Independent Technical Report for the Main Zone of the Long Lake Volcanic Massive Sulphide Project, Newfoundland and Labrador, Canada

Report Prepared for

Messina Minerals Inc.

Report Prepared by

srk consulting

SRK Consulting (Canada) Inc.

3CM027.000

Independent Technical Report for the Main Zone of the Long Lake Volcanic Massive Sulphide Project, Newfoundland and Labrador, Canada

Messina Minerals Inc.

2300 – 1066 West Hastings Street
Vancouver, British Columbia, V6E 3X2
E-mail: info@messinaminerals.com
Website: www.messinaminerals.com
Tel: +1 604 688 1508
Fax: +1 604 601 8253

SRK Consulting (Canada) Inc.
Suite 2100, 25 Adelaide Street East
Toronto, Ontario, M5C 3A1
E-mail: toronto@srk.com
Website: www.srk.com
Tel: +1 416 6011445
Fax: +1 416 601 9046

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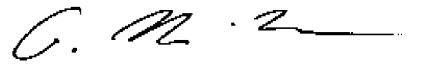
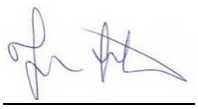
Authored by:



G. David Keller, P.Geo.
(APGO#1416)
Principal Consultant (Resource Geology)

Sébastien Bernier, P.Geo.
(APGO#1847, PEGNL#05958)
Senior Consultant (Resource Geology)

Peer Reviewed by:



Jean-François Couture, P.Geo (APGO#0197)
Corporate Consultant (Geology)

Cover: Typical landscape at the project

IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 Technical Report for Messina Minerals Inc. (Messina) by SRK Consulting (Canada) Inc. (SRK). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in SRK's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Messina subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits Messina to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to National Instrument 43-101 *Standards of Disclosure for Mineral Projects*. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Messina. The user of this document should ensure that this is the most recent Technical Report for the property as the report is not valid if a new Technical Report has been issued.

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1 Executive Summary

1.1 Introduction

The Long Lake Main Zone is located within the Long Lake volcanogenic massive sulphide (VMS) Project (Long Lake project), an advanced polymetallic exploration project, situated in Newfoundland and Labrador, Canada. It is located 70 kilometres from Millertown on the island of Newfoundland. Messina Minerals Inc. (Messina) owns 100% of Fee Simple mining rights comprising the Long Lake property.

In April 2011, Messina commissioned SRK Consulting (Canada) Inc. (SRK) to visit the Long Lake Project and prepare a geological and mineral resource model for the Long Lake Main Zone. The services were rendered between April 2011 and January 2012, leading to the preparation of the Mineral Resource Statement reported herein that was disclosed publicly by Messina in a news release dated March 13, 2012.

The Mineral Resource Statement reported herein is a collaborative effort between Messina and SRK personnel. The exploration database was compiled and maintained by Messina, and was audited by SRK. The geological model and outlines for the polymetallic mineralization were constructed by SRK from a geological interpretation provided by Messina. In the opinion of SRK, the geological model is a reasonable representation of the distribution of the targeted mineralization at the current level of sampling. The geostatistical analysis, variography and grade models were completed by SRK during the period of April 2011 to December 2011.

1.2 Property Description and Ownership

The Main Zone is located within the Long Lake Project, situated centrally on the island of Newfoundland (Figure 1). The Long Lake Project consists of one Fee Simple Mining Grant or mineral concession, Reid Lot 229 (RL 229), in one contiguous block of ground totalling 4,009 hectares or 40 square kilometres.

The Reid Lots are among the last of the remaining old concessions issued by the Newfoundland and Labrador government during the late 1800s to 1940s to the Reid family in the 1890s as partial payment for constructing and operating the original railway line across Newfoundland. These Lots, which are treated as Fee Simple Mining Grants, were issued in-perpetuity and conveyed full surface, forestry and mineral rights to the Reid Newfoundland Company. During the early 1970s, most of the existing Reid Lots were sold to various logging and mineral exploration companies, mainly Abitibi-Price Inc. (Abitibi-Price). Noranda acquired RL 229 (as well as other lands) in early 1993. The Reid Newfoundland Company retained a 7.5 percent net profits interest royalty on all these lands as originally outlined in an agreement dated January 1905, as amended January 27, 1948, and as amended March 7, 1975.

Through a number of company takeovers between 2000 and 2004, Xstrata PLC acquired the Long Lake Project and associated option agreements that were then acquired by Messina on January 23, 2004. As of December 2007, Messina fulfilled its expenditure requirement to earn a 100 percent interest in the Long Lake Project. This was acknowledged by Xstrata in April 2009.

1.3 Geology and Mineralization

The Long Lake Project occurs within the central part of the Central Mobile Belt of the Dunnage tectonostratigraphic zone of the Appalachian Mountain Belt. This region of the Central Mobile Belt contains the economically important Buchans-Victoria Lake area. The Dunnage tectonostratigraphic zone of Williams (1979) preserves Cambrian to Middle Ordovician rocks of ophiolitic, island-arc and back-arc affinity. The zone is divided by a major and extensive fault system referred to as the Red Indian Line, into the Notre Dame and Exploits subzones. These two subzones are interpreted to have developed on opposing sides of the Ordovician age Iapetus Ocean and were not linked until Late Silurian time during closure of the Iapetus. The Notre Dame zone contains the volcanic Buchans Group, hosting the economically famous Buchans Kuroko-style VMS deposits, plus many other VMS deposits; these rock types are generally mature arc type and calc-alkaline in nature. The Exploits Zone hosts the extensive Victoria Lake Supergroup that is made up of six separate and distinct volcanic belts, which themselves are highly conducive to VMS and gold deposits; these rock types are generally island-arc type environments and are more tholeiitic in nature.

The Long Lake volcanic belt, originally included in the Tulks Hill volcanics, is a linear belt of intercalated felsic and mafic volcanic, volcaniclastic and sedimentary rocks. Along the northwest margin of the belt is a major fault, marked by an extensive magnetic gradient anomaly, which separates the Long Lake Belt from the Tulks Hill volcanics. The southeast side of the Long Lake Belt is marked by the regionally extensive graphitic shale-argillite horizon of the underlying Tally Pond volcanic belt.

The Long Lake volcanic rocks typically feature a strong, northeast-striking, steeply northwest-dipping foliation. Relative age criteria are virtually nonexistent, but one occurrence of graded bedding in a borehole indicated tops to the southeast, implying overturned stratigraphy in that area. This is consistent with the polarity between presumed footwall alteration zones and their associated massive sulphides in the same area. There is some evidence of isoclinal folding with a wavelength of approximately 300 metres and amplitude in excess of 800 metres, but lithological changes across-strike suggest that structural repetition is subordinate to stratigraphic change. Metamorphic grade is lower greenschist.

The Long Lake VMS deposit (Main Zone) was discovered in 1994 by Noranda during a drilling program that tested a number of coincident soil geochemical and geophysical anomalies. The deposit consists of a barite-rich, narrow, high-grade massive sulphide horizon within a mixed sequence of felsic and mafic tuffs and flows, and interbedded fine-grained sedimentary rocks. The deposit has been isoclinally folded and VMS mineralization occurs on both the North Limb and the South Limb. The Main Zone deposit falls within the bimodal-felsic type of VMS deposits. The Kuroko (Japan), Skellefte, Tasmanian and Buchans Newfoundland VMS deposits belong to this category.

1.4 Exploration

Messina commissioned SCI Explorations Limited in 2007 to re-established the original Noranda grid and the majority of the historic boreholes were located in the field. Approximately 2,300 metres of baseline and 19,200 metres of cross lines were re-picketed and labelled with metal tags. The re-established grid extends from L-8400 E to L-10700 E and from 1400 N to 2200 N. The baseline azimuth is 068 degrees and the baseline is 1800 North. Real time coordinates (including elevations) were obtained with a Trimble GPS unit. In addition, Reflex surveys were retained to obtain borehole deviation data from as many of the historic boreholes as possible.

Twenty-two new core boreholes were drilled on the Main Zone, and six core boreholes on the East zone. Twenty core boreholes were completed on the Long Lake Main Zone, five core boreholes were abandoned and six core boreholes were completed on the East zone.

In 2008, six BTW core boreholes (1,006.60 metres) on RL 229. Two boreholes tested dip extensions of the East zone. No massive sulphides were intersected, however, alteration zones were extensive. In addition, two core boreholes tested strike extensions of the Main Zone (continued to demonstrate high grade narrow massive sulphides near surface to the west, thus leaving the zone open), while the final two boreholes tested VLF anomalies flanking the Main Zone (only trace amounts of mineralization were noted in the boreholes).

1.5 Drilling

Drilling on the Long Lake Project area was undertaken by three operators from 1994 to 2008. Drilling was not solely focused on the Main Zone and included targets in the South, East and Lucky Gnome zones.

In the period from 1994 to 1998, Noranda drilled approximately 40 core boreholes (13,835 metres). Drilling was undertaken using BQ and BTW, and NQ sized equipment. All drill borehole collar pipes were left in the ground. Drilling was carried out on the Main Zone and other exploration targets, including the East, South, Lucky Gnome zones, as well as some reconnaissance drilling.

From 2000 to 2002, drilling Island Arc drilled 10 core boreholes (1,520 metres) using BQ and NQ equipment. All drill borehole collar pipes were left in the ground to mark the drill borehole collar position. Island Arc targeted the Main and Lucky Gnome zones in their drilling campaigns.

Between 2004 and 2008, Messina contracted New Valley Drilling Inc. of Springdale, Newfoundland to drill 42 core boreholes (8,915 metres.) using BTW and NQ size tools. Drill borehole collar pipes were left in the ground to mark the collar position.

The Long Lake Project core boreholes were drilled along a section of the re-established Noranda grid from grid line 8800E to 9200E, including lines 8900E, 8950E, 8975E, 9000E, 9025E, 9050E, and 9100E. Boreholes on sections 8800E and 9200E were at a distance of 100 metres from the nearest section and were, therefore, not included in the block model. Section distances between the centre five sections were 25 metres, with sections 8900E and 9100E spaced at 50 metres. Vertical distances between boreholes ranged between 25 metres to 130 metres, with an average of approximately 60 metres. The majority of boreholes were drilled at an azimuth of about 155 degrees with an average dip of 65 degrees. Two boreholes were drill at an azimuth of 335 degrees and at an average dip of about 75 degrees.

SRK considers that the exploration data collected by Messina and previous project operators is of sufficient quality to support mineral resource evaluation.

1.6 Quality Assurance

Messina implemented limited external quality assurance and quality control programs at the Long Lake Project during 2004 to 2008. The quality control program consisted of submitting certified reference material in the sample of split core that was sent to Eastern Analytical. Results for zinc, lead and gold are reasonable. The results of the certified standards indicate potential problems with silver and copper assays for both standards. The failures of copper and silver standards for the Messina drilling program are significant but not a conclusive indication that Eastern Analytical

assays may not be accurate for copper and silver. This needs to be checked further by other quality control sampling.

As a remedial procedure undertaken in 2011, Messina collected approximately 10 percent of pulp duplicates from the 2004 to 2008 drilling. These pulps prepared by Eastern Analytical were submitted to the ALS laboratory, located in North Vancouver, British Columbia.

No quality control protocols were undertaken for specific gravity determinations completed by Messina.

There is no available information on quality control protocols or results for historical work completed by Noranda and Island Arc from 1994 to 2000. Assay results have been assumed reasonable and appropriate for estimating resources.

The limited quality control data collected by Messina during the 2004-2008 drilling campaigns indicate possible problems with copper and silver assays. However, remedial work undertaken in 2011 indicated a good correlation of pulp duplicates analysed by ALS and Eastern Analytical assays. SRK concludes that the Messina assay data is reasonable and appropriate for estimating resource to a moderate level of confidence.

1.7 Mineral Resource Estimate

The database considered for resource estimation consists of 34 core boreholes comprising approximately 270 sample intervals assayed for zinc, copper, lead, silver, and gold, and 15 specific gravity measurements. The boundary for zinc, copper, lead, and silver mineralization was modelled by SRK using a US$200 gross metal values (GMV) for each assayed interval. GMV were calculated using an aggregate metal value for each sampled assay.

Core assay intervals were composited to an approximate length of 1.0 metre. Approximately 90 percent of all samples in the Main Zone measure less than 1.0 metre in length. SRK evaluated the impact of high-grade composite outliers in each zone by using cumulative probability plots, histograms, and examining the spatial distribution of higher grades with respect to other boreholes and adjacent composites. SRK determined that capping was needed to limit the influence of high-grade composites.

SRK examined four different spatial metrics for the purpose of quantifying spatial continuity including traditional variograms, correlograms and normal scores correlograms. SRK calculated and modelled the variograms using capped composite data. Variogram models were developed for each metal in the Main Zone. All modelled variograms are orientated parallel to the general strike and dip-direction of the Main Zone.

A rotated subblocked model was generated for the Main Zone using Datamine Studio 3. The block model coordinates are based on the local UTM grid (NAD 83 datum, Zone 20). The parent block size is 10 metres by 10 metres by 10 metres. Subblocks were assigned parent cell values. The model was rotated using Datamine convention at 70 and 85 degrees along the Z-axis and Y-axis, respectively.

The estimation strategy consists of ordinary kriging (OK) estimates for five metals constrained by the mineralization wireframe for the Main Zone. Three estimation runs were used for each metal. The first estimation run was based on a search ellipse with ranges equal to the largest variogram model structure. The second run consisted of a search ellipse equal to twice the variogram ranges, while for the third estimation run, the search ellipse was three times the variogram range.

SRK chose to rely on pycnometer specific gravity measurements performed by AGAT Laboratories on 15 samples collected during the site visit to convert volumes into tonnages. An average specific gravity of 3.38 was assigned to each block in the model.

The mineral resources were classified into Indicated and Inferred categories based on the number of composites used to make a first run block estimate. SRK identified all first run blocks that were estimated with 12 composites. Since these blocks are not uniformly distributed in the block model, a wireframe was used to outline blocks in the vicinity of these parameters to form one contiguous unit. Blocks within this wireframe solid were classified, as Indicated as they represent block estimates made with a higher level of confidence. All other blocks, mainly on the periphery of the zone, represent blocks that have been estimated with a lower level of confidence and are therefore classified as Inferred.

1.8 Mineral Resource Statement

Mineral resources were estimated in conformity with generally accepted CIM Estimation of Mineral Resource and Mineral Reserve Best Practices Guidelines. The mineral resources may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent resource estimates. The mineral resources may also be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic and other factors.

The Mineral Resource Statement presented in Table 1 was prepared by G. David Keller, P.Geo., (APGO#1235), and Sébastien B. Bernier P.Geo., (APGO#1847, PEGNL #05958) independent Qualified Persons pursuant to National Instrument 43-101. The effective date of the Mineral Resource Statement is March 13, 2012.

Table 1: Mineral Resource Statement* for the Main Zone of the Long Lake Polymetallic Project, Newfoundland, SRK Consulting (Canada) Inc., March 13, 2012

Category	Quantity	Grade						Contained Metal				
	(tonnes)	Zn (%)	Pb (%)	Cu (%)	Ag (gpt)	Au (gpt)	ZnEq (%)	Zn (m lb.)	Pb (m lb.)	Cu (m lb.)	Ag (oz)	Au (oz)
Indicated	407,000	7.82	1.58	0.97	49	0.57	12.41	70.10	14.16	8.70	640,000	7,500
Inferred	78,000	5.77	1.24	0.70	34	0.48	9.15	9.94	2.14	1.21	80,000	1,200

* Mineral resources are not mineral reserves and do not have demonstrated economic viability. All figures have been rounded to reflect the relative accuracy of the estimates. Reported at a cut-off of 7.00 percent zinc equivalent based on an underground mining scenario, metallurgical recoveries of 80 percent zinc, 40 percent copper, 70 percent lead and 50 percent silver. Gold grades were not used in the metal equivalent calculation. The metal price assumptions are US$1.00/pound for zinc, US$4.00/pound for copper, US$1.20 for lead, and US$40.00/troy ounce silver.

1.9 Conclusion and Recommendations

The exploration work by Messina was professionally managed and used procedures meeting generally accepted industry best practices. After review, SRK is of the opinion that the exploration data collected by Messina are sufficiently reliable to interpret with confidence the boundaries of the polymetallic sulphide mineralization for the Main Zone. SRK also considers that the data provided by Messina and used in the evaluation and classification of mineral resources for the deposits were acquired in accordance with CIM's generally accepted Estimation of Mineral Resource and Mineral Reserve Best Practices Guidelines and Definition Standards for Mineral Resources and Mineral Reserves.

The Mineral Resource Statement for the Main Zone is reported at a cut-off grade of 7.0 percent zinc equivalent grade based on an underground exploitation scenario.

SRK draws the following conclusions from reviewing exploration data and resource evaluation work for the Long Lake, Main Zone deposit:

- Mineral resources can be expanded by exploring possible strike extensions of massive sulphide mineralization to the northwest and southeast;
- Additional massive sulphide zones adjacent to the Main Zone could also increase mineral resources on the property and exploration should be carried out parallel to the Main Zone to the northwest and southeast; and
- Continued exploration of other exploration targets, including the Luck Gnome and East zones, is warranted.

Exploration procedures and protocols used by Messina generally met industry best practices. However, SRK recommends strengthening of the assay quality control program with the use of control samples, including the use of certified reference material control samples that reflect the expected high-, medium- and low-grade ranges for zinc, copper, lead, silver and gold assays. The program should also include pulp and field duplicate assaying, and submission of a suite of pulp samples to an umpire laboratory for check assaying.

SRK also recommends that Messina considers submission of all exploration samples to an ISO accredited laboratory. Specific gravity should also be determined for all mineralized samples. Specific gravity can be measured in the field by exploration staff using a water immersion procedure, or alternatively be requested by the assay laboratory using either a water immersion methodology of by pycnometry.

SRK believes that there is an opportunity to expand the mineral resources by targeting the strike extension of the Main Zone and parallel stratigraphic horizons. Exploration and the delineation of the East and Lucky Gnome zones should also be considered. The recommended work program includes ground and downhole geophysical surveying and 5,000 metres of core drilling to investigate lateral extensions of known sulphide mineralization along the Main Zone and other sulphide showings. The cost for the recommended exploration program is estimated at approximately C$1.8 million.

2 Introduction and Terms of Reference

The Long Lake Main Zone is located within the Long Lake volcanogenic massive sulphide (VMS) Project (Long Lake Project), which is an advanced polymetallic exploration project, situated in Newfoundland and Labrador, Canada. It is located 70 kilometres from Millertown on the island of Newfoundland. Messina Minerals Inc. (Messina) owns Fee Simple mining rights to the Long Lake property.

In April 2011, Messina commissioned SRK Consulting (Canada) Inc. (SRK) to visit the Long Lake Project and prepare a geological and mineral resource model for the Long Lake Main Zone. The services were rendered between April 2011 to January 2012, leading to the preparation of the Mineral Resource Statement reported herein that was disclosed publicly by Messina in a news release dated March 13, 2012.

This technical report documents the preparation of a Mineral Resource Statement by SRK for the Long Lake Main Zone. It was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 *Standards of Disclosure for Mineral Projects* and Form 43-101F1. The Mineral Resource Statement reported herein was prepared in conformity with the Canadian Institute of Mining, Metallurgy and Petroleum's (CIM) *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines*.

All dollar amount, unless otherwise stated, are in Canadian dollars.

2.1 Scope of Work

The scope of the work to be carried out by SRK, as defined in a letter of engagement executed on April 29, 2011 between Messina and SRK, includes the development of a mineral resource model for the polymetallic mineralization delineated by drilling on the Long Lake Main Zone, and the preparation of an independent technical report in compliance with National Instrument 43-101 and Form 43-101F1 guidelines. This work typically involves the assessment of the following aspects of this project:

- Topography, landscape, access;
- Regional and local geology;
- Exploration history;
- Audit of exploration work carried out on the project;
- Geological modelling;
- Mineral resource estimation and validation;
- Preparation of a mineral resource statement; and
- Recommendations for additional work.

2.2 Work Program

The Mineral Resource Statement reported herein is a collaborative effort between Messina and SRK personnel. The exploration database was compiled and maintained by Messina, and was audited by SRK. The geological model and outlines for the polymetallic mineralization were constructed by SRK from a geological interpretation provided by Messina. In the opinion of SRK, the geological model is a reasonable representation of the distribution of the targeted mineralization at the current

level of sampling. The geostatistical analysis, variography and grade models were completed by SRK during the period of April 2011 to December 2011. The Mineral Resource Statement reported herein was disclosed publicly in a news release dated March 13, 2012.

The technical report was assembled in SRK's Toronto and Sudbury offices during the period of May, 2011 to January, 2012.

2.3 Basis of Technical Report

This report is based on information collected by Sébastien B. Bernier P.Geo. SRK during a site visit performed between May 9 and 12, 2011, and on additional information provided by Messina throughout the course of SRK's investigation. SRK has no reason to doubt the reliability of the information provided by Messina. Other information was obtained from the public domain. This technical report is based on the following sources of information:

- Discussions with Messina personnel;
- Inspection of the Long Lake Project area, including outcrop and drill core;
- Review of exploration data collected by Messina; and
- Additional information from public domain sources.

2.4 Qualifications of SRK and SRK Team

The SRK Group comprises of more than 1,200 professionals, offering expertise in a wide range of resource engineering disciplines. The independence of the SRK Group is ensured by the fact that it holds no equity in any project it investigates and that its ownership rests solely with its staff. These facts permit SRK to provide its clients with conflict-free and objective recommendations on crucial issues. SRK has a proven track record in undertaking independent assessments of mineral resources and mineral reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies, and financial institutions worldwide. Through its work with a large number of major international mining companies, SRK Group has established a reputation for providing valuable consultancy services to the global mining industry.

The resource evaluation work and the compilation of this technical report were completed by Sébastien B. Bernier, P.Geo., (APGO#1847, PEGNL#05958), under the supervision of G. David Keller, P.Geo., (APGO#1235). By virtue of their education, membership to a recognized professional association and relevant work experience, Mr. Bernier and Mr. Keller are independent Qualified Persons as this term is defined by National Instrument 43-101.

Dr. Jean-Francois Couture, P.Geo (APGO#0197), Corporate Consultant (Geology) reviewed drafts of this technical report prior to their delivery to Messina as per SRK internal quality management procedures. Dr. Couture did not visit the project site.

2.5 Site Visit

In accordance with National Instrument 43-101 guidelines, Mr. Bernier visited the Long Lake Main Zone from May 9 to 12, 2011 accompanied by Alexandria Marcotte, Messina Project Geologist.

The purpose of the site visit was to review the exploration database, data validation procedures, exploration procedures; examine drill core; interview project personnel; and collect all relevant information for the preparation of a revised mineral resource model and the compilation of a

technical report. During the visit, particular attention was given to the treatment and validation of historical drilling data.

SRK was given full access to relevant data and conducted interviews with Messina personnel to obtain information on the past exploration work, and understand the procedures used to collect, record, store and analyze historical and current exploration data.

2.6 Acknowledgement

SRK would like to acknowledge the support and collaboration provided by Messina personnel during this assignment. Their collaboration was greatly appreciated and instrumental to the success of the endeavour.

2.7 Declaration

SRK's opinion contained herein and effective **March 13, 2012** is based on information collected by SRK throughout the course of its investigation. This information reflected the various technical and economic conditions known at the time of writing the report. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results may be significantly more or less favourable.

This report may include technical information that requires subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material.

SRK is not an insider, associate or an affiliate of Messina, and neither SRK nor any affiliate has acted as advisor to Messina, its subsidiaries or its affiliates in connection with this project. The results of the technical review by SRK are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

3 Reliance on Other Experts

SRK has not performed an independent verification of land title and tenure information as summarized in Section 4 of this report. SRK did not verify the legality of any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties, but have relied on John A. Baker, Q.C. of White Ottenheimer & Baker as expressed in a legal opinion provided to Messina on September 29, 2005. A copy of the title opinions is provided in Appendix A. The reliance applies solely to the legal status of the rights disclosed in Sections 4.1 and 4.2 below.

SRK was informed by Messina that there are no known litigations potentially affecting the Long Lake Project.

4 Property Description and Location

4.1 Mineral Tenure

The Main Zone is located within the Long Lake Project, situated centrally on the island of Newfoundland (Figure 1). The Long Lake Project consists of one Fee Simple Mining Grant or mineral concession, Reid Lot 229 (RL 229), in one contiguous block of ground totalling 4,009 hectares or 40 square kilometres (Figure 2).

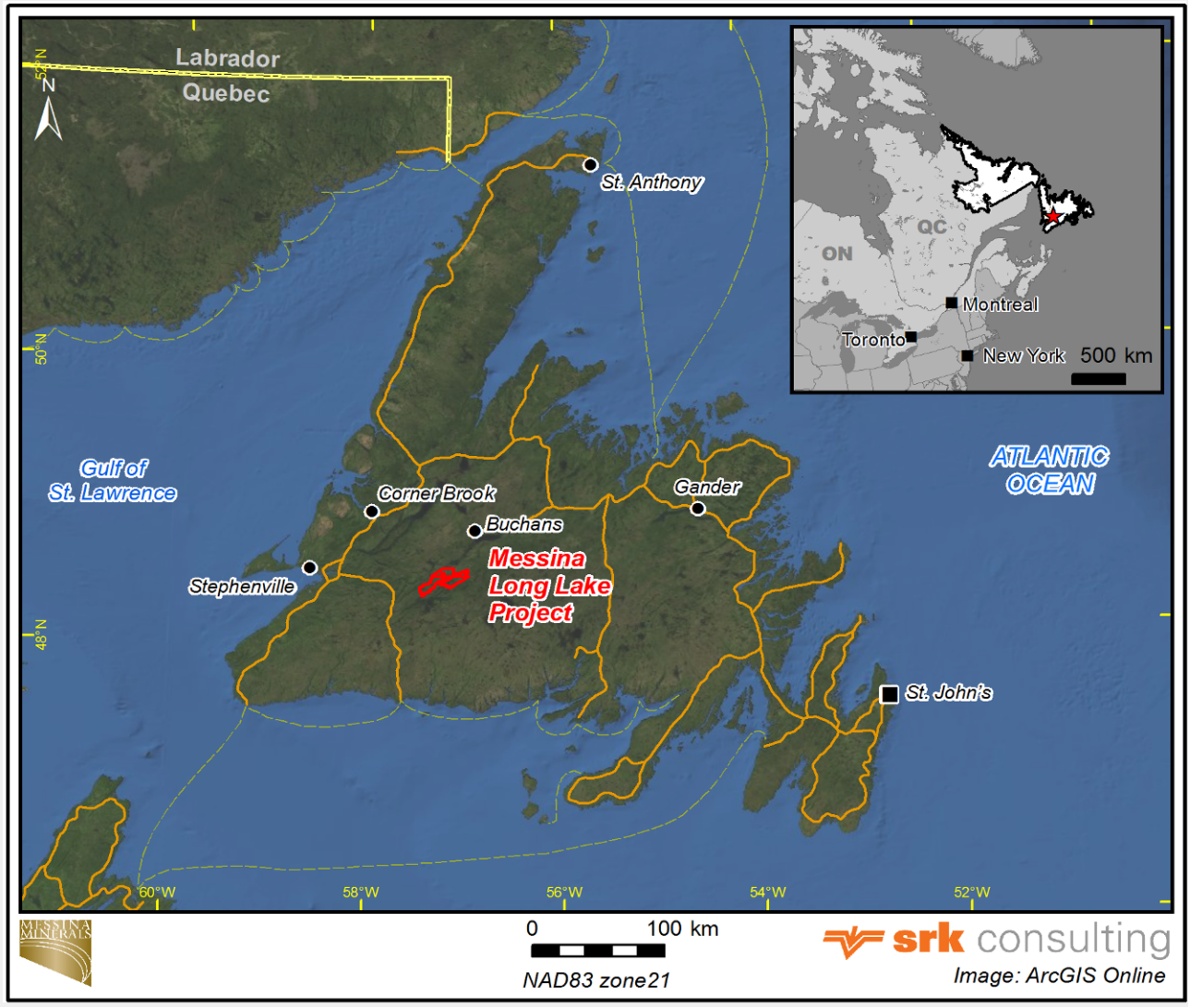


Figure 1: Location Map

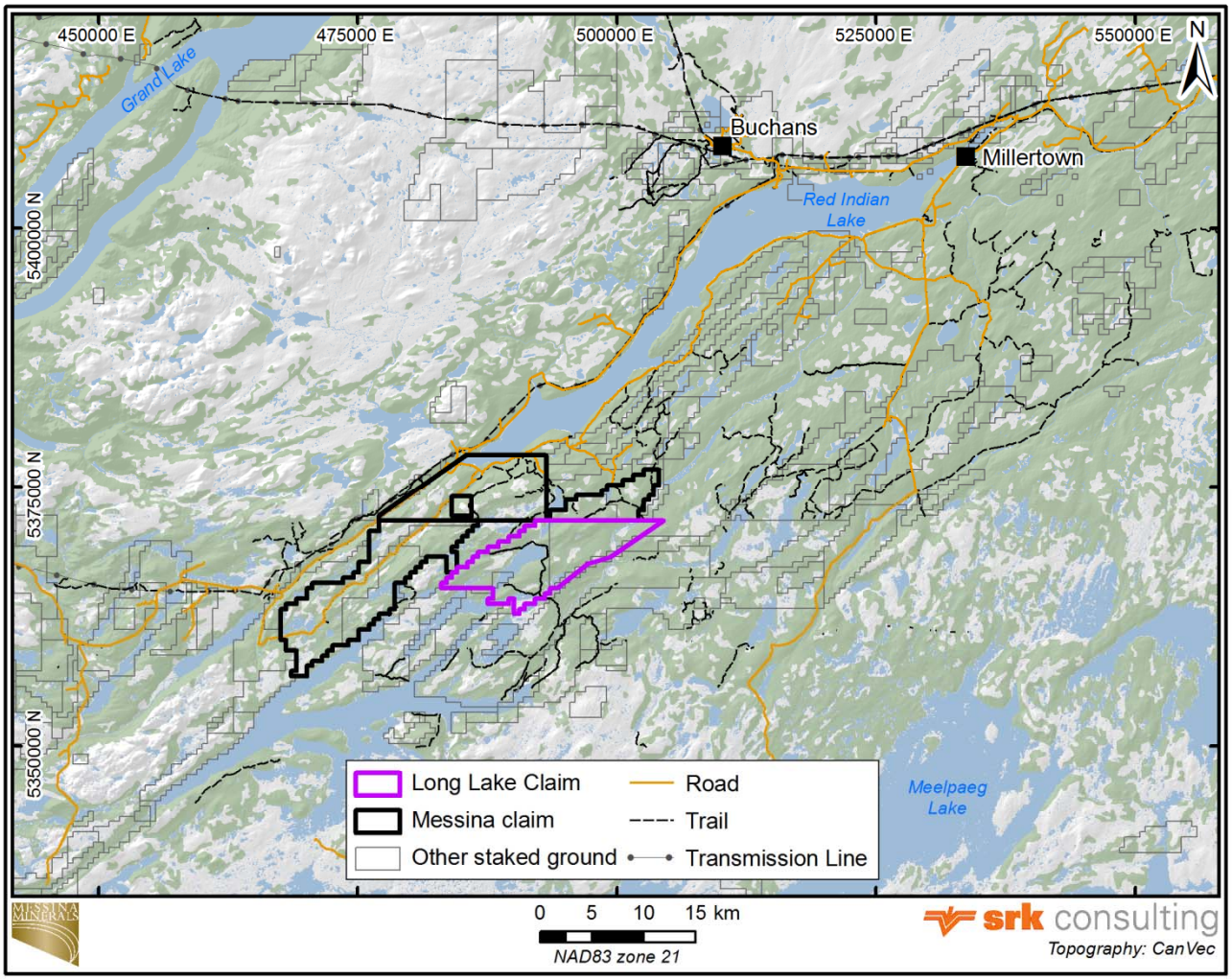


Figure 2: Land Tenure Map, 2012

Most of the land in the region was part of the original 1905 Terra Nova Lands or Anglo-Newfoundland Development Company (AND Co.) concession, the details of which and subsequent ownership transfers are summarized in this section. On December 29, 1998, Noranda Exploration Inc. (Noranda) converted large portions of the AND Co. concession, but not the Reid Lot concessions, to map staked licenses, which were then year-one issued licenses. The Long Lake Project tenure statistics are summarized below in Table 2.

To date, Messina Minerals has reported and filed with the Newfoundland and Labrador Department of Natural Resources exploration expenditures totalling $1,783,212 for the Long Lake Project (RL 229).

Table 2: Mineral Tenure, Long Lake Project

Title	Type of Title	Control Under	NTS	No. of Claims	Area (ha)	Balance	Expiry Date
Reid Lot 229	Impost Act	Impost Act	12A/06 &12A/07	160	4008.95	$383,473	31-Dec-13

4.2 Underlying Agreements

The Reid Lots are among the last of the remaining old concessions issued by the Newfoundland and Labrador government during the late 1800s to 1940s. The Reid Lots were specific areas of land issued to the Reid family in the 1890s as partial payment for the Reid's constructing and operating of the original railway line across Newfoundland. These Lots, which are treated as Fee Simple Mining Grants were issued in-perpetuity and conveyed full surface, forestry and mineral rights to the Reid Newfoundland Company.

The Reid Lots, including RL 229, would have been accurately land surveyed when originally issued and all boundaries and corners would have been marked at the time. Logging over the years has destroyed these boundaries. The boundary plots used today were taken from claim maps from the early 1950s that were later accurately converted to UTM coordinates and boundaries. These boundaries are accurately located on the government digital claims maps.

During the late 1970s, and revised in 1990, the Newfoundland and Labrador government legislated the Mineral Holdings Impost Tax Act, which required all existing concession and land grant holders to pay a nominal fee of $12.50 per hectare per year; this fee could either be paid in cash or an equivalent sum expended as mineral exploration assessment work. The objective of this legislation was to encourage exploration activity on the concession lands and if not, the concession would lapse, revert to the Crown, and become open for staking.

During the early 1970s most of the existing Reid Lots were sold to various logging and mineral exploration companies, mainly Abitibi-Price Inc. (Abitibi-Price). Noranda acquired RL 229 (as well as other lands) in early 1993. The Reid Newfoundland Company retained a 7.5 percent net profits interest royalty on all these lands as originally outlined in an agreement dated January 1905, as amended January 27, 1948 and as amended March 7, 1975.

On August 30, 2000, Atlantic Zinc Resources Ltd. (Atlantic Zinc) entered into an option agreement with Noranda whereby Atlantic Zinc could earn a 100 percent interest in Noranda's Long Lake Block, which included RL 229, plus an additional 457 mineral claims under five licenses, all totalling approximately 10,709 hectares, by incurring $2,000,000 in exploration expenditures by August 2005.

On October 5, 2000, Atlantic Zinc assigned its interest in the Option Agreement to Island Arc Mining Corp. (Island Arc). Over the next two years Island Arc incurred approximately $706,128 on the Long Lake Project but had difficulties raising funding during 2003. On September 17, 2003 Island Arc terminated the Agreement and 'quit-claimed' all of their rights back to Atlantic Zinc. Island Arc retained no interest or royalties in the Long Lake Project.

The terms of the original Atlantic Zinc and Noranda option agreement and the subsequent history are as follows:

- On August 30, 2000, Atlantic Zinc, a private Newfoundland and Labrador incorporation, signed an option agreement with Noranda, giving Atlantic Zinc the right to earn a 100 percent interest in Noranda's Long Lake Block, comprised of RL 229 plus an additional 457 mineral claims. Atlantic Zinc is 100 percent owned by Mr. Peter Tallman, the president and a director of Messina;
- Atlantic Zinc was required to incur a minimum of $2,000,000 in exploration expenditures on the Long Lake Block over a four-year period to August 31, 2005;

- In February 2004, Falconbridge Ltd. (Falconbridge) acquired ownership and control of Noranda. The option agreement was then assumed by Falconbridge. In 2006, Xstrata Plc. (Xstrata) acquired ownership and control of Falconbridge and assumed the option agreement;
- Xstrata retains the right to buy back (the Buy Back Right) a 50 percent working interest in any specific part (Project Area) of the Long Lake Project only if an economic base metal ore deposit exceeding 10 million tonnes (or a gold deposit exceeding 1 million ounces of gold) are defined in a positive feasibility study presented by Messina. To exercise this right, Xstrata must reimburse Messina for 50 percent of all exploration and feasibility study costs incurred in the Project Area for that specific ore deposit as defined in the feasibility study, or at Xstrata's election the entire remaining Long Lake Project exclusive of any prior Project Areas. The Buy Back Right applies to any distinct Project Area that may be defined by a feasibility study;
- If Xstrata elects not to exercise the Buy Back Right it will retain a 2 percent net smelter returns royalty on all minerals produced from the property;
- Xstrata retains the right to purchase up to 100 percent of all mineral concentrates produced from the property at competitive prices; and
- Upon commencement of the first commercial production from any portion of the property to which the Buy Back Right does not apply or was not exercised, Messina must issue to Xstrata 1,000,000 common shares of Messina's stock.

On January 23, 2004, Messina acquired the rights to the original option agreement by way of an "assignment agreement" with Atlantic Zinc. Upon entering into this assignment agreement, Messina acquired all of Atlantic Zinc's rights and assumed all of Atlantic Zinc's obligations in the option agreement. The terms of the Messina and Atlantic Zinc assignment agreement and the subsequent history are as follows:

- Messina must pay to Atlantic Zinc $35,000 and issue 200,000 common shares of Messina, both of which have been completed. Atlantic Zinc does not retain any other ownership or royalties in the Long Lake Project once Messina has earned its interest;
- Messina incurred $1,293,872 (the balance remaining from the original $2,000,000 earn-in expenditure) in exploration expenditures on the Long Lake Block prior to August 31, 2005;
- In July 2004, Falconbridge extended the original earn-in date to August 30, 2006 to allow Messina sufficient time to fulfil its option expenditure requirements. In November 2005, Falconbridge again extended the earn-in date to December 31, 2007. As of December 2007, Messina fulfilled its expenditure requirement to earn a 100 percent interest in the Long Lake Project. This was acknowledged by Xstrata (formerly Falconbridge) in April 2009; and
- As of December 31, 2010, there was a total expenditure of $1,783,212 incurred on the RL 229. The claims will be in good standing until December 31, 2013. Messina will be required to spend $52,112 by December 31, 2014.

4.2.1 Aldrin Resource Corp. and Messina Option Agreement

On January 6, 2006, Messina entered into a letter-form option agreement with Aldrin Resource Corp. (Aldrin) whereby Aldrin could earn a 50 percent interest in Messina's interest in RL 229, termed the Long Lake Project.

On September 25, 2007, Aldrin gave notice to Messina of its decision not to incur any further expenditures on the project and to allow its option to acquire an interest in Reid Lot 229 to lapse (Aldrin, 2007).

4.3 Permits and Authorization

Under the government mineral regulations (Mineral Holdings Impost Act), Messina must incur, or have excess credits available for an annual exploration expenditure of $12.50 per hectare or $50,112 on RL 229. Excess expenditures may be carried forward for five years. As of December 31, 2010, Messina's reported exploration expenditure plus previous accumulated expenditure credits totalled $2,834,101.10. RL 229 is currently in good standing to December 31, 2014. A copy of the 2011 Impost Assessment is located in Appendix A.

4.4 Environmental Considerations

The Long Lake Project is not subject to any known environmental liabilities. None of the exploration companies involved with the project over the years, including Messina to date, have carried out more advanced work than line cutting, minor trenching, drill-skidder trails and diamond drill setups. None of this work would be considered an environmental liability to the project.

Each year since 2000, Messina has applied for the required provincial exploration permits to carry out their programs.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Long Lake Project is 575 kilometres from St. John's, the provincial capital of Newfoundland and Labrador, and can be reached by road in approximately six and a half hours. The property is 118.5 kilometres from Badger (Trans-Canada Highway) and can be accessed via Millertown in less than two hours by road. The project is 292 kilometres from Corner Brook via the Burgeo Highway, which is approximately a three-hour drive. Scheduled flights fly into Deer Lake near Corner Brook on a daily basis from Vancouver, Toronto, Halifax and St. John's.

The Long Lake Project is readily accessible by seasonally maintained logging roads from Millertown and Buchans. Both of these gravel roads pass on the east and west sides of Red Indian Lake, respectively (Figure 3). Another alternative route to the Long Lake Project is via direct road access from Stephenville-Corner Brook, approximately 95 kilometres to the west via the paved Burgeo Highway (35 kilometres west of the Lloyds River Bridge near Red Indian Lake). A network of abandoned logging roads crisscross the area, and many abandoned, but useable, forestry roads and skidder trails give excellent access to most parts of the project. The project is easily accessible by pickup truck and ATV and can be explored effectively year-round with little difficulty.

5.2 Local Resources and Infrastructure

The former mining town of Buchans, population of 760, and the former logging town of Millertown, population of 140, are located in the vicinity of the project. Local support infrastructure of significance includes a hardware store, restaurants, motels, grocery stores, modern schools and a cottage hospital in Buchans. Several local firms have heavy equipment for hire including backhoes, loaders, dozers and dump trucks. A good supply of local workers with a variety of exploration and mining skills reside in both towns. Buchans has the Department of Natural Resources drill core repository and Messina has set up its office and core storage facilities in Buchans Junction near Millertown. Grand Falls-Windsor, 155 kilometres by road, is the regional center for industry and government. It has a population of 13,500 and the nearest hospital to the project. Field supplies and heavy equipment are also available there.

Development infrastructure of significance includes:

- The important trans-island, 230-kilovolt power lines from Bottom Brook (Stephenville) to Buchans (TL-233) run about 12 kilometres to the west of the Long Lake Project (Figure 3). An electrical switchyard with 138-kilovolt drop lines is located near Buchans. In addition, 138-kilovolt lines from Stephenville to Burgeo lie near the Burgeo Highway, approximately 50 kilometres southwest of the Long Lake Project;
- The Star Lake hydroelectric generating plant (18 megawatt) previously owned privately by Abitibi Consolidated Inc. and now owned and operated by the Newfoundland and Labrador government is located about 23 kilometres by road from the north side of the Long Lake Project plus another 4 kilometres by road/trail to the Long Lake volcanogenic massive sulphide deposit.;
- Teck Resources Limited's Duck Pond copper-zinc mine and mill, currently in operation, is located 40 kilometres to the east-northeast. The Long Lake Project is directly connected to

Duck Pond by a main logging road. This mining venture could favourably impact the economics of any base metal discovery made on the Long Lake Project; and

- The Valentine Lake gold project, owned 50 percent by Marathon Gold Corporation and 50 percent by Mountain Lake Resources Inc. is located 28 kilometres by road from the Long Lake Project. The Valentine Lake gold project hosts approximately 560,000 ounces of gold with advanced exploration underway to expand this resource. This project has a substantial camp, supporting road network, and heavy equipment.

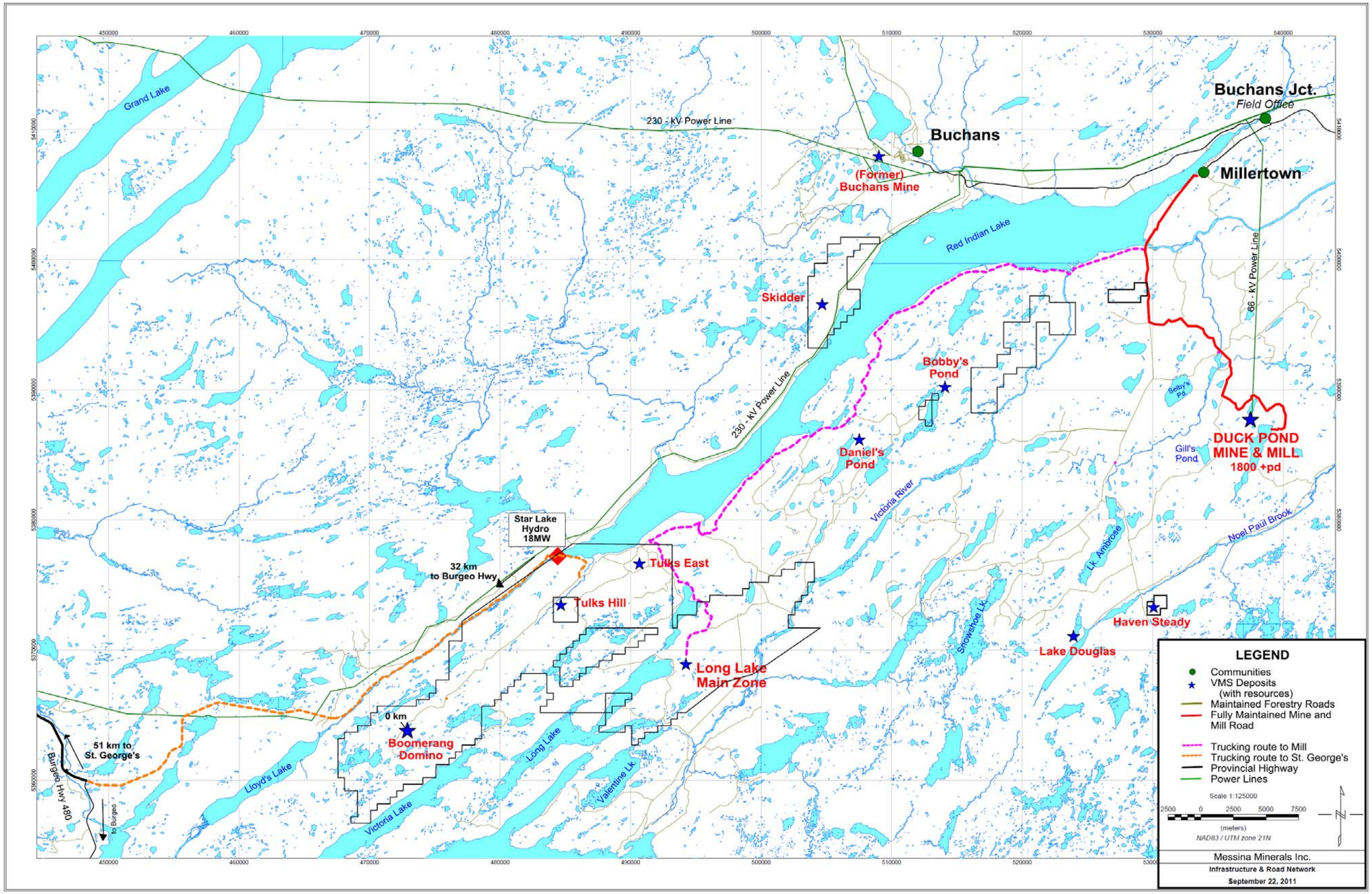


Figure 3: Local Infrastructure

5.3 Climate

The climate in central Newfoundland is temperate with six to seven months of snow-free and ice-free seasons from April-May to November. Typical seasonal variation includes snowy winters from late November to March and wet summers from June through September. However, in recent years, snow cover and frost have been developing several weeks later than usual. At Buchans (elevation 275 metres above sea level), the approximate 30-year averages of the mean winter temperature (i.e. the mean monthly averages of November to March) is -6 degrees Celsius (° C) and ranges from 0.3° C in November to -9° C in February. The average winter snowfall is approximately 64 centimetres per month with ranges of 28 centimetres in November to 78 centimetres in January. The mean summer temperature (i.e. the mean monthly averages of April to October) is 10° C and ranges from 1°C in April to 28° C in July. The average annual precipitation is 100 centimetres per month with ranges of 81 centimetres in May to 121 centimetres in December (Environment Canada 2011). Exploration work can be carried out easily year-round on the Long Lake Project.

5.4 Physiography

The Long Lake Project lies within the northern end of the Annieopsquotch Mountains with elevation ranging from 250 to 450 metres above sea level. The Long Lake Main Zone VMS project deposit lies at approximately 350 metres above sea level. Undulating hilly areas of moderate relief with many small ponds, bogs and streams characterize the physiography of the Long Lake Project (Figure 4). The Long Lake Project occurs immediately to the west of the lake, while the Victoria River occurs to the east of the project area. Vegetation consists of spruce and fir forest with 20 to 30 percent bog and scrub. The region is covered with a thin veneer of Pleistocene glacial till and outwash deposits typically 2 to 10 metres thick but reaching 30 metres thick locally in valleys and other topographic lineaments. Bedrock exposure is generally restricted to small areas of local outcrop, along the edges or the tops of ridges. Outcrop makes up less than 1 to 3 percent of the Long Lake Project.

The area is home to abundant moose, caribou, black bear, and small game, which are hunted seasonally. Speckled trout are present in most ponds and brooks. Salmon has recently been introduced (1990s) into the Red Indian Lake watershed, and may occur locally in the Victoria River and may be present in very small numbers in the Long Lake region.

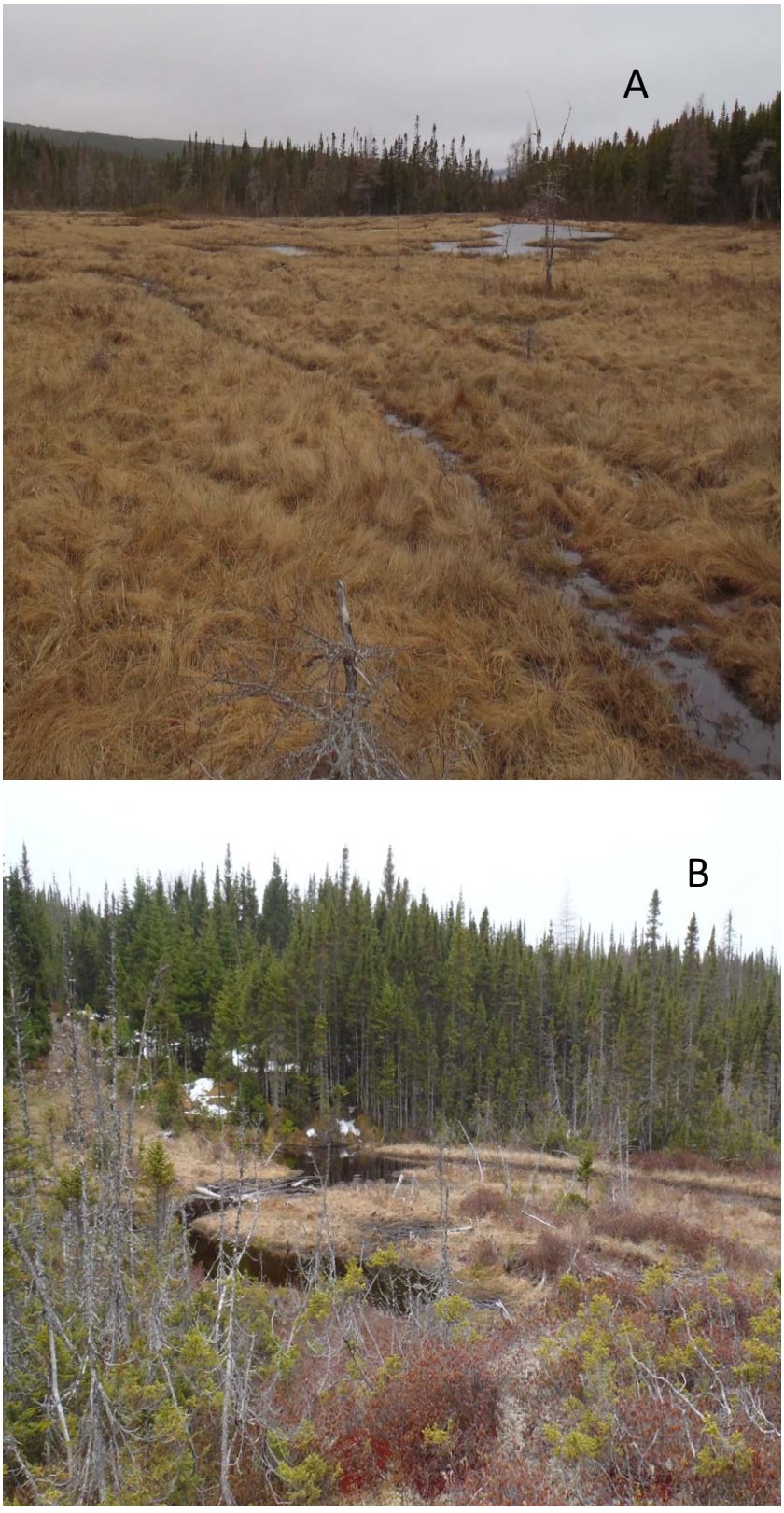


Figure 4: Photos of Typical Main Zone Terrain, Long Lake Project

A: Near winter drilling camp, looking west

B: Looking south from Main Zone area

6 History

6.1 Property Ownership History

The current Long Lake Project (RL 229) originated as a Newfoundland Fee Simple Mining Grant or concession deeded in 1897 by the then Newfoundland (British) colonial government to the Reid Newfoundland Company. The Newfoundland government granted subsurface mineral rights, forestry timber rights, and surface water rights to the Reid Lots and to a larger contiguous property, AND Co. Charter Lands.

The Reid Lots, including RL 229, originally totalled some 6,000 square miles of land in central Newfoundland and were granted in 1897 to R.G. Reid, a railway engineer, on condition that he completes the trans-Newfoundland railway. These lands were granted fee simple, meaning “an estate limited absolutely to a man and his heirs and assigns forever without limitation or condition” (Neary 1981).

AND Co., owned by Newfoundland Timber Estates and the Harmsworth Publishing family of England, in 1905 was granted a renewable 99-year lease to the timber, water, and mineral rights of some 2,000 square miles of land not already covered by the Reid Lots concessions in central Newfoundland. The lands were sought principally for water and timber rights to support a pulp and paper venture built at Grand Falls, but mineral rights were also acquired in the hopes that sulphur deposits would be found to supplement the paper making process (Neary 1981).

In 1905, AND Co. vested the mineral rights to this tract of land to Terra Nova Properties Limited (TNP Ltd.). In 1926, American Smelting and Refining Company (Asarco) negotiated from TNP Ltd. the right to explore and develop any orebody within a 20-mile radius of Buchans. Asarco was attempting to develop the high-grade copper-lead-zinc-silver ore deposits that prospector Matty Mitchell had discovered around 1905.

The Asarco-TNP Ltd. agreement was renegotiated later in 1926 to include a 30-mile radius for a period of 50 years. It was probably during 1948 that various Reid Lots within the Asarco joint venture area were optioned from the Reid Newfoundland Company. Reid retained a 7.5 percent net profits interest royalty (NPI) on mineral production from RL 229 (among others). In 1976, ownership of the AND Co. lands reverted to the Abitibi-Price Company (Abitibi-Price), the successor company of TNP Ltd., when the Asarco-TNP Ltd. agreement expired. From 1976 to 1984, the Abitibi-Price Company, through their mineral exploration subsidiary, continued on with base metal exploration work over specific areas of the AND Co. lands and Reid Lots.

In September 1985, BP Resources Canada Ltd. (BP) purchased the mineral rights to the AND Co. lands and several Reid Lots, including RL 229, from the Abitibi-Price. The sale took place at a time when the BP-owned Hope Brook gold mine in southern Newfoundland was being delineated, the price of gold was at a relative high, and the AND Co. lands had not previously been explored for precious metals. In 1991, following the downturn in commodity prices and disappointment in the profitability of the Hope Brook gold mine, BP suspended all exploration and in late 1992, put all of its mineral assets in Canada up for sale.

During the early 1970s Noranda began a base metal exploration program in the adjacent Tally Pond volcanic belt, approximately 50 kilometres northeast of the current Long Lake Project, which led to the discovery of several massive sulphide deposits at the Boundary in 1981 and the Duck Pond in

1986. In February 1993, Noranda purchased the mineral rights to the large AND Co. lands, including the Reid Lots, from BP to augment its exposure to base metal resources within trucking distance of the Duck Pond deposits. After five years of moderately successful exploration in these lands, Noranda decided to stop all exploration in Newfoundland and in 1998, closed their Newfoundland exploration office. By January 1999, Noranda had converted a large portion of the former AND Co. concession lands to map staked mineral claims by utilizing amendments to the Newfoundland Mineral Act designed to facilitate this transition. By the end of 1999, Noranda had optioned, sold or relinquished all of its Newfoundland mineral assets including interests in the Long Lake Project, as well as Tally Pond (Duck Pond deposits), the Reid Lots and the former AND Co. Charter Lands to mostly junior explorationists.

Summarized below are the applicable transactions leading up to Messina's acquisition of the Long Lake Project.

During 1998 and 1999, Noranda actively solicited a number of junior explorationists in order to option out their extensive mineral property portfolio in central Newfoundland. Noranda had divided the portfolio into six separate packages and was intent on doing six separate deals with reliable junior companies. The properties included: the Tally Pond (Duck Pond deposits) property; the Long Lake Project; the Buchans (Mary March) property; the Valentine Lake property; the Tulks North property; and the Tulks South property.

During July 1999, Noranda entered into an option agreement with Alto Minerals Inc. (Alto) whereby Alto could acquire the Long Lake Project. In early 2000, this deal was cancelled due to failure by Alto to meet conditions of the option agreement, including raising sufficient exploration funds.

On August 30, 2000, Atlantic Zinc entered into an option agreement with Noranda and acquired the right to earn a 100 percent interest in Noranda's Long Lake Project by incurring $2,000,000 in exploration expenditures over a five year period to August 2005 (later extended to December 31, 2007). During this period, Atlantic Zinc sub-optioned the Long Lake Project to Island Arc. In 2003 Island Arc dropped their option.

On January 23, 2004, Messina entered into an assignment agreement with Atlantic Zinc whereby Messina acquired all the rights to and assumed all the obligations of the original Noranda-Atlantic Zinc option agreement. As of December 2007, Messina earned a 100 percent interest in the Long Lake Project.

On January 6 2006, as amended October 6, 2006 and December 6, 2006, Messina entered into a sub-option agreement with Aldrin, whereby Aldrin could earn a 50 percent interest in Messina's interest in part of the original Long Lake Block, RL 229. Aldrin expended approximately $500,000 on exploration between January 2006 and September 2007 as part of their option commitment; Messina was the manager of the exploration program. On September 25, 2007, Aldrin gave notice to Messina to terminate the option agreement and to allow its option to acquire an interest in the Long Lake Project to lapse.

6.2 Exploration History

The earliest recorded exploration work in the area was undertaken in 1871 by Alexander Murray for the Geological Survey of Canada. Murray identified sedimentary rocks along the Exploits River and greenstones along Red Indian Lake. Matty Mitchell, a prospector working on the AND Co. concession area north of Red Indian Lake, discovered the first of the Buchans ore bodies in 1905 (Neary 1981).

Early attempts by the AND Co. to bring the Buchans massive sulphide ore deposits into production were stalled in 1911 due to metallurgical difficulties with the fine grained and interspersed nature of the sulphides. Around 1916, Asarco acquired samples of the Buchans ore and began persistent metallurgical testing specifically using the flotation method. By 1925, Asarco had developed a metallurgical process to successfully treat the ores into separate lead and zinc concentrates using xanthate as a flotation agent. In 1926, Asarco entered into a 50-year agreement with the AND Co. to bring the Buchans ore deposits into commercial production. While both companies would equally share in the profits of the operations, Asarco was the mine operator and had full control over the exploration rights to the entire AND Co. concession for a 50-year period (Neary 1981).

Prior to 1960, mineral exploration in the Long Lake volcanic belt was very sporadic due to poor access. However, virtually every exploration program in the Long Lake Project area has resulted in the discovery of significant mineral zones, prospects and related alteration zones or significant anomalous areas requiring detailed follow up work. The various phases of exploration work carried out on the Long Lake Project are summarised below. The summaries are taken from Noranda's 1998 final report (Noranda 1998) where additional details can be found.

6.2.1 Asarco Minerals Ltd. (1926 to 1975)

From 1926 through 1975, Asarco mapped the AND Co. Charter Lands in a piecemeal fashion at 1:12,000 scale. However, very little exploration (excluding mapping) was conducted in the Long Lake Project area prior to the early 1960s due to poor access. The first recorded work in the Long Lake volcanic belt rocks near the project area occurred in 1947, when (Asarco) drilled two packsack-type boreholes on a prominent rusty gossan zone of pyritic felsic volcanic rocks near the tip of the Long Lake peninsula. This likely corresponds to the Long Lake copper VMS showing approximately 7 kilometres southwest of the Long Lake Project but probably within or near the same stratigraphic horizon hosting the Long Lake Project's Main Zone VMS deposit. These two boreholes, XA-1 and 2, cut 2.9 percent copper over 0.3 metres and 0.8 percent copper over 1.8 metres, respectively.

In the early 1960s, Asarco initiated reconnaissance stream (with sample spacing of around 200 feet), soil sampling and prospecting, which in 1961 resulted in the discovery of VMS-style alteration and a coincident soil geochemical anomaly east of the northeast end of the Long Lake Project. Stream and soil samples were analyzed for copper and zinc only. The anomaly consisted of a restricted three-sample copper anomaly (365 to 830 parts per million [ppm]) with a broader zinc anomaly (2,800 ppm). The three-sample copper anomaly is within 500 metres northwest of the now known Long Lake Main Zone VMS deposit. In 1966, Asarco drilled five short boreholes (LLH66-04 to 08) into the anomaly, three of which cut strongly altered felsic rocks with disseminated pyrite and local traces of sphalerite. Further details can be found in Noranda's 1998 report.

In 1974, an airborne electromagnetic survey located few conductors in the area of the copper-rich soil anomalies east of the Long Lake Project. Only three boreholes were drilled to test airborne electromagnetic conductors a few kilometres northeast of the Long Lake Project grid area. Asarco drilled one borehole near the Long Lake Peninsula Hill into a copper soil anomaly and cut Tulks-type altered felsic rocks. No further work was done here until 1995 when Noranda resampled cores and found significant VMS-style lithogeochemical anomalous conditions.

There are no reliable records preserved as to the dollar amount incurred by Asarco on exploration work on the Long Lake Project, but in all likelihood it would have been less than $100,000 within the existing RL 229 area.

Following the expiration of the AND Co.-Asarco 50-year lease in 1976, Abitibi-Price Mineral Resources Ltd. (Abitibi Minerals), the successor company to the AND Co. pulp mill, took over all

mineral exploration on the AND Co. Charter Lands and the Reid Lots. Asarco continued to mine the Buchans ore deposits up to 1984 but had no direct involvement in exploration.

6.2.2 Abitibi-Price Mineral Inc. (1976 to 1984)

During the Abitibi-Price Inc., Mineral Resources Division 10-year exploration period, a moderate amount of exploration work was carried out in the Long Lake volcanic belt, including RL 229. Most of Abitibi Minerals' exploration programs were conducted in the adjacent Tulks North and South properties where improved access through new logging roads allowed the discovery of a number of new VMS deposits (Tulks Hill, Tulks East, Jacks Pond, etc.) and numerous showings and VMS-style alteration zones.

During the late 1970,s Abitibi Minerals carried out winter gridding and horizontal loop electromagnetic (HLEM) geophysical surveys over the waters of Long Lake near the rusty gossan zone Asarco drilled in the 1960s. This work tested a number of airborne electromagnetic conductors. Several electromagnetic conductors were drill tested with eight short boreholes (DDH LLH80-1 to -7). A number of boreholes cut graphitic shale containing 20 to 30 percent pyrite and altered felsic rocks described as Tulks-style stockwork alteration zones.

In 1981, grid 229-1 was cut about 500 metres northeast of the Long Lake Project soil anomaly. Numerous coincident soil and geophysical anomalies were defined. Soil geochemistry revealed very high copper (to 1,800 ppm), lead (to 460 ppm) and zinc (to 2690 ppm) values at the Eastern soil anomaly; this area also contains a 200 metre long 0.3 mgal gravity anomaly. Abitibi Minerals never drill tested the anomalies but in 1994 – 1995 Noranda drilled two bore holes (LL94-01 and LL95-25) into these targets with anomalous base metal results.

In 1984, grid 229-3 was cut over the Asarco soil anomaly and LLH66-04 to 08 at the Long Lake Project (approximately 500 metres northwest of the presently known Long Lake Main Zone). Renewed soil sampling southwest of the old anomalies did not show any anomalous conditions and a gravity survey over the original zinc-rich soil anomaly did not show anomalies. No further work was done.

According to records on file with the Newfoundland and Labrador government, from 1976 to 1984 Abitibi-Price spent approximately $147,400 within the existing RL 229 area (Newfoundland Department of Natural Resources Impost files 2006).

During 1984-85 Abitibi-Price decided to discontinue all mineral exploration activities in Canada and to remain solely as a paper producing company. Abitibi offered the entire AND Co. concession lands and the contained Reid Lots for sale to a number of senior exploration companies. On September 18, 1985, Abitibi-Price sold all of its rights in the AND Co. Charter Lands, including the contained Reid Lots, with no retained royalties or interests (aside from the Reid Ltd. royalty), to BP for $4.5 million (Newfoundland Department of Natural Resources, Mineral Lands Registry of Transfers; Volume 4, Folio 155).

6.2.3 BP Resources Canada Ltd. (1985 to 1992)

In September 1985, BP purchased the AND Co. land package from Abitibi-Price. During 1985, BP reanalyzed some 10,000 archived Asarco-Abitibi soil samples from the Tulks North and South properties and other areas; and conducted a detailed lake sediment sampling survey; and an airborne electromagnetic survey over all of the AND Co. lands. Both surveys revealed numerous anomalies requiring detailed follow up and BP quickly focused in on a number of high-priority areas where road access was the easiest. Over the next five years, BP carried out most of its exploration work

outside of the Long Lake Project area mainly because of the numerous other high-potential areas with better access.

In 1986, after a detailed review of the extensive geological database, BP flew a Questor INPUT airborne electromagnetic survey over most of the acquired land package including the Long Lake volcanic belt. This was followed up in 1990 by a Dighem electromagnetic and magnetics survey over the eastern side of the Long Lake volcanic belt. These two airborne surveys, together with the 1974 Asarco survey, showed that no significant electromagnetic conductors were present in the soil geochemical anomalous areas in the northeast trending volcanics at the northeast end of the Long Lake Project (i.e. proximal to the now known Long Lake Main Zone VMS deposit).

In 1990, BP carried out a detailed Dighem helicopter electromagnetic and magnetic survey over the Long Lake Project area but detected few electromagnetic anomalies. Reconnaissance soil geochemistry carried out in 1991 at the northeast end of Long Lake over the old 1964 Asarco soils anomaly revealed a number of strong copper-lead-zinc anomalies; ground very-low frequency electromagnetic method (VLF-EM) located a coincident 300-metre long very-low frequency (VLF) conductor that had no airborne electromagnetic response. In 1991, two trenches were dug near these anomalies, and they revealed broad zones of highly altered (sericitized and silicified) felsic rocks with up to 15 percent disseminated pyrite and minor disseminated chalcopyrite and sphalerite with assays up to around 1 percent zinc and elevated silver and gold values. Geological mapping showed the alteration zone to strike at least 1 kilometre to the northeast. After 1991, no further exploration work was carried out on the Long Lake Project by BP.

According to records on file with the Newfoundland and Labrador government, from 1985 to 1992 BP incurred approximately $325,600 exploration expenses within the existing RL 229 area (Department of Natural Resources Impost files 2006).

During 1991 – 1992, BP made the decision to stop all mineral exploration in North America and to focus all efforts on oil and gas exploration and development. BP amalgamated with several of its subsidiaries, changed its name to Talisman Energy Inc. (Talisman) and actively sought a buyer for all of BP's Canadian mineral properties including the AND Co. Charter Lands. On February 26, 1993, Talisman sold all of its rights, with no retained royalties or interests, in the AND Co. Charter Lands, including the contained Reid Lots and staked claims, to Noranda for approximately $2.2 million (Newfoundland Department of Natural Resources, Mineral Lands Registry of Transfers Volume 9, Folio 60). At this point in time, the original 2,000 square miles of the AND Co. Charter Lands had been significantly reduced in size over the preceding 15 years by both Abitibi-Price and BP to approximately 556 square miles (1,440 square kilometres).

6.2.4 Noranda Exploration Co. Ltd. (1993 to 1998)

After acquiring the AND Co. Charter Lands in early 1993, Noranda immediately focused in on the Long Lake Block, RL 229 in particular, as one of their high-priority exploration areas. Noranda considered this area to be one of the areas in the entire extensive property that was grossly under-explored but which exhibited excellent VMS potential. In addition, road access through logging had greatly improved since the late 1980s.

In late 1992, and just prior to officially purchasing the AND Co. Charter Lands from BP in February 1993, Noranda cut a 2.6-kilometre-long grid over the area of the 1991 BP trenches with extensions for several kilometres to the northeast and southwest over the known weak airborne electromagnetic conductors. Mapping, lithogeochemical rock sampling, and detailed geophysical surveys showed a major VMS-style alteration zone with coincident HLEM and gravity anomalies.

In 1994, the first shallow borehole (LL94-02) drilled into the coincident VLF and HLEM conductor cut a thin massive sulphide horizon about 45 metres below surface, which returned exceptionally high base metal grades of 2.7 percent copper, 1.1 percent lead, 23.7 percent zinc, 45 grams of silver per tonne (gpt silver) and 0.7 grams of gold per tonne (gpt gold) over a core length of 2.2 metres. The next three to four boreholes drilled into the zone returned additional high-grade base metal values.

This new discovery became Noranda's Main Zone VMS deposit. Continued drilling into the spring of 1997 totalled 10,105 metres of core in 30 boreholes. Based on 13 boreholes drilled on five sections by Noranda from 1994 to 1997, the Long Lake Main Zone has been traced for about 400 metres along strike and to a vertical depth of 500 metres.

During 1998, Noranda calculated a historical estimate of geological, drill-inferred resources in the Long Lake Main Zone deposit (the northerly limb) of around 970,000 tonnes grading 1.7 percent copper, 1.3 percent lead, 10.9 percent zinc, 33.0 gpt silver and 0.8 gpt gold (Noranda 1998). Using the five main borehole intersections on one section, Noranda estimated that the Long Lake Main Zone deposit hosted a higher-grade core as an inferred geological resource of approximately 560,000 tonnes of mineralization with an estimated grade of 2.2 percent copper, 1.3 percent lead, 16.0 percent zinc, 38.0 gpt Ag and 0.9 gpt Au (Noranda 1998). The reader is cautioned that the Noranda resource estimates are historical in nature and were prepared before the development of National Instrument 43-101 and hence should not be relied upon. These historical estimates have been superseded by the Mineral Resource Statement presented herein.

In addition to the Main Zone deposit, over the next several years, Noranda discovered several new VMS zones as extensions to the Main Zone by drilling coincident soil and geophysical anomalies. The South Limb prospect is situated within an altered felsic volcanic horizon approximately 800 metres east-northeast of and parallel to the Long Lake, Main Zone which Noranda interpreted to be the synclinal fold repetition of the Long Lake Main Zone deposit.

Borehole LL95-24 intersected a thin horizon of muddy sedimentary rock rich in pyrite and base metals that returned 0.7 percent copper, 0.1 percent lead, 3.7 percent zinc, 13.0 gpt silver and 0.7 gpt gold over 5.6 metres at a down hole depth of 676 metres. High-grade mineralization on the South Limb was first intersected in February 1997 by borehole LL97-31 located some 800 metres east-northeast of the Long Lake Main Zone. The hole intersected coarse-grained barite-rich massive sulphide at a 35 metre vertical depth, which returned 0.4 percent copper, 4.4 percent lead, 31.2 percent zinc, 103 gpt silver and 1.4 gpt gold over a hole length interval of 0.8 metre. Several additional boreholes cut significant base metals in this limb (Noranda 1998).

During 1996, Noranda drilled five boreholes (LLW96-1 to -5) into the West Grid area, which was defined initially by Asarco-Abitibi and trenched by BP Canada in 1991. This VMS alteration zone lies in close proximity both spatially and stratigraphically to the Long Lake Main Zone deposit. This alteration zone, between 1,000 and 3,500 metres southwest of and along strike with the Long Lake Main Zone deposit, has a very strong litho-geochemical VMS-style signature. A 25-kilogram piece of angular float of interlaminated jasper and pyrite bands discovered on the West Extension grid strongly resembles the interlaminated sulphide/oxide iron formation noted in borehole LL94-2 at the Main Zone VMS deposit, which occurs less than 20 metres stratigraphically below the high-grade massive sulphide there. An outcrop sample from the West Extension grid containing minor stringer pyrite-sphalerite returned 0.2 percent copper and 4.9 percent zinc. Noranda completed five boreholes on the West Extension grid in 1996 and 1997. Boreholes LLW96-1a, -3, and -5 all intersected disseminated zinc mineralization within altered felsic rocks. Details can be found in Noranda's 1998 report. Follow-up of Noranda's efforts here led to the discovery of the Lucky Gnome prospect by Atlantic Zinc / Island Arc in 2002 (see description below).

The East Zone high-grade VMS prospect was discovered in 1997 during follow up drilling on a strong basal till geochemical anomaly and was partially defined by three Noranda diamond drill boreholes LL97-35, -36, and -37 over a strike length of 500 metres. The East Zone is located approximately 1,000 metres east-northeast of the Main Zone deposit and is interpreted as fold repetition of the South Limb prospect stratigraphy. All boreholes cut base metal sulphides. The best diamond drill boreholes, LL97-36 intersected high-grade massive sulphides which returned 0.3 percent copper, 1.7 percent lead, 24.8 percent zinc, 28.0 gpt silver and 1.0 gpt gold over a true thickness of 0.26 metre at a vertical depth of 56 metres (Noranda 1998).

Additional work was done by Noranda on several other zones within RL 229. The East Extension, South Extension and Camp grid are all viable VMS targets situated adjacent to the Main Zone deposit. Noranda carried out detailed gridding, soil and rock lithogeochemical sampling with very anomalous results. Follow up ground geophysics defined specific drill targets but only a few boreholes were drilled by Noranda. From 1993 to 1998 Noranda incurred approximately $605,400 within the existing RL 229 area (Department Natural Resources Impost files 2006).

In 1997, Noranda ceased all exploration in Newfoundland and moved its exploration office to Bathurst, New Brunswick. During late 1997 and 1998, Noranda divided the large Victoria Lake project (AND Co. Charter Lands, Reid Lots and staked claims) into six packages of ground totalling 2,880 square kilometres and offered each for option-sale to a number of junior explorers. The critical property, Tally Pond-Duck Pond, containing the Duck Pond and Boundary massive sulphide ore deposits, were quickly optioned to Thundermin Resources on September 23, 1998 (finalized March 2, 1999). The other five land packages were optioned out during 1999 to four junior exploration companies and one major, Phelps Dodge (Noranda 1988).

Summarized below is the recent history of Noranda's dealings with the Long Lake Project to various exploration companies.

6.2.5 Alto Minerals Inc. (1999)

In July 1999, Alto signed an option agreement with Noranda and acquired the right to earn a 100 percent interest in the Long Lake Block. Alto could not raise sufficient exploration funds and by February 2000 had dropped the option with Noranda. Alto incurred no expenditures on RL 229 during 1999.

6.2.6 Atlantic Zinc Resources Ltd. (2000 to 2003)

On August 30, 2000, Atlantic Zinc entered into an option agreement with Noranda and acquired the right to earn a 100 percent interest in Noranda's Long Lake Project. During mid-2000, Island Arc entered into a sub-option agreement with Atlantic Zinc and acquired the right to earn an interest in the Long Lake Project. In that same year, the company drilled four boreholes (LL00-01 to -04) totalling 665 metres into the strike extension of the Main Zone and encountered mineralization in all four holes. The best intersection was in hole LL00-03 which cut 1.36 percent copper, 4.5 percent lead, 22.0 percent zinc, 150.7 gpt silver, and 0.78 gpt gold over a core length interval of 0.45 metres. During 2002, Island Arc carried out a program of prospecting and sampling to the southwest of the Main Zone VMS deposit and discovered the Lucky Gnome VMS zone (adjacent to but about 1,000 metres southwest of the Long Lake property [RL 229]). Between 2000 and 2002, Atlantic Zinc claimed a total expenditure of $706,158 on the entire Long Lake Block, of which approximately $120,667 was incurred within RL 229 (Department of Natural Resources Impost files 2006). During early 2003, Island Arc had difficulties raising exploration funds due to poor markets and dropped the option with Atlantic Zinc. No work was done during 2003.

7 Geological Setting and Mineralization

7.1 Regional Geology

The Long Lake Project occurs within the central part of the Central Mobile Belt of the Dunnage tectonostratigraphic zone of the Appalachian Mountain Belt. This region of the Central Mobile Belt contains the economically important Buchans-Victoria Lake area. The Dunnage tectonostratigraphic zone of Williams (1979) preserves Cambrian to Middle Ordovician rocks of ophiolitic, island-arc and back-arc affinity. The zone is divided by a major and extensive fault system referred to as the Red Indian Line, into the Notre Dame (west of the Line) and Exploits subzones (east of the Line) (Williams et al 1988) (Figure 5). These two subzones are interpreted to have developed on opposing sides of the Ordovician age Iapetus Ocean and were not linked until Late Silurian time during closure of the Iapetus (Colman-Sadd et al 1992). The Notre Dame zone contains the Buchans Group of volcanics hosting the economically famous Buchans Kuroko-style VMS deposits, plus many other VMS deposits; these rock types are generally mature arc type and calc-alkaline in nature. The Exploits Zone hosts the extensive Victoria Lake Supergroup made up of six separate and distinct volcanic belts, which themselves are highly conducive to VMS and gold deposits; these rock types are generally island-arc type environments and are more tholeiitic in nature.

The Buchans-Victoria Lake area is made up of a 150 kilometre long by 20 to 65 kilometre wide series of volcanic and volcaniclastic belts. This prolific region consists of seven separate volcanic belts ranging from Upper Precambrian-Cambrian to Ordovician ages, all of which formed in classic island-arc type environments during the Appalachian Orogeny, which is marked by the closure of the Iapetus Ocean. From west to east, these belts are: the Buchans Group (formed on the North American or Laurentia side); the Tally Pond volcanic belt; the Long Lake volcanic belt; the Tulks Hill volcanic belt; the Harbour Round Belt; Harpoon Brook Belt and the Point of the Woods Belt. The latter six formed on the African (Gondwana) side and collectively make up the Victoria Lake Supergroup. These belts of volcanic rocks have been distinctly divided on the basis of age dating, and specifically on lithogeochemical analysis, which indicates the Victoria Lake Supergroup is comprised of distinct geochemical groupings or tectonic environments that record the transition from island-arc to rifted-arc to back-arc to mature arc environments over time. Five of the six Victoria Lake Supergroup belts consist of mafic and felsic volcanic, volcaniclastic and epiclastic rocks and various intrusive rocks; all five belts are fault bounded by two major faults or terrain bounding structures, the Red Indian Line to the northwest and the Noel Paul's Line to the southeast.

The Victoria Lake Supergroup has a regional penetrative foliation, which is subparallel to bedding and is axial planar to tight isoclinal folds, and which increases from the northeast to southwest. Regionally, the rocks strike north-northeast to northeast and the belts in the western half of the Supergroup have steep dips to the northwest, while the eastern belts have steep dips generally to the southeast. Many second and third-order folds add to the complexity of structure in the region. Numerous large-scale and local faults, both normal and thrust related cut the region. Structural repetition by thrust faulting is significant and likely explains the apparent inter-layering and repetition of different geochemical distinct rock units (Evans and Kean 2002).

Regionally, the rocks have been metamorphosed to lower-greenschist mineral assemblages, but locally mid-greenschist to lower-amphibolite grade metamorphic rocks are present.

The Long Lake volcanic belt, originally included in the Tulks Hill volcanic rock, is a linear belt of intercalated felsic and mafic volcanic, volcaniclastic and sedimentary rocks. Along the northwest

margin of the belt is a major fault, marked by an extensive magnetic gradient anomaly, which separates the Long Lake Belt from the Tulks Hill volcanic rock. The southeast side of the Long Lake Belt is marked by the regionally extensive graphitic shale-argillite horizon of the underlying Tally Pond volcanic belt (Figure 5).

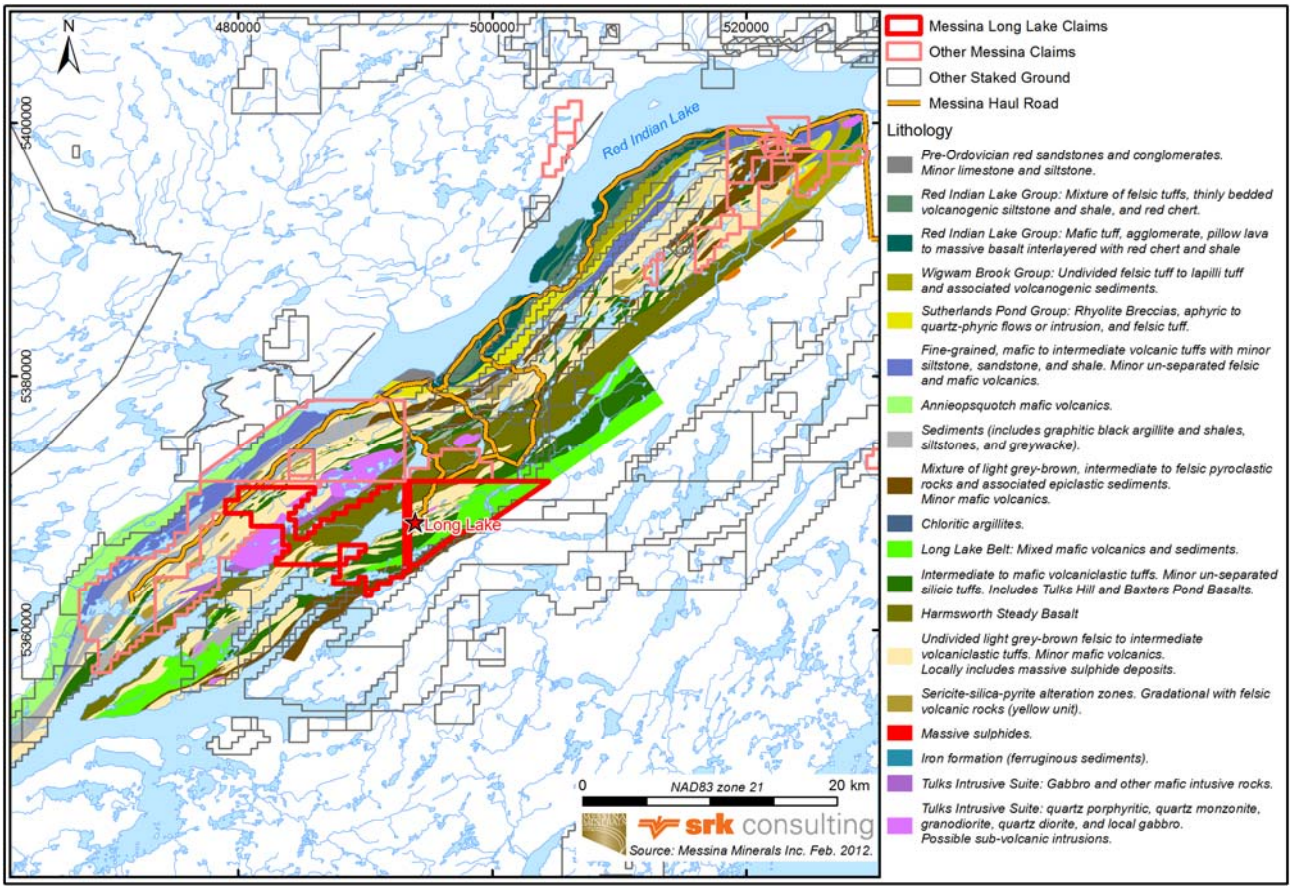


Figure 5: Regional Geology Setting

7.2 Regional Mineralization

More than 120 significant VMS deposits, prospects and showings are known within the Victoria Lake Supergroup. Most of the VMS deposits/showings are restricted to the felsic volcanic belts and consist of disseminated, stockwork, massive and transported sulphides. The mineralization is coeval with the enclosing felsic rocks and hence there are at least three or more periods of volcanogenic mineralization.

The Buchans area is geologically famous for its rich base metal deposits that produced continuously over a 56-year period from 1928 to 1984. These deposits were amongst the top two or three richest base metal deposits ever mined in Canada, and among the highest grade in the world having produced 16.2 million tonnes from five major ore bodies (of the seventeen known in the Buchans camp) grading 1.33 percent copper, 7.56 percent lead, 14.51 percent zinc, 126 gpt silver and 1.37 gpt gold (Thurlow 1999). These deposits are baritic, polymetallic and in a classic Kuroko-style volcanogenic geological setting. The Buchans Group is a bimodal suite of basaltic to rhyolitic rocks formed during a period of extension after cessation of calc-alkaline constructive island-arc type magmatism (Thurlow 1999).

Five of the six defined volcanic belts of the Victoria Lake Supergroup host significant base metal deposits and zones; the sixth belt, the Harpoon Brook Belt, hosts mesothermal-style gold mineralization. The Tulks Hill and Tally Pond belts are the two most prolific of the five.

7.3 Property Geology

The Long Lake volcanic rocks typically feature a strong, northeast-striking, steeply northwest-dipping foliation. Relative age criteria are virtually nonexistent, but one occurrence of graded bedding in a borehole indicated tops to the southeast, implying overturned stratigraphy in that area. This is consistent with the polarity between presumed footwall alteration zones and their associated massive sulphides in the same area. There is some evidence of isoclinal folding with a wavelength of approximately 300 metres and amplitude in excess of 800 metres, but lithological changes across-strike suggest that structural repetition is subordinate to stratigraphic change. Metamorphic grade is lower greenschist (Noranda 1998).

The Long Lake volcanic rocks are inferred to overlie the Harmsworth Steady Basalt, but felsic volcanic rock within the southeasterly portions of the latter resemble the Long Lake volcanic rock, indicating that these volcanic events overlapped. The first felsic volcanic rock (Lower Sequence) includes flows, sills, domes and tuffs, all of which tend to be aphyric. Magnetite noted by previous workers around Tower Pond (2 kilometres northwest of Long Lake) is in fact ubiquitous as disseminations, stringers and small stockwork in the lower felsic volcanic stratigraphy. They can be further distinguished from felsic rocks higher in the stratigraphy by relatively high zircon concentrations. Altered equivalents of these units are the immediate host rocks of the Main Zone. Mafic volcanic and sedimentary rocks are relatively rare in this sequence, which tend to have few conductors. A thickness of at least 1,000 metres is suggested.

A prominent magnetic high striking across Long Lake Peninsula is attributed to mafic volcanic rocks indistinguishable from the Harmsworth Steady Basalt. This and the associated magnetic patterns suggest a very large, tight, doubly plunging syncline cored by a 2-kilometre-wide lower felsic sequence. The lower volcanic sequence is broadly lensoidal, with its thickest part dominated by massive, high level intrusions near Tower Pond, which is presumed to be a volcanic centre, and tapering outward due to stratigraphic and structural attenuation to a total length of approximately 40 kilometres (Noranda, 1998).

The Middle Sequence is a mixed predominantly mafic/sedimentary sequence, which is characterized by multiple conductors. It is best developed outboard of the central part of the Lower Sequence (i.e. as the latter thins the Middle Sequence thickens, suggesting primary inter-digitation of the volcanic centre with an outboard sediment-bearing succession). In detail, the contact between the Lower and Middle sequences to the northeast resembles a cyclical, progressive onlap of the former onto the latter (Noranda 1998) (Figure 6).

The Upper Sequence is best represented by the rocks on the southwest shore of the southern arm of Long Lake. There, blue quartz porphyritic felsic flows are predominant, with lesser nonconductive sediments and low titanium dioxide basalts. The package displays low magnetic relief and hosts few conductors. Alteration zones near the top of the sequence (best developed at the tip of Long Lake Peninsula) contain disseminated pyrite and resemble those associated with the Long Lake prospect (i.e. Main deposit), but typically do not display the strong sodium oxide depletions and barium enrichments of the latter.

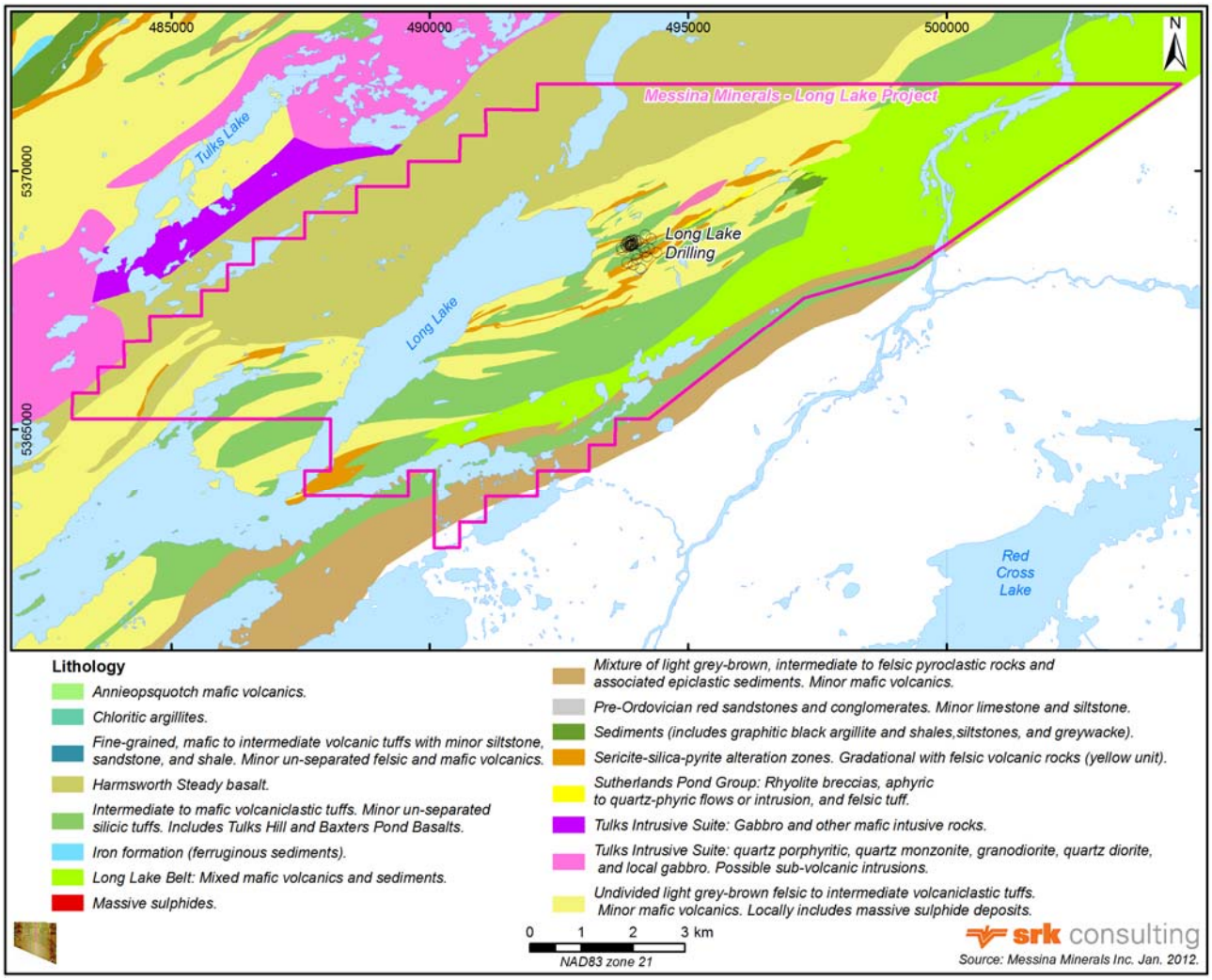


Figure 6: Local Geology Setting

These felsic volcanic rocks pass directly into a black shale unit, which can be traced geophysically to the northwest until it leaves the property (Upper Graphitic Marker). This marker converges with the Middle Sequence to the northeast, suggesting that like the Lower Sequence, the Upper Sequence relates to a felsic volcanic centre near the south end of Long Lake.

Above the Upper Graphitic Marker are fine-grained clastic sedimentary and reworked felsic volcanic sub-units. These probably pass into sedimentary rocks of the Exploits Group, but much of this contact would be under Victoria Lake.

The Upper Sequence is approximately 15 kilometres long and lensoidal, reaching its greatest thickness of approximately 2 kilometres on the neck of ground between the south end of Long Lake and the eastern arm of Victoria Lake.

7.4 Property Mineralization

One significant VMS deposit and a number of interesting, high-potential prospects and zones occur in altered felsic volcanic rocks on Messina's Long Lake Project (RL 229).

The Long Lake VMS deposit (Main Zone) was discovered in 1994 by Noranda during a drilling program testing a number of coincident soil geochemical and geophysical anomalies. The deposit consists of a barite-rich, narrow, high-grade massive sulphide horizon within a mixed sequence of felsic and mafic tuffs and flows, and interbedded fine-grained sedimentary rocks. The deposit has been isoclinally folded and VMS mineralization occurs on both the North Limb and the South Limb. Although the Main Zone deposit has no electrical response to several close spaced line (i.e. 125 metres) airborne electromagnetic surveys, Noranda found the deposit to respond well to magnetics, VLF-EM, HELM (max-min) and gravity.

The first shallow borehole (L94-02) drilled into coincident VLF and HLEM conductors cut a thin massive sulphide horizon about 45 metres below surface, which returned exceptionally high base metal grades of 2.7 percent copper, 1.1 percent lead, 23.7 percent zinc, 45.0 gpt Ag and 0.7 gpt Au over a core length of 2.2 metres. Mineralized thicknesses, however, are variable along strike and down dip and may show a 20 to 30 degree northeast plunge. The excellent high-grades over good thicknesses do form a significant shoot/zone approximately 150 to 200 metres wide and for 500 metres down dip. The zone may in fact have a strong structural control to it and if so, this could be a predictor of new zones along strike (i.e., South Zone and East Zones to the northeast).

Exploration drilling in 1997 by Noranda completed 800 and 1,100 metres to the northeast of and along strike of the Main Zone deposit, and intersected several narrow high-grade VMS zones grading 0.4 percent copper, 4.4 percent lead, 31.2 percent zinc over hole length intervals of 0.8 metres (South Zone) and 0.2 percent copper, 1.7 percent lead, 24.8 percent zinc, 28.0 gpt silver and trace of gold over 0.3 metres (East Zone) (Noranda 1998). This exploration drilling targeted a number of coincident soil geochemical and ground geophysical anomalies.

The Lucky Gnome Zone was discovered approximately 2,000 metres southwest of and along strike with the Main Zone by Island Arc during a prospecting program in 2002. Weak base metal mineralization occurs in a thickening sequence of massive pyrite and a barite-rich, chlorite altered iron formation. In 2005, Messina drilled several shallow boreholes here that intersected altered felsic rocks with low-grade but interesting base metal results.

The South Zone consists of an altered felsic volcanic horizon approximately 800 metres east-southeast of and parallel to the Long Lake Main Zone, which Noranda interpreted to be the synclinal fold repetition of the Main Zone deposit. Borehole DDH LL95-24 intersected a thin horizon of muddy sedimentary rock rich in pyrite and base metals which assayed 0.7 percent copper, 0.1 percent lead, 3.7 percent zinc, 13.0 gpt silver and 0.7 gpt gold over a hole length interval of 5.6 metres at a down hole depth of 676 metres. Borehole DDH LL97-31 located some 800 metres east-northeast of the Long Lake Discovery Zone intersected coarse-grained barite-rich massive sulphides at 35 metres vertical depth, which returned 0.4 percent copper, 4.4 percent lead, 31.2 percent zinc, 103 gpt silver and 1.4 gpt gold over a hole length interval of 0.8 metres.

In 2004, Messina drilled one borehole (DDH LL04-42) on an electromagnetic conductor about 200 metres southwest of the South Limb Zone that intersected a thick sequence of mineralized felsic volcanic rocks containing disseminated and stringer pyrite and base metal sulphides from about 10 to 70 metres below surface; within this stockwork-type zone two 22- to 25-metre thick zones average

0.5 percent zinc each. This newly recognized thick stockwork-type zone has increased the potential for a significantly larger tonnage VMS deposit in the South Zone area.

The East Zone high-grade VMS prospect was discovered in 1997 during follow up drilling on a strong basal till geochemical anomaly and was partially defined by three Noranda boreholes (DDH's LL97-35, -36, and -37) over a strike length of 500 metres. The East Zone is located approximately1,000 to 1,200 metres northeast of the Main Zone and is interpreted as a fold repetition of the South Limb prospect stratigraphy.

All three boreholes cut base metal sulphides. The best borehole, DDH LL97-36, intersected high-grade massive sulphides that returned 0.3 percent copper, 1.7 percent lead, 24.8 percent zinc, 28.0 gpt silver and 1.0 gpt gold over a narrow hole length interval of 0.3-metre at a vertical depth of 56 metres.

8 Deposit Types

The Long Lake Project is being explored by Messina primarily for VMS base metal deposits enriched in copper, lead, zinc, silver and gold. VMS mineralization and deposits are well known in the Buchans-Victoria Lake region and the geological setting here is highly prospective for many more such mineral deposits. These deposits follow the classic ocean floor exhalative and/or replacement models that are well described in the relevant literature.

VMS base metal deposits can be categorized according to a five-fold lithostratigraphic classification using sequence boundaries defined by major time-stratigraphic breaks, faults or major subvolcanic intrusions (Franklin et al., 2005). This classification is based on pre-altered host rock composition of some 880 VMS deposits worldwide with known ancient and modern day VMS settings.

The Main Zone deposit falls within the bimodal-felsic type of VMS deposits that are defined as having either greater than fifty percent felsic volcanic rocks or thirty-five to seventy percent felsic volcaniclastics strata and less than fifteen percent siliclastic rocks in the host stratigraphic succession with mafic volcanic and intrusive rocks forming the remainder.

The felsic rocks are principally calc-alkaline and are found generally in compositionally mature volcanic arcs or rifted volcanic arc settings (i.e. incipient-rifted epicontinental arcs). These VMS deposit types form about 31 percent of all VMS deposit types, are usually more silver and zinc rich than the other VMS types, carry an average gold grade of 2.1 gpt gold and are commonly baritic. Average deposit size is approximately five million tonnes. The Kuroko (Japan), Skellefte, Tasmanian and Buchans Newfoundland VMS deposits belong to this category.

9 Exploration

9.1 Messina Minerals Inc. (2004 to 2005)

On January 23, 2004 Messina Minerals Inc. entered into an assignment agreement with Atlantic Zinc whereby Messina acquired all the rights to and assumed all the obligations of the original Noranda-Atlantic Zinc Option Agreement from Atlantic Zinc. Messina carried out the following work programs on the Long Lake Block property, including RL 229:

- In October 2004 Messina drilled four boreholes (LL04-40 to 43) totalling 617 metres. Two boreholes (40 and 41) tested the near surface northeast extension of the Long Lake Main Zone with 100 and 400 metre step outs. Both boreholes cut zinc-bearing (2.1 percent zinc over a hole length interval of 10.5 metres in LL04-40 and 1.9 percent zinc and 0.5 percent lead over a hole length interval of 4.5 metres in LL04-41) stringers in altered volcanic rocks but no massive sulphides. Two other boreholes (42 and 43) tested anomalies 100 to 200 metres along strike of the East zone and the South Limb zone. Significant base metal stringers were intersected in both boreholes with best grades up to 0.5 percent zinc in two separate hole length sections over 22 and 25 metres. In addition, geological mapping and prospecting during the 2004 drilling program located an untested area on the property with a good VMS potential;
- In September 2005 Messina drilled 3 short boreholes totalling 716 metres into the *Lucky Gnome zone* (adjacent to but west of RL 229). The zone was cut in all boreholes with anomalous base metal values but no massive sulphides were located. In late 2005 soil and stream sediment sampling was carried out over new areas of the Long Lake Project where several strong multi-element base metal anomalies were detected. These have yet to be followed up; and
- During the summer of 2005, Messina contracted Eagle Mapping Ltd. to fly a detailed airborne photogrammetry survey over their land holdings in the region including the entire Long Lake Project (RL 229). The survey was carried out with carefully established ground control points that were accurately surveyed with a real-time differential GPS by a contracted land surveyor. UTM coordinates were established with subcentimetre accuracy and elevations with centimetre accuracy for rectification control. Following lab processing the air-photographs were high-resolution scanned and digitized. This digital data formed a multi-use product with detailed and accurate elevations for orthophotographs and digital elevation modeling (DEM).

9.2 Aldrin Resource Corp. (2006)

On January 6 2006 Messina entered into a sub-option agreement with Aldrin whereby Aldrin could earn a 50 percent interest in Messina's interest in RL 229, part of the original Long Lake Block. Messina remains the project operator. During January 2006 Messina, on behalf of Aldrin, contracted out to Aeroquest Ltd. a detailed 480 km-line helicopter electromagnetic and magnetic survey over the Aldrin's Long Lake Project (RL 229).

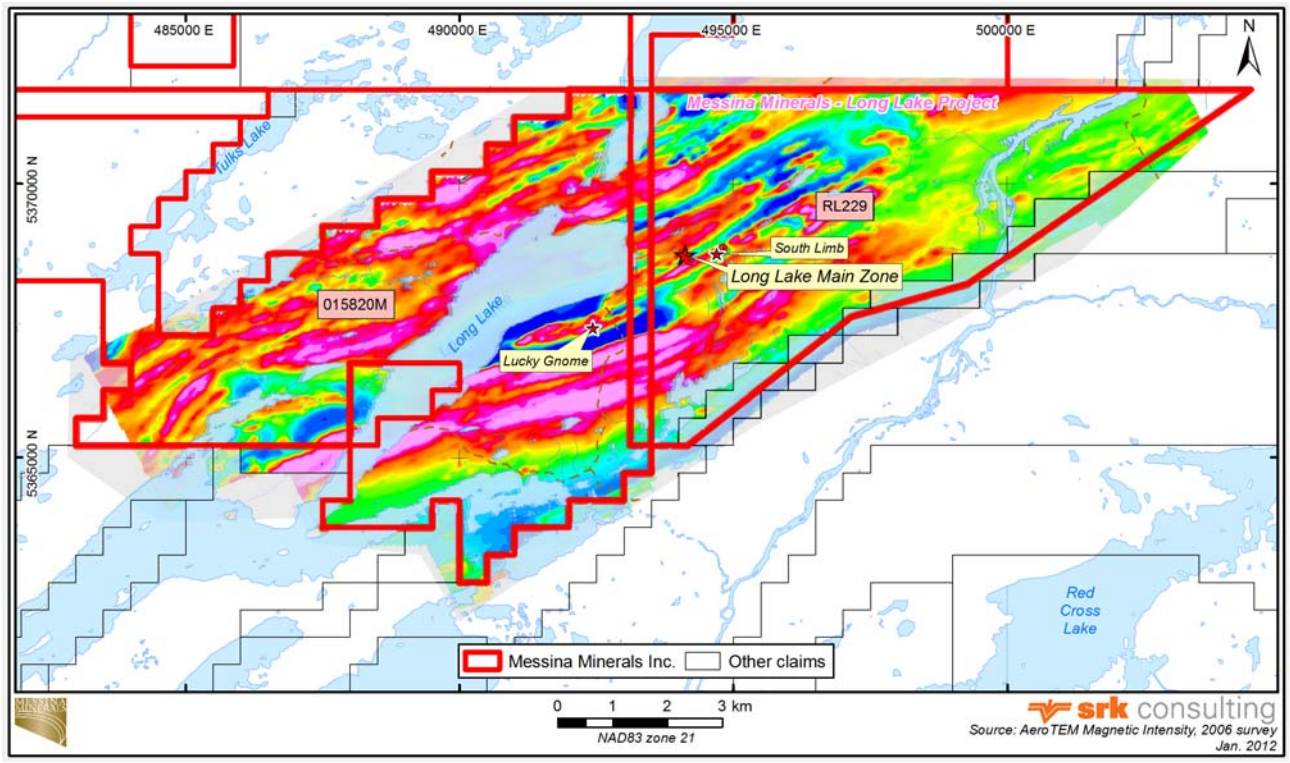


Figure 7: Magnetic Intensity of the Long Lake Project

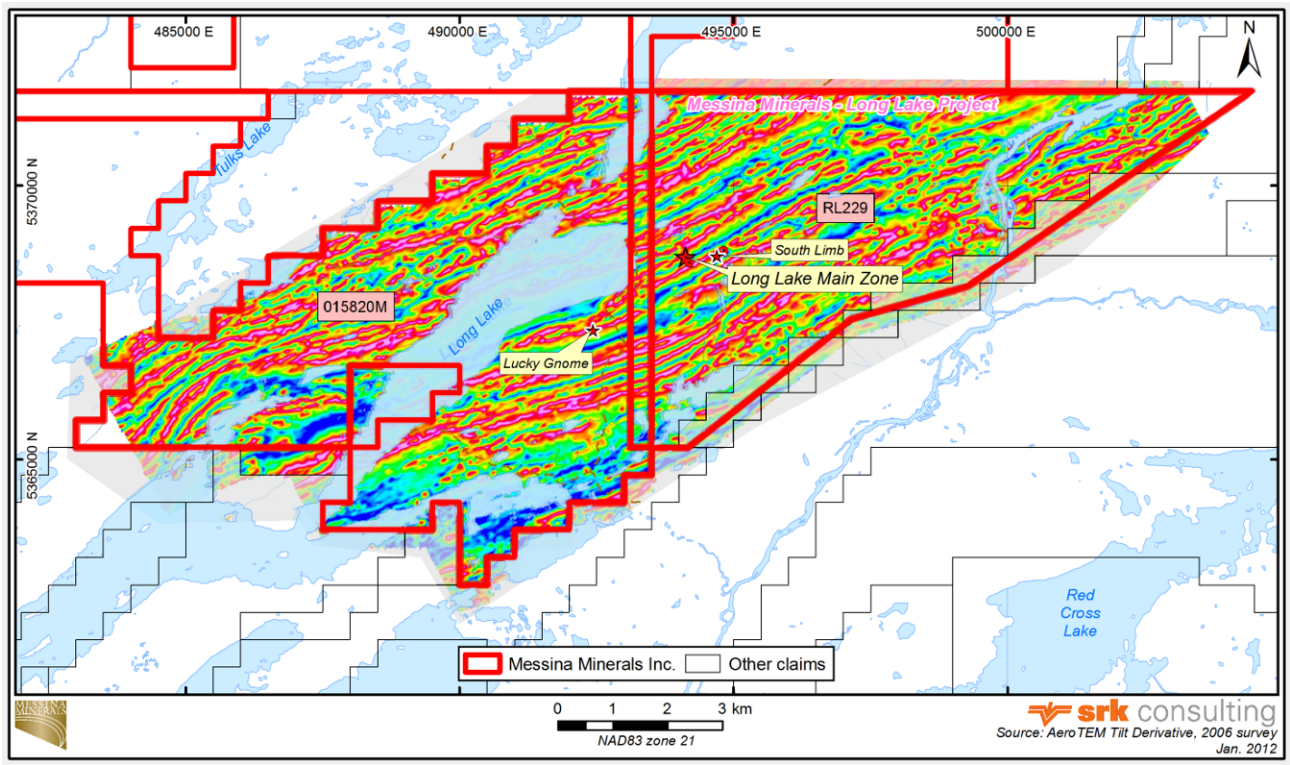


Figure 8: Tilt Derivative (MTD) of the Long Lake Project

The survey used electromagnetic techniques with much greater depth penetration and sensitivity than previous airborne elecgtromagnetic surveys in the area. The results included three geophysical maps, plotted on three sheets at a scale of 1:10,000: coloured total magnetic field with contours, flight path and electromagnetic anomaly picks (Figure 7); coloured tilt derivative of total magnetic field with flight path, and electromagnetic picks (Figure 8); and plan profiles of Z-component (5-15) electromagnetic channels and electromagnetic anomaly picks.

The survey was successful in mapping the magnetic and conductive properties of the geology throughout the survey area. The magnetic data provides a high-resolution map of the distribution of the magnetic mineral content of the survey area. This data can be used to interpret the location of geological contacts and other structural features such as faults and zones of magnetic alteration.

9.3 Messina Minerals Inc. (2007 to 2011)

In 2007 SCI Explorations limited re-established the original Noranda and the majority of the historic boreholes were located in the field. Approximately 2,300 metres of baseline and 19,200 metres of cross lines were re-picketed and labelled with metal tags. The re-established grid extended from L-8400 E to L-10700 E and from 1400 N to 2200 N. The baseline azimuth is 068 degrees and the baseline is 1800 North. Real time coordinates (including elevations) were obtained with a Trimble GPS unit. In addition, Reflex surveys were retained to obtain borehole deviation data from as many of the historic boreholes as possible.

Twenty-two new boreholes were drilled on the Main Zone, and six boreholes on the East zone. 6234.20 metres of diamond drilling with NQ and BQ equipment was completed on RL 229 in three phases. Twenty boreholes were completed on the Long Lake Main Zone, five boreholes were abandoned and six boreholes were completed on the East zone. An internal resource estimate was completed for the Main Zone.

In 2008, 1006.60 metres of BTW diamond drilling was completed on RL 229 in six diamond drill boreholes. Two boreholes tested dip extensions of the East zone. No massive sulphides were intersected, however, alteration zones were extensive, and contained appreciable quantities of base metals in the 0.5-1.5 percent range.

In addition, two boreholes tested strike extensions of the Main Zone (continued to demonstrate high grade narrow massive sulphides near surface to the west, thus leaving the zone open), while the final two boreholes tested VLF anomalies flanking the Main Zone (only trace amounts of mineralization were noted in the boreholes).

10 Drilling

Drilling on the Long Lake Project area was undertaken by three operators from 1994 to 2008. Drilling was not solely focused on the Main Zone and included targets in the South, East and Lucky Gnome zones. A summary of drilling completed on the project is provided in Table 3 and Figure 9.

Table 3: Summary of Drilling for Long Lake Project

Company	Year	Borehole Number	Target Area	No. of Holes	Drilled Distance (m)
Noranda	1994	LL94-01 – LL94-18	Main Zone, South zone	18	4,222.0
	1995	LL95-19 – LL95-27 and LLE95-01	Main Zone, reconnaissance	10	4,240.2
	1996	LL96-28 – LL96-29B LLW96-1a – LLW96-2	Main Zone, Lucky Gnome	4	1,839.5
	1997	LL97-30 – LL97-38 LLW97-03 – LLW97-08	Main Zone, East zone, South zone, Lucky Gnome	8	3,433.4
Island Arc	2000	LL00-01 – LL00-04	Main Zone	4	664.8
	2002	LLW02-11 – LLW02-16	Lucky Gnome	6	853.7
Messina	2004	LL04-40 – LL04-43	Main Zone, South zone	4	617.2
	2005	LLW05-17 – LLW05-19	Lucky Gnome	3	715.7
	2007	LL07-1 – LL07-27	Main Zone, East zone	27	5,910.2
	2008	LL08-28 – LL08-35	Main Zone, East zone	8	1,672.0

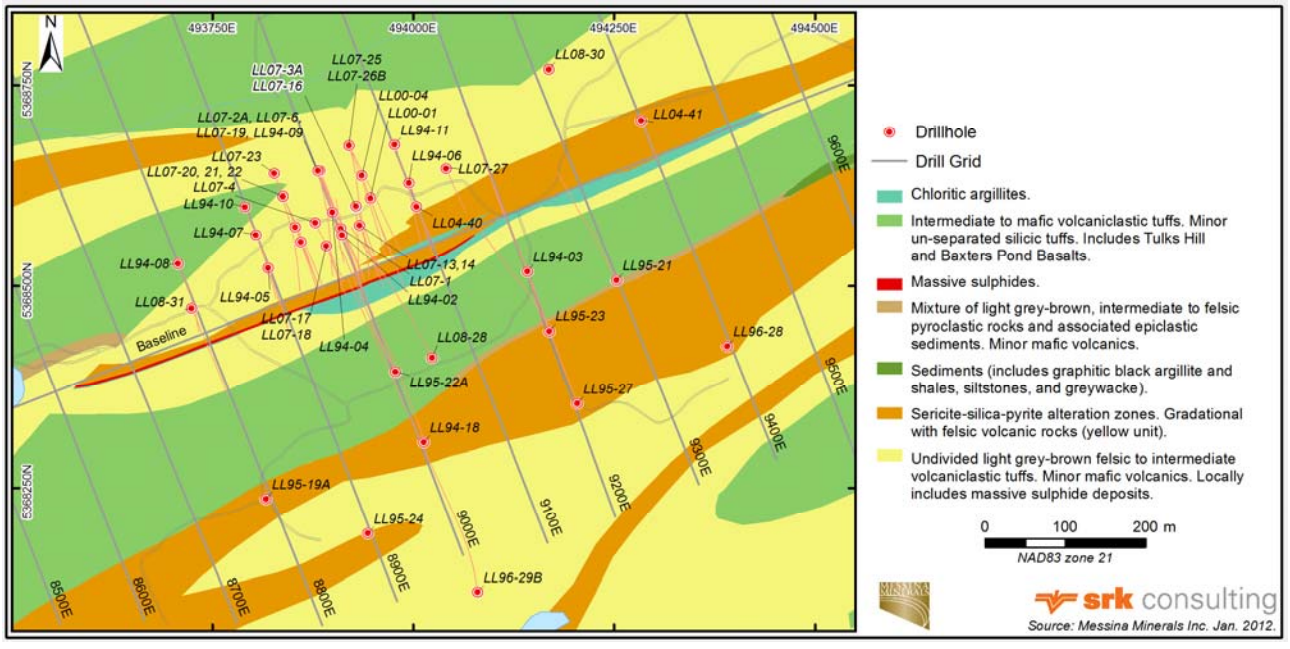


Figure 9: Map Showing the Distribution of Drilling

10.1 Noranda (1994 to 1998)

In the period from 1994 to 1998 Noranda drilled approximately 40 core boreholes over the Long Lake Project area for a total of approximately 13,835 drilled metres. Drilling was undertaken using BQ and BTW and NQ sized equipment. All drill borehole collar pipes were left in the ground. Drilling was carried out on the Main Zone as well other exploration targets including the East, South, Lucky Gnome zones as well as some reconnaissance drilling.

All of the Noranda drill borehole collars were re-located in the field by Messina personnel and surveyed with differential GPS to obtain more accurate location and elevation data. Collar locations were determined in UTM coordinates (NAD83 datum Zone 20N).

10.2 Island Arc (2000 to 2002)

From 2000 to 2002 drilling on the Long Lake Project was conducted by Island Arc. Drilling consisted of 10 core boreholes for a total of about 1,520 drilled metres. Drilling was undertaken using BQ and NQ equipment. All drill borehole collar pipes were left in the ground to mark the drill borehole collar position. Island Arc targeted the Main and Lucky Gnome zones in their drilling campaigns.

All of the Island Arc drill borehole collars were re-located in the field by Messina personnel and surveyed with differential GPS to obtain more accurate location and elevation data. Collar locations were determined in UTM coordinates (NAD83 datum Zone 20N).

10.3 Messina (2004 to 2008)

Messina contracted New Valley Drilling Inc. of Springdale Newfoundland for all diamond drilling. All drill rig moves were accomplished with muskeg tractors. BTW and NQ size tools were used in all cases. Drill borehole collar pipes were left in the ground to mark the collar position.

Messina placed aluminum caps on all drill borehole collar pipes as well as boreholes drilled by Noranda and Island Arc. Each cap had the drill borehole number inscribed on it. Photos of some of the drill borehole collars observed by SRK during the site visit are provided in Figure 10, overleaf.

Borehole collars were located in the fielded by Messina geologists using grid coordinates or a hand held GPS. The drill borehole azimuth was set with an extended foresight from the drill head and the azimuth of this line direction was measured with a Brunton or Silva type compass. The drill borehole collar dip was set and measured with an inclinometer on the drill rods at the drill head. After the completion of drilling, collars were surveyed using a differential GPS. Collar locations were determined in UTM coordinates (NAD83 datum Zone 20N).

Figure 10: Main Zone Borehole Collars

A: Borehole LL-08-30 with inset of collar cap

B: Boreholes LL-94-09, LL-07-06, LL-07-2A

10.4 Down Hole Surveying

10.4.1 Noranda

Down hole data exists in the Noranda drill borehole database but no information is available regarding down hole surveys procedures or equipment used.

10.4.2 Island Arc

Down hole data exists in the Messina drill borehole database but no information is available regarding down hole surveys procedures or equipment used.

10.4.3 Messina

Messina boreholes drilled before mid-2006 were surveyed as the drill borehole progressed with a single shot Tropari compass-inclinometer to provide directional information on the deviation (both azimuth and dip) of the drill borehole. All Tropari measurement depths were determined by and taken by the driller under the supervision of a Messina geologist. Measurements were generally taken just below casing pipes, at about seventy to 100 metres intervals and at the bottom each drill borehole. Tropari magnetic azimuths were corrected to true azimuths. Borehole deviation was monitored to ensure that boreholes remained on target. Boreholes with excessive deviations were abandoned and a new drill borehole was started at different collar location.

From mid-2006 to 2008, Messina began surveying all drill boreholes with a Reflex EZ-Shot instrument. This down hole single shot survey instrument is similar to the Tropari but has a greater accuracy. The EZ-Shot was used every 50 metres to record azimuth and dip.

In May 2007, Reflex Instrument Ltd. was contracted to re-survey diamond drill boreholes on the property to verify historic Tropari survey data or to provide data where no record existed. A Reflex EZ-Trac TM multi shot instrument was used. Eighteen boreholes were partially or fully surveyed including 13 Noranda and four Island Arc boreholes, Table 4.

Table 4: Messina Down Hole Re-Surveys

Borehole	Borehole	Borehole
LL94-02	LL94-11	LL96-29B
LL94-06	LL94-17	LL00-01†
LL94-07	L94-18	LL00-02†
LL94-08	LL95-19A	LL00-03†
LL94-09	LL95-23	LL00-04†
LL94-10	LL95-24	LL04-40*

† Island Arc boreholes.

* Messina borehole, 2004.

10.5 Drilling Pattern and Density

The Long Lake Project boreholes were drilled along a section of the re-established Noranda grid from grid line 8800E to 9200E, including lines 8900E, 8950E, 8975E, 9000E, 9025E, 9050E, and 9100E. Boreholes on sections 8800E and 9200E were at a distance of 100 metres from the nearest section and were, therefore, not included in the block model. Section distances between the centre five sections were 25 metres with sections 8900E and 9100E spaced at 50 metres. Vertical distances between boreholes in ranged between 25 to 130 metres, with an average of approximately 60 metres. The majority of boreholes were drilled at an azimuth of about 155 degrees with an average dip of 65 degrees. Two boreholes were drill at an azimuth of 335 degrees and at an average dip of about 75 degrees.

10.6 Sampling Approach and Methodology

10.6.1 Noranda

Drill core BQ- and NQ-sized was transported from the drill sites to a core shack site at the Long Lake camp. Noranda geologists logged the core initially by completing a summary log, identifying major lithologies and zones of mineralization. Following this, geologists completed detailed logging of lithology, alteration, and mineralization. Mineralized intervals were based on geological boundaries and were marked at approximately 1-metre intervals. Sampled intervals were split lengthwise using a manual mechanical splitter, half the split core was placed in a plastic bag together with a sample tag and sealed, while the remaining core was returned to the sampled interval in the core box. Sample tags identified the sample number and borehole number. Copies of the tags were placed in the sampled interval in the core box. About 10 to 20 core samples were placed in fiber bags and sealed. The fiber bags were transported by Noranda staff to Springdale, Newfoundland and delivered to Eastern Analytical Ltd. (Eastern Analytical).

Noranda did not use analytical quality control samples for their exploration programs.

In addition to the above samples, Noranda collected samples for whole rock analysis. After mineralogical samples were collected, Noranda geologists selected 10- to 30-centimetre sample intervals based on homogeneity of lithology and alteration. Samples were split with a manual splitter, placed in plastic bags, and the remaining core was placed back in the core box. Samples for whole rock analysis were delivered to XRAL Laboratories in Don Mills, Ontario.

All drill core from the 1994 to 1998 drilling campaigns were collected by the Newfoundland Department of Mines and Energy and archived in the government's core storage facility in Buchans.

10.6.2 Island Arc

Island Arc essentially followed the same protocols and procedures used by Noranda and described above. Core samples were delivered to Eastern Analytical in Springfield by Island Arc personnel.

Island Arc did not use analytical quality control samples for their exploration programs.

Island Arc collected samples for whole rock analysis only for the 2002 drilling campaign. Sampling procedures were essentially the same as those used by Noranda.

All drill core from the Island Arc drill campaigns was delivered by Island Arc personnel to the Newfoundland Department of Mines and Energy core storage archive facility in Buchans, Newfoundland where it is all available for inspection.

10.6.3 Messina

All Messina core is BTW or NQ size. The core of every borehole was examined at the drill site and notes were made by a Messina geologist and passed on to the chief geologist. Drill core was transported daily to either the Baxter's Pond field exploration camp or the Buchans Junction secure office and core storage yard where the core was carefully logged and sampled.

All core logging was done by a Messina geologist under the supervision of Messina's Chief Geologist, who examined the core and checked the hand written drill logs for correctness and continuity of logs between geologists. The geologist recorded the following data:

- Lithological description;
- Alteration types and style;
- Sulphide mineralogy and estimate of percentages;
- Texture, colour, grain size, and other details of the sulphides;
- Description of lithological and mineralogical contacts and angles;
- Structural features such as cleavage, foliation, schistosity, lineations, shearing, fault zones, and attitudes of these structures;
- Core recovery;
- Since 2005, rock quality designation measurements;
- Photographs of the more interesting sections, especially massive sulphide zones; various geological details are recorded with close-up photographs; and
- Borehole collar coordinates, borehole azimuth and down hole dip, drilling dates, and responsible geologist.

Messina developed a comprehensive digital rock code for the project; 71 codes for various rock and/or lithological types, eight codes for various alteration facies and 21 codes for various types and styles of mineralization and sulphides.

Drill core recovery in all boreholes was very high, generally exceeding 95-98% with moderate losses (20 to 30 percent) only at major fault-shear zones. All drill core was stored at Messina's Buchans Junction field office with the exception of boreholes LL04-40 to LL04-43, and the three boreholes drilled by Messina adjacent to RL 229 at the Lucky Gnome Zone, which are stored in the Newfoundland Department of Mines and Energy Buchans core storage facility and are readily available for examination.

Mineralized drill core intervals were logged and marked by a Messina geologist based upon geological characteristics and mineralogy and at 1.0- to 1.5-metre intervals. Maximum sample length was generally less than 1.5 metres. The sampling procedures were as follows:

- Immediately after logging was completed, core was marked with a red crayon to indicate intervals to be sampled, a cutting line was also marked on the core to ensure that the core was cut approximately perpendicular to foliation;
- All mineralized core was sampled;
- Separate samples, around 1.5 metres in length, are assayed from 1 to 3 metres on either side of significant mineralization;
- A visual estimate of sulphide mineral content, including chalcopyrite, galena, and sphalerite, was recorded for each sample;

- Sample tags were placed in a plastic Ziploc-type bag and stapled into the core box at the beginning of each sample interval;
- All of the above pertinent core logging information was written up into each drill log;
- Samples of marked drill core were cut in half using a diamond-bladed core saw by Messina technicians;
- Split core samples were collected in new, clear plastic sample bags; the corresponding sample tag was placed in the bag and the bag was tied. Lots of 10 to 15 samples were put into shipping fibre bags or cardboard boxes that were also sealed and marked;
- Samples were trucked by Messina personnel to Eastern Analytical in Springdale, Newfoundland;
- All drill core was securely stored at Messina's office in Buchan's Junction. Prior to 2005, drill core had been stored in the Newfoundland Department of Mines and Energy Buchans secure core storage building; and
- Core boxes were well marked with aluminum labels showing borehole number, drilled distance and box number.

10.7 SRK Comments

Drilling procedures undertaken by Messina for the Long Lake project drilling, core handling, logging and database inputs are have been undertaken using procedures that meet industry standard practice. While procedures used by previous operations are not documented or not known, SRK believes that it is reasonable to assume that this work has been undertaken using appropriate procedures and protocols.

SRK considers that the exploration data collected by Messina and previous project operators of sufficient quality to support mineral resource evaluation

11 Sample Preparation, Analyses, and Security

11.1 Sample Preparation and Analyses

11.1.1 Noranda

Eastern Analytical personnel crushed the mineralized samples and prepared a250-gram pulps. Pulps were then shipped to the private Noranda laboratory located in Bathurst, New Brunswick, which also served as the grade-control lab for the Brunswick 12 mine. The Bathurst laboratory analyzed for copper, lead, zinc, and silver. In the majority of samples gold was also determined. Sample preparation and analytical procedures used by Noranda were not available for review by SRK.

11.1.2 Island Arc

Eastern Analytical completed sample preparation and zinc, copper, lead, silver and gold analysis for Island Arc. Details of procedures used by Eastern Analytical were not reviewed by SRK but are reported to be similar to procedures used for Messina samples.

11.1.3 Messina

Eastern Analytical

Eastern Analytical is not accredited by the Standards Council of Canada under ISO 1705:2005. The following sample preparation and analytical procedures were used by Eastern Analytical for all Messina core samples (Graham Smith, Chief Lab Technician, Eastern Analytical Ltd., pers. comm. 2011):

- Once samples were received by Eastern Analytical, they were sorted by sample number to ensure no samples were missing. Eastern Analytical personnel opened each sample bag and placed the entire core sample, along with a labelled envelope, in a separate clean aluminum tray for drying, usually in a low heat environment (approximately 100 °C) for eight to 12 hours;
- When dried, the entire sample was crushed in a Rhino jaw crusher to approximately 75 percent passing -10 mesh, all of which is riffled through a Jones-type splitter; 25 percent of this (approximately 250 to 300 grams) was collected for pulverizing and the remaining 75 percent of the -10 mesh sample was saved in the original sample bag as the ‘coarse reject’ portion. The original sample tags were placed back into this bag;
- The sample portion set aside for pulverising was fully pulverized in a ring mill to 98 percent passing -150 mesh. This pulp, usually around 200 to 300 grams, was then rolled and mixed by hand for 30 seconds on a piece of kraft paper;
- Once rolled, the pulp was put in a labelled kraft envelope; and
- The ring pulverizers and jaw crushers were cleaned with silica sand when changing clients. The sample prep technician also inspected the rings and bowls after each sample and silica sand was used to clean equipment as needed.

The following assay procedures were used for copper, lead, zinc, silver and gold analysis:

- For the base metals, a 0.20-gram sample was digested in a beaker with 10 millilitres of nitric acid and 5 millilitres of hydrochloric acid for 45 minutes. Samples were transferred to 100-millilitre volumetric flasks and then analyzed on a Varian AA (atomic absorption spectro-photometer). The lower detection limit was 0.01 percent for all base metals;
- For silver, a 1,000-milligram sample was digested in a 500-millilitre beaker with 10 millilitres of hydrochloric acid and 10 millilitres of nitric acid with the cover left on for one hour. The cover was removed and the liquid allowed evaporating to a moist paste. Twenty-five millilitres of hydrochloric acid and 25 millilitres of deionized water were added, the beaker was heated gently and swirled to dissolve all remaining solids. Samples were cooled, transferred to 100-millilitre volumetric flasks and analyzed on the AA. The lower detection limit was 0.34 ppm (0.01 ounces of silver per tonne);
- Gold was determined in every sample by the fire assay technique. The sample was weighed (15 or 30 grams) into an earthen crucible containing lead oxide fluxes and then mixed. Silver nitrate was then added and the sample was fused in a fire assay oven to obtain a liquid, which was poured into a mold and allowed to cool. The lead button was then separated from the slag and cupelled in the fire assay oven. This obtained a silver bead that contained the gold. The silver was removed with nitric acid and then hydrochloric acid was added. After cooling, deionized water was added to bring the sample up to a pre-set volume. The sample was then analyzed by AA;
- Eastern Analytical used government certified standards made by the Canada Centre for Mineral and Energy Technology (CANMET). Duplicates, blanks, internal standards and CANMET standards were inserted between every 40 samples to maintain quality control;
- No other independent commercial rock standards or blanks were used by Messina during the Long Lake drill programs;
- Random customer sample-pulps were selected at the end of each day and analyzed the following day to check data accuracy. A number of customer samples were sent periodically to another laboratory for quality control checks as well. At the end of each day, Eastern's recording technician and chief technician verified the results before the data was sent to clients;
- All analytical results were emailed from Eastern Analytical to Messina and the original signed analytical certificates are mailed to Messina's Vancouver office; and
- Pulps were stored at Eastern Analytical until collected by Messina and returned to the Buchans Junction field office.

ALS Canada

Messina submitted 21 pulp duplicates in May, 2011 as part of a remedial quality control procedure to ALS Canada Ltd. (ALS), which is located in North Vancouver, British Columbia. The laboratory is accredited by the Standards Council of Canada (SCC) under ISO 1705:2005 for the following analytical protocols undertaken for Messina:

- Au-AA23, gold fire assay, 30-gram sample weight, atomic absorption finish (AAS);
- ME-ICP41, analysis for zinc, lead, copper and silver, aqua regia digestion, inductively coupled plasma-atomic emission spectrometry (ICP-AES); and
- OG62, analysis for zinc, lead, copper and silver over 10,000 ppm, four acid digestion, ICP-AES and AAS finish.

11.2 Specific Gravity Data

There is no available information on specific gravity tests conducted by Noranda during exploration drilling.

During the 2004 to 2008 period, approximately 328 specific gravity measurements were made by Messina using a standard weight in air – weight in water technique. Messina reports that each measurement was comprised of the entire sampled interval. No specific gravity quality control measurements were collected by Messina. Detailed documentation of procedures used for measuring specific gravity was not available for review by SRK. SRK reviewed the specific gravity database and found at least one or two cases of probable errors in specific gravity determinations. Based on the absence of quality control data and documentation of procedures, and possible errors in the database, SRK is not clear on the reliability of the specific gravity data collected by Messina. Because of these concerns, SRK chose to use specific gravity determinations from core samples inspected by SRK during the site visit.

11.3 Quality Assurance and Quality Control Programs

Quality assurance and quality control programs are typically set in place to ensure the reliability and trustworthiness of exploration data. The programs include written field procedures and independent verifications of aspects such as drilling, surveying, sampling and assaying, data management and database integrity. Appropriate documentation of quality control measures and regular analysis of quality control data are important as a safeguard for project data and form the basis for the quality assurance program implemented during exploration.

Analytical control measures typically involve internal and external laboratory control measures implemented to monitor the precision and accuracy of the sampling, preparation and assaying. They are also important to prevent sample mix-up and monitor the voluntary or inadvertent contamination of samples. Assaying protocols typically involve regular duplicate and replicate assays and insertion of quality control samples. Check assaying is typically performed as an additional reliability test of assaying results. This typically involves re-assaying a set number of rejects and pulps at a secondary umpire laboratory.

Messina implemented a limited external analytical quality assurance and quality control programs at the Long Lake Project since 2004-2008. The analytical quality control program consisted of inserting certified reference material in the sample of split core that was sent to Eastern Analytical. Two certified reference materials were used by Messina:

- KC-1a prepared by CANMET of Natural Resources Canada; and
- Boom-1 commercially prepared by WCM Minerals (WCM Minerals), a division of WCM Sales Ltd. and based in Burnaby, British Columbia, for Messina.

The certified values for these standards are outlined in Table 5. Analytical quality control data for the two standards are summarized in Appendix B. Results for zinc, lead and gold are reasonable. The results of the certified standards indicate potential problems with silver and copper assays for both standards. The Boom-1 standard reference material show assays consistently two standard deviations below mean certified value for copper. Boom-1 and KC-1a assays for silver are consistently much higher than two standard deviations above the certified mean value for silver. These results must be interpreted in the context of possible problems with the certified reference material. The KC-1a standard is an obsolete standard that may have problems with reproducibility of reference values

because of oxidization of the material. Boom-1, although prepared commercially, may have inherent problems in the reproducibility of silver assays as it has not been tested over a long time period. The failures of copper and silver standards for the Messina drilling program are significant but not a conclusive indication that Eastern Analytical assays may not be accurate for copper and silver. This needs to be checked further by other quality control sampling.

As a remedial procedure, Messina submitted approximately 10 percent of pulp duplicates from the 2004-2008 drilling campaigns. The pulps prepared by Eastern Analytical were submitted to the ALS laboratory, located in North Vancouver, British Columbia. Quality control data for the pulp duplicates are summarized in Appendix B. ALS pulp duplicates correlated well with Eastern Analytical values for zinc, copper, lead and silver with correlation coefficients in the range of 95 percent. Similarly, there was a good correlation of ALS and Eastern Analytical gold assays with a correlation of about 96 percent. A significant dispersion of paired data is evident for zinc and gold data for the pulp duplicates. It is difficult to gauge the significance of this dispersion because of the limited number of data pairs in the quality control data. The dispersion of values is evident in scatter and Q-Q plots. Bias charts for pulp and field duplicates show good correlation with Eastern Analytical data.

No quality control protocols were undertaken for specific gravity determinations completed by Messina.

Table 5: Summary of Standard Referenced Material Used by Messina

Standard	Source	Rec. Value	STD / CI	Rec. Value	STD / CI	Rec. Value	STD / CI	Rec. Value	STD / CI	Rec. Value	STD / CI	No. of Samples
		Zn (%)		Pb (%)		Cu (%)		Ag (g/t)		Au (g/t)		
KC-1a	CANMET	34.65	0.15	2.24	0.03	0.629	0.015	0.167	0.002	-	-	7
Boom-1	WCM Minerals	7.12	0.283	4.45	0.097	0.43	0.012	130	3.546	1.85	0.065	6

11.4 SRK Comments

There is no available information on quality control protocols or results for historical work completed by Noranda and Island Arc from 1994 to 2000. Assay results have been assumed to be reasonable and appropriate for estimating resources.

Limited analytical quality control data collected by Messina during the 2004-2008 drilling campaigns indicate possible problems with copper and silver assays. However, remedial work undertaken in 2011, indicate a good correlation of pulp duplicates analysed by ALS and Eastern Analytical assays. SRK concludes that the Messina assay data is reasonable and appropriate for estimating resource to a moderate level of confidence.

SRK recommends that all future exploration programs should have a comprehensive set of quality control samples that include certified reference material to cover high, medium and low assay ranges for each metal assayed; pulp; coarse reject and field (core) duplicates; coarse and pulverized blanks; and umpire samples. Analytical quality control data should be submitted at a frequency of 20 to 40 percent. SRK also strongly suggests that assay work should be done only by laboratories that are ISO certified for the assays procedures undertaken. Assay results for the analytical quality control samples should be monitored during the drilling program so that re-assays of sample batches, if needed, can be undertaken during the drilling campaign. Specific gravity determinations should also have quality control samples, including reference material and umpire determinations.

12 Data Verification

12.1 Verifications by Messina

Messina geologists re-logged Noranda drill core data at the Buchans core storage facility in 2005 and 2007. Messina confirmed broad units described by Noranda and refined the Messina interpretation for the Main Zone through these re-logging programs. Messina updated their borehole database after the re-logging program was completed.

Standard checks based on Surpac software were undertaken by Messina to ensure that:

- Borehole data sets were not duplicated;
- No over lapping assay or lithological codes existed; and
- Borehole collars were located accurately.

Since 2004, all exploration drilling, data verification and quality control protocols have been undertaken by senior Messina personnel. Initially by Peter Tallman, P. Geo. and from 2005 to 2008, principally by Kerry Sparkes, P. Geo. and also Gerry Squires, P. Geo.

12.2 Verifications by SRK

12.2.1 Site Visit

In accordance with National Instrument 43-101 guidelines, Sébastien B. Bernier, P.Geo., visited the Long Lake Project from May 9 to May 12, 2011 accompanied by Alexandria Marcotte, Project Geologist for Messina. The purpose of the site visit was to inspect the property, review the borehole database, validation procedures, exploration procedures; define geological modelling procedures; examine drill core, audit project technical data; interview project personnel; and collect all relevant information for the preparation of a mineral resource model, and the compilation of a technical report. Particular attention was given to the treatment and validation of historical drilling data.

SRK focused on understanding the geological mineralization, host rock and the variability of the mineralization style of the Long Lake Project. Three typical intersections were examined in detail:

- LL-07-16 from 150 to 162 metres;
- LL-07-17 from 67 to 72 metres; and
- LL-07-22 from 222 to 230 metres.

Based on examined boreholes, core recovery appears to be good. No major faulting or off sets of mineralization were observed or are expected for this deposit. Historical Noranda boreholes were not available for examination. In discussions with Messina staff and a review of drill core intersections in section and plan views, SRK concludes that drill core sampling and logging procedures are appropriate for resource estimation. During the site visit, SRK collected 15 core samples for independent verification assaying.

SRK compared 15 percent of the Messina borehole database used for estimating resources with copies of the original hardcopy assay certificates from the Eastern Analytical laboratory. SRK found no errors in the data checked.

12.2.2 Verifications of Analytical Quality Control Data

No quality control core or samples for historical drilling by Noranda and Island Arc were available for review. SRK assumes that assaying conducted by these companies was reasonable and that assays are reliable and appropriate for the use to estimate resources.

Messina analytical quality control data was quite limited in the period from 2004 to 2008. This was augmented by the submission of 21 pulp duplicate samples to ALS in 2011 (Table 6).

Table 6: Summary of Analytical Quality Control Data Produced By Messina for the Main Zone, Long Lake Project

Sampling Program 2011	NQ Core	(%)	Comment
Sample Count	270		
Field Blanks	0	0	
CRM Samples	13	4.8	
KC-1a	7		CANMET (34.65% Zn; 2.24% Pb; 0.629% Cu; 0.167% Ag)
Boom-1	6		WCM Minerals (7.12 % Zn, 4.45 % Pb, 0.43 % Cu, 130 g/t Ag, 1.85 g/t Au)
Field Duplicates	0	0.0	
Preparation Duplicates	0	0	
Pulp Duplicates	21	7.8	
Total QC Samples	**34**	**12.6**	
Check Assay to Umpire Laboratory	0	0	

12.2.3 Independent Verification Sampling

As part of the verification procedures, SRK collected 15 verification samples during the site visit. These samples replicate Messina sample intervals from the 2004 – 2008 drilling campaigns. The verification samples were sent to AGAT Laboratories Ltd., based in Sudbury, Ontario, incorporating blank and certified reference material quality control samples. AGAT is accredited under ISO/EIC Guideline 17025:2005 for the following AGAT procedures codes used in the analysis of the samples:

- 202055, gold fire assay, 30-gram sample weight, ICP-OES finish, includes platinum and palladium analysis;
- 202066, silver fire assay, gravimetric finish;
- 201070, analysis for zinc, lead, copper and silver, four acid digestion, ICP-OES, for over assays 201079, sodium peroxide fusion, ICP-OES finish; and
- 201049, determination of specific gravity from sample pulp using pycnometer.

Assay certificates for SRK core samples are in Appendix C. The samples collected by SRK represent approximately 5 percent of the Main Zone assay database. SRK considers the analysis of these samples as additional, but limited, quality control check of Main Zone assays. The results between a comparison of SRK field duplicates and Messina assays are summarized in Appendix D. Sample assay data for zinc, lead, copper, and silver have a correlation coefficient from 0.99 to 0.95 with Eastern Analytical assays. Gold assays show a slightly lower correlation of 0.85. SRK considers the results of the field duplicate assay checks as an indicator that assays from Eastern Analytical are not biased and are suitable for the estimation of mineral resources.

13 Mineral Processing and Metallurgical Testing

No mineral processing or metallurgical testing has been undertaken on any of the mineral zones or deposits on the Long Lake Project.

14 Mineral Resource Estimate

14.1 Introduction

The Mineral Resource Statement presented herein represents the first mineral resource evaluation prepared for the Long Lake Main Zone in accordance with the Canadian Securities Administrators' National Instrument 43-101. The resource estimation work was completed by G. David Keller, P.Geo., (APGO#1235) and Sébastien B. Bernier, P.Geo., (APGO# 1847, PEGNL #05958), both appropriate independent Qualified Person as this term is defined in National Instrument 43-101. The effective date of the resource statement is March 13, 2012.

This section describes the resource estimation methodology and summarizes the key assumptions considered by SRK. In the opinion of SRK, the resource evaluation reported herein is a reasonable representation of the zinc, copper, lead, silver and gold mineral resources found in the Main Zone deposit at the current level of sampling. The mineral resources have been estimated in conformity with generally accepted CIM *Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines* and are reported in accordance with the Canadian Securities Administrators' National Instrument 43-101. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted into mineral reserves.

The database used to estimate the Main Zone deposit mineral resources was audited by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries for polymetallic mineralization and that the assay data are sufficiently reliable to support mineral resource estimation. Datamine Studio 3 (Datamine) was used to build the three-dimensional geological wireframes, composite the assay intervals, construct the block model, estimate metal grades and tabulate mineral resource estimates. GSLib software was used for statistical and geostatistical analysis and variography.

14.2 Resource Estimation Procedures

The resource evaluation methodology involved the following procedures:

- Database compilation and verification;
- Construction of wireframe models for the boundaries of the Main Zone mineralization;
- Statistical analysis, compositing, capping, geostatistical analysis and variography;
- Block modelling and grade estimation;
- Resource classification and validation;
- Assessment of "reasonable prospects for economic extraction" and selection of appropriate cut-off grades; and
- Preparation of the Mineral Resource Statement.

14.3 Resource Database

The borehole database used to evaluate the mineral resources for the Main Zone of the Messina Long Lake Project was provided as CSV exports from the Messina Surpac database, containing all information for 34 diamond drill boreholes, which comprised of approximately 270 sampled

intervals assayed for zinc, copper, lead, silver and gold. Each borehole was coded by lithology codes developed by Messina. The borehole data provided by Messina was validated by:

- Reviewing collar and down hole survey data;
- Checking the minimum and maximum values for each field in the borehole database and
- Confirming those values outside of expected values;
- Checking for gaps, overlaps and out of sequence intervals; and
- Generating boreholes in Datamine and then reviewing boreholes on a section by section basis to ensure that mineralization and alteration are consistent with drilling.

SRK decided that the most reliable data to base specific gravity determination for the deposit are specific gravity measurements from the 15 drill core samples collected by SRK. After reviewing the digital data for the Main Zone, SRK is of the opinion that the borehole database for the project is sufficiently reliable to interpret with confidence the boundaries of the polymetallic mineralization and that assay data are sufficiently reliable to support resource estimation.

14.4 Interpretation and Modelling

The boundaries for zinc, copper, lead, and silver mineralization were modelled by SRK using gross metal values (GMV) for each assayed interval. GMVs were calculated using an aggregate metal value for each sampled assay and metal price assumptions of US$1.00 per pound (/lb) for zinc, US$4.00/lb for copper, US$1.20/lb for lead and US$40.00 per troy ounce for silver. As mineralized interval boundaries are gradational in this deposit, SRK defined the mineralization envelope by modelling hanging wall and footwall wireframe surfaces using a GMV of approximately US$200. Both contacts are relatively sharp and moderately sensitive to variations in GMV. All wireframes were snapped to borehole intervals. Footwall and hanging wall wireframes were combined to form a mineralization envelope for the Main Zone. The wireframe solid strikes at about 050^{o} and dips approximately 85^{o} to the northwest. The wireframe extends from a depth of 50 to 300 metres below surface and extends for about 200 metres along strike.

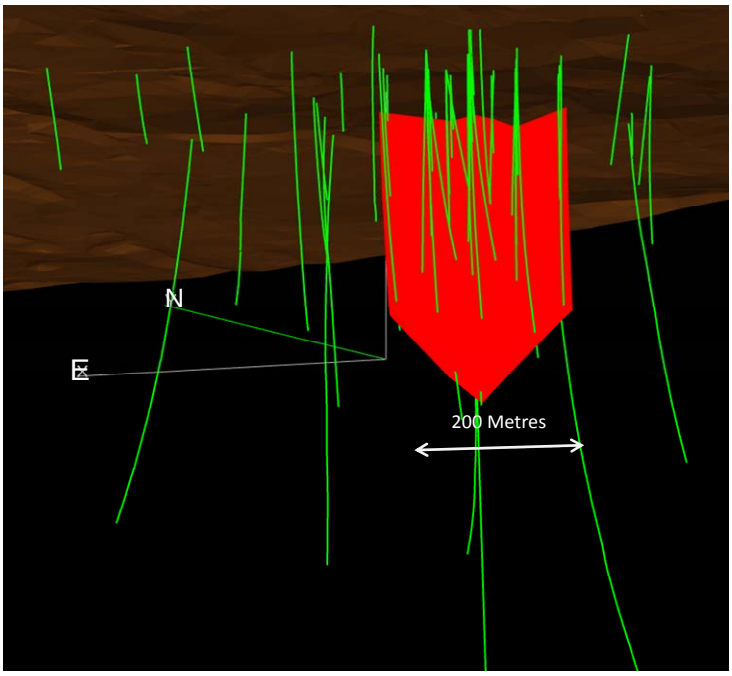


Figure 11: Main Zone Long Lake Project Wireframe Mineralization Envelope and Boreholes (looking up and southwest). Red=Main Zone, Brown=Topography

14.5 Specific Gravity

Specific gravity for the deposit is based on the average of measurements from 15 field duplicates collected by SRK. Specific gravity measurements were made on homogenized sample pulp material using a pycnometer. This methodology provides a good estimate of the average sample specific gravity for the entire sampled length. The average of the 15 measurements is 3.38.

14.6 Compositing

Assays must have common support for statistical analysis, variography and estimation. The compositing length for the Main Zone is based on sample length histogram for sampled intervals within the Main Zone wireframe.

A composite length of 1.0 metre was chosen, as about 90 percent of sample intervals are less than or equal to 1.0 metre. To provide common support, all assay intervals within the Main Zone wireframe were composited to an approximate length of 1.0 metre using a Datamine process (MODE=1).

A plot of sample length frequencies is provided in Figure 12.

Summary statistics for composited data are provided in Figure 13. Detailed statistics for assays and composites are provided in Appendix E. Specific gravity was not composited. Statistics for sample length weighted specific gravity data are summarized in Figure 13.

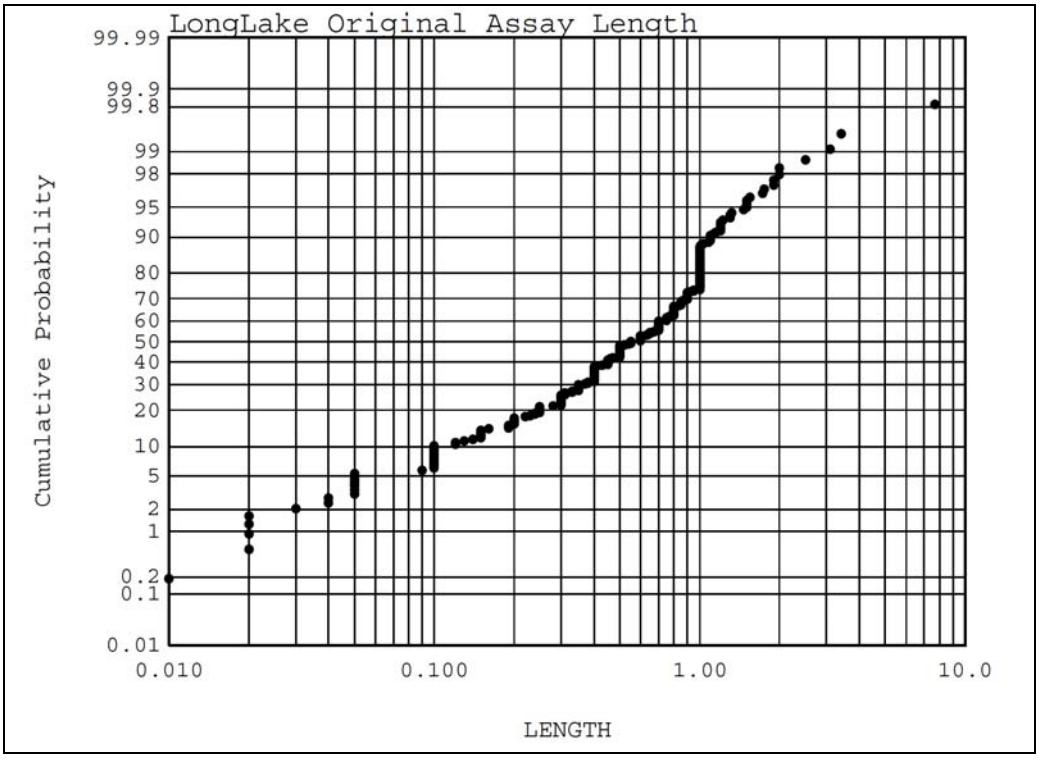
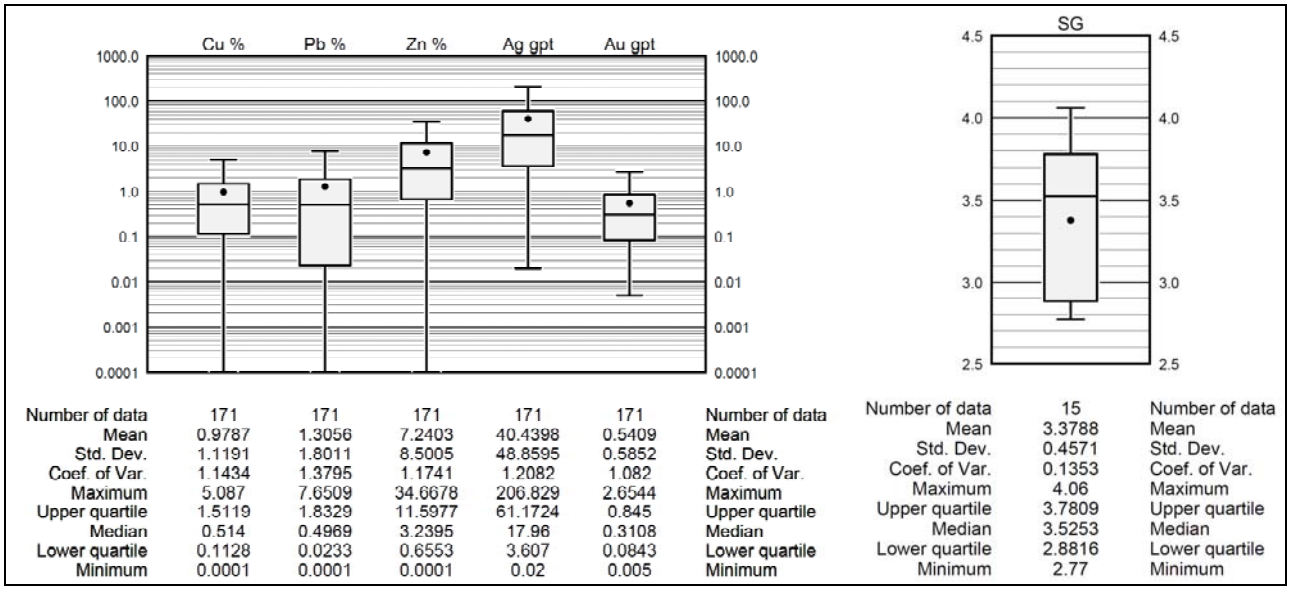


Figure 12: Assay Sample Length Distribution for the Main Zone



	Cu %	Pb %	Zn %	Ag gpt	Au gpt	
Number of data	171	171	171	171	171	Number of data
Mean	0.9787	1.3056	7.2403	40.4398	0.5409	Mean
Std. Dev.	1.1191	1.8011	8.5005	48.8595	0.5852	Std. Dev.
Coef. of Var.	1.1434	1.3795	1.1741	1.2082	1.082	Coef. of Var.
Maximum	5.087	7.6509	34.6678	206.829	2.6544	Maximum
Upper quartile	1.5119	1.8329	11.5977	61.1724	0.845	Upper quartile
Median	0.514	0.4969	3.2395	17.96	0.3108	Median
Lower quartile	0.1128	0.0233	0.6553	3.607	0.0843	Lower quartile
Minimum	0.0001	0.0001	0.0001	0.02	0.005	Minimum

	SG	
Number of data	15	Number of data
Mean	3.3788	Mean
Std. Dev.	0.4571	Std. Dev.
Coef. of Var.	0.1353	Coef. of Var.
Maximum	4.06	Maximum
Upper quartile	3.7809	Upper quartile
Median	3.5253	Median
Lower quartile	2.8816	Lower quartile
Minimum	2.77	Minimum

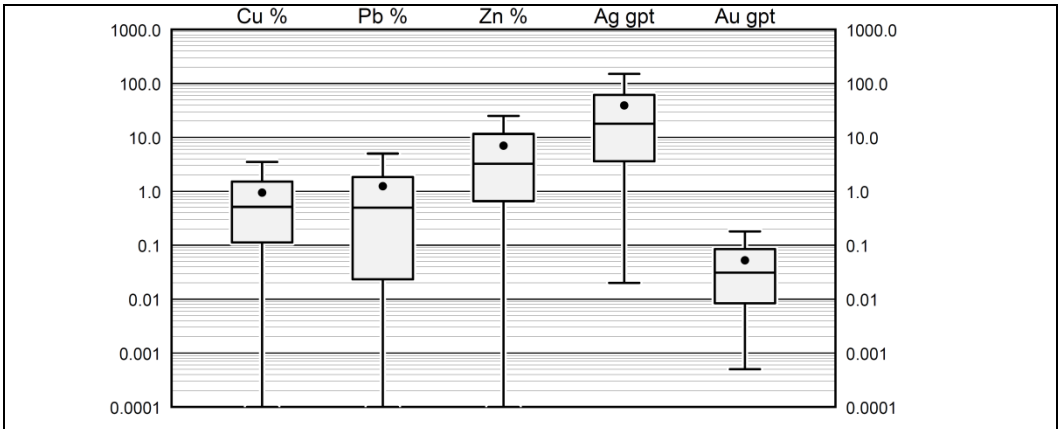
Figure 13: Summary Statistics for Main Zone Assay Composites (left) and Specific Gravity (right)

14.7 Capping

SRK evaluated the impact of zinc, copper, lead, silver, and gold composite outliers for the Main Zone, using cumulative probability plots, histograms, plots of progressive capping and changes in average grade, and by examining the spatial distribution of high grades with respect to other boreholes and adjacent composites. SRK determined that capping is needed to limit the influence of high grade composites. Capping values applied to the borehole database are summarized in Table 7. A summary of statistics for the capped composites is provided in Figure 14.

Table 7: Composite Capping Values for Main Zone

Metal	Unit	Main Zone		
		Capping Value	No. of Capped	Percentile Equivalent
Cu	%	3.50	7	97%
Pb	%	5.00	11	95%
Zn	%	25.00	9	97%
Ag	gpt	150.00	7	96%
Au	gpt	1.80	7	96%



	Cu %	Pb %	Zn %	Ag gpt	Au gpt	
Number of data	171	171	171	171	171	Number of data
Mean	0.9462	1.2404	7.0017	39.222	0.0524	Mean
Std. Dev.	1.0257	1.6252	7.8626	45.5049	0.0538	Std. Dev.
Coef. of Var.	1.0841	1.3102	1.123	1.1602	1.028	Coef. of Var.
Maximum	3.5	5.0	25.0	150.0	0.18	Maximum
Upper quartile	1.5119	1.8329	11.5977	61.1724	0.0845	Upper quartile
Median	0.514	0.4969	3.2395	17.96	0.0311	Median
Lower quartile	0.1128	0.0233	0.6553	3.607	0.0084	Lower quartile
Minimum	0.0001	0.0001	0.0001	0.02	0.0005	Minimum

Figure 14: Summary Statistics for Capped Composite Data for Main Zone

14.8 Variography

SRK examined four different spatial metrics for the purpose of quantifying spatial continuity:

- Traditional variogram;
- Correlogram;
- Normal scores variogram; and
- Normal scores correlogram.

SRK calculated and modelled the variograms using capped composite data. In general, the correlogram and normal scores transform facilitate the identification of spatial structure in the composite data, particularly when the traditional variogram shows little continuity.

Variogram modelling was performed by assessing the structures apparent from these different spatial measures, and fitting the most reliable measure. Whenever possible, the traditional variogram is the preferred measure to fit a model; however, the correlogram and/or normal scores variogram are often fitted due to the noise apparent in the traditional variogram.

Variogram models were developed for each metal in the Main Zone. All modelled variograms are orientated parallel to the general strike and dip-direction of the Main Zone. Variogram models determined for this project are provided in Appendix F.

A summary of variogram model parameters are presented in Table 8.

Table 8: Summary of Variogram Model Parameters

Variable	C_O	Structure	Type	CC	Rx*	Ry*	Rz*	Angle 1†	Angle 2†
Cu	0.30	1	Exponential	0.55	50	50	5.0	160	80
		2	Spherical	0.15	150	50	5.0		
Pb	0.30	1	Exponential	0.45	20	20	7.0	160	80
		2	Spherical	0.25	60	60	7.0		
Zn	0.30	1	Exponential	0.15	20	20	4.5	160	80
		2	Spherical	0.55	110	60	4.5		
Ag	0.30	1	Exponential	0.25	25	25	4.5	160	80
		2	Spherical	0.45	45	45	6.0		
Au	0.30	1	Exponential	0.25	40	40	10.0	160	80
		2	Spherical	0.45	100	40	10.0		

* Variogram direction ranges as define in by Datamine convention

† Datamine convention rotation angles, first angle rotation about Z axis, second rotation about Y axis

14.9 Block Model and Grade Estimation

14.9.1 Block Model Parameters

A rotated sub-blocked model was generated for the Main Zone using Datamine. The block model coordinates are based on the local UTM grid (NAD 83 datum, Zone 20). The parent block size is 10 by 10 by 10 metres. Sub-blocking was carried out to three levels in the X, Y and Z directions. The model is rotated using Datamine convention at 070 degrees and 85 degrees along the Z-axis and Y-axis respectively. The definition of the Main Zone block model is in Table 9.

Table 9: Main Zone Block Model Definition

	Block Size (m)	Origin (m)	No. Blocks	Rotation Point (m)
X	10	0	39	493,809
Y	10	0	25	5,368,482
Z	10	0	6	-59

14.9.2 Estimation

The block model was populated with five metal grades using ordinary kriging (OK) constrained by the mineralization wireframe. Three estimation runs were used for each metal. The first estimation run is based on a search ellipse with ranges equal to the largest variogram model structure. The second run consists of a search ellipse equal to twice the variogram ranges. For the third estimation run, the search ellipse is three times the variogram range. The bulk of blocks are estimated by the first run. Second and third estimation runs are used to ensure that all blocks in the mineralization model are estimated. The material estimated by the second and third runs represents approximately 2 percent of total global tonnage.

The estimation parameters are summarized in Table 10. Only parent blocks were estimated. Sub-blocks were all assigned parent block values. For the entire Main Zone, an average specific gravity of 3.38 was assigned to each block in the model based on the mean of the pycnometer measurements taken from SRK samples.

Table 10: Summary of Estimation Parameters

Variable	Estimator	Estimation Run	Min	Max	Octant Search	SVx* (m)	SVy* (m)	SVz* (m)	Max Composites / Drill Hole
Cu	OK	1	6	12	No	150	50	10	5
		2	6	16	No	300	100	20	5
		3	3	16	No	450	150	30	5
Pb	OK	1	6	12	No	60	60	14	5
		2	6	16	No	120	120	28	5
		3	3	16	No	180	180	46	5
Zn	OK	1	6	12	No	110	60	9	5
		2	6	16	No	220	120	18	5
		3	3	16	No	330	180	27	5
Ag	OK	1	6	12	No	45	45	12	5
		2	6	16	No	90	90	24	5
		3	3	16	No	135	135	36	5
Au	OK	1	6	12	No	100	40	20	5
		2	6	16	No	200	80	40	5
		3	3	16	No	300	120	60	5

* Search range directions as defined by Datamine convention

14.10 Model Validation

Estimates were verified by conducting checks including visual examination of block grades to borehole composites, and comparing estimated grades at zero cut-off to nearest neighbour estimates, and declustered means for each zone. Comparisons of declustered data and block models are provided in Appendix G. All validation checks confirm that the block estimates are appropriate and reasonably reflect the underlying borehole sampling data.

14.11 Mineral Resource Classification

Block model quantities and grade estimates for the Main Zone Long Lake deposit were classified according to the CIM *Definition Standards for Mineral Resources and Mineral Reserves* (December 2005) by G. David Keller, P.Geo., (APGO #1235) and Sébastien B. Bernier, P.Geo., (APGO#1847, PEGNL #05958), both appropriate independent Qualified Persons for the purpose of National Instrument 43-101.

Industry best practices suggest that resource classification should consider the confidence in the geological continuity of the mineralized structures, the quality and quantity of exploration data supporting the estimates, and the geostatistical confidence in the tonnage and grade estimates. Appropriate classification criteria should aim at integrating these concepts to delineate regular areas at similar resource classification.

SRK is satisfied that the geological modelling honours the current geological information and knowledge. The location of the samples and the assay data are sufficiently reliable to support resource evaluation. The sampling information was acquired from core boreholes on sections spaced from 25 to 50 metres apart. The primary parameter used to classify the mineral resources for the Main Zone into Indicated and Inferred categories is the number of composites used to make a first run block estimate. SRK identified all first run blocks that were estimated with 12 composites. Since these blocks are not uniformly distributed in the block model, a wireframe was used to outline blocks

in the vicinity of these parameters to form one contiguous unit. Blocks within this wireframe were classified as Indicated as they represent block estimates made with a higher level of confidence. SRK has not considered classification of any material in the Main Zone as Measured as assay quality control procedures are limited, and there is little documentation of assay quality control procedures for historical data and therefore assay quality control does not support a high level of confidence.

All other blocks, mainly on the periphery of the zone, represent blocks that are estimated with a lower level of confidence and are therefore classified as Inferred.

14.12 Mineral Resource Statement

CIM *Definition Standards for Mineral Resources and Mineral Reserves* (December 2005) defines a mineral resource as:

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

The "reasonable prospects for economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds, and that the mineral resources are reported at an appropriate cut-off grade that takes into account extraction scenarios and processing recoveries. In order to meet this requirement, SRK considers that major portions of the Long Lake Main Zone are amenable for underground extraction. The block model quantities and grade estimates were therefore reviewed to determine the portions of the Main Zone deposit having "reasonable prospects for economic extraction" from an underground mine, based on parameters including:

- Metal prices of US$1.00/lb for zinc, US$4.00/lb for copper, US$1.20/lb for lead and US$40.00/troy ounce silver;
- Metallurgical recoveries of 80 percent zinc, 40 percent copper, 70 percent lead and 50 percent silver;
- Mining costs of US$60 per tonne; and
- Processing costs, general and administration costs of US$20 per tonne.

Based on those assumptions, SRK considers that classified resource blocks above a grade of 7.0 percent zinc equivalent show reasonable prospect for economic extraction from an underground mine, and therefore can be reported as a Mineral Resource. At this cut-off grade, the sulphide mineralization forms a contiguous minable shape.

Mineral Resources were estimated in conformity with CIM *Estimation of Mineral Resource and Mineral Reserve Best Practices Guidelines*. The resources may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent resource estimates. They may also be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic and other factors.

The Mineral Resource Statement presented in Table 11 was prepared by G. David Keller, P.Geo., (APGO#1235) and Sébastien B. Bernier, P.Geo., (APGO#1847, PEGNL #05958), both independent Qualified Persons as this term is defined in National Instrument 43-101. The effective date of the Mineral Resource Statement is March 13, 2012.

Table 11: Mineral Resource Statement* for the Main Zone of the Long Lake Polymetallic Project, Newfoundland and Labrador, SRK Consulting (Canada) Inc., March 13, 2012

Category	Quantity	Grade						Contained Metal				
	(tonnes)	Zn (%)	Pb (%)	Cu (%)	Ag (gpt)	Au (gpt)	ZnEq (%)	Zn (m lb.)	Pb (m lb.)	Cu (m lb.)	Ag (oz)	Au (oz)
Indicated	407,000	7.82	1.58	0.97	49	0.57	12.41	70.10	14.16	8.70	640,000	7,500
Inferred	78,000	5.77	1.24	0.70	34	0.48	9.15	9.94	2.14	1.21	80,000	1,200

* Mineral resources are not mineral reserves and do not have demonstrated economic viability. All figures have been rounded to reflect the relative accuracy of the estimates. Reported at a cut-off of 7.00 percent zinc equivalent based on an underground mining scenario, metallurgical recoveries of 80 percent zinc, 40 percent copper, 70 percent lead and 50 percent silver. Gold grades were not used in the metal equivalent calculation. Metal prices assumptions of US$1.00/pound for zinc, US$4.00/pound for copper, US$1.20 for lead and US$40.00/troy ounce silver.

The Main Zone block models for zinc, lead, copper and silver are shown in cross-sections for 9000 East in Figure 15 through Figure 18.

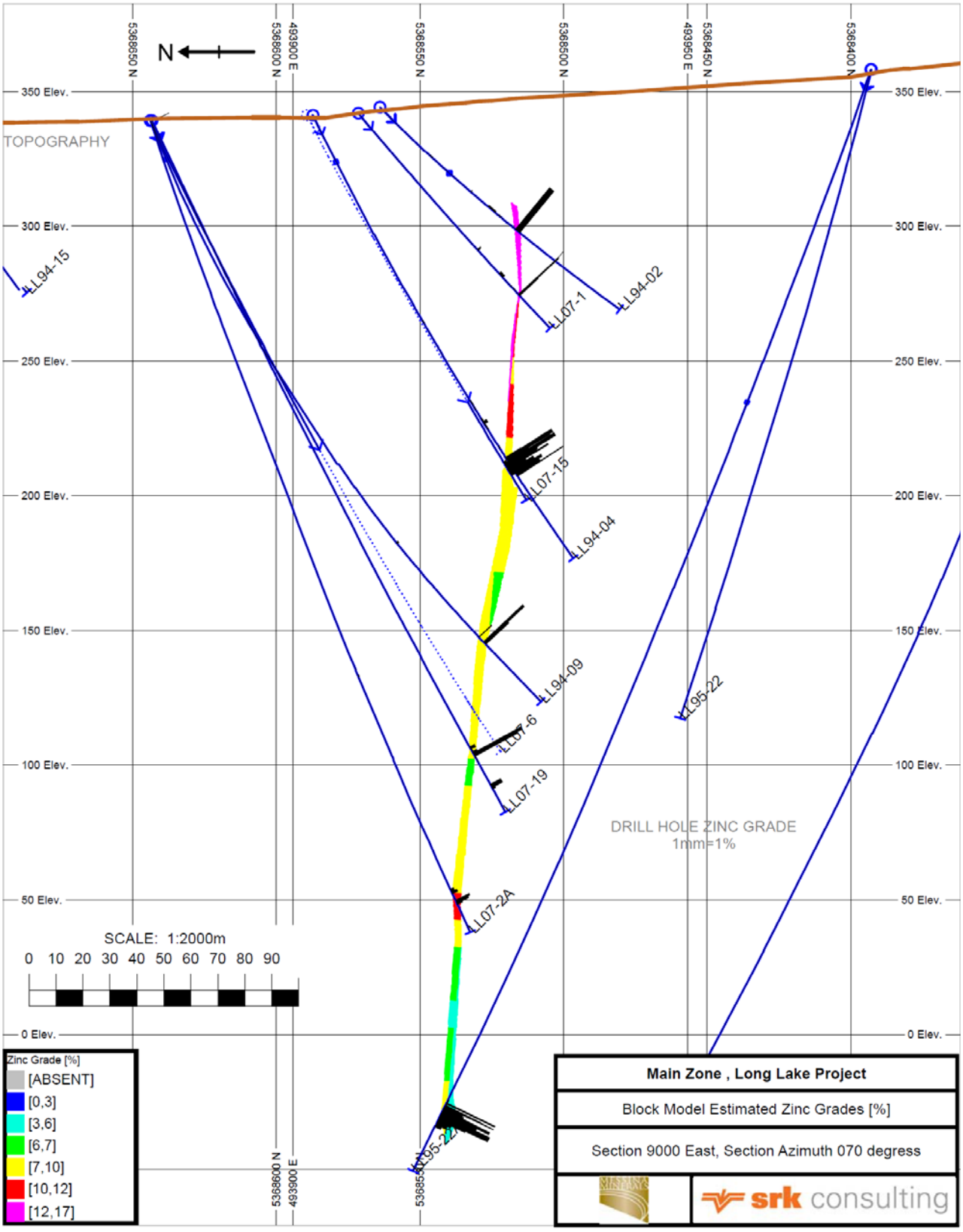


Figure 15: Zinc Grade Block Model Cross-Section, 9000 East

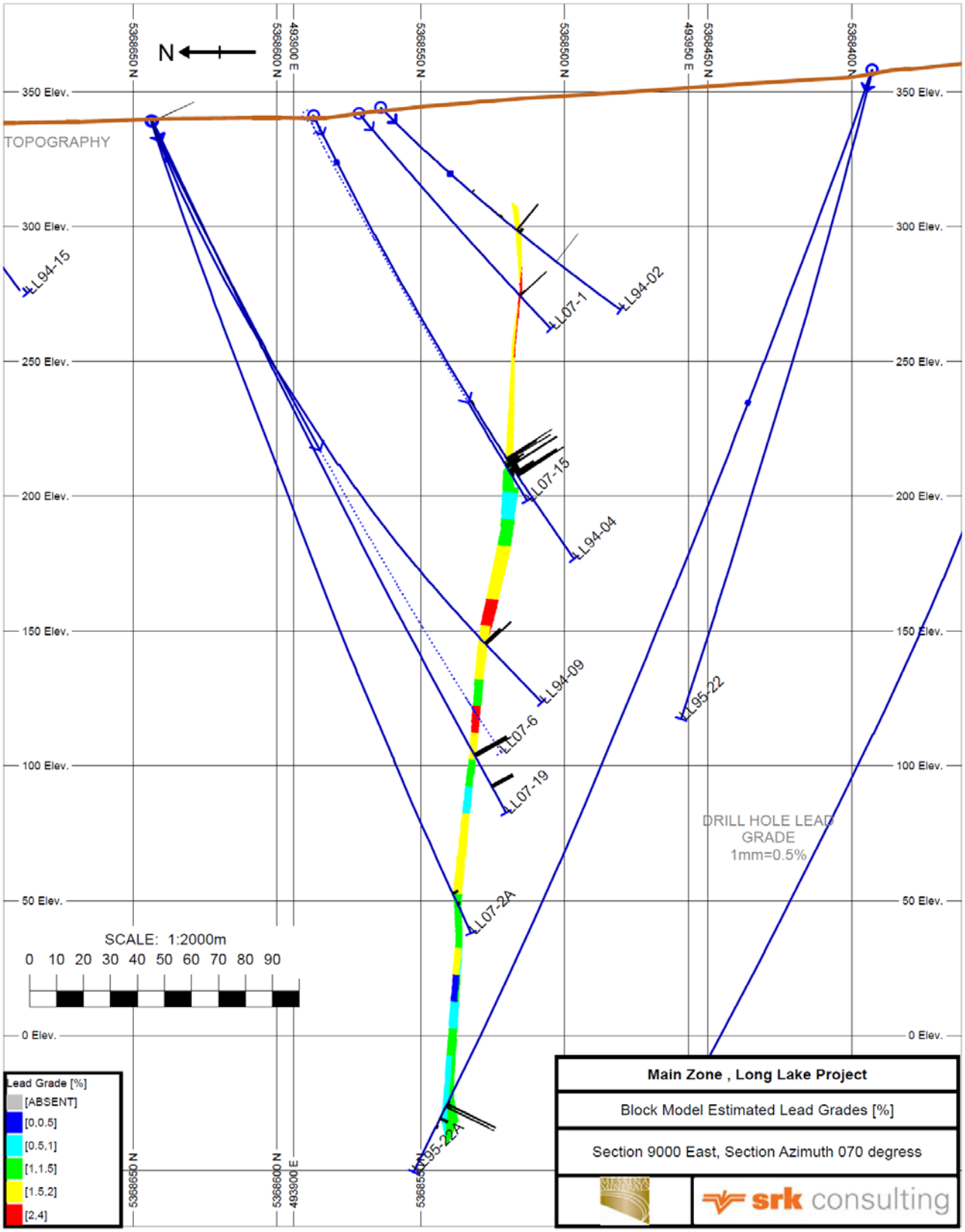


Figure 16: Lead Grade Block Model Cross-Section, 9000 East

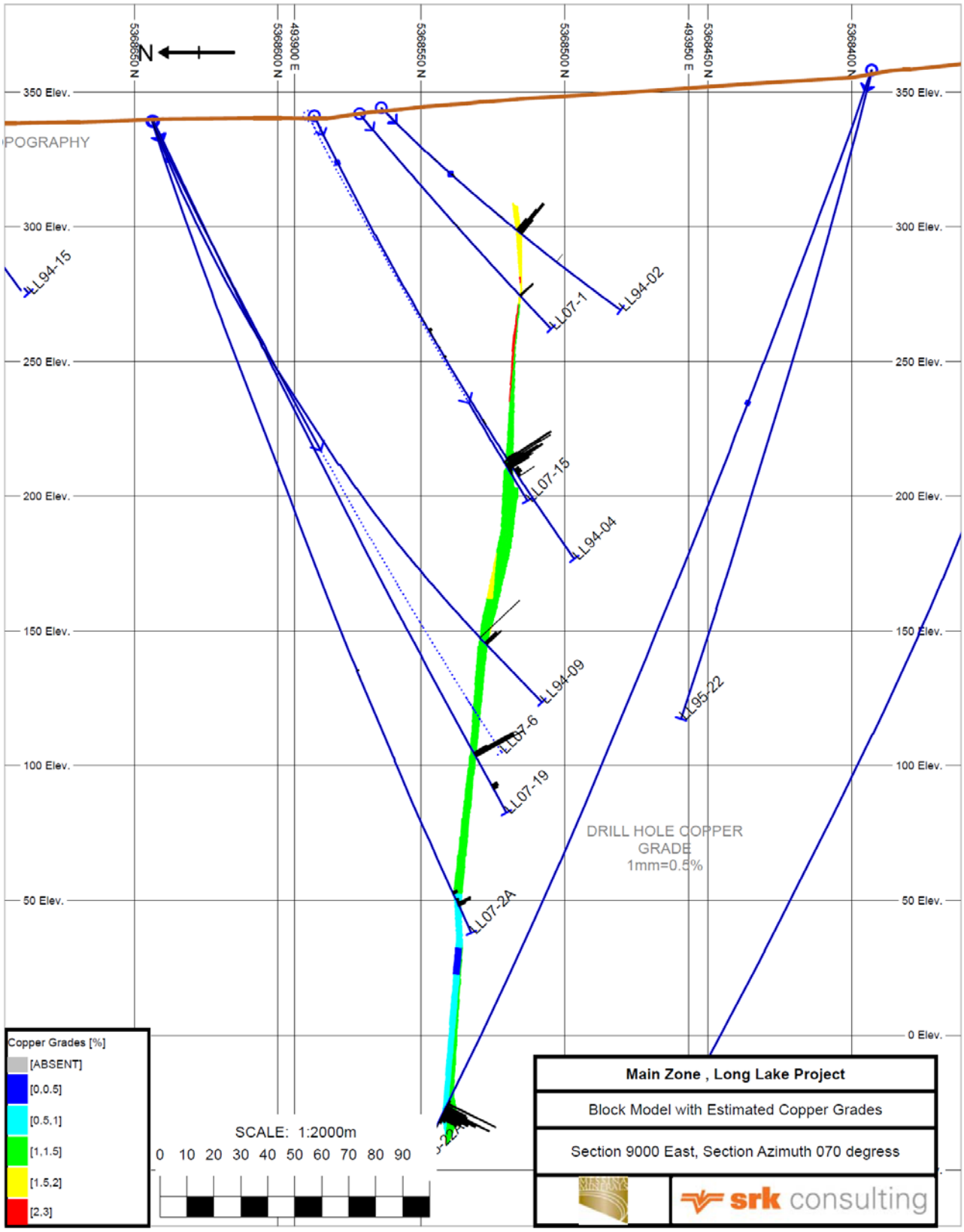


Figure 17: Copper Grade Block Model Cross-Section, 9000 East

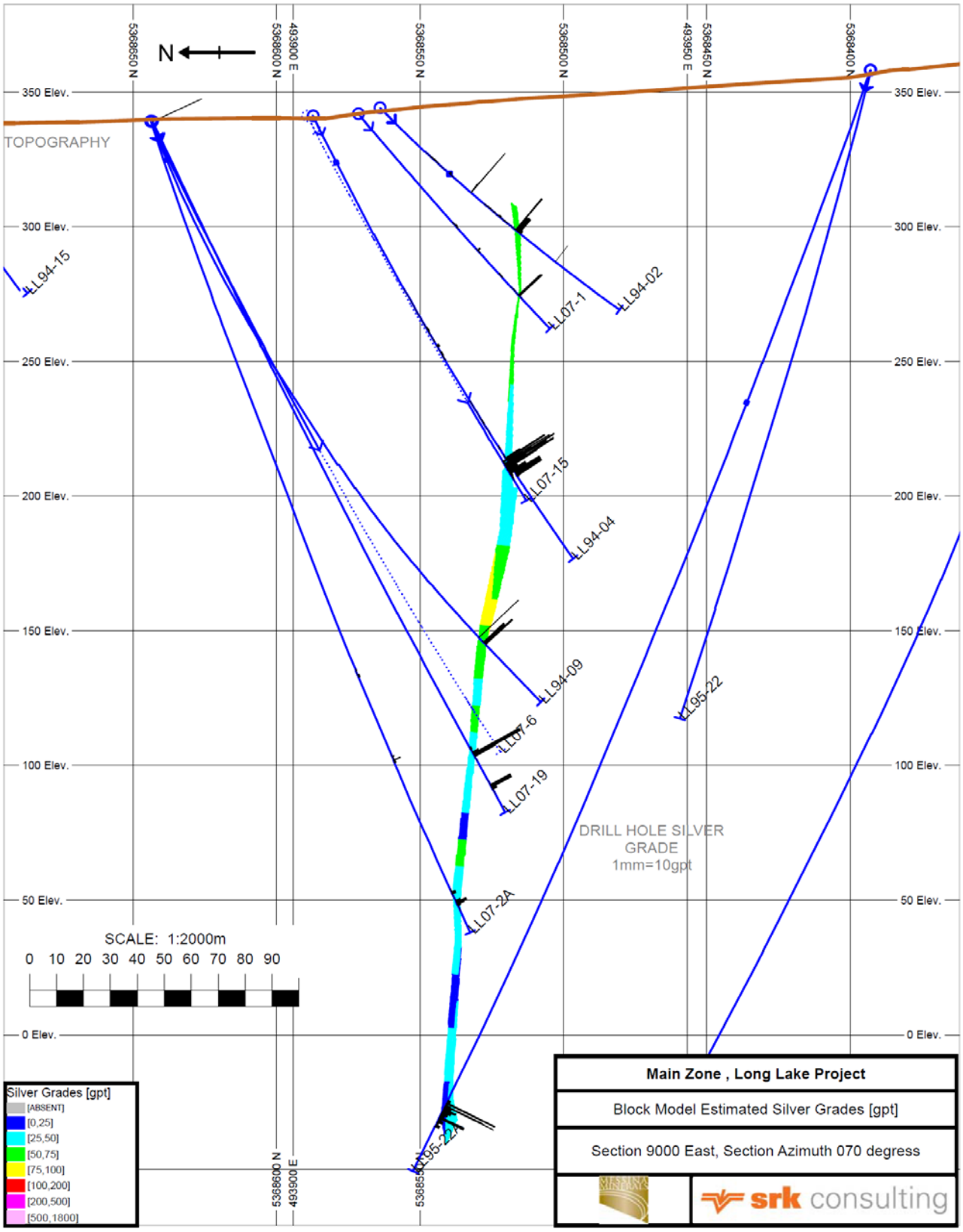


Figure 18: Silver Grade Block Model Cross-Section, 9000 East

15 Other Relevant Data and Information

There is no other relevant data and information about the Long Lake Main Zone deposit.

16 Interpretation and Conclusions

The exploration work by Messina was professionally managed and used procedures meeting generally accepted industry best practices. After review, SRK is of the opinion that the exploration data collected by Messina are sufficiently reliable to interpret with confidence the boundaries of the polymetallic sulphide mineralization for the Main Zone of the Long Lake Project. SRK also considers that the data provided by Messina and used in the evaluation and classification of mineral resources for the deposits were acquired in accordance with CIM's generally accepted *Estimation of Mineral Resource and Mineral Reserve Best Practices Guidelines* and *Definition Standards for Mineral Resources and Mineral Reserves*.

SRK has defined one tabular subvertical geological zone encompassing sulphide mineralization that strikes at about 050 degrees and dips approximately 85 degrees to the southwest. The sulphide mineralization extends from a depth of about 50 metres to 300 metres below surface, and extends for about 200 metres along strike. SRK has estimated copper, lead, zinc, silver, and gold grades into a block model using ordinary kriging and informed by capped composited data. An average specific gravity value of 3.38 was assigned to the block model and used to estimate block model mass or tonnage.

The Mineral Resource Statement for the Main Zone is reported at a cut-off grade of 7.0 percent zinc equivalent grade based on an underground exploitation scenario.

SRK draws the following conclusions from reviewing exploration data and resource evaluation work for the Long Lake, Main Zone deposit:

- Mineral resources can be expanded by exploring possible strike extensions of massive sulphide mineralization to the northwest and southeast;
- Additional massive sulphide zones adjacent to the Main Zone could also increase mineral resources on the property and exploration should be carried out parallel to the Main Zone to the northwest and southeast; and
- Continued exploration of other exploration targets, including the Luck Gnome and East zones, is warranted.

17 Recommendations

The exploration procedures and protocols used by Messina generally met industry best practices. However, SRK recommends strengthening of the assay quality control program with the use of control samples, including the use of certified reference material control samples that reflect the expected high-, medium- and low-grade ranges for zinc, copper, lead, silver and gold assays. The program should also include pulp and field duplicate assaying, and submission of a suite of pulp samples to an umpire laboratory for check assaying.

SRK also recommends that Messina considers submission of all exploration samples to an ISO accredited laboratory. Specific gravity should also be determined for all mineralized samples. Specific gravity can be measured in the field by exploration staff using a water immersion procedure, or alternatively be requested by the assay laboratory using either a water immersion methodology of by pycnometry.

SRK believes that there is an opportunity to expand the mineral resources by targeting the strike extension of the Main Zone and parallel stratigraphic horizons. Exploration and the delineation of the East and Lucky Gnome zones should also be considered.

SRK recommends the following exploration work should be undertaken:

- Ground magnetometer surveys to image the strike extension of the Main Zone and parallel structures containing pyrrhotite mineralization;
- Exploration drilling along 50-metre spaced lines to the northeast and southeast of the Main Zone. This will require approximately 30 core boreholes (2,500 metres) with a maximum depth of 350 metres;
- Geological mapping and ground magnetometer surveys along strike of the East and Lucky Gnome zones;
- Core drilling across the East and Lucky Gnome zones and other targets (2,500 metres);
- Core boreholes should be surveyed with down-hole electromagnetic surveys (e.g. Pulse EM) to increase the area covered by each hole and aid vectoring drilling to sulphide mineralization; and
- Preliminary metallurgical and mineralogy characterization test work.

The approximate cost of the recommended exploration program is estimated at C$1,8 million as detailed in Table 12.

Table 12: Estimated Costs for Recommended Exploration Program

Description	Cost (C$)
Diamond Drilling (5,000m)	$1,600,000
Detailed Magnetometer Surveys	$50,000
Assays and Other Analyses	$50,000
Preliminary Metallurgical Test Work	$15,000
Compilation	$55,000
Total	**$1,770,000**

18 References

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APPENDIX A

Impost Assessment (2011) and Legal Opinion

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Natural Resources
Department of Fisheries and Aquaculture

May 30, 2011

ASSESSMENT NOTICE
THE MINERAL HOLDINGS IMPOST ACT, M—14, RSN 1990

Name of Taxpayer: MESSINA MINERALS INC.

Address: Suite 2300, 1066 West Hastings Street
Vancouver, BC
V6F 3X2

Year Ended December 31, 2010

Mineral Impost payable as at March 31, 2011 on Mineral Holdings Reid Lot 228 & 229 Registry of Fee Simple Mining Grants.

Total Hectares Subject to Impost	11,293.90
Tax Thereon ($ 12.50 per ha x 11,293.90 ha)	$141,173.75
Total payable @ March 31, 2011	141,173.75
Less: Payments Received	0.00
Section 9 Expenditures	141,173.75
Total Balance Outstanding	**$ 0.00**

Duane Winsor
Assessor

6th Floor, Natural Resources Bldg., P.O. Box 8700, St. John's, NL, Canada A1B 4J6 t 709.729.0195 f 709.729.2092

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Natural Resources

Statement of Assessment
The Mineral Holdings Impost Act, M - 14, RSN 1990
Messina Minerals Inc.
As @ March 31, 2011

Reid Lot 228	7,284.95
Reid Lot 229	4,008.95

Section 9 Expenditures
Reid Lot 228

	Section 9 Expenditures	Impost Due 2006	Impost Due 2007	Impost Due 2008	Impost Due 2009	Impost Due 2010	Balance 31-Dec-10	Expiry Date
Expebditures from 2001	6,497.02	0.00	0.00	0.00	0.00	0.00	0.00	
Expebditures from 2003	33,412.51	0.00	0.00	0.00	0.00	0.00	0.00	
Expebditures from 2004	119,623.28	68,471.14	0.00	0.00	0.00	0.00	0.00	
Expebditures from 2005	330,652.71	22,590.53	91,061.67	91,061.67	91,061.67	34,877.17	0.00	
Expebditures from 2006	523,467.68	0.00	0.00	0.00	0.00	56,184.50	467,283.18	31-Dec-11
Expebditures from 2007	1,147,280.24	0.00	0.00	0.00	0.00	0.00	1,147,280.24	31-Dec-12
Expebditures from 2008	453,330.35	0.00	0.00	0.00	0.00	0.00	453,330.35	31-Dec-13
Total		**91,061.67**	**91,061.67**	**91,061.67**	**91,061.67**	**91,061.67**	**1,614,563.42**	

Section 9 Expenditures
Reid Lot 229

	Section 9 Expenditures	Impost Due 2006	Impost Due 2007	Impost Due 2008	Impost Due 2009	Impost Due 2010	Balance 31-Dec-10	Expiry Date
Expebditures from 2000	120,677.25	0.00	0.00	0.00	0.00	0.00	0.00	
Expebditures from 2004	112,630.33	50,111.88	32,860.06	0.00	0.00	0.00	0.00	
Expebditures from 2005	93,150.12	0.00	17,251.82	50,111.88	25,786.42	0.00	0.00	
Expebditures from 2007	1,073,280.37	0.00	0.00	0.00	24,316.46	52,111.88	1,021,168.49	31-Dec-12
Expebditures from 2008	383,473.81	0.00	0.00	0.00	0.00	0.00	383,473.81	31-Dec-13
Total		**50,111.88**	**50,111.88**	**50,111.88**	**52,111.88**	**54,121.88**	**1,021,168.49**	

Assessor

White Ottenheimer & Baker
BARRISTERS & SOLICITORS

Charles W. White, Q.C.
John A. Baker, Q.C.
Daniel W. Simmons
Robert J. Hickey
Geoffrey K. Penney
Kerry R. Hatfield
Wayne F. Spracklin, Q.C.
John L. Joy, Q.C.
William C. Boyd
Trudy L. Button
Neil F. Pittman
Raelene L. Lee
Robert B. Andrews, Q.C.*
Gregory W. Dickie
John W. Lavers*
Rosalie E. McGrath
Sheri H. Wicks
Mark R. Andrews

Hon. Gerald R. Ottenheimer, Q.C. (1934-1998) * Certificates in Mediation

September 29, 2005

Messina Minerals Inc.
2300-1066 West Hastings Street
Vancouver, British Columbia V6E 3X2

and

Pacific International Securities Inc.
19th Floor, Park Place
666 Burrard Street
Vancouver, British Columbia V6C 3N1

and

Dundee Securities Corporation
Suite 3424, Four Bentall Centre
1055 Dunsmuir Street
P.O. Box 49207
Vancouver, British Columbia V7X 1K8

Dear Sirs:

Re: Messina Minerals Inc. (the "Company") – Title Opinion

We have prepared a title opinion with respect to the following mineral rights (the "Licenses") at the Company's request.

We have reviewed the mineral rights reports (the "Reports") dated September 23, 2005 issued by the Newfoundland and Labrador Department of Natural Resources, Mineral Lands Division (the "Department") and confirm that, on the face of the records, the Licenses are presently registered in the names of the Company. We further confirm that as of the dates of our searches the Licenses are in good standing.

We have not attended to any search to verify encumbrances or security interests which may be recorded against the Licenses or any other property of the Company. We have also not attended to any search of the Register of Confidential Agreements to determine whether any Confidential

Baine Johnston Centre, 10 Fort William Place, P.O. Box 5457, St. John's, NL, A1C 5W4
Telephone (709) 722-7584 Facsimile (709) 722-9210
E-mail: wob@wob.nf.ca www.wob.nf.ca

-2-

Agreements have been registered which may affect the Licenses. Our opinion is limited to the face of the Reports issued by the Department.

The Licenses are more particularly described as follows:

License Number	Location	Renewal Date	Number of Claims
006549M	East Tulks Pond	2009/01/29	102
006550M	Victoria Lake	2009/01/29	72
006551M	Victoria Lake	2009/01/29	66
006552M	Victoria Lake	2009/01/29	74
006553M	Long Lake	2009/01/29	117
006554M	Long Lake	2009/01/29	16
006557M	Long Lake	2009/01/29	58
009786M	Costigan Lake	2008/12/01	50
009847M	Lloyds River	2009/01/15	79
009848M	Lloyds River	2009/01/15	20
009849M	Lloyds River	2009/01/15	1

Based and relying on the foregoing, and subject to the qualifications and limitations set forth herein, we are of the opinion that the Company is the registered owner of a 100% interest in all of the Licenses.

This opinion is subject to the following qualifications:

1. The continued validity of each of the Licenses is dependent upon compliance with all of the terms and conditions applicable to same, including all legislation of the Province of Newfoundland and Labrador applicable thereto.

2. No investigation has been made of the original applications for Licenses, the location of the boundaries of the claims comprising the Licenses, or the existence of any unregistered interest in the Licenses.

3. No searches were made with respect to tax assessed by applicable government authorities.

4. No examination of the ground was made to determine if the claims comprising the Licenses have been staked or that assessment work carried out thereon complies with the provisions of applicable statutes and regulations.

5. The lands in respect of which the Licenses have been issued may be subject to aboriginal claims.

-3-

6. We do not express any opinion with respect to the laws of any jurisdiction other than the Province of Newfoundland and Labrador and the laws of Canada applicable therein.

7. Our opinion is based on statutes, regulations, rulings and orders in effect on the date hereof.

This opinion is delivered exclusively for the use of the addressees and is not to be used or relied upon by third parties. It should not be relied upon for any purpose or in connection with any transaction other than as contemplated herein and this opinion may not be relied upon by any other party or be quoted in whole or in part without our prior written consent.

Yours very truly,

White, Ottenheimer & Baker

John A. Baker

JAB/lr

SEP-29-2005 THU 03:42 PM MINES & ENERGY FAX NO. 7097296782 P. 02/03

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Natural Resources
Mineral Lands Division

772:29:01
772:31:02

September 29, 2005

White, Ottenheimer & Baker
P.O. Box 5657
St. John's, NL
A1C 5W4

Attention: **Mr. John Baker**

Dear Mr. Baker:

This letter serves to confirm that as of September 29, 2005, a review of the Division's records shows that Reid Lot 228 and Reid Lot 229 on the attached map are held by Messina Minerals Inc.

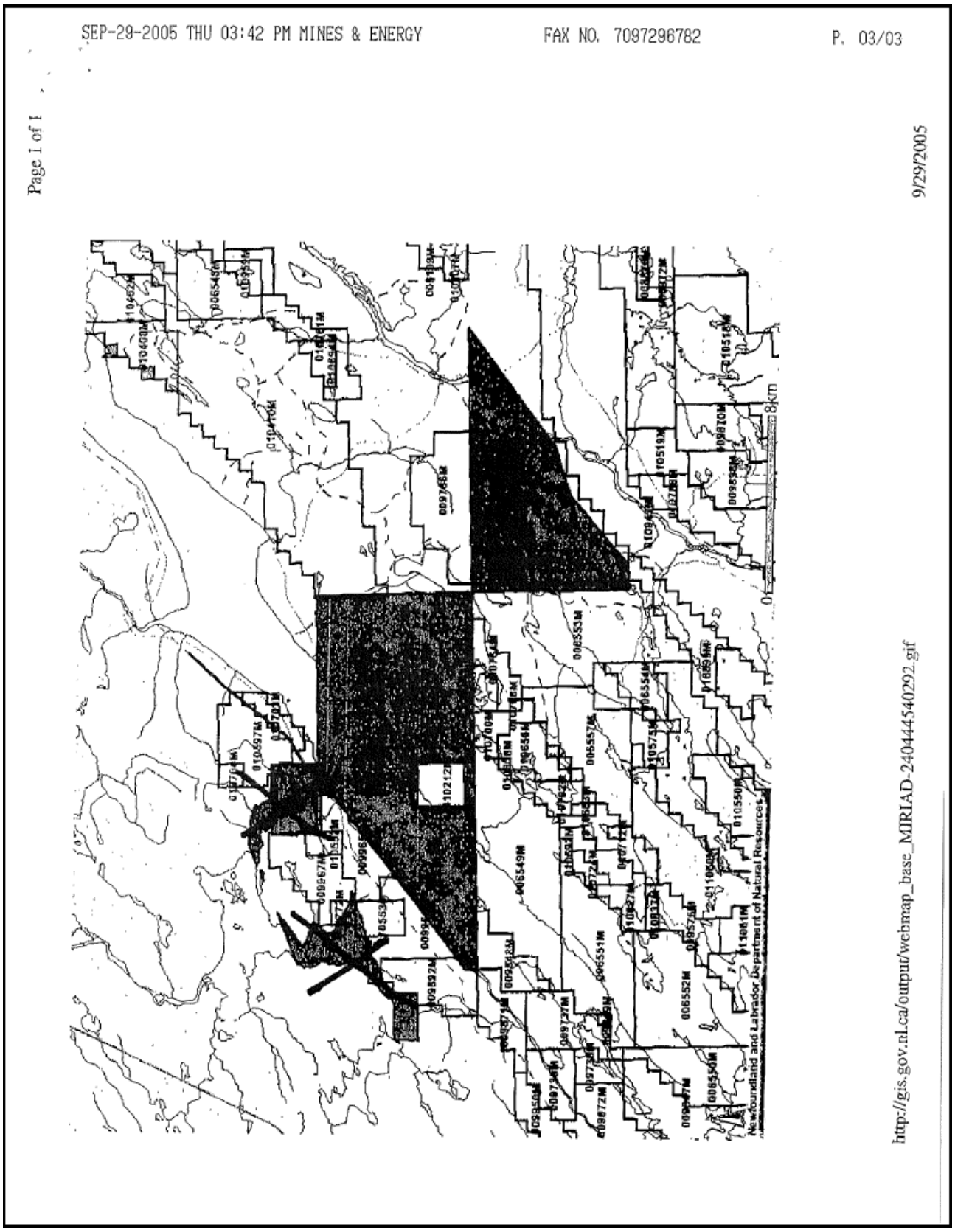
Yours sincerely,

Ges Nunn

Ges Nunn
Exploration Monitor

/amt

Natural Resources Building, 50 Elizabeth Avenue, P.O. Box 8700, St. John's, Newfoundland, Canada, A1B 4J6
Telephone (709)729-6447, Facsimile (709) 729-6782, www.gov.nl.ca/mines&en/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FAX NO. 7097296782
P. 03/03
Page 1 of 1
9/29/2005
8km
Newfoundland and Labrador Department of Natural Resources
http://gis.gov.nl.ca/output/webmap_base_MIRIAD-240444540292.gif

APPENDIX B

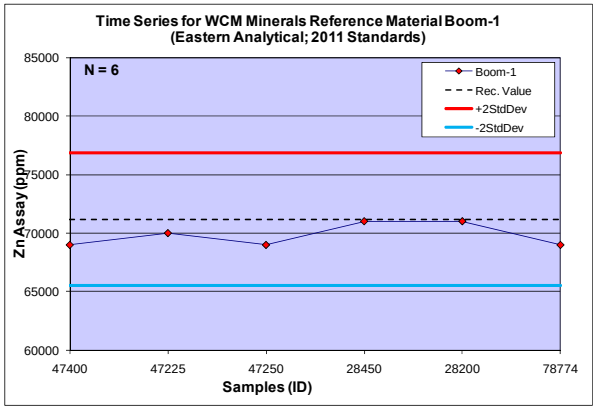
Analytical Quality Control Data and Relative Precision Charts

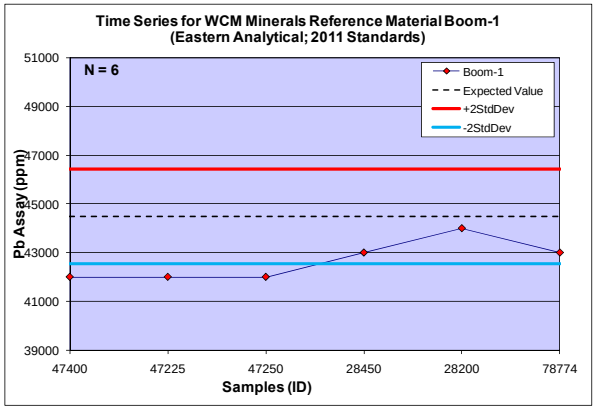
Time series plots for Certified Reference Material Assayed by Eastern Analytical Ltd.

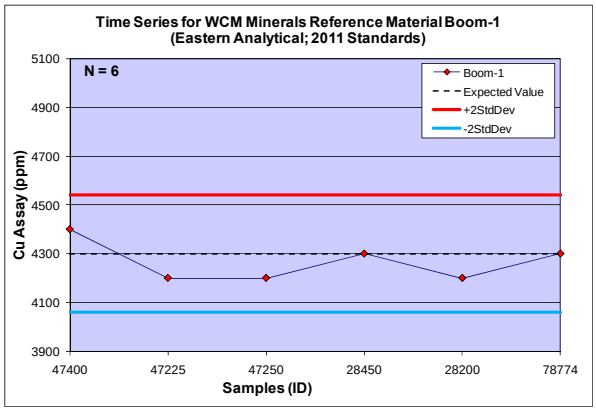
srk consulting

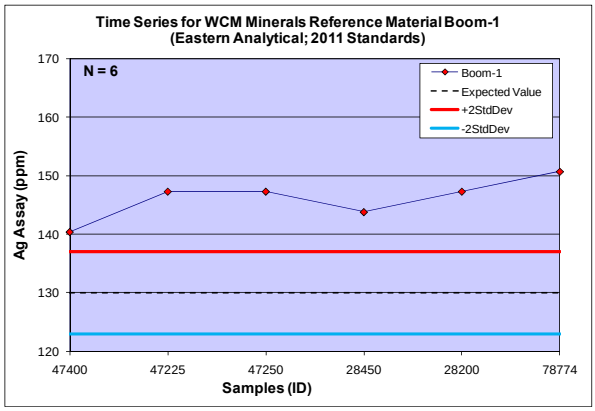
Project	Long Lake Polymetallic
Data Series	2011 WCM Minerals Boom-1 Standard
Data Type	Standards
Commodity	Zn, Pb, Cu, Ag and Au in ppm
Laboratory	Eastern Analytical (Not Certified)
Analytical Method	ICP AA (Zn, Pb, Cu, Ag) & FA AA (Au)
Detection Limit	2 ppm (Zn); 5 ppm (Pb); 1 ppm (Cu); 0.2 ppm (Ag); N/A (Au)

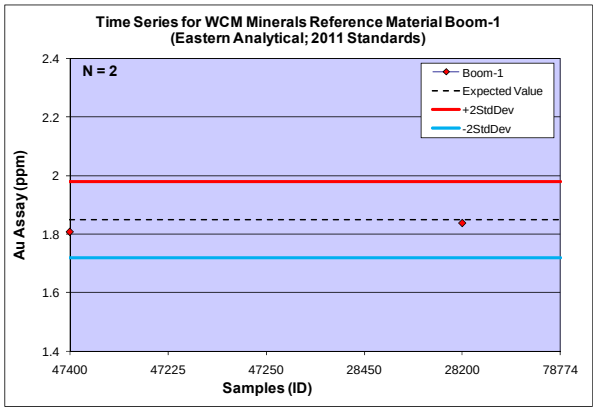
Statistics	Zn	Pb	Cu	Ag	Au
Sample Count	6	6	6	6	2
Rec. Value	71,200	44,500	4,300	130	1.85
Standard Deviation	2,830	970	120	3.546	0.065
Mean	69,833	42,667	4,267	146	1.82
Outside 2 StdDev	0%	50%	0%	100%	0%
Below 2 StdDev	0	3	0	0	0
Above 2 StdDev	0	0	0	6	0









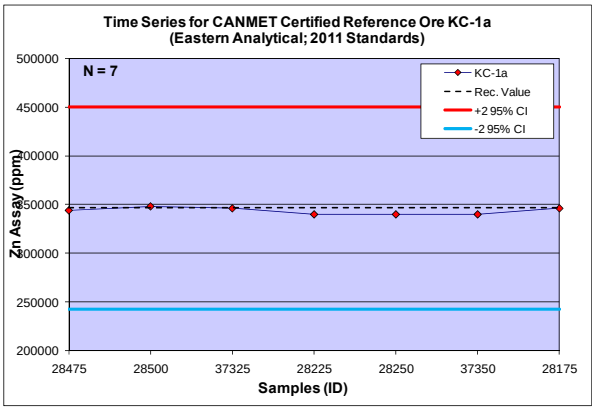


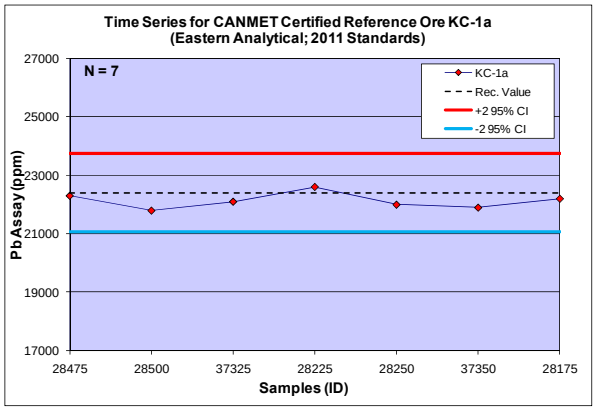
Time series plots for Certified Reference Material Assayed by Eastern Analytical Ltd.

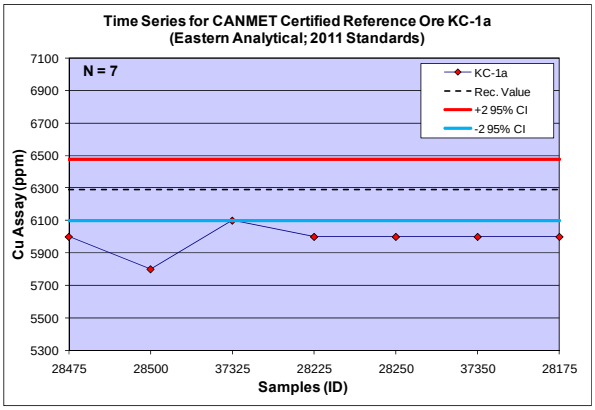
srk consulting

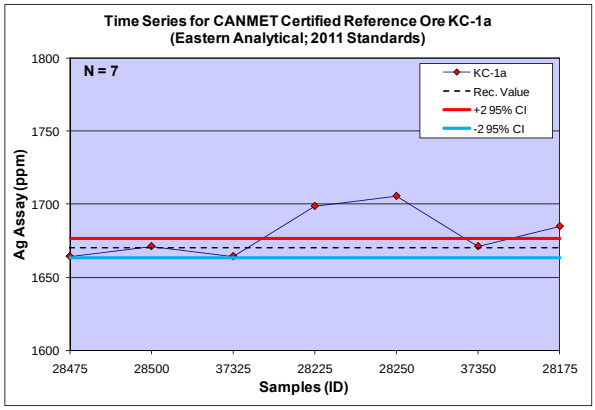
Project	Long Lake Polymetallic
Data Series	2011 CANMET KC-1a Standard
Data Type	Standards
Commodity	Zn, Pb, Cu and Ag in ppm
Laboratory	Eastern Analytical (Not Certified)
Analytical Method	ICP AA (Zn, Pb, Cu, Ag)
Detection Limit	2 ppm (Zn); 5 ppm (Pb); 1 ppm (Cu); 0.2 ppm (Ag)

Statistics	Zn	Pb	Cu	Ag
Sample Count	7	7	7	7
Rec. Value	346,500	22,400	6,290	1,670
95% CI	51,975	672	94.35	3.34
Mean	343,429	22,129	5,986	1,680
Outside 2 95% CI	0%	0%	100%	0.429
Below 2 95% CI	0	0	7	0
Above 2 95% CI	0	0	0	3







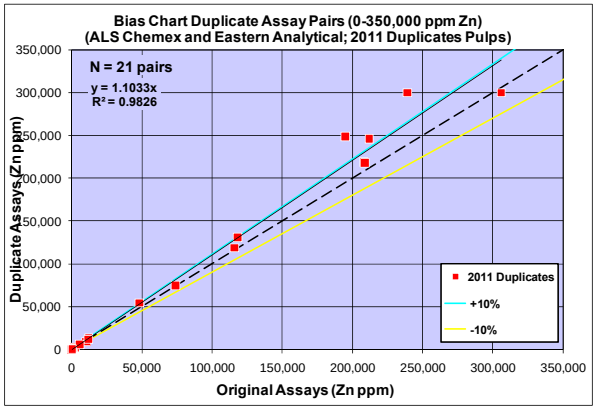


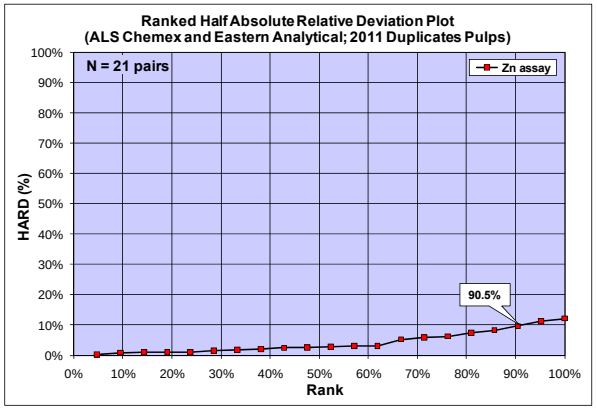
Bias Charts and Precision Plots for duplicate assays (Eastern Analytical versus ALS Chemex Vancouver samples). Zinc assays.

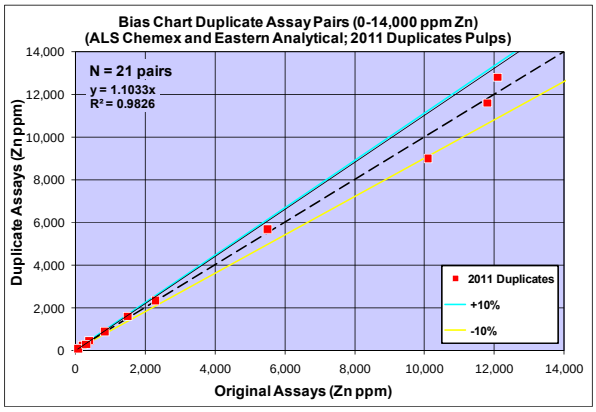
srk consulting

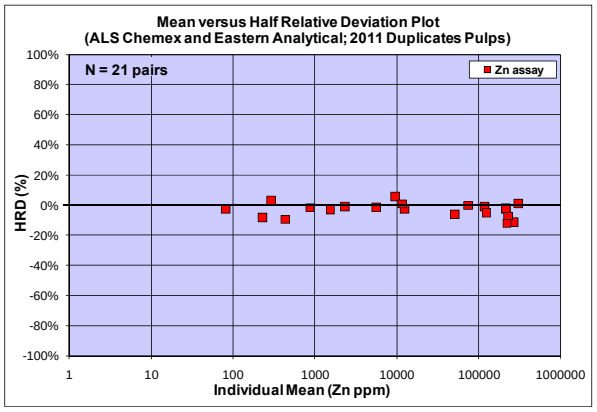
Project	Long Lake Polymetallic
Data Series	2011 Duplicates
Data Type	Pulps
Commodity	Zn in ppm
Analytical Method	ICP-AA finish
Detection Limit	2 ppm
Original Dataset	Original Assays
Paired Dataset	Duplicate Assays

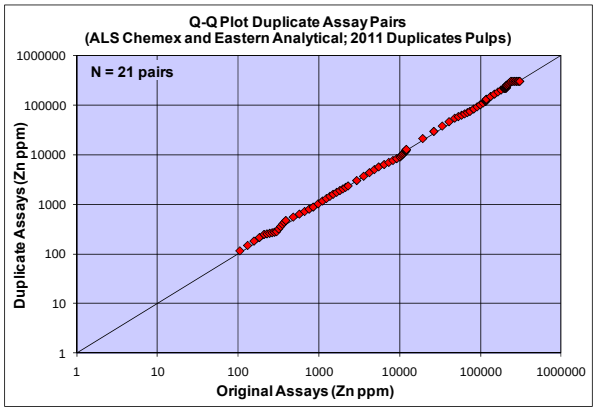
Statistics	Original	Duplicate
Sample Count	21	21
Minimum Value	79	83
Maximum Value	306,000	300,000
Mean	84,291.86	93,108.71
Median	12,100	12,800
Standard Error	22,203.07	24,691.76
Standard Deviation	101,747.24	113,151.84
Correlation Coefficient	0.9913	
Pairs ≤ 10% HARD	90.5%	

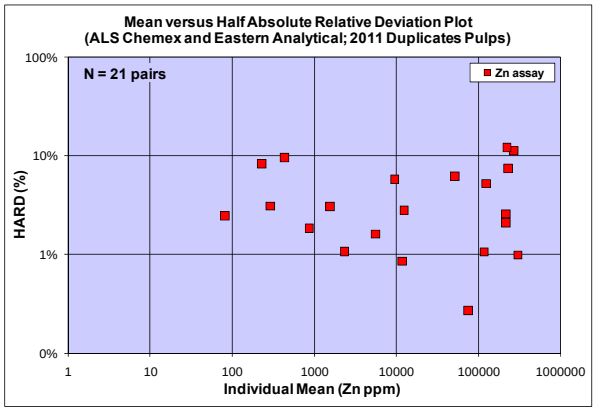










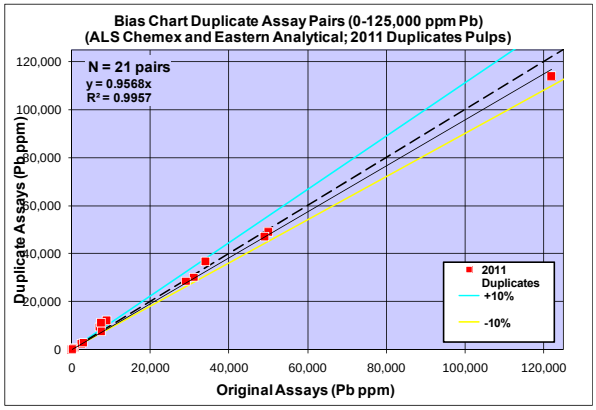


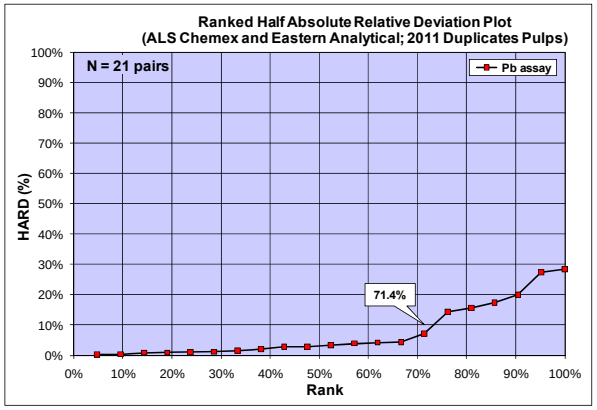
Bias Charts and Precision Plots for duplicate assays (Eastern Analytical versus ALS Chemex Vancouver samples). Lead assays.

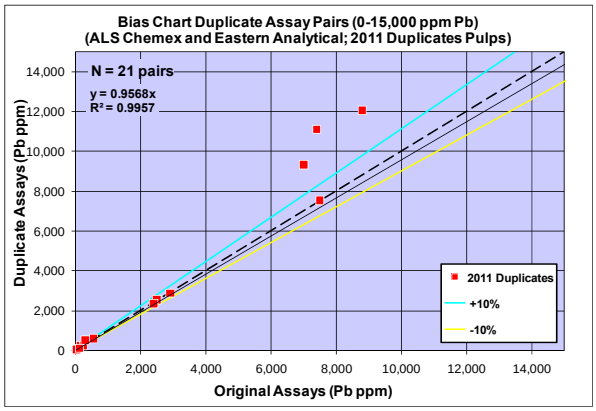
srk consulting

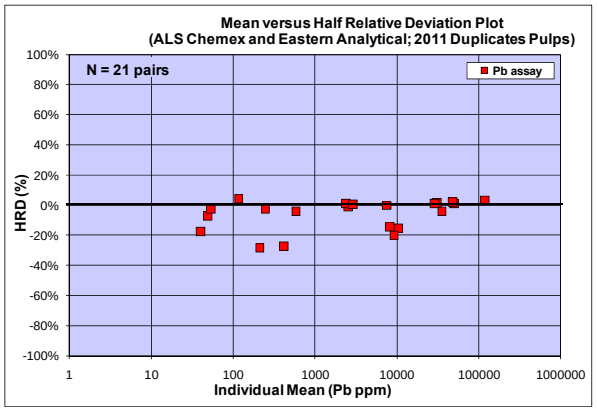
Project	Long Lake Polymetallic
Data Series	2011 Duplicates
Data Type	Pulps
Commodity	Pb in ppm
Analytical Method	ICP AA
Detection Limit	5 ppm
Original Dataset	Original Assays
Paired Dataset	Duplicate Assays

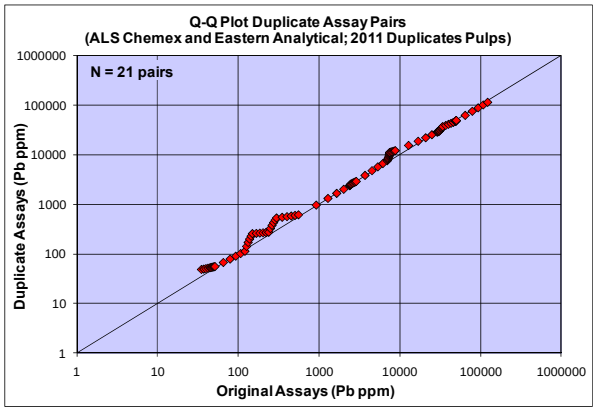
Statistics	Original	Duplicate
Sample Count	21	21
Minimum Value	33	47
Maximum Value	122,000	114,000
Mean	16,904.90	16,915.57
Median	2,900	2,880
Standard Error	6,362.11	5,998.57
Standard Deviation	29,154.83	27,488.89
Correlation Coefficient	0.9984	
Pairs ≤ 10% HARD	71.4%	

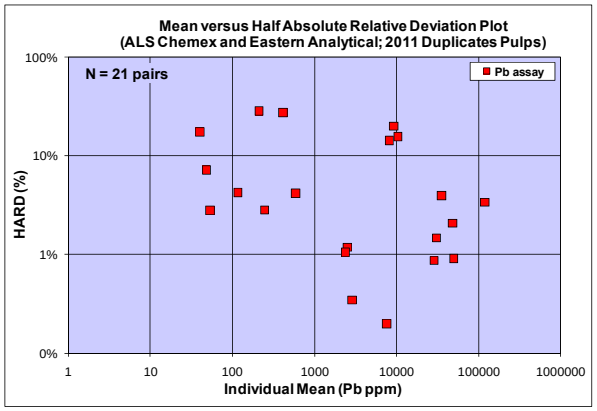










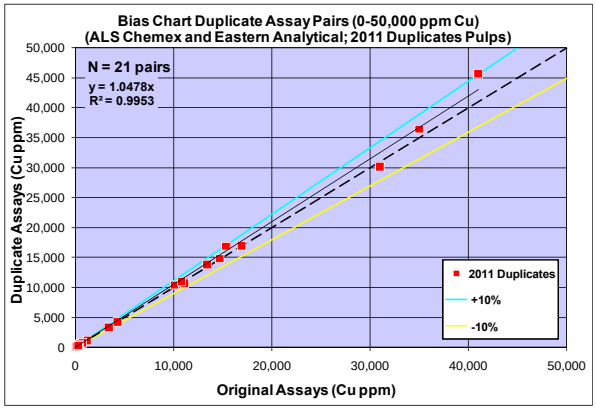


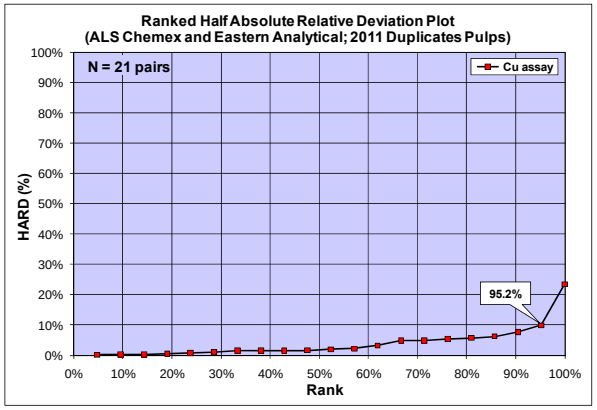
Bias Charts and Precision Plots for duplicate assays (Eastern Analytical versus ALS Chemex Vancouver samples). Copper assays.

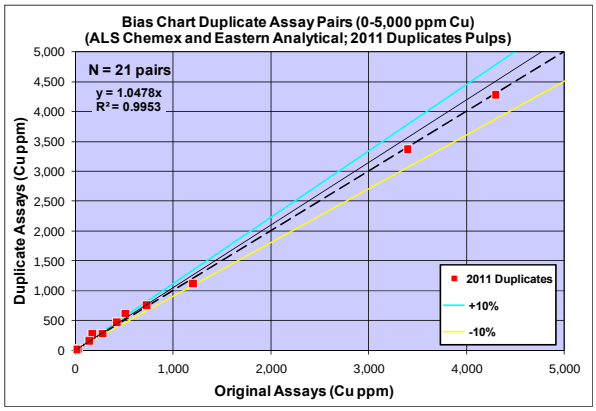
srk consulting

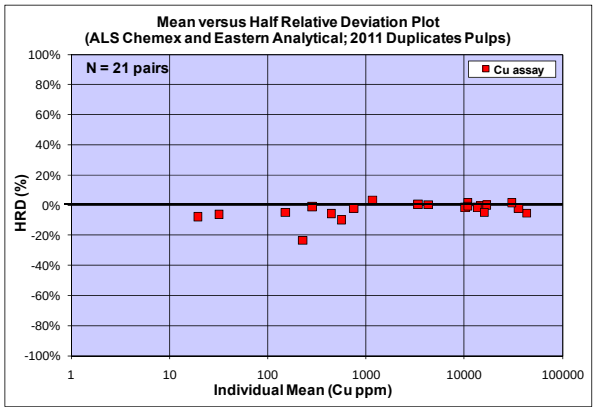
Project	Long Lake Polymetallic
Data Series	2011 Duplicates
Data Type	Pulps
Commodity	Cu in ppm
Analytical Method	ICP AA
Detection Limit	1 ppm
Original Dataset	Original Assays
Paired Dataset	Duplicate Assays

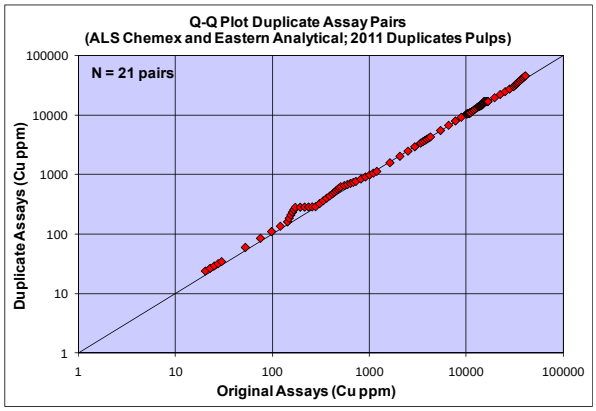
Statistics	Original	Duplicate
Sample Count	21	21
Minimum Value	18	21
Maximum Value	41,000	45,700
Mean	10,024.05	10,388.57
Median	4,300	4,280
Standard Error	2,693.33	2,849.86
Standard Deviation	12,342.38	13,059.71
Correlation Coefficient	0.9977	
Pairs ≤ 10% HARD	95.2%	

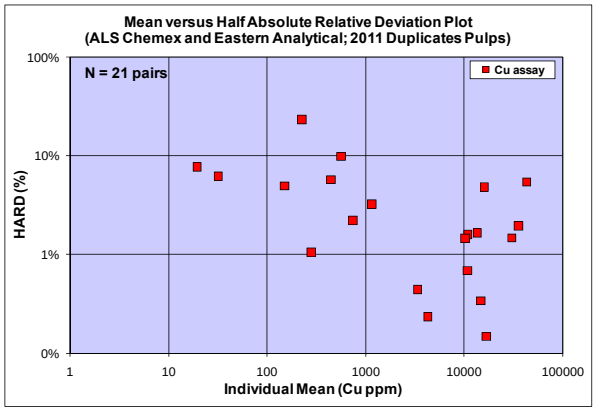










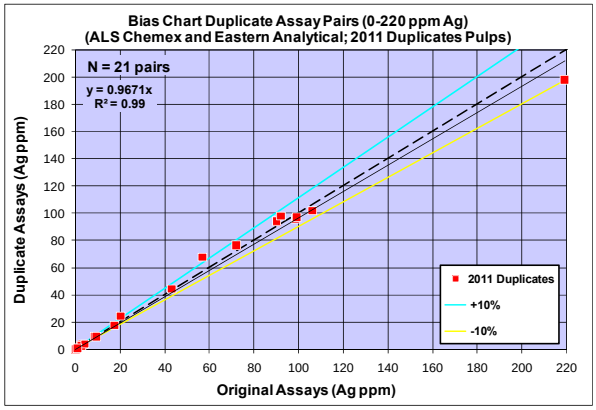


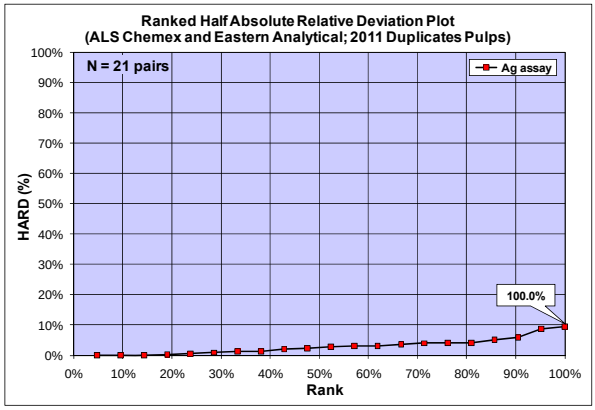
Bias Charts and Precision Plots for duplicate assays (Eastern Analytical versus ALS Chemex Vancouver samples). Silver assays.

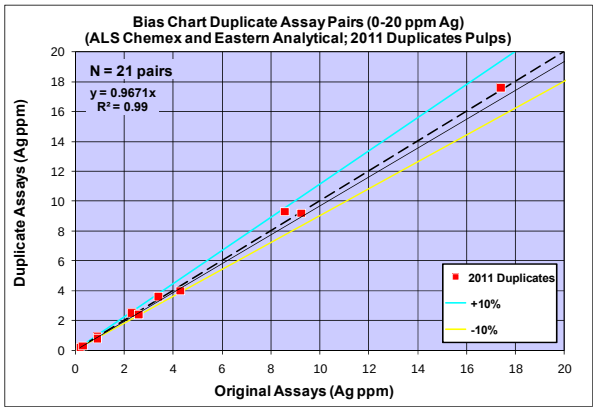
srk consulting

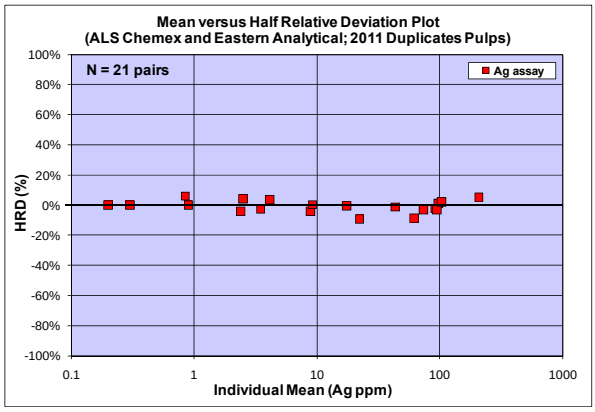
Project	Long Lake Polymetallic
Data Series	2011 Duplicates
Data Type	Pulps
Commodity	Ag in ppm
Analytical Method	ICP AA
Detection Limit	0.2 ppm
Original Dataset	Original Assays
Paired Dataset	Duplicate Assays

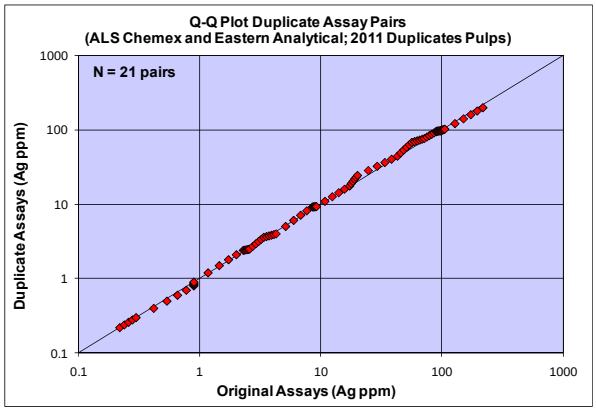
Statistics	Original	Duplicate
Sample Count	21	21
Minimum Value	0.2	0.2
Maximum Value	219.2	198
Mean	45.11	45.20
Median	17.4	18
Standard Error	12.33	11.69
Standard Deviation	56.52	53.57
Correlation Coefficient	0.9957	
Pairs ≤ 10% HARD	100.0%	

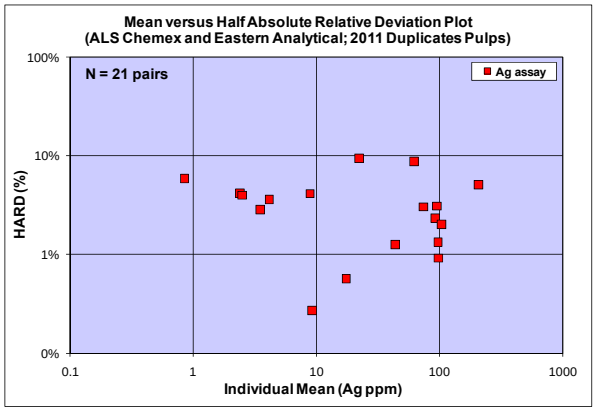










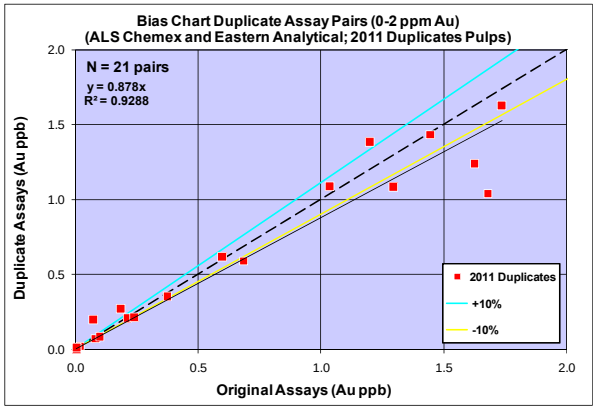


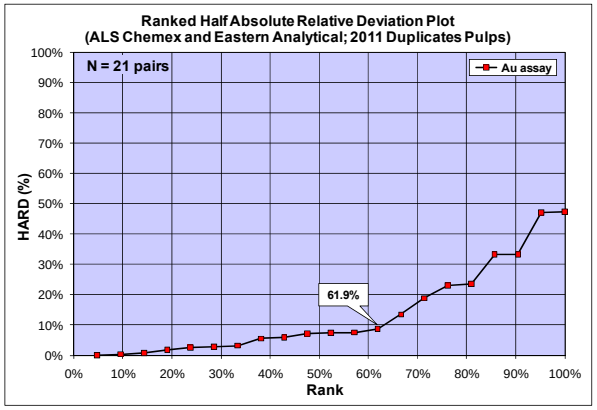
Bias Charts and Precision Plots for duplicate assays (Eastern Analytical versus ALS Chemex Vancouver samples). Gold assays.

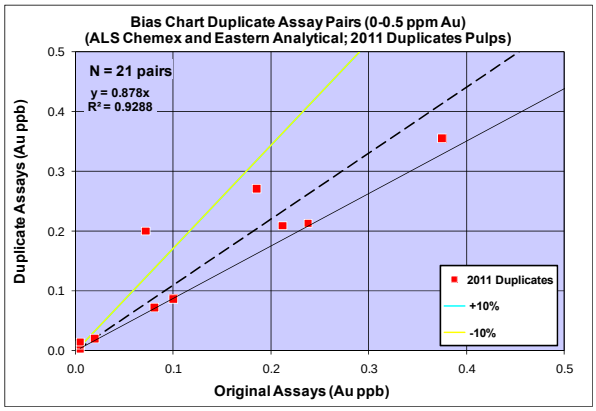
srk consulting

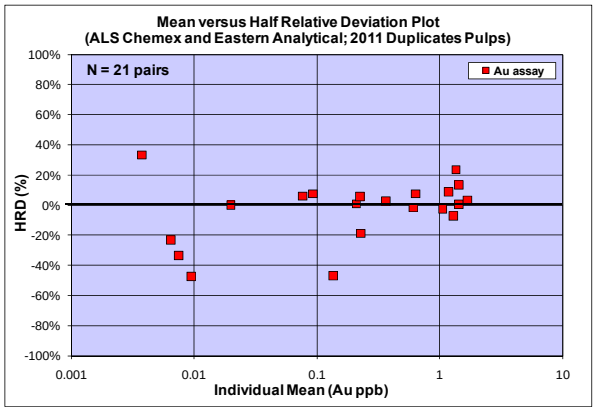
Project	Long Lake Polymetallic
Data Series	2011 Duplicates
Data Type	Pulps
Commodity	Au in ppb
Analytical Method	FF AA
Detection Limit	N/A
Original Dataset	Original Assays
Paired Dataset	Duplicate Assays

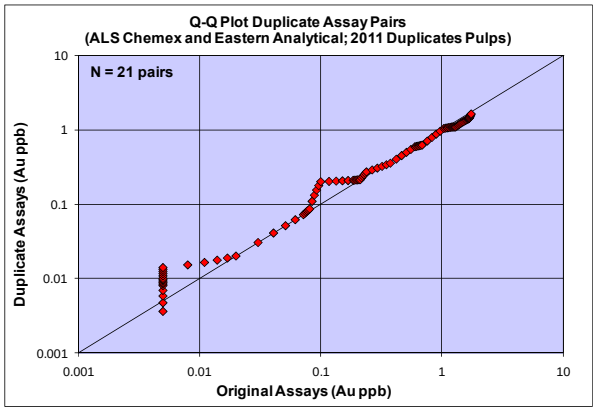
Statistics	Original	Duplicate
Sample Count	21	21
Minimum Value	0	0
Maximum Value	2	2
Mean	0.60	0.55
Median	0	0
Standard Error	0.14	0.12
Standard Deviation	0.64	0.56
Correlation Coefficient	0.9657	
Pairs ≤ 10% HARD	61.9%	

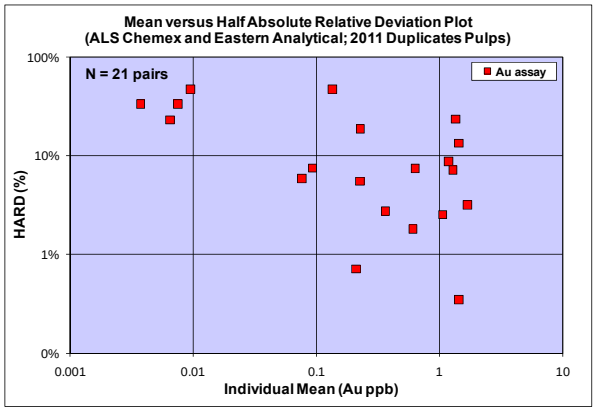












APPENDIX C

Certificate of Analysis for SRK Verification Samples

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

CLIENT NAME: SRK CONSULTING (CANADA)
2200-1066 W. HASTINGS ST.
VANCOUVER, BC V6E3X2

ATTENTION TO: Sebastien Bernier

PROJECT NO:

AGAT WORK ORDER: 11U496465

SOLID ANALYSIS REVIEWED BY: Patricia Horan, Operations Manager

DATE REPORTED: Jun 21, 2011

PAGES (INCLUDING COVER): 13

Should you require any information regarding this analysis please contact your client services representative at (905) 501 9998, or at 1-800-856-6261

NOTES
VERSION 1:Updated copy

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.

AGAT Laboratories
5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 11U496465
PROJECT NO:

CLIENT NAME: SRK CONSULTING (CANADA)

ATTENTION TO: Sebastien Bernier

4 Acid Digest - Metals Package, ICP-OES finish (201070)

DATE SAMPLED: May 27, 2011 | **DATE RECEIVED: May 27, 2011** | **DATE REPORTED: Jun 21, 2011** | **SAMPLE TYPE: Rock**

Analyte:	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	Fe	Ga
Unit:	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm
Sample Description RDL:	0.5	0.01	1	1	0.5	1	0.01	0.5	1	0.5	0.5	0.5	0.01	5
820351	<0.5	0.15	1	7	<0.5	<1	0.17	<0.5	<1	0.9	314	11.0	0.32	<5
820352	0.9	0.07	<1	5	<0.5	<1	0.05	<0.5	<1	<0.5	203	7.4	0.17	<5
820353	31.6	4.33	75	717	2.3	<1	5.12	85.4	54	20.4	40.3	346	5.42	9
820354	30.9	3.88	80	545	2.3	<1	4.85	85.2	48	20.4	38.6	343	5.13	8
46651	>100	0.73	15	791	<0.5	138	2.26	704	18	1.9	33.0	>10000	6.91	19
46652	53.1	1.29	12	3700	<0.5	52	0.44	658	19	1.2	16.5	>10000	8.95	31
46653	15.9	6.42	30	>10000	2.1	11	0.34	72.2	63	0.5	17.8	3440	2.82	42
46654	73.1	0.64	23	3110	<0.5	19	0.05	124	10	1.2	7.9	5530	3.82	15
46655	48.9	1.10	8	4550	<0.5	14	0.14	159	12	2.9	25.0	>10000	4.09	29
46656	>100	0.53	7	3110	<0.5	14	0.06	373	6	1.4	7.8	>10000	1.74	38
46657	82.4	1.56	9	4190	0.7	60	0.21	263	11	<0.5	19.8	7870	1.92	27
46658	14.4	5.53	19	2430	3.7	28	0.22	22.1	67	1.6	47.0	453	7.56	52
46659	23.2	4.03	18	4330	<0.5	27	5.42	42.9	111	42.9	555	2940	4.50	16
46660	>100	0.48	26	459	<0.5	95	0.21	638	6	0.7	21.1	>10000	3.25	66
46661	>100	1.32	60	1490	<0.5	157	0.26	887	15	0.6	24.4	>10000	5.97	86
46662	2.5	5.23	7	3330	0.5	2	2.09	8.2	38	<0.5	42.4	749	4.01	26
46663	21.5	3.38	16	2960	0.9	13	1.36	116	21	<0.5	54.6	4580	4.16	29
46664	19.0	2.60	32	1470	1.1	<1	0.17	33.9	18	0.7	45.2	806	3.37	23
46665	100	0.90	33	1160	<0.5	109	2.59	827	16	0.8	26.3	>10000	6.35	54

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AGAT WORK ORDER: 11U496465
PROJECT NO:

CLIENT NAME: SRK CONSULTING (CANADA)

ATTENTION TO: Sebastien Bernier

4 Acid Digest - Metals Package, ICP-OES finish (201070)

DATE SAMPLED: May 27, 2011 | **DATE RECEIVED: May 27, 2011** | **DATE REPORTED: Jun 21, 2011** | **SAMPLE TYPE: Rock**

Analyte:	In	K	La	Li	Mg	Mn	Mo	Na	Ni	P	Pb	Rb	S	Sb
Unit:	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm
Sample Description RDL:	1	0.01	2	1	0.01	1	0.5	0.01	0.5	10	1	10	0.005	1
820351	<1	<0.01	<2	<1	0.07	49	1.0	0.03	5.8	17	<1	<10	<0.005	<1
820352	<1	<0.01	<2	<1	0.02	20	0.6	0.01	3.4	<10	<1	<10	<0.005	<1
820353	<1	3.16	22	36	3.02	1790	10.1	0.16	23.3	646	>10000	214	4.30	60
820354	8	2.98	20	33	2.93	2000	9.3	0.15	22.8	603	>10000	178	4.05	62
46651	36	0.27	<2	1	0.43	1260	16.4	0.29	2.0	217	>10000	14	17.2	58
46652	40	0.69	<2	2	0.33	358	37.8	0.39	1.3	61	841	32	17.3	38
46653	12	2.53	25	25	5.88	1560	9.7	0.56	5.3	188	3050	116	2.86	83
46654	4	0.41	<2	1	0.27	74	10.7	0.02	25.0	237	6150	16	5.85	281
46655	11	0.51	<2	2	0.43	142	14.0	0.33	11.1	211	>10000	25	6.72	71
46656	9	0.21	<2	<1	0.10	73	12.1	0.16	0.9	<10	>10000	10	6.75	124
46657	6	0.91	3	2	0.45	149	41.7	0.78	2.4	36	>10000	44	5.73	39
46658	5	4.09	21	13	3.01	493	17.7	0.12	13.5	223	1250	136	8.22	32
46659	11	1.21	43	13	5.98	3460	6.7	0.44	336	3020	6000	70	3.48	19
46660	25	0.11	<2	1	0.53	344	28.1	<0.01	8.3	609	>10000	<10	11.4	635
46661	44	0.52	<2	2	0.29	708	20.6	0.26	1.5	345	>10000	28	16.8	427
46662	<1	2.12	14	8	1.31	4900	4.5	3.18	4.4	581	445	85	0.351	9
46663	8	1.50	4	8	1.82	3310	12.2	1.55	2.5	477	4310	73	5.06	37
46664	<1	2.46	5	7	0.54	259	24.9	1.92	2.7	736	4710	99	4.19	167
46665	28	0.38	<2	2	0.32	1290	16.1	0.21	2.8	346	>10000	23	16.9	152

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ATTENTION TO: Sebastien Bernier

4 Acid Digest - Metals Package, ICP-OES finish (201070)

DATE SAMPLED: May 27, 2011 | **DATE RECEIVED: May 27, 2011** | **DATE REPORTED: Jun 21, 2011** | **SAMPLE TYPE: Rock**

Analyte:	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Sample Description RDL:	1	10	5	1	10	10	5	0.01	5	5	0.5	1	1	0.5
820351	<1	<10	<5	3	<10	<10	<5	<0.01	<5	<5	5.0	<1	<1	2.2
820352	<1	<10	<5	<1	<10	<10	<5	<0.01	<5	<5	2.1	<1	<1	2.4
820353	7	<10	28	32	<10	<10	11	0.14	47	<5	50.7	17	14	>10000
820354	6	<10	25	32	<10	<10	9	0.12	44	<5	46.6	16	12	>10000
46651	1	<10	37	152	<10	<10	<5	0.01	17	<5	12.4	<1	6	>10000
46652	2	<10	28	154	<10	<10	<5	0.02	18	<5	8.2	<1	5	>10000
46653	<1	<10	<5	471	<10	<10	6	0.11	14	<5	27.4	9	29	>10000
46654	<1	<10	<5	117	<10	<10	<5	0.01	13	<5	13.8	9	4	>10000
46655	1	<10	<5	126	<10	<10	<5	0.02	15	<5	36.8	2	4	>10000
46656	<1	<10	<5	72	<10	<10	<5	<0.01	10	<5	15.2	<1	2	>10000
46657	<1	<10	<5	141	<10	<10	<5	0.03	12	<5	21.4	<1	6	>10000
46658	<1	<10	<5	34	<10	<10	11	0.14	28	<5	83.4	29	24	5870
46659	14	<10	32	176	<10	<10	7	0.06	10	<5	118	24	14	>10000
46660	<1	<10	<5	49	<10	<10	<5	<0.01	14	<5	27.0	2	2	>10000
46661	2	<10	18	78	<10	<10	<5	0.04	22	<5	27.4	<1	8	>10000
46662	8	<10	6	82	<10	<10	<5	0.35	15	<5	18.0	5	17	3270
46663	3	<10	<5	229	<10	<10	<5	0.12	16	<5	21.7	14	13	>10000
46664	3	<10	<5	103	<10	<10	<5	0.10	15	<5	16.9	10	8	>10000
46665	1	<10	20	97	<10	<10	<5	0.01	18	<5	22.8	3	6	>10000

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4 Acid Digest - Metals Package, ICP-OES finish (201070)

DATE SAMPLED: May 27, 2011 | **DATE RECEIVED: May 27, 2011** | **DATE REPORTED: Jun 21, 2011** | **SAMPLE TYPE: Rock**

Analyte:	Zr
Unit:	ppm
Sample Description RDL:	5
820351	<5
820352	<5
820353	79
820354	69
46651	51
46652	66
46653	457
46654	45
46655	55
46656	21
46657	129
46658	587
46659	104
46660	<5
46661	64
46662	189
46663	180
46664	178
46665	35

Comments: RDL - Reported Detection Limit
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Fire Assay - Ag Ore Grade, Gravimetric finish (202066)

DATE SAMPLED: May 27, 2011 | **DATE RECEIVED: May 27, 2011** | **DATE REPORTED: Jun 21, 2011** | **SAMPLE TYPE: Rock**

Analyte:	Ag-GRAV
Unit:	ppm
Sample Description RDL:	5
820351	-
820352	-
820353	-
820354	-
46651	102
46652	-
46653	-
46654	-
46655	-
46656	120
46657	-
46658	-
46659	-
46660	187
46661	157
46662	-
46663	-
46664	-
46665	106

Comments: RDL - Reported Detection Limit
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Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish (202055)

DATE SAMPLED: May 27, 2011 | **DATE RECEIVED: May 27, 2011** | **DATE REPORTED: Jun 21, 2011** | **SAMPLE TYPE: Rock**

Analyte:	Au	Pd	Pt
Unit:	ppm	ppm	ppm
Sample Description RDL:	0.001	0.001	0.005
820351	0.003	<0.001	<0.005
820352	<0.001	<0.001	<0.005
820353	0.039	0.002	0.017
820354	0.036	<0.001	0.019
46651	0.660	<0.001	<0.005
46652	0.364	<0.001	0.006
46653	0.181	<0.001	<0.005
46654	0.828	<0.001	<0.005
46655	0.844	<0.001	<0.005
46656	0.342	<0.001	<0.005
46657	0.551	<0.001	<0.005
46658	0.096	<0.001	<0.005
46659	0.134	0.001	<0.005
46660	1.01	0.001	<0.005
46661	1.86	<0.001	0.007
46662	0.025	<0.001	<0.005
46663	0.205	<0.001	<0.005
46664	0.288	<0.001	<0.005
46665	1.03	<0.001	<0.005

Comments: RDL - Reported Detection Limit
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Miscellaneous Techniques - Specific Gravity (201049)

DATE SAMPLED: May 27, 2011 | **DATE RECEIVED: May 27, 2011** | **DATE REPORTED: Jun 21, 2011** | **SAMPLE TYPE: Rock**

Analyte:	Sample Login Weight	Specific Gravity
Unit:	kg	g/cm3
Sample Description RDL:	0.01	0.01
820351	0.66	2.56
820352	0.58	2.38
820353	0.02	2.86
820354	0.02	2.90
46651	0.52	3.61
46652	0.42	3.75
46653	0.74	2.90
46654	1.14	4.06
46655	1.22	3.80
46656	1.14	3.68
46657	0.70	3.83
46658	0.30	3.03
46659	0.94	2.87
46660	0.62	3.89
46661	1.16	3.45
46662	1.36	2.77
46663	0.68	3.04
46664	0.92	2.88
46665	1.22	3.76

Comments: RDL - Reported Detection Limit
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Sodium Peroxide Fusion - ICP-OES finish (201079)

DATE SAMPLED: May 27, 2011 | **DATE RECEIVED: May 27, 2011** | **DATE REPORTED: Jun 21, 2011** | **SAMPLE TYPE: Rock**

Analyte:	Cu	Pb	Zn
Unit:	%	%	%
Sample Description RDL:	0.001	0.005	0.005
820351	-	-	-
820352	-	-	-
820353	-	1.72	2.89
820354	-	1.75	2.94
46651	5.83	4.44	22.1
46652	9.37	-	19.5
46653	-	-	2.52
46654	-	1.09	4.41
46655	1.28	3.08	4.82
46656	1.73	6.15	10.4
46657	-	5.15	7.86
46658	-	-	-
46659	-	-	1.34
46660	1.19	7.87	19.9
46661	3.17	5.93	24.7
46662	-	-	-
46663	-	-	3.78
46664	-	-	1.10
46665	2.32	3.75	23.4

Comments: RDL - Reported Detection Limit
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Quality Assurance

CLIENT NAME: SRK CONSULTING (CANADA) **AGAT WORK ORDER: 11U496465**

PROJECT NO: **ATTENTION TO: Sebastien Bernier**

Solid Analysis

RPT Date: Jun 21, 2011		REPLICATE				Method Blank	REFERENCE MATERIAL				
PARAMETER	Batch	Sample Id	Original	Rep #1	RPD		Result Value	Expect Value	Recovery	Acceptable Limits Lower	Acceptable Limits Upper
Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish (202055)											
Au	1	2433391	0.660	0.648	1.8%	< 0.001	0.328	0.321	102%	80%	120%
Pd	1	2433391	< 0.001	0.001		< 0.001	0.036	0.037	96%	80%	120%
Pt	1	2433391	< 0.005	< 0.005	0.0%	< 0.005	0.086	0.090	96%	80%	120%
4 Acid Digest - Metals Package, ICP-OES finish (201070)											
Ag	1	2433391	113	116	2.6%	< 0.5	37	35	105%	80%	120%
Al	1	2433391	0.73	0.79	7.9%	< 0.01				80%	120%
As	1	2433391	15	16	6.5%	< 1	18	16	112%	80%	120%
Ba	1	2433391	791	896	12.4%	< 1	287	330	87%	80%	120%
Be	1	2433391	< 0.5	< 0.5	0.0%	< 0.5				80%	120%
Bi	1	2433391	138	145	4.9%	< 1				80%	120%
Ca	1	2433391	2.26	2.25	0.4%	< 0.01	1.17	1.29	91%	80%	120%
Cd	1	2433391	704	728	3.4%	< 0.5	2.4	2	120%	80%	120%
Ce	1	2433391	18	19	5.4%	< 1				80%	120%
Co	1	2433391	1.9	1.8	5.4%	< 0.5	9.1	11	82%	80%	120%
Cr	1	2433391	33.0	34.6	4.7%	< 0.5	30	33	90%	80%	120%
Cu	1	2433391	48900	50000	2.2%	< 0.5	5052	5000	101%	80%	120%
Fe	1	2433391	6.91	6.80	1.6%	< 0.01	2.7	2.8	96%	80%	120%
Ga	1	2433391	19	19	0.0%	< 5				80%	120%
In	1	2433391	36	32	11.8%	< 1				80%	120%
K	1	2433391	0.270	0.265	1.9%	< 0.01	0.63	0.66	96%	80%	120%
La	1	2433391	< 2	< 2	0.0%	< 2				80%	120%
Li	1	2433391	1	1	0.0%	< 1	12	12	100%	80%	120%
Mg	1	2433391	0.43	0.43	0.0%	< 0.01	0.48	0.54	89%	80%	120%
Mn	1	2433391	1260	1300	3.1%	< 1	520	500	104%	80%	120%
Mo	1	2433391	16.4	16.5	0.6%	< 0.5	442	400	110%	80%	120%
Na	1	2433391	0.29	0.29	0.0%	< 0.01	0.54	0.52	104%	80%	120%
Ni	1	2433391	2.01	2.27	12.1%	< 0.5	33	31	106%	80%	120%
P	1	2433391	217	213	1.9%	< 10	1463	1300	113%	80%	120%
Pb	1	2433391	25500	27500	7.5%	< 1	91	91	100%	80%	120%
Rb	1	2433391	14	15	6.9%	< 10				80%	120%
S	1	2433391	17.2	16.3	5.4%	< 0.005	0.95	0.99	96%	80%	120%
Sb	1	2433391	58	56	3.5%	< 1				80%	120%
Sc	1	2433391	1	1	0.0%	< 1	6	7	87%	80%	120%
Se	1	2433391	< 10	< 10	0.0%	< 10				80%	120%
Sn	1	2433391	37	36	2.7%	< 5				80%	120%
Sr	1	2433391	152	144	5.4%	< 1	95	110	87%	80%	120%
Ta	1	2433391	< 10	< 10	0.0%	< 10				80%	120%
Te	1	2433391	< 10	< 10	0.0%	< 10				80%	120%
Th	1	2433391	< 5	< 5	0.0%	< 5	6	5.1	117%	80%	120%
Ti	1	2433391	0.01	0.01	0.0%	< 0.01				80%	120%
Tl	1	2433391	17	19	11.1%	< 5				80%	120%
U	1	2433391	< 5	< 5	0.0%	< 5	27.4	31	88%	80%	120%
V	1	2433391	12.4	13.5	8.5%	< 0.5	50	49	103%	80%	120%

AGAT QUALITY ASSURANCE REPORT (V1) *Page 10 of 13*

Results relate only to the items tested

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Quality Assurance

CLIENT NAME: SRK CONSULTING (CANADA) **AGAT WORK ORDER: 11U496465**

PROJECT NO: **ATTENTION TO: Sebastien Bernier**

Solid Analysis (Continued)

RPT Date: Jun 21, 2011		REPLICATE					REFERENCE MATERIAL				
PARAMETER	Batch	Sample Id	Original	Rep #1	RPD	Method Blank	Result Value	Expect Value	Recovery	Acceptable Limits Lower	Acceptable Limits Upper
W	1	2433391	< 1	< 1	0.0%	< 1				80%	120%
Y	1	2433391	6	6	0.0%	< 1	19	23	83%	80%	120%
Zn	1	2433391	76600	80600	5.1%	2.0	193	194	100%	80%	120%
Zr	1	2433391	51	53	3.8%	< 5				80%	120%
Fire Assay - Ag Ore Grade, Gravimetric finish (202066)											
Ag-GRAV	1	2433391	102	107	4.8%	< 5	172	173	99%	90%	110%
Sodium Peroxide Fusion - ICP-OES finish (201079)											
Cu	1	2433391	5.83	5.72	1.9%	0.090	3.12	3.07	101%	80%	120%
Pb	1	2433391	4.44	4.35	2.0%	< 0.005	2.23	2.09	106%	80%	120%
Zn	1	2433391	22.1	21.5	2.8%	< 0.005	16.36	16.67	98%	80%	120%
Sodium Peroxide Fusion - ICP-OES finish (201079)											
Cu	1					< 0.001	1.04	1.02	101%	80%	120%
Pb	1					< 0.005	6.97	6.68	104%	80%	120%
Zn	1					< 0.005	3.91	3.78	103%	80%	120%
Sodium Peroxide Fusion - ICP-OES finish (201079)											
Cu	1					< 0.001	0.29	0.28	103%	80%	120%
Pb	1					< 0.005	1.30	1.24	104%	80%	120%
Zn	1					< 0.005	2.09	2.00	104%	80%	120%

Certified By: 

AGAT QUALITY ASSURANCE REPORT (V1) *Page 11 of 13*

Results relate only to the items tested

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Method Summary

CLIENT NAME: SRK CONSULTING (CANADA) **AGAT WORK ORDER: 11U496465**

PROJECT NO: **ATTENTION TO: Sebastien Bernier**

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Ag	MIN-200-12002/12020		ICP/OES
Al	MIN-200-12002/12020		ICP/OES
As	MIN-200-12002/12020		ICP/OES
Ba	MIN-200-12002/12020		ICP/OES
Be	MIN-200-12002/12020		ICP/OES
Bi	MIN-200-12002/12020		ICP/OES
Ca	MIN-200-12002/12020		ICP/OES
Cd	MIN-200-12002/12020		ICP/OES
Ce	MIN-200-12002/12020		ICP/OES
Co	MIN-200-12002/12020		ICP/OES
Cr	MIN-200-12002/12020		ICP/OES
Cu	MIN-200-12002/12020		ICP/OES
Fe	MIN-200-12002/12020		ICP/OES
Ga	MIN-200-12002/12020		ICP/OES
In	MIN-200-12002/12020		ICP/OES
K	MIN-200-12002/12020		ICP/OES
La	MIN-200-12002/12020		ICP/OES
Li	MIN-200-12002/12020		ICP/OES
Mg	MIN-200-12002/12020		ICP/OES
Mn	MIN-200-12002/12020		ICP/OES
Mo	MIN-200-12002/12020		ICP/OES
Na	MIN-200-12002/12020		ICP/OES
Ni	MIN-200-12002/12020		ICP/OES
P	MIN-200-12002/12020		ICP/OES
Pb	MIN-200-12002/12020		ICP/OES
Rb	MIN-200-12002/12020		ICP/OES
S	MIN-200-12002/12020		ICP/OES
Sb	MIN-200-12002/12020		ICP/OES
Sc	MIN-200-12002/12020		ICP/OES
Se	MIN-200-12002/12020		ICP/OES
Sn	MIN-200-12002/12020		ICP/OES
Sr	MIN-200-12002/12020		ICP/OES
Ta	MIN-200-12002/12020		ICP/OES
Te	MIN-200-12002/12020		ICP/OES
Th	MIN-200-12002/12020		ICP/OES
Ti	MIN-200-12002/12020		ICP/OES
Tl	MIN-200-12002/12020		ICP/OES
U	MIN-200-12002/12020		ICP/OES
V	MIN-200-12002/12020		ICP/OES
W	MIN-200-12002/12020		ICP/OES
Y	MIN-200-12002/12020		ICP/OES
Zn	MIN-200-12002/12020		ICP/OES
Zr	MIN-200-12002/12020		ICP/OES
Ag-GRAV			GRAVIMETRIC
Au	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP/OES
Pd	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP/OES
Pt	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP/OES

AGAT METHOD SUMMARY (V1) *Page 12 of 13*

Results relate only to the items tested

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Method Summary

CLIENT NAME: SRK CONSULTING (CANADA) **AGAT WORK ORDER: 11U496465**

PROJECT NO: **ATTENTION TO: Sebastien Bernier**

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Sample Login Weight			BALANCE
Specific Gravity	MIN-200-12024		Pychnometer
Cu	MIN-200-12001		ICP/OES
Pb	MIN-200-12001		ICP/OES
Zn	MIN-200-12001		ICP/OES

APPENDIX D

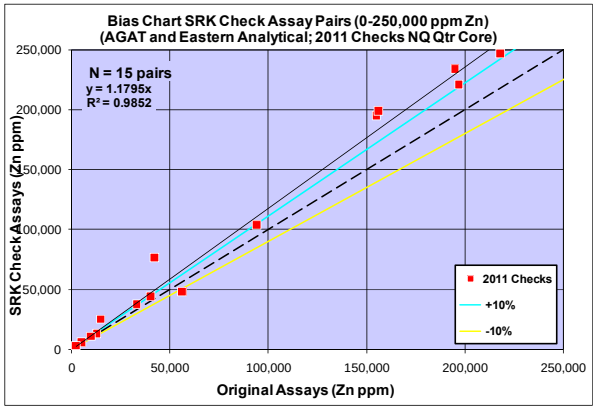
Analytical Results for SRK Verification Samples

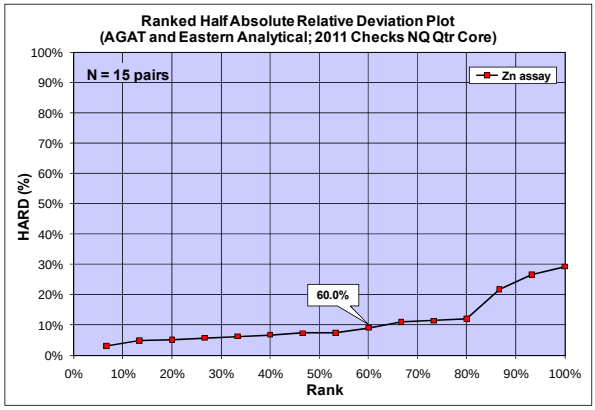
Bias Plots comparing assay results for SRK Samples to the original assay results. Zinc assays.

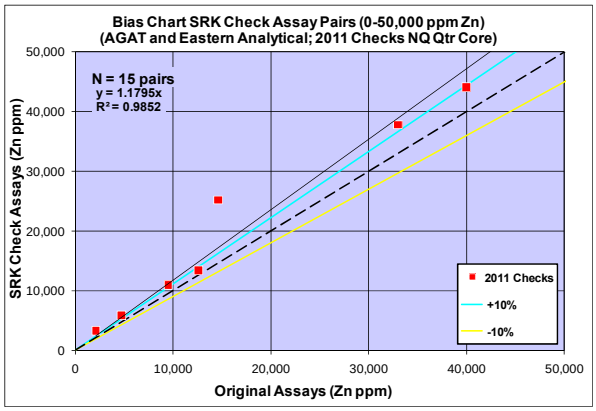
srk consulting

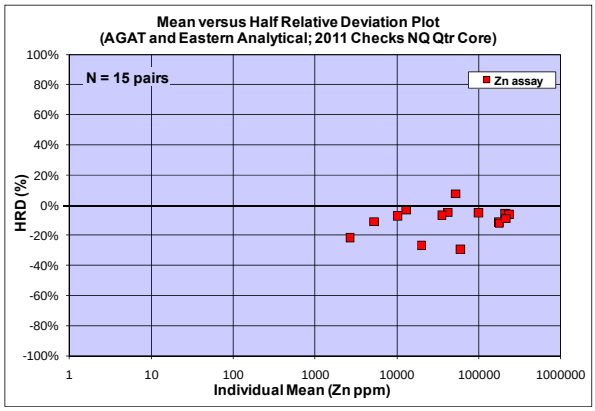
Project	Long Lake Polymetallic
Data Series	2011 Checks
Data Type	NQ Qtr Core
Commodity	Zn in ppm
Analytical Method	4 AD; Na2O2 Fusion (ICP-OES finish)
Detection Limit	0.5 ppm and 50 ppm
Original Dataset	Original Assays
Paired Dataset	SRK Check Assays

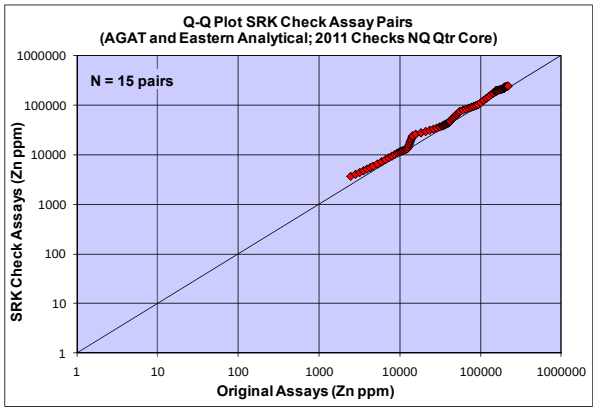
Statistics	Original	SRK Check
Sample Count	15	15
Minimum Value	2,100	3,270
Maximum Value	218,000	247,000
Mean	81,966.67	97,709.33
Median	42,000	48,200
Standard Error	20,569.82	24,144.13
Standard Deviation	79,666.56	93,509.81
Correlation Coefficient	0.9927	
Pairs ≤ 10% HARD	60.0%	

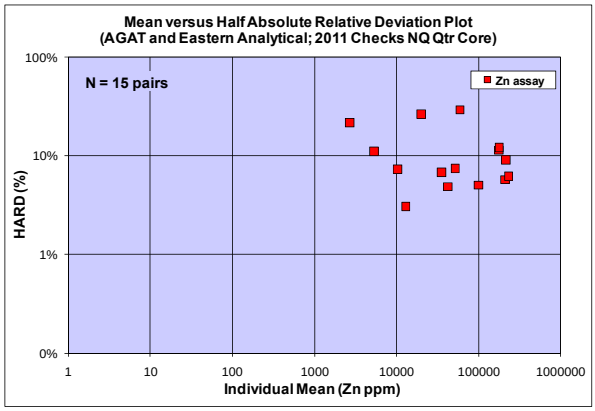










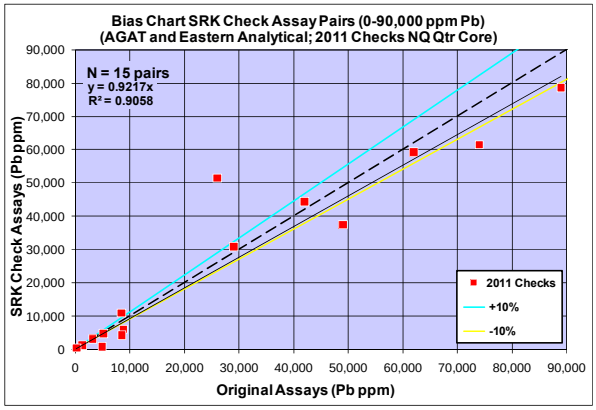


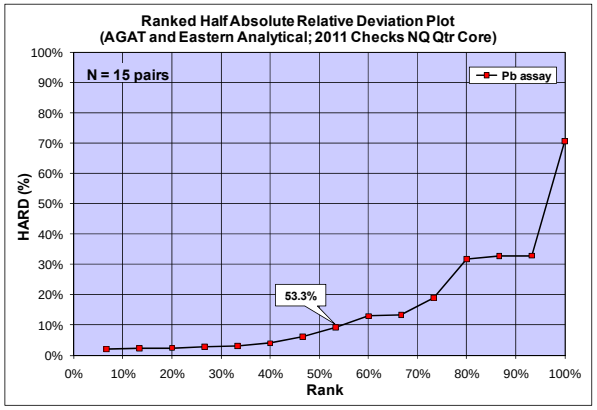
Bias Plots comparing assay results for SRK Samples to the original assay results. Lead assays.

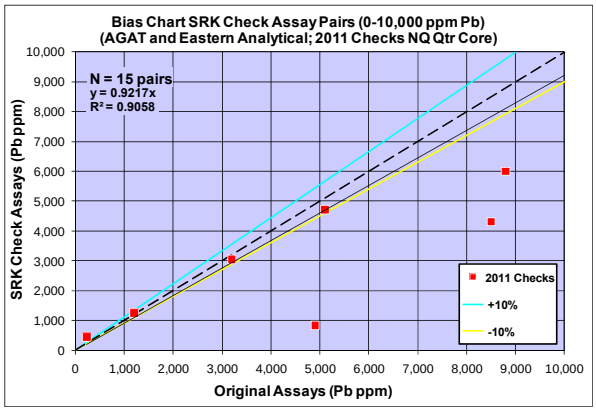
srk consulting

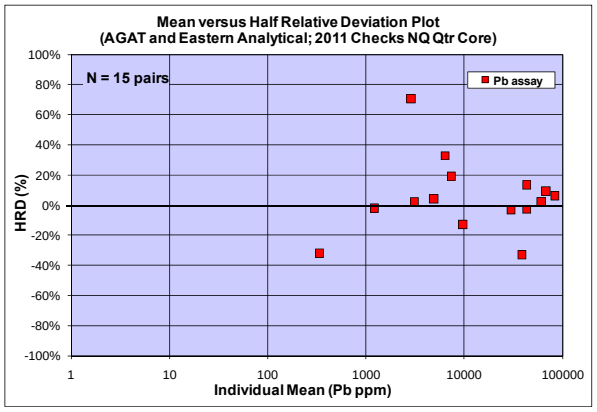
Project	Long Lake Polymetallic
Data Series	2011 Checks
Data Type	NQ Qtr Core
Commodity	Pb in ppm
Analytical Method	4 AD; Na2O2 Fusion (ICP-OES finish)
Detection Limit	1 ppm and 50 ppm
Original Dataset	Original Assays
Paired Dataset	SRK Check Assays

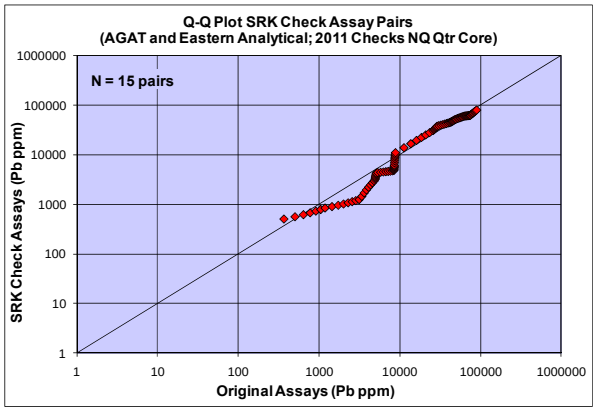
Statistics	Original	SRK Check
Sample Count	15	15
Minimum Value	230	445
Maximum Value	89,000	78,700
Mean	27,422	26,347.07
Median	8,800	10,900
Standard Error	7,535.79	6,991.75
Standard Deviation	29,185.99	27,078.92
Correlation Coefficient	0.9535	
Pairs ≤ 10% HARD	53.3%	

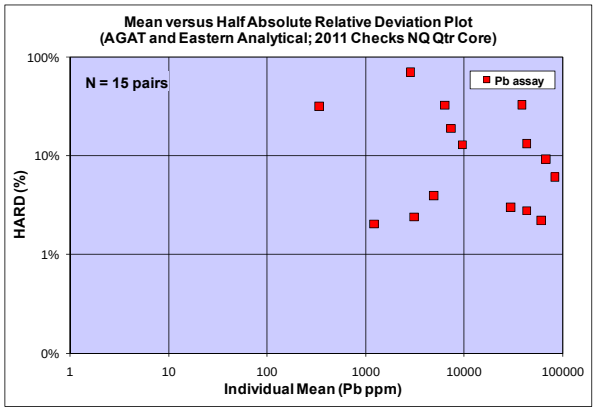










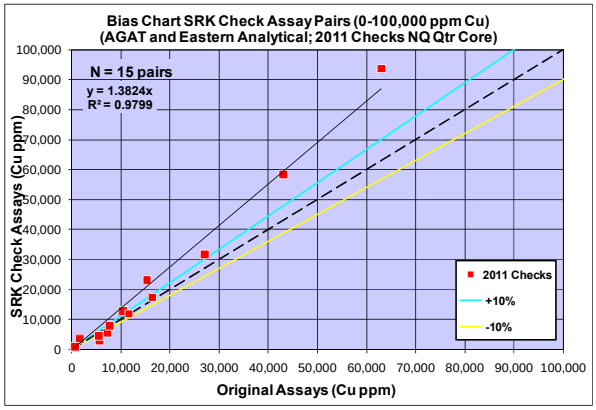


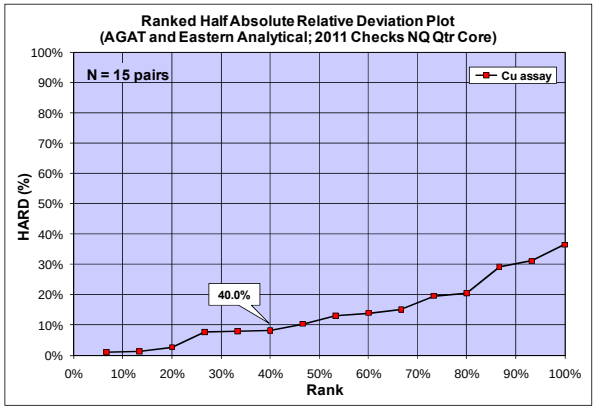
Bias Plots comparing assay results for SRK Samples to the original assay results. Copper assays.

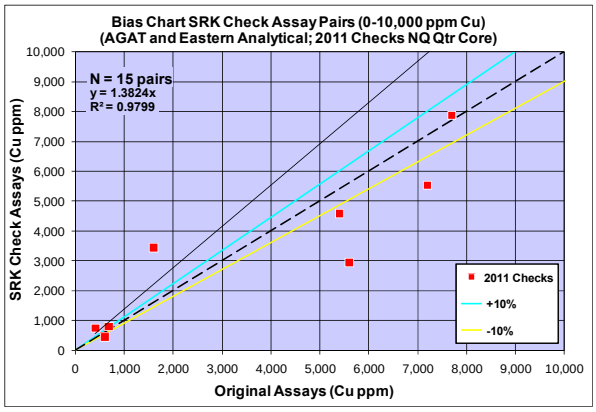
srk consulting

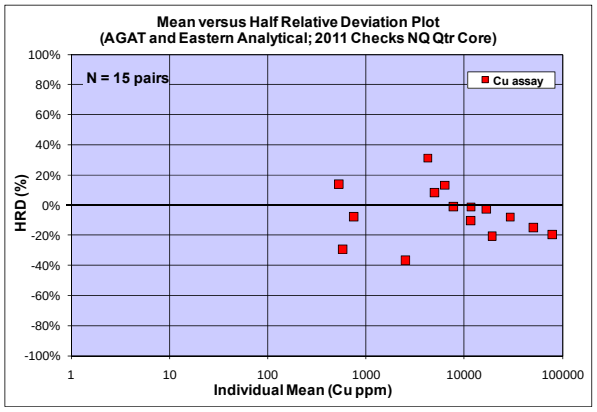
Project	Long Lake Polymetallic
Data Series	2011 Checks
Data Type	NQ Qtr Core
Commodity	Cu in ppm
Analytical Method	4 AD; Na2O2 Fusion (ICP-OES finish)
Detection Limit	0.5 ppm and 10 ppm
Original Dataset	Original Assays
Paired Dataset	SRK Check Assays

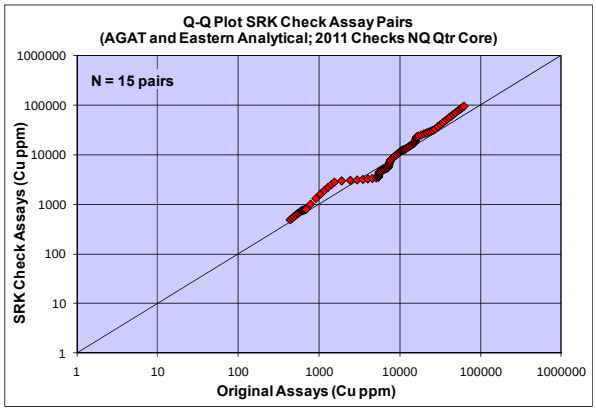
Statistics	Original	SRK Check
Sample Count	15	15
Minimum Value	410	453
Maximum Value	63,000	93,700
Mean	14,393.33	18,351.20
Median	7,700	7,870
Standard Error	4,556.77	6,694.11
Standard Deviation	17,648.28	25,926.19
Correlation Coefficient	0.9932	
Pairs ≤ 10% HARD	40.0%	

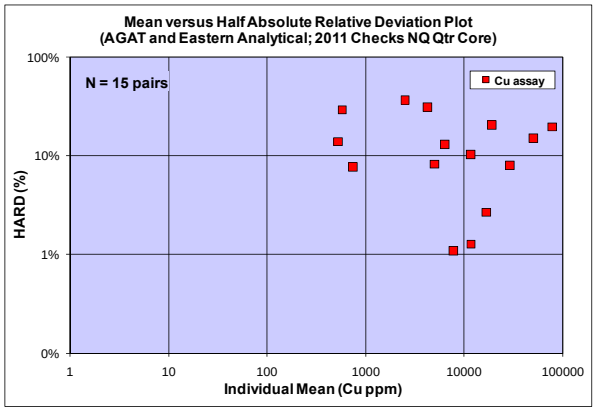










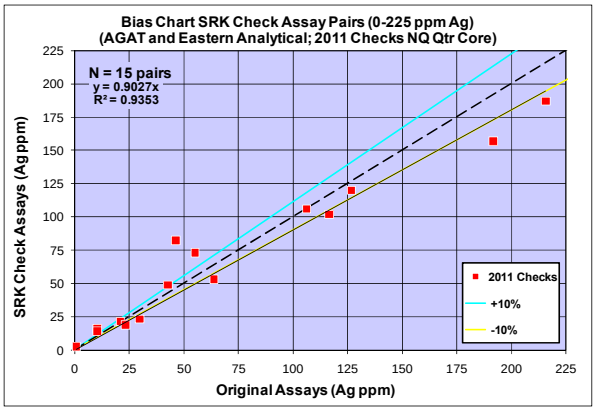


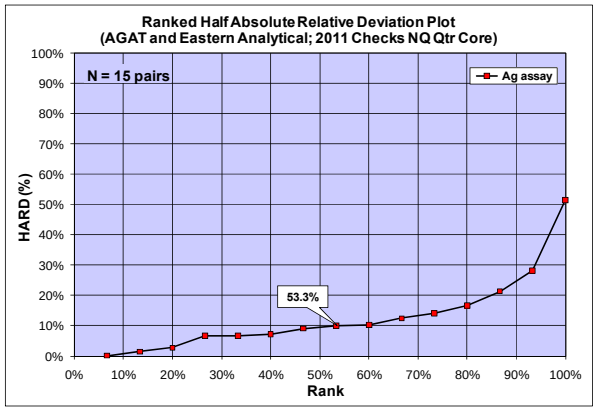
Bias Plots comparing assay results for SRK Samples to the original assay results. Silver assays.

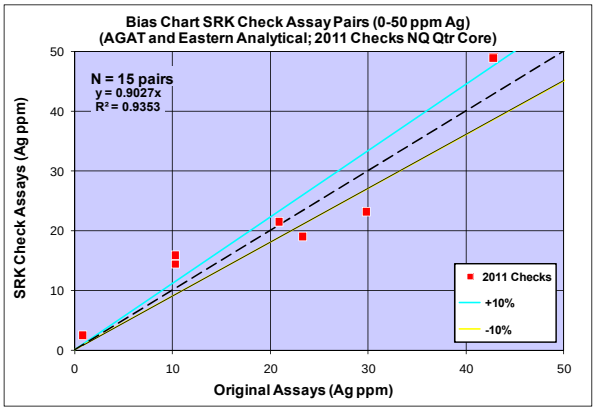
srk consulting

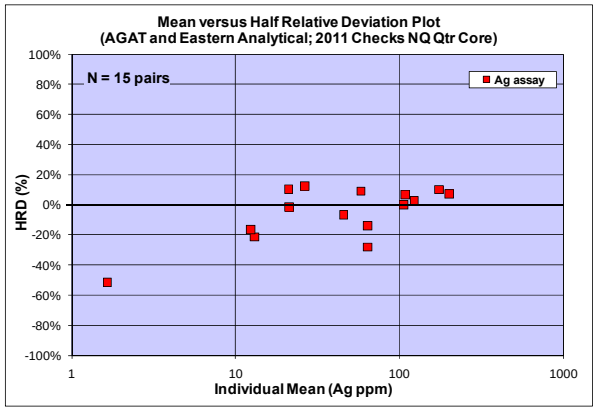
Project	Long Lake Polymetallic
Data Series	2011 Checks
Data Type	NQ Qtr Core
Commodity	Ag in ppm
Analytical Method	4 Acid Digest, ICP-OES and FA-GRAV
Detection Limit	5 ppm and 0.5 ppm
Original Dataset	Original Assays
Paired Dataset	SRK Check Assays

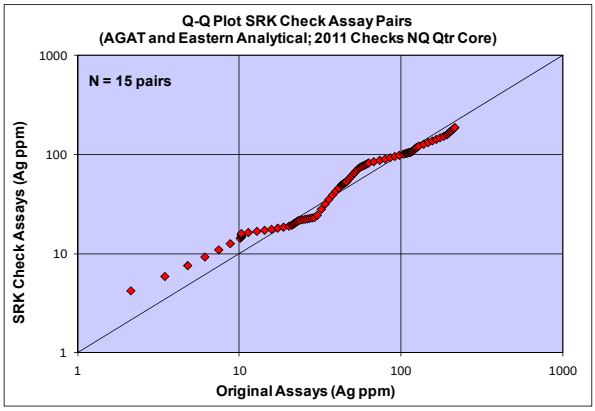
Statistics	Original	SRK Check
Sample Count	15	15
Minimum Value	0.80	2.50
Maximum Value	215.80	187.00
Mean	70.67	68.40
Median	46.20	53.10
Standard Error	17.25	14.58
Standard Deviation	66.79	56.47
Correlation Coefficient	0.9752	
Pairs ≤ 10% HARD	53.3%	

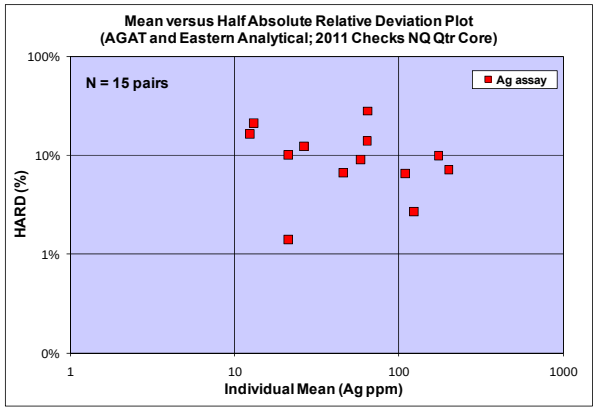










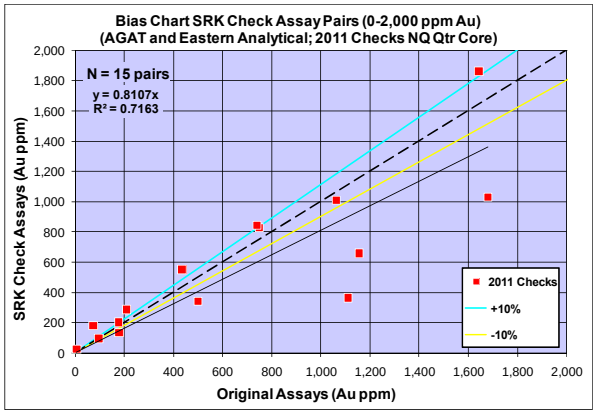


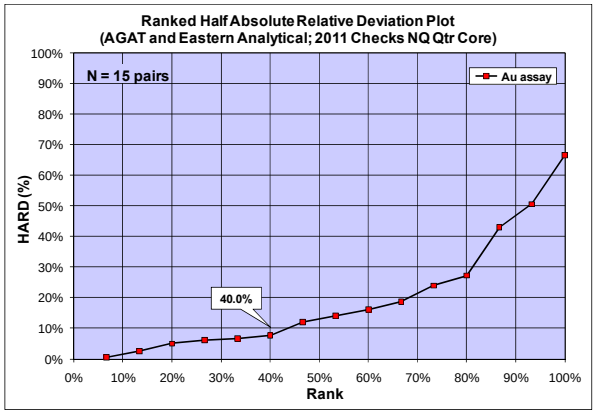
Bias Plots comparing assay results for SRK Samples to the original assay results. Gold assays.

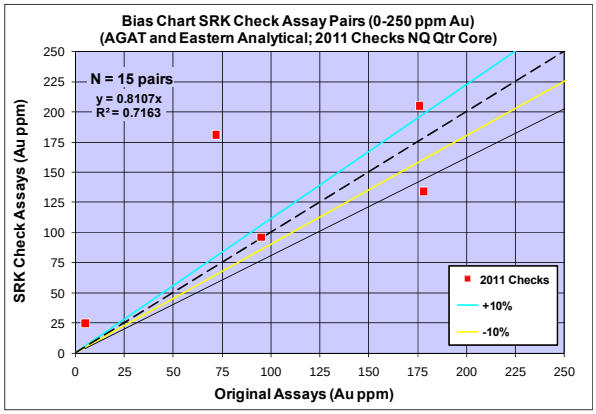
srk consulting

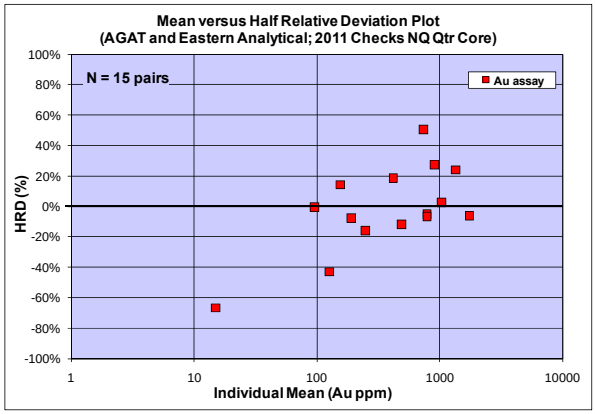
Project	Long Lake Polymetallic
Data Series	2011 Checks
Data Type	NQ Qtr Core
Commodity	Au in ppm
Analytical Method	Fire Assay, ICP-OES finish
Detection Limit	0.001 ppm
Original Dataset	Original Assays
Paired Dataset	SRK Check Assays

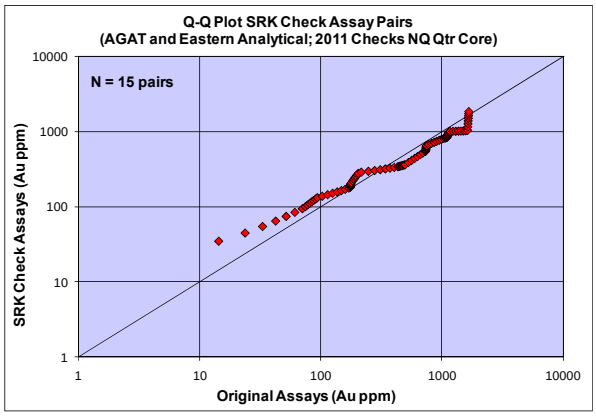
Statistics	Original	SRK Check
Sample Count	15	15
Minimum Value	5	25
Maximum Value	1,680	1,860
Mean	653.67	561.20
Median	499	364
Standard Error	145.94	127.03
Standard Deviation	565.21	491.97
Correlation Coefficient	0.8526	
Pairs ≤ 10% HARD	40.0%	

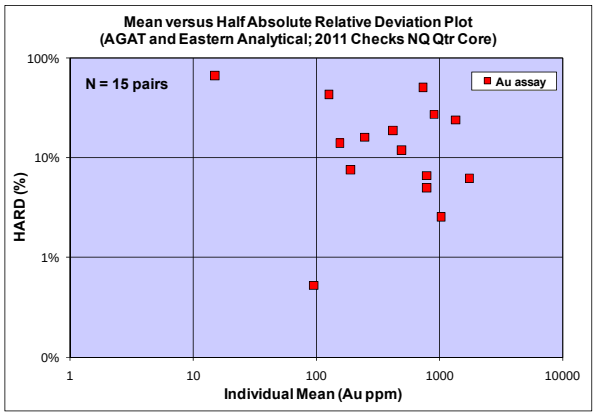






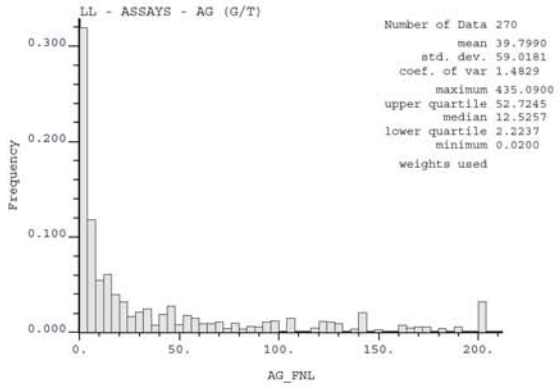


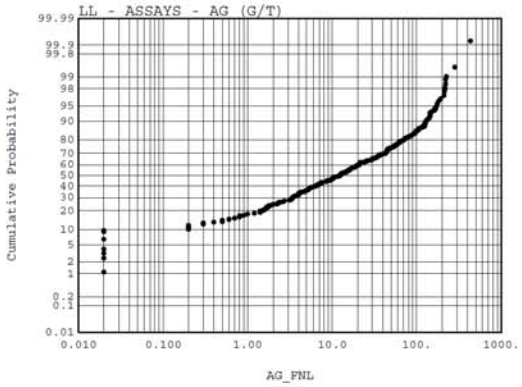


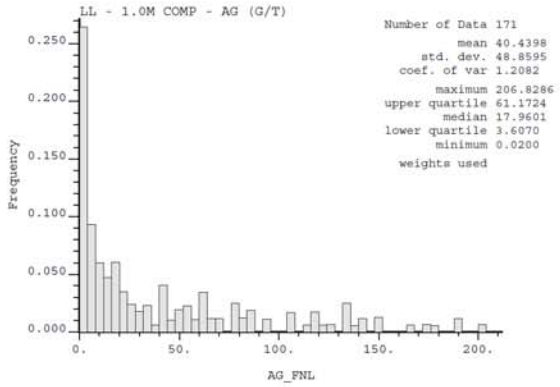


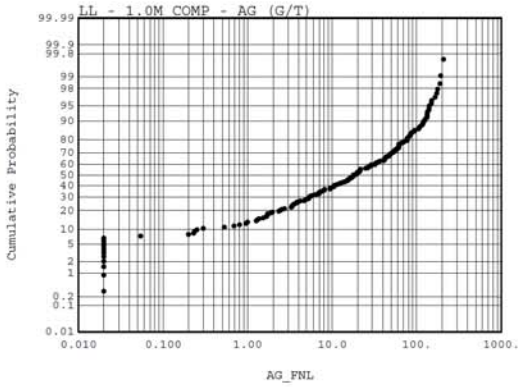
APPENDIX E

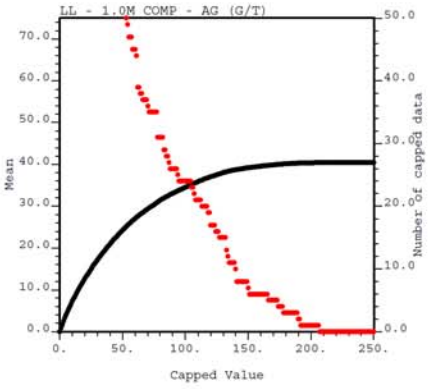
Summary Statistics for Assays and Composites

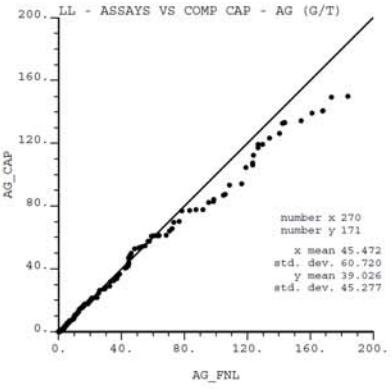

LL - ASSAYS - AG (G/T)
Number of Data 270
mean 39.7990
std. dev. 59.0181
coef. of var 1.4829
maximum 435.0900
upper quartile 52.7245
median 12.5257
lower quartile 2.2237
minimum 0.0200
weights used
Frequency
AG_FNL

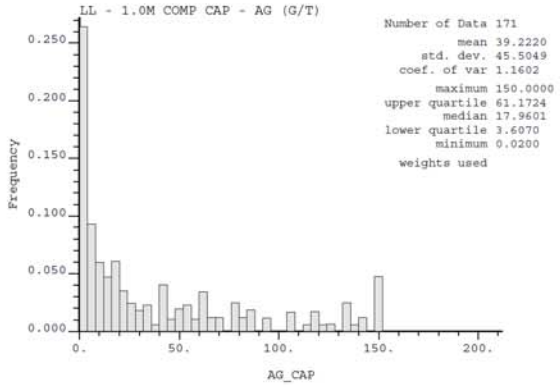

LL - ASSAYS - AG (G/T)
Cumulative Probability
AG_FNL

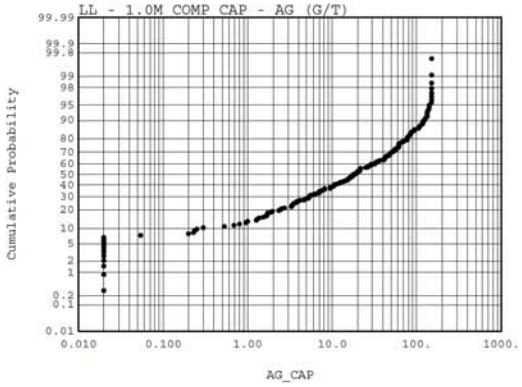

LL - 1.0M COMP - AG (G/T)
Number of Data 171
mean 40.4398
std. dev. 48.8595
coef. of var 1.2082
maximum 206.8286
upper quartile 61.1724
median 17.9601
lower quartile 3.6070
minimum 0.0200
weights used
Frequency
AG_FNL

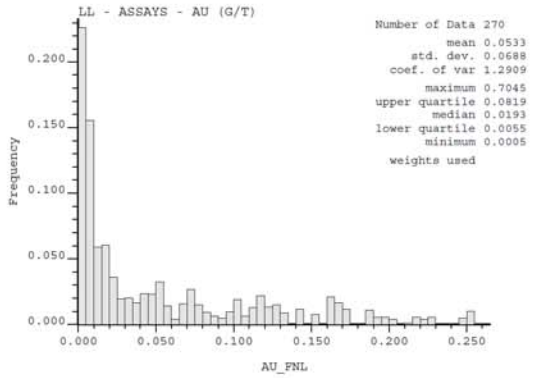

LL - 1.0M COMP - AG (G/T)
Cumulative Probability
AG_FNL

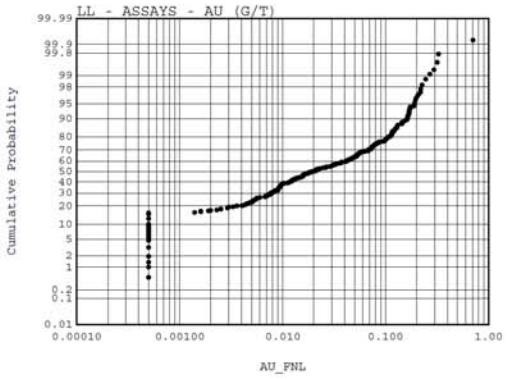

LL - 1.0M COMP - AG (G/T)
Mean
Number of capped data
Capped Value

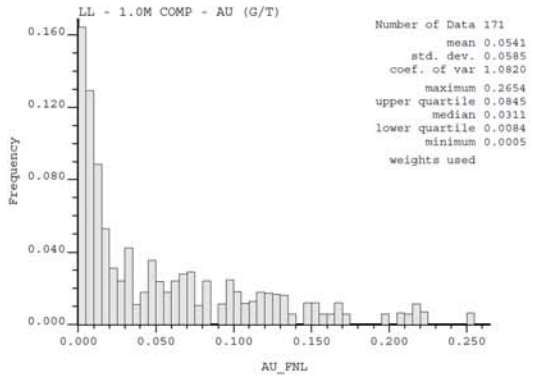

LL - ASSAYS VS COMP CAP - AG (G/T)
AG_CAP
number x 270
number y 171
x mean 45.472
std. dev. 60.720
y mean 39.026
std. dev. 45.277
AG_FNL

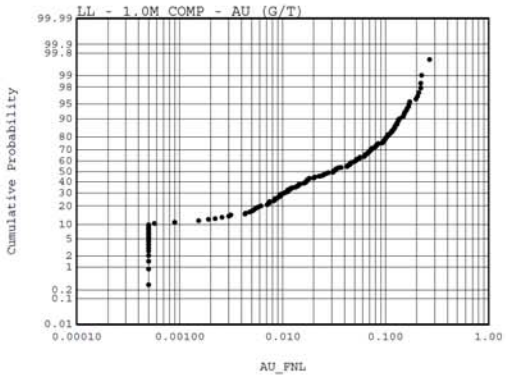

LL - 1.0M COMP CAP - AG (G/T)
Number of Data 171
mean 39.2220
std. dev. 45.5049
coef. of var 1.1602
maximum 150.0000
upper quartile 61.1724
median 17.9601
lower quartile 3.6070
minimum 0.0200
weights used
Frequency
AG_CAP

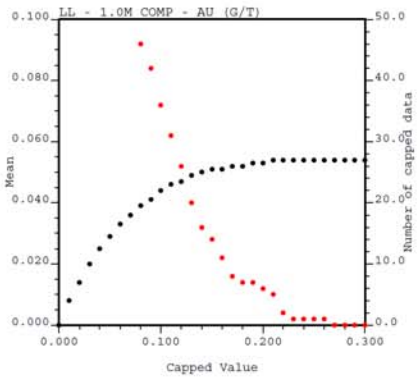

LL - 1.0M COMP CAP - AG (G/T)
Cumulative Probability
AG_CAP

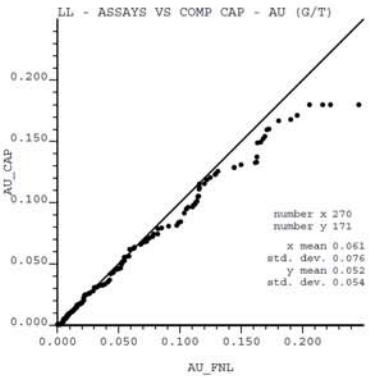

LL - ASSAYS - AU (G/T)
Number of Data 270
mean 0.0533
std. dev. 0.0688
coef. of var 1.2909
maximum 0.7045
upper quartile 0.0819
median 0.0193
lower quartile 0.0055
minimum 0.0005
weights used
Frequency
AU_FNL

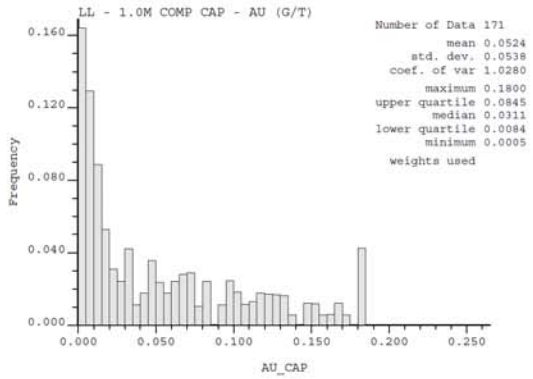

LL - ASSAYS - AU (G/T)
Cumulative Probability
AU_FNL

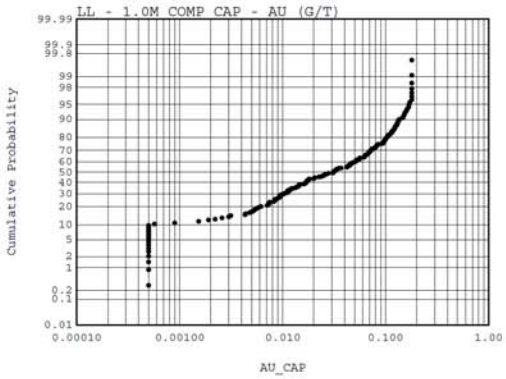

LL - 1.0M COMP - AU (G/T)
Number of Data 171
mean 0.0541
std. dev. 0.0585
coef. of var 1.0820
maximum 0.2654
upper quartile 0.0845
median 0.0311
lower quartile 0.0084
minimum 0.0005
weights used
Frequency
AU_FNL

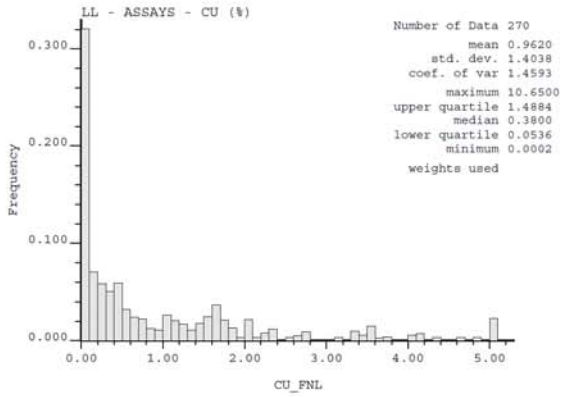

LL - 1.0M COMP - AU (G/T)
Cumulative Probability
AU_FNL

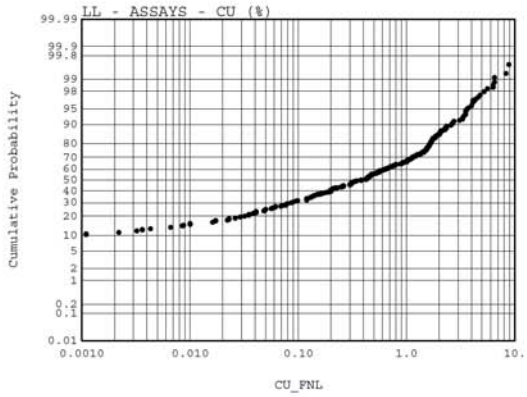

LL - 1.0M COMP - AU (G/T)
Mean
Number of capped data
Capped Value

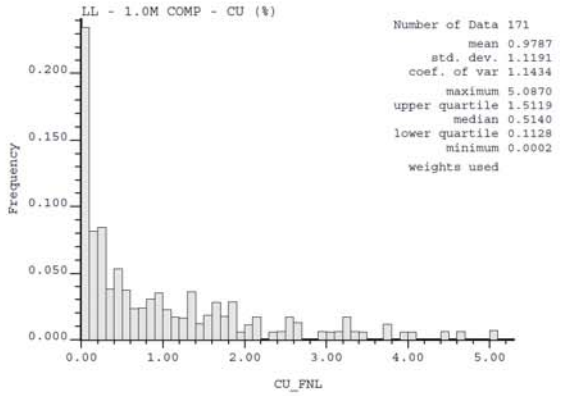

LL - ASSAYS VS COMP CAP - AU (G/T)
AU_CAP
number x 270
number y 171
x mean 0.061
std. dev. 0.076
y mean 0.052
std. dev. 0.054
AU_FNL

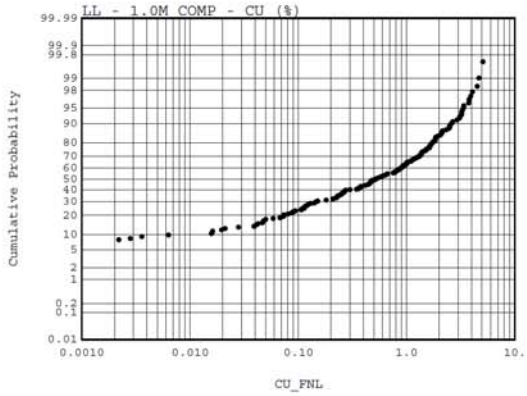

LL - 1.0M COMP CAP - AU (G/T)
Number of Data 171
mean 0.0524
std. dev. 0.0538
coef. of var 1.0280
maximum 0.1800
upper quartile 0.0845
median 0.0311
lower quartile 0.0084
minimum 0.0005
weights used
Frequency
AU_CAP

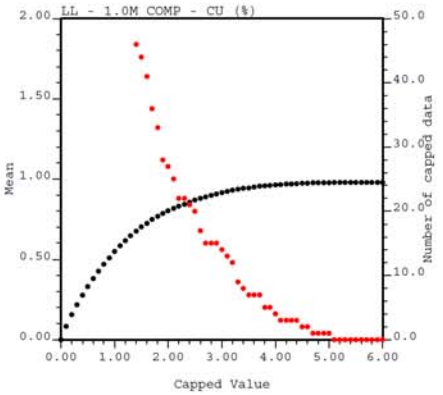

LL - 1.0M COMP CAP - AU (G/T)
Cumulative Probability
AU_CAP

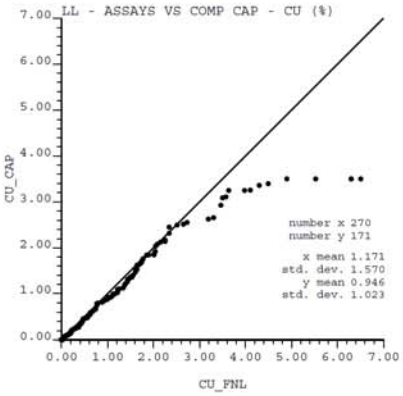

LL - ASSAYS - CU (%)
Number of Data 270
mean 0.9620
std. dev. 1.4038
coef. of var 1.4593
maximum 10.6500
upper quartile 1.4884
median 0.3800
lower quartile 0.0536
minimum 0.0002
weights used
Frequency
CU_FNL

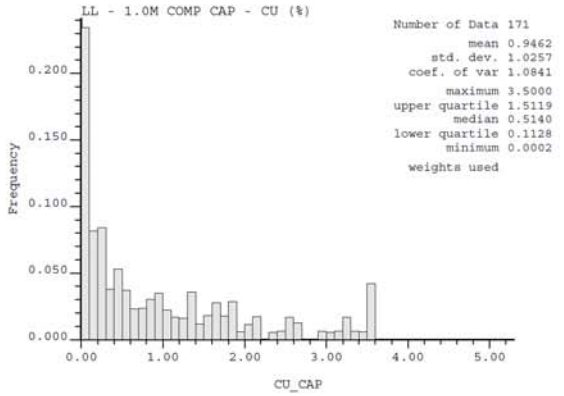

LL - ASSAYS - CU (%)
Cumulative Probability
CU_FNL

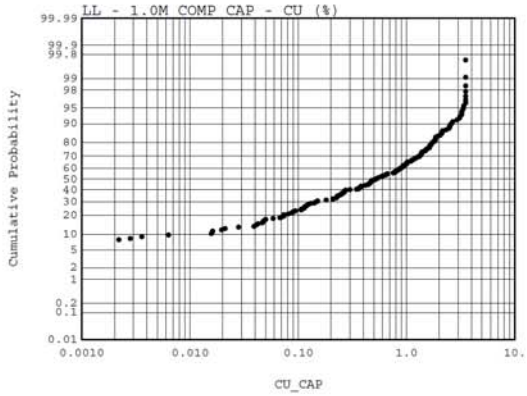

LL - 1.0M COMP - CU (%)
Number of Data 171
mean 0.9787
std. dev. 1.1191
coef. of var 1.1434
maximum 5.0870
upper quartile 1.5119
median 0.5140
lower quartile 0.1128
minimum 0.0002
weights used
Frequency
CU_FNL

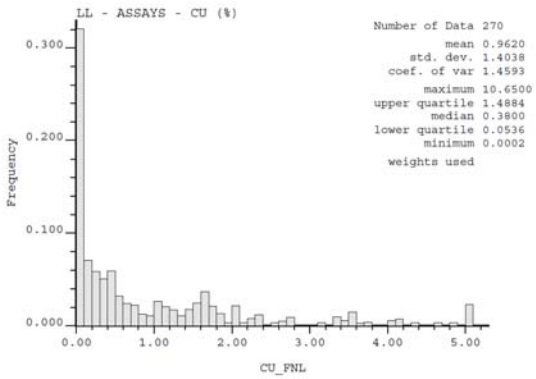

LL - 1.0M COMP - CU (%)
Cumulative Probability
CU_FNL

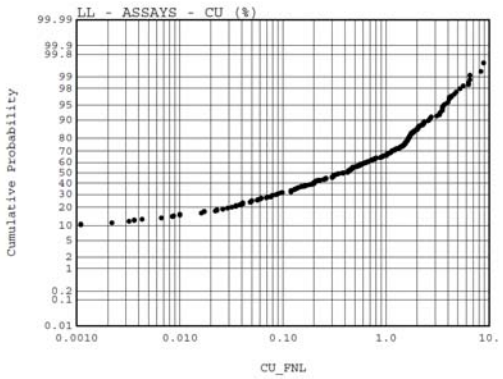

LL - 1.0M COMP - CU (%)
Mean
Number of capped data
Capped Value

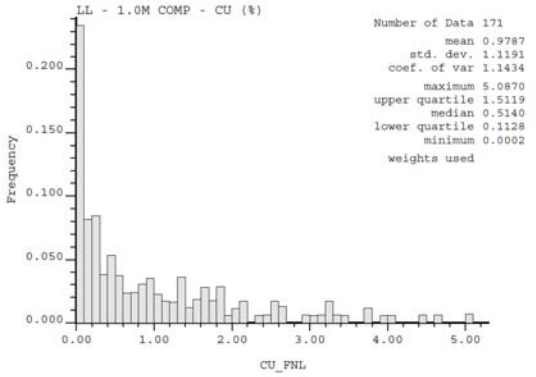

LL - ASSAYS VS COMP CAP - CU (%)
CU_CAP
number x 270
number y 171
x mean 1.171
std. dev. 1.570
y mean 0.946
std. dev. 1.023
CU_FNL

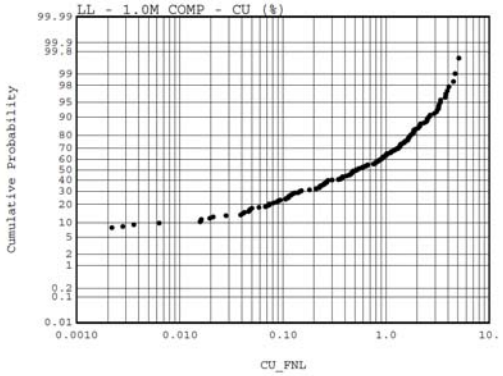

LL - 1.0M COMP CAP - CU (%)
Number of Data 171
mean 0.9462
std. dev. 1.0257
coef. of var 1.0841
maximum 3.5000
upper quartile 1.5119
median 0.5140
lower quartile 0.1128
minimum 0.0002
weights used
Frequency
CU_CAP

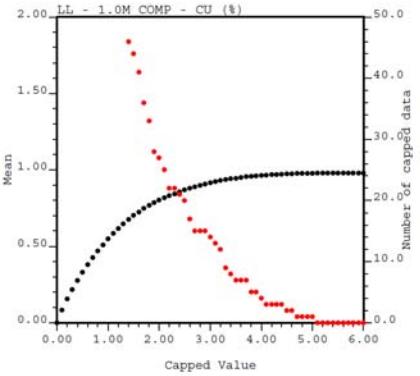

LL - 1.0M COMP CAP - CU (%)
Cumulative Probability
CU_CAP

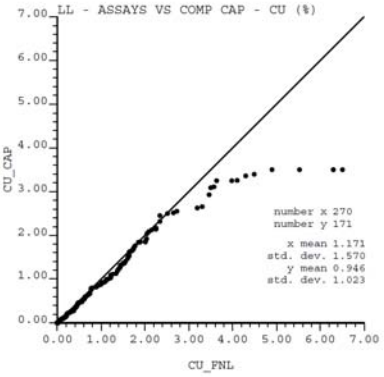

LL - ASSAYS - CU (%)
Number of Data 270
mean 0.9620
std. dev. 1.4038
coef. of var 1.4593
maximum 10.6500
upper quartile 1.4884
median 0.3800
lower quartile 0.0536
minimum 0.0002
weights used
Frequency
CU_FNL

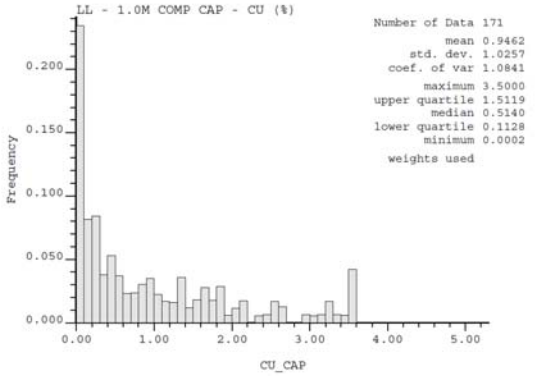

LL - ASSAYS - CU (%)
Cumulative Probability
CU_FNL

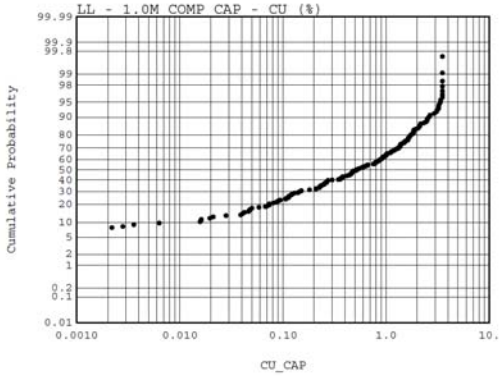

LL - 1.0M COMP - CU (%)
Number of Data 171
mean 0.9787
std. dev. 1.1191
coef. of var 1.1434
maximum 5.0870
upper quartile 1.5119
median 0.5140
lower quartile 0.1128
minimum 0.0002
weights used
Frequency
CU_FNL

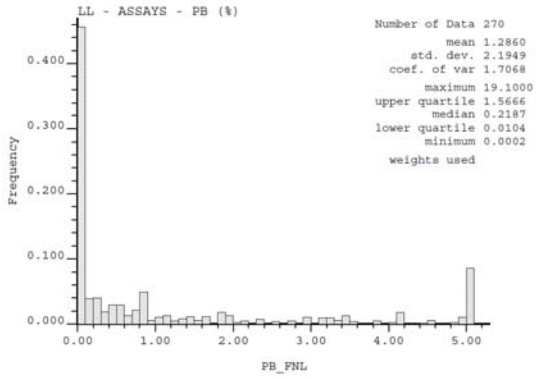

LL - 1.0M COMP - CU (%)
Cumulative Probability
CU_FNL

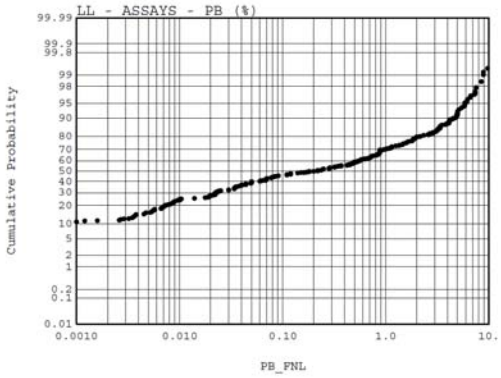

LL - 1.0M COMP - CU (%)
Mean
Number of capped data
Capped Value

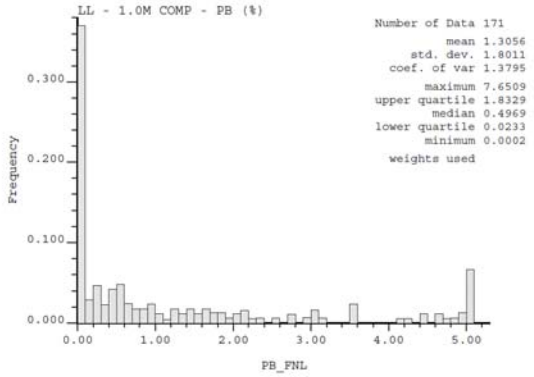

LL - ASSAYS VS COMP CAP - CU (%)
number x 270
number y 171
x mean 1.171
std. dev. 1.570
y mean 0.946
std. dev. 1.023
CU_CAP
CU_FNL

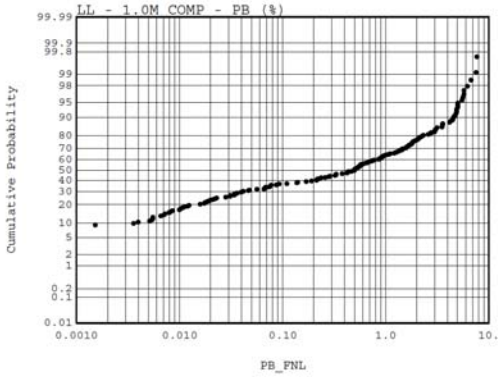

LL - 1.0M COMP CAP - CU (%)
Number of Data 171
mean 0.9462
std. dev. 1.0257
coef. of var 1.0841
maximum 3.5000
upper quartile 1.5119
median 0.5140
lower quartile 0.1128
minimum 0.0002
weights used
Frequency
CU_CAP

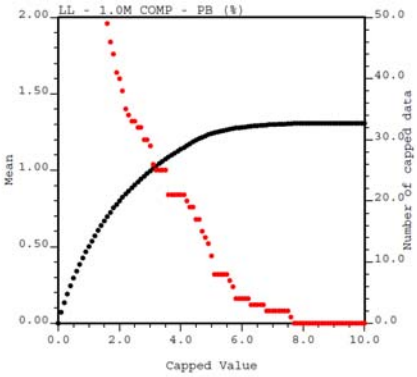

LL - 1.0M COMP CAP - CU (%)
Cumulative Probability
CU_CAP

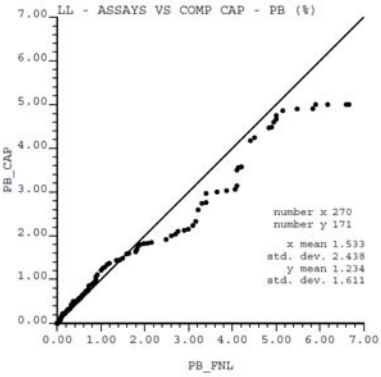

LL - ASSAYS - PB (%)
Number of Data 270
mean 1.2860
std. dev. 2.1949
coef. of var 1.7068
maximum 19.1000
upper quartile 1.5666
median 0.2187
lower quartile 0.0104
minimum 0.0002
weights used
Frequency
PB_FNL

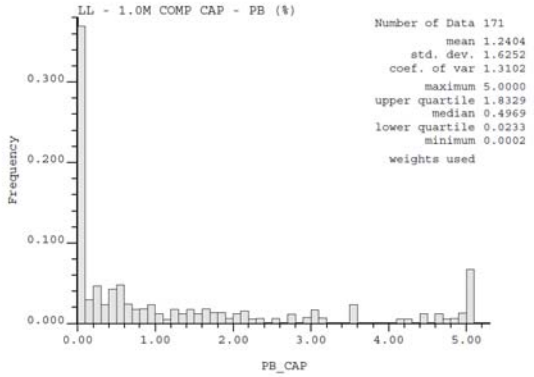

LL - ASSAYS - PB (%)
Cumulative Probability
PB_FNL

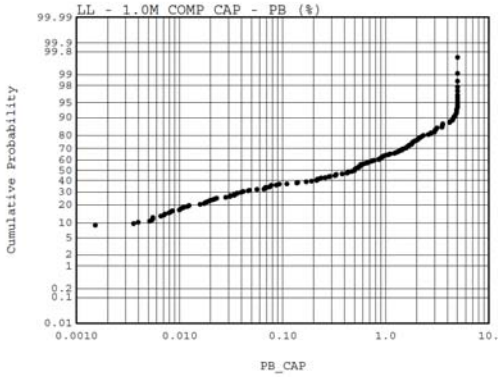

LL - 1.0M COMP - PB (%)
Number of Data 171
mean 1.3056
std. dev. 1.8011
coef. of var 1.3795
maximum 7.6509
upper quartile 1.8329
median 0.4969
lower quartile 0.0233
minimum 0.0002
weights used
Frequency
PB_FNL

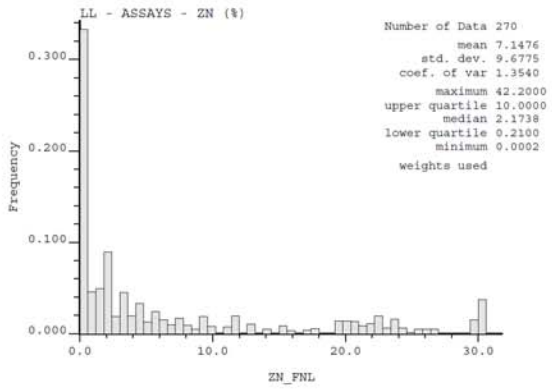

LL - 1.0M COMP - PB (%)
Cumulative Probability
PB_FNL

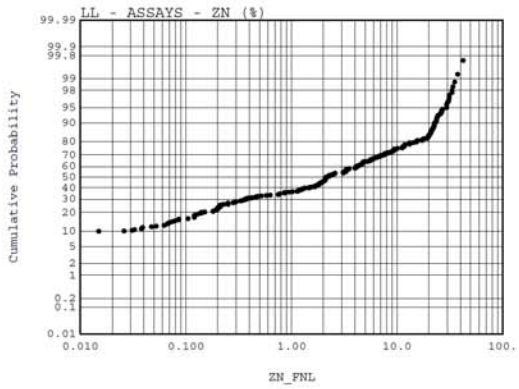

LL - 1.0M COMP - PB (%)
Mean
Number of capped data
Capped Value

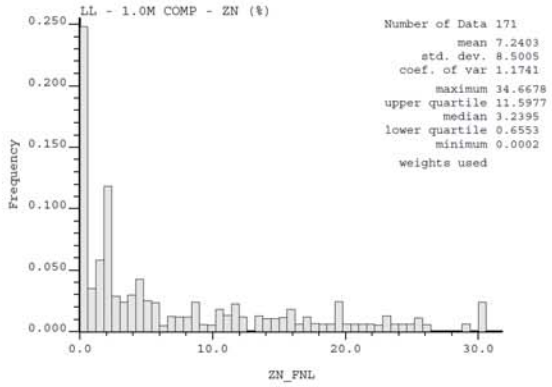

LL - ASSAYS VS COMP CAP - PB (%)
PB_CAP
number x 270
number y 171
x mean 1.533
std. dev. 2.438
y mean 1.234
std. dev. 1.611
PB_FNL

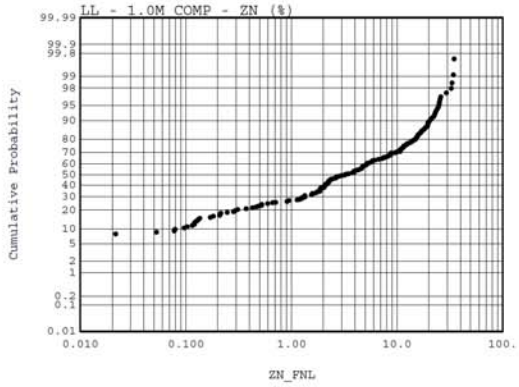

LL - 1.0M COMP CAP - PB (%)
Number of Data 171
mean 1.2404
std. dev. 1.6252
coef. of var 1.3102
maximum 5.0000
upper quartile 1.8329
median 0.4969
lower quartile 0.0233
minimum 0.0002
weights used
Frequency
PB_CAP

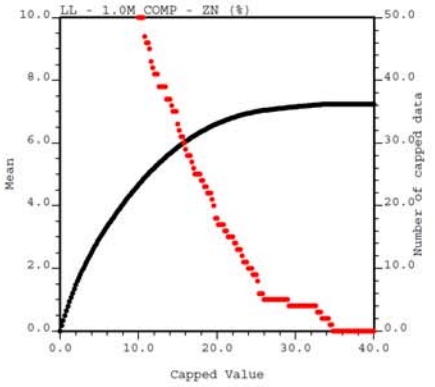

LL - 1.0M COMP CAP - PB (%)
Cumulative Probability
PB_CAP

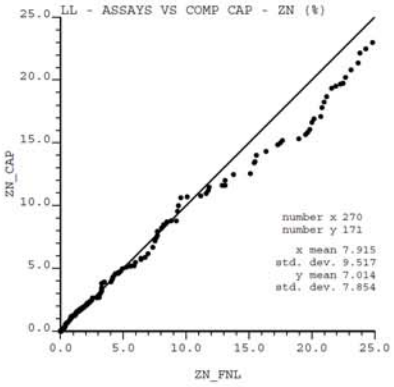

LL - ASSAYS - ZN (%)
Number of Data 270
mean 7.1476
std. dev. 9.6775
coef. of var 1.3540
maximum 42.2000
upper quartile 10.0000
median 2.1738
lower quartile 0.2100
minimum 0.0002
weights used
Frequency
ZN_FNL

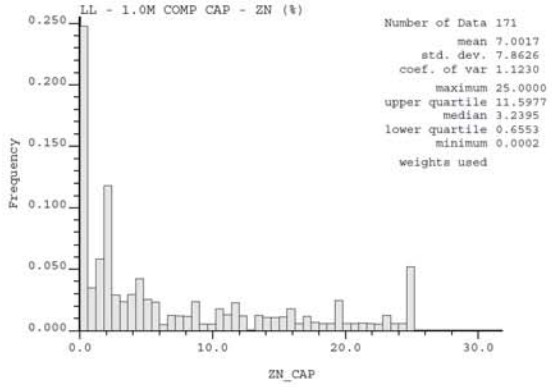

LL - ASSAYS - ZN (%)
Cumulative Probability
ZN_FNL

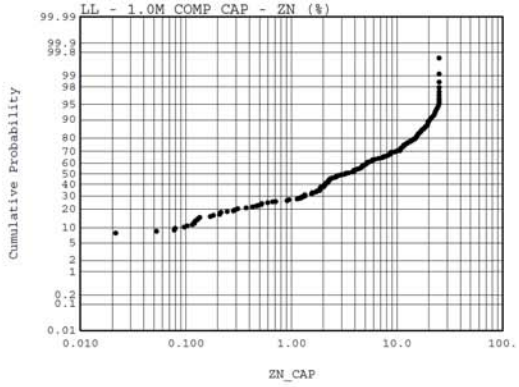

LL - 1.0M COMP - ZN (%)
Number of Data 171
mean 7.2403
std. dev. 8.5005
coef. of var 1.1741
maximum 34.6678
upper quartile 11.5977
median 3.2395
lower quartile 0.6553
minimum 0.0002
weights used
Frequency
ZN_FNL


LL - 1.0M COMP - ZN (%)
Cumulative Probability
ZN_FNL


LL - 1.0M COMP - ZN (%)
Mean
Number of capped data
Capped Value

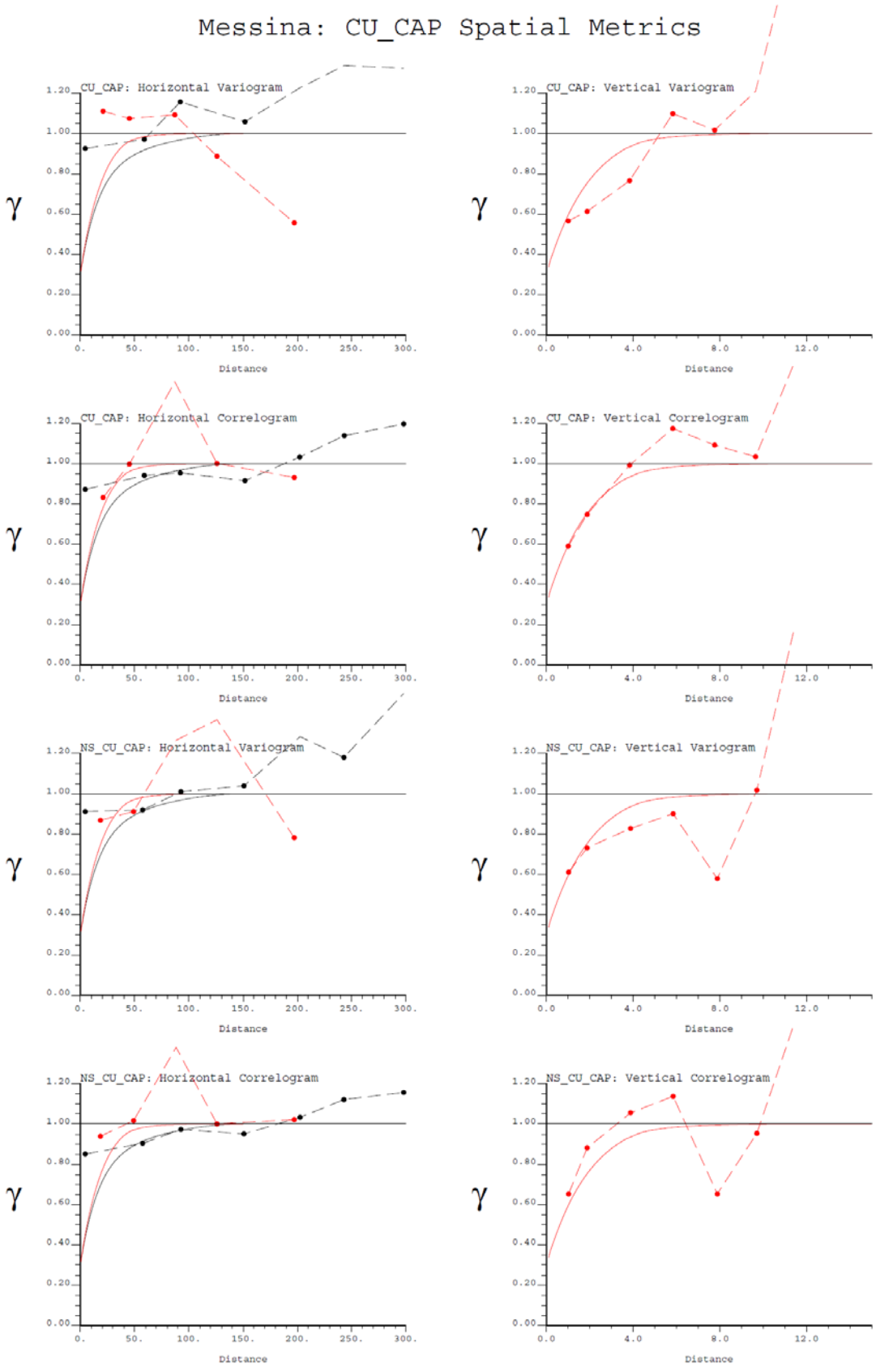

LL - ASSAYS VS COMP CAP - ZN (%)
number x 270
number y 171
x mean 7.915
std. dev. 9.517
y mean 7.014
std. dev. 7.854
ZN_CAP
ZN_FNL

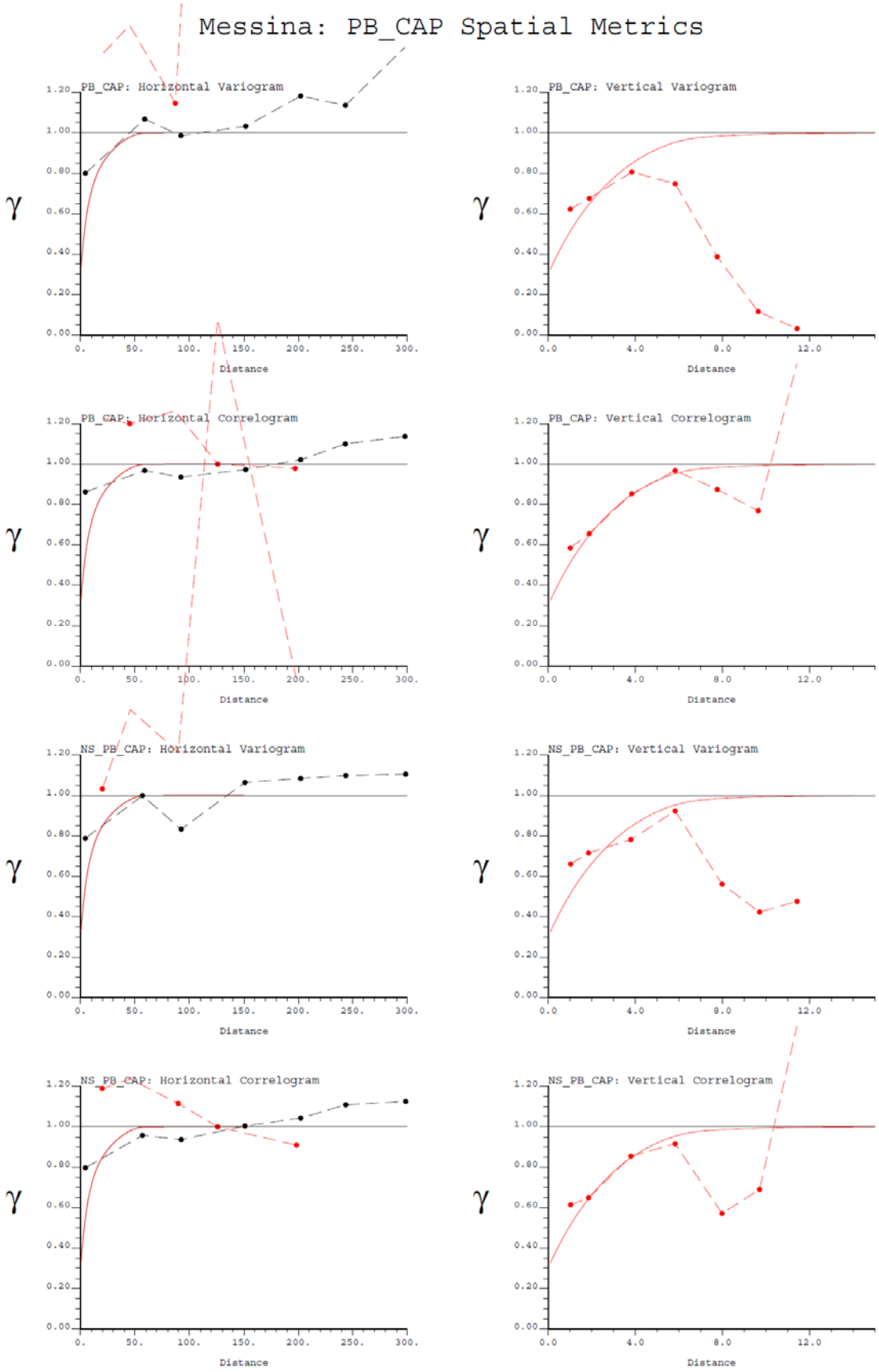

LL - 1.0M COMP CAP - ZN (%)
Number of Data 171
mean 7.0017
std. dev. 7.8626
coef. of var 1.1230
maximum 25.0000
upper quartile 11.5977
median 3.2395
lower quartile 0.6553
minimum 0.0002
weights used
Frequency
ZN_CAP

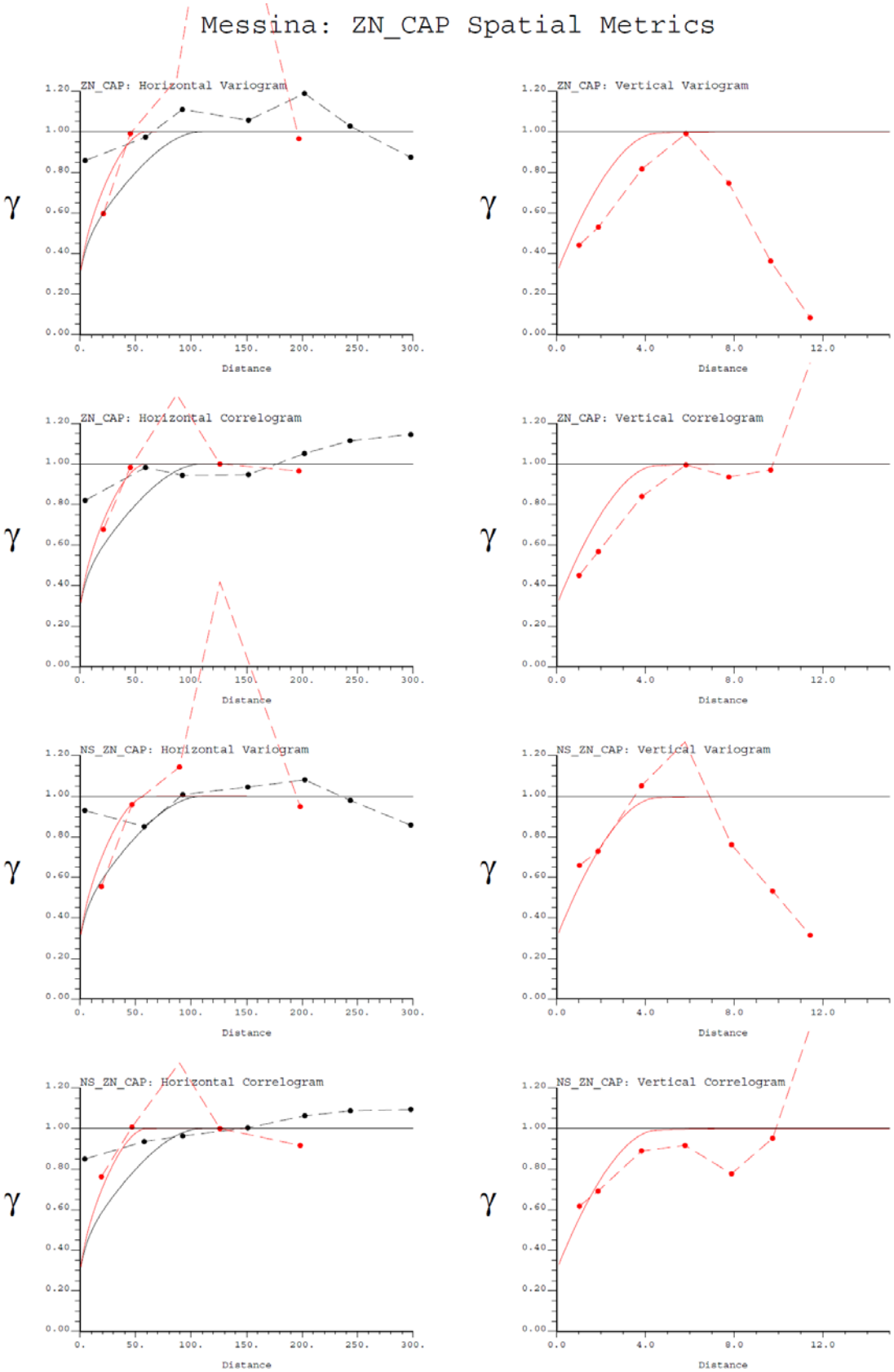

LL - 1.0M COMP CAP - ZN (%)
Cumulative Probability
ZN_CAP

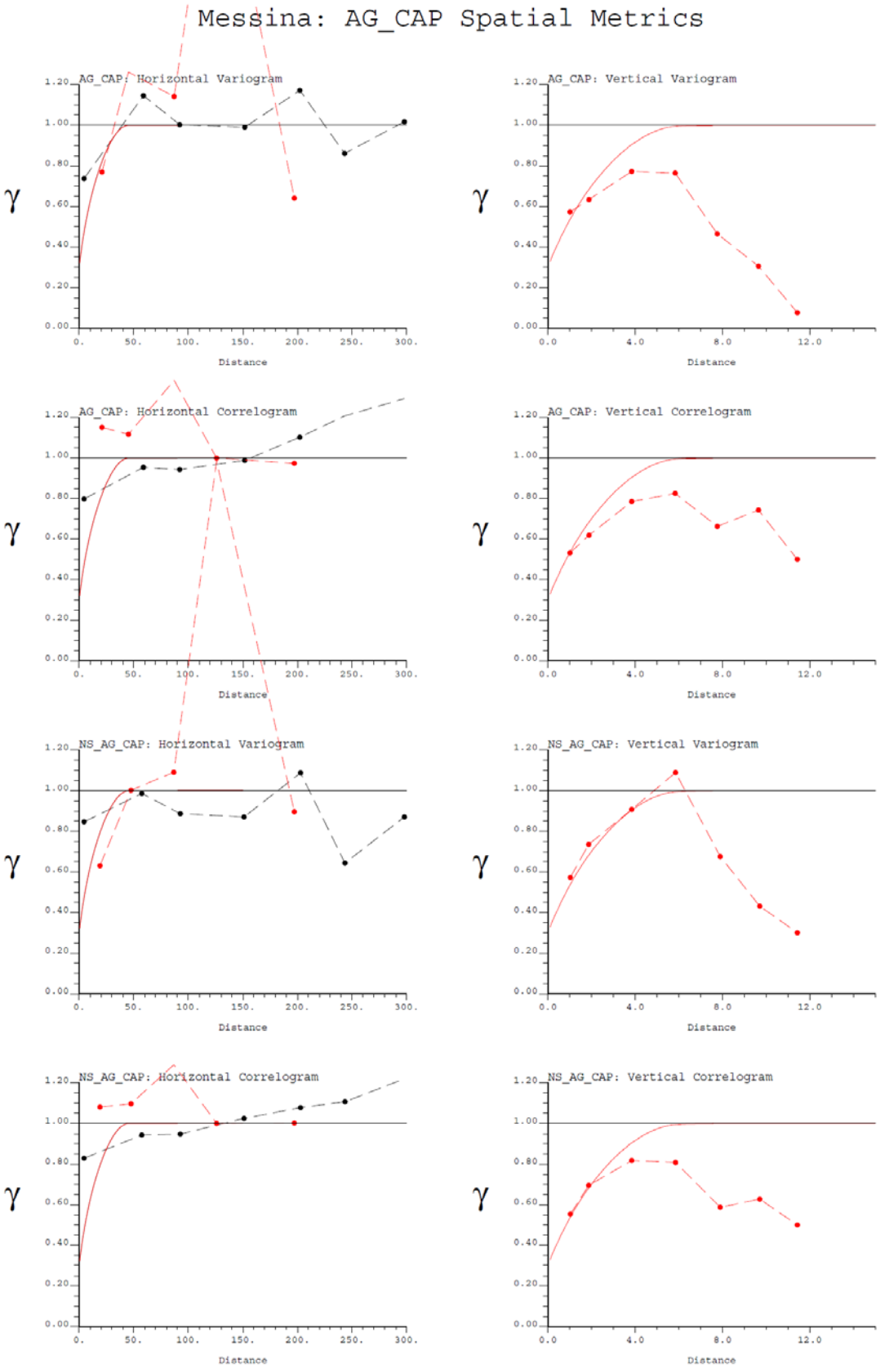
APPENDIX F

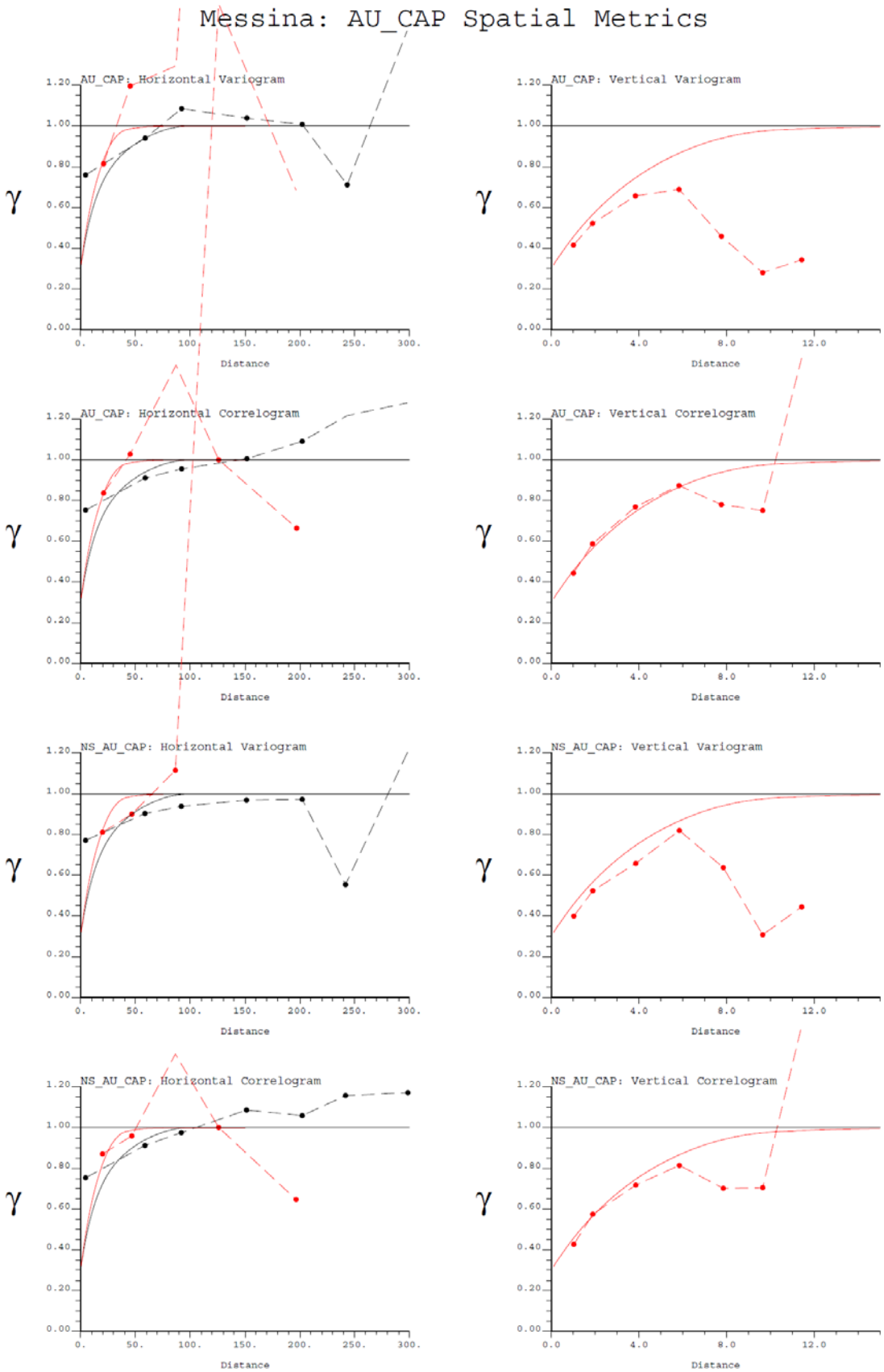
Variograms


Messina: CU_CAP Spatial Metrics
CU_CAP: Horizontal Variogram
CU_CAP: Vertical Variogram
CU_CAP: Horizontal Correlogram
CU_CAP: Vertical Correlogram
NS_CU_CAP: Horizontal Variogram
NS_CU_CAP: Vertical Variogram
NS_CU_CAP: Horizontal Correlogram
NS_CU_CAP: Vertical Correlogram
γ
Distance


Messina: PB_CAP Spatial Metrics
PB_CAP: Horizontal Variogram
PB_CAP: Vertical Variogram
PB_CAP: Horizontal Correlogram
PB_CAP: Vertical Correlogram
NS_PB_CAP: Horizontal Variogram
NS_PB_CAP: Vertical Variogram
NS_PB_CAP: Horizontal Correlogram
NS_PB_CAP: Vertical Correlogram
γ
Distance


Messina: ZN_CAP Spatial Metrics
ZN_CAP: Horizontal Variogram
ZN_CAP: Vertical Variogram
ZN_CAP: Horizontal Correlogram
ZN_CAP: Vertical Correlogram
NS_ZN_CAP: Horizontal Variogram
NS_ZN_CAP: Vertical Variogram
NS_ZN_CAP: Horizontal Correlogram
NS_ZN_CAP: Vertical Correlogram
γ
Distance


Messina: AG_CAP Spatial Metrics
AG_CAP: Horizontal Variogram
AG_CAP: Vertical Variogram
AG_CAP: Horizontal Correlogram
AG_CAP: Vertical Correlogram
NS_AG_CAP: Horizontal Variogram
NS_AG_CAP: Vertical Variogram
NS_AG_CAP: Horizontal Correlogram
NS_AG_CAP: Vertical Correlogram
γ
Distance


Messina: AU_CAP Spatial Metrics
AU_CAP: Horizontal Variogram
AU_CAP: Vertical Variogram
AU_CAP: Horizontal Correlogram
AU_CAP: Vertical Correlogram
NS_AU_CAP: Horizontal Variogram
NS_AU_CAP: Vertical Variogram
NS_AU_CAP: Horizontal Correlogram
NS_AU_CAP: Vertical Correlogram
γ
Distance

CERTIFICATE OF QUALIFIED PERSON

To accompany the report entitled: **Independent Technical Report for the Main Zone of the Long Lake Volcanic Massive Sulphide Project, Newfoundland and Labrador, Canada**.

I, Sébastien B. Bernier, residing at 54 Bayside Crescent, Sudbury do hereby certify that:

1) I am a Senior Resource Geologist with the firm of SRK Consulting (Canada) Inc. ("SRK") with an office at Suite 101, 1984Regent Street South, Sudbury, Ontario, Canada;
2) I am a graduate of the University of Ottawa in 2001 with B.Sc. (Honours) Geology and I obtained M.Sc. Geology from Laurentian University in 2003. I have practiced my profession continuously since 2002. I worked in exploration and commercial production of base and precious metals mainly in Canada. I have been focussing my career on geostatistical studies, geological modelling and resource modelling of base and precious metals since 2004;
3) I am a Professional Geoscientist registered with the APGO#1847 and PEGNL #05958;
4) I have personally inspected the subject project May 9 to 12, 2011;
5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
6) I, as a qualified person, I am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
7) I am the co-author of this report and responsible for Section 14 and accept professional responsibility for this section of this technical report;
8) I have had no prior involvement with the subject property;
9) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
10) SRK Consulting (Canada) Inc. was retained by Messina Minerals Inc. to prepare a technical audit of the Long Lake, Main Zone project. In conducting our audit a gap analysis of project technical data was completed using CIM "Best practices" and Canadian Securities Administrators National Instrument 43-101 guidelines. The preceding report is based on a site visit, a review of project files and discussions with Messina Minerals Inc. personnel;
11) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Long Lake Project, Main Zone or securities of Messina Minerals Inc; and
12) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Sudbury, Canada
April 16, 2012

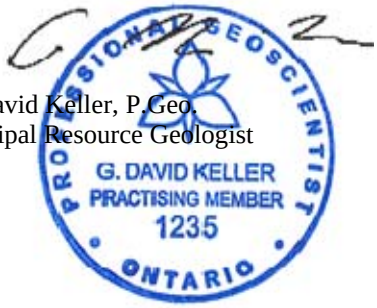
Sébastien B. Bernier, M.Sc. P.Geo.
Senior Consultant (Resource Geology)

CERTIFICATE OF QUALIFIED PERSON

To accompany the report entitled: **Independent Technical Report for the Main Zone of the Long Lake Volcanic Massive Sulphide Project, Newfoundland and Labrador, Canada**.

I, G. David Keller, P.Geo., do hereby certify that:

1) I am a Principal Resource Geologist with the firm of SRK Consulting (Canada) Inc. ("SRK") with an office at Suite 2100, 25, Adelaide Street East, Toronto, Ontario, Canada;
2) I am a graduate of the University of Alberta, Edmonton in 1986, I obtained a B.Sc. I have practiced in the fields of exploration, mine geology and resource estimation in my profession continuously since 1986;
3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of Ontario (APGO#1235);
4) I have not personally inspected the subject project;
5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
6) I, as a qualified person, I am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
7) I am the principal author of this report and responsible for Sections 1 to 13 and 15 to18 of the report and accept professional responsibility for those sections of this technical report;
8) I have had no prior involvement with the subject property;
9) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
10) SRK Consulting (Canada) Inc. was retained by Messina Minerals Inc. to prepare a technical audit of the Long Lake Project, Main Zone. In conducting our the resource estimate a review of project technical data was completed using CIM "Best practices" and Canadian Securities Administrators National Instrument 43-101 guidelines. The preceding report is based on a site visit, a review of project files and discussions with Messina Minerals Inc. personnel;
11) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Long Lake Project, Main Zone or securities of Messina Minerals Inc.; and
12) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.



Toronto, Canada
April 16, 2012

G. David Keller, P.Geo.
Principal Resource Geologist

SRK Consulting (Canada) Inc.
2100 – 25 Adelaide Street East
Toronto, Ontario, Canada
M5C 3A1

T: +1.416.601.1445
F: +1.416.601.9046

toronto@srk.com
www.srk.com

Project number: 3CM027.000

Toronto, April 16, 2012

To:
Securities Regulatory Authorities
B. C. Securities Commission (BCSC)
Alberta Securities Commission (ABC)
Ontario Securities Commission (OSC)
L'Autorité des marchés financiers (AMF)
Toronto Stock Exchange (TSX)

CONSENT of AUTHOR

I, G. David Keller, do hereby consent to the public filing of the technical report entitled "Independent Technical Report for the Main Zone of the Long Lake Volcanic Massive Sulphide Project, Newfoundland and Labrador, Canada," (the "Technical Report") and dated March 30, 2012 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Messina Minerals Inc. and to the filing of the Technical Report with any securities regulatory authorities.

I further consent to the company filing the report on SEDAR and consent to press releases made by the company with my prior approval. In particular, I have read and approved the press release of Messina Minerals Inc. dated March 13, 2012 (the "Disclosure") in which the findings of the Technical Report are disclosed.

I also confirm that I have read the Disclosure and that it fairly and accurately represents the information in the Technical Report that supports the Disclosure.

Dated this 16th day of April 2012.

G. David Keller, P. Geo.
Principal Resource Geologist

SRK Consulting (Canada) Inc.
2100 – 25 Adelaide Street East
Toronto, Ontario, Canada
M5C 3A1

T: +1.416.601.1445
F: +1.416.601.9046

toronto@srk.com
www.srk.com

Project number: 3CM027.000

Sudbury, April 16, 2012

To:
Securities Regulatory Authorities
B. C. Securities Commission (BCSC)
Alberta Securities Commission (ABC)
Ontario Securities Commission (OSC)
L'Autorité des marchés financiers (AMF)
Toronto Stock Exchange (TSX)

CONSENT of AUTHOR

I, Sébastien B. Bernier, do hereby consent to the public filing of the technical report entitled "Independent Technical Report for the Main Zone of the Long Lake Volcanic Massive Sulphide Project, Newfoundland and Labrador, Canada," (the "Technical Report") and dated March 30, 2012 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Messina Minerals Inc. and to the filing of the Technical Report with any securities regulatory authorities.

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I also confirm that I have read the Disclosure and that it fairly and accurately represents the information in the Technical Report that supports the Disclosure.

Dated this 16th day of April 2012.

Sébastien B. Bernier, M.Sc., P. Geo.
Senior Resource Geologist