Mineral Resource Estimation for Scotia Mine, Nova Scotia, Canada

Prepared for

SCOZINC

ScoZinc Mining Ltd.

Prepared by

srk consulting

SRK Consulting (U.S.), Inc.
387000.010
January 2020

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This report was prepared following the format of Canadian National Instrument 43-101 for ScoZinc Mining Ltd. by SRK Consulting (U.S.) Inc. The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in a Preliminary Economic Assessment, 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 ScoZinc Mining Ltd. (Company) subject to the terms and conditions of its contracts with SRK and to the relevant securities legislation. The contracts permit ScoZinc Mining Ltd. 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. Any other uses of this report by any third party are at that party's sole risk. The responsibility for this disclosure remains with ScoZinc Mining Ltd. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new technical report has been issued. This report does not conform to SEC S-K 1300 guidelines.

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Abbreviations

Abbreviation	Unit or Term
A	Ampere
AA	atomic absorption
ANFO	ammonium nitrate fuel oil
Ag	Silver
Au	Gold
AuEq	gold equivalent grade
BAPC	Nevada Division of Environmental Protection - Bureau of Air Pollution Control
BLM	U.S. Department of the Interior – Bureau of Land Management
BWM	Nevada Division of Environmental Protection - Bureau of Waste Management
BWPC	Nevada Division of Environmental Protection - Bureau of Water Pollution Control
°C	degrees Centigrade
CCD	counter-current decantation
CIL	carbon-in-leach
COG	cut-off grade
cfm	cubic feet per minute
ConfC	confidence code
CRec	core recovery
CSS	closed-side setting
CTW	calculated true width
CWA	Clean Water Act
°	degree (degrees)
dia.	Diameter
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
FA	fire assay
ft	foot (feet)
ft^2	square foot (feet)
ft^3	cubic foot (feet)
FWS	U.S. Fish and Wildlife Service
g	Gram
gal	Gallon
g/L	gram per liter
g-mol	gram-mole
gpm	gallons per minute
g/t	grams per tonne
ha	Hectares
HDPE	Height Density Polyethylene
HFRA	Healthy Forests Restoration Act
hp	Horsepower
HTW	horizontal true width
ICP	Inductively coupled plasma
IDW	inverse distance weighting
IFC	International Finance Corporation
ILS	Intermediate Leach Solution
IRR	Internal Rate of Return
kA	Kiloamperes
km	Kilometer
koz	thousand troy ounces
kV	Kilovolt
kW	Kilowatt
kWh	kilowatt-hour
kWh/t	kilowatt-hour per metric tonne
L	Liter
L/sec	liters per second
L/sec/m	liters per second per meter
lb.	Pound
LHD	Long-Haul Dump truck

Abbreviation	Unit or Term
LLDDP	Linear Low Density Polyethylene Plastic
LOI	Loss on Ignition
LOM	Life-of-Mine
M	million
MACT	Maximum Achievable Control Technology
MARN	Ministry of the Environment and Natural Resources
MDA	Mine Development Associates
mm	Millimeter
MME	Mine & Mill Engineering
Moz	million troy ounces
MPO	Mine plan of operations
Mt	million tonnes
MTW	measured true width
MW	million watts
MWMP	Meteoric Water Mobility Procedure
m.y.	million years
NDEP-BMRR	State of Nevada, Division of Environmental Protection – Bureau of Mining Regulation and Reclamation
NDWR	Nevada Division of Water Resources
NEPA	National Environmental Policy Act
NGO	non-governmental organization
NI 43-101	Canadian National Instrument 43-101
NPV	Net Present Value
opt	Ounces per ton
OSC	Ontario Securities Commission
oz	troy ounce
%	Percent
PLC	Programmable Logic Controller
PLS	Pregnant Leach Solution
PMF	probable maximum flood
POD	Plan of Development
ppb	parts per billion
ppm	parts per million
QA/QC	Quality Assurance/Quality Control
RC	reverse circulation drilling
RoM	Run-of-Mine
ROW	Right-of-way
RQD	Rock Quality Description
SEC	U.S. Securities & Exchange Commission
sec	Second
SG	specific gravity
SPT	standard penetration testing
ston	short ton (2,000 pounds)
t	tonne (metric ton) (2,204.6 pounds)
T&E	Threatened or endangered
t/h	tonnes per hour
t/d	tonnes per day
t/y	tonnes per year
TSF	tailings storage facility
TSP	total suspended particulates
µm	micron or microns
V	Volts
VFD	variable frequency drive
W	Watt
WPCP	Water pollution Control Permit
XRD	x-ray diffraction
y	Year

1 Executive Summary

This Mineral Resource Estimation (MRE) was prepared by Timothy Carew P.Geo., a Qualified Person in accordance with *Companion Policy 43-101CP to National Instrument 43-101 – Standards of Disclosure for Mineral Projects*. Mr. Carew conducted a personal inspection of the Project area in September 2012, per the requirement of Part 6.2 of the Instrument.

Mr. Jason Baker, Chief Engineer for ScoZinc Mining Limited (SZM, TSX-V) based in Halifax, Canada engaged SRK Consulting (US) Inc.in November 2019 to complete a National Instrument 43-101-compliant mineral resource update for the Scotia Mine property.

The Scotia Mine deposit (“the Property”) is located approximately sixty kilometers northeast of Halifax in the community of Gays River in the Halifax Regional Municipality. The property’s general location is 45º02’ North, 63º21' West. Access to the property is by paved roads and is approximately fifteen kilometers off the Trans-Canada Highway along Route #224. The Halifax International Airport is located twenty kilometers southwest of the mine site.

The Property lies in a rural-residential area of central Nova Scotia that is typified by rolling topography and abundant surface water. The Scotia Mine Deposit consists of three main zones of mineralization referred to as the Main (formerly Gays River deposit), Getty and Northeast Zones. The Main zone lies along the southside of the Gays River main branch, immediately east of the confluence with the Gays River south branch. The Getty zone lies just northwest of the Main and North-East zones on the western side of Gays River. The two zones are separated by less than one kilometer.

The climate is variable because of mixed continent and maritime weather patterns. Mean annual temperature is 5.9ºC, mean annual precipitation is 1,250 mm, and yearly evapo-transpiration is estimated to be 560mm. The relatively mild climate (for Canada) permits year-round operations.

ScoZinc currently holds five exploration licenses covering 41 claims in the immediate vicinity of the Scotia Mine Deposit (Figure 4-3). Each individual claim covers an area of approximately forty acres (16.2 hectares). In total, the 41 claims cover approximately 664 hectares (1641 acres). These licenses are located along strike from the Scotia Mine Deposit and include favourable host rocks similar to that at the mine site.

In 2008, Gallant Aggregates signed a “License, Option and Royalty Agreement” granting Gallant the right to remove, extract and process sand, gravel, and fill and to obtain materials from the overburden and waste material created by ScoZinc at the Scotia Mine site (Main Zone) for the greater of $25,000 per annum or $1.00 per metric tonne. In addition, Gallant has a right of first refusal to purchase the Scotia Mine property if ScoZinc plans to sell the property after mining operations are completed or abandoned. Gallant also purchased a 25 acre portion of ScoZinc’s “real property.”

ScoZinc has an agreement with an adjacent landowner (Benjamin) to lease 13 hectares of land, adjacent to the tailings impoundment, for the purpose of stockpiling stripped overburden waste material.

Cullen *et al* (2011) described a royalty agreement that covers the Getty Zone:

"Acadian advised Mercator and Selwyn that Licence 06959 that covers the Getty Zone, plus certain peripheral claims in the area, are subject to an agreement between Acadian and Globex Resources Ltd., dated October 10th 2006, that provides Globex with a 1% Net Smelter Return (NSR) royalty interest in the associated claims plus 25,000 common shares of Acadian. Agreement terms also allow Acadian to purchase 50% of the NSR for $300,000CDN.

An Environmental Assessment Document is in place for Scotia Mine (Main Zone), approved in August 2000, which addresses the environmental concerns of a surface and underground mining operation along with the diversion of a 500 meter section of the Gays River to accommodate the pit design. The river has not yet been diverted.

ScoZinc surface-mined the deposit during 2007 and 2008. ScoZinc mined 1.1 million tonnes of surface mineralized material and stripped 9.4 million tonnes of over burden. Due to a drastic plunge of base metal prices nearly coinciding with the mine's re-opening, ScoZinc placed the mine on care-and-maintenance status near the end of 2008.

The Environmental Registration Document (Environmental Assessment) covered only part of the Main Zone. This area was mined by ScoZinc Limited in 2007-2008. Resources in this area have not been exhausted. However, additional environmental assessment work would be required before the mine could expand very far outside of its current footprint, either west along strike in the Main Zone, north east across Gays River to the North east Zone or to the Getty Zone.

On October7th, 2011, Selwyn received approval from Nova Scotia Environment, a department of the provincial government, for its proposed south west expansion of the previously-mined Main Pit. On May 18, 2012 Selwyn received an amended Industrial Approval allowing expansion of the existing mine to include the Southwest Expansion of the previously mined Main Pit. The Industrial Approval went through a renewal process and was approved March 28, 2019 with an expiry date of February 23, 2027

Prior to expansion outside the currently permitted area, updated plans would have to be approved by the Nova Scotia Department of Mines and Energy and Nova Scotia Environment and an updated Industrial Approval and Environmental Assessment (essentially an environmental operating permit) would be required.

The Scotia Mine mill, designed and built in 1978 and 1979, is a flotation process and has a rated capacity of 1,350 tonnes per day. However, it has operated for extended periods at a rate in excess of 2,000 tonnes per day. Other existing site infrastructure includes:

An administration building containing offices, a dry, warehouses, workshops, a large board room, and several heavy equipment bays;

- Two free standing shops;
- A geology building; and,
- A core shed.

Storage and ship loading facilities for lead and zinc concentrates are available at the port of Sheet Harbour, a distance of eighty kilometers from the mine site over paved roads. ScoZinc does not own these facilities, but West miner used them in 1990. Rail transport facilities have also been used for concentrate shipping. A railway siding is located in Milford, eight road-kilometers from the site.

The existing surface rights are sufficient for mining operations. Three-phase power is supplied through the regional grid at reasonable rates. Most of the mill's water requirements are satisfied by in-process recycling. Make-up water is drawn from the perennial Gays River.

The Property is under lain by basement rocks of the Cambro-Ordovician Meguma Group which had significant local topographic relief due to rift faulting and erosion. Locally, a veneer of Horton Group, red-brown conglomerate and sandstone mark the base of the unconformably overlying Lower Carboniferous rocks which host the Main and Getty Zones.

In areas where the basement rocks formed islands in the Carboniferous Sea, coral reefs formed along the shores. These carbonate rocks are the Gays River Formation. The Mac Cumber Formation is time-equivalent to the Gays River Formation. The Mac Cumber and Gays River Formations are overlain by evaporites of the Carroll's Corner and Stewiacke Formations.

The Gays River Formation mineralization has long been considered a Mississippi Valley-type lead-zinc deposit. This type of deposit is carbonate-hosted, classified as a typical open space filling type, and hosted in a dolomitized limestone. The limestone developed as a carbonate build-upon an irregular pre-Carboniferous basement topographic high where conditions allowed for growth of reef-building organisms.

The zinc/lead-bearing Gays River Formation trends in an east-north east direction across the Property. Locally, the mineralisation dips up to 45º on average, and up to vertical in places, to the north-northwest which is the depositional slope of the front of the Gays River reef unit. The dip tends to be horizontal in the back reef area (south of the main trend). The mineralisation is present as sphalerite and galena and grades from massive Pb-Zn mineralized material in the fore reef to finely disseminated, lower grade material in the back reef. In the mine area, the Gays River Formation is overlain either by the evaporites of the Carroll's Corner Formation and/or overburden.

The Main Zone was discovered in 1973 by the Imperial Oil Enterprises ("Esso")/Cuvier Mines joint venture. Esso initiated mine development in 1978 and commissioned the mill in 1979. From 1979 to 1981 the mine produced 554,000 tonnes of ore containing 2.1% Zinc and 1.4% Lead. Esso had difficulty dealing with ground water conditions along the hanging wall of the mineralized zone, which resulted in having to leave a hanging wall pillar that was comprised of high-grade material. The mine closed in 1982 due to ground water inflow and operating losses caused by low metal prices.

Seabright Resources Inc. acquired the mine and mill in 1984. Despite a favourable feasibility study, they did not reactivate the mine due to depressed metal prices at the time. They converted the mill for gold processing and processed material from several satellite properties.

With the takeover of Seabright by Western Mining Corporation (Westminer) in 1988, a review of the potential for mining the deposit was undertaken. Following completion of feasibility studies in 1989, the underground workings were dewatered and test mining was carried out. A total of 187,000 tonnes were mined over a fifteen month period with average grades of 7.47% Zinc and 3.50% Lead. In 1991, production was suspended again due to groundwater inflow and economic considerations.

In 1997, Savage Resources Canada Limited acquired the Scotia Mine assets from Westminer. Savage concluded that an open pit operation was feasible and initiated environmental permitting, including provisions for a diversion of a portion of the Gays River. Savage was subsequently taken over by Pasminco Resources Canada Company (Pasminco Resources) and their environmental assessment plan was approved by the Nova Scotia Minister of the Environment in August 2000.

Regal Mines Limited (Regal Mines) purchased Pasminco Resources in February 2002. Regal was owned 50% by OntZinc Corporation (OntZinc) and 50% by Regal Consolidated Ventures Limited (Regal Consolidated). As part of the sale, Pasminco Canada Holdings Inc. (Pasminco Holdings) retained a 2% net smelter return (NSR) royalty on future production. OntZinc acquired Regal Consolidated's 50% interest in December 2002 to own 100% of Pasminco Resources.

OntZinc later changed its name to HudBay Minerals Inc. (Hudbay) after purchasing Hudson's Bay Mining and Smelting in December 2004. In 2006, Acadian Gold Corp ("Acadian Gold") purchased 100% of ScoZinc and all of its assets (consisting mainly of Scotia Mine and its infrastructure) from OntZinc for $7million. In 2007, ScoZinc purchased the remaining 2% NSR.

ScoZinc reactivated the mill and surface-mined the Main Zone during 2007 and 2008. Depressed metal prices forced ScoZinc to place the mine on care-and-maintenance status. In February 2011, Selwyn Resources Limited ("Selwyn") purchased ScoZinc and all of its assets, including the Scotia Mine and ScoZinc's exploration claims, for $10 million less a deduction relating to increased reclamation bonding requirements that were being determined at the time of the acquisition.

Regarding the Getty Zone, Cullen *et al* (2011) stated that "in September 2006 the provincial government tendered exploration rights to the closed Getty property and Exploration Licences 6959 and 6960 were subsequently issued to Acadian on October 20th, 2006 as successful bidder under the tendering process."

ScoZinc currently holds the mineral rights to the Main and Getty Zones, the mining rights and surface rights (real property rights) for the Scotia Mine deposit and an environmental assessment (environmental registration) for the Scotia Mine.

Only Mineral Resources were identified in this resource report. No economic work, such as estimating capital and operating costs, that would be required for identifying Mineral Reserves, was carried out and no Mineral Reserves were identified.

Scotia Mine Deposit Resource Estimate

The author reviewed the sampling results and verified that the sample types and density are adequate for estimating Mineral Resources. The sampling results are representative of the mineralisation. The available information and sample density allow an estimate to be made of the size, tonnage and grade of the mineralisation in accordance with the level of confidence established by the Mineral Resource categories in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards.

Mineral Resource estimation was completed for the Scotia Mine Deposit, including the Main, Getty and Northeast Zones. Geological modeling and mineral resource estimation was conducted using GEMS™ modeling software (Version 6.8.2). Drilling and sampling information from programs completed up to 2012 have been incorporated into the geological model and mineral resource estimation. No drilling has occurred on the property since 2012.

Mineral resources for the Scotia Mine Deposit have been classified as Measured, Indicated and Inferred categories based on CIM Definition Standards in accordance with NI 43-101 reporting guidelines. The initial classification criteria consider a combination of geometric criteria (based on overall drill hole spacing), and estimation quality criteria.

- Measured blocks require a minimum of three holes within 20 m radii, nominally corresponding to a maximum drillhole spacing of 28 m. The mean distance to the nearest three holes is 12.5 m.
- Indicated blocks require a minimum of three holes within 50m radii, with a nominal maximum spacing of 70 m. The mean distance to the nearest three holes is 30m.
- Inferred – all other blocks estimated in the mineralized zone

Mineral resources are reported with respect to cut-off values calculated using the assumed processing costs and recoveries, and metal prices. The resource is also constrained by an optimized (Whittle™) pitshell, which is based on an optimistic metal prices, in order to demonstrate that the defined resources have reasonable prospects of eventual economic extraction, which is a CIM Definition Standards criterion. All classification categories (Measured, Indicated and Inferred) were considered in the resource pit optimization.

The Scotia Mine Deposit mineral resource summary statement in provided in Table 1-1: Scotia Mine Resource Statement, Dec 14, 2019 - SRK Consulting (U.S.) Inc., with and effective date of December 14, 2019.

Table 1-1: Scotia Mine Resource Statement, Dec 14, 2019 - SRK Consulting (U.S.) Inc.

Classification	Zone	Mass (kt)	Zn (%)	Pb (%)	ZnEQ (%)
Measured	Getty	60	1.38	1.25	2.58
	Main	4,130	2.57	1.30	3.81
	North East	130	3.18	1.88	4.98
	Total	**4,320**	**2.57**	**1.32**	**3.83**
Indicated	Getty	8,090	1.24	0.81	2.02
	Getty South	840	1.58	0.25	1.82
	Main	9,870	1.92	1.01	2.89
	North East	2,330	2.88	1.15	3.98
	Total	**21,130**	**1.75**	**0.92**	**2.64**
Measured and Indicated	Getty	8,150	1.24	0.82	2.03
	Getty South	840	1.58	0.25	1.82
	Main	14,000	2.11	1.09	3.16
	North East	2,460	2.89	1.19	4.04
	Total	**25,450**	**1.89**	**0.99**	**2.84**
Inferred	Getty	950	1.35	0.54	1.87
	Getty South	770	1.53	0.25	1.77
	Main	2,980	1.49	0.79	2.25
	North East	310	2.01	0.74	2.72
	Total	**5,010**	**1.50**	**0.66**	**2.13**

Source: SRK, 2019

- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that any part of the Mineral Resources estimated will be converted into Mineral Reserves;
- Open pit resources stated as contained within a potentially economically minable open pit; pit optimization was based on assumed prices for zinc of US$1.35/lb, and for lead of US$1.14/lb, a Zn recovery of 86% and a Pb recovery of 93%, mining and processing costs varying by zone, and pit slopes of 45 degrees in rock and 22 degrees in overburden;
- Open pit resources are reported based on a Zinc Equivalent (ZnEq) grade of 0.90%. The ZnEq grade incorporates Zn and Pb sales costs of US$0.19/lb and US$0.11/lb respectively, and a 2% royalty fee;
- Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding

2 Introduction and Terms of Reference

2.1 Issuer

This Report is prepared for ScoZinc Mining Ltd and the responsibility for disclosure remains with ScoZinc Mining Ltd.

A summary of responsibilities by Qualified Person (QP) is shown in Table 2-1.

Table 2-1: QP responsibilities

Name	Company	QP Responsibility
Timothy Carew, P.Geo	SRK Consulting (U.S.) Inc.	All Sections

2.2 Terms of Reference

Mr. Jason Baker, Mine Manager of Scotia Mine for ScoZinc Mining Ltd. (SZM: TSX.V) based in Halifax, Canada engaged SRK Consulting (U.S.) Inc. in November 2019 to complete a mineral resource update for the Scotia Mine zinc-lead deposit.

2.3 Purpose of Report

This report provides a Mineral Resource estimates, as well as a classification of resources prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves: Definitions and Guidelines, May 10, 2014 (CIM, 2014).

The purpose of this report is to provide disclosure of a complete and independent mineral resource update conforming to NI 43-101 standards and Form 43-101F1. The report was to update the mineral resources based on a consolidation of the geological and grade information and modeling for the Gays River Formation (host formation of the Scotia Mine deposit) as a whole, rather than the independent models prepared for the Getty, Main and North-East zones in the past.

2.4 Basis of Technical Support

This report is based in part on internal Company technical reports, previous owners' technical reports and studies, maps, published government reports, company letters and memoranda, and public information as cited throughout this report and listed in the References (Section 27 Several sections from reports authored by other consultants have been directly quoted in this report, and are so indicated in the appropriate sections.

Digitised and hard copy material for all exploration activity since inception of exploration on the property was supplied by ScoZinc Mining Ltd. ("ScoZinc").

Extensive reference was made to Cullen *et al* (2011) report titled, "Technical report on a mineral resource estimate, Getty Deposit."

2.5 Site Visit

Mr. Tim Carew (M.Sc., Geology, P.Geo.), the author, last visited the site on September 19, 2012, spending one day on site with Mr. Jason Dunning, V.P. Exploration of Selwyn Mining. During the visit the author reviewed plans and sections generated from the 2011 drilling, and from past drilling, with Selwyn geological staff. The author also examined drill core from past and current drilling, with particular reference to core intervals grading 0.5 to 2.0% zinc-equivalent, as these intervals are now included in the mineral resource estimation data set with the adoption of a lower zinc-equivalent threshold for modeling purposes. Examination of core from available drill-holes intersecting the mineralized zones from hanging wall to footwall confirmed the general zoning from high-grade massive sulfide (dissolution zones along the gypsum contact) to low-grade disseminated halo zones in the foot wall, as modeled.

Earlier, Mr. Carew visited the mine site in 1998. The visit was part of a mineral resource estimate that was carried out by Savage Resources Canada.

2.6 Units of Measure

Unless otherwise stated, all units used in this report are metric. Unless otherwise stated, the legal currency used is the Canadian dollar.

2.7 Site Grid Parameters

A site grid was used throughout the report. The grid is a simple translation with almost no rotational deviation from the Nova Scotia Grid, which is a 3° Modified Transverse Mercator projection using an ATS 77 datum. The site grid elevation datum is 500.11 meters above Mean Sea Level. For reference, the co-ordinates of two points, in both site and Nova Scotia grids, are reported in Table 2-2

The same site grid was used for both the Main and Getty Zones.

Table 2-2: Site Grid Parameters

Site						
Control Monument	**Site Grid North (m)**	**Nova Scotia Grid East (m)**	**Elev. (m)**	**North (m)**	**East (m)**	**Elev. (m)**
No. 4	6 ,869.72	8,597.50	531.33	4,988,509.11	5.591,210.89	31.25
No. 7	7 ,019.95	8,866.55	530.69	4,988,659.37	5,591,479.94	30.58

2.8 SRK Declaration

SRK's opinion contained herein and effective December 14, 2019 is based on information collected by SRK throughout the course of SRK's investigations, which in turn reflect various technical and economic conditions at the effective date of this 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 sub-totals, 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 ScoZinc Mining Ltd. and neither SRK nor any affiliate has acted as advisor to ScoZinc Mining Ltd. , 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.

Disclaimer

SRK has assumed that all the information and technical documents listed in the References section of this report are accurate and complete in all material aspects. While all of the available information that was presented was carefully reviewed and believed to be correct, SRK cannot guarantee its accuracy and completeness. SRK reserves the right, but will not be obligated to revise this report and conclusions if additional information becomes known subsequent to the date of this report.

The author has relied largely on the documents listed in Section 27 and the site visits for the information in this report. However, the conclusions and recommendations are exclusively the author's. The results and opinions outlined in this report are dependent on the aforementioned information being current, accurate and complete as of the date of this report and it has been assumed that no information has been withheld which would impact the conclusions or recommendations made herein.

3 Reliance on Other Experts

Sections 4 through 13 of this report include information taken directly from previous technical reports prepared by others and has been referenced accordingly throughout this document. The author has made reasonable attempts to accurately convey the content of those reports, but cannot guarantee either the accuracy, validity, or completeness of the data contained within those files. However, it is believed that these reports were written with the objective of presenting the results of the work performed, without any promotional or misleading intent.

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, including title in mineral rights, royalty or other agreements or any encumbrances on the mineral rights. SRK has relied on the legal information provided by ScoZinc.

4 Property Description and Location

The Scotia Mine ("the Property") is located approximately sixty kilometers northeast of Halifax, Nova Scotia in the community of Gays River in the Halifax Regional Municipality. The property's general location is 45º02' North, 63º21' West.

The Property encompasses the Getty, Main and North-East zones of the Scotia Mine deposit and consists of 615 hectares of mineral rights, including land with exploration potential for zinc/lead mineralisation, and 568.4 hectares of land ownership (real property) (Figure 4.1 and Figure 4.2).

The Getty Zone property consists of 62 contiguous mineral claims, of approximately 992 hectares.

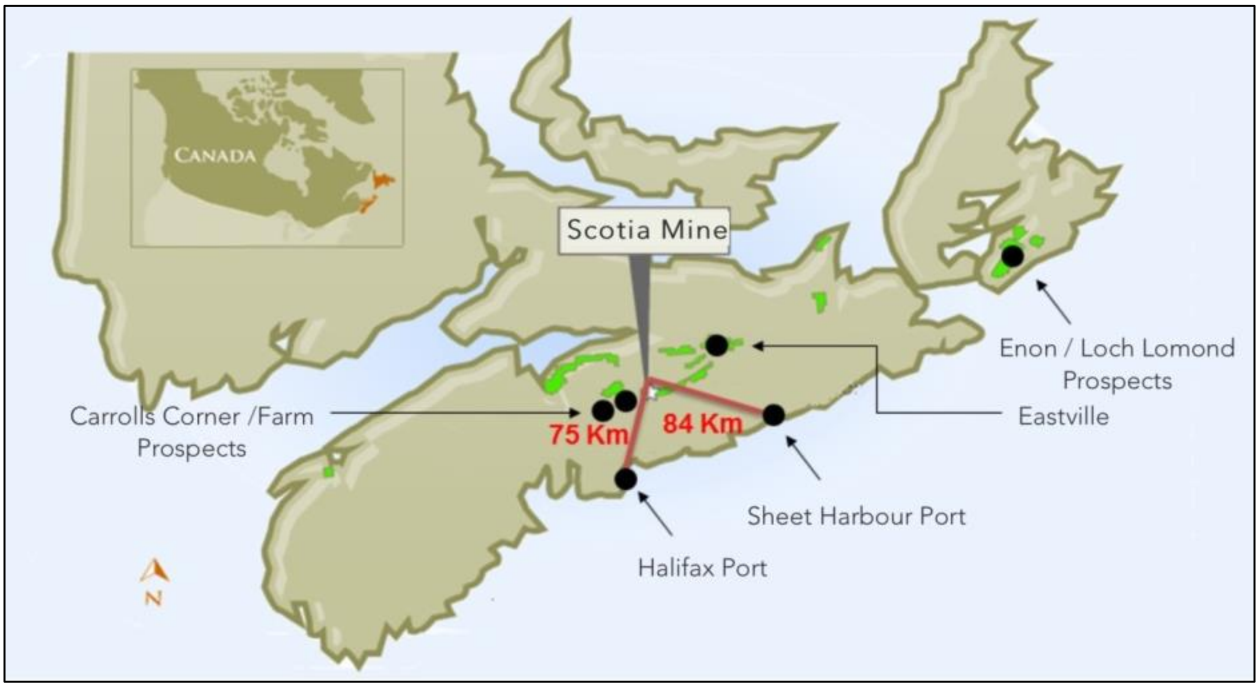


Figure 4.1: Location Scotia Mine

Source: MineTech, 2012

Figure 4.2: Location Relative to Halifax

4.1 Exploration Land Status

Exploration Licenses

ScoZinc currently holds five exploration licenses covering 41 claims in the immediate vicinity of the Scotia Mine Deposit (Figure 4.3). Each individual claim covers an area of approximately forty acres (16.2 hectares). In total, the 41 claims cover approximately 664 hectares (1641 acres). These licenses are located along strike from the Scotia Mine Deposit and include favourable host rocks similar to that at the mine site.

Exploration License no. 06959 covers the Getty Zone of the Scotia Mine deposit.

All exploration licenses were in good standing and registered to ScoZinc Limited as of January 27, 2020. Issue dates range from May 2, 1997 to May 6, 2006. The ScoZinc exploration licenses are summarized in Table 4-1.

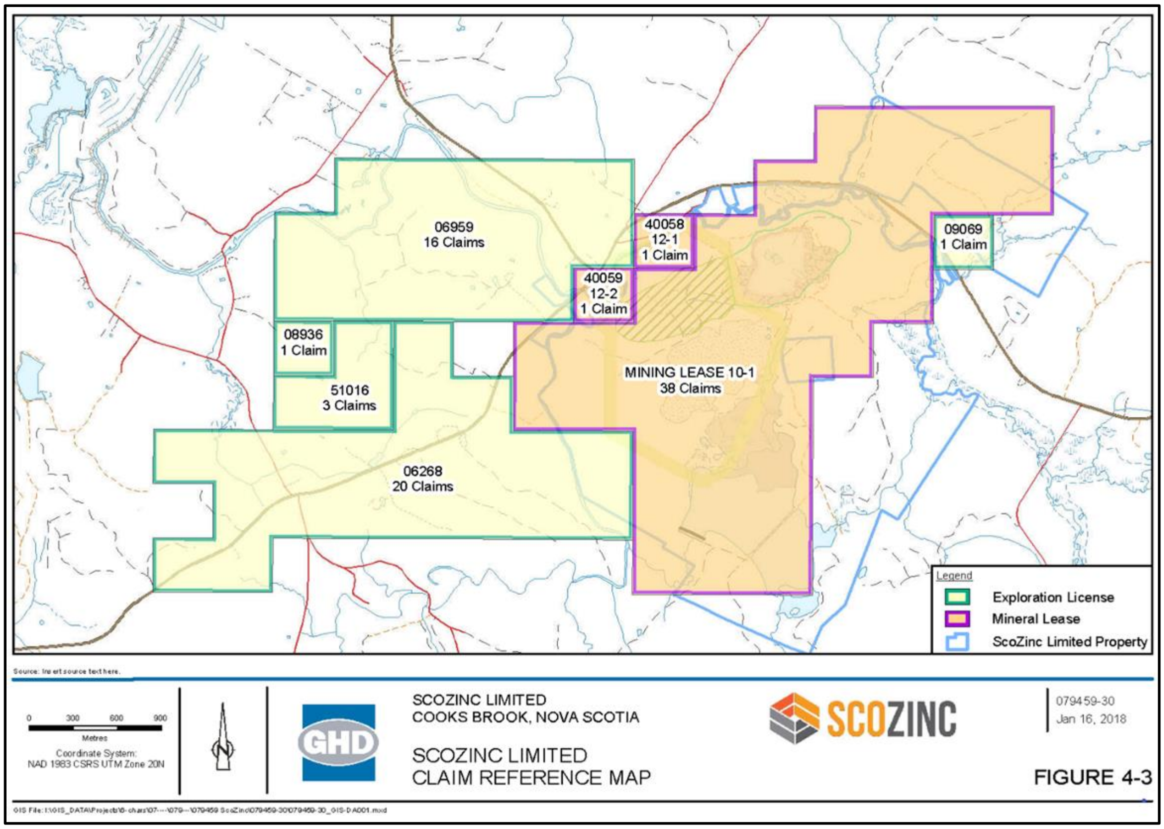
Table 4-2 through Source: ScoZinc, 2019
Table 4-5 provides details on each ScoZinc exploration license in the immediate vicinity of the Scotia Mine Deposit.

Table 4-1: Summary of ScoZinc Exploration Licenses

Exploration License Number	Number of Claims	Claim Reference Map	Issue Date
6268	20	11E/03B	May 2,1997
06959 (Getty Zone)	16	11E/03B	October 20,2006
8936	1	11E/03B	December 21,2009
9069	1	11E/03B	August 19,2005
51016	3	11E/03B	May 6,2016

Table 4-2: Exploration License 06268 (20 Claims)

Claim Reference Map	Tract	Claims	Anniversary Date	Issue Date
11E/03B	19	ABCDEFGHLMN	May 2,2021	May 2,1997
	18	ABCEFGH		
	7	NO		



Source: ScoZinc, 2019

Figure 4.3: Exploration Licenses, Mineral Leases, and Real Property Boundary (Surface Rights) for the Scotia Mine Deposit

Table 4-3: Exploration License 06959 (Getty Zone, 16 Claims)

Claim Reference Map	Tract	Claims	Anniversary Date	Issue Date
11E/03B	30	BCDEFGHJKLM	October 20, 2021	October 20,2006
	31	ABGHJ		

Source: ScoZinc, 2019

Table 4-4: Exploration License 08936 (1 Claim)

Claim Reference Map	Tract	Claims	Anniversary Date	Issue Date
11E/03B	18	P	December 21, 2021	December 21,2009

Source: ScoZinc, 2019

Table 4-5: Exploration License 09069 (1 Claim)

Claim Reference Map	Tract	Claims	Anniversary Date	Issue Date
11E/03B	28	F	August 19, 2021	August 19,2005

Source: ScoZinc, 2019

Royalty Agreement

Exploration License 06959, which covers the Getty Zone of the Scotia Deposit, is subject to an agreement between ScoZinc Limited and Globex Resources Ltd., that provides Globex with a 1% Net Smelter Return (NSR) royalty interest in the associated claims. Agreement terms allow ScoZinc to purchase 50% of the NSR for $300,000 CDN. The original agreement, signed in 2006, was between Globex Resources and Acadian Mining Corporation, but Acadian assigned the agreement to (its then subsidiary) ScoZinc Limited in May of 2011.

Mineral Leases

Three Mineral Leases, 10-1, 40058 and 40059, entirely cover the Main and Northeast Zones of the Scotia Mine Deposit, and this includes the existing Scotia Mine infrastructure. The Mineral Leases convey the mining rights to all minerals except coal, uranium, salt and potash.

Mineral Lease 10-1, consisting of 38 claims, was originally granted by the Nova Scotia Government to Westminer Canada Limited on April 2, 1990, and subsequently renewed for an additional 20 year term on April 2, 2010. Mineral Lease 10-1 was originally granted as a “Mining Lease.” However, changes to the Nova Scotia Mineral Resources Act that came into effect in November 2004 changed the terminology such that existing “Mining Leases” are now known as “Mineral Leases.” The anniversary date of Mineral Lease 10-1 is April 2 of each year, and the expiry date is April 2, 2030, at which time the lease may be renewed again.

Mineral Leases 40058 and 40059, consisting of just 1 claim each and covering a portion of the Southwest Expansion area of the Main Zone, were issued by the Nova Scotia Government for a 20 year term on October 2, 2013. The anniversary date of Mineral Leases 40058 and 40059 is October 2 of each year, and the expiry date is October 2, 2033, at which time they may be renewed.

Table 4-6 lists the claims comprising the Mineral Leases, while Figure 4.3 shows the location of the three leases.

The Nova Scotia government currently holds a reclamation security (bond) for each of the three Mineral Leases. As of December 31, 2018, the amount of reclamation security for Mineral Lease 10-1 was $2,813,826.62, the reclamation security for Mineral Lease 40058 was $10,716.34, and the reclamation security for Mineral Lease 40059 was $10,716.34. As of December 31, 2018, the reclamation security for the three Mineral Leases totaled $2,835,259.30.

Table 4-6: Mineral Lease 10-1 (38 Claims), Map Sheet (NTS) 11E-03B

Tract	Claims	Number of Claims
5	NOP	3
19	JKPQ	4
20	BCDE FGK LMNO PQ	13
28	DEKL MNOP	8
29	ABCD FGH JKQ	10
Total		**38**

Source: ScoZinc, 2019

Table 4-7: Mineral Lease 40058 (1 Claim), Map Sheet (NTS) 11E-03B

Tract	Claims	Number of Claims
29	E	1
Total		**1**

Source: ScoZinc, 2019

Table 4-8: Mineral Lease 40059 (1 Claim), Map Sheet (NTS) 11E-03B

Tract	Claims	Number of Claims
30	A	1
Total		**1**

Source: ScoZinc, 2019

Surface Rights (Real Property)

ScoZinc Limited owns outright approximately 703 hectares (1,736 acres) of land (real property) within the Scotia Mine Deposit area. These properties encompass the entire surface infrastructure of the existing mine and most of the resource within the Main and Northeast Zones of the deposit (refer to Table 4-9 and Figure 4.3 and Source: ScoZinc, 2019
Figure 4.4). The boundaries were established through legal surveys.

Table 4-9: Property ownership, ScoZinc Limited.

Property Identification Number (PID)	Area (ha)	Area (ac)
369363	20.23	50.00
373423	2.29	5.65
373621	40.47	100.00
522201	35.13	86.80
522623	32.10	79.33
20080495	23.24	57.42
20080511	4.05	10.00
20080529	3.52	8.70
20158176	1.78	4.40
20158184	2.43	6.00
20223418	1.81	4.48
20313250	0.65	1.60
20416384	1.21	3.00
40227951	46.70	115.40
40227969	2.27	5.60
40227985	0.29	0.72
40290256	49.21	121.60
40290264	43.64	107.83
40291452	220.56	545.00
40312092	13.35	33.00
40746786	24.12	59.60
40757577	73.35	181.26
40763872	13.76	34.00
41094400	33.04	81.63
41239542	0.01	0.03
41283268	10.12	25.00
41358128	0.57	1.40
41358136	2.83	7.00
Total	**702.73**	**1736.45**

Source: ScoZinc, 2019

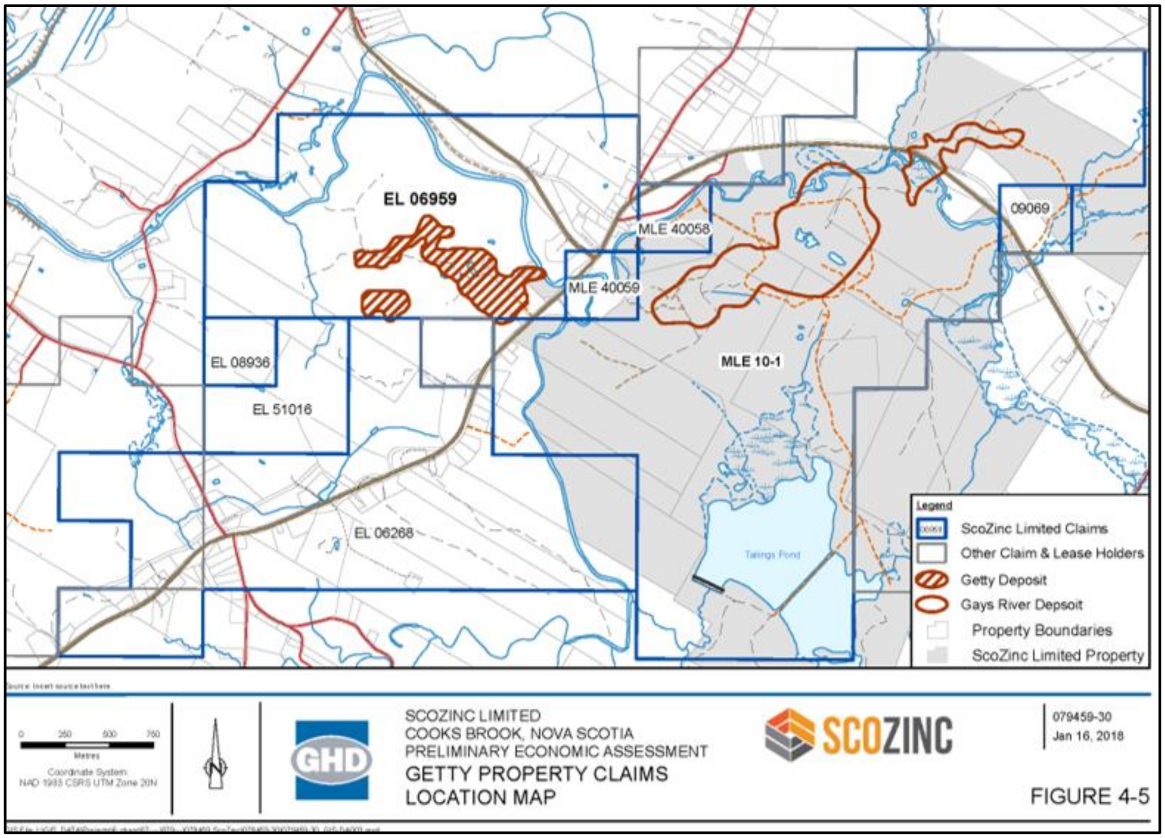
Source: ScoZinc, 2019

Figure 4.4: **Real Property Map, ScoZinc Limited**

Getty Zone

Cullen et al (2011) described the surface or real property rights that cover the Getty Zone:

"Acadian advised Mercator that surface rights to lands covering the Getty Zone are owned under separate titles by Allan Benjamin, David Benjamin and Heather Killen. Mercator did not review the access agreements for purposes of this report but assumes that similar access permission to enter the lands for exploration purposes will be established by Selwyn. The mineral exploration claims and permits currently in place with respect to the Getty project are adequate for execution of technical programs recommended in this report. Permits necessary to do the proposed program will be applied for as required. There is adequate suitable land within the claim area for the recommend work program and future mining activities; however, Selwyn does not hold surface rights to this land. Selwyn will negotiate suitable purchase arrangements when the economic viability of the project has been demonstrated."



Source: ScoZinc, 2019

Figure 4.5: Getty Zone Mineral Claims Location Map

4.2 Aggregate Lease

An aggregate lease covers the Scotia Mine property (Main Zone). Gallant Aggregates signed a thirty-year lease agreement to mine and remove aggregate from the property at a cost of one dollar per tonne of material that is removed from the property. The lease was signed on May 15, 2003 and entitled Gallant, with certain limitations, to mine anywhere on ScoZinc's land. The agreement contains a renewal clause and gives Gallant the right of first refusal to purchase the surface rights (real property titles). A major condition of Gallant's lease is that metal mining takes precedence over aggregate mining. Therefore, Gallant's lease would not necessarily interfere with zinc and lead mining operations.

In January 2008, Gallant exercised its option under the Gallant Agreement to purchase approximately 25 acres of the Scotia Mine property. Concurrent with the transfer of the property, ScoZinc and Gallant executed a License, Option and Royalty, which terminated the Original Agreement and granted Gallant the right to access the Scotia Mine property to access existing water infrastructure and to obtain electrical power. The License, Option and Royalty Agreement grants Gallant the right to remove, extract and process sand, gravel, fill and obtain materials from the over burden and waste material created by ScoZinc at the Scotia Mine site for the greater of

$25,000 per annum or $1.00 per metric tonne. In addition, Gallant has a right of first refusal to purchase the Scotia Mine property if ScoZinc plans to sell the property after mining operations are completed or abandoned.

4.3 Environmental

Between 1997 and 2000 work proceeded on an Environmental Registration Document. This document, which was submitted with the regulatory authorities in September 1999, addressed the environmental concerns of a surface and underground mining operation along with the diversion of a 500 meter section of the Gays River to accommodate the pit design. On August 4, 2000 the Open Pit Lead/Zinc Mine and River Diversion Project proposed by Pasminco Resources Canada Company received environmental assessment approval.

The Environmental Registration Document covered only part of the deposit. This area was mined by ScoZinc Limited in 2007-2008. Mineral resources in this area have not been exhausted. However, additional environmental assessment work is required before the mine can expand very far outside of its current footprint, either west along strike in the Main Zone or northeast, across Gays River to the Northeast Zone.

On October 7th, 2011, Selwyn received approval from Nova Scotia Environment, a department of the provincial government, for its proposed Southwest Expansion of the previously-mined Main Pit. On May 18, 2012 Selwyn received an amended Industrial Approval allowing expansion of the existing mine to include the Southwest Expansion of the previously mined Main Pit.

Prior to expansion outside the currently permitted area, updated plans would have to be approved by the Nova Scotia government and an updated Industrial Approval (essentially an environmental operating permit) would be required.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Scotia Mine Deposit (“the Property”) is located approximately sixty kilometers northeast of Halifax, Nova Scotia along the border between Colchester and Halifax Counties (45º01'55" North Latitude and 63º21'30" West Longitude). It lies approximately one kilometer east of the community of Gays River. Access to the Property is by paved roads and is approximately fifteen kilometers off the Trans-Canada Highway, along Route #224. The Halifax International Airport is located twenty kilometers southwest of the mine site.

Portions of Highway #224 and Highway #277 are subject to spring weight restrictions. Truck weights are limited for a period that normally lasts six weeks.

5.2 Climate

The property is situated in central Nova Scotia where northern temperate zone climatic conditions are present and are moderated by relative proximity to the Atlantic Ocean. Distinct seasonal variations occur, with winter conditions of freezing and potentially substantial snowfall expected from late November through late March. Spring and fall seasons are cool, with frequent periods of rain. Summer conditions can be expected to prevail from late June through early September, with modest rain fall. (Cullenetal,2011)

The following climate information reported for nearby Halifax International Airport during the 30 year period ending in 2000 characterizes seasonal precipitation and temperature trends in the area. The average July daily mean temperature for the reporting period was 18.6 degrees Celsius with a corresponding average maximum daily temperature of 23.6 degrees Celsius. Average daily winter temperature for January was minus 6 degrees Celsius with a corresponding average daily minimum being 10.6 degrees. Mean annual temperature is 6.3º C, and mean annual precipitation is 1,452.2 mm. Yearly evapo-transpiration is estimated to be 560 mm. Climate conditions permit many exploration activities, such as core drilling and geophysics, to be efficiently carried out on a year-round basis. Other activities, such as geochemical surveys and geological mapping are typically limited by winter snow cover. (Cullenetal,2011)

5.3 Local Resources & Site Infrastructure

The Scotia Mine mill, designed and built in 1978/1979 has a nominal ("nameplate") capacity of 1,350 tonnes per day (Figure 5-1). However, during 2007-2008, ScoZinc operated the mill for extended periods at rates over 2000 tonnes per day. It was initially built to treat the zinc/lead ore from the Main Zone Mine. In 1986, it was modified to treat gold ores using gravity and flotation circuits. In 1989, it was again reworked to treat zinc/lead ore from the Scotia Mine then being operated by Westminer Canada Ltd. ("WMC"). The concentrator has been properly maintained and is ready for quick start-up at minimum cost.

The mill is equipped with two stage crushing, two stage grinding, flotation cells, thickening, disk filtration and rotary kiln concentrate drying. The concentrator building contains a complete analytical laboratory, metallurgical testing laboratory, control room, maintenance area and office facilities. Its total area is approximately 32,000 square feet.

The administration building has an area of approximately 26,000 square feet. It contains offices, a dry, warehouses, workshops, a large boardroom, and several heavy equipment bays. Other, smaller surface facilities include:

- A compressor building (1,600 square feet);
- A "tireshop" (2,000 square feet);
- A welding shop;
- A geology building; and,
- A core shed.

Storage and ship loading facilities for lead and zinc concentrates are available at the seaport of Sheet Harbour, a distance of eighty kilometers from the mine site over paved roads. ScoZinc does not own these facilities, but Westminer used them in 1990. Sheet Harbour is a natural harbor on the Atlantic coast that remains ice free in the winter months and can handle vessels up to 40,000 tonnes in displacement. Rail transport facilities have also been used for concentrate shipping. A railway siding is located in Milford, eight road-kilometers from the site. The 500 tonne per hour ship loader that had been installed at the wharf in Sheet Harbour was dismantled in 2005 and brought to the Scotia Mine site.

During the last period of operations, lead concentrate was shipped through the port of Halifax, approximately 75 kilometers from the mine over excellent roads. Zinc concentrate was shipped in bulk through port facilities at Sheet Harbour, located east of Halifax and approximately 85 road kilometers from the site.

Power is supplied through the regional grid at reasonable, industrial rates. Scotia Mine owns and maintains step-down transformers adjacent to the mill.

Most of the mill's water requirements are satisfied by in-process recycling. Make-up water is drawn from the perennial Gays River.

The existing tailings pond is large enough for the life of the proposed operation. It is located just south of the mill on the footwall side of the deposit. Its design capacity was ten million tonnes. Approximately two million tonnes of tailings have been stored there, leaving a current capacity of over eight million tonnes with the potential for additional storage with a dam raise.

There is existing storage area for waste rock and over burdens on the property. The main area for waste rock storage lies adjacent to the tailings pond on its northwest shore, on the foot wall side of the deposit (see below Figure 5.1).

Source: ScoZinc 2012

Figure 5.1: Scotia Mine Site Photo Showing the Previous Open-Pit Mine, Mill, Waste Dump and Tailings Facility (picture circa 2011)

5.4 Physiography

The property is in a rural-residential area of central Nova Scotia that is typified by rolling topography and abundant surface water. The Main zone lies along the south side of the Gays River main branch, immediately east of the confluence with the Gays River south branch. The Getty Zone lies immediately west of the Main Zone, on the north side of Highway 224 (refer to Figure 4.4.Source: ScoZinc, 2019
Figure 4.4)

The Gays River water shed is characterized by gently rolling topography, having a maximum elevation of 170 meters, an extensive cover of deciduous forest, a small population and local agricultural land development. Lakes, ponds and rivers are sparsely distributed throughout the watershed. Typical vegetation consists of northern black spruce, balsam fir and juniper with birch in more wet areas. Areas of open bog occur on part of the claims. Currently, parts of the forest are being harvested or thinned.

6 History

6.1 Modern Pre-mining Exploration

Overview

The Gays River Formation has seen exploration since the 19th century. Modern exploration on the Gays River Formation began in the early 1970s. Cullen et al note that;

"First reports of zinc-lead mineralization in the Gays River area date to the late 1800's and from this time until the 1950's exploration consisted of limited amounts of mapping, pitting, trenching and sampling with up to 3% lead values being reported. Most activities focused on the area immediately around the adjacent Scotia Mine site, particularly along the South Gays River, where out cropping Gays River Formation dolomite hosting low grade zinc and lead mineralization was trenched and drilled in the 1950's in the "Gays River Lead Mines Area" (Campbell, 1952). "(Cullen et al, 2011, section 5.2)

Scotia Mine Deposit Main Zone

The history of the project begins with its discovery in the early 1970's by Cuvier Mines. Cuvier and Imperial Oil Limited (ESSO) carried out exploration work and delineated the mineralized zone, which was then identified as being four kilometers long, 220 meters wide with depths varying from 20 to 200 meters. Initial development consisted of an exploration decline driven in 1975/76 with mine development starting in 1978 and mill commissioning in October 1979.

From 1979 until 1981, ESSO operated the mine and targeted the lower grade ore using a lower cost, bulk room and pillar mining method approach. Though Esso carried out some test mining in the higher grade mineralization near the carbonate contact, it was not part of the mine plan at that time. During this period, 554,000 tonnes of lead/zinc ore was mined with an average grade of 2.12% zinc and 1.36% lead (Table 6-1). Due to low metal prices, problems caused by high rates of water influx and difficult ground conditions, mining was suspended in 1981 and the mine was allowed to flood.

Table 6-1: Historical Milling Records.

	Mill Feed			Concentrate Produced				Metal Recover (%)	
	Tonnes	**Pb (%)**	**Zn (%)**	**Tonnes Pb**	**Tonnes Zn**	**Pb (%)**	**Zn (%)**	**Pb (%)**	**Zn (%)**
Esso (1979-1981)	550,000	1.4	2.1	10,000	17,000	73.6	61.5	95.6	90.5
WMC (1989-1991)	190,000	3.5	7.5	8,000	21,000	75.6	61.2	90.9	90.2
ScoZinc, 2007	337,000	0.85	2.14	3,359	8,694	64.4	75.5	55.4	66.7
Total	1,795,271	1	2.92	29,894	74,423	72.1	87.8	58.6	83.2

Source: MineTech, 2012

In 1985, Seabright Resources purchased the property and modified the mill circuits to treat gold ore from other Nova Scotian properties.

In 1988, Westminer Canada Limited (WMC) purchased Seabright Resources. WMC began dewatering the underground mine in 1989. Their extraction method was to use narrow vein, cut and fill mining to extract the higher grade ore zones. The mine was placed back into operation and reached commercial production in March 1990. During the period of operations by WMC (August 1989 to May 1991) the mine produced 190,000 tonnes of ore at an average grade of 7.5% zinc and 3.5% lead. Mining was curtailed due to low metal prices, mining method problems and high rates of water influx. Also, for corporate reasons, WMC decided to focus on larger scale mining ventures. Following suspension of mining at Main Zone Mine, WMC commissioned several studies to characterise the local hydrology of the mine and to control the ground water in the mine. These results were never tested during mining, since a cyclic low in metal prices, among other factors, prompted WMC to place the property up for sale. Figure 6.1 shows the plant facility as of 2020.

Source: ScoZinc, 2020

Figure 6.1: Flotation Circuit (circa2020).

In late 1996, Savage Zinc, Inc. purchased the Main Zone Mine property from WMC and formed a wholly owned subsidiary named Savage Resources Canada Company (Savage). Savage started to rehabilitate the property, shops, equipment and office with the aim of starting production in 1997.

When Savage took over the operation of the former Main Zone mining facility, the underground workings were flooded to the surface. After purchasing equipment and hiring employees, the mine dewatering phase started on June 7, 1997. With an installed pumping capacity of 9,000 USGPM, the average pumping rate to reach the 425 meter level was 5,200 USGPM. This level was reached during late August 1997. During this period of dewatering, men and equipment went underground to clean out the workings while management carefully examined the ground conditions. They decided to prepare a mine plan that considered an open pit design. Later, after much review during a period of depressed metal prices, it was decided to abandon the proposed underground mining activities and keep the mine dewatered to the 425 level. The electrical equipment was removed and the pumps were shut off on April 1, 1998. At present the mine is flooded above the portal.

Savage concluded that an open pit operation was feasible and initiated environmental permitting, including provisions for a diversion of a portion of the Gays River. The environmental assessment plan was approved August 2000. The operating plan was never initiated, probably due to low metal prices at the time.

ScoZinc Limited (“ScoZinc”), purchased by Acadian Mining (ADA,TSXTV) in 2006 as its wholly-owned subsidiary, continued with Savage’s plan and surface-mined the deposit during 2007 and 2008. ScoZinc mined 1.1 million tonnes of surface ore and stripped 9.4 million tonnes of over burden (refer to Table 6-1). Due to a drastic plunge of base metal prices nearly coinciding with the mine’s re-opening, ScoZinc placed the mine on care-and-maintenance status near the end of 2008.

In 2008, ScoZinc also drilled 17 diamond drill holes through the Northeast Zone (refer to Section 10).

In April 2011, Selwyn Resources Limited (“Selwyn”) purchased ScoZinc with plans to reopen the mine amid high and rising metal prices.

An August, 2011 Preliminary Economic Assessment (PEA) of the ScoZinc operation, prepared by Allnorth Consultants Ltd with Colin Fisher, P.Eng., as Qualified Person, found an average earnings before interest, taxes, depreciation and amortization (EBITA) for the first three years of operations of CAD $26.2 million per annum, and an internal rate of return of 63.9%. The PEA was limited to the Main Zone and did not consider the river diversion discussed in section 4.6. See the Selwyn press release dated August 30, 2011 for more information.

<u>Getty Zone</u>

The following is adapted from Section 5 of Cullen *et al* (2011):

“with the exception of regional soil geochemical surveying by Penarroya Ltd. in 1964 (Rabinovitch, 1967) that did not identify the Getty Zone, no substantial mineral exploration efforts appear to have been carried out on the current Getty property prior to its acquisition by Getty in 1972.

Exploration in the current deposit area was initiated in 1972 by Getty and joint venture partner Skelly Mining Corporation under terms of an option - purchase agreement with Millmore-Rogers Syndicate.

“Discovery of the Getty zinc-lead zone is attributed to drill hole GGR-12 which was completed in 1972 and intersected 4.63 meters of dolomite grading 15.48% combined zinc-lead, beginning at a down hole depth of 93.11 meters. Subsequent completion of over 200 holes by Getty and Imperial on and around the property served to delineate a nearly continuous mineralized zone measuring approximately 1300 meters in length and up to 200 meters in width (Comeau, 1973, 1974; Comeau and Everett, 1975).

“Getty retained MPH Consulting Limited (MPH) to assess three development scenarios for the deposit and Riddell (1976) reported results of this work, which showed that production of 375,000 tonnes per year would be necessary to support a viable, stand-alone open pit operation.

“In 1980 economic aspects of developing the deposit based on an in-house tonnage and grade model were assessed by Esso (MacLeod, 1980). This study concluded that mining through open-pit methods as an ore supplement to the Main Zone deposit would be economically viable, provided that important operating assumptions were met. The earlier MPH work was also reviewed at this time and some economic models updated. None of the work indicated that profitable stand-alone development of the deposit could be expected under market conditions of the time. George (1985) subsequently reviewed earlier evaluations and also reached a negative conclusion regarding development potential.

“In 1992 Westminer completed a resource estimate and preliminary economic assessment of the deposit based on Getty drilling results, with potential development in conjunction with the adjacent Main Zone deposit being considered (Hudgins and Lamb, 1992). Results showed that milling of about 550 tonnes per day of Getty ore could be undertaken at a low cost if excess milling capacity at Main Zone was being filled by such material. Westminer also indicated that zinc oxide production from the deposit would result in a substantially better financial return to the mine in comparison with a conventional smelter contract for sulphide concentrates.

“In December 2007 Mercator completed an inferred resource estimate for the property, on behalf of Acadian, which was reported by Cullen et al. (2007) and update by Cullen et al. (2008). Acadian completed a total of 138 new drill holes in support of these estimates.” (Cullen et al, 2011, section 5.2)

6.2 Ownership History

6.2.1 Scotia Mine Deposit (Main Zone)

The Scotia Mine Deposit (Main Zone) was discovered in 1973 by the Imperial Oil Enterprises ("Esso") and Cuvier

Mines Limited ("Cuvier") joint venture. Esso initiated mine development in 1978, commissioned the mill in 1979, developed the underground mine and began mining and milling.

Seabright Resources Inc. ("Seabright") acquired the Scotia Mine property and mill in 1984. Despite a favourable feasibility study, Seabright did not reactivate the Scotia Mine due to depressed metal prices at the time. Seabright converted the mill for gold processing and processed gold ore from several satellite properties.

The Scotia Mine property was acquired by Westminer Canada Limited (“Westminer”), a Canadian subsidiary of Western Mining Corp of Australia, in 1988, at which time a review of the potential for mining the deposit was undertaken. Westminer dewatered the mine and continued mining and milling.

In 1997, Savage Resources Canada Limited acquired the Scotia Mine assets from Westminer. Savage concluded that an open pit operation was feasible and initiated environmental permitting, including provisions for a diversion of a portion of the Gays River. Savage was subsequently taken over by Pasminco Resources Canada Company (“Pasminco Resources”) and the environmental assessment plan was approved by the Nova Scotia Minister of the Environment in August 2000. The operating plan was never initiated.

Regal Mines Limited (“Regal Mines”) purchased Pasminco Resources in February 2002. Regal was owned 50 % by OntZinc Corporation (“OntZinc”) and 50 % by Regal Consolidated Ventures Limited (“Regal Consolidated”). As part of the sale, Pasminco Canada Holdings Inc. (“Pasminco Holdings”) retained a 2 % net smelter return (“NSR”) royalty on future production. OntZinc acquired Regal Consolidated’s 50 % interest in December 2002 to own 100 % of Pasminco Resources. Savage Resources Limited was the successor of Pasminco Holdings and held the 2 % royalty.

OntZinc later changed its name to HudBay Minerals Inc. (Hudbay) after purchasing, through reverse takeover, Hudson’s Bay Mining and Smelting in December 2004. Hudbay owned Scotia Mine through its wholly-owned subsidiary, ScoZinc Limited (“ScoZinc”).

In 2006, Acadian Gold Corp (“Acadian Gold”) purchased 100 % of ScoZinc and all of its assets (consisting mainly of Scotia Mine and its infrastructure) from OntZinc for $7 million. Acadian Gold subsequently changed its name to Acadian Mining Limited (“Acadian Mining”). On May 29, 2007, ScoZinc exercised its option to buy-out the 2% NSR for $1,450,000.

ScoZinc reactivated the mill and continued surface mining the deposit during 2007 and 2008. Depressed metal prices forced ScoZinc to place the mine on care-and-maintenance status.

In February 2011, Selwyn Resources Limited (“Selwyn”) purchased ScoZinc and all of its assets, including the Scotia Mine and ScoZinc’s exploration claims, for $10 million less a deduction relating to increased reclamation bonding requirements that were being determined at the time of the acquisition. In a May 2, 2011 letter, the Nova Scotia government informed ScoZinc that the increased bond requirement amounted to $1,887,790 (refer to Section 4.3 and Appendix 2). On June 1, Selwyn announced the closing of the sale and therefore acquiring 100% of ScoZinc and all of its assets.

6.2.2 Getty Zone

The following is adapted from Cullen et al (2011), section 5.1:

The Getty Property was acquired by Getty in 1972, at which time Getty and joint venture partner Skelly Mining Corporation began exploration under terms of an option - purchase agreement with Millmore-Rogers Syndicate.

Claims covering the Getty Zone were placed under closure in 1987 by the Nova Scotia government and a tender was subsequently let for acquisition of exploration rights to the property. In 1990 Westminer Canada Limited (Westminer) was deemed the successful bidder and awarded a Special Exploration Licence for further assessment of the deposit. Attempted renewals of the Getty Special Exploration Licence by Westminer for three consecutive years were not successful.

Between 1992 and September 2006 Getty property claims were maintained under government closure and no work was carried out.

Pasminco Resources Canada Company (Pasminco) acquired the adjacent Main Zone and infrastructure in 1999 through purchase of Savage Resources Inc., and in 2000 Pasminco submitted an application to NSDNR for a Special Mining Lease covering the deposit. No lease was issued and the closed status of the property was maintained.

In September, 2006 the provincial government tendered exploration rights to the closed Getty property and Exploration Licences 6959 and 6960 were subsequently issued to Acadian on October 20th, 2006 as successful bidder under the tendering process.

6.3 Historical Mineral Resource and Mineral Reserve Estimates

The following resource and reserve estimates are historical in nature, have not been extensively audited by the authors, were not prepared according to National Instrument 43-101 (except where noted) and should not be relied upon.

6.3.1 Scotia Mine Deposit (Main Zone)

Numerous resource estimates have been carried out over the past thirty years since the discovery of the Scotia Mine mineralisation. These resource estimates have been based on differing underlying parameters including varying minimum thickness of intercept, differing cut-off grades, utilisation of zinc equivalent or independent lead and zinc minimum grades, etc. Resource figures have ranged throughout the years from an initial 12,000,000 tonnes at 7 % zinc-equivalent (drill-indicated) in 1974 (Patterson, 1993) to the 1985 figure of 980,000 tonnes at 5.35 % lead and 9.42% zinc (mineable) at a 7 % zinc-equivalent cut-off (Hale and Adams, 1985).

Westminer (Nesbitt Thompson, 1991; WMC, 1995) reported resources that were outlined by over 1,300 underground and surface holes in addition to the information derived from the underground workings. The calculations were based on a minimum true thickness of two meters with a cut-off of 7 % zinc-equivalent. The total geologic reserves were quoted as 2,400,000 tonnes averaging 6.3

% Pb and 8.7 % Zn (Table 6-2). A mineable reserve was also quoted as 1,370,000 tonnes averaging 5.3 % Pb and 9.8 % Zn.

In 1992, Campbell, Thomas and Hudgins reported that there was potential for mining an additional 800,000 tonnes of lower grade mineralisation via open pit methods. The authors went on to say "there is excellent potential to expand the underground reserves, particularly in the eastern section of the mine. Underground development in the western and central zones resulted in significant expansion of the reserves as ore zone continuity has generally been better than had been originally interpreted from the drill information."

In Claude Poulin's July 1, 1998 memo titled "Scotia Mine, Mineral Resource Status," he reported the deposit's resources. Higher grade [greater than 7 % Zn-equivalent (% Zn + 0.5 x % Pb)] and lower grade zones (greater than 2 % but less than 7 %) were outlined by Savage's geologists. The higher grade zone consists of massive sulphide and lies at the contact between the dolomite and the Trench or evaporite units. The lower grade zone consists of disseminated zinc and lead within the dolomite. These outlines were transferred to a block model by Tim Carew, manager of Gemcom Services in Reno, Nevada. Inverse distance squared weighting was used to calculate block grades. Top-cut values of 15 % Zn and 10 % Pb were used. No dilution or mining recovery factors were applied to the calculations. Undiluted resources are reported in Table 6-2

The reader should note that the Resources were unclassified. They were not separated into Measured, Indicated and Inferred categories "due to the lack of geostatistical information" [Poulin, 1998 (1)]. Those Resources were not entirely independent and did not follow NI 43-101 guidelines, as the report predated that Standard.

Reserves were estimated through a pit optimisation process carried out on the Central portion of the deposit. These were reported in Claude Poulin's July 1, 1998 memo titled "Scotia Mine, Mining Reserve Status." Zinc and lead prices were $US 0.55 and $US 0.36 per pound, respectively. The optimised pit, which considered diverting Gays River by moving it toward the highway, was sent to Mine Design Associates (MDA) for practical pit design. Savage supplied the economic and geotechnical parameters to MDA. Dilution and recovery factors of 20 % and 90 %, respectively, were used.

Reserves included Resources that lie northeast of the highway. These would be accessed using underground methods. For this material, dilution and recovery factors of 25 % and 90 %, respectively, were used. The estimated Reserves are reported in Table 6-2. Those Reserves were not entirely independent and did not follow NI 43-101 guidelines, as the report predated that Standard.

It was discovered during the current mineral resource estimation process that an error was made when calculating resource and reserve grades during the 1998 estimate. When estimating block grades in the High Grade Zone, lower grade (less than 7 % Zn-Eq) assays in the zone were filtered-out because they were thought to belong to a separate domain. Likewise, in the lower grade Disseminated Zone, higher grade (greater than 7 % Zn-Eq) were filtered-out. This incorrectly increased the grade of the high grade zone, which increased the overall resource and reserve grade by approximately 1 % Zn-Eq. The error had less of an effect on the lower grade zone. The error was corrected during the current mineral resource estimate.

Table 6-2: Historical Resource and Reserve Estimates.

Estimator	Category	Tonnes	Zinc Grade	Lead Grade
Westminer (1991)	"Geologic Reserve" (Undifferentiated)	2,400,000	8.70%	6.30%
	Reserve (Underground)	1,370,000	9.80%	5.30%
Savage (1998)	Resource (Undifferentiated):			
	Higher Grade	1,700,000	11.1%[1]	4.7%[1]
	Lower Grade	3,400,000	2.6%[1]	1.3%[1]
	Total	5,100,000	5.5%[1]	2.4%[1]
	Reserve (Undifferentiated):			
	Northeast (Underground)	360,000	8.60%	4.30%
	Central (Open Pit)	19,000,001	4.1%[1]	1.6%[1]
	Total	2,260,000	4.80%	2.00%

Source: MineTech 2012

[1]It was discovered during the current study that an error had been made during the grade estimation process in 1998.

It should be noted that the above referenced Resources and Reserves estimates were not carried out in accordance with the Canadian Institute of Mining and Metallurgy and Petroleum CIM standards on Mineral resources and Reserve Definitions ("CIM Standards") and therefore do not conform to Sections 1.3 and 1.4 of NI 43-101.

In 2006, MineTech International Limited ("MineTech") carried out a National Instrument 43-101-compliant resource and reserve estimate. MineTech's results are reported in Table 6-3and Table 6-4.

Table 6-3: Previous Mineral Resource (Roy et al, 2006).

Mineral Resources					
Category	**Volume (m3)**	**SG**	**Tonnes**	**Zinc Grade**	**Lead Grade**
Measured (Surface)	680,000	2.78	1,880,000	3.80%	1.60%
Indicated					
Surface	810,000	2.77	2,250,000	3.20%	1.40%
Underground[1]	381,000	2.9	1,110,000	6.60%	3.70%
Sub Total	1,190,000	2.82	3,360,000	4.30%	2.20%
Measured + Indicated (Surface & Underground)	**1,870,000**	**2.8**	**5,240,000**	**4.10%**	**2.00%**
Inferred	652,000	2.76	1,800,000	3.10%	1.10%

Source: MineTech 2012
Notes:
1. Northeast Underground Zone.
2. Undiluted Resources.

Table 6-4: Previous Mineral Reserve Estimate (Roy et al, 2006)

Mineral Reserves					
Category	**Volume (m3)**	**SG**	**Tonnes**	**Zinc Grade**	**Lead Grade**
Proven Reserve (Surface)	630,000	2.78	1,750,000	3.20%	1.30%
Probable Reserve					
Surface	610,000	2.76	1,690,000	2.50%	1.00%
Underground	395,000	2.9	1,150,000	5.70%	3.20%
Sub Total	1,005,000	2.83	2,840,000	3.80%	1.90%
Total Proven & Probable Reserves (Surface & Underground)	**1,635,000**	**2.81**	**4,590,000**	**3.60%**	**1.70%**

Source: MineTech 2012
Notes:1. Dilution equals 15 % and mining recovery equals 90 %.

6.3.2 Getty Zone

The following is taken from Cullen et al. (2011):

“Four previous estimates of tonnage and grade for in-situ mineralization comprising the Getty Zone are available in the public record. The earliest of these was prepared for Getty by MPH Consulting Limited (Riddell, 1976) and was revised in 1980 as part of a Mine Valuation Study carried out for Esso (MacLeod, 1980). Subsequently, Westminer developed an in-house estimate and preliminary economic assessment of the deposit based on historic drilling (Hudgins and Lamb, 1992). The fourth estimate was completed in December 2007 by Mercator for Acadian and reported by Cullen et al (2007).

"Results of the first three historic estimates are presented below in Table 6-5 and all pertain to areas currently covered by Acadian exploration licences. These pre-date National Instrument 43-101 (NI 43-101) and have not been classified under Canadian Institute of Mining, Metallurgy and Petroleum Standards for Reporting of Mineral Resources and Reserves: Definitions and Guidelines (the CIM standards). On this basis they should not be relied upon. Table 6-6. presents the Cullen et al. (2007) NI43-101 compliant resource estimate completed by Mercator, which has an effective date of December 12th, 2007.

Table 6-5: Historic Resource Estimates for Getty Zone Not NI 43-101 Compliant (from Cullen et al, 2011)

Reference	Tonnes	Zn&Pb (%)	Zn (%)	Pb (%)
Riddell (1976)	4,470,400	3.71	1.87	1.84
MacLeod (1980)	3,149,600	2.97	1.6	1.37
Hudgins and Lamb (1992)	4,490,000	3.2	1.87	1.33

Notes: With regard to the historic mineral resource estimates stated above 1) a qualified person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves; 2) the issuer is not treating the historical estimate as current mineral resources or mineral reserves as defined in sections 1.2 and 1.3 of NI43-101; and 3) the historical estimate should not be relied upon.

Table 6-6: Mercator NI 43-101 Compliant Resource Estimate for Getty Zone (effective December 12th, 2007) (from Cullen et al, 2011)

Reference	Tonnes	Zn&Pb (%)	Zn (%)	Pb (%)
Cullen et al (2007)	4,160,000	3.21	1.81	1.4

Riddell(1976) used a 2% (zinc% + lead%) cut-off, Macleod (1980) used 1.5% zinc cut-off and Hudgins and Lamb (1992) used a 1.5% zinc-equivalent cut-off defined as zinc equivalent = zinc% +(lead % x 0.60). Figures for the previous Mercator estimate that are presented in Table 6-6 reflect application of a 2% zinc + lead cut-off. The Riddell (1976) and MacLeod (1980) estimates are based on drill-hole-centered polygonal methods of volume estimation along with subjectively determined specific gravity factors reflecting general experience. Both estimates include length-weighted drill hole grade assignments to polygons with subsequent tonnage-weighting to determine deposit grades. In contrast, Hudgins and Lamb (1992) used Surpac® deposit modeling software, a cross sectional method of volume estimation, a single assigned specific gravity factor of 2.75 g/cm3 and calculated average deposit zinc and lead grades as the length-weighted averages of all qualifying drill hole intercepts.

7 Geological Setting and Mineralization

7.1 Regional Geology

An excellent summary of the regional and deposit geological settings of the Scotia Mine area is supplied by Patterson (1993). There is also a “special issue devoted to zinc-lead mineralization and basinal brine movement, lower Windsor Group (Viséan), Nova Scotia Canada” released as Volume 93 by Economic Geology in 1998. The bulk of the descriptions below are taken from those publications.

The Scotia Mine Deposit occurs along the southern margin of the large (more than 250,000 km2) and deep (more than 12 kilometers) late Palaeozoic Fundy (Magdalen) Basin, bordered on the northwest by the New Brunswick platform, and on the south by the Meguma platform (Figure 7.1). During the late Palaeozoic, the Fundy Basin was divided or segregated through a complex series of grabens into deep linear successor basins or sub-basins, which are now interpreted (Fralic and Schenk, 1981) as small pull-apart basins. Subsequent basement subsidence, fragmentation and block faulting produced the irregular pre-Carboniferous topography that was partly filled-in by early Carboniferous clastics, and later flooded by middle Carboniferous seas. Carboniferous sediments consisting of terrestrial conglomerates, and sandstones, siltstones and marine limestones and evaporites, were deposited in this Fundy Basin which probably remained active during and after the Carboniferous, and may have had a major impact in the ore-forming process. These sub-basins contained thick accumulations of terrestrial and shallow marine sediments, and therefore could provide substantial volumes of basinal fluids (Ravenhurst, 1987).

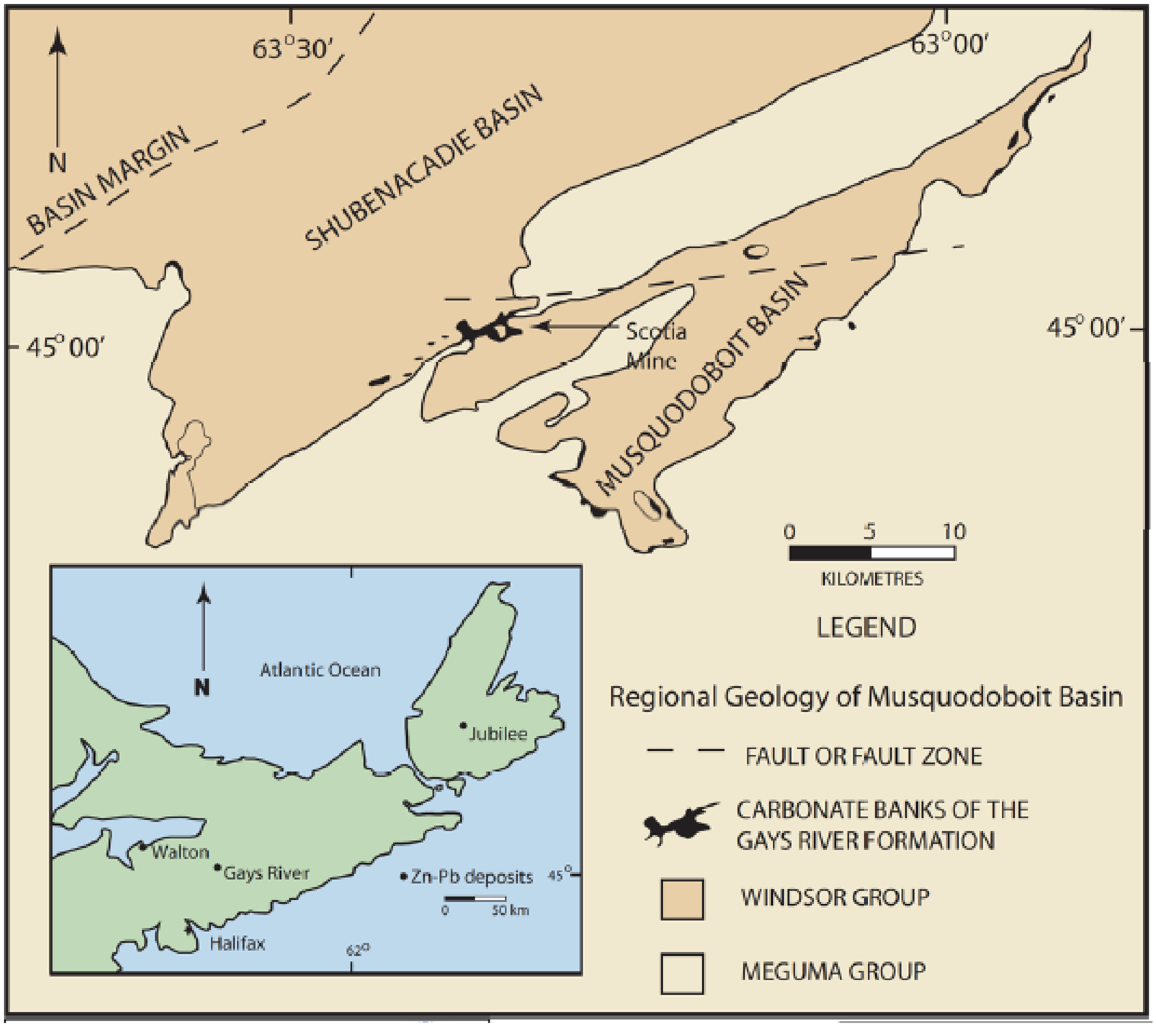
In their 2011 report, Cullen et al. give further detail about the Carboniferous strata:

“The Getty Zone is hosted by lower Mississippian age dolostone of the Windsor Group's Gays River Formation. Well defined carbonate banks characterize this formation and in most instances are associated with well-defined paleo-basement high features. On depositional basin scale, Gays River Formation bank carbonates and laminated limestone of the laterally equivalent Macumber Formation mark the onset of marine depositional conditions after a prolonged period of predominantly terrigenous clastic sedimentation represented by Horton Group siliciclastic rocks.

“Carboniferous strata in Central Nova Scotia occur within the Shubenacadie and Musquodoboit sub-basins of the larger Maritimes basin and were described by Giles and Boehner (1982). Geometry of both sub-basins was significantly influenced by strong northeast trending structural grain in basement sequences of the Cambro-Ordovician Meguma Group. Deformation was heterogeneously distributed across the sub-basins and at present is now represented by northeast trending normal and thrust faults which are locally associated with open to moderately folded structural domains. Deformation features are essentially absent near the southern margins of the basins but become more prevalent and pervasive toward the northern limits, where effects of the regionally significant Cobequid-Chedabucto fault system are represented. Minor faults or fracture zones may be present at Getty but no structural complexity is evident in either the surface morphology or drill logs.” (Cullen et al., 2011, Section 6)

The Scotia Mine Project area is underlain by the Cambro-Ordovician metasediments of the Meguma Group which form the pre-Carboniferous basement upon which the Gays River carbonate host rock was deposited. The Meguma rocks were tightly folded during the Acadian Orogeny into long northeast-southwest anticlines and synclines which have been faulted and jointed. Erosion of this basement into irregular knobs and ridges was controlled by these structures prior to the deposition of overlying sediments (the Gays River carbonate). Unconformably overlying the Meguma Group are clastic sedimentary rocks of the Horton Group and marine sedimentary rocks of the Windsor Group which overstep the Horton near the basin margins and rest directly on Meguma basement. It is these Windsor Group carbonates which have been the host for the carbonate-hosted base metal sulphide and associated sulphate deposits in Nova Scotia.

Over 100 base metals occurrences, including a few deposits, are hosted by Lower Windsor Group marine carbonate rocks in Nova Scotia. About half of these occur within the Kennetcook, Shubenacadie, Musquodoboit and River Denys sub-basins. In addition to the Scotia Mine Deposits, the most significant examples include the Walton deposit and the Jubilee deposit. Walton has two types of mineralisation: concordant sheets of barite contain lenses of lead-rich and copper rich mineralisation. Between 1941 and 1978, 4.5 million tonnes containing over 90% BaSO4, and 0.4 million tonnes containing 0.52% Cu, 4.28% Pb, 1.29% Zn and 350 g/t Ag were produced (Sangster, Savard and Kontak, 1998). At the Jubilee deposit on Cape Breton sulphides cement fault-related breccias and replace adjacent limestone; there are reported, unclassified resources (e.g. Fallara and Savard, 1998) of 0.9 million tonnes containing 5.3% Zn and 1.4% Pb.



Source: MineTech, 2012

Figure 7.1: Regional Geology Map

7.2 Property Geology

The Gays River Formation and its lateral equivalent, the Macumber Formation, form the basal carbonate units of the Windsor Group. There is an angular unconformity between the marine sediments (Gays River Formation and Macumber Formation) and the underlying basement rocks. The underlying 380-400 million-year-old basement rocks consist of greenschist facies meta-turbidites of the Meguma Group that form a northeast-trending, paleotopographic high which separates the Shubenacadie and Musquodoboit basins, and over which the Gays River carbonate bank developed (Kontak, 1998; Savard & Chi, 1998). The property's stratigraphy is shown in Figure 7.2. The basement is overlain by a laterally extensive, but discontinuous, talus breccia composed of centimeter- to meter-size, rounded to sub-rounded fragments of Meguma Group lithologies cemented by dolostone. Overlying the basal breccia or directly in contact with the basement rocks is a carbonate build-up composed of various bank and interbank facies: algal, coral and bryozoan bafflestones, skeletal packstones and wackestones. Contours for the top of Goldenville / bottom of carbonate contact are shown in Figure 7.3. The carbonate bank can be traced basin-ward into a laterally extensive, thinly laminated, 3 to 18 meter thick argillaceous, bituminous dolostone or limestone unit referred to as the Macumber Formation.

Overlying the carbonate rocks are evaporites (gypsum, anhydrite, halite and minor potash) with minor interbeds of dolostone and mudstone, all of which constitute the Carroll's Corner Formation. Nearby, (5 kilometers to the southwest), the gypsum is being mined at the National Gypsum Quarry.

In the deposit area, the contact between the evaporites of the Carroll's Corner Formation and the carbonates of the Gays River Formation was deeply incised by a paleochannel during a period of uplift and erosion during the Cretaceous period. It was filled-in by sedimentary debris (boulders, sands, silts, clay and gypsum fragments) to which a Cretaceous age has been assigned. This dense, over-compacted debris has been termed "Trench" material; it occurs adjacent to the massive sulphide mineralisation. Near the contacts, highly permeable, open channel-type structures have caused locally high rates of water flow that have been an impediment to underground mining.

Both the bedrock and "trench" sediments are overlain by 20-40 m of glacial till, which is locally cut by glacial-fluvial sands and gravels. Three geological cross sections are included as Figure 7.4, Figure 7.5, and Figure 7.6. Figure 7.6 represents the prototypical cross-sectional geology for the deposit.

Cullen et al (2011) describe the Getty Zone in section 7.1 & 7.2 ('Stratigraphy' and 'Deposit Type', respectively) of their report:

"Stratigraphy

"Geology in the Getty Zone area has been interpreted from compiled results of Giles and Boehner (1982) plus results of various mapping and diamond drilling campaigns carried out in the area. The actual deposit does not outcrop, but was delineated by Getty through drilling (e.g. Bryant, 1975, Comeau, 1973, 1974; Palmer and Weir, 1988a, b).

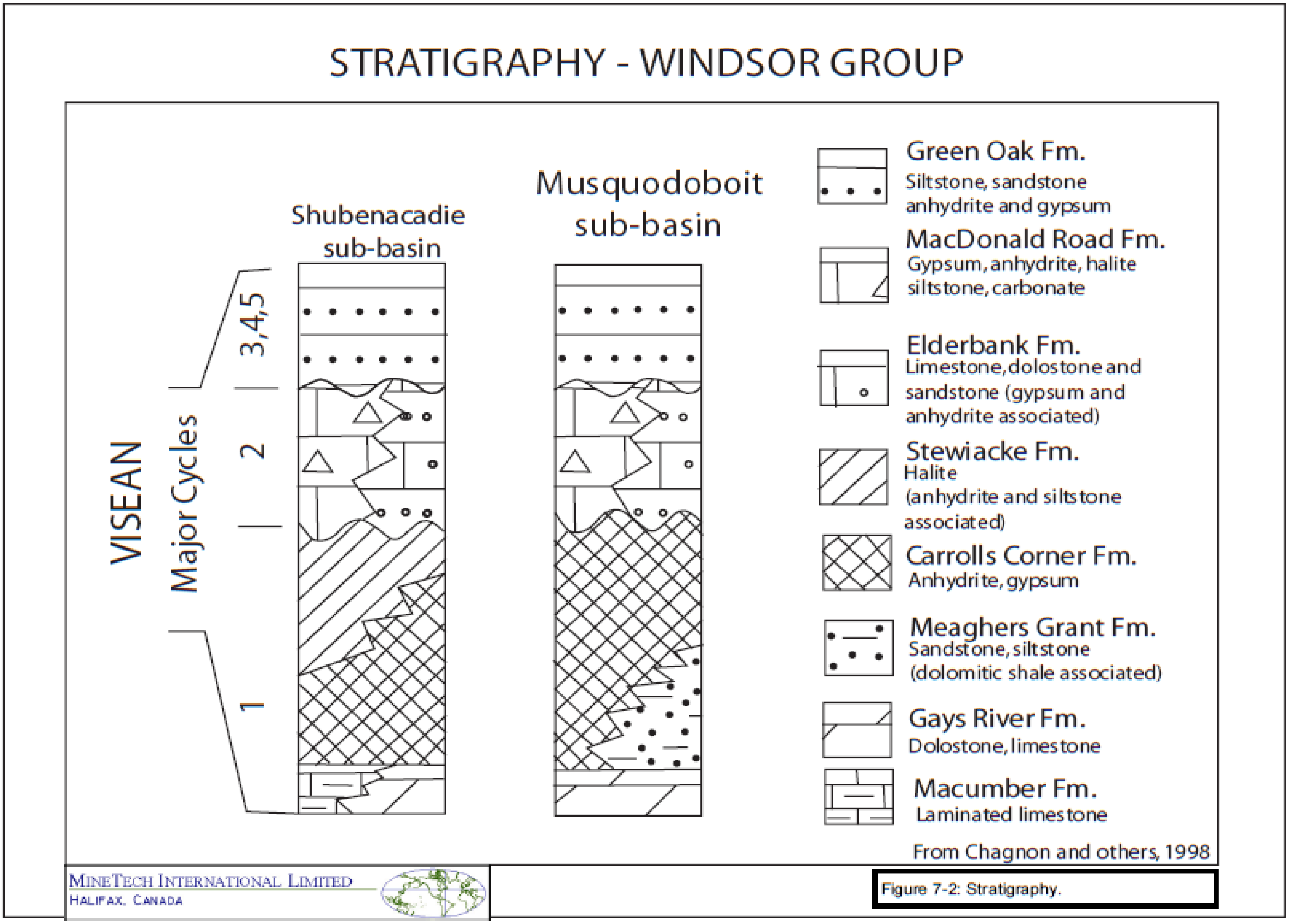
"As represented in [Figure 7.7], the Getty Zone is hosted by a northwest trending Gays River Formation carbonate bank complex that occurs as a direct extension to the larger, northeast trending carbonate bank that hosts Scotia Mine's zinc lead resources and reserves. Both banks developed along paleo-basement highs comprised of Cambro-Ordovician age Goldenville Formation quartzite and greywacke. At Getty host dolostone ranges in true thickness from less than a meter to a maximum of about 45 meters.

"The carbonate host sequence occurs above a thin sedimentary breccia or conglomerate unit comprised predominantly of Goldenville Formation debris with a small carbonate matrix component resting unconformably on Goldenville Formation basement. Carrolls Corner Formation evaporites lie stratigraphically above the Gays River Formation and are comprised locally of gypsum and anhydrite with minor amounts of interbedded dolomitic limestone and siltstone. With possible exception of local clay and sand accumulations of Cretaceous age, Carrolls Corner Formation rocks are the youngest sequences of the local bedrock section. Figure 7.8 presents a stratigraphic column for the deposit area.

“Historical and the current drilling on the Getty property has shown that evaporite cover at the Gays River Formation contact was in many instances preferentially removed by erosion and karst-related solution processes during Cretaceous time, leaving a trough or trench parallel with the carbonate contact in many areas. Stratified Cretaceous fill sedimentary material followed by Quaternary material of glacio-fluvial origin infilled this trough, and is termed "Trench" material on the adjacent Scotia Mine property. Similar material exists in some areas adjacent to the Getty Zone but in many instances is difficult to distinguish from less consolidated overburden material that is of glacial origin.

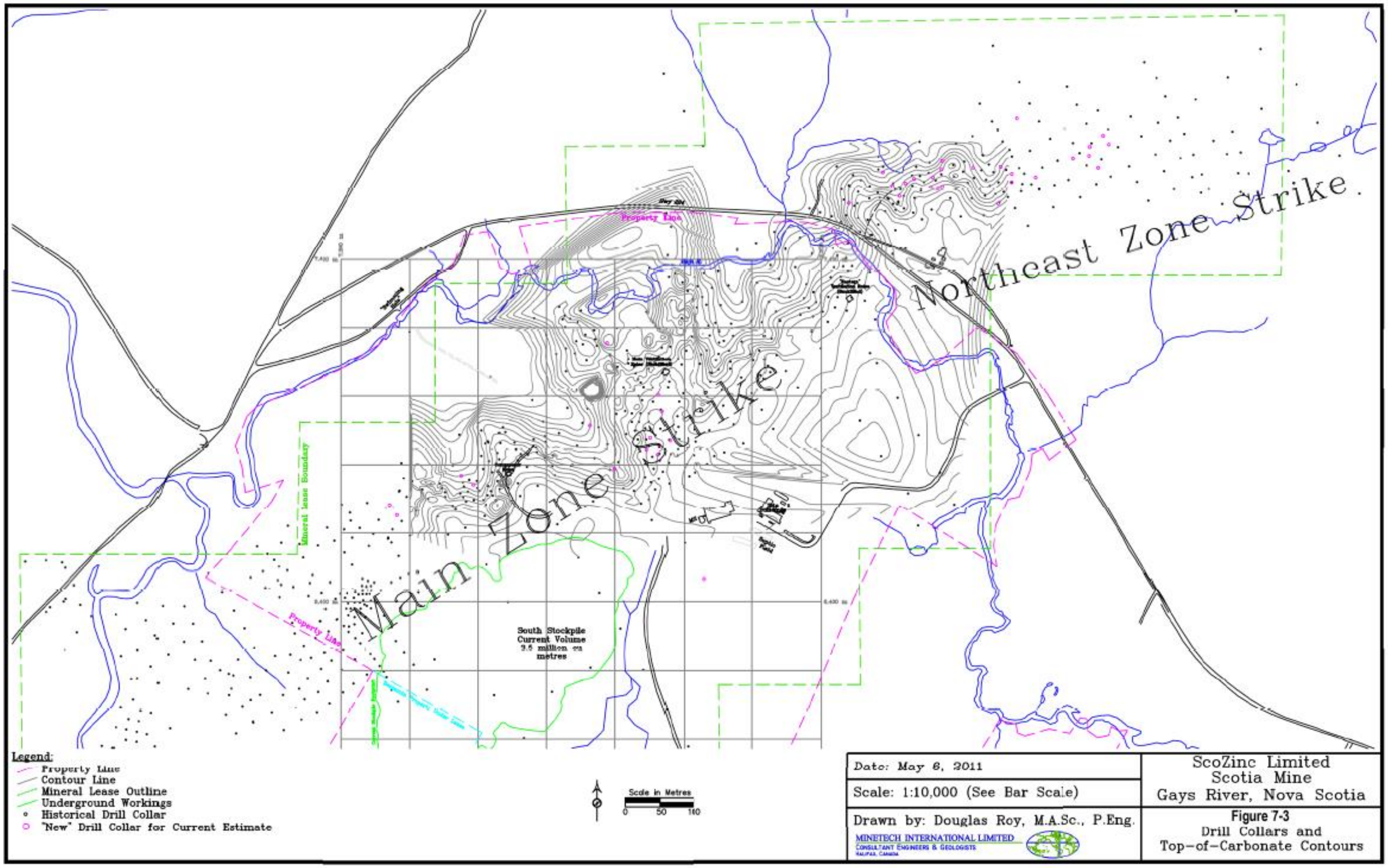
“The Getty Zone carbonate bank forms a northwest extension to the adjacent Gays River bank that hosts Scotia Mine zinc-lead resources and reserves. While broadly similar, carbonate bank slopes at Getty are generally gentler than those seen at Main Zone. Figure 7-9 depicts a typical bank cross section illustrating occurrence of thickest carbonate on the bank top, with progressive thinning down dip on the paleo-topographic high. Variations existed locally in basement paleo-slope angles and appear to have directly influenced corresponding carbonate bank morphology. Areas with steep basement slopes tend to show rapid thinning of carbonate away from the thicker bank tops, with correspondingly steep contact surfaces with overlying evaporites. Gentle slope areas show greater lateral and down-dip continuation of thicker carbonate and corresponding lower average contact dips with the overlying evaporite. Based on the drilling carried out to date at Getty, the maximum carbonate thickness encountered along the basement high trend is 45.48 meters in drill hole GGR-221.

“Gays River Formation carbonate banks include intricately intercalated algal, peloidal and coraline lithofacies, with abundance of bindstone, bafflestone, packstone and micrite. These facies show transition downdip to thin (typically <5 meters), variably laminated algal/silty carbonates that are lateral equivalents to laminated carbonates of the Macumber Formation. The latter occurs basin-ward of the underlying Horton Group's stratigraphic pinchout and is not present in the deposit area.”



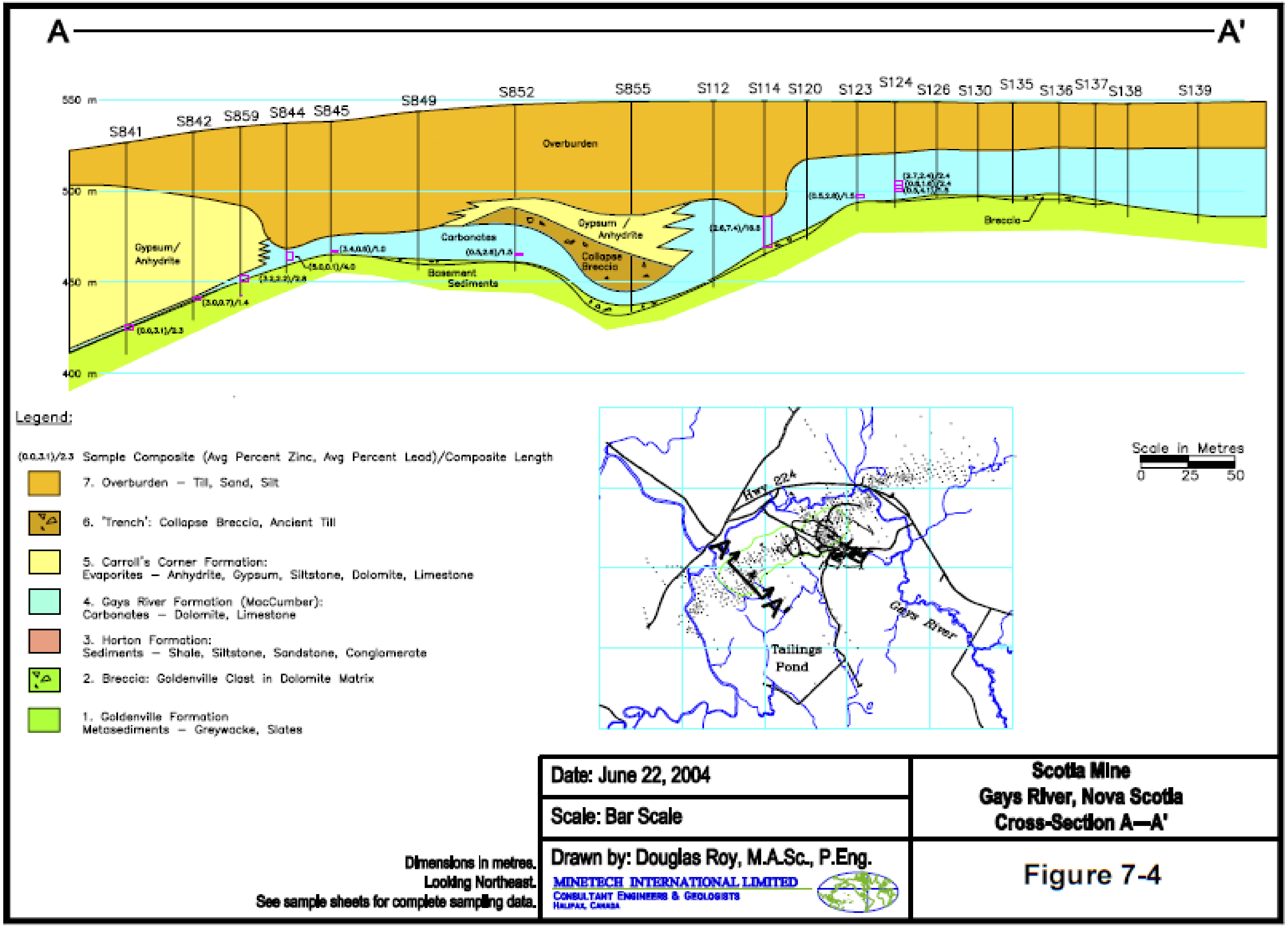
Source: MineTech, 2012

Figure 7.2: Stratigraphic Section of the Windsor Group



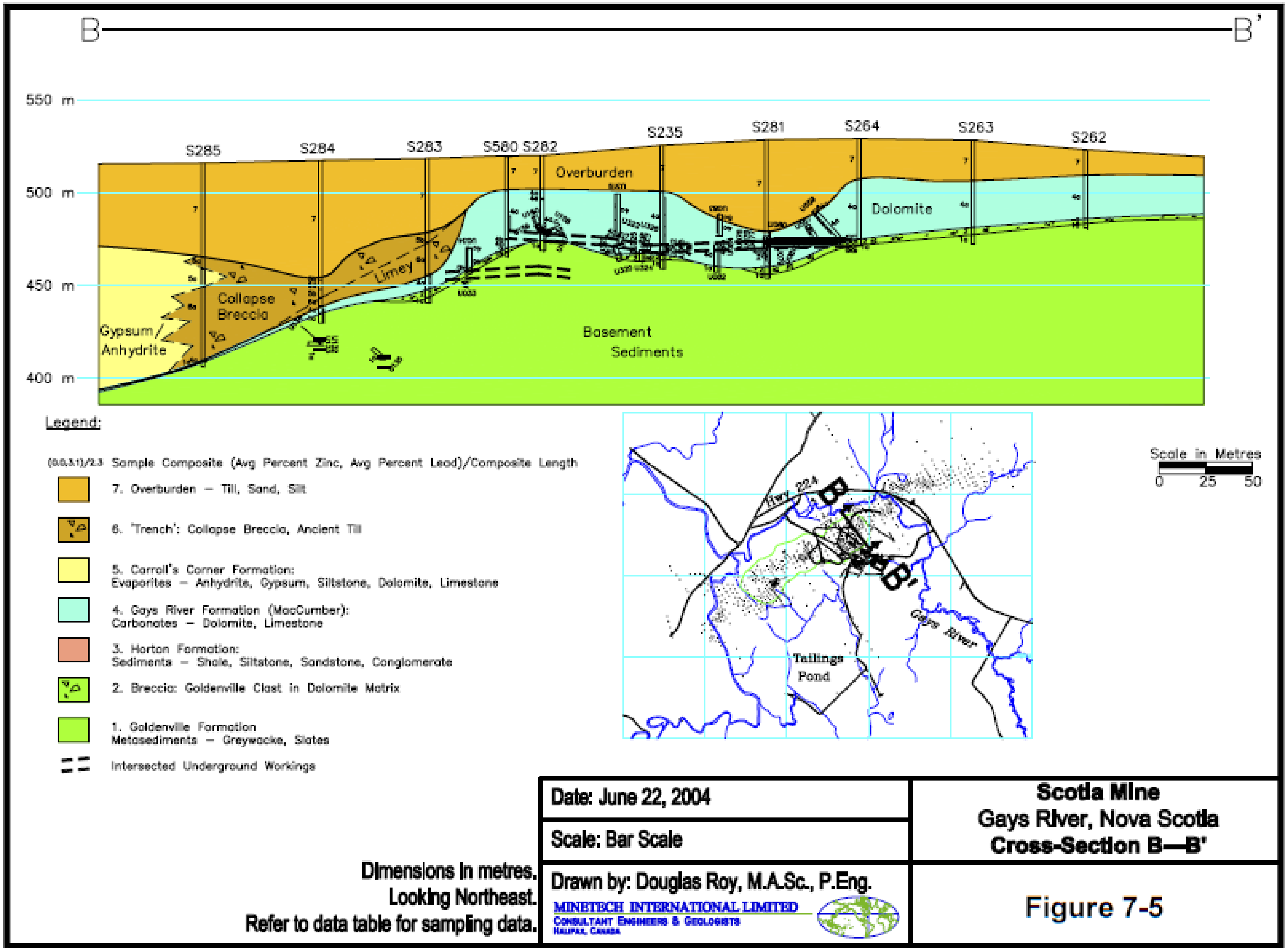
Source: MineTech, 2012

Figure 7.3: Top-of-Carbonate Contour Map



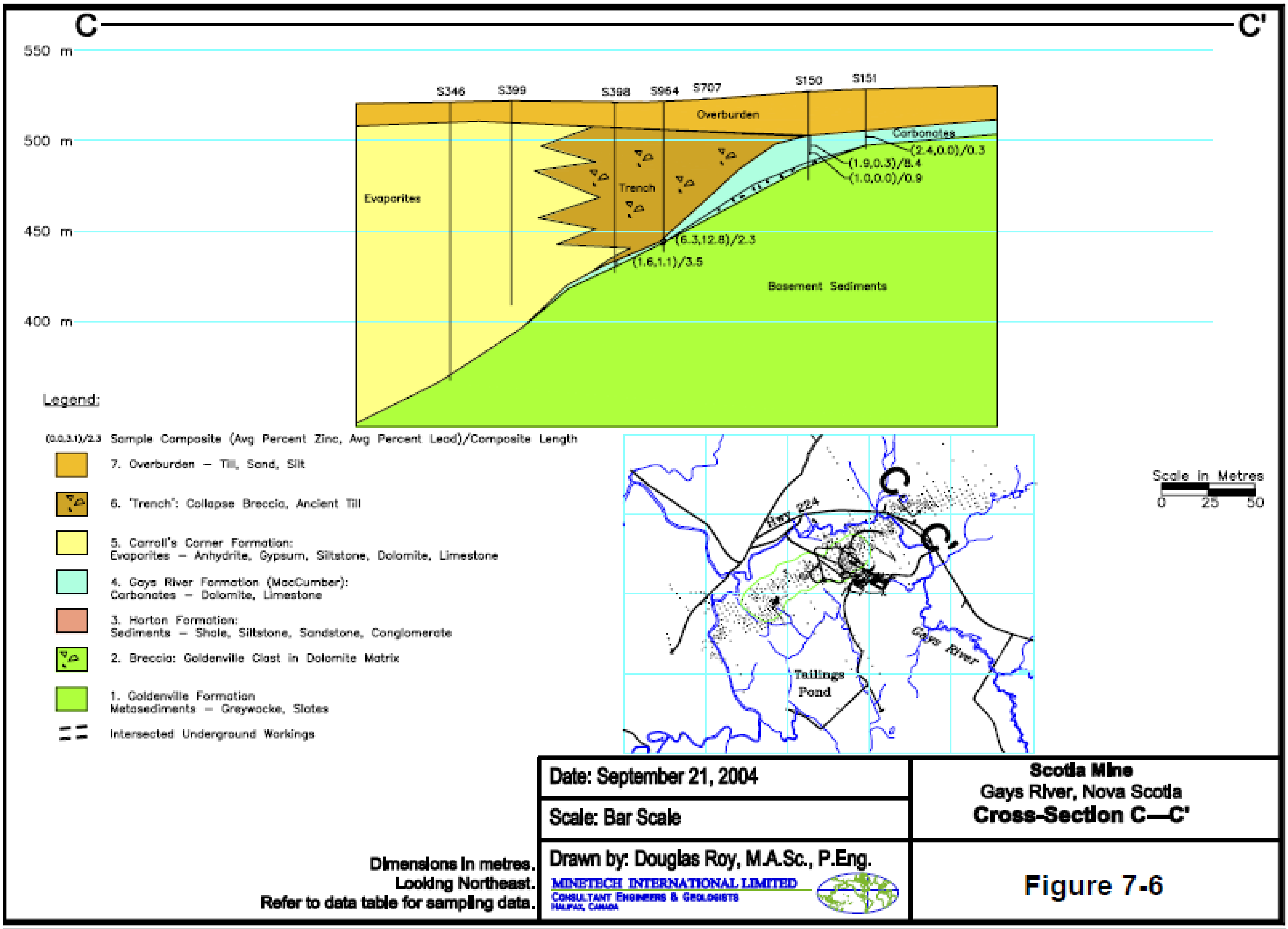
Source: MineTech, 2012

Figure 7.4: Geological Cross-Section A-A'



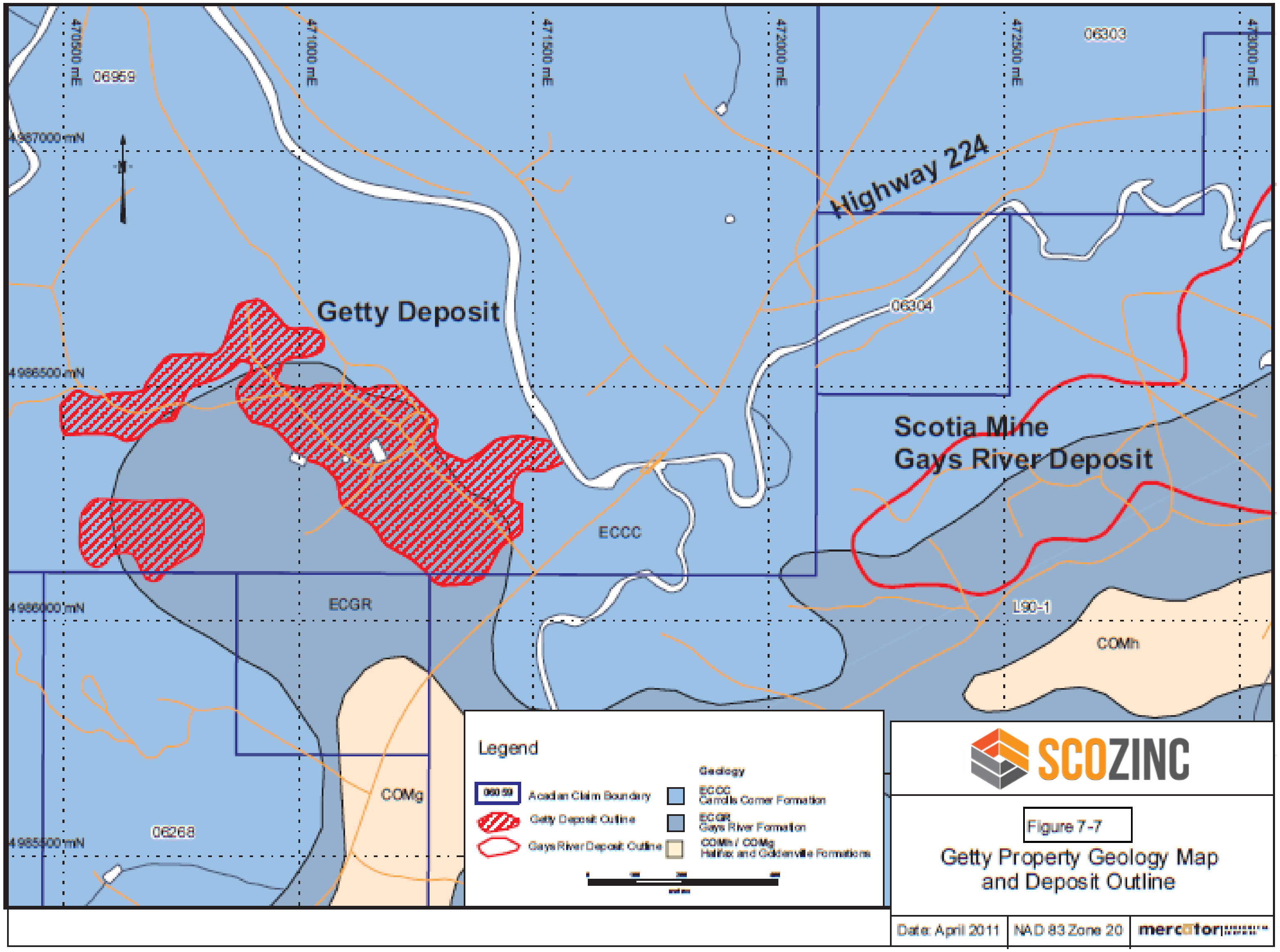
Source: MineTech, 2012

Figure 7.5: Geological Cross-Section B-B'



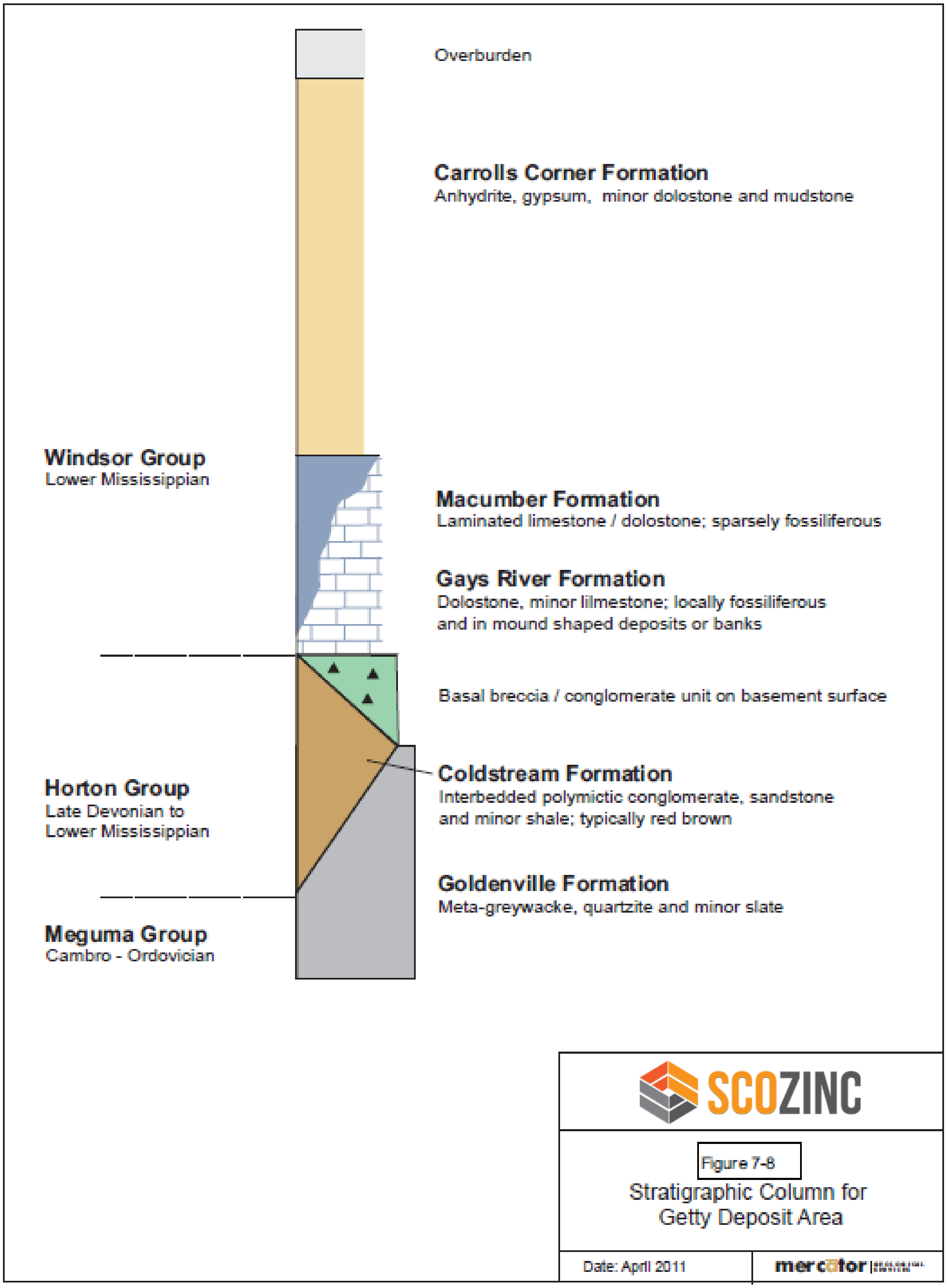
Source: MineTech, 2012

Figure 7.6: Geological Cross-Section C-C'



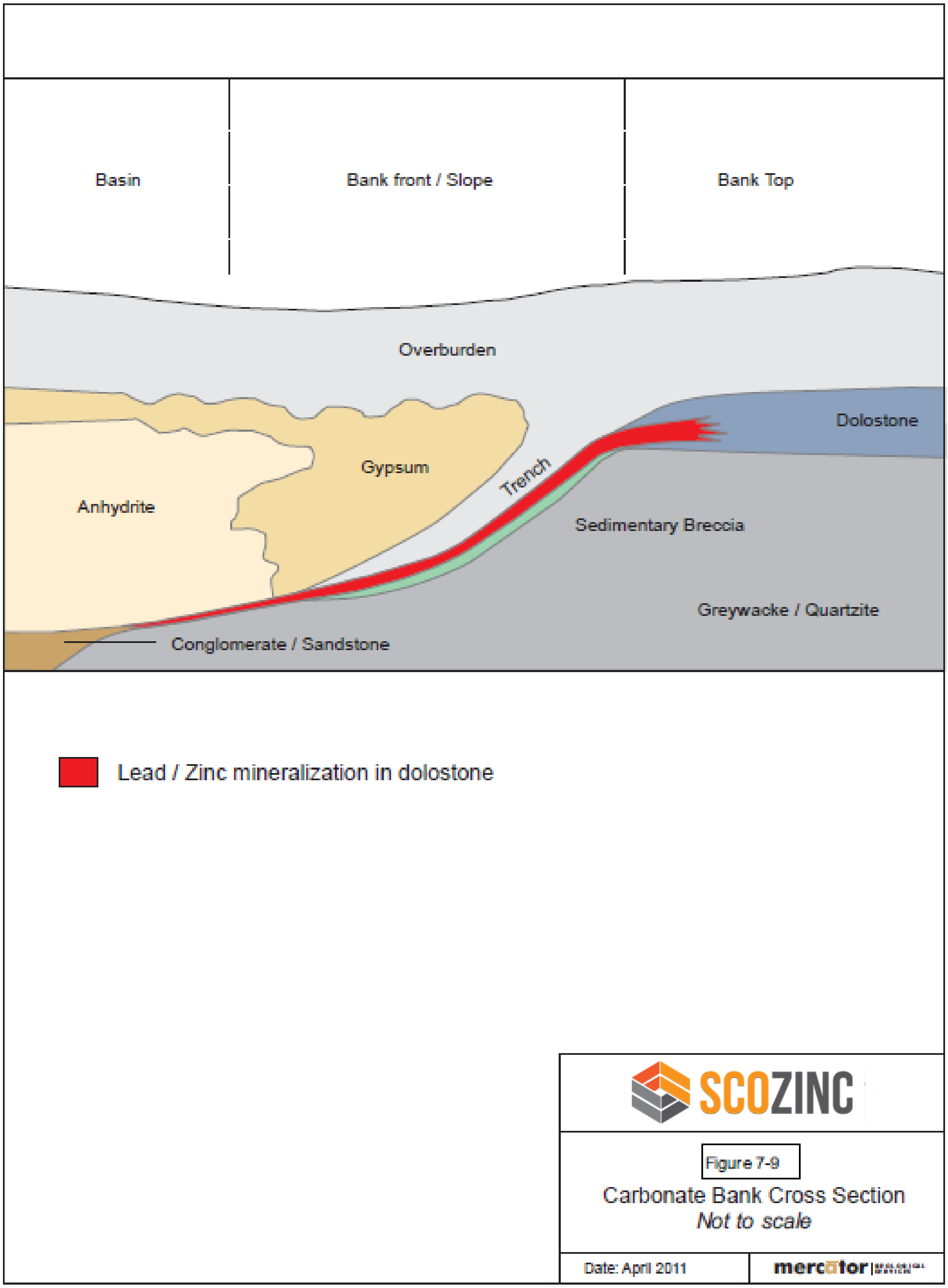
Source: MineTech, 2012

Figure 7.7: Getty Zone Geological Map



Source: MineTech, 2012

Figure 7.8: Getty Zone Stratigraphic Column



Source: MineTech, 2012

Figure 7.9: Carbonate Bank Cross-Section

7.3 Mineralization

7.3.1 Main Zone Mineralization

Nesbitt Thomson Inc. (1991) describe the high-grade mineralisation as consisting of a massive sulphide zone in contact with the evaporite or Trench, ranging in thickness from 0.1 to 5.0 meters and locally containing up to 78 % Pb and 57 % Zn. On the footwall of the massive sulphide, there is a zone of disseminated material (>7% Zn equivalent) which, in places, is up to 12 meters in thickness. Locally disseminated mineralisation (>2% Zn equivalent) extends up to twenty meters into the footwall. The parameters used to calculate “Zn equivalent” are unknown but would have reflected the prices of zinc and lead at the time.

The Main Zone is essentially controlled by a sinuous paleo coastline. The main part of the deposit is shallow (generally <150 m deep), has a dip length of approximately 100 m and a strike length following the paleo-coastline over a straight line distance of 2 km (Nesbitt Thomson Inc., 1991).

The mineralisation at the Main Zone consists of massive and/or disseminated ore hosted predominantly by the carbonate rocks, with extensions down into the basal breccia unit. The massive mineralisation consists of fine-grained (<10-20 m), Fe-poor, beige-coloured sphalerite and medium to coarse-grained, Ag-poor galena (<10-20 ppm Ag in galena concentrates) (Kontak, 1998; Savard and Kontak, 1998), is restricted to the carbonate-evaporite contact and is 1 to 3 meters in true thickness. Disseminated mineralisation, consisting of yellow to orange, millimeter-size euhedral sphalerite and millimeter-to-centimeter-size euhedral galena, fills in primary porosity in the dolomitized carbonates and walls of primary cavities (Kontak, 1998).

Sphalerite and galena constitute about 99.5% of metallic minerals. Other sulphide minerals are marcasite, pyrite and chalcopyrite, while gangue minerals include calcite, dolomite, fluorite, barite and selenite (Patterson, 1993).

7.3.2 Getty Zone Mineralization

The following is taken from Section 8 (Mineralization) of Cullen et al (2011):

“Zinc and lead sulphide mineralization are found throughout the Getty carbonate bank, along with trace amounts of iron sulphide in isolated areas. Base metal sulphides are also present to a lesser extent in carbonate matrix of the underlying conglomerate/breccia unit and within calcite or micrite filled fractures and joints present in underlying Goldenville Formation greywackes. While not extensively reported to date, galena has also been documented locally at the Scotia Mine [Main Zone] deposit in thin (<20cm thick) discordant, steeply dipping veins that generally trend north-south (B. Mitchell, personal communication, 2007).

“Drilling to date on the Getty Zone has shown that massive to submassive high grade mineralization like that commonly present along steep bank front zones at Scotia Mine is not present to a significant degree at Getty (Bryant, 1975). However, a clear association of higher zinc and lead grades with dolostone intervals on the northeast and north slopes of the Getty bank is recognized and lower grades over thicker intervals occur within the carbonate sections at the top of the bank. Mineralization is more poorly developed along the southwest side of the bank.

“Sphalerite is the predominant base metal sulphide phase present and is typically honey yellow to buff or beige in colour and finely crystalline. Based on drill core observations, Bryant (1975) specified the following four modes of sphalerite occurrence within the deposit, with the first being the most common: (a) disseminated mineralization showing concentrations from trace to 10% or more, (b) semi-massive and massive mineralization as seams and replacements along bedding surfaces or laminae, (c) massive, porosity filling or surface coating mineralization in fossiliferous and vuggy carbonate, (d) mineralization associated with secondary calcite in small stringers and veinlets.

“Silver is a trace constituent of the Getty sulphide assemblage but is not present at levels of economic significance. This parallels the situation at adjacent Scotia Mine where Roy et. al. (2006) reported historic silver values in mill concentrates that were typically less than 40 parts per million.” (Cullen et al, 2011, section 8).

8 Deposit Types

The Scotia Mine Deposit mineralization has long been considered a Mississippi Valley-type ("MVT") lead-zinc deposit. Characteristics of sedimentary formations that host MVT lead-zinc mineralization include shallow-water, shelf-type carbonate rocks with reefs around the peripheries of intra-cratonic basins, karst structures, limestone-dolomite interfaces and proximity to a major hydrocarbon-bearing basin. The archetypical MVTs occur in the United States in several famous districts surrounding the Michigan-Illinois Basin which also has significant hydrocarbon production. Each of the districts is enormous, with resource potential of 75 million to 750 million tonnes and individual deposits in the order of 1 to 100 million tonnes.

Other MVTs have been mined in the past in Canada (e.g. Pine Point in the Northwest Territories, Nanisivik mine in Nunavut, and Newfoundland Zinc) and in Ireland.

MVTs are thought to have formed when hot, basin-derived, oil field-type brines, formed at depths of more than 2 km, and migrated towards lower pressure areas around the basin periphery. Mineralisation precipitated from the brines when they encountered porous areas like reefs, karst breccias or sedimentary traps.

Sangster and others (1998) draw on their own and others' evidence to conclude that all Windsor Group lead-zinc deposits are epigenetic relative to their enclosing strata, exhibiting both open-space filling and host-rock replacement. At the Scotia Mine Deposit, textures (including fossils) have been preserved; representing volume-for-volume replacement of original limestones by dolomite, and the sulphides are, in turn, replacements and porosity fillings within the previously altered host rocks. Kontak (2002) feels that petroleum in fluid inclusions in the Scotia Mine Deposit mineralisation suggest a role of hydrocarbons in the mineralising process, like many MVTs, but Sangster and others (1998) point to basement rocks underlying the Palaeozoic sedimentary rocks as the source of the mineralising fluids.

The temperatures of formation of the Scotia Mine Deposit (and others in Nova Scotia) are higher than most North American MVTs, and compare more favourably with the clearly epigenetic MVTs of the Central Ireland Basin (Sangster and others, 1998). The Irish deposits also occur in Upper Paleozoic (Carboniferous) carbonate rocks, predominantly in shallow-water carbonates and a mudbank limestone (reef). The Irish deposits are also preferentially associated with east-northeast-trending faults which are thought to have acted as conduits for mineralising hydrothermal fluids; basement lineaments may also have controlled deposition. As with the Scotia Mine Deposit, sphalerite and galena are the main sulphides; barite is also usually present (Exploration and Mining Division Ireland, 2004). Seven economic deposits have been mined or are currently in production in Ireland. The largest of these, the world-class Navan deposit, had total production and proven + probable reserves of 82.1 million tonnes containing about 10.6% Zn+Pb; its annual production is 2.5 million tonnes of ore. Other producers and former producers had resources between about 8 and 18 million tonnes and grades of 9-25% Zn+Pb (Exploration and Mining Division Ireland, 2004).

It is noteworthy that two major carbonate-hosted zinc-lead deposits discovered in Ireland since 1986 occur down-dip from areas where considerable exploration, including diamond drilling, had been carried out over the prior 20 years (Patterson, 1993). Similarly, the MVT deposits of the Viburnum trend in the U.S.A. were discovered at depths of 300 meters by understanding of the regional geology of the hosts rocks of the Old Lead Belt about 80 km away.

Cullen et al (2011) describe the Getty Zone in section 7.2 of their report, quoted below in part:

“Genetic Model [original section: DEPOSIT TYPE (7.2)]

“The adjacent Scotia Mine deposit (Main Zone) has been the subject of extensive academic and government research and reporting since its discovery in 1971. Much of this work was summarised by Roy et. al. (2006) and the deposit is a considered an example of the Mississippi Valley Type (MVT) class of carbonate hosted, stratabound, base metal deposits. Prominent examples of the paleo-basement high deposit setting occur along the Viburnum Trend of Southeast Missouri, but are characterised in that area by dominance of lead mineralization over that of zinc (Sangster et. al., 1998; Akande and Zentilli, 1983; MacEachern and Hannon, 1974).

“Localization of base metals within the Getty bank complex is believed to have resulted from interaction between metal-bearing basinal fluids, potentially sourced in the Horton Group stratigraphic section or in basement sequences, and chemical reductants, possibly including hydrocarbon, that were present at sites of deposition within the bank. Kontak (1998, 2000) reported on fluid inclusion and other studies of ore from the adjacent Scotia Mine property and concluded that saline brines in the 100º C to ≤ 250º C temperature range were involved in the main mineralizing process and that these temperatures are higher than those typically seen in MVT districts. Héroux, et. al (1994) studied organic maturation and clay mineral crystallinity characteristics of Gays River Formation rocks of the Musquodoboit and Shubenacadie basins and identified a corridor of higher interpreted heat flow that occurs in part over the Scotia Mine Deposit areas and is consistent with the higher fluid temperatures previously noted. It is clear that zinc and lead mineralization were superimposed on lithified and dolomitized host rocks (Akande and Zentilli, 1985; Kontak, 1998).” (Cullen et al, 2011)

9 Exploration

9.1 Exploration History

The Scotia Mine Deposit zones were explored more-or-less contemporaneously. Major drilling campaigns on both zones first started in the mid-1970s. Esso Minerals was primarily involved with the Main Zone while Getty Northeast Mines Limited was primarily involved with the Getty Zone. During the 1980s, Seabright and Westminer carried out some drilling on the Main Zone and during the late-2000's, ScoZinc chiefly drilled the Getty Zone.

9.1.1 Main Zone

Lead-zinc mineralisation at Scotia Mine was first mentioned in records dating back to 1824. Knowledge of the occurrence may even go back to the early 1700's when French soldiers reportedly used the lead for making ammunition (MacEachern and Hannon, 1974). Other early references to Gays River lead were made in 1868 by J. W. Dawson in "Acadian Geology" and by H. Howe in "Mineralogy of Nova Scotia".

The earliest recorded prospecting may have been trenching along the outcrops in 1873-1874. Additional trenching and pit sinking was carried out in 1928. Assessment records do not indicate any resumption of interest in the area until 1951. From the first reports of mineralisation in the area in the early 1800's, exploration activity up to 1950 had yielded best values of 3 % lead (Patterson, 1993).

1951

Maritime Barytes Limited acquired the property at Scotia Mine and carried out a surface exploration program involving some trenching and sampling. Gays River Lead Mines subsequently became involved in the evaluation of the property and commenced a drill program to delineate the occurrences of lead and zinc. A total of 67 delineation drill holes were completed by mid-1952 and an additional seven holes were completed for exploration in the vicinity.

The drilling by Gays River Lead Mines Limited outlined four zones of mineralisation in an area about 400 meters by 900 meters. Over 800,000 tonnes of mineralised (galena, sphalerite, pyrite, marcasite and chalcopyrite) Windsor Group carbonate were defined overlying and flanking a northeast-trending anticlinal Meguma greywacke basement high. Grades for the four zones ranged from 1.10% to 3.50% combined lead plus zinc with an average of 2.32% combined lead plus zinc. Most, if not all, assays were from sludge samples.

1962

Gunnex Limited carried out extensive soil sampling in the Scotia Mine area in 1962. Anomalies were encountered only over areas of previously known mineralisation where overburden was thin. An induced polarisation survey indicated only a very weak response over known mineralisation and did not add any new target areas. The lack of encouraging response on the periphery of the earlier defined mineralised area prompted Gunnex to forego any further exploration activity.

1968 – 1969

In 1968 and 1969 Penarroya Canada Limited completed extensive soil sampling and geological mapping in the Scotia Mine and Meaghers Grant areas. Two diamond drill holes in the Meaghers Grant area intersected minor zinc mineralisation. No drilling was carried out in the Scotia Mine area even though a number of soil anomalies had been identified. Most of the major anomalies corresponded with previously known mineralisation. Two new anomalous areas were, however, defined. They occur near Carroll's Corner and in the Black Brook area east of the Gays River and define a northeast trending geochemical high. The latter area is close to the northeast end of the presently defined Main Zone itself.

1971

Texasgulf Inc. drilled four diamond drill holes in the Scotia Mine area in 1971. One hole adjacent to a Gays River Lead Mines drill hole confirmed significant mineralisation in the carbonates. The remaining holes tested one soil anomaly southeast of Gays River and two areas northwest of Gays River. No encouraging mineralisation or carbonate build-ups were intersected in the last three holes and work was terminated.

1972 - 1984

In 1972 personnel of Cuvier Mines Limited ("Cuvier") prospected the Scotia Mine area and located significant mineralised float material to the south of the old occurrence (MacEachern and Hannon, 1974) and subsequently acquired the ground. Cuvier also outlined geophysical and geochemical anomalies. In September of 1972 Cuvier optioned the property to Imperial Oil Enterprises ("Esso") with Esso holding a 60% interest and acting as the operator. Cuvier formed a joint venture with Preussag Canada Ltd. ("Preussag") to finance Cuvier's 40 % interest in the property.

Both Cuvier and Esso were of the opinion that the area had the proper geological setting for a Mississippi Valley-type deposit. Esso recognised the possible existence of a reef complex trending north-easterly from the old Scotia Mine drilling site. The source of the mineralised boulders had not been located and a combination of deep glacial till and lack of outcrop would necessitate fence-type drilling in geologically favourable areas for the purpose of obtaining geological information as well as locating any mineralised areas.

A total of 20 holes were drilled prior to drilling the discovery hole 2.5 kilometers northeast of the original showing along the postulated reef trend. The discovery hole intersected 3.35 meters averaging 7 % zinc (MacEachern and Hannon, 1974).

From October 1972 to August 1974, Esso/Cuvier drilled off the deposit and identified 12,000,000 tonnes averaging 7 % Zn + Pb (Patterson, 1993) over an area of approximately 4 kilometers by 220 meters at depths ranging from 20 to 200 meters (450 surface core holes)[2].

The initial mine development by Esso began with developing the exploration decline in 1976 across the central portion of the mineralized zone to verify mining conditions, the grade and continuity of the mineralization and to provide bulk samples for metallurgical testing. The decline was 760 meters in length but by mid-1979 some 1,800 meters of drifting and 744 meters of underground development had been completed. The deepest workings were at a vertical depth of 100 meters. In December of 1977 Esso purchased Cuvier's and Preussag's interests in the property and formed Canada Wide Mines to develop and mine the deposit.

During the next two years various feasibility studies were carried out. Recoverable proven plus probable reserves were then estimated at 4.7 million tonnes at 2.8% Pb and 4.2% Zn (WMC, 1995). Esso commenced with the construction of the mill and other facilities in August of 1977. The 1,350 tonne processing plant was commissioned in October of 1979 and the mine was further developed to support a 1,350 tonne per day operation.

From 1978 until 1981, Esso operated the mine and targeted the lower grade mineralization using a trackless, lower cost, bulk room and pillar mining method approach. The higher-grade mineralization near the carbonate contact was not part of the mine plan. Operations continued until August 1981 when production was suspended except for an underhand cut and fill technique test stope. Mining conditions exacerbated by bad ground conditions and excessive water inflow caused the operation to be suspended. During the operation, a total of 553,688 tonnes of mineralised material averaging 1.36% Pb and 2.12% Zn were produced and run through the mill – 272,000 tonnes of waste were also removed. Throughout this period efforts to achieve the full production rate, as well as efforts to mine areas of higher-grade mineralization were complicated by the combination of the complex geological setting and the severe hydrological problems.

The plant was shut down in 1982 as a result of operating losses due to lower than expected grades, higher than expected operating costs, the difficult water problems and low metal prices.

Seabright Resources Inc. acquired the mine and mill in 1984 but despite a favorable feasibility study did not reactivate the mine due to depressed metal prices at the time.

A summary table of all known drilling at the Main Zone by all exploration companies over the years is included as Table 10-1. A map depicting the location of the surface holes is included as Figure 7.3.

1985 - 1987

Seabright's primary intention was the usage of the mill facility to process gold ore from their outlying properties, and a secondary intent to later re-open the Main Zone mine (WMC, 1995). At the time, Seabright was mining (bulk sampling) gold-bearing quartz veins from four small operations; Beaver Dam, Forest Hill, Caribou and Moose River, all located within the Meguma Group (Cambro-Ordovician).

The milling facility was converted for gold processing. The mine was not re-opened at that time by Seabright as a sharp drop in zinc prices rendered the underground mining operation uneconomic.

1987 - 1991

In 1988 Westminer Canada Limited ("WMC") purchased Seabright Resources. A review of the deposit, including the drilling of 89 surface core holes, led WMC to a positive production decision based on a reinterpretation of the geology and mining method. They began dewatering the underground workings in early 1989. Following the success of the mine dewatering and a test mining period to assess the suitability of the proposed narrow vein cut and fill mining method to extract the high-grade ore zones, the mine was placed back into production. It reached commercial production rates in March 1990 (WMC, 1995) at a rate of 800 tonnes per day.

WMC's initial approach was to drive small 2.5x2.5 meter cut and fill stopes adjacent to the "Trench" material. Dry waste rock backfill was placed after each lift. In most areas, the method allowed the high-grade ore on the carbonate-Trench contact to be extracted. In one area WMC successfully tested the room and pillar mining method (Nesbitt Thomson, 1991). A total of 187,010 tonnes of ore at an average grade of 3.5% Pb and 7.47% Zn were mined during WMC's involvement on the property.

Hydrological difficulties causing poor ground conditions continued to play a factor in the mine operation. In May 1991, rising water levels due to the spring runoff forced the cessation of mining in a number of stopes and WMC decided to place the mine in project mode. Following the suspension of production in 1991, WMC carried out an extensive program to understand the mine hydrology and concluded that the groundwater could be successfully managed so that mining operations would no longer be adversely affected.

WMC has identified the Eastern zone of the deposit as an area for possible early development because ground conditions are substantially better due to the hanging wall being generally gypsum/anhydrite rather than Trench. The grade is also higher relative to other sections of the deposit. The Eastern area appears promising for additional resources. WMC thoroughly assessed the property in 1991 and prepared a revised mine plan to resume mine production. The revised plan provided for more mechanization of the mining method, institution of paste backfill, increased groundwater drainage through screened drainage wells and a revised pumping system. However, the operation was WMC's only lead and zinc producer, was not associated with any downstream smelting facilities and was a smaller operation relative to other corporate assets. For these reasons, the property did not fit within WMC's corporate strategy to focus on large scale operations and for this reason the property was sold to Savage Resources.

1996 - 1999

After acquiring the Scotia Mine in 1996, Savage conducted two exploration drilling programs to fill in the gaps from prior drilling and improve the mineral resource estimate on the mine property. In December 1996, 36 diamond drill holes, totaling 1,325 meters were drilled in the central mine area adjacent to the underground mine entrance to test the continuity of the disseminated low-grade mineralization in the back reef (known as the sand pit area –an area of commercial aggregate). In April and May 1997, an additional 30 diamond drill holes totaling 2,339 meters were drilled in the Northeast zone (as identified by WMC). Both programs were successful and confirmed the presence of low grade (in the central area) and high-grade mineralization (in the Northeast zone). According to Cullen (1997), the results of the drilling (based on a 7% Zn-equivalent cut-off grade) enhanced some areas of the Northeast zone and diminished other areas. He also states that a complete revision of some of this area (with additional drilling evaluation) be completed prior to any production decision.

Savage dewatered the underground workings from June to August 1997 and started to rehabilitate the mine before a decision was made to extract the ore in the main, central zone using open pit methods. An open pit design was prepared using appropriate technical criteria for ore mining and waste stripping (Gemcom and Whittle 3-D Optimization). The preliminary mine plan assumed the processing of 1,350 tonnes per day with the ore coming from a combination of underground (1,000 tonnes per day) and open pit operations (350 tonnes per day).

In early 1999 ownership of Savage was transferred to the Australian mining company Pasminco Canada Limited ("Pasminco").

2001-2003

Regal Mines Limited (Regal Mines) purchased Pasminco Resources Canada Company (Pasminco Resources) and its assets in February 2002. Regal was owned 50 % by OntZinc Corporation (OntZinc) and 50 % by Regal Consolidated Ventures Limited (Regal Consolidated). As part of the sale, Pasminco Canada Holdings Inc. (Pasminco Holdings) retained a 2 % net smelter return (NSR) royalty on future production. OntZinc acquired Regal Consolidated's 50 % interest in December 2002 to own 100 % of Pasminco Resources. Savage Resources Limited is the successor of Pasminco Holdings and currently holds the 2 % royalty. Pasminco Resources was later renamed ScoZinc Limited (ScoZinc). The mining and environmental permits are still in force and are held by ScoZinc along with all the Scotia Mine assets.

2004 – 2006

Exploration activity by ScoZinc included diamond core drilling, a hydraulic mining test, prospecting of the general area, geological compilation of past relevant data and two lines (ten samples) of Mobile Metal Ion Geochemistry (MMI) across areas of known mineralization covered by thick accumulations of glacial till. The results of the MMI survey were inconclusive.

A hydraulic mining test was performed to determine whether such a method might be useful to uncover the glacial overburden and some of the Trench material in the area of the low grade, potentially surface mineable resources. This was primarily performed near the area of the sand pit next to the original portal. Generally, the test showed that it is possible to mine the sandy overburden in the current pit bottom using dredging methods.

Six holes were drilled through the “Trench” unit using a soil drilling rig. The Trench is a geological unit that occurs between the gypsum and dolomite units. The purpose of this program was to characterize the soils that make up the Trench. Four holes were drilled in the Central Zone near the current pit. The two other holes were drilled near the highway (Hwy 224) in the East Zone.

The soil holes in the Central Zone around the current pit consisted mainly of dark brown clay with fine-to-medium grained sand. Rock fragments, rounded-to-angular, were occasionally noted. The soil holes in the East Zone near the river and highway consisted of fine-to-medium grained sand with minor clay. This observation may be an important factor during future mining. Permeability underneath the river is expected to be high to a depth of at least 20-30 meters. This will adversely affect slope stability should the walls of an open pit approach the river.

Twenty-five diamond core drill holes (1,845.3 meters) were completed by ScoZinc on the Scotia Mine property. Seventeen of these holes were meant to further define the lead and zinc mineralization contained within the reef carbonate while the remaining eight holes were meant to test the gypsum potential immediately overlying the mineralised zones.

Four holes (477 meters) were completed in the north-eastern portion of the deposit while thirteen holes (1,172 meters) were completed in the central area of possible lower grade open pit mineralization. The program was moderately successful in the central area with zinc values consistently in the 2 to 4% range over 1 to 2 meters (Table 10-1). The drilling program in the northeastern zone proved less successful with mineralised intervals being quite thin.

Four holes (673.3 meters) were drilled in the northeast zone and an additional four in the central area to test the overlying gypsum in the hanging wall of the base metal mineralization. The holes were drilled to obtain core samples of the gypsum deposits that immediately overlie the mineralised zones. The purpose of the samples was to carry out early tests of gypsum consistency and quality as well as to confirm preliminary estimates of the probable size of the gypsum resource adjacent to the mineralised trend.

In most of the diamond drill holes, a gypsum "cap," 20-30 meters thick was encountered. Grade was highest (greater than 90 % gypsum) near the bedrock surface and decreased with depth. At 20-30 meters depth, gypsum grade dropped below 80 %, transitioning to anhydrite over an interval of approximately ten meters. Because the gypsum was quite hard, it was difficult to visually determine the contact between gypsum and anhydrite.

2007-2008

ScoZinc began surface mining the deposit in 2007 and carried on into 2008. Due to a drastic fall in metal prices, ScoZinc placed the mine on care and maintenance status.

In 2008, ScoZinc drilled 17 diamond drill holes through the Northeast Zone (refer to Section 10).

2011

Selwyn drilled a further 39 drill holes totaling 4,950.50 meters between August 11th and October 11th, 2011 (see section 10.2.2).

9.1.2 Getty Zone

A description of mineral exploration work that was carried out on the Getty Zone was given in Cullen *et al* (2011):

"… with the exception of regional soil geochemical surveying by Penarroya Ltd. in 1964 (Rabinovitch, 1967) that did not identify the Getty Zone, no substantial mineral exploration efforts appear to have been carried out on the current Getty property prior to its acquisition by Getty in 1972.

"Exploration in the current deposit area was initiated in 1972 by Getty and joint venture partner Skelly Mining Corporation under terms of an option - purchase agreement with Millmore-Rogers Syndicate.

"Discovery of the Getty zinc-lead deposit is attributed to drill hole GGR-12 which was completed in 1972 and intersected 4.63 meters of dolomite grading 15.48% combined zinc-lead, beginning at a down hole depth of 93.11 meters. Subsequent completion of over 200 holes by Getty and Imperial on and around the property served to delineate a nearly continuous mineralized zone measuring approximately 1300 meters in length and up to 200 meters in width (Comeau, 1973, 1974; Comeau and Everett, 1975).

"Mercator completed a National Instrument 43-101 compliant Inferred Mineral Resource Estimate for Acadian on the Getty Zone with an effective date of December 12, 2007. This initial estimate was subsequently updated in a new National Instrument 43-101 compliant resource in 2008 (Cullen et al., 2008) after a total of 10,620 meters of drilling in 138 diamond drill holes had been completed by Acadian on the Getty property under the direct supervision of Mercator staff. The information used to complete these estimates was compiled from the 2007-2008 drilling by Acadian plus historical drilling undertaken prior to Acadian's involvement in the property.

"Acadian initiated a major diamond drilling program on the Getty property in July 2007, and Mercator provided all site supervision, logging, sampling and quality control/quality assurance services to Acadian for this program, which consisted of 138 diamond drill holes. The purpose of the drilling was to upgrade geological confidence in the deposit, provide a basis for the new mineral resource estimate and to provide a higher category classification to the mineral resource estimate (Cullen et al, 2008)."

10 Drilling

10.1 Sample Length – True Width Relationship

The sample intervals do not necessarily represent true widths. The orientation of the deposit is variable, meaning the true width of any given intercept must be calculated with reference to the geological model. The orientation of the deposit is well known and is described in Section 7.2.

10.2 Main Zone

To date, 1,419 diamond core drill holes have been drilled on the Main Zone (refer to Figure 7-3 and Table 10-1. The majority were drilled to determine the characteristics of the zinc- and lead mineralized dolomite.

ScoZinc drilled 17 holes totaling 1,613 meters through the Northeast Zone in 2008. These collars, as well as the collars from ScoZinc's 2004 program, are shown in magenta in Figure 7.3.

ScoZinc Mining drilled a further 39 drill holes totaling 4,950.50 meters between August 11th and October 11th, 2011 (see section 10.2.2).

Most of the 914 surface holes were drilled vertically. The azimuth and dip of the 467 holes drilled from the underground workings was variable.

Generally, holes were drilled so as to fully penetrate the dolomite reef and continue on until no more mineralization was found. This resulted in most drill holes being drilled a few meters beyond the dolomite reef.

Historical logs are provided in the previous technical report for the property (MineTech, 2006).

Table 10-1: Historical Surface and Underground Diamond Drilling Activity[3]

From	To	Holes with Info[4]	Meters	Time Frame	Company
Surface Holes					
1	72	70	2,951.17	1951-1952	Gays River Lead Mines
73	740	646	59,123.60	1972-1982	Imperial Oil/Canada Wide Mines
741	900	89	7,596.80	1985-1995	Seabright, then Westminer (undifferentiated)
901	966	66	3,664.00	1997	Savage/Pasminco
967	991	25	1,864.30	2004	ScoZinc
1130-08	1146-08	17	1,613.50	2008	ScoZinc
MNZ-001	MNZ-039	39	4,950.50	2011	Selwyn
Subtotal		**952**	**81,764.40**		
Underground Holes					
1	341	318	7,460.70	1979-1982	Imperial Oil/Canada Wide Mines (undifferentiated)
342	651	149	4,434.90	1985-1995	Seabright, then Westminer
Subtotal		**467**	**11,895.60**		
Total		**1,419**	**93,660.00**		

Source: MineTech, 2012

[3] Data supplied by ScoZinc.

[4] The electronic database does not contain information for underground holes 342-499

10.2.1 Sample Statistics

The following summary is taken from MineTech International Ltd.'s 2012 technical report.

Sample statistics were calculated for sampling within the carbonate. All samples for which at least one metal (zinc or lead) was assayed were considered. Most samples were assayed for both zinc and lead. Depending on the amount of visible mineral, some samples were assayed for only one metal. The total sample count was 8,022.

The samples from the 2011 drill program were not included in the sample statistics calculations.

The mean sample interval length was 1.44 meters with a standard deviation of 0.82 meters (Table 10-2). Skewness is a measure of symmetry, or more precisely, the lack of symmetry. The positive value for skewness indicates that the data is skewed right, meaning that the right tail is heavier than the left tail. This is also shown in the histogram in Table 10-3. The aggregate sample length was 11,522 meters.

The mean zinc grade was 3.55 %. From the histogram, we can see that zinc assays are approximately lognormal. The range in zinc content was zero to 62.10 %. Theoretically, the maximum possible zinc assay is 67.10 % - the zinc content of pure sphalerite.

The mean lead grade was 1.91 %. From the histogram, we can see that lead assays are also approximately lognormal. The range in lead content was zero to 79.50 %. Theoretically, the maximum possible lead assay is 86.6 % - the lead content of pure galena.

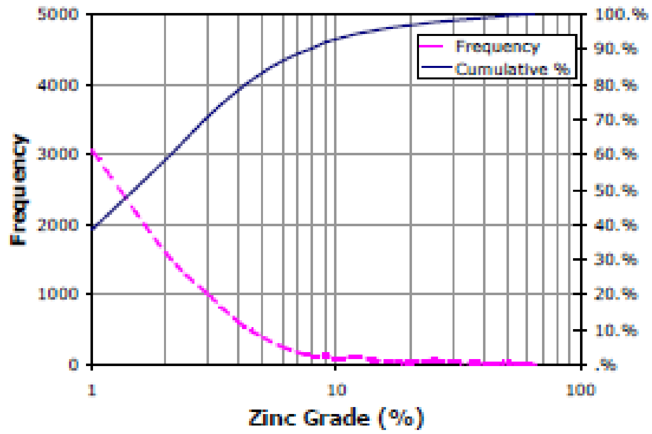
Table 10-2: Descriptive Statistics

Descriptive Statistic	Zinc Grade (%)	Lead Grade (%)
Mean	3.55	1.91
Standard Error	0.08	0.07
Median	1.52	0.12
Mode	0.02	0.01
Standard Deviation	6.79	6.24
Sample Variance	46.17	38.99
Kurtosis	25.17	52.86
Skewness	4.60	6.56
Range	62.10	79.50
Minimum	0.00	0.00
Maximum	62.10	79.50
Sum	n/a	n/a
Count	8,022	8,022

Source: MineTech, 2012

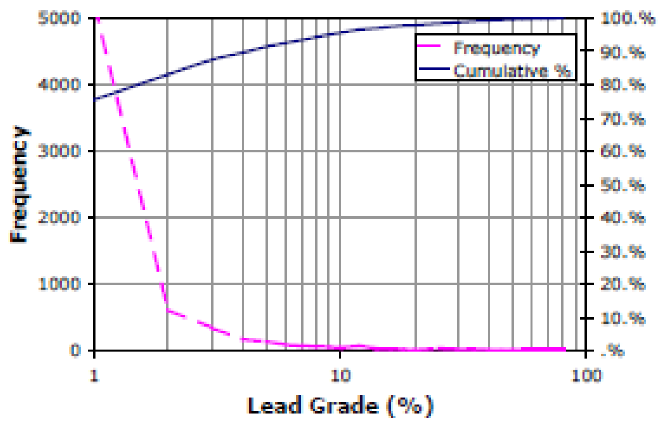
Zinc Histogram

Range	Frequency	Cumulative %
0	39	.49%
0-1	3056	38.58%
1-2	1599	58.51%
2-3	999	70.97%
3-4	603	78.48%
4-5	393	83.38%
5-6	259	86.61%
6-7	174	88.78%
7-8	123	90.31%
8-9	132	91.96%
9-10	74	92.88%
10-12	118	94.35%
12-14	68	95.20%
14-16	58	95.92%
16-18	42	96.45%
18-20	33	96.86%
20-25	65	97.67%
25-30	41	98.18%
30-35	33	98.59%
35-40	27	98.93%
40-45	23	99.21%
45-50	32	99.61%
50-55	15	99.80%
55-60	14	99.98%
60-65	2	100.00%
65+	0	100.00%



Lead Histogram

Range	Frequency	Cumulative %
0	851	10.61%
0-1	5200	75.43%
1-2	616	83.11%
2-3	347	87.43%
3-4	173	89.59%
4-5	141	91.35%
5-6	94	92.52%
6-7	73	93.43%
7-8	70	94.30%
8-9	59	95.04%
9-10	45	95.60%
10-12	77	96.56%
12-14	34	96.98%
14-16	33	97.39%
16-18	25	97.71%
18-20	12	97.86%
20-25	41	98.37%
25-30	26	98.69%
30-35	29	99.05%
35-40	17	99.26%
40-45	10	99.39%
45-50	15	99.58%
50-55	10	99.70%
55-60	7	99.79%
60-65	3	99.83%
65-70	7	99.91%
70-75	3	99.95%
75-80	4	100.00%
80+	0	100.00%

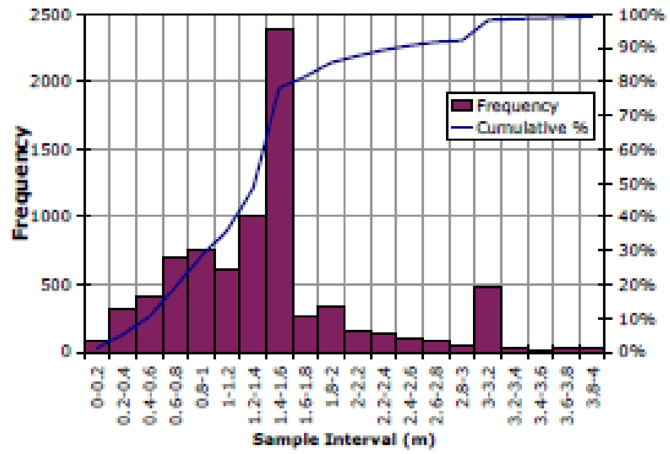


Source: MineTech, 2012

Figure 10.1: Sample Histogram for Zn and Pb

Sample Interval Histogram

Range	Frequency	Cumulative %
0	0	.00%
0-0.2	91	1.13%
0.2-0.4	326	5.20%
0.4-0.6	413	10.35%
0.6-0.8	702	19.10%
0.8-1	746	28.40%
1-1.2	611	36.01%
1.2-1.4	1007	48.57%
1.4-1.6	2381	78.25%
1.6-1.8	260	81.49%
1.8-2	338	85.70%
2-2.2	159	87.68%
2.2-2.4	134	89.35%
2.4-2.6	103	90.64%
2.6-2.8	80	91.64%
2.8-3	40	92.13%
3-3.2	485	98.18%
3.2-3.4	29	98.54%
3.4-3.6	11	98.68%
3.6-3.8	21	98.94%
3.8-4	23	99.23%
4+	62	100.00%



Source: MineTech, 2012

Figure 10.2: Sample Interval Histogram

10.3 Main Zone Drilling, 2011

10.3.1 Type and Extent of Drilling

ScoZinc Mining drilled a further 39 drill holes (Table 10-3) totalling 4,950.50 meters between August 11th and October 11th, 2011. Of the 39 holes drilled, 34 were drilled on Mineral Lease 10-1 and five were drilled on Exploration License 6959. Three of the 39 holes were drilled to the north-east of the existing pit, while the remaining 36 were drilled in a broad area to the southwest of the pit. The deepest hole was 195 meters deep, the shallowest was 43 meters, and the mean depth was 128 meters. Drilling was carried out by Logan Drilling Group of Stewiacke, Nova Scotia.

Drill holes were planned to target zinc-lead sulphide mineralization that possessed the potential to expand upon the current mineral resource or provide greater definition. Targets were primarily chosen to the southwest of the current mine pit, along the margins of, and clustered toward the southwest extent of the Main Zone.

10.3.2 Drilling Procedures

Once targets were determined, drill collar locations were calculated using a projected drill hole inclination that would intersect the Gays River Formation carbonate bank front at an angle closest to perpendicular. Targets were fine-tuned based on ground factors, including terrain, proximity to watercourses, and property boundaries.

Drilling was carried out under the direction of ScoZinc Exploration staff. A skid-mounted Longyear-38 diamond drill was used to complete all drill holes, and was dragged onto each drill pad with the assistance of a small John Deer bulldozer. In addition to the drill, a covered water pump and drill rod sloop were also dragged to the area by bulldozer.

All recovered core was boxed, lidded and returned to the ScoZinc core shack where it was logged and sampled by ScoZinc exploration staff.

All drill core was logged, cut and sampled by ScoZinc staff at the ScoZinc core shack, ScoZinc mine complex. Both geotechnical and geological data was collected from all drill core. Geotechnical data collected included Total Core Recovery, RQD, strength and weathering data, “Q System” discontinuity orientation data, and RMR system data. Geological data collected included stratigraphic contacts, as well as all lithological, mineralogical, and structural observations of note.

10.3.3 Sampling

Thirty-eight drill holes intersected the Gays River Formation (“GRFM”). Silver and base metal analyses were conducted by a 23-element, four-acid digestion, ore-grade ICP-AES technique. Drill hole MNZ-005 was not sampled, as it did not intersect GRFM.

A total of 722 samples were submitted to Acme Analytical Laboratories in Vancouver (Acme). Of those 722 samples, 559 samples (77.4%) were actual core samples and 163 samples (22.6%) were QA/QC samples (see section 11.4).

All but one drill hole (MNZ-005) successfully intersected the mineralized Gays River Formation, although thicknesses and grades were somewhat variable.

Table 10-3: 2011 Drill Collar Summary

Hole ID	UTM Easting	UTM Northing	Elev. (m)	Az (true)	Dip	EOH (m)
MNZ-001	472840.32	4986616.85	23.8	154	-75	165.1
MNZ-002	472817.22	4986556.71	32.51	155	-75	194.9
MNZ-003	472745.12	4986528.99	37.54	152	-65	161
MNZ-004	472705.01	4986537.07	39.28	155	-60	152
MNZ-005	472909.24	4986221.07	44.15	160	-87	56
MNZ-006	472581.14	4986477	45.45	158	-70	176
MNZ-007	472714.91	4986245.28	46.25	158	-80	63
MNZ-008	472548.94	4986453.18	46.78	143	-70	194
MNZ-009	472577.79	4986408.98	45.01	155	-70	167
MNZ-010	472668.51	4986234.87	47.74	152	-80	92.3
MNZ-011	472467.67	4986438.44	42.8	157	-70	179
MNZ-012	472492.13	4986422.43	43.95	150	-50	165
MNZ-013	472593.28	4986232.83	51.07	158	-75	80
MNZ-014	472460.65	4986399.3	45.53	152	-60	147.5
MNZ-015	472403.74	4986408.57	45.69	154	-65	143
MNZ-016	472334.97	4986387.29	44.59	146	-65	161.8
MNZ-017	472317.75	4986327.62	46.19	140	-75	187
MNZ-018	472435.54	4986153.22	51.11	150	-62	101
MNZ-019	472248	4986285.53	42	160	-81	164
MNZ-020	472347.33	4986078.11	52.03	151	-80	65
MNZ-021	472173.21	4986281.68	37.36	152	-66	155
MNZ-022	472077.24	4986272.6	20.88	150	-70	135
MNZ-023	472207.9	4986094.9	46.49	148	-80	74
MNZ-024	472238.97	4986038.08	47.46	134	-87	68
MNZ-025	472310.88	4985911.89	46.89	150	-87	43.2
MNZ-026	472087.89	4986245.72	26.58	150	-52	136
MNZ-027	472135.85	4986130.58	40.68	150	-60	84
MNZ-028	472044.77	4986205.24	20.97	338	-79	140
MNZ-029	472047.95	4986148.28	27.68	152	-51	95
MNZ-030	472099.7	4986061.13	38.52	163	-86	74.4
MNZ-031	472044.76	4986202.24	20.97	237	-65	136
MNZ-032	472125.32	4985935.07	53.32	323	-79	116
MNZ-033	472078.81	4985964.98	48.72	217	-76	143
MNZ-034	471955.78	4986084.56	31.66	150	-83	106
MNZ-035	471937.9	4986048.18	33.99	147	-65	122.7
MNZ-036	471954.85	4986081.72	31.36	276	-70	164
MNZ-037	473401.79	4986905.02	18.47	145	-86	191
MNZ-038	473488.02	4986897.65	19.42	126	-64	133.9
MNZ-0039	473667.1	4986733.54	30.92	170	-87	53

Source: MineTech, 2012

10.4 Getty Zone

Drilling on the Getty Zone is described in Cullen et al (2011), and the reader is directed to this report for further details.

11 Preparation, Analyses, and Security

11.1 Sample Preparation and Analyses

11.1.1 Getty Zone (pre-2008)

Sample preparation, analysis and security measures for the Getty Zone were described in Cullen et al (2011). In part, Cullen et al remark that:

“Reports documenting the Getty and Esso drilling programs in the Getty zone area do not provide detailed descriptions of sample preparation methodologies, analytical procedures or security considerations. However, both Getty and Esso were major, reputable exploration companies carrying out exploration programs in various settings at that time. More specifically, Esso was also in the process of defining reserves at the adjacent Main Zone mine at the time and appears to have employed the same operating protocols for Getty drilling as were applied at the adjacent development property. Mercator is of the opinion that, while not specifically detailed in historic reporting, procedures employed by both Getty and Esso for sample preparation, record keeping, chemical analysis, and security, would have met industry standards of the day. This assertion is supported by review of original drill logs and supporting data, physical review of archived core and through recognition that both companies completed resource estimate and preliminary development assessments based on the same historic drilling results.” (Cullen et al, 2011, section 12.1)

11.1.2 Main Zone (pre-2008)

There is no written record regarding the sampling method employed during the early exploration years (i.e.: pre-1970’s) in the Scotia Mine area.

The exploration approach and sample collection procedures employed by the more recent exploration efforts reflects thorough sampling methodology and documentation procedures. Exploration activity was carried out in a professional manner by a team of local, experienced geologists and technicians supervised by Esso’s, Seabright’s, Westminer’s, Savage’s, and ScoZinc’s professional staff. The work has been well organised throughout their exploration efforts and more recently computer facilities were available to generate reports and prepare maps, etc. from the vast database.

The assay data and other parameters for all core drilling programs and underground work were entered into a computerised database using Microsoft Excel and resource estimate generating software programs. The quality control and validation of the coded data included steps to ensure that the assay intervals and the sample locations were correct. To ensure accuracy of the database, all assays were coded and the data entry system automatically checked for interval overlaps. The coded assays were also printed and a visual inspection was completed for comparison with the original (logged) data sheets. The sample locations were validated with appropriate plotting and visual checks against the original sections and plans.

Core drilling was carried out using North American service providers with the collection of BQ and NQ core. The portions of core to be analysed were either split or sawed into two sections with one half submitted for analysis, the other half remaining in the core tray. All sampling procedures were carried out on site.

Sampled core lengths were determined visually. All drill holes were logged, noting lithology, structure, alteration and mineralisation. Core recovery was generally greater than 90 %. Early in the exploration program, the samples were sent via air cargo to several analytical laboratories; however, after the construction of the mill facility, the internal laboratory was used.

Core samples from Savage's 1997 drilling program and ScoZinc's 2004 drilling program were submitted to the Minerals Engineering Centre of Dalhousie University (formerly Technical University of Nova Scotia) in Halifax. The laboratory is independent of Savage, ScoZinc and Selwyn. The laboratory is not International Standard Organisation (ISO) accredited.

According to the Minerals Engineering Centre; the core sample preparation procedure was as follows. The samples were dried, and then crushed in one or more jaw crushers, depending on the original size, to under one-quarter inch. The sample was then split in a Jones riffle to a mass of 150-200 grams. The sample was then pulverised using a ring and puck pulveriser to 80 % minus 200 mesh (75 microns). Then it was put into either a bag or a vial. Rejects were kept for six months.

The sample analysis procedure consisted of the following: one gram sample lots were digested with hydrochloric-nitric-hydrofluoric-perchloric acids. Elements were determined by Flame Atomic Absorption with detection limit of 1 ppm. Arsenic was determined by atomic absorption/hydride generation method.

Reference standards from CANMET were routinely used as internal checks on the accuracy of the analysis.

11.1.3 Scotia Mine Deposits (2008)

Cullen (2011) provided the following description for the sampling methods that were used for the 2008 drilling program (Scotia Mine Deposits).

Sample Security and Chain of Custody

In accordance with the sample protocol established by Mercator for the 2008 drilling program, all drill core was delivered from the drill site to the secure and private core logging facility at Acadian's Scotia Mine by either Logan Drilling Limited staff or Mercator field staff. Drill core logging was carried out by a Mercator geologist who also marked core for sampling and supervised core splitting by a technician using a rock saw. Sample tag numbers from a three tag sample book system were used for the program, with one tag showing corresponding down hole sample interval information placed in the sampled core boxes at appropriate locations, one tag lacking down hole interval information placed in the core sample bag for shipment to the laboratory, and the third tag with sample interval information retained in the master sample book for future reference and database entry purposes. After sampling, core boxes were closed and placed in storage at the Scotia Mine site. Sealed sample bags were placed in an ordered sequence prior to insertion of quality control samples, preparation of sample shipment documentation, checking, and placement in plastic buckets for shipment by commercial courier to Eastern Analytical Limited ("Eastern"), a recognized commercial laboratory located in Springdale Newfoundland. A check pulp sample split was prepared at Eastern for every 25th submitted sample and these were labelled, placed in a sealed envelope and returned to Mercator. After insertion of certified standard and blank samples, all check samples were sent to ALS Chemex in Sudbury, ON for independent analysis of zinc and lead levels. All other prepared pulps and coarse reject material was stored at Eastern until the end of the program, at which time they were shipped back to Scotia Mine for secure archival storage.

Laboratory Procedures

Core Sample Preparation

Core samples received by Eastern were organized and labelled and then placed in drying ovens until completely dry. Dried samples were crushed in a Rhino Jaw Crusher to consist of approximately 75% minus 10 Mesh material. The crushed sample was riffle split until 250 to 300 grams of material was separated and the remainder of the sample was bagged and stored as coarse reject. The 250 – 300 gram split was pulverized using a ring mill to consist of approximately 98% minus 150 Mesh material. All samples underwent ICP analysis, for which a 0.50g portion of the pulverized material was required. Those samples containing greater than 2200 ppm of zinc or lead were then processed using ore grade analysis for which 0.20g of pulverized material was required. Laboratory sample preparation equipment was thoroughly cleaned between samples in accordance with standard laboratory practise.

Check sample splits of pulverised core were submitted to the ALS Chemex laboratory facility in Sudbury, Ontario as part of the project quality control and assurance protocol. This material was prepared in approximately 100 gram bagged splits by Eastern and returned to Mercator for subsequent submission to ALS Chemex. Since the received split material had already been pulverised, further preparation was limited to homogenization and splitting of a 0.4g portion for subsequent analysis.

Core Sample Analysis

Eastern Analytical procedures outlined below pertain to all core samples from the 2008 drill program.

ICP Analysis: A 0.50 gram sample is digested with 2ml HNO3 in a 95o C water bath for ½ hour, after which 1ml HCL is added and the sample is returned to the water bath for an additional ½ hour. After cooling, samples are diluted to 10ml with deionized water, stirred and let stand for 1 hour to allow precipitate to settle.

For ore grade analysis base metals (lead, zinc, copper), a 0.20g sample is digested in a beaker with 10ml of nitric acid and 5ml of hydrochloric acid for 45 minutes. Samples are then transferred to 100ml volumetric flasks and analyzed on the Atomic Absorption Spectro-Photometer (AA). The lower detection limit is 0.01% and the upper detection limit is >2200 ppm lead or zinc.

For silver, a 1000mg sample is digested in a 500ml beaker with 10ml of hydrochloric acid and 10ml of nitric acid with the cover left on for 1 hour. Covers are then removed, and the liquid is allowed to evaporate leaving a moist paste. 25ml of hydrochloric acid and 25ml of deionised water are then added and the solution is gently heated and swirled to dissolve the solids. The cooled material is transferred to 100ml volumetric flask and is analyzed using AA. The lower detection limit is 0.01oz/t of silver with no upper detection limit.

A prepared sample is digested in 75% aqua regia for 120 minutes. After cooling, the resulting solution is diluted to volume (100 ml) with de-ionized water, mixed and then analyzed by inductively coupled plasma - atomic emission spectrometry or by atomic absorption spectrometry.

11.1.4 Main Zone (2011)

Site Procedures

All drill core was logged, cut and sampled by ScoZinc staff at the ScoZinc core shack, ScoZinc mine complex. Sampling of mineralized core from the Gays River Formation and adjacent units involved breaking the mineralized range into 20-150 cm samples, inserting regular QA/QC duplicate, blank and standard samples as per company protocol, and halving each sample longitudinally with a diamond bladed rock saw. One half of the sample was placed back in the core box for storage, and the other half was bagged and sent away for assay in Vancouver.

Laboratory Procedures

Samples were assayed at Acme Analytical Laboratories in Vancouver (Acme) for preparation and analysis. The Acme laboratory in Vancouver is certified ISO9001:2008 compliant for the provision of assays and geochemical assays. Acme is independent of the issuer.

Samples were weighed, analyzed using four-acid digestion multi-element ICP-ES (method 7TD), and tested for specific gravity (method G8SG).

The general sample preparation method used by Acme for rock and drill core is described as follows:

Rock and Drill Core crushed to 80% passing 10 mesh (2 mm), homogenized, riffle split (250g, 500g, or 1000g subsample) and pulverized to 85% passing 200 mesh (75 microns). Crusher and pulveriser are cleaned by brush and compressed air between routine samples. Granite/Quartz wash scours equipment after high-grade samples, between changes in rock colour and at end of each file. Granite/Quartz is crushed and pulverized as first sample in sequence and carried through to analysis.

Method 7TD is described by Acme as follows:

0.5g sample split is digested to complete dryness with an acid solution of H2O-HF-HClO4-HNO3. 50% HCl is added to the residue and heated using a mixing hot block. After cooling the solutions are made up to volume with dilute HCl in class A volumetric flasks. Sample split of 0.1g may be necessary for very high-grade samples to accommodate analysis up to 100% upper limit.

Method G8SG is described by Acme as follows:

G812 Specific Gravity Pulp, SG: A split of dry pulp is weighed to a class A volumetric flask. Flask and pulp are weighed precisely on a top-loading balance. Measure and record the weight then calculate for specific gravity.

G813 Specific Gravity Core, SG: Analysis can be conducted on whole samples of rock or core in irregular shape. Specific gravity is determined by measuring the displacement of water. A sample is dried at 105°C to remove all moisture then allowed to cool. The sample of the rock or drill core is first weighed in air then submerged in a container of water. Measure the mass of immersed sample and record the weight then calculate for specific gravity. Sample can also be coated with a thin layer of hot wax so that any soluble material in the core or rock is not in contact with the water.

Quality Control Samples

Of the 722 samples sent to Acme, 51 were standards, 58 were duplicates, 54 were blanks, for a total of 163 QA/QC samples. The remaining 559 were regular assays.

Of the blanks, all but one were at the lower detection limit for lead (0.01%) while a single sample was above the lower detection limit, with a value of 0.02% lead. Similarly, all but three of the blanks were at the lower detection limit for zinc (0.005 %) while three samples were above the lower detection limit, with values of 0.01%, 0.02% and 0.04%.

Of the duplicates, 38 of the 58 had a difference in lead at or below the detection limit. For the remaining samples, the average difference was 0.24% lead; 9 samples had a difference at or above 0.20% lead, with the greatest difference being 0.91% lead.

24 of the 58 duplicates had a difference in zinc at or below the detection limit. For the remaining samples, the average difference was 0.19% zinc; 9 samples had a difference at or above 0.20% zinc, with the greatest difference being 0.95% zinc.

Two types of standard were used – Standard F (28 used) and Standard G (23 used). Both were created by WCM Sales Ltd. Standard F has a mean value of 1.240% lead and 2.000% zinc, while Standard G has a mean value of 6.680% lead and 3.780% zinc, both with a tolerance of +/- 2 standard deviations.

The table below summarizes the results:

Table 11-1: 2011 Sampling Standards

Standard	Expected Value	Average Tested Value	Minimum Tested Value	Maximum Tested Value
Standard F - Lead	1.240%	1.21%	1.14%	1.28%
Standard F - Zinc	2.000%	2.13%	2.02%	2.22%
Standard G – Lead	6.680%	6.55%	6.20%	7.11%
Standard G – Zinc	3.780%	3.91%	3.76%	4.06%

Source: MineTech, 2012

Results from the check samples are within acceptable limits.

Umpire assays

Split pulps of 135 samples were re-analyzed at the ALS Minerals laboratory in Vancouver (ALS). ALS Minerals is a division of ALS Ltd., and is independent of the issuer and is certified to the ISO/IEC 17025:2005 by the Standards Council of Canada (SCC).

The comparison found that the vast majority of the split pulps are within a +/-15% tolerance. After correcting for the lower detection limit, two zinc samples containing less than 0.1% zinc and one lead sample containing more than 0.1% lead had a difference of more than 15% between the Acme and ALS assay results. Overall the results are acceptable and serve to confirm the results of the wider body of Acme lab samples.

Author's Opinion

SRK considers the sample preparation, sample analysis, and quality assurance and quality control procedures to be of sufficient quality to support mineral resource estimation.

12 Data Verification

12.1 Main Zone

SRK has reviewed the sampling results and verified that the sample types and density are adequate for estimating mineral resources. The sampling results are representative of the style of mineralization. The available information and sample density allow a reliable estimate to be made of the size, tonnage and grade of the mineralization in accordance with the level of confidence established by the Mineral Resource categories in the CIM Standards.

12.1.1 Database Validation

A sample of 59 drill holes (4.3%) was selected for database validation. The collar locations, downhole survey data, geological logs and assay data in the database were compared against the original, written logs.

ScoZinc provided scanned original drill logs in Adobe (.pdf) format. An up-to-date copy of the electronic database of all drill hole information was also provided. An additional data file of drill hole coordinates was supplied, as many of the original drill logs did not have co-ordinates.

The 59 holes selected (Table 12-1) were predominately located within areas with the highest economic potential, but the selection process also strived to provide good coverage for the whole deposit. This amounted to 4.3% of the more than 1400 holes drilled on the property.

Printouts were made of the relevant sections of each of the holes and also of the assay data of the corresponding assay intervals. The assays were printed on the reverse of the drill logs. Co-ordinates on the log and database were manually compared.

The data in the Excel database and original drill logs were manually compared. They were found to be, for the most part, comparable. Many of the original drill logs, both underground and surface, did not have collar co-ordinates or downhole survey data. Another database was located that contained the required information. It is more than likely that the holes were surveyed, and the information filed in a separate location from the original logs.

Table 12-1: Holes that were Verified During the Database Validation

S61	S352	S613	S882	U047	U206
S69	S390	S634	S938	U057	U217
S71	S404	S648	S939	U061	U218
S85	S423	S663	S943	U073	U246
S94	S431	S690	S956	U087	U259
S110	S466	S703	S975	U093	U290
S183	S473	S705	S976	U106	U297
S220	S555	S726	S980	U129	U321
S251	S568	S843	U003	U148	U337
S268	S574	S857	U008	U174	

Source: MineTech, 2012

The following holes were found to have discrepancies between the original data from the drill logs and the final database:

S 69

Data base 73.76-75.59 lead 0.01% Original Log 73.76-75.59 lead 0.32%

S110

Assay data for database match that on original log. However, a hand-written correction on the log shows reduced lead and zinc values.

S 663

Minor sample depth errors - not significant.

S703

Assays on original log for interval 89.0-99.83 meters not shown. These were likely assayed at a later date.

S 726

Assay section on original log 77.72- 83.82 m (6.1m) used on database. Original log interval was corrected by hand at a later date to 2 ft. (0.61m)

U 129

Sample from 115'-125' (10') misread as 115' -128' (13'). Written entry on original log looks like 128'.

U218

Azimuth on database shows 235 degrees, which is consistent with other angle holes with the same co-ordinates. However, a listing in another database shows an azimuth of 180 degrees. It is more than likely that the database listing is correct.

12.1.2 Data Validation Conclusion

With the exception of Hole S 110 and S 726 where significant assay intervals and values were involved, the remainder of the holes do not represent any factor that would change the status of the deposit. In general, the data transfer from the original logs was of high quality and the database was considered a valid representation of the mineral deposit.

12.1.3 Verification Sampling

The Scotia Mine property was visited by Mr. Reg Comeau of ACA Howe on June 17 and June 21 and on September 22 and September 26, 2004 in order to become familiar with the area and to conduct verification sampling on the property. Split, random, core samples were inspected and sampled from the site on the second visit from the 2004 drilling campaign in the area of the proposed low grade open pit in the central portion of the deposit as well as the higher grade zone in the Northeast zone. A second set of core samples from the 1997 drilling campaign were later collected by Mr. Doug Roy.

Samples from 1997 and 2004 drilling campaigns were collected, packaged and independently shipped by Reg Comeau. All samples were taken from the remaining half core samples in the core boxes and were sawed in half reflecting a quarter core sample. The remaining quarter core was left in the core tray. The samples were packaged and shipped to ACA Howe's office in Toronto, then shipped to and analyzed by SGS Toronto. The comparison of assay results is shown in Table 12-2.

The comparison of analytical results between SGS and the original 1997 samples and the samples from the 2004 drilling program (analyzed at Minerals Engineering Centre of Dalhousie University) was excellent.

SRK is satisfied that the assay data base for the property is sound and sufficient for the purpose of estimating mineral resources.

Table 12-2: Results of verification sampling (2004 Drilling Program by ScoZinc)

Hole #	From (m)	To (m)	Interval (m)	Original Assay Zn (%) Pb (%)		Howe Sampling Zn (%) Pb (%)	
From Pit Area							
S968	2.7	4.7	2	3.38	0.29	3.62	0.14
S969	8	10	2	2.15	0	2.22	0
S971	2.9	4.9	2	4.63	0	3.91	0
S972	14.3	16.3	2	1.86	0.18	2.06	0.17
S973	74	75	1	11.9	14.98	14.18	17.25
S974	66.8	68	2	2.46	2.22	2.59	1.95
S976	98.1	98.45	0.35	7.66	0.23	7.19	0.17
Northeast Zone							
S977	96	96.4	0.4	6.77	0.01	9.47	0.01
S982	133.3	133.6	0.3	0.84	0.32	0.84	0.18

Source: MineTech, 2012

Table 12-3: 1997 Drilling Program by Westminer

Hole #	From (m)	To (m)	Interval (m)	Original Assay Zn (%) Pb (%)		Howe Sampling Zn (%) Pb (%)	
From Pit Area							
S926	18.4	19.9	1.5	2.82	0.01	3.16	<0.01
	19.9	21.4	1.5	3.27	0.01	2.86	<0.01
S933	12.1	13.6	1.5	1.4	0.01	1.47	0.01
	13.6	14.9	1.3	2.78	0.01	2.45	<0.01
S936	8.5	9.8	1.3	3.73	0.01	4.2	<0.01
	11	12.2	1.2	1.02	0.01	0.98	<0.01
Northeast Zone							
S943	60.75	62	1.25	7.56	2.63	6.95	2.76
	62	63	1	3.16	5.7	2.78	3.3
S950	36	37.15	1.15	5.2	3.02	3.99	2.19
	37.15	38.25	1.1	17.37	1.07	15.54	0.67
S953	91.8	92.65	0.85	4.41	7.34	3.97	7.47

Source: MineTech, 2012

12.2 Historical Data Verifications

12.2.1 Getty Zone

Data verification measures for the Getty Zone were described in Cullen et al (2011):

“Review by Mercator of all government assessment reports and internal Acadian files available from the Scotia Mine site established that typed lithologic logs with complete assay records from the Getty drilling era were available. However, original sample record books, laboratory reports and other associated information were not found. The digital drill hole database used for the Westminer’s 1992 resource estimate was also obtained from Acadian and validated against the original hard copy drill log and assay record entries. Checking of digital records included manual inspection of individual database lithocode entries against source hard copy drill logs as well as use of automated validation routines that detect specific data entry logical errors associated with sample records, drill hole lithocode intervals, collar tables and down-hole survey tables. Drill hole intervals were also checked for sample interval and assay value validity against the original drill logs. Database entries were found to be of consistently acceptable quality but minor lithocode and assay entry corrections were made by Mercator. These were incorporated to create the validated and functional drilling database used in the resource estimate. As noted earlier, original assays certificates were not found for any of the historic drilling programs and no records of the laboratories to which samples were submitted for analysis, or methods of analysis, were documented in any of the historic drilling reports reviewed for the resource estimate.

“As part of the validation process, Mercator staff visited the NSDNR Core Library in Stellarton, Nova Scotia to review and sample core from the archived Getty drill holes. Nineteen holes where examined but only one hole GGR-212 was re-logged in detail and ten holes … were re-sampled and analysed for purposes of quality control and quality assurance. These provided additional verification of historical assays and logging results. Results of this and related programs are presented below under separate headings." (Cullen et al, 2011, section 13.1).

"Combined results of the Getty drill hole re-sampling and twin hole programs by Acadian generally support the earlier conclusion of Cullen et al. (2008), based on a smaller data set, that validated historic drilling information represented in Acadian's Getty Zone database is of acceptable quality for resource estimation purposes." (Cullen *et al*, 2011, section 13.2.4)

13 Mineral Processing and Metallurgical Test Work

13.1 Main Zone

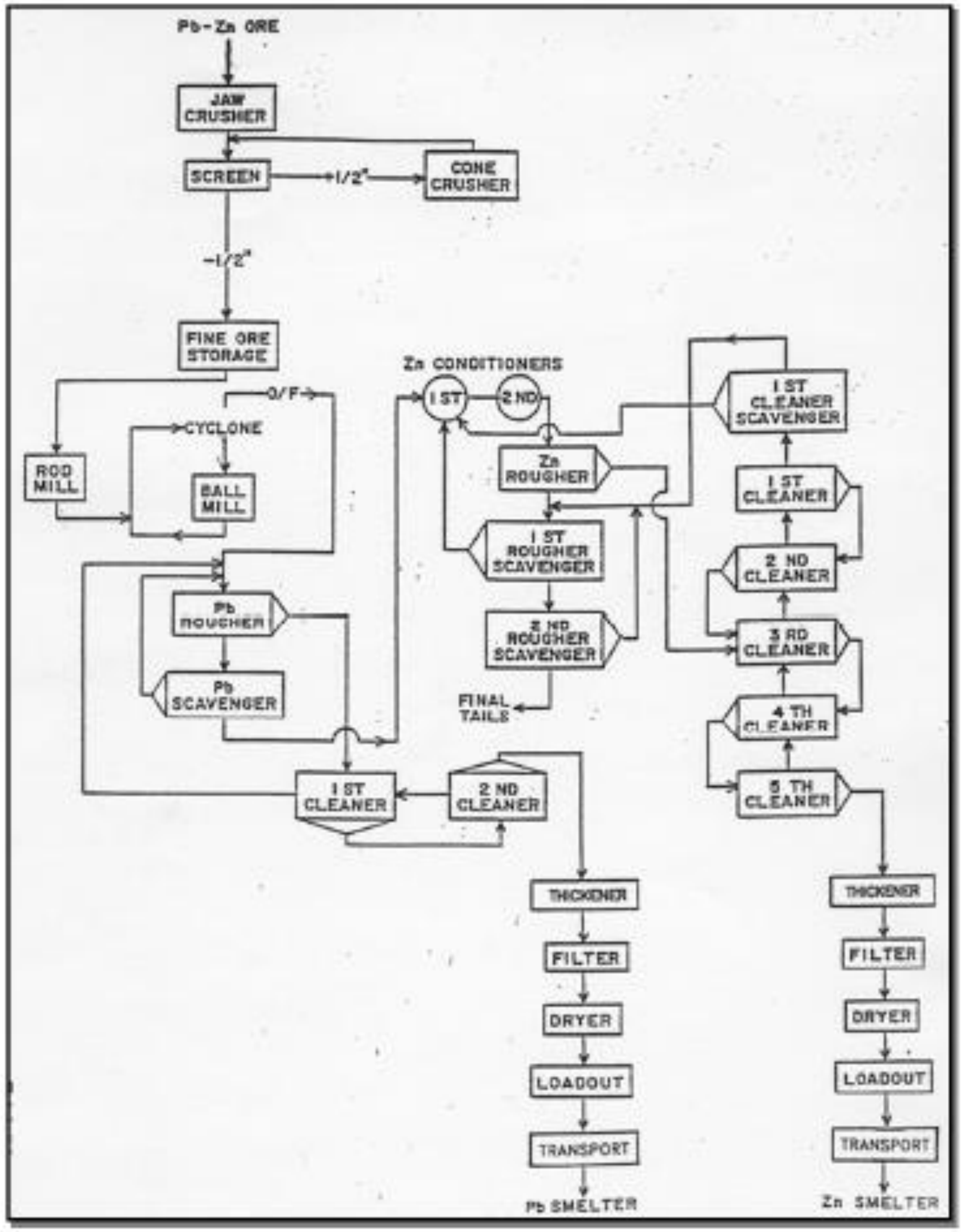
The Scotia Mine processing plant was constructed during the late 1970's by Canada Wide Mines (Esso) (Figure 13.1). Esso operated for less than two years during the period 1979-1981. Seabright converted the mill to process gold during the mid-to-late 1980's. Westminer later re-converted and updated the mill to process zinc and lead, then operated it for a short time during the period 1989-1991. In all, 740,000 tonnes of zinc and lead ore have been processed in the mill. (Table 6-1)

From a stockpile adjacent to the mill, a wheel loader loaded ore into the primary jaw crusher (Figure 13.1). It was further crushed to –1/2 inch and stored in a fine ore bin. From there, it passes to the grinding mills, then to a lead flotation section. The ore, with most of the galena (lead sulphide or PbS) removed, passes to the sphalerite (zinc sulphide or ZnS) flotation section. The zinc and lead concentrates are separately thickened, filtered and dried before being stockpiled for shipment to the smelter.

During the most recent operation, zinc concentrate was trucked in bulk to Dartmouth, Nova Scotia where it was loaded onto a bulk ocean carrier for shipment to smelters abroad. Lead concentrate was bagged in large sacks, loaded into ocean shipping containers, and trucked to the Port of Halifax for shipment to smelters abroad.

Source: MineTech, 2012

Figure 13.1: Views of the Outside and Inside (right) of the Mill



Source: MineTech, 2012

Figure 13.2: Process Flowsheet

13.1.1 Recoverability

Over its operating history, whenever the feed contained a consistent grade, zinc and lead recovery values were up to 90 % and 95 %, respectively (Thornton, 2006 (1)) (see Table 13-1 for detailed processing parameters). In a monthly report for November, 1990, Westminer reported recovery values of 90 % and 93 % for zinc and lead, respectively. Thornton (2006 (1)) reported that Westminer encountered some oxidised zinc and lead that did not float well, thereby decreasing their recovery values.

Table 13-1: Mineral processing parameters

Processing Recovery	
Zn	90%
Pb	95%
Smelter Return	
Zn	85%
Pb	95%
Concentrate Grade	
Zn	60%
Pb	75%
Moisture Content of Concentrate (by Mass)	
Zn	8%
Pb	6%

Source: MineTech, 2012

Within the mill building, in addition to the lead and zinc processing equipment, is a complete analytical and metallurgical laboratory.

The high grade of the concentrates, coupled with the absence of any appreciable amount of elements that complicate the smelting process, make the concentrates desirable material for smelter operators. In the past, WMC trucked the concentrates from the mine site to the storage and loading facility at Sheet Harbour. Rail transport facilities have also been used.

Scotia Mine's past production history is reported in Table 6-1. Thornton (2006) prepared an expected metallurgical balance based on the past performance of the mill (Table 13-2).

Table 13-2: Expected metallurgical balance (Thornton, 2006)

Assays				Metal Content		Metal Distribution	
Product	Weight Percent	Percent Lead	Percent Zinc	Units of Lead	Units of Zinc	Percent Lead	Percent Zinc
Lead Concentrate	1.80%	75.00%	4.00%	1.33	0.071	95.00%	1.80%
Zinc Concentrate	6.10%	0.40%	60.00%	0.024	3.64	1.70%	91.00%
Tailings	92.20%	0.05%	0.31%	0.046	0.289	3.30%	7.20%
Feed	100.00%	1.40%	4.00%	1.4	4	100.00%	100.00%

*Based on head (mill feed) grades of 1.4 % lead and 4.0 % zinc.

13.1.2 2007-2008 Operations

Ian Flint, Ph.D, P.Eng., a Metallurgical Engineer with MineTech International Limited, carried out an analysis of the mill's performance during the 2007-2008 period of operations (Flint, 2011). A summary of his results are presented in the following paragraphs.

The mill was presented with a highly variable feed rate and grade of ore. Maintenance appears to have been variable, resulting in major amounts of unscheduled maintenance. This was possibly due to instrumentation, operational and maintenance errors. There is also evidence that the grinding circuit consistently over-ground the larger lead and zinc particles in order to achieve a zinc recovery dictated by the liberation of very fine particles. This was not possible to achieve with the grinding and flotation circuits at the mill as they are currently configured. The poor performance was a result of both operation problems and fundamental problems with the circuit. Both problems should be solvable.

In the lead circuit, grades of 80% or greater should be possible at recoveries greater than 95%. However, this depends on making changes to the grinding circuit and incorporating flotation circuit changes both in configuration and the type of equipment used.

In the zinc circuit, grades and recoveries can be increased only nominally due to the locking of a sizeable percentage of the sphalerite with the carbonates. The results depend on the actual locking and cannot be accurately predicted without further mineralogical analysis. However, as an estimate at current locking percentages, perfect circuit performance will probably lie in the theoretical range bounded by an upper grade of 67% with recoveries ranging between 71% and 81%, to grades of 52-56% at almost total recovery. This could be improved by unlocking particles of sphalerite smaller than about 10 micrometers from gangue particles of approximately equal size. However, doing so would require the use of novel equipment and would carry increased risk associated with largely unproven technologies.

Many of the operational deficiencies at this mill may have, in part, be attributed to the lack of knowledge about the process operations in terms of feedback in performance and the setting of appropriate goals. In order to properly run a process plant, accurate mass balances and reporting must be achieved. An example of deficiencies in this regard are the reporting of the lead and zinc circuit recoveries. These were consistently overstated in the reports that were analyzed; probably as a result of improper analysis of error and mass balancing.

The mill was operated, especially during early operations in 2007, without sufficient laboratory work to monitor plant operations. Anecdotal verbal reports from the plant metallurgist suggest that the mill was operated, at times, without the proper laboratory facilities. It was also suggested that more streams could be tested by the on-stream analysis system to refine hour-by-hour operations and that in the past, these systems were not calibrated frequently enough. There is also evidence to suggest that a proper sampling routine was not established until late in the operations.

A detailed analysis of the circuit mass balance or an assessment of the on-stream analysis system was not carried out as part of this report. It is highly recommended that an in-depth study be carried out with respect to the on-stream analyzer system, calibrations of such a system, and test sample points prior to re-commissioning the mill.

13.2 Getty Zone

Cullen et al (2011) reported that no mineral processing work is known to have been completed for the Getty Zone.

14 Mineral Resource Estimates

14.1 Introduction

Based on data provided by the Company, SRK completed a geologic and grade estimation block model for the project for evaluation purposes, using GEMS modeling software (Version 6.8.2). The data used in the resource model estimation include RC and core drill hole data, topographic surface data, and material density.

14.2 Resource Estimation Procedures

The resource estimation procedure followed the general flow listed below:

- Exploratory Data Analysis (EDA)
- Capping Analysis
- Compositing
- Variography
- Block Model Coding (Gradeshells and geological domains)
- Grade Estimation
- Classification, based on drill hole spacing
- Resource Pit Optimization
- Resource Statement

14.3 Resource Database

14.3.1 Density

Prior to 2007-2008, there was no record of any systematic whole-rock SG measurements being taken. A formula for specific gravity based on zinc and lead grades was, therefore, used for the mineralized zones. This formula, which was also used by Savage Resources for their 1998 resource estimate, was:

SG = 1/(Pb%/(86.6x7.6) + Zn% /(67.0x4.0) + (1 – Pb% /86.6 – Zn% /67.0)/2.7)

Selwyn undertook SG measurements on core from the 2011 drilling program, with 559 determinations in all and 250 determinations on intervals above the mineralized threshold of 0.5% zinc-equivalent. On average the formula overestimated the SG by 0.4%, with a standard deviation of 3%. This difference is not considered to be material, and the formula-estimated values have been retained for the current estimate. Densities applied to the non-mineralized formations are tabulated in Table 14-1.

Table 14-1: Density - Mon-Mineralized Materials

Rock Type	Density (t/m3)
Overburden	2.00
Trench	2.00
Carroll's Corner Evaporites	2.65
Goldenville Quartzite	2.65

Source: ScoZinc, 2019

14.3.2 Topography

Topographic data was sourced from the Province of Nova Scotia GIS gateway (GeoNOVA) in the form of Digital Terrain Model (DEM) data based on 2014 LIDAR surveys. SRK extracted contour data at 2 m intervals for the creation of a triangulated topographic bounding surface. Contours in the vicinity of the existing pit lake were modified to reflect:

- the excavation at the end of open pit mining, using blasthole data and survey pick-ups where available
- subsequent backfill with overburden/trench material.

14.4 Geological and Gradeshell (Mineralization) Modelling

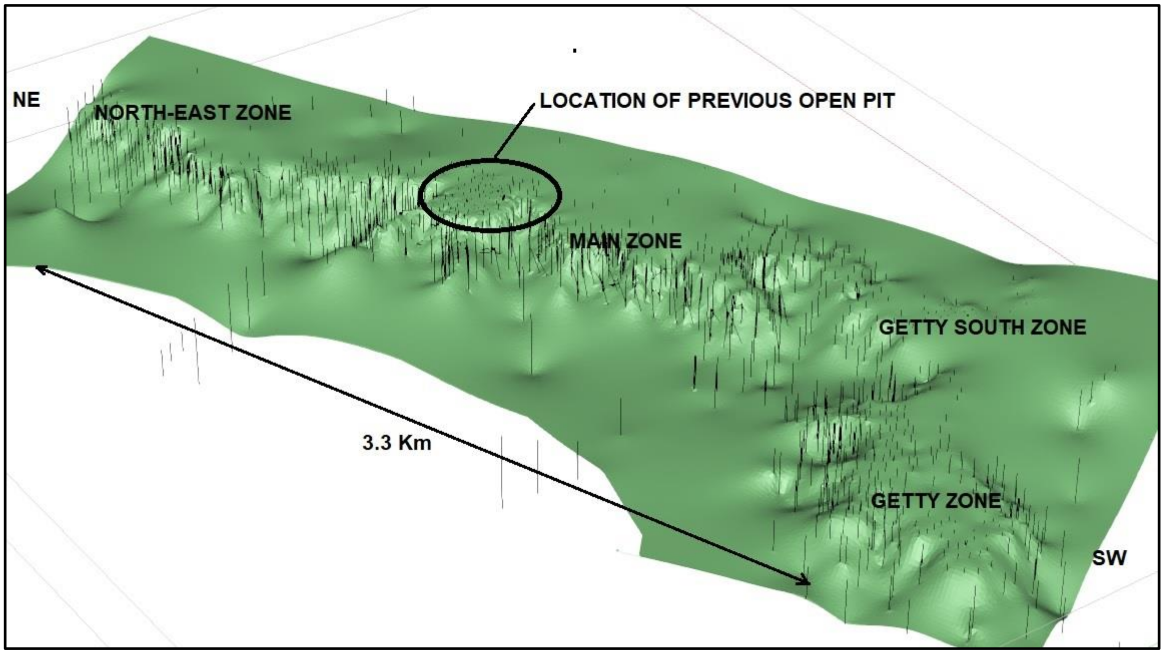
Although the adjacent Getty, Main and North-East zones have been modelled as separate deposits/block models in previous studies, the mineralization is considered to be continuous through the Gays River Formation (GRFM) that hosts all three zones. Various methods and cut-offs were utilized in historical studies, and the current modeling is designed to provide a unified, more cohesive approach based on the GRFM as a whole.

The GRFM has been modelled as a continuous 3D solid across the property, following a general geological trend at Azimuth 060º. Drillhole intersections with the footwall (lower) and hangingwall (upper) contacts were identified from geological logging, with both GRFM and footwall breccia intersections being considered. Numerous intersections of the breccia have been found to be mineralized. Drillholes that intersected the underlying Goldenville quartzites without intersecting the GRFM were assigned a minimum intersection length of 0.5m for control purposes. Triangulated (wireframe) upper and lower surfaces were created using a two-step process:

- Creation of a mesh of 3D gridded points using a Laplace gridding interpolation method, from which only interpolated grid points (from cells that did not contain any source data) were retained.

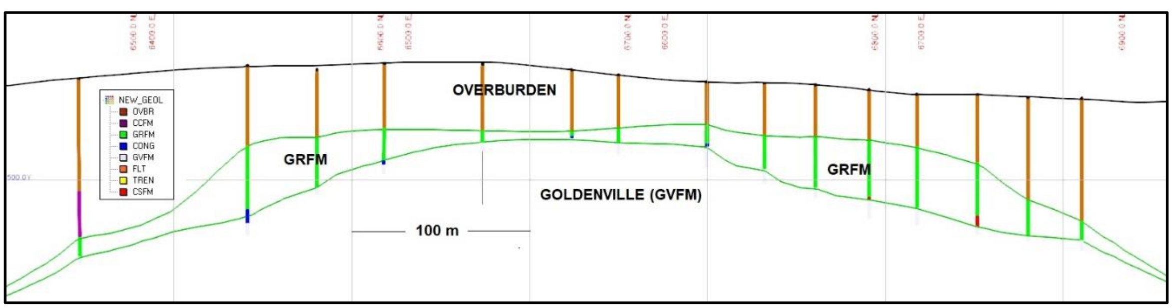
- Triangulation using a combination of the source and interpolated grid data to create final surfaces.

Following corrections for minor overlaps, the surfaces were stitched together to create a single, validated 3D solid (wireframe) of the GRF/Breccia host volume. A perspective view is illustrated in Figure 14.1, and a sectional view in the Getty Zone is illustrated in Figure 14.2.



Source: SRK, 2019

Figure 14.1: GRFM Solid - Perspective View, Looking ESE

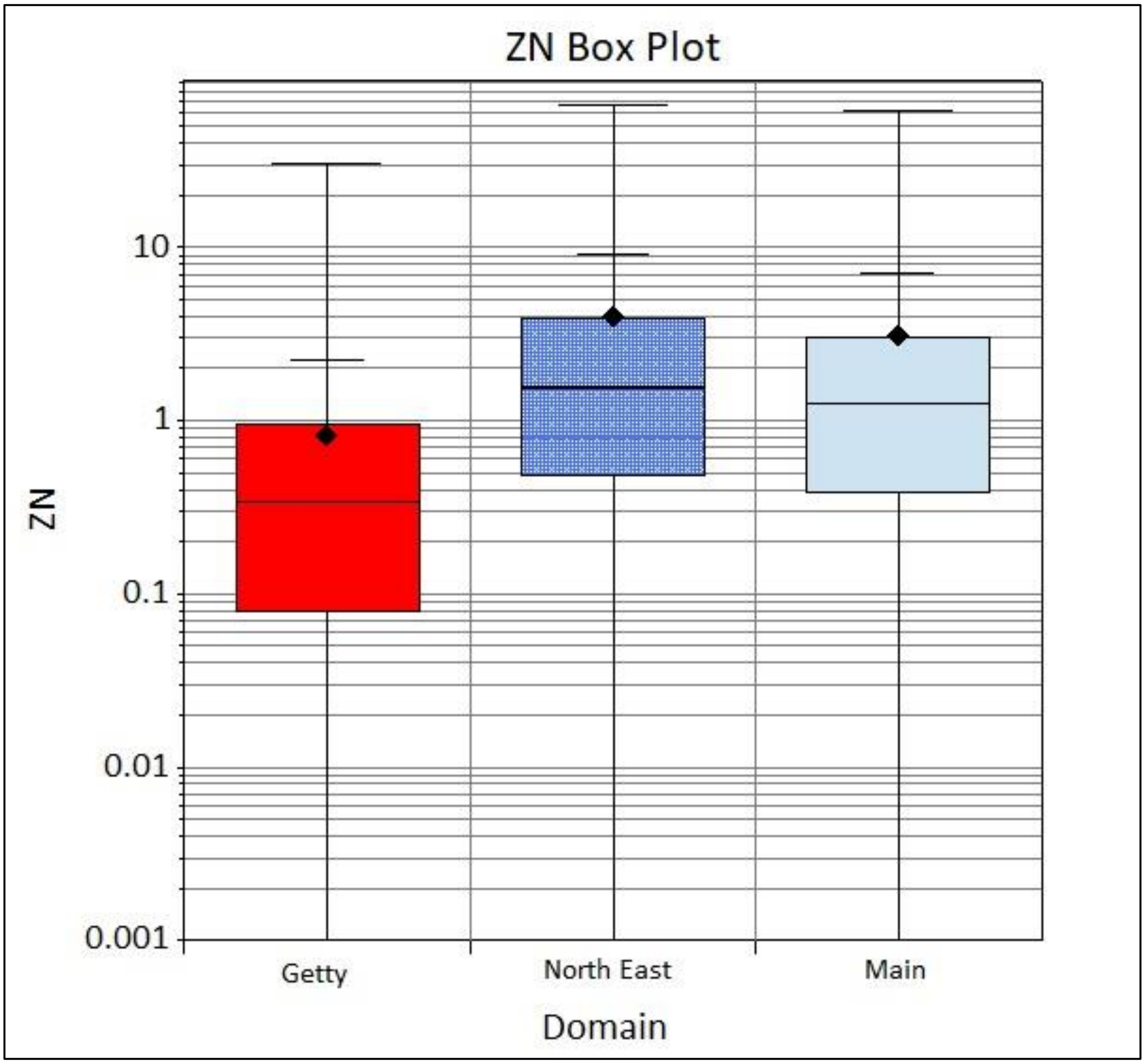


Source: SRK, 2019

Figure 14.2: Section View - Getty, Looking SE

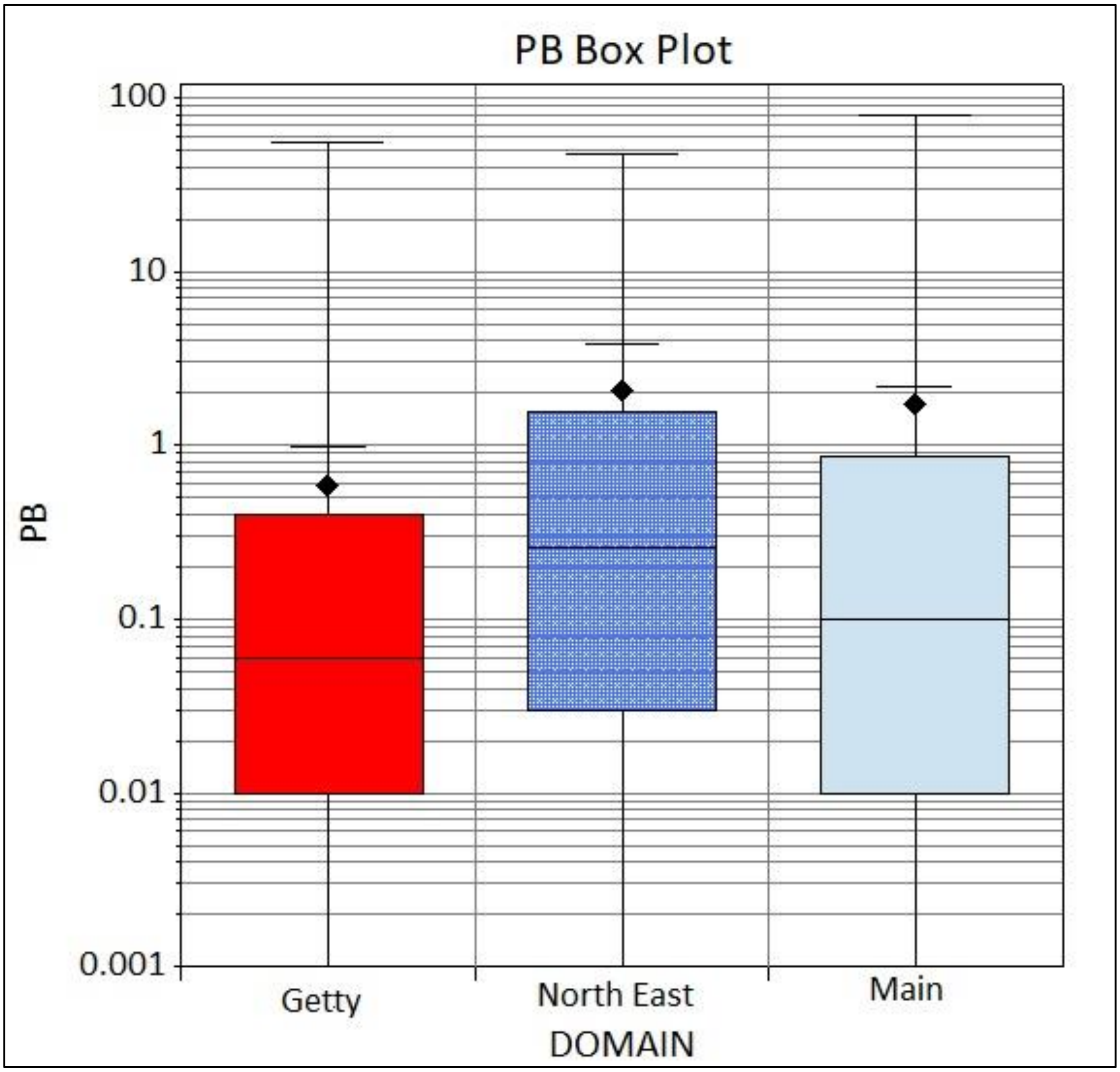
14.5 Exploratory Data Analysis

Exploratory data analysis was carried out to characterize the grade distribution within the modeled GRFM mineralized solid, by zone. Boxplots for zinc and lead assay data coded within the GRFM solid are illustrated in Figure 14.3 and Figure 14.4, and summary statistics are presented in Table 14-2.



Source: SRK, 2019

Figure 14.3: Boxplot - GRFM Zinc Assays



Source: SRK, 2019

Figure 14.4: Boxplot - GRFM Lead Assays

Table 14-2: Summary Statistics - GRFM ZN and Pb Assays

Domain	Count	Min	Max	Mean	Variance	St. Dev	CV
Zn (%)							
Getty	3992.00	0.00	30.10	0.81	2.04	1.43	1.76
North East	991.00	0.00	67.06	4.00	55.10	7.42	1.86
Main	8617.00	0.00	62.10	3.08	39.13	6.26	2.03
Pb%							
Getty	3992.00	0.00	55.90	0.58	3.89	1.97	3.38
North East	991.00	0.00	47.20	2.08	28.07	5.30	2.54
Main	8617.00	0.00	79.50	1.72	34.75	5.90	3.43

Source: SRK, 2019

As evidenced by the relatively high coefficient of variation (CV) values, the zinc and lead assay data within the mineralized zone exhibit a high degree of variability, and the Getty zone has a markedly lower grade relative to the Main and NE zones.

14.6 Evaluation of Outliers

High-grade capping was not applied to the assay data prior to compositing to 1.5m composites generated within the GRFM solid. Historical underground and open pit mining have established/confirmed the continuity of higher-grade zones within the deposit, mainly along the hanging wall contact. Capping was therefore not considered to be appropriate in this case. A high-grade restriction was, however, applied during interpolation to limit the influence of these samples, with thresholds established on a per zone basis for zinc and lead

14.7 Compositing

Zinc and lead assay values were composited into 1.5 m composites within the GRFM solid/domain, broken at the domain contacts as required. The 1.5 m composite length was selected to retain a degree of the assay sample variability for estimation purposes. Residual intervals that occur at domain contacts were retained if ≥0.6 m in length (40% of nominal composite length). Missing zinc and lead assays values within composite intervals were assigned a default value calculated as the mean of the low-grade population, by zone. In the author’s opinion the use of a default value is supported primarily by production reconciliation data from historical open pit mining, in addition to examination of drill core/chips and logging data. Historical sampling tended to be restricted to higher-grade (7% plus Zn) zones of interest for underground mining, but examination of core/chips and logs have established the pervasive presence of lower grade sulphide mineralization in unsampled intervals, Reconciliation data from historical open pit mining exhibits a consistent positive reconciliation against blasthole data in volumes where holes with unsampled intersects occur. Lognormal probability plots for zinc and lead composites were examined to determine thresholds to define low-grade components, and calculation of the corresponding means. The minimums, threshold values and corresponding means are tabulated in Table 14-3.

Table 14-3: Default Values by Zone

Metal	Zone	Min (%)	Threshold (%)	Mean (%)
Zn	Getty	0.1	0.5	0.2
	North-East	0.1	0.4	0.23
	Main	0.1	0.4	0.23
Pb	Getty	0.1	0.3	0.18
	North-East	0.1	0.3	0.17
	Main	0.1	0.6	0.25

Source, SRK, 2019

Composite intervals were tagged with the GRFM domain code for interpolation purposes. Summary statistics for the composites are tabulated in Table 14-4.

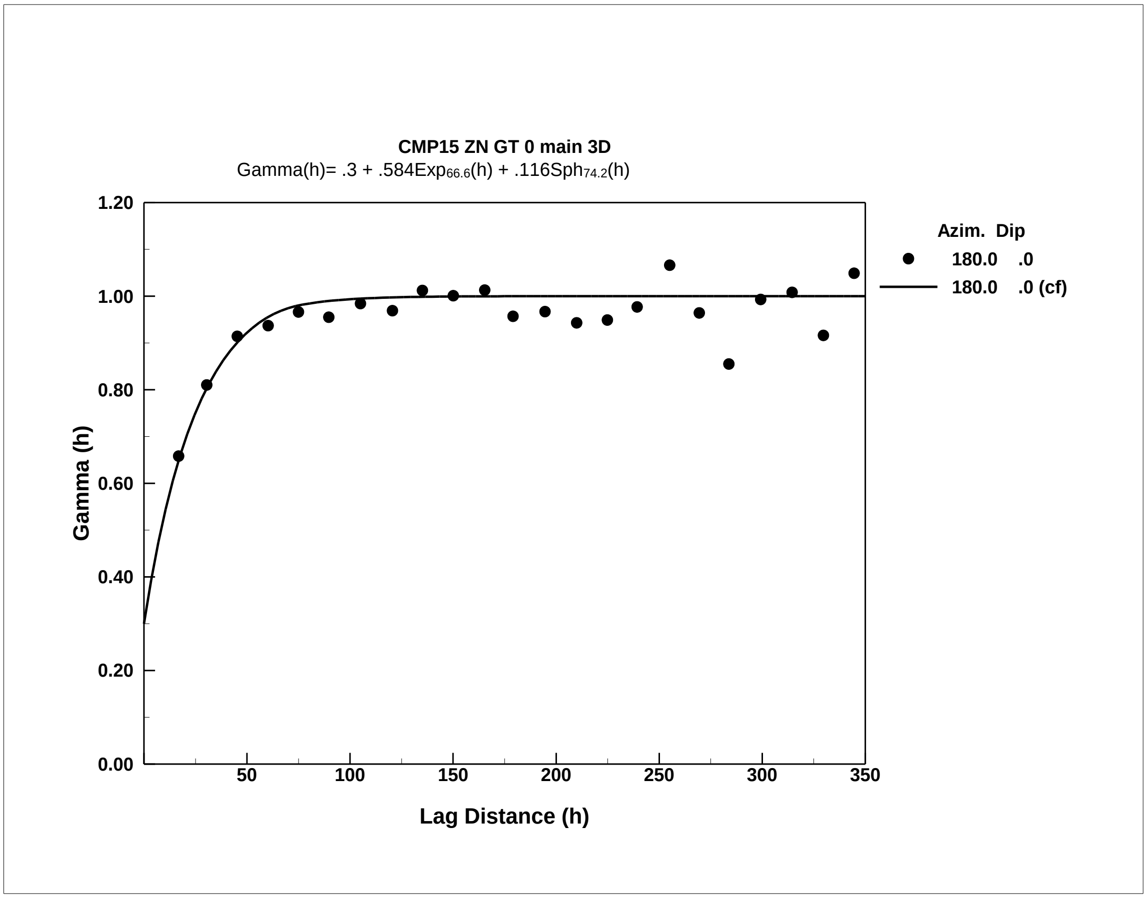
Table 14-4: Composites Summary Statistics

Domain	Count	Min	Max	Mean	Variance	St. Dev	CV
Zn (%)							
Getty	4031	0.00	12.05	0.75	1.27	1.13	1.50
North East	727	0.00	53.66	3.17	28.22	5.31	1.68
Main	7781	0.00	57.80	2.62	23.42	4.84	1.84
Pb%							
Getty	4031	0.00	21.16	0.43	1.33	1.15	2.71
North East	727	0.00	45.80	1.66	16.17	4.02	2.43
Main	7781	0.00	77.22	1.35	17.69	4.21	3.13

Source: SRK, 2019

14.8 Variography

Following transformation of the GRFM composites into ‘un-wrinkled’ space, the spatial continuity of composites within the GRFM zones was investigated through variographic analysis for zinc (primary metal) using the SAGE 2001™ variography package. Down-the-hole correlograms were calculated to determine appropriate nugget values, in addition to 3D directional correlograms for use in variogram modeling. The correlogram measures the correlation coefficient between two sets of data, comprising values at the heads and values at the tails of vectors with similar direction and magnitude, and has been found to provide a stable estimate of spatial continuity. For ease of modelling, the correlogram value is subtracted from one and is presented in a similar graphical form to the variogram. In this report the correlograms presented this way are referred to as variograms. A typical directional variogram is illustrated in Figure14.5, and fitted variogram parameters for zinc by zone are tabulated in Table 14-5.



Source: SRK, 2019

Figure14.5: Typical Directional Variogram - Zinc (Main Zone, Azimuth 180º/Dip 0º)

Table 14-5: Variogram Parameters by Zone – Zinc

Zone	Nugget	Type	Sill	Az/Dip (Deg.)			Range (m)		
				X	Y	Z	X	Y	Z
Getty	0.2	EXP	0.647	130/23	33/17	269/61	135	40	72
		EXP	0.153	120/75	297/15	207/-1	520	388	897
NE	0.754	EXP	0.207	19/20	296/18	245/63	74	72	71
		EXP	0.048	122/-12	36/16	176/69	69	63	78
Main	0.3	EXP	0.584	77/7	348/-5	294/81	20	92	39
		SPH	0.116	66/-2	336/2	103/87	1035	68	172

Source: SRK, 2019

14.9 Block Model and Grade Estimation

Given the variable geometry of the GRFM formation in both lateral and vertical axes, the GEMS Unwrinkle tool was utilized to assist grade modeling. Variographic analyses of spatial continuity and the various block estimation methods based on weighted distance interpolation, such as kriging or inverse distance, assume that the location of the relevant sample data reflects the mineralizing or depositional process, e.g. along a paleo-shoreline in this case. The distortion of this relationship introduced by geometric variation can be addressed in a number of ways, e.g. by the definition of several block model domains, each reflecting the local geometry of sections of the deposit. This approach can, however, result in a less cohesive grade model, often with obvious discontinuities at the domain boundaries. The Unwrinkle tool addresses variable geometry by ‘flattening’ the deposit and data into a second, regular space in which a more appropriate spatial relationship is preserved. Variography and grade modeling (block model) is done in this second space using transformed data. The estimated grade model information is then back transformed into the original space, typically by assigning back transformed block grades (centroids) to a second (primary) block model defined in this space

The space to be unwrinkled is represented by triangulated surfaces and/or solids, and midpoints are developed from intersections with the modeled solids/surfaces. By moving the midpoints to a constant level, the space associated with the solids/surfaces is flattened/straightened out. The thickness, or distance between the two intersections, is also calculated and a Variable Thickness approach preserves this thickness, with its value typically changing with location. The handling of the midpoint and the thickness determines the transformation for the data point, with the new point offset from the specified level by an amount determined by its offset from its midpoint and the treatment of the thickness. In the Variable thickness case, the position of the data points relative to its associated midpoint, and the position of the data point relative to both surfaces is preserved.

A primary (normal space) percentage, or partial, block model was defined in GEOVIA GEMSTM to cover the volume of interest, with a rotation of 30º applied, to align the model east axis with the overall trend of the deposit (Azimuth 060º). A percentage block model in GEMS can accommodate multiple material types per block and stores corresponding percentages. A block size of 10x10x5 m was selected based on drill hole spacing, likely bench height for large scale open pit mining, and for comparison purposes with previous models. The primary control for estimation is rock type, based on coding of a block model rock type attribute using the GRFM (3D geological solid) in conjunction with the underground excavation solid where applicable to account for excavations. Overlapping solids are assigned a precedence order in assigning the appropriate block percentages.

14.9.1 Block Model Geometry

The block model geometry for the primary (normal space) and secondary (transformed) is tabulated in Table 14-6, and Table 14-7.

Table 14-6: Primary Block Model Geometry

Coordinate	Origin	Block Size (m)	# Blocks	Extents (m)
Easting (m)	6747.37	10	420	4,200
Northing (m)	5176.79	10	200	2,000
Elevation (m)	600.00*	5	45	225

Source: SRK, 2019

Table 14-7: Secondary Block Model Geometry

Coordinate	Origin	Block Size (m)	# Blocks	Extents (m)
Easting (m)	6747.37	10	420	4,200
Northing (m)	5176.79	10	200	2,000
Elevation (m)	-70.00*	1.5	40	60

Source: SRK, 2019

Notes: * Maximum elevation, i.e. top of top block
Model east axis is rotated 30º to align with Azimuth 060º

14.9.2 Block Model Estimation

Block grades were estimated in the unwrinkled space by zone for zinc (%) and lead (%) using ordinary kriging (OK) and inverse distance weighting (IDW) respectively. The interpolation process utilized 1.5 m composites tagged with the GRFM rock type code to enable the use of boundaries. The interpolations were done in three passes, with progressively larger search distances and progressively relaxed requirements in terms of minimum number of samples and maximum number of samples per drill hole, and with protection of blocks estimated in earlier passes. The estimation parameters by zone and pass are tabulated in Table 14-8.

Table 14-8: Estimation Parameters

Pass	Metal	Zone	Type	Sample Support			Search Neighborhood (Az/Dip in Deg, Distance in m)						HG Restriction			
				Min	Max	Max Hole	Az (P)	Dip (P)	Az (I)	Dist (X)	Dist (Y)	Dist (Z)	HG%	Dist (X)	Dist (Y)	Dist (Z)
1	Zn	Getty	OK	3	12	2	130	0	0	30	30	1	-	-	-	-
		Main	OK	3	12	2	348	0	0	15	15	1	14	5	5	1
		NE	OK	3	12	2	0	0	0	20	20	1	18	5	5	1
	Pb	Getty	IDW	3	12	2	130	0	0	30	30	1	-	-	-	-
		Main	IDW	3	12	2	348	0	0	15	15	1	19	5	5	1
		NE	IDW	3	12	2	0	0	0	20	20	1	12	5	5	1
2	Zn	Getty	OK	2	12	1	130	0	0	60	60	1	-	-	-	-
		Main	OK	2	12	1	348	0	0	30	30	1	14	5	5	1
		NE	OK	2	12	1	0	0	0	40	40	1	18	5	5	1
	Pb	Getty	IDW	2	12	1	130	0	0	60	60	1	-	-	-	-
		Main	IDW	2	12	1	348	0	0	30	30	1	19	5	5	1
		NE	OK	2	15	1	0	0	0	40	40	1	12	5	5	1
3	Zn	Getty	OK	1	12	-	130	0	0	90	90	1	-	-	-	-
		Main	OK	1	12	-	348	0	0	60	60	1	14	5	5	1
		NE	OK	1	12	-	0	0	0	60	60	1	18	5	5	1
	Pb	Getty	IDW	1	12	-	130	0	0	90	90	1	-	-	-	-
		Main	IDW	1	12	-	348	0	0	60	60	1	19	5	5	1
		NE	OK	1	15	-	0	0	0	60	60	1	12	5	5	1

Source: SRK, 2019

A block discretization of 5 x 5 x 3 was used with Ordinary Kriging estimation. The High Grade (HG) restriction value is a threshold value (%). The restricted search ranges are applied to samples with values exceeding this value, effectively limiting their influence to the block that they fall into. The threshold values were determined by examination of omni-directional indicator variograms, by zone, generated at the 75, 80, 90, 95, 97,5 and 99% percentile values, to determine a grade threshold above which the indicator variogram visibly degrades, which is an indication of a suitable threshold value.

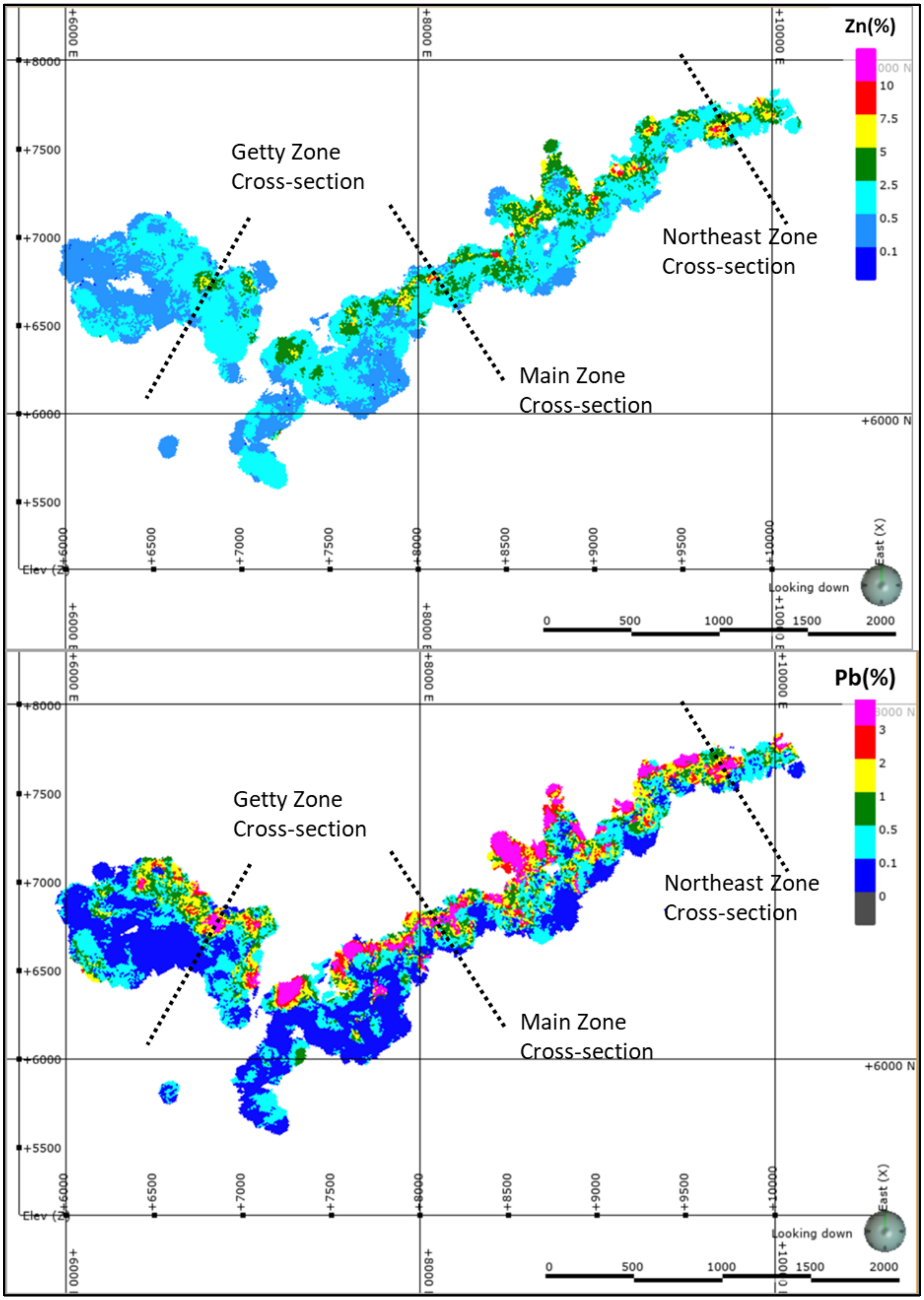
Following block grade estimation in the secondary model space the block grades were then back transformed into normal space and assigned to the normal space model by block averaging.

14.10 Model Validation

Model validation was approached through visual and statistical methods. Visual comparison was done on sections and in plan for each area of the deposit. Statistical comparison was addressed using swath plots.

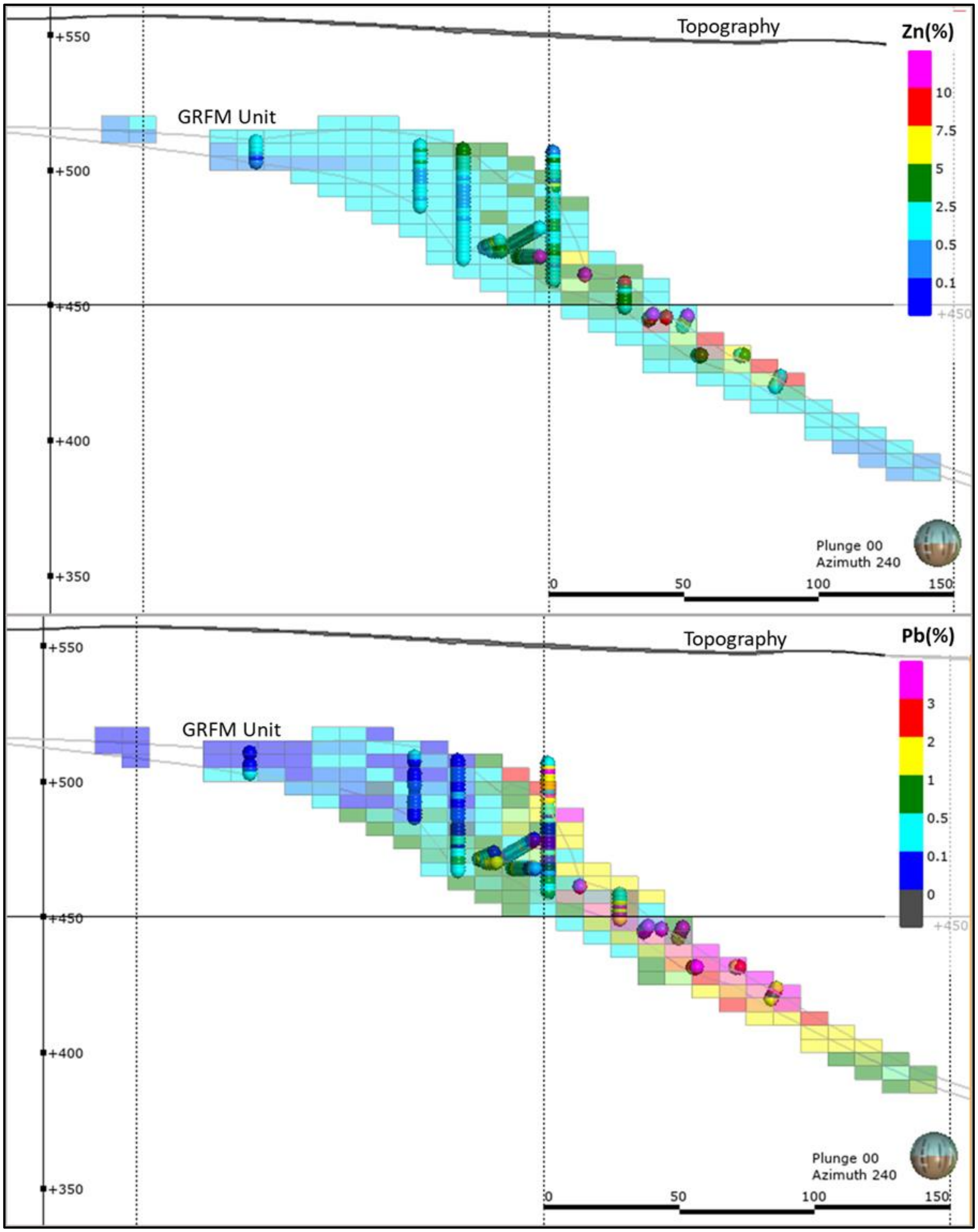
14.10.1 Visual Comparison

A visual inspection of the model in plan and section confirmed that grades were well correlated between the blocks and the composite data in each area. Example images showing block grades vs composite grades are provided below in Figure 14.6 to Figure 14.9. Estimated block grades relative to topography and the underground workings are provided in Figure 14.10 and Figure 14.11 respectively.



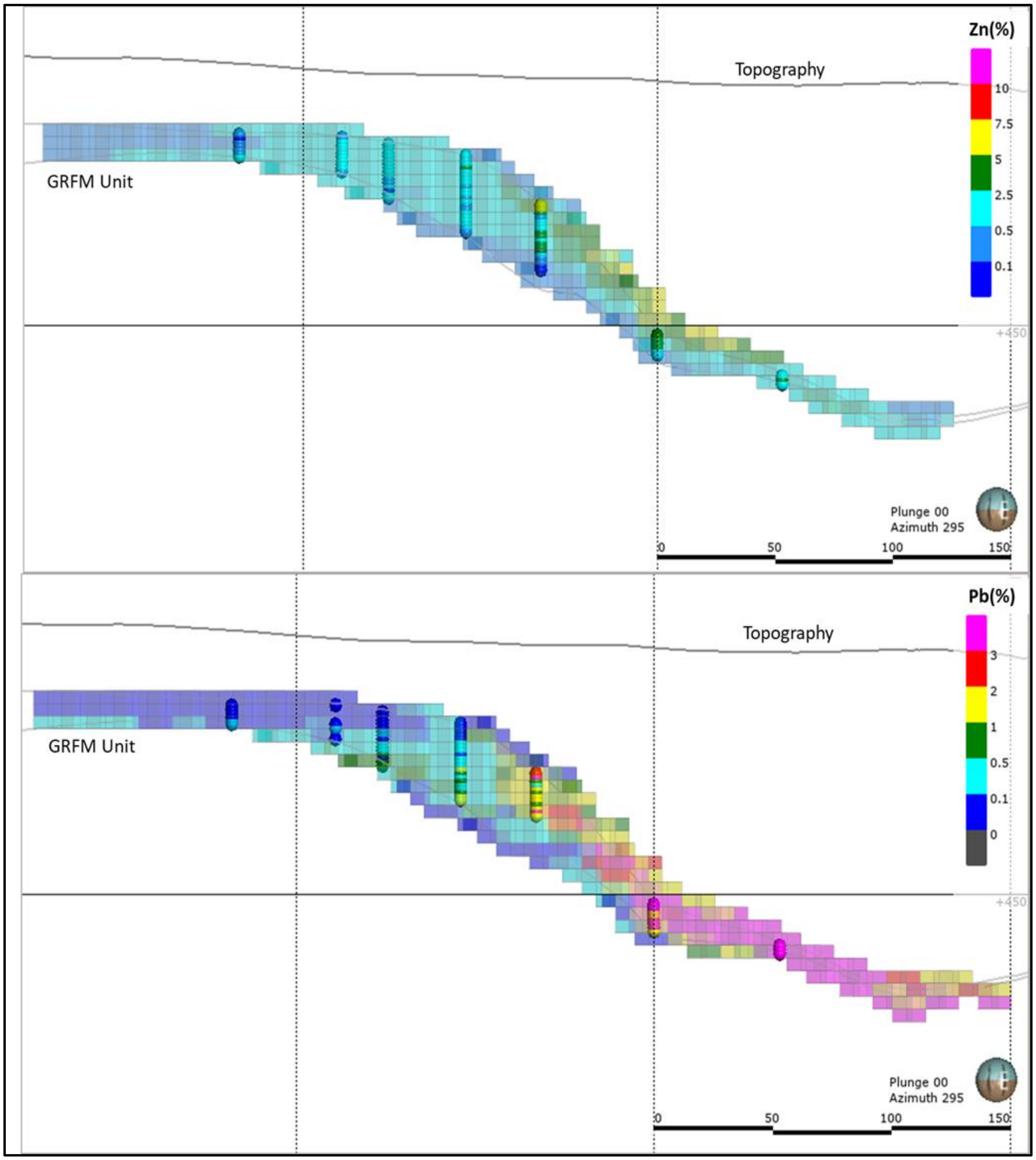
Source: SRK, 2019

Figure 14.6: Plan View of Zn and Pb Block Grades and Cross-Section Locations for Main, Getty and Northeast Zones.



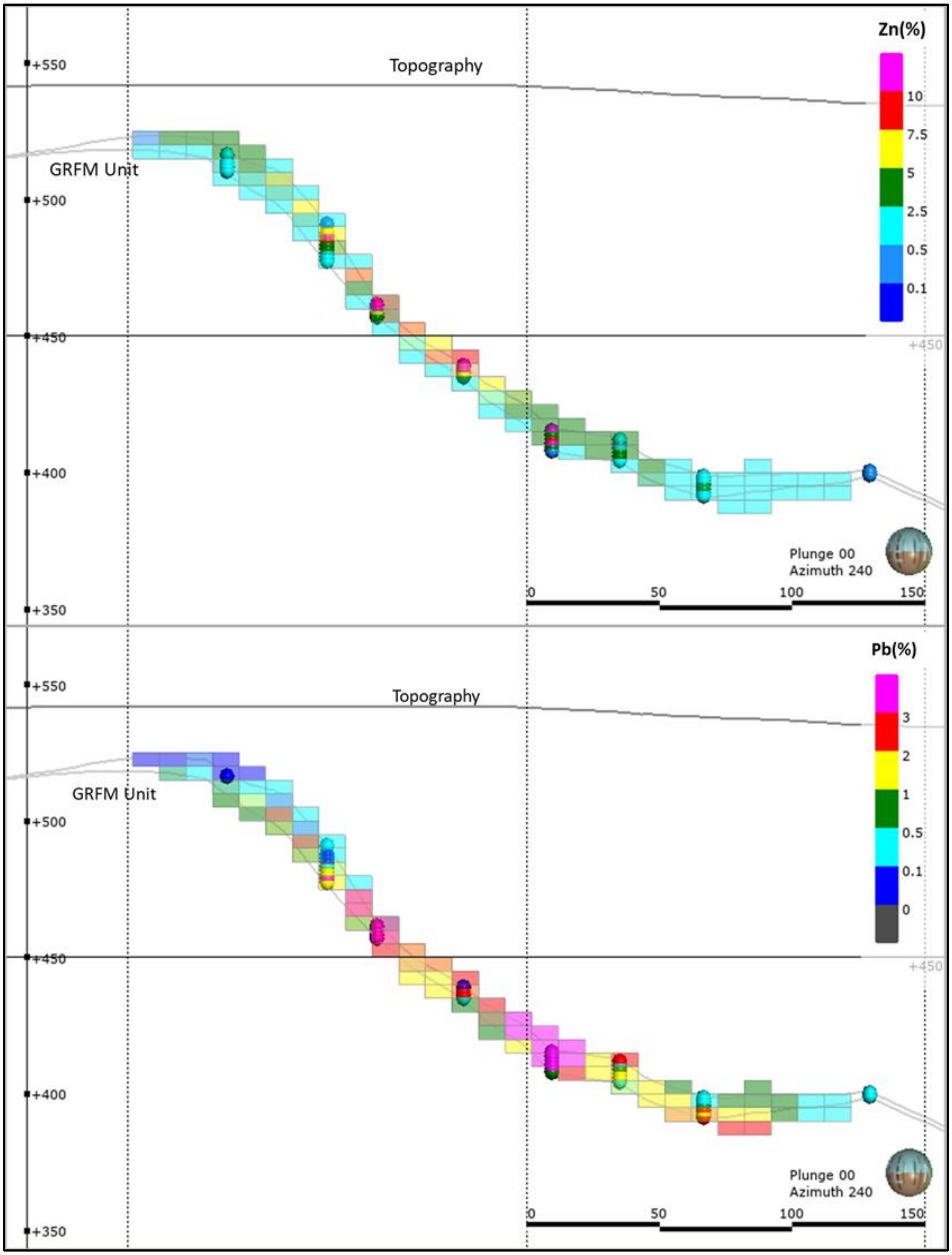
Source: SRK, 2019

Figure 14.7: Main Zone Cross-Section Comparing Assay Composite Grades to Estimated block Grades for both Zn and Pb (section looking south-west)



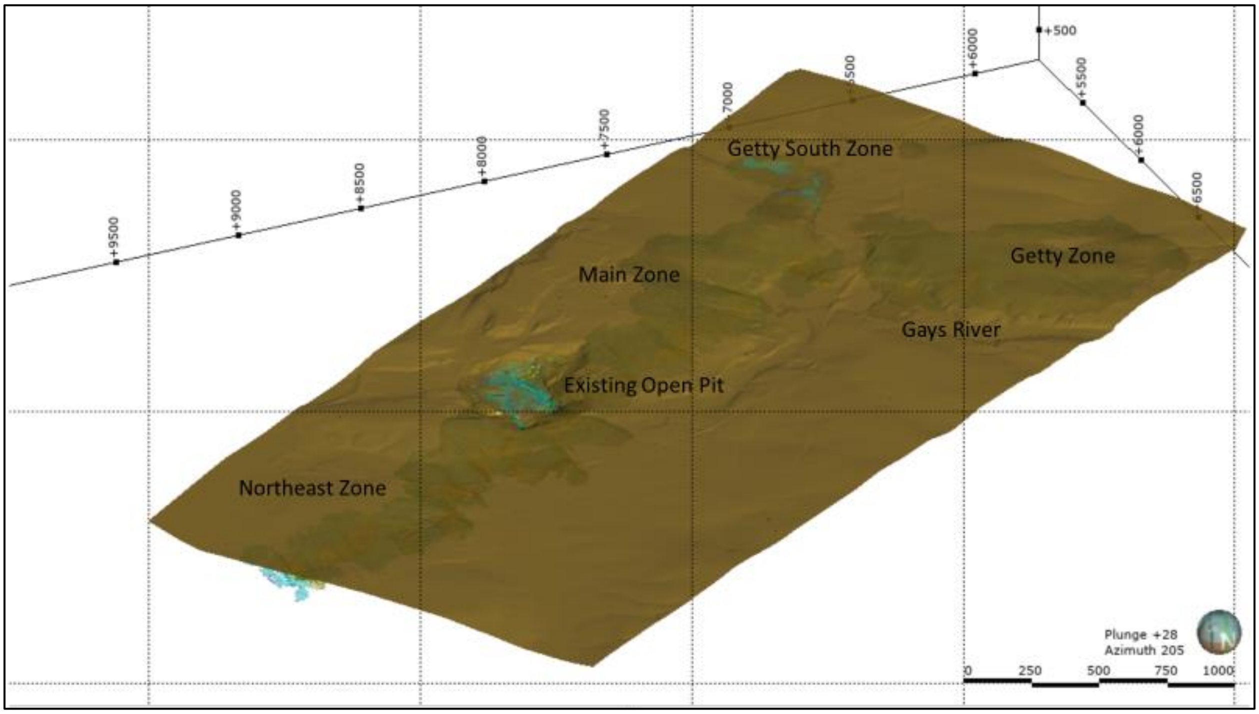
Source: SRK, 2019

Figure 14.8: Getty Zone cross-Section Comparing Assay Composite Grades to Estimated Block Grades for both Zn and Pb (section looking north-west)



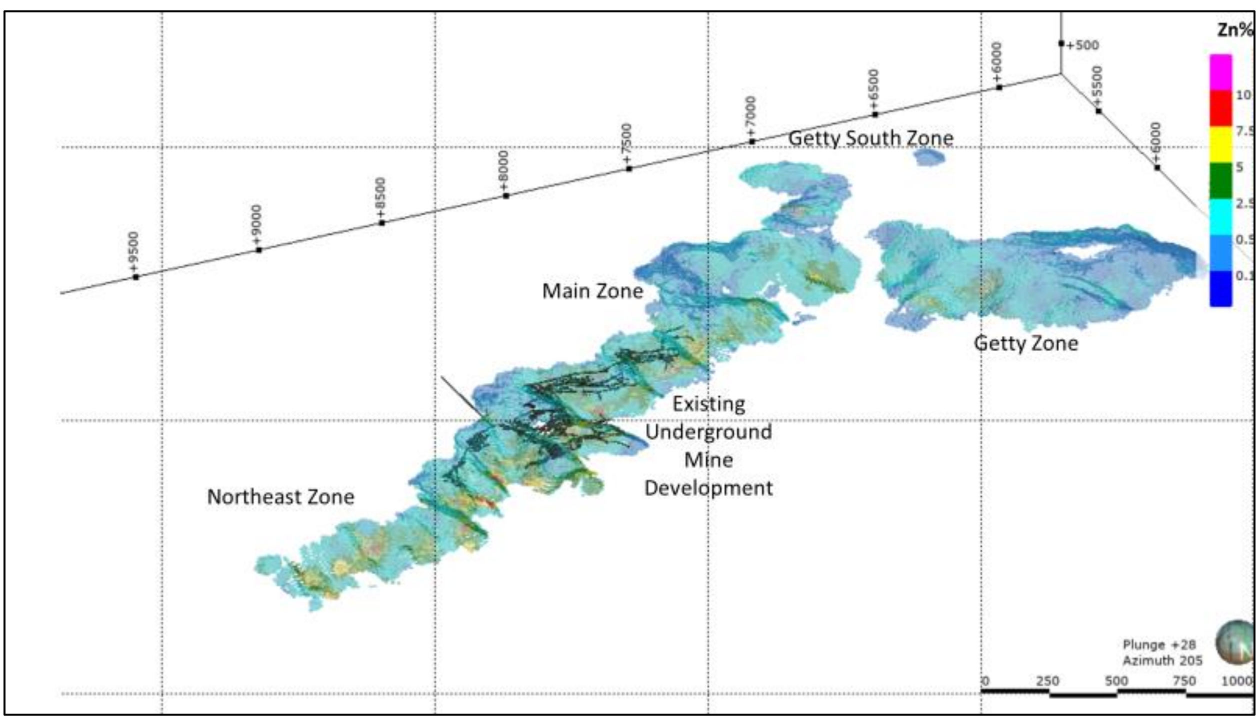
Source: SRK, 2019

Figure 14.9: Northeast Zone Cross-Section Comparing Assay Composite Grades to Estimated Block Grades for both Zn and Pb (section looking south-west)



Source: SRK 2019

Figure 14.10: Isometric View of Estimated Blocks Relative to Topography



Source: SRK 2019

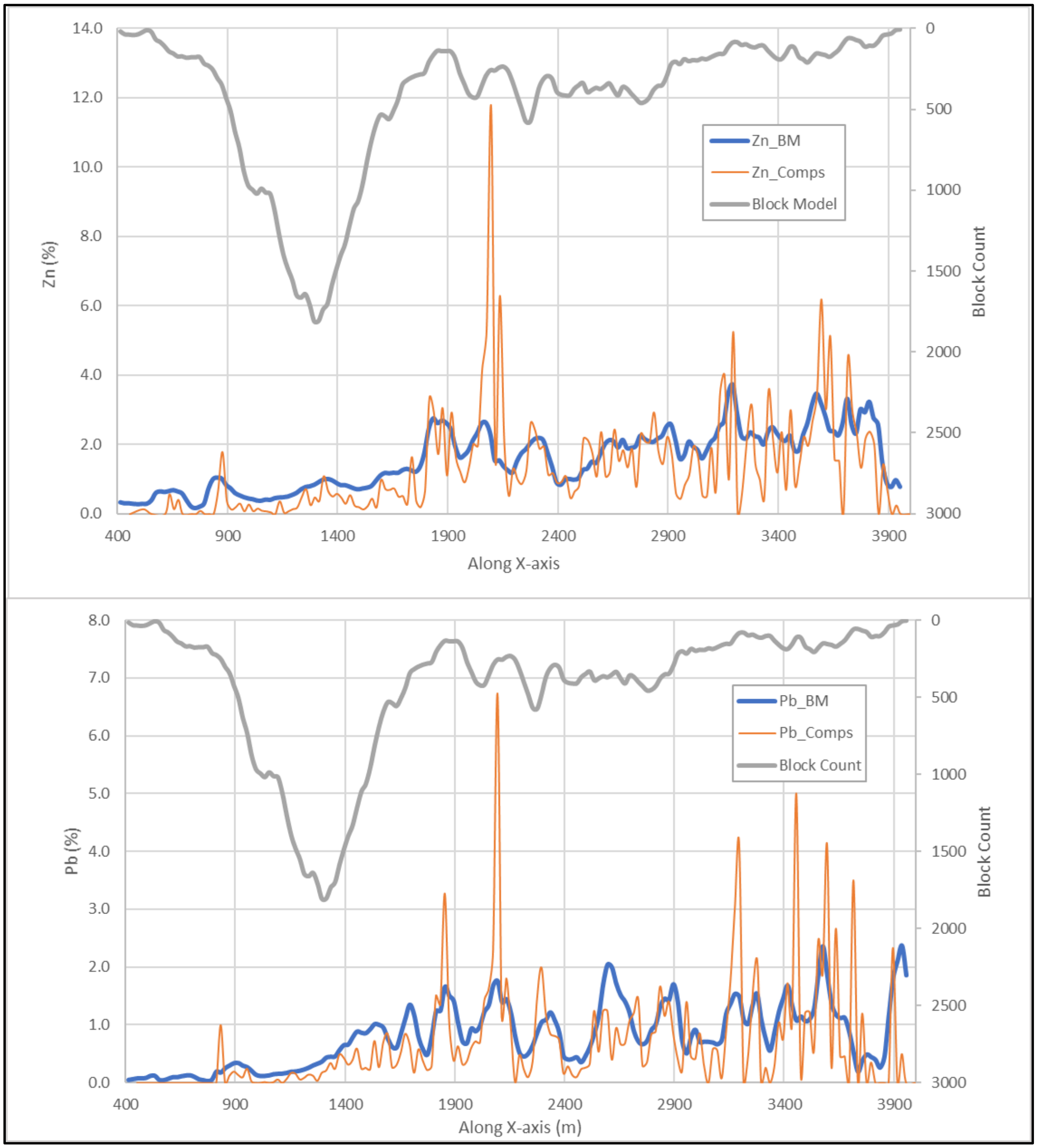
Figure 14.11: Isometric View of Estimated Blocks Relative to Underground Workings

14.10.2 Swath Plots

A swath plot is a graphical display of the grade distribution derived from a series of bands, or swaths, generated in several directions through the deposit. Using the swath plot, grade variations from the block model estimate are compared to the distribution derived from the assay sample composite data used in the estimation process.

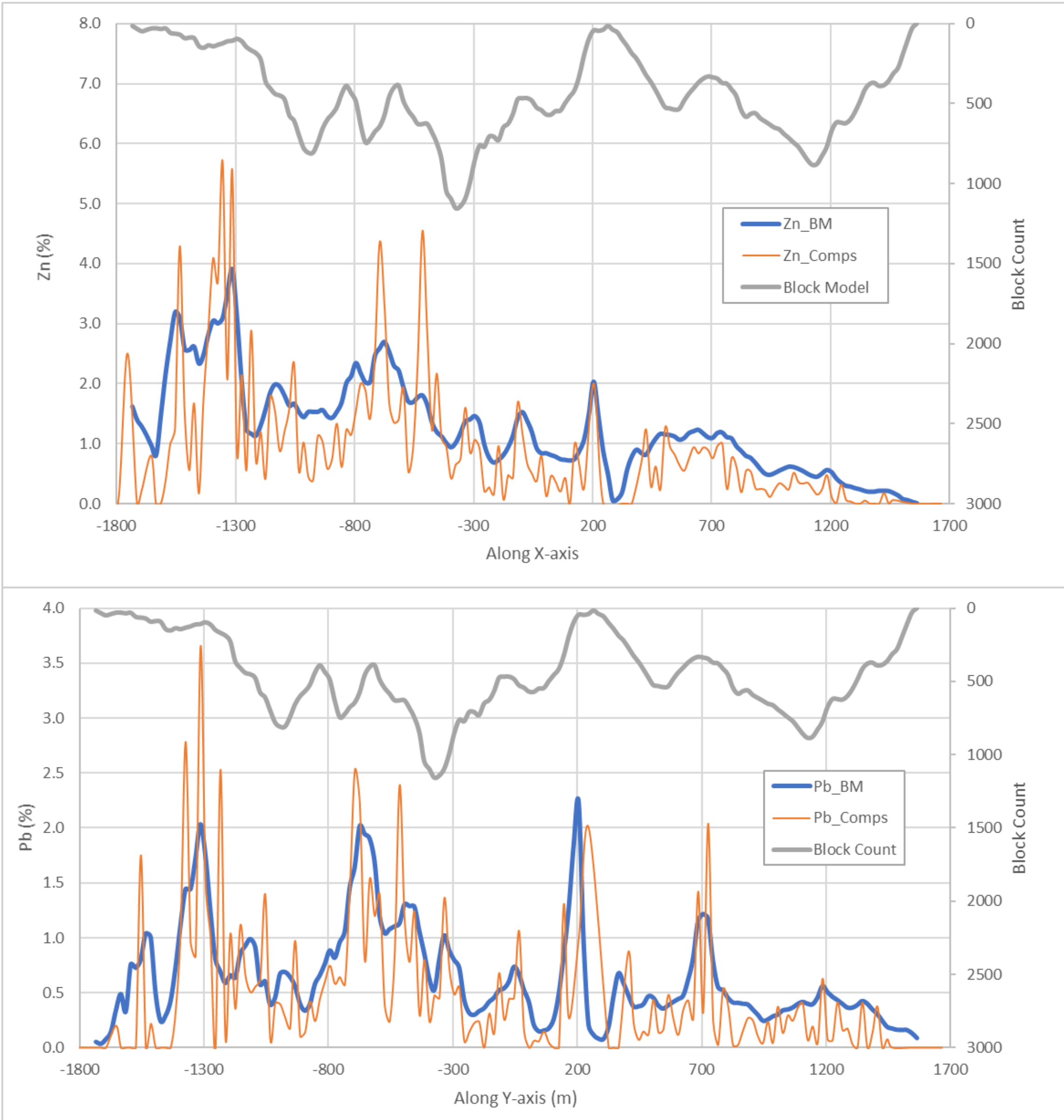
On a local scale, the profile obtained from the assay composite data typically displays a more variable profile than that obtained from the block model estimate. This reflects the smoothed nature of the block model estimate which is an outcome of the estimation process. However, the overall grade trend displayed in the swath plot should be similar between the block model estimate and underlying data.

Swath plots generated along east-west and north-south directions are provided in Figure 14.6 to Figure 14.7 for Zn and Pb. The swath plots were rotated to align with the rotation angle of the block model, using swath widths of 20 m for both east-west and north-south orientations.



Source: SRK, 2019

Figure 14.12: Easting Swath Plot for Zn and Pb



Source: SRK, 2019

Figure 14.13: Northing Swath Plot for Zn and Pb

Based on the swath plots, there is a reasonable correlation between the block model and underlying data. The degree of smoothing in the block model estimate is evident in the peaks and valleys shown in some swath plots; however, this comparison shows reasonable agreement between the data sets in terms of overall grade distribution as a function of easting, and northing, especially where there are high tonnages (as shown by the block counts on the plots shown in grey).

14.11 Mineral Resource Classification

Mineral resources were classified into Measured, Indicated and Inferred categories based on CIM Definition Standards in accordance with NI 43-101 reporting guidelines. The initial classification criteria consider a combination of geometric criteria (based on overall drillhole spacing), and estimation quality criteria.

- Measured blocks require a minimum of three holes within 20 m radii, nominally corresponding to a maximum drillhole spacing of 28 m. The mean distance to the nearest three holes is 12.5 m.
- Indicated blocks require a minimum of three holes within 50m radii, with a nominal maximum spacing of 70 m. The mean distance to the nearest three holes is 30m.
- Inferred – all other blocks estimated in the mineralized zone

The initial classification was adjusted to account for the estimation of blocks in GRFM volumes with drillholes with unsampled intervals. Affected blocks were identified by means of a specific interpolation using composite data coded for missing data, and the blocks were re-classified as Inferred blocks on this basis.

14.12 Mineral Resource Statement

The resources are reported with respect to cut-off values calculated using the assumed processing costs and recoveries, and metal prices. The resource is also constrained by an optimized (Whittle) resource pit, in order to demonstrate that the defined resources have reasonable prospects of eventual economic extraction, which is a CIM Definition Standards criterion. All classification categories (Measured, Indicated and Inferred) were considered in the resource pit optimization.

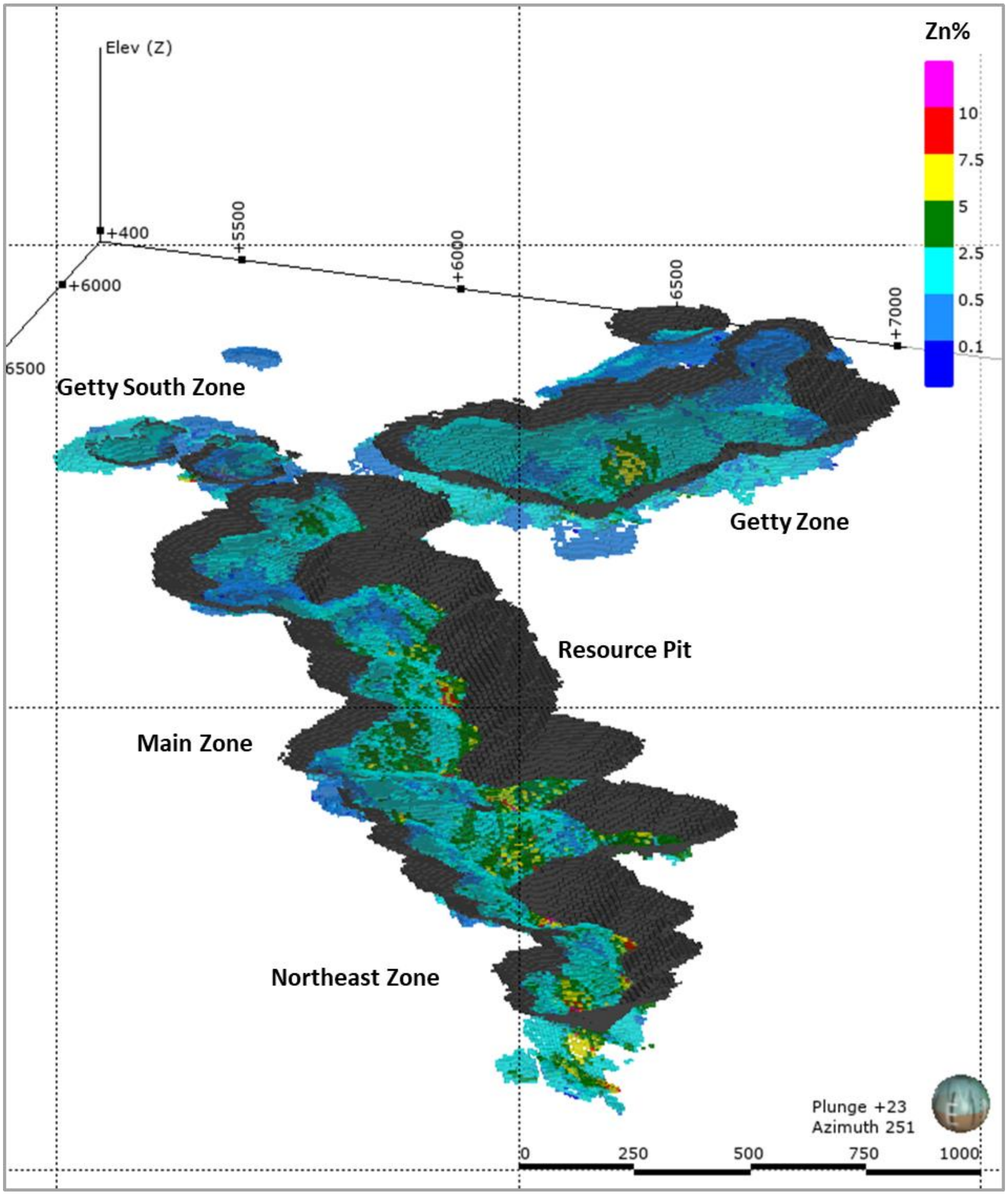
14.12.1 Resource Pit Optimization parameters

The resource pit optimization parameters are tabulated in Table 14-9. and a 3D isometric view of the resource pit is illustrated in Figure 14.14.

Table 14-9: Resource Pit Optimization Parameters

Parameter	Value	Unit
Mining Cost		
NE Zone Ore	3.27	C$/t Mined
Main Zone Ore	3.09	C$/t Mined
Getty Zone Ore	3.27	C$/t Mined
Getty S Zone Ore	3.27	C$/t Mined
Gypsum	2.52	C$/t Mined
Quartzite	2.30	C$/t Mined
Carbonate	3.09	C$/t Mined
Overburden/Trench	1.74	C$/t Mined
Processing Cost (including G&A)	19.11	C$/t Processed
Zinc Recovery	86	%
Lead Recovery	93	%
Zinc Price	1.35	US$/lb
Lead Price	1.14	US$/lb
Zn Offsite Costs	0.19	US$/lb
Pb Offsite Costs	0.11	US$/lb
Royalty	2	%
Exchange Rate	1.30	C$/US$
Slope Angle Rock	45	Degrees
Slope Angle Overburden	22	Degrees

Source: ScoZinc/SRK, 2019



Source: SRK 2019

Figure 14.14: 3D Isometric View of the Resource Pit and Block Model (Zn% grade shown)

14.12.2 Mineral Resource Statement

The Mineral Resource Statement and explanatory notes are presented in Table 14-10.

Table 14-10: Scotia Mine Resource Statement, Dec 14, 2019 - SRK Consulting (U.S.) Inc.

Classification	Zone	Mass (kt)	Zn (%)	Pb (%)	ZnEQ (%)
Measured	Getty	60	1.38	1.25	2.58
	Main	4,130	2.57	1.30	3.81
	North East	130	3.18	1.88	4.98
	Total	**4,320**	**2.57**	**1.32**	**3.83**
Indicated	Getty	8,090	1.24	0.81	2.02
	Getty South	840	1.58	0.25	1.82
	Main	9,870	1.92	1.01	2.89
	North East	2,330	2.88	1.15	3.98
	Total	**21,130**	**1.75**	**0.92**	**2.64**
Measured and Indicated	Getty	8,150	1.24	0.82	2.03
	Getty South	840	1.58	0.25	1.82
	Main	14,000	2.11	1.09	3.16
	North East	2,460	2.89	1.19	4.04
	Total	**25,450**	**1.89**	**0.99**	**2.84**
Inferred	Getty	950	1.35	0.54	1.87
	Getty South	770	1.53	0.25	1.77
	Main	2,980	1.49	0.79	2.25
	North East	310	2.01	0.74	2.72
	Total	**5,010**	**1.50**	**0.66**	**2.13**

Source: SRK, 2019

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that any part of the Mineral Resources estimated will be converted into Mineral Reserves;

Open pit resources stated as contained within a potentially economically minable open pit; pit optimization was based on assumed prices for zinc of US$1.35/lb, and for lead of US$1.14/lb, a Zn recovery of 86% and a Pb recovery of 93%, mining and processing costs varying by zone, and pit slopes of 45 degrees in rock and 22 degrees in overburden;

Open pit resources are reported based on a Zinc Equivalent (ZnEq) grade of 0.90%. The ZnEq grade incorporates Zn and Pb sales costs of US$0.19/lb and US$0.11/lb respectively, and a 2% royalty fee;

Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.

14.12.3 Resource Sensitivity Analysis

A resource sensitivity table within the resource pit shell (US$1.35/lb Zn, US$1.14/lb Pb) is provided in Table 14-11.

Table 14-11: Resource Sensitivity within the resource Pit Shell

Cutoff ZnEq%	Tonnage (kt)	ZnEq (%)	Zn (%)	Pb (%)
2	15,400	4.01	2.56	1.51
1.9	16,400	3.89	2.49	1.45
1.8	17,500	3.76	2.42	1.39
1.7	18,700	3.63	2.36	1.33
1.6	20,000	3.5	2.28	1.27
1.5	21,400	3.38	2.21	1.21
1.4	22,700	3.26	2.14	1.16
1.3	24,100	3.15	2.08	1.11
1.2	25,700	3.03	2.01	1.06
1.1	27,300	2.92	1.95	1.02
1	28,900	2.82	1.89	0.97
0.9	30,600	2.72	1.82	0.93
0.8	31,900	2.64	1.78	0.9
0.7	32,700	2.59	1.75	0.88

Source: SRK, 2019

15 Mineral Reserve Estimate

There are no Mineral Reserves on the property.

16 Mining Methods

This section is not required to support the updated Mineral Resource statement and is not included in this report.

17 Recovery Methods

This section is not required to support the updated Mineral Resource statement and is not included in this report.

18 Project Infrastructure

This section is not required to support the updated Mineral Resource statement and is not included in this report. Some commentary regarding project infrastructure is included in Section 5.

19 Market Studies and Contracts

The assumed long-term prices (LTP) of US$1.35/lb and US$1.14/lb for zinc and lead utilized in this Mineral Resource Estimate are based on market forecasts compiled by Consensus Economics Inc. A 30% premium on the forecast prices for ore reserves is considered in deriving the LTP for mineral resource pricing. The forecast data is tabulated in Table 19-1:

Table 19-1: Long-term Metal Price Forecast

Metal	Units	Spot Q4-2019	# Analysts	LTP High	LTP Low	Ore Reserves	Premium	Mineral Resources
Lead	(US$/t)	2104	10	2153	1600	1950	30%	2550
	(USc/lb)	95	10	98	73	88	30%	114
Zinc	(US$/t)	2389	10	2743	1984	2300	30%	3000
	(USc/lb)	108	10	124	90	104	30%	135

Source: SRK, 2019

20 Environmental Studies, Permitting and Social or Community Impact

There is a brief description of previous environmental permitting available at the time the mine was in operations in section 4. SRK is not aware of any more recent information related to this topic.

21 Capital and Operating Costs

This section is not required to support the updated Mineral Resource statement and is not included in this report.

22 Economic Analysis

This section is not required to support the updated Mineral Resource statement and is not included in this report.

23 Adjacent Properties

SRK is not aware of any significant adjacent mineral properties.

24 Other Relevant Data

SRK is not aware of any additional information that would affect the Mineral Resource Estimate presented in this report.

25 Interpretations and Conclusions

The December 2019 mineral resource update includes a total Measured and Indicated mineral resource of 25.4Mt at a Zn-equivalent grade of 2.84% (1.89% Zn and 0.99% Pb), at a cut-off grade of 0.9% Zn-equivalent. An additional Inferred mineral resource of 5.0 Mt at a Zn-equivalent grade of 2.13% (1.55% Zn and 0.66% Pb) is included.

Previous resource estimates were domained using a mineralized envelope (solid) within the carbonate material. Any mineralized carbonate material outside the domain was treated as zero grade carbonate waste. This had a negative impact on mine dilution. Previous production records show that most of the carbonate material from the hanging wall to the footwall contains mineralization to some degree. As a result, the approach taken with the new mineral resource was to domain the mineralization by lithology, where all composited assays inside the carbonate material were used in the block model grade interpolation. An optimized pit was then used to determine the reasonable prospects of eventual economic extraction of the new mineralized domain based on lithology.

Drill holes with missing intervals in between existing assay data in the same hole were assigned a background Pb & Zn % value, determined by statistical analysis, instead of being assigned a value of 0% as in previous estimates. This allows for a more realistic interpolation as it is known that most of the carbonate material is mineralized. In the case of drill holes that contained lithology information to construct the new mineralized domain but were missing all assay data, the grade interpolation was carried through over the missing intervals, but the affected volumes were classified as inferred resources.

There were 40 holes, located mostly in the North East zone, that were missing from the database that was used in previous mineral resource estimates. ScoZinc and SRK have found no reasoning as to why these holes were omitted. The 40 missing holes correspond well to the current geological model used in the new mineral resource estimate. Therefore, SRK used them in the new mineral resource estimate.

The topographic model (“topo”) used to estimate the previous mineral resources in the main zone was re-calculated. There was a portion of the current pit that was backfilled in 2009/2010 and the topo contains this backfill. When the previous mineral resource was calculated, this topo was used resulting in added mineralized tonnes as the backfill was occupying the same space that the in-situ carbonate mineralization once did. This has been corrected and an updated topo was used for the new mineral resource that accounts for the current carbonate mineralization conditions.

The area of carbonate reef between the Main Zone and the Getty Zone, now named Getty South, was not modelled in previous resource estimates despite a large amount of historic drilling in the area with mineralized intersects. The Getty South area carbonate is shallow with a horizontal orientation and a significantly lesser amount of overburden compared to the Main Zone with an average overburden thickness of 4 meters which has potential to support a low tonnage/low grade open pit. The Getty South area has been included in the new mineral resource estimate.

26 Recommendations

SRK provides the following recommendations based on the outcome of this mineral resource update for the Scotia Mine Deposit;

- Additional drilling is recommended in areas of Inferred mineral resources to assess the potential for upgrading these areas to Indicated or Measured mineral resource categories.
- Infill drilling is recommended in areas of historical drilling where sampling focused only on higher grade intervals to support underground mining. Additional drilling and sampling in these areas will be required to confirm the continuity of lower grade mineralization to support potential open-pit mining.
- Recommendations provided in previous technical reports and economic studies should be reviewed within the context of this updated mineral resource estimate for the Scotia Mine Deposit.

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28 Date and Signature Page

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Date and Signature Page

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All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices