.

SNC-Lavalin recommends that Minera Penasquito adopt the following QA/QC Program.

- One blank should be inserted for every twenty samples, the last digit of the sample number should change for every 100 samples;
- One SRM should be inserted for every twenty samples, the last digit of the sample number should change for every 100 samples;
- One duplicate sample analysis should be performed for every 20 samples, the last digit of the sample number should change for every 100 samples.

To complete the duplicate analysis, the primary analytical laboratory (ALS Chemex) should be notified that the reject pulp from every 20th sample be forwarded to a secondary analytical facility. The reject pulp should be clearly identified with either the client sample number or the ALS Chemex sample number.

On receipt of these samples, the secondary laboratory should complete an analysis and report the results to Minera Penasquito. The secondary laboratory should then repackage the reject pulp material into new sample bags identified according to the secondary laboratory's unique numbering system. The secondary laboratory must ensure that the relationship between the original sample number and the laboratory number is fully documented. These pulp rejects should then be resubmitted to ALS Chemex for analysis.

The SRM's available at site were prepared by Kennecott and drawn from drill results throughout the Peñasquito claims. The standards are not specific to the Chile Colorado zone. In addition, the variation between the SRM's prepared by Kennecott is sufficient to allow the SRM's to be readily identified based on the initial analysis. Although these SRM's are likely adequate for Minera Penasquito's short term needs, future drill programs would benefit from the preparation of new SRM's specific to the Chile Colorado Zone.

SNC-Lavalin did not note any major errors or omissions in the sample shipment methodology being employed by Minera Penasquito as observed.

Western Copper states that check assaying, standards and blanks are routinely performed on all Peñasquito drilling. SNC-Lavalin has seen a report by Chemex Labs Ltd. (Quality Control Report, dated August 13, 1997) related to this subject and spreadsheets containing results for check assaying for Kennecott and Western Copper drilling and results of standards assaying for Hochschild and Western Copper drilling.



Due to time constraints during a preparation of this report SNC-Lavalin was not able to select or analyze duplicates from the excessive database. SNC-Lavalin relies completely on the data provided by Western Copper. SNC-Lavalin recommends that all QA/QC activities should be analyzed and recorded in a manner that would allow an easy access to this data.



5.0 MODELLING AND MINERAL RESOURCE ESTIMATE

5.1 Summary

Unless otherwise noted, the information in Section 5.0 of this Report has been based on the following sources:

- Information provided by Western Copper from the old Kennecott and Hochschild drilling campaigns;
- A site visit by SNC-Lavalin's geologist in May 2002 and discussions between SNC-Lavalin and Western Copper at that time;
- Information provided by Western Copper between November 2002 and February 2003 during the course of three phases of the 2002 and 2003 drilling campaign.

SNC-Lavalin estimated the indicated mineral resources for the Chile Colorado zone as of March 2003 to be 118 million tonnes (Mt) with an average grade of 9.6 \$/t NSR, 41.9 g/t Ag, 0.36 g/t Au, 0.38% Pb and 0.89% Zn. The estimate was prepared using the cut-off grade of 4.00 US\$/t NSR that, in SNC-Lavalin's opinion, is appropriate for the mineral estimate at this time. In addition, a total of 59 Mt of inferred mineral resources at an average grade of 7.23 \$/t NSR, 28.98 g/t Ag, 0.31 g/t Au, 0.24% Pb and 0.69% Zn were also estimated at the same cut-off grade. The resource estimate represents the total resources for one large zone known as the Chile Colorado zone of the Peñasquito deposit.

The mineral resources were classified according to the Canadian Institute of Mining, Metallurgy and Petroleum "CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines" prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council August 20, 2000.

The mineral resource estimate was completed by SNC-Lavalin using Datamine, a mining software package. The estimation methodology included the construction of 3D wire frame envelopes to delineate the individual mineralized zones. Preliminary geological information was provided to SNC-Lavalin by Western Copper as a basis for the estimate. Lithological constrains were used to delineate the boundaries of the Chile Colorado zone. SNC-Lavalin constructed boundaries between the following domains: topography, overburden, oxidized and sulphide zone and separated samples in the database according to their domain locations. These digital terrain model (DTM) surfaces were then filled with regular blocks 20 x 20 x 10 meters to allow for grade estimation. Metal grades were interpolated into these blocks utilizing two different methods: an ordinary kriging or a multiple indicator kriging method. The grade interpolation utilized only drillhole samples from the specific area to assign grades into blocks of this area. Check sampling and check assaying programs were carried by SNC-Lavalin to support the estimate and resource classification. The grade model was verified using different methods and this verification resulted in good agreement between interpolated grades.



5.2 Description of Peñasquito Database

5.2.1 Description of Geological Database of Peñasquito Deposit

Western Copper provided SNC-Lavalin with a reverse circulation and diamond drillhole database. SNC-Lavalin did not conduct independent sampling or (except as specifically noted herein) testing of the samples provided. SNC-Lavalin has assumed that all sampling, testing, geological data, and other information provided by Western Copper is completely, accurately, and fairly presented.

Upon review of the provided information, SNC-Lavalin formed the opinion that the quality of information for Chile Colorado zone only was sufficient for mineral resource estimation and classification according to CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines. The original drillhole database that was utilized by SNC-Lavalin consisted of 139 collar records, 375 down hole survey records, 1307 lithological records and 19639 assay records. This database includes Chile Colorado and the adjacent zones, also.

SNC-Lavalin did not evaluate or use the geotechnical drillhole information provided by Western Copper.

Geological characteristics such as lithology, mineralization and alternation coding were provided for 1,307 intervals of the 72 holes, mostly in the Chile Colorado (66 holes) and Azul Breccia (6 holes) zones. Codes used by Western Copper are identified in Tables 3.4-1 through 3.7-1, Section 3.0.

Western Copper is currently continuing to drill the property and the interpretation of the geology at the Peñasquito deposit. This task was in progress during the site visit in May 2002 and is considered to be an ongoing process. The geological interpretation of the zones has resulted from the exploration information gained by Western Copper during drilling of the deposit and as a result, the geological database used in estimating the resources is significantly improved.

Western Copper indicated to SNC-Lavalin that past difficulties in survey procedures may have resulted in incorrect collar locations for some drillholes. Western Copper completed the process of correcting survey procedures and re-surveyed all collars. SNC-Lavalin was unable to verify the correction of collar locations in the database provided.

Western Copper completes downhole surveys using an Ausmine single shot down the hole camera. Prior to phase 2 drilling downhole surveys were irregular, usually made at the middle and bottom of longer drillholes. Starting with hole WC24, the frequency of the downhole survey increased to surveying at approximately 100 meter intervals: SNC-Lavalin found the latest surveying frequency to be adequate for the Peñasquito deposit.



5.2.2 Drillhole Database

Western Copper provided information for the Peñasquito deposit for a total of 139 drillholes that included assays for 19,639 samples, collars for all 139 drillholes and survey data for 375 survey points that include collar survey. SNC-Lavalin made some corrections to the final drillhole database submitted by Western Copper on February 18, 2003. These corrections included:

- Corrections of a number of overlapping sample intervals caused by typing errors;
- Drillhole intervals with blank assay values were set to zero. As a result, these intervals will carry a grade of 0.0 g/t Ag or Au or 0.0% for Pb and Zn as assigned by SNC-Lavalin. In the opinion of SNC-Lavalin, although this is a conservative approach that introduces some elements of uncertainty, the likely effect will not result in the overestimation of grade;
- A total of 76 missing intervals in the database (for example: overburden intervals that were not sampled nor recorded in database) were added to the sample file for completeness with grade values equal 0.0. This resulted in a total of 19,715 intervals.

These changes were minor and are not expected to affect the integrity of the geological database in a significant manner.

5.2.3 Average Density

A density of 26 t/m³ was used in tonnage determination for all zones of the Chile Colorado deposit. Western Copper reports that average density measurements were made in the early development of the mine by Kennecott and Hochschild when the previous activities were carried out but there is no knowledge how this was accomplished.

Kennecott reported a total of 968 density determinations with an average value of 2.65 t/m³. The estimate was done using a total sample weight and dividing it by an estimated volume of the sample. This method is oversimplified and does not produce an accurate value.

Hochschild reported a total of 677 density determination with the same average value of 2.65 t/m³. However methodology used in this determination is unknown.

Western Copper weighed a total of 4,000 samples in the Chemex laboratory. Again, using a simplified exercise, similar to the Kennecott approach, it derived an average 2.64 t/m³ for sulphide zone. It is SNC-Lavalin's opinion that this density factor is underestimated.

SNC-Lavalin recommends that bulk density measurements should be determined before starting a scoping study and should be conducted by a professional laboratory for



different rock samples and zones. Meanwhile a conservative value of 2.6 t/m³ is used in converting volumes into tonnages in Chile Colorado.

In the opinion of SNC-Lavalin, the uncertainty of representativeness create sufficient grounds to consider re-evaluation of the average density value used in resource estimates. The bulk density of rocks within different grade ranges (example: high, medium and lower grades) at deeper levels of the deposit should be investigated. At present, the value of 2.6 t/m³ may be associated with an element of uncertainty and may reflect a conservative element in the estimate, as the data available for the Chile Colorado sulphide zone indicates its density may be 5-10% higher than the other mining units.

5.3 Database Verification

5.3.1 Electronic Database Verification

All geological, geotechnical and assay data for the Peñasquito project has been entered into the Datamine database. The purpose of this software is to attempt to verify a database by identifying “obvious” errors. This data verification subroutine was run during the data entry and identified a few minor errors that were corrected as mentioned in Section 5.2.2.

SNC-Lavalin audited a portion of the database (approximately 2.5%) with the original assay laboratory certificates making a direct comparison between tables. The error rate detected was 2.7%, which is considered to an acceptable rate for mineral resource estimation purposes. Most of these errors were insignificant and it is SNC-Lavalin opinion that they will not adversely affect estimation.

5.3.2 Twinning Holes

Western Copper has not twinned any of the previous holes drilled by Kennecott or Hochschild within the Chile Colorado area. SNC-Lavalin recommends drilling twin holes for selected holes from the prior to Western Copper Phase 1, 2 & 3 campaigns, especially in the Chile Colorado area.

5.3.3 Independent Sampling

During the site visit, SNC-Lavalin examined half core from the core library assembled by Kennecott, Western Copper and Hochschild. SNC-Lavalin notes that the mineralization observed in the half core is consistent with the analytical results reported. SNC-Lavalin also notes that the mineralization observed in the half core is consistent with the mineralization reported in the core from the current drill program.

SNC-Lavalin collected six (6) samples from the core library. The hole numbers and intervals selected for sampling was known only to the SNC-Lavalin geologist. The samples included both high grade and waste material as identified by historical analytical

results. The samples were sawn under the direct supervision of the SNC-Lavalin geologist who placed the samples in sealed bags and assigned a unique sample number for each sample. Once the samples were labelled and sealed, they were then placed in a rice sack for shipment to the ALS Chemex preparation laboratory as part of Minera Penasquito's normal core shipment. SNC-Lavalin did not maintain strict care and custody procedures for the shipment and analysis of the samples collected during the site visit. It is SNC-Lavalin's opinion that completing a rigid care and custody sampling program on mineralization which can be easily observed and visually estimated in drill core is not warranted at this stage of the project's development. Table 5.3-1 below summarizes the results of SNC-Lavalin check assays.

Table 5.3-1: Comparison of Independent Sampling program

SNC-Lavalin Results							Original Assay Database					
Check Sample Number	Ag g/t	Au g/t	Pb ppm	Pb %	Zn ppm	Zn %	Original Hole ID	Original Sample Number	Ag g/t (FA)	Au ppb (FA)	Pb %	Zn %
50791	15	<0.07	2250		3320		MHC-01	17063	75.58	95	0.23	1.37
50702	174	0.23	>10000	2.49	>10000	3.16	MHC-01	17106	445.71	690	6.99	5.80
50793	230	0.23	>10000	2.25	>10000	5.00	MHC-01	17062	452.86	845	5.07	9.74
50794	510	0.52	>10000	9.03	>10000	3.98	WC-03	14321	748.00	NS	10.20	5.67
50795	17	<0.07	1440		824		MHC-01	17107	7.77	45	0.08	0.06
50796	585	0.63	>10000	7.62	>10000	7.42	WC-03	14320	606.00	NS	7.37	7.77

In general, the differences between the original results and the quartered core are higher than expected, particularly for the MHC series drillholes. SNC-Lavalin notes that the sample population is too small to be considered representative, nonetheless, the inconsistencies between the results represent an area of concern which should be addressed in the future studies, particularly if the Minera Penasquito intends to use the results of earlier drilling for any resource estimation work. According to Western Copper both sample preparation and assaying were done by the same laboratories and using the same methodology for both MHC and WC hole series. SNC-Lavalin recommends that Minera Penasquito consider verifying additional sample intervals, particularly from the holes of MHC and PN series.

5.4 Database Analysis

Section 5.4 provides a description of the database analysis carried out by SNC-Lavalin. This section will analyze samples identified as coming from within Chile Colorado zone that were separated from the entire database and used in resource estimates.



5.4.1 Geological Domains Description

Presently three distinctive zones have been identified in the Peñasquito area: the Chile Colorado, Azul Breccia and Breccia Outcrop zones.

Each zone of the Peñasquito deposit represents a distinct geological unit and is uniquely situated in space. Furthermore, the metal distribution within each unit may also be unique dependent on the conditions of mineralization. On this basis, it is evident that metal grades for each unit should be treated as separate populations where possible.

Among three zones, the Chile Colorado zone has the highest drilling density and is well understood. The zone represents a distinctly different geological entity than the other zones. This unit represents a distinct geological domain and, accordingly, is treated separately from the remaining zones. The extensive database and good geological understanding allows for the estimation and classification of resources for this zone.

5.4.2 Statistical Analysis

The Peñasquito deposit is a multi element metal deposit with silver, gold, lead and zinc as the major assets. Therefore, statistical analyses for the Chile Colorado zone were performed for grades of all four metals. Results of preliminary statistical analysis of original uncut metal grades for each individual variable carried out by SNC-Lavalin are summarized in Table 5.4-1.

**Table 5.4-1: Results of Statistical Analyses
for Metal Grades of Chile Colorado Zone for Original Uncut Samples**

Item	Ag	Au	Pb	Zn
Total number of records	9674	9674	9674	9674
Number of samples	9461	9461	8872	9411
Number of missing values	213	213	802	263
Number of values >Trace	9461	9461	8872	9411
Maximum Grade	6370.58	25.33	49.60	28.80
Minimum Grade	0.10	0.00	0.00	0.00
Mean	45.18	0.30	0.46	0.85
Variance	27980	0.55	1.87	2.69
Standard deviation	167.30	0.74	1.37	1.64
Coefficient of variation	3.70	2.44	2.99	1.93
Standard error	1.72	0.01	0.01	0.02
Skewness	21.42	12.40	12.07	5.48
Kurtosis	663.60	277.3	276.00	49.01

Generally, all individual assay populations display lognormal positively skewed grade distributions. Cumulative frequency curves for grade populations of the Chile Colorado zone display well defined linear trends. Cumulative frequency plots of each metal assays are presented in Appendix C.



All of the metals display a high variability in assay population. A simple measure of this is the coefficient of variation (COV). A coefficient of variation greater than 1.0 indicates a presence of erratic high grades that may influence results of final estimation. This is demonstrated in cumulative frequency plots for these variables showing a significant tail or dispersion of high grades. All variables demonstrate original grade distributions with COVs close or greater than 2.0 with the highest COV of 3.70 observed in silver grade population. Therefore, capping levels for individual variables were established in order to reduce the influence of local high grades and thereby reduce the possibility of over-estimating grades during estimation of mineral resources.

A visual inspection of cumulative frequency curves indicated that a capping value of approximately 99% on the curve seems as an appropriate cutting factor for each of the assay populations. Table 5.4-2 summarizes different capping levels applied to assays for each individual variable and Table 5.4-3 summarizes results of statistical analyses for capped grades.

Table 5.4-2: Summary of Capping Level by Variables

Cutting Element	Units	Cutting Grade Maximum Grade	Number of Samples Capped
Ag	g/t	600.0	68
Au	g/t	4.0	57
Pb	%	5.0	115
Zn	%	10.0	56

Cutting reduced the average grades approximately 12% for Ag, 3% for Au, 10% for Pb and 4% for Zn for assay population of Chile Colorado only. Impact of cutting high grade values is shown in Table 5.4-3 for individual samples and in Table 5.11-1 in the resource estimates.

Table 5.4-3: Results of Statistical Analyses for Metal Grades of Chile Colorado Zone for Samples Cut

Item	Ag	Au	Pb	Zn
Total number of records	9674	9674	9674	9674
Number of samples	9461	9461	8872	9411
Number of missing values	213	213	802	263
Number of values >Trace	9461	9461	8872	9411
Maximum Grade	600.00	4.00	5.00	10.00
Minimum Grade	0.10	0.00	0.00	0.00
Mean	39.77	0.29	0.41	0.82
Variance	6735.00	0.28	0.74	1.06
Standard deviation	82.07	0.53	0.86	1.44
Coefficient of variation	2.06	1.83	2.12	1.74
Standard error	0.84	0.01	.01	0.01
Skewness	4.31	4.29	3.55	3.55
Kurtosis	21.92	22.61	13.55	15.48



Capped samples for each zone population were composited over the uniform 5.0 m vertical length corresponding with half of the assumed bench height of 10 meters.

Compositing has reduced the COVs for most variables down to a value from 1.40 to 1.73. In the case of the lead grades, the COV remains high at 1.73. Inspection of the cumulative frequency plot for the lead composites displays a ragged linear trend without a significant high grade tail. Therefore, no further capping was considered justified.

Table 5.4-4 present the results of the statistical analysis for Chile Colorado zone for cut composites.

Table 5.4-4: Results of Statistical Analyses for 5.0 m Cut Composites

Item	Ag	Au	Pb	Zn
Total number of records	4050	4050	4050	4050
Number of samples	3628	3629	3469	3616
Number of missing values	422	421	581	434
Number of values >Trace	3628	3629	3469	3616
Maximum Grade	594.91	4.00	5.00	9.49
Minimum Grade	0.10	0.00	0.00	0.00
Mean	35.90	0.26	0.36	0.74
Variance	3445.00	0.15	0.40	1.07
Standard deviation	58.70	0.38	0.63	1.04
Coefficient of variation	1.64	1.44	1.73	1.40
Standard error	0.97	0.01	0.01	0.02
Skewness	3.63	3.50	3.11	2.79
Kurtosis	18.07	17.26	11.71	10.04

5.4.3 Geostatistical Analyses

Geostatistical analysis for the Chile Colorado zone was conducted for capped composites of the silver, gold, lead and zinc grades.

Semi-variograms were generated in a number of directions including along strike and down dip directions starting from a dip angle 0.0° and increasing evenly every 15° within horizontal plane and 30° within the vertical plane for each horizontal direction.

Table 5.4-5 summarizes parameters used in variogram calculation.



Table 5.4-5: Summary of Parameters used in Variogram Calculation

Parameter	Value
Lag	25.0 m
Lag tolerance	12.5 m
Number of lags	25
Directional Variogram	N30/0.0; N120/30; N300/60
Tolerance on Azimuth	30
Tolerance on dip	30
Radius of the tolerance cylinder	100.0 m

Resulting variograms were analyzed further in order to find the best grade continuity for each variable. Variogram rosettes for each variable were plotted; for all four elements they display the best grade continuity in the direction of 30 - 45° NE-SW. The variogram rosettes are presented in Appendix C.

The best directional variograms were then modeled and their parameters selected for grade interpolation.

All variogram models are 2-structure anisotropic normal variograms. They display a good continuity exceeding 100 meters in all three directions for all variables. These robust variogram models indicate that kriging method of grade interpolation is an appropriate method for the Chile Colorado sample population.

Parameters of the selected final variogram models are summarized in Table 5.4-6. Variogram plots are included in Appendix C.

Table 5.4-6: Variogram Parameters for Variables

Variable	Variogram Axis Direction	Axis Angles (Azimuth ; Dip)	Nugget C ₀	Sill C ₁	Sill C ₂	Range 1 (m)	Range 2 (m)
Ag	X (strike)	30° ; 0°	1500	2650	1700	40	145
	Y (dip)	120° ; 60°				25	100
	Z (across dip)	300° ; 30°				30	130
Au	X (strike)	30° ; 0°	0.05	0.06	0.07	28	155
	Y (dip)	120° ; 30°				45	200
	Z (across)	300° ; 60°				118	180
Pb	X (strike)	30° ; 0°	0.11	0.32	0.17	60	140
	Y (dip)	120° ; 30°				40	90
	Z (across)	300° ; 60°				40	100
Zn	X (strike)	30° ; 0°	0.28	0.88	0.54	44	100
	Y (dip)	120° ; 30°				26	100
	Z (across)	300° ; 60°				38	100

5.5 Orebody Modelling

Section 5.5 provides a description of the orebody modelling carried out by SNC-Lavalin.

Using Datamine mining software, 3-dimensional computer block models of the mineralized domains were developed from the geological files supplied by Western Copper. The topography, overburden and bottom of oxidized zone DTMs were created.

Three major domains were identified for modeling purposes: overburden, oxidized zone and sulphide domain.

The Chile Colorado zone represents a wide mineralized unit. As such, the zone can be represented by a matrix of regular blocks with the same horizontal and vertical dimensions. Therefore, this zone was modeled using the 3D regular size blocks of 20 m x 20m x 10 m in the X, Y and Z directions respectively. The vertical thickness of 10.0 m was selected based on assumed mining requirements where bench height equals 10.0 m. The variable block height corresponding to vertical thickness at the boundaries between oxides and sulphides was used. The original horizontal block size of 20 m x 20 m was subdivided further to 5 m x 5 m where zone geometry required a better resolution of blocks for more accurate representation at the zone boundaries.

The extent of the block model and individual block dimensions are tabulated in Table 5.5-1.

Table 5.5-1: Chile Colorado Block Model Parameters

General Direction	Minimum Coordinate	Maximum Coordinate	Maximum Distance (m)	Individual Block Size (m)	Number of Blocks
X	229,600	231,000	1,400	20	70
Y	726,800	728,100	1,300	20	65
Z	1,350	2,000	650	10	65

5.6 Grade Interpolation

Section 5.6 provides a description of the grade interpolation carried out by SNC-Lavalin.

Metal grades of capped composites were interpolated into each block of the model. Two basic methods of grade interpolation were selected for the Chile Colorado deposit domains: the Multiple Indicator Kriging (MIK) and Ordinary Kriging (OK) method.

The multiple indicator kriging method was found better suited to deal with the occurrence of high-grade outliers for interpolation of the silver grades of the sulphide zone. A total of 8 (eight) indicators were selected according to the following Ag cut-offs: 2.4, 5.0, 8.0, 16.0, 30.0, 60.0, 110.0 and 200.0 g/t Ag. Variogram models were generated for each group individually. Their parameters were used in silver grade interpolation only. The



indicator variograms, their models and corresponding parameters for all cut-offs are presented in Appendix C.

The ordinary kriging method was used in grade interpolation of Au, Pb and Zn in both oxide and sulphide zones. The interpretation parameters obtained from anisotropic two-structure spherical variogram models are shown in Table 5.4-6.

Grade interpolation by all methods used the following restrictions:

- Initial search radii representing a directional ellipsoid of a maximum of 60 x 60 x 50 meters in the direction of strike, dip and across dip respectively in the first search pass;
- A dynamic search volume factor of 1.5 in the second interpolation pass;
- Minimum number of octants used in interpolation 2;
- Minimum number of points in interpolation of one octant equals 2, and a maximum number equals 8;
- Maximum number of points per octant is 8, or a maximum of 32 points per block within search radii;
- Number of samples from one drillhole allowed in grade interpolation of one octant limited to a maximum of 4;
- Power equal to 2 for the inverse distance to a power method;
- Only samples from the specific domains were interpolated into blocks located in this domain.

The same interpolation parameters were utilized in interpolation of oxide domain due to a limited number of samples in this domain that prevented generation of clear variogram models.

5.7 Net Smelter Return (NSR) Estimates

Section 5.7 describes the parameters and estimates of NSR values carried out by SNC-Lavalin.

The Chile Colorado deposit is a multi-element deposit. Therefore in order to compare results of different estimates, uniform units are required in an input model: either metal equivalent or NSR values. SNC-Lavalin selected to utilize NSR values.

The NSR values for each block of the model were estimated by multiplying proper metal grades in each block by estimated factors and combining them together.



The base metal prices (US\$) used for the NSR factor estimations were provided by Western Copper and reflect the projected future metal prices.

The details of NSR estimates, process recoveries, treatment and refinery charges and penalties used are included in Table 5.7-1. Smelter terms and conditions, concentrate and refining recoveries were provided by Western Copper. Metallurgical recoveries were derived from the test work performed for Kennecott in the mid 1990s. Costs for concentrate transportation were based on a feasibility study for a similar nearby operation.

Moisture content in concentrate is assumed 8%.

Table 5.7-1: Parameters Utilized in NSR Estimates

Parameters	Description	Unit	Factor
Metal Prices	Lead Pb	US\$/t	500.00
		US\$/lb	0.23
	Zinc Zn	US\$/t	992.00
		US\$/lb	0.45
	Gold Au	US\$/oz	325.00
	Silver Ag	US\$/oz	5.00
Mill Recoveries	Lead Pb	%	88%
	Zinc Zn	%	84%
	Gold Au	%	68%
	Silver Ag	%	75%
Metal Distribution	Gold in Lead	%	62%
	in Zinc	%	6%
	Silver in Lead	%	59%
	in Zinc	%	16%
Grade of Concentrate Produced	Lead Pb	%	60%
	Zinc Zn	%	55%
Payments for Lead Concentrate	Lead Recovery	%	90%
	Deduction	%	1.6%
	Silver Recovery	%	93.5%
	Deduction	oz/t	0.00
	Gold Recovery	%	92.4%
	Deduction	g/t	0.00
Payments for Zinc Concentrate	Zinc Recovery	%	85%
	Deduction	%	8%
	Silver Recovery	%	65%
	Deduction	oz/t	3.50
	Gold Recovery	%	80%
	Deduction	g/t	2.00
Smelting Charges	Lead con	US\$/DMT	180.00, penalty \$2.00
	Zinc con	US\$/DMT	189.50
Transportation Charges	Lead con	US\$/WMT	15.00
	Zinc con	US\$/WMT	60.00



5.8 Estimated Mineral Resource Classification

The mineral resource estimate has been prepared to be consistent with the "CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines" prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council August 20, 2000. According to CIM:

"Mineral resources are subdivided in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An inferred mineral resource has a lower level of confidence than that applied to an indicated mineral resource. An indicated mineral resource has a higher level of confidence than an inferred mineral resource but has a lower level of confidence than a measured mineral resource.

A mineral resource is a concentration or occurrence of 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 interpolated from specific geological evidence and knowledge."

In practice, an inferred mineral resource may be used to report estimated tonnage and grade if the sampling data and geologic understanding are only sufficient to outline a deposit of potential economic merit. An indicated mineral resource can serve as a base for decisions on major expenditures. It is fundamental to the indicated mineral resource class that there is well-established geological information demonstrating the continuity of the mineralized zones. A measured mineral resource is a well-established resource if the qualified person responsible for estimating the measured mineral resource has no reasonable doubt that any variation from the stated grade and tonnage would be sufficient to materially affect an economic appraisal of the mineral resources.

A mineral reserve is that portion of the mineral resource that can be mined at a profit. In addition to the geologic factors necessary to estimate a mineral reserve, mineral reserve estimates require adequate information on mining, metallurgy, infrastructure, operating and capital costs, environmental considerations, and economic, legal and technical factors that affect the economic viability of a project. Waste rock dilution, and percent extraction should be considered in tonnage and grade estimates. The category assigned to a mineral reserve depends not only on the mineral resource category, but also on the level of confidence in all associated costs, mining conditions, and other factors used in the estimate. The estimate of tonnage and grade of a mineralized body that has not had an adequate economic study, or where a feasibility study has shown it to be uneconomic, should not be called a mineral reserve. **This section of the report presents *in situ* and undiluted mineral resource estimated by SNC-Lavalin as of March, 2003.**

CIM Standards classify mineral resources as follows:



Inferred mineral resource

An inferred mineral resource is that part of a mineral resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes.

Indicated mineral resource

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

Measured mineral resources

A measured mineral resource is that part of a mineral resource for which quantity, grade and 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 drillholes that are spaced closely enough to confirm both geological and grade continuity.

The SNC-Lavalin resource estimate for the Chile Colorado deposit contains a number of elements that affect the level of confidence in the estimated resources and, consequently, the mineral resource classification. The following elements of ambiguity identified by SNC-Lavalin refer to all variables:

- The only available data is sourced from drillholes;
- Independent sampling program by SNC-Lavalin was found not representative to confirm grades especially in older holes. In general, check samples confirm the presence of high or low grades but the sample population was found too small to verify the original assays;
- Bulk density factor has not been confirmed with by certified laboratory and a conservative value of 2.6 t/m³ has to be used;
- Interpolation parameters cannot be based on results from analyses of the individual geological domains such as oxide zone;
- Lack of twin drilling.



SNC-Lavalin is of the opinion that these elements of uncertainty may affect the levels of confidence of this mineral resource estimate. To reflect this uncertainty the mineral resource estimate is classified as indicated and inferred mineral resources.

The Chile Colorado resources were classified according to CIM standards utilizing the dynamic search volume that was applied in grade interpolation. The dynamic search volume parameters were designed to reflect a confidence level in resource estimates as follows:

Indicated Mineral Resources: All blocks containing grades estimated with 6 or more data points utilized from drillholes located within an ellipsoid with axes of 60 x 60 x 50 m;

Inferred Mineral Resources: All blocks containing grades estimated with the dynamic search volume factor of 1.5 and containing at least 6 data points utilized from drillholes located within a distance of 90 m.

5.9 Mineral Resource Estimate

SNC-Lavalin estimated the indicated *in situ* mineral resources for the Chile Colorado deposit as of March 2003 to be **118 million tonnes (Mt) with an average grade of 41.9 g/t Ag, 0.36 g/t Au, 0.38% Pb and 0.89% Zn**. The estimate was prepared using the cut-off grade of 4.00 \$/t NSR that, in SNC-Lavalin's opinion, is appropriate for the mineral estimate at this time. In addition, inferred mineral resources of a total of **59 Mt at an average grade of 28.98 g/t Ag, 0.31 g/t Au, 0.24% Pb and 0.69% Zn** were also estimated at the same cut-off grade.

These mineral resources consist of:

Indicated:

Oxides	8Mt @	26.8 g/t Ag,	0.30 g/t Au,	0.51% Pb,	0.46% Zn
Sulphides	110Mt @	42.9 g/t Ag,	0.36 g/t Au,	0.37% Pb,	0.92% Zn
Total	118Mt @	41.9 g/t Ag,	0.36 g/t Au,	0.38% Pb,	0.89% Zn

Inferred:

Oxides	1 Mt @	23.4 g/t Ag,	0.26 g/t Au,	0.59% Pb,	0.36% Zn
Sulphides	57 Mt @	29.1 g/t Ag,	0.31 g/t Au,	0.23% Pb,	0.70% Zn
Total	59 Mt @	29.0 g/t Ag,	0.31 g/t Au,	0.24% Pb,	0.69% Zn

Total estimated mineral resources by SNC-Lavalin for all domains of the Chile Colorado zone, by varying NSR cut-offs and by categories are presented in Table 5.9-1, for the sulphides in Table 5.9-2 and for oxide zone in Table 5.9-3.

Selected sections and plans showing the block model and drillholes of the Chile Colorado zone are presented in Appendix D.

Table 5.9-1: SNC-Lavalin Mineral Resource Estimates (as of March 2003)
Estimated Total Mineral Resource for Chile Colorado Zone

Above Cut-off (\$/t NSR)	Volume (1000 m ³)	Tonnage (1000t)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
Indicated						
-	75,310	195,806	28.67	0.25	0.27	0.63
2.00	63,159	164,214	33.29	0.30	0.31	0.72
3.00	54,177	140,859	37.22	0.32	0.34	0.80
4.00	45,352	117,916	41.85	0.36	0.38	0.89
5.00	37,386	97,204	47.17	0.40	0.41	0.99
6.00	30,933	80,426	52.49	0.43	0.45	1.09
7.00	25,862	67,242	57.68	0.46	0.49	1.18
8.00	21,793	56,663	62.70	0.49	0.53	1.26
10.00	15,616	40,603	72.84	0.54	0.60	1.44
Inferred						
-	45,312	117,811	19.17	0.20	0.17	0.45
2.00	36,968	96,117	22.39	0.24	0.20	0.53
3.00	29,605	76,973	25.34	0.28	0.22	0.61
4.00	22,541	58,605	28.98	0.31	0.24	0.69
5.00	17,277	44,920	32.34	0.35	0.26	0.77
6.00	12,622	32,816	36.21	0.40	0.27	0.86
7.00	9,422	24,499	39.87	0.44	0.29	0.94
8.00	7,105	18,471	43.40	0.47	0.29	1.00
10.00	3,503	9,107	51.46	0.55	0.34	1.13



Table 5.9-2: SNC-Lavalin Mineral Resource Estimates (as of March 2003)
Estimated Sulphide Mineral Resource for Chile Colorado Zone

Above Cut-off (\$/t NSR)	Volume (1000 m3)	Tonnage (1000t)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
Indicated						
-	65,240	169,623	30.85	0.27	0.27	0.68
2.00	56,014	145,637	35.20	0.31	0.31	0.77
3.00	49,469	128,619	38.63	0.33	0.33	0.84
4.00	42,336	110,073	42.92	0.36	0.37	0.92
5.00	35,526	92,367	47.93	0.40	0.40	1.01
6.00	29,702	77,225	53.90	0.43	0.44	1.11
7.00	24,952	64,875	58.24	0.46	0.48	1.20
8.00	21,118	54,908	63.22	0.49	0.52	1.28
10.00	15,310	39,807	73.04	0.54	0.59	1.45
Inferred						
-	42,253	109,857	19.80	0.21	0.17	0.47
2.00	35,489	92,272	22.65	0.24	0.19	0.54
3.00	28,762	74,781	25.48	0.28	0.21	0.62
4.00	22,047	57,321	29.11	0.31	0.23	0.70
5.00	16,994	44,185	32.44	0.35	0.25	0.78
6.00	12,455	32,382	36.29	0.40	0.26	0.87
7.00	9,313	24,215	39.95	0.44	0.28	0.94
8.00	7,058	18,350	43.47	0.47	0.29	1.00
10.00	3,490	9,074	51.52	0.55	0.34	1.13

Table 5.9-3: SNC-Lavalin Mineral Resource Estimates (as of March 2003)
Estimated Oxide Mineral Resource for Chile Colorado Zone

Above Cut-off (\$/t NSR)	Volume (1000 m3)	Tonnage (1000t)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
Indicated						
-	10,070	26,183	14.51	0.15	0.26	0.30
2.00	7,145	18,577	18.33	0.19	0.33	0.34
3.00	4,708	12,240	22.45	0.24	0.41	0.40
4.00	3,016	7,843	26.79	0.30	0.51	0.46
5.00	1,860	4,837	32.59	0.36	0.62	0.55
6.00	1,231	3,201	38.11	0.41	0.74	0.64
7.00	910	2,367	42.33	0.45	0.81	0.69
8.00	675	1,755	46.50	0.49	0.89	0.75
10.00	306	796	62.61	0.50	1.16	0.95
Inferred						
-	3,059	7,954	10.40	0.21	0.21	0.23
2.00	1,479	3,845	16.19	0.34	0.34	0.27
3.00	843	2,192	20.44	0.46	0.46	0.33
4.00	494	1,284	23.35	0.26	0.59	0.36
5.00	283	735	26.10	0.32	0.70	0.42
6.00	167	434	30.07	0.35	0.82	0.48
7.00	109	284	32.76	0.38	0.91	0.52
8.00	47	121	33.28	0.54	0.81	0.53
10.00	13	33	35.72	0.79	0.45	0.51

Figure 5.9-1: SNC-Lavalin Mineral Resource Estimates: Tonnage-Grade Curve

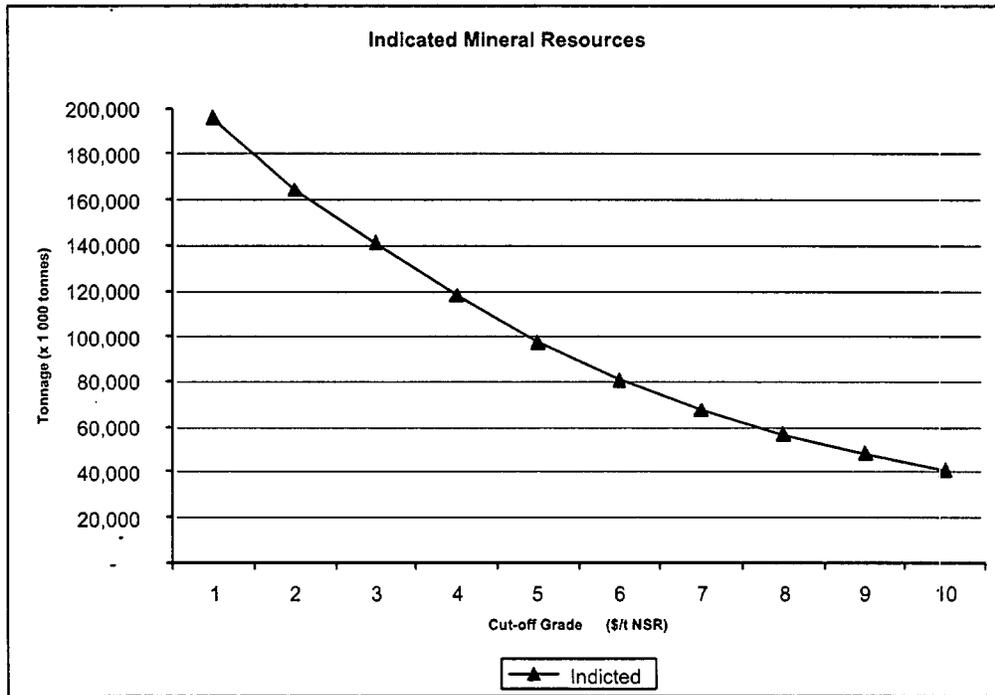
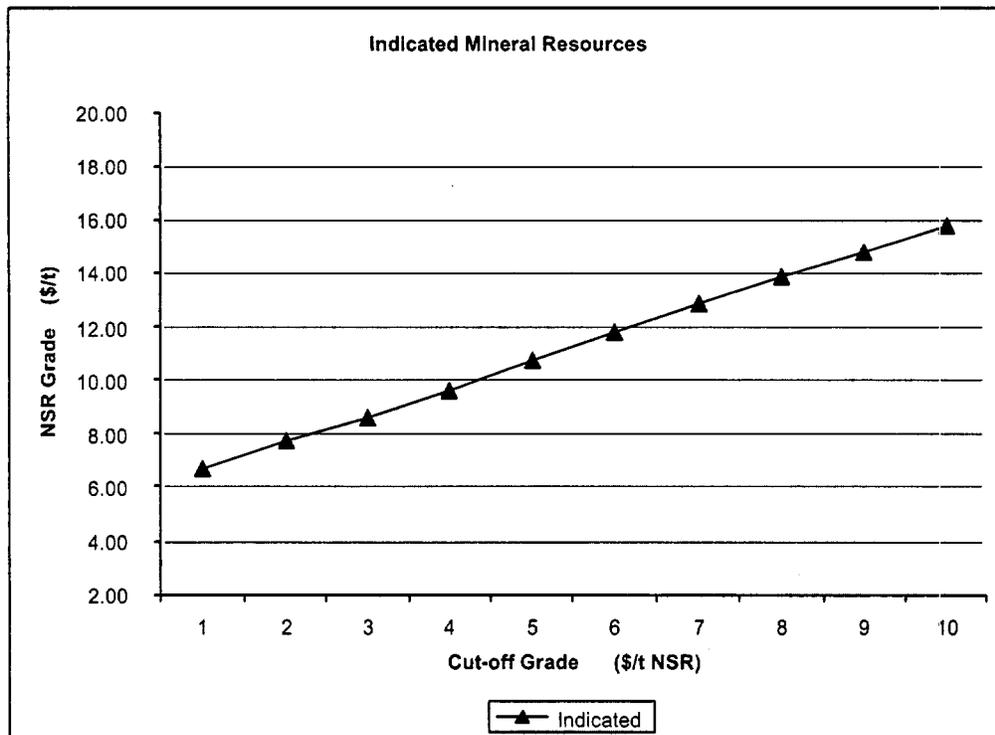


Figure 5.9-2: SNC-Lavalin Mineral Resource Estimates: NSR Grade Curve





5.10 Resource Estimate Verification

The final model for the Chile Colorado deposit generated by SNC-Lavalin were verified using different methods:

- A visual inspection on the computer screen of block model grades and drillholes grades were completed with satisfactory results.
- A comparison of arithmetic average grades from the model with arithmetic average grades from drillhole populations were conducted, and no significant discrepancies were found Table 5.10-1. Generally, for most of the variables, the difference of estimated average composites and grades of the model ranges between – 20.1% to –3.8%. The highest difference of 20.1% is contributed to the Ag grade. This difference is caused mainly by location of high grade samples in the middle of the deposit and low grade samples at the edges of the zone. Considering these circumstances, SNC-Lavalin does not find this result to be of concern.

Table 5.10-1: Results of Comparison of Average Grades of Composites and Model

Variable	Estimated average grade of composites (g/t)	Estimated average grade of model (g/t)	Estimated difference (%)
Ag	35.90	28.67	-20.1
Au	0.26	0.25	-3.8
Pb	0.36	0.27	-25.0
Zn	0.74	0.63	-15.0

- SNC-Lavalin completed an alternate method of grade interpolation for the sulphide zone using the same search radii, databases and parameters as in the main method. It resulted in small difference that SNC-Lavalin considers consistent with the main method. The results are presented in Table 5.10-2. SNC-Lavalin has concluded that the grade interpolation methods are appropriate for the type of deposits as Chile Colorado.

Table 5.10-2: Results of Comparison of Different Interpolation Methods

Variable	Unit	Kriging*	Inverse Distance to Power 2	Nearest Neighbour
Ag	g/t	24.28	24.29	23.18
Au	g/t	0.24	0.24	0.23
Pb	%	0.22	0.22	0.21
Zn	%	0.56	0.56	0.54

Note: * Kriging represents MIK for Ag grades and OK for Au, Pb and Zn grades

The results described for above checks were found to be within acceptable tolerance limits for resource estimates and confirm that the selected interpolation techniques are appropriate for the deposit.

SNC-Lavalin has not estimated the mineral resources for the Chile Colorado deposit using manual methods as this is not a part of our scope of work. SNC-Lavalin does not know if Western Copper completed any manual estimates for the deposit.

5.11 Estimated Impact of Cutting High Grades

SNC-Lavalin investigated the impact of cutting the high grades (see Section 5.4-2). To assess the magnitude of such method, the second grade interpolation was completed utilizing the same parameters and methodology as in the main final run with one exception - the original metal grades were used in compositing into uniform 5.0 meter intervals. These composites with uncut grades were used in the second grade interpolation. The comparison of both methods with the samples cut and uncut are presented in Table 5.11-1.

Table 5.11-1: Results of Comparison of Different Models with Cut and Uncut Grades

Variable	Grade Units	Estimated Average Grade Of Model Utilizing:		Estimated Difference (%)
		Cut Grades	Uncut Grades	
Ag	g/t	24.28	25.60	5.4
Au	g/t	0.24	0.25	3.8
Pb	%	0.22	0.24	10.5
Zn	%	0.56	0.57	1.2
NSR	\$/t	5.99	6.13	2.3

Overall impact of cutting outliers is 2.3% reduction of an average grade for NSR.

5.12 Previous Estimates

According to Western Copper there are no previous independent mineral resource estimates completed other than internal, not published estimates by Kennecott or Hochschild.

5.13 Exploration Potential

In the opinion of SNC-Lavalin, there is a potential to increase mineral resources for Western Copper in both the existing Chile Colorado zone and in the adjacent zones.

5.13.1 Peñasquito Area

Chile Colorado

This zone is believed to be open at depth and to east and west. As hole lengths in this area have been limited to ~400 meters, some drillholes ended up in the mineralization (example: PN26 and 28, MHC02 & 11, WC01, 26 and 28). This and a lack of drilling at depth, below the current resource, creates the potential for expanding resources.

Good grade intersections to the west of holes WC01 and WC15 by two holes WC28 and WC26 further indicated possible continuity of the zone at deeper levels.

Azul Breccia

Presently, the Azul Breccia zone is drilled on an irregular 100 x 100 meter pattern. Approximately 20 holes are drilled on the area of about 380,000 m². Some of the old Kennecott holes and new WC holes display very good intercepts with high grades especially at the greater depth that Chile Colorado. The Azul Breccia appears to be open at depth (as indicated by hole WC24) and possibly to the north where holes WC07 and WC09 intercepted good mineralization.

Outcrop Breccia

The Outcrop Breccia zone was drilled mostly by Kennecott. Some of the holes show high grade intercepts but no attempt was made to interpret geology at this area. Western Copper has not drilled the Outcrop area yet. The existing drilling pattern is not adequate yet to estimate resources. In the opinion of SNC-Lavalin, there is a good possibility to increase resources in this area but further exploration drilling is required to confirm the possible extent of resources.

The recent drilling at Chile Colorado has provided useful geologic information that can be used to *prioritize the 14 targets that have been identified by compilation of geologic-geochemical-geophysical data*. The following are the high priority targets:

PN-7 Target: This is a new exploration target that is located 650 meters south of the Outcrop Breccia along the margin of the hydrothermal alteration shell. Its prime feature is a strong 300-meter diameter CSAMT low Resistivity-Tensor IP anomaly. Kennecott drilled one RC hole, PN-07-95, to test the anomaly; it was stopped at 162 meters. The hole cut PC-altered siltstones that commonly occur above or adjacent to the more favourable QSPC-alteration.

SW Chile Colorado Target: This is also a new target. The target is a large CSAMT low Resistivity-Tensor IP anomaly about one kilometre west of the Chile Colorado deposit. SNC-Lavalin recommends that a geophysicist review the CSAMT data to better evaluate this and similar CSAMT anomalies in the Peñasquito area.

5.13.2 Other Area Targets

Western Copper has identified three regional targets that are recommended for additional field surveys and a drill test. These are the Gallo Blanco, Arroyo Seco and Cedros targets that have been described in internal reports.

Western Copper reported that two holes were drilled at Gallo Blanco, about 10 km southeast of Peñasquito, where high silver values occur in massive sulphide fragments on an old mine dump. Both holes intersected weak disseminated and veinlet controlled mineralization.

One hole was drilled at Arroyo Seco where reconnaissance work identified a solution collapse breccia. A 300-meter hole was terminated in oxidized Cuesta del Cura limestone and breccia.

Western Copper has not provided any information about the third target, Cedros.

5.14 Conclusions and Recommendations

Presently Western Copper has identified three mineralized zones for the Peñasquito deposit. SNC-Lavalin has included only one mineralized zone, namely Chile Colorado in completing their mineral resource estimate. The sampling and testing data generated by others and examined by SNC-Lavalin is considered to be of sufficient quality and quantity to enable SNC-Lavalin to classify the portion of mineral resource of the Chile Colorado zone into indicated category.

The second zone, Azul Breccia, not estimated yet due to time constraints, is expected to yield the portion of mineral resources of inferred category only. The third unit, Outcrop Breccia was not estimated mostly due to limited and inadequate data that prevented building the computer model or interpolating grades. The interpreted boundaries of this zone have a lower confidence level than those zones included in the estimate, and consequently will not allow conversion of the contained mineral resources into mineral reserves.

In order to raise the confidence level and potentially increase mineral resources, SNC-Lavalin recommends the following:

- Conduct additional drilling in the Chile Colorado zone in order to close the zone especially at the east and west boundaries and upgrade the inferred portion of mineral resources into measured or indicated category.
- Some zones, for example Azul Breccia and Outcrop Breccia, were excluded from estimates due to a limited number of samples or a low level of confidence in geological interpretation of these zones. The additional in-fill drilling should be performed for these zones to enable mineral resource estimation .



- The core intervals that lack associated metal grades were assigned an arbitrary grade of 0.0 g/t or % of metal. This may cause an underestimation of average grade of the zone. SNC-Lavalin recommends sampling and assaying the entire length of each drillhole.
- Bulk density determinations should be conducted with greater frequency and as part of a more systematic program by an assay laboratory.
- Western Copper has indicated that survey methods and lack of accuracy has created problems in the past. SNC-Lavalin recommends that a rigorous set of surveying procedures be developed and implemented for the mine to increase the accuracy of the survey data.
- QA/QC procedures should be documented and be a part of the library for the Peñasquito deposit, readily available for reviews and audits.



6.0 CONCLUSIONS AND RECOMMENDATIONS

SNC-Lavalin has estimated and classified the mineral resource for the Peñasquito project Chile Colorado zone according to the classification system proposed by the CIM in August 20, 2000. This is the first independent resource estimate completed on this property.

The data provided and examined by SNC-Lavalin is considered to be of sufficient quality and quantity to classify a portion of the Chile Colorado estimated mineral resource into the indicated category. At this stage of the project SNC-Lavalin has not examined which portion of the resources could be converted into mineral reserves. It would be beneficial for Western Copper to complete additional in-fill drilling on the property to convert the inferred portion of the mineral resources into the measured or indicated category.

Based on the encouraging results from the mineral resource estimates, it is recommended that a Scoping Study be prepared.

During the estimates SNC-Lavalin has identified some areas of uncertainty that should be addressed before proceeding to the Scoping Study. SNC-Lavalin recommends the following:

- Additional drilling to be completed in order to increase the measured and indicated mineral resource. Some of these holes should be located in the areas where inferred mineral resources were identified.
- Metallurgical testing and mineral processing analyses to be carried out that include selection of representative samples for the deposit. To satisfy requirements for a fresh core for metallurgical testing, a few of these holes should be drilled in the close vicinity to the existing holes with known grades.
- Density measurements using recommended industry standards to be carried out.
- Additional independent assays verification (especially for the older holes MHC & PN series) to be carried out.
- Petrographic study to be carried out.

7.0 CERTIFICATES OF QUALIFICATIONS



I, Zofia Ashby certify that:

I am currently employed as Senior Mining Engineer with SNC-Lavalin Engineers & Constructors Inc, 2200 Lake Shore Blvd. West, Toronto, Ontario, Canada, M8V 1A4;

I am a graduate of Academy of Mining and Metallurgy, Krakow, Poland, having been granted a M.Sc. in Mining Engineering in 1971;

I am a Professional Engineer in good standing, License # 15986, registered with the Association of Professional Engineers and Geoscientists of British Columbia;

I have practiced my profession continuously since 1971;

I am, by virtue of my training and experience, a "qualified person" as described in Section 1.2 of National Instrument 43-101, with respect to all technical matters of mineral resource estimates as discussed in the report entitled "Minera Penasquito, S.A. de C.V., Penasquito Project, Preliminary Mineral Resource Estimate" dated March 2003;

I have supervised and am responsible for the estimation of the mineral resource estimates of the above mention report;

I am not aware of any material facts, changes or omissions with respect to the subject matter of this report, which would materially affect the reported conclusions and results presented in the report entitled "Minera Penasquito, S.A. de C.V., Penasquito Project, Preliminary Mineral Resource Estimate";

I have had no prior involvement with Minera Penasquito, S.A. de C.V., for whom the report "Minera Penasquito, S.A. de C.V., Penasquito Project, Preliminary Mineral Resource Estimate" was prepared;

I did not receive, nor do I expect to receive any interest, direct or indirect, in the property discussed in the "Minera Penasquito, S.A. de C.V., Penasquito Project, Preliminary Mineral Resource Estimate" or in the owner of the property, Minera Penasquito, S.A. de C.V.;

I have read and understand National Instrument 43-101, Companion Policy 43-101 CP, Form 43-101 F and the Canadian Institute of Mining, Metallurgy and Petroleum *Standards on Mineral Resources and Reserves — Definitions and Guidelines* and the mineral resource estimates as stated in the report entitled "Minera Penasquito, S.A. de C.V., Penasquito Project, Preliminary Mineral Resource Estimate" were prepared in compliance with the aforementioned documents;

By virtue of my signature and seal below, I hereby consent to the filing of the mineral reserve estimates as presented in the document entitled "Minera Penasquito, S.A. de C.V., Penasquito Project, Preliminary Mineral Resource Estimate" for the purposes described in National Instrument 43-101.

Zofia Ashby

Zofia Ashby, P.Eng.

March 24/2003





I, Wesley Clay Hanson certify that:

I am currently employed as Senior Geologist with SNC-Lavalin Engineers & Constructors Inc, 220 Lake Shore Blvd. West, Toronto, Ontario, Canada, M8V 1A4

I am a graduate of Mount Allison University, Sackville, N.B having been granted a B.Sc. in Geology in 1982;

I am a Professional Geoscientist in good standing, License # 25372, registered with the Association of Professional Engineers and Geoscientists of British Columbia;

I have practiced my profession continuously since 1982;

I am, by virtue of my training and experience, a "qualified person" as described in Section 1.2 of National Instrument 43-101, with respect to all technical matters discussed in the report entitled "Penasquito Project Site Visit Report";

I have supervised and am responsible for the preparation of the document entitled "Penasquito Project Site Visit Report";

As required by National Instrument 43-101, I personally completed a site visit to the property from May 1 – 6, 2002;

I am not aware of any material facts, changes or omissions with respect to the subject matter of this report, which would materially affect the reported conclusions and results presented in the report entitled "Penasquito Project Site Visit Report";

I have had no prior involvement with Minera Penasquito S.A. de C.V. or Western Copper Holdings Ltd. for whom the report "Penasquito Project Site Visit Report" was prepared;

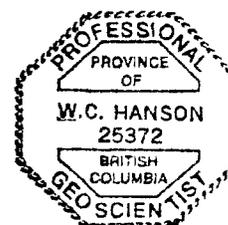
I did not receive, nor do I expect to receive any interest, direct or indirect, in the property discussed in the "Penasquito Project Site Visit Report" or in the owner of the property, Minera Penasquito S.A. de C.V. or Western Copper Holdings Ltd.

I have read and understand National Instrument 43-101, Companion Policy 43-101CP, Form 43-101F and the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") *Standards on Mineral Resources and Reserves – Definitions and Guidelines* and the report entitled "Penasquito Project Site Visit Report" was prepared in compliance with the aforementioned documents;

By virtue of my signature and seal below, I hereby consent to the filing of the document entitled "Penasquito Project Site Visit Report" for the purposes described in National Instrument 43-101.

October 29, 2002

Wesley C. Hanson, P.Geo





8.0 REFERENCES

1. "CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines" prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council August 20, 2000
2. Consejo de Recursos Minerales, Geological-Mining Monograph of the State of Zacatecas, Secretaria de Energia, Minas e Industria Paraestatal, Subsecretaria de Minas e Industria Basica, 1992
3. Letter to Tom Patton from T. Turner, Geo-notes on the recent Peñasquito drill program, dated July 18, 2002
4. Summary Drill Log Report for the Peñasquito Project Mun. de Mazapil, Zacatecas for Tom Patton, President Western Copper Holdings, Ltd., by Tom Turner
5. Dawson Metallurgical Laboratories, Inc. (Utah) for Kennecott - Flotation and Cyanide Leach Tests, December 1995;
6. Dawson Metallurgical Laboratories, Inc. for Kennecott - Flotation Tests on Two New Samples, August 1996;
7. Dawson Metallurgical Laboratories, Inc. for Kennecott on - flotation tests and flotation tailings leaches on nine new samples, September 1997;
8. MSRDI for Western Copper – Sink-Float Testing of Peñasquito Sulfide Pb, ZN, Ag Resources and Bottle Roll Testing of Oxide Au Samples WC-20 and WC-21, November 2002;
9. Peñasquito Project Site Visit Report, Minera Penasquito, S.A. de C.V. May 1-6, 2002 by Wesley Hanson, P.Geol;
10. Western Copper Holdings Ltd., Penasquito Project, Review of Metallurgical Testwork, Jaakko Levanaho, February 6, 2003;
11. Chemex Labs Ltd, QC Data for Minera Kennecott S.A. de C.V. Project 26-2-01-043, August 13, 1997;
12. Reconnaissance Exploration Survey for the Peñasquito Project, Municipio de Mazapil, Zacatecas, Mexico by Tom Turner, October 2001.
13. Preparation of Standards for a Gold/Silver/Copper/Lead/Zinc Property HRI Project 9185 by Hazen Research, Inc. October 7, 1997.



Appendix A

Original Notes

of Independent SNC-Lavalin Core Logging

for Drillhole WC16



AREA	SECT.	No.
	-	-

CLIENT MINERA PENASQUITO PAGE 1 CONT. ON 2
 PROJECT PENASQUITO PROJ. No. 449049 PREP _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOL. LOGGING - HC 16 REF. DWG. No. _____

169 - 174.5 - Caracot siltstone

Minor ss interbeds
 finely bedded @ $\approx 50-60^\circ CA$ = bedding
 extensive soft sediment structures
 slump worm castings
 minor late cb venlets < 10mm thick
 some || to bedding
 other set @ $30^\circ CA$ est 330° strike
 occasional cg sphalerite / galena
 along w ~~both sets~~ cb venlets
 sphalerite is cg - rusty brown color
 est 1-2% sphalerite < 1% gal

170.55 - 170.75
 171.90 SØ
 172.2 SØ
 173.3 SØ
 173.5 SØ

@ 172.2 75mm thick vuggy cb unlet @ $30^\circ CA$
 est W-S strike
 tr py gal d sph

@ 173.6 125mm thick cb sph gal unlet @
 $10-15^\circ CA$ NS strike
 vuggy
 50-60% cb
 30% sphalerite
 10-20% galena

@ 173.9 second cb unlet @ $30^\circ CA$ < 1cm thick
 tr sph / gal
 vuggy cb



AREA	SECT.	No.
	-	-

CLIENT MINERA PENASQUITO PAGE 2 CONT. ON 3
 PROJECT Penasquito PROJ. No. 449048 PREP _____ DATE _____
 AREA Chile Colorado SUB No. _____ CHECK _____ DATE _____
 SUBJECT Wc-02-16 REF. DWG. No. _____

- 174.5 - 191.5 Interbedded ss / siltstones - soft sediment structures
 SO = 60° CA
 Interbedded sandstone & siltstone
 moderate to high qtz sericite / quartz sericite pyrite
 alteration
 rock is dk grey - moderate to high hardness
 contact @ 60° CA - sharp // to
 overall bedding in previous units
 fg dissem py / sph / gal throughout < 3%
- 175.15 cb galena sphalerite unlet < 1cm thick &
 N-S orientation
 unlet bleeds along a cg ss bed ~ 1cm
 thick
 unlet ~ 30% cb
- 175.7 - 175.9 Solitude stanniferous
- 175.90 50mm cb sph gal unlet @ 30° CA
 60% cb 30% sph 10% gal fr py
- 176.3 - 178.4 Fault zone?
 broken core w extensive cb sph gal
 replacement
 overall ~ 20% sph
 10% gal
 10% py
 @ 178.0 msu cb un w ang angles
 of sds wuggy fr sph / gal
- 178.4 - 179.7 alt ss - silc - hard
- 178.7 - 179 - 1.5cm thick cb / sph / gal unlet 0 + py
 10° CA wuggy
 50-60% cb
 15-20% py
 10% sph
 10% gal



AREA	SECT.	No.
-	-	-

CLIENT MINERA PENASQUITO PAGE 3 CONT. ON 4
 PROJECT PENASQUITO PROJ. No. 449048 PREP _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOL. LOG - HC16 REF. DWG. No. _____

179.2 - 180.1 Fault Zone
 cb / sph / gal / py min z
 bubbly -
 not broken
 rounded - high alt. sed. frags -
 cb / ms. matrix
 overall \approx 10% py
 5-7% sph
 3-5% gal
 25% cb

180.1 - 183 minor cb sph gal py inlets < some thick
~~ss~~ most || to bdgms sp
 predominant sph / cb w minor gal / py
 2-3% fine grained py xtds disseminated
 within the ss. units to fg sph / gal
 \approx 3-5% sph
 3-5% py
 1-3% gal

183.0 - 188.8 Infrequent stringers 2 l / m
 to 10% of sph

188.8 - 189.5 Intense ms. stringers 2.1 cm thick
 10-15% sph
 7-10% gal
 15-20% py
 25% cb.

189.5 - 191.5 minor - cb sph gal stringer
 1-2% f.g. disseminated py in ssds



AREA	SECT.	No.
-	-	-

CLIENT MINERA PENASQUITO PAGE 4 CONT. ON 5
 PROJECT PENASQUITO PROJ. No. 449049 PREP. _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOL. LOG WC 16 REF. DWG. No. _____

191.5 - 210.6 Seds and siltstone very well bedded
 producing a distinct banding
 interbedded ss units up to 10 cm thick
 soft sed. structures: 194.0 - 196.0
 numerous small < 1cm thick py stringers
 increasing towards lower contact
 fig. py along bedding planes
 ≈ 3-5% py overall
 rare sph/gal - cb inlets @ 30° CA est N strike

210.6 - 232.7 Qtz Ser alt seds
 Interbedded mg ss & fig. siltstone
 carbon partings and variation in
 grain size producing banded rock
 frequent py sph gal cb veins/inlets
 as f.f. ranging from 1cm to 25cm in
 thickness
 generally fig. dissem py/sph & gal in
 ss units with py conc along carbon partings

210.6 - 215.25 prod. ss.

@ 211.13m 3cm cb sph gal inlets
 20% cb 20% sph 5% py 5% gal
 30% seds || to bdy

@ 212.85 3cm cb sph gal py un
 as above || to bdy

@ 212.4 5mm cb sph gal py inlet @ 0° CA
 joins a 1cm vein @ 45° CA @ 212.6m
 ≈ 40% gal 25% sph 25% cb 10% py

@ 212.85 2-5mm inlets prod. sph @ 45° CA

@ 214.05 2-3mm inlet || to bdy prod. sph cb gal

214 - 215.25 numerous < 1mm frags filled w sph/gal/cb/py
 dendritic

215 > 7mm py inlet intersected and truncated
 by a 3-4cm thick cb un w sph/gal/py dev along



AREA	SECT.	No.
	-	-

CLIENT MINERA PENASQUITO PAGE 5 CONT. ON 6
 PROJECT PENASQUITO PROJ. No. 449048 PREP. _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOL. LOG WC16 REF. DWG. No. _____

- 215.25 - 221.7 bedding becomes more apparent
 FF up to 5mm width at various orientations
 vuggy cb w sph/gal & py FF
 both tight Fractrs and in Fractrs up to 1cm thick
- 216.15 1cm thick cb un w py gal sph || to upper and lower contacts
- 216.15 - 216.35 3mm thick cb/gal/sph/py stringer @ 5° CA
- 216.35 5-7mm thick unlet w 50% py 25% cb 15% sph 10% gal
- 216.45 as above
- 216.45 - 220.3 - tight FF
- 220.3 7mm FF.
- 221.2 5m FF
- 221.4 5-10mm FF
- 221.7 - 232.7 pred MS ss. poorly dev banding
- 222.2 1.5cm unlet @ 45° CA est 0° Az. sph/gal/cb/py
- 222.9 - 223 several 2-5mm unlets pred py/sph/gal cb
- 224 - 5mm unlet
- 224.3 " "
- 224.6 1.5cm unlet @ 30° CA 000° Az.
- 224.8 - 225.5 numerous 2-5mm thick unlets pred sph/gal
- 226.2 5-7mm unlets
- 226.7 - 226.8 2 || gal/py/sph unlets ≈ 1cm thick
- 227.4 - 227.7 MSV un
 30-40% gal 10-20% sph
 30-40% py 10-20% cb
- 228.9 3mm un



AREA	SECT.	No.
-	-	-

CLIENT MINERA PENASQUITO PAGE 6 CONT. ON 7
 PROJECT PENASQUITO PROJ. No. 449049 PREP _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOLOGICAL LOG WC16 REF. DWG. No. _____

229.7 1.5cm un } 40 sph gal / py
 229.95 1.5cm un }
 230.2 1cm un }
 230.8 1cm un } PY
 230.8 - 232.7 several < 5mm unlets w prod. py ff
 minor galena & sph.

232.7 - 237.3 banded
 very minor sulfido ff.
 dissem py in ss conc along carbon
 partings
 60° CA bedding

237.3 - 240 banding decreases fract intensity increasing
 minz along fine fractz increasing
 fractz < 2mm thick
 variable orientation

240 - 240.4 several 5-7mm cb fractz with minor
 py sph & gal

240.4 - 241.7 MSU ven c 0 - 5° CA
 est strike 000° increasing in thickness from 5mm @ top
 to 3.5cm (t) @ 241.1m
 30-40% cb
 15-20% sph
 10-15% galena
 15-20% py well dev. calcite xtals

242.6 1cm calcite un + tr py sph galena

241.7 - 249.5 well banded unit w cb veining increasing
 to depth 1-3% fig. py tr gal & sph dissem in ss
 py conc near carbon partings

243.8 1cm cb / gal sph py un

244.15 7mm un ? prod. sph / gal - minor cb / py



AREA	SECT.	No.
-	-	-

CLIENT MINERA PENASQUITO PAGE 7 CONT. ON 8
 PROJECT PENASQUITO PROJ. No. _____ PREP. _____ DATE _____
 AREA CHILE COLOREADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOL. LOG WC16 REF. DWG. No. _____

244.6 - 245.9 - numerous sph/gal/cb inlets < 3mm thick
 244.9 - 245 1cm thick un @ 45° CA est 000° Az
 245.2 2mm thick inlet
 246.4 3-4cm thick un dried gal/sph @ 45° CA
 40-50% gal - 25-30% sph 20-25% cb 10% py
 246.9 5mm inlet @ 45°
 247.3 7mm inlet w well developed calcite xtals @ 45°
 247.6 7-10mm inlet @ 45°
 both the preceding pred. carbonate w 10-15% sph 10-15% gal & 10-15% py
 247.8 - 249.5 tight ff + dissem py in ss/silt

249.5 - 252.0 Hydrothermal Bx
 Intense ff predominantly cb +/- sph gal & py
 fine cb (calcite) ff producing a mottled tx + or net like tx +
 larger cb inlets are commonly minz.
 overall 7-10% sph
 5-8% gal
 10-15% py
 inlets range from 1m - 15mm in thickness
 minz inlets appear to be preferential @ 45° CA = 000°

bedding attributed discerned ←

252.0 - 255.7 Intense cb vining gone Overall 3.5% S
 bedding more apparent 1-3% gal
 frequency of minz unc decreases
 several 1mm - 15mm unc
 252.2 1cm un H to bedding
 252.4 2cm un
 252.6 2 1cm inlets
 253.5 2cm un
 254.7 5mm un



AREA	SECT.	No.
-	-	-

CLIENT MINERA PENASQUITO PAGE 8 CONT. ON 9
 PROJECT PENASQUITO PROJ. No. 449048 PREP. _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOL. LOG WC16 REF. DWG. No. _____

254.9 1.5cm un
 255.1 1.0cm un
 255.6 - 255.7 1.0cm un } uns pred sph / gal
 w cb d py

255.7 - 262.25 banding well developed
 tight ff generally < 3mm
 dissem py throughout
 minor cb unlets

262.25 - 267.55 massive py / sph / gal / cb
 30% 30% 30% 10%

262.55 - 270.4 well rounded minor ff.
 dissem to 2% py rare sph / gal
 rare cb. unlets

264.4 - ms. ff @ $\approx 5^\circ CA$
 rich H₂O 10-15% sph
 10-15% py
 25-30% gal
 35-40% cb

264.7 Fract fill < 3mm @ $30^\circ CA$ } $000^\circ H_2O$
 264.9 7mm ff @ $45^\circ CA$

266.7 7mm ff @ $50^\circ CA$
 30% sp 30% gal 30% py 10% cb

269.3 7mm un @ $30^\circ CA$
 269.65 1.5cm un @ $30^\circ CA$
 numerous ts small < 3mm unlets @
 90° to the first un.

270.4 - 273.2 hydrothermal breccia
 frequency ~~and~~ intensity and thickness of
 vns increasing toward 271.55m



AREA	SECT.	No.
-	-	-

CLIENT MINERA PENASQUITO PAGE 9 CONT. ON 10
 PROJECT PENASQUITO PROJ. No. _____ PREP. _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOL. LOG WC16 REF. DWG. No. _____

sturbok look 25-20% py
 271.55- 272.55 α 10-15% sph

banding obscured 5-10% gal
 5-10% cb

Sulphides hosted in facets from 1mm to 15mm thick
 rock looks newwaxed w angular fragment - large
 hosted in the min² mtr.

273.2 - 278.6 - banded rock w major cb / sulfide ff
 c

274.4 - 274.9 1cm un e 5° CA } sph/gal/py/cb
 275.95 1cm e 45° CA }

276.15 - 276.7 cb.
 calcite xtals

appears to be unminz.

277.3 1cm un e 30° CA sph/gal/py/cb

277.6 2.5cm un e 60° CA
 30/30/30
 py gal sph

278.3 cb - 70% usgt 2cm un.
 10/10/10

278.5 1cm un e 60° CA NS
 20/20/20

278.6 - 283 - well banded
 rare ff
 tr sulfides

283- 312.5 - banded mod. Qtz Ser alt
 medium hardness

infrequent ~~large~~ large unlets
 numerous fine ff w py d/or py gal sph

283 1.5cm un e 5° CA = 00° a21
 40/40/10/10
 sph gal py cb



AREA	SECT.	No.

CLIENT MINERA PENASQUITO PAGE 10 CONT. ON 11
 PROJECT PENASQUITO PROJ. No. _____ PREP _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOLOGICAL LOG WC-16 REF. DWG. No. _____

283.3 1cm un @ 60° CA est 330° Azi
33/33/33 little py

Fine py ff. - hair like

284.7 5mm veinlet @ || to Sφ

284.8 5mm veinlet @ 45° = 000°
50% cb

285.1 1cm un @ || to Sφ 80% cb

286.9- 5mm un @ 45° CA
30/30/30 minor py

284-285.1

numerous late stage cb veinlets < 5mm
barren

287.4 5mm vein
45% py 45% cb minor sph/gal

285.1 → 289.85 fine tight ff prod. py
generally || to bedding where
carbonaceous
1 set || to bds
2nd set @ 45° / 000°
1-3% fig. dissemin py to sph/gal

289.85-290 4 veinlets ~ 5mm wide
2 || to bds
2 @ 45° / 000°

upper pair prod. py / cb / gal minor sph
lower set sph / py / gal / cb. minor cb

290.10 major veinlet @ 30° CA / 000°
30% sph / 30% py / 25% gal /
un is 2.5 cm wide

290.3 - 293.6 minor veinlets / prod. py
↑ 291.45 5mm un sph / py / cb - minor gal
soft calc structures



AREA	SECT.	No.

CLIENT MINERA PENASQUITO PAGE 11 CONT. ON 12
 PROJECT _____ PROJ. No. _____ PREP. _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOL. LOG WC-16 REF. DWG. No. _____

293.6 - 294 bx

lg angular clasts of sands in sed mtx w
 lower ct defined by cb / sph / gal ~~py~~ un
 in 1.5cm thick @ 20°CA / 000°
 minor py / sph^{cb} / gal along upper contact
 1-2% Fgs. dissem py in mtx of bx
 tr gal / sph

294 - ~~300.0~~

pred siltstone
 infrequent cb / sph / gal / veinlets
 moderate # of tight py fgs.
 minor soft sed deform.

294.1 cb / sph / gal veinlet 5mm wide 10°CA
 90% cb

295.6 2 - 3-4mm sph / py / gal / cb veinlets
 @ 30°CA

297.7 } 3-4mm cb / py veinlets
 298 } 50% py 50% cb

300 5mm cb / sph / py / gal veinlet @
 45° / 000°

300.9 " " " "

300 - 312.5 Sandstone increasing
 veining still infrequent

303.1 5mm un # to bdg } 25/25/25/25
 303.2 5mm v @ 90° to bdg } NS strike
 303.65 vuggy cb / py un w minor gal

304 - 305.5 Numerous small veinlets < 2mm
 cb / py / sph / gal unfill
 2-4% cb 1-2% gal overall



AREA	SECT.	No.

CLIENT MINERA PENASQUITO PAGE 12 CONT. ON _____
 PROJECT _____ PROJ. No. _____ PREP _____ DATE _____
 AREA CHILE COLORADO SUB No. _____ CHECK _____ DATE _____
 SUBJECT GEOLOG. LOG WC 16 REF. DWG. No. _____

309.5 Vn 1cm @ 30° CA 30/30/30/10
 310 Vn 5mm @ 30° CA → PY
 visible down drop in sed beds 2cm disp
 vein strikes @ 0700

310.85 7mm un 30/30/30/10
 311.7 7mm un @ 45°/000° cb 30/30/30/10
 PY

312.5 - 314.2 Qtz Ser at ss
 313.15 - 313.30 } msu py / cb / sph / gal uning
 313.45 - 313.50 } 60% py 30% cb 5% sph
 fr gal

← 314.20 - 315.6 bx vlc
 lg ang seeds
 cut by + 1cm un 30/30/30/10
 PY
 numerous small cb unlets - vuggy
 possible Qtz unlets
 4-6% sph 1-2% gal 3-5% py overall

315.6 -



Appendix B

Peñasquito Property - List of Existing Drill Holes

as of February 2003

Appendix B - Table 1
Penasquito Property - List of Existing Drill Holes
as of February 2003

BHID	Easting	Northing	Elevation (m)	Length (m)	Azimuth (°)	Dip (°)
PN01	229635.28	728122.44	1968.529	860.8	0.0	-90.0
PN02	230099.14	727632.63	1975.474	701.7	0.0	-90.0
PN03	229858.28	727466.13	1969.444	695.6	0.0	-90.0
PN04	230059.52	728636.19	1992.53	109.8	0.0	-90.0
PN05	230667.36	728528.06	2010.406	516.2	0.0	-90.0
PN06	230573.59	727345.25	1987.828	160.0	0.0	-90.0
PN07	229276.95	728030.0	1957.448	162.0	0.0	-90.0
PN08	230582.17	725800.56	1982.717	132.0	0.0	-90.0
PN09	229886.13	727929.25	1973.331	227.0	0.0	-90.0
PN10	229455.39	728533.13	1970.57	144.0	0.0	-60.0
PN11	230374.22	727959.31	1984.698	603.5	180.0	-70.0
PN12	230238.84	729482.13	2029.535	69.7	0.0	-90.0
PN13	229671.84	730589.81	2052.693	98.0	0.0	-45.0
PN14	229418.91	728674.75	1973.791	168.0	180.0	-60.0
PN15	229503.69	728497.19	1970.609	997.0	0.0	-90.0
PN16	230411.88	728341.38	1996.729	457.5	180.0	-70.0
PN17	229974.94	728296.69	1983.699	210.0	180.0	-70.0
PN18	229245.98	728755.88	1969.177	114.0	180.0	-70.0
PN19	230119.69	727156.56	1976.227	401.5	180.0	-70.0
PN20	230091.86	727977.69	1978.387	446.5	180.0	-70.0
PN21	228840.89	727859.19	1946.682	202.0	0.0	-65.0
PN22	229224.09	729088.31	1973.951	214.0	180.0	-70.0
PN23	229757.0	728510.81	1978.636	116.0	180.0	-75.0
PN24	230737.33	727728.56	2002.841	168.0	180.0	-80.0
PN25	228642.28	729162.63	1962.813	151.0	0.0	-90.0
PN26	230123.36	727082.13	1975.601	404.2	0.0	-90.0
PN27	230220.59	727159.38	1978.402	337.4	180.0	-70.0
PN28	230013.34	727153.44	1973.168	380.1	180.0	-70.0
PN29	229553.11	728456.0	1970.806	204.0	140.0	-60.0
PN30	229555.61	728381.13	1970.288	152.0	180.0	-60.0
PN31	229456.41	728402.63	1966.965	204.0	220.0	-60.0
PN32	230321.89	727160.25	1980.656	439.5	180.0	-70.0
PN33	230200.53	727331.06	1979.046	456.3	0.0	-60.0
PN34	230426.47	727834.25	1983.821	208.0	260.0	-65.0
PN35	230109.88	727382.13	1976.527	623.9	180.0	-60.0
PN36	230186.72	727774.63	1977.556	202.0	0.0	-60.0
PN37	229653.06	728634.5	1978.567	242.0	0.0	-60.0
PN38	230006.3	727431.94	1972.843	277.0	225.0	-60.0
PN39	230371.81	727381.63	1983.559	190.0	155.0	-60.0
PN40	229026.89	729025.56	1967.321	248.0	0.0	-70.0
PN41	230083.41	726824.06	1974.303	449.6	0.0	-60.0
PN42	229450.8	728732.81	1975.901	730.0	149.0	-65.0
PN43	230189.56	727575.75	1979.277	653.2	70.0	-65.0
PN44	229451.75	728762.81	1976.489	738.2	40.0	-65.0
PN45	229421.42	728781.5	1975.5	580.3	225.0	-65.0
PN46	230177.33	727568.88	1979.277	420.9	223.0	-65.0
PN47	229420.44	728800.25	1975.729	656.5	315.0	-60.0
PN48	229910.27	727279.88	1970.659	232.0	225.0	-70.0
PN49	229620.64	727944.81	1958.446	106.0	170.0	-65.0
PN50	229604.41	727993.69	1966.5	486.9	160.0	-60.0
PN51	227775.64	728473.19	1921.86	194.0	0.0	-90.0
PN52	229900.0	727279.56	1970.322	420.0	225.0	-70.0
PN53	232107.83	726874.25	2023.651	154.0	50.0	-60.0
PN54	232455.47	726681.94	2040.427	139.6	50.0	-60.0
PN55	229340.67	728876.38	1974.715	308.75	315.0	-60.0



WC30	230321.31	727494.44	1982.016	485.9	90.0	-60.0
WC31	230285.0	727707.5	1980.005	395.02	0.0	-60.0
WC32	230100.0	727641.25	1976.284	316.3	270.0	-60.0
WC33	230192.05	727775.38	1977.333	297.48	0.0	-60.0
WC34	230319.77	727617.81	1982.241	525.7	90.0	-60.0
WC35	230324.45	727297.25	1981.79	498.65	180.0	-60.0
WC36	230471.53	727793.94	1985.037	699.82	180.0	-60.0
WC37	230425.11	727271.75	1983.915	362.1	180.0	-60.0
WC38	230631.3	727811.06	1988.894	463.3	180.0	-60.0
WC39	230374.73	727296.5	1983.314	459.03	180.0	-60.0
WC40	229867.42	728251.13	1979.196	701.4	315.0	-60.0
WC41	230426.22	727347.19	1984.533	425.5	180.0	-60.0
WC42	230067.66	726989.69	1973.766	263.85	180.0	-60.0
WC43	230273.8	727297.5	1980.553	416.75	180.0	-60.0
WC44	229816.14	726904.0	1978.052	325.1	90.0	-60.0
WC45	230223.92	727297.56	1982.389	431.6	180.0	-60.0
=====						
BHID	Easting	Northing	Elevation (m)	Length (m)	Azimuth (°)	Dip (°)
WC46	230119.75	727040.0	1975.362	287.35	90.0	-60.0
WC47	230222.56	727232.25	1966.431	297.48	180.0	-65.0
WC48	230325.22	727247.25	1981.503	324.95	180.0	-65.0
WC49	230273.92	727246.63	1980.659	367.59	180.0	-60.0
WC50	230375.25	727247.56	1983.051	302.9	180.0	-60.0
WC51	230146.97	727132.88	1976.638	471.22	90.0	-60.0
WC52	230423.63	727196.13	1983.766	462.08	180.0	-60.0
WC53	230375.2	727197.06	1982.912	309.68	180.0	-60.0
WC54	229972.56	727346.88	1971.812	440.13	185.0	-60.0



Appendix C

Plots of Cumulative Frequency Curves and Variogram Models

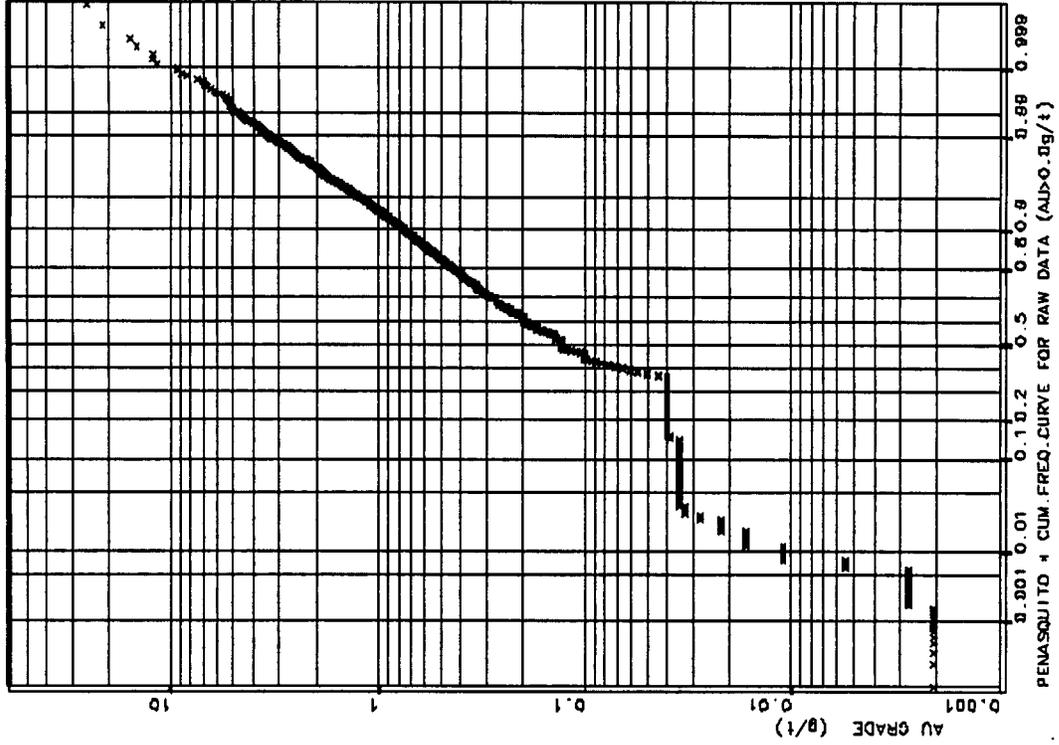
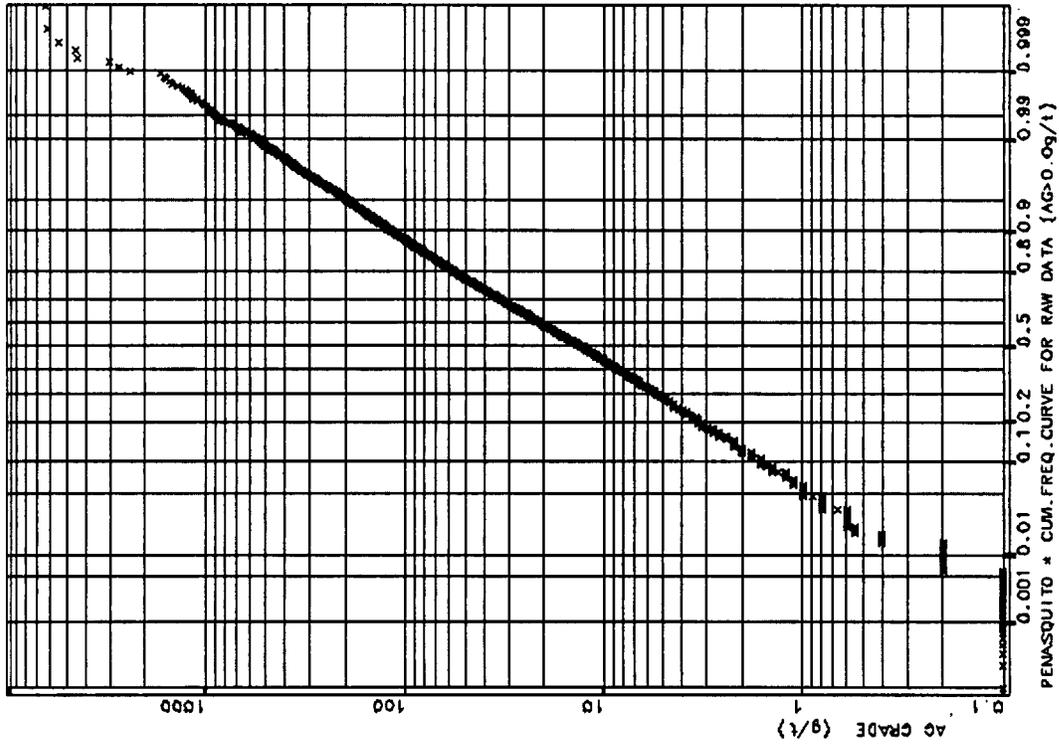


Figure C-1: Chile Colorado – Cumulative Frequency Curves Plotted for Original Ag and Au Samples

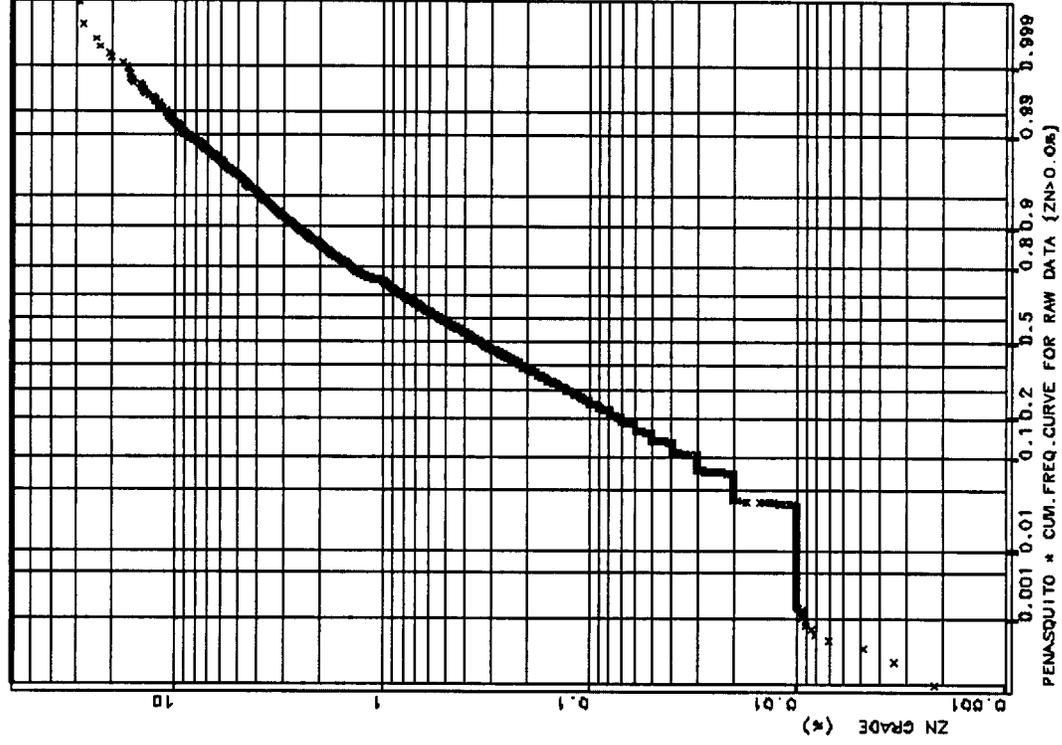
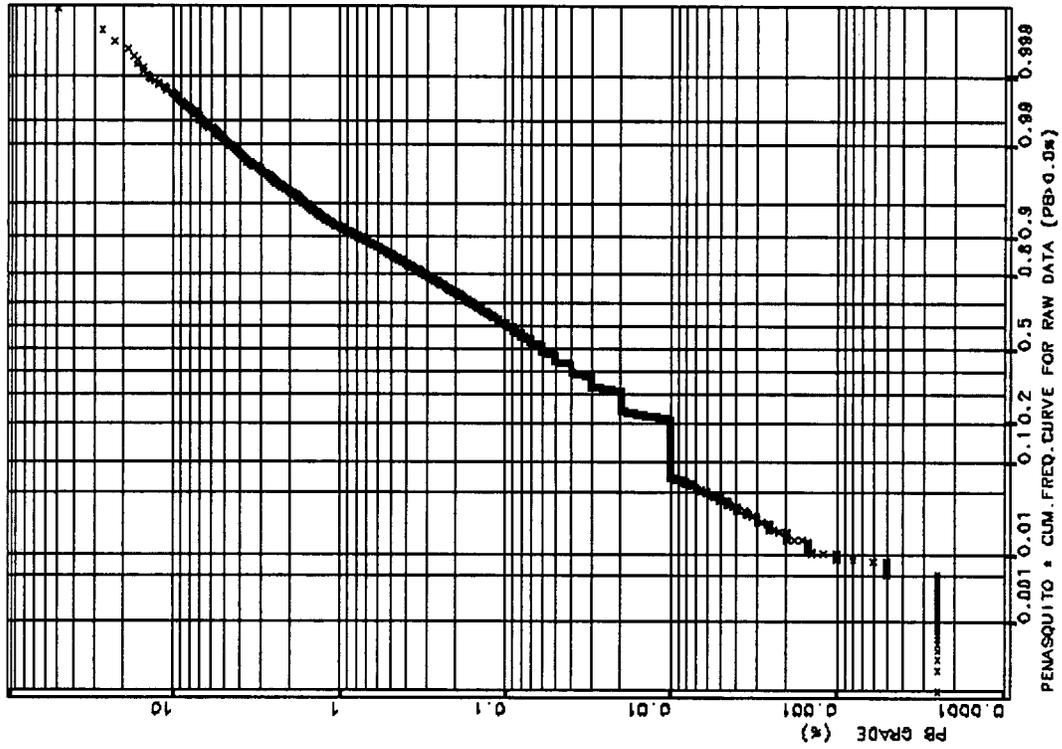
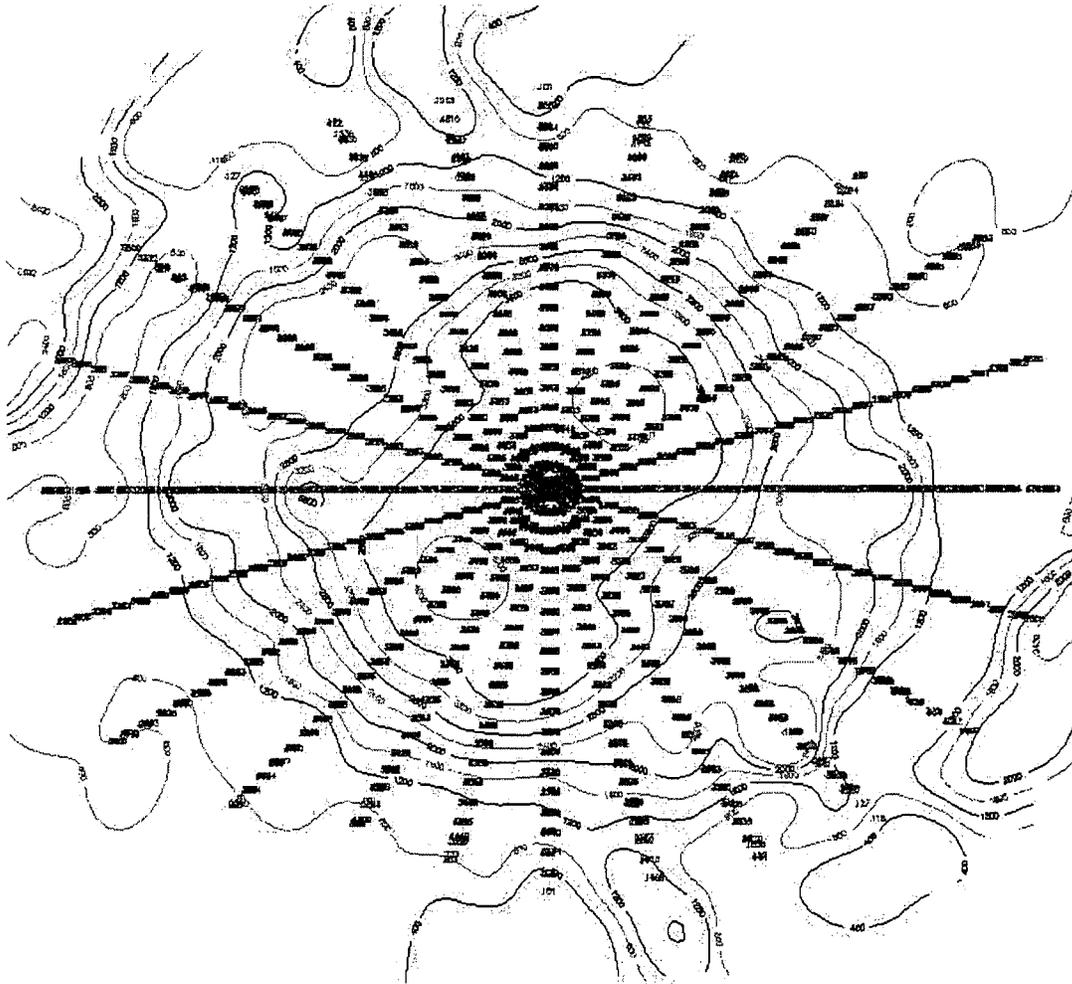
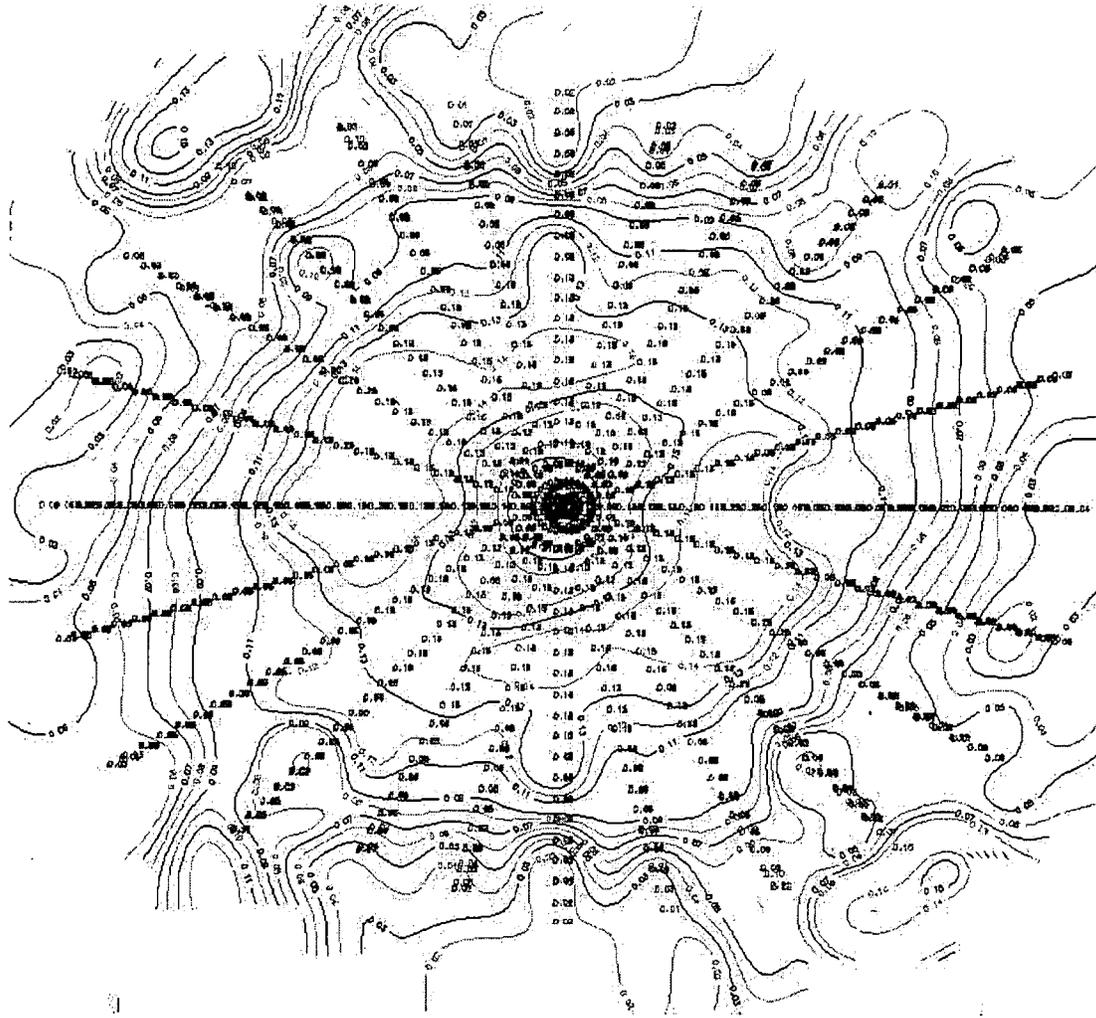


Figure C-2: Chile Colorado - Cumulative Frequency Curves Plotted for Original Pb and Zn Samples



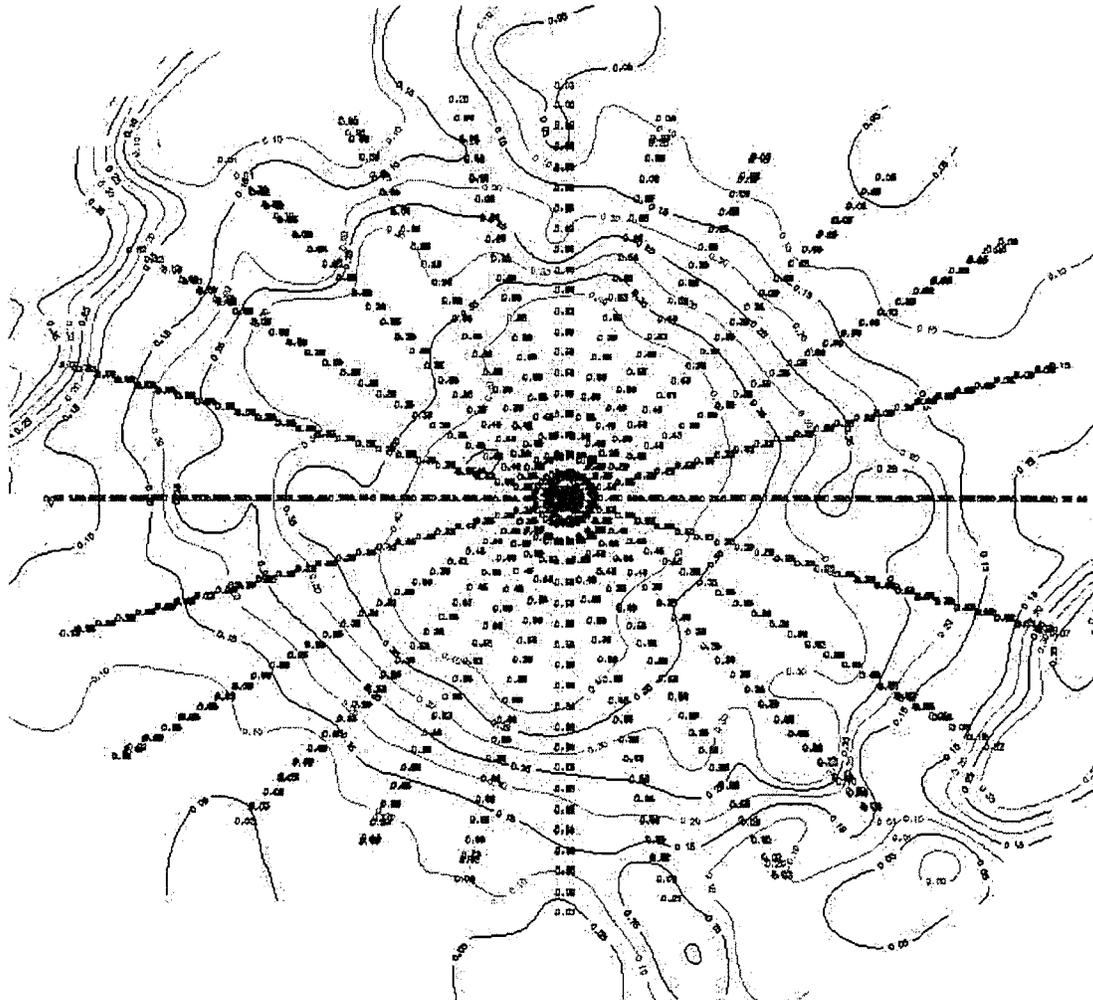
Note: Better continuity in NE-SW direction

Figure C-3: Chile Colorado – Sulphide Zone Variogram Rosette for Ag Distribution



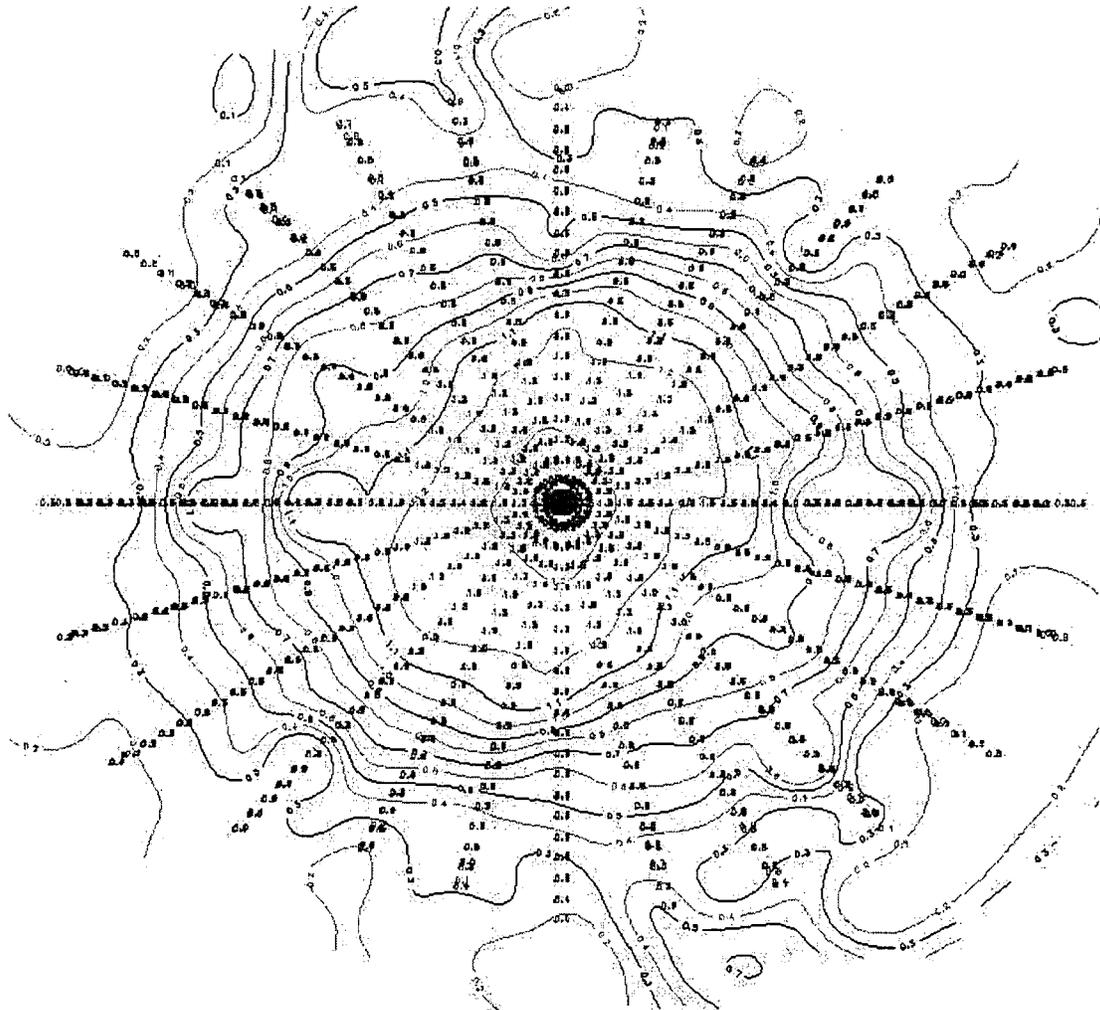
Note: Better continuity in NE-SW direction (30 degrees NE)

Figure C-4: Chile Colorado – Sulphide Zone Variogram Rosette for Au Distribution



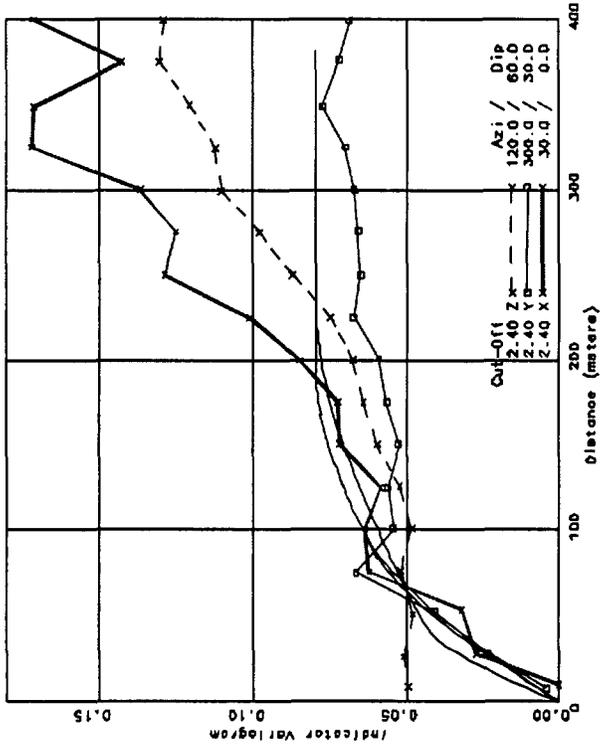
Note: The rosette shows better continuity in NE-SW direction (30-45 degrees NE)

Figure C-5: Chile Colorado – Sulphide Zone Variogram Rosette for Pb Distribution



Note: The rosette shows better continuity in NE-SW direction (30-45 degrees)

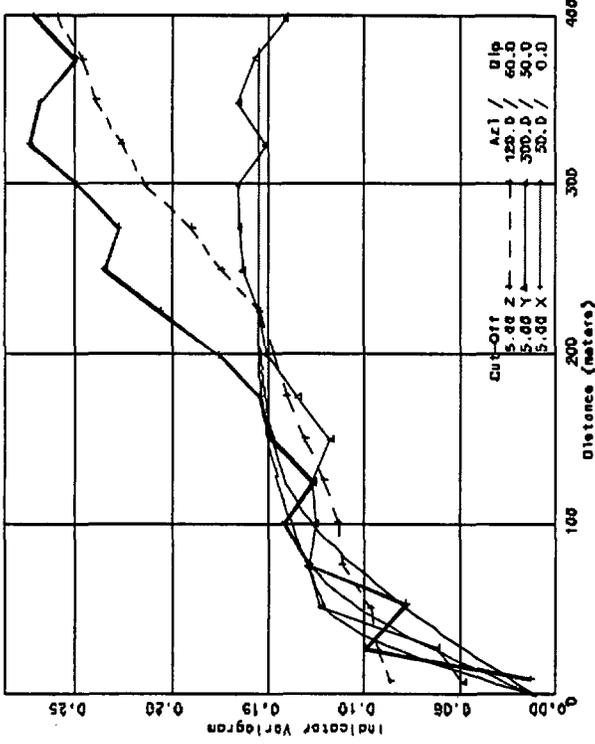
Figure C-6: Chile Colorado – Sulphide Zone Variogram Rosette for Zn Distribution



Chile Colorado - Sulphide Zone - Ag Variogram (Cut-off 2.4 g/t Ag)

Indicator Variogram		Grade: Ag	
Z Structure	Anisotropic Model	Nugget	0.0000
Structure	Range X	C Value	0.0300
1	Range Y	AG	0.0500
2	Range Z	AG	0.0500
	AG		
	200.0	240.0	0.0500

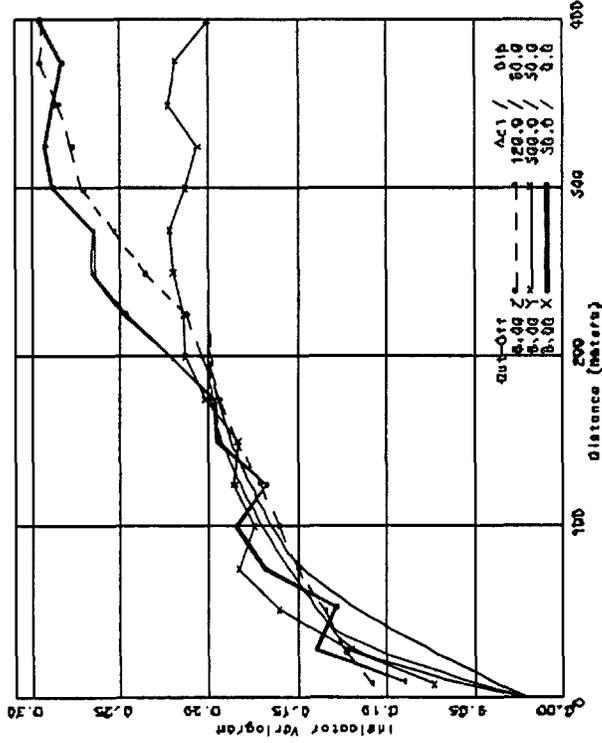
Figure C-7: Variogram Model for Ag Indicator Kriging (>2.4g/t Ag)



Chile Colorado - Sulphide Zone - Ag Variogram (Cut-off 5.0 g/t Ag)

Indicator Variogram		Grade: Ag	
Z Structure	Anisotropic Model	Nugget	0.010
Structure	Range X	C Value	0.060
1	Range Y	AG	0.100
2	Range Z	AG	0.055
	AG		
	200.0	220.0	0.055

Figure C-8: Variogram Model for Ag Indicator Kriging (Ag > 5.0 g/t)



Chile Colorado - Sulphide Zone - Ag Variogram (Out-off 8.0 g/t Ag)

Indicator Variogram

Grade: AC

Structure	2	Range	200.0	Nugget	0.100	Sill	0.200
Structure	1	Range	200.0	Nugget	0.100	Sill	0.200
Structure	1	Range	200.0	Nugget	0.100	Sill	0.200

Out-off

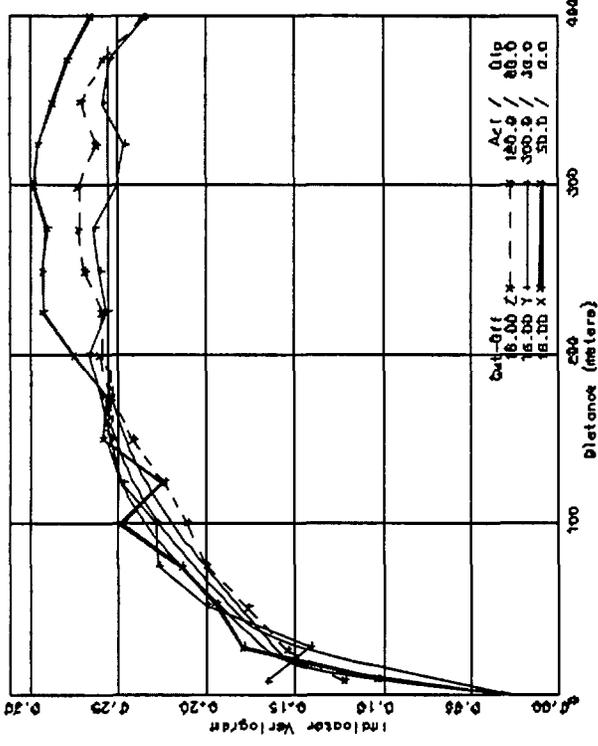
16.00	Z	0.00
16.00	Y	0.00
16.00	X	0.00

ACT /

120.0	/	80.0
300.0	/	50.0
50.0	/	0.0

Distance (meters)

Figure C-9: Variogram Model for Ag Indicator Kriging (>8.0 g/t Ag)



Chile Colorado - Sulphide Zone - Ag Variogram (Out-off 16.0 g/t Ag)

Indicator Variogram

Grade: A6

Structure	2	Range	180.0	Nugget	0.100	Sill	0.255
Structure	1	Range	180.0	Nugget	0.100	Sill	0.255
Structure	1	Range	180.0	Nugget	0.100	Sill	0.255

Out-off

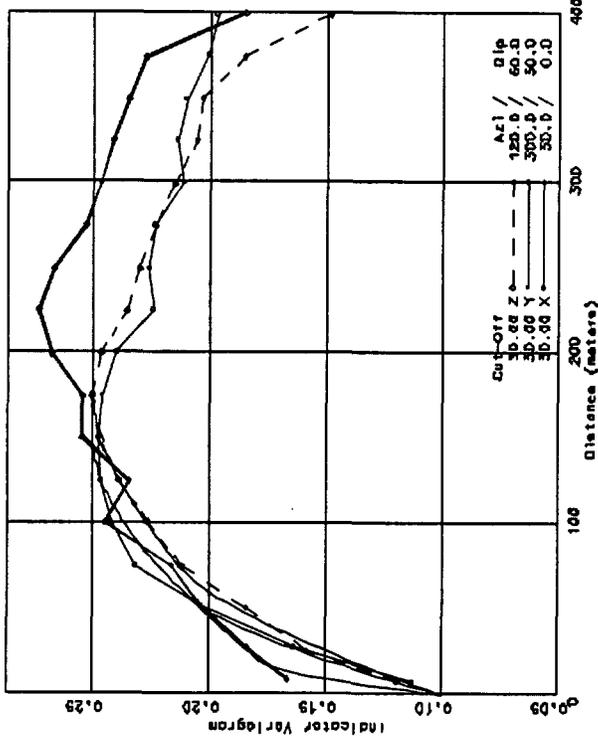
16.00	Z	0.00
16.00	Y	0.00
16.00	X	0.00

ACT /

120.0	/	80.0
300.0	/	50.0
50.0	/	0.0

Distance (meters)

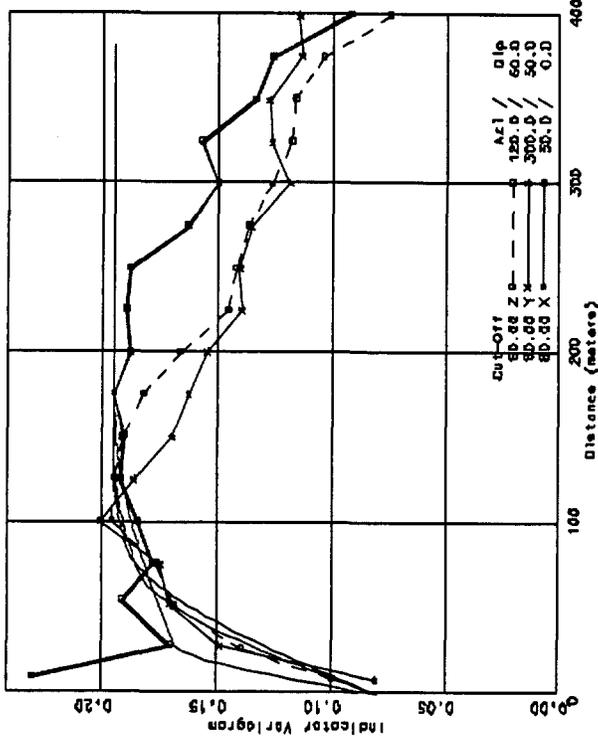
Figure C-10: Variogram Model for Ag Indicator Kriging (Ag>16.0 g/t)



Chile Colorado - Sulphide Zone - Ag Variogram (Cut-off 30.0 g/t Ag)

Indicator Variogram		Grade: Ag	
Structure	Anisotropic	Model	0.150 S111
Structure	Range	Range	0.060 S111
1	150.0	150.0	0.250
2	150.0	150.0	0.080

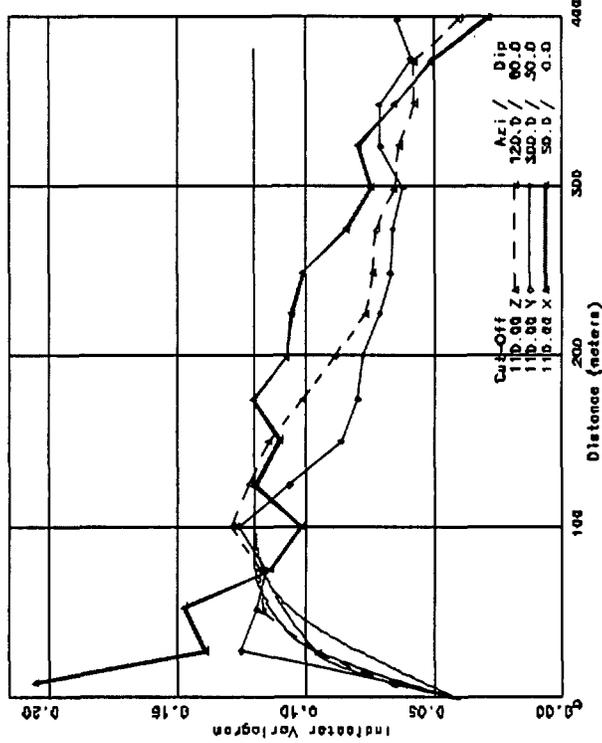
Figure C-11: Variogram Model for Ag Indicator Kriging (>30.0 g/t Ag)



Chile Colorado - Sulphide Zone - Ag Variogram (Cut-off 60.0 g/t Ag)

Indicator Variogram		Grade: Ag	
Structure	Anisotropic	Model	0.080 S111
Structure	Range	Range	0.100 S111
1	170.0	145.0	0.195
2	170.0	150.0	0.095

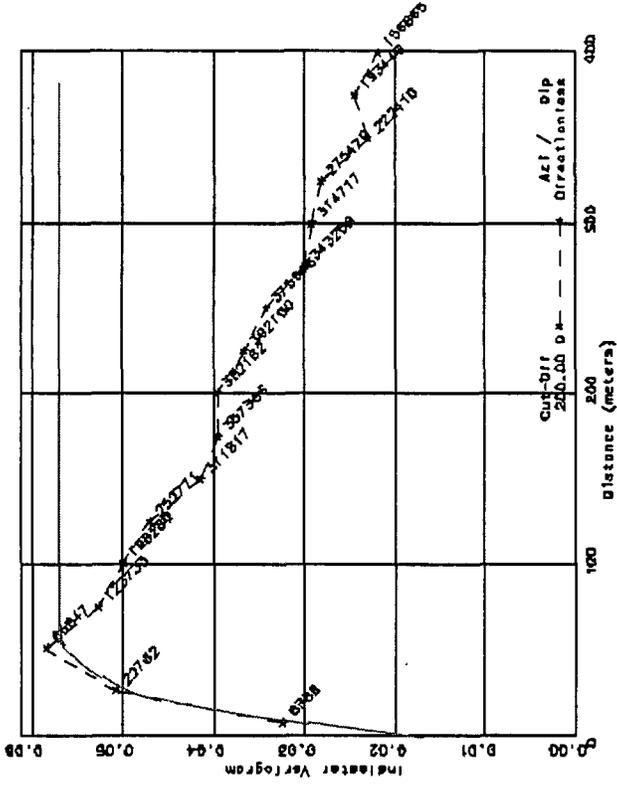
Figure C-12: Variogram Model for Ag Indicator Kriging (Ag>60.0 g/t)



Chile Delorado - Sulphide Zone - Ag Variogram (cut-off 110.0 g/t Ag)

Indicator Variogram		Grade: AG	
2 Structure Anisotropic Model	Muget	0.040	Sill
2 Structure Range X	C Value	0.040	0.090
2 Structure Range Y	Range	50.0	0.040
2 Structure Range Z	Range	50.0	0.040

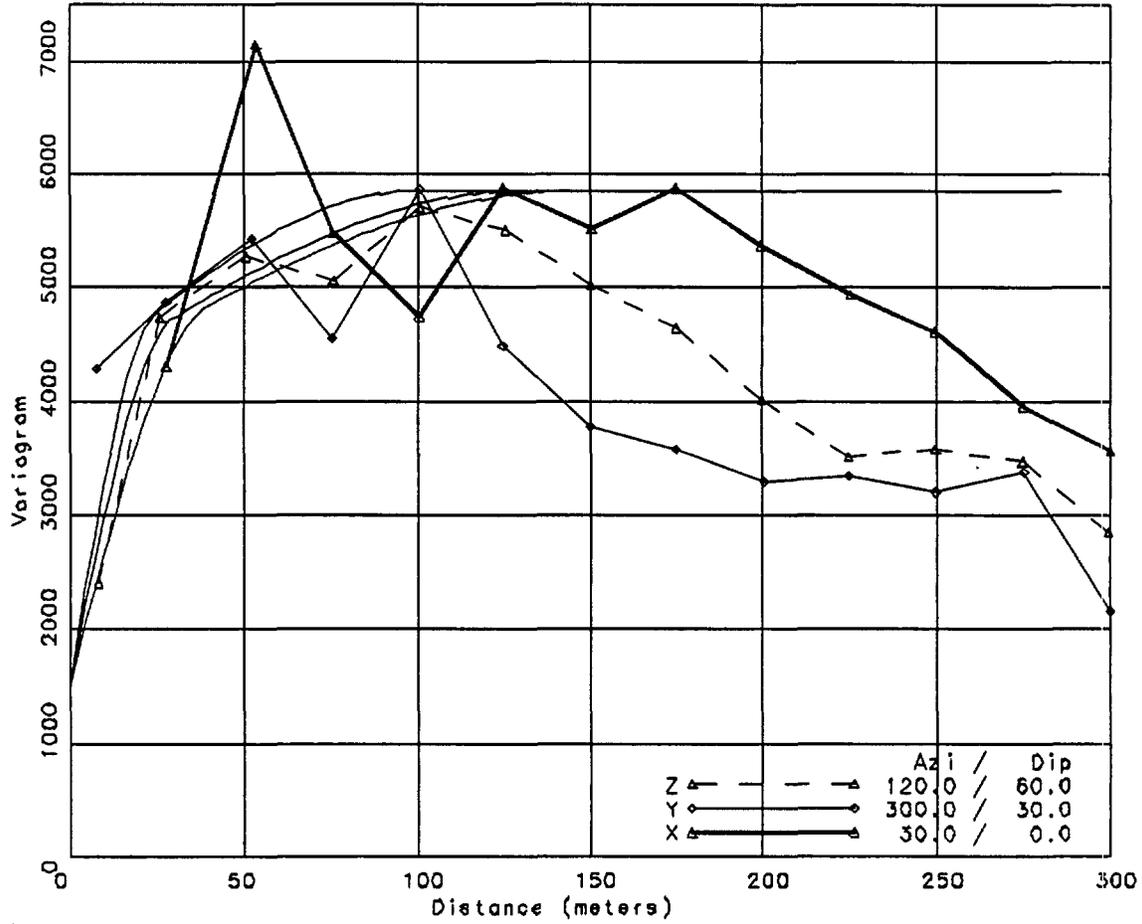
Figure C-13: Variogram Model for Ag Indicator Kriging (>110.0 g/t Ag)



Chile Colorado - Sulphide Zone - Ag Variogram (cut-off 110.0 g/t Ag)

Indicator Variogram		Grade: AG	
2 Structure Anisotropic Model	Muget	0.0170	
2 Structure Range X	C Value	0.0170	
2 Structure Range Y	Range	82.0	0.0200
2 Structure Range Z	Range	82.0	0.0200

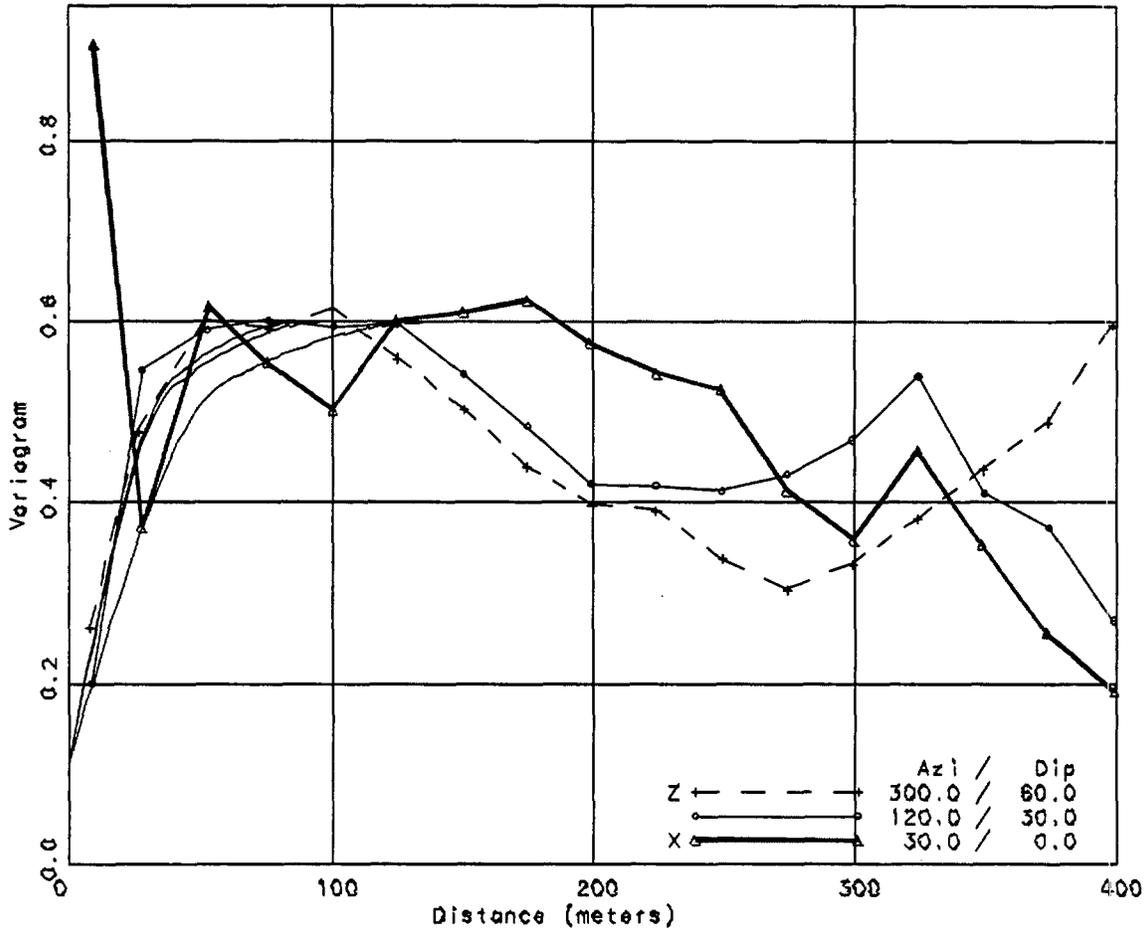
Figure C-14: Variogram Model for Ag Indicator Kriging (Ag>200.0 g/t)



Chile Colorado - Sulphide Zone - Ag variogram

Variogram		Grade: AG			
2	Structure Anisotropic Model	Nugget	1500.0		
Structure	Range X	Range Y	Range Z	C Value	Sill
1	40.0	25.0	30.0	2850.0	4150.0
2	145.0	100.0	130.0	1700.0	5850.0

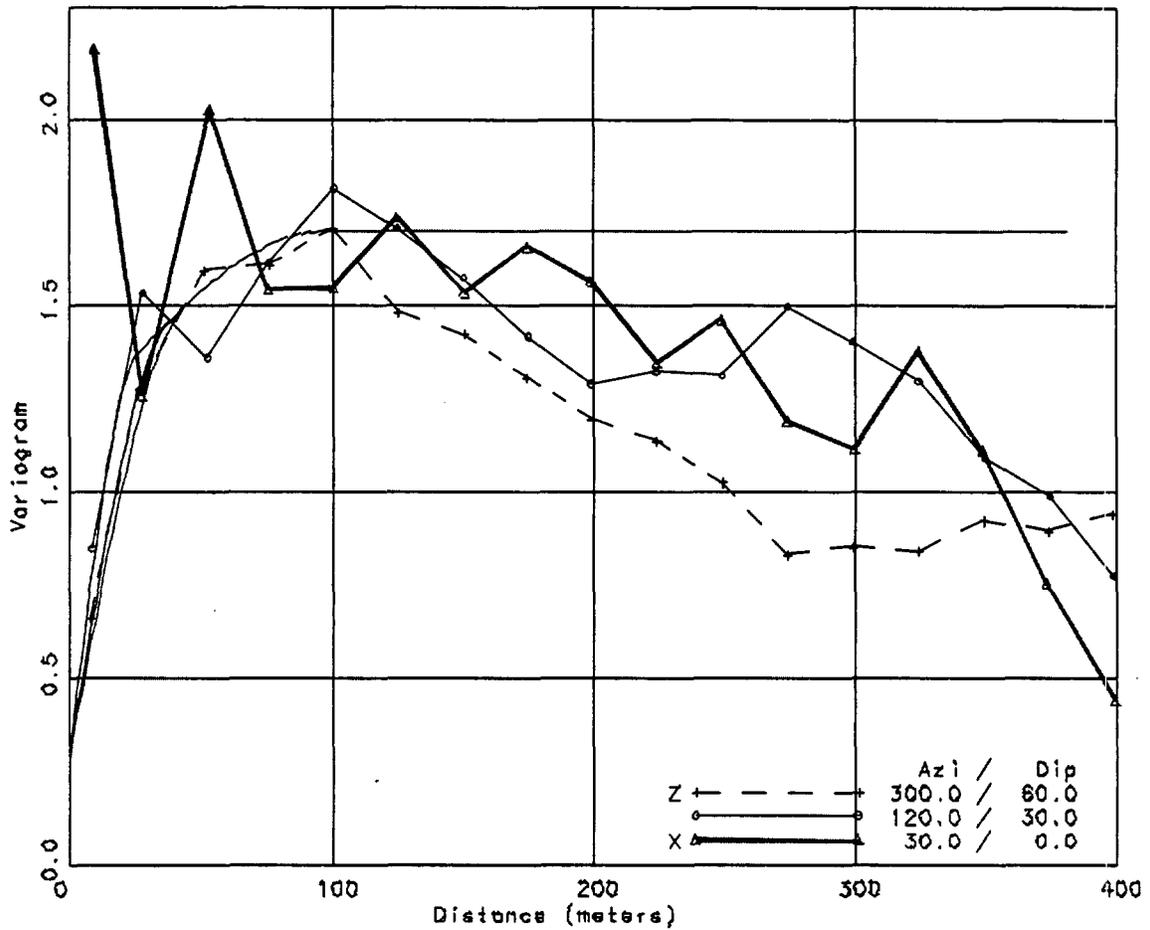
Figure C-15: Chile Colorado – Sulphide Zone Directional Variogram for Ag



Chile Colorado - Sulphide Zone - Variogram Pb

Variogram		Grade: PB			
2	Structure Anisotropic Model	Nugget	0.110		
Structure	Range X	Range Y	Range Z	C Value	Sill
1	80.0	40.0	40.0	0.320	0.430
2	140.0	90.0	100.0	0.170	0.600

Figure C-17: Chile Colorado - Sulphide Zone Directional Variogram for Pb



Chile Colorado - Sulphide Zone - Variogram Zn

Variogram		Grade: ZN			
2	Structure Anisotropic Model	Nugget	0.28		
Structure	Range X	Range Y	Range Z	C Value	Sill
1	44.0	26.0	38.0	0.88	1.16
2	100.0	100.0	100.0	0.54	1.70

Figure C-18: Chile Colorado – Sulphide Zone Directional Variogram for Zn

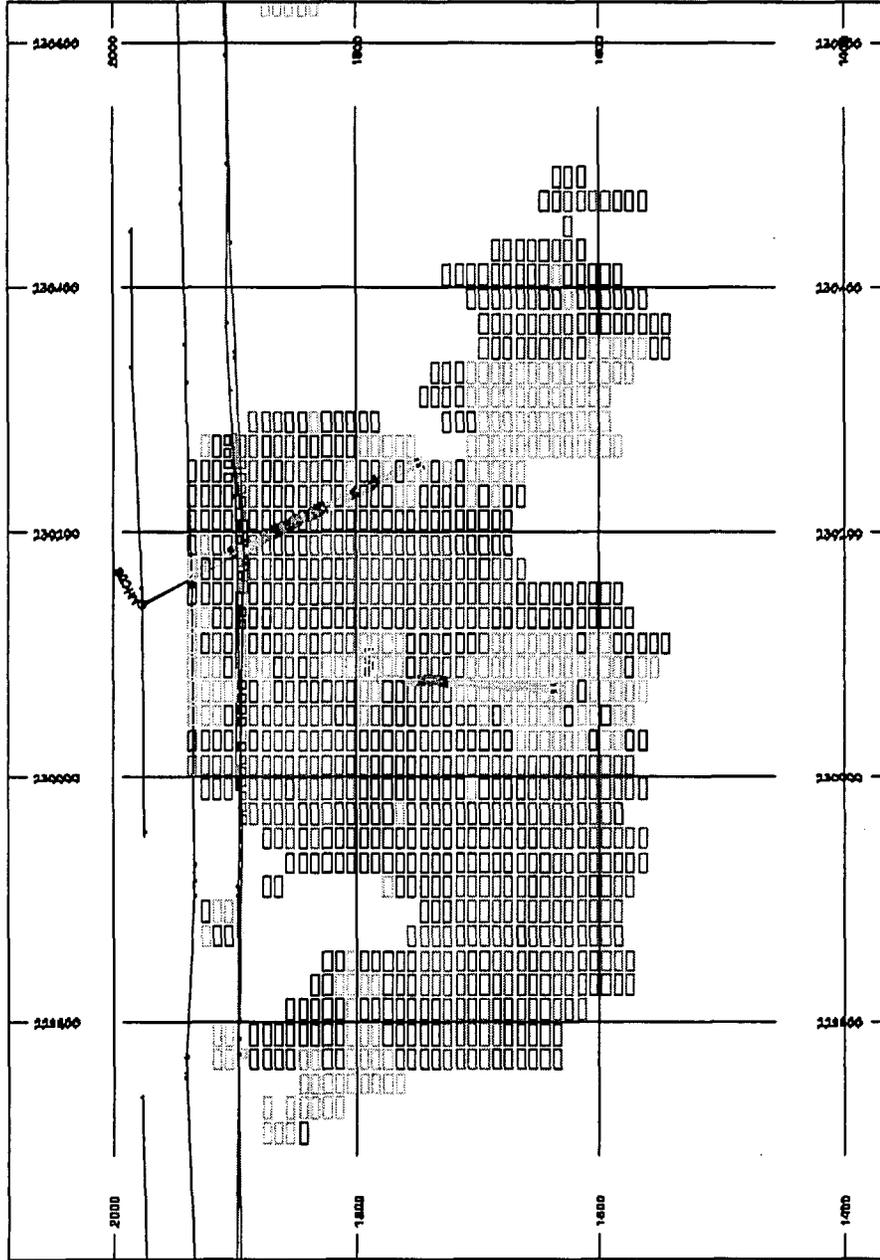


Appendix D

Chile Colorado Sections and Plans

Through Model and Drillholes

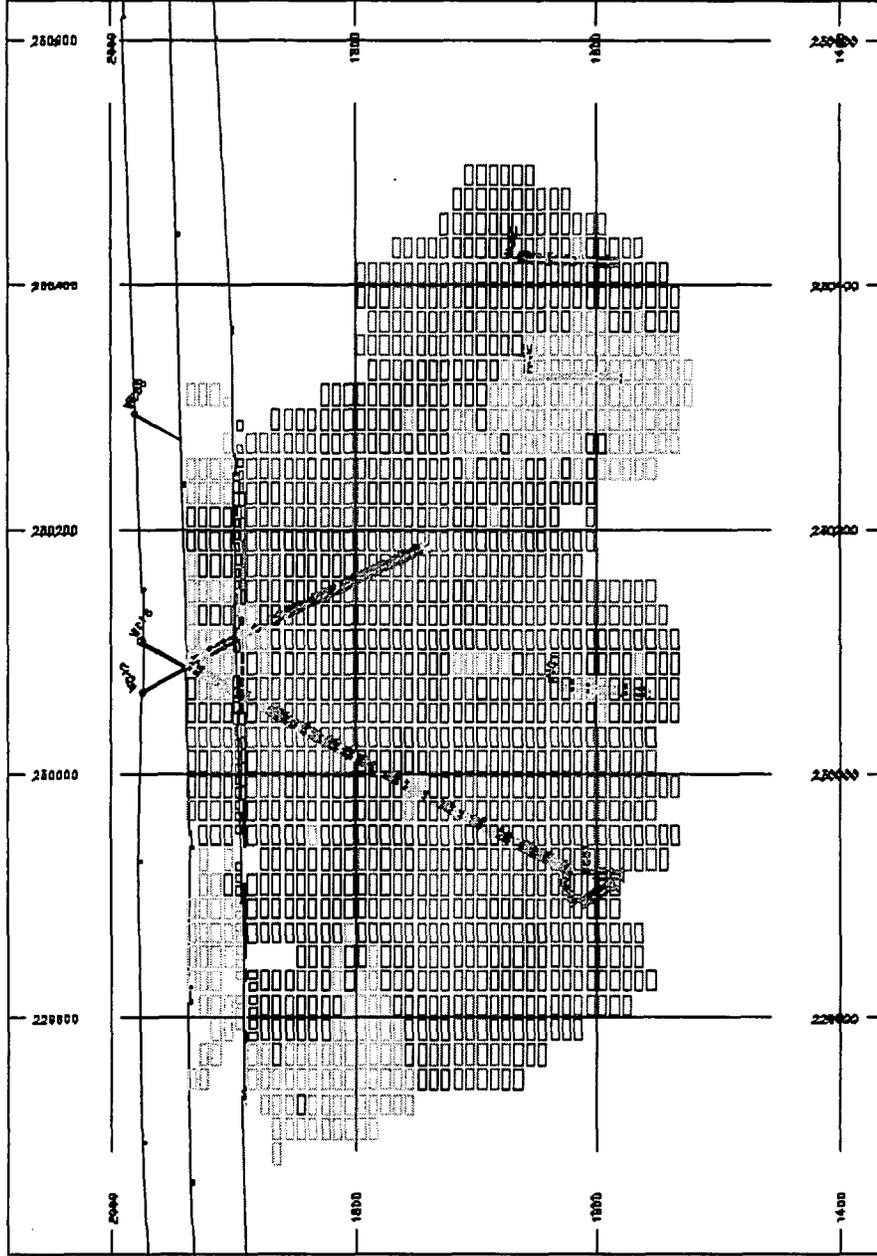
Showing NSR Values



Chile Colorado Zone
Section 726940 N,
Looking North

Color Codes:
 Yellow: 0 - 2 \$/t NSR
 Blue: 2 - 4 \$/t NSR
 Green: 4 - 7 \$/t NSR
 Red: 7-10 \$/t NSR
 Magenta: > 10 \$/t NSR

Note:
 Section represents a 50 meter window, 25 meters on either side of the section line.
 Plot displays model blocks with NSR > 0.0 \$/t.



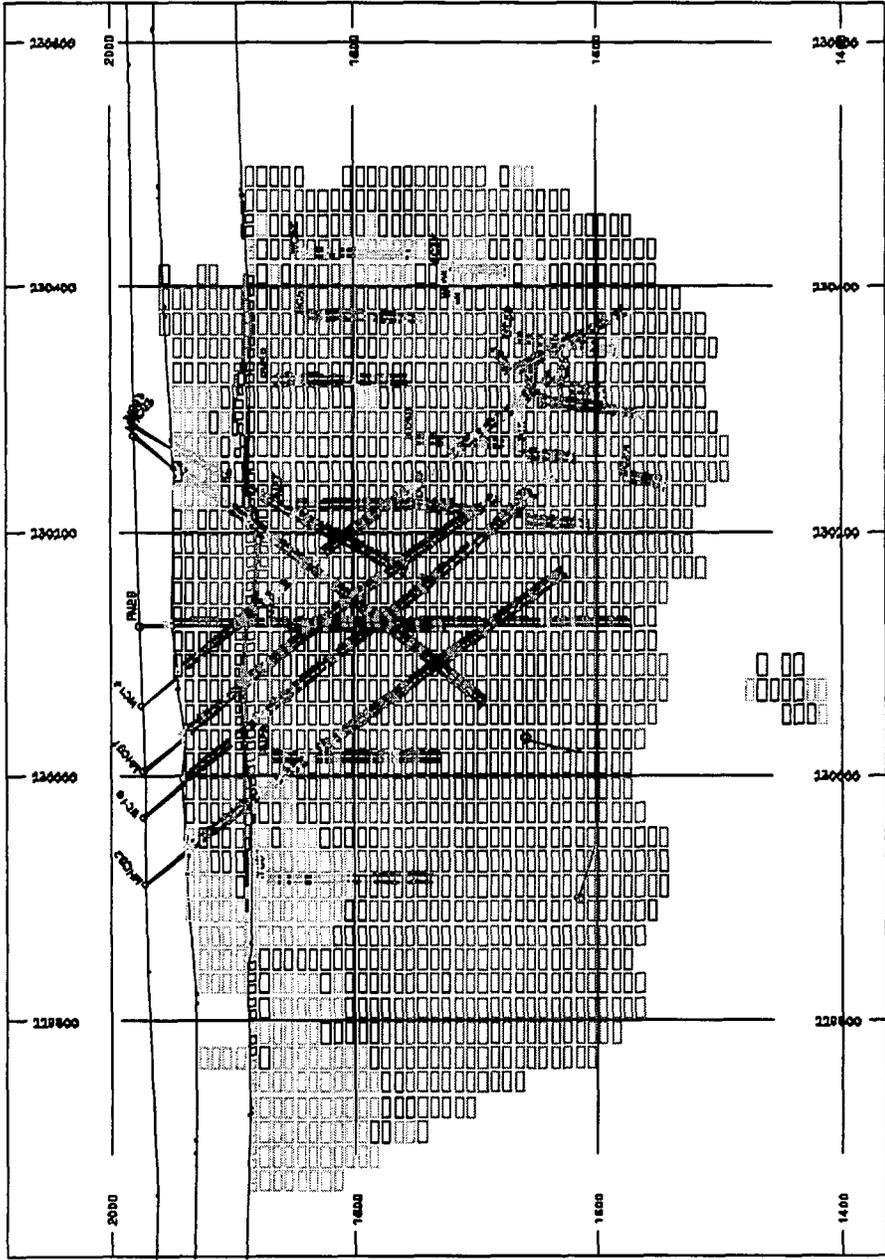
Chile Colorado Zone
Section 726990 N,
Looking North

Color Codes:
Yellow: 0 - 2 \$/t NSR
Blue: 2 - 4 \$/t NSR
Green: 4 - 7 \$/t NSR
Red: 7-10 \$/t NSR
Magenta: > 10 \$/t NSR

Note:

Section represents a 50 meter window, 25 meters on either side of the section line.

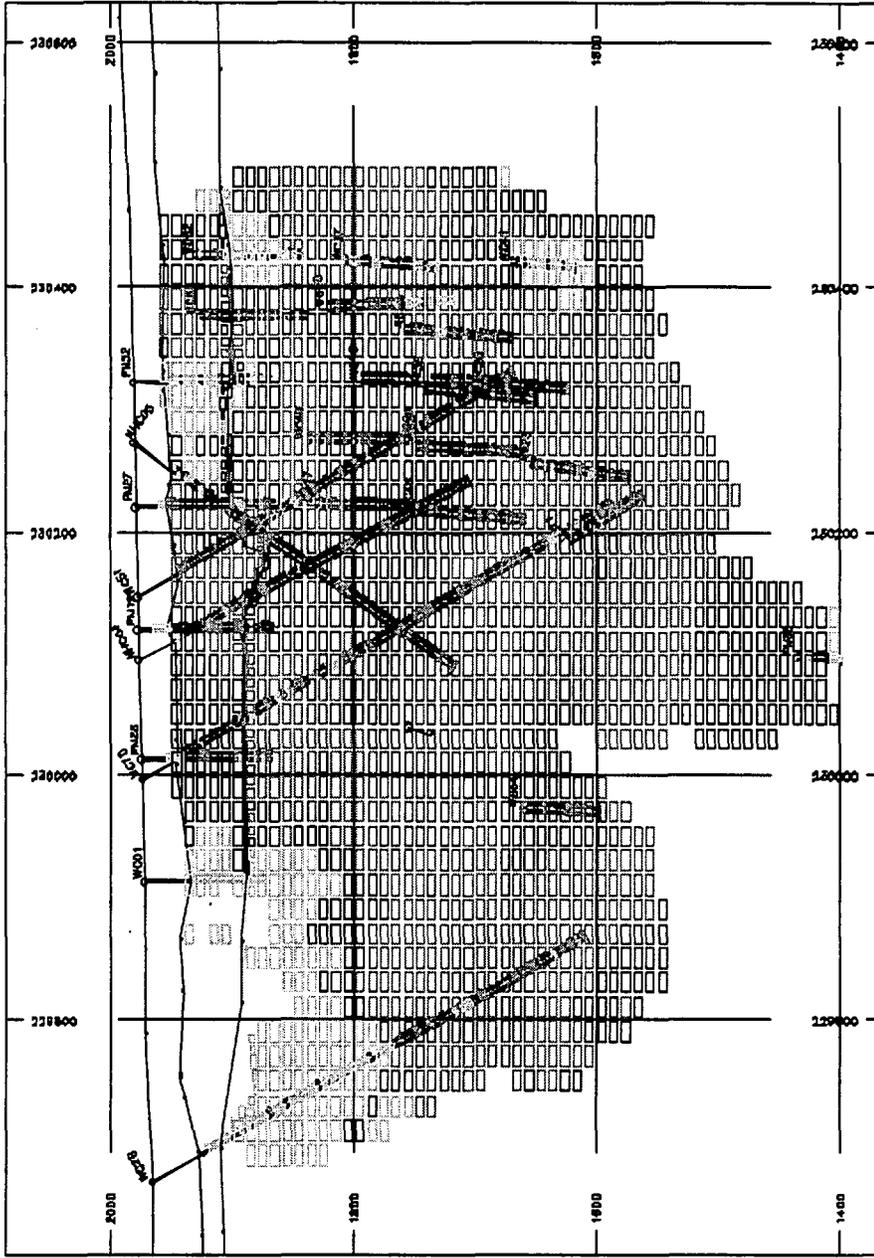
Plot displays model blocks with NSR > 0.0 \$/t.



Chile Colorado Zone
Section 727040 N,
Looking North

Color Codes:
 Yellow: 0 - 2 \$/t NSR
 Blue: 2 - 4 \$/t NSR
 Green: 4 - 7 \$/t NSR
 Red: 7 - 10 \$/t NSR
 Magenta: > 10 \$/t NSR

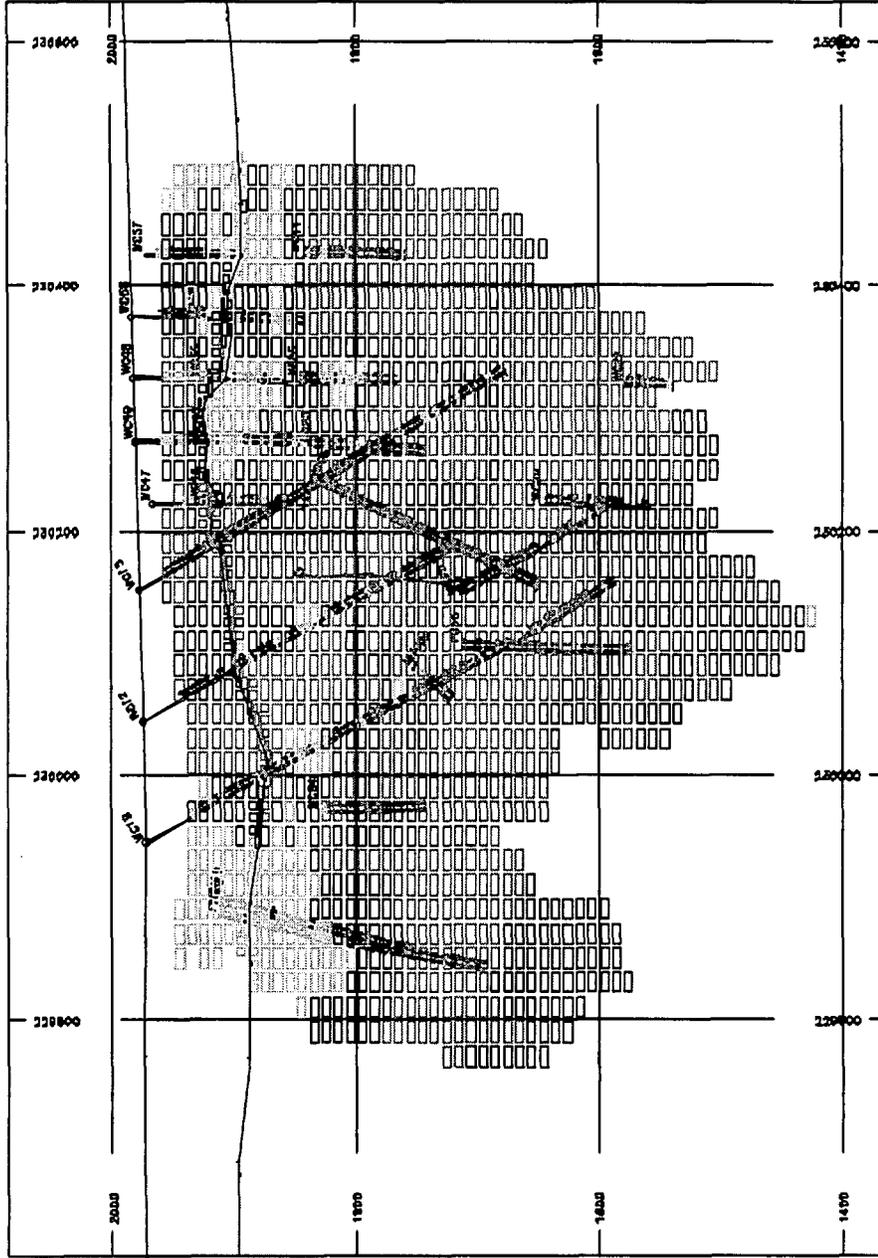
Note:
 Section represents a 50 meter window, 25 meters on either side of the section line.
 Plot displays model blocks with NSR > 0.0 \$/t.



Chile Colorado Zone
Section 727090 N,
Looking North

Color Codes:
 Yellow: 0 - 2 \$/t NSR
 Blue: 2 - 4 \$/t NSR
 Green: 4 - 7 \$/t NSR
 Red: 7 - 10 \$/t NSR
 Magenta: > 10 \$/t NSR

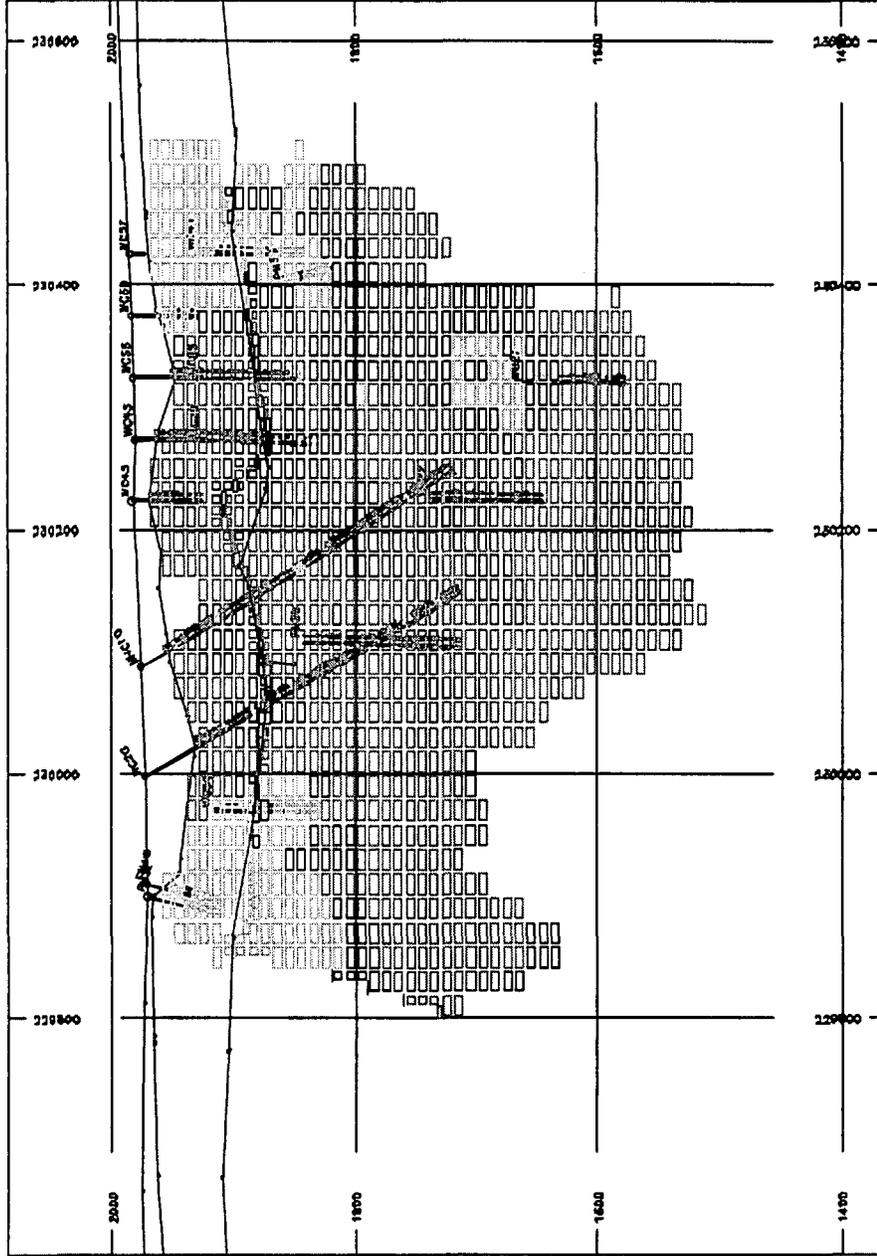
Note:
 Section represents a 50 meter window, 25 meters on either side of the section line.
 Plot displays model blocks with NSR > 0.0 \$/t.



Chile Colorado Zone
Section 727190 N,
Looking North

Color Codes:
 Yellow: 0 - 2 \$/t NSR
 Blue: 2 - 4 \$/t NSR
 Green: 4 - 7 \$/t NSR
 Red: 7-10 \$/t NSR
 Magenta: > 10 \$/t NSR

Note:
 Section represents a 50 meter window, 25 meters on either side of the section line.
 Plot displays model blocks with NSR > 0.0 \$/t.



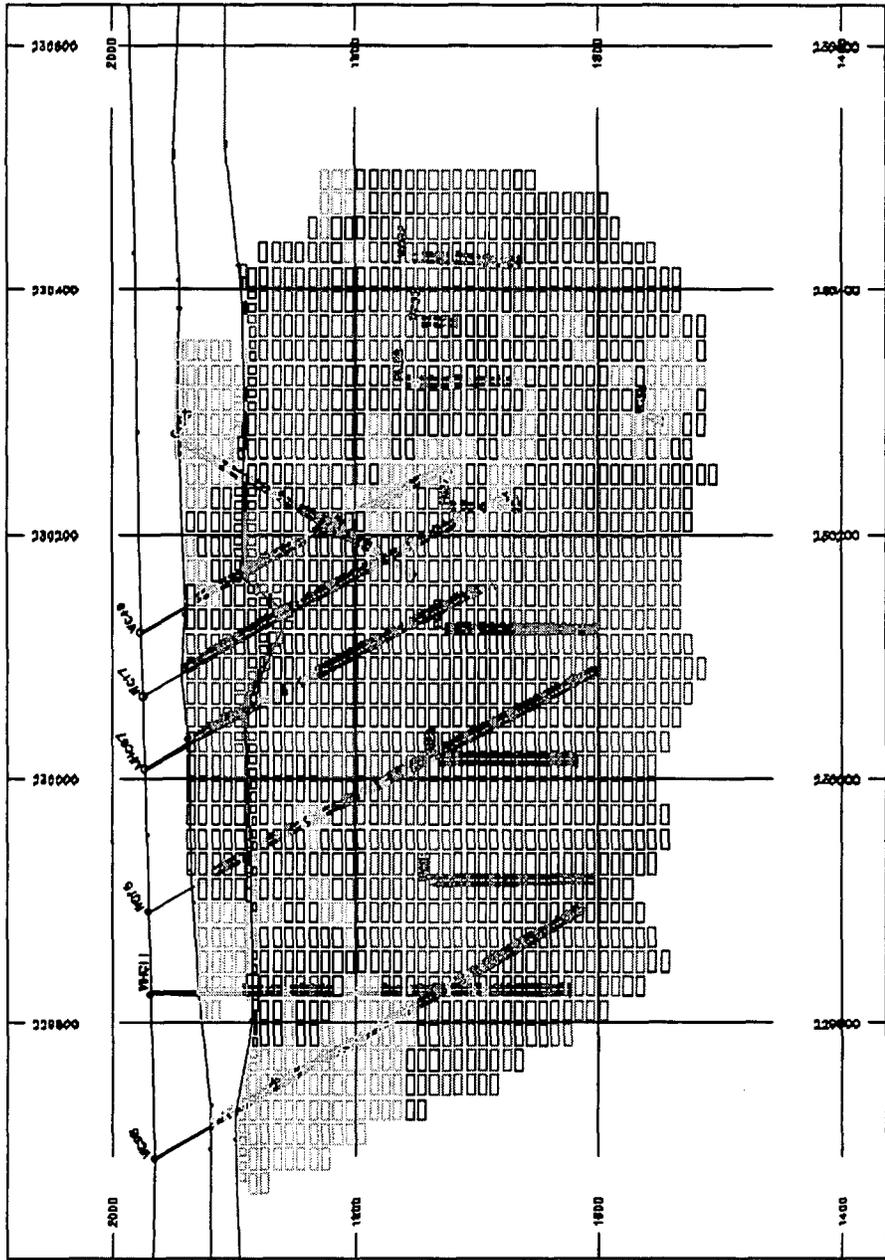
Chile Colorado Zone
Section 727240 N,
Looking North

Color Codes:
 Yellow: 0 - 2 \$/t NSR
 Blue: 2 - 4 \$/t NSR
 Green: 4 - 7 \$/t NSR
 Red: 7-10 \$/t NSR
 Magenta: > 10 \$/t NSR

Note:

Section representst a 50 meter window, 25 meters on either side of the section line.

Plot displays model blocks with NSR > 0.0 \$/t.



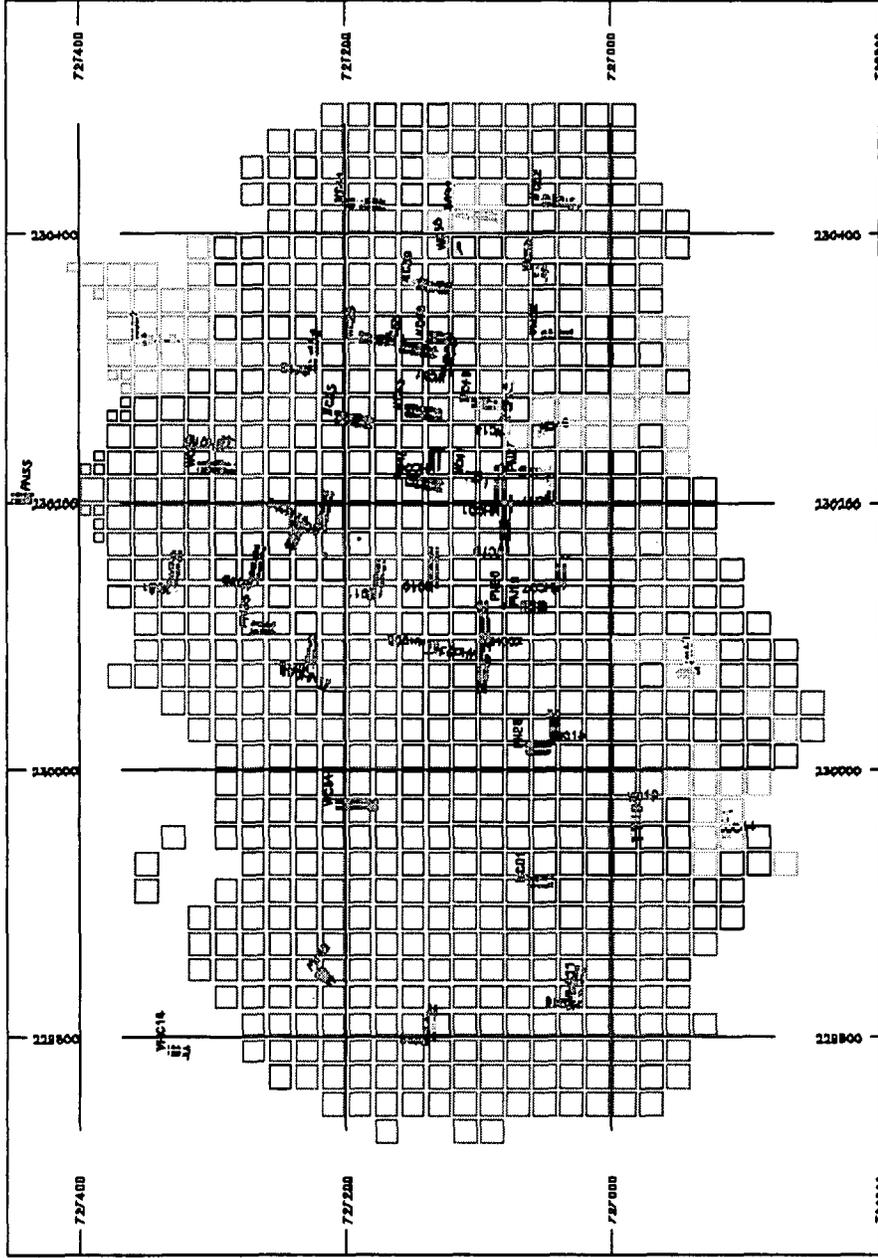
Chile Colorado Zone
Section 727290 N,
Looking North

Color Codes:
 Yellow: 0 - 2 \$/t NSR
 Blue: 2 - 4 \$/t NSR
 Green: 4 - 7 \$/t NSR
 Red: 7 - 10 \$/t NSR
 Magenta: > 10 \$/t NSR

Note:

Section represents a 50 meter window, 25 meters on either side of the section line.

Plot displays model blocks with NSR > 0.0 \$/t.



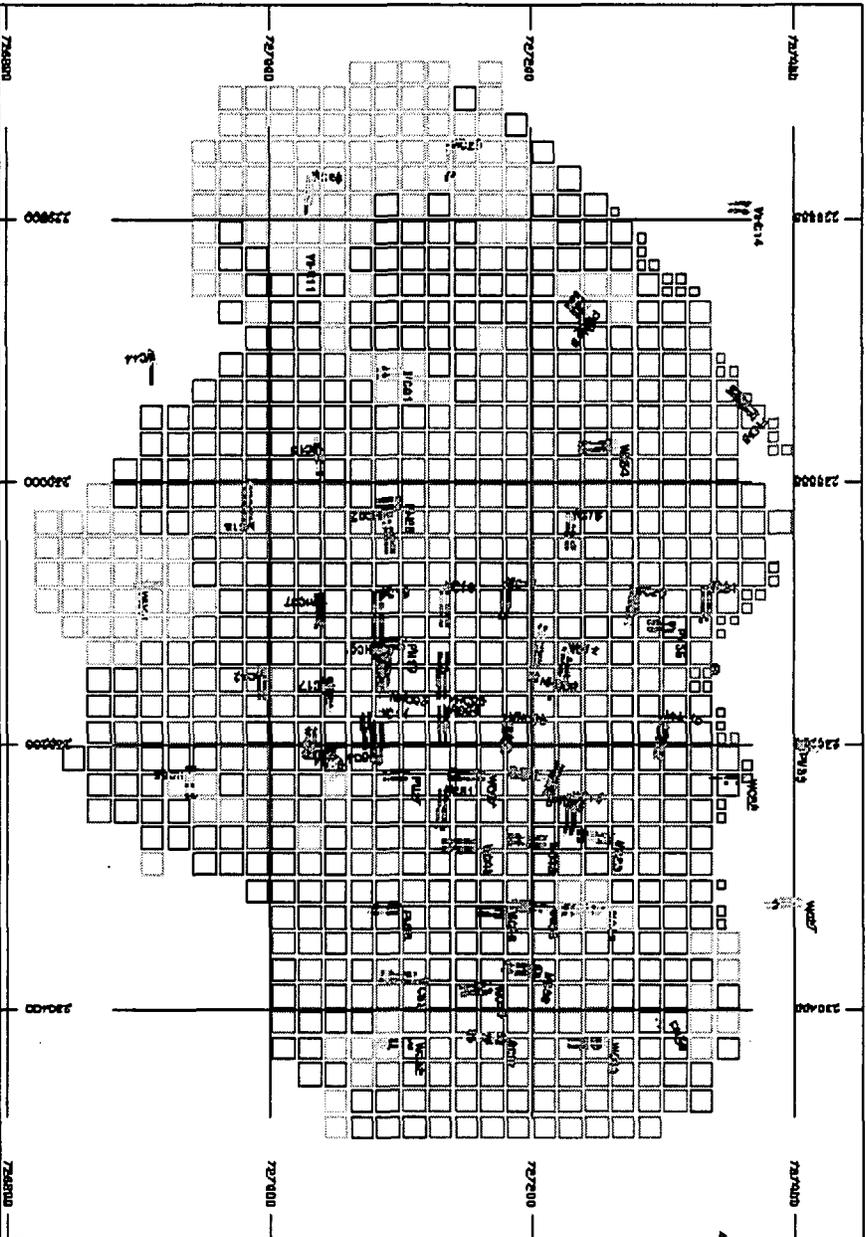
Chile Colorado Zone
Plan of
Model and Drill Holes
@ 1700 m El.

Color Codes:

- Yellow: 0-2 \$/t NSR
- Blue: 2-4 \$/t NSR
- Green: 4-7 \$/t NSR
- Red: 7-10 \$/t NSR
- Magenta: > 10 \$/t NSR

Note:

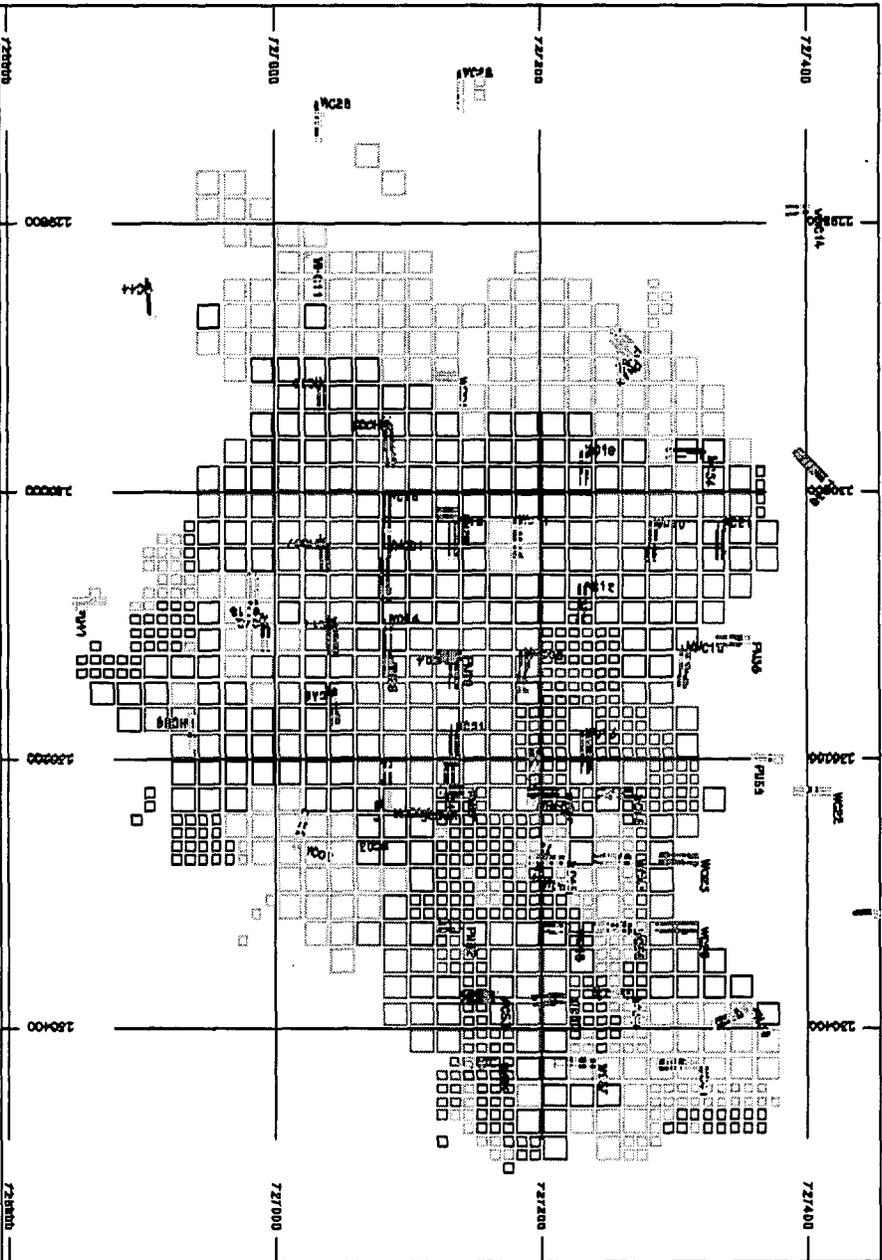
Plot displays model blocks
with NSR > 0.0 \$/t.



Chile Colorado Zone
Plan of
Model and Drill Holes
@ 1 800 m EI.

Color Codes:
 Yellow: 0 - 2 \$/t NSR
 Blue: 2 - 4 \$/t NSR
 Green: 4 - 7 \$/t NSR
 Red: 7 - 10 \$/t NSR
 Magenta: > 10 \$/t NSR

Note:
 Plot displays model blocks
 with NSR > 0.0 \$/t.



Chile Colorado Zone
Plan of
Model and Drill Holes
@ 1 900 m EI

Color Codes:
 Yellow: 0 - 2 \$/t NSR
 Blue: 2 - 4 \$/t NSR
 Green: 4 - 7 \$/t NSR
 Red: 7 - 10 \$/t NSR
 Magenta: > 10 \$/t NSR

Note:
 Plot displays model blocks
 with NSR > 0.0 \$/t.