43-101 TECHNICAL REPORT,
UPDATED MINERAL RESERVE ESTIMATE FOR TIMMINS WEST MINE AND INITIAL RESOURCE ESTIMATE FOR THE 144 GAP DEPOSIT, TIMMINS, ONTARIO, CANADA

NTS: 42-A-05,
Longitude: 81.55° West, Latitude: 48.32° North
UTM (NAD 83, Zone17): 458,915m East, 5,359,043 North

PREPARED FOR:

LAKE SHORE GOLD CORP.
181 University Ave, Suite 2000
Toronto, Ontario, Canada, M5H 3M7

Prepared by: **Eric Kallio, P. Geo.**
Natasha Vaz, P. Eng.

Date: **February 29, 2016**

Effective Date: **December 31, 2015**

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF TABLES

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

CAUTIONARY NOTE WITH RESPECT TO FORWARD LOOKING INFORMATION

Certain information and statements contained in this report are "forward looking" in nature. All information and statements in this report, other than statements of historical fact, that address events, results, outcomes, or developments that Lake Shore Gold and/or the Qualified Persons who authored this report expect to occur are "forward-looking statements". Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by the use of forward-looking terminology such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", "projects", "potential", "believes" or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "should", "might" or "will be taken", "occur" or "be achieved" or the negative connotation of such terms. Forward-looking statements include, but are not limited to, statements with respect to anticipated production rates; grades; projected metallurgical recovery rates; infrastructure, capital, operating and sustaining costs; the projected life-of-mine; proposed development and potential impact on cash flow; estimates of Mineral Reserves and Resources; the future price of gold; government regulations; the maintenance or renewal of any permits or mineral tenures; estimates of reclamation obligations that may be assumed; requirements for additional capital; environmental risks; and general business and economic conditions.

All forward-looking statements in this report are necessarily based on opinions and estimates made as of the date such statements are made and are subject to important risk factors and uncertainties, many of which cannot be controlled or predicted.

Material assumptions regarding forward-looking statements are discussed in this report, where applicable. In addition to, and subject to, such specific assumptions discussed in more detail elsewhere in this report, the forward-looking statements in this report are subject to the following assumptions: (1) there being no signification disruptions affecting the operation of the mine; (2) the availability of certain consumables and services, and the prices for diesel, propane, cyanide, electricity and other key supplies being approximately consistent with current levels; (3) labour and materials costs increasing on a basis consistent with current expectations; (4) that all environmental approvals, required permits, licenses and authorizations will continue to be held on the same or similar terms and obtained from the relevant governments and other relevant stakeholders within the expected timelines; (5) no significant changes will be made to tax rates and no new taxes, royalties or other fees will be levied by applicable governments; (6) the timelines for exploration activities will proceed in accordance with estimates; (7) assumptions made in Mineral Resource and Reserve estimates, including geological interpretation, grade, recovery rates, gold prices, foreign exchange rates, and operational and capital costs, will hold true; and (8) general business and economic conditions will remain substantially the same.

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements to be materially different from any of the future results, performance or achievements expressed or implied by forward-looking statements. These risks, uncertainties and other factors include, but are not limited to: a decrease in future gold prices; costs of labour, supplies, fuel and equipment rising; adverse changes in anticipated production, including discrepancies between actual and estimated production, Reserves, Resources and recoveries; exchange rate fluctuations; title risks; regulatory risks, and political or economic developments in Canada; changes to tax rates; risks and uncertainties with respect to obtaining necessary permits, land use rights and other tenure from the Crown and private landowners or delays in obtaining same; risks associated with maintaining and renewing permits and complying with permitting requirements, and other risks involved in the gold exploration, development and mining industry; as well as those risk factors discussed elsewhere in this report, in Lake Shore Gold's latest Annual Information Form, Management's Discussion and Analysis and its other SEDAR filings from time to time. All forward-looking statements herein are qualified by this cautionary statement.

Accordingly, readers should not place undue reliance on forward-looking statements. Lake Shore Gold and the Qualified Persons who authored this report undertake no obligation to update publicly or otherwise revise any forward-looking statements whether as a result of new information or future events or otherwise, except as may be required by law.

CAUTIONARY NOTE TO U.S. READERS CONCERNING ESTIMATES OF MEASURED, INDICATED, AND INFERRED MINERAL RESOURCES

Information concerning the Timmins West Mine has been prepared in accordance with Canadian standards under applicable Canadian securities laws, and may not be comparable to similar information for United States companies. The terms "Mineral Resource", "Measured Mineral Resource", "Indicated Mineral Resource" and "Inferred Mineral Resource" used in this report are Canadian mining terms as defined in accordance with National Instrument 43-101 (NI 43-101) under guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Mineral Reserves adopted by the CIM Council on May 10, 2014. While the terms "Mineral Resource", "Measured Mineral Resource", "Indicated Mineral Resource" and "Inferred Mineral Resource" are recognized and required by Canadian securities regulations, they are not defined terms under the rules and regulations of the United States Securities and Exchange Commission applicable to mining companies. As such, certain information contained in this report concerning descriptions of mineralization and resources under Canadian standards is not comparable to similar information made public by United States companies subject to the reporting and disclosure requirements of the United States Securities and Exchange Commission. An "Inferred Mineral Resource" has a great amount of uncertainty as to its existence and as to its feasibility. It cannot be assumed that all or any part of an "Inferred Mineral Resource" will ever be upgraded to a higher category. Readers are cautioned not to assume that all or any part of an "Inferred Mineral Resource" exists, or is mineable.

1.0 SUMMARY

This Technical Report has been prepared under the direct supervision of Eric Kallio (P. Geo.) and Natasha Vaz (P. Eng.) on behalf of Lake Shore Gold Corp. (LSG) for the Timmins West Mine. The Timmins West Mine (TWM) consists of mineralized zones from the Timmins Deposit, Thunder Creek Deposit, and 144 Gap Deposit. The resource and reserves statements included in this report have an effective date of December 31, 2015.

The purpose of this report is to provide a summary of the total resource pool, current mine infrastructure, the life-of-mine (LOM) plan, and estimated mine capital and operating costs to substantiate an updated Mineral Reserve estimate for TWM. The work completed to support the updated reserves has been conducted on the indicated mineral resource only, with mining, milling, and cost estimating based on actual operating experience at TWM and the Bell Creek Mill.

This revised mineral resource and reserve statement uses data collected by LSG from underground and surface diamond drilling, and underground mapping and sampling from mineralization exposed in mine openings.

Commercial production at the Timmins Deposit was announced in January 2011 and at the Thunder Creek Deposit in January 2012. As such (and meeting gross revenue criteria), LSG considers this technical report as being issued by a "Producing Issuer" under the definitions of NI 43-101.

It should be noted that the 144 Gap Deposit is a new discovery and resources reported here constitute an Initial Resource Estimate.

The headframe of the Timmins West Mine is located approximately 1.1 kilometres southeast of the intersection of Provincial Highways 101 and 144, approximately 19 kilometres west of the city of Timmins. The highways and a short site access road provide year-round access to the property.

The Timmins West Mine (TWM) area includes the Timmins Deposit, Thunder Creek, and Highway-144 properties for a total area of approximately 17.1 square kilometers, or approximately 1,712 hectares. The majority of the property is situated within Bristol Township (1,340 ha), with approximately 336 hectares located in Thorneloe Township and 36 hectares in Carscallen Township.

The Timmins Deposit portion of the TWM consists of a block of 23 contiguous claims (totaling approximately 395 hectares) of which there are eleven (11) individual patented and surface rights claims, six (6) claims that hold a patent surface rights with leased mining rights, and six (6) claims that hold a 21 year Crown mining and surface rights lease. The Thunder Creek Deposit portion of the property consists of 20 staked mineral claims (35 units totaling approximately 629 hectares) of which two (2) claims hold a surface rights patent and three (3) claims hold a 21 year Crown mining and surface rights lease. The Highway-144 property consists of a contiguous block of 33 staked mineral claims (43 units) covering an area of approximately 688 hectares. Surrounding the TWM are an additional 289 staked claims, nine leases, and 28 patents also ownd by LSG (Figure 4.1 inset).

Lake Shore Gold Corp. (LSG) owns a 100% interest in most of the property, subject to underlying royalties. The only exception is the Meunier-144 portion of the property with LSG holding a 50% interest in these ten patent claims. The claims and leases are all in good standing.

A land survey was completed in late 2015 in order to bring a boundary of 56 mining claims to lease. With survey documents submitted to the Ministry of Northern Development and Mines (MNDM) in early 2016, LSG is waiting for final approval from the Office of the Surveyor General before a formal mining and surface mining rights lease application can be officially submitted.

The Timmins West Mine includes the Timmins, Thunder Creek, and 144 Gap Deposits, all of which occur along the 144 Trend, a broad and extensive structural corridor that extends to the southwest from the Timmins Deposit area. Clearly favourable as a host to gold mineralization, this trend generally coincides with the northeast trending contact zone between southeast facing mafic metavolcanic rocks of the Tisdale Assemblage (to the northwest) and dominantly southeasterly facing metasedimentary rocks of the Porcupine Assemblage (to the southeast). The contact dips steeply to the northwest, and is modified and locally deflected by folds and shear zones that are associated with gold mineralization.

Gold mineralization occurs in steep north-northwest plunging zones which occur within, or along favourable lithostructural settings in proximity (within hundreds of metres) to the 144 Trend and related structures (i.e., Holmer and Rusk Shear Zones). Mineralization comprises multiple generations of quartz-carbonate-tourmaline ± albite veins, associated pyrite alteration envelopes, and disseminated pyrite mineralization. Textural evidence suggests that veining formed progressively through D3 and D4 deformation. All phases of gold-bearing veins cut and post-date the Alkalic Intrusive Complex (AIC) and syenitic to monzonitic intrusions, although mineralization is often spatially associated with ore preferentially developed within these intrusive suites (Rhys, 2010).

The TWM is accessed by a production shaft and portal/ramp from surface. Both facilities are located near the Timmins Deposit. Mining at the Timmins Deposit was initiated in the second half of 2009 via the main ramp from surface that had been developed to a depth of 200 vertical metres (while the production shaft was being constructed). Mining started within the Vein Zones, Footwall (FW) Zone, and the Main Zone (MZ). In the upper levels, mining results were largely as anticipated, with narrow quartz-tourmaline veins that returned low grade and tonnage over short strike lengths as a result of poor continuity of the mineralized zones at shallow elevations.

In 2010, mining continued in the MZ and Vein Zones from the ramp between the 140 metre and 270 metre Levels. Mining in the upper part of the Timmins Deposit has been idle since the second half of 2011; however, the MZ remains largely untested below the 260 metre Level where some of the best drill intersections were returned from the west side of the ramp. Following positive results from recent infill and stope definition drilling completed in the FW2A Zone, which comprises some of the largest remaining reserve blocks at the Timmins Deposit, mining in the intermediate to upper portions of the deposit (accessed via the up-ramp driven from the production shaft) is set to resume between the 480 metre and 390 metre Levels in early to mid-2016.

The first stope in the UM1 Zone from the 650 metre Level (accessed via the production shaft) was mined in the fourth quarter of 2010 and was highly successful. Mining a number of the smaller, structural hanging-wall lenses comprising the UM complex (including the UM2 and UM1a) has also proven successful despite smaller block sizes, moderately lower grades, and complex geometries. The positive mining results in the UM mineralization to date is a promising indicator for continued mining at depth.

From 2009 through 2015, 2.09 million tonnes at an average grade of 4.5 grams per tonne Au (298,477 ounces) have been mined from the Timmins Deposit.

Access to the Thunder Creek Deposit was gained by developing ramps from the Timmins Deposit 200 metre Level (accessing Thunder Creek Rusk Zone at the 300 metre Level) and 650 metre Level (accessing Thunder Creek Porphyry Zone at the 730 metre Level). The Rusk horizon was intersected in July of 2010 and the Porphyry Zone in November 2010. Access within the Thunder Creek Deposit was greatly improved with the successful "breakthrough" (connection) of the down-ramp driven from the 300 metre Level and the up-ramp driven from the 730 metre Level achieved in 2015.

From 2010 through 2015, 2.01 million tonnes at an average grade of 4.4 grams per tonne Au (283,098 ounces) have been mined from the Thunder Creek Deposit.

The 144 Gap Deposit was initially discovered in late 2014 as part of a successful surface diamond drilling campaign. This report includes an initial Resource estimate for the Gap, derived from both surface and underground delineation drilling. Not currently in production, the Gap deposit is accessible via a 1,317 metre ramp and hanging-wall exploration drift (820 metre Level) driven to the southwest from the 765 metre Level at Thunder Creek.

Lake Shore Gold has prepared an updated Resource Estimate for the Timmins West Mine which includes mineralized zones from the Timmins, Thunder Creek and 144 Gap Deposits. The report updates the Timmins Mine Resources as reported by Lake Shore Gold in March 2015. The estimate for TWM is based on historical diamond drilling dating back to March 1984 and drilling completed by LSG between July 2003 and the date of databases being closed for the current estimate. The database closure date was November 20, 2015 for the Timmins Deposit, November 23, 2015 for the Thunder Creek Deposit and in very early 2016 for the 144 Gap Deposit. A total of 2,848 drill holes with solid intersections through resource envelopes were used for estimation of the total resource pool at the Timmins West Mine, including 1,613 drill holes for the Timmins Deposit, 1,068 drill holes for the Thunder Creek Deposit, and 167 drill holes for the 144 Gap Deposit. The diamond drill hole database has been subjected to verification and is considered to be robust and of adequate quality for the estimation of resources.

The Timmins West Mine Resource totals 5.77 Mt at 4.87 gpt Au, amounting to 903,400 ounces of gold in the Indicated category and 2.67 Mt at 5.00 gpt Au amounting to 429,300ounces of gold in the Inferred category. Subdivision of the resource between the Timmins, Thunder Creek, and 144 Gap Deposit is tabulated in Table 1.1.

The Mineral Resource for the Timmins Deposit is modeled as 77 sub-zones which refine the broader mineralized Ultramafic, Footwall and Vein Zones. The Thunder Creek Deposit is divided into 18 sub-zones which refine the broader Rusk and Porphyry Zones, while the 144 Gap Deposit is divided into nine zones including the Main, East, Hwy EXT, HW and FW1, FW2, FW3, FW4 and FW5 Zones.

Confidence in the assay data was achieved through a quality control program which involved routine insertion of blanks, standards and duplicate data into the drill hole sample stream which indicates no significant bias and adequate precision and reproducibility of results. The diamond drill assay data is considered of adequate quality for the estimation of resources.

Estimation was completed using the Inverse Distance Squared interpolation method with an anisotropic search. All gold assays were capped with capping limits varying by zone between 20 and 120 gpt. A minimum mining width of 2.0 metres was assumed and only samples within a mineralized zone were used for estimation of the zone. A long-term gold price of US$1,100 per ounce and an exchange rate of US$0.90/$CAN is assumed.

The mineralized zones defined and used for estimation of resources are focused on material grading 2.6 gpt with lower grade material included for internal continuity. The base case for reporting resources at the Timmins and Thunder Creek Deposits is 1.5 gpt and the base case for the 144 Gap Deposit is 2.6 gpt.

TABLE 1.1: TWM RESOURCE ESTIMATE ABOVE COG

In-Situ Resource Above Cut-Off Grade (COG)			
	Tonnes	**Grade**	**Ounces**
Timmins Deposit @ 1.5 g/t COG*			
Indicated	1,816,000	5.08	296,000
Inferred	606,000	4.75	92,600
Thunder Creek @ 1.5 g/t COG**			
Indicated	2,225,000	4.27	305,700
Inferred	151,000	3.62	17,500
144 Gap Deposit @ 2.6 g/t COG			
Indicated	1,734,000	5.41	301,700
Inferred	1,914,000	5.19	319,200
Total Timmins West Mine			
Indicated	5,775,000	4.87	903,400
Inferred	2,671,000	5.00	429,300

* Includes Timmins Deposit Broken Ore + Stockpile

** Includes Thunder Creek Deposit Broken Ore + Stockpile

1. *Mineral resource estimates have been classified according to CIM Definitions and Guidelines.*
2. *Mineral resources are reported inclusive of reserves.*
3. *Mineral resources incorporate a minimum cut-off grade of 1.5 grams per tonne gold for the Timmins and Thunder Creek Deposit and 2.6 grams per tonne gold for the 144 Gap Deposit.*
4. *Cut-off grade is determined using a weighted average gold price of US$1,100 per ounce and an exchange rate of $0.90 $US/$CAD.*
5. *Cut-off grades assume mining, G&A and trucking costs of up to $74 per tonne and/or processing costs of up to $22 per tonne. Assumed metallurgical recoveries are 97.0%.*
6. *Mineral resources have been estimated using Inverse Distance Squared estimation method and gold grades which have been capped between 20 and 120 grams per tonne based on statistical analysis of each zone.*
7. *Assumed minimum mining width is two metres.*
8. *The mineral resources were prepared under the supervision of, and verified by, Eric Kallio, P.Geo., Senior Vice-President, Exploration, Lake Shore Gold Corp., who is a qualified person under NI 43-101 and an employee of Lake Shore Gold.*
9. *Tonnes information is rounded to the nearest thousand and gold ounces to the nearest one hundred. As a result, totals may not add exactly due to rounding.*

The drilling, development and mining completed since the last resource/reserve update in March 2014 indicates a significant increase in resources including an addition of 208,800 ounces to the Indicated category and 169,700 ounces to Inferred.

The bulk of this increase is due to the addition of the new 144 Gap Deposit resource. This accounts for an additional 301,700 ounces in the Indicated and 319,200 ounces in the inferred category.

Indicated resources at the Timmins Deposit remain largely unchanged while inferred resources show a decrease of 132,800 ounces due mainly to conversion of inferred resources to indicated through additional diamond drilling.

Indicated resources at the Thunder Creek deposit have decreased due to mining production. Only a small portion of the resources at Thunder Creek remains Inferred.

Sensitivities to cut-off were run at 1.0 gpt increments of gold grade from 1.00 gpt to 5.00 gpt. Continuity at levels at and below a 2.6 gpt cut off grade is reasonable but sharply reduced at higher levels which imply the stated resources at these higher levels may be difficult to achieve without a very selective mining approach or incorporating a significant amount of internal dilution.

Several steps were taken in order to review and validate the current block model and reported results which included: comparison of solid and block model volumes, comparison of the block model against diamond drill results, checking with nearest neighbor methods and comparisons with recent production data with no significant issues identified. A review was also carried out by SGS Canada to verify certain aspects of the resource estimate for the Timmins West, Thunder Creek, and 144 Gap Deposits including database integrity, parameters used in defining zones, grade capping, search ellipse dimension and orientations, and degree of smoothing. Based on the review of the resource estimate, SGS concludes that "No significant anomalies were identified during this review and we have no reason to expect any bias or error in the overall estimate for this deposit."

All ore mined from TWM has been, and will continue to be processed at LSG's Bell Creek Mill. The Bell Creek Mill is located approximately 6.5 kilometres north of Highway 101 in South Porcupine, Ontario. TWM ore is loaded into surface haul trucks at TWM and hauled to the mill (approximately 56 kilometres one-way). The Bell Creek Mill is a conventional gold processing plant utilizing cyanidation with gravity and CIP recovery. Mill throughput is approximately 3,000 tonnes per day and recovery is approximately 97% for TWM ore.

Previous technical reports issued for the TWM (combined Timmins Deposit and Thunder Creek Deposit) include an updated reserve estimate completed February 21, 2014, "43-101 Technical Report, Updated Mineral Reserve Estimate for Timmins West Mine, Timmins, Ontario, Canada" prepared by Erik Kallio (P. Geo.) and Natasha Vaz (P. Eng.) a prefeasibility study (PFS) completed in May 2012, "43-101 Technical Report, Prefeasibility Study and Mineral Reserve Estimate for Timmins West Mine, Timmins, Ontario, Canada, prepared by Dean Crick (P. Geo.), Ralph Koch (P. Geo.), Robert Kusins (P. Geo.), David Powers (P. Geo.), Brian Buss (P. Eng.) May 14, 2012"m and a preliminary economic assessment (PEA) completed in March 2012, "43-101 Technical Report, Preliminary Economic Assessment and Updated Mineral Resource Estimate for Timmins West Mine Timmins, Ontario, Canada, prepared by Dean Crick, (P. Geo.), Ralph Koch (P. Geo.), Robert Kusins (P. Geo.), Brian Buss (P. Eng.) and David Powers (P. Geo.) on behalf of Lake Shore Gold Corp., March 29, 2012".

The mine design used for the updated reserve estimate is based on operating experience gained since commercial production commenced in 2011. The majority of the main mine infrastructure (surface and underground) is in place and the Bell Creek Mill expansion project has been completed to meet current production requirements. The Timmins West Mine successfully uses the longhole mining method which is commonly used worldwide for deposits with similar geometry and conditions. The operation also uses common, proven mining equipment and has experienced management and mine operations personnel. The Timmins area has a significant, well-established mining service/supply industry to support the operation.

Through five years of operating experience, the Timmins West Mine has implemented the systems and programs (i.e. health and safety, environment, training, maintenance, operating procedures, etc.)

necessary to sustain production. This experience has also provided a solid basis for estimating the capital and operating costs used in preparation of the Life of Mine plan.

To estimate the reserves, the following steps (summarized at a high level) were used by mine planning personnel. The indicated resources were isolated (from Inferred material) from the resource models and assessments were made of the geometry and continuity of each of the mineralized zones. Geomechanical evaluations were taken into account in the assessment and assignment of appropriate mining methods and stope sizes. Individual stope designs (wireframes) were then created in three dimensions. These stope wireframes were queried against the block models to determine the in-situ resource. This allowed for fair inclusion of internal dilution from both low grade and barren material. Additional factors were assigned for external dilution (with or without grade) dependent on the specific mining method and geometry of each stoping unit being evaluated. Finally, a recovery factor was assigned to the overall reserves to allow for in-stope and mining process losses. Stope cut-off grades were estimated to determine which stopes to include in the reserves. Detailed mine development layouts and construction activities were assigned to provide access to each of the stoping units. A detailed LOM development and production schedule was prepared to estimate the annual tonnes, average grade, and ounces mined to surface. Development, construction, and production costs were estimated to allow an economic assessment to be made comparing the capital and operating expenses required for each area to the expected revenue stream to ensure economic viability.

It should be noted that all capital costs required for all surface and underground facilities at TWM and the Bell Creek Mill facility have been included in the LOM plan. It should also be noted that no contributions from the Bell Creek mining operations (positive or negative) have been considered.

The estimated probable reserves (diluted and recovered) at the point of delivery to the mill are summarized in Table 1.2.

TABLE 1.2: TWM ESTIMATED PROBABLE RESERVES

Deposit	Tonnes	Grade (g/t)	Ounces
Timmins Deposit	1,397,000	4.4	195,500
Thunder creek Deposit	1,498,000	4.1	196,300
TWM Total Reserves Mined to Surface	2,895,000	4.2	391,800

1. *The effective date of this report is December 31, 2015.*
2. *The mineral reserve estimates are classified in accordance with the Canadian Institute of Mining Metallurgy and Petroleum's "CIM Standards on Mineral Resources and Reserves, Definition and Guidelines" as per Canadian Securities Administrator's National Instrument 43-101 requirements.*
3. *Mineral reserves are based on a long-term gold price of US$1,100 per ounce and an exchange rate of 0.80 $US/$CAD.*
4. *Mineral reserves are supported by a mine plan that features variable stope thicknesses, depending on zone, and expected cost levels, depending on the mining methods utilized.*
5. *Mineral reserves incorporate a minimum cut-off grade of 2.3 grams per tonne. The cut-off grade includes estimated mining and site G&A costs of $67.00 per tonne, surface haulage costs of $7.20 per tonne, milling costs of $22.62 per tonne, mining recovery of 95%, external dilution of 18.0% for TD and 12.4% for TC, and a metallurgical recovery rate of 97%.*
6. *The mineral reserves were prepared under the supervision of, and verified by, Natasha Vaz, P. Eng., Vice-President, Technical Services, Lake Shore Gold Corp., who is a qualified person under NI 43-101 and an employee of Lake Shore Gold Corp.*

Production will be approximately 2,680 tonnes per day during 2016 and 2017 and reduce to approximately 2,175 tonnes per day in 2018, before ramping down and ending in Q2 2019. The production profile is summarized in Table 1.3.

TABLE 1.3: ESTIMATED LOM PRODUCTION PROFILE

Item	2015 Year-End Inventory	2016	2017	2018	2019 (Q2)	Total
Tonnes	13,282	934,895	1,022,249	793,973	129,880	2,894,279
Average TPD		2,561	2,801	2,175	1,082	
Average Grade	4.5	4.5	4.2	4.0	3.9	Ave 4.2
Ounces – Upper Range		147,600	150,500	113,100	17,700	
Ounces – LOM Plan Avg	**1,902**	**134,181**	**136,831**	**102,813**	**16,104**	**391,831**
Ounces – Lower Range		120,800	123,200	92,500	14,500	

Annual ounce production is presented as a range (Upper and Lower). The range is based on ±10% variance from the LOM plan to reflect potential differences in the combination of stopes that may be mined during each year.

The estimated capital and operating costs have been based on operating experience at TWM and the Bell Creek Mill. The costs for 2016 have been developed through the TWM 2016 annual budget exercise and the costs from 2017 through 2019 comprise the remaining LOM plan. The estimated LOM capital and operating costs are summarized in Table 1.4.

TABLE 1.4: ESTIMATED LOM CAPITAL AND OPERATING COSTS

Cost Item	Total Costs (millions)
Capital Cost	$82.6
Operating Cost	$296.0 ($102.2 per tonne)

The costs and productivities used as the basis for estimating the reserves have been based on actual performance metrics of the operation in 2011 through 2015. These factors are considered low risk to the reserve estimate. In addition, social, political, and environmental factors are all considered to be low risk factors for the continued operation of TWM and to the reserves estimate.

Based on recent work to complete the resource update, the following recommendations are made for resource estimation and resource development:

1. Continue to evaluate alternate estimation methods such as ordinary or indicator kriging to assess whether they provide any improvements for grade estimation can on a local scale.
2. Evaluate the use of spherical search ellipsoids for certain zones at the 144 Gap Deposit in order to reduce artifacts in grade estimation caused by a drill hole orientations.
3. Complete some additional studies to evaluate capping levels for various zones at the 144 project.
4. Collect some additional specific gravity data for mineralized zones. Work to date suggests that all three of the deposits at the Timmins West Mine have a variety of rock types and that the SG

within the rock types can vary considerably so more data would be beneficial for resource estimates.

5. Implement definition and exploration drilling to refine shapes and grades for existing resources and to expand the overall resource base for the future. Review this program on an annual basis. Proposed definition and exploration drilling for each deposit in 2016 is provided below:

1.1 PROPOSED DEFINITION DRILLING FOR 2016

Timmins Deposit

Total budget $3,756,000, total 44,250 metres of drilling at average cost of $84.89/m

1. Delineation on FW and Ultramafic Zones between 1030m and 1230m levels – 27,000 m.
2. Delineation on flat lying D2 and UM12 Zones around the 1030m level for the 2016 mine plan – 4,275 m.
3. Delineation on upper Timmins Mine between 420m and 390m levels – 6,750 m.
4. Short length "Bazooka" drill holes to test the mineralized walls of drifts where irregular thicknesses and geometries of ore sometimes occur – 3,225 m.
5. Miscellaneous drilling to allow for unplanned drill programs stemming from changes in stope sequencing, unexpected intersections of mineralization in development, etc. – 3,000 m.

Thunder Creek

Total budget $3,244,000, total 38,210 metres of drilling at average cost of $84.89/m

1. Delineation on Porphyry and Rusk Zones between 485m and 380m levels – 19,000 m.
2. Delineation on Porphyry and Rusk Zones between 850m and 785m level for 2016 mine plan – 8,000 m.
3. Delineation on Porphyry and Rusk Zones between the 900m and 850m level – 5,250 m.
4. Short length "Bazooka" drill holes to test the mineralized walls of drifts where irregular thicknesses and geometries of ore sometimes occur – 3,560 m.
5. Miscellaneous drilling to allow for unplanned drill programs stemming from changes in stope sequencing, unexpected intersections of mineralization in development – 2,400 m.

144 Gap Deposit

Total budget $3,900,000, total 46,000 metres of drilling at average cost of $84.78/m

1. Delineation on resource between 750m and 855m level.

1.2 PROPOSED EXPLORATION DRILLING FOR 2016

Underground Exploration

Total budget $600,000, total 5,600 metres of drilling at an average cost of $107.14/m

1. Target the largely untested Thunder Creek Stock which occurs between the Thunder Creek and 144 Gap Deposits to the southeast of the 144 Trend. This drilling would serve as follow-up to the 2015 campaign.
2. Target the high strain zone (possible southwest extension of the Rusk Shear Zone) between the Thunder Creek and 144 Gap Deposits, to the north of the 144 Ramp.

Surface Exploration

Total budget $900,000, total 7,000 metres of drilling at an average cost of $128.57/m.

Drill metres to be subdivided between targets on a priority basis.

1. Test the top of the 144 Gap Deposit where infill surface drilling in late 2015 intersected mineralization that is open up-dip. These intersections include HWY-12-40W1 (4.73gpt/7.3m and 3.68gpt/2.9m), HWY-15-86W6 (5.43gpt/3.2m and 3.33gpt/3.5m), and HWY-15-75W3 (4.15gpt/7.3m) at the 585m, 600m, and 660m levels, respectively. These intersections cannot be reached from underground platforms.
2. Follow-up on significant surface intersections from the 144 North and South Zones, located between 0.5-1.6 kilometers southwest of the 144 Gap Deposit. These include HWY-15-142 (3.11gpt/19.1m and 5.38gpt/3.6m), HWY-15-142W2 (4.27/7.3m), and HWY-15-153W1 (3.44gpt/3.0m, 4.67gpt/4.0m, and 6.43gpt/2.0m) near the 800m level. All holes intersected significant thicknesses of variably altered and mineralized Syenitic intrusive rocks.

2.0 INTRODUCTION

This Timmins West Mine (TWM) Technical Report has been prepared under the supervision of Eric Kallio (P. Geo.) and Natasha Vaz (P. Eng.) on behalf of Lake Shore Gold Corp. and conforms to NI 43-101 Standards of Disclosure for Mineral Projects. These individuals are considered Qualified Persons under 43-101 definitions.

Lake Shore Gold Corp. (LSG) is a publicly traded company listed on the Toronto Stock Exchange and trading under the symbol LSG. LSG has a head office at 181 University Avenue, Suite 2000, Toronto, Ontario, Canada M5H 3M7. LSG was founded in 2002 to explore for precious and base metals hosted in the Quebec and Ontario portions of the Canadian Shield.

The authors have prepared this report using a combination of publicly available and confidential information. This report is sourced from an amalgamation of several reports listed in Item 27.

The purpose of this report is to provide a summary of the total resource pool (comprised of the Timmins Deposit, Thunder Creek Deposit, and 144 Gap Deposit), current mine infrastructure, the life-of-mine (LoM) plan, and estimated mine capital and operating costs to substantiate an updated Mineral Reserve estimate for TWM. The work completed to support the updated reserves has been conducted on the indicated mineral resource contained in the Timmins Deposit and Thunder Creek Deposit only (i.e. excluding the 144 Gap Deposit), with mining, milling, and cost estimating based on actual operating experience at TWM and the Bell Creek Mill.

Historical work in the TWM area was reviewed by referencing assessment reports filed at the Ministry of Northern Development and Mines' office at the Ontario Government Complex, Highway 101 East, Timmins (Porcupine), Ontario; and the online Assessment File Research Imaging. Option and legal agreements were reviewed at the LSG Exploration Office.

2.1 LIST OF QUALIFIED PERSONS

Natasha Vaz (P. Eng.), Vice President, Technical Services for LSG is responsible for Items 13, 15, 16, 17, 18, 19, 20, 21, 22, and 24 and parts of Items 1, 2, 3, 25, 27, 28, and 29.

Eric Kallio (P. Geo.), Senior Vice President, Exploration for LSG is responsible for Items: 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 23, and 26 and parts of Items 1, 2, 3, 24, 25, 27, 28, and 29.

The Qualified Persons listed above are full time employees of LSG. These individuals are intimately aware of the work going on at the Timmins West Mine and have visited the site on numerous occasions.

2.2 UNITS AND CURRENCY

Metric and Imperial units are used throughout this report. Canadian dollars is the currency used unless otherwise noted.

Common conversions used include converting one ounce of gold to grams gold with a factor of 31.104 grams/troy ounce; and one ounce gold per ton with a conversion factor of 34.29 grams gold per tonne.

2.3 LIST OF ABBREVIATIONS

Table 2.1 lists the common abbreviations that may be used in the report.

TABLE 2.1: LIST OF ABBREVIATIONS

Unit or Term	Abbreviation or Symbol
Above mean sea level	amsl
Advanced Exploration Project	AEP
Atomic Absorption	AA
Arsenic	As
Arsenopyrite	aspy
Azimuth	AZ
Billion years ago	Ga
British thermal unit	Btu
Carbon in leach	CIL
Carbon in pulp	CIP
Centimetre	cm
Copper	Cu
Cubic centimetre	cm^3
Cubic feet per second	ft^3/s, cfs
Cubic foot	ft^3
Cubic inch	in^3
Cubic metre	m^3
Cubic yard	yd^3
Day	d
Days per week	d/wk
Days per year (annum)	d/a
Dead weight tonnes	DWT
Degree	°
Degree Celsius	°C
Degrees Fahrenheit	°F
Diamond bore hole	dbh, DBH
Diamond drill hole	ddh, DDH
Dollars Canadian	$C
Dry metric ton	dmt
Foot	ft
Gallon	gal
Gallon per minute	gpm
Gold	Au
Gold equivalent grade	AuEq
Gram	g
Gram metres	m.g/t
Grams per litre	g/l
Grams per tonne	g/t, gpt
Greater than	>
Hectare (10,000m^2)	ha
Hour	h (not hr)
Inch	in, “
Kilo (1,000)	k

Unit or Term	Abbreviation or Symbol
Kilogram	kg
Kilograms per cubic metre	kg/m³
Kilograms per hour	kg/h
Kilograms per square metre	kg/m²
Kilometre	km
Kilometres per hour	km/h
Less than	<
Lead	Pb
Life-of-mine	LoM
Litre	L
Litres per minute	L/m
Metre	M
Metres above sea level	masl
Metres per minute	m/min
Metres per second	m/s
Metric ton (tonne) (2,000 kg) (2,204.6 pounds)	t
Micrometre (micron)	µm
Miles per hour	mph
Milligram	mg
Milligrams per litre	mg/L
Milliliter	mL
Millimetre	mm
Million	M
Million grams	M g
Million tonnes	Mt
Million Troy ounces	M oz
Million Years	Ma
Minute (plane angle)	min, ‘
Minute (time)	min
Month	mo
National Instrument 43-101 (Canadian)	NI 43-101
No Personal Liability	N.P.L.
Ounces	oz
Page	p, pg
Parts per billion	ppb
Parts per million	ppm
Percent	%
Percent moisture (relative humidity)	% RH
Potassium	K
Pound(s)	lb
Pounds per square inch	psi
Preliminary Economic Assessment	PEA
Pyrite	py
Pyrrhotite	po
Quality Assurance/Quality Control	QA/QC
Quart	qt
Revolutions per minute	rpm
Rock Quality Description	RQD

Unit or Term	Abbreviation or Symbol
Second (plane angle)	sec, “
Second (time)	s
Short ton (2,000 lb)	st
Short ton (US)	t (US)
Short tons per day (US)	tpd (US)
Short tons per hour (US)	tph (US)
Short tons per year (US)	tpy (US)
Silver	Ag
Sodium	Na
Specific gravity	SG
Square centimetre	cm^2
Square foot	ft^2
Square inch	in^2
Square kilometre	km^2
Square metre	m^2
Thousand tonnes	kt
Tonne (1,000 kg)	t
Tonnes per day	t/d, tpd
Tonnes per hour	t/h
Tonnes per year	t/a
Volt	V
Week	wk
Weight/weight	w/w
Wet metric ton	wmt
Yard	yd
Year (annum)	a
Year (US)	yr

2.4 DEFINITIONS

The following definitions of Mineral Resources and Mineral Reserves have been prepared by the CIM Standing Committee on Reserve Definitions and Adopted by the CIM Council on May 10, 2014.

2.4.1 Mineral Resource

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

2.4.2 Inferred Mineral Resource

An "Inferred Mineral Resource" is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

2.4.3 Indicated Mineral Resource

An "Indicated Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

An indicated Mineral Resource has a lower level of confidence that that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

2.4.4 Measured Mineral Resource

A "Measured Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence that that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

2.4.5 Mineral Reserve

A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The reference point at which Mineral Reserves are defined, usually the point of where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.

2.4.6 Probable Mineral Reserve

A "Probable Mineral Reserve" is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

2.4.7 Proven Mineral Reserve

A "Proven Mineral Reserve" is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

2.4.8 Modifying Factors

Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

2.5 GLOSSARY

2.5.1 General Glossary

Table 2.1 is a summary table of common technical words accompanied by a simple explanation of the term or word as the term pertains to this report.

TABLE 2.2: GLOSSARY

Term	Explanation
Assay	The chemical analysis of mineral samples to determine the metal content.
Capital Expenditure	All other expenditures not classified as operating costs.
Composite	Combining more than one sample result to give an average result over a larger distance.
Concentrate	A metal-rich product resulting from a mineral enrichment process such as gravity concentration or floatation, in which most of the desired mineral has been separated from waste material in the ore.
Crushing	Initial process of reducing ore particle size to render it more amenable for further processing.
Cut-off Grade (CoG)	The grade of mineralized rock, which determines whether or not it is economic to recover its gold content by further concentration.
Dilution	Unwanted waste, which is mined with ore.
Dip	Angle of inclination of a geological feature / rock from the horizontal.
Fault	The surface of a fracture along which movement has occurred.
Footwall	The underlying side of an orebody or stope.
Gangue	Non-valuable components of the ore.
Grade	The measure of concentration of "gold" within mineralized rock.
Hangingwall	The overlying side of an orebody or stope.
Haulage	A horizontal underground excavation which is used to transport mined material.
Igneous	Primary crystalline rock formed by the solidification of magma.

Term	Explanation
Level	Horizontal tunnel with the primary purpose to transport personnel and materials.
Lithological	Geological description pertaining to different rock types.
LoM Plans	Life-of-mine plans.
Material Properties	Mining properties.
Metamorphism	Process by which consolidated rock is altered in composition, texture, or internal structure by conditions and forces of heat and pressure.
Milling	A general term used to describe the process in which the ore is crushed, ground and subjected to physical or chemical treatment to extract the valuable metals to a concentrate or finished product.
Mineral/Mining Lease	A lease area for which mineral rights are held.
Mining Asset	Material Properties and Significant Exploration Properties.
Ongoing Capital	Capital estimates of a routine nature, which is necessary for sustaining operations.
Ore Reserve	See Mineral Reserve
RoM	Run of Mine
Sedimentary	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks.
Shaft	An opening cut downwards from the surface for transporting personnel, equipment, supplies, ore and waste.
Smelting	A high temperature pyro metallurgical operation conducted in a furnace, in which the valuable metal is collected to a molten matte or doré phase and separated from gangue components that accumulate in a less dense molten slag phase.
Stope	Underground void created by mining.
Stratigraphy	The study of stratified rocks in terms of time and space.
Strike	Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction.
Sulphide	A sulphur bearing mineral.
Tailings	Finely ground waste rock from which valuable minerals or metals have been extracted.
Thickening	The process of concentrating solid particles in suspension.
Total Expenditure	All expenditures including those of an operation and capital nature.

2.5.2 Lake Shore Gold Terminology

Timmins West Complex: The Company's entire land package on the west side of the city, extending through Bristol, Thorneloe, Carscallen, and Denton townships.

Timmins West Mine: The combined areas that are currently being mined using the shared Infrastructure, namely the Timmins Deposit and the Thunder Creek Deposit.

Timmins Deposit: The deposit formerly known as the Timmins Mine (now one of the deposits currently being mined in the Timmins West Mine).

Thunder Creek Deposit: The second deposit being mined in the Timmins West Mine.

144 Gap Deposit:	A new deposit included in the Timmins West Mine resources. Currently not included in the reserves estimate and not being mined. Note, the 144 Gap Deposit is also referred to as Highway-144 Gap Zone Deposit.

3.0 RELIANCE ON OTHER EXPERTS

The authors have sourced the information for this technical report from an amalgamation of several reports listed in Item 27. These references include government geological reports, press releases, company annual reports, assessment reports filed with the Ministry of Northern Development and Mines, previously filed NI 43-101 Technical Reports (SEDAR), and reports both public and confidential provided by LSG.

Exploration at the Timmins West Mine has continuously been overseen, and planned by professional geologists and qualified persons (QPs). Table 3.1 summarizes the names of the QPs and the dates that they supervised the exploration and advanced exploration activities.

TABLE 3.1: QUALIFIED PERSONS FOR TIMMINS WEST MINE

Location	Period	Qualified Person
Timmins Deposit	2003 – 2004	Jacques Samson, P. Geo.
	2005 – 2006	Dr. M.J. Byron, P. Geo.
	2006 – 2009	Jacques Samson, P. Geo.
	2009	Heather Miree, P. Geo.
	2009	Stephen Conquer, P. Geo.
	August 2010 - May 2013	Dean Crick, P. Geo.
	May 2013 - present	Eric Kallio, P. Geo.
Thunder Creek Deposit	2003 – 2009	Jacques Samson, P. Geo.
	2005 – 2006	Dr. M.J. Byron, P. Geo.
	2006 – 2009	Jacques Samson, P. Geo.
	2009 – March 2010	Pat Pope, P. Geo.
	2009 – August 2010	Stephen Conquer, P. Geo.
	August 2010 – May 2013	Dean Crick, P. Geo.
	May 2013 - present	Eric Kallio, P. Geo.
144 Gap Deposit	February 2016 - present	Eric Kallio, P. Geo.

From 2003 to the present, contributions to geology by outside consultants include petrography, ore microscopy and scanning electron microscope investigations by Dr. Miller of Miller and Associates of Ottawa, mineralization and structural studies comparing Thunder Creek and the Timmins Mine by Mr. David Rhys, of Panterra Geoservices Inc., petrology studies of the Timmins Mine and Thunder Creek area by Katherina Ross, Panterra Geoservices Inc., geological mapping of a 5 square kilometre area surrounding the Rusk surface showing by Mr. John Camier, P. Geo, and petrography, SEM study and geochemical work done by Dr. Bob Linnen, consultant/professor at the University of Western Ontario. Mr. Camier's report includes petrographic analysis of thin sections examined by Mr. Camier and Dr. Bob Springer, Professor Emeritus at Brandon University, Manitoba.

Several reports have been submitted to SEDAR describing in detail and outlining the exploration history of the Timmins Mine Complex (formerly known as the Timmins West Gold Project and the Holmer Mine Property) as well as the Thunder Creek Property. The reader is invited to review the detailed summaries and source material outlined in the following documents:

2002: Holmer Gold Mines Limited, Annual Information Form.
2003: Holmer Gold Mines Limited, Annual Information Form.
2004: A Technical Review of Holmer Gold Property, In Bristol Township, Timmins Area, Ontario, Canada for Lake Shore Gold Corp. prepared by E. Neczkar, M.W. Kociumbas, J.R. Sullivan September 07, 2004, Watts, Griffis and McQuat Limited.
2004: National Instrument 43-101 Technical Report, Timmins Gold Project, Timmins, Ontario, Lake Shore Gold Corp., L.D.S. Winter September 24, 2004.
2004: National Instrument 43-101 Technical Report, Timmins Gold Project, Timmins, Ontario, Lake Shore Gold Corp., L.D.S. Winter November 26, 2004.
2006: National Instrument 43-101 Technical Report, Timmins West Gold Project, Timmins, Ontario, Lake Shore Gold Corp., L.D.S. Winter January 25, 2006.
2007: A Technical Review of the Timmins West Gold Project In Bristol Township, Timmins Area, Ontario, for Lake Shore Gold Corp., J.R. Sullivan, J.G. Lavigne, M.W. Kociumbas, January 03, 2007, Watts, Griffis and McQuat Limited.
2007: National Instrument 43-101 Technical Report, Lake Shore Gold Corp. Timmins West Project, Timmins, Ontario, G. Darling et al. SRK Consulting, October 12, 2007.
2008: Technical Report of the Thunder Creek Gold Property, Bristol Township, Timmins, Ontario, Canada, D. Wagner, June 27, 2008.
2009: Updated NI 43-101 Technical Report on the Timmins Mine Property, Ontario, Canada, prepared for Lake Shore Gold Corp., G. Darling et al. October 01, 2009.
2009: Amended Technical Review and Report of the "Thunder Creek Property" Bristol And Carscallen Townships, Porcupine Mining Division, Ontario, Canada prepared for Lake Shore Gold Corp. and West Timmins Mining Inc. July 29, 2009.
2011: Technical Report on the Initial Mineral Resource Estimate for the Thunder Creek Property Bristol Township, West of Timmins, Ontario, Canada, Prepared for Lake Shore Gold Corp. and West Timmins Mining Inc., D. Crick, R. Kusins, D. Powers, December 23, 2011.
2012: 43-101 Technical Report, Preliminary Economic Assessment and Updated Mineral Resource Estimate for Timmins West Mine Timmins, Ontario, Canada, prepared by Dean Crick, (P. Geo.), Ralph Kock (P. Geo.), Robert Kusins (P. Geo.), Brian Buss (P. Eng.) and David Powers (P. Geo.) on behalf of Lake Shore Gold Corp., March 29, 2012.
2012: 43-101 Technical Report, Pre-feasibility Study and Mineral Reserve Estimate for Timmins West Mine, Timmins, Ontario, Canada, prepared by Dean Crick (P. Geo.), Ralph Koch (P. Geo.), Robert Kusins (P. Geo.), David Powers (P. Geo.), Brian Buss (P. Eng.). May 14, 2012.
2014: 43-101 Technical Report, Updated Mineral Reserve Estimate for Timmins West Mine, Timmins, Ontario, Canada, prepared by Eric Kallio (P. Geo.) and Natasha Vaz (P. Eng.), March 31, 2014.

The authors rely on the professional integrity of the designated project QPs to maintain and provide true and accurate reporting of the facts throughout the project history. Where possible, the internal documents have been checked against public record filed for assessment purposes.

The authors have also relied on internal experts within the organization for input to certain sections of this report. The authors have reviewed and endorsed the contributions of these experts.

Marcel Cardinal, Manager of Environmental Affairs, Lake Shore Gold Corp. contributed to Items 4 and 20.

Dave Felsher, Chief Mineral Processing Engineer, Lake Shore Gold Corp. contributed to Items 13 and 17.

Ryan Wilson, P. Geo., an employee of Lake Shore Gold Corp., contributed to Items 2, 3, 4, 5, 6, 7, 8, 9, 10, and 23 and to Appendix 3.

Morgan Verge, GIT, an employee of Lake Shore Gold Corp., contributed to Items 11 and 12 and to Appendix 1.

Ivan Langlois, P. Geo., an employee of Lake Shore Gold Corp., contributed to Item 11.

Ralph Koch, P. Geo., an employee of Lake Shore Gold Corp., contributed to Items 1, 14, 25, 26, and 27.

The authors have also relied on external experts for input to certain sections of this report. The authors have reviewed and endorsed the contributions of these experts.

Kathy Kalenchuk, Ph.D. of Mine Design Engineering (Sr. Geomechanics Consultant) contributed to Item 16.

Guy Desharnais, PhD, P. Geo., Technical Manager of Geological Services SGS Canada, contributed to Item 14.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 PROPERTY DESCRIPTION

The Timmins West Mine (TWM) area includes the Timmins Deposit, Thunder Creek, and Highway-144 properties for a total area of approximately 17.1 square kilometers, or approximately 1,712 hectares. The majority of the property is situated within Bristol Township (1,340 ha), with approximately 336 hectares located in Thorneloe Township and 36 hectares in Carscallen Township. The Mining Land Tenure Map references for the Highway-144 project include: Bristol Township (Plan G-3998) and Thorneloe Township (Plan G-3229), Porcupine Mining Division, Land Titles/Registry Division of Cochrane, and; Timmins, Ministry of Natural Resources District, Ontario, Canada.

The Timmins Deposit portion of the TWM consists of a block of 23 contiguous claims (totaling approximately 395 hectares) of which there are eleven (11) individual patented and surface rights claims, six (6) claims that hold a patent surface rights with leased mining rights, and six (6) claims that hold a 21 year Crown mining and surface rights lease. The Thunder Creek Deposit portion of the property consists of 20 staked mineral claims (35 units totaling approximately 629 hectares) of which two (2) claims hold a surface rights patent and three (3) claims hold a 21 year Crown mining and surface rights lease. The Highway-144 property consists of a contiguous block of 33 staked mineral claims (43 units) covering an area of approximately 688 hectares. Surrounding the TWM are an additional 289 staked claims, 9 leases, and 28 patents also owned by LSG (Figure 4.1 inset).

Lake Shore Gold Corp. (LSG) owns a 100% interest in most of the property, subject to underlying royalties. The only exception is the Meunier-144 portion of the property with LSG holding a 50% interest in these ten patent claims. The claims and leases are all in good standing.

Figure 4.1 illustrates the TWM property relative to local topographic and cultural features as well as provincial highways. Table 4.1 contains the details of staked claims, numbers, ownership, size, and expiry dates for the TWM property; Table 4.2 contains leased lands information, and; Table 4.3 contains patent lands information.

FIGURE 4.1: TIMMINS WEST MINE PROPERTY

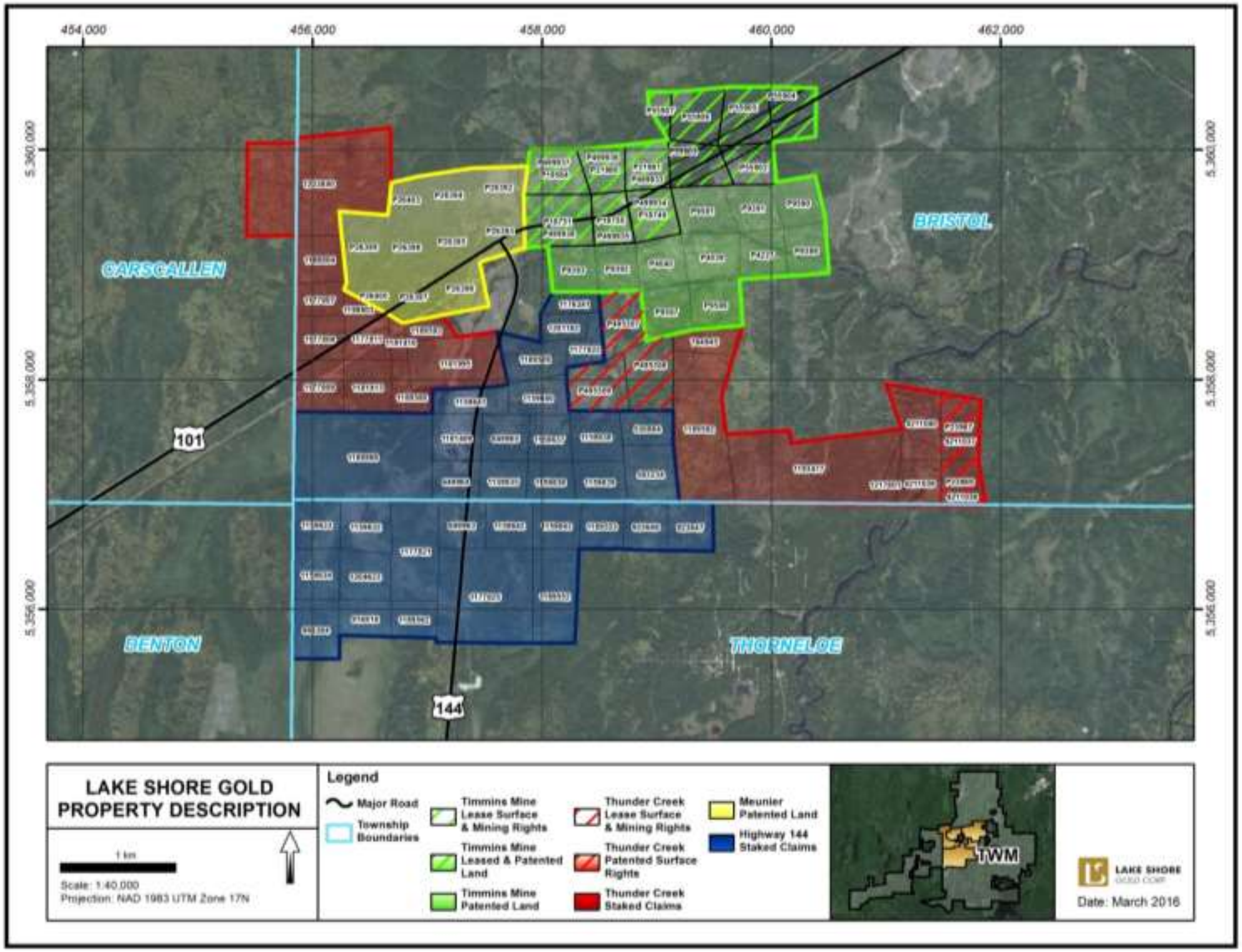


TABLE 4.1: TIMMINS WEST MINE STAKED CLAIMS

STAKED CLAIMS								
Claim No.	**Township**	**Owner**	**No. of Units**	**Recording Date**	**Assessment Due Date**	**Assessment Due ($)**	**Banked Credits**	**Royalty To**
P1177807	Bristol	LSG	1	1991-May-13	2019-May-13	400	0	Kangas;FNV
P1177808	Bristol	LSG	1	1991-May-13	2019-May-13	400	312	Kangas;FNV
P1177809	Bristol	LSG	1	1991-May-13	2019-May-13	400	1,637	Kangas;FNV
P1177811	Bristol	LSG	1	1991-May-13	2019-May-13	400	1,403	Kangas;FNV
P1181410	Bristol	LSG	1	1994-Feb-14	2017-Feb-14	400	17,851	Kangas;FNV
P1181413	Bristol	LSG	1	1994-Feb-14	2017-Feb-14	400	1,793	Kangas;FNV
P1181995	Bristol	LSG	2	1992-Jun-22	2017-Jun-22	800	4,054	Durham; Meikle;FNV
P1189580	Bristol	LSG	1	1993-Jan-08	2017-Jan-08	400	1,013	Durham; Meikle;FNV
P1189592	Bristol	LSG	3	1992-Jun-19	2017-Jun-19	1,200	31,933	Durham; Meikle;FNV
P1189593	Bristol	LSG	1	1992-Jun-22	2017-Jun-22	400	624	Durham; Meikle;FNV
P1193477	Bristol	LSG	6	1994-May-04	2017-May-04	2,400	1,793	FNV
P1198803	Bristol	LSG	1	1994-Feb-14	2017-Feb-14	400	0	Kangas;FNV
P1198804	Bristol	LSG	1	1994-Feb-14	2017-Feb-14	400	0	Kangas'FNV
P1203840	Bristol	LSG	6	1995-Jul-21	2019-Jul-21	2,400	0	FNV
P1217601	Bristol	LSG	1	1996-Nov-26	2019-Nov-26	400	0	FNV
P764945	Bristol	LSG	1	1984-Apr-19	2017-Apr-19	400	1,092	Sandstorm Gold Ltd;FNV
P4211037	Bristol	LSG	2	2-Jun-2006	2019-Jun-2	800	0	FNV
P4211038	Bristol	LSG	1	2-Jun-2006	2019-Jun-2	400	0	FNV
P4211039	Bristol	LSG	1	2-Jun-2006	2019-Jun-2	400	0	FNV
P4211040	Bristol	LSG	2	2-Jun-2006	2019-Jun-2	800	0	FNV
1159635	Bristol	LSG	1	1990-Dec-18	2020-Dec-18	400	4,841	Sandstorm Gold Ltd.; FNV
1159636	Bristol	LSG	1	1990-Dec-18	2020-Dec-18	400	28,020	Sandstorm Gold Ltd.; FNV
1159637	Bristol	LSG	1	1990-Dec-18	2020-Dec-18	400	87,323	Sandstorm Gold Ltd.; FNV
1159638	Bristol	LSG	1	1990-Dec-18	2020-Dec-18	400	46,468	Sandstorm Gold Ltd.; FNV
1159639	Bristol	LSG	1	1990-Dec-18	2020-Dec-18	400	4,841	Sandstorm Gold Ltd.; FNV
1159640	Bristol	LSG	1	1990-Dec-18	2020-Dec-18	400	133,231	Sandstorm Gold Ltd.; FNV
1159641	Bristol	LSG	1	1990-Dec-18	2020-Dec-18	400	432	Sandstorm Gold Ltd.; FNV
1176341	Bristol	LSG	1	1991-Feb-18	2020-Feb-18	400	6,010	Sandstorm Gold Ltd.; FNV
1177822	Bristol	LSG	1	1991-Oct-04	2020-Oct-04	400	184,560	Sandstorm Gold Ltd.; FNV
1181409	Bristol	LSG	1	1994-Feb-14	2017-Feb-14	400	4,997	Sandstorm Gold Ltd.; FNV
1189528	Bristol	LSG	1	1993-Jun-18	2017-Jun-18	400	67,191	FNV
1189886	Bristol	LSG	6	1992-May-07	2017-May-07	2,400	58,675	Hutteri; FNV
1201162	Bristol	LSG	1	1994-Jul-04	2017-Jul-04	400	5,621	Sandstorm Gold Ltd.; FNV
530884	Bristol	LSG	1	1980-Oct-10	2017-Oct-10	400	7,227	Sandstorm Gold Ltd.; FNV
583234	Bristol	LSG	1	1980-Oct-10	2017-Oct-10	400	29,844	Sandstorm Gold Ltd.; FNV
649964	Bristol	LSG	1	1983-Mar-25	2017-Mar-25	400	5,069	Sandstorm Gold Ltd.; FNV
649965	Bristol	LSG	1	1983-Mar-25	2017-Mar-25	400	34,582	Sandstorm Gold Ltd.; FNV
1159632	Thorneloe	LSG	1	1990-Oct-29	2017-Oct-29	400	229	Sandstorm Gold Ltd.; FNV
1159633	Thorneloe	LSG	1	1990-Oct-29	2017-Oct-29	400	34,812	Sandstorm Gold Ltd.; FNV
1159634	Thorneloe	LSG	1	1990-Oct-29	2017-Oct-29	400	20,142	Sandstorm Gold Ltd.; FNV

STAKED CLAIMS								
Claim No.	**Township**	**Owner**	**No. of Units**	**Recording Date**	**Assessment Due Date**	**Assessment Due ($)**	**Banked Credits**	**Royalty To**
1159642	Thorneloe	LSG	1	1991-Feb-13	2017-Feb-13	400	8,861	Sandstorm Gold Ltd.; FNV
1177821	Thorneloe	LSG	2	1992-Mar-23	2017-Mar-23	800	5,725	Sandstorm Gold Ltd.; FNV
1177825	Thorneloe	LSG	4	1992-Apr-16	2017-Apr-16	1,600	728	Sandstorm Gold Ltd.; FNV
1189562	Thorneloe	LSG	1	1993-Jan-08	2018-Jan-08	400	1831	Sandstorm Gold Ltd.; FNV
1204623	Thorneloe	LSG	1	1995-Feb-02	2018-Feb-02	400	0	Sandstorm Gold Ltd.; FNV
649963	Thorneloe	LSG	1	1983-Mar-25	2018-Mar-25	400	8,758	Sandstorm Gold Ltd.; FNV
916816	Thorneloe	LSG	1	1987-Apr-06	2018-Apr-06	400	2,300	Sandstorm Gold Ltd.; FNV
998384	Thorneloe	LSG	1	2017-Apr-16	2018-Jul-21	400	16,266	Sandstorm Gold Ltd.; FNV
1159643	Thorneloe	LSG	1	1991-Feb-13	2018-Feb-13	400	4,841	Sandstorm Gold Ltd.; FNV
1189553	Thorneloe	LSG	1	1993-Jan-08	2019-Jan-08	400	0	Durham; FNV
1189552	Thorneloe	LSG	2	1993-Jan-08	2019-Jan-08	800	0	Durham; FNV
923646	Thorneloe	LSG	1	1986-May-26	2019-May-26	400	0	Royal Gold & Torogold; FNV
923647	Thorneloe	LSG	1	1986-May-26	2019-May-26	400	0	Royal Gold & Torogold; FNV

Note: FNV – Franco Nevada

TABLE 4.2 TIMMINS WEST MINE LEASED LANDS

<table>
<tr><th colspan="10">LEASED LANDS</th></tr>
<tr><th>Claim No.</th><th>Township</th><th>Owner</th><th>Rights</th><th>Lease No.</th><th>Area</th><th>PIN</th><th>Lease Due Date</th><th>Banked</th><th>Royalty To</th></tr>
<tr><td>P499933</td><td>Bristol</td><td>LSG</td><td>MRO</td><td rowspan="6">107874</td><td rowspan="6">108.792</td><td rowspan="6">65440-0118</td><td rowspan="6">2027-Jul-31</td><td></td><td>FNV</td></tr>
<tr><td>P499934</td><td>Bristol</td><td>LSG</td><td>MRO</td><td></td><td>FNV</td></tr>
<tr><td>P499935</td><td>Bristol</td><td>LSG</td><td>MRO</td><td></td><td>FNV</td></tr>
<tr><td>P499936</td><td>Bristol</td><td>LSG</td><td>MRO</td><td></td><td>FNV</td></tr>
<tr><td>P499937</td><td>Bristol</td><td>LSG</td><td>MRO</td><td></td><td>FNV</td></tr>
<tr><td>P499938</td><td>Bristol</td><td>LSG</td><td>MRO</td><td></td><td>FNV</td></tr>
<tr><td>P55902</td><td>Bristol</td><td>LSG</td><td>MR & SR</td><td rowspan="6">109356</td><td rowspan="6">99.779</td><td rowspan="6">65440-0052</td><td rowspan="6">2034-Jul-31</td><td></td><td>FNV</td></tr>
<tr><td>P55903</td><td>Bristol</td><td>LSG</td><td>MR & SR</td><td></td><td>FNV</td></tr>
<tr><td>P55904</td><td>Bristol</td><td>LSG</td><td>MR & SR</td><td></td><td>FNV</td></tr>
<tr><td>P55905</td><td>Bristol</td><td>LSG</td><td>MR & SR</td><td></td><td>FNV</td></tr>
<tr><td>P55906</td><td>Bristol</td><td>LSG</td><td>MR & SR</td><td></td><td>FNV</td></tr>
<tr><td>P55907</td><td>Bristol</td><td>LSG</td><td>MR & SR</td><td></td><td>FNV</td></tr>
<tr><td>P495307</td><td>Bristol</td><td>LSGWTM</td><td>MRO</td><td rowspan="3">108773</td><td rowspan="6">68.898</td><td rowspan="3">65440-0120</td><td rowspan="3">2032-Jun-30</td><td rowspan="6">1,386,179</td><td>Sandstorm Gold Ltd;FNV</td></tr>
<tr><td>P495308</td><td>Bristol</td><td>LSGWTM</td><td>MRO</td><td>Sandstorm Gold Ltd;FNV</td></tr>
<tr><td>P495309</td><td>Bristol</td><td>LSGWTM</td><td>MRO</td><td>Sandstorm Gold Ltd;FNV</td></tr>
<tr><td>P495307</td><td>Bristol</td><td>LSGWTM</td><td>SRO</td><td rowspan="3">108774</td><td rowspan="3">65440-0132</td><td rowspan="3">2032-Jun-30</td><td></td></tr>
<tr><td>P495308</td><td>Bristol</td><td>LSGWTM</td><td>SRO</td><td></td></tr>
<tr><td>P495309</td><td>Bristol</td><td>LSGWTM</td><td>SRO</td><td></td></tr>
</table>

Note: FNV – Franco Nevada

TABLE 4.3 TIMMINS WEST MINE PATENTED LANDS

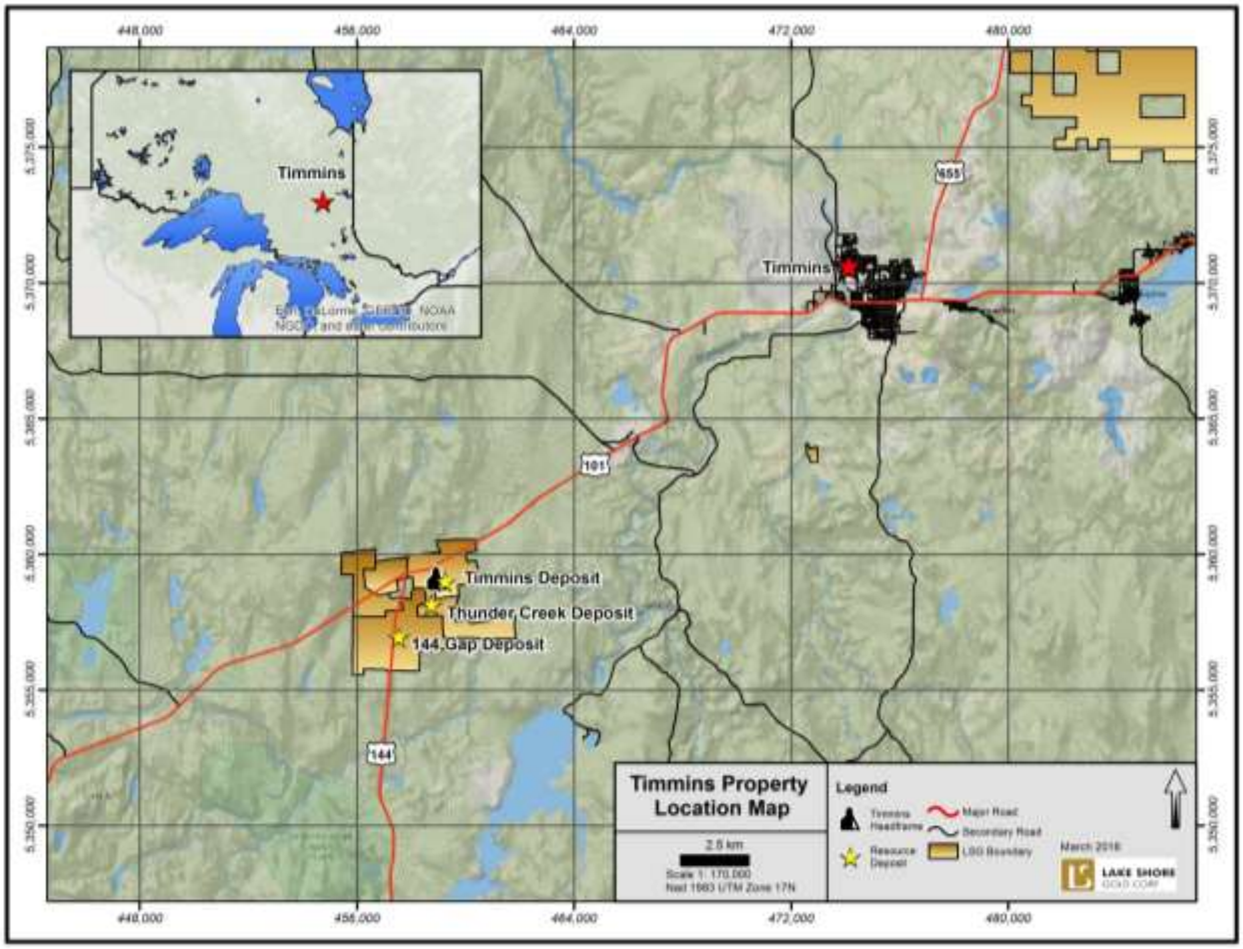
PATENTED LANDS						
Claim No.	**Township**	**Owner**	**Rights**	**PIN**	**Area (ha)**	**Royalty To**
P.19564	Bristol	LSG	SRO	65440-0038	16	
P.21980	Bristol	LSG	SRO	65440-0041	16	
P.21981	Bristol	LSG	SRO	65440-0044	16	
P.18751	Bristol	LSG	SRO	65440-0039	16	
P.18750	Bristol	LSG	SRO	65440-0042	16	
P.18749	Bristol	LSG	SRO	65440-0045	16	
P.9581	Bristol	LSG	MR & SR	65440-0051	16	FNV
P.9391	Bristol	LSG	MR & SR	65440-0053	16	FNV
P.9580	Bristol	LSG	MR & SR	65440-0059	16	FNV
P.9393	Bristol	LSG	MR & SR	65440-0040	16	FNV
P.9392	Bristol	LSG	MR & SR	65440-0043	16	FNV
P.4039 T.C. 613	Bristol	LSG	MR & SR	65440-0050	16	FNV
P.4227 T.C. 612	Bristol	LSG	MRO	65440-0086	16	Labrash;FNV
	Bristol	LSG	SRO	65440-0054		Labrash;
P.9389	Bristol	LSG	MR & SR	65440-0060	16	FNV
P.9587	Bristol	LSG	MR & SR	65440-0047	16	FNV
P.9586	Bristol	LSG	MR & SR	65440-0049	16	FNV
P.4040 T.C. 614	Bristol	LSG	MR & SR	65440-0046	16	FNV
P23967	Bristol	LSG	SRO	65440-0073	16	
P23969	Bristol	LSG	SRO	65440-0072	16	
P26392	Bristol	LSG & AG	MR & SR	65440-0033	1	Meunier
P26393	Bristol	LSG & AG	MR & SR	65440-0029	1	Meunier
P26394	Bristol	LSG & AG	MR & SR	65440-0036	1	Meunier
P26395	Bristol	LSG & AG	MR & SR	65440-0035	1	Meunier
P26396	Bristol	LSG & AG	MR & SR	65440-0032	1	Meunier
P26397	Bristol	LSG & AG	MR & SR	65440-0031	1	Meunier
P26398	Bristol	LSG & AG	MR & SR	65440-0028	1	Meunier
P26399	Bristol	LSG & AG	MR & SR	65440-0027	1	Meunier
P26400	Bristol	LSG & AG	MR & SR	65440-0034	1	Meunier
P26403	Bristol	LSG & AG	MR & SR	65440-0030	1	Meunier

Note: FNV – Franco-Nevada

4.2 LOCATION

The headframe of the TWM is collared at National Topography Series (NTS) map reference 42-A-05; at 81.55° west longitude and 48.32° north latitude. Universal Transverse Mercator (UTM) co-ordinates for the project centre utilizing projection North American Datum (NAD) 83, Zone 17 are approximately 458,915 metres east and 5,358,043 metres north. This location is approximately 19 kilometres west-southwest of the Timmins city centre and 552 kilometres north-northwest of the City of Toronto. The junction of Highways 101 and 144 is situated 1.1 kilometres northwest of the property centre. The location map in Figure 4.2 illustrates the headframe and deposits of the Timmins West Mine relative to the provincial highways and the City of Timmins.

FIGURE 4.2: TIMMINS WEST MINE LOCATION MAP



4.3 RECENT OWNERSHIP HISTORY AND UNDERLYING AGREEMENTS

In May 2003, LSG and Holmer Gold Mines Limited (Holmer) entered into an option agreement whereby LSG earned a 50% interest in the Holmer Property (the present Timmins Deposit property) by March 24, 2006. The agreement was subject to the following terms; incurring cumulative expenditures of $2,500,000 on the property by May 24, 2006, making staged cash payments totaling $250,000 to Holmer by May 24, 2006, issuing 150,000 common shares of LSG to Holmer by May 24, 2005, and confirming, by means of a report by a Qualified Person, that the property contains an Indicated Mineral Resource of at least 500,000 ounces of gold. This portion of the property consists of 11 Freehold Patents with surface and mining rights; Lease 106634 (formerly lease 102611) a group of six Leasehold Patents with surface and mining rights; and Lease 107874 (formerly Lease 104075) a group of six Freehold Patents with mining rights as well as six Leasehold Patents of surface rights for the same area. LSG completed the requirements to earn 50% of the Holmer property in September 2004. On December 31st, 2004 a business combination agreement between LSG, their wholly owned subsidiary LSG Holdings Corp. and Holmer Gold Mines Limited came into effect, where Holmer became a wholly-owned subsidiary of LSG.

A 1.5% NSR royalty is assigned to claim P-4227 payable to Mr. Lorne Labrash. This royalty may be purchased for $1 million. The current resource model for mineralization does not extend to claim P-4227.

LSG optioned a 60% interest in the Thunder Creek property from Band-Ore Resources Limited (Band-Ore) in November 2003. Under the terms of that agreement LSG could earn a 60% interest in the project by completing in excess of $1,705,000 in expenditures, $370,000 in cash payments and the issuing of 100,000 shares within a four year period. In September 2006, Band-Ore and Sydney Resources Corporation merged into the new company West Timmins Mining Inc. (WTM). The terms of the LSG - Band-Ore option agreement succeeded to WTM. In May 2008, LSG informed WTM that the obligations to earn a 60% interest in the Thunder Creek property had been fulfilled. On November 6, 2009, LSG and WTM completed a business combination agreement resulting in WTM becoming a wholly owned subsidiary of LSG. On January 1, 2012, WTM was amalgamated into LSG, which now holds the 100% interest.

Brief summaries of the underlying agreements and royalties are stated below. Figure 4.3 illustrates the applicable royalties on each claim.

Mineral claims 4211037, 4211038, 4211039, and 4211040 were staked by LSG and have no underlying royalties, but were subject to the option agreement with WTM dated November 07, 2003. Because the claims were within the area of influence for the agreement, they became part of the joint venture. LSG has received the surface rights for mineral claims 4211037 (P23967, PCL23749, PIN 65440-0073) and 4211038 (P23969, PCL 23750, PIN 65440-0072).

Claims 1189528, 1193477, 1203840, and 1217601 were staked by Band-Ore and are not subject to any underlying royalty agreements.

Mineral claims optioned originally from Mr. Jim Croxall were subject to a 2% Net Smelter Return (NSR) royalty. These claims were also subject to an advanced annual royalty payment of $5,000 until commercial production begins. LSG purchased 1% of the NSR in November 2010 in exchange for approximately $1,500,000 equivalent in LSG stock. The other 1% NSR was purchased from Jim Croxall by Premier Royalty in 2012. Sandstorm Gold Ltd. has since acquired Premier Royalty Corp as of October 2013. The surface rights for leased claims P495307, P495308, and P495309 (mineral rights only lease number 108773) have been acquired by LSG (surface lease number 108774), with both leases to remain in good standing until June 30, 2032.

The claim with number 1189886 was optioned from Mr. Bruce Durham and has a 3.0% royalty attached.

Eight claims optioned from the late Mr. Matt Kangas and Mr. Jim Croxall (1177807, 1177808, 1177809, 1177811, 1181410, 1181413, 1198803, and 1198804) are subject to a 2% NSR royalty of which 1% may be purchased for $1,000,000. An advanced royalty payment of $5,000 (indexed for inflation) is paid annually to the estate of Mr. Kangas and to Mr. Croxall in equal portions. After the signing of the original agreement, mineral claims came open and were re-staked: claim 1181410 was former claim 1177813, claim 1181413 was former claim 1177810, claim 1198803 was former claim 1177812, and claim 1198804 was former claim 1177806.

Four claims (1189593, 1181995, 1189580, and 1189592) were purchased by Bruce Durham, Robert Duess, Ken Krug, and Henry Hutteri from Ray Meikle and Steve Anderson and then optioned to Band-

Ore. A 3% NSR royalty is payable, 1.5% to Durham et al., and 1.5% to Meikle and Anderson. There is not a buy down of this royalty.

Claims 1189552 and 1189553 were optioned from Mr. Bruce Durham and partners (“Durham”) and has a 3.0% royalty attached.

Claims 923646 and 923647 are subject to a 3% NSR, payable to Royal Gold and Torogold.

The surface rights for claims P18913, P18916, P18917, P18918, P10920, and P10921 are held by Timmins Forest Products.

As of March 1, 2012, Franco-Nevada Corporation (Franco-Nevada) entered into an agreement with LSG through which Franco-Nevada paid LSG US$35 million for a 2.25% NSR royalty on the sale of minerals from the Timmins West Mine.

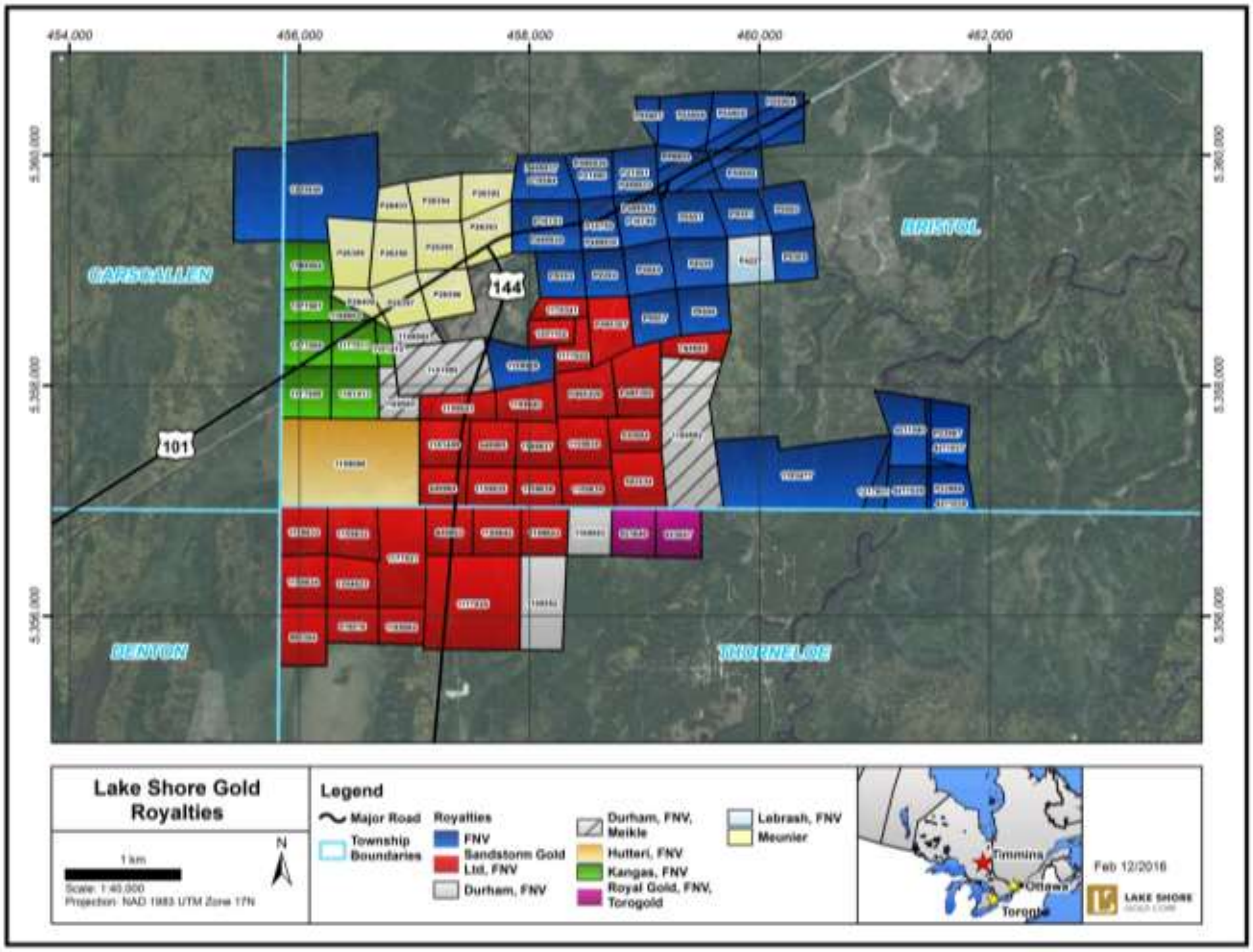
The surface and mining rights for claims P26392, P26393, P26394, P26395, P26396, P26397, P26398, P26399, P26400, P26403, known as the Meunier 144 Property, are currently held by LSG and Adventure Gold Inc. (each with a 50% interest). There is a 2.5% NSR royalty payable to David Meunier, with an option to purchase 1 percent.

All claims and leases are in good standing as of the Effective Date of this report.

In addition to the royalties, the properties comprising TWM were temporarily pledged as security against the outstanding debt obligations of Lake Shore Gold under an agreement with Sprott Resource Lending Partnership for a credit facility (the "Facility") totaling up to $70 million. The obligations for this senior secured facility, first arranged in the summer of 2012 to help finance the expansion of the Bell Creek Mill, were met in full with the final payment made by Lake Shore in May 2015.

A land survey was completed in late 2015 in order to bring a boundary of 56 mining claims to lease. With survey documents submitted to the Ministry of Northern Development and Mines (MNDM) in early 2016, LSG is waiting for final approval from the Office of the Surveyor General before a formal mining and surface mining rights lease application can be officially submitted.

FIGURE 4.3: TIMMINS WEST MINE ROYALTIES MAP



4.4 PAST MINING ACTIVITY, ENVIRONMENTAL LIABILITIES AND PERMITTING

During the period of 1911 to 1914 two shallow shafts were sunk; one on the present main mineralized zone and the second east of Vein 2 and Vein 3 Zones. Shaft 1 is reported to be 12 metres deep and the second shaft's depth is an unspecified "shallower" depth. The footprint of diamond drilling and exploration trenching made minimum impact on the environment. The development of the TWM infrastructure created a local disturbance of the terrestrial environment. Baseline work did not identify any provincially or federally listed fauna species on the development site that would trigger a concern. At closure, the site will be rehabilitated in accordance with closure plans filed with the Ministry of Northern Development and Mines.

An Impact and Benefits Agreement (IBA) has been negotiated and signed (February 17, 2011). The IBA outlines how Lake Shore Gold Corp. and the First Nations communities will work together in the following areas: education and training of First Nation community members, employment, business and contracting opportunities, financial considerations and environmental provisions.

From the Ministry of Natural Resources' Species at Risk in Ontario (SARO) list, the following species could range within the Project area.

TABLE 4.4: SPECIES AT RISK

Common Name	Scientific Name	OMNR Status
Lake Sturgeon	Acipenser fluvescens	Special concern
Golden Eagle	Aquila chrysaetos	Endangered
Short-Eared Owl	Asio flammeus	Special concern
Eastern Wolf	Canis lupus lycaon	Special concern
Black Tern	Chlidonias niger	Special concern
Yellow Rail	Coturnicops noveboracensis	Special concern
Monarch Butterfly	Danaus plexippus	Special concern
Bald Eagle	Haliaeetus leucocephalus	Special concern
Peregrine Falcon	Falco peregrinus	Threatened
Eastern Cougar	Puma concolor	Endangered

The authors are not aware of any of the species listed in the species at risk table as being present within the area of the Property.

The required permits and approvals for operations at the TWM have been acquired (Darling et al., 2009, Crick, D., 2011; Ternes, T., 2011) and include the following Provincial Permits:

Ministry of Northern Development and Mines (MNDM)
Ministry of the Environment (MOE)
Ministry of Natural Resources (MNR)
Ministry of Transportation (MTO)
Technical Standards and Safety Authority (TSSA)
Ministry of Labour (MOL)
Occupational Health and Safety
Explosives
Notification of Commencement of Construction and Operation

And Federal Permits:

Department of Fisheries and Oceans Canada (DFO)
Natural Resources Canada (NR CAN) – Explosives Regulatory Division (ERD)
Environment Canada (EC)

A closure plan for the bulk sampling was filed in October 2009 and the commercial production closure plan was filed in 2010. In January 2011, Lake Shore Gold Corp. announced the Timmins Mine to be in commercial production. The closure plan has been amended as required; most recently, the 3rd mine production closure plan amendment was submitted to ensure site compliance with Ontario Regulation 240/00.

To the best of the author's knowledge there is no significant factor or risk that may affect access, title, or the right or ability to perform work on the property.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

The Timmins West Mine is located 1.1 kilometres southeast of the junction of provincial Highways 101 and 144. All season road access to the property is provided by provincial Highways 101 and 144, and the site access road. Bush roads, trails suitable for all-terrain vehicles, and foot paths provide access throughout the property and other locations within the claim boundaries. A major power transmission line traverses the northwest portion of the property. The location map previously presented in Figure 4.2 illustrates the project area relative to the highways and the City of Timmins.

Recent drilling and geophysical work have provided extensive access to the 144 Gap Deposit area of the Highway 144 portion of the property. All areas of drilling in the vicinity are accessible by motor vehicle and all-terrain vehicles. The 144 Gap Deposit area has three main access points located on both the east and west sides of Highway 144. Line cutting for a 2015 geophysical survey has also provided easy walk-in access to much of the field area.

5.2 CLIMATE

The Timmins West Mine area and the City of Timmins experience a continental climate with an average mean temperature range of -16.8°C (January) to +17.5° (July) and an annual precipitation of approximately 835 mm. Table 5.1 summarizes the average temperatures and precipitation values at the Timmins Victor M. Power Airport for the 30 year period between 1981 and 2010.

TABLE 5.1 AVERAGE TEMPERATURES, PRECIPITATION AND SNOW DEPTHS FOR THE TIMMINS AREA (1981 TO 2010)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature												
Daily Average (°C)	-16.8	-14.0	-7.4	1.8	9.6	14.9	17.5	16.0	11.1	4.4	-3.4	-11.9
Daily Maximum (°C)	-10.6	-7.2	-0.6	8.0	16.6	21.9	24.2	22.5	17.1	9.0	0.6	-6.9
Daily Minimum (°C)	-23.0	-20.7	-14.2	-4.5	2.5	7.8	10.7	9.4	5.2	-0.3	-7.4	-17
Precipitation												
Rainfall (mm)	3.2	1.7	14.1	30.1	62.3	83.4	90.9	81.6	83.7	68.1	30.9	8.5
Snowfall (cm)	57.8	45.9	44.8	27.2	5.0	0.2	0.0	0.0	1.0	15.1	49.0	65.2
Precipitation (mm)	51.8	41.3	54.5	56.2	67.4	83.4	90.9	81.6	84.7	82.5	75.9	64.5
Snow Depth (cm)	53	64	54	18	1	0	0	0	0	0	7	28

Annually, ice will start to form on lakes in approximately mid-November, and ice breakup will take place in early to mid-May. Work can be carried out on the property twelve months a year.

5.3 LOCAL RESOURCES AND INFRASTRUCTURE

The City of Timmins, with an area of approximately 2,979 square kilometres and a population of 43,165 (2011 Census), has an economic base dominated by the mining and logging industries. The area is serviced from Toronto via Highways 400/69 to Sudbury and Highway 144 from Sudbury to Timmins, or Highway 400/11 to Matheson and Highway 101 westward to Timmins. The Timmins Victor M. Power Airport has scheduled service provided by Air Canada Jazz, Bearskin Airlines, and Air Creebec. Porter Airways also provides air service between Timmins and the Toronto Billy Bishop Airport. The Timmins and District Hospital is a major referral health care centre for northeastern Ontario.

The property is accessible by Highways 101 and 144 and is in close proximity to the main hydro grid transmission line. An experienced mining labour pool is accessible in the Timmins area.

To the best of the author's knowledge, there are sufficient surface rights, a willing and skilled labour pool, and readily available infrastructure to carry on a mining operation.

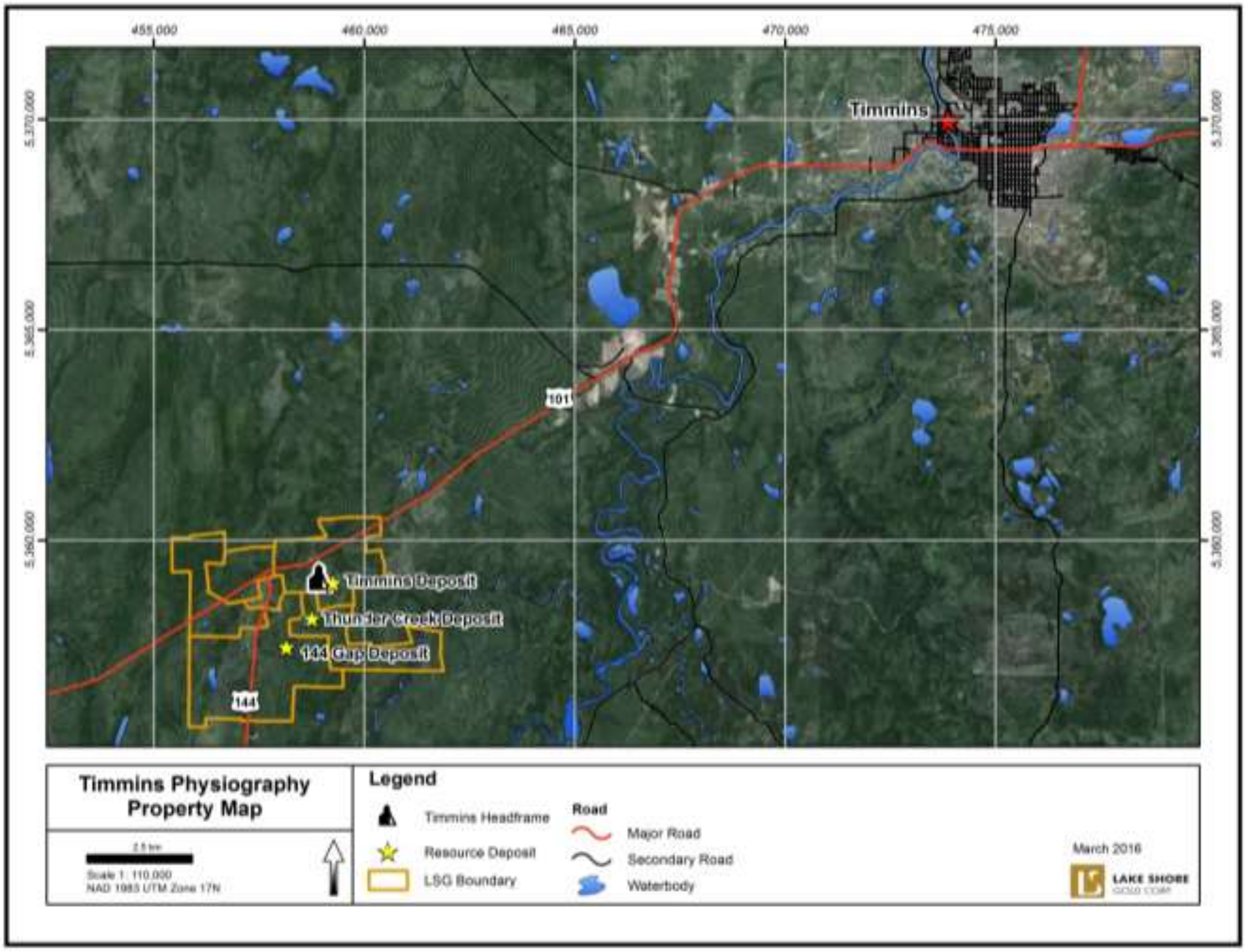
5.4 PHYSIOGRAPHY

The Timmins West Mine property generally exhibits low to moderate relief. The elevation of Highway 101 as it traverses the property varies from 308 metres in the east to 320 metres in the west; at the junction of Highways 144 and 101, the elevation is approximately 312 metres. The peak height of land on the property is 353 metres located at UTM co-ordinate 458,879.9m east and 5,357,321.5m north. The elevation of the Tatachikapika River (historically known as the Lost and/or Redsucker River) ranges from 300 to 292m as it flows east-northeast to the northerly flowing Mattagami River. Outcrop exposure varies between five (5) to fifteen (15) percent. Figure 5.1 illustrates the claim boundary of the Timmins West Mine property relative to the City of Timmins and draped over a landsat panchromatic image of the area.

The continental climate and the location on the Canadian Shield give rise to a plant hardiness zone 2a which supports the following boreal forest tree species and a timber, pulp and paper industry. In no particular order of significance local trees species include: American Mountain-Ash (Sorbus Americana), Balsam Fir (Abies Balsamea), Black Spruce (Pincea Mariana), Eastern White Cedar (Thuja Occidentalis), Eastern White Pine (Pinus Strobus), Jack Pine (Pinus Banksiana), Pin Cherry (Prunus Pensylvanica), Red Pine (Pinus Resinosa), Tamarack (Larix Laricina), Trembling Aspen (Populus Tremuloides), White Birch (Betula Papyrifera) and White Spruce (Pincea Glauca).

Hawley, J.E., (1926) points out that a large part of Ogden, Bristol and Carscallen Townships were swept by several forest fires dating back to 1911. Darling et al. (2007) state the Provincial Forest Resources Inventory stand numbers provided by TEMBEC indicated that most of the forestry related disturbance to the Timmins Mine Complex are occurred approximately 20 years ago, and that the forest communities are composed of poplar, jack pine, white birch, black spruce, and white spruce.

FIGURE 5.1: PHYSIOGRAPHY



6.0 HISTORY

6.1 PRIOR OWNERSHIP

Lake Shore Gold Corp. (LSG) acquired the Timmins West Mine property by fulfilling the earn-in requirements as set out in option agreements with Holmer Gold Mines Limited and West Timmins Mining Inc. (formerly Band-Ore Resources Limited and Sydney Resources Ltd., respectively) and by completing business combination agreements with those companies. Holmer Gold Mines Limited became a wholly-owned subsidiary of LSG in December 2004, and West Timmins Mining Inc. became a wholly-owned subsidiary in November 2009.

6.2 GENERAL HISTORY

The discovery of gold in Bristol Township on the McAuley-Brydge property (currently LSG's Timmins West Mine) occurred in 1911. At the time, only a few claims were staked within the Bristol Township area. The 1912 geology map (ARM-21a) by A.G. Burrows and W.R. Rogers illustrated three claims (TC612, TC613, and TC614) at the McAuley-Brydge occurrence plus four claims in the vicinity of the Rusk occurrence (HR1187, HR1188, HR1189, and HR1191). Map ARM-21a illustrates only one patented claim in the Gold River mineralized trend area. Claim HR 1257, straddles the Tatachikapika River which divides the Gold River West from the Gold River East mineralized zones on LSG's Gold River property. At that time, a small cluster of claims surrounded the power dam at Wawaitin Falls. The building of the power dam resulted in flooding the Mattagami River and forming of Kenogamissi Lake. Access to the Tatachikapika River was via a couple of portages west from Kenogamissi Lake.

The 1911 fire storms swept large parts of Carscallen, Bristol and Ogden Townships. The surface plants at Hollinger, Dome, West Dome, Vipond, Standard, Preston, East Dome, and North Dome mines were completely destroyed. South Porcupine, parts of Pottsville and the north part of Porcupine were also destroyed (Burrows, A.G., 1915, Hawley, J.E., 1926).

The following table (Table 6.1) highlights the chronology of significant exploration and provincial geological survey mapping events, surveys, and reports carried out over and surrounding the Timmins West Mine area.

TABLE 6.1: CHRONOLOGY OF EVENTS FOR THE TIMMINS WEST MINE AREA

Date	Description
1911 – 1914	Gold was discovered on the McAuley-Brydge property and two shafts were sunk; the deepest was 12 metres deep (Timmins Mine original surface showing - Main Zone and Hanging-wall Veins).
1912	Ontario Bureau of Mines published map ARM-21a Map of the Porcupine Gold Area, District of Timiskaming, A.G. Burrows and W.R. Rogers.
1926	Ontario Bureau of Mines published map ARM35G, The Townships of Carscallen, Bristol, Ogden, District of Cochrane, Ontario, Annual Report Map, J. E. Hawley.
1927	Ontario Department of Mines published Annual Report Volume ARM35-06.001, Geology of Ogden, Bristol, and Carscallen Townships, Cochrane District, J. E. Hawley.
1938 – 1944	Orpit Mines Limited acquired the claims and completed 7,620 metres of diamond drilling.
1941	Rusk Porcupine Mines excavated several pits and trenches across a 150 metre to 200 metre area of the Thunder Creek portion of the property. The gold discovery pit was 1.2 metres x 1.2 metres and returned values of $24.85 over 121.9 cm, $15.05 over 76.2 cm and $8.41 over 91.4 cm (T-File 542). The 1941 London Fix average price for gold was $33.85 (US) an ounce. Eighteen diamond drill holes totalling 1,981 metres were also completed.

Date	Description
1945	Piccadilly Porcupine Mines acquired the property and completed 4,983m of diamond drilling.
1946	Gold is reported from a diamond drill hole to the northwest of the Timmins West Mine on the O'Shea claim group (now referred to as the Meunier-144 property).
1953	Standwell Oil and Gas Ltd. acquired the property.
1957	Ontario Department of Mines published map 1957-07, Bristol Township, District of Cochrane, S.A. Ferguson.
1958	Hollinger Mines Ltd. completed seven diamond drill holes in the northern portion of the Thunder Creek property area. No assays were reported.
1959	Ontario Department of Mines published Annual Report Volume ARV66-07, Geology of Bristol Township, Annual Report Volume S.A. Ferguson.
1959	Ontario Department of Mines published preliminary map P0029, Thorneloe Township, S.A. Ferguson, W.D. Harding.
1959	Paul Meredith purchased the "Standwell Oil" property.
1963	The property is transferred to Holmer Gold Mines Ltd.
1964	United Buffadisson Mines Limited optioned the property from Holmer; constructed a road from Highway 101 to the Main Showing, and completed ten boreholes (2,116 metres). United Buffadison Mines Limited interpreted the gold mineralization to be associated with stacked north dipping en-echelon quartz veins. The property was returned to Holmer Gold Mines Ltd.
1968 – 1981	Holmer diamond drilled 45 boreholes totalling 10,512 metres. The geological interpretation of the day indicated two mineralized zones: the "Main" Zone (also referred to as the "Western Zone") and the "Shaft" Zone (also referred to as the "Eastern Zone"). A historically significant, but non 43-101 compliant "probable reserve" of 720,000 tons grading 0.124 oz. per ton gold (653,000 tonnes grading 4.25 grams per tonne gold) was estimated. Additional surface exploration included ground geophysical surveys (magnetometer and VLF) and limited diamond drilling.
1980	Falconbridge Nickel Mines Ltd. carried out metallurgical analysis of samples provided by Jim Croxall for the Thunder Creek property.
1980	Ontario Geological Survey published preliminary map P2360, Quaternary geology of the Timmins Area, District of Cochrane, C.M Tucker, D. Sharpe.
1981	Preussag Canada Limited completed geophysical surveys in Bristol and Thorneloe Townships including magnetometer, VLF-EM, HLEM and Induced Polarization ("IP"). Ten diamond drill holes (613.9 metres) were bored. Adjacent holes, 64 metres apart, intersected 2.57 grams gold per tonne over 2.43 metres, and 4.46 g/tonne gold over 4.6 metres in an area of the Rusk Showing.
1982	Ontario Geological Survey published map, M2455, Timmins, Precambrian Geology, Map, D. R. Pyke.
1982	Ontario Geological Survey published preliminary map P2502, Precambrian geology of Thorneloe Township, District of Cochrane, A. G. Choudhry.
1984	Noranda Exploration Company Limited (N.P.L.), (Norex) optioned the Holmer property and completed a "regional" airborne magnetic and electromagnetic survey, follow-up ground geophysics, and drilled four boreholes totalling 1,465 metres. Norex interpreted a historically significant, non 43-101 compliant, resource estimate of 785,000 tonnes grading 2.4 grams per tonne gold. This included a core of better grade mineralized material estimated to be 159,000 tonnes grading 4.46 grams per tonne gold. The property was returned to Holmer.
1984 – 1985	Noranda Exploration Company Ltd. (N.P.L) also completed geological mapping, humus geochemical sampling, and outcrop mechanical stripping and trenching in the Thunder Creek property area. The best assays returned in the trenching were 2.86 g/tonne Au and 5.54 g/tonne Au. Nine overburden, reverse circulation drilling and three diamond drill holes (332.3 metres) were also completed with no assay results reported.
1987	Chevron Minerals Ltd. optioned the Holmer property and completed line cutting, ground geophysics (magnetic, VLF, IP surveys), and geological mapping. A large area of the Main Zone and Hanging-wall Veins was stripped, channel sampled and mapped. Twenty-nine (29) diamond drill holes (totalling 6,115 metres) were completed, testing the mineralization to a vertical depth

Date	Description
	of 360 metres. The property was subsequently returned to Holmer.
1987	Highwood Resources Ltd. optioned a portion of the Thunder Creek property from J. Croxall. Four diamond drill holes (400 metres) testing geophysical targets were bored. No assay results are reported.
1989	Ontario Geological Survey published open file report OFR5699, The Geology of Keefer, Denton and Thorneloe Townships, District of Cochrane, A. G. Choudhry.
1992	Ontario Geological Survey published open file report OFR5829, Geology of the Kamiskotia Area, C.T. Barrie.
1994	Noranda Exploration Company Ltd. (N.P.L.) carried-out line cutting, IP and ground magnetometer surveys in the Thunder Creek and Highway-144 property areas. A single diamond drill hole (totalling 302 metres) was completed with no assay results reported.
1995	Hemlo Gold Mines Inc. funded work carried out by Norex on the Thunder Creek and Highway-144 project areas. Surveys include line cutting, magnetometer and IP. Seven diamond drill holes (95-2 to 95-8; 1,581 metres) were drilled with no significant assays reported.
1996	Band-Ore Resources Ltd. makes gold discoveries on their Thorneloe property and renewed gold exploration in Bristol and Thorneloe townships.
1996 – 1997	Holmer carried out an exploration program which included ground geophysics (VLF, magnetometer, and IP), humus sampling, geological mapping and rock sampling. A total of 66 drill holes (25,380 metres) were completed, 54 of which were directed to expand "resources" in the "Main" Zone area; 12 holes were drilled to test geophysical anomalies elsewhere on the property.
1997	Battle Mountain Canada Limited continued to explore the Thunder Creek – Mahoney Creek area. Fourteen diamond drill holes (3,547 metres) tested stratigraphy and geophysical targets. Drill hole MC 97-20 returned an assay value of 5.9 g/tonne Au over 1 metre. Hole MC 97-26 intersected a few anomalies, including 1.28 g/tonne Au over 2 metres. The property was returned to Band-Ore.
1998	Holmer Gold Mines Ltd. drilled 22 boreholes (3,923 metres) to test the continuity of mineralization at shallow depths.
1999	St. Andrew Goldfields Ltd. ("St. Andrew") drilled ten boreholes (1,341 metres) exploring the potential for an open pit deposit.
2000	Ontario Geological Survey published preliminary map P3396, Geology of the Kamiskotia Area, C.T. Barrie.
2000	Ontario Geological Survey published geological circular study S059, Geology of the Kamiskotia Area, C.T. Barrie.
2001	Ontario Geological Survey published preliminary map P2582 Quaternary Geology of the Dana, Lake Area, Cochrane, Timiskaming area, C. M. Tucker, J. A. Richard; Map M2660, Quaternary Geology of Dana Lake Area, Map, C. M. Tucker, J. A. Richard; Map M2662 Quaternary Geology of Timmins Area, C. M. Tucker, J. A. Richard; and Preliminary map P3436, Precambrian Geology, Timmins West, Bristol and Ogden Townships, C. Vaillancourt, C.L. Pickett, E. R. Dinel.
2002	Ontario Geological Survey published open file report OFR6101, Toward a New Metamorphic Framework for Gold Exploration in the Timmins Area, Central Abitibi Greenstone Belt, P. H. Thompson.
2002	Holmer completed a closely spaced (25m centers) 22 hole diamond drill program totalling 5,220 metres. A Mineral Resource estimate was produced which was audited and revisited by Watts, Griffis and McOuat as 422,000 tonnes grading 13.68 grams per tonne gold in the Indicated category and 270,000 tonnes grading 9.0 grams per tonne gold in the Inferred category.
2003	Lake Shore Gold Corp. (LSG) entered into an option agreement with Holmer Gold Mines Limited that allows Lake Shore to earn 50% of the Holmer property by May 26, 2006. In November 2003 Lake Shore enters into an agreement with Band-Ore Resources Ltd. to earn a 60% interest in the Thunder Creek property.
2003	Fugro completed an airborne magnetic survey (237 km) over the Timmins Mine claims for LSG

Date	Description
	(Soltanzadeh & Griffith, 2003).
2004	LSG completed outcrop stripping, geological mapping, and grab/channel sampling (103 samples collected) on the Thunder Creek property (Hocking and Marsden, 2004).
2004	LSG completed Mobile-Metal-Ion (MMI) soil geochemical survey (830 samples collected) on the Thunder Creek property (Hocking and Marsden, 2004).
2004	In September, LSG released an updated resource estimate (see Item 6.3) and thereby completed its earn-in option agreement with Holmer. In December, LSG acquired all outstanding shares of Holmer, giving it 100% ownership of the property, then referred to as the Timmins Gold Project (currently hosting the "Timmins Deposit").
2005	Ontario Geological Survey published open file report OFR6155, Geological Setting of Volcanogenic Massive Sulphide Mineralization in the Kamiskotia Area, Discover Abitibi Initiative, B. Hathway, G. Hudak, M. A. Hamilton; OFR6154, Overview of Results from the Greenstone Architecture Project, Discover Abitibi Initiative, J. Ayer et al.; and miscellaneous release – data MRD186, Integrated GIS Compilation of Geospatial Data for the Abitibi Greenstone Belt, North-eastern Ontario, Discover Abitibi Initiative.
2005	Abitibi Geophysics completed airborne magnetic (60km) and IP (45km) geophysical surveys over the Thorneloe, Denton and Carscallen townships for the Porcupine Joint Venture. A few diamond drill holes containing values between 0.5-3.0 g/t over narrow intervals were completed.
2006	LSG completed outcrop stripping, geological mapping, and grab/channel sampling (135 samples collected) in three target areas on the Thunder Creek property (J. Samson, 2008).
2006	In May, the company initiated the application permit process for advanced underground exploration programs. In December, LSG released another updated resource estimate for the Timmins Gold Project (see Item 6.3).
2007	In April 2007, the Company received government approval of the closure plan application and receipt of related permits required to proceed with the program. In August, LSG reported mineral reserves and a positive pre-feasibility study for the Timmins West Project (formerly named the "Timmins Gold Project"). In December, LSG also completed the requirements to vest a 60% interest in the Thunder Creek property from West Timmins Mining (formerly Band-Ore Resources Limited and Sydney Resources Corporation).
2008 (- 2013)	Lithogeochemical and stable isotope study (with emphasis on correlation to gold mineralization) initiated in Bristol and Thorneloe Townships as part of M.Sc thesis (Z. Stevenson and Dr. E.H. van Hees, Wayne State University, 2013).
2009	Adventure Gold Inc. completed three shallow drill holes (1,229 metres) on the Meunier-144 property. No significant results were reported.
2009	LSG completed geological mapping over a 5 km^2 area surrounding the Rusk surface showing on the Thunder Creek property (Internal memorandum and maps; Camier, 2009).
2009	In November, LSG acquired the outstanding shares of West Timmins Mining Inc., thereby acquiring 100% of the Thunder Creek property. This business combination triggered an update to the Mineral Resource and Mineral Reserve for the Timmins Deposit. The exploration emphasis of the Thunder Creek project changed from anomaly testing to systematic definition drilling.
2010	In-depth regional compilation (including analysis and interpretation of available government and private geophysical surveys) for project generation and targeting initiatives completed by consultants on behalf of LSG (Internal memorandum and catalog of occurrences; L. Reed and D. Power, June 2010).
2010	Abitibi Geophysics completed resistivity/pole-dipole IP (45 km), and ground magnetic (82 km) surveys over the Thunder Creek area for LSG as part of the Tailings Site condemnation program.
2010	JVX Geophysics completed 3-D downhole spectral IP survey in 9 drill holes on the Timmins Mine and Thunder Creek properties for LSG (Internal report, 2010).
2010	LSG and RT Minerals Corp. (RTM) entered into an option agreement with Adventure Gold Inc. for each to earn-in 25% interest in the Meunier-144 property. A "deep drilling exploration program" targeting the extension at depth of the Timmins Deposit was completed (4,038 metres).

Date	Description
	Mineralization was weak and most significant results included 1.46 g/t Au over 1.60 metres, 2.26 g/t Au over 0.60 metres, and 1.34 g/t Au over 1.00 metre (see Item 9). Through some business arrangements in 2013, LSG now has a 50% vested interest in the property (see Item 4). LSG also has an option to increase its interest to 60% by completing a PEA.
2011	Ontario Geological Survey published miscellaneous data – release MRD282 Geological Compilation of the Abitibi Greenstone Belt, J. A. Ayer, J. E. Chartrand; miscellaneous release – data MRD285 Lithogeochemical Data for Abitibi Subprovince Intermediate to Felsic Intrusive Rocks, G. P. Beakhouse; and open file report OFR6268 The Abitibi Subprovince Plutonic Record: Tectonic and Metallogenic Implications, G. P. Beakhouse.
2011	In January, commercial production was declared for the Timmins Deposit. In November, LSG released an initial resource estimate for the Thunder Creek Project.
2012	In January, commercial production was declared for the Thunder Creek Deposit. Subsequently, the Timmins and Thunder Creek Deposits were combined into a single operation called the Timmins West Mine. In March, LSG filed an updated mineral resource estimate for the Timmins Deposit, including a Preliminary Economic Assessment (PEA) for the Timmins West Mine. In May, LSG released a Pre-feasibility Study and Mineral Reserves (see Item 6.3).
2012	JVX Geophysics completed Clarity3D DSIP/Resistivity survey in 6 drill holes on the Thunder Creek and Highway-144 properties for LSG (Internal report, 2012).
2013	In March, LSG reported updated reserve and resource estimates for the Timmins West Mine (see Item 6.3).
2013	Updated compilation, re-processing, and interpretation of regional and property-scale geophysical data completed by consultant on behalf of LSG (Internal memorandum; L. Reed, 2013).
2014	In March, LSG reported updated reserve and resource estimates for the Timmins West Mine (see Item 6.3).
2014	LSG announced the discovery of the 144 Gap Deposit with the intersection of wide, high-grade gold mineralization (HWY-14-48: 5.37 gpt over 46.0 metres) confirming anomalous results from earlier (2012) diamond drilling at the Highway-144 property (*Press Release dated October 07, 2014*).
2015	LSG reported significant expansion of the 144 Gap Deposit through continued surface diamond drilling. With the completion of an underground exploration drift driven to the southwest from the Thunder Creek deposit, the focus of exploration efforts at the Highway-144 property was changed to systematic definition drilling of the new 144 Gap Deposit.

6.3 HISTORICAL RESOURCE ESTIMATES

6.3.1 Historically Significant Resource Estimates

The following mineralization estimates were not reported in accordance with NI 43-101 or estimated by a Qualified Person (QP), but are considered historically significant in keeping exploration interest active and continuing to entice companies to explore, better define, and outline the gold bearing system at the Timmins West Mine. These estimates have not been validated, are not considered to be current, and are quoted from the documents referenced.

1946: The earliest record found to attempt a mineralization estimate is stated in Ontario Department of Mines, Mineral Resource Circular No. 13, p. 50, which references Survey of mines 1946, p 152. Describes the Orpit property: "Results of drill holes 32, 41, 42, 45, and 46 indicated a zone of 200 feet in length, 50 feet in width, which averaged 0.16 ounces of gold per ton. Indicated reserves were estimated at 300,000 tons between a depth of 400 feet and 800 feet."

1968-1981: Holmer Gold Mines Ltd. estimated a “probable reserve” of 720,000 tons grading 0.124 oz. per ton gold (653,000 tonnes grading 4.25 grams per tonne gold) (WGM, 2004).

1984: Norex interpreted a resource estimate of 785,000 tonnes grading 2.4 grams per tonne gold. This includes a core of better grade mineralized material estimated to be 159,000 tonnes grading 4.46 grams per tonne gold (WGM, 2004).

6.3.2 Resource Estimates Reported in Accordance with NI 43-101 and Estimated by a QP

In 2002, a Mineral Resource estimate completed by Holmer and audited and revised by Watts, Griffis and McOuat Limited (WGM) included 422,000 tonnes grading 13.7 grams gold per tonne (g/t) in the indicated category and 207,000 tonnes grading 9.0 g/t in the Inferred category (WGM, 2004)

In 2004, WGM audited a Mineral Resource estimate prepared by LSG. WGM revised the resource estimate by lowering the cap on high assays in the Footwall Zone and transferring some Indicated Resource blocks into the Inferred category. The estimate used a 6.0 g/t Au cut-off, and a 50 g/t cap (except in the Footwall Zone where a 30 g/t Au cap was used). The estimate included an Indicated Resource of 1,369,000 tonnes grading 10.9 g/t gold (cut grade) and 16.5 g/t gold (uncut grade), with an Inferred Resource of 200,000 tonnes grading 8.7 g/t gold (cut grade) and 12.4 g/t gold (uncut grade), and an additional Inferred Resource grading between 3.0 and 6.0 g/t is 1.0 Mt at 4.1 g/t gold. Total contained ounces with a cut grade of 6.0 g/t Au in the Inferred and Indicated categories was estimated to be 538,000 ounces gold (804,000 ounces gold uncut), (WGM, 2004).

In November 2006 WGM audited an updated Mineral Resource estimate prepared by LSG. The audit validated the assay data, the construction of polygons, and the resulting tonnages and grade. The estimated Indicated and Inferred Mineral Resources for the Timmins West Mine on October 31, 2006, are summarized in Table 6.2.

TABLE 6.2: WGM MINERAL RESOURCE ESTIMATE, OCTOBER 31, 2006

Classification / Zone	Grade Cut to 3.0 g/t Au		Contained Gold (ounces)	Uncut Grade (g/t)	Top Cut Grade (g/t)
	Tonnes	Grade (g/t)			
Indicated					
Vein Zone	346,000	9.9	110,000	17.6	50
Footwall Zone	1,185,000	7.3	277,100	7.6	30
Ultramafic Zone	1,737,000	9.3	517,600	14.5	50
Total Indicated	3,268,000	8.6	905,000	12.3	
Inferred					
Vein Zone	543,000	5.7	99,100	7.3	50
Footwall Zone	340,000	5.9	65,000	6.3	50
Ultramafic Zone	85,000	3.9	10,600	3.9	50
Total Inferred	968,000	5.5	174,700	5.8	

**Note: Inferred Mineral Resources are reported in addition to Indicated Mineral resources (WGM, 2007).*

In 2007, SRK Consulting Canada Inc. estimated the Probable Mineral Reserve at 3,387,000 tonnes grading an average 7.6 g/t Au, containing 826,000 oz. gold.

In August 2009 LSG and West Timmins Mining Inc. agreed to a business combination which triggered an update to the NI 43-101 Technical Report on the project. The 2009 update is summarized in Table 6.3.

TABLE 6.3: LSG UPDATED MINERAL RESOURCE OF SRK POLYGONAL RESOURCE AND STANTEC MINERAL RESERVE, AUGUST 2009 (DARLING ET AL., 2009)

Classification	Grade Cut to 3.0 g/t Au		Contained Gold (ounces)	Uncut Grade (g/t)
	Tonnes	Grade (g/t)		
Indicated Resource	3,200,000	8.6	893,000	12.2 (1,278,000 oz. gold)
Inferred Resource	890,000	5.7	165,000	
Probable Mineral Reserve	3,358,000	7.5	812,006	

In November 2011 the first Mineral Resource estimate was completed for the Thunder Creek Deposit of the Timmins West Mine and is summarized in Table 6.4.

TABLE 6.4: LSG INITIAL MINERAL RESOURCE ESTIMATE FOR THE THUNDER CREEK DEPOSIT (CRICK ET AL., 2011)

Deposit	Resource Classification	Grade Cut to 2.0 g/t Au		Contained Gold (ounces)
		Tonnes	Grade (g/t)	
Thunder Creek	Indicated	2,877,000	5.6	521,600
	Inferred	2,693,000	5.9	510,000

In February 2012, LSG released a Preliminary Economic Assessment (PEA) and updated resource estimate for the Timmins West Mine, combining the Timmins and Thunder Creek Deposits as summarized in Table 6.5.

TABLE 6.5: LSG UPDATED MINERAL RESOURCE ESTIMATE FOR TIMMINS WEST MINE (CRICK ET AL., 2012A)

Deposit	Resource Classification	Capped Grade		Contained Gold (ounces)
		Tonnes	Grade (g/t)	
Timmins	Indicated	2,949,000	6.3	600,900
	Inferred	1,579,000	5.5	281,500
Thunder Creek	Indicated	2,877,000	5.6	521,600
	Inferred	2,693,000	5.9	510,000
Total Timmins West Mine	Total Indicated	5,826,000	6.0	1,122,500
	Total Inferred	4,272,000	5.8	791,500

**Notes:*

1. *Cut-off grade of 1.5 g/t Au for the Timmins Deposit, and 2.0 g/t Au for the Thunder Creek Deposit.*
2. *Effective Date of October 28, 2011 for Thunder Creek Deposit, and January 31, 2012 for the Timmins Deposit.*

In May 2012, a Pre-feasibility Study and Mineral Reserve estimate was released. The reserves were based on indicated resource material included in revised block models prepared by LSG and validated by SGS Geostat. The mineral reserve estimate is summarized in Table 6.6.

TABLE 6.6: LSG MINERAL RESERVE AND INDICATED RESOURCE ESTIMATE FOR TIMMINS WEST MINE (CRICK ET AL., 2012B)

Deposit	Classification	Capped Grade		Contained Gold (ounces)
		Tonnes	Grade (g/t)	
Timmins Deposit	Probable Reserve	2,249,658	5.6	405,885
Thunder Creek	Probable Reserve	2,672,522	4.9	417,963
Total Timmins West Mine	Total Probable Reserve	4,922,180	5.2	823,848
Timmins Deposit	Indicated Resource	2,124,000	7.9	541,700
Thunder Creek	Indicated Resource	2,053,000	7.0	463,000
Total Timmins West Mine	Total Indicated Resource	4,177,000	7.5	1,004,700

**Notes:*

1. *Cut-off grade of 3.0 g/t Au.*
2. *Effective Date of October 28, 2011 for Thunder Creek Deposit, and January 31 2012 for the Timmins Deposit.*
3. *Indicated Resources are inclusive of Reserves.*

In March 2013, LSG published another updated reserve and resource estimate in connection with the filing of its 2012 Annual Information Form. The results are summarized in Table 6.7.

TABLE 6.7: LSG MINERAL RESERVE AND RESOURCE ESTIMATE FOR TIMMINS WEST MINE, AT YEAR-END 2012 (AIF 2012; PRESS RELEASE DATED MARCH 18, 2013)

Deposit	Classification	Capped Grade		Contained Gold (ounces)
		Tonnes	Grade (g/t)	
Total Timmins West Mine	Probable Reserve	4,811,000	5.2	798,000
	Indicated Resource	5,978,000	5.5	1,061,000
	Inferred Resource	3,549,000	5.4	615,000

**Notes:*

1. *Mineral reserves are estimated at a cut-off grade of 3.0 g/t Au.*
2. *Mineral resources are estimated at a cut-off grade of 1.5 g/t Au.*
3. *Indicated Resources are inclusive of Reserves.*
4. *Reserves account for a depletion of 64,177 ounces in 2012.*

In March 2014, LSG released an updated mineral reserve and resource estimate in conjunction with the filing of an updated NI 43-101 report for the Timmins West Mine. The results are summarized in Table 6.8.

TABLE 6.8: TIMMINS WEST MINE RESOURCE ESTIMATES

Deposit	Classification	Capped Grade		Contained Gold (ounces)
		Tonnes	Grade (g/t)	
Timmins Deposit	Probable Reserve	1,540,344	4.6	227,707
	Indicated Resource	1,893,497	5.16	314,153
	Inferred Resource	2,075,079	5.67	378,516
Thunder Creek	Probable Reserve	1,791,821	4.6	264,539
	Indicated Resource	2,470,674	5.02	400,480
	Inferred Resource	863,633	5.02	137,823
Total Timmins West Mine	Probable Reserve	3,332,164	4.6	492,246
	Indicated Resource	4,364,171	5.09	714,633
	Inferred Resource	2,938,712	5.46	516,339

**Notes:*

1. *Sums may not add due to rounding.*
2. *CIM definitions were followed for classification of Mineral Resources.*
3. *Capped gold grades are used in estimating the Mineral Resource average grade.*
4. *A minimum mining width of 2 metres was used.*
5. *The estimate includes low grade material which is not in the current mine plan.*
6. *Mineral Reserves are estimated at a cut-off grade of 3.0 g/t Au.*
7. *Mineral Resources are estimated at a cut-off grade of 1.5 g/t Au and include internal dilution to maintain zone continuity.*
8. *Indicated Resources are inclusive of Reserves.*
9. *Weighted average gold price was assumed at $1,150 per ounce (approx. US$1,100).*
10. *Metallurgical recoveries are assumed to average 96.5 percent.*

6.4 HISTORIC PRODUCTION

Prior to March 2009 there was no production activity at the Timmins West Mine. Annual production figures for the Timmins West Mine from March 2009 to December 31, 2015 (including both the Timmins and Thunder Creek Deposits) are summarized in Table 6.9 and Table 6.10.

TABLE 6.9: TIMMINS DEPOSIT ANNUAL PRODUCTION FIGURES

Year	Deposit	Milled Tonnes	Grade (g/t)	Contained Ounces
2009	Timmins	72,899	3.3	7,745
2010	Timmins	261,294	5.3	44,492
2011	Timmins	337,582	3.8	41,673
2012	Timmins	264,545	3.8	32,564
2013	Timmins	313,679	5.0	50,170
2014	Timmins	401,937	4.5	58,414
2015	Timmins	433,913	4.5	63,419
Totals	**Timmins**	**2,085,849**	**4.5**	**298,477**

TABLE 6.10: THUNDER CREEK ANNUAL PRODUCTION FIGURES

Years	Deposit	Milled Tonnes	Grade (g/t)	Contained Ounces
2010	Thunder Creek	2,824	5.4	490
2011	Thunder Creek	154,141	3.9	19,549
2012	Thunder Creek	272,402	3.9	33,748
2013	Thunder Creek	433,810	4.4	61,141
2014	Thunder Creek	569,294	4.8	88,192
2015	Thunder Creek	577,043	4.3	79,978
Totals	**Thunder Creek**	**2,009,514**	**4.4**	**283,098**

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY AND STRUCTURE

Supracrustal rocks in the Timmins region are assigned as members of nine tectonic assemblages within the Western Abitibi Subprovince, of the Superior Province. The seven volcanic and two sedimentary assemblages are of Archean age. Intrusions were emplaced during Archean and Proterozoic times. Tectonic assemblages of the Abitibi Subprovince, east of the Kapuskasing Structural Zone, are illustrated in Figure 7.1 (after Ayer J.A., Dubé, B., and Trowell, N.F., 2009). Table 7.1 is modified after Ayer (1999, 2000, 2003, 2005, 2011) and summarizes the characteristics of the assemblages from youngest to oldest.

There is a time span of 80 Ma between the volcanic eruption of the lower Pacaud assemblage (2750 Ma) and the sedimentation and volcanism of the upper Timiskaming Assemblage (2670 Ma). Each of the assemblages demonstrates a melt evolution from komatiitic or tholeiitic basalt, to felsic or calc-alkaline volcanics. In the Timmins West Mine area, only the Deloro [2730 – 2724 Ma (6 Ma)], Kidd-Munro [2719 – 2711 Ma (8 Ma)], Tisdale [2710 – 2704 Ma (6 Ma)], Porcupine [2690 – 2685 Ma (5 Ma)], and Timiskaming Assemblages [2676 – 2670 Ma (6 Ma)] are present. Revised age dates for the Porcupine Assemblage indicate that the felsic volcanism of the Krist Formation is coeval with emplacement of calc-alkalic felsic porphyries in Timmins (2692 ±3 to 2688 ±2 Ma).

Figure 7.2 shows the location of the property relative to the regional geology.

Regionally, deformation in the Timmins area is characterized by a sequence of early, pre-metamorphic folds lacking axial planar cleavage (D_1 and D_2) to a series of syn-metamorphic, fabric–forming events, which overprint the earlier folds (D_3 and D_4 events) and a later crenulation cleavage (D_5) (Rhys, 2010). The multi-phase Destor-Porcupine fault system passes approximately 5 kilometres to the south of the property. The fault system is a composite corridor of shear zones and faults that records at least two main stages of displacement: syn-Timiskaming (2680-2677 Ma) brittle faulting associated with truncation of early D_1 and D_2 folds, apparent sinistral displacement, and formation of half grabens that are locally filled with Timiskaming clastic sedimentary rocks; and the formation of syn-metamorphic D_3-D_4 high strain zones over a broad corridor generally several hundred metres wide. These shear zones record variable kinematic increments but are regionally dominated by sinistral with north side up displacement (Rhys, 2010).

FIGURE 7.1: TECTONIC ASSEMBLAGES OF THE ABITIBI SUBPROVINCE EAST OF THE KAPUSKASING STRUCTURAL ZONE (AFTER AYER, J.A., DUBÉ, B., TROWELL, N.F.; NE ONTARIO MINES AND MINERALS SYMPOSIUM, APRIL 16, 2009)

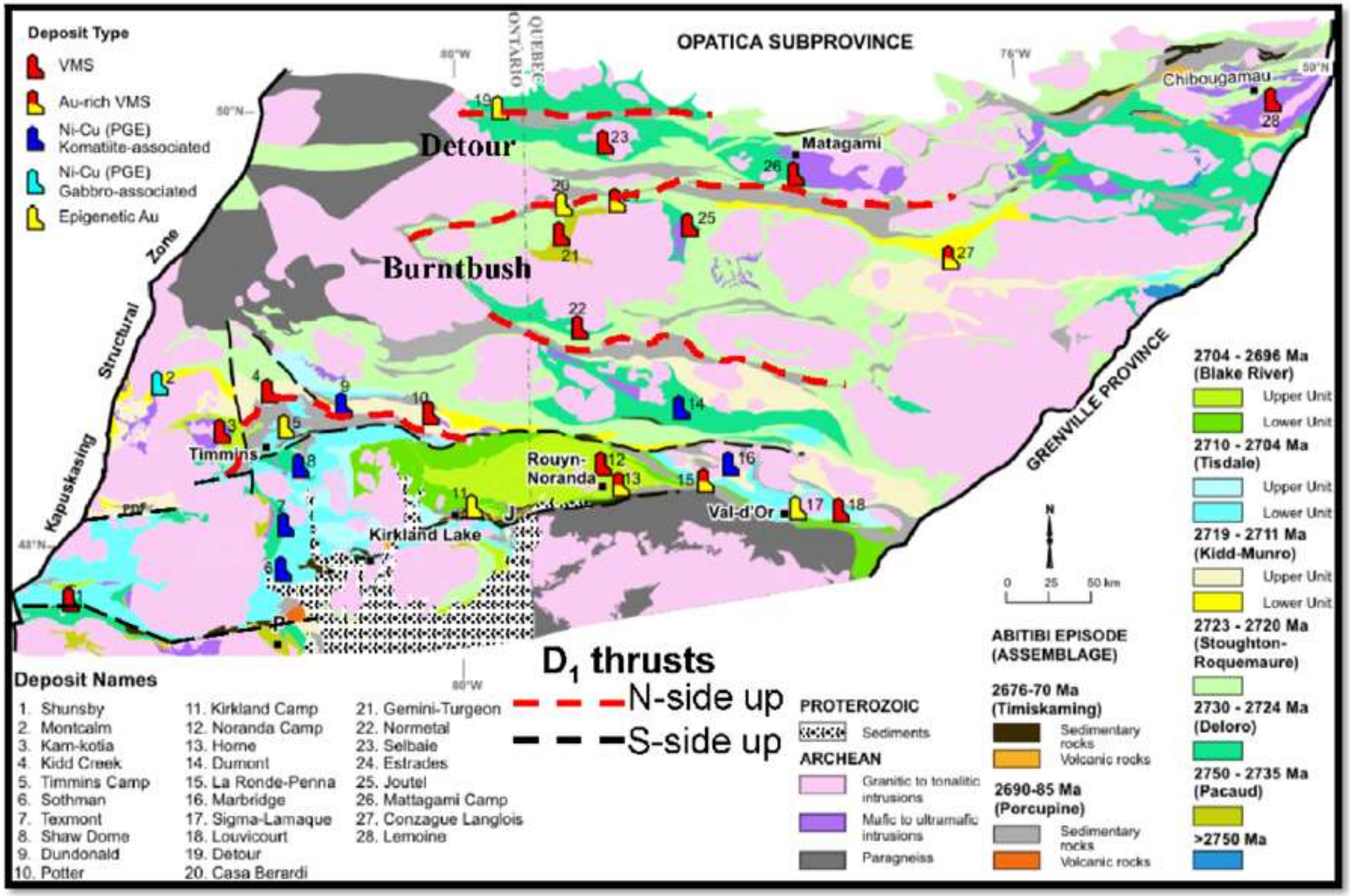
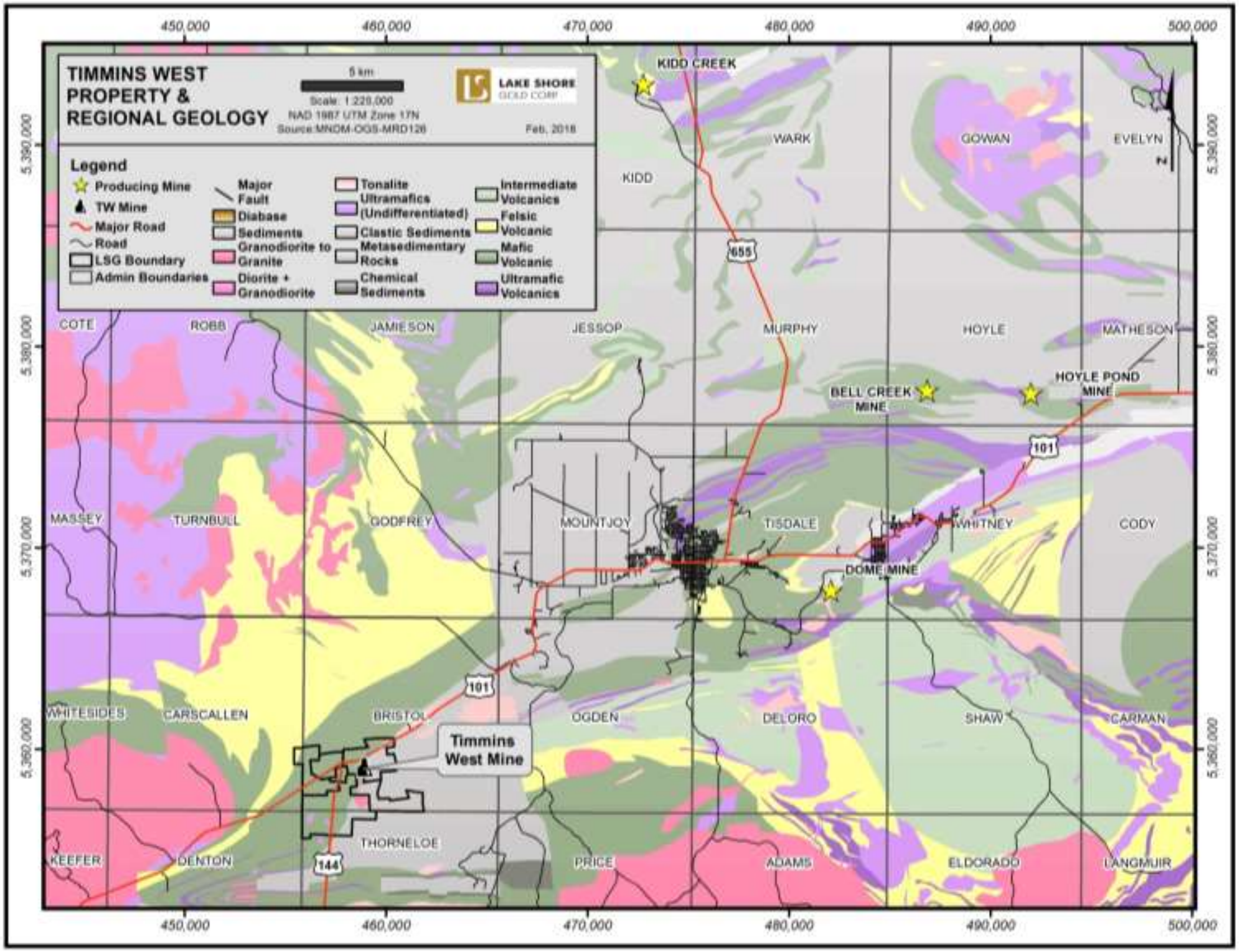


TABLE 7.1: TECTONIC ASSEMBLAGES

Assemblages	Description
Timiskaming Assemblage	• Unconformably deposited from 2676- 2670 Ma (6 Ma) • Conglomerate, sandstone, and alkalic volcanics • Coeval Gold mineralization occurs near regional fault zones (PDF & CLLF) Two end member types 1. Quartz veins (Timmins & Val d'Or) 2. Sulphide rich Stockworks (Holloway Twp., Kirkland Lake, Matachewan • Alkali Intrusive Complex (Thunder Creek) 2687 ±3Ma (Barrie, 1992)
Porcupine Assemblage	• Age of 2690 – 2685 Ma (5 Ma) • Turbidites with minor conglomerates & iron formation locally • Krist Formation is coeval with calc-alkalic felsic porphyries 2691 ±3 to 2688 ±2 Ma
Blake River Assemblage	Upper and Lower Units • Age of 2703 – 2696 Ma (7 Ma) • Tholeiitic & Calc-alkaline mafic to felsic volcanics • VMS deposits associated with F3 felsic volcanics at Noranda • Syngenetic gold & base metals (Horne, Thompson Bousquet)
Tisdale Assemblage	• Age of 2710 – 2704 Ma (6 Ma) • Tholeiitic to komatiite suite • Calc-alkaline suite • VMS Deposit: Kamiskotia – tholeiitic volcanics, gabbros & F3 felsics Val d'Or – calc-alkaline volcanics & F2 felsics Sheraton Township area – intermediate-felsic calc-alkaline volcanics • Ni-Cu-PGE: Shaw Dome, Texmont, Bannockburn
Kidd-Munro Assemblage	• Age of 2719 – 2711 Ma (8 Ma) • Tholeiitic to komatiitic • Calc-alkaline suite • VMS deposit: F3 felsic volcanics & komatiites (Kidd Creek) Tholeiitic-Komatiitic volcanism (Potter) • Ni-Cu-PGE (Alexo)
Stoughton-Roquemaure Assemblage	• Age of about 2723 – 2720 Ma (3 Ma) • Magnesium and iron rich tholeiitic basalts • Localized komatiites and felsic volcanics • PGE mineralization in mafic-ultramafic intrusions and komatiites (Mann & Boston Townships)
Deloro Assemblage	• Age of about 2730 – 2724 Ma (6 Ma) • Mafic to felsic calc-alkaline volcanics • Commonly capped by regionally extensive chemical sediments • Two different types of VMS deposits 1. F2 felsic volcanics and synvolcanic intrusion (Normetal) 2. Localized sulfide-rich facies in regional oxide facies iron formations (Shunsby)
Pacaud Assemblage	• Age of 2750 – 2735 Ma (15 Ma) • Magnesium and iron rich tholeiitic basalt • Localized komatiites and felsic volcanics

FIGURE 7.2: REGIONAL GEOLOGY MAP



7.2 PROPERTY GEOLOGY

The Timmins West Complex is dominated by mafic volcanic and sedimentary rocks which are interpreted to be from the Tisdale, Deloro and Porcupine Groups and occurring within a broad basin like feature which opens to the east. Rocks within the basin generally strike in an easterly direction and dip moderately to teeply northwards. Crosscutting the earlier rock units are a series of ultramafic to felsic intrusions. Key structural features of the property include the Destor Porcupine Fault Zone (DPFZ) which passes through the south portion of the interpreted basin and as well as the 144 and Gold River Trends which occur on the north and south limbs (Figure 7.3). These two trends represent intense zones of alteration and deformation and are the host to all of the main gold occurrences identified on the property to date including the Timmins Deposit, Thunder Creek Deposit and 144 Gap Deposit.

7.2.1 Timmins Deposit Portion of the Timmins West Mine

The Timmins Deposit occurs at the northeast tip of the 144 Trend and interpreted to overly an overturned fold nose formed at the contact between mafic metavolcanic rocks of the Tisdale assemblage and metasedimentary of the Porcupine assemblage. The fold nose has a steep northwesterly plunge and been defined by drilling from surface to a minimum depth of 1,250 metres below surface. All gold mineralization identified and mined to date at the Timmins Deposit is located within or immediately adjacent to this structure.

The stratigraphic base of the Timmins Deposit area comprises mafic volcanic rocks of the Tisdale Assemblage (Figure 7.3 and Figure 7.4). This fine-grained extrusive mafic unit is typically massive in nature, but does exhibit pillowed, vesicular, and flow breccia textures locally. Composed mainly of chlorite-feldspar ± calcite assemblages, these rocks are commonly dark green in colour, except where affected (bleached) by sericite-Fe-carbonate ± albite alteration and veining (e.g., mineralized footwall-style zones proximal to the AIC). It is notable that these mafic volcanic rocks are often strongly magnetic, which has significant implications on tracking of drill hole orientations (see Items 11 and 12).

Along and within several hundred metres of the contact area, several intrusions cut mainly the mafic metavolcanic sequence between the Timmins Deposit and the southwestern portions of the Thunder Creek and Highway-144 properties. A southwesterly-widening alkaline ultramafic set of metamorphosed intrusions comprised dominantly of pyroxenite occurs along the mafic–metasedimentary rock contact or intrudes the adjacent mafic metavolcanic rocks and are collectively termed the Alkaline Intrusive Complex (AIC; Figure 7.3). In addition are fine-grained, equigranular to locally K-feldspar porphyritic intrusions which are dominantly monzonite, but may range to syenite, in composition. These felsic intrusions include a lenticular, northeast trending unexposed body host to the Porphyry Zone in the footwall of the Rusk Shear Zone at the Thunder Creek Deposit, and a more irregularly shaped stock to the south which intrudes the Porcupine assemblage, here termed the "Thunder Creek Stock" (Rhys, 2010).

Poorly exposed at surface, the multi-phase AIC intrudes the Timmins Deposit stratigraphy at depth along the volcanic-sedimentary contact and near the core of the Timmins Mine fold nose (Figure 7.4). The most common and texturally/mineralogically distinct phases include: 1) a fine- to coarse-grained pyroxenite; 2) a biotite-rich pyroxenite; 3) a porphyritic garnet-rich pyroxenite; 4) a fine-grained calcareous syenite; 5) fine-grained dykes with disseminated mafic minerals in a pinkish-brown matrix, often termed hornblende syenite, and; 6) a fine- to medium-grained equigranular monzonitic phase which appears to cut earlier phases. It is unclear whether these various phases are co-magmatic or form suites of significantly different ages. The main pyroxenite body is largely massive and only weakly foliated, but is cut in areas of high strain up to several metres wide. Within and in proximity to mineralized veins and structures (i.e., UM-style zones), the various phases of pyroxenite are frequently bleached to greyish and/or buff (tan) brown colours with pervasive fine-grained Fe-carbonate and sericite (+ albite) alteration and abundant disseminated magnetite. In areas of moderate to high strain, finely laminated biotite-(chlorite)-calcite and selective hematite are the dominant alteration assemblage. The AIC in the Timmins Deposit is commonly intermingled with a highly deformed, fine-grained talc-chlorite altered komatiite in the fold closure area. At depth, this komatiitic unit separates the AIC into two lobes of dominantly pyroxenite with the main Ultramafic (UM) Zones hosted in the western lobe and a series of smaller UM-style zones ("Sediment Sub-Zones") located in the eastern lobe (Figure 7.4 and Figure 7.5). Zones of high strain in the relatively incompetent komatiite unit, coupled with similar shear sense indicators in proximal sediments to the east within the "core" of the fold nose, are interpreted as defining the down-plunge position of the Holmer Shear Zone (Rhys, 2015; Figure 7.4), which was an important gold-related set of structures in both surface exposures and shallow mine levels.

Turbiditic clastic sediments of the Porcupine Assemblage occur in the eastern portion of the Timmins Deposit stratigraphy (Figure 7.3), and as a relatively thin, westerly widening wedge to the west of a prominent north-south trending diabase dyke on the property. At depth these sediments overlie the Tisdale volcanics and form the core of the Timmins Mine Fold Nose, but separated here from the underlying mafic volcanic rocks by the AIC which intruded along the contact (Figure 7.4 and Figure 7.5). The main sedimentary sequence (east of the diabase and the key volcanic-sediment contact) is generally comprised of thinly to thickly bedded turbiditic greywacke, siltstone, and mudstone. Sericite(-chlorite)-carbonate (± albite) make up the most common alteration assemblage in proximity to veining and structure. Pervasive matrix replacement by early tourmaline cut by later gold-bearing quartz-tourmaline veins also occurs locally, with mineralization of this style having formed some of the earlier identified mineralized zones ("Vein Zones") in the deposit. The sedimentary wedge located to the west of the diabase dyke is texturally similar to the main succession, but tends to be more chloritic in nature. Interpreted as a deformed interflow unit, these sediments are the host-rocks to the Main Zone-style of mineralization (Figure 7.5), which was also important during the early operation of the Timmins Deposit at shallow depths.

Intruding the aforementioned units are diabase dykes belonging to the Matachewan dyke swarm of Paleoproterozoic age (2.45 Ga). This unit is fine-to medium-grained and exhibits a massive gabbroic texture composed of mainly plagioclase, pyroxene, and biotite with accessory magnetite.

FIGURE 7.3: PROPERTY GEOLOGY

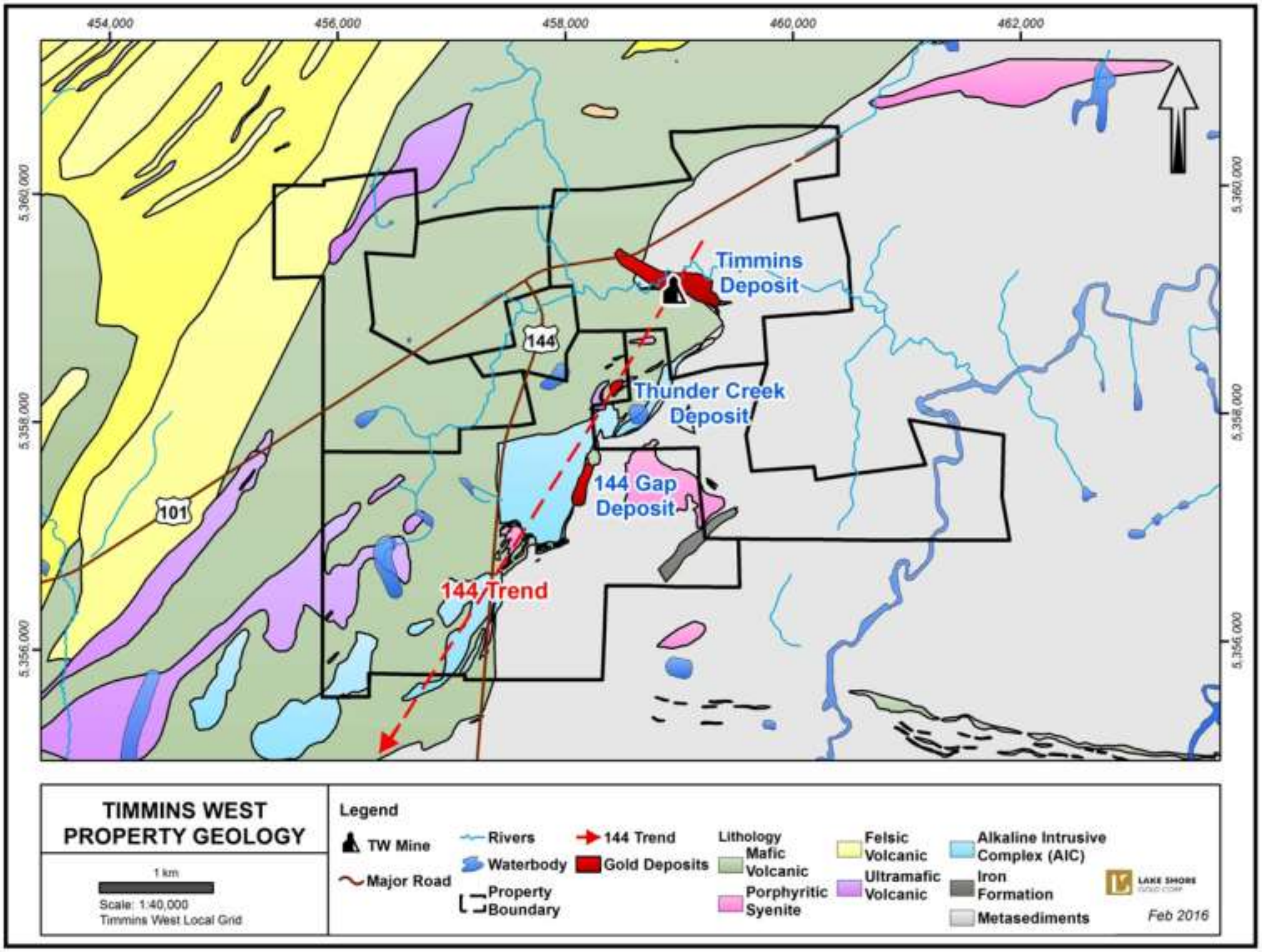


FIGURE 7.4: TIMMINS DEPOSIT UNDERGROUND GEOLOGY 790 M LEVEL (LOWER MINE)

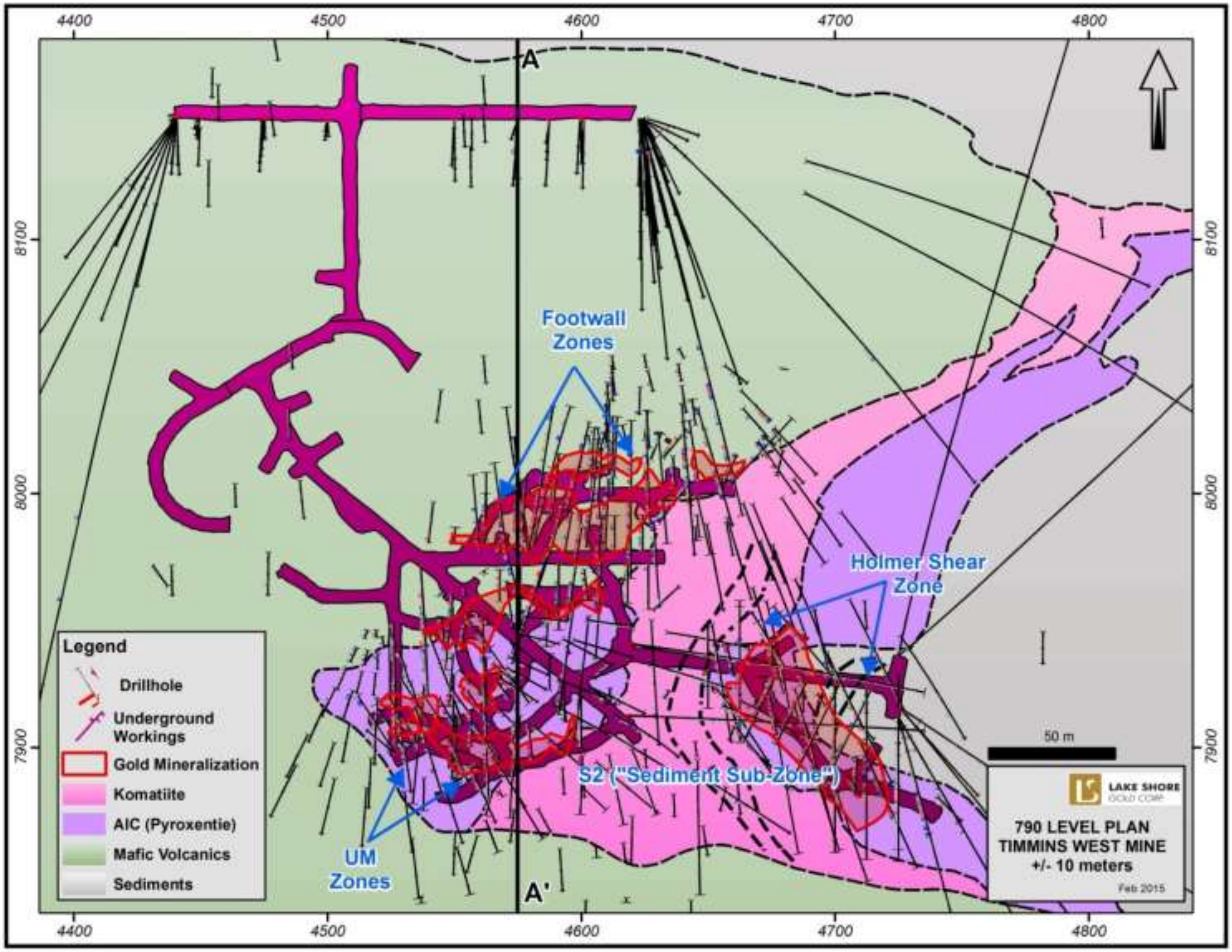
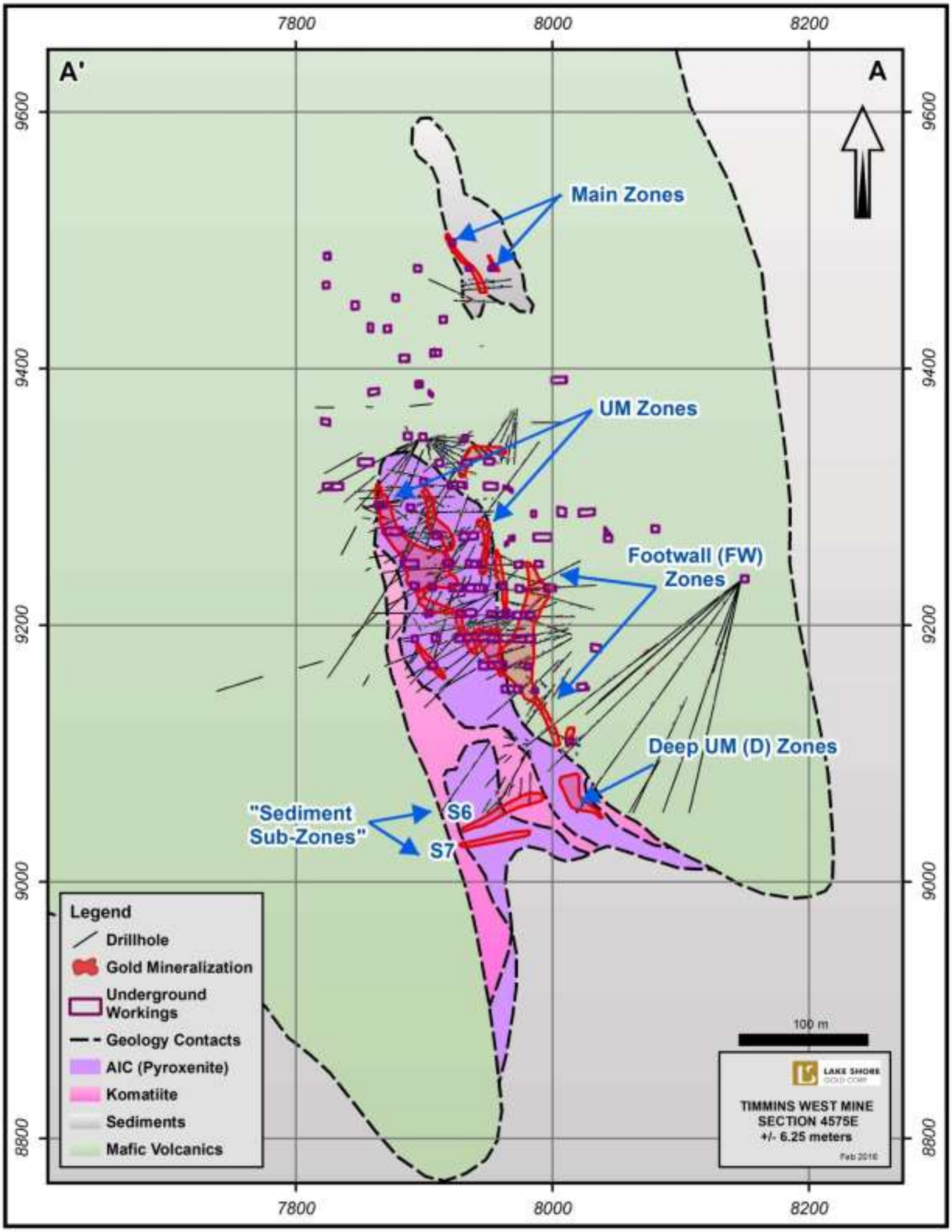


FIGURE 7.5: TIMMINS DEPOSIT GENERALIZED CROSS-SECTION 4575E (TIMMINS WEST MINE GRID)



7.2.2 Thunder Creek Portion of the Timmins West Mine

The Thunder Creek Deposit lies approximately 800 to 900 metres south-southwest of the Timmins Deposit, along the same mineralized 144 Trend in proximity to the favourable lithostratigraphic contact between the Tisdale volcanic and Porcupine sediment suites.

The stratigraphic base of the property consists of mafic metavolcanic rocks of the Tisdale Assemblage (Table 7.1; Figure 7.3). Located in the western portion of the property, this unit is typically fine-grained, green in colour, and exhibits massive, pillowed and flow breccia textures. Metamorphism varies from mid-greenschist to lower-amphibolite facies. Epidote and calcite alteration are common with increasing hydrothermal alteration towards the Rusk Shear Zone. In proximity to the Alkaline Intrusive Complex (AIC), pervasive chlorite, abundant disseminated fine-grained magnetite, and localized hematite alterations are also common (Camier, 2009). In addition to the AIC, the mafic metavolcanic rocks are intruded by a variety of feldspathic syenite dykelets and cut by multiple generations of quartz-carbonate veins containing varying amounts of hematite, magnetite, pyrite, and pyrrhotite.

In the eastern portion of the property, the mafic metavolcanic unit is overlain, perhaps uncomformably, by a succession of metasedimentary rocks belonging to the Porcupine Assemblage (Table 7.1; Figure 7.3). In the Thunder Creek area, this unit presents as a discontinuous sequence of biotite-rich meta-greywacke, metamorphosed siltstones, metamorphosed argillite, fine- to medium-grained clastic tuff, and laminated chemical metasediments containing magnetite (Camier, 2009; Samson, 2008). These metasedimentary units occur in the footwall to the AIC and along the Rusk Shear Zone. Within the shear zone, sediments are strongly deformed to a quartz-sericite-carbonate (± hematite) mylonite. The most common alteration assemblage comprises sericite, weak hematite and silicification. Quartz veins and felsite dykes commonly intrude the metasedimentary lithology. Camier (2009) identified several outcrops of felsic to dacitic metavolcaniclastic rocks within the central portion of the surface mapping area. Although age dates have not been acquired, it is speculated that this fragmental subunit may be related to the Krist Formation of the Porcupine Assemblage.

The AIC is poorly exposed on surface but has a very strong magnetic signature that suggests it extends to the northeast for at least 2 kilometres across the central portion of the Thunder Creek property. The magnetic trend becomes distorted and exhibits an offset or folded character when intersected by several interpreted structures. Intruding along the volcano-sedimentary contact (Figure 7.3), the AIC is a poly-phase and variably textured intrusion of contemporaneous age with the Timmins Porphyry suite (Pearl Lake 2689 Ma, Millerton 2691 Ma, Crown 2688 Ma, and Paymaster 2690 Ma; – Barrie 1992), and is also of similar age to the Bristol Lake Quartz-Feldspar Porphyry in the eastern portion of Bristol Township (2687 ±1.4 Ma; Ayer 2003). The intrusive shows at least three texturally and mineralogically distinct phases: 1) a fine- to coarse-grained pyroxenite; 2) a biotite-rich pyroxenite, and; 3) a porphyritic garnet-rich syenite. The fine- to coarse-grained pyroxenite is strongly magnetic and consists of greater than 85% pyroxene (diopside) with variable amounts of accessory biotite-magnetite-rutile-apatite and interstitial calcite (Miller, 2004). The intrusive is partially exposed at the Rusk Showing, and displays pegmatitic primary layering as well as cumulate-like textures. The pyroxenite locally grades into a biotite-rich phase (possible lamprophyric affinity) characterized by the presence of large biotite “clots” and booklets (poikilitic biotite) up to several centimetres across. In places, “sweats” and dykes are noted to contain from 40 to over 75% dark brown to black andradite garnets (up to 1 centimetre across), contained within a fine-grained leucocratic matrix consisting of plagioclase-orthoclase-biotite-carbonate-apatite-titanite (Miller 2004). The varied phases exhibit both sharp/irregular and transitional contacts. Numerous “monzonitic” to “syenitic” dykes are noted throughout the main body of the pyroxenite and also within the surrounding volcanic host-rocks. It is not clear whether these phases are genetically related to the AIC or to the monzonite stock located in the southern portion of the property.

Unexposed at surface, a series of fine- to medium-grained, equigranular to locally K-feldspar porphyritic intrusions of monzonitic to syenitic composition (Rhys, 2015) occur at depth in proximity to the volcano-sedimentary contact. These include the lenticular northeast trending monzonitic body that hosts the Porphyry Zone in the Thunder Creek Deposit. The top of the main Thunder Creek Porphyry is emplaced at an elevation of approximately 400 metres below surface and intrudes mafic volcanic rocks in the footwall to the AIC and the Rusk Shear Zone immediately northwest of the key volcanic-sediment contact (Figure 7.6 and Figure 7.7). Styles and intensities of alteration and mineralization common to this unit are discussed at length below in subsequent Section 7.4.2. The mineralized porphyry and related intrusions in the Thunder Creek area are interpreted as belonging to the Timiskaming Assemblage.

A quartz-feldspar porphyritic monzonite, referred to as the "Thunder Creek Stock", occurs as a nearly circular intrusion greater than 500 metres in diameter in the central to southern portion of the property (Figure 7.3), representing an area of high topographic relief. The composition of the intrusion varies with 10-40% quartz eyes and 10-20% tabular feldspars (commonly zoned and occasionally up to 3 centimetres across) contained within a fine-grained pinkish-grey groundmass. Owing to significant variation in quartz and feldspar content, multiple names have been used to describe this rock type, including quartz monzonite, monzonite, syenite, and peralkaline syenite. The characteristic pink to brick-red colour is interpreted as the result of variable albitic, potassic, and hematitic alteration intensities. Camier (2009) noted the presence of riebeckite in the eastern half of the intrusive, which may suggest an alkaline magmatic source. Although no age dating has been completed, it is speculated that the Thunder Creek Stock may be part of the Timiskaming Assemblage (2676-2670 Ma).

Intruding the aforementioned units are diabase dykes belonging to the Matachewan dyke swarm of Paleoproterozoic age (2.45 Ga). This unit is fine-to medium-grained and typically exhibits a massive gabbroic texture composed of plagioclase, pyroxene, and biotite with accessory magnetite.

FIGURE 7.6: THUNDER CREEK UNDERGROUND GEOLOGY, 765M LEVEL (LOWER MINE)

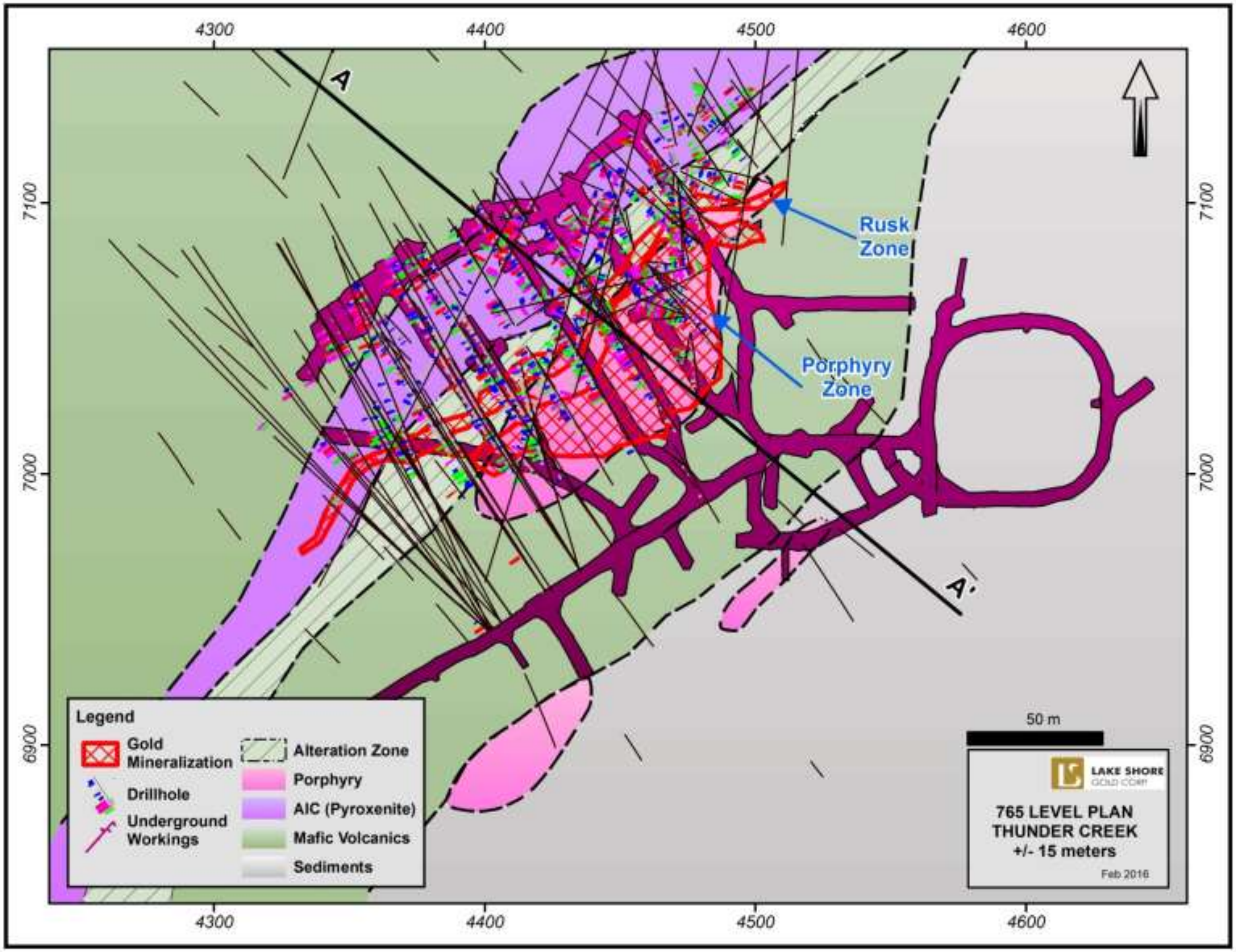
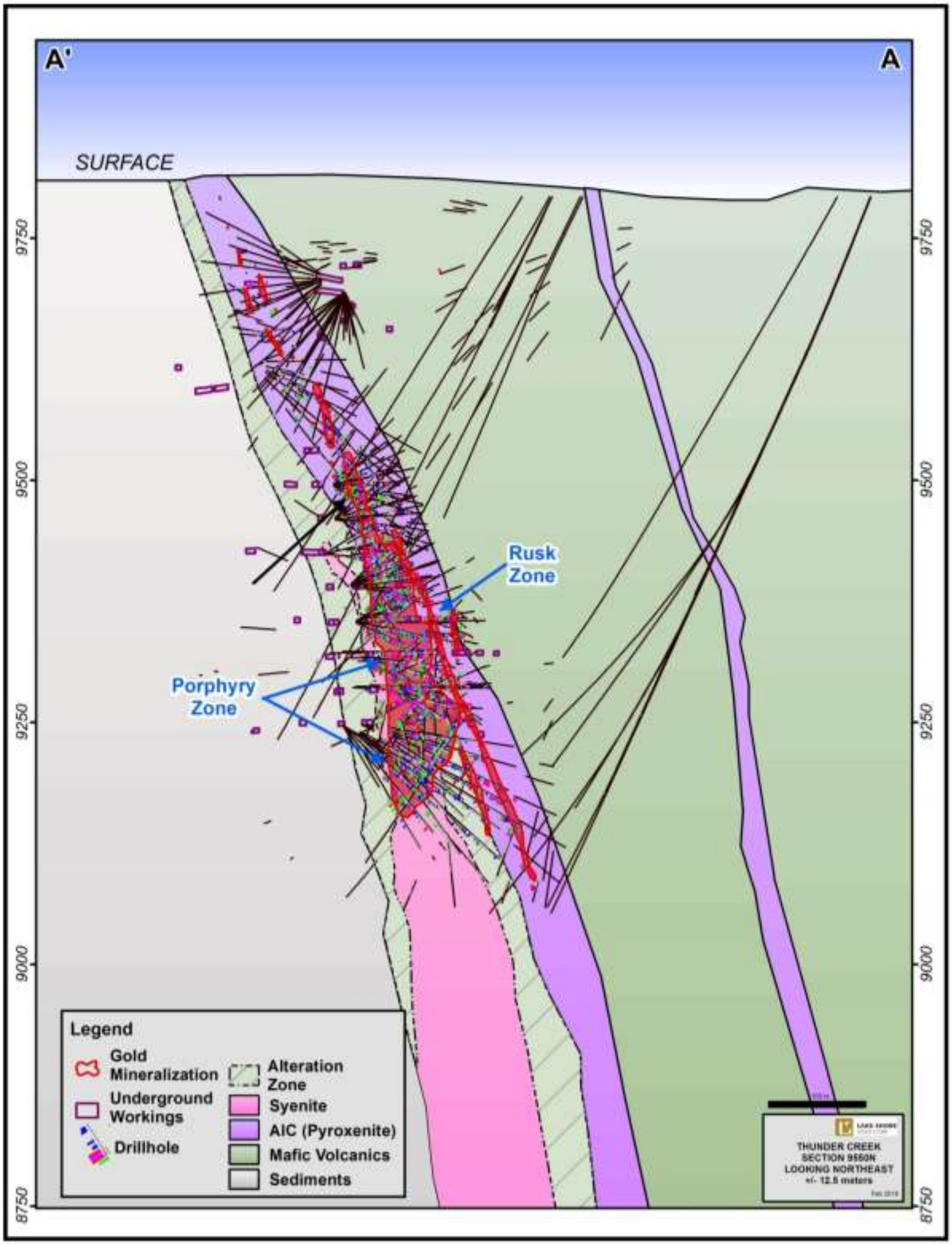


FIGURE 7.7: THUNDER CREEK GENERALIZED CROSS-SECTION, 9550N (THUNDER CREEK ROTATED SURFACE GRID)



7.2.3 144 Gap Deposit Portion of the Timmins West Mine

The 144 Gap Deposit is a new discovery that occurs along the 144 Trend, approximately 750 metres to the southwest of the Thunder Creek Deposit and between 600 and 1,000 metres below surface. Continued drilling following the 2014 discovery hole (HWY-14-48: 5.37 grams per tonne ("gpt") over 46.0 metres ("m") including 21.87 gpt over 6.0m and 12.54 gpt over 4.4 metres, *Press Release dated October 07, 2014*) has outlined a mineral deposit similar in style and setting to the nearby Thunder Creek Deposit. Multiple internal studies, combined with the expertise of external consultants have helped to better understand the geological, structural, and geochemical controls on the new deposit. The interpreted results and supporting observations of these studies are summarized in the following deposit description.

Similar to both the Timmins and Thunder Creek Deposits, the 144 Gap Deposit comprises a series of steeply plunging mineralized zones that occur along, or proximal to, the northeast trending contact area between southeast facing mafic volcanic rocks of the Tisdale Assemblage to the northwest and the dominantly southeasterly facing, overturned turbiditic sediments of the Porcupine Assemblage to the southeast (Figure 7.3). The contact dips steeply to the northwest and is modified/locally deflected by folding, a high strain zone. This structure comprises an intense northeast trending, steep northwest dipping mylonitic to phyllonitic shear zone that varies between 5 and 20 metres thick (Rhys, 2015). The high strain zone varies in style from hanging-wall to footwall as it spans variations in host-rock unit and associated alteration across its width. In the hanging-wall where it is generally developed within the mafic volcanic-pyroxenite sequence, the structure is a dark grey laminated biotite-magnetite-chlorite-calcite shear zone with intense phyllonitic foliation, and which may contain variable amounts of apatite and K-feldspar (Ross and Rhys, 2015). The shear zone typically grades into more sericite (-carbonate)-rich components in its footwall, likely denoting a change in primary protolith and overprinting alteration from the mafic volcanic-pyroxenite sequence to altered Porcupine sediments. Carbonate in the contact zone is appreciably more iron-rich (dolomite-ankerite) and indicates a younger alteration phase that overprints the biotite-magnetite-calcite portions of the shear zone (Ross and Rhys, 2015). Highly deformed, boudinaged, and folded pink syenite dykelets are also spatially associated with the sericite-rich portions of the structure. Lithological contacts are highly obscured (and considered gradational) due to the intense nature of alteration and deformation in this central part of the shear zone. In the footwall to the structure, sediments exhibit strong sericite-carbonate (dolomite) alteration and may be intensely foliated up to tens of metres away (Ross and Rhys, 2015).

Work to date suggests that gold mineralization at the 144 Gap Deposit is concentrated dominantly in the footwall to the high strain zone where mineralized syenite bodies intrude an upward-tapering lobe of mafic volcanic rocks (Figure 7.8 and Figure 7.9). The mafic volcanic lobe extends upward to elevations of approximately 500 to 700 metres below surface with an approximate thickness of 150 metres in its upper portions and widens downward to greater than 300 metres thick at the lower limits of current drilling depths. This mafic lobe is separated in its upper portions from the high strain zone and the hanging-wall volcanic sequence by a wedge of altered Porcupine sediments as depicted in Figure 7.9. This wedge appears to extend from the main body of sediments that occur to the southeast and tapers downward along the immediate footwall of the high strain zone. At depth, these highly strained and altered sediments are intercalated with and increasingly difficult to distinguish from the adjacent altered mafic volcanic rocks. The lack of a clearly identifiable structure at the contact between the mafic lobe and the adjacent sediment wedge, coupled with the southeasterly facing of the bedded sediments, suggests this may be a primary basal contact of the unconformity between the Tisdale volcanic sequence and overlying Porcupine sediments (Rhys, 2015). Rhys (2015) also suggests that the wrapping of sediments around the top of the mafic lobe may represent the hinge zone of an antiformal fold which has been truncated along its northwestern limb by the high strain zone (Figure 7.9).

Abundant syenite dykes and sills intrude mainly the upper portions of the mafic volcanic lobe that occurs in the footwall to the Rusk Shear Zone, and comprise the dominant lithologic host to gold mineralization in the 144 Gap Deposit (Figure 7.8 and Figure 7.9). Syenite intrusions account for approximately 15 to 25% of the mafic lobe (by volume) and are most abundant within 50 to 200 metres of the footwall to the high strain zone as lenticular sill-like bodies that locally exceed 100 metres in thickness within and below the main mineralized areas (Rhys, 2015). Smaller/thinner syenite dykes and sills are also noted locally in the hanging-wall. Syenite in the 144 Gap Deposit area is typically K-feldspar porphyritic, with blocky to tabular phenocrysts and megacrysts (often exhibiting oscillatory zoning) set in a fine-grained matrix. Multiple phases of syenite are evident with early K-feldspar megacrystic varieties cut by later finely porphyritic varieties that resemble the monzonitic intrusion which is host to the Porphyry Zone at the Thunder Creek Deposit. Matrices range in colour from dark grey or grey-brown in least-altered syenite to salmon pink, reddish-orange, or brick-red in phases affected by a combination of K-feldspar-quartz-albite-hematite alterations (Ross and Rhys, 2015; Linnen and Campbell, 2015).

Hanging-wall rocks to the deposit include mafic volcanics of the Tisdale Assemblage similar in nature to those described above for the Timmins and Thunder Creek portions of the Timmins West Mine. These rocks, as well as those within the mafic volcanic lobe that hosts the 144 Gap Deposit mineralization, are generally massive and dark green-grey in colour with pillowed and vesicular textures locally. Patchy selective epidote-calcite-magnetite are the main alteration phases present with pinkish-brown biotite (phlogopite) appearing in proximity to syenite dykes, possibly the result of contact metamorphism. Though typically massive to weakly foliated, strong fabrics are observed within narrow intervals associated with the high strain zone and related structures.

The multi-phase AIC intrudes the Tisdale Assemblage in the hanging-wall and is generally separated from the high strain zone by up to several tens of metres of mafic volcanic rocks (Figure 7.8). Comprised dominantly of pyroxenite, the multiple phases intrude and are separated by variable widths of mafic volcanic lenses. Larger pyroxenite bodies and smaller dykes alike are typified as dark bluish-grey to medium green, fine to locally coarse-grained pyroxene-rich units containing varying amounts of biotite and magnetite with interstitial plagioclase and occasional accessory garnet and apatite. Other common phases include, but are not limited to: 1) syenite dykes which contain tabular K-feldspar megacrysts set in a dark bluish-grey matrix, here termed “mela-syenite”; 2) medium-grained feldspar-rich dykes and dykelets that tend to cut earlier phases and are commonly referred to as “monzonitic pyroxenite”; 3) fine-grained dykes with disseminated mafic minerals in a pinkish-brown matrix, often termed “hornblende syenite”, and; 4) biotite-rich dykes of probable lamprophyric composition. Rhys (2015) explains that it is not known whether all these phases are co-magmatic or form suites of significantly different ages, since syenite is of Timiskaming age in the regional context meanwhile the AIC has possible affinity to older Porcupine (Krist) intrusions (Barrie, 1990).

Intruding the aforementioned units are diabase dykes belonging to the Matachewan dyke swarm of Paleoproterozoic age (2.45 Ga). This unit is fine-to medium-grained and exhibits a massive gabbroic texture composed of mainly plagioclase, pyroxene, and biotite with accessory magnetite.

FIGURE 7.8: 144 GAP DEPOSIT GEOLOGICAL LEVEL PLAN, 820M LEVEL (EXPLORATION DRIFT)

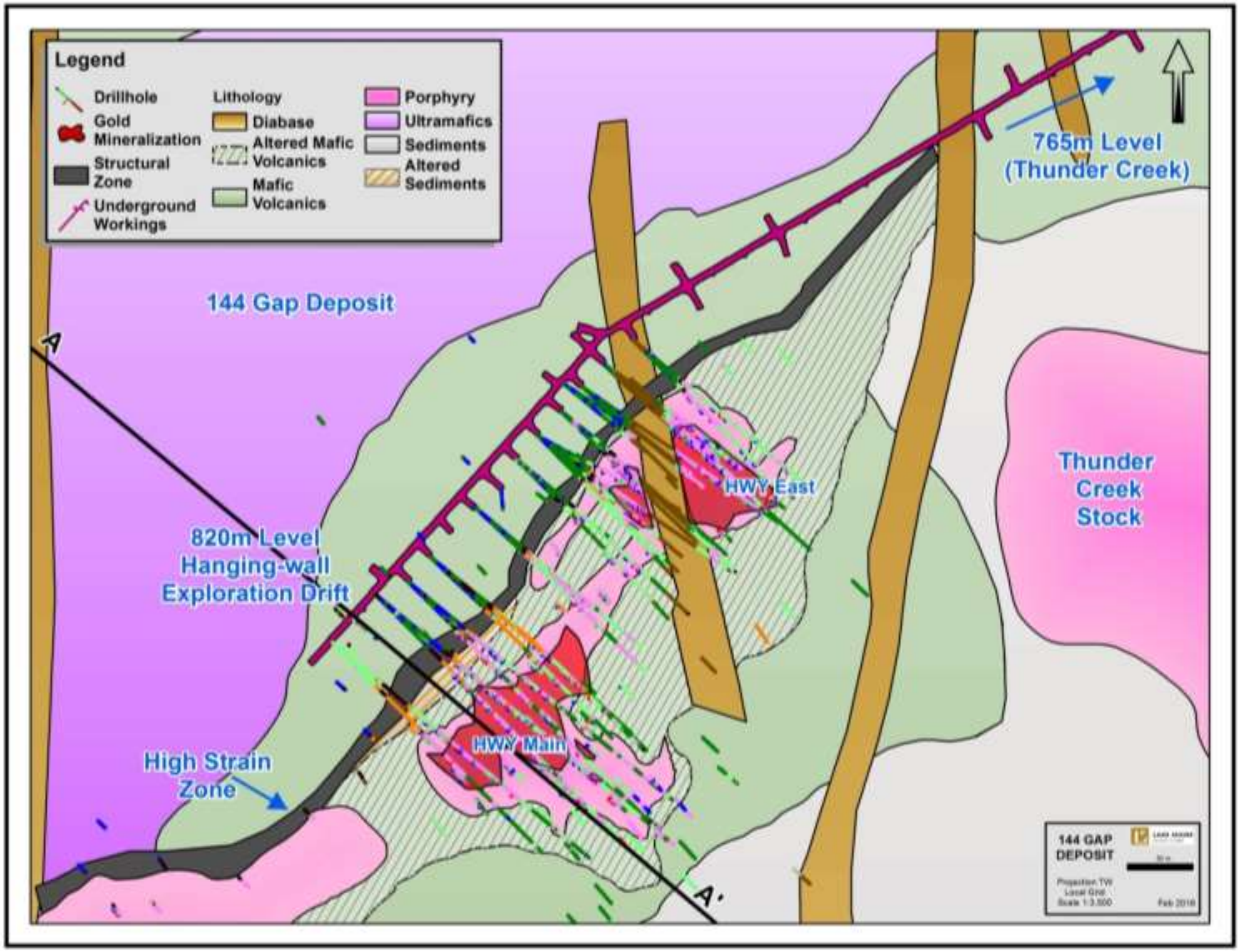
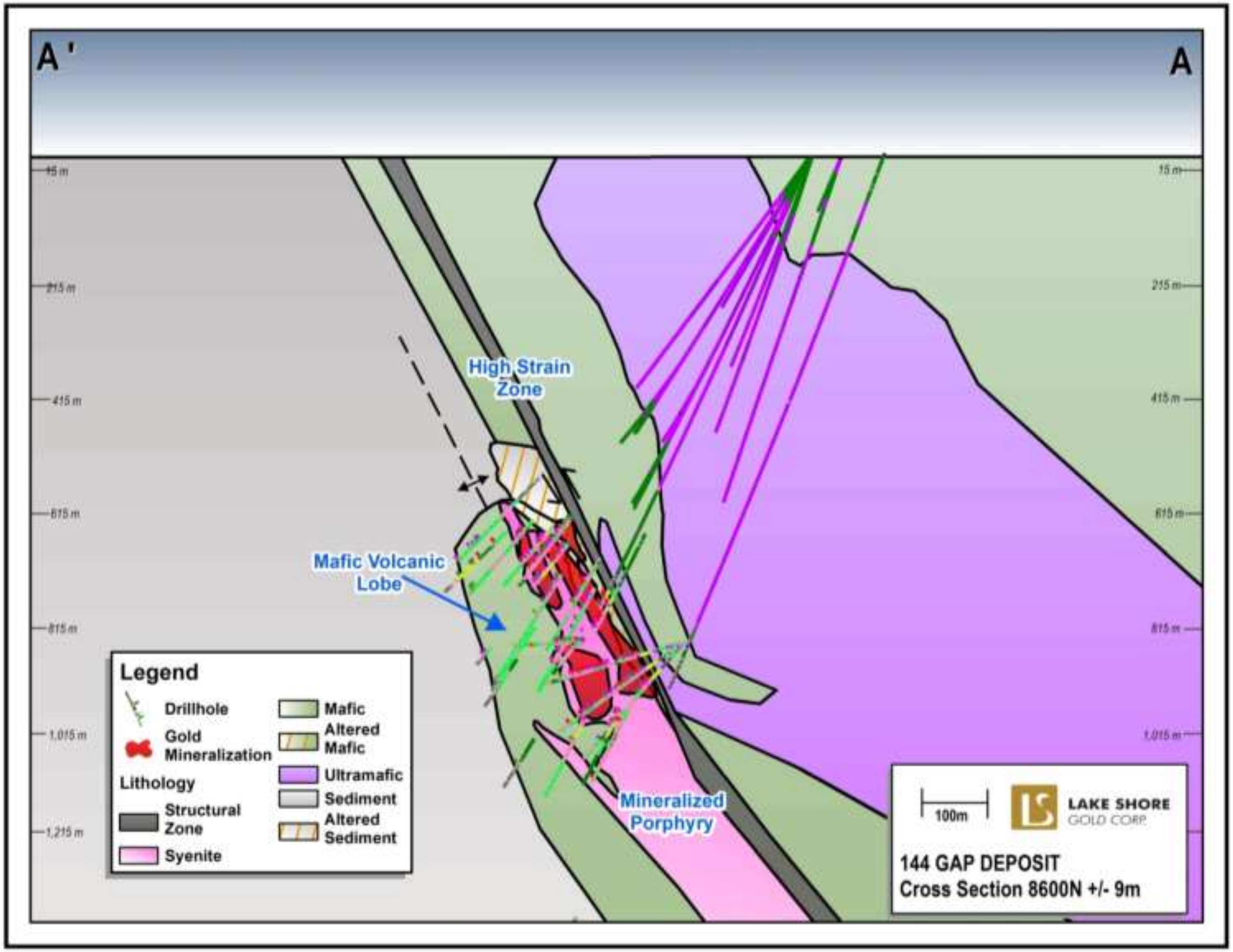


FIGURE 7.9: 144 GAP DEPOSIT GENERALIZED CROSS-SECTION, 8600N (HIGHWAY 144 ROTATED SURFACE GRID)



7.3 STRUCTURAL GEOLOGY

Regionally, deformation in the Timmins area is characterized by a sequence of early, pre-metamorphic folds lacking axial planar cleavage (D_1 and D_2 events) to a series of syn-metamorphic, fabric –forming events which overprint the earlier folds (D_3 and D_4 events) and a later crenulation cleavage (D_5) (Rhys, 2010). The multi-phase Destor-Porcupine fault system passes approximately 5 kilometres to the south of the property. This fault system is a composite corridor of shear zones and faults that record at least two main stages of displacement: 1) syn- Timiskaming (2680-2677 Ma) brittle faulting associated with truncation of early D_1 and D_2 folds, apparent sinistral displacement, and formation of half grabens that are locally filled with Timiskaming clastic sedimentary rocks, and; 2) syn-metamorphic D_3-D_4 formation of high strain zones over a broad corridor generally several hundred metres wide and corresponding with, or developed south of, the trace of the older faults. These shear zones record variable kinematic increments but are regionally dominated by sinistral, north side up displacements (Rhys, 2010).

At least three areas of high strain reflecting probable intense S_3 shear zones have been recognized in the Timmins Deposit, Thunder Creek, and 144 Gap Deposit areas: the west-northwest trending, but significantly folded Holmer Shear Zone (Timmins Deposit); the northeast trending Rusk Shear Zone (Thunder Creek), and; the high strain zone in the 144 Gap Deposit area, interpreted as a possible southwest extension of the Rusk Shear Zone, or related structure. Shear zones may also be significantly folded, as occurs in the Main Zone in upper proportions of the Timmins Deposit. These closures have localized gold mineralization which plunge parallel to them, suggesting the definition of additional F_4 fold closures (Rhys, 2010).

Shear sense indicators in the Holmer Shear Zone surface outcrops, coupled with the oblique (clockwise) nature of the S_3 foliation in the Rusk Shear Zone, suggest that both of these dominant structures in the Timmins West Mine area accommodated sinistral displacement during D_3. Subsequent D_4 shear zone development in narrower, generally east-west trending and steeply dipping structures with dominantly reverse kinematic indicators in the Timmins Deposit would then imply a change in kinematics later in the deformation history to a more contractional setting associated with development of the stretching lineation. Such variations in kinematics are also suggested in other deposits in the Timmins area and imply changing patterns of far field stress and regional transpression between D_3 and D_4 (Rhys, 2010).

A post-mineral deformation event (D_5) has also been recorded at the Timmins Deposit, evidenced by the folding of shear zones (F_5 folds) in the upper parts of the deposit, particularly near surface, thereby causing variation in dip of the sequence and associated mineralization.

7.4 MINERALIZATION

Gold mineralization in the Timmins, Thunder Creek, and 144 Gap Deposits occurs in steep north-northwest plunging mineralized zones which plunge parallel to the local orientations of the L_4 lineation features which also plunge parallel to the lineation, including folds and elongate lithologies. Mineralization occurs within, or along favourable lithostructural settings within 100 metres of the Holmer and Rusk Shear Zones. Mineralization comprises multiple generations of quartz-carbonate-tourmaline ±albite veins, associated pyrite alteration envelopes, and disseminated pyrite mineralization. Textural evidence suggests that veining formed progressively through D_3 and D_4 deformation. All phases of gold-bearing veins cut and postdate the AIC and syenitic to monzonitic intrusions, although mineralization is often spatially associated with ore preferentially developed within these intrusive suites (Rhys, 2010).

Appendix 3 contains a number of photographs (Plates 1-15) illustrating the various styles of mineralization in each of the Timmins West Mine deposits, taken from Rhys (2011 and 2015).

7.4.1 Timmins Deposit

At the Timmins Deposit, the character and sequence of veining in the Main, V1 and V2 veins is similar in all exposures. Rhys (2003) defined three phases of veining in the Timmins Deposit surface showings, all of which were also apparent in his recent observations (Rhys, 2010 and 2011), although an additional phase of shallow dipping quartz extension veins was also recognized during this field work (Rhys, 2010). The sequence of veining observed is as follows, with most veins in the upper Timmins Deposit mineralization forming composite veins which have this paragenetic sequence.

1. Early tourmaline-rich phase: Early, tourmaline-quartz vein material forms the earliest veining phase, and comprises both dilation veins and wall rock replacement in tabular replacement vein-style zones along strike from, or parallel to dilation veins. The veins have tan carbonate ±sericite alteration envelopes. Tourmaline can comprise the majority of the vein material in these veins, forming a black matrix cross cut by later phases of veining. These veins vary from a few centimetres to more than 2 metres wide, and may be significantly boudinaged or folded, with S_4 axial planar to the folds. Boudins, where developed are linear and shallow plunging, at high angle to the L_4 stretching lineation. Dilational veins have sharp contacts and massive central fill consistent with formation as void fill. Replacement tourmaline comprises 5 to 40 centimetre wide replacement veins which unlike the dilational veins have gradational contacts over 0.5 to 2 centimetre and preserves relic textures of the wallrock, including relic fragmental textures in deformed potential clastic sedimentary or fragmental tuffaceous units which occur in the Holmer Shear Zone. These may laterally grade into more dilational quartz-tourmaline veins which have sharp contacts; both vein styles are spatially associated and close in timing, with the replacement style locally enveloping dilational tourmaline veins. Dilational tourmaline-rich veins locally form en echelon, moderate to steeply north dipping extension veins separate from the main veins. Broad zones of veining with multiple dilational and parallel, sheeted replacement tourmaline veins may alternate with slivers of carbonate-quartz-sericite altered wall rock. Tourmaline veins may contain disseminated pyrite and arsenopyrite.
2. Quartz-rich second phase: Exploiting the earlier tourmaline-rich veins, this phase of veining forms white quartz ± tourmaline ± sericite ± pyrite ± arsenopyrite vein material which overprints, but occurs along and parallel to the earlier tourmaline vein material, which with wallrock slivers create a banded appearance to the quartz-tourmaline veins. Tourmaline coeval with this phase may occur with sulphides and carbonate as stylolites in the vein material. Earlier tourmaline may occur as slivers, lenses and fragments in the younger white quartz, or the younger white quartz may occur on the margins of earlier tourmaline veins. This style of quartz may also occur independent of the tourmaline veins as a separate vein generation and locally occupies minor reverse, north-side up D_4 Shear Zones. Sampling and local presence of visible gold in this veins phase indicate that it is auriferous. This veining is the intermediate stage of veining discussed by Rhys (2003). When occurring as independent shear veins, it may be joined by quartz-carbonate extension veins which are variably deformed. Like the tourmaline veins this stage of veining is affected by folding, and this generation of quartz also occurs with early tourmaline as composite folded veins which trend northwest along the southwestern margins of the Main Zone.
3. Quartz extension veins, variably deformed: Shallow to moderate southeast dipping quartz greater than tourmaline + carbonate extension veinlets from ladder-like stacked arrays which preferentially occur in, and cut across the earlier quartz-tourmaline and banded quartz-rich

veins phase. The extension veins may either terminate at the margins of the older veins, or nucleate in the early tourmaline and extend outward into surrounding wallrock. The extension veins are often closely spaced and may occur at intervals of a few centimetres to tens of centimetres apart. They range from hairline up to 10 centimetres thick. This set of extension veins locally occurs as en echelon, locally sigmoidal arrays which record apparent northwest side up displacement internal to the older quarts-tourmaline veining, and which also record , reverse north side up displacements. Where not folded in sigmoidal sets, these extension veins are developed approximately orthogonal to the steep northwest plunging L_4 stretching / intersection lineation, suggesting that they formed during stretching of the lithology sequence parallel to L_4 in response to north-south D_4 shortening – consistent with the relatively late structural timing as suggested by the generally low strain state.

4. Late quartz extension veinlets: A late set of shallow dipping, generally to the southeast quartz extension veinlets frequently occurs within the quartz-tourmaline veins, and cuts at low angles across the earlier set of extension veinlets described above, especially where they are folded into sigmoidal sets. These late veinlets are typically narrow (1 to 10 millimetres thick) and are volumetrically minor, although they can be locally very abundant. Their similar orientation with respect to L_4 as the preceding extension veins set, but generally undeformed state suggest that they represent a second, structurally late increment of extension veining late during D_4.

Textural and timing relationships of the different, but spatially related veining generations listed above suggest that they formed incrementally spanning deformation during D_3 and D_4. The early quartz-tourmaline veins, including the second phase quartz greater than tourmaline vein phase are affected by all D_4 strain, exhibiting folding when development oblique to or at high angles to S_4 foliation, and boudinaged in response to the stretching parallel to L_4. However, these veins also cross S_3 foliation as planar veins where they trend northeast at high angles to S_3 suggesting that they were affected by only minor D_3 strain. In addition, tourmaline replacement veins were they overprint potential fragmental units contain less strain relic fragments that the surrounding wallrock suggesting that they formed part way through D_3 where the wallrocks were already deformed, but prior to the accommodation of all strains in the rocks. These field relationships are consistent with the quartz-tourmaline veins and the next generation of banded quartz which is parallel to them forming and extensional veins and shear veins during D_3 in response to sinistral displacement along, and shortening across the Holmer Shear Zone. During later potentially progressive D_4 deformation, additional phases of veining mainly as quartz extension vein arrays have formed exploiting the earlier rheologically competent quartz-tourmaline, and forming a high angle to the L_4 lineation, suggesting vein formation in response to the stretching parallel to L_4. These extension veins and the very late set of extension veinlets may also form along the adjacent to minor east-west trending D_4 Shear Zones which accommodate north side up displacement, and overprint the transposed fabrics associated with D_3 (S_3), (Rhys, 2010).

Systematic underground drilling and mapping have led to an improved interpretation of the internal lithological correlations within the AIC, which hosts the Ultramafic Zone in proximity to the “fold nose” (Rhys, 2012, J. Samson, personal communication). Figure 7.4 is a geological level plan on the 790m Level and illustrates a core of dominantly serpentinized, chloritized and locally talc-altered komatiite ultramafic unit that lies in the centre of the “fold nose” in the AIC (dominantly pyroxenite). Mineralization in the altered pyroxenite in the Ultramafic Zone terminates against the altered komatiitic unit, with non-mineralized quartz-tourmaline veining extending into the komatiitic unit. Recognition of this allows for limiting the projection of the mineralization away from drillholes towards holes that intersected the komatiite, thus tightening up the mineralization shapes. This komatiitic unit also separates the AIC into two lobes of dominantly pyroxenite with the main part of the Ultramafic Zone being hosted within the western lobe and a series of smaller, generally shallow-dipping Ultramafic Zones, termed here as "Sediment Sub-Zones" (e.g., S_2, S_6, S_7), being located in the eastern lobe (Figure 7.4). Here these zones are folded within the eastern pyroxenite around the core of the pyroxenite / sediment contact (Figure 7.5). Recent underground drill hole intersections show the potential for additional zones of mineralization within this eastern lobe of pyroxenite at depth.

7.4.2 Thunder Creek Deposit

In the Thunder Creek area, there are two main styles of mineralization: 1) the Rusk Shear Zone adjacent to and in the footwall of the pyroxenite unit, and; 2) the Porphyry Zone which is hosted by the quartz monzonite intrusion which lies to the southeast in the immediate footwall to the Rusk Shear Zone below an elevation of approximately 500 metres below surface (Figure 7.6 and Figure 7.7). Both of these zones occur spatially related in the same steep north-northwest plunging mineralization area which has been traced over a vertical dip length to date (Rhys, 2003-10-12) of more than 1 kilometre, and within which better intercepts occur along a strike length of 100 to 600 metres (Rhys, 2010).

Mineralization in the Rusk Shear Zone comprises areas of either higher quartz-carbonate-pyrite vein density, and/or areas of elevated medium- to coarse-grained disseminated pyrite and associated pyrite-quartz veinlets. Both of these styles were observed to occur in the intensely foliated, often compositionally laminated carbonate-albite-quartz-magnetite portions of the shear zone. Mineralization also locally preferentially overprints pink, K-feldspar-rich syenite dykes and local plagioclase-dominant probable diorite dykes in the shear zone, with clots and aggregates of coarse pyrite, often associated with quartz-albite-carbonate veinlets. Areas of gold mineralization occur in portions of the Rusk Shear Zone in which the shear zone matrix is variably Fe-carbonate altered.

The most common style of veining comprises deformed quartz-pink carbonate/albite veins with varying pyrite content and coarse-grained pyrite envelopes/selvages, which correspond generally with higher and more continuous grade. These early deformed veins are very similar in style and texture to the earliest phases of veining seen underground in the 650m Level Ultramafic Zone which are also deformed and could be coeval with the set (Rhys, 2010). Veins in the Rusk Shear Zone also include a younger phase of quartz-pyrite veins which have pyrite envelopes, that cut the deformed veins and which have carbonate-pyrite envelopes that overprint the shear zone matrix. The coarse pyrite in vein envelopes also overgrows the dominant shear zone foliation, which is preserved texturally as inclusion trails in the pyrite (Ross, 2010). This younger set of veinlets is likely coeval with the main stage extension vein sets on the 650m Level (Rhys, 2010). Both of these veining phases are auriferous and contain high gold grades. Gold in both phases was observed in a petrographic study in association with pyrite. Gold was present as inclusions in pyrite, associated with chalcopyrite and galena, on fractures in pyrite, and free in gangue minerals adjacent to pyrite grains (Ross, 2010).

"Porphyry Zone" mineralization is developed in the quartz monzonite intrusion that occurs at depth in the footwall to the Rusk Shear Zone immediately adjacent to areas of mineralization in the shear zone. Mineralization is associated with sheeted sets of quartz extension veins which occur in abundance of up to several veins per metre within the intrusion. Most veins are less than 3 centimetres thick and comprise white quartz with pyrite. Disseminated pyrite locally occurs in the wall rock adjacent to the veins and free visible gold was locally observed in association with pyrite both in veins and disseminated in the host rock. The intrusion is generally massive in areas of veining. Veins have variable core axis angles, but angles are most commonly high (>70 degrees to core axis) consistent with a shallow dip to extension veinlets, supported by geological underground mapping in development headings. Local irregularity in vein shapes and orientations, particularly in areas of the highest vein abundance, suggests some deformation, possibly in the cores of sigmoidal vein arrays. These veins are of compatible style and probable orientation as the main stage Ultramafic Zone veins in the Timmins Mine which they may be coeval with, and consequently they may also form areas of higher grade continuity which are dictated by the morphology of the extension vein arrays. These veins may have formed preferentially in the upper, thinner portions of the intrusion, in response to brittle behavior of the intrusive body during shear zone deformation. More isolated narrower intercepts deeper in the intrusion where it is thicker may reflect more rigid behavior, as is seen in many other Timmins area deposits, where an optimal thickness of the host unit is common for most abundant vein development. Modeling of the morphology and thickness of the host intrusion may as a result aid in definition of the distribution of best developed mineralization (Rhys, 2010).

Areas of veining are frequently associated with more intense pink-red coloured and homogeneous appearance of the intrusion, obscuring the primary igneous textures. A systematic series of samples from drill hole TC09-69a across the hosting monzonite intrusion was stained using Na-cobaltinitrate to assess whether this vein associated alteration is K-feldspar; intense yellow stain in these altered areas confirms that the reddish-orange alteration with quartz veining is secondary K-feldspar (Rhys, 2010). Within the Porphyry Zone, systematic sampling of different vein generations confirms that there is a positive correlation between gold grade and quartz vein density (Campbell, 2014).

7.4.3 144 Gap Deposit

Gold mineralization in the 144 Gap Deposit occurs generally between 600 and 1,000 metres below surface in the footwall of the high strain zone within and adjacent to syenite bodies in the footwall mafic volcanic lobe (Figure 7.8 and Figure 7.9). The main mineralized areas occur between approximately 20 to 120 metres into the footwall of the high strain zone; however, mineralization also occurs locally within the shear zone itself. There are two main styles of mineralization identified in the 144 Gap Deposit area: 1) syenite-hosted quartz-pyrite extension vein sets and associated mineralization, and; 2) disseminated and vein-controlled pyrite in carbonate-sericite altered areas of higher strain in the shear zone and in altered mafic units along and within dyke margins.

The highest syenite-hosted gold grades in the 144 Gap Deposit are associated with areas of quartz extension vein development. These extensional quartz veinlets are typically 2 to 30 millimetres in diameter (although locally can reach up to greater than 15 centimetres in width), exhibit sharp unfoliated margins, and are filled with blocky to prismatic quartz (Ross and Rhys, 2015). Vein densities seldom comprise more than 5% of the host syenite by volume. Though there is no apparent direct relationship between gold grade and quartz vein abundance, areas lacking quartz vein development altogether also typically lack significant gold grades. Instead, the highest gold grades are more directly linked to development of coarse-grained, often cubic pyrite occurring as individual grains, or locally as grain aggregates, along quartz veinlets and sometimes in wallrock within vein halos (Rhys, 2015). Vein-hosted pyrite is poly-generational and overgrows early Au-poor cores, which may suggest multiple incremental gold depositional pulses within an ongoing mineralizing event (see Linnen and Campbell, 2015). Areas of gold-rich veining in syenite occur both with or without the reddish K-feldspar-albite-quartz (-hematite) alteration and associated local fine-grained in-situ brecciation which often affect the syenite matrix (discussed above). Consistent with this alteration being earlier than main-stage mineralization, these gold-bearing veinlets also clearly cut the altered areas and breccia zones (Rhys, 2015). Despite this relationship, mineralized areas are seldom unaltered and typically exhibit pale orange-reddish colours in proximity to Au-bearing vein arrays, which may suggest a lower intensity, feldspar-stable alteration accompanies vein development (Rhys, 2015). Extensional quartz veins in the 144 Gap Deposit area are preferentially developed in the syenite and typically terminate at dyke/sill margins. Similar to Thunder Creek, this vein distribution highlights the importance of rheologically more competent units (i.e., syenite or monzonite) which can accommodate brittle fracturing and subsequent vein development. Extensional quartz veinlets in mineralized areas of the 144 Gap Deposit area exhibit variable, but generally moderate core axis angles, consistent with shallow, often southeasterly dipping extension vein sets. Veinlets with different orientations, as well as localized areas of more abundant and thicker quartz veining may suggest the development of sigmoidal quartz extension vein arrays and local shear veins, similar to the Porphyry Zone at Thunder Creek (Rhys, 2015). Although multiple vein generations may be present, most veins are likely the result of one protracted veining event during which veins formed in multiple pulses as sigmoidal vein arrays developed, with earlier veins progressively deformed and overprinted by younger vein generations (Rhys, 2015). Late steeply dipping veinlets occur locally and are interpreted to post-date the mineralized extension vein sets.

Despite a clear spatial relationship with syenite in the 144 Gap Deposit, gold mineralization also occurs outside of the syenite bodies in three general settings, each of which is associated with disseminated pyrite in dominantly carbonate (dolomite-ankerite; Ross and Rhys, 2015) altered mafic, pyroxenite, and locally sediment host-rocks:

1. In footwall portions of the high strain zone, where intercalated altered mafic volcanic rocks and sediments occur with deformed syenite dyke lenses, disseminated medium- to coarse-grained pyrite and local deformed quartz veinlets are developed in association with tan-brown carbonate-sericite alteration of mafic domains and reddish-orange syenite dykelets. Unlike at Thunder Creek, these mineralized areas are not continuous but do indicate the potential for steeply plunging mineralized zones localized along the shear (Rhys, 2015).
2. In the mafic volcanic lobe, disseminated fine- to medium-grained pyrite occurs in association with brown to tan carbonate altered mafic volcanics in areas of increased foliation between and proximal (typically within 3 metres) to syenite bodies. This style of mineralization is estimated to contribute up to 30% of the gold content in the main mineralized areas of the 144 Gap Deposit. The disseminated pyrite and associated carbonate alteration are shown to overgrow the foliation commonly developed in these disseminated zones, consistent with a structurally late timing for gold mineralization. Earlier biotite-calcite-magnetite-K-feldspar-albite alteration is also overprinted by the gold-related pyritic carbonate assemblage adjacent to syenite dykes, although K-feldspar appears to remain stable in these areas (Ross and Rhys, 2015).
3. Patchy disseminated pyrite associated with varying intensities of carbonate-sericite alteration of mafic volcanic rocks and turbiditic sediments also occurs along or proximal to the southeastern contact between the volcanic lobe and the Porcupine Assemblage (Rhys, 2015).

The close spatial association of the different alteration styles described herein with mineralization in the syenite bodies suggests that all mineralization styles are linked to the same event and simply reflect different manifestations of gold deposition related to contrasting host-rock composition and rheology (Rhys, 2015).

8.0 DEPOSIT TYPES

The Porcupine area is well known for hosting two mineral deposit types: 1) volcanogenic massive sulphide deposits (i.e. Glencore's Kidd Creek Mine), and; 2) numerous mesothermal Archean shear-hosted gold deposits. Historic production to the end of 2006, from some 50 mining operations is reported to be 2,028,140 kilograms (65,206,222 ounces) of gold. Table 8.1 highlights the 21 mining operations that exceeded 3,110 kilograms (100,000 ounces) of gold production.

The setting of the Timmins West Mine is characteristic of mesothermal Archean shear-hosted gold deposits. Dube and Gosselin (2007) have summarized the general consensus that greenstone-hosted quartz-carbonate vein deposits are related to metamorphism, partial melting, and thermal re-equilibration of subducted volcano-sedimentary terrains. Deep-seated, Au-transporting fluids were channeled to higher crustal levels through major crustal faults or deformation zones, similar to the Destor-Porcupine Fault Zone located about 5 kilometres south of the Timmins West Mine. Enrichment of these mineralizing hydrothermal fluids was likely derived from the leaching of various components, most notably gold, from the volcano-sedimentary country rocks during fluid transport and ascension. The fluids then precipitated as vein material or wall-rock replacement in second and third order structures at higher crustal levels through fluid-pressure cycling processes and other physicochemical reactions (temperature, pH, fS_2, and fO_2 changes).

Mineralization style at the Timmins West Mine is typical of the Timmins and Kirkland Lake gold camps. There are detailed differences for each deposit with respect to individual structural controls, vein density, gold tenor, gold/silver ratio, and size, but they do have some commonality. In his 1997 PhD thesis titled "Geological Setting of Gold Deposits in the Porcupine Gold Camp, Timmins, Ontario", Brisbin generalizes the ore bodies as typified by single or multiple quartz-carbonate veins with or without albite, tourmaline, sericite, pyrite, and other sulphides, and native gold hosted in carbonatized, sericitized, albitized and pyritized wallrock. Gold occurs both in the veins and the wallrock. The most significant gold deposits are spatially associated with quartz-feldspar porphyry stocks and dykes and with albitite dykes, both of which intrude the folded Archean supracrustal rocks. The supracrustal rocks, porphyry intrusions, albitite dykes, and gold mineralization were affected by metamorphism, and penetrative deformation during the Kenoran Orogeny (Brisbin, 1997). Brisbin further compares gold production with lithology. Over 75% of gold production from the Porcupine Camp (1997) was mined from orebodies in the Tisdale Group rocks (which are thus considered the most important rocks in the camp). Approximately 15% of the gold from the Porcupine Camp has been hosted by Timiskaming Group rocks, making them the second most important host. Porphyritic intrusions, heterolithic breccia bodies, and albitite dykes host nearly 10% of the gold produced in the camp.

Gold mineralization in the Timmins West Mine occurs in steep north-northwest plunging mineralized zones which are also parallel to the local L_4 stretching lineation. Mineralization occurs within, or adjacent to zones of strong deformation such as the Holmer and Rusk Shear Zones. Mineralization at the Timmins Deposit is hosted in multiple generations of quartz-carbonate-tourmaline (± albite) veins, associated pyrite alteration envelopes, and disseminated pyrite mineralization. Textural evidence suggests that veining formed progressively through D_3 and D_4 deformation events. Mineralization at the Thunder Creek and Highway-144 Gap Deposit Deposits postdates the AIC, with two main generations of quartz-pyrite (± scheelite, galena, molybdenite) veins. Veining is almost exclusively hosted in syenite-monzonite intrusions adjacent to the Rusk Shear Zone (Rhys, 2010).

TABLE 8.1: OPERATIONS WITH GREATER THAN 100,000 OUNCES OF GOLD PRODUCTION IN THE PORCUPINE GOLD CAMP (AS OF 2006)

Mine	Kilograms Gold Produced	Ounces Gold Produced
Hollinger	601,158	19,327,691
Dome	487,558	15,675,367
McIntyre Pamour Schumacher	334,423	10,751,941
Pamour #1 (Pits 3, 4, 7, Hoyle)	131,393	4,224,377
Aunor Pamour (#3)	77,828	2,502,214
Hoyle Pond	72,046	2,316,346
Hallnor (Pamour #2)	52,582	1,690,560
Preston	47,879	1,539,355
Paymaster	37,082	1,192,206
Coniarum/Carium	34,512	1,109,574
Buffalo Ankerite	29,775	957,292
Delnite (Open Pit)	28,740	924,006
Pamour (Other Sources)	21,046	676,645
Broulan Reef Mine	15,519	498,932
Broulan Porcupine	7,485	240,660
Owl Creek	7,368	236,880
Hollinger Pamour Timmins	5,663	182,058
Nighthawk	5,468	175,803
Moneta	4,642	149,250
Crown	4,303	138,330
Bell Creek	3,507	112,739
21 Site Totals	**2,009,976**	**64,622,226**
The Porcupine Camp Total (50 Sites)	**2,028,140**	**65,206,222**

(source: http://www.mndm.gov.on.ca/mines/ogs/resgeol/office)

9.0 EXPLORATION

9.1 GENERAL OVERVIEW

Prior to 2003, all exploration on the Timmins West Mine area was carried-out by previous operators (as summarized in Item 6). Since then, exploration on the Timmins, Thunder Creek, and Highway-144 Gap Deposits by Lake Shore Gold (LSG) has consisted primarily of diamond drilling (refer to Item 10).

Other exploration activities from 2003 to present include basic geological and structural mapping, prospecting, outcrop stripping, lithogeochemical sampling, and MMI soil geochemical surveys. Geophysical surveys including airborne magnetics as well as surface and downhole IP were also completed, along with various research projects. The most recent of these exploration activities (2013 to present) are summarized in Table 9.1. Some of the work has been contracted out to consultants, while other work has been done in tandem with universities in the form of sponsored academic studies. These campaigns have helped solidify the current level of geological understanding and have provided the necessary framework in order to generate useful drill targets for advanced exploration of the Timmins West Mine area.

TABLE 9.1: SUMMARY OF SIGNIFICANT EXPLORATION ACTIVITIES CONDUCTED BY LSG AT THE TIMMINS WEST MINE, 2013 – PRESENT (EXCLUDES DRILLING)

YEAR	ACTIVITY	DESCRIPTION	COMMENTS
2013-2014	Sponsorship of MSc Thesis work: *Characteristics of Syenite-Hosted Au Mineralization in the Western Timmins Camp*	Analysis of ~200 core & grab samples (Thunder Creek and Highway-144 Projects)	Completed thesis (R. Campbell, University of Western Ontario, 2014)
2015	High-Resolution Aerial Survey over the Thunder Creek/ Highway-144 Trend	10 flights by UAV (drone) over 7.8 square kilometer survey block.	Geo-referenced TIFF & JPEG digital ortho-photographs, 8cm resolution (Terrane Aerial Surveys, July 2015)
2015	Petrographic Study of the Highway-144 Gap Deposit: *Petrography of Representative Samples of Mineralization, Alteration and Shear Zones in the 144-Gap Deposit, Exclusive of Syenites, with Comparison to the Thunder Creek Rusk Zone*	On-site core examinations. Thin section microscopy and analysis of ~30 core and underground grab samples.	Highway-144 Gap Deposit and Thunder Creek Deposits Finalized internal report received Dec/15 (K. Ross and D. Rhys, 2015)
2015	Mapping & Drill Core Study of the Highway-144 Gap Deposit: *Structural Setting and Style of the 144 Gap Deposit and Other Areas: Observations from Drill Core, and Underground Exposures with Exploration Recommendations*	On-site core examinations & underground mapping.	Highway-144 Gap Deposit, Thunder Creek, and Timmins Deposits Finalized internal report received Dec/15 (D. Rhys, 2015)
2015-2016	Geophysical Surveys (Thunder Creek/ Highway-144 Trend)	185km line-cutting 184km MAG 169km *IPower* 3D IP 8km Gravity 15 core samples for	Internal reports and maps-sections for each of the work phases (Abitibi Geophysics, Initial Report 15N037, 2015, Finalized report

YEAR	ACTIVITY	DESCRIPTION	COMMENTS
		baseline signatures	pending)
2015-2016	Lithogeochemical Investigation of the Highway-144 Gap Deposit: *Report on the Alteration and Geochemistry of the Gap Deposit, Timmins West Mine, Timmins, Ontario*	On-site core examinations. Thin-section microscopy & major/trace element geochemistry for ~100 core samples from 8 drill holes	Progress report (Dr. R. Linnen and R. Campbell, Oct/2015) Finalized internal report received Jan/16 (Dr. R. Linnen, 2016)

Note: All drilling activities and relevant statistics are summarized in Item 10.

10.0 DRILLING

10.1 HISTORICAL DRILLING ON THE TIMMINS WEST MINE PROPERTY

Between 1938 and 1980, 145 diamond drill holes totaling 27,622 metres were drilled on the TWM property. The information from this work is either missing or unreliable/incomplete and has not been considered in the LSG Mineral Resource estimates.

Between 1984 and 2002, diamond drilling on the TWM property was carried out by four operators, including Norex, Chevron, St. Andrew and Holmer Gold. All holes were drilled from surface and in reference to the same cut grid, oriented north-south, which was refurbished as required. Bradley Bros. Limited of Timmins contracted most of the drilling, using a variety of drill rigs. Most holes were NQ-size (47.6 mm diameter core), except for 37 holes which were drilled using BQ rods (36.5 mm diameter core). Core recoveries were consistently excellent and close to 100 percent. Drill hole direction and dips were monitored at regular intervals (mostly 50 metre spacing) using Sperry-Sun and EZ-Shot Reflex instruments. Casings were generally left in place and capped. The hole number was stamped on the cap or indicated by a labeled steel bar emplaced at the collar. All collars were subsequently surveyed by a qualified surveyor.

A total of 47,420 metres in 159 holes were completed during that period. The majority of this drilling was directed towards initial resource definition of the Timmins Deposit and is considered to be of sufficient quality to be used in the Mineral Resource estimates for the property. Details regarding collar and downhole surveys, core handling and logging protocols for the historical drill programs are noted in Item 11 and are further discussed in previous NI 43-101 reports (Darling et al, 2009; Powers, 2009). These reports are referenced in Item 27 and are filed on SEDAR.

Drilling on the Thunder Creek Deposit portion of the property by previous operators (1942 to 1996) was sparse and very limited in nature. With missing or unreliable/incomplete information detailing the scope of work, these drill programs are considered insignificant to the current Resource estimate.

The drilling completed between 1984 and 2002 is summarized in Table 10.1. The table only includes drilling by previous operators which has been considered in the Resource estimates.

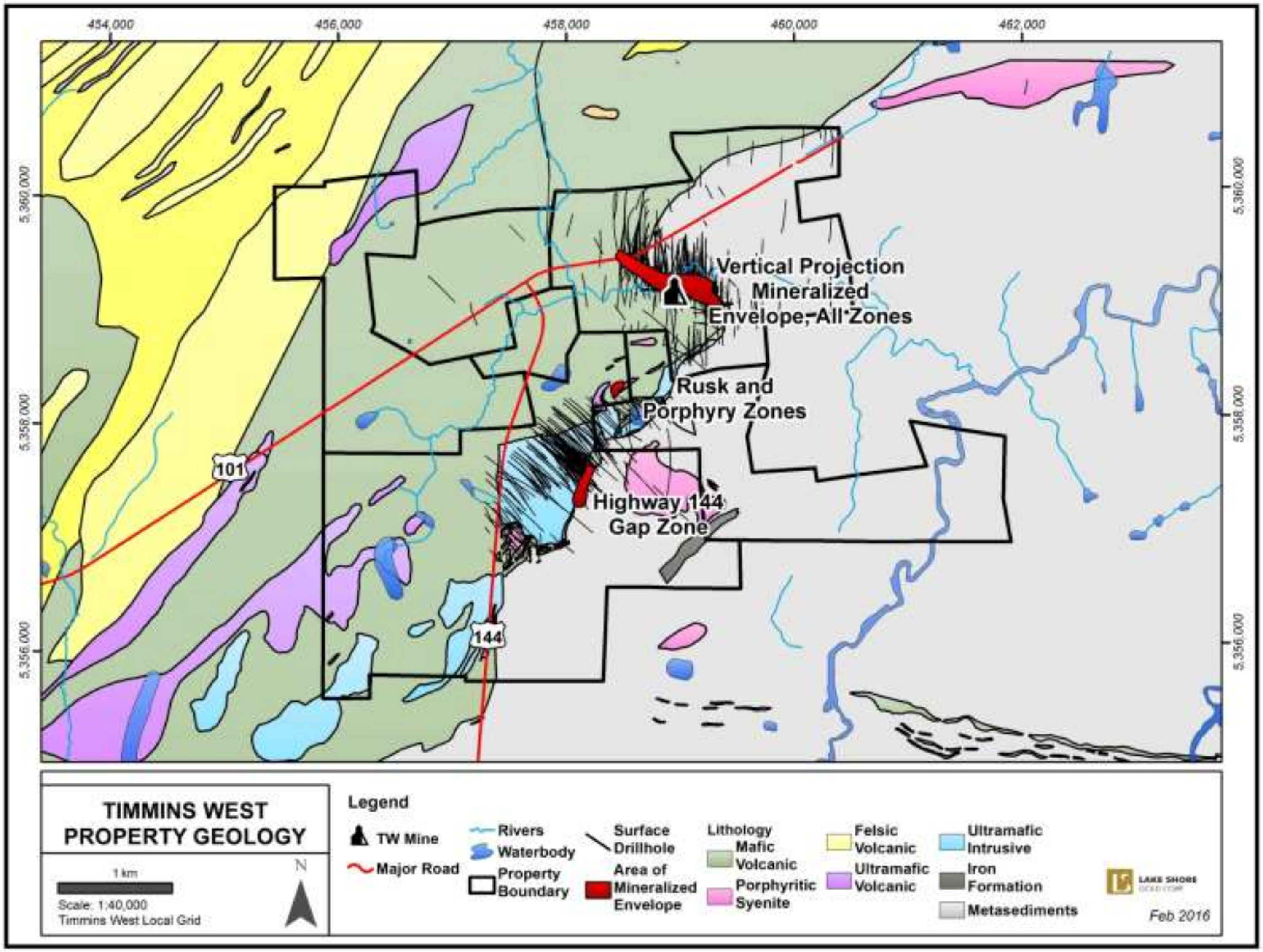
TABLE 10.1: DIAMOND DRILLING BY PREVIOUS OPERATORS ON THE TWM PROPERTY (1984-2002)

Company	Year	Holes	Metres	# Samples
Norex	1984	4	1,465	644
Chevron	1987 – 1989	31	7,870	3,620
Holmer	1996 – 2002	114	36,745	13,679
St.Andrew	1999	10	1,340	667
Total:		**159**	**47,420**	**18,610**

Note: Table only includes drilling by previous operators which has been considered in the LSG Resource estimates.

Refer to Figure 10.1 for surface diamond drill hole collar locations and traces plotted with respect to the surface projection of the mineralized resource.

FIGURE 10.1: SURFACE DIAMOND DRILLING RELATIVE TO VERTICAL PROJECTION OF GENERALIZED RESOURCE ENVELOPES



10.2 DRILLING ON THE TIMMINS DEPOSIT PROPERTY BY LAKE SHORE GOLD

Procedures for surface diamond drill holes completed by LSG are similar to those described above for previous operators. Drilling was mostly contracted to Bradley Bros. Limited, and a minor portion was contracted to Orbit Garant Drilling Services of Val-d'Or. NQ-size holes were standard, except where it was necessary to reduce to BQ rods due to difficult ground conditions. Drill core recoveries were consistently excellent. For deep drilling, numerous branches off the pilot holes were completed using steel wedges. Drill hole orientations were closely monitored using EZ-Shot tests at 30 to 50 metre intervals, and downhole gyro surveys were regularly done for deep holes. Most of the holes were initially not cemented, but in 2007 and 2008, cement grout was pumped down all of the casings which were relatively easy to access. Further details are discussed in Item 11.

Underground diamond drilling on the Timmins Deposit started in October 2008, and was initially carried out by Forage Azimuth Inc. of Rouyn-Noranda, followed by Boart-Longyear from April 2009 to April 2013, and has since been contracted to Orbit Garant of Val-d'Or. Various electric drills are being used and the majority of underground holes are BQ in diameter (36.5 mm diameter core), NQ-sized rods are occasionally used on deeper holes, and HQ-sized rods are typically used for service holes. LTK-48 and AQTK core is provided when air-powered drills are used. Further details are discussed in Item 11.

When LSG optioned the property from Holmer Gold Mines in 2003, the initial main focus of the surface exploration program was diamond drilling the down-plunge and along-strike extensions of the Footwall and Ultramafic Zones. As underground access became available (starting in 2008), the priorities gradually shifted towards infill drilling and stope definition drilling. This work led to the preparation of a Mineral Resource estimate in 2004, reported in accordance with NI 43-101 standards for disclosure, followed by updates in 2006, 2009, 2011, 2012, and 2014 (also NI 43-101 compliant).

For highlights of prior (2003 – 2013) surface and underground drill programs completed by LSG on the Timmins Deposit portion of the TWM property please refer to the previous technical report dated March 31, 2014. Recent drill campaigns are summarized as follows:

2014 to November 20, 2015: No surface exploration drilling has been carried out on the Timmins Mine property since 2011. The primary focus of all underground drilling during this span (846 holes totaling 115,780 metres) remained directed towards upgrading the resource base and stope definition. Similar to the 790 metre Level exploration drift (described above), 502 metres of development were completed to establish a two-phase (Phase 1 = 271 metres, Phase 2 = 231 metres) drill platform on the 910 metre Level to allow for infill drilling of the Timmins Deposit down to approximately the 1310 metre Level. Some holes drilled from this key platform extend beyond or outside of the current resource model to test for new mineralized zones. An important drill drift was also developed in the upper part of the Timmins Deposit on the 480 metre Level in order to complete stope definition drilling and improve confidence in large Reserve blocks that reside in footwall-style mineralized zones (e.g., FW2A) for future detailed mine planning. A small number of holes were also collared from this platform and directed to the north to test the down-plunge projection of Vein-style zones from the Upper Mine. By the end of 2015, the ramp in the Lower Mine was advancing towards the 1000 metre Level.

Of the total underground drilling, a modest portion (17,036 metres) was allocated to test several exploration targets, including: 1) the up- and down-plunge extensions of the "Sediment Sub-Zone" (e.g., S1 and S2) as well as new targets along the northern limb of the "fold nose" structure at depth from the 790 metre Level East Exploration Drift (5,181 metres); 2) the down-plunge projection of the Main Zone from the 790 metre Level West Exploration Drift (4,167 metres); 3) east-west trending structures to the north, similar and sub-parallel to the gold-bearing Holmer Shear from the 790 metre Level S2 Access (1,848 metres), and; 4) the key volcanic-sediment contact and associated structures between, and host to, the Timmins Mine and Thunder Creek Deposits from the 830 metre Level Exploration Drift (5,840 metres). Results of the underground exploration program were mixed with important alteration types and/or structures intersected in proximity to all intended targets, but few significant assays were returned. The most successful of these brief programs included the identification of several stacked shallow-dipping "Sediment Sub-Zones" (e.g., S6 and S7; refer to Figure 7.5) to the east of the main UM mineralized zones and immediately above the ultramafic-sediment contact in the fold nose structure (refer to Figure 7.4). These zones are interpreted to represent the down-plunge extension of the S1 and S2 type zones between the 890 metre and 970 metre Levels, and are included in the present Resource estimate.

Drilling on the Timmins Deposit property by LSG since 2003 includes 305 surface holes (123,889 metres) and 2,826 underground holes (350,837 metres), including 22 holes still being processed (logging or assays in progress) as of February 1, 2016.

Since the database cutoff date of the last technical report on the Timmins Deposit (November 26, 2013), a total of 944 new holes (123,902 metres) have been drilled, and 69,701 assays have been received.

An annual breakdown of the number of diamond drill holes and metres drilled is provided in Table 10.2, and additional drilling statistics are included in Table 10.3.

10.3 DRILLING ON THE THUNDER CREEK PROPERTY BY LAKE SHORE GOLD

Diamond drilling on the Thunder Creek Deposit portion of the property initially focused on testing a historic showing and various geophysically interpreted structures, as well as following up on Mobile Metal Ion ("MMI") and grab sample anomalies. This led to the discovery of the Rusk and Porphyry Zones, which quickly became the main foci of all diamond drilling on the property.

Surface drilling on the Thunder Creek Deposit by LSG began in 2003 and amounts to a total of 115,837 metres completed in 209 holes to date. This figure includes pastefill holes, service holes, and ten grout holes completed in order to minimize underground water infiltration. The work was mostly contracted to Bradley Bros. Ltd. (Timmins), with shorter stints also contracted to Norex Drilling (Porcupine) and Orbit Garant (Val d'Or). All drilling protocols were the same as those implemented by LSG and described for the Timmins Deposit property (see Item 10.2). The only difference is that the cut grid lines are rotated, with the predominant drilling direction at an azimuth of 130 degrees. Further details are included in Item 11.

Underground drilling on the Thunder Creek Deposit began in 2010 and remains ongoing. Access is provided via the Timmins Mine shaft and by ramps on two separate levels. Operations are combined with the Timmins Mine, and drilling contractors, drill specifications, and protocols are therefore the same at both locations.

For highlights of prior (2003-2013) surface and underground drill programs completed by LSG on the Thunder Creek Deposit portion of the TWM property, please refer to the previous technical report dated March 31, 2014. Recent drill campaigns are summarized as follows:

2014 to November 23, 2015: No surface exploration drilling has been carried out on the Thunder Creek property since late 2012. The main focus of all underground drilling during this period (466 holes totaling 49,454 metres) was aimed towards upgrading the resource and stope definition. Drill holes are occasionally extended beyond and outside of the resource envelopes in order to test for new mineralization. Because platforms for infill and stope definition drilling at Thunder Creek are highly dependent on level access development in order to achieve appropriate drill densities (~10 to 12 metre centers), the majority of this drilling is intimately linked with the mine operations. By the end of 2015, the ramp in the Lower Mine had advanced down to the 785 metre Level; meanwhile the ramp in the Upper Mine had reached the 485 metre Level.

Of the total underground drilling, a minor portion (5,350 metres) was allocated to test two main exploration targets, including: 1) the potential expansion of the Porphyry Zone resource to depth (below the 815 metre Level) from the 765 metre Level Main Access and 710 metre Level Exploration Drift (2,891 metres), and; 2) the key volcanic-sedimentary contact and Rusk Shear Zone structure to the southwest of the Thunder Creek Deposit from the 710 metre Level Exploration Drift (2,459 metres). The former program returned favourable results but drill angles limited the depth to which drilling could reach, and only narrow resource expansion along the southern margin of the Porphyry Zone was plausible. The latter program identified intermittent areas of intense alteration with localized pyrite mineralization associated with sporadic syenite dykes and quartz-carbonate veining, but did not return any significant assays.

As of February 1, 2016, a total of 209 surface holes (115,837 metres) and 1,592 underground holes (214,968 metres) have been drilled by LSG on the Thunder Creek property.

Since the database cutoff date of the last technical report on the Thunder Creek Deposit (January 8, 2014), a total of 545 new holes (56,209 metres) have been drilled, and 44,521 assays have been received.

An annual breakdown of the number of diamond drill holes and metres drilled is provided in Table 10.2, and additional drilling statistics are included in Table 10.3.

10.4 DRILLING ON THE HIGHWAY-144 PROPERTY BY LAKE SHORE GOLD

Diamond drilling on the Highway-144 ("HWY-144") property initially focused on testing the southwestern strike extension of the Thunder Creek Rusk Zone, interpreted from regional geology and geophysical signatures. This led to the discovery of the HWY-144 Gap Deposit ("Gap Deposit"), which quickly became the central focus of all diamond drilling efforts on the property.

Surface drilling on the HWY-144 property by LSG began in 2010 and amounts to a total of 183,462 metres completed in 206 holes to date. The work was largely contracted to Bradley Bros. Ltd. (eventually Major Drilling, Timmins) and Norex Drilling (Porcupine). All drilling protocols were the same as those implemented by LSG and described for the Timmins Deposit property (see Item 10.2). Similar to Thunder Creek, the only difference is that the cut grid lines are rotated, with the predominant drilling direction at an azimuth of 130 degrees. Further details are included in Item 11.

Underground drilling on the 144 Gap Deposit Deposit began in 2015 and remains ongoing. Access is provided from a 1,317 metre ramp and exploration drift developed to the southwest from the 765 metre Level at Thunder Creek. The exploration drift is established in the hanging-wall to the Gap Deposit mineralization at an approximate elevation of 820 metres below surface (820 metre Level).

Operations are combined with the Timmins and Thunder Creek Deposits, and drilling contractors, drill specifications, and protocols are therefore consistent with these locations.

Highlights of the various surface and underground drill programs completed on the Highway-144 property by LSG are summarized as follows:

2010: Nine surface diamond drill holes (totaling 4,693m) were completed, targeting a 500 metre southwestern strike extension of the Thunder Creek Rusk Zone. A broad 'step-out' hole (TC10-85A) intersected a 20 metre alteration zone containing porphyry dykes, quartz veining, and increased pyrite mineralization similar in nature to the Thunder Creek Deposit. Favourable assay results were returned, including 8.07 gpt over 2.0 metres (LSG Press Release dated July 26, 2011), affirming the possibility of continued gold mineralization along the interpreted southwest extension of the Rusk Shear Zone along the Thunder Creek-144 Trend.

2011-12: LSG initiated a surface exploration program in 2011 to continue assessing the mineralization potential of the southwestern strike extension to the Thunder Creek Deposit. Three prospective targets (144 Gap, 144 North, and 144 South areas) were selected within a broad alteration/deformation corridor that is traceable by interpreted regional geophysical surveys over approximately 6 kilometres to the south-southwest from Thunder Creek. A total of 39 holes, wedge cuts, and extensions (totaling 28,929 metres) were completed in these areas by the end of 2012. Six of these holes (including 1 extension) were collared within 1.6 kilometres of the Thunder Creek Deposit. Drill hole HWY-12-40 returned significant gold intercepts, including 13.54 gpt over 2.0 metres and 6.07 gpt over 3.0 metres (LSG Press Release dated January 21, 2013). This intersection, coupled with earlier hole TC10-85A, illustrated the potential extension of the favourable volcanic-sedimentary contact and associated structures through the largely unexplored 144 'Gap' area.

2013: No surface exploration drilling was carried out during this period.

2014-15: Surface drilling resumed in early September with the primary intention of following up on the encouraging results from the 2012 campaign. The first hole in the program (HWY-14-48), designed as a 125 metre undercut (down-dip) to drill hole HWY-12-40, intersected 5.37 gpt over 46.0 metres (LSG Press Release dated October 7, 2014) and became known as the discovery hole to the Highway-144 Gap Deposit Deposit. A total of 158 holes and wedge cuts (totaling 149,841 metres) were quickly completed by the end of 2015 with up to 6 or 7 drills operating for much of the period. This drilling quickly extended the Gap Deposit dimensions to a minimum of 400 metres along strike and 400 metres of vertical height (LSG Press Release dated April 27, 2015). In addition, drilling up to 250 metres further southwest along the Thunder Creek-144 Trend identified another mineralized zone, here termed the HWY-144 Gap Southwest ("SW") Zone (HWY-15-116: 3.30 gpt over 40.8 metres, including 6.12 gpt over 9.5 metres; LSG Press Release dated June 25, 2015). More work is required to better constrain this new discovery, which could be easily accessible by extending the 144 underground exploration drift. Late in the year, surface drilling in the 144 Gap area focused on assisting with the resource definition portion of the program, targeting the upper parts of the Gap Deposit which could not be properly tested from the underground drift due to poor drilling angles.

New gold mineralization was also identified with surface drilling in the 144 South target area, which occurs approximately 1.5 kilometres to the southwest of the 144 Gap Deposit (HWY-15-142: 3.11 gpt over 19.1 metres and 5.38 gpt over 3.6 metres; HWY-15-142W2: 4.27 gpt over 7.3 metres; HWY-15-148: 9.59 gpt over 3.0 metres; LSG Press Release dated October 28, 2015). These key intercepts are located approximately 100 to 200 metres northeast and 450 metres below previously reported results from HWY-12-45 and HWY-11-28 (LSG Press Release dated January 21, 2013).

An underground exploration program was initiated in late May 2015 from drill cutouts in the 144 Ramp, driven to the southwest from the 765 metre Level at Thunder Creek. A total of 3,033 metres were completed in 3 drill holes, targeting the largely untested “Thunder Creek Stock”, which lies between the Thunder Creek and 144 Gap Deposits, to the southeast of the main mineralized trend. Each of the holes intersected varying widths of the thick porphyry unit with localized zones of increased alteration, veining, and mineralization. A follow-up program is highly recommended in order to complete a fourth planned flat hole extending across the eastern portion of the syenite intrusion towards a possible iron formation (projected from surface magnetic data) and test for mineralized flat-lying to shallow vein sets in proximity to anomalous assay results returned during the 2015 campaign.

The 144 underground drilling quickly shifted focus to the resource definition portion of the program as soon as platforms became available in the hanging-wall drift (820 metre Level) in mid to late July 2015. With the exploration drift completed in early October, a total of 40,488 metres of infill drilling were completed by year end, towards an initial Resource estimate for the 144 Gap Deposit to be released as part of this report.

As of February 1, 2016, a total of 206 surface holes (183,462 metres) and 221 underground holes (48,671 metres) have been drilled by LSG on the Highway-144 property.

Since the database cutoff dates reported in the last technical report filed by LSG (Timmins Deposit: November 26, 2013; Thunder Creek Deposit: January 8, 2014), a total of 1,891 new holes have been drilled, and 206,338 assays have been received for the Timmins Mine, Thunder Creek, and Highway-144 properties.

An annual breakdown of the number of diamond drill holes and metres drilled is provided in Table 10.2, and additional drilling statistics are included in Table 10.3.

TABLE 10.2: STATISTICS ON DIAMOND DRILLING FOR TIMMINS WEST MINE AREA BY LSG (2003 TO FEBRUARY 01, 2016)

PROPERTY	YEAR	SURFACE HOLES	METRES	U/G HOLES	METRES
TIMMINS MINE	2003	52	17,145		
	2004	37	17,959		
	2005	58	28,876		
	2006	54	28,099		
	2007	18	11,493		
	2008	68	7,729	67	5,496
	2009	12	9,829	296	26,006
	2010	3	1,737	350	46,315
	2011	3	1,022	295	40,878
	2012	0	0	455	64,134
	2013	0	0	462	47,677
	2014	0	0	379	50,729
	Jan 01 to Nov 20, 2015	0	0	467	65,051
	Nov 21, 2015 to Feb 01, 2016	0	0	55	4,551
	sub-total:	**305**	**123,889**	**2,826**	**350,837**

PROPERTY	YEAR	SURFACE HOLES	METRES	U/G HOLES	METRES
144 GAP DEPOSIT	2010	7	3,812		
	2011	24	16,461		
	2012	17	13,348		
	2013	0	0		
	2014	22	22,527		
	2015	136	127,314	171	40,930
	Jan 01 to Jan 11, 2016	0	0	16	3,616
	Jan 11, 2016 to Feb 01, 2016			34	4,125
	sub-total:	**206**	**183,462**	**221**	**48,671**
THUNDER CREEK	2003	6	1,667		
	2004	13	4,370		
	2005	6	2,359		
	2007	22	10,650		
	2008	16	7,921		
	2009	35	25,860		
	2010	18	11,071	183	24,123
	2011	56	34,425	244	51,774
	2012	33	15,839	382	61,513
	2013	4	1,675	238	21,349
	2014	0	0	298	35,403
	Jan 01 to Nov 23, 2015	0	0	168	14,051
	Nov 24, 2015 to Feb 01, 2016	0	0	79	6,755
	sub-total:	**209**	**115,837**	**1,592**	**214,968**
MEUNIER	2010-2012	**4**	**4,038**		
TIMMINS WEST MINE AREA	**TOTAL**	**724**	**427,226**	**4,639**	**614,476**

Note: Includes all pilot holes, wedge holes and extended holes completed within the period indicated. Table includes 28 geotechnical holes (2008 RC holes; 487 m), 12 mine service holes (PF and RAR holes; 5586 m), and 10 grout holes (GRT holes; 2296 m).

TABLE 10.3: DRILLING AND SAMPLING STATISTICS TO CUT-OFF DATES FROM DATABASE

TIMMINS MINE PROPERTY	# HOLES	# METRES	# SAMPLES	COMMENTS
Previous Operators (1938 - 2002)	304	75,042	21,035	159 holes "considered" in the resource estimate.
LSG (2003 to 31 January 2012)				
New Drilling Info	1,344	249,664	62,003	
LSG (1 February 2012 - 26 November 2013)				
New Drilling Info:	843	101,160	67,622	
LSG (27 November 2013 - 20 November 2015)	889	119,351	68,289	
New Drilling Since Cutoff Date:	55	4,551	1,412	Holes completed and/or in progress since cutoff date.
Total Holes on Timmins Mine Property:	**3,435**	**549,768**	**220,361**	
Total Info to Cutoff Date:	**3,380**	**545,217**	**218,949**	
Total New Info to Cutoff Date:	**944**	**123,902**	**69,701**	
Total New Holes in Model:	**568**	**73,168**	**41,660**	
Total New Holes Having Sol_Int:	**332**	**41,188**	**26,500**	
Total Holes in Model:	**3,275**	**542,255**	**257,729**	
Total Holes Having Sol_Int:	**1,613**	**268,340**	**156,981**	
HWY-144 PROPERTY	**# HOLES**	**# METRES**	**# SAMPLES**	**COMMENTS**
Previous Operators (1942 - 1996)	9	1,689	526	Not considered in the resource estimate.
LSG (2010 to 2013)	48	33,621	19,660	
LSG (2014)	22	22,527	5,749	
LSG (2015)	307	168,244	62,075	Includes Surface and Underground holes.
LSG (01 January 2016 - 11 January 2016)	16	3,616	4,106	
New Drilling Since Cutoff Date:	34	4,125	**4,218**	
Total Holes on HWY-144 Property:	**436**	**233,823**	**96,334**	
Total Info to Cutoff Date:	**402**	**229,698**	**92,116**	
Total New Info to Cutoff Date:	**402**	**229,698**	**92,116**	
Total New Holes in Model:	**291**	**176,332**	**92,116**	
Total New Holes Having Sol_Int:	**167**	**75,708**	**36,526**	
Total Holes in Model:	**291**	**176,332**	**67,186**	
Total Holes Having Sol_Int:	**167**	**75,708**	**36,526**	

THUNDER CREEK PROPERTY	# HOLES	# METRES	# SAMPLES	COMMENTS
Previous Operators (1942 - 1996)	32	6,271	981	Not considered in the resource estimate.
LSG (2003 to 28 October 2011)				
Previous Drilling Old Info:	520	149,543	74,657	To last effective date.
Previous Drilling New Info:	42	15,124	8,540	Backlog information after last effective date
LSG (29 October 2011 - 8 January 2014)				
New Drilling Info:	694	109,928	69,387	
LSG (9 January 2014 - 23 November 2015)	466	49,454	39,520	
New Drilling Since Cutoff Date:	79	6,755	5,001	Hole completed and/or in progress since cutoff date.
Total Holes on Thunder Creek Property:	**1,833**	**337,075**	**198,086**	
Total Info to Cutoff Date:	**1,754**	**330,320**	**198,086**	
Total New Info to Cutoff Date:	**545**	**56,209**	**44,521**	
Total New Holes in Model:	**210**	**19,137**	**15,440**	
Total New Holes Having Sol_Int:	**39**	**4,020**	**12,021**	
Total Holes in Model:	**1,514**	**293,357**	**173,120**	
Total Holes Having Sol_Int:	**1,068**	**153,613**	**116,939**	
TIMMINS WEST MINE	**# HOLES**	**# METRES**	**# SAMPLES**	
Total Holes TM-144-TC Combined:	**5,704**	**1,120,666**	**514,781**	
Total Info to Cutoff Date TM-144-TC Combined:	**5,536**	**1,105,235**	**509,151**	
Total New Info TM-144-TC Combined:	**1,891**	**409,809**	**206,338**	
Total New Holes in Models TM-144-TC Combined:	**1,069**	**268,637**	**149,216**	
Total New Holes Having Sol_Int TM-144-TC Combined:	**538**	**120,916**	**75,047**	
Total Holes in Model TM-144-TC Combined:	**5,080**	**1,011,944**	**498,035**	
Total Holes Having Sol_Int TM-144-TC Combined:	**2,848**	**497,661**	**310,446**	

Note: Number of holes reported to current effective dates are actually completed

11.0 SAMPLING PREPARATION, ANALYSIS AND SECURITY

The sampling preparation, analysis, and security for the period of 1998 to 2009 are described in the NI 43-101 Technical Report on the Timmins West Mine Property by Darling et al (2009); by Powers (2009) in the Amended Technical Review and Report of the "Thunder Creek Property" Bristol and Carscallen Townships; and by Crick et al (2011) in the Technical Report on the Initial Mineral Resource Estimate for the Thunder Creek Property, Bristol Township. A Preliminary Economic Assessment Report and Updated Mineral Resource Estimate for the Timmins West Mine was released in March 2009 and provided updated protocols up to October 28, 2011 for Thunder Creek, and up to January 31, 2012 for the Timmins Mine property (Crick et al., 2012a). An updated mineral reserve estimate for Timmins West Mine was released in March 2014 and provided updated protocols up to February 21st, 2014. All of these reports are referenced in Item 27 and are filed on SEDAR.

11.1 SURFACE DIAMOND DRILL PROGRAMS

11.1.1 General Statement

Described herein are the protocols used for the surface exploration programs during the period from the last technical report to the current effective date.

During the period from Winter 2013 to Fall 2014, no surface diamond drilling took place. Surface diamond drilling started again in September 2014 with the further exploration of the Highway-144 property, as described in Sections 9 and 10.

11.1.2 Core Handling and Logging Protocols

For the surface drill programs, the diamond drill contractors secure the drill core boxes at the drill site and deliver them to the core logging facilities located at Lake Shore Gold's exploration office at 1515 Government Road South, or at a second facility at 216 Jaguar Drive, Timmins, Ontario. Under the direct supervision of authorized senior geology personnel, Lake Shore personnel open the boxes, check the metre markers for accuracy, and label the boxes with metals tags noting hole number, box number, and footage. A geologist prepares a summary log or "quick log", and the core is racked until it can be processed further. The core is then logged by a geologist, by entering data directly into custom Drill Logger software developed by Geovia GEMS. The logs are detailed, and describe geology, structure, alteration, and mineralization. Intervals to be sampled are indicated by the geologist, sample tags are inserted, rock quality designation measurements (RQD) and photographs are taken, and the log is printed, reviewed, and edited if required. The core is then given to a trained and supervised technician for sampling. Once the sampling is completed, all drill core is stored in racks or square piled in a secure compound at the core logging facilities or at the Timmins West Mine compound.

11.1.3 Property Grids, Hole Collar and Downhole Attitude Surveys

All drill holes are planned in reference to a local field grid. On the Timmins West Mine property, the grid lines are at 100 metre intervals and are oriented due north, with pickets at every 25 metre spacing. The origin of the Timmins Mine grid is the number one claim post of a surveyed claim (Claim P4040) which was assigned an arbitrary coordinate of 5000 east and 8000 north with an elevation of 1,000 metres. This point is actually 300.25 metres above Mean Sea Level and has been reassigned an elevation of 10,000 metres to ensure that underground elevations are not reported as negative numbers. By contrast, the Thunder Creek field grid is rotated by 40° with respect to the Timmins Mine field grid. It also consists of cut lines at 50 to 100 metre spacing with labeled pickets every 25 metres. The "false origin" of the grid is coincident with the number three post of patented claim P4040 (458,854.168 m east, 5,358,786.3 m north, NAD 83, Zone 17). The surveyed post is the departure point for the baseline coordinate 65+00E / 100+25N and corresponds to Timmins Mine co-ordinate 4645.777 east by 7508.233 north. The azimuth of the base line is 40° from true north. Grid line designation decreases southward.

An in-house grid transformation equation allows for the easy conversion between Timmins Mine, Thunder Creek, and UTM coordinates.

For surface drill programs, all drill hole locations are pegged on the ground in reference to the existing cut field grid or using a handheld GPS. The drill rig alignment is determined by placing front and back sights using a regular compass, or by using a north-seeking gyroscope device referred to as an azimuth aligner or gyrocompass (Reflex TN14 Gyrocompass). With much improved accuracy, precision, and ease of use, this technology replaced the formerly used differential GPS aligning device referred to as an APS (Reflex North Finder Azimuth Pointing System) for all LSG surface drill programs as of fall 2014. As the holes are being drilled, changes in azimuth and inclination are monitored at 30 to 50 metre intervals using an EZ-Shot Reflex instrument. Upon completion of a relatively deep hole (500+ metres), it is common practice to have the holes resurveyed using a MEMS gyro system by Reflex Instruments Ltd. of Porcupine, Ontario. Occasionally, selected holes are also surveyed using a north-seeking gyro system by Halliburton/Sperry Drilling Services of North Bay, Ontario, as a means of validation and for comparison purposes. All drill collars are also surveyed by L. Labelle Surveys of Timmins, Ontario, before collar locations are considered finalized and imported into the database.

11.1.4 Security

The secure chain of custody for diamond drill core and samples starts at the drill and is completed with the safe return of sample pulps in a locked storage facility on site. Unscheduled visits to the diamond drill sites are made to ensure safety, good working practices, and drill core security.

The core from surface drill programs is transported from the field to the core logging facility by the drill foreman. Core reception, logging, and sample preparation procedures are followed as previously described in Item 11.1.2. The samples are enclosed within sealed shipping bags, are transferred into larger shipping bins, and are directly delivered to the selected analytical labs by LSG employees. The lab employee that receives the sample shipment signs a chain of custody document that is returned to LSG's office for reference and filing. The return assay results are currently processed by database manager Morgan Verge, GIT, and are reviewed by Ryan Wilson, P. Geo., and Kara Byrnes, P. Geo. Data is made available for viewing by authorized members of the LSG geological and management staff.

11.1.5 Drill Core Sampling Method and Approach, Sample Preparation, Analysis and Analytical Procedures

Holmer 1996 to 2002:

All core was delivered by the contractor to a secure location at the Holmer core shack. The core was logged and samples marked on the basis of geological divisions. All core to be sampled, except for the quartz-tourmaline veins of the Main Zone and Hanging-wall Zone mineralization in which visible gold was observed, was split mechanically. The suspected higher grade intercepts with visible gold were sent for assay as whole core.

During the period 1998 to 2002 sample length averaged 1.2 metres but was shorter in the well-mineralized sections. Prior to 1998, sample lengths ranged from 0.14 to 4 metres. The entire drill core was split, and half the core was submitted to the laboratory for holes 96-01 to 96-10 and 97-01 to 97-06. Sample intervals for holes 97-07 to 97-57 ranged between 0.14 and 1.75 metres in length. The samples remained at the secure site until delivery to the shipping company. The samples were then transported to Accurassay Laboratories (Div. of Assay Laboratory Services Inc.) in Thunder Bay by BPX.

In 2002, analysis and analytical procedures are documented in a Summary of Work Report by Dave Beilhartz (2002), as follows:

For samples analyzed by Regular Fire Assay:

- Jaw crush/cone crush samples to -10 mesh.
- -10 mesh material split.
- Rejects stored.
- Pulverize 200-300 gram sample to -150 mesh.
- Mix samples to produce a homogenous sample.
- Take ½ assay ton (15 grams) of pulverized material put in a crucible for fire assay.

For samples analyzed by Pulp Metallics Method:

Owing to the coarse nature of gold in the main mineralized and Hanging-wall Zones it was decided to carry out a pulp metallics assay method for those samples. The procedure followed is listed below:

- The sample is jaw crushed/cone crushed to -10 mesh, then a 750 gram to 1.0 kilogram sub-sample is riffled off. After weighing, sample is "stage" pulverized through a 150 mesh screen until about 20 to 40 grams of +150 mesh material is left on the screen.
- All of this +150 mesh material left on the screen is fire assayed to determine the weight of gold in that fraction.
- Two, 20 or 30 gram samples of the -150 mesh material are then assayed using standard fire assay procedure.
- The gold content of the total sample is then mathematically calculated.

Lake Shore Gold Corp. 2003 to 2015:
Intervals to be sampled are determined by the geologist, and are based on lithology, alteration, percent sulphides, the presence of visible gold, and geological contacts. Sample lengths within the well-mineralized sections of core were 0.5 metres with minor variations determined on the basis of lithologies and vein contacts. Sample lengths were increased to as much as 1.5 metres where sparse mineralization was encountered. The sample intervals are marked on the core, and recorded in the drill log. The core is split by trained LSG technicians using a diamond saw. One half of the core is placed in a plastic sample bag and the remaining half is returned to the core box. LSG uses sequentially numbered triplicate sample tags. One portion of the tag goes in the sample bag along with the split half of the sample, one portion of the tag is stapled into the core box at the end of the sample interval, and the third stays in the sample book for archiving. Once the sampling is completed, the core boxes are either placed in racks or cross-piled for future reference within the gated area of the core shack. Over the years, most of the core was dumped except for selective exploration holes drilled outside of known resource areas.

Prior to early 2007, the samples were transferred in security-sealed bags and transported by Manitoulin Transport to the ALS Chemex Prep Lab in Mississauga (2003 to 2005), and then to Sudbury for analysis (2006 to 2007), (Darling et al., 2009).

Since 2007, all samples from surface exploration programs have been delivered by LSG personnel directly to the ALS Chemex Prep Lab in Timmins. The pulps were created in Timmins and then shipped to the ALS Chemex Assay Laboratory in Vancouver, B.C., or Rouyn-Noranda, PQ.

Analytical procedures for surface diamond drill hole samples have remained fairly consistent since LSG first started drilling on the Timmins Mine and Thunder Creek properties in 2003. These procedures have been described thoroughly in previous reports (Darling et al., 2009; Powers 2009; Crick et al, 2011). The following description outlines the method of treatment and procedures utilized by ALS Canada Ltd. to process and analyze those samples:

LSG employees are not involved in the sample preparation or analysis of samples once they have been delivered to the assay preparation laboratory in Timmins. Samples submitted to ALS Canada Ltd. (ALS) are assigned a separate client project number, corresponding to Timmins Mine, HWY-144 or Thunder Creek properties. The laboratory is instructed to maintain the sample stream, the processing, and analysis by keeping the samples in sequential order as they are shipped to the lab. Samples are entirely crushed to 70% passing 2 millimetres mesh. The crushed samples are split and 250 gram sub-samples are pulverized to 85% passing less than 75 microns using a ring and puck pulverize (PREP-31). During the period from 2004 to 2007, a 50 gram aliquot was taken from the pulp and analyzed by fire assay and atomic absorption methods (Au-AA24). For samples that returned an assay value greater than 3.0 g/t Au, another pulp sample was taken and analyzed using a gravimetric finish (Au-GRAV22). In October 2007, the fusion weights for samples from Thunder Creek were reduced from 50 grams to 30 grams (Au-AA23 and Au-GRAV21), in order to avoid delays with occasional "incomplete fusions" reported by the lab. In March 2015, fusion weights were returned to the 50 gram level in an effort to maintain consistency with the underground drill programs. If visible gold is noted in the core sample, the samples may be analyzed by the Pulp Metallics Method (Au-SCR21). For the Timmins Mine property, all zones of significant mineralization intersected by surface holes were generally analyzed by the Pulp Metallics Method. For this process, the entire samples are crushed to 70% passing 6 millimetres mesh, and the entire sample is then pulverized to 85% passing 75 microns (PREP-32). The pulp is passed through a 100 microns stainless steel screen and the entire (+) fraction is analyzed by fire assay and gravimetric finish. The (-) fraction is homogenized and two aliquots are analyzed by fire assay and atomic absorption finish (Au-AA25 and Au-AA25D). The total gold content is then calculated by combining the weighted averages of the two fine fractions with the grade of the coarse fraction.

For surface drill core from the Timmins Mine property, most samples were analyzed for arsenic (As) by Aqua Regia digestion and atomic absorption scanning (AA-45). This had been implemented since the sediment-hosted zones of mineralization (Hanging-wall Veins, Main Zone, and the Deep Zone) often displayed a spatial association with arsenopyrite. For Thunder Creek, drill core from the first 50 holes (10,713 samples) were also analyzed for arsenic (As). Significant levels were not detected and the practice was abandoned in late 2007.

As part of ALS Canada Limited's internal QA/QC program, a duplicate reject sample was prepared every 50 samples. The number of internal blanks, standards and duplicate control samples inserted into the sample stream depends upon rack size. For regular AAS, ICP-AES, and ICP-MS methods, the rack holds 40 positions, in which two laboratory standards, one laboratory duplicate, and one laboratory blank are inserted. For regular fire assay methods, the rack contains 84 positions, in which two laboratory standards, three laboratory duplicates, and one laboratory blank are inserted.

LSG blank samples are prepared from approximately 0.5 metre diamond drill core samples of diabase, which are known to be barren of gold mineralization. These blank samples are blindly packaged as regular core samples, affixed with sample tags sequential to the sample stream, and inserted at a random frequency of one every 1 to 40 samples. Prior to 2012, QA/QC samples were introduced at a higher frequency of one blank, one standard, and one coarse duplicate every 20 samples. Blank samples are used to check for possible contamination in the crushing circuit and are not placed after a standard sample.

Certified gold standards individually wrapped in 60 gram sealed envelopes were prepared by Ore Research and Exploration Pty. Ltd. of 37 Hosie Street, Bayswater North, Victoria, Australia (OREAS) and distributed by Analytical Solutions Ltd. Several standards are used in order to vary the expected value and depending on availability of the standard. These Certified Reference Materials are purchased from Analytical Solutions Ltd., at 1214-3266 Yonge Street, Toronto, Ontario. Standard samples are inserted into the sample stream at a frequency of one every 1 to 40 samples and are used to check the precision of the analytical process.

Prior to May, 2010, ALS had been instructed to take one reject duplicate LSG sample for every 25 samples processed. This procedure was revised to take the duplicate sample immediately preceding the 25th sample and crush it to -6 mesh, and run it through a riffle splitter to create two samples of approximately equal proportions. One of the halves was then assigned the sample number and the other duplicate sample was placed in a separate plastic bag and labeled with the same sample number and the suffix "dup". The two samples were then treated as two entirely separate samples through the rest of the sample preparation and assaying process. The method of selecting reject duplicates was further modified starting in May 2010 to instead produce a "blind duplicate sample"; one reject duplicate is now selected every 1 to 40 samples by the geologist logging the drill core. The geologist gives the duplicate sample a numbered sample tag and places it sequentially in an empty bag behind the sample from which it will be cut. When received by the lab, the preceding sample to the duplicate is crushed to -6 mesh, then run through a riffle splitter to create two samples of approximately equal proportions. One half is returned back into the original sample bag and the other half is placed into the empty bag, now as a separate sample with its own sample number. From this point on, the sample is considered "blind" to the analytical process. The insertion of a duplicate sample is to monitor the integrity of the assay results.

A list of the standards used by LSG for both surface and underground drill programs is provided in Table 11.1.

11.2 UNDERGROUND DIAMOND DRILL PROGRAM

11.2.1 General Statement

Described herein are the protocols used for underground drill programs executed during the period from the last technical report to the current effective date.

11.2.2 Core Handling and Logging Protocols

Up until spring 2013, all core from the underground drill programs was being delivered to the mine site core shack. Under the direct supervision of authorized senior geology personnel, underground drill core was being processed by geologists and geological technicians in a similar fashion as described above for the surface drill programs (Item 11.1). Samples from underground exploration holes were sawn and all core boxes were cross-piled on site for future reference. For stope definition drilling, the logs were generally less detailed but remained of good quality. In this case, the mineralized zones were systematically whole core sampled, and the rest of the hole was discarded.

Since May 2013, due to lack of space at the mine site and in an effort to provide closer supervision and further standardize all aspects of the logging and sampling process, all drill core is now being transported by the drill contractor (under direct supervision of LSG personnel) and delivered to the Government Road central core logging facility. Supervision is currently provided by Kara Byrnes, P. Geo., and Ryan Wilson, P. Geo.

11.2.3 Property Grids, Hole Collar and Downhole Attitude Surveys

All underground holes, including those on the Thunder Creek property, are planned with respect to the Timmins Mine local coordinate system, as discussed in Item 11.1.

For underground programs prior to 2013, most drill hole collar locations and starting azimuths were established by LSG mine geologists by measuring from survey control stations. The first downhole azimuth and dip readings in each hole were initially recorded at 9 to 15 metre depth using "Reflex" or "EZ-Shot" instruments. If the reading was more than 3° from the desired azimuth, it was common practice for the drill to re-align and re-collar. Tests beyond the 15 metre mark were generally taken at 50 metre intervals. The magnetic susceptibility was assessed using the "total magnetic field" for each directional reading to determine if the apparent azimuth had been affected by highly magnetic materials in proximity to the data point. Some holes were re-surveyed using a downhole north-seeking gyro or using a Maxibor instrument from Reflex Instruments Ltd. in Porcupine, Ontario. After completion, drill holes were generally marked by inserting a wood peg in the collar, accompanied by an aluminum tag indicating the number of the hole. The collar locations were occasionally re-surveyed by the mine geologists or by the surveyors depending on availability.

In the spring of 2013, drilling protocols were re-evaluated, and some issues were identified. In particular, it was determined that the rock formations being drilled were a lot more magnetic than previously recognized, due to the presence of finely disseminated magnetite in the pyroxenite, and pyrrhotite in the volcanics. More stringent protocols were therefore implemented to ensure greater accuracy and better quality of the directional data. Drill hole collar locations are now predominantly established by trained LSG surveyors. A line with a unique ID is painted on the walls, and spads are inserted in the walls when requested for further points of reference and in order to assist the drillers in lining up more accurately. In addition, a north-seeking gyroscope ("Azimuth Aligner"), newly developed by Downhole Surveys Pty. Ltd. (DHS), (Australia), was acquired in September 2013 for use by the drillers to line up on most of the holes. This instrument is easy to use, is not affected by magnetic interference, and provides continual output of both azimuth and dip, allowing the drillers to precisely manoeuver the drill rig to the correct planned azimuth and dip. A similar tool ("TN14 Gyrocompass" by Reflex Instruments Ltd.) gradually replaced the Azimuth Aligner technology in late 2014 to early 2015 and remains in use. Once the drill is aligned and anchored, the orientation on the drill head is double checked with the TN14 Gyrocompass and the starting azimuth and dip are stored in the Juno handheld device. Starting collar orientations are recorded on a drill hole survey record sheet to be entered into the database by the database manager. Downhole EZ-Shot tests are still taken at 9 to 15 metres from the collar, but drillers are instructed *not* to automatically re-collar, but to carry on taking tests on 50 metre intervals for evaluation by the responsible geologist. From June 2013 to the end of 2014, a non-magnetic survey instrument (DeviFlex by DHS) was also used to track the curvature of the holes upon completion of drilling. Downhole north-seeking gyro surveys were occasionally done on selected holes as an additional verification and for comparison purposes. The DeviFlex tool, while an improvement over the traditional EZ-Shot data, proved too unreliable and unadaptable for use by the drillers. Instead, the vast majority of drill holes at the Timmins West Mine (>90%) are now surveyed by external consultant Reflex Instruments Ltd. (Reflex) using the Reflex MEMS Gyro system to track downhole deviations, which has greatly increased confidence in the curvature and locations of recently completed drill holes (late 2014 to present). For Thunder Creek, drill holes are generally shorter and Reflex tests taken within the porphyry are believed to be sufficiently reliable as this rock formation is non-magnetic. As a result, and depending on timing and logistics, a small number of infill holes at Thunder Creek are not always surveyed by Reflex. For future reference, the hole identification number is stamped on an aluminum tag and is attached to an orange plastic cone which is then inserted in the collar. Except for "bazooka" holes (short holes drilled by a small air-powered diamond drill), the final collar locations and starting orientations are then picked-up by the surveyors using a custom-made aluminum rod which fits precisely in the collar. A geologist then reviews all collar surveys and downhole directional data. The electronic memory of the Reflex tool is regularly downloaded, and the magnetic susceptibility readings (both "total magnetic field" and "magnetic dip") are scrutinized in order to assess the reliability of the data. The quality of the MEMS Gyro data file is also reviewed for potential reading or technical errors using various parameters as recommended by the manufacturer. Finally, a directional data file containing a combination of the best collar and downhole Reflex (MEMS Gyro +/- EZ-Shot) surveys is generated and forwarded to the Database Manager for importation. If downhole gyro data is available, it is normally considered as being the most accurate.

11.2.4 Security

The TWM secure chain of custody for diamond drill core and samples starts at the drill and is completed with the safe return of sample pulps in a locked storage facility on site. All underground core is transported from the mine site by the drill contractor (under direct supervision by LSG personnel). Core reception, logging, and sample preparation procedures are followed as previously described above. The samples are enclosed within sealed shipping bags, are transferred into larger shipping bins, and are delivered directly to the selected analytical labs by LSG employees. The lab employee that receives the sample shipment signs a chain of custody document that is returned to LSG's office for reference and filing. The return assay results are currently processed by database manager Morgan Verge, GIT, and are reviewed by Kara Byrnes, P. Geo., and Ryan Wilson, P. Geo. Data is made available for viewing by authorized members of the LSG geological and management staff.

11.2.5 Underground Diamond Drill Core Sampling Protocols

LSG 2008 to Spring 2013:
Since underground drilling at the TWM first started in 2008, drill core was delivered directly to the core logging facility located on site, and was processed for logging as discussed in Item 11.2.

Sample location and widths were based upon the distribution of sulphides, visible gold, lithology and alteration. Sample lengths vary from 0.3 to 1.5 metres, and generally do not cross lithological and alteration or mineralization boundaries. Samples were marked by the geologist using a marker. Three-part sample tags labeled with a unique ID number were used. One part of the tag stayed in the sample book and documents the hole number and interval being sampled. The second portion of the tag was stapled in the core box at the end of the sample, and the third portion was placed in the sample bag during sampling. Core sampling was performed by trained and supervised technicians. Core considered to be from production definition drilling was "whole core" sampled, meaning the entire core from each specific sample interval was collected and sent to the lab with no representative equivalents kept. The remaining non-sampled core was discarded. Core from underground exploration holes or from holes of particular interest were either split using a hydraulic splitter, or cut using a diamond core saw, and one half of each individual sample was sent to the lab. In this case, the remaining core was stored in core racks or was cross-piled on site, for future reference.

Sample bags were stapled shut, then placed in "rice" bags and sealed using a security tag. Attached to one of the bags was one copy of the "chain of custody" document on which the security tag and sample numbers included in the order have been entered.

At the time, samples were being transported from the mine site and delivered to various local labs, via "The Messenger Service" located at 108 Polaris Road, Timmins. These labs included ALS Canada Ltd Prep Lab (2090 Riverside Drive, Timmins), Cattarello Assayers Inc. (475 Railway Street, Timmins), and LSG's own analytical lab located at the Bell Creek Complex, in South Porcupine. Samples were also regularly sent to Accurassay Laboratories prep lab in Timmins (150A Jaguar Drive) or to Accurassay Laboratories in Thunder Bay (1046 Gorham Street) via Barry's Freight Services.

LSG 2013 to Present:
In the spring of 2013, LSG started to progressively process all core from the Timmins West Mine at its central office and core logging facility located at 1515 Government Road South, Timmins. This was done due to a lack of space at the mine site, and in an effort to ensure standardized core logging and sampling protocols, and to provide closer supervision by Kara Byrnes, P. Geo., and Ryan Wilson, P. Geo. All drill core is transported from the mine site by the drill contractor (under direct supervision by LSG employees). Core handling, logging and sampling protocols are similar to those described above and in Item 11.1.2.

Since May 09, 2013, if a considerable splash or numerous pinheads of visible gold are noted within a sample it must be noted in the log using the "VG" check box, the sample must be flagged using orange tape, the letters "VG" must be clearly written using a red marker on the sample tag which will accompany the sample to the lab, and the sampler will note the sample number on a "VG Sample Tracker" sheet, which will then be reported on the corresponding Sample Submittal Form as a "Special Instruction" requesting a silica wash (WSH-22). The WSH-22 code for samples processed at ALS implies special instructions running silica sand ONCE in the crusher and TWICE in the pulverizer after the sample was processed, in order to avoid and/or minimize cross-contamination of subsequent samples.

The samples are placed in plastic bins, and are delivered directly to various locals labs by LSG employees. These labs include ALS Canada Ltd (2090 Riverside Drive, Timmins), Actlabs Timmins (1752 Riverside Drive), and LSG's own analytical lab located at the Bell Creek Complex, in South Porcupine.

For the period from 2008 to March 18, 2013, the introduction of blank samples, certified gold standards, and blind coarse duplicates in the sample stream were generally done at a random frequency of one per every group of 20 samples, as previously described for surface drill core samples (Item 11.1.5) collected by LSG. As of March 18, 2013, this protocol was changed to "one blank, one coarse duplicate, and one gold standard for every group of 40 samples".

A list of the standards used by LSG is provided in Table 11.1 and a summary of sample distribution by analytical laboratory is included in Table 11.2.

TABLE 11.1: OREAS STANDARDS USED BY LAKE SHORE GOLD CORP.

Standard	Mean Au (g/t)	Std. Dev	1 Std. Dev.		2 Std. Dev.		3 Std. Dev.	
			Min	Max	Min	Max	Min	Max
O-10c	**6.600**	0.160	6.440	6.760	6.280	6.920	**6.110**	**7.080**
O-15d	**1.559**	0.042	1.517	1.601	1.475	1.643	**1.433**	**1.685**
O-15h	**1.019**	0.025	0.994	1.044	0.970	1.068	**0.945**	**1.093**
O-15Pb	**1.060**	0.030	1.030	1.090	1.000	1.120	**0.970**	**1.140**
O-16a	**1.810**	0.060	1.750	1.870	1.680	1.930	**1.620**	**1.990**
O-16b	**2.210**	0.070	2.140	2.280	2.060	2.360	**1.990**	**2.430**
O-17c	**3.040**	0.080	2.960	3.120	2.870	3.210	**2.790**	**3.290**
O-18c	**3.52**	0.11	3.410	3.630	3.310	3.730	**3.200**	**3.840**
O-19a	**5.490**	0.100	5.390	5.590	5.290	5.690	**5.190**	**5.790**
O-200	**0.340**	0.012	0.328	0.352	0.316	0.365	**0.303**	**0.378**
O-201	**0.514**	0.017	0.497	0.531	0.48	0.548	**0.462**	**0.565**
O-202	**0.752**	0.026	0.726	0.778	0.701	0.804	**0.675**	**0.830**
O-204	**1.043**	0.039	1.004	1.082	0.966	1.120	**0.927**	**1.158**
O-205	**1.244**	0.053	1.191	1.297	1.138	1.350	**1.085**	**1.402**
O-207	**3.472**	0.130	3.342	3.602	3.212	3.732	**3.082**	**3.862**
O-2Pd	**0.885**	0.029	0.856	0.914	0.826	0.943	**0.797**	**0.973**
O-502	**0.491**	0.020	0.471	0.511	0.451	0.531	**0.431**	**0.551**
O-503	**0.687**	0.024	0.663	0.711	0.639	0.735	**0.615**	**0.759**
O-61d	**4.760**	0.140	4.620	4.900	4.470	5.040	**4.330**	**5.190**
O-62c	**8.790**	0.210	8.580	9.000	8.370	9.210	**8.160**	**9.420**
O-65a	**0.520**	0.017	0.503	0.537	0.486	0.554	**0.469**	**0.571**
O-67a	**2.238**	0.096	2.142	2.334	2.046	2.430	**1.950**	**2.526**
O-6Pc	**1.520**	0.065	1.455	1.585	1.390	1.660	**1.320**	**1.720**

TABLE 11.2: SUMMARY OF SAMPLE DISTRIBUTION BY ANAYLTICAL LABORATORIES

Thunder Creek: January 9, 2014 to November 23, 2015						
Laboratory	Drill Core Samples	Standards	Blanks	Coarse Duplicates	Total QA/QC Samples	Total Samples Sent (Core + QA/QC)
ALS Canada Ltd.	635	17	18	18	53	688
Activation Laboratories	31,689	832	925	870	2,627	34,316
Bell Creek Laboratory	7,196	186	217	201	604	7,800
TOTAL	39,520	1,035	1,160	1,089	3,284	42,804
HWY-144: November 2010 to January 11, 2016						
Laboratory	Drill Core Samples	Standards	Blanks	Coarse Duplicates	Total QA/QC Samples	Total Samples Sent (Core + QA/QC)
ALS Canada Ltd.	82,543	2,570	2,643	2,560	7,773	90,316
Activation Laboratories	8,511	226	235	218	679	9,190
Bell Creek Laboratory	547	13	16	15	44	591
TOTAL	91,601	2,809	2,894	2,793	8,496	100,097
Timmins West: November 27, 2013 to November 20, 2015						
Laboratory	Drill Core Samples	Standards	Blanks	Coarse Duplicates	Total QA/QC Samples	Total Samples Sent (Core + QA/QC)
ALS Canada Ltd.	294	7	8	8	23	317
Activation Laboratories	55,124	1,316	1,598	1,535	4,449	59,573
Bell Creek Laboratory	13,165	328	373	360	1,061	14,226
TOTAL	68,583	1,651	1,979	1,903	5,533	74,116

11.3 UNDERGROUND FACE CHIP CHANNEL AND MUCK SAMPLES

11.3.1 Procedure for Taking Face Chip Channel Samples

Channel samples are taken across the excavation face honoring changes in rock type, alteration, vein style, vein intensity, and amounts and types of sulphides. The chip sample is designed to cross-cut a sub-vertical vein, sulphide mineralized envelope, or mineralized structures situated in the central portion of the 5 meter by 5 meter development heading at approximately 1.3 to 1.5 metres above the floor. Samples are taken from left to right of the left wall-face bracket, across the face, and ending with the right face-wall bracket. The maximum length of the wall rock (waste bracket) is 0.5 meters; another waste sample taken after the initial waste sample may have a length of up to 1.0 meters. Samples of mineralization have a maximum length of 0.5 meters. Each channel sample extends 50 cm above and 50 cm below the designated sample height resulting in a 100 cm wide panel. The resultant sample should weigh approximately 2 kilograms.

Descriptions of the samples are recorded and a photo is taken of the face illustrating the geology, mineralization, and sample panels.

Samples are submitted for assay as described in the diamond drill core protocols section of this report.

At the Timmins Deposit, channel samples are taken to aid in defining the footwall and or hangingwall contact of the mineralized zones. Both wall and face channel samples may be taken depending on the orientation and location of the zone with respect to the current face location in the ore zone. This helps in identifying any mineralized material which may need to be slashed prior to establishing the final ore zone geometry. Channel sampling at the Timmins Deposit rarely represents the full mineralized zones as the zones are most often greater than the 5.0 meter development round width.

At Thunder Creek, channel sampling is more representative of the mineralized ore zones. Wall channel sampling is done on both walls for each of the cross-cuts cutting through the porphyry zone. These samples are broken up to represent the individual rounds taken through the zone and ultimately represent a continuous line or string of sampling entering and exiting the porphyry zone on both walls in each of the cross-cuts. This protocol is copied on each of the levels driven at Thunder Creek through the mineralized porphyry zone. This is an excellent tool in identifying grade trends and locating the “final” ore contact through the zone on both overcut and undercut levels.

Sampling of the Rusk Shear Zone at Thunder Creek is done for the most part on every round of advance during development. Development is now driven laterally on this zone offering the opportunity to sample every face. Previously, mining of the Rusk Zone, which lies along the north hanging-wall contact to the Porphyry Zone and striking NE-SW, was integrated into the Porphyry Zone mining blocks. This did not allow for extensive sampling of this zone as is currently done. The Rusk Shear Zone has a varying width of approximately 2.5 meters to 7.5 meters. Occasionally bazooka drilling may be required to test wider mineralized sections beyond 5.0 meters not exposed through development.

11.3.2 Procedure for Taking Muck Samples

Underground development miners and LHD operators are charged with taking muck samples at the request of LSG’s geology department staff. Samples may be taken from either ore or waste development headings. The mine operations department begins taking these samples once advance in the heading approaches the mineralized ore zones and the round has been given a number designation by the geology staff. Six muck samples representative of one jumbo round, taken “from the ground after dumping the bucket" at three time intervals are taken during the mucking cycle. Two samples are taken at the beginning of the cycle, two samples taken in the middle of the cycle and two samples taken at the end of the mucking cycle. The muck samples taken during a shift along with the appropriately filled out sample description tags are brought up from underground and deposited in designated locations. The sample number, date, shift, workplace, employee and comments are recorded, and the information given to the geology department. This represents approximately 1 sample per 42 tonnes of mucked material in lateral development rounds.

When mining from longhole stopes, the LHD operator is instructed to take a sample every 33 tonnes of muck (i.e. each truck load, or 3rd or 4th LHD bucket depending on equipment configuration).

Samples are submitted for assay as described in the diamond drill core protocols section of this report.

11.3.3 Security

All underground mucks and chips samples are transported from the mine site within sealed shipping bags or larger shipping bins, and are delivered directly to LSG's Bell Creek Analytical lab. The samples are transported by LSG personnel and by courier. The lab employee that receives the sample shipment signs a chain of custody document that is returned to LSG's office for reference and filing.

11.3.4 Data Management for Chips and Muck Samples

Chips, muck and test holes are identified by sample tags. The sample tags are entered by a trained geological technician into a "Sample Number Tracker" spreadsheet, and assays are imported in the Tracker as they are received from LSG's Bell Creek Lab. The Tracker then sends out data queries which populate the face/wall or stope sheets with their corresponding assay results. The results are manually entered into a "Production Tracker", which is used to generate various production and development grade reports.

11.4 DATA MANAGEMENT FOR SURFACE AND UNDERGROUND DIAMOND DRILL PROGRAMS

Copies of assay certificates are either downloaded from each lab's external LIMS system and/or sent via mail and electronic mail to the LSG database manager, and to the project's senior geologist. The digital assay data (in the form of ".csv" files) are checked manually against the final paper assay certificates for clerical errors, and the results evaluated by a Lab Logger Version 2.0 program created by Gemcom for all labs, or by an EXCEL query file if required. The use of the software program ensures that the results from the QA/QC samples fall within the approved limits of the standard before this data is imported into the database.

The procedures for handling and managing the surface and underground assay data are discussed in detail below.

11.4.1 Accuracy Analysis - Standards and Blanks

Beginning in March 2009, sample results were entered into a spreadsheet to determine if the assay value for a particular standard fell outside the control limits. If this occurred, these samples would be highlighted for check analysis for Accurassay, Actlabs, ALS, Bell Creek and Cattarello Labs. Since April 2010, this process has been handled using an ACCESS application developed by Gemcom Software International Inc. called Lab Logger (v2.0) for ALS Lab. Sample assay results, internal QC information, certificate dates, standards, and duplicate samples are each stored in separate QC database tables, and data can be merged into relevant plot files as needed.

The QC samples in each group are subjected to specific pass or failure criteria, which determined whether a re-assay of the batch is required. A sample group failure is identified whenever the analytical result for any certified standard in the group of 40 is greater than three standard deviations (the control limit) from the certified mean value for the standard or the assay for any blank material is greater than 0.100 ppm. All failed groups of samples are investigated to attempt to determine the cause of the erroneous result (analytical or clerical). Potential clerical errors are sometimes reconciled by checking against original drill log records, sample books or original laboratory data sheets. After the batch pass/failure criteria is applied, a geological override may be applied by the project senior geologist on batches for which re-assay would be of no benefit (i.e. completely barren of gold assay values and mineralization indicators; see Table 11.3 Footnote). Sample groups given a geological override are not re-assayed.

Sample groups in which the QC samples fall outside the established control limits that did not receive a geological override are not imported into the database. Instead, these samples are requested to be re-run at the analytical lab.

In the case where a standard has failed, a re-run on the pulp is requested back to: a) the last control sample that passed (blank or standard); b) the first sample for the project in the sequence of samples being analyzed, or; c) four samples above and below the failed standard, if the assay results for those samples are deemed significant. In this case, a new standard is sent to the lab to be analyzed with the samples in question.

In the case of a blank failure, if the surrounding assay results are considered significant, all samples back to: a) the last blank or standard that passed; b) the first sample for the project in the sequence of samples being analyzed, or; c) four samples above and below the failed blank are re-analyzed on the reject material, as this indicates contamination in the sample preparation stage.

11.4.2 Precision Analysis – Duplicates

Beginning in March 2009, internal laboratory pulp duplicate data and reject duplicate data were statistically followed and analyzed using EXCEL for Accurassay, ALS, Actlabs, Bell Creek, and Cattarello Labs. In April 2010, Lab Logger software was set up and used for comparative statistical analysis for ALS Lab. Comparisons are made using descriptive statistics and scatter plots. These plots are used primarily to identify project specific problems in assay reproducibility (precision) and erratic individual results, indicating potential sampling problems or clerical errors in the sample order within the batch. When problems are identified in the data precision, the labs are notified and asked to investigate and report back their findings. Erratic sampling results are noted in monthly reports so that the responsible geologist is made aware of the uncertainty in the sample value and would then be able to check for potential clerical errors within the samples, as per standard procedures.

11.4.3 Reporting and Plotting

Brief monthly reports are completed during the year to include the number of samples sent to each lab for each project, the number of QC samples that failed, and identified reasons for said failures. In addition, graphs of each individual blind standard and blank, as well as the non-blind reject pairs and pulp duplicate pairs, are generated monthly to check for sample bias at each assay lab. All major projects are summarized individually, typically at year-end or at the end of a program, as soon as reasonably possible.

11.5 CHECK ASSAY PROGRAM

11.5.1 General Statement

For significant drilling periods, or for drill campaigns leading to resource or reserve calculations, a check assay program is implemented either during or following completion of drilling. For the purpose of this report, approximately 5% of the pulps from previously analyzed samples (excluding pulps from standards) were selected and sent for re-assay to various neutral labs. In order to make a selection, groups of samples that passed QC were picked randomly from various drill programs. The pulps were selected randomly by hole, ensuring that a wide range of original assay values from trace to high grade were represented.

The samples selected for check analysis were sent to SGS Mineral Services. The pulps were initially analyzed using the fire assay with an AA finish method, and for results greater than 10 grams per tonne, a re-assay was conducted by fire assay using a gravimetric finish.

11.5.2 Procedures

Pulps were selected by LSG project personnel and an electronic list of selected sample numbers was prepared for the samplers. The samples were submitted to the analytical facility in groups of 40, with the blind QC consisting of one standard and one previously analyzed blank pulp. For bazooka drill core, a new blank was inserted into the batches. The old and new sample numbers and the positions of the standard and blank pulps were recorded on the check assay Excel table as the samples were being packed for shipping to the labs. Once the analyzes were completed, the assay lab provided results in the standard LSG assay file format, including all of their internal QC data as part of the electronic assay file. After all assays were received and were determined to have passed quality control checks, a comparative statistical analysis of the new data versus the original assays was undertaken by LSG, including an analysis on the performance of inserted QC samples, following a format previously used by external auditors.

A master report for each project was prepared, documenting the following statistics:

- Mean
- Maximum and minimum values
- Median
- Variance
- Standard deviation
- Coefficient of variation
- Correlation coefficient
- Percent difference between means

Three separate check assay programs were completed since the March 2014 Technical Report and detailed results and statistics are provided in Appendix 1.

11.6 DISCUSSION

Table 11.3 summarizes the QA/QC statistics for the Timmins West Mine, comprising surface and underground QA/QC programs for the Timmins Deposit, Thunder Creek Deposit, and 144 Gap Deposit. Graphs of the QA/QC results for standards and blanks and results for the check assay programs, including observations and recommendations, are provided in Appendix 1.

TABLE 11.3: TIMMINS WEST MINE DIAMOND DRILL CORE QA/QC SAMPLE SUMMARY

	Thunder Creek Deposit		144 Gap Deposit		Timmins Deposit	
	9 Jan 2014 to 23 Nov 2015		1 Nov 2010 to 11 Jan 2016		27 Nov 2013 to 20 Nov 2015	
Sample Type	Number	Percent	Number	Percent	Number	Percent
Total Blanks	1,160	35.3%	2,894	34.1%	1,979	35.8%
Total Standards	1,035	31.5%	2,809	33.1%	1,651	29.8%
Total Duplicates	1,089	33.2%	2,794	32.9%	1,903	34.4%
Total QAQC:	3,284		8,497		5533	
Total Blank Overrides	4	0.3%	6	0.2%	8	0.4%
Total Blanks Re-Assayed	1	0.1%	6	0.25	1	0.1%
Total Blank Failures	5	0.4%	12	0.4%	8	0.4%
Total Standard Overrides	37	3.6%	61	2.2%	79	4.8%
Total Standard Re-Assayed	13	0.0%	30	0.0%	26	0.0%
Total Standard Failures	50	4.8%	91	3.2%	105	6.4%
Total QAQC Failures:	55	1.7%	103	1.2%	113	2.0%

**Note: Reasons for a geological override include:*

1. *If a standard or a blank fails by less than 0.05 grams per tonne as this is very close to the cut-off for a pass.*
2. *If a standard or a blank fails by more than 0.05 grams per tonne and there are no ore grade results, and no ore grade results were anticipated within the area of the QC failure, the failure is overridden as it is assumed that no significant assays results were affected.*
3. *Occasionally a failure relates to a data entry error (wrong standard being recorded as sent), or relates to two sequential samples being switched during sampling at the core shack, or during sample preparation at the lab. If the error can be absolutely proven but corrections cannot be made, the failure is overridden.*
4. *In the situation of a standard or blank failing but the drill hole is in an area that is actively being mined or developed before a re-assay can be returned, the failure is overridden.*
5. *Occasionally, failure of a blank or a standard can be overridden if the qualified person believes the error is forgivable. In this case a comment stating the override is added to the database. An example of this is the QP noted that one standard was consistently failing by the same extent of an error. The error was overridden and the standard replaced in future sample shipments.*

12.0 DATA VERIFICATION

12.1 DATABASE VALIDATION

Geological data is currently held in a Geovia GEMS (Microsoft SQL) database which was compiled from data received from West Timmins Mining Inc., Holmer Gold Mines Ltd., and work completed by LSG since the acquisition of the properties. A review of all historical data available was completed to ensure all assay and survey (collar and downhole) information was properly imported and presented into the database. On a regular basis the following steps are taken to ensure the integrity of the database:

1. A monthly validation is run on the Gemcom drill hole data which searches for overlapping geological or assay interval, incorrect drill hole lengths, missing geological internals, etc. any errors encountered are corrected when discovered.
2. Plotting of plans and sections to check for drill hole location, elevation, and downhole survey errors.
3. Due to the highly magnetic nature of the rock, downhole survey data collected using a Reflex EZ-Shot instrument is checked by a geologist upon receipt and scrutinized for magnetic interference before being input into the database. The vast majority of drill holes at the Timmins West Mine (>90%) are now being surveyed by external consultant Reflex Instruments Ltd. using the non-magnetic Reflex MEMS Gyro system to assist in tracking hole curvature and deviations.
4. Selected historical drill holes are checked underground for collar labels, drill hole location, and collar azimuth and dip. Any discrepancies are examined and modified as required.
5. Downhole north-seeking gyro surveys are occasionally completed on select holes as additional verification and comparison.

For the purposes of this report, a random validation was completed on approximately 5% of the assay data in the drill logs against the assay certificates.

Over the course of a three week period, a review of approximately 5% of available drill logs from the end of 2013 to January 2016 was completed on the Timmins Deposit, Thunder Creek Deposit, and Highway-144 Deposit drilling. Discrepancies were noted related to incorrect and missing entries for downhole surveys, drill dates, log dates, capping/cementing information, and townships. Where possible, these errors and omissions were corrected by the reviewer. A more stringent review of drill logs upon completion and logging geologist sign-off has minimized the presence of these types of errors in current drilling.

In spring 2013, some issues were identified regarding the accuracy of drill hole collar locations, and improper assessment of downhole surveys (see Item 11.2.3 for details). Previously, the collar locations were marked by a mine geologist, but the final locations were rarely re-surveyed. The collar location recorded in the database may not have always accounted for required “offsets” and other inaccuracies. Some rock formations are more magnetic than previously recognized due to the presence of disseminated magnetite and pyrrhotite, which affected the reliability of the azimuth readings being taken with the EZ-Shot instrument. The intensity of magnetic interference (total magnetic field) recorded by the survey instrument was not systematically evaluated, and other parameters such as “magnetic dip” readings were not considered when assessing the validity of the azimuth readings. A review of the data for certain holes has led to a shift in the apparent trajectory of drill hole traces. In the past, drillers were asked to re-align and re-collar the drill hole if the first downhole tests were off by 3 degrees or more from the planned azimuth. This practice has been abandoned, and much more stringent protocols have been put in place. Most collars are now marked by trained surveyors, spads are commonly inserted in the walls for better accuracy and as permanent points of reference, and all collars are eventually re-surveyed upon completion. In addition, a north-seeking gyroscope (Azimuth Aligner) was acquired in September 2013 for use by the drillers to line up on the holes. This instrument is not affected by magnetic interference, allowing the drillers to precisely manoeuver the drill rig to the correct planned azimuth and dip. A similar tool (Reflex TN14 Gyrocompass) has since replaced the Azimuth Aligner technology and remains in constant use to the present day. Downhole EZ-Shot tests are still taken at 9 to 15 metres from the collar, but drillers are instructed not to re-collar and to keep taking tests at 50 metre intervals. From June 2013 to the end of 2014, a non-magnetic survey instrument (DeviFlex) was also used to track the curvature of the holes upon completion of drilling. Downhole north-seeking gyro surveys were occasionally done on selected holes as an additional verification and for comparison purposes. The DeviFlex tool, while an improvement over the traditional EZ-Shot data, proved too unreliable and unadaptable for use by the drillers. Instead, the vast majority of drill holes at the Timmins West Mine (>90%) are now surveyed by external consultant Reflex Instruments Ltd. using the Reflex MEMS Gyro system to track downhole deviations, which has greatly increased confidence in the curvature and locations of recently completed drill holes (late 2014 to present). For Thunder Creek, drill holes are generally shorter and Reflex tests taken within the porphyry are believed to be sufficiently reliable as this rock formation is non-magnetic. A geologist then reviews all collar surveys and all downhole directional data. The magnetic susceptibility readings are scrutinized in conjunction with the "magnetic dip" in order to assess the reliability of the data. Finally, a directional data file containing a combination of the best collar and downhole Reflex EZ-Shot and MEMS Gyro surveys is generated and forwarded to the Database Manager for importation. Where downhole gyro data is available, it is normally considered as being the most accurate.

Whenever possible, the locations and starting orientations of old drill holes which appear problematic are re-surveyed by trained LSG surveyors. Alternatively, drill hole collars are sometimes also chained in by LSG Geology and starting orientations evaluated using the Reflex TN14 Gyrocompass affixed to a tight-fitting aluminum rod inserted into the borehole.

Two holes were excluded from the Thunder Creek resource estimate due to uncertainty of location and poor geological correlation with surrounding data. Remaining discrepancies in recent drilling are considered to be local in nature and are not likely to have a significant impact on the global mineral resource estimate. It is suggested that closely spaced drilling in conjunction with underground mapping should be used to help confirm hole locations for new mining blocks whenever possible. The database, in the writer's opinion, is appropriate for reporting of the Timmins West Mine resource.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 HISTORICAL TEST WORK

Extensive metallurgical test work was completed prior to processing any material from the Timmins West Mine. The following companies were involved with various aspects of metallurgical evaluations.

- SGS Lakefield Research Limited, Lakefield, Ontario (SGS)
- EHA Engineering Ltd., Richmond Hill, Ontario (EHA)
- RPC Engineering, Fredericton, New Brunswick (RPC)
- Pocock Industrial, Inc., Salt Lake City, Utah, USA (Pocock)
- Golder Associates, Sudbury, Ontario (Golder)

RPC and SGS tested samples of the ore types as composites as well as individual samples. The test programs consisted of bottle rolls to determine the metallurgical response of the ore types to cyanide recovery along with tests to determine gravity concentration, pulp agglomeration, flotation, and cyanide leaching of the flotation tailings and concentrates. RPC performed crushing, grinding and abrasion indices determinations. Pocock and Golder performed flocculent screening, gravity sedimentation, and pulp rheology on leached tailings samples. SGS also performed preliminary sag mill testing. EHA evaluated work completed by RPC.

The test work results indicated that the ore will be very amenable to the Bell Creek Mill conventional gold milling processes. Specifically, the ore was free milling and the gold responded well to cyanide leaching and CIP recovery.

In general, there was found to be good correlation between the results expected based on test work and the actual operating results. In some cases, the actual results exceeded expectations.

13.2 RECENT TEST WORK

The Bell Creek Mill Phase 1 expansion was completed in October 2010. Planning for Phase 2 of the mill expansion (increasing throughput capacity to over 3,000 tonnes per day) was started in the first quarter of 2011. Part 1 of the expansion was completed by the end of of 2012 and increased the plant to a throughput of 2,500 tpd. The Phase 2 expansion was completed during the third quarter of 2013. Prior to launching the Phase 2 expansion project, more comprehensive test work was completed. The following companies were involved with this test work.

- G&T Metallurgical Services LTD. Kamloops, BC (G&T)
- Starkey & Associates Inc., Oakville, Ontario (Starkey)
- Xstrata Process Support, Falconbridge, Ontario (XPS)
- Outotec Canada Inc. (Outotec)
- FLSmidth Knelson, Langley, BC (Knelson)

G&T Metallurgical completed bond work indices on four different types of mineralized material from the Timmins West Mine. These samples included:

- Timmins Deposit – Shaft (material from the lower areas of the mine)
- Timmins Deposit – Ramp (material from the upper areas of the mine)
- Thunder Creek Deposit – Non-Porphyritic and Porphyritic

The bond ball mill work index for these ores ranged from 12.4 kWh/tonne for the shaft ore to 17.0 kWh/tonne for Non-Porphyritic Thunder Creek ore. Sag mill (SMC) tests were also completed on these samples with the test data indicating that the ore ranged in hardness from moderately hard to very hard. The objective of Starkey and Associates' test work was to size a sag mill that would enable the throughput to be increased to 3,000 tonnes per day using the two existing mills. Starkey also verified that a mill (which was available on the market at the time) was suitable for 3,000 tonnes per day and also had the capability to process up to 6,000 tonnes per day. All the different material types were used for the test work. XPS used Starkey and Associates' data and ran JKSimMet simulations of the sag circuit with tonnage set at 250 tonnes per hour and using the hardest of the four materials. These results were used to establish the best operating conditions and obtain circulating load, pulp density, cyclone feed, and cyclone overflow data which were used to help suppliers in the sizing of the cyclones. Outotec tested the material types for settling characteristics to size a new high efficiency thickener rated for 6,000 tonnes per day. Knelson tested the shaft and Thunder Creek material to establish data points for gravity recoverable gold (GRG). Shaft ore GRG was 78.6% and the Thunder Creek GRG was 53.5 percent. This information is being used as the basis for increasing the efficiency of the gravity circuit.

Test work was undertaken in 2013 by SGS Minerals to determine the effect of grind on recovery. It showed a slightly increasing recovery with finer grinds, as well as lower than expected gravity gold recoveries. Gravity gold recoveries were 25.7% for Thunder Creek ore, 18.3% for Timmins Deposit, and 38.7% for Bell Creek ore. This shows how variable the ore is within these orebodies.

In-house test work continues on a regular basis to confirm and increase the metallurgical performance of the plant, including stripping circuit and leaching circuits.

Overall, the combination of Lake Shore's operating history and the extensive amount of test work conducted provides confidence that the process design and equipment selection will result in achieving the targeted recovery and throughput levels.

14.0 MINERAL RESOURCE ESTIMATES

14.1 SUMMARY

Lake Shore Gold has prepared an updated Resource Estimate for the Timmins West Mine which includes mineralized zones from the Timmins Deposit, Thunder Creek Deposit, and an initial resource from the 144 Gap Deposit. The report updates the previous Timmins West Mine Resources as reported by Lake Shore Gold in March 2014. The estimate for the Timmins West Mine is based on historical diamond drilling dating back to March 1984 and drilling completed by LSG between July 2003 and the date of databases being closed for the current estimate.

The database closure date was November 20, 2015 for the Timmins Deposit, November 23, 2015 for the Thunder Creek Deposit and early 2016 for the 144 Gap Deposit. A total of 2,848 drill holes with solid intersections through resource envelopes were used for estimation of the total resource pool at the Timmins West Mine, including 1,613 drill holes for the Timmins Deposit, 1,068 drill holes for the Thunder Creek Deposit, and 167 drill holes for the 144 Gap Deposit. The diamond drill hole database has been subjected to verification and is considered to be robust and of adequate quality for the estimation of resources.

The estimated Timmins West Mine Resource totals 5.77 Mt at 4.87 gpt Au, amounting to 903,400 ounces of gold in the Indicated category and 2.67 Mt at 5.00 gpt Au amounting to 429,300ounces of gold in the Inferred category. Subdivision of the resource between the Timmins, Thunder Creek, and 144 Gap Deposit is summarized in Table 14.1.

TABLE 14.1: TIMMINS WEST MINE RESOURCES

In-Situ Resource Above Cut-Off Grade (COG)			
	Tonnes	**Grade**	**Ounces**
Timmins Deposit @ 1.5 g/t COG*			
Indicated	1,816,000	5.08	296,000
Inferred	606,000	4.75	92,600
Thunder Creek @ 1.5 g/t COG**			
Indicated	2,225,000	4.27	305,700
Inferred	151,000	3.62	17,500
Highway-144 @ 2.6 g/t COG			
Indicated	1,734,000	5.41	301,700
Inferred	1,914,000	5.19	319,200
Total Timmins West Mine			
Indicated	5,775,000	4.87	903,400
Inferred	2,671,000	5.00	429,300

** Includes Timmins Deposit Broken Ore + Stockpile*

*** Includes Thunder Creek Deposit Broken Ore + Stockpile*

1. *Mineral resource estimates have been classified according to CIM Definitions and Guidelines.*
2. *Mineral resources are reported inclusive of reserves.*
3. *Mineral resources incorporate a minimum cut-off grade of 1.5 grams per tonne gold for the Timmins and Thunder Creek Deposit and 2.6 grams per tonne gold for the Highway-144 Deposit.*
4. *Cut-off grade is determined using a weighted average gold price of US$1,100 per ounce and an exchange rate of $0.90 $US/$CAD.*

5. *Cut-off grades assume mining, G&A and trucking costs of up to $74 per tonne and/or processing costs of up to $22 per tonne. Assumed metallurgical recoveries are 97.0%.*
6. *Mineral resources have been estimated using Inverse Distance Squared estimation method and gold grades which have been capped between 20 and 120 grams per tonne based on statistical analysis of each zone.*
7. *Assumed minimum mining width is two metres.*
8. *The mineral resources were prepared under the supervision of, and verified by, Eric Kallio, P.Geo., Senior Vice-President, Exploration, Lake Shore Gold Corp., who is a qualified person under NI 43-101 and an employee of Lake Shore Gold.*
9. *Tonnes information is rounded to the nearest thousand and gold ounces to the nearest one hundred. As a result, totals may not add exactly due to rounding.*

The general procedure for completing the new resource estimates included the following key steps with further explanation in the various subsections below.

- Database compilation and verification.
- Interpretation and modelling of mineralized zones.
- Analysis of drillhole assay data.
- Assay composting.
- Analysis of specific gravity.
- Block modelling.
- Removal of depleted and nonrecoverable blocks.
- Resource classification

14.2 DATABASE COMPILATION AND VERIFICATION

The database used for the current resource estimate is comprised of a Gemcom GEMS (Microsoft SQL) database which was compiled from data received from West Timmins Mining Inc., Holmer Gold Mines Ltd. and work completed by LSG since acquisition of the properties. The GEMS diamond drill hole database consists of the following major tables, header, survey, lithology, and assay with pertinent fields summarized in Table 14.2. Additional tables and fields within the above structure are in use by Lake Shore Gold in logging of the drill core and final resource estimation. All drillhole data used in the estimation was verified using the Gems “validate” feature which checks for duplicate and overlapping intervals, missing intervals, negative length intervals and inconsistencies between tables.

Cross-sectional data, geological interpretation strings, section and level plan definitions, 3D geological solids, point area data of assays and composites, as well as the block model, are also stored within GEMS. Details on database validation are discussed In Item 12 of this report.

TABLE 14.2: SUMMARY OF GEMS SQL DRILL HOLE DATABASE

Table Name	Table Description	Fields
Header	Drill hole collar location data in local grid co-ordinates	Hole-ID Location X Location Y Location Z Length Collar_Az Collar_ Dip

Table Name	Table Description	Fields
Survey	Down hole survey data of direction measurements at down hole distances	Hole-ID Distance Azimuth Dip
Assays	Sample interval assay data with Au units grams per tonne	Hole-ID From To Sample_NO Au_GPT_FIN Au_GPT_AA Au_GPT_GRA Au_GPT PM
Lithomaj	Major logged rock type intervals down hole	Hole-ID From To Rocktype
Lithomin	Minor logged rock type intervals down hole	Hole-ID From To Rocktype

14.3 INTERPRETATION AND MODELLING OF MINERALIZED ZONES

Interpretation and modeling of mineralized zones was completed on vertical sections taking into account structure, lithology, alteration, veining and sulphide content. In addition to diamond drilling, underground development mapping and sampling were used as an aid but only diamond drill data was used for grade estimation.

Section spacing used for the interpretations for the Timmins Deposit is 6.25 metres on north-south sections between 4500 E and 4800 E on the mine grid but increased to 25 metres west of section 4500 E due to limited diamond drilling at depth. East of 4800 E a section spacing of 12.5 metres was used. Section spacing for the Thunder Creek Deposit is 7.5 metres on rotated (33 azimuth) sections excepting the area east of and below the 750 metre level where section spacing was increased to 15 metres due to limited diamond drilling. Section spacing for the 144 Gap Deposit is 12.5 meters on rotated (130 azimuth) sections.

Limits of the zone were focused on drill intersections exceeding 2.6 gpt although assays below this grade are included as necessary to maintain continuity. Zones were required to have a minimum of three or more intersections that form a continuous band of mineralization and have a minimum mining width of 2 metres. Closed 3D rings were constructed and assigned an appropriate rock type and stored with its section definition in the GEMS polyline workspace. Closed 3D rings were projected half the distance to the next section in areas were drilling closed off mineralization, or up to a maximum of 25 metres in areas with no drilling. 3D solids were created from the closed strings and were validated using the GEMS solid validation tools.

For estimation purposes a total of 77 discreet mineralized domain solids have been created for the Timmins Mine Deposit with 17 domain solids created for the Thunder Creek Deposit and 8 for the 144 Gap Deposit. A minimum mining width of 2.0 metres was assumed and only samples within a mineralized zone were used for estimation of the zone. Many of these domains exhibit similar geologic setting and characteristics. A summary of these mineralized domains is presented in Table 14.3. Figure 14.1 illustrates a 3D view of the mineralization solids looking south-west.

TABLE 14.3: MINERALIZED DOMAINS

Timmins Mine

Vein Zones	**Description**
	Qtz-tm veins and stockworks zones, 1 m to 5 m wide, associated with pyrite, arsenopyrite, and coarse visible gold. The veins are generally emplaced near the volcanic-to-sediment contact zones.

Domain	**Rock Code**	**Domain**	**Rock Code**	**Domain**	**Rock Code**
525_V1	1	525_V3AU	131	525_V3BU	141
525_V2U	21	525_V3AM	132	525_V3BL	142
525_V2L	22	525_V3AL	133		
525_V3 E	31				
525_V3 W	32				

Main Zone	**Description**
	Similar to the qtz-tm veins and stockworks zones, associated with pyrite, arsenopyrite, and coarse visible gold; predominantly hosted by sediments

Domain	**Rock Code**	**Domain**	**Rock Code**	**Domain**	**Rock Code**
525_MZ1A	511	525_MZ2	502		
525_MZ1B	512	525_MZ2B	520		
525_MZ1C	513				

Footwall Zones Above 525	**Description**
	Sheared and mylonitized mafic volcanics rocks, associated with local quartz-albite veining, and pervasive silica, albite and pyrite alteration

Domain	**Rock Code**	**Domain**	**Rock Code**	**Domain**	**Rock Code**
525_FW1U	1401	525_FW2	402	525_FW3	403
525_FW1L	1402	525_FW2A	422	525_FW4	404
		525_FW2B	423		
		525_FW2C	424		

Footwall Zones Below 650	Description
	Sheared and mylonitized mafic volcanics rocks, associated with local quartz-albite veining, and pervasive silica, albite and pyrite alteration

Domain	Rock Code	Domain	Rock Code	Domain	Rock Code
FW_1E	4101	FW_2	4003	FW_3	4007
		FW_2A	4103	FW_4	4009
		FW_2B	4203	FW_5B	4109
		FW_2C	4303	FW_6	4011
				FW_7	4013
				FW_8	4015

ULTRAMAFIC ZONES	Description
	Quartz-tourmaline veining hosted by strongly altered (iron-carbonate, albite) pyroxenite, accompanied by up to 10-15% disseminated pyrite.

Domain	Rock Code	Domain	Rock Code	Domain	Rock Code
UM_1	6001	UM_3	5001	UM_7	6009
UM_1A	6003	UM_4	5003	UM_8	6011
UM_1B	6113	UM_5	6005	UM_9	6013
UM_2	7001	UM_5B	6015	UM_10	6015
UM_2B	7007	UM_5C	6205	UM_11	6017
UM_2C	7009	UM_6	6007	UM_12	6019
UM_2D	7011	UM_6A	6107	UM_13	6021
UM_2UE	7003	UM_6B	6207		
UM_2UW	7005				

D Zones	Description
	Altered pyroxenite hosted comparable to UM zone

Domain	Rock Code	Domain	Rock Code	Domain	Rock Code
D1_FW	8003	D_2	8005	D_3	8007
D1_HW	8001	D_2A	8105	D_4	8009
		D_2B	8205	D_5	8011
		D_2C	8305	D_6	8013
		D_2D	8405		

S Zone					Description
					Highly altered and deformed pyroxenite; disseminated pyrite; mineralization wraps around sediment UM contact

Domain	Rock Code	Domain	Rock Code	Domain	Rock Code
S_1	9001	S_4	9007	S_7	9013
S_2	9003	S_5	9009		
S_3	9005	S_6	9011		

Thunder Creek

Upper Thunder Creek					Description
					Rusk-style mineralization; highly sheared and carbonatized pyroxenite, intruded by syenite dykelets and qtz+/-fldp-cb veinlets; strong disseminated pyrite

Domain	Rock Code	Domain	Rock Code	Domain	Rock Code
UTC_1	201	UTC_4	207	UTC_7	213
UTC_2	203	UTC_5	209	UTC_8	215
UTC_3	205	UTC_6	211		

RUSK Zones					Description
					Strongly sheared and altered pyroxenite-to-sediment contact zone, with remnant mafic volcanic slivers/inclusions. Minor quartz veining and strong pyrite disseminations. RUSK is the main unit, RUSK_HW is similar shear hosted zone in Ultramafics hangingwall to the RUSK

Domain	Rock Code	Domain	Rock Code	Domain	Rock Code
RUSK	301	RUSK_L	303		
		RUSK_ U	305		
		RUSK_HW	307		

Porphyry					Description
					Syenite/qtz monzonite porphyry and extensional vein arrays, including visible gold and accessory pyrite, galena, sphalerite, and scheelite in the veins; POR is the main unit, POR_2 to 6 are splays

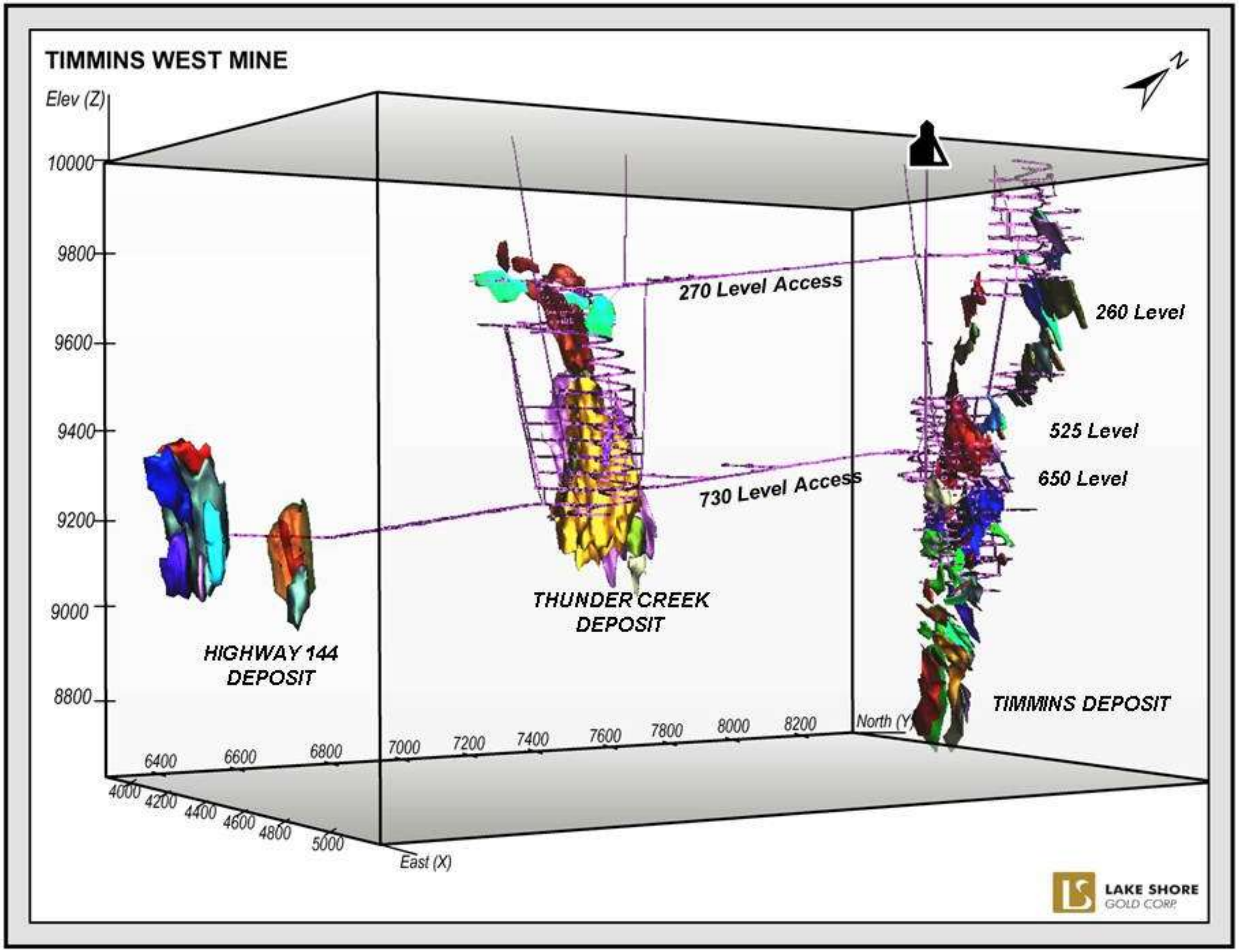
Domain	Rock Code	Domain	Rock Code	Domain	Rock Code
POR	401	POR_2	403		
		POR_3	405		
		POR_5	409		
		POR_6	411		

144 Gap Deposit

Description
Syenite/qtz monzonite porphyry and extensional vein arrays, including vein hosted visible gold and accessory pyrite, galena, sphalerite, and scheelite.

Domain	Rock Code	Domain	Rock Code	Domain	Rock Code
HWY_M	1441	HWY_FW2	1447	HWY_FW4	1455
HWY_EAST	1443	HWY_HW	1449	HWY_FW5	1457
HWY_FW1	1445	HWY_FW3	1453	HWY_EXT	1459

FIGURE 14.1: 3D VIEW OF RESOURCE SOLIDS, LOOKING SOUTH-WEST



14.4 STATISTICAL ANALYSIS

14.4.1 Grade Capping

Lake Shore Gold has utilized grade capping of diamond drill holes in its estimation of the Mineral Resources for the Timmins, Thunder Creek and 144 Gap Deposit. To evaluate potential cutting factors, assay values were extracted from the drill hole database and flagged by zone according to the mineralized solid enclosing the drill hole assay. Individual statistical reports based on the raw gold assays were generated for each resource solid. Zones having a limited number of samples were grouped for evaluation with those displaying similar mineralization characteristics.

To aid in determining appropriate capping limits histograms, cumulative frequency plots and log probability plots were generated for individual and grouped zones. This evaluation was completed utilizing Snowden's Supervisor software Visor+Analysor Version 8. All gold grades were capped prior to the creation of drill hole composites. Capped Gold Grades used to create composites for estimation are summarized in Table 14.4.

TABLE 14.4: CAPPED AND UNCAPPED GOLD GRADES

TIMMINS DEPOSIT

Zone	Total # Samples	Maximum (gpt Au)	Mean (gpt Au)	Capping Value (gpt Au)	# of Samples Removed	Capped Mean (gpt Au)
	902	394.91	5.16	50.00	14	4.13
Main Zone (MZ1 and 2)	893	879.44	8.65	50.00	25	5.38
All vein zones	1,795	879.44	6.90	50.00	39	4.75
FW above 525 level	2,043	118.13	3.70	50.00	4	3.66
FW below 650 level	7,692	371.33	4.27	70.00	11	4.18
UM3 and 4	1,018	120.91	5.12	50.00	7	4.94
UM 1	4,272	7581.43	9.01	90.00	32	6.43
UM Hanging Wall (UM_2 zones)	1,556	77.92	4.50	90.00	0	4.50
UM below 720 level	5,698	7581.43	8.13	90.00	76	6.51
Ultramafic Zones	11,526	5010.00	6.36	90.00	7	7.35
D zone (D1 to D5)	1,729	369.00	5.70	70.00	7	5.38
S zone (S1 to S7)	1,521	724.00	5.42	70.00	16	4.43

THUNDER CREEK DEPOSIT

Zone	Total # Samples	Maximum (gpt Au)	Mean (gpt Au)	Capping Value (gpt Au)	# of Samples Removed	Capped Mean (gpt Au)
UTC zone	2,498	116.00	4.19	50.00	1	4.16
Porphyry - Main zone	22,765	1600.00	3.93	120.00	50	3.60
Porphyry - Splay zones	1,011	449.00	4.34	90.00	2	3.86
RUSK	5,966	166.00	6.85	60.00	45	6.67
RUSK Upper	290	87.20	6.32	70.00	1	6.26
RUSK Lower	54	19.57	3.05	20.00	0	3.05
RUSK HW	108	63.70	6.11	60.00	2	6.07

144 GAP DEPOSIT

Zone	Total # Samples	Maximum (gpt Au)	Mean (gpt Au)	Capping Value (gpt Au)	# of Samples Removed	Capped Mean (gpt Au)
HWY M	4,532	377.00	3.35	120.00	8	3.20
HWY EAST	4,182	1000.00	3.92	120.00	13	3.42
HWY EXT	245	123.00	4.82	70.00	1	4.60
HWY HW	407	39.30	2.92	70.00	0	2.92
HWY FW1	241	78.30	3.54	70.00	1	3.51
HWY FW2	75	108.50	4.96	90.00	1	4.72
HWY FW3	74	77.10	4.33	70.00	1	4.24
HWY FW4	712	206.00	3.96	70.00	5	3.66
HWY FW5	687	149.00	3.53	70.00	3	3.37

14.4.2 Variography

Log Normal Variograms were created for the Resource solids using the capped 1 metre composites for the Timmins, Thunder Creek and 144 Gap Deposit. Where possible a spherical model with one or two structures was fitted.

Due to the nature of the mineralization it was only possible to generate meaningful variograms for specific shear hosted zones such as the Thunder Creek Rusk Zone. These models are characterized by a high nugget and typically produce a short range for the primary structure of less than 20 metres.

Zones for which it was not possible to observe a preferred orientation include the Thunder Creek Porphyry which consists of irregular stringers of varying orientation and the Timmins Deposit S Zones which are wrapped around the pyroxenite – sediment contact and are thus "horseshoe shaped".

14.4.3 Assay Compositing

Each 3D solid was assigned a unique name and numeric rock code which was used to flag drill hole assays by solid intersections. This solid intersection table was used to generate a set of 1 metre composites based on down-the-hole averaging within the limits of the solid intersection. An option within GEMS6.4 was used that adjusts composite length to make all composite intervals in a given drill hole equal. By comparison, the traditional method of applying a constant composite length along the drill hole results in the last composite of an intersection being shorter in length. The solid intersections and 1 metre composites are stored in a GEMS table and were extracted out to a point area file for interpolation purposes for each of the Deposits. Both capped and uncapped composite grades are stored in the point area file.

A total of 2,375 solid intersections from 1,613 unique holes were used in the Timmins Deposit to produce at total of 19,643 one metre composites.

For Thunder Creek a total of 1,574 solid intersections from 1,067 unique holes were used to generate 21,857 one metre composites.

For 144 Gap Deposit a total of 255 solid intersections from 167 unique holes were used to generate 9,523 one metre composites.

14.5 SPECIFIC GRAVITY

Specific gravity (SG) was determined on 1,828 samples representative of different styles of mineralization from the Timmins, Thunder Creek and 144 Gap Deposits. Specific gravity measurements were completed at the Lake Shore exploration office or Timmins Mine core shack using the conventional approach of weighing the samples dry and immersed in water.

Mineralized zones were grouped based on the dominant mineralization style within the solid.

Table 14.5 summarizes the specific gravity values that were used in the Resource estimate by deposit and zone.

TABLE 14.5: SPECIFIC GRAVITY BY ZONE

Deposit	Zone	Historical SG	Readings Quantity	Reading Average	Final SG
Timmins	Footwall	2.88	231	2.81	2.81
	Veins	2.81	19	2.79	2.81
	Ultramafic	2.92	223	2.90	2.92
	Sediments	------	53	2.74	2.74
Thunder Creek	Rusk	2.92	434	2.91	2.92
	Porphyry	2.66	574	2.63	2.66
144 Gap Deposit	Syenite	------	228	2.60	2.60
	Mafic Volcanics	------	66	2.85	2.85
	Mineralized Zones*				2.70
* SG selected based on proportion of Syenite and Mafic Volcanic within Zones. Strong inter-fingering.					

14.6 BLOCK MODEL MINERAL RESOURCE MODELING

14.6.1 General

The grade of the Mineral Resources at the Timmins, Thunder Creek and Highway-144 deposits was estimated by using inverse distance squared (ID^2) interpolation with anisotropic weighting. This method interpolates the grade of a block from several composites within a defined distance range from the block. The estimation uses the inverse of the distance between a composite and the block as the weighting factor to determine the grade.

14.6.2 Block Model Parameters

Individual models were completed for the Timmins Deposit and the Thunder Creek Deposit. A summary of the model grid parameters are shown in Table 14.6.

TABLE 14.6: BLOCK MODEL GRID PARAMETERS

Timmins Deposit

Model Origin	Grid	Model Dimension		Block Dimension	
X	4200 E	Columns	450	Column width	2.0 m
Y	7750 N	Rows	280	Row width	2.0 m
Z	10020 el	Levels	700	Level height	2.0 m

Orientation: No rotation

Thunder Creek Deposit

Model Origin	Grid	Model Dimension		Block Dimension	
X	4400 E	Columns	200	Column width	2.0 m
Y	6725 N	Rows	220	Row width	2.0 m
Z	9880 el	Levels	450	Level height	2.0 m

Orientation: rotated 33^0 counter-clockwise from East

144 Gap Deposit

Model Origin	Grid	Model Dimension		Block Dimension	
X	3700 E	Columns	600	Column width	2.0 m
Y	5690 N	Rows	300	Row width	2.0 m
Z	9700 el	Levels	725	Level height	2.0 m

Orientation: rotated 50^0 counter-clockwise from East

14.6.3 Grade Interpolation

Block grades within the Timmins and Thunder Creek and Highway-144 block models were interpolated through four estimation runs using inverse distance squared (ID^2) with anisotropic weighting for grade determination. The number of composites per drill hole was set such that a minimum of three drill holes were required to estimate a block for Runs 1 through 3. For Run 4 this was reduced to a minimum of two drill holes. It should be noted that Run 4 was completed in order to ensure no un-estimated gaps were created within a particular zone. The number of blocks estimated in Run 4 is minimal and represents significantly less than 1% of blocks for the Thunder Creek and 144 Gap Deposit and approximately 2% of the blocks for the Timmins Deposit (6,868 blocks estimated in Run 4 compared to 295,706 total blocks).

The general geometry of zones, alteration and mineralization observed in drill core and underground mapping was used in conjunction with log normal variograms of each mineralized zone to establish the search ellipse parameters. (For example the search ellipse for the Timmins Mine FW zones has a shallow dip to the North reflecting vein trends observed in underground development while the overall zone shape is near vertical.) For the Porphyry zones at Thunder Creek and 144 Gap Deposit a spherical search orientation was used due to the complex nature of the vein stockworks making it difficult to identify preferred grade trends.

Search ranges for estimation began at 15 metres for the first pass and reflect the short ranges evident in the variograms.

Search ellipse parameters for the Timmins, Thunder Creek and 144 Gap Deposits are summarized in Table 14.7, Table 14.8, and Table 14.9. For brevity, zones that were estimated using identical searches are grouped together. In all cases the grade estimation was completed only using composites from within each individual zone.

TABLE 14.7: TIMMINS DEPOSIT SEARCH ELLIPSE PARAMETERS

Zone (Ellipse)	Pass	Search Ellipse Orientation (ZXZ) z	x	z	Search Ellipse Range Orientation (ZXZ) x	y	z	Number of Samples min	max	Max/hole
Main Zone	1	5	-70	-65	15	15	8	6	12	2
(Pass_70)	2	5	-70	-65	30	30	15	6	12	2
	3	5	-70	-65	60	60	45	6	12	2
	4	5	-70	-65	90	90	60	4	12	2
Vein Zone	1	5	-60`	-65	15	15	8	6	12	2
(Pass_60)	2	5	-60	-65	30	30	20	6	12	2
	3	5	-60	-65	60	60	45	6	12	2
	4	5	-60	-65	90	90	60	4	12	2
FW above 525	1	5	-48	-65	15	15	8	6	12	2
(Pass)	2	5	-48	-65	30	30	20	6	12	2
	3	5	-48	-65	60	60	45	6	12	2
	4	5	-48	-65	90	90	60	4	12	2
UM Zones	1	15	-75	-65	15	15	10	6	12	2
(UM)	2	15	-75	-65	30	30	20	6	12	2
	3	15	-75	-65	60	60	45	6	12	2
	4	15	-75	-65	90	90	60	4	12	2
FW Zone	1	10	-35	55	15	15	10	6	12	2
(FW)	2	10	-35	55	30	30	60	6	12	2
	3	10	-35	55	60	60	45	6	12	2
	4	10	-35	55	90	90	60	4	12	2
UM4 and S Zones	1	0	0	0	12	12	12	6	12	2
	2	0	0	0	24	24	24	6	12	2
	3	0	0	0	48	48	48	6	12	2
	4	0	0	0	72	72	72	4	12	2
D Zone	1	-10	-35	55	15	15	10	6	12	2
(D)	2	-10	-35	55	30	30	20	6	12	2
	3	-10	-35	55	60	60	30	6	12	2
	4	-10	-35	55	90	90	60	4	12	2

Note:
Main Zone - MZ1A, MZ1B, MZ1C,MZ2 and MZ2B
Vein Zone - V1, V2U, V2L, V3E, V3W, V3AU, V3AM, V3AL, V3BU and V3BL
FW above 525 - FW1U, FW1L, FW2, FW2A, FW2B, FW2C, FW3, FW4
UM Zone - UM1, UM1A, all UM2 zones, all UM5, all UM6, UM7, UM8, UM10, UM11
FW Zone - all FW zones except FW7 and FW8, includes UM7, UM, UM13, D2 zones, D4, D6
D Zone - includes D1FW, D1HW, D3, D5, FW7, FW8, UM9

TABLE 14.8: THUNDER CREEK SEARCH ELLIPSE PARAMETERS

		Search Ellipse Orientation (ZXZ)			Search Ellipse Range Orientation (ZXZ)			Number of Samples		
Ellipse	**Pass**	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
UTC	1	40	-61	0	15	15	8	9	15	3
	2	40	-61	0	30	30	20	9	15	3
	3	40	-61	0	60	60	45	9	15	3
Porphyry	1	0	0	0	15	15	15	9	15	3
	2	0	0	0	30	30	30	9	15	3
	3	0	0	0	60	60	60	9	15	3
	4	0	0	0	90	90	90	6	15	3
Rusk	1	40	-61	0	15	15	8	9	15	3
	2	40	-61	0	30	30	20	9	15	3
	3	40	-61	0	60	60	45	9	15	3
	4	40	-61	0	90	90	70	6	15	3

Note:
- UTC is used for zones UTC_1, UTC_2, UTC_3, UTC_4, UTC_5, UTC_6, UTC_7, UTC_8
- Porphyry is used for zones POR, POR_2, POR_3,POR_4. POR_5, POR_6
- Rusk is used for zones RUSK, RUSK_U, RUSK_L, RUSK_HW

TABLE 14.9: 144 GAP DEPOSIT SEARCH ELLIPSE PARAMETERS

		Search Ellipse Orientation (ZXZ)			Search Ellipse Range Orientation (ZXZ)			Number of Samples		
Ellipse	**Pass**	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
SPH	1	0	0	0	15	15	15	9	15	3
	2	0	0	0	30	30	30	9	15	3
	3	0	0	0	60	60	60	9	15	3
	4	0	0	0	90	90	90	6	15	3

- Includes HWY_M, HWY_EAST, HWY_HW, HWY_FW1, HWY_FW2. HWY_FW3, HWY_FW4, HWY_FW5

14.7 BLOCK MODEL VALIDATION

Several steps were taken in order to review and validate the current block model and reported results which included: comparison of solid model and block model volumes, comparison of the block model against diamond drill results, checking with nearest neighbor estimates and review of recent reconciliation data.

Volumes of the individual solids were compared to volumes of from the block model for the same domain to ensure proper coding of the model. No significant variances were encountered.

Plans and sections were cut through the block model and Resource solids to view overall trends and patterns as well as compare block grades and grade distribution to the drill-hole data. Results of the review indicate a pattern for block grades which is consistent with drill hole assays and anticipated grade distribution.

An example of plan views and sections showing block grade distribution and the original diamond drill data for the 144 Gap Deposit is shown in Figure 14.2 and Figure 14.3.

FIGURE 14.2: 144 GAP DEPOSIT PLAN VIEW AT 820L – BLOCK MODEL AND DIAMOND DRILL HOLES

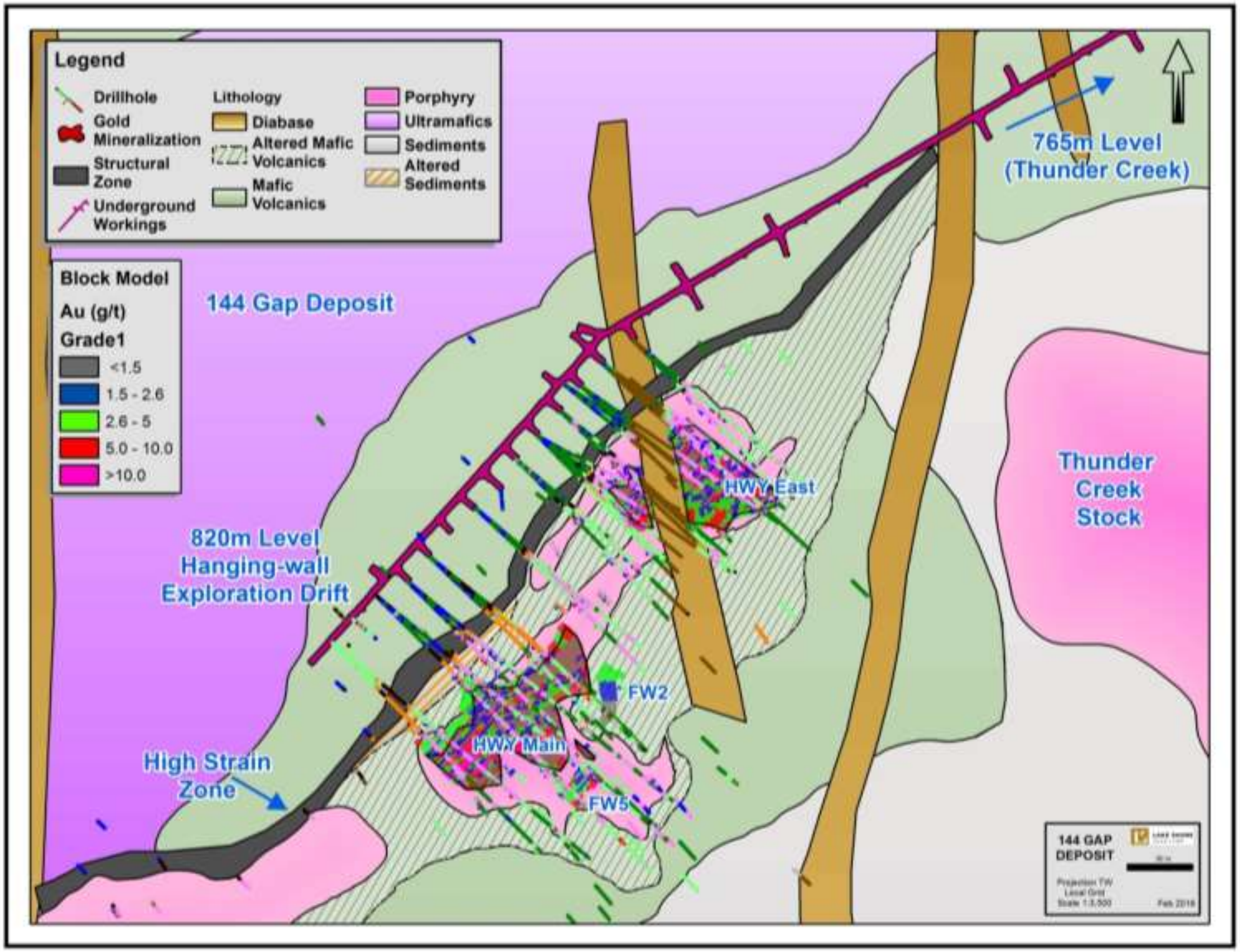


FIGURE 14.3: 144 GAP DEPOSIT – SECTION 8600 LOOKING SOUTH-WEST – BLOCK MODEL AND DIAMOND DRILL HOLES

A comparison between a nearest neighbour estimate and the final ID² interpolation was completed using the same search ellipse as the ID² interpolation. A close correlation is evident in both the Indicated and Inferred categories for Timmins West and Thunder Creek (refer to Table 14.10). Correlation for the 144 Gap Deposit remains within approximately 7 percent.

TABLE 14.10: COMPARISON OF ID^2 AND NEAREST NEIGHBOUR INTERPOLATION

Timmins Deposit Resource Category	**ID² au gpt**	**NN au gpt**	**Difference Gpt**	**Difference %**
Indicated	5.019	5.164	-0.14	-2.8%
Inferred	4.392	4.395	-0.07	-0.07%
Total	5.044	4.918	-0.12	-2.5%
Thunder Creek Resource Category	**ID² au gpt**	**NN au gpt**	**Difference Gpt**	**Difference %**
Indicated	3.968	4.142	-0.17	-4.2%
Inferred	3.206	3.164	0.04	1.3%
Total	3.946	4.113	-0.167	-4.1%
Highway-144 Resource Category	**ID² au gpt**	**NN au gpt**	**Difference Gpt**	**Difference %**
Indicated	2.956	3.198	-0.24	-7.5%
Inferred	3.057	3.278	-0.22	-6.7%
Total	3.006	3.237	-0.23	-7.0%

Note: comparison is for the un-depleted model at zero grade cut-off

A review by SGS Canada was conducted in order to verify certain aspects of the resource estimate for the Timmins Deposit, Thunder Creek Deposit, and 144 Gap Deposit including validation of the database integrity, parameters used in defining zones, statistical analysis, grade capping, search ellipse dimension and orientations, and degree of smoothing.

Based on the review of the resource estimate, SGS states that "no significant anomalies were identified during this review and we have no reason to expect any bias or error in the overall estimate for this deposit."

Full details for the review by SGS are available in Appendix 2, Audit Report Resource Estimation Verification Timmins Deposit Timmins, Ontario, Lakeshore Gold Corporation, Audit Report Resource Estimation Verification Thunder Creek Deposit Timmins, Ontario, Lakeshore Gold Corporation, and SGS Memorandum, 144 Gap Resource Model Assessment.

Further validation of the block model estimate can be drawn from comparison of the block model grade to the reconciled mill production. Comparison of the block model to the mill production is carried out for each stope upon completion. Tonnage and grade from the block model based upon a survey of the final mined out void (CMS survey) is compared to the mill production. Significant differences for individual stopes are observed with a reasonable overall comparison to mill reconciled figures. The presence of large differences on a stope scale is not unexpected and likely the result of several factors working together including complex zone geometries, sampling difficulties due to coarse gold and high variability for gold assays, uncertainties with tracking and assigning tonnage accurately back to individual stopes due to blending and milling ore from three sources in a common mill, uncertainties regarding final stope shapes and quantities of rock extracted and uncertainties for mill grade and losses of gold to mill inventory during certain months. Efforts to address the above factors are being examined on an ongoing basis and some improvements have been noted in recent work.

Mill reconciled production comparisons for 2015 show that on average the Timmins West Deposit block model tonnage and grade are below the mill production figures by 4%, and 5% respectively. For Thunder Creek on average the block model tonnage is 9% below the milled tonnage while grade is 2% higher than the mill production figures. There has been no production from the 144 Gap Deposit.

14.8 REMOVAL OF MINED AND NON-RECOVERABLE RESOURCE BLOCKS

Mineral resources at the Timmins West Mine are reported after the removal of all underground development and mining from the block model as well as the removal of all non-mineable material including low grade and non-recoverable pillars.

The removal of mined out blocks and development was completed by flagging blocks within mining shapes provided by the engineering department and setting the density and grade of these blocks to zero. A similar process was completed for non-mineable blocks. The removal of non-mineable blocks is affected by economic considerations as determined by the engineering and geology group and can be reviewed should economic conditions improve.

14.9 MINERAL RESOURCES CLASSIFICATION

Resources were classified based primarily on estimation run. Those areas deemed to form a continuous zone with blocks of largely Pass 1 and 2 (30 metre search) were clipped out of the Domain Solid to create a solid for flagging resource category. These blocks were re-classified in the block model as Indicated, while the remaining blocks within the domain were classified as Inferred. This process was completed in long view while also displaying the solid intersections (drill hole pierce points) to avoid including blocks between drill hole intersections which should effectively be considered inferred.

14.10 MINERAL RESOURCES

Mineral Resources are reported for the Timmins Deposit, the Thunder Creek Deposit, and the Highway-144 Gap Deposit.

At the Timmins Deposit resources are located between 4250E and 5100E (mine grid), a horizontal distance of 850 metres. Vertically, the zones have been defined from the 9,900 metre elevation (115 metres below surface) to 8,670 metre elevation (1,345 metres below surface).

At the Thunder Creek Deposit resources are located between 9325N and 9675N (mine grid), a horizontal distance of 350 metres. Vertically, the zones have been defined from 9,820 metre elevation (190 metres below surface) to 8,980 metre elevation (1,040 metres below surface).

The 144 Gap Deposit is located southwest of the Timmins and Thunder Creek Deposits centered on 6450N, 3900E (mine grid) and extends from 9395 to 8965 elevation (620 to 1050 metres below surface) over a horizontal distance of 350 metres.

The Timmins West Mine Resource totals 5.77 Mt at 4.9 gpt Au, amounting to 903,400 ounces of gold in the Indicated category and 2.67Mt at 5.0 gpt Au amounting to 429,300ounces of gold in the Inferred category. Subdivision of the resource by deposit is tabulated in Table 14.11.

TABLE 14.11: TIMMINS WEST MINE RESOURCES

In-Situ Resource above cut-off grade (COG)			
	Tonnes	**Grade**	**Ounces**
Timmins Deposit @ 1.5 g/t COG*			
Indicated	1,816,000	5.08	296,000
Inferred	606,000	4.75	92,600
Thunder Creek @ 1.5 g/t COG**			
Indicated	2,225,000	4.27	305,700
Inferred	151,000	3.62	17,500
Highway-144 @ 2.6 g/t COG			
Indicated	1,734,000	5.41	301,700
Inferred	1,914,000	5.19	319,200
Total Timmins West Mine			
Indicated	5,775,000	4.87	903,400
Inferred	2,671,000	5.00	429,300

* Includes Timmins Deposit Broken Ore + Stockpile

** Includes Thunder Creek Deposit Broken Ore + Stockpile

1. *Mineral resource estimates have been classified according to CIM Definitions and Guidelines.*
2. *Mineral resources are reported inclusive of reserves.*
3. *Mineral resources incorporate a minimum cut-off grade of 1.5 grams per tonne gold for the Timmins and Thunder Creek Deposit and 2.6 grams per tonne gold for the Highway-144 Deposit.*
4. *Cut-off grade is determined using a weighted average gold price of US$1,100 per ounce and an exchange rate of $0.90 $US/$CAD.*
5. *Cut-off grades assume mining, G&A and trucking costs of up to $74 per tonne and/or processing costs of up to $22 per tonne. Assumed metallurgical recoveries are 97.0%.*
6. *Mineral resources have been estimated using Inverse Distance Squared estimation method and gold grades which have been capped between 20 and 120 grams per tonne based on statistical analysis of each zone.*
7. *Assumed minimum mining width is two metres.*
8. *The mineral resources were prepared under the supervision of, and verified by, Eric Kallio, P.Geo., Senior Vice-President, Exploration, Lake Shore Gold Corp., who is a qualified person under NI 43-101 and an employee of Lake Shore Gold.*
9. *Tonnes information is rounded to the nearest thousand and gold ounces to the nearest one hundred. As a result, totals may not add exactly due to rounding.*

Further breakdown by zone is provided in Table 14.12. It should be noted that broken muck inside stopes and stockpiles is not included therefore indicated tonnage and ounce content will not equal sums in Table 14.11.

TABLE 14.12: RESOURCES BY ZONE – BROKEN MUCK AND STOCKPILE NOT INCLUDED

Timmins Deposit

Zone	Type	Tonnage	Grade (gpt)	Ounces
525 Vein	Indicated	156,000	4.15	20,900
D Zones	Indicated	563,000	5.94	107,600
FW Zones	Indicated	480,000	4.29	66,200
Main Zones	Indicated	127,000	5.51	22,400
S Zones	Indicated	157,000	5.09	25,600
UM Zones	Indicated	328,000	5.01	52,800
525 Vein	Inferred	129,000	4.58	19,000
D Zones	Inferred	305,000	4.70	46,000
FW Zones	Inferred	147,000	4.91	23,300
S Zones	Inferred	15,000	5.32	2,500
UM Zones	Inferred	10,000	5.21	1,700
	Total indicated	1,811,000	5.08	295,500
	Total inferred	606,000	4.75	92,500

Thunder Creek Deposit

Zone	Type	Tonnage	Grade (gpt)	Ounces
RUSK	Indicated	490,000	6.27	98,700
POR	Indicated	1,408,000	3.60	163,000
UTC	Indicated	320,000	4.14	42,600
RUSK	Inferred	66,500	4.04	8,600
POR	Inferred	63,000	3.34	6,800
UTC	Inferred	21,500	3.10	2,100
	Total indicated	2,218,000	4.27	304,300
	Total inferred	151,000	3.62	17,500

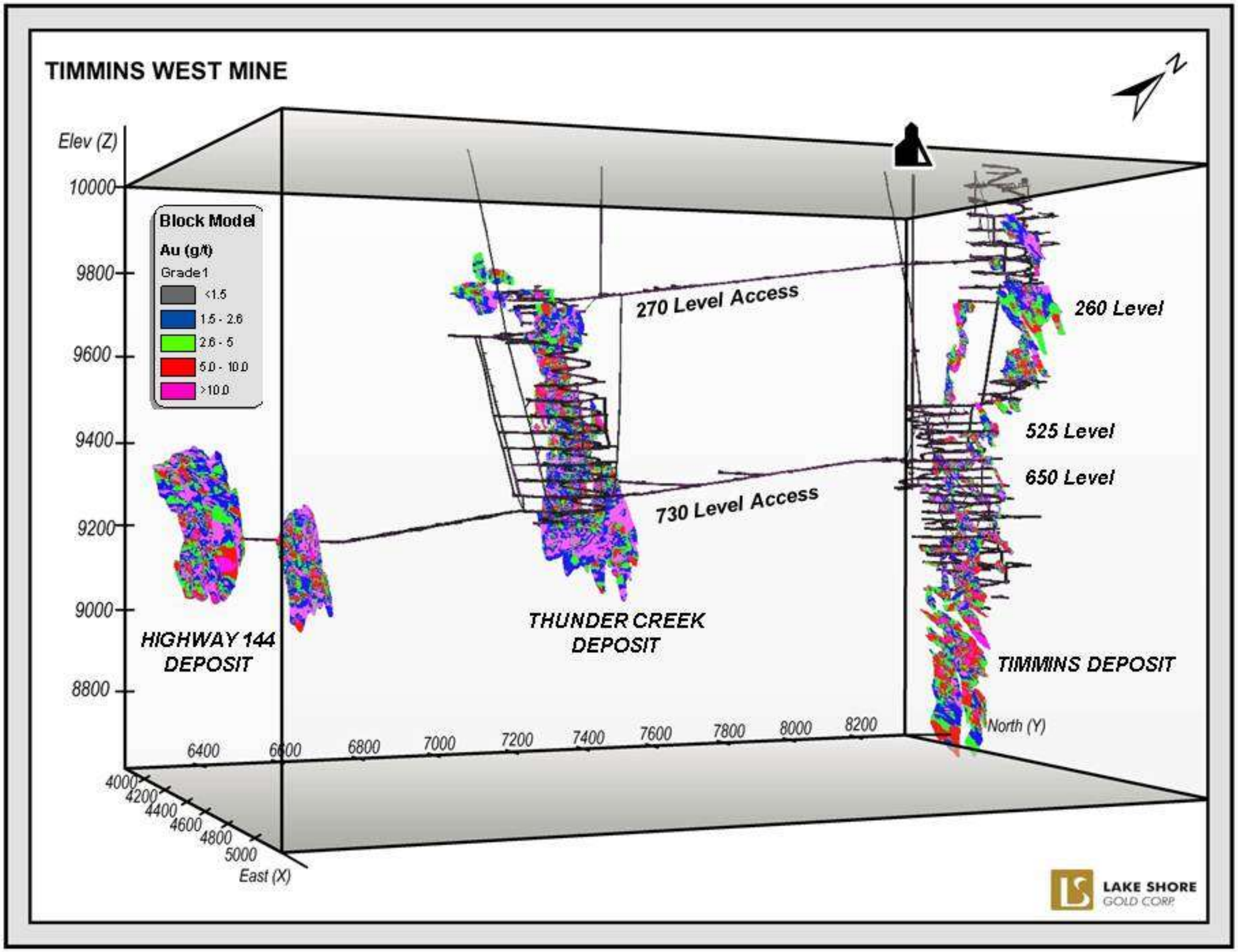
144 Gap Deposit

Zone	Type	Tonnage	Grade (gpt)	Ounces
Main Zone	Indicated	1,075,000	5.30	183,300
144 East Zone	Indicated	659,000	5.59	118,400
	Inferred	260,000	4.85	40,600
FW1 Zone	Inferred	79,000	5.05	12,900
FW2 Zone	Inferred	107,600	6.59	22,800
HW Zone	Inferred	177,000	4.15	23,600
	Inferred	538,000	5.17	89,400
FW3 Zone	Inferred	20,400	9.28	6,100
FW4 Zone	Inferred	352,000	5.22	59,000
FW5 Zone	Inferred	271,000	5.33	46,500
HWY EXT Zone	Inferred	109,000	5.22	18,300
	Total indicated	**1,734,000**	**5.41**	**301,700**
	Total inferred	**1,914,000**	**5.19**	**319,200**

1. *Mineral resource estimates have been classified according to CIM Definitions and Guidelines.*
2. *Mineral resources are reported inclusive of reserves.*
3. *Mineral resources incorporate a minimum cut-off grade of 1.5 grams per tonne gold for the Timmins and Thunder Creek Deposit and 2.6 grams per tonne gold for the Highway-144 Deposit.*
4. *Cut-off grade is determined using a weighted average gold price of US$1,100 per ounce and an exchange rate of $0.90 $US/$CAD.*
5. *Cut-off grades assume mining, G&A and trucking costs of up to $74 per tonne and/or processing costs of up to $22 per tonne. Assumed metallurgical recoveries are 97.0%.*
6. *Mineral resources have been estimated using Inverse Distance Squared estimation method and gold grades which have been capped between 20 and 120 grams per tonne based on statistical analysis of each zone.*
7. *Assumed minimum mining width is two metres.*
8. *The mineral resources were prepared under the supervision of, and verified by, Eric Kallio, P.Geo., Senior Vice-President, Exploration, Lake Shore Gold Corp., who is a qualified person under NI 43-101 and an employee of Lake Shore Gold.*
9. *Tonnes information is rounded to the nearest thousand and gold ounces to the nearest one hundred. As a result, totals may not add exactly due to rounding.*

Three dimensional views of the individual block models showing the distribution of grade relative to the underground workings is presented in Figure 14.4.

FIGURE 14.4: 3D VIEW OF BLOCK MODELS LOOKING SOUTH-WEST



The resource for the Timmins and Thunder Creek Deposits are reported using a base case cut-off grade of 1.5 gpt and the resource for 144 Gap uses a cut-off grade of 2.6 gpt. Key assumptions for the base case resource include: an assumed minimum mining width of two metres; Gold Price of US$1,100 per ounce; US$/C$ exchange rate of 0.90; mining, G&A and trucking costs of up to $74 per tonne; processing costs of up to $22 per tonne; and assumed metallurgical recoveries of 97 percent.

Included with the mineral resource estimate is a sensitivity analysis which spans between 1.0 and 5.0 gpt (Table 14.13). Review of the sensitivity analysis indicates that grade continuity at levels at and below 2.6 gpt is reasonable but sharply reduced at higher levels which imply the stated resources at these higher levels may be difficult to achieve without a very selective mining approach or incorporating a significant amount of internal dilution.

TABLE 14.13: SENSITIVITY TO CUT-OFF-GRADE

Timmins Deposit

Indicated Resource*

	Cut-Off Grade	Tonnes	Grade	Ounces
	1	1,955,000	4.79	301,400
Base Case	**1.5**	**1,811,000**	**5.08**	**295,500**
	2	1,634,000	5.44	285,500
	2.6	1,398,000	5.96	268,000
	3	1,238,000	6.37	253,700
	4	895,000	7.48	215,400
	5	654,000	8.60	180,600

Inferred Resource

	Cut-Off Grade	Tonnes	Grade	Ounces
	1	640,000	4.57	94,000
Base Case	**1.5**	**606,000**	**4.75**	**92,500**
	2	549,000	5.06	89,400
	2.6	466,000	5.55	83,200
	3	419,000	5.86	79,000
	4	302,000	6.77	65,700
	5	227,000	7.53	54,900

Thunder Creek Deposit

Indicated Resource*

	Cut-Off Grade	Tonnes	Grade	Ounces
	1	2,823,000	3.62	328,500
Base Case	**1.5**	**2,218,000**	**4.27**	**304,300**
	2	1,765,000	4.92	279,000
	2.6	1,366,000	5.69	249,700
	3	1,159,000	6.20	231,100
	4	801,000	7.43	191,400
	5	583,000	8.54	160,100

Inferred Resource

	Cut-Off Grade	Tonnes	Grade	Ounces
	1	169,000	3.35	18,300
Base Case	**1.5**	**151,000**	**3.62**	**17,500**
	2	130,000	3.91	16,400
	2.6	105,000	4.29	14,500
	3	85,000	4.64	12,700
	4	41,000	5.91	7,800
	5	23,000	7.08	5,100

** does not include broken ore and stockpiles*

144 Gap Deposit

Indicated Resource

	Cut-Off Grade	Tonnes	Grade	Ounces
	1	3,438,000	3.59	396,500
	1.5	2,810,000	4.11	371,300
	2	2,263,000	4.68	340,700
Base Case	**2.6**	**1,734,000**	**5.41**	**301,700**
	3	1,455,000	5.92	276,700
	4	954,000	7.21	221,000
	5	653,000	8.47	177,800

Inferred Resource

	Cut-Off Grade	Tonnes	Grade	Ounces
	1	3,547,000	3.6	410,900
	1.5	2,981,000	4.05	388,200
	2	2,439,000	4.56	357,800
Base Case	**2.6**	**1,914,000**	**5.19**	**319,200**
	3	1,609,000	5.64	291,900
	4	1,062,000	6.76	230,800
	5	717,000	7.87	181,300

14.11 RECONCILIATION TO PREVIOUS RESOURCE ESTIMATE

A Comparison of resources at Timmins West Mine as reported for year end 2014 and from the new estimate is summarized in Table 14.14.

TABLE 14.14: COMPARISON OF 2014 AND 2015 RESOURCE ESTIMATES

Resource Above Cut-Off Grade (COG)	2014 YEAR END			2015 YEAR END			Variance in oz	Var %
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces		
Timmins Deposit @ 1.5 g/t COG*								
Indicated	1,843,000	5.04	298,400	1,816,000	5.08	296,000	-2,400	-1%
Inferred	1,354,000	5.18	225,400	606,000	4.75	92,600	-132,800	-59%
Thunder Creek @ 1.5 g/t COG**								
Indicated	2,696,000	4.56	396,200	2,225,000	4.27	305,700	-90,500	-23%
Inferred	277,000	3.90	34,200	151,000	3.62	17,500	-16,700	-49%
Highway 144 @ 2.6 g/t COG								
Indicated				1,734,000	5.41	301,700	301,700	
Inferred				1,914,000	5.19	319,200	319,200	
Total Timmins West Mine								
Indicated	4,539,000	4.76	694,600	5,775,000	4.87	903,400	208,800	30%
Inferred	1,631,000	4.95	259,600	2,671,000	5.00	429,300	169,700	65%

* Includes Timmins Deposit Broken Ore + Stockpile

** Includes Thunder Creek Deposit Broken Ore + Stockpile

1. *Mineral resource estimates have been classified according to CIM Definitions and Guidelines.*
2. *Mineral resources are reported inclusive of reserves.*
3. *Mineral resources incorporate a minimum cut-off grade of 1.5 grams per tonne gold for the Timmins and Thunder Creek Deposit and 2.6 grams per tonne gold for the Highway-144 Deposit.*
4. *Cut-off grade is determined using a weighted average gold price of US$1,100 per ounce and an exchange rate of $0.90 $US/$CAD.*
5. *Cut-off grades assume mining, G&A and trucking costs of up to $74 per tonne and/or processing costs of up to $22 per tonne. Assumed metallurgical recoveries are 97.0%.*
6. *Mineral resources have been estimated using Inverse Distance Squared estimation method and gold grades which have been capped between 20 and 120 grams per tonne based on statistical analysis of each zone.*
7. *Assumed minimum mining width is two metres.*
8. *The mineral resources were prepared under the supervision of, and verified by, Eric Kallio, P.Geo., Senior Vice-President, Exploration, Lake Shore Gold Corp., who is a qualified person under NI 43-101 and an employee of Lake Shore Gold.*
9. *Tonnes information is rounded to the nearest thousand and gold ounces to the nearest one hundred. As a result, totals may not add exactly due to rounding.*

There has been a significant increase in resources between the two estimates including an addition of 208,800 ounces to the Indicated category and 169,700 ounces to Inferred. This corresponds to an increase of 30 % in indicated resources and 65 % for inferred resources.

The bulk of this increase is due to the addition of the new 144 Gap Deposit resource. This accounts for an additional 301,700 ounces in the Indicated and 319,200 ounces in the inferred category.

Indicated resource at the Timmins Deposit remain largely unchanged while inferred resources show a decrease of 132,800 ounces due mainly to conversion of inferred resources to indicated through additional diamond drilling.

Indicated resources at the Thunder Creek deposit have decreased due to mining production. Only a small portion of the resources at Thunder Creek remains Inferred.

14.12 ADDITIONAL DRILL HOLE INFORMATION

Subsequent to the closing of the Timmins Deposit database until February 1, 2016, assay results were received for 37 diamond drill holes (total length of 2,646 m). Twenty nine of these were short length "bazooka" drill holes completed strictly for use in short term planning and optimizing stope shape. These drill holes were completed at various horizons between the 480 and 910 m level and total 684 m with an average length per hole of 24 m.

Three drill holes totaling 1,452 m were completed from the 910 m level as fill in drilling on the D1_FW, D1_HW, and FW_7 zones and intersected mineralization as anticipated.

Four drill holes totaling 510 m were completed from the 970 m level to test the possible extension of the FW_5 zone. These were outside the zone and did not intersect mineralization.

Assays are pending for an additional 11 drill holes (2,170.8 m) comprising bazooka and infill drilling.

No significant effect on the new resource estimate for the Timmins Deposit is expected from the recently completed drilling.

Subsequent to the closing of the Thunder Creek Deposit database until February 1, 2016, assay results were received for 68 diamond drill holes, (total length of 5,193 metres). Forty one of these were short length "bazooka" drill holes completed strictly for use in short term planning and optimizing stope shape. These drill holes were completed at various horizons between the 485 m and 555 m level and total 2,018 m with an average length per hole of 49 metres.

Twenty seven drill holes totaling 3,175 m were completed from the 785 m level as fill in drilling on the inferred portions of the Rusk and Porphyry zone below the level. Results are consistent in terms of extent and grades represented in the model.

Assays are pending for an additional 14 drill holes totaling 1,554 metres. Of these, five are Bazooka drill holes and nine are fill in holes below the 785 metre level.

No significant effect on the new resource estimate for the Thunder Creek Deposit is expected from the recently completed drilling.

Subsequent to the closing of the 144 Gap Deposit database until February 8, 2016, assay results were received for 47 diamond drill holes (total length of 10,134 m). Drilling was completed from the 820 metre Level as infill drilling targeting the North-Eastern portion of the 144 Gap Deposit resource. Drill results were consistent with the interpretation and grades shown in the model.

No significant effect on the new resource estimate for the 144 Gap Deposit is expected from the recently completed drilling.

15.0 MINERAL RESERVE ESTIMATES

The probable reserves estimated for the Timmins West Mine (TWM) have been based on the updated Indicated resource material included in the resource block models for the Timmins Deposit (TD) and Thunder Creek Deposit (TC). The block models were prepared by LSG geology personnel. The estimated in-situ Indicated resource reported from the block models at a 3.0 gram per tonne (g/t) cut-off grade are summarized in Table 15.1.

TABLE 15.1: TIMMINS WEST MINE IN-SITU INDICATED RESOURCE AT 3.0 G/T CUT-OFF GRADE

Deposit	Tonnes	Grade (g/t)	Ounces
Timmins Deposit	1,243,850	6.4	254,197
Thunder Creek Deposit	1,166,557	6.2	232,529
Total Timmins West Mine	**2,410,407**	**6.3**	**486,726**

The mine design was updated to reflect the most likely LOM mining and production scenario. The mine design includes all sustaining development and construction required to access the indicated resources, and the methods required to extract the material using a combination of longhole and mechanized cut and fill techniques.

15.1 CUT-OFF GRADE

To develop the LOM plan and estimate the probable reserves for TWM incremental, marginal, and overall mine economic cut-off grades (COGs) were considered. The COGs include both planned and unplanned dilution. The assumptions for COG calculations are the same for both the TD and TC and are summarized in Table 15.2.

TABLE 15.2: TWM COG ASSUMPTIONS

Item	Value
Mine Operating and Site General Costs	$67.00 / tonne
Ore Surface Transport to Bell Creek Mill	$7.20 /tonne
Mill Operating Cost	$22.62 / tonne
Mill Recovery	97%
Gold Price ($US)	$1,100
Exchange Rate ($US/$CAD)	0.8
Gold Price ($CAD)	$1,375 / ounce
Incremental Cut-Off Grade	2.3 g/t
Sustaining Capital Cost	$23.40 / tonne
Marginal Cut-Off Grade	2.9 g/t
Risk adjusted Rate of Return	15%
Overall Mine Economic Cut-Off Grade	3.3 g/t

The operating costs and mill recovery have been based on TWM operating experience. In addition to considering the estimated COGs, LSG mine planning personnel have considered the overall economics in localized areas when evaluating sublevels and stoping blocks.

15.2 TIMMINS DEPOSIT PROBABLE RESERVE ESTIMATE

Based on the in-situ Indicated Resource included in the Timmins Deposit block model, the following methodology was used to estimate the probable reserves. The reference point for the probable reserves is delivery to the mill.

The block model was reviewed in plan and in section to identify areas with concentrations of Indicated Resource material above 3.0 g/t cut-off grade and to determine the most appropriate mining method for each area.

Sublevels were designed at 20 metre vertical intervals, and vertical sections were cut through the model at 5 to 10 metre intervals along strike. Mining shapes were designed on each section and each shape had an influence 2.5 to 5 metres east and 2.5 to 5 metres west of the section. The mining shapes were joined with shapes on adjacent sections to generate 3D stope wireframes. All reserves quoted are captured within these specific mining shapes.

The in-situ resource contained within the wireframes was retrieved from block model data and includes:

- Higher grade material grading above 3.0 g/t.
- Low grade material grading below 3.0 g/t (planned internal dilution).
- Waste rock grading 0.0 g/t (planned internal dilution).

The mining shapes were evaluated to determine average stope size, and stope geometry to identify longhole and MCAF stoping areas. Stope reconciliation data has been used to estimate unplanned dilution and mining recovery factors. Based on this analysis, 18% unplanned dilution (grading 0.0 g/t) and 95% mining recovery has been used to estimate the probable reserves.

The in-situ tonnes and grade contained within the stope wireframes were extracted from the block model Indicated Resource data, and external dilution and mining recovery factors have been applied to estimate the probable reserves. The results are summarized by mining level in Table 15.3.

TABLE 15.3: TIMMINS DEPOSIT ESTIMATED PROBABLE RESERVES

Level	Total (Stoping + Development)		
	Tonnes	Grade (g/t)	Ounces
240L	9,880	4.76	1,513
270L	1,434	8.86	409
300L	20,758	3.00	2,005
320L	31,507	5.38	5,447
330L	73,613	3.75	8,877
350L	16,150	5.33	2,769
360L	10,608	4.88	1,665
380L	18,905	2.12	1,286
410L	24,695	4.67	3,707
420L	23,540	3.16	2,391
440L	22,957	4.71	3,473
450L	59,719	3.40	6,536
480L	40,723	3.76	4,922

Level	Total (Stoping + Development)		
	Tonnes	Grade (g/t)	Ounces
500L	1,850	4.41	262
525L	9,339	4.95	1,485
545L	16,929	2.85	1,552
565L	703	6.91	156
610L	20,666	4.83	3,208
630L	1,515	2.90	141
650L	18,182	3.68	2,151
670L	110,544	3.99	14,174
690L	1,822	2.62	153
710L	21,348	4.45	3,055
730L	17,215	2.26	1,249
750L	4,447	2.99	428
770L	16,286	4.48	2,343
790L	47,806	4.14	6,359
810L	31,914	3.90	4,002
830L	25,674	4.05	3,343
850L	4,967	3.44	549.3
870L	66,851	3.64	7,814
890L	4,957	3.69	588
910L	49,102	4.61	7,272
930L	3,068	4.12	406
950L	35,666	3.94	4,516
970L	56,547	4.32	7,852
1000L	35,620	4.43	5,076
1030L	75,142	5.60	13,524
1050L	41,313	5.03	6,682
1070L	43,498	5.67	7,933
1090L	72,669	5.25	12,259
1110L	40,427	5.95	7,729
1130L	30,606	4.75	4,678
1150L	37,249	5.34	6,393
1170L	37,684	4.61	5,587
1190L	20,763	3.28	2,187
1210L	33,924	3.82	4,162
Total*	**1,397,000**	**4.4**	**195,500**

**Total rounded*

Some sublevels have an overall grade that is near the incremental COG. In general, these sublevels already have capital development and infrastructure in place, and in some cases the operating development has also been completed.

A detailed development schedule, production profile, and mine design has been completed to estimate the capital and operating costs required to access, develop, and extract the TD probable reserves. A LOM cash flow analysis has been completed to demonstrate that the probable reserves support capital infrastructure.

15.3 THUNDER CREEK DEPOSIT RESERVE ESTIMATE

Based on the in-situ Indicated Resource included in the Thunder Creek block model, the following methodology was used to estimate the reserves. The reference point for the reserves is delivery to the mill.

The Thunder Creek block model was reviewed in plan and in section to identify areas with concentrations of Indicated Resources above 3.0 g/t, and to confirm the appropriateness of longhole mining methods. Sublevels were established at 35 metre vertical intervals and mining shapes were designed at 5 metre intervals along strike for each sublevel. The mining shapes on each section were meshed with shapes on adjacent sections to generate 3D stope wireframes. Individual stopes were designed at 15 metre wide intervals along strike on each sublevel. All reserves are included in a mining shape. The in-situ resource contained within the wireframes was retrieved from block model data and includes:

- Higher grade material grading above 3.0 g/t.
- Low grade material grading below 3.0 g/t (planned internal dilution).
- Waste rock grading 0.0 g/t (planned internal dilution).

External dilution parameters were developed and applied to each individual stope based on geometry and size and characteristics of neighboring stopes and sequencing. Based on these parameters, the resulting average unplanned dilution is 12.4 percent. In addition, a 95% mining recovery has been used to estimate the probable reserves

The tonnes and grade contained within the stope wireframes were extracted from the block model Indicated Resource data, and external dilution and mining recovery factors were applied to estimate the reserves. The results have been summarized in Table 15.4.

TABLE 15.4: THUNDER CREEK DEPOSIT ESTIMATED PROBABLE RESERVES

Level	Total (Stoping + Development)		
	Tonnes	Grade (g/t)	Ounces
290L	27,692	3.42	3,046
320L	10,701	4.40	1,513
330L	19,312	3.88	2,406
370L	1,246	2.07	83
395L	40,569	4.08	5,318
415L	42,972	3.44	4,752
450L	93,337	4.46	13,392
485L	58,722	4.47	8,444
520L	80,724	5.24	13,589
555L	109,594	4.58	16,124
590L	91,744	3.29	9,702
625L	131,734	3.65	15,478
660L	9,193	2.30	679
695L	87,910	2.88	8,138
730L	54,526	3.76	6,592
765L	118,360	3.09	11,771
785L	163,024	3.50	18,332
800L	170,171	4.58	25,068
820L	78,264	4.93	12,407
850L	69,040	6.53	14,497
870L	38,736	3.99	4,971
Total*	**1,498,000**	**4.1**	**196,300**

**Total rounded*

Some sublevels have an overall grade that is near the incremental COG. In general, these sublevels already have capital development and infrastructure in place, and in some cases the operating development has also been completed.

A detailed development schedule, production profile, and mine design was completed to estimate the capital and operating costs required to access, develop, and extract the TD probable reserves. A LOM cash flow analysis has been completed to demonstrate that the probable reserves support capital infrastructure.

15.4 TIMMINS WEST MINE COMBINED PROBABLE RESERVES

The Timmins Deposit and Thunder Creek Deposit combined reserves have been summarized in Table 15.5. The reference point for the probable reserves is delivery to the mill.

TABLE 15.5: TIMMINS WEST MINE COMBINED PROBABLE RESERVES

Deposit	Tonnes	Grade (grams/tonne)	Ounces
Timmins Deposit	1,397,000	4.4	195,500
Thunder Creek Deposit	1,498,000	4.1	196,300
Timmins West Mine Total Reserves	**2,895,000**	**4.2**	**391,800**

1. *The effective date of this report is December 31, 2015.*
2. *The mineral reserve estimates are classified in accordance with the Canadian Institute of Mining Metallurgy and Petroleum's "CIM Standards on Mineral Resources and Reserves, Definition and Guidelines" as per Canadian Securities Administrator's National Instrument 43-101 requirements.*
3. *Mineral reserves are based on a long-term gold price of US$1,100 per ounce and an exchange rate of 0.80 $US/$CAD.*
4. *Mineral reserves are supported by a mine plan that features variable stope thicknesses, depending on zone, and expected cost levels, depending on the mining methods utilized.*
5. *Mineral reserves incorporate a minimum cut-off grade of 2.3 grams per tonne. The cut-off grade includes estimated mining and site G&A costs of $67.00 per tonne, surface haulage costs of $7.20 per tonne, milling costs of $22.62 per tonne, mining recovery of 95%, external dilution of 18.0% for TD and 12.4% for TC, and a metallurgical recovery rate of 97%.*
6. *The mineral reserves were prepared under the supervision of, and verified by, Natasha Vaz, P. Eng., Vice-President, Technical Services, Lake Shore Gold Corp., who is a qualified person under NI 43-101 and an employee of Lake Shore Gold Corp.*

The stope wireframes, LOM plan, and estimated reserves were reviewed by a third party mining consultant. Additional details regarding the mine design, dilution and recovery, and mine operations are included in Item 16.

16.0 MINING METHODS

Overview

The Timmins West Mine (TWM) currently includes three mineralized gold resource deposits; the Timmins Deposit (TD), Thunder Creek Deposit (TC), and 144 Gap Deposit (144 Gap).

The TD mineralized resource extends from near surface (surface is at 10,015 metre elevation) to approximately 1,340 metres below surface. There are three main geological mineralized zones; Vein Zone, Footwall Zone, and Ultramafic Zone. Each zone is further comprised of a number of smaller zones, separated by waste rock. The zones vary in transverse width from 1.5 metres to in excess of 30 metres. Generally, the mineralized resource strikes east-west and dips 55 degrees to the north, although locally individual zones may be shallower dipping.

The TC mineralized resource is approximately 750 metres south of the TD and extends from 165 metres to 950 metres below surface. Thunder Creek consists of the Rusk Zone and the Porphyry Zone and is generally massive, striking east-west and dipping 60 degrees to the north.

The 144 Gap mineralized resource is southwest of the TD and TC and extends from 620 metres to 1,050 metres below surface and strikes approximately 350 metres. A resource estimate has been prepared for the 144 Gap, however mine design work for this deposit has not been completed.

LSG completed an advanced exploration program on the TD in 2010. The program included establishing surface facilities, sinking a 5.5 metre inside diameter, 710 metre deep shaft, completing an underground diamond drilling program, and developing/constructing required underground infrastructure to extract a bulk sample. Following the discovery of the TC, two ramps were developed from the TD to access TC at 275 Level and 730 Level. Advanced exploration activities were completed at TC (including extraction of a bulk sample) throughout 2011.

The development and construction of the underground mine infrastructure and surface facilities at the TWM to support mining the TD and TC has been completed, and the TD has been in commercial production since 2011 and TC since 2012.

The existing surface infrastructure at the TWM is shown in Figure 16.1 and includes:

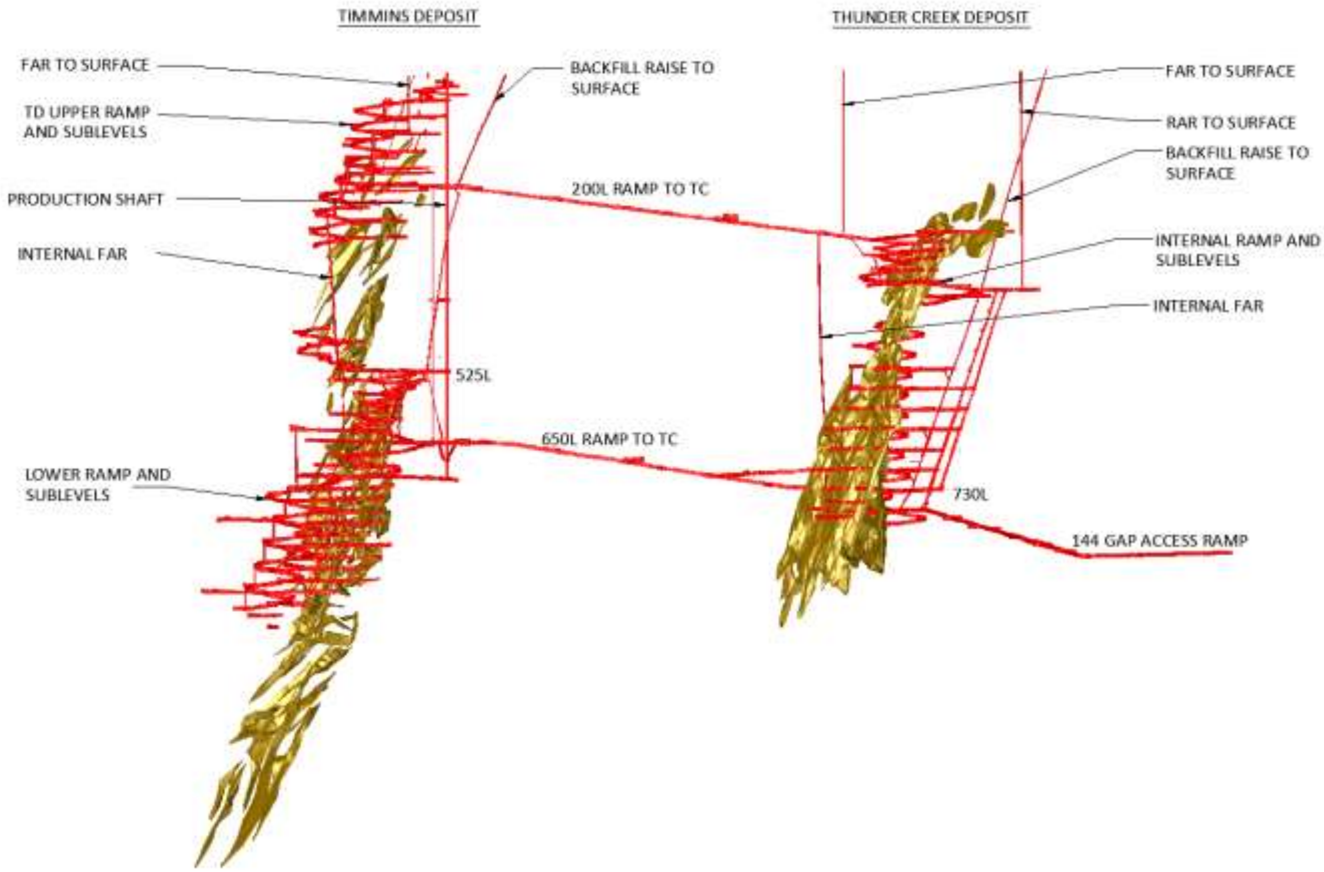
- Access roads and site grading.
- Security gate house.
- Shaft headframe, collar house, and hoisting plant.
- Compressed air plant.
- Process water supply.
- A paste backfill plant and distribution boreholes to underground.
- Portal and main ramp to underground.
- Electrical services infrastructure and distribution.
- Timmins Deposit main fresh air ventilation fans and mine air heaters.
- Thunder Creek main fresh air ventilation fans and mine air heaters.
- Administration, mine dry and training facilities.
- Warehouse and maintenance facilities.
- Water treatment facilities and discharge water settling ponds.

FIGURE 16.1: TWM SURFACE INFRASTRUCTURE

The existing underground infrastructure at the TWM is shown in Figure 16.2 and includes:

- The 5.5 metre diameter, 710 metre deep production shaft.
- Main shaft stations at the Timmins Deposit 200 Level, 400 Level, 525 Level, and 650 Level.
- Ore and waste rockbreakers and bins at 650 Level, and a loading pocket at 670 Level.
- Ventilation raises to surface and internal ventilation raises underground.
- The main ramp from surface to approximately 300 Level and from 480 Level to 1000 Level at TD.
- An internal ramp system to access existing sublevels.
- Mine dewatering facilities.
- Electrical distribution and communications.
- Compressed air and service water distribution.
- Maintenance facilities.
- Access to the Thunder Creek Deposit at 275 Level and 730 Level.
- Access ramp to the 144 Gap Deposit from Thunder Creek 765 Level.

FIGURE 16.2: TWM EXISTING UNDERGROUND INFRASTRUCTURE



The updated probable reserve estimate for the TWM has been based on the Indicated Resource material included in the updated resource block models for the TD and TC (indicated resource for the 144 Gap has been excluded). The block models were prepared by LSG geology personnel. The estimated in-situ Indicated Resource reported from the block models at 3.0 grams per tonne (g/t) cut-off grade are summarized in Table 16.1.

TABLE 16.1: TWM IN-SITU INDICATED RESOURCE AT 3.0 G/T CUT-OFF GRADE

Deposit	Tonnes	Grade (g/t)	Ounces
Timmins Deposit	1,243,850	6.4	254,197
Thunder Creek Deposit	1,166,557	6.2	232,529
Total TWM	**2,410,407**	**6.3**	**486,726**

Engineering and cost estimate work has been completed on this indicated resource as part of the life-of-mine (LOM) planning process in order to substantiate the updated reserves for the mine. The mine design has been based on the in-situ Indicated Resources included in the block models, existing surface and underground infrastructure, and extensive operating experience at the TWM.

16.1 UNDERGROUND ACCESS

The TD and TC Indicated Resource will continue to be extracted using underground mining methods and are accessed via the existing 5.5 metre diameter shaft and portal/ramp (5 metre x 5 metre) from surface.

16.1.1 Primary / Secondary Access

The primary access to the underground workings will continue to be via the existing TWM shaft, and ore and waste rock will be trucked to the 650 Level rockbreaker for sizing and subsequent skipping to surface.

The Thunder Creek Deposit will be accessed via existing ramps originating at the TD 200 Level (accessing TC at 275 Level) and 650 Level (accessing TC at 730 Level).

An existing portal and ramp from surface currently extends to the TD 300 Level. The internal ramp systems within each deposit connect to each production level in the mine (i.e. no captive levels) allowing all levels to be accessed via the ramp from surface.

Secondary access/egress to/from the underground will be via the existing portal and ramp to surface, and internal raises equipped with escapeways.

16.2 SHAFT AND HOISTING FACILITIES

The primary access to the underground workings and transfer of ore and waste rock to surface will continue to be via the existing production shaft (located in close proximity to the TD). The shaft collar is at 10,015 metre elevation and shaft bottom at 9,305 metre elevation (710 metres deep). Main shaft stations have been constructed at 200 Level (200L), 400L, 525L, and 650L. The naming of underground levels has been expressed as metres below the shaft collar (i.e. 650L is 650 metres below collar).

The shaft is concrete lined with a 5.5 metre inside diameter. The shaft includes two skip compartments (12 tonne capacity bottom dump skips), a service cage compartment (42 person capacity double deck cage), and service compartment for piping and electrical services. The shaft does not have a manway compartment.

The existing steel headframe is 47 metres tall and includes a collar house and chute to dump ore and waste to an outside pad.

16.2.1 Hoisting Plant

The hoisting plant includes a production hoist for skipping operations and a service hoist for cage operations.

Production Hoist
The existing production hoist is a Nordberg, 3.6 metre (12 foot) diameter double drum with 2 x 862 kW (2 x 1,150 hp) AC motors. Combined with the 12 tonne skips, the plant has capacity to hoist 5,378 tonnes per day. This capacity will be sufficient to meet ore production and waste rock hoisting requirements.

Service Hoist
The existing service hoist is a 2.7 metre (9 foot) diameter single drum unit with an 862 kW (1,150 hp) AC motor. Combined with the 42 person double deck cage, the capacity will be suitable to meet personnel and material transfer requirements.

16.2.2 Shaft Services

The existing pipe services in the shaft include a 100 mm diameter service water pipeline, 152 mm diameter dewatering pipeline, two 203 mm diameter slick lines, and a 305 mm diameter compressed air line. The shaft services have sufficient capacity to supply the mine.

16.2.3 Ore / Waste Handling System and Loading Pocket

Broken ore and waste rock are hauled to separate ore and waste dumps/rockbreaker arrangements near the shaft at 650L. Broken material is dumped onto grizzlies and sized with stationary hydraulic rockbreakers. The sized ore material feeds a 1,200 tonne capacity ore bin and the sized waste material feeds an 800 tonne capacity waste bin.

The bins feed a conventional gravity fed loading pocket. Chains and pneumatic cylinders are used to control the flow of material. For the ore system, ore feeds from the bin to a splitter to divert the material into the two measuring flasks. The waste material feeds from one side, but a moveable (by cylinder) chute allows both flasks to be filled. The existing skip loading system has been fully automated.

16.3 STOPING METHODS

Longhole with delayed backfill stoping, using both consolidated (cemented rockfill and pastefill) and unconsolidated fill, has been the primary mining method used to date at the TWM. Longhole is a widely used and proven mining method that involves common industry equipment and labour skillsets.

Varying resource geometry will require more than one mining method to extract the resource. Areas with narrow, flatter dipping geometry at the TD will require a combination of longhole and Mechanized Cut and Fill (MCAF) methods, while the wider, steeper dipping geometry at TC will support the use of primarily bulk transverse longhole mining.

16.3.1 Timmins Deposit

The mineralized zones at the TD vary in transverse width and dip. Mining shapes (i.e. stope wireframes) have been designed for all in-situ Indicated Resources that have been included in the reserve estimate.

Mechanized Cut and Fill
Where mineralized zones dip less than 55 degrees, MCAF will be the preferred mining method. MCAF stope blocks will be accessed by an attack ramp (or "V" ramp). Sublevels for MCAF mining areas will be developed at 20 vertical metre intervals (floor to floor) and there will be four, 5 metre high cuts taken from each sublevel. The cuts will be mined using 2-boom Jumbos, 6 cubic yard class LHDs, with ground support installed using handheld pneumatic drills from the deck of a scissor lift, or a mechanical bolter.

Mined cuts will be backfilled. To maximize sill pillar recovery, backfill that will be mined under (i.e. exposed as a back) may include up to 7% binder content. Where available (and without compromising backfill quality or schedule), mined out stopes will be used to dispose of waste rock from development activities (as opposed to skipping this material and stockpiling on surface).

Longhole

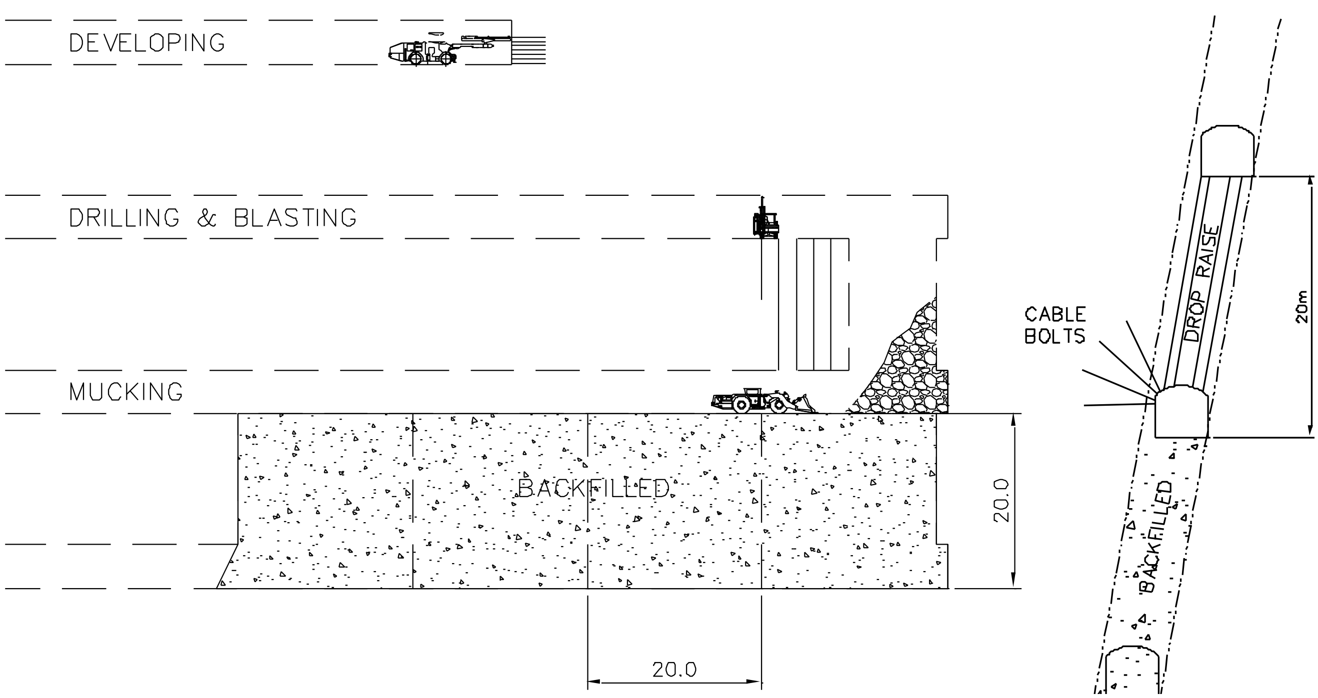
The longhole method has been used successfully at the TWM during bulk sample extraction and commercial production.

Where resource geometry is favourable (i.e. the footwall dips 55 degrees or steeper), the longhole mining method will be the preferred stoping approach. Longitudinal longhole will be used primarily with transverse longhole used in some areas (the transverse longhole method is described in Section 16.3.2).

Sublevels will be established at 20 metre vertical intervals. The resource will generally be accessed in the centre (along strike) and stope undercut and overcut sills developed to the east and west extents. Stope lengths will be 20 metres along strike and mining will retreat from the extremities toward the initial access point.

The longitudinal longhole mining method is shown in the sketches in Figure 16.3.

FIGURE 16.3: LONGITUDINAL LONGHOLE MINING METHOD



Ore sills will be developed along the strike of the resource under geological control (i.e. under the direction of mine geologists). Where ore widths are less than 8 metres, the entire sill from the hangingwall to footwall contacts will be developed. Where ore widths exceed 8 metres, the hangingwall contact will be followed, with crosscuts developed at preset intervals to expose the footwall contact. Where ore widths allow, a sill drift will be developed along each contact, with a pillar left between. Ore sills will be developed at a minimum of 4 metres wide to accommodate 6 cubic yard LHDs for stope mucking.

Longholes will be primarily drilled with a pneumatically powered top hammer drill (current practice). Longholes will be drilled down from the overcut sill with some holes breaking through into the undercut, and others fanned as required to contour the stope limits. A drop raise will be drilled and blasted to create the initial void for production blasting. When mining a sill pillar (below a backfilled stope), uppers drilling will be completed from the stope undercut sill.

Longholes will be loaded with emulsion explosives. The emulsion will be detonated with non-electric blasting caps and boosters.

Broken ore will be extracted from stopes using 6 and 10 cubic yard LHDs. When the stope drawpoint brow is closed with muck, the LHD will be operated manually (i.e. with the operator in the seat). When the drawpoint brow is open, the LHD will be operated via remote control with the operator located a safe distance from the stope and away from the moving LHD. The LHD will tram to a remuck or load directly into a haul truck. Any ore dumped into a remuck will subsequently be remucked and loaded into a 50 tonne class haul truck and hauled to the 650L rockbreaker.

Mined out stopes will be backfilled. Where backfill will be mined against (i.e. exposed as a vertical wall) the binder content will be up to 3 percent. To maximize sill pillar recovery, backfill that will be mined under (i.e. exposed as a back) may include up to 7 percent binder content. Where available (and without compromising backfill quality), mined out stopes will be used to dispose of waste rock from development activities (as opposed to skipping this material and stockpiling on surface).

16.3.2 Thunder Creek Deposit

The Indicated mineralized zones at the Thunder Creek Deposit average from 5 to 10 metres wide and dip approximately 70 degrees to the north in the Rusk and 20 to 40 metres wide and dipping 60 degrees to the north in the Porphyry. The geometry of the resource zones at Thunder Creek will be suitable for the transverse longhole mining method with a primary/secondary stoping sequence, with some longitudinal stoping in narrower areas. The longhole method has been successfully used throughout the mining industry to mine ore bodies with similar geometry.

The sublevel interval at Thunder Creek is 35 metres (floor to floor). This interval has been successful for mining to date and will continue for ongoing mining.

Longhole Stoping

Longholes will be drilled using an ITH drill (for greater accuracy with the higher sublevel interval). Longholes will be drilled down from the overcut sill with some holes breaking through into the undercut, and others fanned as required to contour the stope limits. A drop raise will be drilled and blasted to create the initial void for production blasting. Longholes will be loaded with emulsion explosives (current practice). The emulsion will be detonated with non-electric blasting caps and boosters.

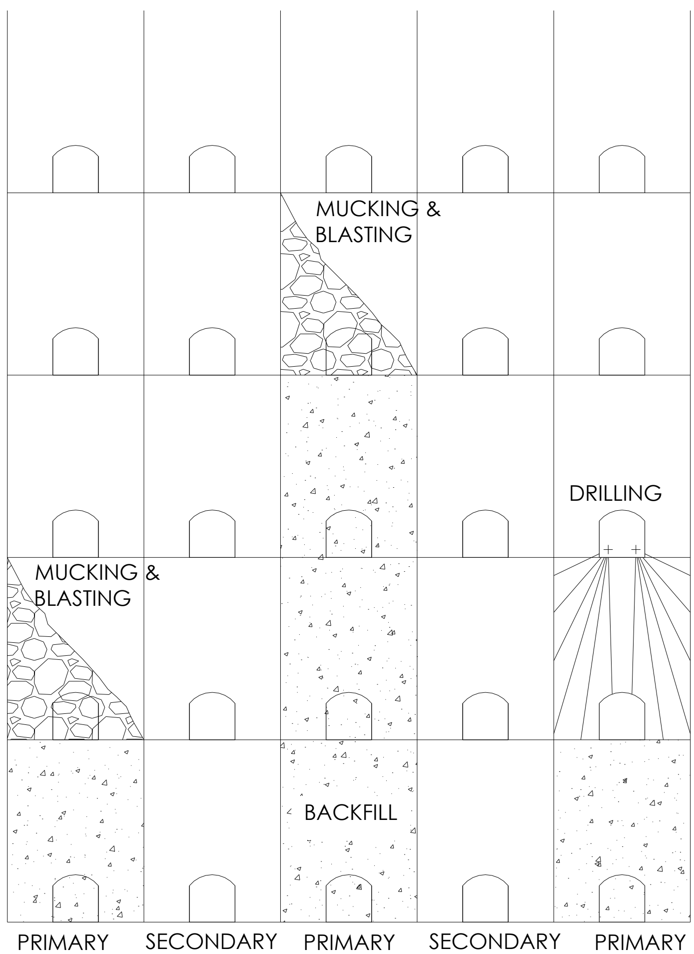
Broken ore will be extracted from stopes using 6 and 10 cubic yard class LHDs. When the stope drawpoint brow is closed with muck, the LHD will be operated manually (i.e. with the operator in the seat). When the drawpoint brow is open, the LHD will be operated via remote control with the operator located a safe distance from the stope and away from the moving LHD. The LHD will tram on the level and dump into an ore pass finger raise. The ore pass will gravity feed a truck loadout at 765L. For stopes mucked at or below 750L, ore will be mucked to a remuck and/or loaded directly into a haul truck.

Ore will be hauled via the ramp in 50 tonne class haul trucks to the 650 Level rockbreaker at the production shaft.

Mined out stopes will be backfilled. Where backfill will be mined against (i.e. exposed as a vertical wall) the binder content will be 3 percent. To maximize sill pillar recovery, backfill that will be developed through and mined under (i.e. exposed as a back) may include up to 7 percent binder content.

The transverse longhole mining method is shown in the sketch in Figure 16.4.

FIGURE 16.4: TRANSVERSE LONGHOLE MINING METHOD



16.4 RESOURCE ANALYSIS (DILUTION AND RECOVERY)

16.4.1 Mining Dilution and Recovery

Mining Dilution

Two sources of dilution have been considered in estimating the probable reserves.

Planned dilution includes low grade material and/or waste rock that will be mined and will not be segregated from the ore. Sources of planned dilution include:

- Waste rock or low grade material that is drilled and blasted within the drift profile of ore sills and the overall grade of the "muck" justifies delivery to the mill.
- Waste rock or low grade material within the confines of the stope limits. This includes internal waste pockets and footwall and/or hangingwall rock that has been drilled and blasted to maximize ore recovery and/or maintain favourable wall geometry for stability.

Planned dilution is directly reported from block model data and waste rock within stope wireframes.

Unplanned dilution includes low grade resource, waste rock, and/or backfill from outside the planned drift profile or stope limits that overbreaks or sloughs and is mucked with the ore and delivered to the mill.

The estimated planned and unplanned dilution for the deposits is outlined in Items 16.4.3 and 16.4.4.

Mining Recovery

Two recovery factors have been considered in establishing the probable reserves.

Planned recovery includes the in-situ block model resource that will be accessed, developed, and mined. Any Indicated Resource not included in the mining shapes (i.e. stopes) has not been included in the probable reserves. Reasons that some block model in-situ resource will not be recovered may include:

- The resource includes a small volume that is separate from the main mining area and does not support the cost to develop and mine.
- The resource terminates between sublevels and would require mining excess dilution to recover.
- Random blocks within the block model that cannot be mined as part of an economic stope.
- Resource left in pillars adjacent to previously mined stopes that have been backfilled with unconsolidated rockfill.

A mining recovery factor has been applied to account for material that is planned to be mined within the confines of the stope limits, but will not be recovered due to factors such as:

- Poor ground.
- Blasting difficulties (ground does not break properly and cannot be recovered).
- Resource geometry.
- Broken ore that cannot be extracted (i.e. resting on the footwall or around corners).
- Unplanned resource pillars left in place.

A 95% mining recovery (based on historic data) has been considered in estimating the probable reserves mined to surface.

16.4.2 Cut-Off Grade

To develop the LOM plan and estimate the probable reserves for TWM incremental, marginal, and overall mine economic cut-off grades (COGs) were considered. The COGs include both planned and unplanned dilution. The assumptions for COG calculations are the same for both the TD and TC and are summarized in Table 16.2.

TABLE 16.2: TWM COG ASSUMPTIONS

Item	Value
Mine Operating and Site General Costs	\$67.00 / tonne
Ore Surface Transport to Bell Creek Mill	\$7.20 /tonne
Mill Operating Cost	\$22.62 / tonne
Mill Recovery	97%
Gold Price (\$US)	\$1,100
Exchange Rate (\$US/\$CAD)	0.8
Gold Price (\$CAD)	\$1,375 / ounce
Incremental Cut-Off Grade	2.3 g/t
Sustaining Capital Cost	\$23.40 / tonne
Marginal Cut-Off Grade	2.9 g/t
Risk adjusted Rate of Return	15%
Overall Mine Economic Cut-Off Grade	3.3 g/t

The operating costs and mill recovery have been based on TWM operating experience. In addition to considering the estimated COGs, LSG mine planning personnel have considered the overall economics in localized areas when evaluating sublevels and stoping blocks.

16.4.3 Timmins Deposit Probable Reserve Estimate

Based on the in-situ Indicated Resource included in the TD block model, the following methodology was used to estimate the probable reserves. The reference point for the probable reserves is delivery to the mill.

The block model was reviewed in plan and in section to identify potential mining areas with concentrations of in-situ Indicated Resource above 3.0 g/t and to determine appropriate mining methods.

Sublevels were designed at 20 metre vertical intervals, and vertical sections were cut through the model at 5 metre to 10 metre intervals along strike (depending on the complexity of the resource). Mining shapes were designed on each section and each shape had an influence of 2.5 metres to 5 metres east and west of the section. The mining shapes were joined with shapes on adjacent sections to generate wireframes.

The in-situ resource contained within the wireframes was retrieved from block model data and includes:

- Higher grade material grading above 3.0 g/t.
- Low grade material grading below 3.0 g/t (planned internal dilution).
- Waste rock grading 0.0 g/t (planned internal dilution).

Stope reconciliation data has been used to estimate unplanned dilution and mining recovery factors. Based on this analysis, 18% unplanned dilution (grading 0.0 g/t) and 95% mining recovery has been used to estimate the probable reserves.

The in-situ tonnes and grade contained within the wireframes were extracted from the block model Indicated Resource data, and unplanned dilution and mining recovery factors have been applied to estimate the probable reserves. The results are summarized by mine level in Table 16.3.

TABLE 16.3: TIMMINS DEPOSIT ESTIMATED PROBABLE RESERVES

Level	Total (Stoping + Development)		
	Tonnes	Grade (g/t)	Ounces
240L	9,880	4.76	1,513
270L	1,434	8.86	409
300L	20,758	3.00	2,005
320L	31,507	5.38	5,447
330L	73,613	3.75	8,877
350L	16,150	5.33	2,769
360L	10,608	4.88	1,665
380L	18,905	2.12	1,286
410L	24,695	4.67	3,707
420L	23,540	3.16	2,391
440L	22,957	4.71	3,473
450L	59,719	3.40	6,536
480L	40,723	3.76	4,922
500L	1,850	4.41	262
525L	9,339	4.95	1,485
545L	16,929	2.85	1,552
565L	703	6.91	156
610L	20,666	4.83	3,208
630L	1,515	2.90	141
650L	18,182	3.68	2,151
670L	110,544	3.99	14,174
690L	1,822	2.62	153
710L	21,348	4.45	3,055
730L	17,215	2.26	1,249
750L	4,447	2.99	428
770L	16,286	4.48	2,343
790L	47,806	4.14	6,359
810L	31,914	3.90	4,002
830L	25,674	4.05	3,343
850L	4,967	3.44	549.3

Level	Total (Stoping + Development)		
	Tonnes	Grade (g/t)	Ounces
870L	66,851	3.64	7,814
890L	4,957	3.69	588
910L	49,102	4.61	7,272
930L	3,068	4.12	406
950L	35,666	3.94	4,516
970L	56,547	4.32	7,852
1000L	35,620	4.43	5,076
1030L	75,142	5.60	13,524
1050L	41,313	5.03	6,682
1070L	43,498	5.67	7,933
1090L	72,669	5.25	12,259
1110L	40,427	5.95	7,729
1130L	30,606	4.75	4,678
1150L	37,249	5.34	6,393
1170L	37,684	4.61	5,587
1190L	20,763	3.28	2,187
1210L	33,924	3.82	4,162
Total*	**1,397,000**	**4.4**	**195,500**

**Total rounded*

Some sublevels have an overall grade that is near the incremental COG. In general, these sublevels already have capital development and infrastructure in place, and in some cases the operating development has also been completed.

A development schedule, production profile, and mine design has been completed to estimate the capital and operating costs required to access, develop, and extract the TD probable reserves. A LOM cash flow analysis has been completed to demonstrate that the probable reserves support capital infrastructure.

16.4.4 Thunder Creek Deposit Probable Reserve Estimate

Based on the in-situ Indicated Resource included in the TC block model, the following methodology was used to estimate the probable reserves. The reference point for the probable reserves is delivery to the mill.

The block model was reviewed in plan and in section to identify concentrations of Indicated Resource material above 3.0 g/t, and to confirm the suitability of the longhole mining method. Sublevels were established at 35 metre vertical intervals and mining shapes were designed at 5 metre intervals along strike for each sublevel. The mining shapes on each section were joined with shapes on adjacent sections to generate stope wireframes.

Stope reconciliation data has been used to estimate the mining recovery factor for TC.

Based on this analysis, 95% mining recovery has been used to estimate the reserves. Unplanned dilution parameters have been developed and applied to each individual stope based on geometry and size. The unplanned dilution parameters are summarized in Table 16.4.

TABLE 16.4: THUNDER CREEK UNPLANNED DILUTION PARAMETERS

Source	Dip			
	50° - 60°	60° - 70°	70° - 80°	80° - 90°
Hangingwall Dilution (m)	0.85	0.65	0.50	0.45
Footwall Dilution (m)	0.20	0.30	0.40	0.50

In addition, backfill dilution parameters have been developed and applied to each individual stope (where required) based on geometry and size. Where the mucking floor of a stope will be backfilled, a 0.5 metre backfill dilution depth has been added. When mining against backfilled stopes, the estimated backfill dilution depth varies depending on the wall span as summarized in Table 16.5.

TABLE 16.5: THUNDER CREEK UNPLANNED BACKFILL DILUTION PARAMETERS

Source	Backfill Wall Span				
	15 m	20 m	30 m	40 m	50 m
Backfill Dilution Depth	0.3 m	0.4 m	0.6 m	0.8 m	1.0 m

The in-situ tonnes and grade contained within the stope wireframes were extracted from the block model Indicated Resource data and unplanned dilution (approximately 12.4%) and mining recovery factors have been applied to estimate the reserves. The results have been summarized in Table 16.6.

TABLE 16.6: THUNDER CREEK DEPOSIT ESTIMATED PROBABLE RESERVES

Level	Total (Stoping + Development)		
	Tonnes	Grade (g/t)	Ounces
290L	27,692	3.42	3,046
320L	10,701	4.40	1,513
330L	19,312	3.88	2,406
370L	1,246	2.07	83
395L	40,569	4.08	5,318
415L	42,972	3.44	4,752
450L	93,337	4.46	13,392
485L	58,722	4.47	8,444
520L	80,724	5.24	13,589
555L	109,594	4.58	16,124
590L	91,744	3.29	9,702
625L	131,734	3.65	15,478
660L	9,193	2.30	679
695L	87,910	2.88	8,138
730L	54,526	3.76	6,592
765L	118,360	3.09	11,771
785L	163,024	3.50	18,332
800L	170,171	4.58	25,068
820L	78,264	4.93	12,407
850L	69,040	6.53	14,497
870L	38,736	3.99	4,971
Total*	**1,498,000**	**4.1**	**196,300**

**Total rounded*

A development schedule, production profile, and mine design has been completed to estimate the capital and operating costs required to access, develop, and extract the TC probable reserves. A LOM cash flow analysis has been completed to demonstrate that the probable reserves support capital infrastructure.

16.4.5 Timmins West Mine Combined Reserves

The combined TWM reserves are summarized in Table 16.7. The reference point for the probable reserves is delivery to the mill.

TABLE 16.7: TIMMINS WEST MINE COMBINED PROBABLE RESERVES

Deposit	Tonnes	Grade (g/t)	Ounces
Timmins Deposit	1,397,000	4.4	195,500
Thunder Creek Deposit	1,498,000	4.1	196,300
Total Timmins West Mine	**2,895,000**	**4.2**	**391,800**

1. *The effective date of this report is December 31, 2015.*
2. *The mineral reserve estimates are classified in accordance with the Canadian Institute of Mining Metallurgy and Petroleum's "CIM Standards on Mineral Resources and Reserves, Definition and Guidelines" as per Canadian Securities Administrator's National Instrument 43-101 requirements.*
3. *Mineral reserves are based on a long-term gold price of US$1,100 per ounce and an exchange rate of 0.80 $US/$CAD.*
4. *Mineral reserves are supported by a mine plan that features variable stope thicknesses, depending on zone, and expected cost levels, depending on the mining methods utilized.*
5. *Mineral reserves incorporate a minimum cut-off grade of 2.3 grams per tonne. The cut-off grade includes estimated mining and site G&A costs of $67.00 per tonne, surface haulage costs of $7.20 per tonne, milling costs of $22.62 per tonne, mining recovery of 95%, external dilution of 18.0% for TD and 12.4% for TC, and a metallurgical recovery rate of 97%.*
6. *The mineral reserves were prepared under the supervision of, and verified by, Natasha Vaz, P. Eng., Vice-President, Technical Services, Lake Shore Gold Corp., who is a qualified person under NI 43-101 and an employee of Lake Shore Gold Corp.*

16.5 HAULAGE

All ore and waste rock that will be skipped to surface will be hauled by trucks to the existing production shaft, 650L grizzly/rockbreaker stations.

16.5.1 Timmins Deposit Underground Truck Haulage

Ore mined above 650L will be loaded into 42 and 50 tonne capacity haul trucks and hauled via the ramp to either 525L and dumped into an ore pass, or to 650L and dumped on the grizzly. Waste rock from development activities will be dumped into open stopes (as backfill) or dumped into a waste pass that will gravity feed to 650L.

Below 650L, an LHD will load ore and waste rock into 42 and 50 tonne capacity haul trucks that will haul the material up the ramp and dump on the 650L grizzly.

16.5.2 Thunder Creek Deposit Underground Truck Haulage

Ore mucked from stopes above 765L will be trammed using LHDs and dumped directly into an ore pass dump on each sublevel. The ore pass will gravity feed to a truck loadout chute at 765L. At the 765L truck loadout, 50 tonne class underground haul trucks will be loaded and will haul up the internal ramp to 730L and across the connecting ramp to the 650L rockbreakers at the TWM. The one-way haul distance will be approximately 1,400 metres. Ore mucked from stopes at 765L and below will be loaded into trucks using the LHD. The trucks will also haul up to 730L and across to the TWM 650L rockbreaker.

Waste rock from development will be handled through the waste pass system and will also be loaded into haul trucks through a truck chute at 765L. Where possible, waste rock will be dumped directly into mined out stopes (as opposed to hauling and skipping to surface).

16.6 DEVELOPMENT

Table 16.8 and Table 16.9 summarize the estimated LOM development quantities for the TD and TC. Annual development will average approximately 9,360 metres during 2016 and 2017 and will reduce to approximately 2,460 metres in 2018 when all development will essentially be completed.

TABLE 16.8: TIMMINS DEPOSIT ESTIMATED LOM DEVELOPMENT QUANTITIES

Item	Total (m)
Capital	
Ramp	2,172
Lateral Waste	5,258
Subtotal Capital	**7,430**
Operating	
Lateral Waste	5,388
Lateral Ore	2,280
Subtotal Operating	**7,668**
Total Development	**15,098**
Raises (Conventional/Drop Raise)	**1,083**

TABLE 16.9: THUNDER CREEK DEPOSIT ESTIMATED LOM DEVELOPMENT QUANTITIES

Item	Total (m)
Capital	
Ramp	287
Lateral Waste	2,132
Subtotal Capital	**2,419**
Operating	
Lateral Waste	2,154
Lateral Ore	1,509
Subtotal Operating	**3,663**
Total Development	**6,082**
Raises (Conventional/Drop Raise)	**222**

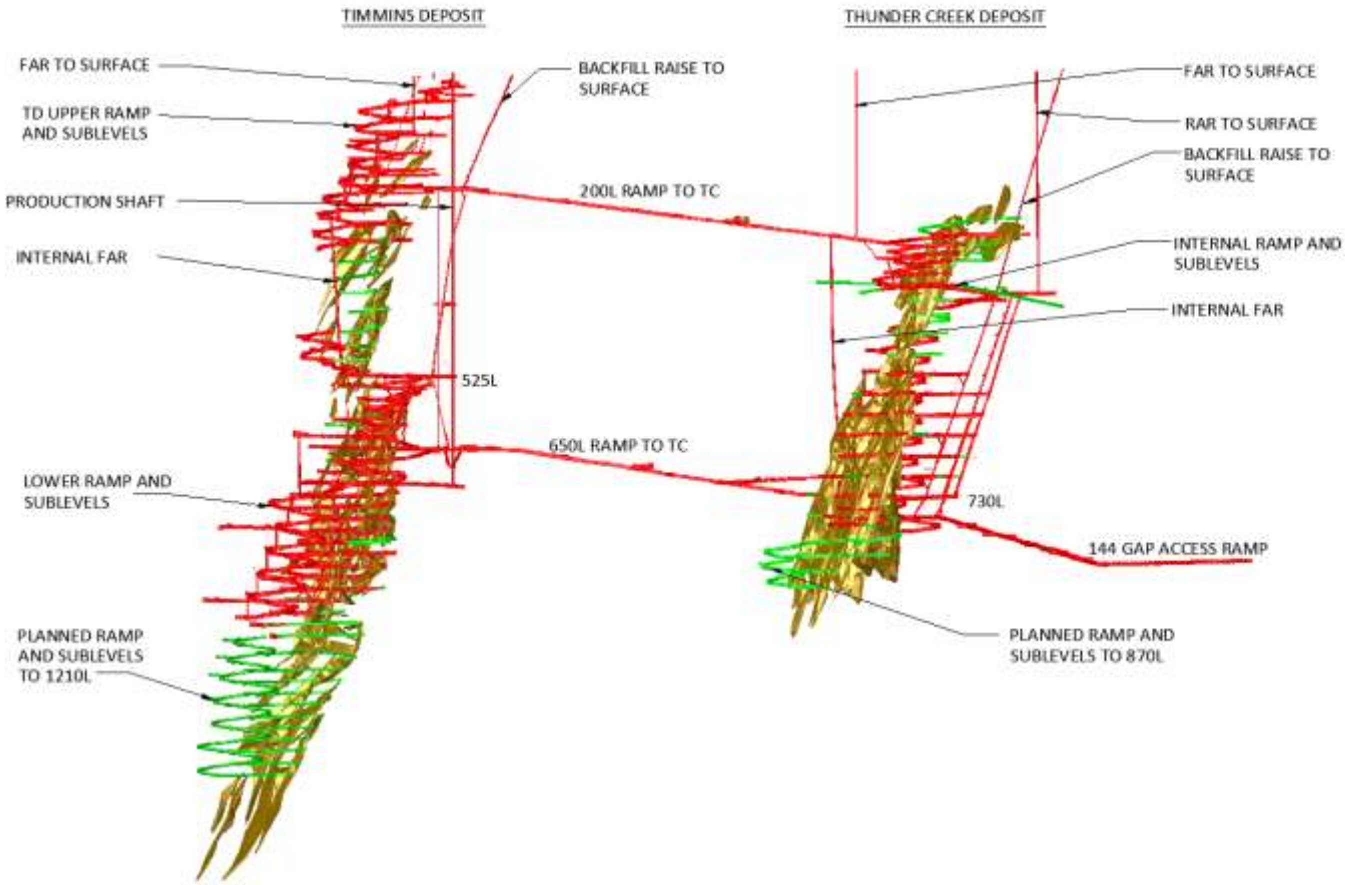
An estimated 1.1 million tonnes of waste rock will be generated from development activities. Where possible, waste rock will be dumped into mined out stopes as backfill, otherwise waste rock will be hauled to the 650L rockbreaker and subsequently skipped to surface (and possibly later returned underground for backfilling). The waste rock generated from development activities is summarized in Table 16.10.

TABLE 16.10: WASTE ROCK GENERATED FROM DEVELOPMENT

Deposit	Waste Rock (tonnes)
Timmins Deposit	0.8 million
Thunder Creek Deposit	0.3 million
Total TWM	**1.1 million**

The planned LOM development and infrastructure is shown in Figure 16.5.

FIGURE 16.5: PLANNED MINE INFRASTRUCTURE



16.6.1 Timmins Deposit

Ramp

The existing ramp extends from surface to 300L and from 480L to 1000L. The ramp connection between 300L and 480L will be completed and the ramp will extend to 1210L as mining progresses downward.

The ramp profile is 5 metres wide by 5 metres high (arched back) at a maximum gradient of 15 percent. The ramp floor includes a layer of ballast material and the roadway is maintained using a grader to help reduce equipment maintenance requirements.

Sublevel Infrastructure Development

The main access to sublevels will be developed 5 metres wide by 5 metres high to accommodate haul trucks. Ancillary development such as electrical substations will be developed off the level access and will have dimensions to suit the purpose and/or to accommodate the size of the development gear. The infrastructure on sublevels will generally include:

- Sublevel access drift.
- Sump.
- Electrical cut-out (for load centres, starters, communications etc.).
- Remucks and truck turning/loading areas.

- Material storage bays (on some levels).
- Ore sill accesses.
- Fresh air raise access drives.
- Return air raise access drives.
- Refuge Stations (on some levels).

16.6.2 Thunder Creek Deposit

Ramp

The main access to TC will be via the two existing connecting ramps from the TD at 275L and 730L. The TC internal ramp currently extends from 280L to 785L. The ramp will eventually connect down to 870L.

The ramp will continue to be developed 5 metres wide by 5 metres high (arched back) at a maximum gradient of 15 percent. The ramp floor will include a layer of ballast material and the roadway will be maintained using a grader to help reduce equipment maintenance requirements.

Sublevel Infrastructure Development

The main access to sublevels will be developed 5 metres wide by 5 metres high. Ancillary development, such as electrical substations will be developed off the level access and will have dimensions to suit the purpose and/or to accommodate the size of the development gear. The infrastructure on sublevels will generally include:

- Sublevel access drift.
- Sump.
- Electrical cut-out (load centres, starters, communications, etc.).
- Footwall haulage drift.
- Stope drawpoints and crosscuts.
- Material storage bays (on some levels).
- Fresh air raise access drives.
- Return air raise access drives.
- Ore and waste pass accesses and finger raise dumps.
- Refuge stations (on some levels).

16.6.3 Ground Support

Primary Ground Support

Ground support will be installed in all underground excavations and will remain consistent with current practices. Additional ground support details are included in Item 16.17.

Secondary Ground Support

Geotechnical study work has concluded that under certain conditions secondary ground support (generally referring to as cable bolting) may be required. Stope wall dimensions have been designed in the "stable" region using the Stability Graph Analysis method (Hoek et al. 1995). This is consistent with current practices at the operation.

16.7 DEVELOPMENT SCHEDULES

Development schedules have been completed for the Timmins Deposit and Thunder Creek Deposit using Enhanced Production Scheduler (EPS). Mining activities are resourced in the schedule and dumped into spreadsheets for reporting.

16.8 BACKFILL

Construction of a paste backfill plant on surface was completed in Q3 2013. The pastefill plant capacity is 3,000 tonnes per day of a paste mixture consisting of:

- Classified tailings,
- Sand, and
- Binder.

The pastefill distribution system consists of two pairs of 150 millimetre (6 inch) diameter boreholes located within or adjacent to the paste plant. Only one of the boreholes can be used to distribute paste during a pour (i.e. paste cannot be poured at two locations simultaneously). The boreholes break through into receiving station excavations near the TD and TC. Pastefill is delivered to stopes via a network of boreholes and piping in the ramp and on sublevels. An underground pastefill crew installs and removes pipes as required to suit production requirements.

In instances where cemented rockfill (CRF) is deemed appropriate, slurry is delivered from surface via a pipeline in the shaft (TD) or borehole (TC) to a transmixer. The transmixer delivers the slurry to a mixing station where slurry is mixed with waste rock and subsequently placed in the stope.

16.9 PRODUCTION

The mine will continue to operate two shifts per day, seven days per week. Underground crews and maintenance workers will work 10 hour shifts. Annual production has been based on 365 days per year.

16.9.1 Timmins Deposit Production

Production from the TD will include a combination of ore development, transverse and longitudinal longhole stoping, and Mechanized Cut-and-Fill (MCAF). Production will average approximately 1,150 tonnes per day from 2016 through 2018 before ramping down and ending in Q2 2019.

Approximately 69% of the TD reserves will be mined from below 650L. Mining below 650L will progress in blocks as ramp development and sublevel infrastructure advances and the ventilation system expands. Mining blocks will generally be 80 vertical metres (i.e. four sublevels) high. Mining will commence at the bottom sublevel within a block and progress upwards within the block. Stopes at the top sublevel in a block will be mined up to the backfilled stopes of the previously mined block above.

Production will rely on prioritizing down ramp development to bring new mining blocks into production before depleting reserves in previously developed blocks (i.e. multiple blocks in production simultaneously). Approximately 215,000 tonnes (15%) of the TD reserve will be mined via MCAF.

16.9.2 Thunder Creek Deposit Production

Production at TC will be from a combination of ore development and longhole stoping (transverse and longitudinal). Production will average approximately 1,560 tonnes per day in 2016 and 2017 before ramping down and ending in Q4 2018.

16.9.3 Timmins West Mine Production

Combined production from TWM will average approximately 2,680 tpd in 2016 and 2017 and reduce to approximately 2,175 tpd during 2018 before ramping down and ending in Q2 2019.

The combined LOM tonnage profile for TWM is summarized in Table 16.11.

TABLE 16.11: TWM ANNUAL PRODUCTION TONNES

Item	2015 Year-End Inventory	2016	2017	2018	Q2 2019	Total
Tonnes	13,282	934,895	1,022,249	793,973	129,880	2,894,279
Average TPD		2,561	2,801	2,175	1,082	

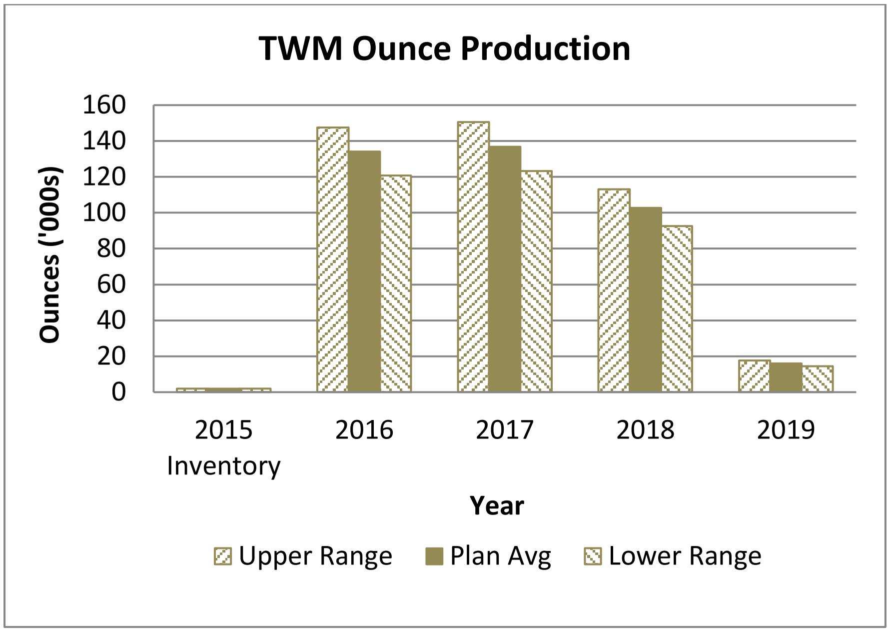
Annual ounce production is presented as a range (Upper and Lower) in Table 16.12. The range is based on a ±10% variance from the LOM plan to reflect potential differences in the combination of stopes that may be mined during each year.

TABLE 16.12: TWM ANNUAL OUNCES MINED TO SURFACE

Item	2015 Year-End Inventory	2016	2017	2018	Q2 2019	Total
Average Grade (g/t)	4.5	4.5	4.2	4.0	3.9	Ave 4.2
Ounces – Upper Range		147,600	150,500	113,100	17,700	
Ounces – LOM Plan Avg	**1,902**	**134,181**	**136,831**	**102,813**	**16,104**	**391,831**
Ounces – Lower Range		120,800	123,200	92,500	14,500	

The LOM ounce production profile is shown graphically in Figure 16.6.

FIGURE 16.6: LOM OUNCE PRODUCTION



16.10 PRODUCTION EQUIPMENT

The existing surface equipment and underground development, production, and auxiliary equipment fleet will continue to be used, with equipment purchased and rebuilt as required to meet production demands. The mobile equipment fleet (including spares) is summarized in Table 16.13.

TABLE 16.13: SURFACE AND UNDERGROUND MOBILE EQUIPMENT FLEET

Equipment Type	Fleet
2-Boom Jumbo	6
1-Boom Jumbo	1
LHD – 10 yd	4
LHD – 6 yd	9
LHD – 3.5 yd	1
LHD – 1.25 and 2 yd	2
30 Tonne UG Haul Truck	1
50 Tonne UG Haul Truck	5
Scissor Lift	7
Mechanical Bolter	2
Flat Deck Boom Truck	2
Grader	1
Tractor/Forklift/Minecat	13
Toyota UG Pick-Up	14
Blockholer	1
Transmixer	1
Fuel Truck	1
Concrete Truck	2

Equipment Type	Fleet
Dozer	1
Excavator	1
Surface Truck	2
Emulsion Loader	2
Electric Hydraulic Drill	2
Simba Drill	2
Cubex Drill	1
980 Loader	3
IT38	1
Total	**88**

16.11 VENTILATION

The main core of the ventilation system has been installed and will service the remainder of the mine life.

The TWM ventilation is provided by two down cast push systems (one at TD and the other at TC) each powered by horizontal, parallel twin 84"- 600 horsepower fans mounted on a 4.1m diameter raisebored fresh air raise (FAR). Each fan is equipped with a variable frequency drive to control motor speed which allows the operation to reduce ventilation flow during periods when underground activities are reduced. The reduced flows conserve power and propane as the air is heated during the winter months. The return air raise (RAR) system consists of ramps and raises that return the air to surface.

16.11.1 Timmins Deposit Ventilation

The TD FAR system consists of a series of bored and offset drop raises from surface down to the 1000L. This network provides 220 cubic metres per second (cms) of fresh air at 11.2" water gauge (wg) to the ramp face. Fresh air is pulled from the ramp by auxiliary fans to the active mining levels.

Return air exhausts from active levels via the ramp up to 650L. Exhaust air splits between the production shaft, the 525 RAR, and the 730 Thunder Creek RAR to ventilate the Thunder Creek haulage ramp.

Gradual expansion of the ventilation system will occur as mining progresses to 1210L. As ramp development advances, a FAR will facilitate ventilating ramp development and subsequent production and will be equipped with an escapeway to provide a second egress to 650L.

The upper section of the Timmins Deposit currently does not have active mining fronts and is ventilated and used as an exhaust path to the portal.

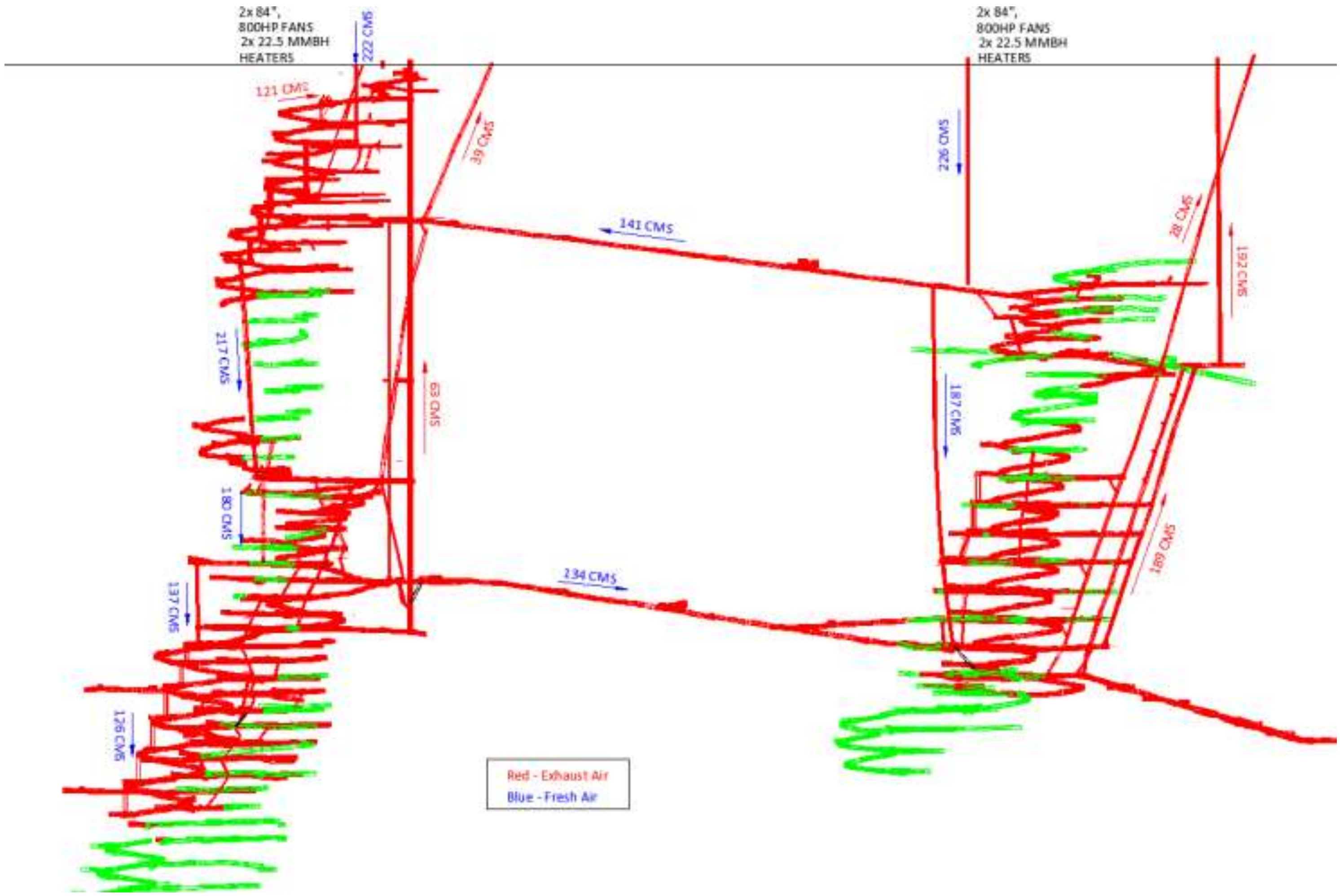
16.11.2 Thunder Creek Ventilation

The TC FAR moves 225 cms at 8.8" wg pressure down to the current ramp face. Fresh air is drawn off as needed by control regulators on each active mining level. Exhaust air is regulator controlled on each level and returns to surface via the TC RAR and the upper mine ramp system.

Gradual expansion of the ventilation system will occur as mining progresses to 870L. As ramp development advances a FAR will facilitate ventilating ramp development and subsequent production and will be equipped with an escapeway to provide a secondary egress to 730L.

The TWM ventilation system is shown in Figure 16.7.

FIGURE 16.7: TIMMINS WEST MINE VENTILATION SYSTEM



16.11.3 Mine Air Heating and Cooling

The existing surface fresh air ventilation plants at the TD and TC each include two ACI-Canefco mine air heaters. Each heating unit has 22.5 MMBH of heating capacity.

The mine design extends to 1210 metres below surface. Mine air cooling will not be required.

16.12 PERSONNEL

An existing core group of management, environmental, technical services (engineering/geology), administration, maintenance, supervisory, and production personnel will continue to operate the site. The personnel required to sustain the operation will reduce as activities reduce toward the end of the mine life.

The personnel required on payroll are summarized in Table 16.14.

TABLE 16.14: PERSONNEL ON PAYROLL

Classification	Persons
Site Management	
Mine General Manager	1
Electrical Superintendent	1
Surface Superintendent	1
Maintenance Superintendent	1
Mine Superintendent	1
Mine General Foreman	2
Administration Staff	
HR Administrator	2
Reception	1
Purchaser	1
Warehouse Coordinator	1
Warehouse Clerk	1
Mine Clerk	
Engineering Staff	
Chief Mine Engineer	1
Senior Mine Engineer/Projects Engineer	1
Mine Engineer	1
Engineer in Training (EIT)	3
Mine Long Range Planner	1
Longhole Planner/Coordinator	1
Surveyors	2
Ventilation Planner and Technician	2
Geology Staff	
Chief Geologist	1
Mine Geologist/Geotechnician	4
Senior Geologist – Mining/Underground	1
Drill Coordinator/Resource Geologist	2
Drill Geologist/Geotechnician	4
Core Technicians	4
Health and Safety	
Safety Coordinator	1
Trainer	2

Classification	Persons
Environmental	
Environmental Coordinator	1
Environmental Technician	1
Mine Operations Staff	
UG Shift Supervisor	10
Surface Supervisors	2
Construction/Drill/Blast Supervisor	2
Maintenance Staff	
Maintenance Supervisor	2
Hoist Mechanical General Foreman	1
Maintenance Planner	1
Maintenance Clerk	1
Mine Construction/Services	
Construction Miner	11
Pastefill System Construction Miner	4
Underground Labourer	4
Rockbreaker Operator	4
Surface Yard Mtce Loader/Truck Operator	13
Dry/Janitorial	2
Shaft	
Hoistperson	4
Shaftperson	2
Cage/Skip Tender/Deckperson	4
Maintenance	
Lead Mechanic	4
Mechanic	20
Welder	2
Drill / Pump Mechanic	1
Mill Wright	8
Lead Electrician	6
Electrician	8
Instrumentation	1
Cap Lamp Maintenance	1
Mine Development / MCAF Stoping	
Lead Development Miner	9
Development Miner 1	55
Raise Miner	2
Mine Production	
Blaster	8
Driller	12
LHD Operator	22
Haul Truck Operator	24
Total Personnel	**296**

16.13 UNDERGROUND MINE SERVICES

The underground mine services will include electrical power distribution and communications, compressed air, service water, and dewatering.

16.13.1 Electrical Distribution and Communications

Power is delivered underground at 4,160 kV via two new 13.8 kV feeders and 500 MCM size electrical cables installed in the shaft. The power supply will be sufficient for the expansion of the mine into new productions areas. Electrical substations (mine load centres) have been located at shaft stations and as required in electrical cut-outs on sublevels.

Communication has been established throughout the mine via an underground radio network (leaky feeder). In addition, a fiber optic network provides communications for control of pumps, monitoring cameras, refuge station dial phones, fan automation and gas monitoring. Underground shaft stations, electrical substations, some remote workplaces, and refuge stations will have direct communications to surface via pager phone.

The core of the electrical and communications systems have already been put in place and will expand accordingly as the mine develops into new production areas.

16.13.2 Compressed Air

The existing surface compressed air plant includes four Sullair 225 kW, 698 litre/second (1,480 cfm) compressors, and one Sullair 150 kW, 472 litre/second (1,000 cfm) compressor. The overall plant capacity is 3,264 litres/second (6,920 cfm). The existing plant capacity will be sufficient for future development and production activities.

Compressed air will be delivered underground via the existing 305 mm diameter pipe in the shaft. The underground compressed air distribution system will consist of steel piping installed in the ramps and sublevels. Compressed air will be required to power pneumatic equipment and/or activities including:

- Jackleg and stoper use.
- Pneumatic Anfo loaders.
- Blasthole/bootleg cleaning for development rounds.
- Pneumatic longhole drills.
- Longhole cleaning.
- Refuge station ventilation (pressurizing).
- Pneumatic cylinders for door controls.
- Pneumatic pumps for local dewatering.
- Main shop (pneumatic tools).

16.13.3 Service Water

Currently, all service water required for underground drilling operations, dust suppression, and washing work places is supplied from recycled water inflow from the surrounding rock mass. Additional service water will be available (if needed) from surface sources. Service water is supplied to the main levels via the existing 100 mm diameter pipe in the shaft and in the ramp. Service water will be distributed underground via steel pipe in the ramp and on sublevels. Service water will not be potable (i.e. not for drinking).

16.13.4 Mine Dewatering

Water inflow from the surrounding rockmass and water used for drilling activities and dust suppression is currently collected in local sumps and directed to main sumps/pump stations at the TD (200L and 650L) through a network of drain holes and small pumps/dewatering lines (including a shaft bottom pump). The inflow water is recycled and used for service water in the mine.

The 650L pump station includes two 225 kW (300 hp) pumps (one duty and one spare). From the 650L pump station, clean (settled) water is pumped up the existing 152 mm diameter pipe in the shaft to the 200L pump station. The 200L pump station includes two 150 kW (200 hp) pumps (one duty and one spare). From the 200L pump station, all water is pumped to surface via piping in the shaft. The current dewatering system capacity is approximately 102 cubic metres per hour (450 usgpm).

A full water balance study has been completed. The current estimated mine dewatering rate ranges from 500 cubic metres per day to 800 cubic metres per day depending on the season (i.e. heavier water inflow during spring months).

As the mine expands into new production areas (including deeper), additional pump stations will be constructed and will feed into the existing dewatering system.

16.13.5 Roadbed Material

The maintenance of roadways will be essential in reducing the mobile equipment operating and maintenance costs and achieving high haulage truck availability.

Crushed/screened rock will be sourced from local contractors for use underground and will be delivered underground and distributed via production equipment and spread using the existing grader.

16.14 MATERIALS SUPPLY

The TWM is well positioned in the established Timmins mining district. Consumable materials and external services required to support the mining operation will continue to be sourced from local businesses or from other nearby mining centres (such as Sudbury, Kirkland Lake, North Bay, and Rouyn-Noranda). A number of contracts have been established to support current site activities and these will be amended as required.

16.15 MAINTENANCE

There are existing maintenance facilities on surface to support maintenance of surface equipment and smaller fixed plant equipment brought to surface from underground.

An underground maintenance shop has been constructed and equipped at the TD 650L. Mobile equipment will be brought to the shop for servicing, preventive maintenance, and repairs. A mechanic will be available (each shift) to service certain mobile equipment (such as longhole drills and jumbos) and tend to minor breakdowns in the field. Fueling and lubricant facilities will be available at 650L, 525L, and 200L.

16.16 SAFETY

The site has existing health and safety programs in place as required by the Ontario Occupational Health and Safety Act and Regulations for Mines and Mining Plants. There is an existing Joint Health and Safety Committee, Mine Rescue Team, and training facilities.

There is currently a full time Safety Coordinator on site and this position will remain filled for LOM operations. The Safety Coordinator will maintain site safety programs and initiatives. There will be two trainers on staff.

16.17 GEOMECHANICAL

A geomechanical engineering consultant; Mine Design Engineering (MDEng) has been providing geomechanical support to LSG for TWM since the start of development. MDEng has completed underground field work to assess rock mass properties and conditions and visits the mine annually to observe ground and support conditions and update the data collection database as new mining areas are developed. Geomechanical data collection has been used for classifying the rockmass and evaluating stope stability [primarily using the Stability Graph Analysis Method (Hoek et al. 1995)]. In general, stopes have been designed to be stable without the requirement for secondary ground support.

Kathy Kalenchuk of MDEng visited TWM on February 23, 24, and 27, 2015 to complete underground inspections and review the mine as-built geometries and the 2015 stope plans for both TD and TC.

Timmins Deposit Observations

Ground support at the TD was observed to typically be in good condition and installed to standard. A few locations were recommended for rehabilitation and in some cases secondary ground support installation was recommended to ensure long-term stability (particularly at intersections where a larger back span is exposed). It was suggested that tactical support installation and strategic stope sequencing could minimize future rehabilitation needs. This would require stress modeling to support these strategies.

Thunder Creek Observations

Significant improvements were observed in support installation QA/QC (based on observations from previous site visits). A few locations were recommended for rehabilitation and in some cases secondary ground support installation was recommended to ensure long-term stability (particularly at intersections where a larger back span is exposed). Installing screen to within 1.5m of the floor of the ramp was recommended in an area of blocky ground.

MDEng recommended implementing a mapping campaign to update the TC geomechanical model in areas that have not been mapped.

16.17.1 Ground Support

The existing minimum ground support requirements at TWM are summarized in Table 16.15 and Table 16.16.

TABLE 16.15: SUMMARY OF GROUND SUPPORT MINIMUM REQUIREMENTS – LATERAL DEVELOPMENT

Span	Surface	Bolt Type	Pattern	Screen
Less than 5.5 m	Back	1.8 m #6 Rebar	1.2 m x 1.2 m	#9 AWG Screen. 3 squares overlap. All rebar within screen. Screen must extend 1 metre past shoulders.
	Wall	1.8 m #6 Rebar Bottom row 1.5 m x 35 mm Friction Bolt	1.2 m x 1.2 m	Screen must extend 1 metre past shoulders. Use 0/0 straps on brows/corners.
5.5 m to 7.3 m	Back	2.4 m #6 Rebar	1.2 m x 1.2 m	#9 AWG Screen. 3 squares overlap. All rebar within screen. Screen must extend 1 metre past shoulders.
	Wall	1.8 m #6 Rebar Bottom row 1.5 m x 35 mm Friction Bolt	1.2 m x 1.2 m	Screen must extend 1 metre past shoulders. Use 0/0 straps on brows/corners.
7.3 m to 11 m	Back	2.4 m #6 Rebar 3.7 m PM24 Swellex	1.2 m x 1.2 m 2.0 m x 2.0 m	#9 AWG Screen. 3 squares overlap. All rebar within screen. Screen must extend 1 metre past shoulders.
	Walls	1.8 m #6 Rebar Bottom row 1.5 m x 35 mm Friction Bolt	1.2 m x 1.2 m	Screen must extend 1 metre past shoulders. Use 0/0 straps on brows/corners.

TABLE 16.16: SUMMARY OF GROUND SUPPORT MINIMUM REQUIREMENTS – RAISES

Type	Surface	Bolt Type	Pattern	Screen/Straps
Conventional Raise (up to 2.5 m span)	HW	1.2 m #6 Rebar	1.2 m x 1.2 m	#0 Gauge Straps. 2 rows.
	Wall	1.2 m Mechanical Bolts	1.2 m x 1.2 m	None
	Face	1.2 m Mechanical Bolts	1.2 m x 1.2 m	None
Alimak Raises (up to 2.5 m span)	HW	1.5 m #6 Rebar	1.2 m x 1.2 m	#9 Gauge welded wire mesh. 3 squares overlap.
	Wall	1.5 m #6 Rebar	1.2 m x 1.2 m	#9 Gauge welded wire mesh. 3 squares overlap.
	Face	1.5 m x 35 mm Friction Bolt	1.2 m x 1.2 m	#9 Gauge welded wire mesh. 3 squares overlap.

16.18 BELL CREEK TAILINGS FACILITY

All ore to date from TWM has been milled at LSG's existing Bell Creek Mill. All future production from the TWM will also be processed at the Bell Creek Mill.

The Bell Creek tailings facility (BCTF) is part of the Bell Creek Complex. The facility first received ore from the Bell Creek Mine in 1986 at an initial rate of 300 tonnes per day (tpd) and later increased to 1,500 tpd by 2002. Production from the Bell Creek Mine ceased in 2002 and the tailings facility was placed in a state of inactivity (care and maintenance) from 2002 to 2008. The Bell Creek Mill resumed operation in the last quarter of 2008 and the tailings facility was reactivated. In 2015 the Bell Creek Mill processed ore from both the Bell Creek Mine and TWM at a nominal rate of over 3,581 tpd.

The BCTF is located west of the Bell Creek Mill, covers an area of approximately 147 ha, and includes the following:

- Three tailings cells (Phase 1/2 cell, Phase 3 cell and Phase 4 Mini cell);
- Two clear water ponds (Clear Water Pond and Clear Water Pond 2);
- Effluent treatment plant and sludge settling pond
- North and south diversion ditches.

Tailings are pumped in a conventional slurry stream (40% to 45% solids) from the mill to the tailings facility for deposition.

The Bell Creek Mill is permitted to 5,500 tpd. The Phase 4 Mini cell was constructed in 2014 and subsequently raised in 2015. Another tailings expansion is planned for 2016 (Phase 4 North), north of the existing Phase 4 Mini cell. A depositional plan has been completed to allow for deposition within the existing BCTF footprint for the next 5 years prior to additional expansion. In 2015 excavation of Phase 3 commenced to provide approximately 130,000 tonnes of tailings to Timmins West Mine as paste backfill in the underground workings.

Also in 2015 a "Bell Creek Tailings Facility – Operations, Maintenance and Surveillance Manual" was completed in November to include all aspects of managing the tailings facility. The document was created with assistance from the Canadian Dam Association and Mining Association of Canada guidelines.

The Bell Creek Tailings facility is shown in Figure 16.8.

FIGURE 16.8: BELL CREEK TAILING FACILITY

17.0 RECOVERY METHODS

Ore from the Timmins West Mine is hauled via surface highway trucks to the Bell Creek Mill facility for processing. The Bell Creek Mill located approximately 6.7 kilometres north of Highway 101 in South Porcupine, Ontario. The designed 3,300 tonne per day processing plant consists of a one stage crushing circuit, ore storage dome, one-stage grinding circuit with gravity recovery, followed by pre-oxidation and cyanidation of the slurry with CIL and CIP recovery. Ore from LSG's Bell Creek Mine is also processed through the Bell Creek Mill.

17.1 HISTORY

The Bell Creek Mill was established as a conventional gold processing plant utilizing cyanidation with gravity and CIP recovery. Between 1987 and 1994 the mill processed 576,017 short tonnes of Bell Creek ore grading 0.196 ounce per short tonne Au (112,739 recovered ounces). The historical gold recovery was approximately 93 percent. Additional tonnage from the Marlhill Mine, Owl Creek open pit, and Hoyle Pond Mine was processed prior to the mill being placed on care and maintenance in 2002. During this period several improvements and additions were implemented to increase tonnage throughput from the original 350 tonnes per day to 1,500 tonnes per day. Lake Shore Gold (LSG) purchased the mill in 2008 and re-commissioned the mill for operation in 2009 at 1,000 tonnes per day. The mill was expanded to 2,000 tonnes per day in the fourth quarter of 2010 and was further expanded to 2,500 tonnes per day in 2011. Phase 2 of the mill expansion (to a design capacity of 3,300 tonnes per day) was completed in the third quarter of 2013. Since then, the plant has demonstrated that it can achieve a higher throughput than the design capacity.

17.2 BELL CREEK MILL PROCESS DESCRIPTION

Ore feed is dumped directly onto a 16" by 16" grizzly at the truck dump and a remote controlled rockbreaker is used to break up the oversized material. The ore is fed with an apron feeder to a series of conveyors reporting to a scalping grizley feeder in the crushing building. The openings between the fingers on the grizley feeder are 3.5", with the oversize reporting to a 44" x 34" C110HD Metso jaw crusher. The jaw crusher is set to a closed side setting of 4". The discharge from the crusher is combined with the -3.5" material from the grizley feeder and conveyed to the ore storage dome. The dome has a 20,000MT storage capacity, 6,000MT of which is live. Three apron feeders pull ore from the dome and convey it to the SAG mill building.

The grinding circuit consists of one 22' diameter by 36.5' length low aspect ratio Metso SAG mill and is powered by twin 6,250 hp (4,600 kW) motors. The SAG mill is a repurposed ball mill converted to a SAG by installing ½" grates and a trommel with ¾" openings. Oversize from the trommel reports to a collection bin which is fed back into the SAG mill feed chute. Undersize from the trommel reports to a pumpbox which feeds a cyclopac equipped with 6 outlets. Four of the outlets are fitted with 20" Krebs gMAX cyclones, and the other two outlets are capped and available for possible future expansion. The SAG cyclone overflow reports to the thickener feed box and the underflow reports back to the SAG mill. A portion of the cyclone underflow is fed to a 30" Knelson. Knelson concentrate is collected in a hopper and is pumped daily to the refinery for further treatment, while the Knelson tails flow by gravity back to the SAG mill. Target grind is 80% passing 200 mesh.

Flocculent is added to the cyclone overflow and is pumped to a 20 meter diameter thickener. The slurry from the cyclones is 25-35% solids by weight with the thickener underflow at 55% solids by weight. The thickener overflow water is pumped to the process water tank and reused in the grinding process. The thickener underflow slurry is pumped to the leach circuit. The leach circuit consists of five agitated tanks in series with a total volume of 1,940 cubic meters. Pure oxygen is sparged into the first three leach tanks to passivate the contained pyrrhotite in the ore, as well to maintain a target dissolved oxygen level, which is required for efficient gold dissolution in cyanide. Cyanide is then added to leach tank #4, or #5.

There are three carbon-in-leach (CIL) tanks equipped with Kemix screens having a total volume of 7,500 cubic meters. The first tank (CIL #5) operates without carbon, so it is essentially a leach tank. The second (CIL #2) and third (CIL #1) tanks contain roughly 8 grams of carbon per liter of slurry. The circuit will reach equilibrium for loading of the carbon with the grade of the loaded carbon in the range of 2,500 to 4,500 grams per tonne. Loaded carbon is pumped from CIL #2, screened, washed, and then transferred to the loaded carbon tank. Carbon in the CIP and CIL tanks is advanced counter-current to the flow of slurry in the circuits.

The slurry from CIL #1 tank reports to the carbon-in-pulp (CIP) circuit, and is split into two trains of three CIP tanks in parallel with approximately 45 grams of carbon per liter of slurry. Recovery of the gold from the carbon is a batch process with carbon being stripped at a rate of 3.5 tonnes per batch. The turnaround time between batches is 24 hours. Carbon can be cleaned with acid, reactivated with the kiln and reused in the circuit.

The loaded solution from the strip circuit is passed through two electro-winning cells in the refinery. The gold collects on the cathodes in a sludge form. The cells are washed weekly and the sludge is collected in filter bags and dried. The dried sludge is then mixed with reagents and melted in the induction furnace. Gold bullion bars are poured when the melt is completed.

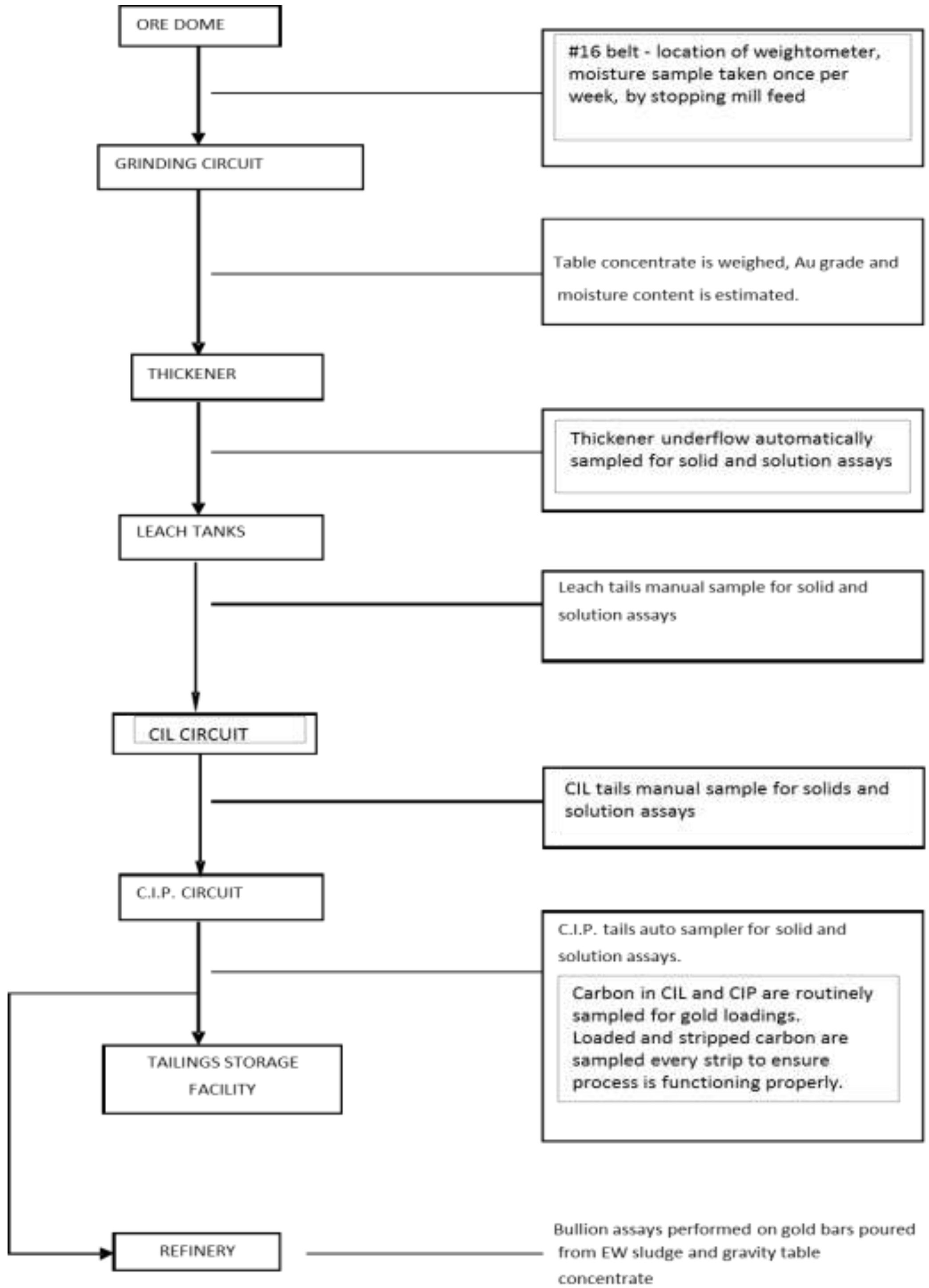
The gravity gold material collected from the Knelson concentrator is transferred to the refinery and a gravity table is used to increase the gold content. The concentrate is then dried, reagents are added and the material is melted in the induction furnace. The gravity concentrate and the CIP gold sludge are melted separately due to the differing amounts of reagents used in each, and to more accurately determine recoveries in each circuit.

17.3 METALLURGICAL BALANCE

A metallurgical balance is conducted daily based on the tonnage from the 4 roller belt weightometer located on the feed conveyor to the SAG mill. The total tonnage, corrected for moisture, and assays from the daily sample campaign are used to produce the balance. All samples are assayed in accordance with typical assay standards and a QA/QC program is in place to ensure the integrity of the assay lab processes. The main components used to calculate the daily balance are the thickener underflow solids and solution, the weight of gravity gold collected, the estimated grade and moisture content of the gravity gold collected, and the tailings sample solids and solution. The daily metallurgical balance is a best estimate of daily production which must then be reconciled with the circuit inventory and bullion poured (this reconciliation is performed on a monthly basis). All areas of the circuit are sampled for tank level, percent solids, solids grade, solutions grade, carbon concentrations and grade (where applicable). As the carbon contains the majority of the gold in inventory, strict care is taken to ensure sampling is performed correctly.

The final clean out of the electro-winning cell is completed by the refiner or his designate, under security control. All sludge is collected and dried. The washed cathodes from the cells are weighed and the weights are recorded to determine whether any plating buildup is occurring. The dried cell sludge and the gravity concentrate collected over the same period are smelted and bullion bars are poured. The bars are stamped and their weights are recorded and verified. Bullion samples are taken and are assayed at the Bell Creek Lab. These sample results are used in the metallurgical balance.

FIGURE 17.1: SIMPLIFIED MILLING PROCESS AND SAMPLING POINTS



17.4 ACTUAL MINERAL PROCESSING RESULTS OF TIMMINS WEST MINE MATERIAL

The actual processing results of Timmins West Mine material during 2015 are shown in Table 17.1.

TABLE 17.1: TIMMINS WEST MINE MATERIAL PROCESSED IN 2015

Ore Type	Tonnes Processed	Grade (grams Au/tonne)	Recovery
Timmins West Mine	1,011,000	4.4	97%

Gold recovery from all Timmins West Mine material has met expectations established by test work completed prior to plant start-up. All material yields a consistent high recovery and consistent grade. The average grind size to achieve these recoveries is a P80 of 75 micron. All reagent consumptions remained at expected levels for the different materials processed. Gravity recovery averaged 25% to 35% through this operational period.

18.0 PROJECT INFRASTRUCTURE

18.1 TIMMINS WEST MINE SITE

The existing surface and underground infrastructure at the TWM site has been described in Item 16.

18.1 BELL CREEK MILL SITE

The existing infrastructure at the Bell Creek Mill site has been described in Item 16.18 (Bell Creek Tailings Facility) and Item 17.0 (Recovery Methods).

19.0 MARKET STUDIES AND CONTRACTS

Markets for the gold produced by the Company are readily available. These are mature, global markets with reputable smelters and refiners located throughout the world. Markets for doré are readily available.

According to the World Gold Council, the average gold price declined from 2012 to 2013 as investors in western markets exited their positions in gold exchange traded funds. Strong demand in jewelry from growing incomes in the emerging markets has continued to provide price support over the year.

The Company has numerous contracts with external third party entities, none of which are considered individually material to the overall economics of the Company.

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

20.1 REGULATORY AND FRAMEWORK

This section provides an overview of the environment related authorizations that are required for the operation of Timmins West Mine. Legislation related to routine operational monitoring, reporting, and notifications is not discussed herein.

20.1.1 Provincial Environmental Assessments

Mining projects, normally being private projects, are generally not subject to the Environmental Assessment Act unless designated. If a project becomes designated, then the project must complete an Individual Environmental Assessment (EA) prior to any permits being issued.

The provincial environmental assessment process is often triggered by specific components of a project rather than the entire project itself.

A Class EA process may apply to the project as a result of approvals under the Ministry of Natural Resources (MNR). Typically, Class EAs are required for work on roads and dikes, roads and water crossings, stream bank rehabilitation work, and related construction including dredging and filling activities. The Class EA must be completed prior to the issuance of the Land Use Permit or Work Permit under the Public Lands Act and the Lakes and Rivers Improvement Act, respectively.

Class EAs may also be triggered for approvals issued by the Ministry of Transportation (MTO) as a result of construction or re-alignment of a provincial highway during the development of a mining project. Some transmission lines and transformer station projects are also subject to review under the Class EA for minor transmission facilities.

20.1.2 Federal Environmental Assessments

The Canadian Environmental Assessment Act (CEAA) applies to mining projects for which the federal government exercises authority on some aspect of the project. For the Timmins West Mine, these regulations are not applicable due to production being under the 4,000 tpd limit.

20.1.3 Provincial Permits

Ministry of Northern Development and Mines

Provincially, the Ministry of Northern Development and Mines (MNDM) is the lead agency for mining projects in Ontario. Mine production triggers requirements under Part VII of the Mining Act. These requirements include notifications, public and First Nations consultation, closure plans and financial assurance. Approval of a closure plan provides rights for the company to proceed under the Mining Act. Mine production is not allowed on unpatented mining claims and public notice is mandatory for mine production.

In October of 2010 the Timmins West Complex filed an approved production closure plan and has since conducted amendments as required to ensure site compliance with Ontario Regulation 240/00.

Ministry of the Environment
The Ministry of the Environment (MOE) issues permits to take, treat and discharge water (both surface and groundwater), and for emissions of noise, dust, and discharge into the atmosphere. The MOE will administer the following permits for the Timmins West Mine Project:

- Wastewater treatment and effluent discharge from the mine process water, including construct and operate tailings impoundment – Ontario Water Resources Act (OWRA).
- Water taking permits – OWRA.
- Industrial Sewage Works Permit – OWRA.
- Solid waste management (waste generator registration) – Ontario Environmental Protection Act (EPA).
- Noise/air emissions – EPA.

Currently, the Timmins West Mine is operating under the following permits issued by the Ontario Ministry of the Environment:

- Permit to Take Water 6841-82UQ75 issued February 22, 2010.
- Environmental Compliance Approval for Sewage Works # 6086-992J6B issued January 16, 2015.
- Certificate of Approval for Air and Noise # 9365-7ZTMES issued February 4, 2010.
- Waste Generator # ON6594555.

Ministry of Natural Resources
The Ministry of Natural Resources (MNR) issues land use permits and work permits under the Public Lands Act and the Lakes and Rivers Improvement Act, respectively. The MNR will administer the following permits for the Timmins West Mine Project:

- Forest Resource License for the cutting of crown owned timber.
- Land use permits for such things as effluent ditches/pipelines, access roads, camps, etc., where the acquisition of crown lands is required – Public Lands Act (PLA).
- Work permits for such things as creek crossings or impoundment structures (dams) Lakes and Rivers Improvement Act (LRIA).

Ministry of Transportation
A private entrance permit was required from the Ministry of Transportation (MTO) for the entrance to the site which connects onto provincial Highway 101 West. This permit was approved in July 2008 and is currently active.

20.1.4 Federal Permits

Environment Canada
Environment Canada (EC) involvement in the permitting process begins with the submission of a production closure plan. At that time, they receive a copy of the plan for information purposes. EC does not usually comment on the production closure plan. When the mine began commercial production the Metal Mining Effluent Regulations (MMER) and Environmental Effect Monitoring came into force. This requires the operation to conduct additional monitoring of the discharge effluent as well as detailed aquatic, benthic, and sediment investigation on the receiver, in this case the Tatachikapika River.

20.2 ENVIRONMENTAL IMPACTS

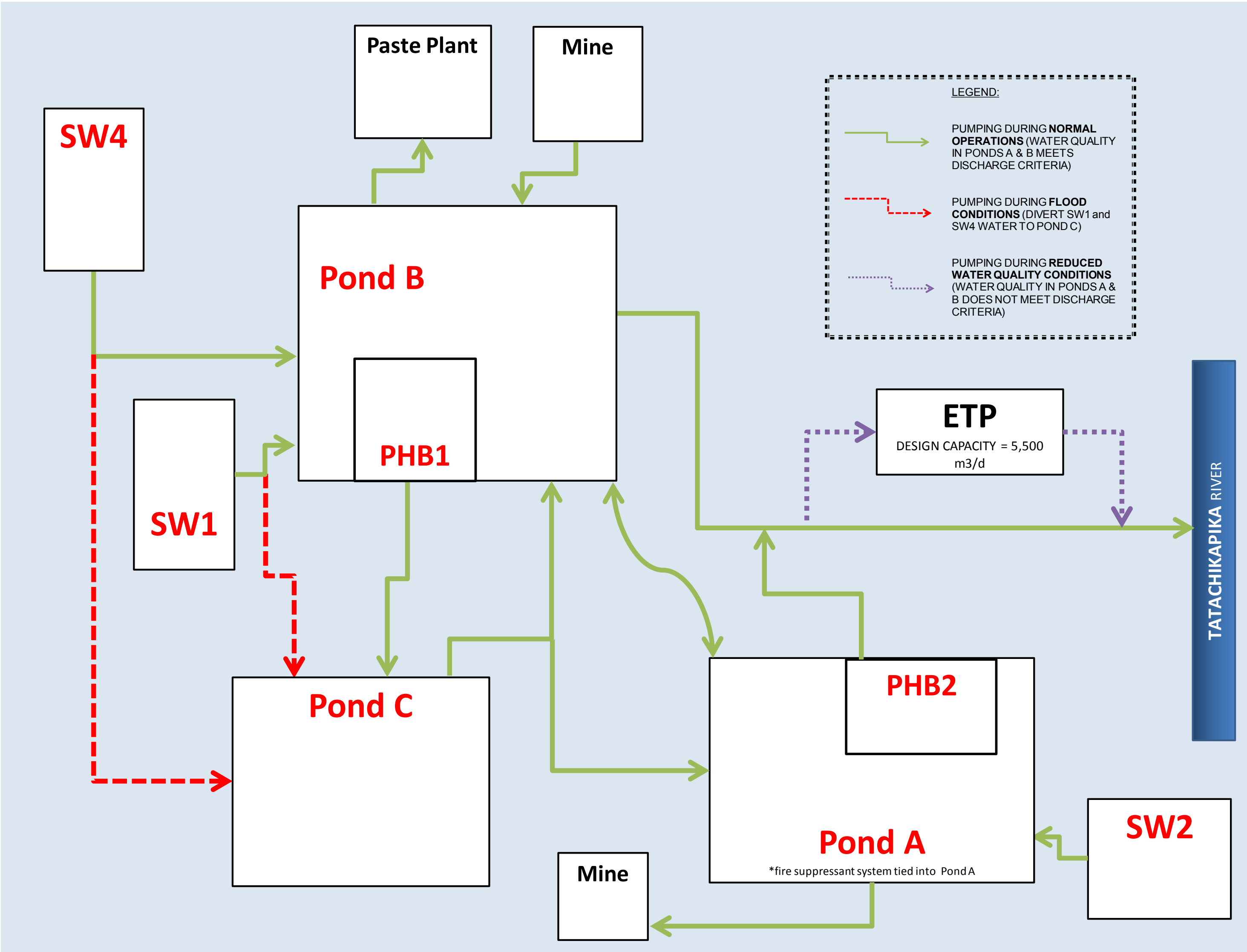
Water management and protection of the cold water systems on and adjacent to the Timmins West Mine site were recognized from the onset of the project as primary environmental concerns. Preliminary design for Timmins West Mine includes the concept of managing rock that can be an acid generating risk within a containment facility and treating runoff in accordance with regulatory requirements before release to the environment. Timmins West Mine is regulated under both provincial and federal legislation.

The waste rock containment pad is designed to receive and contain rock from the underground workings that are identified as potentially acid generating. All runoff from the site waste rock piles is contained within the footprint of the operation and treated through the treatment process prior to discharge to the natural environment. Mine water from the underground workings will also be directed to ponds and treated through the effluent treatment plant (ETP) prior to discharge. The treatment process will ensure that all Environmental Compliance Approval (ECA) criteria are met prior to discharging into the natural environment.

To protect Thunder Creek, and maintain flows within the system, un-impacted storm water is diverted away from Thunder Creek. Storm water is captured and treated prior to discharge to the natural environment.

The development of the mine will create a disturbance footprint on the terrestrial environment. Baseline work did not identify the possibility of provincially or federally listed fauna species on the site that will trigger concern. The Closure Plan will reduce this disturbance area at closure and disturbed areas will be rehabilitated with the intent of returning the site to a productive use (i.e. forestry) resulting in limited long-term impact to the area. The Timmins West Mine water management plan has been summarized in Figure 20.1, and the site plan is shown in Figure 20.2.

FIGURE 20.1: TIMMINS WEST MINE WATER MANAGEMENT PLAN



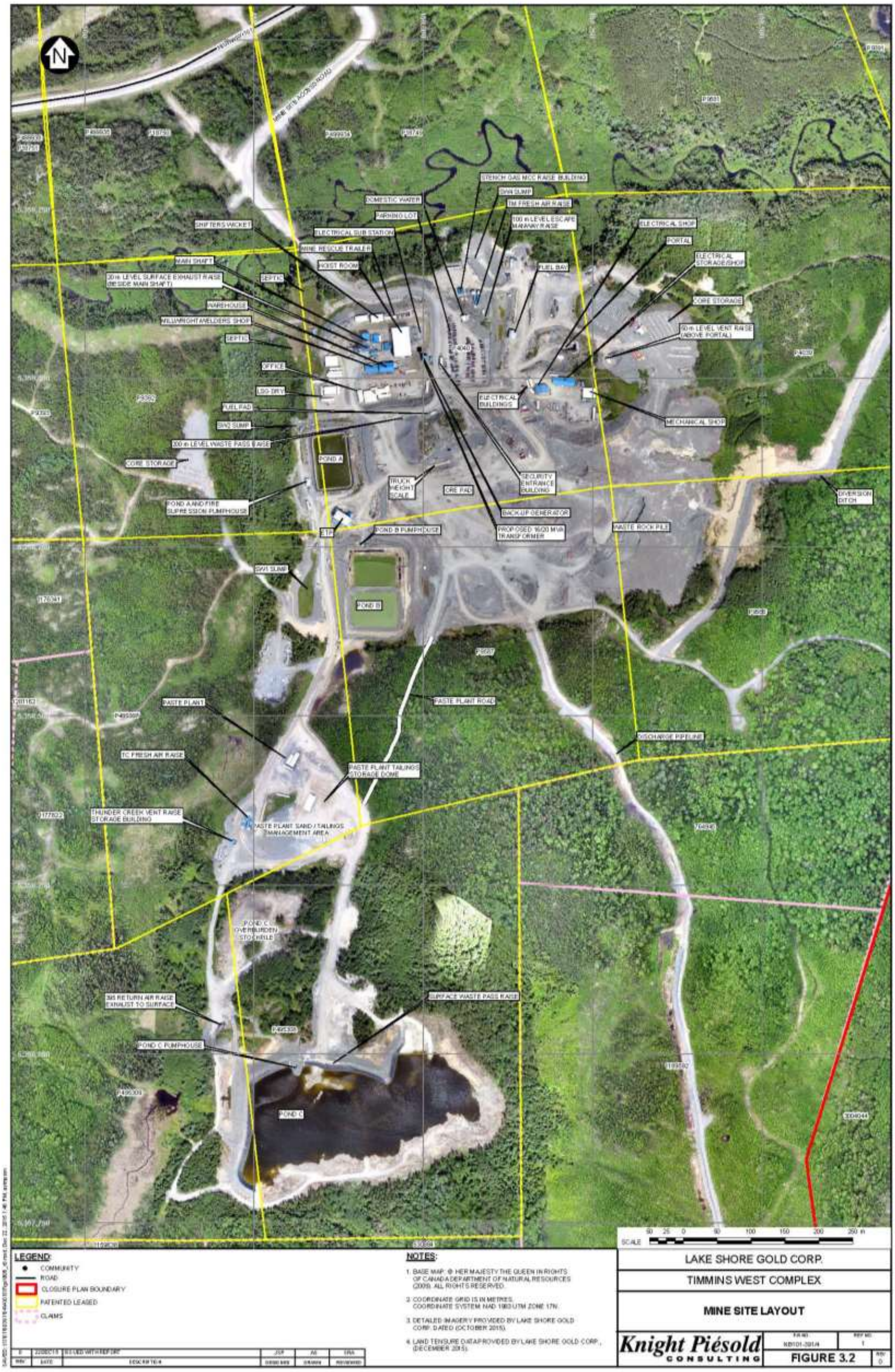
20.3 ENVIRONMENTAL MONITORING PROGRAM

Environmental monitoring will be conducted in accordance with regulatory and due diligence requirements. The monitoring program will be compiled in a Management System. General components of the environmental monitoring program are described in the bullets below.

- Thrice weekly sampling as per the Municipal Industrial Strategy for Abatement (MISA) and Environmental Compliance Approval (ECA) # 6086-992J6B.
- Regular sampling and analyzing of storm water.
- Thrice weekly sampling of water collected from the mine water ponds.
- Semi-annual sampling and analysis of groundwater at the monitoring wells that have been installed at the site.
- Monthly water samples at reference and exposure areas on the Tatachikapika River as well as Thunder Creek as required by ECA # 6086-992J6B.

- Annual updates to air dispersion model as changes are made to infrastructure at the site that discharges to air as required by COA # 9365-7ZTMES.
- Annual calibrations of flow monitoring devices for effluent discharge.
- Assessment of sediment quality, benthic, and fish communities as required through the Metal Mining Effluent Regulation and Environmental Effects Monitoring.
- Recording and reporting of daily flows associated to Permits to Take Water for the underground workings.

FIGURE 20.2: MINE SITE LAYOUT



20.4 HAZARDOUS MATERIALS HANDLING

Currently the ETP houses only Potassium Sulphate required to make a brine solution for the regeneration of zeolite media in the gravity treatment tanks.

Bulk containers of petroleum products are stored in designated areas adjacent to the Maintenance Garage and hoist room. Spill trays are utilized for containment.

Fuel will be stored and handled in accordance with the Liquid Fuels Handling Code. Gasoline and diesel fuel will be stored in the tank farm and in portable, double-hulled tanks that are in accordance with TSSA. Propane is stored in above ground tanks.

There are no PCBs on any Lake Shore Gold properties.

With the exception of silica dust from development rock, there will be no designated substances at Timmins West Mine, as defined in the Occupational Health and Safety Act.

Explosives will be brought to Timmins West Mine on an as-needed basis. If it is necessary to store explosives at Timmins West Mine on surface, storage magazines will be contractor-owned and these will be accessed using existing secondary roads in the vicinity of the site. The storage location will be in accordance with requirements from Natural Resources Canada (i.e. minimum permissible distances, Explosives Act requirements) and the Ministry of Labour (i.e. Occupational Health and Safety Act requirements).

20.5 SPILL AND EMERGENCY RESPONSE PLAN

As part of the Safety and Environment Program, Lake Shore has prepared a Consolidated Spill Prevention Contingency and Response Plan (SPCR) for the Timmins West operations. This document provides a practical guide for preventing, controlling, and responding to spills. It has been prepared using guidelines provided by the Liquid Fuels Handling Code, the Canadian Environmental Protection Act, the Ontario Environmental Protection Act, the North American Emergency Response Guidebook, as well as standardized response procedures from petroleum product suppliers. The SPCR is reviewed annually and updated as required.

20.6 CLOSURE PLANNING

Mine closure is the orderly safe and environmental conversion of an operating mine to a “closed-out” state.

The development of a walk-away, no active management scenario is a primary environmental management goal for this project. The long-term environmental management issues associated with the project have been identified in the Mining Act and relate to ore hoisted to surface, waste rock dumps, open holes to surface and overall construction of permanent structures. Other secondary issues, such as returning the site to a productive use (i.e. forestry) will be accommodated within the context of the Closure Plan.

Should Lake Shore identify and require an area to store rock which poses a metal leaching risk, this will be conducted on the waste-rock containment pad during the life of the mine. Runoff from this low permeability pad will be directed to the containment pond, preventing a release of water with potentially high concentrations of metals. Water from the containment pond will be recycled for use as process water with the excess being treated and released to the environment in accordance with regulatory requirements. However, with the extensive sampling program initiated by the Timmins West Mine facility, the analytical data collected does not identify any potential acid generating or metal leaching issues.

At the conclusion of the mine life, the closeout rehabilitation measures summarized below will be implemented.

- Removal of surface buildings and associated infrastructure.
- Dewatering the ponds by pumping treated effluent through the approved discharge location.
- Breaching of existing ponds to all natural flows and remediated site drainage to their background watersheds.
- Allowing the underground workings to naturally submerge with local groundwater.
- Securing of mine openings in accordance with regulatory requirements.
- Contouring of waste rock.
- Contouring, covering, and re-vegetating disturbed areas using available overburden.

Infrastructure will be removed from the site and any other disturbed areas associated with the project will be re-vegetated, mainly through natural regeneration using seed banks in the overburden stored on site.

20.7 CONSULTATION

Consultation is being undertaken with regulatory agencies, the general public, the Métis Nation of Ontario, Wabun Tribal Council and the First Nation communities of Flying Post First Nation and Mattagami First Nation, who are represented by Wabun Tribal Council. Consultation provides an opportunity to identify and address the impacts of LSG activities on external stakeholders, and to expedite the authorization process.

The consultations have been held in order to comply with LSG corporate policy and the provincial requirements of Ontario Regulation 240/00 and the Environmental Bill of Rights.

An Impact and Benefits Agreement ("IBA") has been negotiated and signed (February 17, 2011). The IBA outlines how Lake Shore Gold Corp. and the First Nations communities will work together in the following areas: education and training of First Nation community members, employment, business and contracting opportunities, financial considerations and environmental provisions.

21.0 CAPITAL AND OPERATING COSTS

The estimated capital and operating costs are presented in 2016 Canadian dollars and have been based on operating experience at the Timmins West Mine (TWM). The costs for 2016 have been developed through the TWM 2016 annual budget exercise and the estimated costs from 2017 through 2019 comprise the remaining life-of-mine (LOM) plan for the reserves.

21.1 CAPITAL COSTS

The remaining LOM capital costs are generally sustaining capital and include the development, infrastructure, construction, equipment purchases/rebuilds, and an allocation of indirect costs required to support ongoing mining and expansion of the mine into new production areas for the LOM operation. The capital costs also include costs at the Bell Creek Milling and Tailings Management facilities. The estimated LOM capital costs are summarized in Table 21.1.

TABLE 21.1: TIMMINS WEST MINE ESTIMATED LOM CAPITAL COSTS

Item	Total ('000s)
TWM Capital	
Environmental Projects	$0.1
Surface Construction Projects	$0.1
Raise Development	$1.4
Underground Construction	$2.4
Service Holes	$0.1
Electrical Related	$1.0
Geology & Diamond Drilling	$5.0
Mobile Equipment	$8.6
Ramp and Lateral Waste Rock Development	$22.9
Indirect Costs Allocated to Capital	$33.9
Subtotal TWM Capital	**$75.5**
Subtotal Bell Creek Mill and Tailings Related Projects	**$7.1**
Total Estimated Capital Costs	**$82.6**

Environmental Projects and Surface Construction Projects
Environmental and surface construction projects projects are related to TWM site water management.

Raise Development
Raise development includes all vertical development to support the mine design (conventional raises and drop raises developed for ventilation, egress, and material handling purposes). Raise development will be completed by qualified mining contractors by either Alimak or Raise Boring methods, or for shorter raises, drop-raising.

The estimated unit cost for raise development has been based on recent experience at the TWM. The unit costs include contractor mobilization and demobilization, and the contractor's indirect fees and profit.

Underground Construction
LSG personnel have planned and estimated the costs associated with certain underground capital construction projects related to the TWM. The costs include expansion of the main trunk of the pastefill system (boreholes and piping) as the mine expands into new production areas. The estimated costs were developed by LSG operations and projects personnel with experience in the area, and have been based on operating experience and/or interaction with vendors/contractors.

Electrical Related
Capital costs related to electrical infrastructure include additional underground substations in expanded areas of the mine.

Geology and Diamond Drilling
Diamond drilling and related labour and consumables for drilling Inferred resource (for potential conversion to Indicated) has been included in the capital costs.

Mobile Equipment
The capital costs related to mobile equipment includes purchase /rental of equipment to replace current fleet, rebuilds to current fleet, and any equipment leases.

Ramp and Lateral Waste Development
Ramp and lateral waste development quantities have been based on 3D mine design drawings prepared for the Timmins Deposit and Thunder Creek. Each production level in the mine will be accessed by the ramp system. Lateral development will include the initial sublevel access and ancillary development (sumps, electrical substations, ventilation raise access, etc.), any footwall haulage drifts and the waste portion of access to the stopes (i.e. drawpoints).

The estimated unit cost for ramp and lateral development has been developed from TWM operating experience using current labour rates (including wages and overhead), estimated mobile equipment operating costs, consumable materials quantities and costs, services materials, and anticipated productivities. The costs include haulage of the waste rock.

Indirect Costs Allocated to Capital
Indirect costs include supervision labour, maintenance labour, mine services/construction labour, auxiliary mobile equipment operation/maintenance, power, propane, surface facilities operation/ maintenance, and hoisting plant operation/maintenance. A portion of indirect costs has been allocated to capital based on the percentage of tonnage resulting from capital development activities (including ramp, lateral, and raising), versus overall tonnes mined.

Bell Creek Mill Related
LSG personnel have identified and estimated the costs associated with mill site related initiatives at the Bell Creek Mill and tailings facilities. The estimated costs were developed by LSG operations and projects personnel with experience in the area, and have been based on operating experience and/or interaction with vendors/contractors.

21.2 OPERATING COSTS

The LOM operating costs will include both direct and indirect costs. The costs have been based on LSG's operating experience at the TWM from 2011 through 2015.

Direct operating costs include waste development to access specific stopes, ore sill development, and stope production activities. All costs not directly related to mine construction, development, and production activities, have been included in the indirect operating costs.

The operating costs are summarized in Table 21.2.

TABLE 21.2: OPERATING COST SUMMARY

Item	Total (millions)
Surface General and Administration	$29.2
Ammonia Treatment Plant	$0.1
Power, Propane, Diesel Fuel	$27.5
Hoist Plant related Labour and Maintenance	$4.3
General Equipment Operation and Maintenance	$27.4
Geology and Diamond Drilling	$6.3
Ore Silling and Waste Rock Development	$20.7
Stope Production	$32.0
Backfill	$32.9
Other Underground Indirects	$23.9
Administration Allocation to TWM	$5.5
Surface Truck Haul to Bell Creek Mill	$21.0
Milling at Bell Creek Mill	$65.2
Total Operating Costs	**$296.0**

LSG Budgeted 2016 Operating Costs

LSG has prepared a 2016 budget and operating plan for the TWM. The operating plan includes the estimated direct and indirect operating costs to achieve production targets. This budget has been based on experiences gained through commercial production from 2011 through 2015 and evaluation of LOM mining requirements.

Surface General and Administration

Surface General and administration costs (GA) include:

- Site management (managers, superintendents, and support staff).
- Health and safety, mine rescue, engineering and environment, and surface support labour. The costs also include consumable materials for daily operations and training.
- Security personnel, insurance, rentals, laundry services, freight, etc.
- First Nations related.

Ammonia Treatment Plant

Costs related to the operation of the Ammonia Treatment Plant (ATP).

Power, Propane, and Diesel Fuel
Costs related to power, propane, and diesel fuel.

Hoist Plant Related Labour and Maintenance
Wages and overhead costs related to hoistpersons and hoist maintenance personnel.

General Equipment Operation and Maintenance
Costs related to operation and maintenance of mobile and fixed plant equipment. The costs include mobile equipment maintenance labour.

Geology and Diamond Drilling
All labour, equipment operating/maintenance, consumables, and assaying/sampling related to mine geology.

Ore Silling and Waste Rock Development
The direct costs related to waste and ore sill development including:

- Direct labour.
- Drilling consumables (drill steel, bits, hammers, etc.).
- Explosives.
- Ground support supplies.
- Direct equipment operating costs (fuel and lubricants, tires, and spare parts) for the jumbo, scissor lift, mechanical bolter, and LHD.
- Services material and installation including pipe and ventilation duct.
- Miscellaneous materials required to support development activities.

Stope Production
The direct costs related to longhole and Mechanized Cut-and-Fill (MCAF) stoping including labour and consumable materials.

Backfill
The operating costs related to the pastefill plant and underground distribution system as well as use of rockfill.

Other Underground Indirect Costs
Other underground indirect costs include supervision and support worker (underground labourers, construction, electrical, and shaft personnel) wages and overhead costs, material movement (ore, waste, and consumables), shaft operations, and general underground maintenance.

Administration Allocation to TWM
Administration includes off-site personnel providing purchasing, contracts, human resources, and accounting support to the operation.

Surface Ore Haulage and Milling
Surface ore haulage costs from TWM to the Bell Creek Mill have been based on actual experience at the mine. A hauling contract is currently in place with a local contractor. Bell Creek milling costs have been estimated based on actual milling cost experience.

22.0 ECONOMIC ANALYSIS

Lake Shore Gold Corp. (LSG) is a producing issuer as defined by NI 43-101.

The TWM is currently in production and this technical report does not include a material expansion of current production. An economic analysis has been excluded from this technical report.

23.0 ADJACENT PROPERTIES

23.1 GENERAL STATEMENT ABOUT ADJACENT PROPERTIES

The TWM is surrounded and contiguous with other LSG properties. In the immediate area of the TWM there is only one advanced project, Explor Resources Inc.'s Timmins Porcupine West Property.

The mineralized zones of the TWM within Bristol Township are situated between 20 to 38 kilometres southwest of the historical producing and past producing gold mines of the Porcupine Gold Camp. Table 23.1 summarizes the distance from the TWM headframe to a selected list of mines within the Timmins area.

TABLE 23.1: DISTANCE FROM THE TIMMINS WEST MINE HEADFRAME TO SIGNIFICANT TIMMINS AREA MINING LANDMARKS

Mine	Distance (kilometres)	General Direction
Kidd Creek Mine	36.7	north-northeast
Hoyle Pond Mine	37.2	north-northeast
Dome Mine	24.8	northeast
McIntyre Mine	22.1	north-northeast
Hollinger Mine	20.4	north-northeast
Bell Creek Mine Complex	33.7	north-northeast
Gold River Project	3.5	south-southeast

23.2 PELANGIO EXPLORATION INC. – POIRIER OPTION – BRISTOL TOWNSHIP

Two staked mineral claims with an area of 64 hectares are situated between the Meunier-144 and Timmins Mine properties and to the north of the Thunder Creek portion of the TWM property. Identified collectively as the 'Poirier Gold Property', Pelangio Exploration Inc. ("Pelangio") reports it is currently in the process of converting these claims to leases. The claims are underlain by mafic metavolcanic rocks belonging to the Tisdale Assemblage. The MDI does not describe or locate a mineral occurrence on this property. On the company website, Pelangio reports having completed prospecting and an MMI soil geochemical survey. The website states quartz veining and sulphides were noted on the property during this exploration work but locations and sample results are not available.

23.3 TIMMINS FOREST PRODUCTS LIMITED – FORMER WEST TIMMINS GOLD PROJECT – CARSCALLEN TOWNSHIP

The property consists of nine freehold patent claims covering an area of approximately 118 hectares in Carscallen Township, located approximately 4 kilometres west of the Timmins Mine headframe. Timmins Forest Products Limited currently holds both mining and surface rights to the property with no known exploration activities being carried out.

The western portion of the claim group is underlain by mafic to intermediate metavolcanics belonging to the Deloro Assemblage rocks. The central portion of the claims are underlain by felsic to intermediate metavolcanic rocks belonging to the Kidd-Munro Upper Assemblage, and the southeastern portion of the claim group contains Tisdale Assemblage mafic metavolcanic rocks.

The MDI does not locate a mineral occurrence on this property.

A brief history of recent exploration activities on the property is summarized as follows:

- Newcastle Minerals Ltd. ("Newcastle") optioned the patents from Timmins Forest Products Limited in 2009.
- In May 2010, SGX Resources Inc. ("SGX") entered into an agreement with Newcastle to acquire an option to earn 75% interest in the property.
- In December 2010, SGX declared that they would not exercise their option.
- In September 2011, Newcastle released a NI 43-101 report ("Technical Report on the West Timmins Gold Project, Carscallen Township, Porcupine Mining District, Ontario", authored by D.C. Leroux (P. Geo.) of A.C.A. Howe International Ltd., September 26, 2011).
- In December 2011, NY85 Capital Inc. ("NY85") entered into an agreement with Newcastle to acquire an option to earn 60% interest in the property.
- In July 2012, Newcastle announced that a drill program, operated by NY85, was initiated on the property. No results or follow-up work were reported.
- In January 2013, GoldON Resources Ltd. ("GoldON", formerly Newcastle) terminated its option to purchase the patent claims.
- Work completed by GoldON is summarized below in Table 23.2.

TABLE 23.2: SUMMARY OF WORK COMPLETED BY GOLDON RESOURCES LIMITED (FORMERLY NEWCASTLE MINERALS LIMITED)

Year	Survey Type	Comments
2010	Total field magnetic response	13.7 kilometres
	Induced polarization and resistivity	13.7 kilometres
	MMI soil geochemistry	72 samples from 7 lines
	7 BQ (35 mm diameter) diamond drill holes	1,516 metres
	Core samples for gold analysis	420 samples
2011	9 BQ diamond drill holes	2,032 metres
	Core samples for gold analysis	817 samples

23.4 RICHMONT MINES INC. – CRIPPLE CREEK PROPERTY – DENTON TOWNSHIP

The northeast corner of the Cripple Creek property, which consists of 26 staked claims (43 claim units) covering an approximate area of 688 hectares, is approximately 5 kilometres southwest of the TWM headframe. Richmont Mines Inc. ("Richmont") acquired the project in 2002 and explored the property until 2005. Exploration activities resumed in 2010, with Richmont reporting they completed a two phase diamond drill program totaling 7,523 metres in 17 holes. Plans were announced for a third phase of drilling (3,500 metres) in 2011 but no results were ever reported. No resource estimate has been released for this property.

The Ontario Mineral Deposits Inventory indicates four occurrences are located within the property. Gold was first discovered in the 1950s by R.E. Halpenny, with that showing bearing his name (also known as Mahoney Creek-1984, MDI42A05SE00005). The local stratigraphy, as it is currently understood, is composed of a series of intercalated mafic and ultramafic metavolcanic flow units belonging to the Tisdale Assemblage. Gold-bearing quartz-carbonate veins occur within alteration zones at the mafic-ultramafic metavolcanic contact as well as in strained sections of the mafic metavolcanics.

Since the discovery of gold on the property, the following companies have tested the property by means of diamond drilling, stripping, trenching overburden sampling, geophysical and geochemical surveys: Hollinger Consolidated Gold Mines Limited, Gambit Exploration, Gowest Amalgamated Resources Limited, Noranda Exploration Company Limited, Hemlo Gold Mines Inc., and Battle Mountain Gold. Three gold-bearing areas have been identified: MDI42A05SE00056, the Cripple Creek Zone 16 referenced to Battle Mountain's drill collar cc96-16; MDI42A05SE00057, the Cripple Creek Zone 17 also referenced to as Battle Mountain drill collar cc96-17; MDI42A05SE00058, the Mahoney Creek Zone reference with Hemlo Gold drill collar cc93-1.

23.5 EXPLOR RESOURCES INC. – TIMMINS PORCUPINE WEST (ONTARIO) PROPERTY – BRISTOL AND OGDEN TOWNSHIPS

Explor Resources Inc. ("Explor") has 120 claims (204 claim units) totaling 3,264 hectares registered to their name in the area of the Timmins Porcupine West Project located in Bristol and Ogden Townships. The southwest corner of the claim group is situated approximately 4 kilometres from the TWM headframe. The 2010 provincial mineral deposits inventory locates nine mineral occurrences adjacent to the claim line or within the property boundary. These gold mineral occurrences are:

MDI42A06NW00055 – Mineral Estates Ltd (Waterhen Group) – 1930 (also known as: Torburn ddh no 2 – 1931; P. Hubert Claim P8504 – 1911; Hulcano Porcupine – 1946)
MDI42A06NW00195 – Cominco DDH BR-87-1 – 1987
MDI42A06NW00196 – Placer Dome DDH 246-10 -1985; (also known as: Cameco South Zone – 2002 and Cameco DDH BRS02-19-2002)
MDI42A06NW00197 – Cameco DDH BRS02-12 – 2002; (also known as: Cameco SW Zone – 2002)
MdI42A06NW00198 – Hoyle Mining DDH No. 1 – 1945; (also known as: Cameco DDH BRS02-14 – 2002)
MDI42A06NW00199 – Cameco Main Zone – 2002; (also known as: Bristol Project – 1998, and Placer Dome Project 246 – 1985)
MDI42A06NW00200 – Cameco DDH BRS02- 16 – 2002, or Cameco East Zone – 2002
MDI42A06NW00208 – Hollinger DDH B.O. # 3 – 1959
MDI42A05NE00024 – Foley-Obrien Claim 15462 – 1928 or the Wright Ventures Group – 1939

Cameco Gold Inc. geologists Babin, Samson, and Koziol (2002) describe the property geology as follows: "The property geology is marked by a southwest striking package of sediments which are bounded to the north by mafic volcanics and intruded in the central part of the property by a variably altered quartz-feldspar-porphyritic intrusion. The margins of the main porphyry body consist of porphyry dyke swarms of similar composition intruding the sediments. Recent age dating suggests that the mafic volcanic rocks on the north side of the property belong to the Tisdale Group (Ayers et al, 1999). The sediments consist of moderately chloritic interbedded sandstones and ±argillaceous mudstones, exhibiting well defined Bouma sequences away from the porphyry. The sandstone beds are more massive, crudely bedded and contain an appreciable percentage of quartz grains and granule size siliceous clasts. Some sediment horizons close or in contact with the porphyry contain up to 70% variably altered and deformed, granule to cobble size porphyry clasts similar to the main porphyry intrusion, surrounded by a sandstone matrix. The mafic volcanic/sediment contact is marked by graphitic argillite and interpreted to dip north based on limited drill hole information in that area of the property. Because of its generally coarse nature and composition (rich in quartz grains and siliceous clasts), the sediment package is interpreted to be transitional unit between the Krist formation and the Porcupine Group sediments described in the

Timmins area stratigraphy. Numerous late north-northwest trending diabase dykes of variable width crosscut all units."

Langton et al. (2012) describe the property as marked by a southwest striking series of steeply north-dipping faults and zones of high-strain (shear zones) that parallel a moderate to strong foliation present in all the rocks except the diabase dykes. Quartz-feldspar porphyry intrudes the central part of the property and is itself intruded by a smaller, linear syenite body. The quartz-feldspar porphyry (QFP) is locally strongly altered by sericitic, chloritic, and carbonaceous alteration, and local silicification, where it is transected by high-strain zones.

The mineralization is hosted within a series of strongly foliated, parallel structural zones interpreted to be striking southwest and dipping about 70 degrees northwest. Gold values are spatially associated with disseminated, fine-to-coarse grained subhedral pyrite. Chloritized bands of pyrite, chalcopyrite, and red sphalerite are locally cored by quartz-carbonate veins, which have been subsequently boudinaged. Not all pyrite is associated with gold mineralization. Visible gold has been noted as free grains in chlorite, in quartz-carbonate veins, and as inclusions in pyrite and chalcopyrite (but not with sphalerite).

The area south and southwest of the QFP hosts several gold-anomalous zones associated with pyrite-pyrrhotite-red sphalerite stringers. This gold and zinc anomalous mineralization is distinct from the main pyrite-chalcopyrite mineralization seen in the central part of the main porphyry.

The chlorite alteration overprints the (earlier) sericite alteration, and late, quartz-chlorite-hematite-tourmaline veinlet stockworks locally crosscut the QFP, but there is no apparent correlation between the veinlets and gold. Where the QFP is less deformed and sericitized the feldspar phenocrysts are preferentially epiditized, and the rock is generally more siliceous, highly fractured and blocky.

Explor filed an updated NI 43-101 Technical Report in September 2013. The report has an effective date of July 1, 2013 and states an open pit resource of 4,283,000 tonnes grading at 1.6 g/t Au (213,000 oz Au) of Indicated and 1,140,000 tonnes grading at 2.1 g/t Au (77,000 oz Au) of Inferred Resource. The deposit also contains an underground component containing 4,420,000 tonnes grading at 2.8 g/t Au (396,000 oz Au) of Indicated and 5,185,000 tonnes grading at 2.4 g/t Au (393,000 oz Au) of Inferred Resource.

In December 2014, Teck Resources Ltd. ("Teck") entered into a joint venture with Explor, with the option to earn up to a 70% interest in the Timmins Porcupine West property. In October 2015, Explor announced that a diamond drill program had been initiated by Teck. The proposed program initially consisted of 3,600 metres in 4 holes, targeting the sparsely drilled gap between the West Deep and Porphyry Zones, along with one step-out hole in the high grade West Deep Zone. The possibility of completing an additional 1,400 metres (for a total of 5,000 metres) was also announced if encouraging results were returned from the first phase of drilling. No results or follow-up work were reported.

24.0 OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

An updated resource estimate has been completed for the Timmins West Mine using new information from drilling, development, and mining.

The Timmins West Mine Resource totals 5.77 Mt at 4.87 gpt Au, amounting to 903,400 ounces of gold in the Indicated category and 2.67 Mt at 5.00 gpt Au amounting to 429,300 ounces of gold in the Inferred category. These sums reflect the combined resources contained within the Timmins Deposit, Thunder Creek Deposit and the recently discovered 144 Gap Deposit.

The base case resources are reported at a 1.5 g/t Au cut-off for both the Timmins Deposit and the Thunder Creek Deposit, which includes internal dilution to maintain zone continuity. A cut-off grade of 2.6 g/t is used for the 144 Gap Deposit. It should be noted that the 144 Gap Deposit is a new discovery and resources reported here constitute an initial resource estimate. A comparision of the 2014 and 2015 resource estimates is summarized in Table 25.1.

TABLE 25.1: COMPARISON OF 2014 AND 2015 RESOURCE ESTIMATES

Resource above cut-off Grade (COG)	2014 YEAR END			2015 YEAR END			Variance in oz	Var %
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces		
Timmins Deposit @ 1.5 g/t COG*								
Indicated	1,843,000	5.04	298,400	1,816,000	5.08	296,000	-2,400	-1%
Inferred	1,354,000	5.18	225,400	606,000	4.75	92,600	-132,800	-59%
Thunder Creek @ 1.5 g/t COG**								
Indicated	2,696,000	4.56	396,200	2,225,000	4.27	305,700	-90,500	-23%
Inferred	277,000	3.90	34,200	151,000	3.62	17,500	-16,700	-49%
144 Gap Deposit @ 2.6 g/t COG								
Indicated				1,734,000	5.41	301,700	301,700	
Inferred				1,914,000	5.19	319,200	319,200	
Total Timmins West Mine								
Indicated	4,539,000	4.76	694,600	5,775,000	4.87	903,400	208,800	30%
Inferred	1,631,000	4.95	259,600	2,671,000	5.00	429,300	169,700	65%

* Includes Timmins Deposit Broken Ore + Stockpile

** Includes Thunder Creek Deposit Broken Ore + Stockpile

1. *Mineral resource estimates have been classified according to CIM Definitions and Guidelines.*
2. *Mineral resources are reported inclusive of reserves.*
3. *Mineral resources incorporate a minimum cut-off grade of 1.5 grams per tonne gold for the Timmins and Thunder Creek Deposit and 2.6 grams per tonne gold for the Highway-144 Deposit.*
4. *Cut-off grade is determined using a weighted average gold price of US$1,100 per ounce and an exchange rate of $0.90 $US/$CAD.*
5. *Cut-off grades assume mining, G&A and trucking costs of up to $74 per tonne and/or processing costs of up to $22 per tonne. Assumed metallurgical recoveries are 97.0%.*
6. *Mineral resources have been estimated using Inverse Distance Squared estimation method and gold grades which have been capped between 20 and 120 grams per tonne based on statistical analysis of each zone.*
7. *Assumed minimum mining width is two metres.*
8. *The mineral resources were prepared under the supervision of, and verified by, Eric Kallio, P.Geo., Senior Vice-President, Exploration, Lake Shore Gold Corp., who is a qualified person under NI 43-101 and an employee of Lake Shore Gold.*
9. *Tonnes information is rounded to the nearest thousand and gold ounces to the nearest one hundred. As a result, totals may not add exactly due to rounding.*

The bulk of the resource increase is due to the addition of the new 144 Gap Deposit resource. This accounts for an additional 301,700 ounces in the Indicated and 319,200 ounces in the inferred category.

Indicated resource at the Timmins Deposit remain largely unchanged while inferred resources show a decrease of 132,800 ounces due mainly to conversion of inferred resources to indicated through additional diamond drilling.

Indicated resources at the Thunder Creek deposit have decreased due to mining production. Due to the small inferred resource of only 34,200 ounces at year end 2014 it was not possible to offset the decrease in Indicated resources through the conversion of Inferred resources for the Thunder Creek Deposit.

Sensitivities to cut-off were run at 1.0 gpt increments of gold grade from 1.00 gpt to 5.00 gpt. Continuity at levels at and below a 2.6 gpt cut off grade is reasonable but sharply reduced at higher levels which implies the stated resources may be difficult to achieve these without a very selective mining approach or incorporating a significant amount of internal dilution.

A review by SGS Canada was conducted in order to verify certain aspects of the resource estimate for the Timmins Deposit, Thunder Creek Deposit, and 144 Gap Deposit including validation of the database integrity, parameters used in defining zones, statistical analysis, grade capping, search ellipse dimension and orientations, and degree of smoothing.

Based on the review of the resource estimate, SGS suggests that some further work could be done to evaluate capping of high grades and the use of more flattened search ellipsoids to reduce the local artifacts in the grade model caused by drilling orientation but concludes that "No significant anomalies were identified during this review and we have no reason to expect any bias or error in the overall estimate for this deposit."

Subsequent to the closing of the Timmins Mine and Thunder Creek databases, additional drilling was completed. This drilling is not likely to have a significant effect on the overall resource reported.

The mine design used for the updated reserve estimate has been based on existing surface and underground infrastructure, and operating experience gained since commercial production commenced. The majority of the main mine infrastructure (surface and underground) is in place, most equipment has been purchased, and the Bell Creek Mill expansion has been completed to meet current production requirements. TWM successfully uses the longhole mining method which is commonly used worldwide for deposits with similar geometry and conditions. The operation also uses common, proven mining equipment and has experienced management and mine operations personnel. The Timmins area has a significant, well-established mining service/supply industry to support the operation.

Through years of operating experience, TWM has implemented the systems and programs (i.e. health and safety, environment, training, maintenance, operating procedures, etc.) necessary to sustain production. This experience has also provided a solid basis for estimating the capital and operating costs used in preparation of the LOM plan.

To estimate the reserves, the following steps (summarized at a high-level) were used by mine planning personnel. The Indicated Resources were isolated (from Inferred material) from the resource models and assessments were made of the geometry and continuity of each of the mineralized zones. Ongoing geotechnical evaluations were taken into account in the assessment and assignment of appropriate mining methods and stope sizes. Individual stope designs (wireframes) were then created in three dimensions. These stope wireframes were queried against the block models to determine the in-situ resource. This allowed for fair inclusion of internal dilution from both low grade and barren material. Additional factors were assigned for external dilution (with or without grade) dependent on the specific mining method and geometry of each stoping unit being evaluated. Finally, a recovery factor was assigned to the overall reserves to allow for in-stope and mining process losses. Stope cut-off grades were estimated to determine which stopes to include in the reserves. Detailed mine development layouts and construction activities were assigned to provide access to each of the stoping units. A detailed LOM development and production schedule was prepared to estimate the annual tonnes, average grade, and ounces mined to surface. Development, construction, and production costs were estimated to allow an economic assessment to be made comparing the capital and operating expenses required for each area to the expected revenue stream to ensure economic viability.

It should be noted that all capital costs required for all surface and underground facilities at TWM and the Bell Creek Mill facility have been included in the LOM plan. It should also be noted that no contributions from the Bell Creek mining operations (positive or negative) have been considered.

Key outcomes of the LOM plan include an updated reserves estimate of approximately 2.9 million tonnes grading grading 4.2 g/t (approximately 391,800 ounces) delivered to the mill. The reserves support a mining plan at a production rate of approximately 2,680 tonnes per day during 2016 and 2017 and reduce to approximately 2,175 tonnes per day in 2018, before ramping down and ending in Q2 2019. The reserves can be extracted at an estimated average operating cost of $102.2 per tonne with estimated sustaining capital costs of approximately $82.6 million.

Risks

The resource base for the engineering and cost estimates used to develop the LOM plan to support the updated reserve statement in this report includes material in the Indicated Resource category only.

The realized grade in any mining plan has the greatest impact on financial returns. Ongoing diamond drilling programs are planned and will need to be funded to reduce this risk going forward.

Gold prices are subject to significant fluctuation and are affected by a number of factors which are beyond the control of LSG. Lower than predicted gold prices could increase the stope cut-off grade and reduce the reserves.

Currency fluctuations are also affected by factors which are beyond the control of LSG. Stronger than predicted Canadian dollar (versus the US dollar) could increase the stope cut-off grade and reduce the reserves.

Operating and capital costs determined as the basis for estimating the reserves have been based on actual performance metrics of the operation in 2011 through to 2015. These factors are considered low risk elements and have intrinsically less impact on financial returns.

Social, political, and environmental factors are all considered to be low risk factors for the Timmins West Mine.

26.0 RECOMMENDATIONS

Based on recent work to complete the resource update the following recommendations are made for resource estimation and resource development:

1. Continue to evaluate alternate estimation methods such as ordinary or indicator kriging to assess whether they provide any improvements for grade estimation on a local scale.
2. Evalaute the use of spherical search ellipsoids for certain zones at the Highway 144 Gap Deposit in order to reduce artifacts in grade estimation caused by a drill hole orientations.
3. Complete some additional studies to evaluate capping levels for various zones at the 144 Gap Deposit.
4. Collect some additional specific gravity data for mineralized zones. Work to date suggests that all three of the deposits at the Timmins West Mine have a variety of rock types and that the SG within the rock types can vary considerably so more data would be beneficial for resource estimates.
5. Implement definition and exploration drilling to refine shapes and grades for existing resources and to expand the overall resource base for the future. Review this program on an annual basis. Proposed definition and exploration drilling for each deposit in 2016 is provided below:

26.1 PROPOSED DEFINITION DRILLING FOR 2016

Timmins Deposit

Total budget $3,756,000, total 44,250 metre of drilling at average cost of $84.89/m

1. Delineation on FW and Ultramafic Zones between 1030m and 1230m levels – 27,000 m.
2. Delineation on flat lying D2 and UM12 Zones around the 1030m level for the 2016 mine plan – 4,275 m.
3. Delineation on upper Timmins Mine between 420m and 390m levels – 6,750 m.
4. Short length “Bazooka” drill holes to test the mineralized walls of drifts where irregular thicknesses and geometries of ore sometimes occur – 3,225 m.
5. Miscellaneous drilling to allow for unplanned drill programs stemming from changes in stope sequencing, unexpected intersections of mineralization in development, etc. – 3,000 m.

Thunder Creek

Total budget $3,244,000, total 38,210 metres of drilling at average cost of $84.89/m

1. Delineation on Porphyry and Rusk Zones between 485m and 380m levels – 19,000 m.
2. Delineation on Porphyry and Rusk Zones between 850m and 785m level for 2016 mine plan – 8,000 m.
3. Delineation on Porphyry and Rusk Zones between the 900m and 850m level – 5,250 m.
4. Short length “Bazooka” drill holes to test the mineralized walls of drifts where irregular thicknesses and geometries of ore sometimes occur – 3,560 m.
5. Miscellaneous drilling to allow for unplanned drill programs stemming from changes in stope sequencing, unexpected intersections of mineralization in development – 2,400 m.

144 Gap Deposit

Total budget $3,900,000, total 46,000 metres of drilling at average cost of $84.78/m

1. Delineation on resource between 750m and 855m level.

26.2 PROPOSED EXPLORATION DRILLING FOR 2016

Underground Exploration

Total budget $600,000, total 5,600 metres of drilling at an average cost of $107.14/m

1. Target the largely untested Thunder Creek Stock which occurs between the Thunder Creek and 144 Gap Deposits to the southeast of the 144 Trend. This drilling would serve as follow-up to the 2015 campaign.
2. Target the high strain zone (possible southwest extension of the Rusk Shear Zone) between the Thunder Creek and 144 Gap Deposits, to the north of the 144 Ramp.

Surface Exploration

Total budget $900,000, total 7,000 metres of drilling at an average cost of $128.57/m.

Drill meters to be subdivided between targets on a priority basis.

1. Test the top of the 144 Gap Deposit where infill surface drilling in late 2015 intersected mineralization that is open up-dip. These intersections include HWY-12-40W1 (4.73gpt/7.3m and 3.68gpt/2.9m), HWY-15-86W6 (5.43gpt/3.2m and 3.33gpt/3.5m), and HWY-15-75W3 (4.15gpt/7.3m) at the 585m, 600m, and 660m levels, respectively. These intersections cannot be reached from underground platforms.
2. Follow-up on significant surface intersections from the 144 North and South Zones, located between 0.5-1.6 kilometers southwest of the 144 Gap Zone. These include HWY-15-142 (3.11gpt/19.1m and 5.38gpt/3.6m), HWY-15-142W2 (4.27/7.3m), and HWY-15-153W1 (3.44gpt/3.0m, 4.67gpt/4.0m, and 6.43gpt/2.0m) near the 800m level. All holes intersected significant thicknesses of variably altered and mineralized syenitic intrusive rocks.

27.0 REFERENCES

27.1 REPORTS AND SCHEDULES

Accurassay Laboratories Ltd., 2011; Schedule of Services and Fees

ALS Laboratory Group, 2009 (CAD); Schedule of Services and Fees, ALS Minerals.

ALS Laboratory Group, 2011 (CAD); Schedule of Services and Fees, ALS Minerals.

Anglin, C. D., 1992; Sm-Nd and Sr Isotope Studies of Scheelite from some Superior Province Gold Deposits; a thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Doctor of Philosophy, Ottawa-Carleton Geoscience Centre and Department of Earth Science, Carleton University, Ottawa, Ontario.

Ayer, J., Berger, B., Johns, G., Trowell, N., Born, P., Mueller, W.U., 1999; Late Archean Rock Types and Controls On Gold Mineralization In The Southern Abitibi Greenstone Belt Of Ontario; Field Trip B3 Guidebook, Geological Association of Canada (GAC), Mineralogical Association of Canada (MAC), Joint Annual Meeting, 1999, Sudbury, Ontario, Canada.

Ayer, J.A., Baker, C.L., Kelly, R.I., Stott, G.M., Thurston, P.C., 1999; Summary of Field Work and Other Activities 1999; Ontario Geological Survey, Open File Report 6000, Queen’s Printer of Ontario.

Ayer, J.A., Trowell, N.F., Madon, Z., Kamo, S., Compilation of the Abitibi Greenstone Belt in the Timmins-Kirkland Lake Area; revision to stratigraphy and new geochronological results; p. (4) 1-14.

Ayer, J.A., Dubé, B., Trowell, N.F. 2009; NE Ontario Mines and Minerals Symposium, PowerPoint Presentation: Stratigraphic and Metallogenic Comparison of the Detour Burntbush area with the Southern Abitibi.

Ayer, J., Trowell, N., (OGS); Amelin, Y., Kamo, S. and Kwok, Y., (ROM), 2000; PowerPoint Presentation: Deep Crustal Structures in the Abitibi Greenstone Belt and their Prolonged Control on the Distribution of Stratigraphy and Mineral Deposits; Toronto, January 2000.

Ayer, J., Barr, E., Bleeker, W., Creaser, R.A., Hall, G., Ketchum, J.W.F., Powers, D., Salier, B., Still, A., Trowell, N.F, 2003; Discovery Abitibi, new geochronology results from the Timmins Area: Implications for the Timing of Late-Tectonic Stratigraphy, Magmatism and Gold Mineralization. Summary of field work and other activities, Ontario Geological Survey, Open File Report 6120, p. 33-1 to 33-11.

Ayer, J.A., Thurston, P.C., Bateman, R., Dubé, B., Gibson, H.L., Hamilton, M.A., Hathaway, B., Hocker, S.M., Houlé, M.G., Hudak, G., Ispolatov, V.O., Lafrance, B., Lesher, C.M., MacDonald, P.J., Péloquin, A.S., Piercey, S.J., Reed, L.E., Thompson, P.H., 2005; Overview of Results from Greenstone Architecture Project; Discovery Abitibi Initiative, Open File Report 6154, Ontario Geological Survey.

Barrie, C.T., 1992; Geology of the Kamiskotia Area, Ontario Geological Survey Open File Report 5829. P.33.

Bateman, R., Ayer, J.A., Dubé, B, Hamilton, M.A., 2005; the Timmins-Porcupine Gold Camp, Northern Ontario: The Anatomy of an Archean Greenstone Belt and its Gold Mineralization: Discovery Abitibi Initiative, Open File Report 6158, Ontario Geological Survey.

Brisbin, D.I., 1986; Geology of The Owl Creek and Hoyle Pond Gold Mines, Hoyle Township, Ontario, an independent project submitted to the Department of Geological Science Queen's University, Kingston, Ontario, in conformity with the requirements of the Non-Research Masters of Science Degree in Mineral Exploration.

Brisbin, D.I., 1997; Geological Setting of Gold Deposits in the Porcupine Camp, Timmins, Ontario, a thesis submitted to the Department of Geological Science in conformity with the requirements for the degree of Doctor of Philosophy, Queens University, Kingston, Ontario.

Brisbin, D.I., 2000; World Class Intrusion Related Archean Vein Gold Deposits of the Porcupine Gold Camp, Timmins, Ontario, Geology and Ore Deposits 2000, The Great Basin and Beyond, Proceedings, Geological Society of Nevada Symposium Volume 1, p. Brisbin-19-35.

Burrows, A.G., 1911; the Porcupine Gold Area, Twentieth Annual Report of the Bureau of Mines, 1911, Vol. XX, Part II.

Burrows, A.G., and Rogers, W.R., 1912; Map of the Porcupine Gold Area, District of Temiskaming, Ontario; First Edition, July 1910; Second Edition, April 1911. Scale: 1:63,360. To accompany the Twentieth Report of the Bureau of Mines 1911.

Burrows, A.G., and Rogers, W.R., 1912; Map of the Porcupine Gold Area, District of Temiskaming, Ontario; First Edition, July 1910; Second Edition, April 1911; Third Edition June 1912. Scale: 1:63,360. To accompany the Twenty-first report of the Bureau of Mines, 1912.

Camier, J., 2009; Geological Mapping of the Peralkaline Syenite Intrusion and Host Rocks on the Thunder Creek Property, Lake Shore Gold Corp., Timmins, Ontario.

Campbell, R., 2014. Controls on Syenite-Hosted Gold Mineralization in the Western Timmins Camp, M.Sc Thesis, University of Western Ontario, Unpublished, 158p.

Cattarello Assayers Inc., 2011 Standard Operating Procedures, personal correspondence.

Cavey, G., 2004; Summary Geological Report On The Thorne Property, Bristol, Carscallen, Denton and Thorneloe Townships, Porcupine Mining Division, Ontario, for Band-Ore Resources Ltd. (December 04, 2004).

Cavey, G., 2006; Summary Geological Report On The Thorne Property, Bristol, Carscallen, Denton and Thorneloe Townships, Porcupine Mining Division, Ontario, for Band-Ore Resources Ltd. (March 30, 2006).

CIMM Standing Committee on Reserve Definitions, 2010; CIM Definition Standards – For Mineral Resource and Mineral Reserves, November 27, 2010.

Coad, P.R., Brisbin, D.I., Labine, R.J., Roussain, R.,1998; Geology of Owl Creek Gold Mine, Timmins, Ontario, CIMM Exploration and Mining Geol. Vol. 7, No. 4, p. 271-286.

Crick, D., Kusins, R., Powers, D., 2011; Technical Report on the Initial Mineral Resource Estimate for the Thunder Creek Property, Bristol Township, West of Timmins, Ontario, Canada, prepared for Lake Shore Gold Corp and West Timmins Mining Inc.

Dagbert, Michel: 2011; Statistical Analysis of QA/QC Assay Data, A Review and Report by SGS Canada Inc. Geostat.

Dagbert, Michel: 2011; Resource Modeling and Estimation of the Thunder Creek Gold Deposit, SGS Canada Inc. – Geostat, December 14. 2011.

Darling, G., 2007; Pre-feasibility Study Report, The Lake Shore Gold Timmins West Project, Timmins, Ontario, Lake Shore Gold Corp., SRK Consulting Canada Inc., SRK Project Number 5CL001.001, July 31st, 2007.

Darling, G., Kociumbas, M., Sullivan, J.R., Lavigne, J., Hayden, A.S., Small, A.S., Butler, D., Kordgharochorloo, F., Hall, R.A., Schmidt, P.R., 2007; NI 43-101 Technical Report, Lake Shore Gold Corp., Timmins West Project, Timmins, Ontario, Report Prepared for Lake Shore Gold Corp. by SRK Consulting Engineers and Scientists (October 12, 2007).

Darling, G., Fayram, T., Kusins, R., Samson, J., Miree, H., 2009; Updated NI 43-101 on the Timmins Mine Property, Ontario, Canada, prepared for: Lake Shore Gold Corp.

Dubois, M., and Brown, C., 2010; Lake Shore Gold Corp. Resistivity/Induced Polarization and Ground Magnetic Field Survey, Timmins West Mine Complex, Tailings Condemnation, Bristol and Thorneloe Townships, Ontario, Canada., Abitibi Geophysis

Easton, R.M., 2000; Geochronology of Ontario; Ontario Geological Survey, Miscellaneous Release Data 75.

Eastwood, A.M., 2004; 2004 Diamond Drill Program, Vogel Project, an internal memo Glencairn Gold Corporation.

Ferguson, S.A., 1957; Geology of Bristol Township, Sixty-Sixth Annual Report of the Ontario Department of Mines, being Volume LXVI, Part 7.

Ferguson, S.A., 1957; Bristol Township, District of Cochrane, Ontario; Ontario Department of Mines, Map 1957-7, scale 1:12,000.

Ferguson, S.A., 1968; Geology and Ore Deposits of Tisdale Township, Geological Report 58, Ontario Department of Mines.

Ferguson, S.A., Groen, H.A., Haynes, R., 1971; Gold Deposits of Ontario, Part 1, Districts of Algoma, Cochrane, Kenora, Rainy River and Thunder Bay, Ontario Department of Mines, Mineral Resources Circular No. 13, p. 49 – 50, 123 – 124.

Fyon, J.A., Breaks, F.W., Heather, K.B, Jackson, S.L., Muir, T.L., Stott, G.M., Thurston, P.C. 1991; Geology of Ontario, Special Volume 4, Part 2, Chapter 22,Metallogeny of Metallic Mineral Deposits in the Superior Province of Ontario, Ontario Geological Survey, p. 1091 to 1174.

Geldart, J., Bousfield, J., Dymov, I., 2005; An Investigation of The Recovery of Gold from Samples From the Timmins Property, prepared for Lake Shore Gold, LR 10669-001-Report No. 1, SGS Lakefield Research Limited.

Gray, D. Mathew, 1994; Multiple Gold Mineralizing Events In The Porcupine Mining District, Timmins Area, Ontario, Canada; A thesis submitted to the faculty and the Board of Trustees of the Colorado School of Mines in partial fulfillment of the requirements for the degree of Doctor of Philosophy (Geology).

Hawley, J.E., 1926; Thirty-Fifth Annual Report of the Ontario Department of Mines being Vol. XXXV, Part VI, 1926, p. 1 to 36.

Hawley, J.E., 1926; Map No. 35g, The Townships of Carscallen, Bristol and Ogden, District of Cochrane, Ontario, scale: 1:47520.

Hawley, J.E., 1926; ARM35G, The Townships of Carscallen, Bristol, and Ogden, District of Cochrane, Ontario, Map 35g, scale: 1:47,520, Ontario Department of Mines.

Hodder, R.W., Petruk, W., 1980; Geology of Canadian Gold Deposits, Proceedings of the CIM Gold Symposium, published for the Geology Division of CIM, Special Volume 24, The Canadian Institute of Mining and Metallurgy, p. 101 to 170.

Jackson, S.L., Fyon, J.A., 1991; Geology of Ontario, Special Volume 4, Part 1, Chapter 11, the Western Abitibi Subprovince in Ontario, Ontario Geological Survey p. 405 to 482.

Jackson, S.L., Fyon, J.A., 1991; Geology of Ontario, Special Volume 4, Part 2, Chapter 22, The Metallogeny of Metallic Mineral Deposits in the Superior Province of Ontario, Ontario Geological Survey, p. 1149.

Kerrich, R., 1983; Geochemistry of Gold Deposits in the Abitibi Greenstone Belt, Special Volume 27, Canadian Institute of Mining and Metallurgy.

Krikham, R.V., Sinclair, W.D., Thorpe, R.I., Duke, J.M., (editors) 1993; Mineral Deposit Modeling, Geological Association of Canada Special Paper 40, p. 465 to 479, and 635 to 678.

Lake Shore Gold Corp., 2011; Bell Creek Mill Laboratory Standard Operating Procedures.

Lake Shore Gold Corp., 2011; Internal Memo Regarding Permitting, T. Ternes; September 22.

Langton, J., Puritch, E., Yassa, A., Armstrong, T., 2112; National Instrument 43-101 Technical Report for Explor Resources Inc., on Timmins Porcupine West Property, Bristol and Ogden Townships, Ontario, MRB & Associates, and P&E Mining Consultants.

Leroux, D.C., 2011; Technical Report on the West Timmins Gold Project, Carscallen Township, Porcupine Mining District, Ontario; A.C.A. Howe International Limited; for Newcastle Minerals Limited.

Linnen, R., 2016. Report on the Alteration and Geochemistry of the Gap Zone, Timmins West Mine, Timmins, Ontario, Internal Report Prepared for Lake Shore Gold Corp., January 2016., 40p.

Lo, Bob, 2011; Tailings IP Results, an internal Lake Shore Gold Corp. memo.

Lucas, S.B., and St-Onge, M.R. Coordination, 1998; Geology of Canada No. 7, Geology of the Precambrian Superior and Grenville Provinces and Precambrian Fossils in North America; Geological Survey of Canada, Geology of North America, Volume C-1.

Macdonald, A. James, Editor, 1986; Proceedings Volume, Gold 86; an International Symposium of the Geology of Gold Deposits:

Burrows, D.R., and E.T.C. Spooner, McIntyre Cu-Au Deposit, Timmins, Ontario, Canada; p. 23-40.

Mason, R., and Melnik, N., the Anatomy of an Archean Gold System – The McIntyre-Hollinger Complex at Timmins, Ontario, Canada; p. 40-56.

Wood, P.C. et al., the Hollinger-McIntyre Au-Quartz Vein System, Timmins, Ontario, Canada; Geological Characteristics, Fluid Properties and Light Stable Isotope Geochemistry; p. 56-81.

Melnik-Proud, Nadia, 1992; The Geology and Ore Controls in and Around the McIntyre Mine at Timmins, Ontario, Canada; a thesis submitted to the Department of Geological Sciences in conformity with the requirements for the degree of Doctor of Philosophy, Queen's University, Kingston, Ontario, Canada.

Miller, A., 2004; Contribution to the Geology of the Holmer Gold Deposit: Orogenic Mesothermal Lode Gold Hosted in a Lake Archean Alkaline Intrusive Complex: Lithologies, Metamorphism and Overprinting Hydrothermal Alteration Assemblages Northern Volcanic Zone, Abitibi Subprovince, Canada, Volume 1 of 2, for Lake Shore Gold Corp. Miller and Associates.

Miller, A., 2008; A Contribution to the Geology of the Thunder Creek Property, Northern Volcanic Zone, Abitibi Subprovince, Canada: Lithologies, Metamorphism, Overprinting, Hydrothermal Alteration Assemblages, Precious Metal Mineralogy Based on Petrography, Ore Microscopy and Scanning Electron Microscope Investigation of Selected Drill Core Samples from Drill Holes TC04-13, TC07-27, -30, -36, -37 with Comparison of the West Timmins Gold Property (formerly Holmer Gold Deposit); Internal Report for Lake Shore Gold Corp. by Miller & Associates, Ottawa, Ontario, Canada.

Miller, A., 2009; Rusk Horizon and Rusk Showing, Thunder Creek Project, Northern Volcanic Zone, Abitibi Subprovince, Canada: Mineralogy of Selected Drill Core Samples from Drill Holes TC-08-51, TC-08-52, TC08-54, TC-1891 utilizing Scanning Electron Microscope with Petrography and Ore Microscope. Parts A-C-D; Internal Report for Lake Shore Gold Corp. by Miller & Associates, Ottawa, Ontario, Canada.

Miller, A., 2009; Rusk Horizon and Rusk Showing, Thunder Creek Project, Northern Volcanic Zone, Abitibi Subprovince, Canada: Mineralogy of Selected Drill Core Samples from Drill Holes TC-08-51, TC-08-52, TC08-54, TC-1891 utilizing Scanning Electron Microscope with Petrography and Ore Microscope. Part B; Internal Report for Lake Shore Gold Corp. by Miller & Associates, Ottawa, Ontario, Canada.

Miller, A., 2009; Part A – Petrography and Ore Microscopy addendum to January 11, 2009 Report entitled Rusk Horizon and Rusk Showing, Thunder Creek Project, Northern Volcanic Zone, Abitibi Subprovince, Canada: Mineralogy of Samples TC08-54 (663), TC-08-54 (668) utilizing Part A – Scanning Electron Microscope, Part B – Petrography and Ore Microscope, Internal Report for Lake Shore Gold Corp. by Miller & Associates, Ottawa, Ontario, Canada.

Miller, A., 2009; Part B – Scanning Electron Microscopy addendum to January 11, 2009 Report entitled Rusk Horizon and Rusk Showing, Thunder Creek Project, Northern Volcanic Zone, Abitibi Subprovince, Canada: Mineralogy of Samples TC08-54 (663), TC-08-54 (668) utilizing Part A – Scanning Electron Microscope, Part B – Petrography and Ore Microscope, Internal Report for Lake Shore Gold Corp. by Miller & Associates, Ottawa, Ontario, Canada.

Neczakar, E., Kociumbas, M.W., Sullivan, J.R., 2004; A Technical Review of the Holmer Gold Property in Bristol Township, Timmins Area, Ontario, Canada, for Lake Shore Gold Corp., Watts, Griffis, and McQuat limited, September 07, 2004.

Placer Dome, 2005; Canadian Operations, Sustainability Report.

Pyke, D.R., 1982; Geology of the Timmins Area, District of Cochrane, Report 219, Ontario Geological Survey.

Poulsen, K.H., 1996; Geology of Canadian Mineral Deposit Types, Geology of Canada, No. 8, Geological Survey of Canada, Chapter 15, Lode Gold, p. 323 to 392.

Powers, D., 2009; Amended Technical Review and Report of the “Thunder Creek Property” Bristol and Carscallen Townships, Porcupine Mining Division, Ontario, Canada prepared for Lake Shore Gold Corp. and West Timmins Mining Inc.

Pressacco, R., 1999; Special Project: Timmins Ore Deposit Descriptions, Ontario Geological Survey, Open File Report 5985.

Ross, K., 2003; Petrographic Study of Twenty Five Samples from the Holmer Gold Deposit, Timmins, Ontario, Internal Lake Shore Gold Corp. Report by Panterra Geoservices Inc., Surrey, British Columbia.

Ross, K., 2010; Petrographic Study of the Timmins Gold Mine and Thunder Creek Area, Timmins, Ontario, Prepared for Lake Shore Gold Corp., March 12, 2010.

Rhys, D., 2015. Structural Setting and Style of the 144 Gap Zone and Other Areas: Observations from Drill Core, and Underground Exposures with Exploration Recommendations, Internal Lake Shore Gold Corp. Report Prepared by Panterra Geoservices Inc., Surrey, British Columbia, December 27, 2015, 34p.

Rhys, D.A., 2003; Structural Mapping Study of the Surface Outcrops of the Holmer Gold Deposit, Timmins, Ontario, Internal Lake Shore Gold Corp. Report by Panterra Geoservices Inc, Surrey, British Columbia.

Rhys, D., Lewis, P., 2004; Gold Vein Deposits: Turning Geology into Discovery, BC & Yukon Chamber of Mines, Cordilleran Exploration Round-Up, short course notes.

Rhys, D., 2010; Structural Study of Gold Mineralization in Portions of the Timmins Mine and Thunder Creek Projects, Porcupine Mining District, Ontario. Report prepared for Lake Shore Gold, March 12, 2010.

Rhys, D., 2010; an Internal Lake Shore Gold Corp. Memo: Golden River East Zone: Observations and Interpretation from Brief Field Review, December 10, 2010.

Rhys, D., 2010; Thunder Creek – Rusk Zone: Assessment of Structural Controls Through Examination of Initial Underground on 300 and 315 Levels, Memo dated December 21, 2010.

Rhys, D., 2011; an Internal Lake Shore Gold Corp. Memo: Golden River East Zone Drill Core Review: Summary of Geological Observations and Recommendations, September 06, 2011.

Rocque, P., Mah, S., Hamilton, R., Wilson, G., Kilpatrick, R., 2006; Review of Porcupine Joint Venture Operation, Ontario, Canada, NI 43-101 Technical Report, prepared for Goldcorp Inc., prepared by AMEC Americas Limited.

Ross, K., and D. Rhys, 2015. Petrography of Representative Samples of Mineralization, Alteration and Shear Zones in the 144-Gap Zone, Exclusive of Syenites, with Comparison to the Thunder Creek Rusk Zone, Internal Lake Shore Gold Corp. Report Prepared by Panterra Geoservices Inc., Surrey, British Columbia, December 27, 2015, 70p.

Samson, J., 2005; the 2003 – 2005 Diamond Drill Program on the Thunder Creek Property, Bristol Township, Lake Shore Gold Corp., Report.

Samson, J., 2008; the 2006 Stripping and Trenching Program on the Thunder Creek Property, Bristol Township, Lake Shore Gold Corp., Report.

Samson, J., 2009; the 2007-2008 Diamond Drill Program (Phase 4) on the Thunder Creek Property, Bristol Township, Lake Shore Gold Corp., Report.

Sullivan, J.R., Lavigne, J.G., Kociumbas, M.W., 2007; a Technical Review of the Timmins West Gold Project in Bristol Township, Timmins Area, Ontario, Canada, for Lake Shore Gold Corp., Watts, Griffis and McOuat Limited, Consulting Geologists and Engineers (January 03, 2007).

Thompson, P.H., 2002; Toward a New Metamorphic Framework for Gold Exploration in the Timmins Area, Central Abitibi Greenstone Belt, Ontario Geological Survey, Open File Report 6101.

Wagner, D.W., 2008; Technical Report of the Thunder Creek Gold Property, Bristol Township, Timmins, Ontario, Canada, for West Timmins Mining Inc. (June 27, 2008).

Webster, B., 2010; Report on Borehole Induced Polarization Surveys, Thunder Creek Property, Timmins, Ontario, JVX Limited, Geophysical Surveys and Consulting.

Wilson, G.C., Rucklidge, J.C., 1986; Grant 262; Geoscience Research Grant Program, Summary of Research 1985-1986; Lithological Features and Economic Significance of Reduced Carbonaceous Rocks in Gold Deposits, Ontario Geological Survey, Miscellaneous Paper 130, p. 177-189.

Wilson, G.C., Rucklidge, J.C., 1987; Grant 262; Geoscience Research Grant Program, Summary of Research 1986-1987; Geology, Geochemistry, and Economic Significance of Carbonaceous Host Rocks in Gold Deposits of The Timmins Area, Ontario Geological Survey, Miscellaneous Paper 136, p. 66-76.

Winter, L.D.S., 2004; National Instrument 43-101 Technical Report, Lake Shore Gold Corp., Timmins Gold Project, Timmins, Ontario (September 28, 2004).

Winter, L.D.S., 2004; National Instrument 43-101 Technical Report, Lake Shore Gold Corp., Timmins Gold Project, Timmins, Ontario (November 26, 2004).

Winter, L.D.S., 2006; National Instrument 43-101 Technical Report, Lake Shore Gold Corp., Timmins Gold Project, Timmins, Ontario (January 25, 2006).

27.2 ASSESSMENT RESEARCH IMAGING FILES (AFRI)

Allan, J.E., 1974; Diamond Drill Logs, Allerston Gold Property, Bristol Twp., Ducanex Resources, AFRI No. 42A05NE8449.

Anderson, S.D., 1994; Work Report on the Bristol Lake Property, Trenching and Sampling Program for R.J. Poirier by Rayan Exploration Ltd., AFRI No. 42A05NE0079.

Anderson, S.D., 1995; Report on an Induced Polarization Survey on the Bristol Township Properties, Porcupine Mining Division, Ontario, for R.J. Poirier by Rayan Exploration Ltd., AFRI No. 42A05NE0078.

Anderson, S.D., 1996; Geophysical Report on the Bristol Township Property, Induced Polarization Survey Located in Bristol Township, Porcupine Mining Division, for Marl/Pelangio Larder J.V., Rayan Exploration Ltd., AFRI No. 42ANE0165.

Anderson, S.D., 2003; Geophysical Report on the Magnetometer Survey, Bristol Lake Property, Bristol Township, Porcupine Mining Division for Rolly Poirier, Vision Exploration, AFRI No. 42A05NE2049.

Bald, R., 1987; Diamond Drill Logs, Bristol Township, Highwood Resources. AFRI No. 42A05NE8428.

Barnett, E.S., 1985; Diamond Drill Report, Bristol Township, Kidd Creek Mines Ltd. AFRI No. 42A05NE8489.

Begauskas, J., Vamos, P.J., 1996; Report on the Allerston Project (Portion of the Allerston Option) in Bristol Township, West Timmins Area, Prospectors Alliance Corp. AFRI No. 42A05NE0167.

Benham, W., 1984; Diamond Drill Report, Allerston Option, Rio Algom Exploration Inc., Bristol Township, AFRI No. 42A05NE8473.

Bradshaw, R.J., 1973; Magnetic – Electromagnetic Survey on the Property of Holmer Gold Mines Limited, Bristol Township, Ontario, AFRI No. 42A05NE8495.

Bradshaw, R.J., 1973; Magnetic – Electromagnetic Survey on the Property of Mill Hill Mines Limited, Bristol, Denton, Carscallen and Thorneloe Townships, Ontario, AFRI No. 42A05SE0024.

Bradshaw, R.J., 1974; Magnetic – Electromagnetic Survey on the Shield Group, Bristol Township, Ontario, AFRI No. 42A05NE8463.

Bradshaw, R.J., 1978; Magnetic – Electromagnetic Survey on the Property of Holmer Gold Mines Limited, Bristol Township, Ontario, AFRI No. 42A05NE8439.

Bradshaw, R.J., 1978; Geological Report on Part of the Property of Holmer Gold Mines Limited, Bristol Township, Ontario, AFRI No. 42A05NE8494.

Burns, J.G., 1996; Evaluation Report on Claims Located in Bristol Township, Porcupine Mining Division for Copper Dome Mines Ltd., AFRI No. 42A05NE0095.

Calhoun, R., 1994; Diamond Drill Hole Summary, Mahoney Creek Project (No. 507), Noranda Exploration Company Limited, Claims 1177808, 1177809, AFRI No. 42ANE0075.

Calhoun, R., 1995; Summary of Induced Polarization Survey, Mahoney Creek Project (No. 507), Hemlo Gold Mines Inc., AFRI No. 42ANE0084.

Calhoun, R., Edwards, J., 1997; Battle Mountain Gold, Diamond Drill Logs, Mahoney Creek, Project 507, AFRI No. 42A05NE0169.

Calhoun, R., Edwards, J., 1997; Battle Mountain Gold, Diamond Drill Logs, Thunder Creek, Project 506, AFRI No. 42A05NE2007.

Calhoun, R., 1998; Diamond Drill Logs, Allerston Option, Bristol Township, Falconbridge Ltd., AFRI No. 42A05NE2019.

Calhoun, R., 2000; Diamond Drill Logs, KM-2 Project, Bristol Township, Falconbridge Ltd., Explorers Alliance Corp., AFRI No. 42A05NE2030.

Calhoun, R., 1999; Diamond Drill Logs, Wallingford South Project, Bristol Township, Pelangio Mines Inc., Prospectors Alliance Inc., AFRI No. 42A05NE2034.

Calhoun, R., 2001; Summary Report of Fugro MegaTem® Survey, Timmins West Area by GeoCal Exploration Services, for Explorers Alliance Corp., AFRI No. 42A06NW2026.

Chataway, R.T., 1981; Diamond Drilling 1981, Preussag Canada Limited, Timmins West Project, Timmins, Ontario, AFRI No. 42A05NE8478.

Clark, D., 1989; Report on Magnetic Survey, Southwestern Poirier Block, Holmer Project, Bristol Township, Ontario, M588, AFRI No. 42ANE8648.

Croxall, J.E., 1979; Magnetic and Electromagnetic Surveys, Claims No. 495307, 495309, 515901, North Part of the Croxall-Miller Property, Southwestern Pare of Bristol Township, Porcupine Mining Division, AFRI No. 42A05NE8447.

Croxall, J.E., 1992. Mechanical Overburden Stripping, Bristol Township, AFRI No. 42A05NE8488.

Daigle, R.J., 1994; Noranda Exploration Co. Ltd., Geophysical Assessment Report, Project 507, Induced Polarization Survey, Bristol, Carscallen, Denton, Thorneloe, Townships, Ontario, N/.T.S. 42A-SW, Porcupine Mining Division, AFRI No. 42A05NE0083.

Daigle, R.J., 1994; Noranda Exploration Co. Ltd., Total Field Magnetic Assessment Report, Project 507, Bristol, Carscallen, Denton, Thorneloe, Townships, Ontario, N/.T.S. 42A-05, Porcupine Mining Division, AFRI No. 42A05NE0081.

Daigle, R.J., 1994; Noranda Exploration Co. Ltd., Assessment Report, Project 144, Porcupine Mining Division, AFRI No. 42A05SE0011.

Daigle, R.J., 1995; Line Cutting, TFM and I.P. Surveys, Bristol Township, Hemlo Gold Inc., N.T.S. 42-A-05, Porcupine Mining Division, AFRI No. 42ANE0080.

Daigle, R.J., 1997; Report of Work for Band-Ore Resources Ltd. on Carstol Property, Carscallen and Bristol Townships, 1997 Line Cutting, TFM, and I.P. Surveys, AFRI No. 42A05NE0131.

Daigle, R.J., 1997; Report of Work for Band-Ore Resources Ltd. on West Porcupine Project 1996-1997, Geophysical Surveys, Line Cutting, I.P., TFM., AFRI No. 42A06SW0025.

Deevy, A.J., 1985; Report on Bristol Township Property, Project 404, Allerston Option, Westfield Minerals Ltd., AFRI No. 42A05NE8498.

Dionna, R.J., 1965; Diamond Drill Report, Claim P55903, Bristol Township, United Buffadison, AFRI No. 42A05NE8650.

Diorio, P., 1984; Assessment Report on Magnetic and VLF-EM Surveys Conducted on Claims 724587-724591, 740864-740873, 752195-752205, 779457-779461, 79509-779515, 825436-825440 Located in the Bristol Township in Porcupine Mining District, Ontario., Utah Mines, AFRI No. 42A05NE8491.

Diorio, P., 1985; Assessment Report on Induced Polarization Conducted on Claims 724587-724591, 740864-740873, 752195-752205, 779457-779461, 779509-779515, 825436-825440 Located in the Bristol Township in Porcupine Mining District, Ontario, Utah Mines, AFRI No. 42A05NE8456.

Duess, R., 1997; Diamond Drill Logs and Sections, Bristol Property, Sedex Mining Corp./Band-Ore Resources Ltd., Joint Venture, Bristol and Thorneloe Townships, Porcupine Mining Division, AFRI No. 42A06NW0042.

Fedikow, M., 2011; Preliminary Results of Mobile Metal Ions Soil Geochemical Orientation Surveys, Timmins Area, Ontario. Prepared for Lake Shore Gold Corp.

Filo, J.K., 1997; Diamond Drill Report for Pelangio Larder Mines Limited and Copper Dome Mines Ltd., on the Poirier Joint Venture within Bristol Township, Northern Ontario, AFRI No. 42A05NE0168.

Fumerton, S., Clark, D., 1988; Geological and Geochemical Assessment Report, Bristol Township, M588, Chevron Minerals Ltd., AFRI No. 42A05NE8459.

Fumerton, S., 1988; Report of Work Done in 1987 on the Holmer Property, Bristol Township, M588, Chevron Minerals Ltd., AFRI No. 42A05NE8490.

Gasteiger, W.A., 1981; Report on Geophysical Work, Bristol Township, Allerston Claims and Bristol 66, Texasgulf Inc., AFRI No. 42A06NW8486.

Gasteiger, W.A., 1981; Report on Geophysical Work, Bristol, Denton, Carscallen, Thorneloe Townships, Airborne EM and Airborne Mag., Texasgulf Canada Ltd., AFRI No. 42A06NW0303.

George, P.T., 1973; Report on the property of Holmer Gold Mines Ltd., Bristol Township, Ontario, AFRI No. 42A05NE8475.

George, P.T., 1975; Diamond Drill Report, for Geonex Limited (Ralph Allerston), Bristol Township, Ontario, AFRI No. 42A05NE8436.

Glenn, W.E., 1987; Airborne Geophysical Survey, Bristol Township, Chevron Canada Resources Limited, AFRI No. 42A05NE8705.

Grant, J.C., 1997; Geophysical Report for Copper Dome Mines Ltd. on the Poirier Option, Bristol Township, Porcupine Mining Division, Northeastern Ontario, AFRI No. 42ANE0104.

Grant, J.C., 1997; Geophysical Report for Pelangio Larder/Copper dome Mines Ltd. on the Poirier Option Bristol Township., Porcupine Mining Division, Northeastern Ontario, AFRI No. 42A05NE0158.

Grant, J.C., 2004; Geophysical Report for Probe Mines Limited, Bristol Project, Bristol Township, Porcupine Mining Division, Northeastern Ontario, AFRI No. 42A06NW2046.

Hendry, K.N., 1987; 1986 Geophysical assessment Report, Bristol Property, Cominco Ltd., AFRI No. 42A06NW8427.

Hiava, M., 1987; Diamond Drill Logs, Allerston Property, Bristol Township, AFRI No. 42A05NE8432.

Holmer Gold Mines Ltd., 1969; Diamond Drill Log Report, Bristol Township, AFRI No. 42A05NE8500.

Holmer Gold Mines Ltd., 1980; Diamond Drill Log Report, Bristol Township, AFRI No. 42A05NE8460.

Johnston, Matthew, 2000; Report of Work on the Bristol Property, Bristol Township, Ontario, NTS 42A/SW, Porcupine Mining Division, for Mike Caron, AFRI No. 42A05NE2037.

Jones, W.A., 1958; Diamond Drill Report, Hollinger Mines Ltd., Bristol Township, AFRI No. 42A05NE8454.

Klein, J., 1987; 1986 Geophysical Assessment Report on Claims P835909-835916, P871660 and P871661, Bristol Property, Cominco Ltd., AFRI No. 42A06NW8423.

Kilpatrick, J.M., 1973; Report on the Property on the Boundary of Townships of Carscallen, Bristol, Denton and Thorneloe, Mill Hill Mines Limited. AFRI No. 42ASE0025.

Lebaron, P.S., 1984; Report on Reverse Circulation Overburden Drilling, Croxall Option, Bristol and Thorneloe Townships, Noranda Exploration Company Limited, AFRI No. 42A05SE0010.

Lebaron, P.S., 1985; Diamond Drill Report, Croxall Option, Bristol Township, Noranda Exploration Company Limited, AFRI No. 42A05SE0001.

Legault, J.M., Williston, C., Warne, J., 1997; Geophysical Survey Logistical Report, Quantec, regarding the Gradient-Realsection TDIP\Resistivity Survey over the Bristol Property, Bristol Twp., ON., on behalf of Prospectors Alliance Corp., Toronto, Quantec IP Incorporated, AFRI No. 42A05NE2018.

Mackenzie, C.D, 1995; Ground Magnetometer Survey and VLF Survey for the Ralph Allerston Property, Bristol Twp., Block 1190579, 4 Units, District of Cochrane, Timmins, Ontario, AFRI No. 42A05NE0077.

MacPherson, J., 1988; Report on Linecutting, and Ground Magnetometer on Bristol #1 and 2, Mattagami River and Hwy 144 Grids, Thorneloe and Bristol Townships, District of Cochrane, Esso Minerals Canada, AFRI No. 42A06NW0317.

Manchuck, B., 1989; Diamond Drill Report, Chevron Minerals Ltd., AFRI No.42A05NE8649.

McCann, S., 1995, Hemlo Gold Mines Inc., Diamond Drill Logs, Mahoney Creek Project (507), AFRI No. 42ANE0085.

McCann, S., 1995, Hemlo Gold Mines Inc., Diamond Drill Logs, Mahoney Creek Project (507), AFRI No. 42ANE0087.

McLeod, C.C., 1979; Reverse Circulation Overburden Drilling, Texasgulf Inc., AFRI No. 42A05NE8457.

McLeod, C.C., 1981; Reverse Circulation Overburden Drilling, Texasgulf Inc., AFRI No. 42A05NE8464.

Meikle, R.J.; 1994; Geophysical Report on a Magnetometer Survey for Band-Ore Resources Ltd., on Claim 1177822, Bristol Twp., Porcupine Mining Division, Ontario, by Rayan Exploration, AFRI No. 42A05NE0070.

Meikle, R.J.; 1994; Geophysical Report on a Magnetometer Survey for Band-Ore Resources Ltd., on the Thunder Creek Property, Bristol/Carscallen Twp., Porcupine Mining Division, Ontario, by Rayan Exploration, AFRI No. 42A05NE2062.

Meikle, R.J.; 1994; Geophysical Report on a Magnetometer Survey for Band-Ore Resources Ltd., on the Thunder Creek Property, Bristol/Carscallen Twp., Porcupine Mining Division, Ontario, by Rayan Exploration, AFRI No. 42A05NE8701.

Meikle, R.J.; 1995; Geophysical Report on the, Bristol Township Property Magnetometer Survey Located in Bristol Township., Porcupine Mining Division, Ontario, for Pelangio Larder Mines Ltd., AFRI No. 42A05NE0092.

Moore, D.D., 1987; Diamond Drill Logs BR87-1, 87-2, 87-6, Cominco Ltd., AFRI No. 42A06NW8424.

Muir, J.E., 1980; Mineralogical Examination of Jim Croxall's Sample, Falconbridge Metallurgical Laboratories, AFRI No. 42A05NE8430.

Mullen, D., 1979; Diamond Drill Logs, Allerston Option, Bristol Township, Texasgulf Ltd., AFRI No. 42A05NE8479.

Newsome, J.W., 1986; Assessment Report on Diamond Drilling Conducted on Claim 779509, Bristol Township, Porcupine Mining Division, Ontario, for Utah Mines Ltd., AFRI No. 42A06NW8426.

Perry, J., 1977; Magnetic Survey Report, Bristol Township, M-264, Porcupine Mining Division, District of Cochrane, Canadian Nickel Company, AFRI No. 42A06NE8435.

Perry, J., 1977, Geological Report, Allerston Option, Bristol Township, Canadian Nickel Company Limited, AFRI No. 42A06NW8485.

Robinson, G.D., 1958; Diamond Drill Report, Hollinger Mines Ltd., Bristol and Thorneloe Townships, AFRI No. 42A05NE8477.

Roth, J., 1988; Report on Magnetic and Induced Polarization Surveys, Holmer Project, Bristol Township for Chevron Canada Resources Ltd., AFRI No. 42A05NE8492.

Vamos, P.J., 1998; Report on the Exploration Program Conducted by Prospectors Alliance Corp., during 1996 and 1997, on the East Portion of the Allerston Option, AFRI No. 42A05NE2012.

Van Hees, E.H., 1989, Diamond Drill Log and Assay Results, Chevron Minerals Ltd., AFRI No. 42A06NW8429.

Wamtech Pty, Ltd., 2004; MMI Manual for Mobile Metal Ion Geochemical Soil Survey, Version 5.04.

Warren, T.E., 1981; Timmins west Project, Geophysical Surveys, 1981, Mag., VLF, HEM, Preussag Canada Limited, AFRI No. 42A06SW0206.

Webster, B., 1977; Induced Polarization and Resistivity Survey Report, Bristol Township (M-264), Porcupine Mining Division, District of Cochrane, for R. Allerston, AFRI No. 42A06NW8471.

Webster, B., 1977; Magnetic Survey Report, Bristol Township (M-264), Porcupine Mining Division, District of Cochrane, for Canadian Nickel Company Ltd., AFRI No. 42A06NW8431.

Webster, B., 1997; Logistical and Interpretive Report, Spectral Induced Polarization Surveys, Timmins West Project, The Allerston Grid, Prospectors Alliance Corp., Bristol Twp., Northern Ontario, AFRI No. 42A05NE2001.

27.3 PRESS RELEASES

2003-05-27; Innes, D.G., Lake Shore Options Timmins Area High Grade Gold Property.

2003-07-17; Innes, D.G., Lake Shore Commences Drilling Program on Timmins High-Grade Gold Project, Ontario.

2003-09-05; Innes, D.G. Lake Shore Adds More Drills to and Doubles the Budget at the Timmins Gold Project, Ontario.

2003-10-08; Innes, D.G., First Drill Assays Positive Ultramafic Zone Returns Excellent Grades and Widths Timmins Gold Project, Ontario.

2003-11-11; O'Connor, W.J., Lake Shore and Band-Ore Ink Timmins, Ontario Deal.

2003-11-12; Innes, D.G., Lake Shore Options Thunder Creek Property Adjoining The Timmins Gold Project, Ontario.

2003-12-03; Innes, D.G., Lake Shore Gold Reports More Timmins Gold Property Results and Updates from the Thunder Creek-Bazooka-Highway Projects Ontario-Quebec.

2004-01-08; Innes, D.G, Lake Shore Gold Corp. Drilling Expands Timmins Gold Resources High Grade Gold Recoveries from Metallurgical Testing.

2004-02-17; Innes, D.G. Lake Shore Gold Corp. More Drilling Results from the Timmins Gold Project Summary of 2003 Drilling.

2004-03-24; Innes, D.G., Lake Shore Confirms Gold Mineralization on Thunder Creek Property Timmins, Ontario.

O'Connor, W.J., Gold Mineralization Confirmed on Thunder Creek Property. Band-Ore Resources Ltd.

2004-03-30; Innes, D.G., Lake Shore Gold Corp., More Positive Results from Resource Expansion Drilling Timmins Gold Project, Ontario.

2004-06-01; Innes, D.G., Lake Shore Gold Corp., Resource Expansion and Drilling Update, Timmins Gold Project, Ontario.

2004-07-19; Innes, D.G., Lake Shore Gold Corp. First Phase Resource Expansion Drilling Completed, New Zone Discovered, Timmins Gold Project, Ontario.

2004-08-25; Innes, D.G., Lake Shore Gold Corp. Initiates Second Phase 3.000 Metre drilling Program Thunder Creek Property, Timmins, Ontario.

O'Connor, W.J., Lake Shore Gold Corp., Initiates Second Phase 3,000 Metre Drill Program Thunder Creek Gold Property, Band-Ore Resources Ltd., Timmins, Ontario.

2004-09-10; Innes, D.G., Lake Shore Gold Corp., Resources Expansion Program Triples Resources on the Timmins Gold Project.

2004-09-21; Innes, D.G., Lake Shore Completes Earn In, Timmins Gold Property, Ontario.

2004-10-05; Innes, D.G. Lake Shore Gold Corp., Step Out Drilling Continues to Expand Gold Mineralization, Timmins Gold Project , Ontario.

2004-10-20; Innes, D. G., Raman, K., Lake Shore and Holmer Announce Business Combination.

2004-12-29; Innes, D.G., Raman K., Lake Shore and Holmer Announce Shareholder Approval for Business Combination.

2004-12-31; Innes, D.G., Raman K., Lake Shore and Holmer Announce Complete Business Combination.

2005-01-06; Innes, D.G., Lake Shore Gold Exploration Update, 2005 Resource Expansion Drilling Pre-Feasibility to Start on Timmins Gold Project, Ontario.

2005-02-14; Innes, D.G., Thunder Creek Project Update, Timmins, Ontario.

O'Connor, W.J., Thunder Creek Project Update, Band-Ore Resources Ltd., Timmins, Ontario.

2005-05-30; Booth, B.R., Lake Shore's Timmins Gold Project Intersects High-Grade Gold up to 24.3 Grams Per Tonne Over 11.1 Metres and Expands Mineralization 450 Metres Down Plunge Beyond the Current Indicated Resource.

2005-08-15; Booth, B.R., Lake Shore Gold Intersects 18.09 Grams/Tonne Gold over 5.70 Metres, Timmins West Gold Project, Ontario.

2005-11-04; Booth, B.R., Lake Shore Gold Intersects 24.35 Metres Grading 9.28 Grams Per Tonne Gold, Timmins West Gold Property, Ontario.

2005-12-08; Booth, B.R., Lake Shore Starts Drilling At Desantis and Continues Drilling At Timmins West, Ontario.

2006-02-07; Booth, B.R., Summary of Gold Resources And An Exploration Update for Lake Shore's Timmins Area Properties.

2006-03-03; Booth, B.R., Seven Drills Operating In March, Lake Shore Gold Corp. Exploration Update.

2006-04-17; Booth, B.R., Lake Shore Gold Intersects 6.0 Metres Grading 32.52 Grams Per Tonne Gold As Sectional Resource Drilling Continues At Timmins West Gold Project, Ontario.

2006-05-23; Booth, B.R., Lake Shore Initiates Permit Process for Advanced Underground Exploration Programs At Timmins West And Vogel-Schumacher Gold Projects, Timmins, Ontario.

2006-06-21; O'Connor, W.J., Exploration Update, Thunder Creek Property, Band-Ore Resources Ltd., Timmins, Ontario.

2006-08-11; Booth, B.R., Lake Shore Gold Quarterly Project Update.

2006-08-16; Booth, B.R., Lake Shore Gold continues To Expand The Resource and Extends The Main Zone On The Timmins West Gold Project, Ontario.

2006-09-14; Wagner, D.W., West Timmins Mining Inc. To Begin Trading Sept. 18, Amalgamation of Sydney And Band-Ore Receives Final Approvals.

2006-09-26; Notice of Change in Corporate Structure, Report Date: 2006-09-26; Amalgamation Became Effective on September 13, 2006. (Sydney Resources Corporation and Band-Ore Resources Limited) - New - West Timmins Mining Inc.

2006-09-18; Wagner, D.W., Canadian Gold Company Launched on Toronto Stock Exchange – West Timmins Mining Inc. to Focus on Large Projects in West Timmins Camp and Sierra Madres of Mexico.

2006-10-30; Wagner, D.W., West Timmins Commences 12,000 Metre Drill Program on West Timmins Gold Project.

2006-10-31; Booth, B.R., Lake shore Reports Latest Results At Timmins West, Including Four Metres Grading 65.65 Grams Gold Per Tonne, And Provides Update At Vogel-Schumacher.

2006-11-09; Booth, B.R., Lake Shore Third Quarter Project Update.

2006-11-20; Booth, B.R., Lake Shore Gold Increases The Indicated Mineral Resource to 3.27 Million Tonnes at 12.29 Grams Gold Per Tonne (Uncut) at Timmins West).

2007-03-12; Booth, B.R., Lake Shore Gold Files Application for Advanced Exploration Permit At Timmins West.

2007-04-11; Wagner, D.W., West Timmins Mining Exploration Update: 5 Drills Turning on WTM Gold Projects; 8,000 metres, 10-12 holes, Thunder Creek Property, Timmins, funded by Lake Shore Gold.

2007-04-30; Booth, B.R., Lakeshore Recieves Approval to Initiate Advanced Underground Exploration at Timmins West.

2007-05-10; Booth, B.R. Lake Shore Gold First Quarter Project Update.

2007-07-09; Wagner, D.W., West Timmins Mining Inc. Annual Report 2006.

2007-07-11; Wagner, D.W. West Timmins Gold Project Exploration Update.

2007-07-19; Booth, B.R., Lake Shore Provides Update on Timmins West Pre-Feasibility Study.

2007-08-01; Booth, B.R., Lake Shore Intersects New High-Grade Gold Mineralization at Thunder Creek, Ontario.

Wagner, D.W., High Grade Gold Intersected on West Timmins' Thunder Creek Property, Ontario.

2007-08-15; Booth, B.R., Lake Shore Second Quarter Project Update.

2007-08-28; Booth, B.R., Lake Shore Reports Mineral Reserves and Positive Pre-Feasibility Study Results for Timmins West.

2007-09-05; Booth, B.R., Lake Shore Reports Additional High-Grade Gold Intersection at Thunder Creek.

2007-09-06; Wagner, D.W., West Timmins Reports New High Grade Gold Discovery at Thunder Creek Property, Timmins, Ontario.

2007-11-13; Booth, B.R., Lake Shore Reports Third Quarter Results.

2007-11-17; Wagner, D.W., West Timmins to Initiate Drilling on Highway 144 Gold Property, Timmins, Ontario.

2007-11-29; Booth, B.R., Lake Shore Transition into Mining -Plans Management Changes.

2007-12-04; Booth, B.R., Lake Shore Intersects 24.61 Grams Gold Per Tonne over 7.0 Metres at Thunder Creek Property in Ontario.

Wagner, D.W. 24.61 Grams Gold Per Tonne Intersected Over 7.0 Metres On West Timmins' Thunder Creek Property, Timmins, Ontario.

2008-02-07; Wagner, D.W., Drilling extends Pond and West Gold Zones, West Timmins Gold Project, Ontario.

2008-03-31; Makuch, T., Lake Shore Intersects 8.57 g/t Gold Over 9.0 Metres at Thunder Creek Property in Ontario.

Wagner, D.W., WTM Reports 8.57 g/t Gold over 9.0 Metres for Follow-Up Drilling at Thunder Creek.

2008-04-21; Wagner, D.W., WTM To Test Northern Extension of Thunder Creek – Timmins West Trend.

2008-05-15; Makuch, T., Lake Shore Gold Announces First Quarter 2008 Results.

2008-07-10; Wagner, D.W., West Timmins Mining Inc. Annual Report 2008.

2008-07-18; Makuch, T., Lake Shore Gold Corp Announces Timmins West Exploration Agreement with Flying Post and Mattagami First Nations.

2008-08-05; Makuch, T., Lake Shore Gold Provides Update on Thunder Creek Exploration.

Wagner, D.W., 22,000 Metre Diamond Drill Program Commences on WTM's Thunder Creek Property in Timmins, Ontario.

2008-08-12; Makuch, T., Lake Shore Gold on Track to Achieve 2008 Targets.

2008-08-13; Wagner, D.W., WTM Completes $1,950,000 Non Brokered, Flow Through Private Placement – proceeds to fund the announced 22,000 metre diamond drill program on the Thunder Creek Property.

2008-09-11; Makuch, T., Lake Shore Gold Commence Ramp Development at Timmins West, Shaft Sinking Progressing on Schedule and Budget.

2008-11-10; Makuch, T., Lake Shore Gold Reports Timmins West on Schedule for Production in First Quarter 2009.

2008-12-02; Wagner, D.W., WTM Reports New High Grade intercepts from the Golden River West Zone.

2008-12-16; Makuch, T., Lake Shore Gold Significantly Extends Rusk Zone and Announces New High-Grade Gold Intercepts at Thunder Creek.

Wagner, D.W., WTM Reports 11.20 g/t Gold over 10.4 metres at Thunder Creek, Timmins, Ontario.

2009-01-21; Wagner, D.W., Drilling Program Accelerated on WTM's Thunder Creek Gold Property, Timmins, Ontario.

2009-02-18; Wagner, D.W., WTM Discovers Large New Gold System on HWY 144, Property, Timmins, Ontario.

2009-02-23; Makuch, T., Lake Shore Gold Provides Corporate Update.

2009-03-26; Makuch, T., Lake Shore Commences Processsing At Bell Creek Mill.

2009-03-31; Makuch, T., Lake Shore Gold Announces 19.55 g/t over 6.0 Metres and Discovery of Second Mineralized Horizon in Porphyry at Thunder Creek.

Wagner, D.W., WTM Reports 8.86 g/t (0.26 oz/t) Gold over 24.85 Metres (81.58 feet) from Rusk Zone – Is History Being Repeated in Timmins, Ontario?

2009-04-16; Wagner, D.W., WTM Reports High-Grade Results from 100% Owned Thorne Property: District Scale Potential of the West Timmins Gold Project Continues to Expand.

2009-05-05; Makuch, T., Lake Shore Gold Continues To Advance Projects on Schedule and Budget and to Achieve Exploration Success In First Quarter of 2009.

2009-05-05; Makuch, T., Lake Shore Gold Reports Additional High-Grade Intercepts at Thunder Creek, Confirms 175 Metre minimum Strike Length for Rusk and Porphyry Zones and Identifies New Sub-Zone at Depth.

Wagner, D.W., WTM Reports 7.95 g/t (0.23 oz/t) Gold over 19.45 Metres (63.80 feet) as Thunder Creek Gold System Continues to Expand.

2009-06-08; Wagner, D.W., Third and Fourth Drill Added on TWM's Thunder Creek Property, Timmins, Ontario.

2009-06-24; Makuch, T., Lake Shore Gold Reports 12.75 Grams per Tonne Over 83.40 Metres at Thunder Creek.

Wagner, D.W., WTM Intersects 83.40 Metres (273.55 feet) Grading 12.75 g/t (0.37 oz/ton) Gold on Thunder Creek Property, Timmins, Ontario.

2009-07-13; Wagner, D.W., West Timmins Mining Inc. Annual Report 2009.

2009-08-05; Makuch, T., Lake Shore Gold advances Projects on Schedule and Budget and Achieves Exploration Success in Second Quarter and First Half of 2009.

2009-08-24; Wagner, D.W., West Timmins Gold Project Update.

2009-08-24; Makuch, T., Lake Shore Gold Reports High-Grade Intercepts from Underground Drilling at Timmins Mine.

2009-08-25; Makuch, T., Lake Shore Gold Continues to Establish Large Gold System at Thunder Creek, Porphyry Structure Extended To At Least 1,125 Metre Depth.

2009-08-25; Wagner, D.W., WTM Acquires 10 Additional Properties In The West Timmins Gold District.

Wagner, D.W., Thunder Creek Drilling Intersects 12.17 g/t Gold Over 9.00 Metres, Extends Porphyry System to 1,125 Vertical Metres Depth.

2009-08-27; Makuch, T., Lake Shore Gold and West Timmins Agree To Business Combination.

2009-10-07; Makuch, T., Lake Shore Gold Releases Updated National Instrument 43-101 Report for Timmins Mine.

2009-10-29; Makuch, T., Lake Shore Gold Reports Results of Underground Drilling and Development at Timmins Mine, Results Confirm Previous Drilling and Expand Resource Potential.

2009-11-04; Makuch, T., West Timmins Mining Shareholders Approve Business Combination Agreement With Lake Shore Gold.

2009-11-06; Makuch, T., Lake Shore Gold and West Timmins Mining Complete Business Combination.

2009-11-11; Makuch, T., Lake Shore Gold Continues to Achieve Development and Exploration Success and to Grow Property Position, Plans to Commence Accelerated Thunder Creek Advanced Exploration Program.

2010-01-06; Makuch, T., Lake Shore Gold Acquires Interest in RT Minerals Corp.

2010-01-26; Makuch, T., Lake Shore Gold Extends Thunder Creek to Depth, Confirms High-Grade Core and Discovers New Zone.

2010-02-12; Makuch, T., Lake Shore Gold Commences Drill Program on Gold River Trend, the Company's Third Major Timmins West Target.

2010-02-17; Makuch, T., Lake Shore Gold Reports Results of Underground Exploration at Timmins Mine 650-Level Test Block.

2010-02-18; Makuch, T., Lake Shore Gold Announces Major Extension to Timmins Mine Mineralization, Thunder Creek Rusk Horizon.

2010-03-10; Makuch, T., Lake Shore Gold Announces 2009 Year End Results, Continued Exploration and Development Success, Timmins Mine to Achieve Commercial Production in 2010.

2010-04-12; Makuch, T., Annual Report 2009.

2010-04-27; Makuch, T., Lake Shore Gold Expands Resources Potential at Timmins Mine.

2010-05-04; Makuch, T., Lake Shore Gold Advances Third Major Target in Timmins West Complex, Confirms Presence of Large Gold-Bearing System Along Gold River Trend Extending to Depth.

2010-05-05; Makuch, T., Lake Shore Gold Announces Continued Progress at Three Timmins Mining Projects During First Quarter 2010.

2010-06-23; Makuch, T., Lake Shore Gold Intersects High-Grade Mineralization at Thorne Property, Expands Resource Potential Near Surface and at Depth.

2010-06-29; Makuch, T., Lake Shore Gold Ramp Reaches Thunder Creek Deposit, Intersects High-Grade Gold Mineralization.

2010-08-10; Makuch, T., Lake Shore Gold Announces Continued Progress During Second Quarter 2010.

2010-08-10; Makuch, T., Lake Shore Gold Reports Wide, High-Grade Intercepts at Timmins Mine Including 13.55 GPT over 50.80 Metres and 61.35 GPT Over 15.00 Metres.

2010-08-30; Makuch, T., Lake Shore Gold Expands Thunder Creek Rusk Zone, Announces Additional Wide, High-Grade Intercepts.

2010-11-01; Makuch, T., Lake Shore Gold Continues to Confirm and Expand Thunder Creek Rusk Horizon, Initial Drilling on 650 Level Intersects Rusk Zone and 100 Metres of Porphyry.

2010-11-10; Makuch, T., Lake Shore Gold Achieves Key Production, Development and Exploration Milestones Following Successful Third Quarter.

2010-11-11; Makuch, T., Lake Shore Gold Announces New High-Grade Intercepts, Major Extension of Main Zone and Expansion of Resource Blocks at Timmins Mine.

2010-11-24; Makuch, T., Lake Shore Gold Confirms and Expands Large Gold System in Thunder Creek Porphyry, Intersects 99.60 Metres Grading 4.91 GPT Including 6.92 GPT Over 61.4 Metres.

2010-12-01; Makuch, T., Lake Shore Gold Achieves 12,000 Ounces of Gold in November, Files Closure Plan for Commercial Production.

2011-01-06; Makuch, T., Lake Shore Gold Declares Commercial Production at Timmins Mine, 12,300 Ounces of Gold Produced in December of 2010.

2011-01-07; Makuch, T., Lake Shore Increases Interest In RT Minerals Corp.

2011-01-25; Makuch, T., Lake Shore Gold to Nearly Triple Gold Production in 2011, Significantly Grow Resources and Increase Exploration Spending.

2011-01-25; Makuch, T., Lake Shore Gold Confirms Broad Mineralized Envelope With High-Grade Sections Around 730 Level at Thunder Creek.

2011-02-24; Makuch, T., Lake Shore Gold Intersects Wide, High-Grade Mineralization at Timmins Mine, Confirms and Expands Ultramafic and Main Zones.

2011-03-04; Makuch, T., Lake Shore Gold Reports Wide Intersections with High-Grade Sections within Porphyry Zone at Thunder Creek, Underground and Surface Drilling Highlight Potential to Expand Mineralized System.

2011-03-09; Makuch, T., Lake Shore Gold Achieves Major Milestones in 2010, On Track to Nearly Triple Production and Significantly Grow Resources in 2011.

2011-05-15; Makuch, T., Annual Report 2010.

2011-05-02; Makuch, T., Lake Shore Gold Intersects Wide, High-Grade Mineralization at Timmins Mine, Highlights Significant Potential For Resource Expansion and Discovery of New Zones.

2011-05-03; Makuch, T., Lake Shore Gold Announces First Quarter 2011 Production Results, Company Targeting 125,000 Ounces in 2011.

2011-05-25; Makuch, T., Lake Shore Announces First Quarter 2011 Results Including Strong Gold Sales, Low Operating costs and Continued Exploration Success.

2011-07-18; Makuch, T., Lake Shore Gold Releases Production Results for Second Quarter and First Six-Months of 2011, Reviews 2011 Outlook.

2011-07-26; Makuch, T., Lake Shore Gold Continues To Define and Extend Mineralization at Thunder Creek, Potential New Zone Discovered 500 Metres Along TC-144 Trend.

2011-08-09; Makuch, T., Lake Shore Gold Announces Second Quarter 2011 Financial Results, Comments On Progress Made in Support of Future Production.

2011-10-11; Makuch, T., Lake Shore Gold Reports Higher Commercial Production from Timmins Mine in Third Quarter, Maintains Target Production Range for 2011.

2011-11-10; Makuch, T., Lake Shore Gold discovers Potential 1.9 Kilometre Down Plunge Extension of Timmins Gold Mineralization.

2011-11-16; Makuch, T., Lake Shore Gold Announces Large, High-Grade Initial Resource at Thunder Creek.

2012-01-12; Makuch, T., Lake Shore Reports 2011 Operating Results, Pours 26,550 ounces in Fourth Quarter and 86,565 ounces for Full Year.

2012-01-17; Makuch, T., Lake Shore Gold Announces New Extension at Thorne Property, Mineralization Now Confirmed 750 Metres East of Existing Resource.

2012-02-08; Makuch, T., Lake Shore and Franco-Nevada Enter Agreement for $50 Million Royalty and Equity Investment.

2012-02-15; Makuch, T., Lake Shore Confirms Large-Scale Resources For Timmins West Mine.

2012-02-22; Makuch, T., Lake Shore Gold Announces Large Increase in Resources at Gold River Trend, Total Ounces Nearly Triple, Grade, Doubles.

2012-02-28; Makuch, T., Lake Shore Gold Announces Results of Preliminary Economic Assessment for the Timmins West Mine, PEA Highlights Potential Positive Economics, Substantial Cash Flow, and Attractive Returns.

2012-03-08; Makuch, T., Lake Shore Gold and Franco-Nevada Complete $50 Million Royalty and Equity Investment Transaction.

2012-03-26; Makuch, T., Lake Shore Gold Announces Fourth Quarter and Full-Year 2011 Financial Results, Company on Track for Rapid Production Growth by Late 2012.

2012-03-30; Makuch, T., Lake Shore Gold Announces Large Increase in Measured and Indicated Resources at Bell Creek Mine.

2012-03-30; Makuch, T., Lake Shore Gold Files Technical Report for Timmins West Mine.

2012-04-02; Makuch, T., Lake Shore Gold Announces Reserve Estimate for Timmins West Mine, New Reserve to Support Next Five Years of Production.

2012-04-05; Makuch, T., Lake Shore Gold Announces First Quarter 2012 Operating Results, Company on Track to Achieve 2012 Production Target.

2012-04-05; Makuch, T., Lake Shore Gold announces filing of Gold River Trend Technical Report.

2012-04-11; Makuch, T., Lake Shore Gold Enters Agreement for Credit Facility of up to $70 Million with Sprott Resource Lending Partnership.

2012-05-01; Makuch, T., Lake Shore Gold Reports Significant New Drill Intercepts at Fenn-Gib Open-Pit Project Including 1.93 gpt Gold Over 241.20 Metres, Results Highlight Potential for Major Resource Expansion.

2012-05-10; Makuch, T., Lake Shore Gold Exceeds Targets and Achieves Continued Operating Improvements During First Quarter 2012, Company Remains on Track for Strong Production Growth and Positive Free Cash Flow.

2012-05-18; Makuch, T., Lake Shore Gold Files Timmins West Mine Reserve Technical Report

2012-05-24; Makuch, T., Lake Shore Gold Reports Smoke from Forest Fire Results in Precautionary Suspension of Mining at Timmins West Mine, Mill Production Unaffected

2012-05-27; Makuch, T., Lake Shore Gold Resumes Mining Operations at Timmins West Mine

2012-06-17; Makuch, T., Lake Shore Gold Announces Significant Extension of High-Grade Core at Gold River Trend

2012-06-08; Makuch, T., Standard & Poor's Announces Changes in the S&P/TSX Canadian Indices

2012-06-13; Makuch, T., Lake Shore Gold Forecasts 2012 Cost Savings While Remaining on Track to Achieve Key Production Targets

2012-06-14; Makuch, T., Lake Shore Gold Completes Credit Facility Agreement for Up to $70 Million with Sprott Resource Lending Partnership

2012-07-04; Makuch, T., Lake Shore Gold Reports Strong Second Quarter Production of 24,426 Ounces of Gold

2012-07-13; Makuch, T., Lake Shore Gold Announces Details of Second Quarter 2012 Conference Call and Webcast

2012-07-26; Makuch, T., Lake Shore Gold and Revolution Resources Amend Option Agreement for Mexican Properties

2012-08-09; Makuch, T., Lake Shore Gold Reports Strong Second Quarter Results

2012-09-11; Makuch, T., Lake Shore Gold Announces Management Change

2012-09-18; Makuch, T., Lake Shore Gold Announces Exercise of Underwriters' Over-Allotment Option for $13.5 Million of Additional Convertible Debentures

2012-10-10; Makuch, T., Lake Shore Gold Reports Third Quarter 2012 Production of 20,939 Ounces of Gold, Company Remains on Track to Achieve 2012 Production Guidance

2012-10-25; Makuch, T., Lake Shore Gold Announces Details of Third Quarter 2012 Conference Call and Webcast

2012-11-07; Makuch, T., Lake Shore Gold Reports Third Quarter 2012 Results, Company on Track to Meet 2012 Production Target and Achieve Strong Growth in 2013

2012-12-11; Makuch, T., Lake Shore Gold on Track for Strong Finish to 2012, Processing Capacity Increased by 25%

2013-01-10; Makuch, T., Lake Shore Gold Achieves 2012 Production Target, Company Poised for Sharply Higher Production and Lower Costs in 2013

2013-01-11; Makuch, T., Lake Shore Gold Announces Adoption of Corporate Governance Measures

2013-01-21; Makuch, T., Lake Shore Gold Discovers New Mineralization 850 Metres South of Thunder Creek Along TC-144 Trend

2013-01-28; Makuch, T., Lake Shore Gold Announces Launch of Investor Webinar Series

2013-01-30; Makuch, T., Lake Shore Gold Reaches Agreement to Sell Mexican Properties to Revolution Resources

2013-02-01; Makuch, T., Lake Shore Gold to Draw $35 Million Standby Line of Credit

2013-02-06; Makuch, T., Lake Shore Gold Announces Management Change

2013-02-25; Makuch, T., Lake Shore Gold to Reduce Carrying Value of Assets

2013-02-28; Makuch, T., Lake Shore Gold to Host Second Investor Webinar

2013-03-12; Makuch, T., Lake Shore Gold Announces Details of Full Year and Fourth Quarter 2012 Conference Call and Webcast

2013-03-18; Makuch, T., Lake Shore Gold Reports Solid Progress in 2012, Company Nearing Completion of Key Construction Programs, Strong Production Growth and Lower Costs Planned in 2013

2013-03-19; Makuch, T., Lake Shore Gold Announces Appointment of Philip C. Yee as Vice-President & Chief Financial Officer

2013-03-28; Makuch, T., Lake Shore Gold Files Bell Creek Mine Reserve Technical Report

2013-04-08; Makuch, T., Lake Shore Gold Reports First Quarter 2013 Production of 23,200 Ounces of Gold

2013-04-22; Makuch, T., Lake Shore Gold to Hold Annual Meeting in Toronto on May 15, 2013

2013-05-07; Makuch, T., Lake Shore Gold Announces Details of First Quarter 2013 Conference Call and Webcast

2013-05-09; Makuch, T., Lake Shore Gold Completes Sale of Mexican Portfolio to Revolution Resources Corp. for Significant Equity Interest

2013-05-10; Makuch, T., Lake Shore Gold Announces Amendments to Shareholder Meeting Matters

2013-05-14; Makuch, T., Lake Shore Gold Reports First Quarter 2013 Results

2013-05-16; Makuch, T., Lake Shore Gold Announces Results of Shareholders' Meeting

2013-06-24; Makuch, T., Lake Shore Gold Reports Improving Operating Performance, Company on Track for Strong Second Quarter and for Net Free Cash Flow by Late 2013

2013-07-04; Makuch, T., Lake Shore Gold Reports Record Production in Second Quarter 2013

2013-07-29; Makuch, T., Lake Shore Gold Announces Details of Second Quarter 2013 Conference Call and Webcast

2013-08-12; Makuch, T., Lake Shore Gold Reports Record Production and Lower Operating Costs in Second Quarter 2013, Commissioning of Mill Expansion Progressing

2013-10-09; Makuch, T., Lake Shore Gold Reports Solid Third Quarter 2013 Operating Results, Announces Completion of Mill Expansion and Achievement of Production Target of Over 3,000 Tonnes Per Day

2013-10-23; Makuch, T., Lake Shore Gold Announces Details of Third Quarter 2013 Conference Call and Webcast

2013-11-05; Makuch, T., Lake Shore Gold Appoints Diane Francis to Board of Directors

2013-11-05; Makuch, T., Lake Shore Gold Reports Lower Costs, Improved Grades and Higher Gold Sales in Third Quarter 2013

2013-12-03; Makuch, T., Lake Shore Gold Produces 16,700 Ounces in November, Company Generating Net Free Cash Flow in Fourth Quarter 2013

2013-12-10; Makuch, T., Lake Shore Gold Increases 2014 Production Guidance

2013-12-16; Makuch, T., Lake Shore Gold Extends Maturity of Standby Line of Credit and Reduces Debt Levels

2014-01-07; Makuch, T., Lake Shore Gold Achieves Record Production of 134,600 Ounces in 2013 and 51,700 Ounces During Fourth Quarter

2014-01-24; Makuch, T., Lake Shore Gold's Preliminary 2013 Operating Cost Per Ounce Sold Beats Company Guidance

2014-03-10; Makuch, T., Lake Shore Gold Announces Details of Fourth Quarter and Full-Year 2013 Conference Call and Webcast

2014-03-18; Makuch, T., Lake Shore Gold Reports Record Operating Results in 2013, Company Growing Production and Generating Free Cash Flow in 2014

2014-03-31; Makuch, T., Lake Shore Gold Announces Filing of Annual Information Form and Form 40-F

2014-04-03; Makuch, T., Lake Shore Gold Produces 44,600 Ounces in First Quarter 2014

2014-04-08; Makuch, T., Lake Shore Gold Announces Details of Annual General Meeting and First Quarter 2014 Conference Call and Webcast

2014-04-10, Makuch, T., Lake Shore Gold Reports Cash Operating Costs of US$630 Per Ounce for First Quarter 2014, Better Than Full-Year 2014 Guidance

2014-05-06; Makuch, T., Lake Shore Gold Reports Strong First Quarter Operating and Financial Results

2014-05-07; Makuch, T., Lake Shore Gold Announces Results of Shareholders' Meeting

2014-05-22; Makuch, T., Lake Shore Gold Announces Management Change

2014-06-05; Makuch, T., Lake Shore Gold Announces $10 Million Debt Prepayment Driven by Continued Strong Operating Results and Increasing Cash Position

2014-07-03; Makuch, T., Lake Shore Gold Reports Record Production of 52,300 Ounces in Second Quarter 2014

2014-07-10; Makuch, T., Lake Shore Gold Reports Preliminary Second Quarter Costs

2014-07-16; Makuch, T., Lake Shore Gold Announces Details of Second Quarter and Six-Month 2014 Conference Call and Webcast

2014-07-31; Makuch, T., Lake Shore Gold Reports Record Operating Results in Second Quarter 2014

2014-10-03; Makkuch, T., Lake Shore Gold Produces 142,500 Ounces of Gold in First Nine Months of 2014, Company Expects to Meet or Exceed Top End of 2014 Production Guidance

2014-10-07; Makuch, T., Lake Shore Gold Intersects Wide, High-Grade Gold Mineralization at 144 Property, Confirms Earlier Gold Discovery Near Thunder Creek Deposit

2014-10-09; Makuch, T., Lake Shore Gold Reports Preliminary Costs for Third Quarter 2014

2014-10-16; Makuch, T., Lake Shore Gold Announces Details of Third Quarter and Nine-Month 2014 Conference Call and Webcast

2014-10-21; Makuch, T., Lake Shore Gold Confirms and Extends S2 Fold Nose Mineralization at Timmins Deposit, Continues Evaluation of High-Grade Gold Mineralization Southwest of Thunder Creek in 144 Gap

2014-10-29; Makuch, T., Lake Shore Gold Reports Strong Operating Performance, Increases Cash and Achieves Exploration Success in Third Quarter 2014

2014-11-10; Makuch, T., Lake Shore Gold Announces Appointment of Peter van Alphen as Vice-President, Operations

2014-11-13; Makuch, T., Drilling at 144 Property Intersects Additional Wide, High-Grade Mineralization at New 144 Gap Zone

2014-12-15; Makuch, T., Lake Shore Gold Appoints Ingrid J. Hibbard to Board of Directors

2014-12-17; Makuch, T., Lake Shore Gold to Repay $20 Million Standby Line of Credit

2014-12-18; Makuch, T., Lake Shore Gold Targets Continued Strong Production, Low Unit Costs and Aggressive Exploration in 2015

January 7, 2015 Lake Shore Gold Reports Record Production of 185,600 Ounces in 2014, Company Repays $45 Million of Debt and Increases Cash and Bullion to Approximately $60 Million

January 15, 2015 Lake Shore Gold Beats 2014 Cost Targets; Low Unit Costs Drive Free Cash Flow

January 27, 2015 Lake Shore Gold Triples Minimum Strike Length of 144 Gap Zone Mineralization

February 24, 2015 Lake Shore Gold Identifies Thick, High-Grade Core of Gold Mineralization at 144 Gap Zone

March 12, 2015 Lake Shore Gold Announces 29% Increase in Ore Reserves

March 13, 2015 Lake Shore Gold Announces Details of Year-End and Fourth Quarter 2014 Conference Call and Webcast

March 26, 2015 Lake Shore Gold Reports Record 2014 Financial and Operating Results

March 30, 2015 Lake Shore Gold Announces Filing of Annual Information Form and Form 40-F

April 7, 2015 Lake Shore Gold Reports Record Quarterly Production

April 8, 2015 Lake Shore Gold Announces Details of Annual General Meeting and First Quarter 2015 Conference Call and Webcast

April 13, 2015 Lake Shore Gold Reports Strong Cost Performance in Q1/15

April 27, 2015 Lake Shore Gold Continues to Intersect Significant Gold Mineralization at 144 Gap Zone, Extends Zone Along Strike and Towards Surface

April 29, 2015 Lake Shore Gold Reports Strong Quarterly Financial and Operating Results in First Quarter 2015

May 4, 2015 Exploration Success Drives Expansion of 144, Bell Creek Drill Programs, Lake Shore Gold Reports

May 6, 2015 Lake Shore Gold Announces Results of Shareholders' Meeting

May 29, 2015 Lake Shore Gold Announces Final Payment on Senior Secured Debt

June 3, 2015 Lake Shore Gold Announces Passing of Company Director Peter Crossgrove

June 25, 2015 Lake Shore Gold Announces Second Gold Discovery at 144

July 8, 2015 Lake Shore Gold Produces 95,600 Ounces in First Half of 2015, Company Announces Improved Full-Year Operating Outlook

July 14, 2015 Lake Shore Gold Announces First Half and Second Quarter 2015 Preliminary Cost Estimates

July 16, 2015 Lake Shore Gold Proposes to Acquire Temex Resources Corporation for $0.13 Per Share

July 17, 2015 Lake Shore Gold Announces Details of First Half and Second Quarter 2015 Conference Call and Webcast

July 30, 2015 Lake Shore Gold Reports First Half and Second Quarter 2015 Financial and Operating Results

July 31, 2015 Lake Shore Gold Enters Into Arrangement Agreement With Temex Resources Corp.

August 4, 2015 Lake Shore Gold Acquires Significant Equity Interest in IDM Mining Ltd.

August 14, 2015 Lake Shore Gold Acquires Additional Equity Interest in IDM Mining Ltd.

September 14, 2015 Temex Shareholders Overwhelmingly Approve Arrangement Agreement With Lake Shore Gold

September 16, 2015 Lake Shore Gold Reports High-Grade Intersections From Initial Underground Drilling at 144 Gap Zone

September 18, 2015 Lake Shore Gold Completes Acquisition of Temex Resources Corp.

October 14, 2015 Lake Shore Gold Produces 136,200 Ounces in First Nine Months of 2015, Cash Operating Costs Average US$567/oz, AISC US$844/oz

October 16, 2015 Lake Shore Gold Announces Details of Nine Month and Third Quarter 2015 Conference Call and Webcast

October 28, 2015 Lake Shore Gold Reports Continued Drilling Success at 144 Gap, Discovers New Gold Mineralization at 144 South

October 29, 2015 Lake Shore Gold Reports Nine Month and Third Quarter 2015 Financial and Operating Results

December 7, 2015 Lake Shore Gold Announces Normal Course Issuer Bid to Purchase Convertible Debentures

December 10, 2015 Lake Shore Gold Announces Normal Course Issuer Bid Approved by TSX

January 8, 2016 Lake Shore Gold Reports Full Year and Fourth Quarter 2015 Production Results, Company Releases 2016 Guidance

January 19, 2016 Lake Shore Gold Reports Strong 2015 Operating Cost Performance

February 4, 2016 Lake Shore Gold Confirms and Expands Shallow, High-Grade Gold Mineralization at Whitney Project

February 5, 2016 Lake Shore Gold Comments on Trading Activity

February 8, 2016 Lake Shore Gold Announces Large Initial Resource at 144 Gap Deposit

February 8, 2016 Tahoe Resources and Lake Shore Gold Announce Business Combination

28.0 DATE AND SIGNATURE PAGE

.

This report titled "43-101 Technical Report, Updated Mineral Reserve Estimate For Timmins West Mine and Initial Resource Estimate for the 144 Gap Deposit, Timmins, Ontario, Canada" having an effective date of December 31, 2015 was prepared under the supervision of the following Qualified Persons:

(Signed & Sealed) "Natasha Vaz"

Dated at Toronto, Ontario
February 29, 2016

Natasha Vaz, P. Eng., MBA
Vice President Technical Services
Lake Shore Gold Corp.

(Signed & Sealed) "Eric Kallio"

Dated at Toronto, Ontario
February 29, 2016

Eric Kallio, P. Geo.
Sr. Vice President Exploration
Lake Shore Gold Corp.

29.0 CERTIFICATES OF QUALIFIED PERSONS

CERTIFICATE

To Accompany the Report titled "43-101 Technical Report, Updated Mineral Reserve Estimate For Timmins West Mine and Initial Resource Estimate for the 144 Gap Deposit, Timmins, Ontario, Canada".

I, Natasha Vaz, do hereby certify that:

1. I work at the LSG office located at 181 University Ave, Suite 2000, Toronto, ON, Canada, M5H 3M7.
2. I am a graduate of the University of Toronto, Toronto, Ontario with a B.Sc. in Mineral Engineering.
3. I have practiced my profession continuously since 2002.
4. I am a member of the Professional Engineers of Ontario (Membership Number 100122657).
5. I have been continuously employed during this period by Goldcorp Inc., Red Lake Gold Mines, FNX Mining, and Lake Shore Gold Corp.
6. I have experience in operations, engineering, and project management in underground mining environments. My accountabilities in this role included all phases of project development from project evaluation (study) through to project development (execution).
7. I have read the definition of "qualified person" set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a qualified person for the purpose of NI 43-101.
8. I am currently employed by Lake Shore Gold Corp. (since May 2008) and now hold the position of Vice-President, Technical Services. I am directly accountable for the Updated Reserve estimate for Timmins West Mine. I have provided constant feedback and oversight throughout the development of the Reserve Estimate and have reviewed all supporting documentation.
9. I take personal accountability for the content of Items 13, 15, 16, 17, 18, 19, 20, 21, 22, and 24 and parts of Items 1, 2, 3, 25, 27, 28, and 29, which I have reviewed and found to be fair and reasonable assessments suitable for inclusion in the estimated Updated Reserves for Timmins West Mine having an effective date of December 31, 2015.
10. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report.
11. I have read NI 43-101 and form 43-101F1, as well as the Repeal and Replacement of NI 43-101 Standards of Disclosure for Mineral Projects, Form 43-101F1 Technical Reports, and Companion Policy 43-101CP (April 08, 2011) and this Technical Report has been prepared in compliance with these instruments and forms.
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated in Toronto, Ontario, this 29th day of February 2016.

"Natasha Vaz"
(Signed and Sealed)
Natasha Vaz, P. Eng., MBA

CERTIFICATE

To Accompany the Report titled "43-101 Technical Report, Updated Mineral Reserve Estimate For Timmins West Mine and Initial Resource Estimate for the 144 Gap Deposit, Timmins, Ontario, Canada".

I, Eric Kallio, do hereby certify that:

1. I work at the LSG office located at 181 University Ave, Suite 2000, Toronto, ON, Canada, M5H 3M7.
2. I am a graduate of University of Waterloo with a B.Sc. (Hons) in Earth Sciences.
3. I have practiced my profession continuously since 1980.
4. I am a member of the Association of Professional Geoscientists of Ontario (0174).
5. I have practiced my profession as a geologist for 32 years being employed by Placer Dome Canada as Chief Geologist at the Dome Mine, Centerra Gold as Senior Resource Geologist, Kinross Gold as Exploration Manager for Canada, Patricia Mining as Vice President Exploration and as an Independent Geological Consultant for a wide variety of companies in both Canada and abroad including Detour Gold Corp, Pelangio Mines Inc., Ursa Major Minerals, Golden Goose Resources, Verena Minerals, Baffinland Iron Mining, Goldeye Exploration and others.
6. I have experience with various mineral deposit types, Mineral Resource estimation techniques, and the preparation of technical reports.
7. I have read the definition of "qualified person" set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a qualified person for the purpose of NI 43-101.
8. I am currently employed by Lake Shore Gold Corp. (since 2008), and hold the position of Vice President Exploration. I have been directly involved in design and management of both surface and underground and surface exploration, evaluation of new exploration and mining opportunities and management of the underground geology departments at the Timmins West and Bell Creek Mine sites.
9. I take personal accountability for the content of Items 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 23, and 26 and parts of Items 1, 2, 3, 24, 25, 27, 28, and 29 of the report which I have reviewed and found to be fair and reasonable assessments suitable for inclusion in the estimated Updated Reserves for Timmins West Mine having an effective date of December 31, 2015.
10. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report.
11. I have read NI 43-101 and form 43-101F1, as well as the Repeal and Replacement of NI 43-101 Standards of Disclosure for Mineral Projects, Form 43-101F1 Technical Reports, and Companion Policy 43-101CP (April 08, 2011) and this Technical Report has been prepared in compliance with these instruments and that forms.
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated in Toronto, Ontario, this 29th day of February 2016.

"Eric Kallio"
(Signed and Sealed)
Eric Kallio, P. Geo.

APPENDIX 1

MEMOS REGARDING STATISTICAL ANALYSIS OF QA/QC ASSAY DATA FOR THE TIMMINS, THUNDER CREEK AND 144 GAP DEPOSITS

Statistical Analysis of Timmins Mine QAQC Assay Data – November 27th, 2013 to November 20th, 2015

1.0 Introduction

This memo describes a review of Lake Shore Gold's blind QA/QC program for underground diamond drilling for the Timmins Deposit for the period since the last 43-101 technical report inclusive from November 27th, 2013 to November 20th, 2015. During that time period, a total of 68,583 core samples were sent to three different analytical labs, with 80.4%, 19.2%, and 0.4% going to Activation Laboratories (ActLabs), Bell Creek Laboratory, and ALS Canada Ltd. respectively. Activation Laboratories has ISO 9001 accreditation, and gained 17025 CANP4E in early 2014. ALS Canada Ltd. is an accredited lab with ISO 9001 and 17025 CANP4E certification. The Bell Creek Laboratory, a Lake Shore Gold operated Mine Lab, has successfully completed proficiency testing (PTP-MAL) done by CCRMP since September 2012. Table 1.1 summarizes the number of samples sent to the various labs and the number of QA/QC samples used.

Table 1.1: Timmins West: November 27, 2013 to November 20, 2015						
Laboratory	Drill Core Samples	Standards	Blanks	Coarse Duplicates	Total QA/QC Samples	Total Samples Sent (Core + QA/QC)
ALS Canada Ltd.	294	7	8	8	23	317
Activation Laboratories	55,124	1,316	1,598	1,535	4,449	59,573
Bell Creek Laboratory	13,165	328	373	360	1,061	14,226
TOTAL	68,583	1,651	1,979	1,903	5,533	74,116

2.0 Standards

From November 27th, 2013 to November 20th, 2015, 1,651 standard pulps were sent to assay laboratories for analysis.

Results from a variety of standard pulps from three labs have been separated and analyzed from the Timmins Deposit. The labs used in the time period from November 27th, 2013 to November 20th, 2015 were as follows: ALS Canada Ltd., Activation Laboratories Ltd., and Bell Creek Laboratory.

Summary statistics of standard results are shown below. Each table lists the following:

- Target value of standard
- Standard deviation of standard
- The minimum / maximum gates of the standard (+/- 3 standard deviations)
- The number of results for the standard (Nb)
- The mean / average result (Average)
- % relative difference between the mean result and the target (%Diff)
- The number of results below and above the target (Nb below and Nb above)
- The number results outside the Min/Max gates of standard (Nb Fail)
- Percentage of results below and above the target (PBelow and PAbove)
- Percentage of results outside the Min/Max gates of standard (Poutside)

Statistics were compiled for standards with more than 20 results.

There were six plausible mislabels (three O-16a, two O-207, and one O-205) removed from the statistics for ActLabs.

ActLabs performed the best for the standards, and also had the largest sample size (1,274 standards used for statistics), with a failure rate of 2.04%.

Bell Creek Laboratory had a smaller sample size (312 samples) and a failure rate of 5.45%. It appears that one standard affected the failure rate, with 10 failures out of 51 results (very low grade standard O-200). Without this 'problem' standard, Bell Creek Lab's failure rate would be 2.68%.

In terms of accuracy, Bell Creek Lab performed the best, having an average relative difference of 0.67%. The proportions of results below/above the target are 41.99% below, and 58.01% above. Two standards, O-200 and O-207, could have skewed these statistics a little high (refer to Table 2.2).

ActLabs also has a good average relative difference, at -1.15%. The proportions of results below/above the target are 60.87% below, and 39.13% above. The lower grade standards (1.2 g/t Au) tend to have a greater negative bias.

See Tables 2.1 and 2.2 for detailed statistics and Figures 2.1 to 2.3 for detailed plots for each laboratory.

3.0 Blanks

Results from blanks have also been separated by each lab. Here we determine the percentage of results above a given failure limit. Traditionally the cut-off limit is five times the detection limit (0.0125 g/t Au). Lake Shore Gold uses a cut-off limit of 0.1 g/t Au. A total of 1,979 blanks were sent to the various labs.

All three labs performed well for the blanks, with an overall failure rate of 0.40% for all 1,979 blanks sent.

ALS Canada Ltd. had no failures (0.00% failure rate) in eight blanks sent.

ActLabs performed very well, having a failure rate of 0.31% out of 1,598 samples.

Bell Creek Lab also performed well, having a failure rate of 0.80% out of 373 samples sent.

See Table 3.1 below for a breakdown of the blank statistics. See Figures 3.1 to 3.3 for detailed plots.

Table 3.1: Blank Statistics for Each Laboratory Used			
Laboratory	**Total Blanks**	**Number > 0.1**	**% > 0.1**
Activation Laboratories	1,598	5	**0.31**
ALS Canada Ltd.	8	0	**0.00**
Bell Creek Laboratory	373	3	**0.80**
ALL	**1,979**	**8**	**0.40**

4.0 Coarse Duplicates

Coarse duplicates are assays from a new pulp taken from the crushed and ground (but not pulverized) reject of the original sample. There is more variability in these duplicates than in lab duplicates. A total of 1,903 coarse duplicates were sent to the various labs, with detailed statistics shown below in Tables 4.1 to 4.3.

ActLabs had the largest amount of coarse duplicates with 1,536 pairs. ActLabs performed very well for the coarse duplicates, having a percent difference between means of -0.032%. The original values range from 0.0025 g/t Au to 198 g/t Au, and have a mean of 1.95 g/t Au. The coarse duplicate values range from 0.0025 g/t Au to 123 g/t, and also have a mean of 1.95 g/t Au. The correlation coefficient for the pairs is 0.9679, which indicates a very strong linear relationship.

Bell Creek Lab had 360 coarse duplicate pairs for the time period. Bell Creek Lab also performed well, having a percent difference between means of -0.84%. The original values range from 0.0025 g/t Au to 53.667 g/t Au, and have a mean of 1.672 g/t Au. The coarse duplicate values range from 0.0025 g/t to 54.067 g/t Au, and a have a mean of 1.658 g/t Au. The correlation coefficient for the pairs is 0.9952, which indicates a very strong linear relationship.

ALS Canada Ltd. had only 8 coarse duplicate pairs during the time period. The percent difference between the means is 9.48%. The original values range from 0.0025 g/t Au to 3.43 g/t Au, and have a mean of 0.827 g/t Au. The coarse duplicate values range from 0.0025 g/t Au to 4.28 g/t Au, and have a mean of 0.909 g/t Au. See Table 4.1 to 4.3 for detailed statistics and Figures 4.1 to 4.3 for detailed log-normal plots for each lab.

5.0 Check Assays

Lake Shore Gold has performed four 5% check assay programs from November 27th, 2013 to November 20th, 2015. The check assay laboratory used for all programs was SGS Canada Inc. See Table 5.1 below for the number of samples sent to each laboratory within each check assay program period. Statistics were compiled for the entire time period from the last NI 43-101 technical report to the effective date of this report.

The same statistics were compiled for the check assays as for the coarse duplicates. In this case, we are comparing results from re-assaying another cut from the same pulp, but at a different lab.

Table 5.1: Total Timmins Deposit Samples used for each check assay program.	
Nov 1, 2013 to May 31, 2014	
Laboratory	# Samples
ActLabs	16,948
Bell Creek Lab	5,626
Jun 1, 2014 to Aug 31, 2014	
Laboratory	# Samples
ActLabs	5,203
Bell Creek Lab	1,478
Sep 1, 2014 to Apr 30, 2015	
Laboratory	# Samples
ActLabs	14,035
Bell Creek Lab	5,428
May 1, 2015 to Sep 30, 2015*	
Laboratory	# Samples
ActLabs	16,211
Bell Creek Lab	2,299

*This check assay program was still in progress at the time of data compilation.

5.1 ActLabs vs. SGS Canada Inc.

A total of 1,858 ActLabs pulps were sent and completed for check assay to SGS Canada Inc.

The original ActLabs values range from 0.0025 g/t Au to 87.1 g/t Au, and have a mean of 1.968 g/t Au. The check SGS values range from 0.0025 g/t Au to 99.740 g/t Au, and have a mean of 1.956 g/t Au. The percent difference between means is -0.61%. The correlation coefficient is 0.9897, indicating a very strong linear relationship.

See Figure 5.1 for detailed log-normal plot and Table 5.2 for detailed statistics.

5.2 ALS Canada Ltd. vs. SGS Canada Inc.

A total of 29 ALS Canada Ltd. pulps were sent for check assay to SGS Canada Inc.

The original ALS values range from 0.0025 g/t Au to 22.0 g/t Au, and have a mean of 2.726 g/t Au. The check SGS values range from 0.0025 g/t Au to 22.4 g/t Au, and have a mean of 2.401 g/t Au. The percent difference between means is -12.67, which could be skewed by the low sample size. The correlation coefficient for the pairs is 0.9521, indicating a strong linear relationship.

See Figure 5.2 for detailed log-normal plot and Table 5.3 for detailed statistics.

5.3 Bell Creek Laboratory vs. SGS Canada Inc.

A total of 750 Bell Creek Lab pulps were sent and completed for check assay to SGS Canada Inc.

The original Bell Creek Lab values range from 0.0025 g/t Au to 19.880 g/t Au, and have a mean of 1.022 g/t Au. The check SGS values range from 0.0025 g/t Au to 20.540 g/t Au, and have a mean of 1.064 g/t Au. The percent difference between means is 4.06%. The correlation coefficient for the pairs is 0.9477, indicating a strong linear relationship.

See Figure 5.3 for detailed log-normal plot and Table 5.4 for detailed statistics.

6.0 Analytical Lab Internal Standards, Blanks, and Duplicates

No analysis has been completed for this report on the main three analytical labs' internal QA/QC samples (standards, blanks, or duplicates). This data is routinely reviewed by the drill program QP and database administrator when assay results are received from the respective labs and prior to importation into the database.

7.0 Conclusions

Drill core samples from underground drill holes that were added to the Timmins Deposit drill database between November 27th, 2013 and November 20th, 2015 were sent to three analytical labs.

No critical issues were identified that would lead Lake Shore Gold to believe that there is a concern with the analytical results.

Tables 2.1 and 2.2: Standard Performance at Each Laboratory

Table 2.1: Timmins West - ActLabs Standard Performance - November 27th, 2013 to November 20th, 2015													
Standard	**Mean Value**	**1s**	**Min**	**Max**	**Nb**	**Average**	**%Diff**	**Nb below**		**Nb Fail**	**Pbelow**	**Pabove**	**Poutside**
O-16a	**1.810**	0.060	**1.620**	**1.990**	175	1.785	-1.408	116	59	3	66.29	33.71	1.71
O-19a	**5.490**	0.100	**5.190**	**5.790**	127	5.524	0.615	54	73	4	42.52	57.48	3.15
O-200	**0.340**	0.012	**0.303**	**0.378**	141	0.336	-1.074	86	55	2	60.99	39.01	1.42
O-201	0.514	0.017	0.462	0.565	158	0.506	-1.494	108.5	49.5	3	68.67	31.33	1.90
O-202	**0.752**	0.026	**0.675**	**0.830**	46	0.723	-3.897	34.5	11.5	5	75.00	25.00	10.87
O-207	3.472	0.130	3.082	3.862	216	3.504	0.936	82	133	0	37.96	61.57	0.00
O-205	1.244	0.053	1.085	1.402	229	1.230	-1.111	149	81	1	65.07	35.37	0.44
O-502	**0.491**	0.020	**0.431**	**0.551**	182	0.473	-3.728	145.5	36.5	8	79.95	20.05	4.40
TOTAL	**1.764**				**1274**	**1.760**	**-1.150**			**26**	**60.87**	**39.13**	**2.04**

Table 2.2: Timmins West - Bell Creek Laboratory Standard Performance - November 27th, 2013 to November 20th, 2015													
Standard	**Mean Value**	**1s**	**Min**	**Max**	**Nb**	**Average**	**%Diff**	**Nb below**	**Nb above**	**Nb Fail**	**Pbelow**	**Pabove**	**Poutside**
O-16a	**1.810**	0.060	**1.620**	**1.990**	38	1.822	0.644	8	30	1	21.05	78.95	2.63
O-19a	**5.490**	0.100	**5.190**	**5.790**	23	5.506	0.292	11	12	1	47.83	52.17	4.35
O-200	**0.340**	0.012	**0.303**	**0.378**	51	0.356	4.614	12.5	38.5	10	24.51	75.49	19.61
O-201	0.514	0.017	0.462	0.565	22	0.518	0.725	12	10	2	54.55	45.45	9.09
O-202	**0.752**	0.026	**0.675**	**0.830**	36	0.748	-0.569	19	17	0	52.78	47.22	0.00
O-207	3.472	0.130	3.082	3.862	46	3.490	0.528	12	34	1	26.09	73.91	2.17
O-205	1.244	0.053	1.085	1.402	52	1.218	-2.054	34.5	17.5	1	66.35	33.65	1.92
O-502	**0.491**	0.020	**0.431**	**0.551**	44	0.494	0.634	22	22	1	50.00	50.00	2.27
TOTAL	**1.764**				**312**	**1.769**	**0.665**			**17**	**41.99**	**58.01**	**5.45**

Tables 4.1 to 4.3: Statistics of Coarse Duplicate Results for Each Laboratory

Table 4.1: Statistics of ActLabs Coarse Duplicate Results		
Stats	Original ActLabs Value	Coarse Duplicate ActLabs Value
Number of Samples	1,536	1,536
Mean	1.948	1.948
Maximum Value	198.000	123.000
Minimum Value	0.0025	0.0025
Median	0.013	0.013
Variance	74.213	62.220
Standard Deviation	8.615	7.888
Coefficient of Variation	4.422	4.050
Correlation Coefficient	0.9679	
Coefficient of Determination (R^2)	0.9368	
Percent Difference between Means	-0.0319	

Table 4.2: Statistics of ALS Coarse Duplicate Results		
Stats	Original ALS Value	Coarse Duplicate ALS Value
Number of Samples	8	8
Mean	0.827	0.909
Maximum Value	3.430	4.280
Minimum Value	0.0025	0.0025
Median	0.019	0.018
Variance	1.975	2.466
Standard Deviation	1.405	1.570
Coefficient of Variation	1.699	1.727
Correlation Coefficient	0.9753	
Coefficient of Determination (R^2)	0.9512	
Percent Difference between Means	9.4827	

Table 4.3: Statistics of BCL Coarse Duplicate Results		
Stats	Original BCL Value	Coarse Duplicate BCL Value
Number of Samples	360	360
Mean	1.672	1.658
Maximum Value	53.667	54.067
Minimum Value	0.0025	0.0025
Median	0.033	0.033
Variance	29.124	29.649
Standard Deviation	5.397	5.445
Coefficient of Variation	3.227	3.284
Correlation Coefficient	0.9952	
Coefficient of Determination (R^2)	0.9904	
Percent Difference between Means	-0.8396	

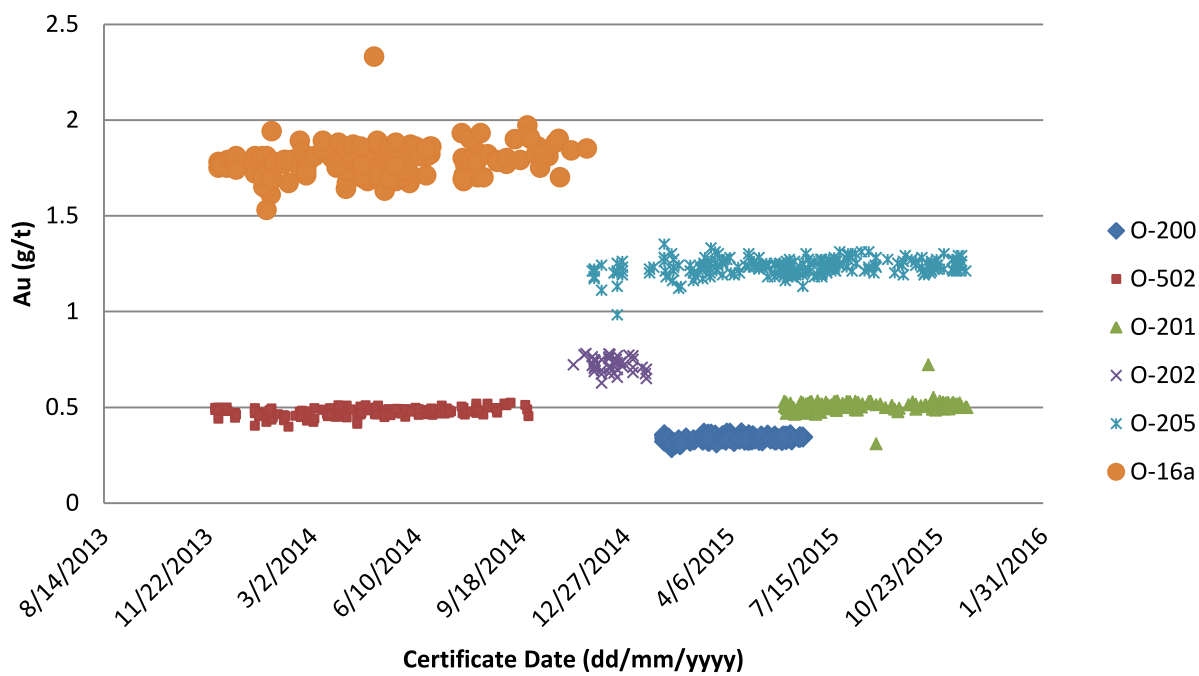
Tables 5.2 to 5.4: Statistics of Check Assay Programs from October 1st, 2012 to August 31st, 2014

Table 5.2: Statistics of Timmins Deposit Assay Results		
Stats	Original ActLabs Value	Check SGS Value
	Au (g/t)	Au (g/t)
Number of Samples	1,858	1,858
Mean	1.968	1.956
Maximum Value	87.100	99.740
Minimum Value	0.003	0.003
Median	0.064	0.072
Variance	35.787	36.921
Standard Deviation	5.982	6.076
Coefficient of Variation	3.039	3.106
Correlation Coefficient	0.9897	
Coefficient of Determination (R^2)	0.9796	
Percent Difference between Means	-0.6126	

Table 5.3: Statistics of Timmins Deposit Check Assay Results		
Stats	Original ALS Value	Check SGS Value
	Au (g/t)	Au (g/t)
Number of Samples	29	29
Mean	2.726	2.401
Maximum Value	22.000	22.400
Minimum Value	0.003	0.005
Median	0.794	0.397
Variance	23.020	22.798
Standard Deviation	4.798	4.775
Coefficient of Variation	1.760	1.988
Correlation Coefficient	0.9521	
Coefficient of Determination (R^2)	0.9065	
Percent Difference between Means	-12.6725	

Table 5.4: Statistics of Timmins Deposit Check Assay Results		
Stats	Original BCL Value	Check SGS Value
	Au (g/t)	Au (g/t)
Number of Samples	750	750
Mean	1.022	1.064
Maximum Value	19.880	20.540
Minimum Value	0.003	0.003
Median	0.060	0.041
Variance	6.242	6.909
Standard Deviation	2.498	2.628
Coefficient of Variation	2.444	2.469
Correlation Coefficient	0.9477	
Coefficient of Determination (R^2)	0.8982	
Percent Difference between Means	4.0594	

Fig. 2.1: Timmins Deposit Standard Performance - ActLabs - Low Grade November 27th, 2013 to November 20th, 2015



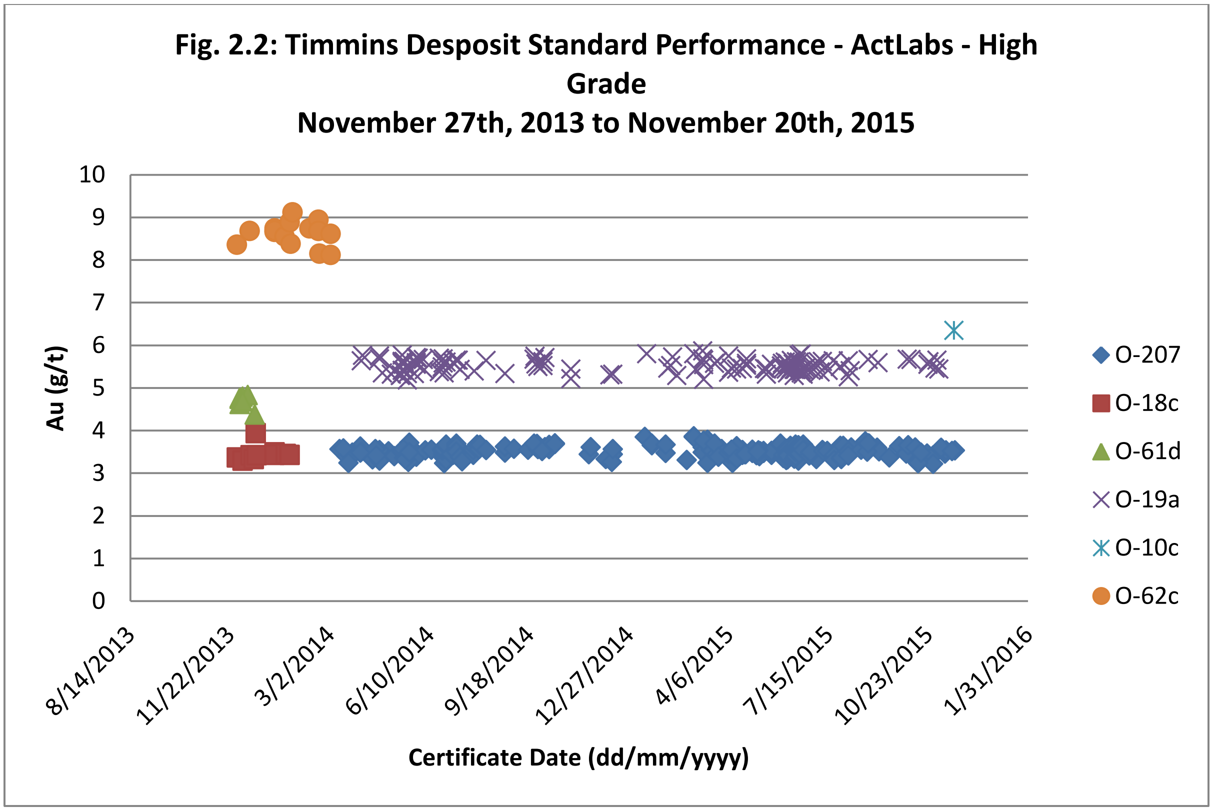


Fig. 2.2: Timmins Desposit Standard Performance - ActLabs - High Grade
November 27th, 2013 to November 20th, 2015
Au (g/t)
10
9
8
7
6
5
4
3
2
1
0
8/14/2013
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
1/31/2016
Certificate Date (dd/mm/yyyy)
O-207
O-18c
O-61d
O-19a
O-10c
O-62c

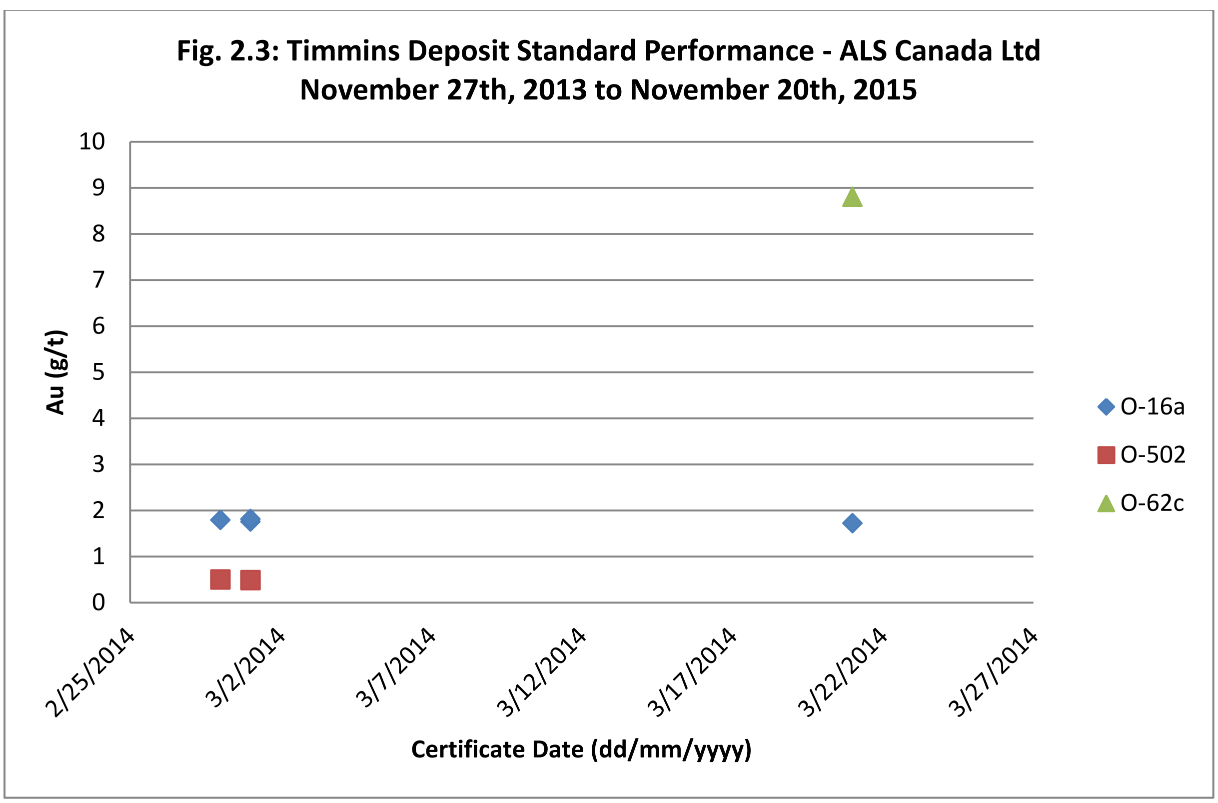


Fig. 2.3: Timmins Deposit Standard Performance - ALS Canada Ltd
November 27th, 2013 to November 20th, 2015
Au (g/t)
10
9
8
7
6
5
4
3
2
1
0
2/25/2014
3/2/2014
3/7/2014
3/12/2014
3/17/2014
3/22/2014
3/27/2014
Certificate Date (dd/mm/yyyy)
O-16a
O-502
O-62c

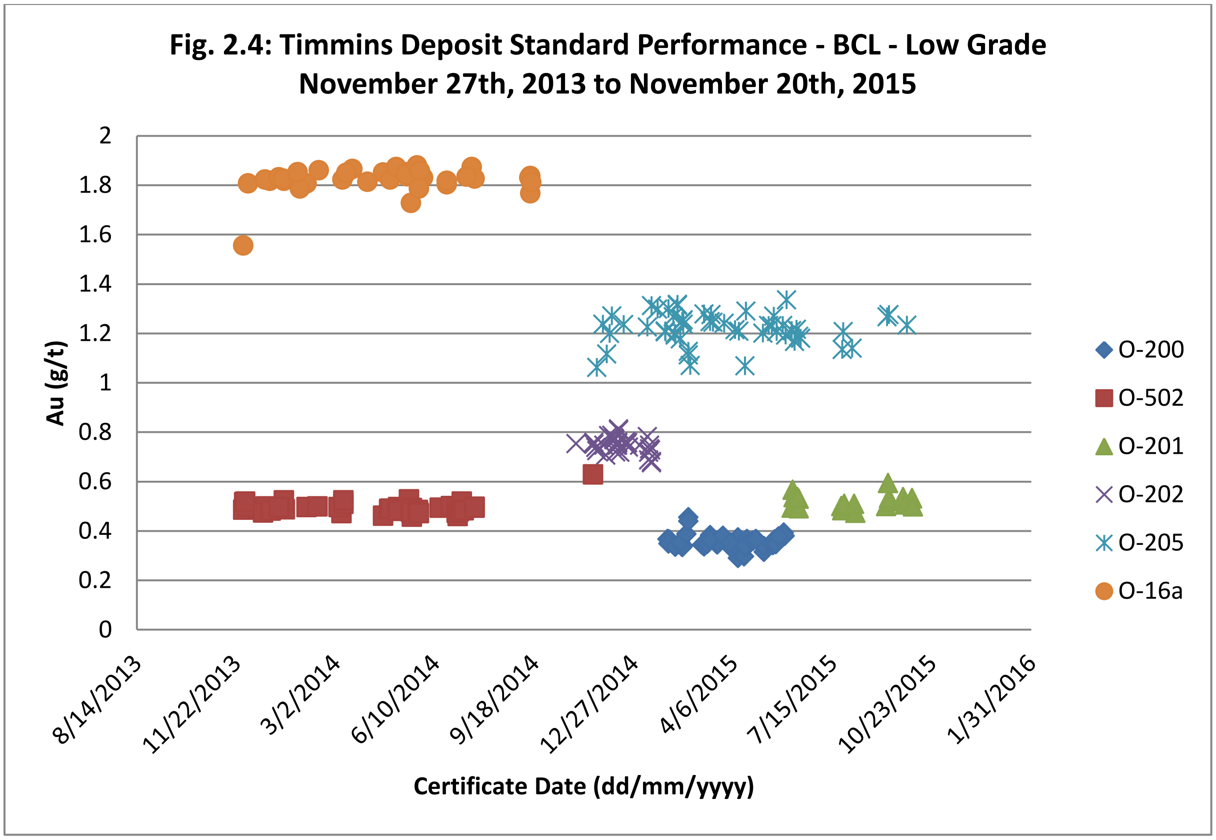


Fig. 2.4: Timmins Deposit Standard Performance - BCL - Low Grade
November 27th, 2013 to November 20th, 2015
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Au (g/t)
8/14/2013
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
1/31/2016
Certificate Date (dd/mm/yyyy)
O-200
O-502
O-201
O-202
O-205
O-16a

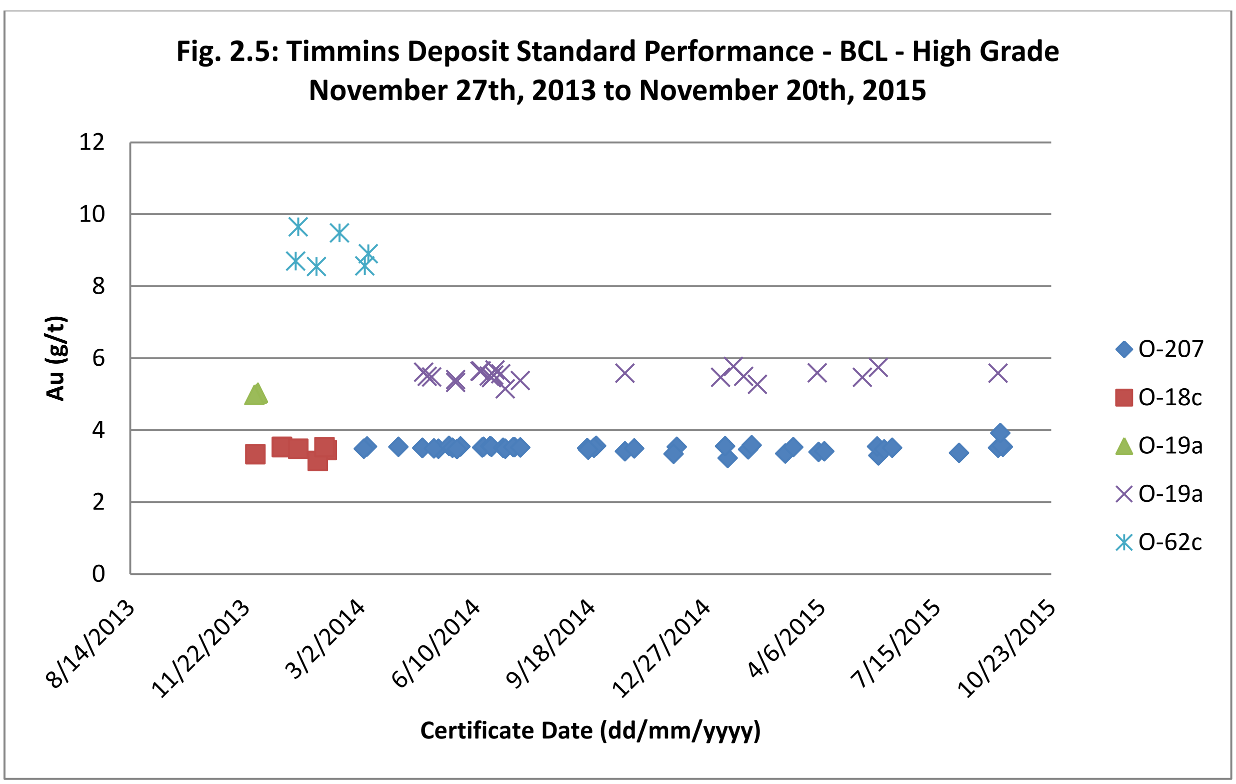


Fig. 2.5: Timmins Deposit Standard Performance - BCL - High Grade
November 27th, 2013 to November 20th, 2015
12
10
8
6
4
2
0
Au (g/t)
8/14/2013
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
Certificate Date (dd/mm/yyyy)
O-207
O-18c
O-19a
O-19a
O-62c

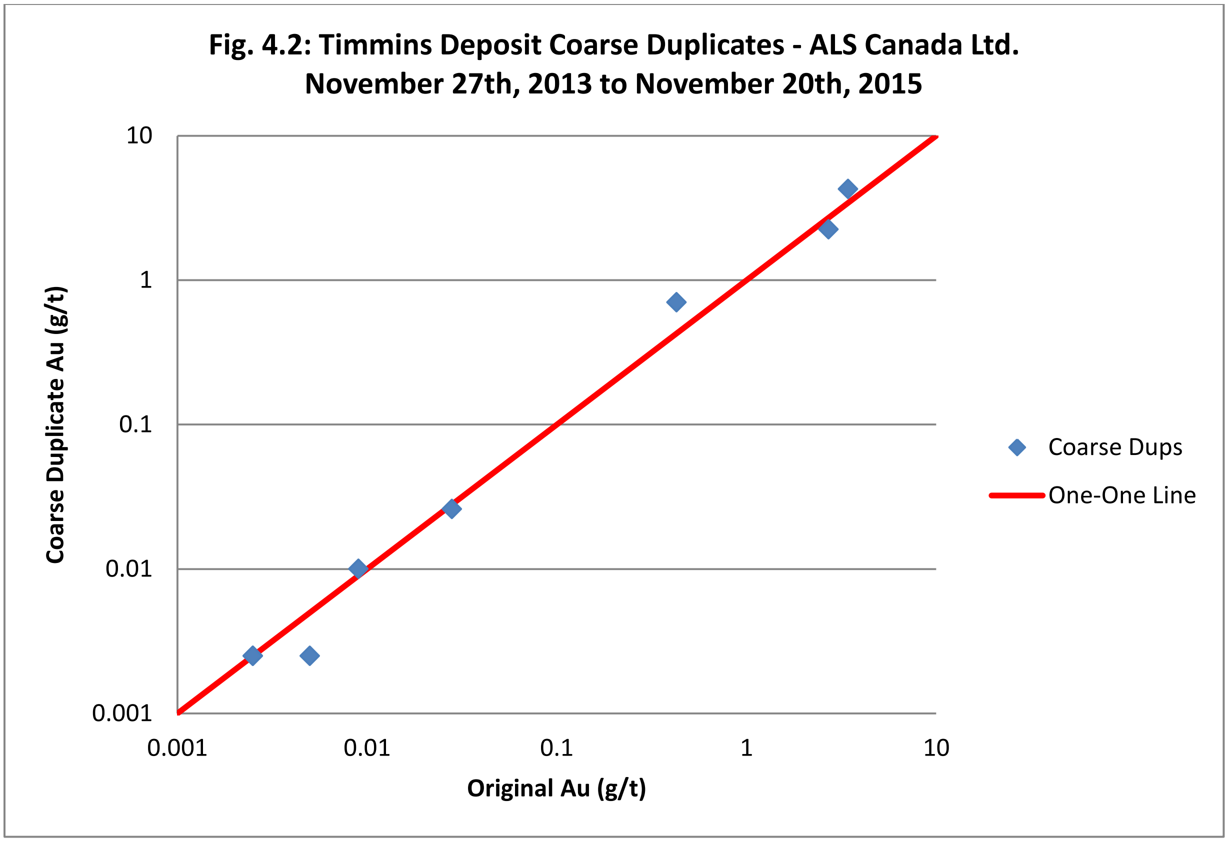


Fig. 4.2: Timmins Deposit Coarse Duplicates - ALS Canada Ltd.
November 27th, 2013 to November 20th, 2015
Coarse Duplicate Au (g/t)
Original Au (g/t)
10
1
0.1
0.01
0.001
Coarse Dups
One-One Line

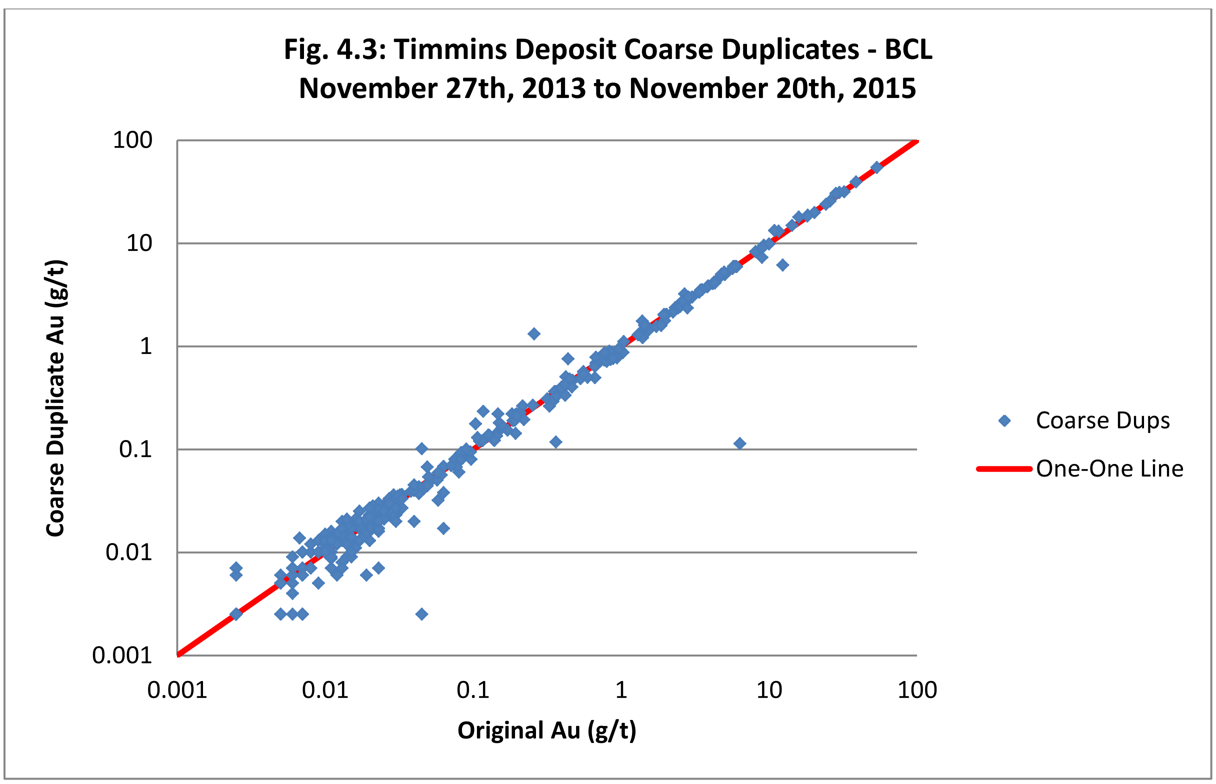


Fig. 4.3: Timmins Deposit Coarse Duplicates - BCL
November 27th, 2013 to November 20th, 2015
Coarse Duplicate Au (g/t)
Original Au (g/t)
100
10
1
0.1
0.01
0.001
Coarse Dups
One-One Line

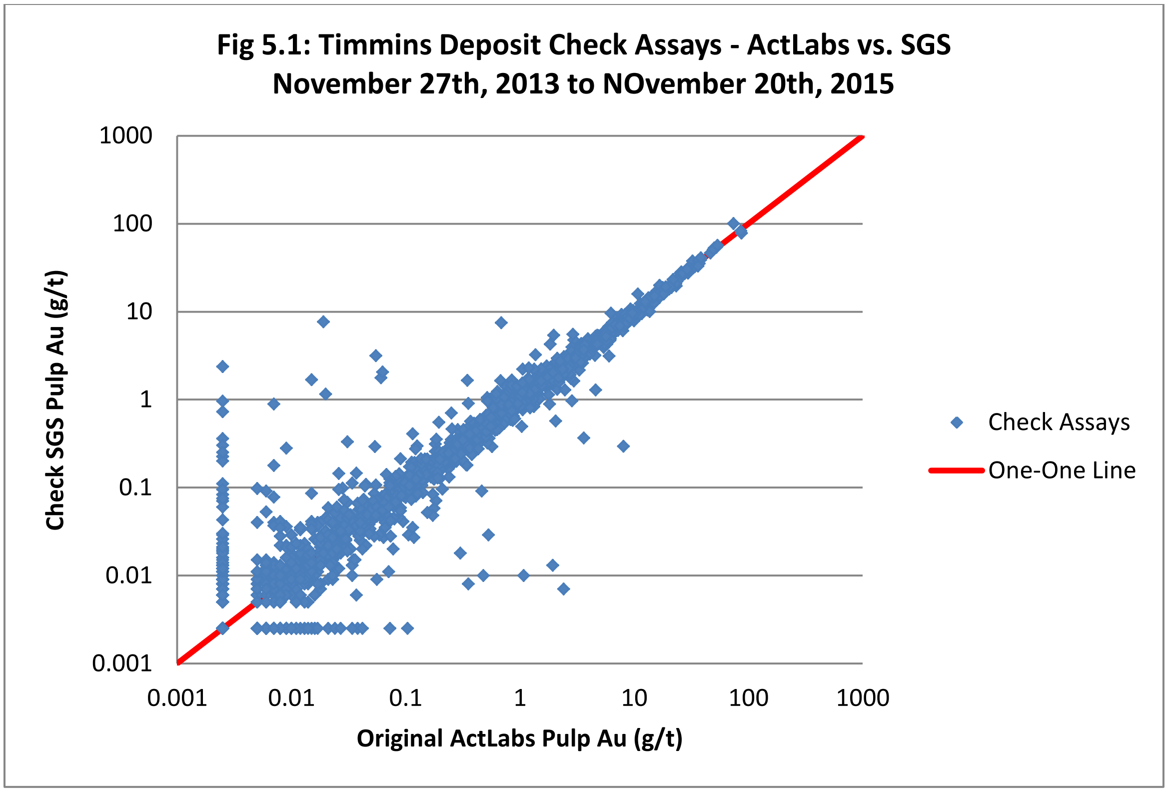


Fig 5.1: Timmins Deposit Check Assays - ActLabs vs. SGS
November 27th, 2013 to NOvember 20th, 2015
1000
100
10
1
0.1
0.01
0.001
Check SGS Pulp Au (g/t)
0.001
0.01
0.1
1
10
100
1000
Original ActLabs Pulp Au (g/t)
Check Assays
One-One Line

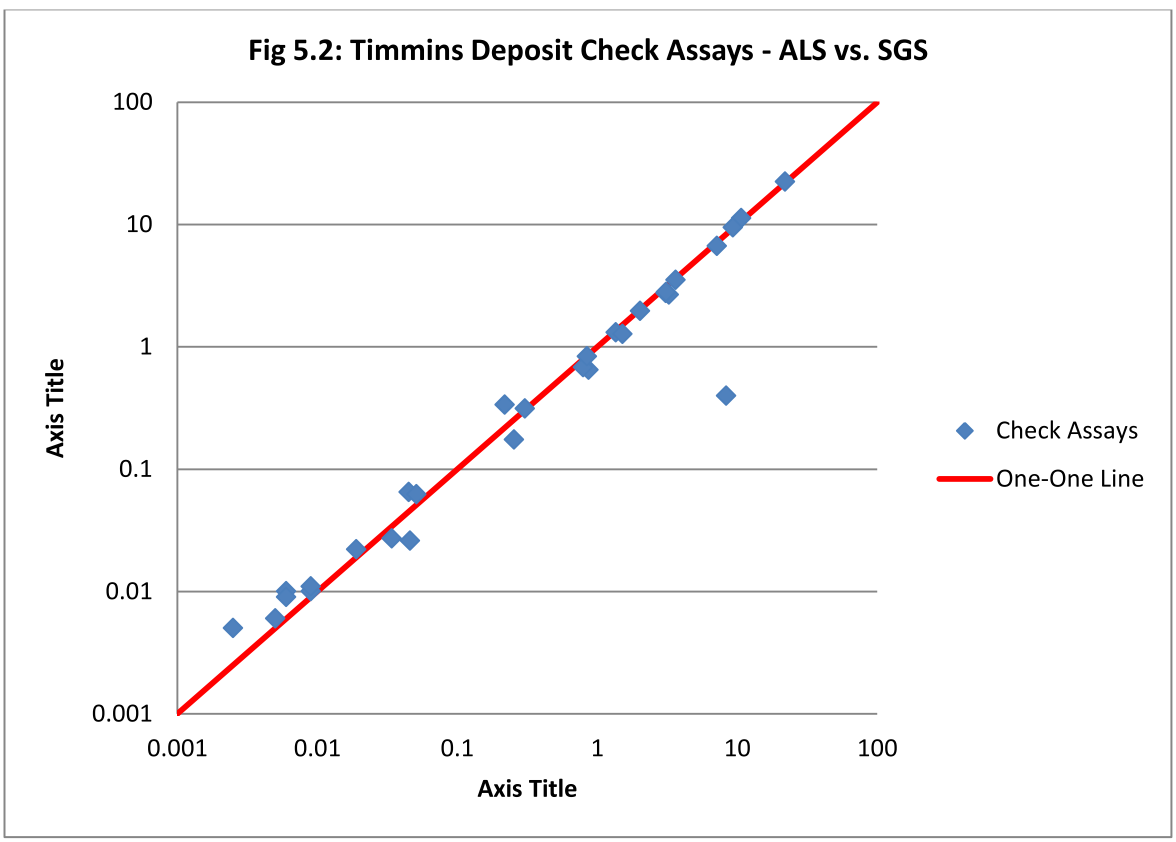


Fig 5.2: Timmins Deposit Check Assays - ALS vs. SGS
100
10
1
0.1
0.01
0.001
Axis Title
0.001
0.01
0.1
1
10
100
Axis Title
Check Assays
One-One Line

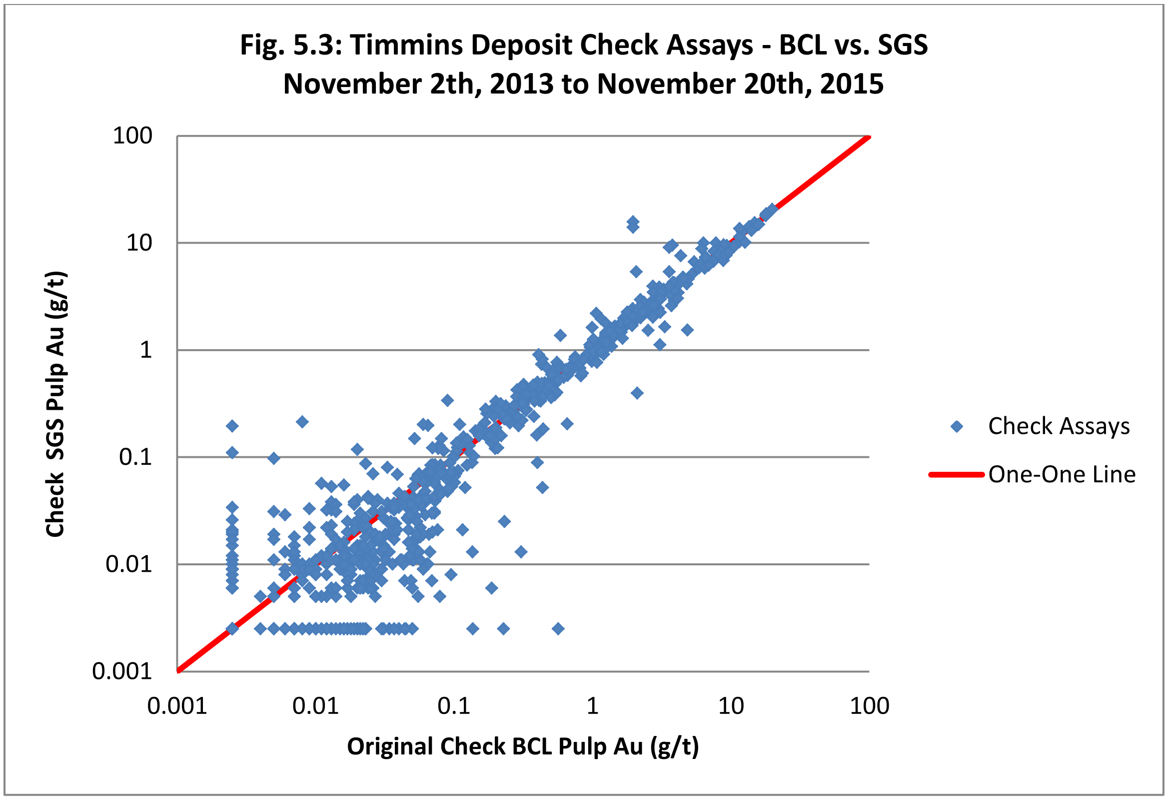


Fig. 5.3: Timmins Deposit Check Assays - BCL vs. SGS
November 2th, 2013 to November 20th, 2015
100
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
100
Check SGS Pulp Au (g/t)
Original Check BCL Pulp Au (g/t)
Check Assays
One-One Line

Statistical Analysis of Thunder Creek QAQC Assay Data – January 9th, 2014 to November 23rd, 2015

1.0 Introduction

This memo describes a review of Lake Shore Gold's blind QA/QC program for underground diamond drilling for the Thunder Creek Deposit for the period since the last 43-101 technical report inclusive from January 9th, 2014 to November 23rd, 2015. During that time period, a total of 39,520 core samples were sent to three different analytical labs, with 80.2%, 18.2%, and 1.6% going to Activation Laboratories (ActLabs), Bell Creek Laboratory, and ALS Canada Ltd., respectively. ALS Canada Ltd. is an accredited lab with ISO 9001 and 17025 CANP4E certification. Activation Laboratories has ISO 9001 accreditation, and gained 17025 CANP4E in early 2014. The Bell Creek Laboratory, a Lake Shore Gold operated Mine Lab, has successfully completed proficiency testing (PTP-MAL) done by CCRMP since September 2012. Table 1.1 summarizes the number of samples sent to the various labs and the number of QA/QC samples used.

Table 1.1: Thunder Creek Samples - January 9, 2014 to November 23, 2015						
Laboratory	Drill Core Samples	Standards	Blanks	Coarse Duplicates	Total QA/QC Samples	Total Samples Sent (Core + QA/QC)
ALS Canada Ltd.	635	17	18	18	53	688
Activation Laboratories	31,689	832	925	870	2,627	34,316
Bell Creek Laboratory	7,196	186	217	201	604	7,800
TOTAL	39,520	1,035	1,160	1,089	3,284	42,804

2.0 Standards

From January 9th, 2014 to November 23rd, 2015, 1,035 standard pulps were sent to assay laboratories for analysis.

Results from a variety of standard pulps from three labs have been separated and analyzed from the Thunder Creek project. The labs used in the time period from January 9th, 2014 to November 23rd, 2015 were as follows: ALS Canada Ltd., Activation Laboratories Ltd., and Bell Creek Laboratory.

Summary statistics of standard results are shown below. Each table lists the following:

- Target value of standard
- Standard deviation of standard
- The minimum / maximum gates of the standard (+/- 3 standard deviations)
- The number of results for the standard (Nb)
- The mean / average result (Average)
- % relative difference between the mean result and the target (%Diff)
- The number of results below and above the target (Nb below and Nb above)
- The number results outside the Min/Max gates of standard (Nb Fail)
- Percentage of results below and above the target (PBelow and PAbove)
- Percentage of results outside the Min/Max gates of standard (Poutside)

Statistics were compiled for standards with more than 20 results.

ActLabs performed the best for standards, having a failure rate of 3.13% for 832 standard results (the largest sample size). Bell Creek Laboratory also performed well, having a failure rate of 4.84% for 186 results.

In terms of accuracy, both laboratories performed well, with good relative differences of -0.28% and -1.26% for Bell Creek Lab and ActLabs respectively.

The proportions of results below/above the target are acceptable for both laboratories. Bell Creek Lab performed well, having overall proportions of 47.3% below and 52.7% above. ActLabs performed slightly on the low side of the target, with overall proportions of 61.4% below and 38.6% above.

See Tables 2.1 and 2.2 for detailed statistics and Figures 2.1 to 2.3 for detailed plots for each laboratory.

3.0 Blanks

Results from blanks have also been separated by each lab. Here we determine the percentage of results above a given failure limit. Traditionally the cut-off limit is five times the detection limit (0.0125 g/t Au). Lake Shore Gold uses a cut-off limit of 0.1 g/t Au. A total of 791 blanks were sent to the various labs.

ActLabs performed the best for blanks, with zero failures to report out of 266 blank sample analysis.

Bell Creek Lab performed second best for the blanks. There were 286 blanks sent, of which only two of them failed, for a failure rate of 0.70%.

Accurassay also performed well for the blanks, having a failure rate of 1.26%.

See Table 3.1 below for a breakdown of the blank statistics.

Table 3.1: Blank Statistics for Each Laboratory Used

Laboratory	Total Blanks	Number > 0.1	% > 0.1
ALS Canada Ltd.	18	0	**0**
Activation Laboratories	925	2	**0.2162**
Bell Creek Laboratory	217	2	**0.9217**
ALL	**1,160**	**4**	**0.3448**

4.0 Coarse Duplicates

Coarse duplicates are assays from a new pulp taken from the crushed and ground (but not pulverized) reject of the original sample. There is more variability in these duplicates than for internal lab duplicates. A total of 1,089 coarse duplicates were sent to the various labs, with detailed statistics shown below in Tables 4.1 to 4.3.

Bell Creek Laboratory performed the best for the coarse duplicates. Out of 201 pairs, the lab has an average percent difference of 1.38%, and a correlation coefficient of 0.9995.

ActLabs also performed well for the coarse duplicates. Out of 870 pairs, they have a percent difference of 2.37%, and a correlation coefficient of 0.9915.

ALS Canada has a relatively high percent difference between means, at 31.24%. Only 18 coarse duplicates were analyzed at the lab for this time period, which may be contributing to the large difference of means. The 18 pairs have a correlation coefficient of 0.9984, which indicates a strong linear relationship.

See Tables 4.1 to 4.3 for detailed statistics and Figures 4.1 to 4.3 for detailed log-normal plots for each lab.

5.0 Check Assays

Lake Shore Gold has performed four 5% to 10% check assay programs from November 2nd, 2012 to December 17th, 2014. The check assay laboratory used for all programs was SGS Canada Inc. See Table 5.1 below for the number of samples sent to each laboratory within each check assay program period. Statistics were compiled for the entire time period from the last NI 43-101 technical report to the effective date for this report. As an extra check, 10% of the pulps from Bell Creek Lab were used for a recent check assay program, covering June 1st to August 31st, 2014.

The same statistics were compiled for the check assays as for the coarse duplicates. In this case, we are comparing results from re-assaying another cut from the same pulp, but at a different lab.

Table 5.1: Total Thunder Creek Samples used for each check assay program.	
Nov 1, 2013 to May 31, 2014	
Laboratory	# Samples
ActLabs	5,009
ALS Canada Ltd.	2,933
Bell Creek Lab	4,167
June 1, 2014 to Aug 31, 2014	
Laboratory	# Samples
ActLabs	5,861
Bell Creek Lab	1,516
Sep 1, 2014 to Apr 30, 2015	
Laboratory	# Samples
ActLabs	17,084
ALS Canada Ltd.	352
Bell Creek	2,659
May 1, 2015 to Sep 30, 2015	
Laboratory	# Samples
ActLabs	5,754
Bell Creek	352

5.1 Activation Laboratories vs. SGS Canada Inc.

A total of 1,687 ActLabs pulps were sent for check assay to SGS Canada Inc.

The original ActLabs values range from 0.0025 g/t Au to 114.00 g/t Au, and have a mean of 1.885 g/t Au. The check SGS values range from 0.0025 g/t Au to 119.53 g/t Au, and have a mean of 1.911. The relative difference between means is 1.37%, indicating that the SGS pulps came back slightly higher than the original ActLabs values. The correlation coefficient of the pairs is 0.9817, which represents a strongly linear correlation.

See Table 5.2 for detailed statistics and Figure 5.1 for detailed log-normal plot.

5.2 ALS Canada Ltd. vs. SGS Canada Inc.

A total of 135 ALS Canada Ltd. pulps were sent for check assay to SGS Canada Inc.

The original ALS values range from 0.0025 g/t Au to 132.50 g/t Au, and have a mean of 2.786 g/t Au. The check SGS values range from 0.0025 g/t Au to 136.47 g/t Au, and have a mean of 2.848 g/t Au. The relative difference between means is 2.21%. The correlation coefficient is 0.9905, which indicates a very strong linear relationship between the sets.

See Table 5.3 for detailed statistics and Figure 5.2 for detailed log-normal plot.

5.3 Bell Creek Laboratory vs. SGS Canada Inc.

A total of 570 Bell Creek Lab pulps were sent for check assay to SGS Canada Inc.

The original Bell Creek Lab values range from 0.0025 g/t Au to 30.117 g/t Au, and have a mean of 1.767 g/t Au. The check SGS values range from 0.0025 g/t Au to 25.100 g/t Au, and have a mean of 1.623 g/t Au. There relative difference between means is -8.51%, which indicates that SGS values come back slightly lower than Bell Creek Lab values. The correlation coefficient is 0.9532, which indicates a strong linear relationship.

See Table 5.4 for detailed statistics and Figure 5.3 for detailed log-normal plot.

6.0 Analytical Lab Internal Standards, Blanks, and Duplicates

No analysis has been completed for this report on the main three analytical labs' internal QA/QC samples (standards, blanks, or duplicates). This data is routinely reviewed by the drill program QP and database administrator when assay results are received from the respective labs and prior to importation into the database.

7.0 Conclusions

Drill core samples from underground drill holes that were added to the Bell Creek drill database between January 9th, 2014 and November 23rd, 2015 were sent to three analytical labs.

No critical issues were identified that would lead Lake Shore Gold to believe that there is a concern with the analytical results.

Tables 2.1 to 2.2: Standard Performance at Each Laboratory

Table 2.1: Thunder Creek Standard Performance - ActLabs - January 9th, 2014 to November 23rd, 2015													
Standard Ref.	Mean Value	1s	Min	Max	Nb	Average	%Diff	Nb below	Nb above	Nb Fail	Pbelow	Pabove	Poutside
O-16a	1.810	0.060	1.620	1.990	119	1.791	-1.031	77.5	41.5	1	65.13	34.87	0.84
O-18c	3.52	0.106	3.200	3.840	4	3.408	-3.196	3.5	0.5	1	87.50	12.50	25.00
O-19a	5.490	0.100	5.190	5.790	102	5.486	-0.075	52	50	3	50.98	49.02	2.94
O-200	0.340	0.012	0.303	0.378	49	0.328	-3.607	35.5	13.5	7	72.45	27.55	14.29
O-201	0.514	0.017	0.462	0.565	43	0.508	-1.077	28	15	0	65.12	34.88	0.00
O-202	0.752	0.026	0.675	0.830	95	0.720	-4.237	76.5	18.5	9	80.53	19.47	9.47
O-207	3.472	0.130	3.082	3.862	213	3.511	1.117	82	131	3	38.50	61.50	1.41
O-205	1.244	0.053	1.085	1.402	122	1.215	-2.358	92	30	1	75.41	24.59	0.82
O-502	0.491	0.020	0.431	0.551	82	0.478	-2.635	61	21	1	74.39	25.61	1.22
O-62c	8.790	0.210	8.150	9.420	3	8.480	-3.527	3	0	0	100.00	0.00	0.00
TOTAL	2.642				**832**	**2.592**	**-1.256**			**26**	**61.42**	**38.58**	**3.13**

Table 2.2: Thunder Creek Standard Performance - Bell Creek Laboratory - January 9th, 2014 to November 23rd, 2015													
Standard Ref.	Mean Value	1s	Min	Max	Nb	Average	%Diff	Nb below	Nb above	Nb Fail	Pbelow	Pabove	Poutside
O-200	0.340	0.012	0.303	0.378	12	0.351	3.353	2.5	9.5	1	20.83	79.17	8.33
O-502	0.491	0.020	0.431	0.551	29	0.489	-0.449	14	15	0	48.28	51.72	0.00
O-201	0.514	0.017	0.462	0.565	6	0.527	2.562	0	6	0	0.00	100.00	0.00
O-202	0.752	0.026	0.675	0.830	16	0.744	-1.006	9	7	0	56.25	43.75	0.00
O-205	1.244	0.053	1.085	1.402	12	1.121	-9.877	9	3	0	75.00	25.00	0.00
O-16a	1.810	0.060	1.620	1.990	42	1.794	-0.884	24.5	17.5	1	58.33	41.67	2.38
O-207	3.472	0.130	3.082	3.862	38	3.494	0.633	15	23	0	39.47	60.53	0.00
O-18c	3.52	0.106	3.200	3.840	13	3.510	-0.284	8	5	0	61.54	38.46	0.00
O-19a	5.490	0.100	5.190	5.790	6	5.686	3.561	1	5	3	16.67	83.33	50.00
O-62c	8.790	0.210	8.150	9.420	12	9.052	2.979	5	7	4	41.67	58.33	33.33
TOTAL	2.642				**186**	**2.677**	**-0.278**			**9**	**47.31**	**52.69**	**4.84**

Tables 4.1 to 4.3: Statistics of Coarse Duplicate Results for Each Laboratory

Table 4.1: Statistics of ActLabs Coarse Duplicate Results		
Stats	Original ActLabs Value	Coarse Duplicate ActLabs Value
	Au (g/t)	Au (g/t)
Number of Samples	870	870
Mean	1.308	1.340
Maximum Value	58.600	68.100
Minimum Value	0.003	0.003
Median	0.062	0.058
Variance	24.611	28.569
Standard Deviation	4.961	5.345
Coefficient of Variation	3.791	3.989
Correlation Coefficient	0.9915	
Coefficient of Determination (R^2)	0.9830	
Percent Difference between Means	2.3678	

Table 4.2: Statistics of ALS Coarse Duplicate Results		
Stats	Original ALS Value	Coarse Duplicate ALS Value
	Au (g/t)	Au (g/t)
Number of Samples	18	18
Mean	0.483	0.662
Maximum Value	5.220	7.190
Minimum Value	0.003	0.003
Median	0.021	0.027
Variance	1.627	3.029
Standard Deviation	1.276	1.740
Coefficient of Variation	2.641	2.630
Correlation Coefficient	0.9984	
Coefficient of Determination (R^2)	0.9969	
Percent Difference between Means	31.2448	

Table 4.3: Statistics of BCL Coarse Duplicate Results		
Stats	Original BCL Value	Coarse Duplicate BCL Value
	Au (g/t)	Au (g/t)
Number of Samples	201	201
Mean	2.174	2.205
Maximum Value	231.567	231.467
Minimum Value	0.003	0.003
Median	0.092	0.091
Variance	275.584	275.378
Standard Deviation	16.601	16.595
Coefficient of Variation	7.635	7.528
Correlation Coefficient	0.9995	
Coefficient of Determination (R^2)	0.9990	
Percent Difference between Means	1.3829	

Tables 5.2 to 5.4: Statistics of Check Assay Programs from October 1st, 2012 to August 31st, 2014

Table 5.2: Statistics of Thunder Check Assay Results		
Stats	Original ActLabs Value	Check SGS Value
	Au (g/t)	Au (g/t)
Number of Samples	1,687	1,687
Mean	1.885	1.911
Maximum Value	114.000	119.530
Minimum Value	0.003	0.003
Median	0.236	0.248
Variance	43.519	44.180
Standard Deviation	6.597	6.647
Coefficient of Variation	3.500	3.479
Correlation Coefficient	0.9817	
Coefficient of Determination (R^2)	0.9638	
Percent Difference between Means	1.3731	

Table 5.3: Statistics of Thunder Creek Check Assay Results		
Stats	Original ALS Value	Check SGS Value
	Au (g/t)	Au (g/t)
Number of Samples	135	135
Mean	2.786	2.848
Maximum Value	132.500	136.470
Minimum Value	0.003	0.003
Median	0.246	0.260
Variance	156.341	173.541
Standard Deviation	12.504	13.173
Coefficient of Variation	4.488	4.625
Correlation Coefficient	0.9905	
Coefficient of Determination (R^2)	0.9811	
Percent Difference between Means	2.2097	

Table 5.4: Statistics of Thunder Creek Check Assay Results		
Stats	Original BCL Value	Check SGS Value
	Au (g/t)	Au (g/t)
Number of Samples	570	570
Mean	1.767	1.623
Maximum Value	30.117	25.100
Minimum Value	0.003	0.003
Median	0.383	0.404
Variance	12.463	9.400
Standard Deviation	3.530	3.066
Coefficient of Variation	1.997	1.889
Correlation Coefficient	0.9532	
Coefficient of Determination (R^2)	0.9085	
Percent Difference between Means	-8.5120	

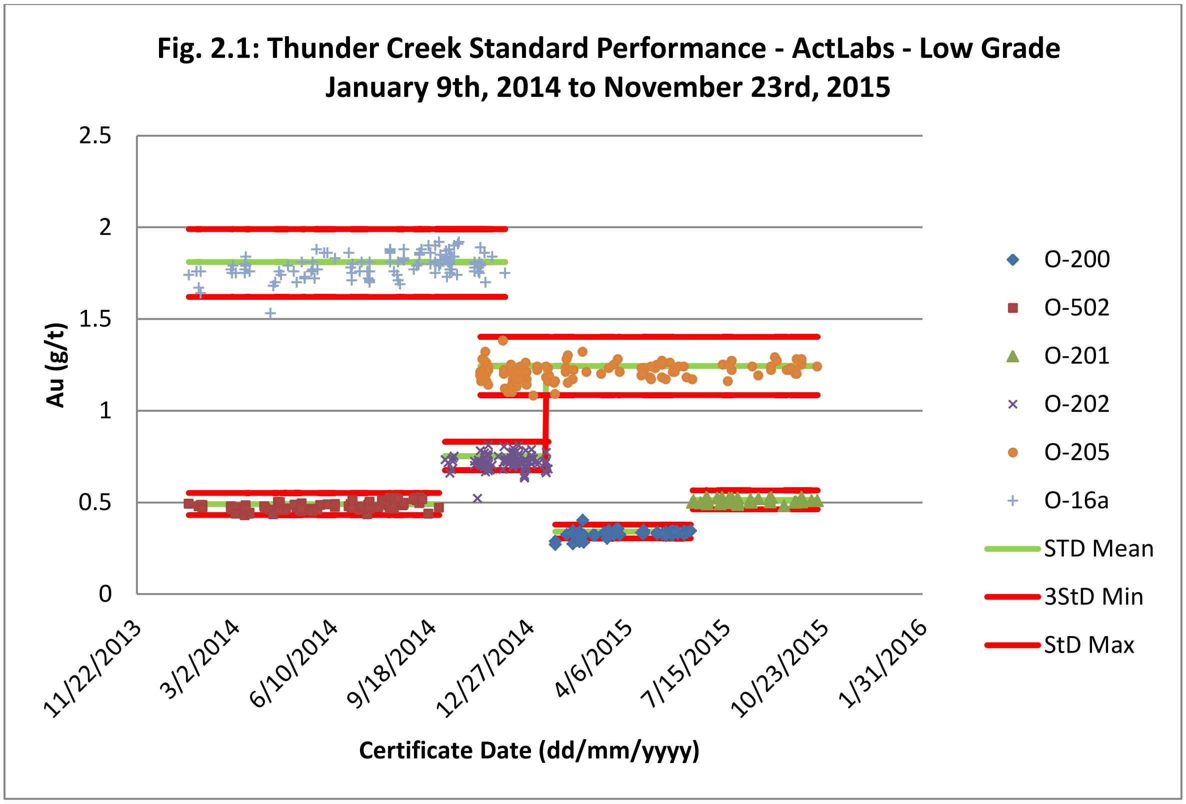


Fig. 2.1: Thunder Creek Standard Performance - ActLabs - Low Grade
January 9th, 2014 to November 23rd, 2015
2.5
2
1.5
1
0.5
0
Au (g/t)
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
1/31/2016
Certificate Date (dd/mm/yyyy)
O-200
O-502
O-201
O-202
O-205
O-16a
STD Mean
3StD Min
StD Max

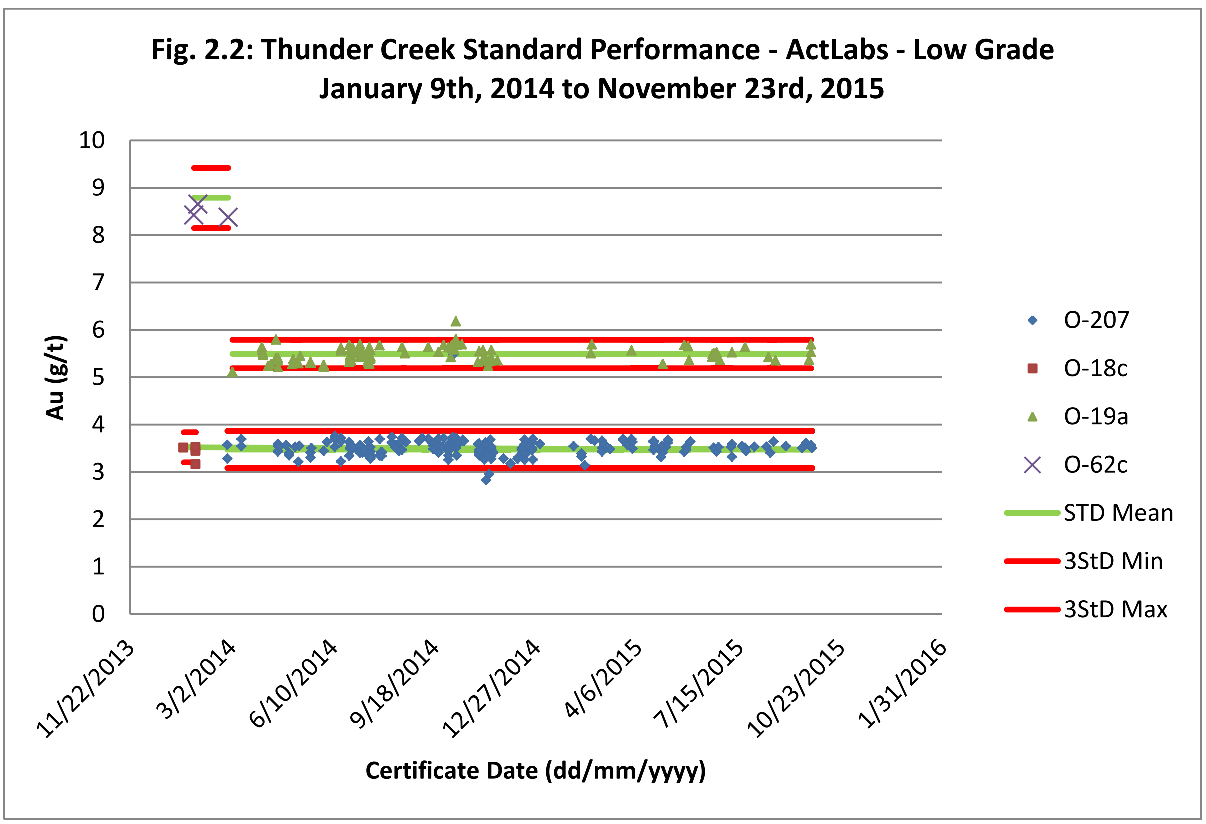


Fig. 2.2: Thunder Creek Standard Performance - ActLabs - Low Grade
January 9th, 2014 to November 23rd, 2015
10
9
8
7
6
5
4
3
2
1
0
Au (g/t)
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
1/31/2016
Certificate Date (dd/mm/yyyy)
O-207
O-18c
O-19a
O-62c
STD Mean
3StD Min
3StD Max

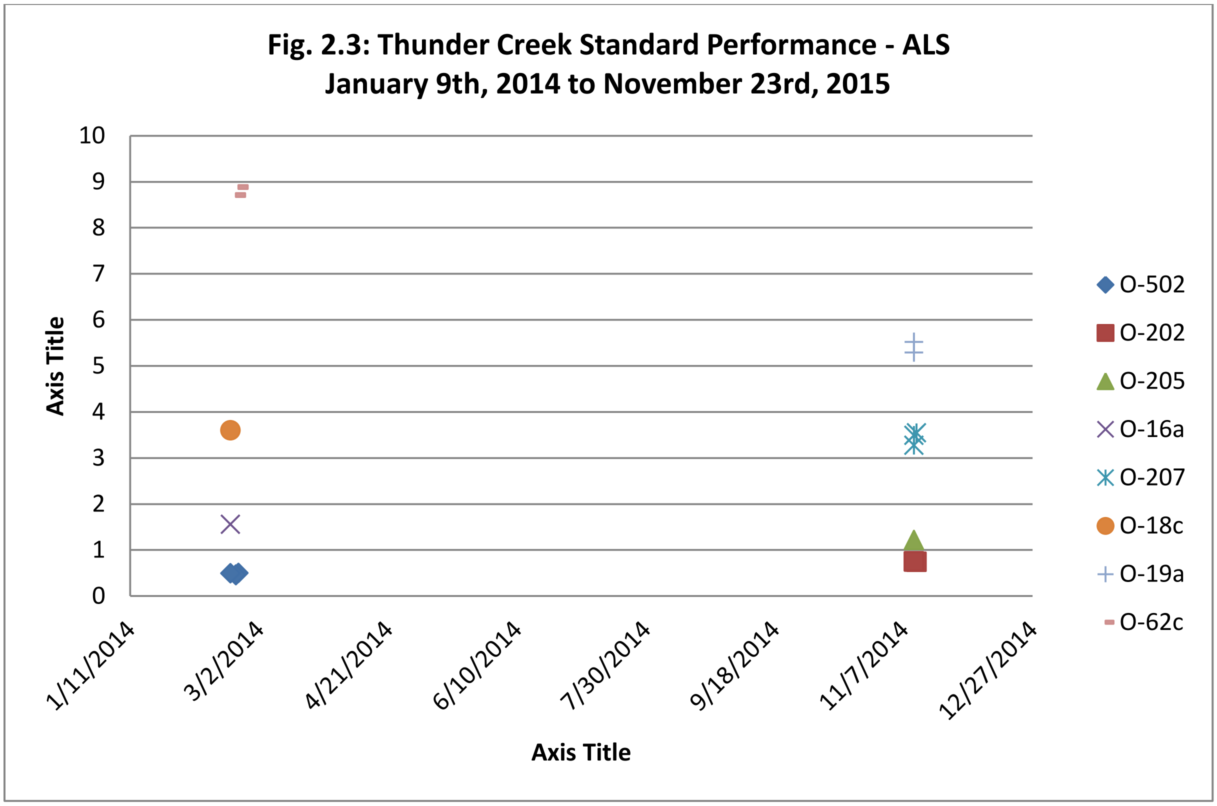


Fig. 2.3: Thunder Creek Standard Performance - ALS
January 9th, 2014 to November 23rd, 2015
Axis Title
10
9
8
7
6
5
4
3
2
1
0
1/11/2014
3/2/2014
4/21/2014
6/10/2014
7/30/2014
9/18/2014
11/7/2014
12/27/2014
Axis Title
O-502
O-202
O-205
O-16a
O-207
O-18c
O-19a
O-62c

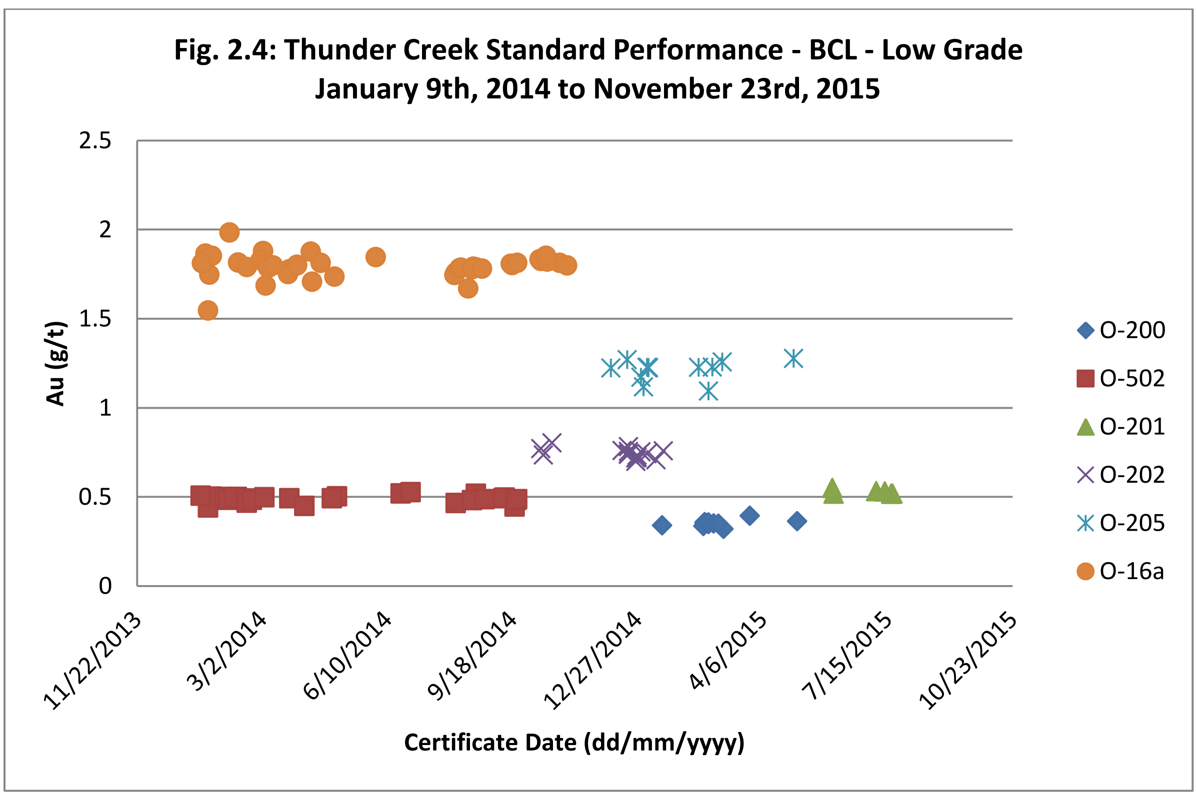


Fig. 2.4: Thunder Creek Standard Performance - BCL - Low Grade
January 9th, 2014 to November 23rd, 2015
Au (g/t)
2.5
2
1.5
1
0.5
0
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
Certificate Date (dd/mm/yyyy)
O-200
O-502
O-201
O-202
O-205
O-16a

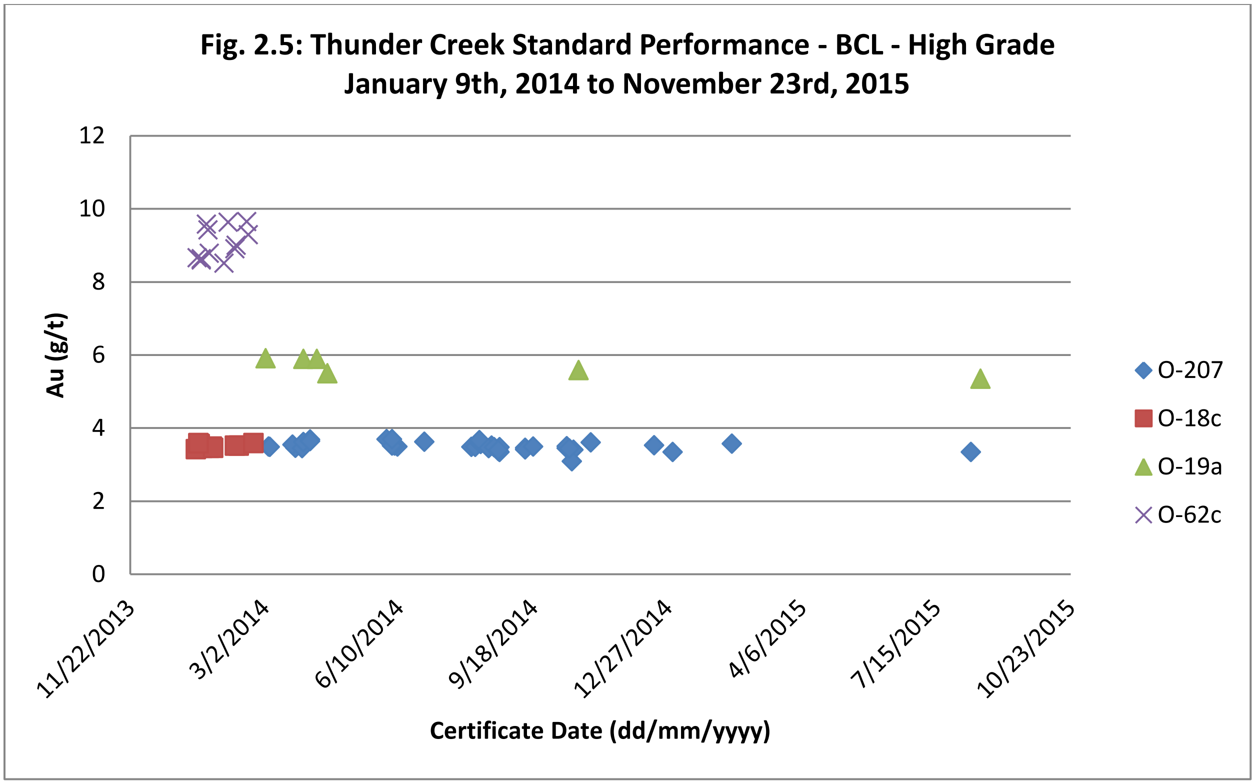


Fig. 2.5: Thunder Creek Standard Performance - BCL - High Grade
January 9th, 2014 to November 23rd, 2015
12
10
8
6
4
2
0
Au (g/t)
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
Certificate Date (dd/mm/yyyy)
O-207
O-18c
O-19a
O-62c

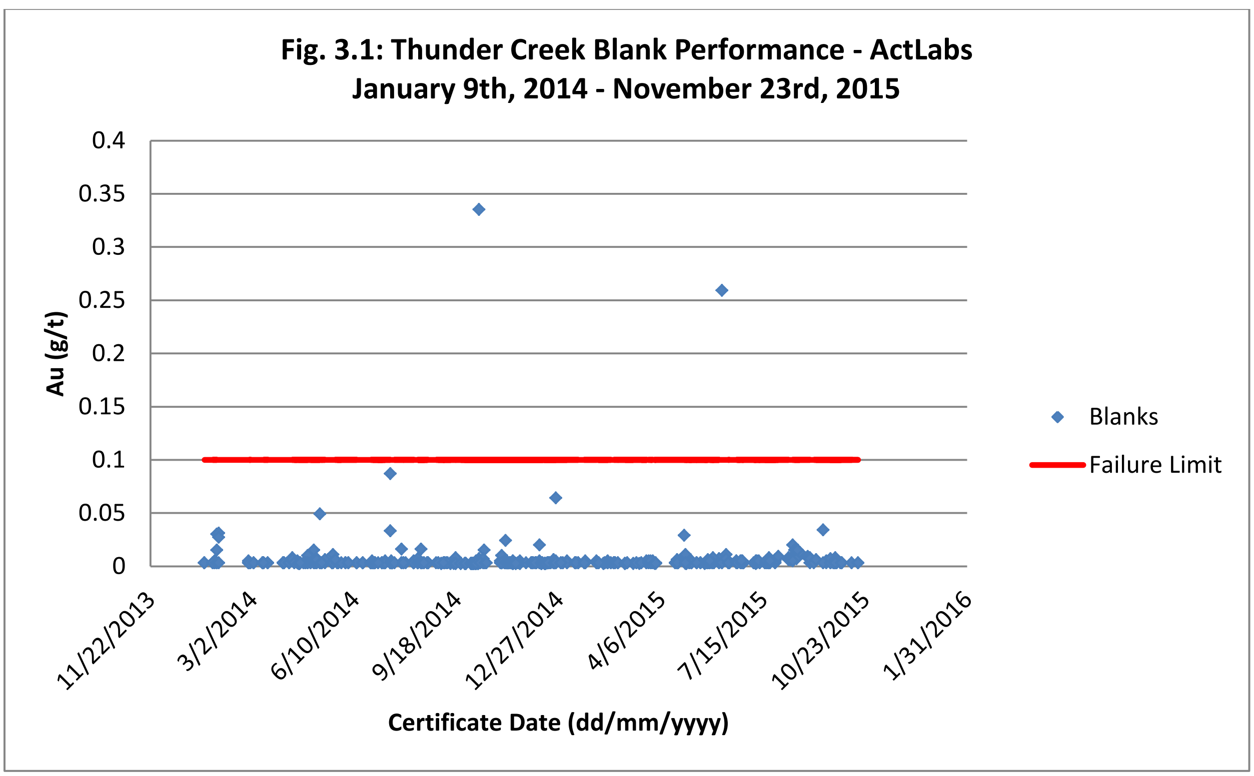


Fig. 3.1: Thunder Creek Blank Performance - ActLabs
January 9th, 2014 - November 23rd, 2015
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Au (g/t)
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
1/31/2016
Certificate Date (dd/mm/yyyy)
Blanks
Failure Limit

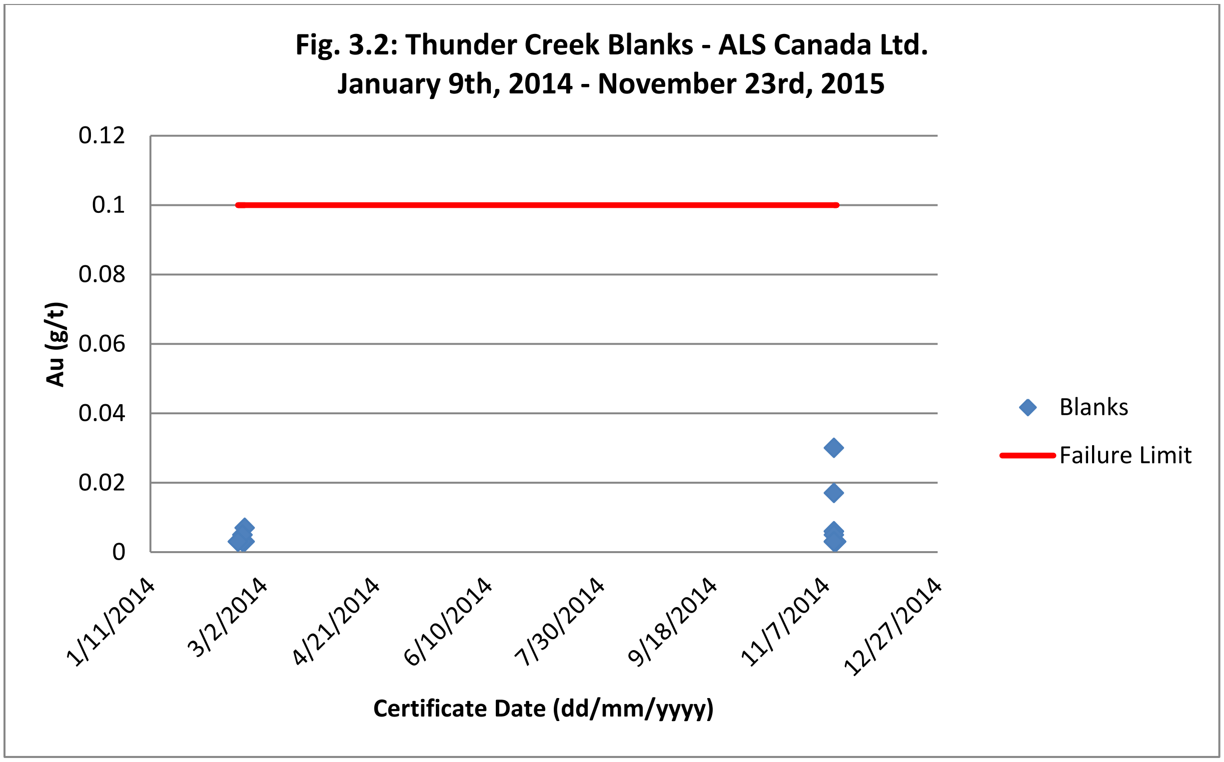


Fig. 3.2: Thunder Creek Blanks - ALS Canada Ltd.
January 9th, 2014 - November 23rd, 2015
0.12
0.1
0.08
0.06
0.04
0.02
0
Au (g/t)
1/11/2014
3/2/2014
4/21/2014
6/10/2014
7/30/2014
9/18/2014
11/7/2014
12/27/2014
Certificate Date (dd/mm/yyyy)
Blanks
Failure Limit

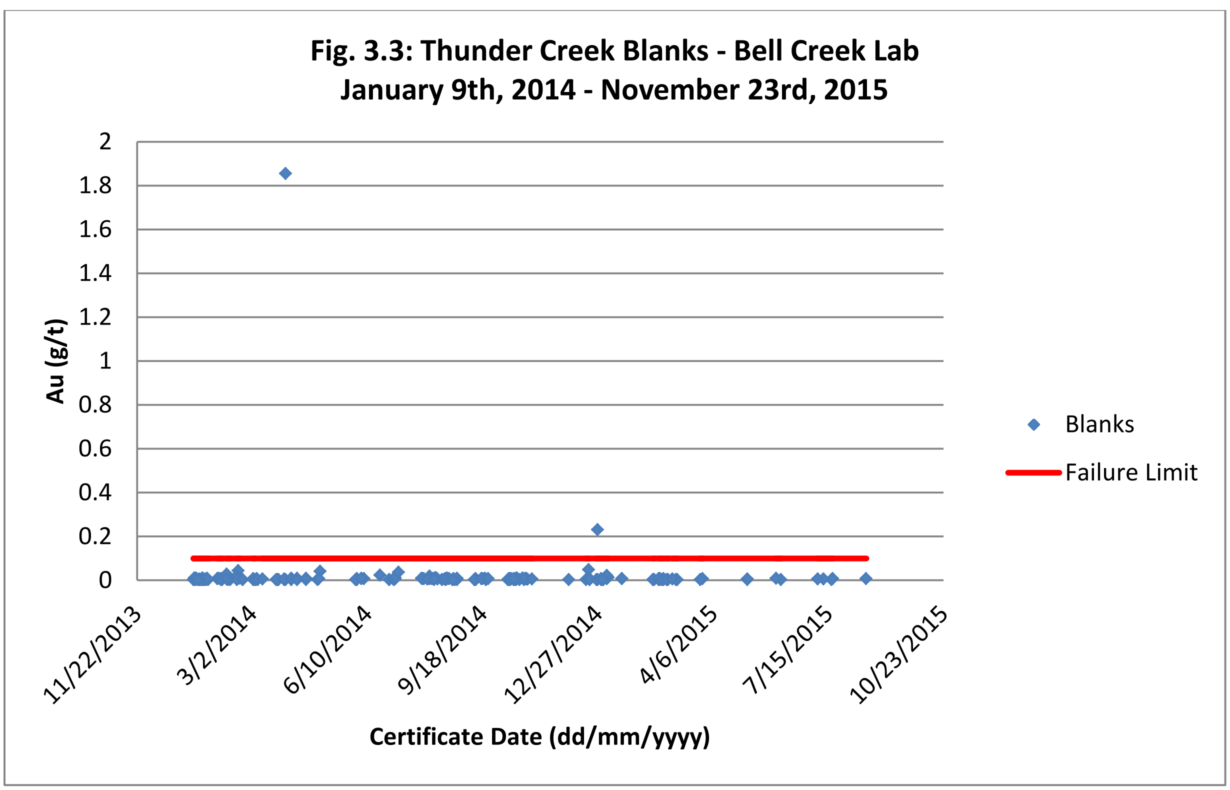


Fig. 3.3: Thunder Creek Blanks - Bell Creek Lab
January 9th, 2014 - November 23rd, 2015
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Au (g/t)
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
Certificate Date (dd/mm/yyyy)
Blanks
Failure Limit

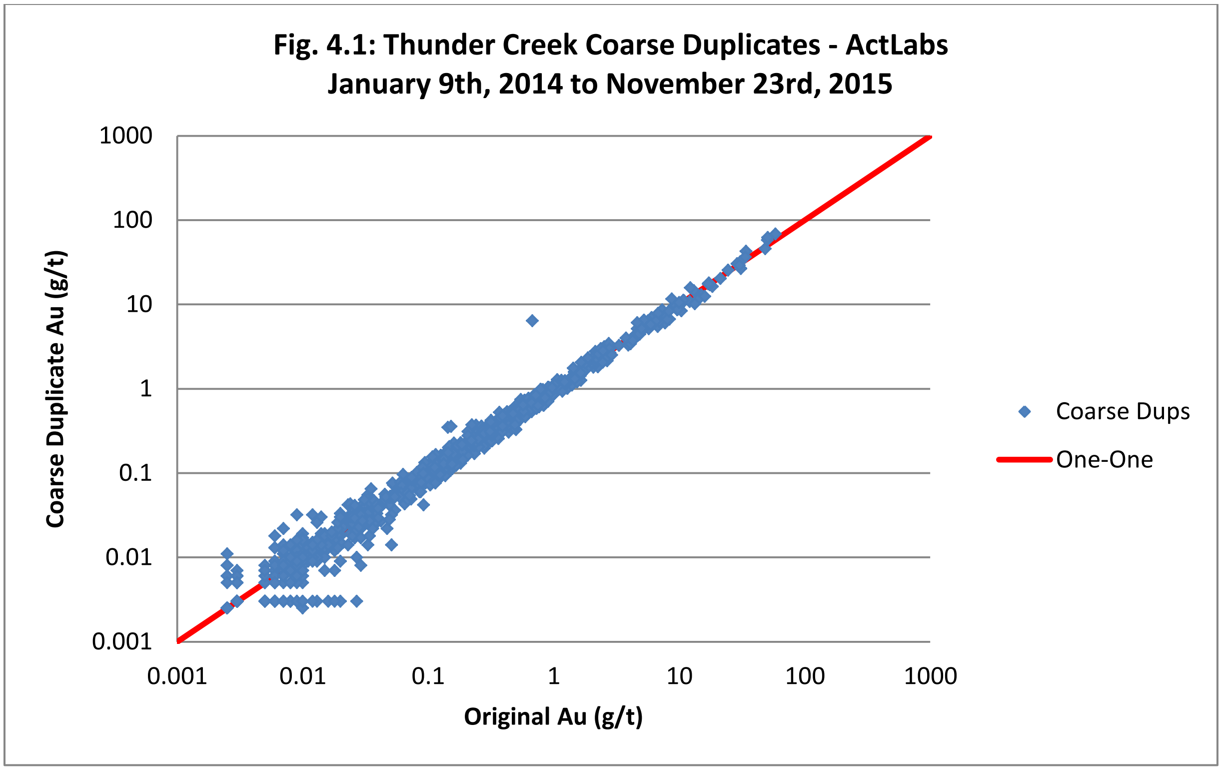


Fig. 4.1: Thunder Creek Coarse Duplicates - ActLabs
January 9th, 2014 to November 23rd, 2015
Coarse Duplicate Au (g/t)
Original Au (g/t)
Coarse Dups
One-One
1000
100
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
100
1000

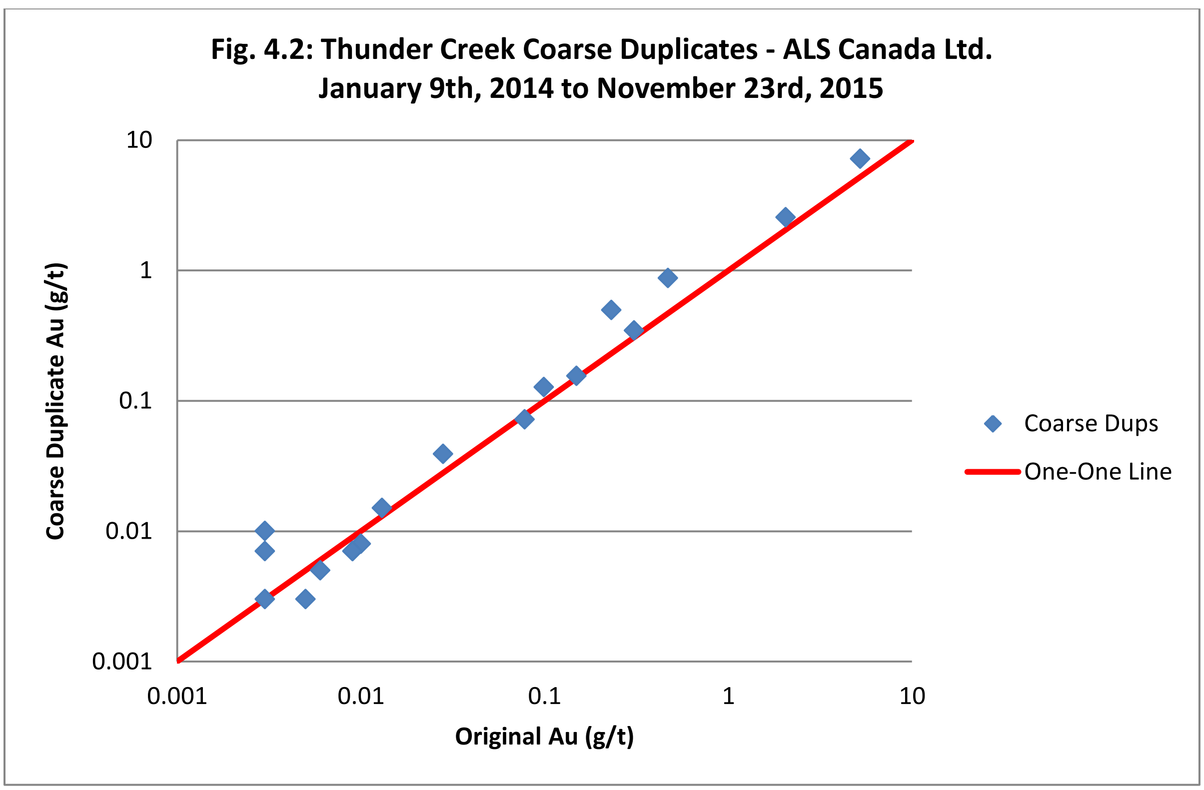


Fig. 4.2: Thunder Creek Coarse Duplicates - ALS Canada Ltd.
January 9th, 2014 to November 23rd, 2015
Coarse Duplicate Au (g/t)
Original Au (g/t)
Coarse Dups
One-One Line
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10

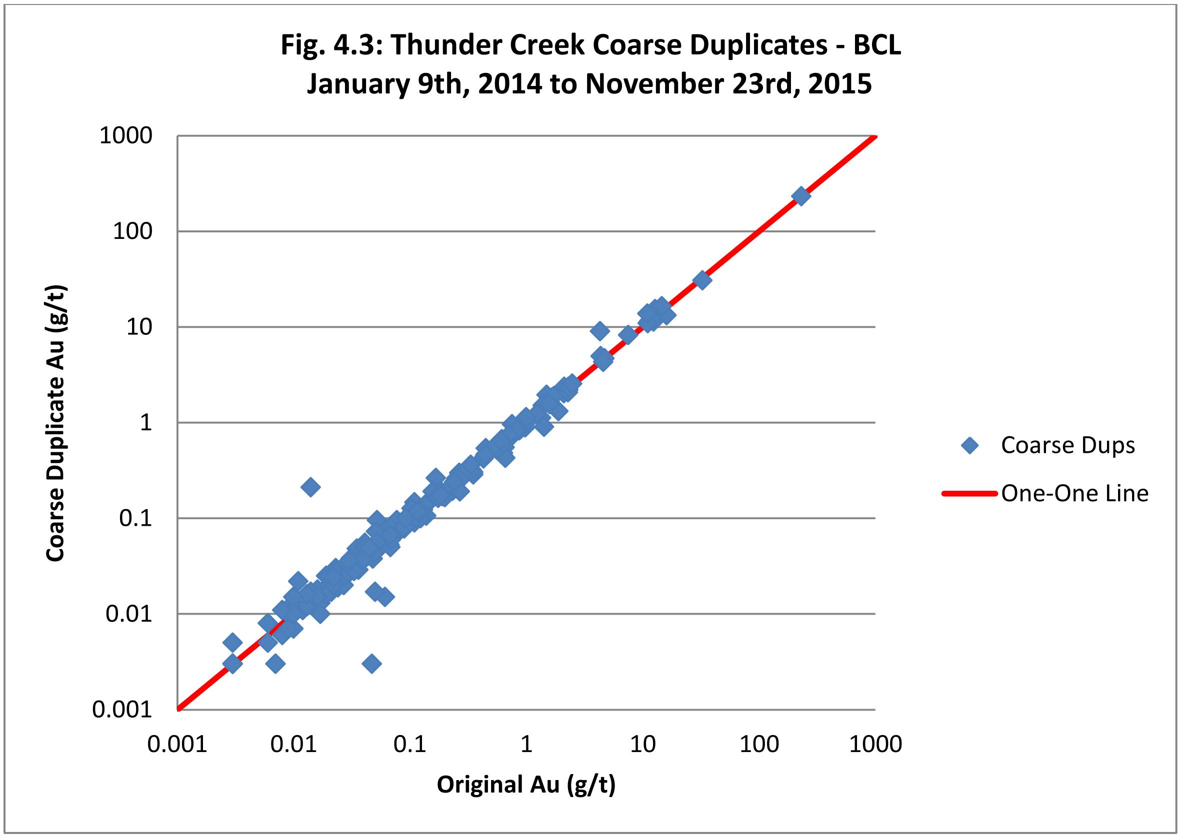


Fig. 4.3: Thunder Creek Coarse Duplicates - BCL
January 9th, 2014 to November 23rd, 2015
1000
100
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
100
1000
Coarse Duplicate Au (g/t)
Original Au (g/t)
Coarse Dups
One-One Line

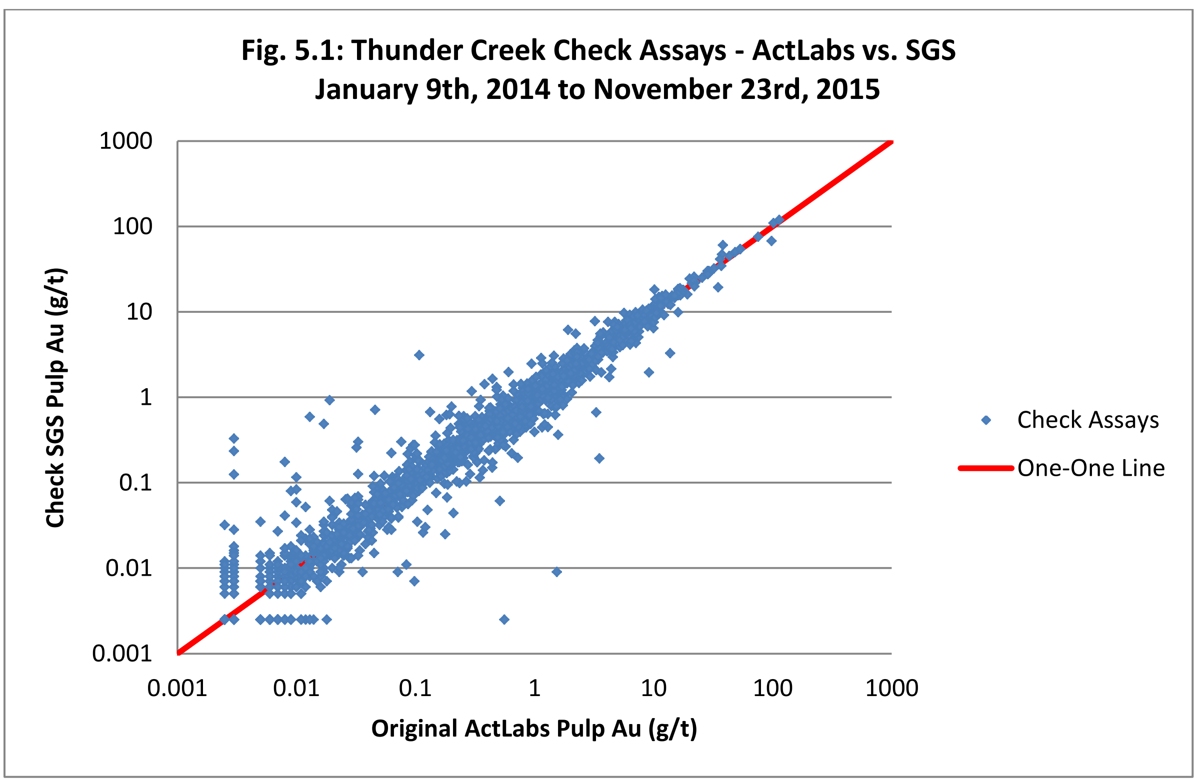


Fig. 5.1: Thunder Creek Check Assays - ActLabs vs. SGS
January 9th, 2014 to November 23rd, 2015
1000
100
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
100
1000
Check SGS Pulp Au (g/t)
Original ActLabs Pulp Au (g/t)
Check Assays
One-One Line

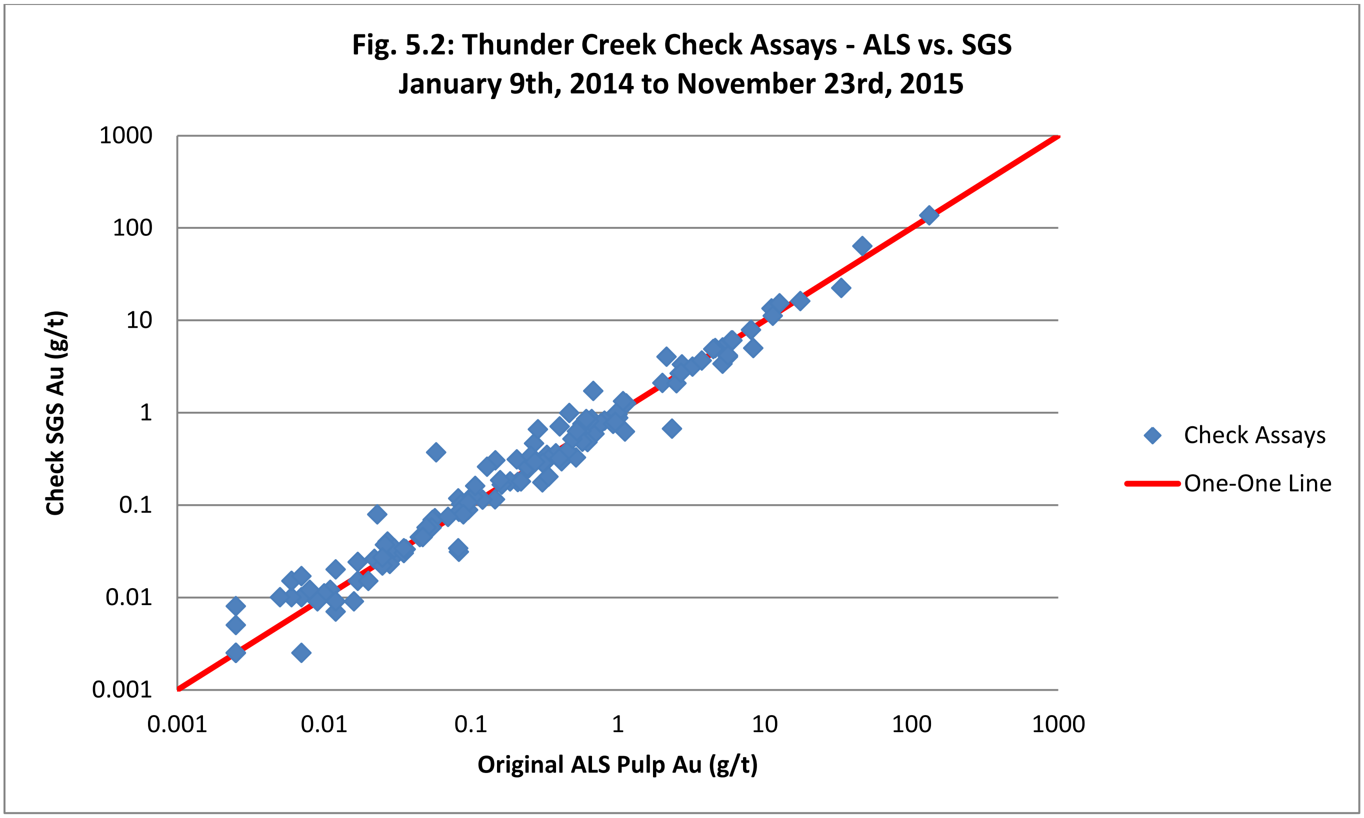


Fig. 5.2: Thunder Creek Check Assays - ALS vs. SGS
January 9th, 2014 to November 23rd, 2015
Check SGS Au (g/t)
1000
100
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
100
1000
Original ALS Pulp Au (g/t)
Check Assays
One-One Line

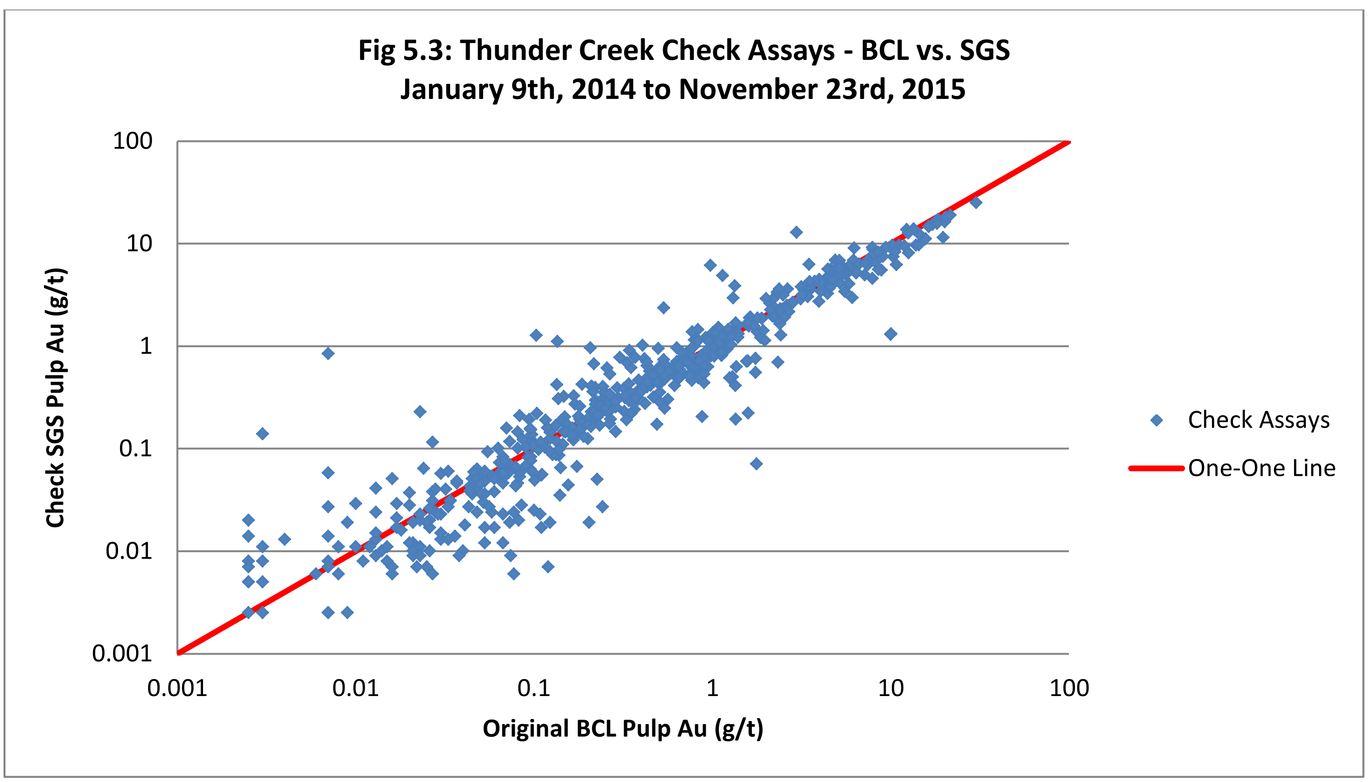


Fig 5.3: Thunder Creek Check Assays - BCL vs. SGS
January 9th, 2014 to November 23rd, 2015
Check SGS Pulp Au (g/t)
100
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
100
Original BCL Pulp Au (g/t)
Check Assays
One-One Line

Statistical Analysis of 144 Gap Deposit QAQC Assay Data – November 1, 2010 to January 11th, 2016

1.0 Introduction

This memo describes a review of Lake Shore Gold's blind QA/QC program for surface and underground diamond drilling for the 144 Gap Deposit for the time period November 1, 2010 to January 11th, 2016. During that time period, a total of 91,601 core samples were sent to three different analytical labs, with 90.1%, 9.3%, and 0.6% going to ALS Canada Ltd, Activation Laboratories (ActLabs) and Bell Creek Lab respectively. ALS Canada is an accredited lab with ISO 9001 and 17025 CANP4E certification. Activation Laboratories has ISO 9001 accreditation, and gained 17025 CANP4E in early 2014. The Bell Creek Laboratory, a Lake Shore Gold operated Mine Lab, has successfully completed proficiency testing (PTP-MAL) done by CCRMP since September 2012. Table 1.1 summarizes the number of samples sent to the various labs and the number of QA/QC samples used. Due to the low number of total QA/QC samples sent to Bell Creek Laboratory for this project, standard statistics will not be analyzed in this memo. Please see QA/QC Memos for Thunder Creek and Timmins West for further statistics on Bell Creek Laboratory.

HWY-144: November 2010 to January 11, 2016						
Laboratory	Drill Core Samples	Standards	Blanks	Coarse Duplicates	Total QA/QC Samples	Total Samples Sent (Core + QA/QC)
ALS Canada Ltd.	82,543	2,570	2,572	2,560	7,702	90,245
Activation Laboratories	8,511	226	235	218	679	9,190
Bell Creek Laboratory	547	13	16	15	44	591
TOTAL	91,601	2,809	2,823	2,793	8,425	100,026

2.0 Standards

From November 1, 2010 to January 11th, 2016, 2,809 standard pulps were sent to assay laboratories for analysis.

Results from a variety of standard pulps from three labs have been separated and analyzed from the Highway-144 ("HWY-144") project. The labs used in the time period from November 1, 2010 to January 11th, 2016 were as follows: Activation Laboratories, ALS Canada Ltd, and Bell Creek Laboratory.

Summary statistics of standard results are shown below. Each table lists the following:

- Target value of standard
- Standard deviation of standard
- The minimum / maximum gates of the standard (+/- 3 standard deviations)
- The number of results for the standard (Nb)
- The mean / average result (Average)
- % relative difference between the mean result and the target (%Diff)
- The number of results below and above the target (Nb below and Nb above)
- The number results outside the Min/Max gates of standard (Nb Fail)
- Percentage of results below and above the target (PBelow and PAbove)
- Percentage of results outside the Min/Max gates of standard (Poutside)

Statistics were compiled for any standards that have more than 20 results.

There were six plausible mislabels removed from the statistics for ALS Canada Ltd. The standards removed were: two O-15h, one O-200, two O-201, and one O-205. One plausible mislabel of O-207 was also removed from the statistics for ActLabs.

ActLabs and ALS Canada both performed well for the standards, having overall failure rates of 1.12% and 1.69%, respectively.

In terms of accuracy, both labs performed well, with average relative differences of 0.06% and 0.49% for ActLabs and ALS Canada respectively.

Both labs have acceptable proportions of results below/above the target. ActLabs performed very well here, having 51.40% below and 48.60% above the target, which doesn't indicate any bias. ALS Canada also performed well, with 41.64% below and 58.36% above. This indicates only a slight positive bias on the standards. See Tables 2.1 and 2.2 for a detailed breakdown of each individual standard.

See Tables 2.1 and 2.2 for detailed statistics and Figures 2.1 to 2.3 for detailed plots for each laboratory.

3.0 Blanks

Results from blanks have also been separated by each lab. Here we determine the percentage of results above a given failure limit. Traditionally the cut-off limit is five times the detection limit (0.0125 g/t Au). Lake Shore Gold uses a cut-off limit of 0.1 g/t Au. A total of 2,894 blanks were sent to the various labs.

All three laboratories performed well for the blanks, having failure rates of 0.00%, 0.19%, and 0.43% for Bell Creek Lab, ALS Canada Ltd., and ActLabs respectively. ALS Canada received 91.3% of the total blank samples (2,643 samples sent).

See Table 3.1 below for a breakdown of the blank statistics.

Table 3.1: Blank Statistics for Each Laboratory Used			
Laboratory	**Total Blanks**	**Number > 0.1**	**% > 0.1**
Activation Laboratories	235	1	**0.43**
ALS Canada Ltd.	2,643	5	**0.19**
Bell Creek Laboratory	16	0	**0.00**
ALL	**2,894**	**6**	**0.21**

4.0 Coarse Duplicates

Coarse duplicates are assays from a new pulp taken from the crushed and ground (but not pulverized) reject of the original sample. There is more variability in these duplicates than for internal lab duplicates. A total of 2,793 coarse duplicates were sent to the various labs, with detailed statistics shown below in Tables 4.1 to 4.3.

Bell Creek Laboratory performed well for the coarse duplicates, having a percent difference of -1.18%, and a correlation coefficient of 0.9955. There were a total of 15 coarse duplicate pairs sent to the Bell Creek Lab.

The next best performer for the coarse duplicates was ActLabs. There were a total of 218 pairs of coarse duplicates. The percent difference between the two means is 3.16%, with a correlation coefficient of 0.9958.

A total of 2560 coarse duplicates were sent to ALS Canada. This lab performed well for the coarse duplicates, having a percent different of 7.17%, and a correlation coefficient of 0.9141. ALS Canada had a large difference between the maximum value between original/duplicate (original maximum value of 118.0 g/t Au, and a duplicate maximum value of 89.5 g/t Au). The gold nugget effect is common to this project which increases variability between original and duplicate samples. This could explain the somewhat high percent difference.

See Tables 4.1 to 4.3 for detailed statistics and Figures 4.1 to 4.3 for detailed log-normal plots for each lab.

5.0 Check Assays

Lake Shore Gold has performed four 5% check assay programs from November 1st, 2010 to January 11th, 2016. The check assay laboratory used for all programs was SGS Canada Inc. See Table 5.1 below for the number of samples sent to each laboratory within each check assay program period. Statistics were compiled for the entire time period from the last NI 43-101 technical report to the effective date of this report. Due to the low number of samples sent to ActLabs, no check assays were completed for the time period.

The same statistics were compiled for the check assays as for the coarse duplicates. In this case, we are comparing results from re-assaying another cut from the same pulp, but at a different lab.

Table 5.1: Total 144 Gap Deposit Samples used for each check assay program.	
Jan 1 2012, to Oct 31, 2012	
Laboratory	# Samples
ALS Canada Ltd.	5,504
Sep 1, 2014 to Nov 30, 2014	
Laboratory	# Samples
ALS Canada Ltd.	3,556
Dec 1, 2014 to Apr 30, 2015	
Laboratory	# Samples
ActLabs	879
ALS Canada Ltd.	12,277
May 1, 2015 to Oct 31, 2015*	
Laboratory	# Samples
ALS Canada Ltd.	27,877

*Check Assay Program still in progress at report effective date (February 1st, 2016).

5.1 ALS Canada Ltd. vs. SGS Canada Inc.

A total of 2,348 ALS Canada Ltd. pulps were sent for check assay to SGS Canada Inc.

The ALS values range from 0.0025 g/t Au to 308 g/t Au, and have a mean of 1.422 g/t Au. The check SGS values range from 0.0025 g/t Au to 810.15 g/t Au, and have a mean of 1.703 g/t Au. They have a correlation coefficient of 0.9173, which indicates a strong linear relationship. The percent difference between means is 18.04%. This large variation could be caused by a very gold rich sample which caused a large discrepancy between the maximum values. Removing this sample from the data set, the percent difference between means becomes much lower at 5.14%.

See Table 5.1 for detailed statistics and Figure 5.1 for a detailed log-normal plot.

6.0 Analytical Lab Internal Standards, Blanks, and Duplicates

No analysis has been completed for this report on the main three analytical labs' internal QA/QC samples (standards, blanks, or duplicates). This data is routinely reviewed by the drill program QP and database administrator when assay results are received from the respective labs and prior to importation into the database.

7.0 Conclusions

Drill core samples from underground drill holes that were added to the 144 Gap Deposit drill database between November 1, 2010 and January 11th, 2016 were sent to three analytical labs.

No critical issues were identified that would lead Lake Shore Gold to believe that there is a concern with the analytical results.

Tables 2.1 to 2.2: Standard Performance at Each Laboratory

Table 2.1: HWY-144 Standards - ActLabs - November 1, 2010 to January 11, 2016													
Standard Ref.	Mean Value	1s	Min	Max	Nb	Average	%Diff	Nb below	Nb above	Nb Fail	Pbelow	Pabove	Poutside
O-201	0.514	0.017	0.462	0.565	67	0.521	1.266	31	36	2	46.27	53.73	2.99
O-205	1.244	0.053	1.085	1.402	85	1.231	-1.021	49	36	0	57.65	42.35	0.00
O-207	3.472	0.130	3.082	3.862	27	3.489	0.497	12	15	0	44.44	55.56	0.00
TOTAL	1.743				179	1.747	0.064	92	87	2	51.40	48.60	1.12

Table 2.2: HWY-144 Standards - ALS - November 1, 2010 to January 11, 2016													
Standard Ref.	Mean Value	1s	Min	Max	Nb	Average	%Diff	Nb below	Nb above	Nb Fail	Pbelow	Pabove	Poutside
O-200	0.340	0.012	0.303	0.378	159	0.344	1.176	52.5	106.5	1	33.02	66.98	0.63
O-201	0.514	0.017	0.462	0.565	342	0.519	1.003	122	220	8	35.67	64.33	2.34
O-202	0.752	0.026	0.675	0.830	105	0.754	0.300	45.5	59.5	0	43.33	56.67	0.00
O-2Pd	0.885	0.029	0.797	0.973	142	0.876	-0.992	86.5	55.5	8	60.92	39.08	5.63
O-15h	1.019	0.025	0.945	1.093	129	1.007	-1.138	71	58	7	55.04	44.96	5.43
O-15Pb	1.060	0.030	0.970	1.140	394	1.048	-1.109	240.5	153.5		61.04	38.96	0.00
O-205	1.244	0.053	1.085	1.402	401	1.262	1.422	147.5	253.5	1	36.78	63.22	0.25
O-6Pc	1.520	0.067	1.320	1.720	123	1.530	0.647	43.5	79.5	2	35.37	64.63	1.63
O-15d	1.559	0.042	1.433	1.685	18	1.569	0.652	7	11	0	38.89	61.11	0.00
O-54Pa	2.900	0.110	2.570	3.230	49	2.903	0.103	17.5	31.5	1	35.71	64.29	2.04
O-207	3.472	0.130	3.082	3.862	320	3.524	1.507	86	234	4	26.88	73.13	1.25
O-68a	3.890	0.150	3.890	4.330	36	3.922	0.828	12.5	23.5	1	34.72	65.28	2.78
O-61d	4.760	0.140	4.330	5.190	37	4.820	1.255	12.5	24.5	1	33.78	66.22	2.70
O-19a	5.490	0.100	5.190	5.790	164	5.548	1.052	57.5	106.5	6	35.06	64.94	3.66
O-10c	6.600	0.160	6.110	7.080	57	6.581	-0.284	29	28	2	50.88	49.12	3.51
TOTAL	2.400				2476	2.414	0.492	1031	1445	42	41.64	58.36	1.70

Tables 4.1 to 4.3: Statistics of Coarse Duplicate Results for Each Laboratory

Table 4.1: Statistics of ActLabs Coarse Duplicate Results		
Stats	Original ActLabs Value	Coarse Duplicate ActLabs Value
	Au (g/t)	Au (g/t)
Number of Samples	218	218
Mean	0.920	0.950
Maximum Value	33.600	34.100
Minimum Value	0.003	0.003
Median	0.019	0.018
Variance	12.218	13.237
Standard Deviation	3.495	3.638
Coefficient of Variation	3.799	3.831
Correlation Coefficient	0.9958	
Coefficient of Determination (R^2)	0.9915	
Percent Difference between Means	3.1596	

Table 4.2: Statistics of ALS Coarse Duplicate Results		
Stats	Original ALS Value	Coarse Duplicate ALS Value
	Au (g/t)	Au (g/t)
Number of Samples	2,560	2,560
Mean	0.484	0.520
Maximum Value	118.000	89.500
Minimum Value	0.002	0.002
Median	0.012	0.012
Variance	11.203	12.714
Standard Deviation	3.347	3.566
Coefficient of Variation	6.919	6.861
Correlation Coefficient	0.9141	
Coefficient of Determination (R^2)	0.8356	
Percent Difference between Means	7.1665	

Table 4.3: Statistics of BCL Coarse Duplicate Results		
Stats	Original BCL Value	Coarse Duplicate BCL Value
	Au (g/t)	Au (g/t)
Number of Samples	15	15
Mean	0.260	0.257
Maximum Value	1.639	1.723
Minimum Value	0.003	0.003
Median	0.033	0.033
Variance	0.220	0.227
Standard Deviation	0.469	0.477
Coefficient of Variation	1.801	1.855
Correlation Coefficient	0.9955	
Coefficient of Determination (R^2)	0.9910	
Percent Difference between Means	-1.1856	

Table 5.1: Statistics of Check Assay Programs from November 1st, 2010 to January 11th, 2016

Table 5.1: Statistics of 144 Gap Deposit Check Assay Results		
Stats	Original ALS Value	Check SGS Value
	Au (g/t)	Au (g/t)
Number of Samples	2,348	2,348
Mean	1.422	1.703
Maximum Value	308.000	810.150
Minimum Value	0.003	0.003
Median	0.136	0.133
Variance	69.275	311.178
Standard Deviation	8.323	17.640
Coefficient of Variation	5.855	10.356
Correlation Coefficient	0.9173	
Coefficient of Determination (R^2)	0.8415	
Percent Difference between Means	18.0402	

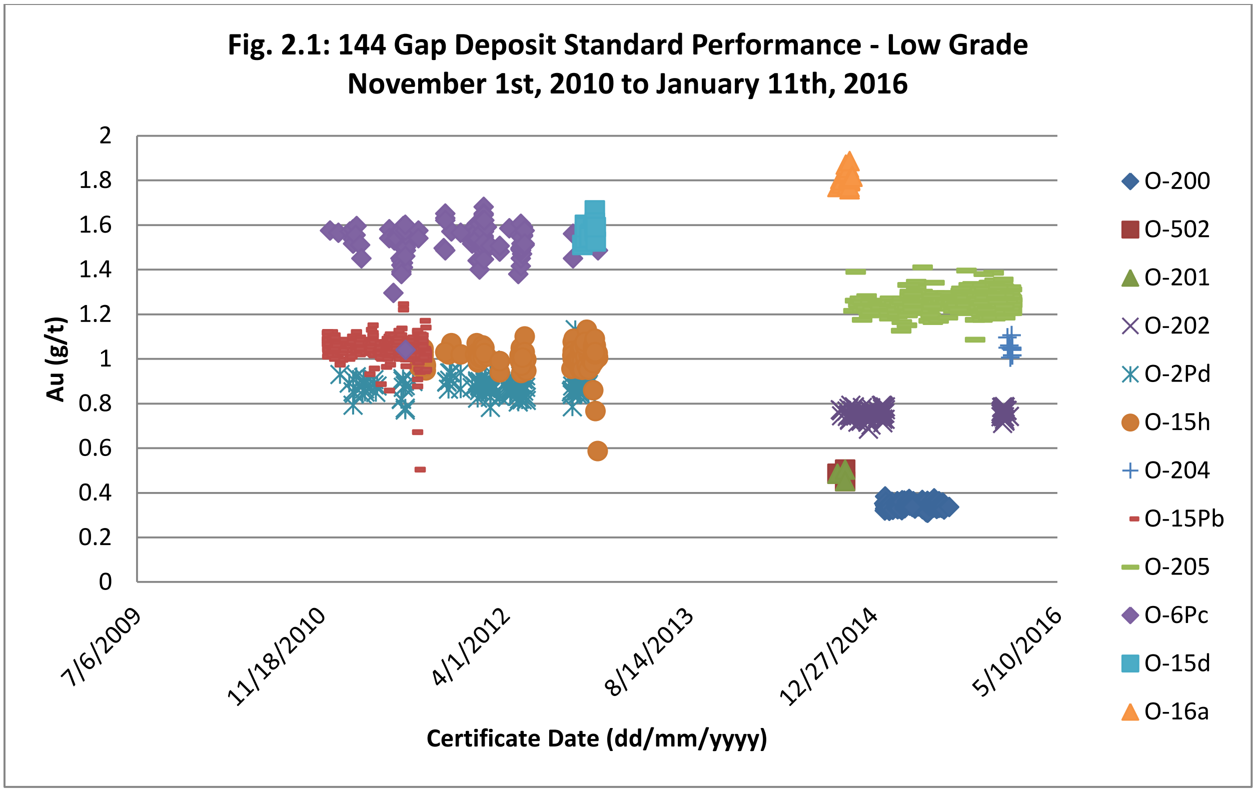


Fig. 2.1: 144 Gap Deposit Standard Performance - Low Grade
November 1st, 2010 to January 11th, 2016
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Au (g/t)
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016
Certificate Date (dd/mm/yyyy)
O-200
O-502
O-201
O-202
O-2Pd
O-15h
O-204
O-15Pb
O-205
O-6Pc
O-15d
O-16a

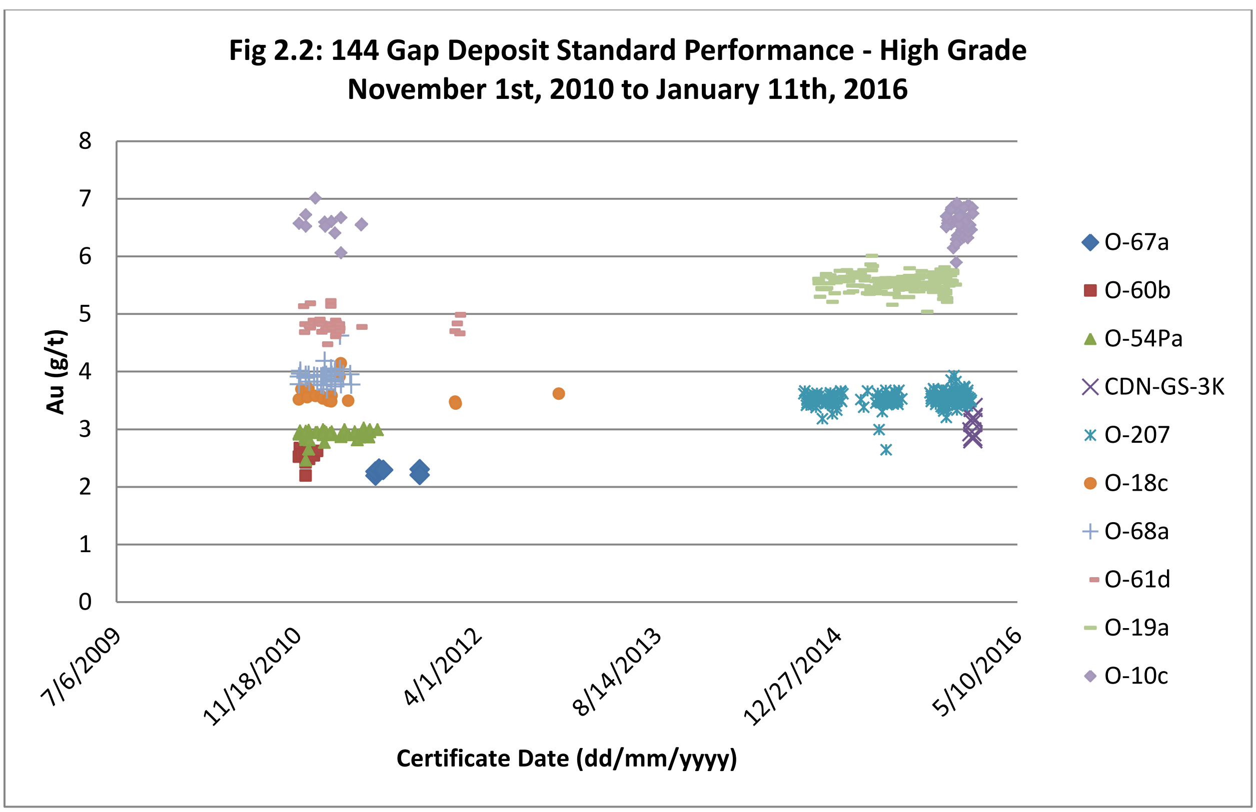


Fig 2.2: 144 Gap Deposit Standard Performance - High Grade
November 1st, 2010 to January 11th, 2016
8
7
6
5
4
3
2
1
0
Au (g/t)
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016
Certificate Date (dd/mm/yyyy)
O-67a
O-60b
O-54Pa
CDN-GS-3K
O-207
O-18c
O-68a
O-61d
O-19a
O-10c

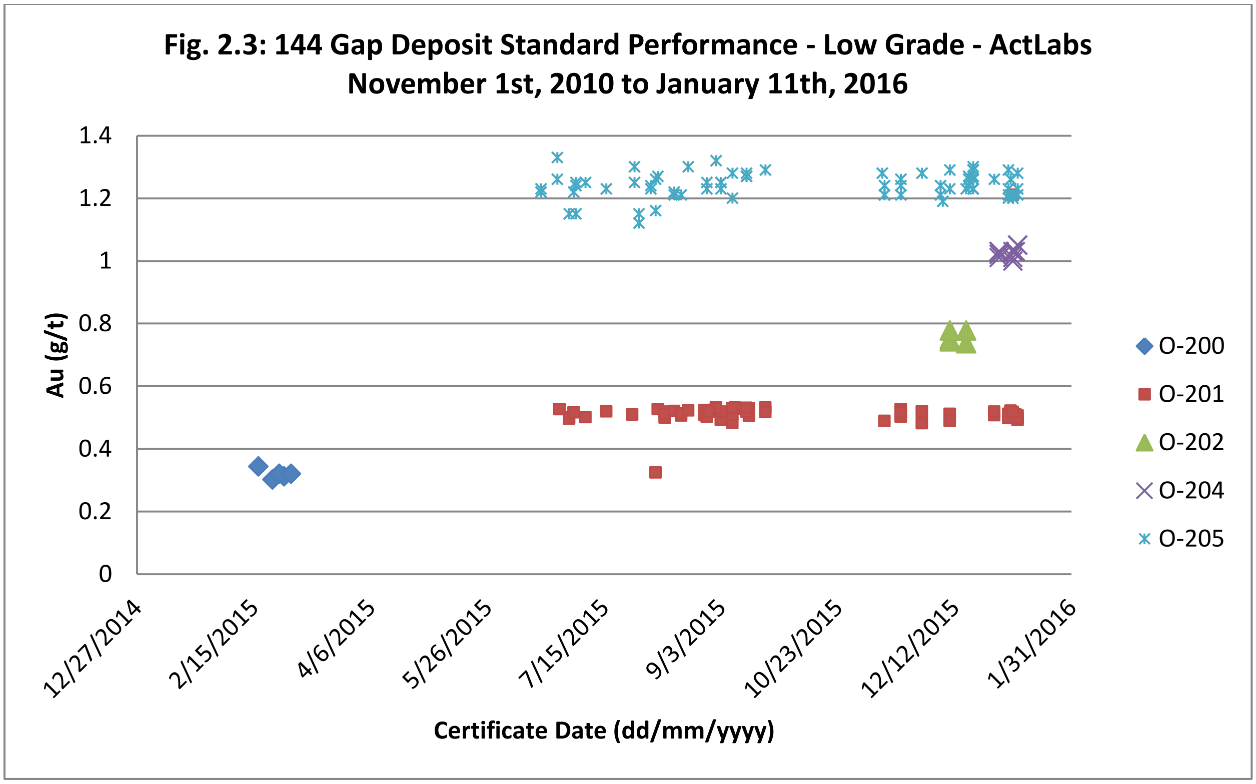


Fig. 2.3: 144 Gap Deposit Standard Performance - Low Grade - ActLabs
November 1st, 2010 to January 11th, 2016
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Au (g/t)
12/27/2014
2/15/2015
4/6/2015
5/26/2015
7/15/2015
9/3/2015
10/23/2015
12/12/2015
1/31/2016
Certificate Date (dd/mm/yyyy)
O-200
O-201
O-202
O-204
O-205

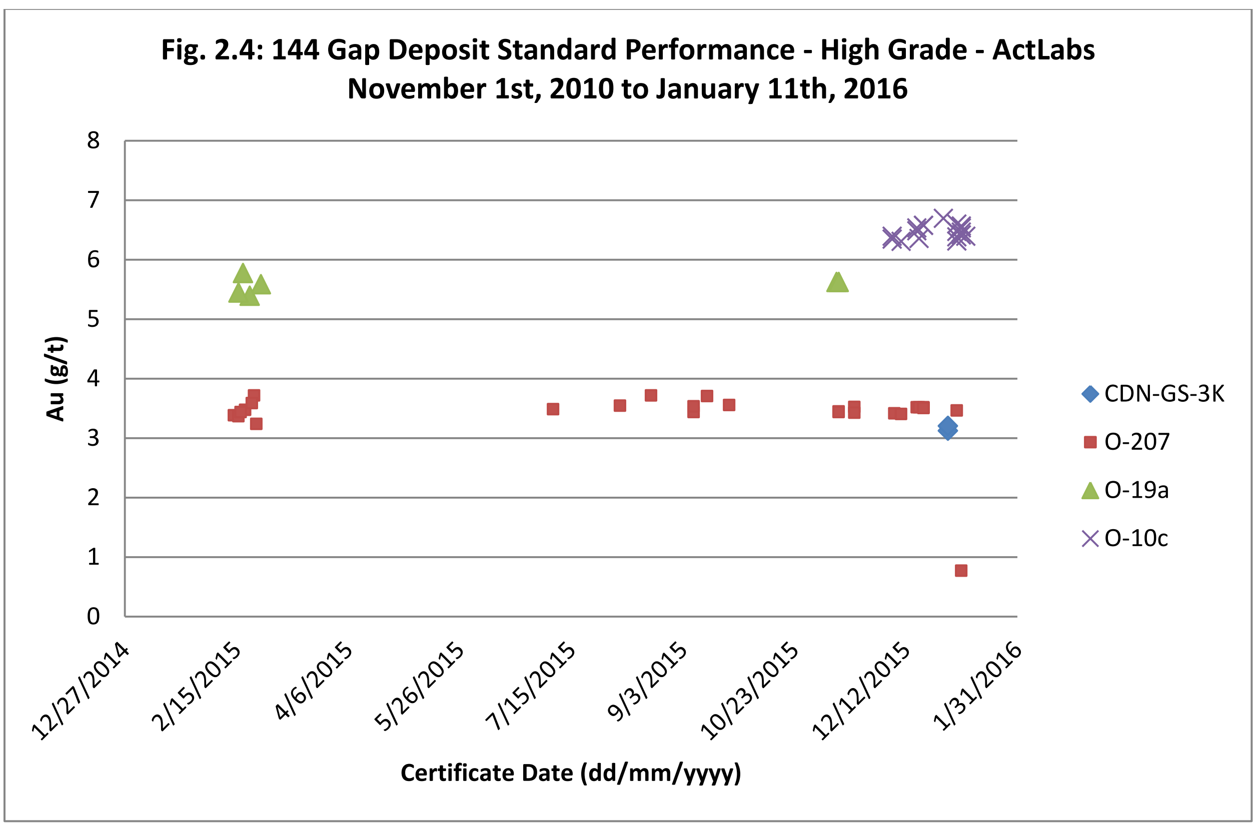


Fig. 2.4: 144 Gap Deposit Standard Performance - High Grade - ActLabs
November 1st, 2010 to January 11th, 2016
8
7
6
5
4
3
2
1
0
Au (g/t)
12/27/2014
2/15/2015
4/6/2015
5/26/2015
7/15/2015
9/3/2015
10/23/2015
12/12/2015
1/31/2016
Certificate Date (dd/mm/yyyy)
CDN-GS-3K
O-207
O-19a
O-10c

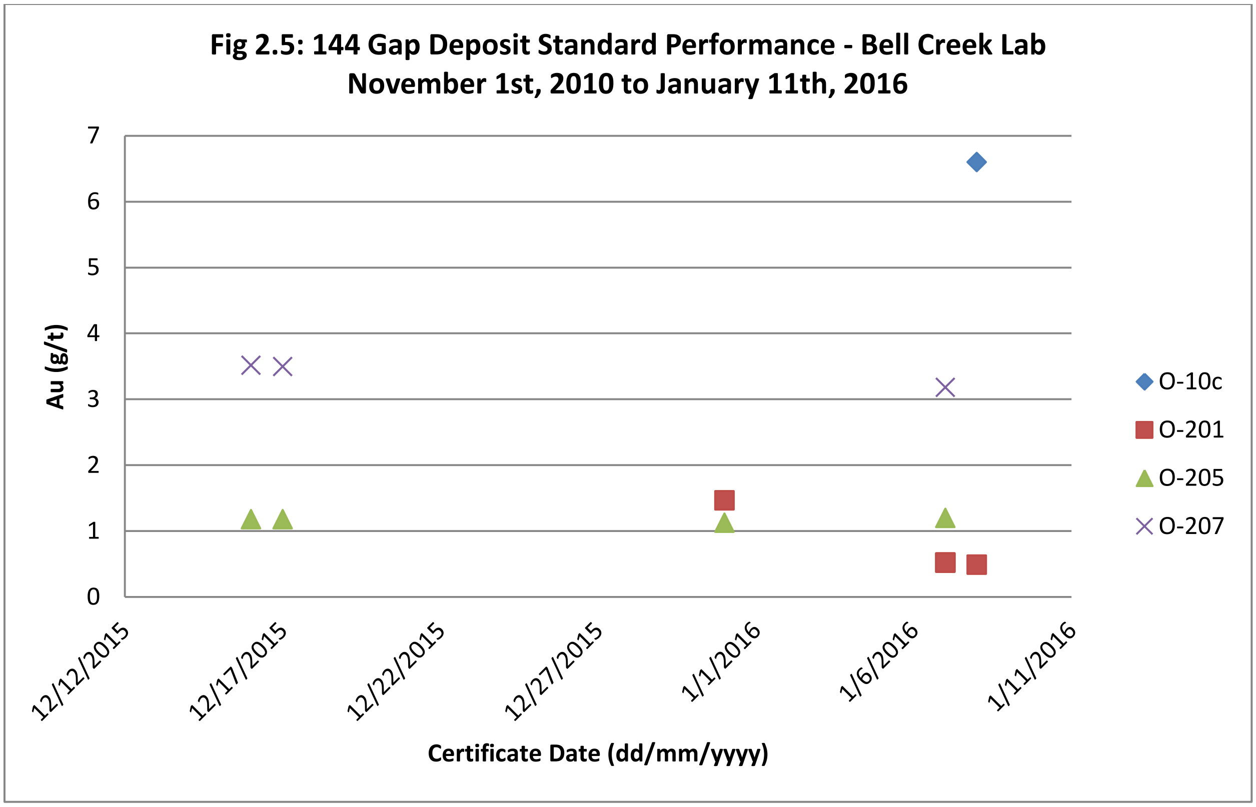


Fig 2.5: 144 Gap Deposit Standard Performance - Bell Creek Lab
November 1st, 2010 to January 11th, 2016
7
6
5
4
3
2
1
0
Au (g/t)
12/12/2015
12/17/2015
12/22/2015
12/27/2015
1/1/2016
1/6/2016
1/11/2016
Certificate Date (dd/mm/yyyy)
O-10c
O-201
O-205
O-207

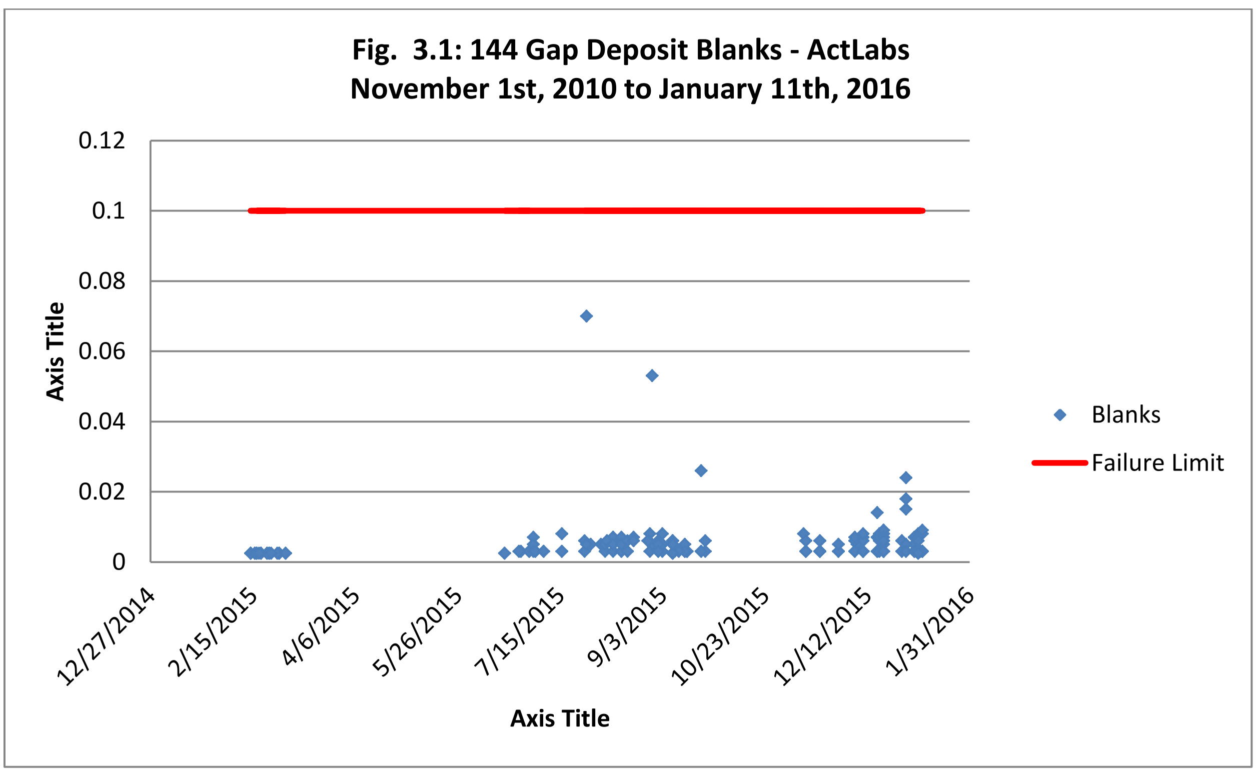


Fig. 3.1: 144 Gap Deposit Blanks - ActLabs
November 1st, 2010 to January 11th, 2016
0.12
0.1
0.08
0.06
0.04
0.02
0
Axis Title
12/27/2014
2/15/2015
4/6/2015
5/26/2015
7/15/2015
9/3/2015
10/23/2015
12/12/2015
1/31/2016
Axis Title
Blanks
Failure Limit

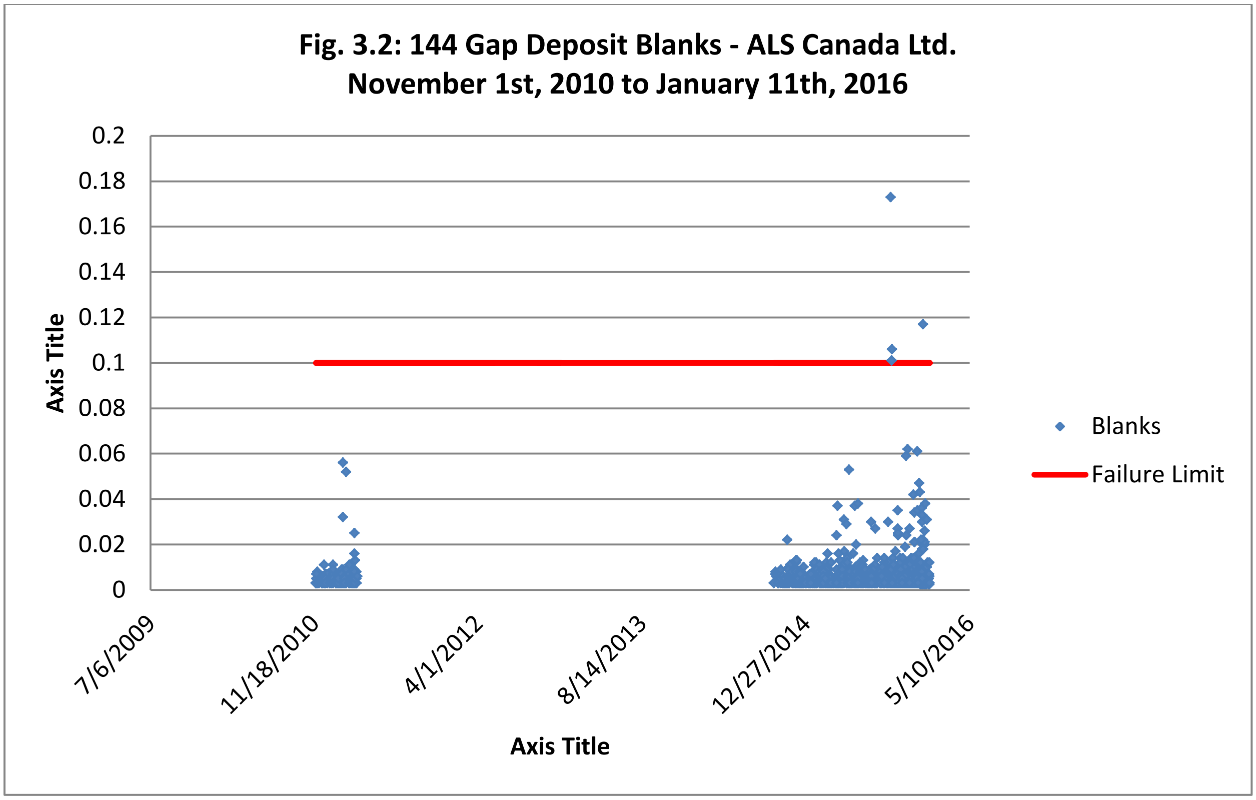


Fig. 3.2: 144 Gap Deposit Blanks - ALS Canada Ltd.
November 1st, 2010 to January 11th, 2016
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Axis Title
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016
Axis Title
Blanks
Failure Limit

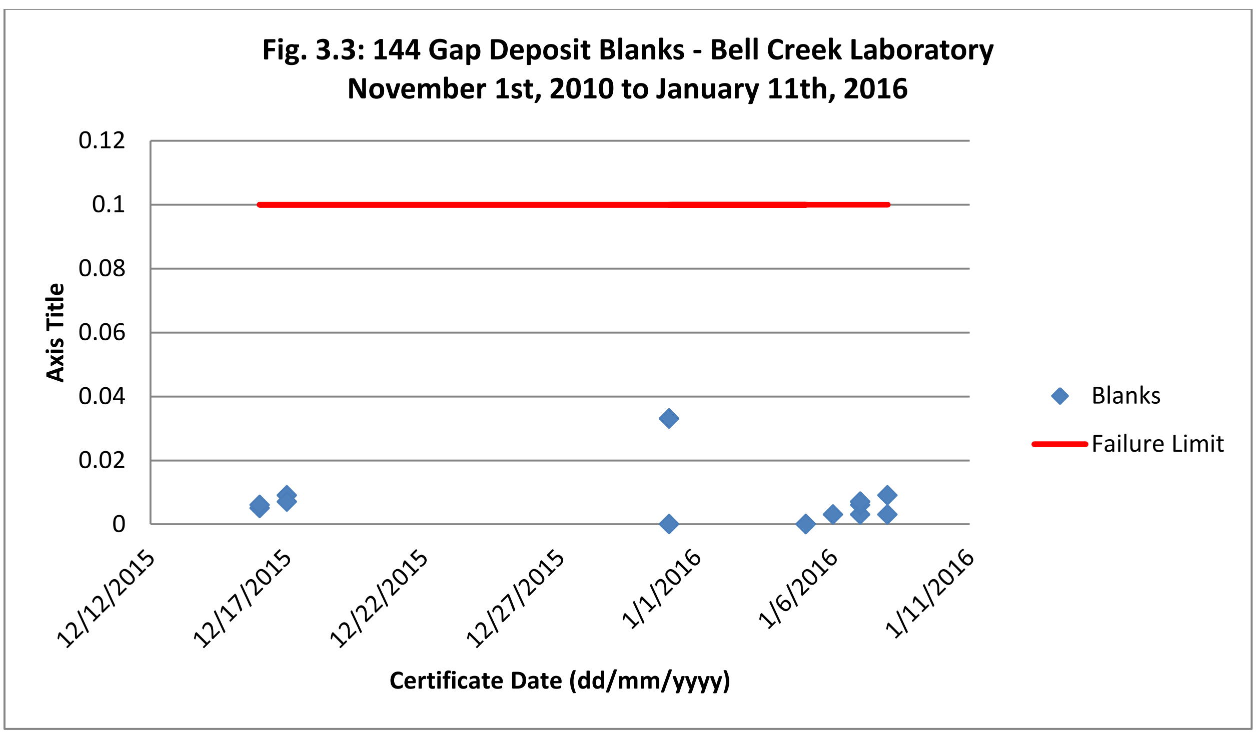


Fig. 3.3: 144 Gap Deposit Blanks - Bell Creek Laboratory
November 1st, 2010 to January 11th, 2016
0.12
0.1
0.08
0.06
0.04
0.02
0
Axis Title
12/12/2015
12/17/2015
12/22/2015
12/27/2015
1/1/2016
1/6/2016
1/11/2016
Certificate Date (dd/mm/yyyy)
Blanks
Failure Limit

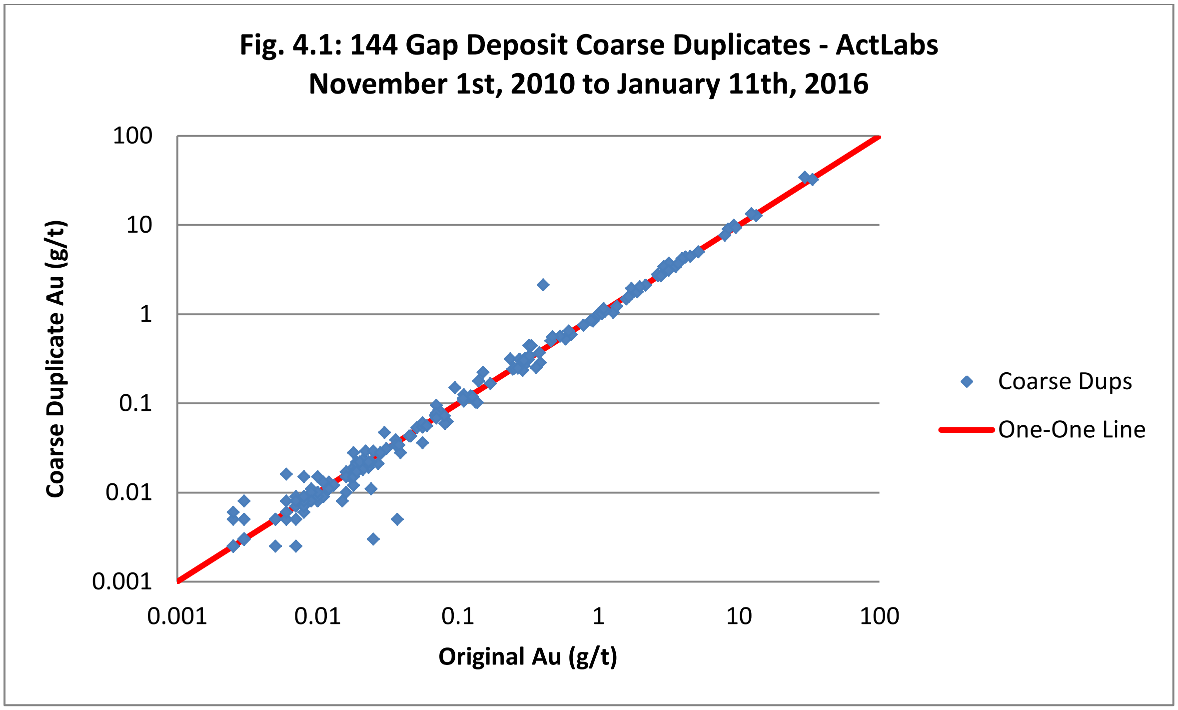


Fig. 4.1: 144 Gap Deposit Coarse Duplicates - ActLabs
November 1st, 2010 to January 11th, 2016
Coarse Duplicate Au (g/t)
Original Au (g/t)
100
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
100
Coarse Dups
One-One Line

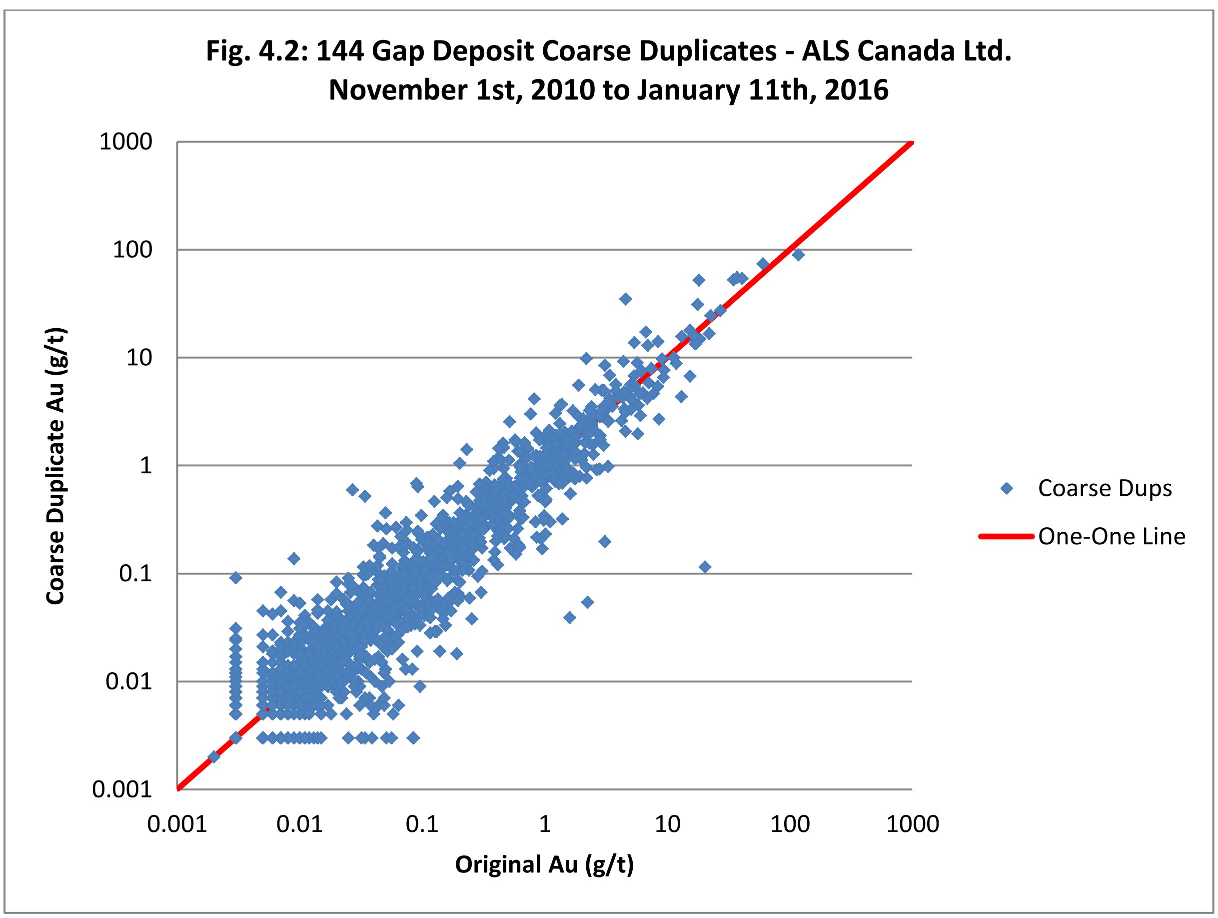


Fig. 4.2: 144 Gap Deposit Coarse Duplicates - ALS Canada Ltd.
November 1st, 2010 to January 11th, 2016
Coarse Duplicate Au (g/t)
Original Au (g/t)
1000
100
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
100
1000
Coarse Dups
One-One Line

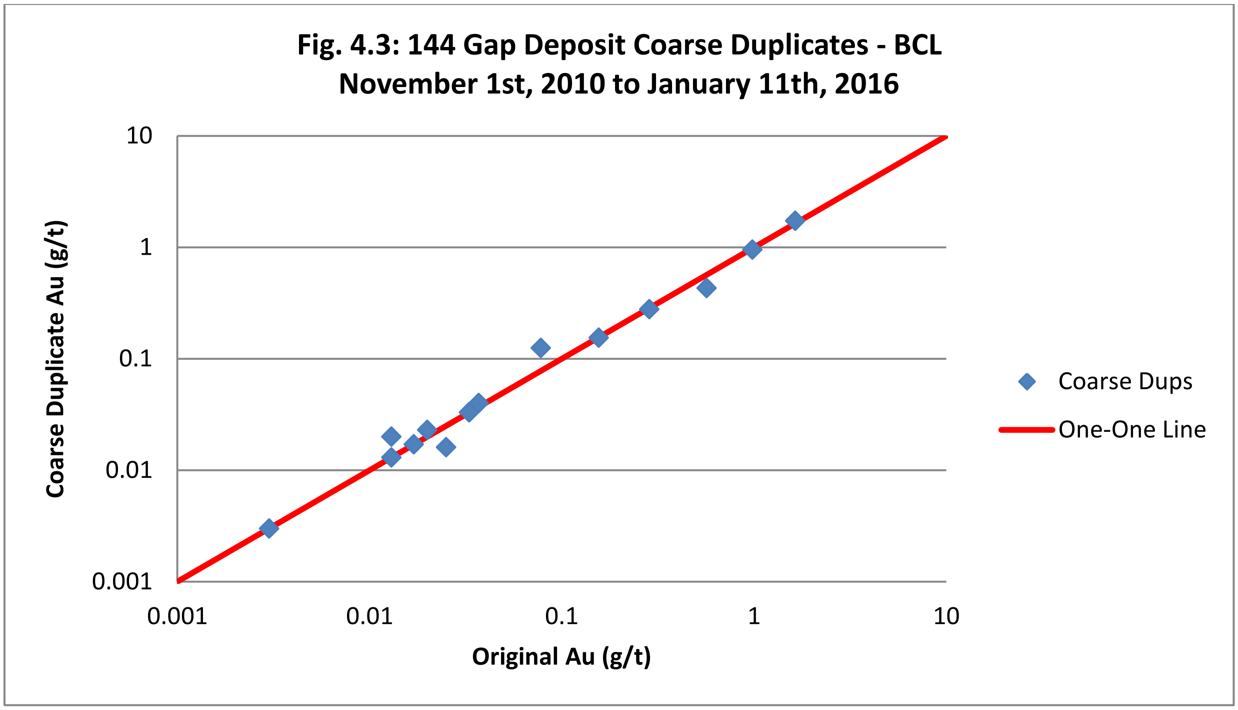


Fig. 4.3: 144 Gap Deposit Coarse Duplicates - BCL
November 1st, 2010 to January 11th, 2016
Coarse Duplicate Au (g/t)
Original Au (g/t)
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
Coarse Dups
One-One Line

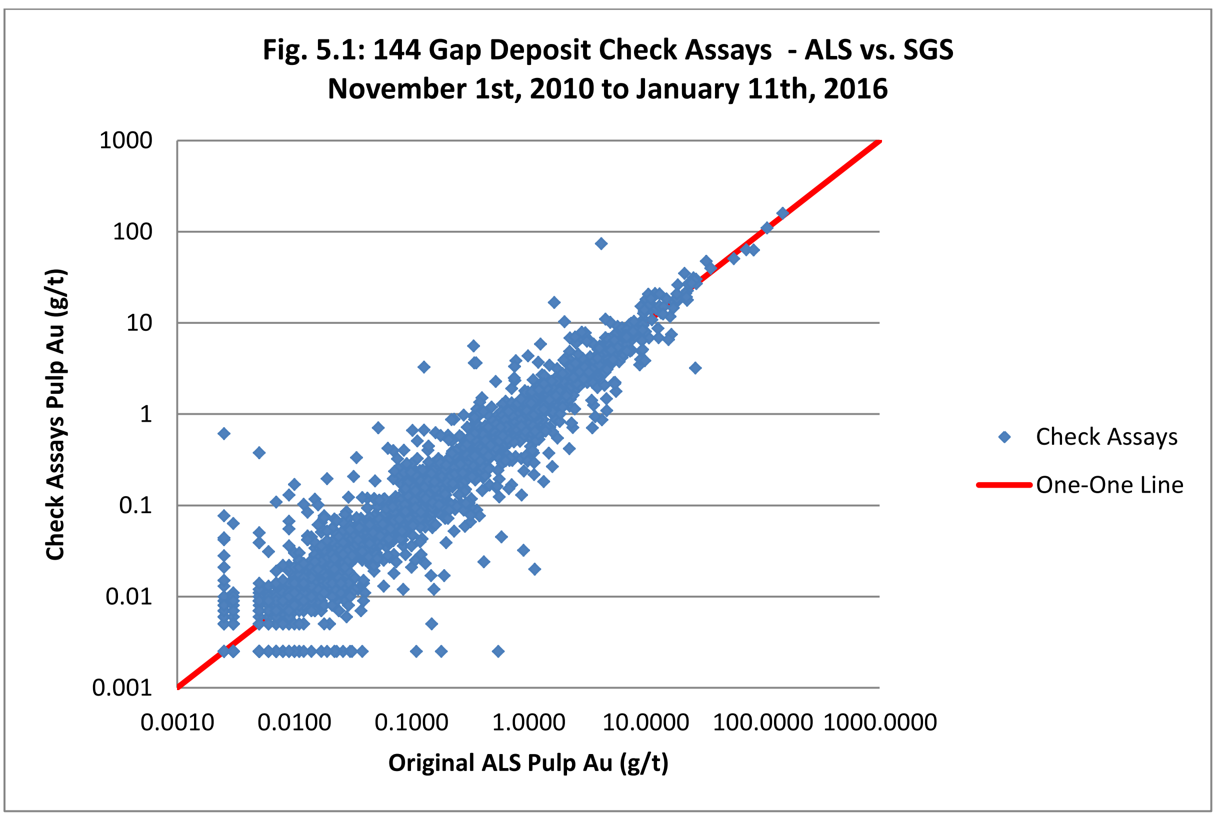


Fig. 5.1: 144 Gap Deposit Check Assays - ALS vs. SGS
November 1st, 2010 to January 11th, 2016
Check Assays Pulp Au (g/t)
Original ALS Pulp Au (g/t)
1000
100
10
1
0.1
0.01
0.001
0.0010
0.0100
0.1000
1.0000
10.0000
100.0000
1000.0000
Check Assays
One-One Line

APPENDIX 2

SGS AUDIT REPORT – RESOURCE ESTIMATION VERIFICATION – TIMMINS DEPOSIT

SGS AUDIT REPORT – RESOURCE ESTIMATION VERIFICATION – THUNDER CREEK DEPOSIT

MEMO – 144 GAP RESOURCE MODEL ASSESSMENT

Audit Report
Resource Estimation Verification
Timmins Deposit
Timmins, Ontario
Lakeshore Gold Corporation

Respectfully submitted to:

Lakeshore Gold Corp

By:

SGS Canada Inc.

Matthew Kalman Halliday, P.Geo

Guy Desharnais, Ph.D., P.Geo

SGS Canada – Geostat

Effective Date:

January 25, 2016

Forward:

This report describes the work completed in January of 2015 at SGS Canada Inc. – Geostat (thereafter "SGS Geostat") to assist Lakeshore Gold Corp. (thereafter "LSG") in the estimation of the resources of their Timmins Deposit (thereafter "TD") currently being mined northeast of Timmins, Ontario. **This report is not an NI 43-101 Technical Report but it can be used to support the results in further NI 43-101 reports** authored by LSG on the Timmins Deposit. This verification does not take into account data quality, management of mined out areas or remnants or transition to reserves.

Contents

List of Figures

List of Tables

List of Equations

1 Data Handling and Estimation of Resources

1.1 Verification and validation of database integrity

The client has supplied us with the following data for the Timmins deposit:

- 3d solids for levels, stopes and domains in dxf format
- Composites in asc format
- Block model in text form with accompanying readme, block model was delivered in Gemcom Gems format
- Supplementary block model that contained remnant codes
- Drillhole database in excel formal with the following tabs
    - Assays – 257729 entries
    - Headers – 3281 entries
    - LithoMaj – 45140 entries
    - Surveys – 49094 entries

The drillhole database was imported into SGS's Geobase software and a validation report was generated. From that validation, there was some minor assay overlaps in holes: 400-015, 400-023, and 650-267 nothing of consequence to resource reporting. All were ignored.

There were 12 minor lithology issues either, 7 were a naming convention for the end of hole, such that the 'from' value is the final depth and the 'to' value is zero. The rest were overlaps i.e possible primary or secondary lithologies. Additionally there were a few lithologies outside the hole limits (7), no impact on resources.

Overall the database is very clean and fit for purpose.

1.2 Importation of data into Genesis Software

All of the supplied client information was imported in the SGS's Genesis modeling software.

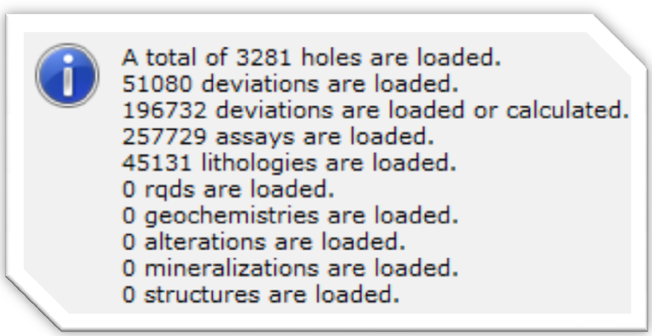


Figure 1-1: Importation Timmins Deposit

All the collars listed in item 1.1 above are accounted for; all the assays are accounted for, 9 lithologies that contained errors from greater than to were skipped, 7 were null issues as described above, however 525-033 litho record from equals to at depth 704.5 and hole 260-016B the from 179.9 is greater than the to of 177.2 and thus were not loaded, genesis will not load deviations at depth 0 and will use the value supplied in the headers, which will account for the small discrepancy, additionally will add a survey for eoh.

All the block models, composites and 3d solids were imported without error. Only gold, gold grav, gold pm and gold fin were imported for the assay table.

1.3 Validation Parameters used in the definition of ore zones

A section by section verification of the ore solid model was completed to identify any major flaws in the interpretation: no significant anomalies were observed. However there were several possible extensions that were noted, either along strike or extensions on existing intervals. It was decided to undertake a formal review of the intervals that should be considered for inclusion according to the following steps:

1. Automatic creation of mineralized intervals throughout the drillhole database with a minimum grade of 1 g/t and a minimum length of 3 m.
2. Automatic creation of mineralized intervals within the LSG ore solids.
3. Subtraction of intervals created in Step 1 with those created in Step 2.
4. Extraction of mineralized intervals with a grade greater than 2 g/t.
5. A section by section deletion of mineralized intervals (produced in Step 4) that are unrelated to the mineralized bodies, or insignificant.
6. Extraction of the highest priority intervals as an excel spreadsheet with from-to intervals and XYZ positions that can be used to validate the model in GEMS by LSG modelers.

These intervals represent opportunities where tonnage additions could be captured. It is likely that many of these were left out of the solid models intentionally due to other factors, such as geological interpretation, fault interpretation or other factor. It is recommended that these intervals should be imported and reviewed by LSG staff during the next phase of ore body modeling to evaluate their inclusion and exclusion.

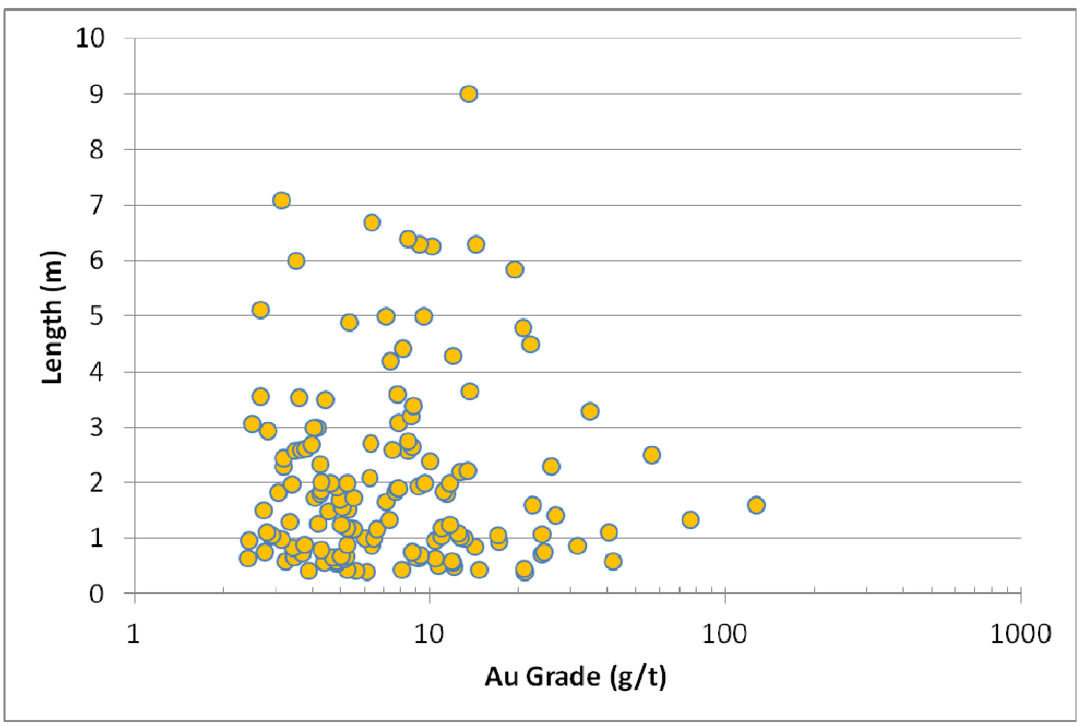


Figure 2. Scatter plot showing the 143 drill intervals that should be analysed by LSG modelers to see if they are worthwhile to integrate into the next series of models.

1.4 Statistical and geostatistical analysis

1.4.1 BM Validation (Swath Plots)

Swath plots were generated for each of the three primary directions. All three directions illustrate proper smoothing of the block values as compared to the composites. There is an unusually large spike in block grade in the z direction between 576-582 m however given the very small block volume it is likely the result of a few composites at the extremities of the ellipsoid and the due to the small volume the blocks will not contribute considerable bias.

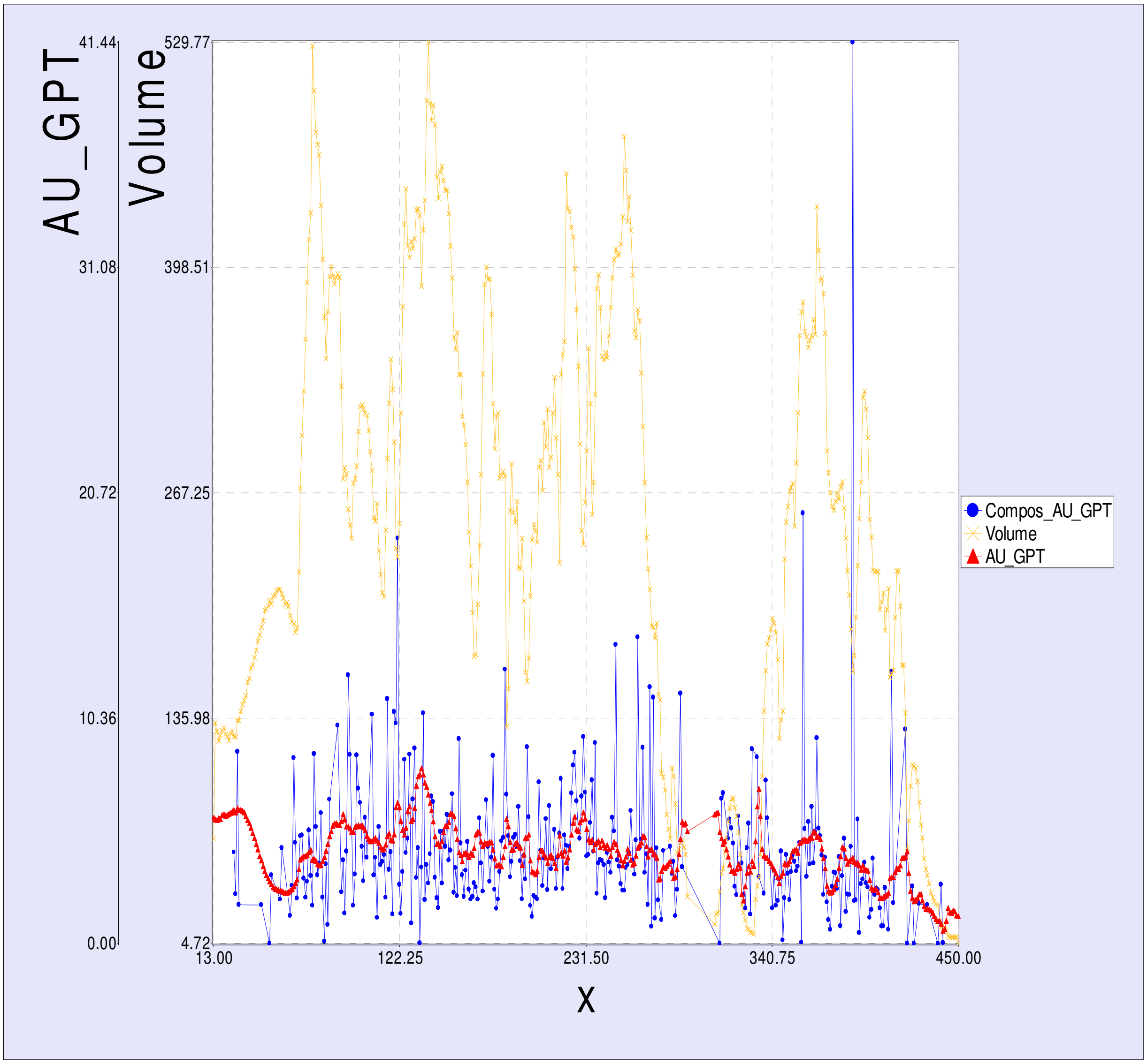


Figure 1-3: Timmins deposit – Swath plot - x direction

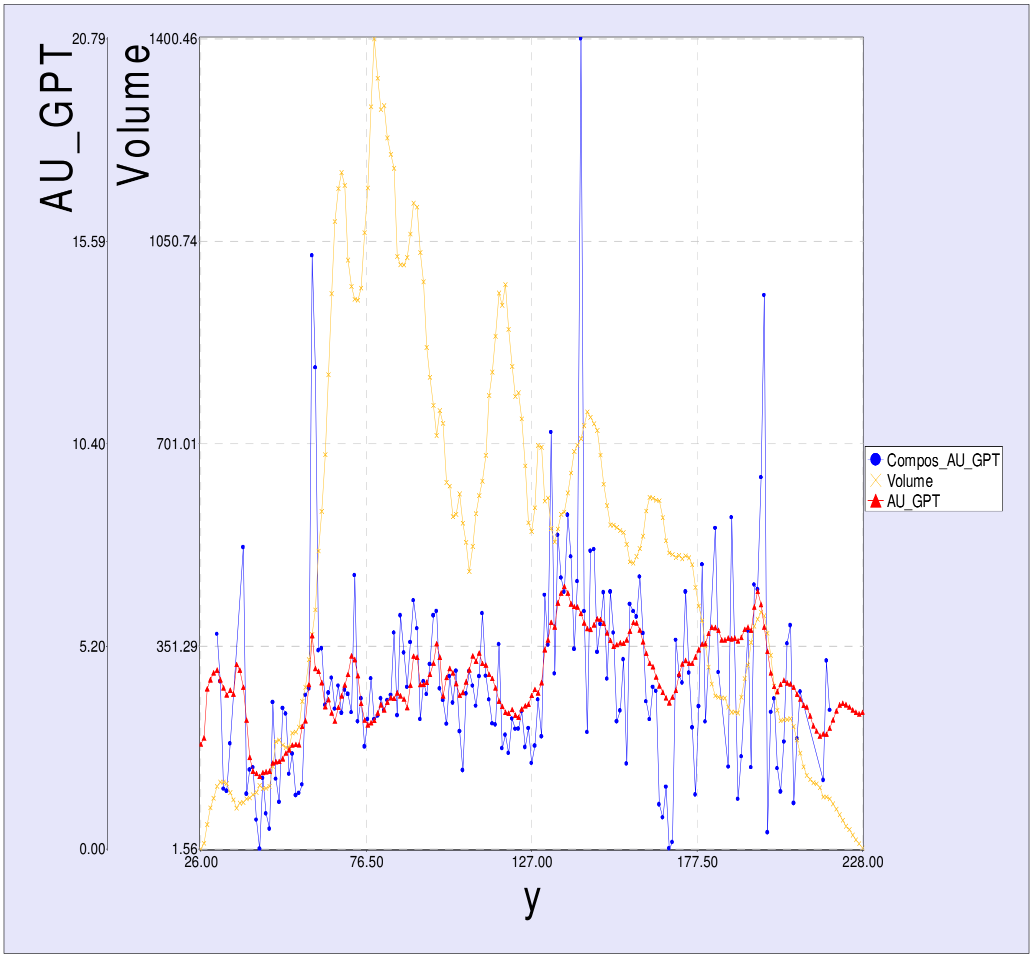


Figure 1-4: Timmins deposit – Swath plot – y direction

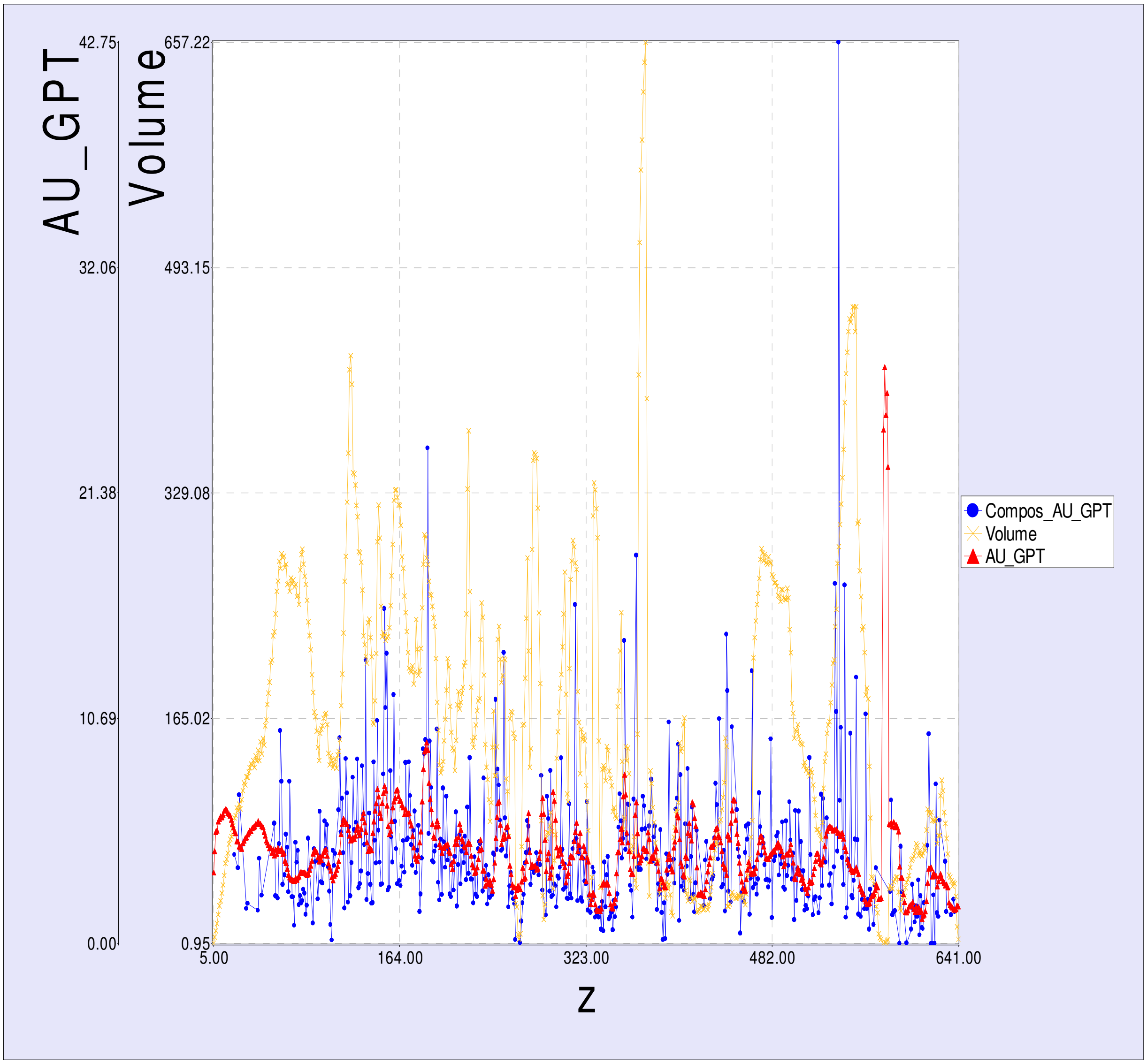


Figure 1-5: Timmins deposit – Swath plot – z direction

1.4.2 Statistics

A statistical comparison is difficult to accomplish with post remnant and stope removed block models. The problem arises when confining the composites to the space where the blocks exist; many high grade composites may have affected the resulting block model. Additionally composite sets were variable cutoff from zone to zone.

*the following has no remnants or stopes removed – it is for comparing change in support

Table 1-1: Timmins deposit – Summary statistics comparison - Assays vs. Composites vs. Blocks

	ORIG. ASSAYS	COMPOSITES	BLOCKS
Average	6.11	5.63	4.88
Weighted Average	5.61	5.66	4.92
Standard Deviation	59.69	34.47	4.17
% Variation	976.6%	611.8%	85.3%
Median	1.51	2.13	3.76
Mode	0.01	0.01	2.29
Variance	3562.62	1188.52	17.36
Minimum	0.00	0.00	0.00
Maximum	7581.43	3846.47	87.14
Count	25634	18755*	295706

*Cut by the domains envelope

The change in support for weighted average assays to composites is what is expected and is good; the average grade of blocks is similar to that of gold grade capped at 90 g/t.

Table 1-2: Timmins deposit – Summary statistics comparison – Composites by capping

	Uncapped	AU_50	AU_70	AU_90
Min	0.001	0.001	0.001	0.001
Max	3846	50.00	70.00	90.00
Average	5.60	4.68	4.85	4.94
St.Dev	33.8	7.1	7.9	8.4
Variance	1140	50	62	71
count*	19643	19643	19643	19643

*not cut by the domains envelope

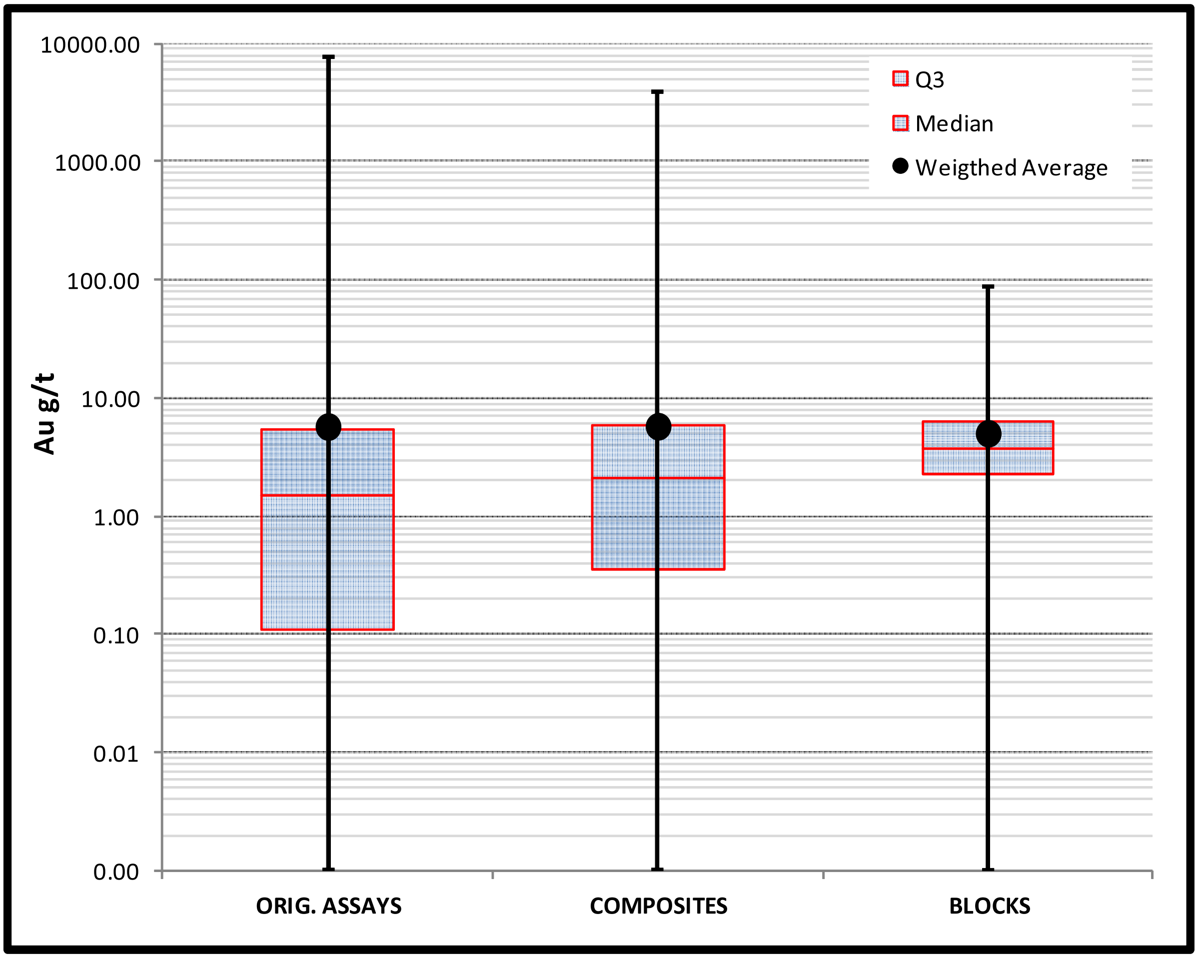


Figure 1-6: Timmins deposit – Box and Whisker - Assays vs. Composites vs. Blocks

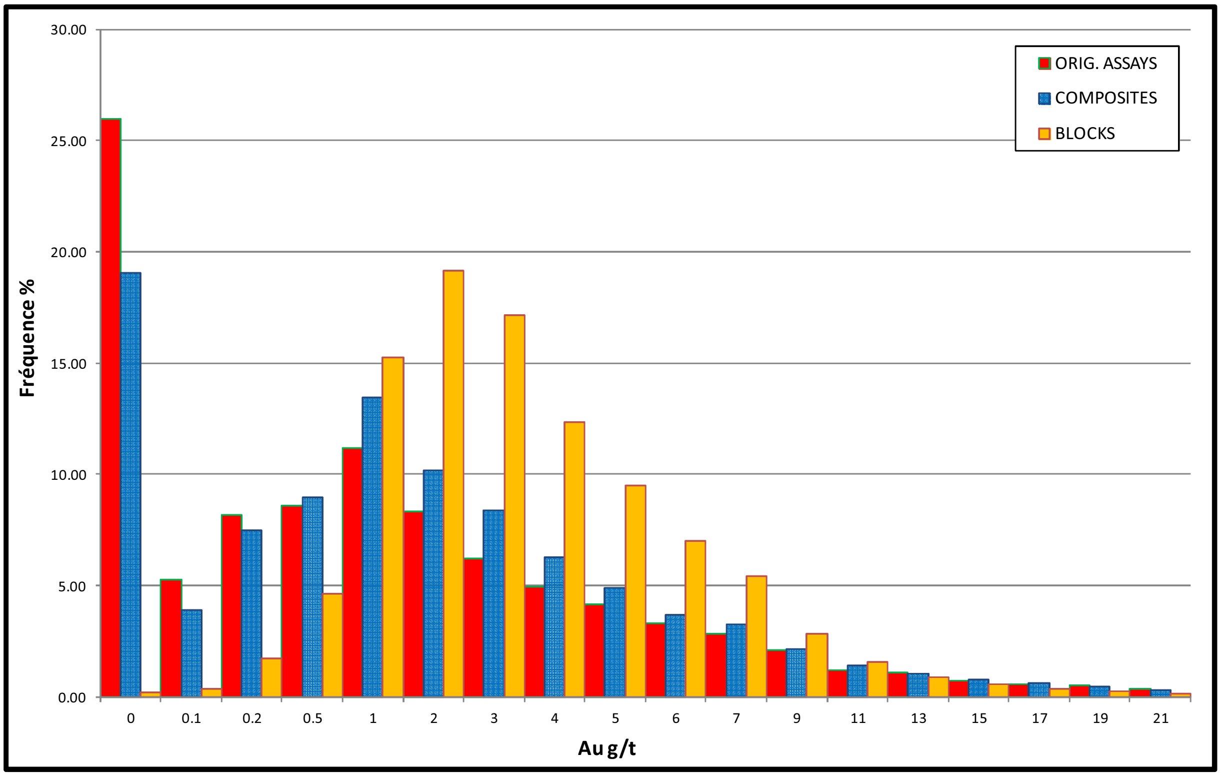


Figure 1-7: Timmins deposit – Histogram Au g/t (final) - Assays vs. Composites vs. Blocks. Note that the bins are irregular

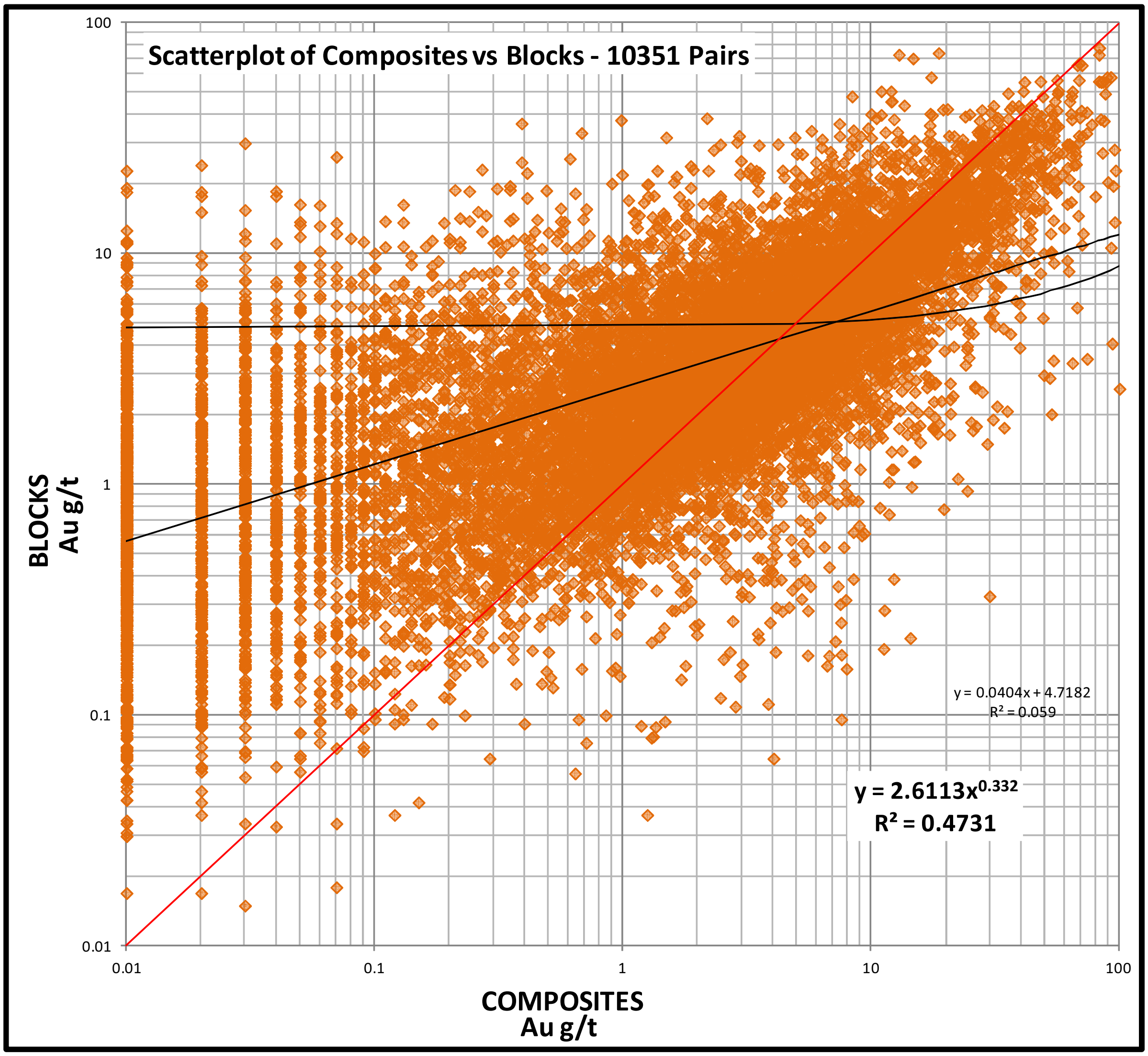


Figure 1-8: Timmins deposit – Scatterplot Au g/t (final) - Composites vs. Blocks

1.5 Interpolation of grades into block models using LSG parameters

- We imported the Lakeshore block models.
- We cleared the estimation for a copy of them.
- We created the same ellipsoids as used by LSG however in a different format than ZXZ.
- After confirming we could reproduce the composites used by Lakeshore, we used the composites supplied by Lakeshore.
- We created estimation profiles as outlined by Lakeshore gold for each zone.
    - We used the same number of passes, and restrictions for number of composites to use and minimum composites per hole.
    - We used id^2 for all with a discretization of 2×2×2
    - We used ellipsoid influenced distances for choosing composites to estimate but not in the estimation formula
    - We used the same capping as supplied by lakeshore gold for each zone.

    - Did not conduct any additional capping studies
  - We estimated all zones, there is no overlap in our zones they were chosen strictly on the block tags
  - Composites were limited to the 3d envelope for the zone being estimated.
  - We estimated stopes and remnants but did not use them for resource reporting

2 Elements of the estimation process

2.1 Composites are created along the entire length of holes within mineralized solids.

The composites supplied by Lakeshore do not to have any duplicates or inconsistencies.

Using Genesis we created Mineralized Intervals within the supplied 3d solids. With these mineralized intervals we created composites that distributed length to be closest to 1m along the mineralized intervals; the rounding was done as to minimize the number of composites created. By using this procedure we have created composites that are similar to those created by LSG. We compared composites from a large composite zone (zone 6001) and a small zone (22) to determine whether we could recreate similar composites. We compared basic statistics, checked the count of composites in specific grade ranges and by actual length. Additionally, we determined t-tests for each zone, and failed to reject any, indicating they all have similar means.

	6001		22	
	LSG	SGS	LSG	SGS
Wt. Mean	7.517	7.423	3.136	3.077
Min	0.001	0	0.003	0
Max	3846.5	3865.9	50.1	48.3
Count	3379	3369	134	130

Table 2-1: Timmins deposit - summary stats - LSG composite vs. SGS composite

*Differences in counts can arise from different algorithms used for compositing (and parameters), different downhole interpretation of surveys in 3d space; compounded with the location of the 3d solids in 3d space.

Table 2-2: Timmins deposit – grade comparison by count - LSG composite vs. SGS composite

		6001		22	
grade		LSG	SGS	LSG	SGS
0	0.5	1036	1035	50	53
0.5	1	201	234	18	12
1	2	380	364	20	22
2	3	293	300	16	12
3	4	232	230	3	8
4	5	178	182	8	7
5	10	523	508	10	9
10	100	524	503	9	9
100	10000	12	13	0	0

Table 2-3: Timmins deposit – length comparison by count - LSG composite vs. SGS composite

		6001		22	
width		LSG	SGS	LSG	SGS
0.8	0.9*	0	0	0	0
0.9	1	1	2	0	0
1	1.1	3102	3034	96	96
1.1	1.2	207	311	30	26
1.2	1.3	36	71	6	6
1.3	1.4	18	28	0	0
1.4	1.5	12	17	0	2
1.5	1.6	1	5	0	0
1.6	1.7	0	4	0	0
1.7	1.8	0	4	0	1
1.8	1.9	1	4	1	0
1.9	2	1	2	0	1
2	2.1	0	0	1	0
2.1	2.2	0	0	0	0

*There are no composites below 0.9-1.0 m length

2.2 Search ellipse dimensions and orientations

At Timmins the searches are usually oriented to the shape of the 3D solid. DDH spacing is 12.5 m and a 15 m search is used for 1st pass. There are some exceptions: the Footwall zones are close to vertical but consist of shallow dipping vein sets separated by waste so the search ellipse is flattened to reflect this field observed continuity; and the S zones are wrapped around the pyroxenite – sediment contact and are thus “horse shoe shaped” so LSG used a spherical search here. SGS feels that this is suitable criteria for this project.

2.3 Level of Smoothing

To determine whether the level of smoothing is appropriate applied, we undertook a review of the “over smoothing ratio” (OSR) for the largest contributors to the resources. Firstly, a general variogram was constructed and the block models were estimated by kriging. Variograms were taken from a previous study on this deposit; sills were adjusted to represent the composite variance of each zone. The composite variance was taken on the capped composites based on the capping for the particular zone. Table 2-4 illustrates the OSR for Kriging (SGS) and that of the Lakeshore models (ISD) for 5 selected zones. For the most part all the zones are adequately smoothed, indicating good samples per block. Zone 525_V2U may be more aggressive but still not too under smoothed, particularly given its relatively small size. Then the standard deviation (SD) expected was calculated for the block model inside the Genesis Software and the SD estimated blocks was calculated on the grade from the model. Typical values are illustrated in Figure 2-1. The factor will give an indication of how much smoothing has occurred globally.

Equation 2-1: Over Smoothing Ratio

$$OSR = \frac{SD_{Expected} - SD_{Estimated\ Blocks}}{SD_{Expected}}$$

Table 2-4: Over Smoothing Ratios by Zone

Zone						Composites (pass1-3)					OSR	
Name	Code	Grade	Tonnage	Comps	Var Comp	Min.	Max.	Max/DDH	Capping	Ellspsoid	Krig	LSG ISD
525_V1	1	4.28	6,734	34	75.329	6	12	2	50	PASS1_70	65%	61%
525_V2U	21	4.52	9,460	87	55.130	6	12	2	50	PASS1	32%	10%
525_V2L	22	4.85	90,672	134	36.099	6	12	2	50	PASS1	46%	35%
525_V3BU	141	3.29	34,092	37	14.089	6	12	2	50	PASS1	56%	40%
525_FW2A	422	4.61	113,801	686	27.082	6	12	2	50	PASS1	32%	17%

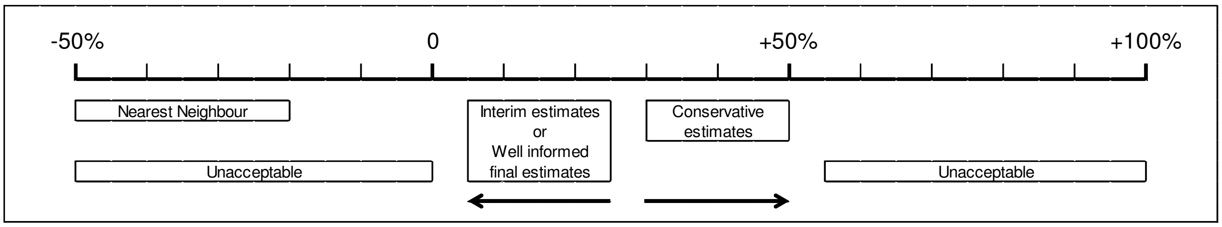


Figure 2-1: Over-smoothing ratio typical ranges (Camus and Desharnais 2016)

2.4 Resource tables compiled with blocks (as coded by LSG) are coherent with the various interpolation methods.

Table 2-5 contains the resources calculated by SGS for the Timmins deposit. The Orange Column is that which SGS approximated the estimation procedures of LSG as closely as possible within the Genesis software and re-estimated the Au grades. The blue column is the Genesis resource report of the LSG supplied Block model.

Of the 76 zones, SGS showed higher grade for 35, the same for 7 and smaller in 34, this indicates no apparent bias from the sign test, and additionally the overall grade is within less than 1% difference. The overall tonnage and volume is also less than 1% paired difference.

Table 2-5: Timmins Deposit - Resources compared by zone, Cutoff >= 1.5 g/t Au.

SGS Model (ISD) - Reported in Genesis					LSG Model (ISD) - Reported in Genesis					Difference			Paired Difference		
Zone	SG	AU GPT	Volume	Tonnes	Zone	SG	AU GPT	Volume	Tonnes	Au-Au_{SGS}	V-V_{SGS}	T-T_{SGS}	Au	V	T
SGS	2.87	4.97	853,000	2,445,596	TW_2015	2.87	4.98	858,372	2,461,117	0.01	5,372	15,522	0%	1%	1%
1	2.81	4.36	2,495	7,012	1	2.81	4.28	2,396	6,734	-0.08	99	278	2%	4%	4%
21	2.81	4.61	3,061	8,601	21	2.81	4.52	3,367	9,460	-0.10	306	859	2%	10%	10%
22	2.81	4.85	31,982	89,871	22	2.81	4.85	32,268	90,672	0.00	285	802	0%	1%	1%
31	2.81	3.63	24,396	68,552	31	2.81	3.69	24,681	69,354	0.07	286	803	2%	1%	1%
32	2.81	4.62	6,496	18,255	32	2.81	4.68	6,327	17,778	0.07	170	476	1%	3%	3%
131	2.81	2.15	4,599	12,925	131	2.81	2.28	4,941	13,883	0.13	341	959	6%	7%	7%
132	2.81	6.16	3,909	10,985	132	2.81	6.76	3,716	10,443	0.59	193	542	9%	5%	5%
133	2.81	6.97	2,852	8,015	133	2.81	6.93	2,830	7,952	-0.04	22	63	1%	1%	1%
141	2.81	3.41	12,744	35,811	141	2.81	3.29	12,133	34,092	-0.13	612	1,719	4%	5%	5%
142	2.81	5.01	9,034	25,387	142	2.81	4.77	8,965	25,193	-0.23	69	194	5%	1%	1%
402	2.81	3.28	13,799	38,776	402	2.81	3.21	13,252	37,237	-0.06	548	1,539	2%	4%	4%
403	2.81	5.06	4,334	12,179	403	2.81	4.66	4,334	12,179	-0.40	0	0	8%	0%	0%
404	2.81	6.57	2,718	7,638	404	2.81	6.52	2,780	7,811	-0.05	62	173	1%	2%	2%
405	2.81	6.81	2,190	6,155	405	2.81	6.69	2,142	6,018	-0.12	49	137	2%	2%	2%
422	2.81	4.61	40,126	112,753	422	2.81	4.61	40,499	113,801	0.00	373	1,048	0%	1%	1%
423	2.81	3.29	13,521	37,995	423	2.81	3.25	13,796	38,768	-0.04	275	772	1%	2%	2%
502	2.81	5.13	17,394	48,876	502	2.81	5.26	17,464	49,074	0.13	71	198	2%	0%	0%
511	2.81	6.63	16,437	46,188	511	2.81	6.48	16,471	46,283	-0.15	34	96	2%	0%	0%
512	2.81	4.51	11,162	31,364	512	2.81	4.49	11,143	31,313	-0.02	18	51	0%	0%	0%
1401	2.81	6.13	3,441	9,668	1401	2.81	5.46	3,435	9,654	-0.67	5	14	12%	0%	0%
1402	2.81	2.64	12,891	36,225	1402	2.81	2.68	12,939	36,359	0.04	48	134	1%	0%	0%
4003	2.81	4.53	18,614	52,304	4003	2.81	4.43	18,537	52,089	-0.11	77	215	2%	0%	0%
4005	2.81	2.81	4,436	12,466	4005	2.81	2.79	4,303	12,092	-0.02	133	373	1%	3%	3%
4007	2.81	3.49	13,500	37,936	4007	2.81	4.06	14,176	39,834	0.57	675	1,898	15%	5%	5%
4009	2.81	5.14	3,521	9,894	4009	2.81	4.87	3,408	9,577	-0.28	113	317	6%	3%	3%
4013	2.81	5.33	59,832	168,129	4013	2.81	5.23	59,974	168,527	-0.09	142	399	2%	0%	0%
4015	2.81	2.39	3,896	10,949	4015	2.81	2.46	4,362	12,257	0.07	466	1,308	3%	11%	11%
4101	2.81	7.26	7,320	20,570	4101	2.81	7.15	7,312	20,548	-0.11	8	22	2%	0%	0%
4203	2.81	3.44	10,545	29,631	4203	2.81	3.47	10,419	29,276	0.03	126	355	1%	1%	1%
4303	2.81	3.65	14,503	40,753	4303	2.81	3.80	14,755	41,461	0.16	252	707	4%	2%	2%
5001	2.81	7.89	3,699	10,395	5001	2.81	7.90	3,679	10,338	0.02	20	57	0%	1%	1%
5003	2.81	5.34	11,226	31,546	5003	2.81	5.49	11,168	31,382	0.15	58	164	3%	1%	1%
6001	2.92	4.47	32,495	94,887	6001	2.92	4.43	32,771	95,692	-0.04	276	805	1%	1%	1%
6003	2.92	5.74	3,431	10,019	6003	2.92	6.17	3,438	10,039	0.43	7	20	7%	0%	0%
6005	2.92	4.78	7,871	22,985	6005	2.92	4.72	7,651	22,341	-0.06	221	644	1%	3%	3%
6009	2.92	4.53	8,426	24,603	6009	2.92	4.35	8,236	24,050	-0.18	190	553	4%	2%	2%
6011	2.92	2.75	531	1,552	6011	2.92	2.65	564	1,648	-0.10	33	96	4%	6%	6%
6013	2.92	6.75	2,724	7,954	6013	2.92	6.83	2,732	7,978	0.08	8	24	1%	0%	0%
6015	2.92	6.22	1,830	5,342	6015	2.92	5.78	1,830	5,342	-0.44	0	0	7%	0%	0%
6017	2.92	4.54	3,051	8,910	6017	2.92	4.75	3,061	8,938	0.21	9	27	4%	0%	0%
6019	2.92	5.58	18,366	53,628	6019	2.92	5.66	18,357	53,601	0.08	9	27	1%	0%	0%
6021	2.92	9.38	1,861	5,433	6021	2.92	9.51	1,846	5,391	0.12	15	43	1%	1%	1%
6113	2.92	4.85	1,903	5,556	6113	2.92	4.10	1,780	5,198	-0.75	122	357	17%	7%	7%
6205	2.92	3.83	2,134	6,232	6205	2.92	3.84	2,187	6,386	0.01	53	154	0%	2%	2%
6207	2.92	4.55	1,738	5,075	6207	2.92	4.58	1,745	5,094	0.03	6	19	1%	0%	0%
7001	2.92	4.66	4,161	12,151	7001	2.92	4.72	4,029	11,764	0.07	133	387	1%	3%	3%
7003	2.81	4.29	10,370	29,141	7003	2.81	4.24	10,476	29,438	-0.05	106	297	1%	1%	1%
7005	2.81	8.43	2,295	6,450	7005	2.81	8.07	2,409	6,770	-0.36	114	320	4%	5%	5%
7007	2.81	3.89	2,034	5,716	7007	2.81	3.91	2,058	5,782	0.01	23	66	0%	1%	1%
7009	2.81	3.12	3,135	8,809	7009	2.81	3.21	3,162	8,885	0.08	27	77	3%	1%	1%
7011	2.81	3.83	2,073	5,824	7011	2.81	3.72	2,015	5,662	-0.11	58	162	3%	3%	3%
8001	2.92	4.50	14,560	42,516	8001	2.92	4.68	15,116	44,139	0.18	556	1,623	4%	4%	4%
8003	2.92	4.22	39,828	116,299	8003	2.92	4.30	39,774	116,141	0.08	54	158	2%	0%	0%
8005	2.92	5.41	45,180	131,925	8005	2.92	5.61	45,502	132,865	0.20	322	941	4%	1%	1%
8007	2.92	4.48	55,378	161,702	8007	2.92	4.52	55,500	162,060	0.04	122	357	1%	0%	0%
8009	2.92	4.46	9,810	28,645	8009	2.92	4.71	9,810	28,645	0.25	0	0	5%	0%	0%
8011	2.92	3.66	3,132	9,146	8011	2.92	3.57	3,141	9,171	-0.09	8	25	2%	0%	0%
8013	2.92	3.89	5,715	16,687	8013	2.92	4.14	5,715	16,688	0.25	0	1	6%	0%	0%
8105	2.92	5.95	23,346	68,171	8105	2.92	5.99	23,292	68,012	0.05	54	159	1%	0%	0%
8205	2.92	7.32	43,138	125,962	8205	2.92	7.48	43,230	126,231	0.17	92	270	2%	0%	0%
8305	2.92	6.13	40,088	117,056	8305	2.92	6.17	40,046	116,935	0.04	42	121	1%	0%	0%
8405	2.92	5.69	16,222	47,369	8405	2.92	6.04	16,185	47,261	0.35	37	107	6%	0%	0%
9001	2.92	5.01	8,319	24,291	9001	2.92	4.89	8,214	23,986	-0.12	104	305	2%	1%	1%
9003	2.92	5.40	29,220	85,321	9003	2.92	5.29	29,218	85,316	-0.11	2	5	2%	0%	0%
9005	2.92	6.99	2,255	6,583	9005	2.92	7.32	2,227	6,504	0.33	27	79	5%	1%	1%
9007	2.92	5.78	5,528	16,140	9007	2.92	4.98	5,984	17,475	-0.80	457	1,334	15%	8%	8%
9009	2.92	6.84	3,810	11,126	9009	2.92	5.23	4,053	11,836	-1.60	243	710	27%	6%	6%
9011	2.92	4.62	5,920	17,287	9011	2.92	4.38	6,149	17,955	-0.23	229	668	5%	4%	4%
9013	2.92	2.66	445	1,301	9013	2.92	3.77	2,897	8,460	1.10	2,452	7,160	34%	147%	147%

Table 2-6: Timmins Deposit – Resources Supplied by LSG

Timmins Deposit @ 1.5 g/t COG*	Tonnes	Grade	Ounces
Indicated	1,822,513	5.1	297,516
Inferred	606,539	4.7	92,574
Subtotal	**2,429,052**	**5**	**390,090**

Additionally the resources estimated by SGS following the LSG methodology (Table 2-5) is within 0.5% grade and tonnage as that supplied in Table 2-6

Icons for Table 2-5

- Red – SGS values are larger
- Yellow – LSG and SGS have the same values
- Green – LSG values are larger

Columns for Table 2-5

Column 1. Au-Au_{SGS} is the value of the client supplied Average Block Model grade minus the SGS value,
Column 2. V-VSGS is the absolute difference between the two volumes
Column 3. T-TSGS is the absolute difference between the two tonnages
Column 4. Is the paired mean difference for Au grade between the two models in percent
Column 5. Is the paired mean difference for Volume between the two models in percent
Column 6. Is the paired mean difference for Tonnage between the two models in percent

3 Conclusions

The verification completed on the Timmins deposit is mainly restricted to the “mechanical” evaluation of the deposit. Previous, in depth, verifications showed that the methods used were appropriate and certain recommendations have been implemented in this year’s version.

No significant anomalies were identified during this review and we have no reason to expect any bias or error in the overall estimate for this deposit. It is recommended that the next resource update should consider the “excluded intervals” that were provided to LSG to verify whether they should be included or excluded.

Audit Report
Resource Estimation Verification
Thunder Creek Deposit
Timmins, Ontario
Lakeshore Gold Corporation

Respectfully submitted to:

Lakeshore Gold Corp

By:

SGS Canada Inc.

Matthew Kalman Halliday, P.Geo

Guy Desharnais, Ph.D., P.Geo

SGS Canada – Geostat

Effective Date:

January 25, 2016

Forward:

This report describes the work completed in January of 2015 at SGS Canada Inc. – Geostat (thereafter "SGS Geostat") to assist Lakeshore Gold Corp. (thereafter "LSG") in the estimation of the resources of their Thunder Creek gold deposits (thereafter "TC") currently being mined northeast of Timmins, Ontario. **This report is not an NI 43-101 Technical Report but it can be used to support the results in further NI 43-101 reports** authored by LSG on the Thunder Creek Deposit. This verification does not take into account data quality, management of mined out areas or remnants or transition to reserves.

List of Figures

List of Tables

List of Equations

1 Data Handling and Estimation of Resources

1.1 Verification and validation of database integrity

The client has supplied us with the following for the Thunder Creek deposit:

- 3d solids for levels, stopes and domains in dxf format
- Composites in asc format
- Block model in text form with accompanying readme, block model was delivered in Gemcom Gems format
- Drillhole database in excel formal with the following tabs
  - Assays – 173120 entries
  - Headers – 1514 entries
  - LithoMaj – 28162 entries
  - Surveys – 30684 entries

The drillhole database was imported into SGS's Geobase software and a validation report was generated. There was only one assay issue; hole TC300-015 contained an assay from depth 57 to 0 with no gold grades so it was deleted. There were 39 minor lithology issues either, 37 were a naming convention for end of hole where the 'from' value is the final depth and the 'to' value is zero. There was an overlap in TC520-059 from 9-66m with another minor litho at 11.4-12.7 and was not investigated further due to low priority of the issue.

Overall the database is very clean and fit for purpose.

1.2 Importation of data into Genesis Software

All of the supplied client information was imported in the SGS's Genesis modeling software.

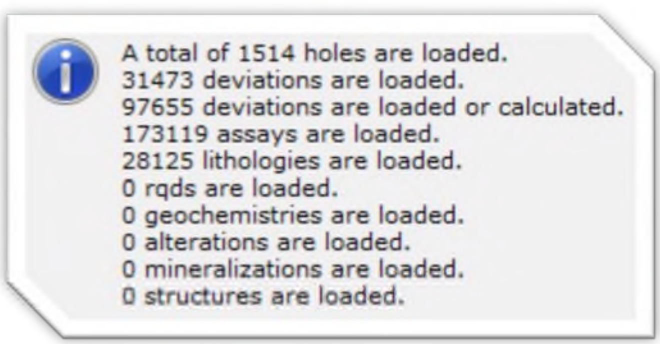


Figure 1-1: Importation Thunder Creek

All the collars listed in item 1.1 above are accounted for; all the assays minus the one deleted are accounted for. Lithologies that contained errors are not loaded, genesis will not load deviations at depth 0 and will use the value supplied in the headers, which will account for the small discrepancy.

All the block models, composites and 3d solids were imported without error. Only gold, gold grav, gold pm and gold fin were imported for the assay table.

1.3 Validation Parameters used in the definition of ore zones

A section by section verification of the ore solid model was completed to identify any major flaws in the interpretation: no significant anomalies were observed. However there were several possible extensions that were noted, either along strike or extensions on existing intervals. It was decided to undertake a formal review of the intervals that should be considered for inclusion according to the following steps:

1. Automatic creation of mineralized intervals throughout the drillhole data base with a minimum grade of 1 g/t and a minimum length of 3 m.
2. Automatic creation of mineralized intervals within the LSG ore solids.
3. Subtraction of intervals created in Step1 with those created in Step2.
4. Extraction of mineralized intervals with a grade greater than 2 g/t.
5. A section by section deletion of mineralized intervals (produced in Step4) that are unrelated to the mineralized bodies or insignificant.
6. Extraction of the highest priority intervals as an excel spreadsheet with from-to intervals and XYZ positions that can be used to validate the model in GEMS by LSG modelers.

These intervals represent opportunities where tonnage additions could be captured. It is likely that many of these were left out of the solid models intentionally due to other factors, such as geological interpretation, fault interpretation or other factor. It is recommended that these intervals should be imported and reviewed by LSG staff during the next phase of ore body modeling to evaluate their inclusion and exclusion.

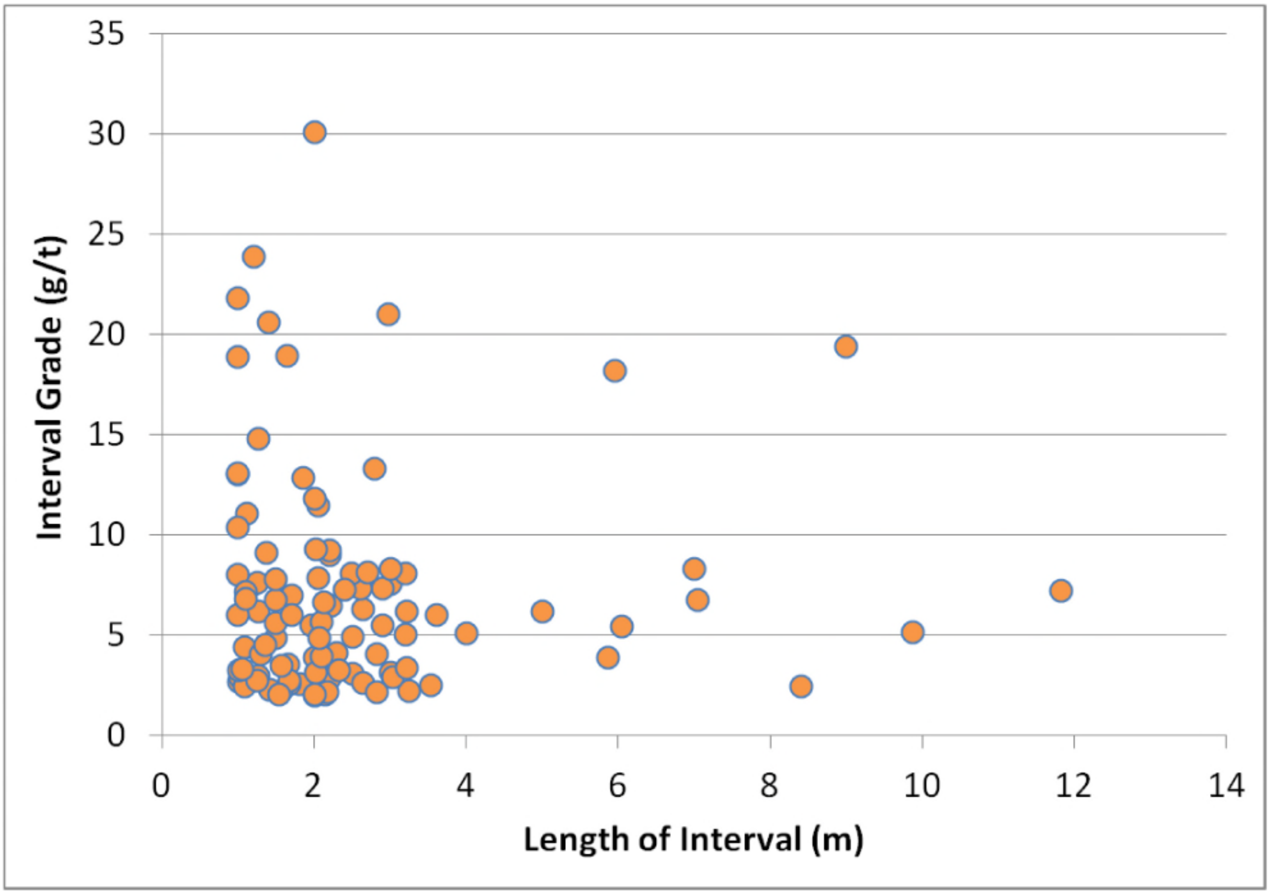


Figure 2. Scatter plot showing the 102 drill intervals that should be analysed by LSG modelers to see if they are worthwhile to integrate into the next series of models.

1.4 Statistical and geostatistical analysis

1.4.1 BM Validation (Swath Plots)

Swath plots were generated for each of the three primary directions. All three directions illustrate proper smoothing of the block values as compared to the composites. There are no major anomalously high or low block zones. There are zones within all three swath plots that show lower overall grade within the blocks compared to surrounding composites (X: 4430-4500; Y: 7000-7100; Z: 9250-9400). This zones corresponds to zone that has been more strongly affected by mining and thus has had the highest grade blocks selectively extracted.

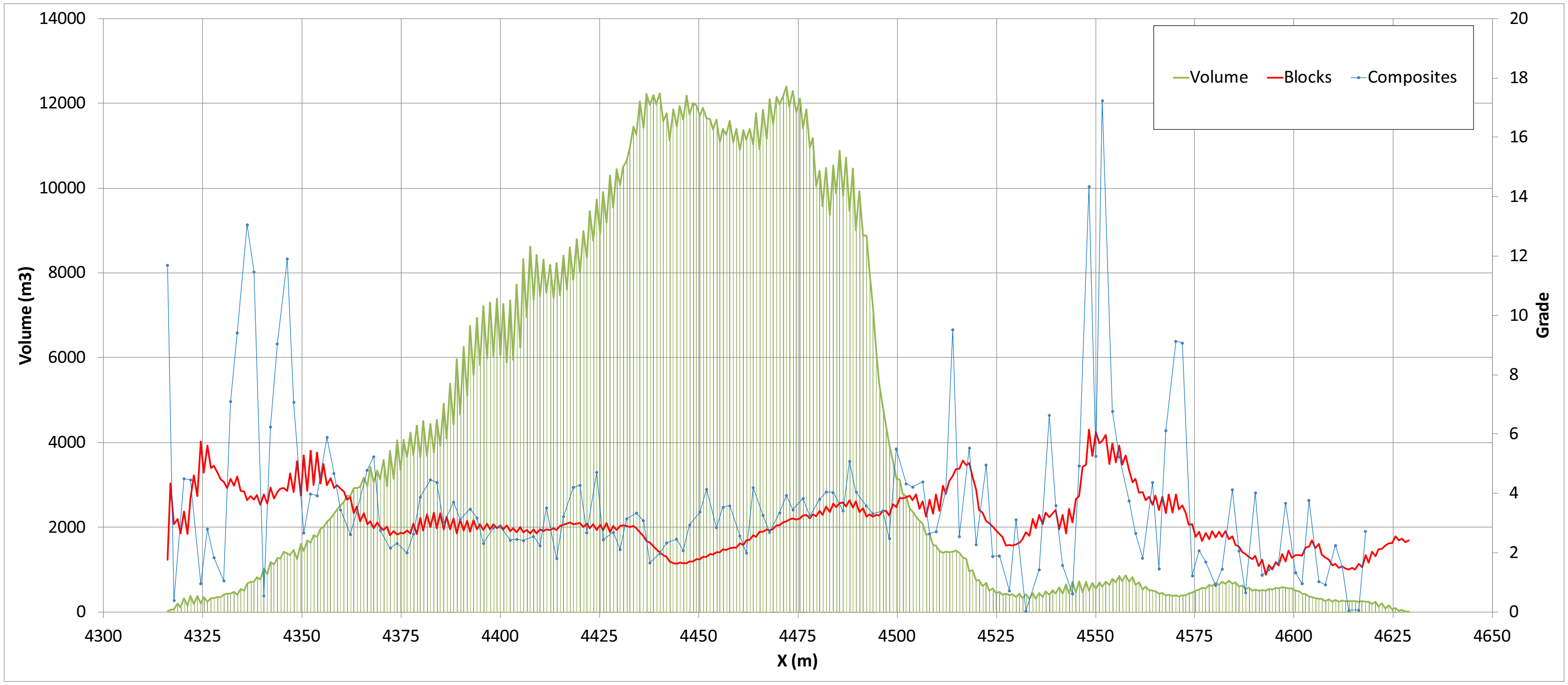


Figure 1-3: Thunder Creek – Swath plot - x direction

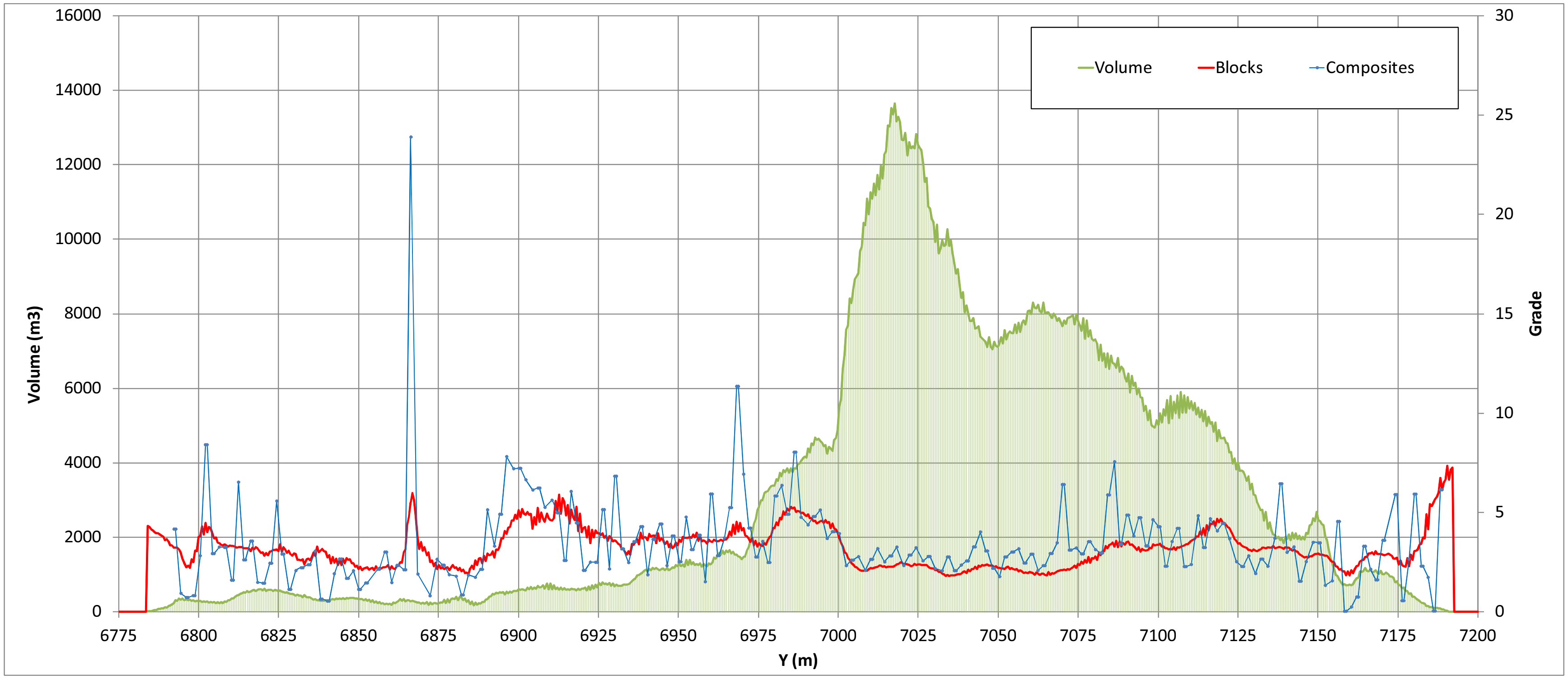


Figure 1-4: Thunder Creek – Swath plot - y direction

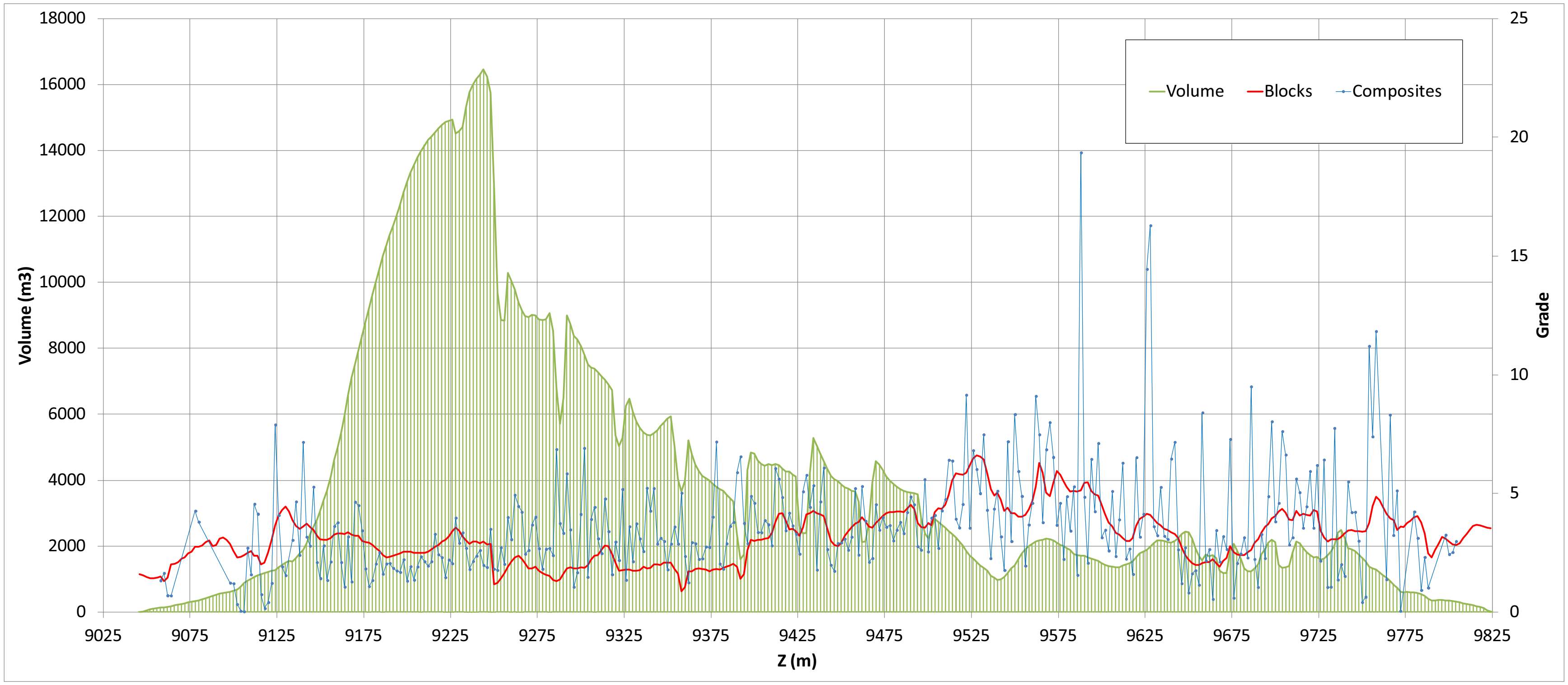


Figure 1-5: Thunder Creek – Swath plot - z direction

1.4.2 Statistics

Since we had only a client copy of the block model with stopes removed for Thunder Creek, we used our block model which is demonstrated similar see resources Table 2-7 for the following comparison. The change in support from assays to composites is reasonable, and the loss of grade for blocks is in the expected range for smoothing and capping. The composites compared are the uncapped composites.

Table 1-1: Thunder Creek – Summary statistics comparison - Assays vs. Composites vs. Blocks

	ORIG. ASSAYS	COMPOSITES	BLOCKS
Average	4.52	4.07	3.94
Weighted Average	4.12	4.15	3.88
Standard Deviation	17.17	11.94	3.67
% Variation	379.9%	293.1%	93.3%
Median	1.02	1.36	2.78
Mode	0.01	0.01	1.06
Variance	294.83	142.65	13.48
Minimum	0.00	0.00	0.02
Maximum	1600.00	849.89	80.76
Count	32675	21857	328267

The average block grade is similar to the 120 g/t capped Au grade, though slightly higher.

Table 1-2: Thunder Creek – Summary statistics comparison – Composites by capping

	AU (g/t)	AU_120	AU_20	AU_32	AU_50	AU_60	AU_70	AU_80	AU_90
Min	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Max	849.888	119.905	20	32	50	60	70	80	90
Range	849.9	119.9	20.0	32.0	50.0	60.0	70.0	80.0	90.0
Average	4.07	3.85	3.05	3.38	3.61	3.68	3.73	3.77	3.79
Mode	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Median	1.361	1.361	1.359	1.36	1.361	1.361	1.361	1.361	1.361
Skew	27.0	5.6	2.1	2.7	3.4	3.8	4.1	4.5	4.8
Kurtosis	1419.4	47.1	4.3	8.5	15.0	19.0	23.4	27.9	32.4
Variance	142.6	56.6	16.2	25.4	35.5	39.9	43.6	46.8	49.6

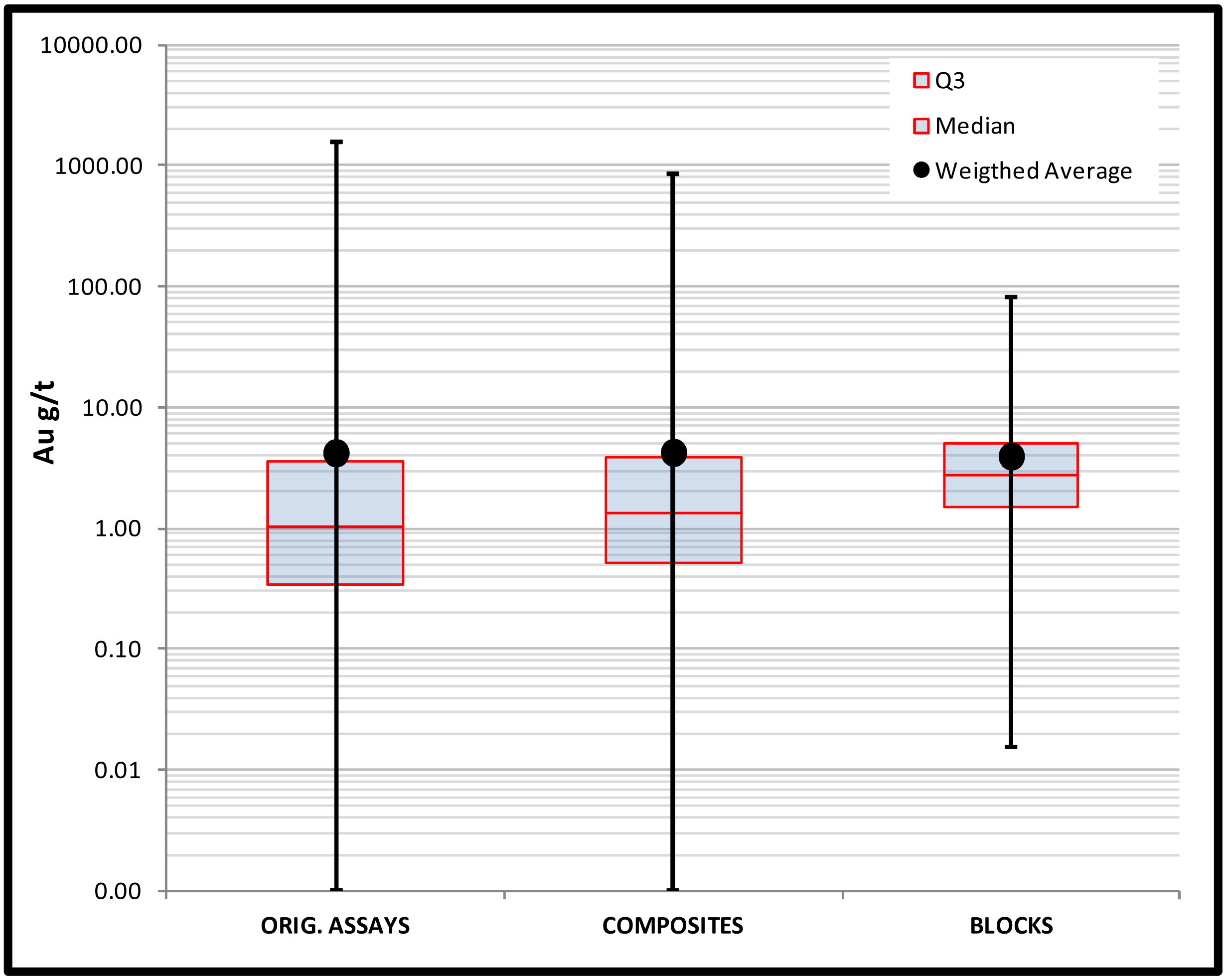


Figure 1-6: Thunder Creek – Box and Whisker - Assays vs. Composites vs. Blocks

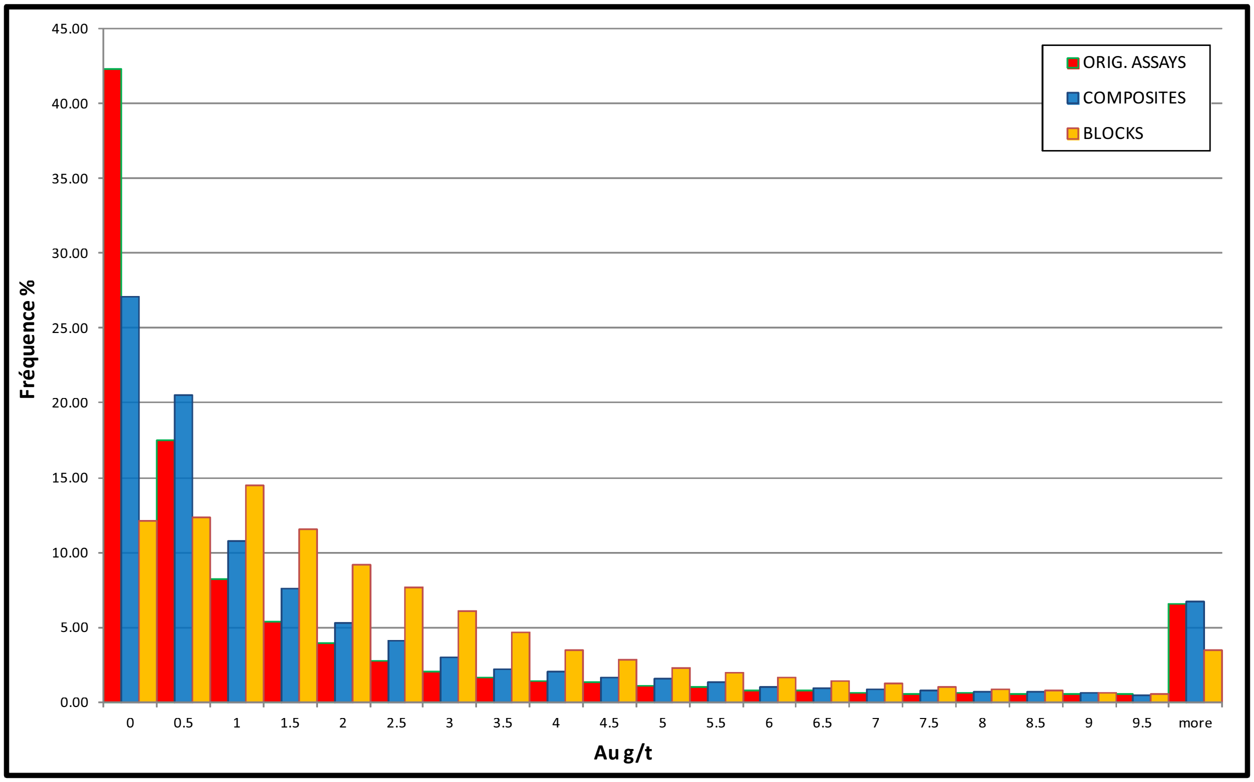


Figure 1-7: Thunder Creek – Histogram Au g/t (final) - Assays vs. Composites vs. Blocks

1.5 Interpolation of grades into block models using LSG parameters

- We imported the Lakeshore block models.
- We cleared the estimation for a copy of them.
- We created the same ellipsoids as used by LSG however in a different format than ZXZ.
- After confirming we could reproduce the composites used by Lakeshore, we used the composites supplied by Lakeshore.
- We created estimation profiles as outlined by Lakeshore gold for each zone.
    - We used the same number of passes, and restrictions for number of composites to use and minimum composites per hole.
    - We used id^2 for all with a discretization of 2×2×2
    - We used ellipsoid influenced distances for choosing composites to estimate but not in the estimation formula
    - We used the same capping as supplied by lakeshore gold for each zone.
        - Did not conduct any additional capping studies
    - We estimated all zones, there is no overlap in our zones they were chosen strictly on the block tags
    - Composites were limited to the 3d envelope for the zone being estimated.
    - We estimated stopes and remnants but did not use them for resource reporting

2 Elements of the estimation process

2.1 Composites are created along the entire length of holes within mineralized solids.

Lakeshore Gold supplied us with 21857 composites, when loaded into the Genesis software and cut by domain envelopes we have 21801 composites remaining. The extra composites appear to be a function duplicate composites residing in the same space (see Table 2-1). This is happening specifically in the case where there drill holes were extended. For example TC625-004 and TC625-004EXT both have a composite at (x,y,z) = (4466.42, 7074.97, 9416.81) however one has a null width and null grade. This may not be an issue if the modeling software recognizes not to use these intervals, or it could be diluting the resources. There are 109 duplicates of this sort for a total of 218 composites. See accompanying appendix for complete list.

Table 2-1: Thunder Creek - Duplicate Composites

LOCATIONX	LOCATIONY	LOCATIONZ	HOLE-ID	WIDTH	ID	POINT-ID	AU(G/T)	AU_120	AU_20	AU_32	AU_50	AU_60	AU_70	AU_80
4466.42	7074.97	9416.81	TC625-004EXT		15319	151127144748016749	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4466.42	7074.97	9416.81	TC625-004	1.2	14138	151127144747015636	2.211	2.211	2.211	2.211	2.211	2.211	2.211	2.
4467.04	7074.05	9416.36	TC625-004EXT		15318	151127144748016748	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4467.04	7074.05	9416.36	TC625-004	1.2	14137	151127144747015635	0.894	0.894	0.894	0.894	0.894	0.894	0.894	0.
4467.67	7073.13	9415.9	TC625-004EXT		15317	151127144748016747	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4467.67	7073.13	9415.9	TC625-004	1.2	14136	151127144747015634	0.89	0.89	0.89	0.89	0.89	0.89	0.89	[illegible]
4468.3	7072.22	9415.45	TC625-004EXT		15316	151127144748016746	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4468.3	7072.22	9415.45	TC625-004	1.2	14135	151127144747015633	2.091	2.091	2.091	2.091	2.091	2.091	2.091	2.
4468.69	7094	9399.29	TC625-012	1.2	14295	151127144747015793	4.958	4.958	4.958	4.958	4.958	4.958	4.958	4.
4468.69	7094	9399.29	TC625-012EXT		15149	151127144748016579	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4468.93	7071.3	9414.99	TC625-004EXT		15315	151127144748016745	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4468.93	7071.3	9414.99	TC625-004	1.02	14134	151127144747015632	1.151	1.151	1.151	1.151	1.151	1.151	1.151	1.
4469.22	7092.93	9399.14	TC625-012EXT		15148	151127144748016578	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4469.22	7092.93	9399.14	TC625-012	1.2	14294	151127144747015792	0.899	0.899	0.899	0.899	0.899	0.899	0.899	0.
4469.47	7070.52	9414.6	TC625-004	1.02	14133	151127144747015631	2.582	2.582	2.582	2.582	2.582	2.582	2.582	2.
4469.47	7070.52	9414.6	TC625-004EXT		15314	151127144748016744	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4469.74	7091.86	9398.98	TC625-012EXT		15147	151127144748016577	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4469.74	7091.86	9398.98	TC625-012	1.2	14293	151127144747015791	2.61	2.61	2.61	2.61	2.61	2.61	2.61	[illegible]
4470	7069.74	9414.21	TC625-004EXT		15313	151127144748016743	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4470	7069.74	9414.21	TC625-004	1.02	14132	151127144747015630	2.925	2.925	2.925	2.925	2.925	2.925	2.925	2.
4470.54	7068.97	9413.82	TC625-004EXT		15312	151127144748016742	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4470.54	7068.97	9413.82	TC625-004	1.02	14131	151127144747015629	1.634	1.634	1.634	1.634	1.634	1.634	1.634	1.
4471.07	7068.19	9413.43	TC625-004EXT		15311	151127144748016741	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4471.07	7068.19	9413.43	TC625-004	1.02	14130	151127144747015628	5.624	5.624	5.624	5.624	5.624	5.624	5.624	5.
4471.61	7067.41	9413.04	TC625-004EXT		15310	151127144748016740	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4471.61	7067.41	9413.04	TC625-004	1.02	14129	151127144747015627	4.604	4.604	4.604	4.604	4.604	4.604	4.604	4.
4472.15	7066.64	9412.65	TC625-004EXT		15309	151127144748016739	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4472.15	7066.64	9412.65	TC625-004	1.02	14128	151127144747015626	2.386	2.386	2.386	2.386	2.386	2.386	2.386	2.
4472.69	7065.86	9412.26	TC625-004	1.02	14127	151127144747015625	3.58	3.58	3.58	3.58	3.58	3.58	3.58	[illegible]
4472.69	7065.86	9412.26	TC625-004EXT		15308	151127144748016738	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4472.7	7085.78	9398.11	TC625-012	1.04	14292	151127144747015790	1.309	1.309	1.309	1.309	1.309	1.309	1.309	1.
4472.7	7085.78	9398.11	TC625-012EXT		15146	151127144748016576	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4473.16	7084.85	9397.97	TC625-012	1.04	14291	151127144747015789	3.24	3.24	3.24	3.24	3.24	3.24	3.24	[illegible]
4473.16	7084.85	9397.97	TC625-012EXT		15145	151127144748016575	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4473.22	7065.09	9411.87	TC625-004EXT		15307	151127144748016737	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4473.22	7065.09	9411.87	TC625-004	1.02	14126	151127144747015624	3.322	3.322	3.322	3.322	3.322	3.322	3.322	3.
4473.61	7083.92	9397.84	TC625-012EXT		15144	151127144748016574	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4473.61	7083.92	9397.84	TC625-012	1.04	14290	151127144747015788	2.664	2.664	2.664	2.664	2.664	2.664	2.664	2.
4473.76	7064.32	9411.49	TC625-004EXT		15306	151127144748016736	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.
4473.76	7064.32	9411.49	TC625-004	1.02	14125	151127144747015623	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.

ecord: 3 of 218 Search

Using Genesis we created Mineralized Intervals within the supplied 3d solids. With these mineralized intervals we created composites that distributed length to be closest to 1m along the mineralized intervals; the rounding was done to minimize the number of composites created. By using this procedure we have created composites that are similar to those created by LSG.

Statistically they are very similar – particularly the average and the standard deviation, the difference in count is 25, this could be attributed to the use of Mineralized Interval or the precision of the 3D envelopes.

Table 2-2: Thunder Creek - summary stats - LSG composite vs. SGS composite

	LSG Au (g/t)	SGS5 Au (g/t)
Min	0	0
Max	849.89	779.77
Average	4.074	4.061
St Dev	11.94	11.99
kurt	1419	1189
Skew	27	26
Variance	143	144
count*	21857	21882

*Differences in counts can arise from different algorithms used for compositing (and parameters), different downhole interpretation of surveys in 3d space; compounded with the location of the 3d solids in 3d space.

The Grades of the composites are similarly distributed between the two composite sets. This is also evidenced above with similar skew and variance and extremely similar average.

Table 2-3: Thunder Creek – grade comparison by count - LSG composite vs. SGS composite

Grade		Count		Frequency	
		LSG	SGS5	LSG	SGS5
0	0.01	284	308	1.30%	1.41%
0.01	0.15	1523	1509	6.97%	6.90%
0.15	0.5	3444	3472	15.76%	15.87%
0.5	1.25	5181	5188	23.70%	23.71%
1.25	2	2621	2607	11.99%	11.91%
2	3	2130	2160	9.75%	9.87%
3	5	2249	2273	10.29%	10.39%
5	7	1277	1217	5.84%	5.56%
7	12	1512	1516	6.92%	6.93%
12	5000	1636	1632	7.49%	7.46%
		21857	**21882**	**100%**	**100%**

By using this method there was very similar creation of lengths, the length -1 values for LSG were NC and had a grade attributed to them of 0.001. The difference between the two sets, SGS treated them as 0 grade and mostly are found in the 0 – 0.1 length.

We were initially concerned about the quantity of these composites below 0.5m however they are all very low grade and attribute approximately 0.078 g/t per sample.

Table 2-4: Thunder Creek – length comparison by count - LSG composite vs. SGS composite

length bin (m)		Count LSG	Count SGS	Ave Au_g/t	Grade per sample	
-1	0	165	0	0.00	0.001	
0	0.1	7	174	0.06	0.002	
0.1	0.2	9	7	0.17	0.008	
0.2	0.3	5	6	0.56	0.014	
0.3	0.4	4	6	0.31	0.006	**# samples**
0.4	0.5	5	8	3.03	0.078	**30.00**
0.5	0.6	10	15	1.04		
0.6	0.7	15	16	2.51		
0.7	0.8	11	16	1.21		
0.8	0.9	12	12	14.17		
0.9	1	12	12	5.81		
1	1.1	19997	19755	4.02		
1.1	1.2	1219	1299	4.68		
1.2	1.3	315	339	4.70		
1.3	1.4	146	123	5.47		
1.4	1.5	46	68	4.34		
1.5	1.6	26	6	5.80		
1.6	1.7	3	4	0.75		
1.7	1.8	6	5	1.86		
1.8	1.9	4	2	3.35		
1.9	2	3	8	3.22		
2	2.1	2	1	7.03		
2.1	2.2	0	0			
2.2	2.3	0	0			
Totals		**21857**				

2.2 Search ellipse dimensions and orientations

The Thunder Creek Rusk zone is also a shear but with irregular veining within it. The ellipse is oriented along the trend of the structure. Ranges are to some extent based on the drill spacing, usually at 15 m spacing. SGS believes this is a good strategy.

The Thunder Creek Porphyry is problematic as it consists of several folded sets of stringers and disseminated sulphides and is complicated by inclusions of greenstone waste within the porphyry. Grades are very high or zero, no alteration halo with low values around the veinlets. For this LSG decided on a spherical search. Based on the size and current level of detail of the envelopes, SGS believed that this is a good strategy.

2.3 Level of Smoothing

To determine whether the level of smoothing is appropriate, SGS undertook a review of the "over smoothing ratio" (OSR) for the largest contributing domains to the resources. Firstly, a general variogram was constructed and the block models were estimated by kriging. Variograms were taken from previous study; sills were adjusted to represent the composite variance of each zone. The composite variance was taken on the capped composites based on the capping for the particular zone. Table 2-5 illustrates the OSR for Kriging and that of the Lakeshore models (ID2). Then the standard deviation (SD) expected was calculated for the block model inside the Genesis Software and the SD estimated blocks was calculated on the grade from the model. For the most part all the zones are adequately smoothed, indicating an appropriate set of parameters for interpolation: typical values are illustrated in Figure 2-1. The factor will give an indication of how much smoothing has occurred globally. UTC_5, UTC6 and UTC 7 appear to be slightly under smoothed, for UTC 6 and UTC 7 this is natural, as there are very few composites per zone and there is a bit of low density space at the extensions. These zones are insignificant in terms of tonnage and the impact is considered negligible. UTC 5 is a stronger, however minor contributor to tones and ounces, but the OSR is barely in negative territory. This zone also requires more drilling locally. Because the variogram has such a short range in these zones, the expected variance between blocks is very low. Thus the oversmoothing ratio is so low or even negative. More data should show a more continuous variogram therefore more expected variance between blocks and the OSR would be more realistic and higher (around 20-30%).

Equation 2-1: Over Smoothing Ratio

$$OSR = \frac{SD_{Expected} - SD_{Estimated\ Blocks}}{SD_{Expected}}$$

Table 2-5: Over Smoothing Ratios by Zone

Zone						Composites (pass1-3)					OSR	
Name	Code	Grade	Tonnage	Comps	Var Comp	Min.	Max.	Max/DDH	Capping	Ellspsoid	Krig	LSG ISD
UTC_1	201	3.2196	16,884	168	13.313	9	15	3	50	PZB_15M	28%	8%
UTC_2	203	3.0957	7,265	30	4.730	9	15	3	50	PZB_15M	65%	30%
UTC_3	205	3.9626	4,947	37	26.122	9	15	3	50	PZB_15M	62%	34%
UTC_4	207	4.744	14,257	86	56.291	9	15	3	50	PZB_15M	49%	13%
UTC_5	209	4.6222	81,492	1307	35.033	9	15	3	50	PZB_15M	22%	-2%
UTC_6	211	4.5538	4,404	41	45.453	9	15	3	50	PZB_15M	31%	-8%
UTC_7	213	4.6077	3,620	20	12.564	9	15	3	50	PZB_15M	51%	-33%
UTC_8	215	3.0365	15,951	181	12.502	9	15	3	50	PZB_15M	39%	7%
RUSK	301	6.1736	157,682	3511	64.288	9	15	3	60	PZB_15M	40%	28%
RUSK_L	303	3.7437	13,453	47	16.489	9	15	3	20	PZB_15M	53%	29%
RUSK_U	305	6.1487	19,909	233	70.509	9	15	3	70	PZB_15M	44%	30%
POR	401	3.6119	501,615	15499	51.064	9	15	3	120	SPH_15M	41%	31%
POR_2	403	3.8814	3,131	151	37.847	9	15	3	90	SPH_15M	61%	48%
POR_3	405	2.8904	5,482	151	51.735	9	15	3	90	SPH_15M	51%	45%
POR_5	409	3.6144	39,940	209	26.791	9	15	3	90	SPH_15M	42%	13%
POR_6	411	3.5679	15,670	126	16.987	9	15	3	90	SPH_15M	55%	32%

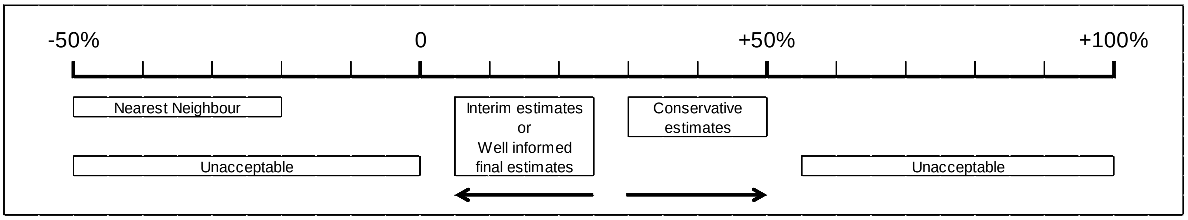


Figure 2-1: Over-smoothing ratio typical ranges (from Camus and Desharnais 2016)

2.4 Resource tables compiled with blocks (as coded by LSG) are coherent with the various interpolation methods.

.

Table 2-6 contains the resources calculated by SGS for the Thunder Creek deposits. The Orange Column is that which SGS approximated the estimation procedures of LSG as closely as possible within Genesis software. The blue column is the Genesis resource report of the LSG supplied block model.

Table 2-6: SGS re-estimation of LSG block model versus SGS resource report of LSG block model *Remnants and Stopes removed, cutoff Au >= 1.5 g/t

SGS Genesis - Reinterpreted					LSG Genesis					Difference			Paired Difference		
Zone	SG	AU GPT	Volume	Tonnes	Zone	SG	AU GPT	Volume	Tonnes	$Au-Au_{SGS}$	$V-V_{SGS}$	$T-T_{SGS}$	Au	V	T
SGS	2.75	4.26	900,207	2,470,113	TC_2015	2.75	4.25	905,702	2,484,555	-0.01	5,494	14,442	0%	1%	1%
201	2.66	3.22	16,884	44,912	201	2.66	3.22	16,884	44,912	0.00	-	-	0%	0%	0%
203	2.92	3.10	7,265	21,214	203	2.92	3.10	7,265	21,214	0.00	-	-	0%	0%	0%
205	2.92	3.96	4,947	14,446	205	2.92	3.96	4,947	14,446	0.00	-	-	0%	0%	0%
207	2.92	4.74	14,257	41,631	207	2.92	4.74	14,257	41,631	0.00	-	-	0%	0%	0%
209	2.92	4.62	81,492	237,957	209	2.92	4.62	81,492	237,957	0.00	-	-	0%	0%	0%
211	2.92	4.55	4,404	12,860	211	2.92	4.55	4,404	12,860	0.00	-	-	0%	0%	0%
213	2.66	4.61	3,620	9,628	213	2.66	4.61	3,620	9,628	0.00	-	-	0%	0%	0%
215	2.66	3.04	15,951	42,430	215	2.66	3.04	15,951	42,430	0.00	-	-	0%	0%	**0%**
301	2.92	6.17	157,682	460,431	301	2.92	6.17	157,682	460,431	0.00	-	-	0%	0%	**0%**
303	2.66	3.74	13,453	35,784	303	2.66	3.74	13,453	35,784	0.00	-	-	0%	0%	**0%**
305	2.92	6.15	19,909	58,135	305	2.92	6.15	19,909	58,135	0.00	-	-	0%	0%	0%
307	0.00	0.00	-	-	307	0.00	0.00	-	-	0.00	-	-			
401	2.66	3.61	501,615	1,334,295	401	2.66	3.61	501,615	1,334,295	0.00	-	-	0%	0%	**0%**
403	2.66	3.88	3,131	8,328	403	2.66	3.88	3,131	8,328	0.00	-	-	0%	0%	0%
405	2.66	2.89	5,482	14,583	405	2.66	2.89	5,482	14,583	0.00	-	-	0%	0%	0%
409	2.66	3.61	39,940	106,240	409	2.66	3.61	39,940	106,240	0.00	-	-	0%	0%	0%
411	2.66	3.55	15,956	42,442	411	2.66	3.57	15,670	41,682	0.02	286	761	1%	2%	2%

Icons

Red – SGS values are larger

Yellow – LSG and SGS have the same values

Green – LSG values are larger

Column 1. $Au-Au_{SGS}$ is the value of the client supplied Average Block Model grade minus the SGS value,

Column 2. V-VSGS is the absolute difference between the two volumes

Column 3. T-TSGS is the absolute difference between the two tonnages

Column 4. Is the paired mean difference for Au grade between the two models in percent

Column 5. Is the paired mean difference for Volume between the two models in percent

Column 6. Is the paired mean difference for Tonnage between the two models in percent

Table 2-7: Resources Supplied by Client – Thunder Creek

Thunder Creek @ 1.5 g/t COG**	Tonnes	Grade	Ounces
Indicated	2,346,621	4.3	323,510
Inferred	151,658	3.5	17,603
Subtotal	**2,498,279**	**4.2**	**341,113**

Additionally the resources estimated by SGS following the LSG methodology is within 1% grade and tonnage as that supplied in Table 2-7.

3 Conclusions

The verification completed on the Thunder Creek deposit is mainly restricted to the “mechanical” evaluation of the deposit. Previous, in depth, verifications showed that the methods used were appropriate and certain recommendations have been implemented in this year’s version.

No significant anomalies were identified during this review and we have no reason to expect any bias or error in the overall estimate for this deposit. It is recommended that the next resource update should consider the set of “potential extension intervals” that were provided to LSG to verify whether they merit integration into the solid models.

MEMORANDUM

To: Eric Kallio, Kara Byrnes, Ralph Koch

From: Yann Camus

Date: February 12, 2016

Subject: 144 gap Resource Model Assessment

On January 20 2016, a meeting included Eric Kallio, Kara Byrnes, Keith Green of LSG and Guy Desharnais and Yann Camus of SGS to discuss the verification work to be done on the 144 gap Resource Model.

The following items needed verification:

- Capping
- Geological interpretation and solid creation
- How does the indicator kriging to compare with current BM
- Compute an over smoothing ratio
- Evaluate the use of a flattened ellipsoid compared to a sphere

The most important files from LSG used by SGS are:

- Block model (HWY_2016JAN13_FINAL.txt)
- Composites 1m lengths (2016JAN13_1MCOMP.asc)
- Mineralized volumes (HWY 144 Resource Shapes.dxf)
- Readme file (README - HWY BLOCK MODEL - 2016 JAN13.docx)

Validation of composites

SGS created a new set of mineralized intervals and composites and all seems valid, small discrepancies are due to rounding of from / to's to the nearest centimeter (up to 3 g/t on a grade of 260 g/t or up to 10% on a grade of 8 g/t).

Validation of drillhole database

A few discrepancies were found in the DDH DB. They do not affect estimation in Gems. The database is therefore acceptable. Some dips were missing from the database provided by LSG in both the headers and the deviations. Explanation from LSG is that those should be zeros but they were exported as blanks. The list of discrepancies is:

- HW820-121 Assay 278.8-279.4 goes past EOH at 279
- HW820-121 Assay 279.4-280 goes past EOH at 279
- HW820-121 Lithology 267-279.99 goes past EOH at 279
- HW820-121 Lithology 279.99-280 goes past EOH at 279
- HWY-10-03 Lithology 467-467.01 goes past EOH at 467
- HWY-10-05 Lithology 596-596.01 goes past EOH at 596
- HWY-15-75W3 Lithology 938.4-938.41 goes past EOH at 938.4
- HWY-15-92 Lithology 1152-1152.01 goes past EOH at 1152
- HWY-14-70 Lithology 1252-1252.01 goes past EOH at 1252
- 2 surveys with no dip
- 11 headers with no dip
- 3 lithology intervals are listed from a certain depth to zero depth (negative length)

Verification of the capping

SGS notes that LSG capped all 144 gap assays at 120 g/t. SGS notes that the impact on metal loss is variable between zones (see table below). In particular, zones FW1, FW2, FW3, FW4, FW5 and HW have 0% metal loss due to capping. SGS believes this is relatively risky. LSG explains that the mineralization is similar in all zones and therefore having a single capping grade is acceptable. Globally the current metal loss of 6.4% is reasonable.

Summary of Metal Loss for each zone

Zone	Composites Count	Au	AuCap	MetalLoss
MAIN	3872	2.84	2.74	-3.5%
EAST	3619	3.37	2.99	-11%
FW1	127	3.26	3.26	0%
FW2	56	3.67	3.67	0%
HW	333	2.76	2.77	0%
FW3	65	4.51	4.51	0%
FW4	608	3.28	3.20	-2.6%
FW5	504	2.78	2.78	0%
ALL	**9184**	**3.10**	**2.90**	**-6.4%**

SGS did an evaluation of the LSG capping on assays and made a recommendation for each zone. The current and recommended capping grades are shown in the table below. Main: a capping of 70 g/t enables to get 95% confidence that the average real grade will be above the estimated grade. East: 120 g/t is already close to the 95% confidence for the average and is therefore retained. FW1, 2, 3 and HW get respective recommendations of 40, 30, 35 and 30 g/t to cap only 2 assays per zone. Having ounces based on only 2 assays is considered more risky. FW4 and 5 get respective recommendations of 50 and 35 g/t to get roughly the metal loss of the 10x rule applied to the 1m composites.

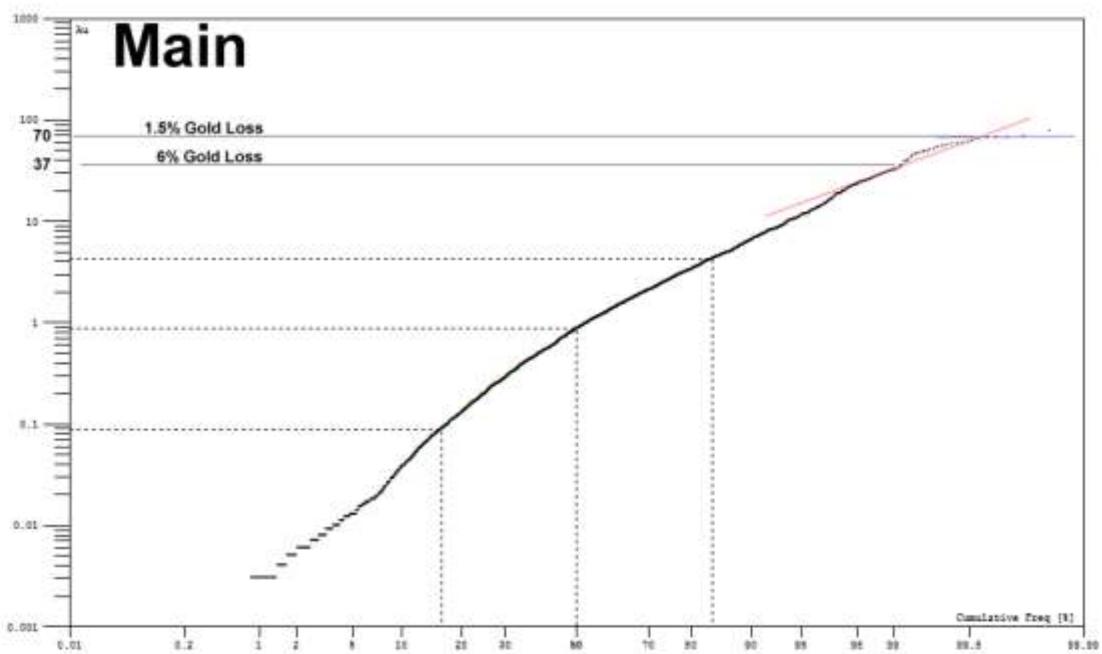
Some log – log cumulative frequency graphs were also prepared with composites to help find possible capping levels as displayed below.

Zone	Assays Count	Au	Capping (assays)	N capped	% capped	AuCap	Metal Loss*
MAIN	4546	3.35	120	8	0.2%	3.20	-2.8%
EAST	4171	3.93	120	13	0.3%	3.42	-11.5%
FW1	159	4.04	120	0	0%	4.04	0.0%
FW2	76	4.91	120	0	0%	4.91	0.0%
HW	405	2.93	120	0	0%	2.93	0.0%
FW3	74	4.33	120	0	0%	4.33	0.0%
FW4	712	3.96	120	1	0.1%	3.84	-2.6%
FW5	619	3.11	120	0	0%	3.11	0.0%
ALL	**10762**	**3.61**	**120**	**22**	**0.2%**	**3.35**	**-6.2%**

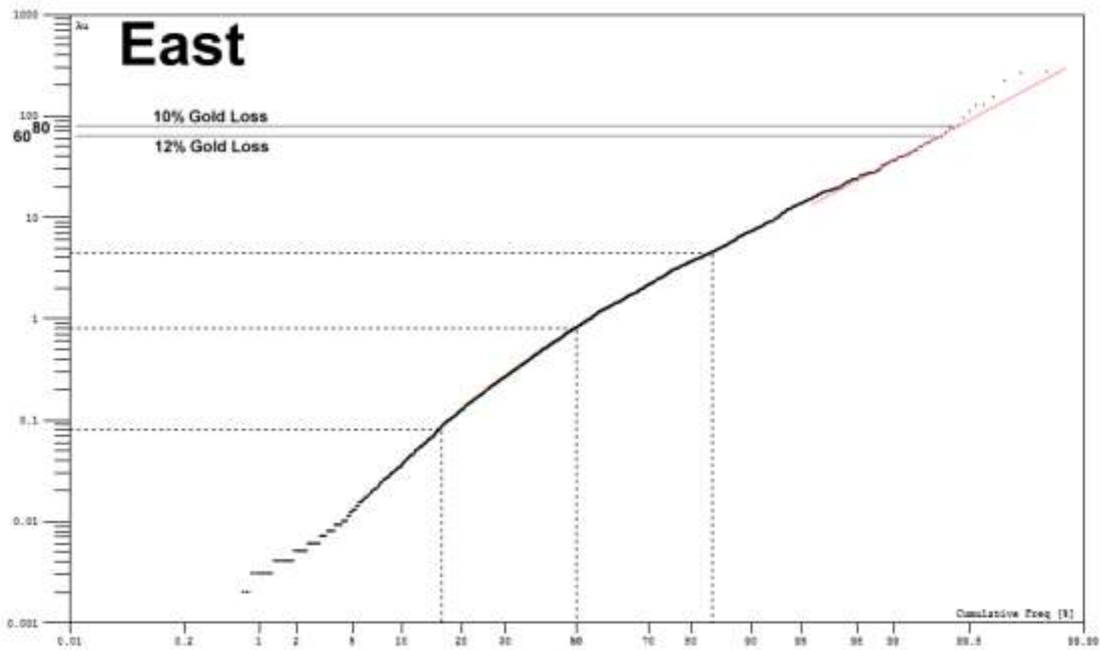
* compensated by length

Zone	Assays Count	Au	Suggested Capping (assays)	N capped	% capped	AuCap	Metal Loss*
MAIN	4546	3.35	70	26	0.6%	3.03	-7%
EAST	4171	3.93	120	13	0.3%	3.42	-12%
FW1	159	4.04	40	2	1.3%	3.67	-8%
FW2	76	4.91	30	2	3%	3.74	-19%
HW	405	2.93	30	2	0.5%	2.89	-1.6%
FW3	74	4.33	35	2	3%	3.60	-18%
FW4	712	3.96	50	7	1%	3.48	-9%
FW5	619	3.11	35	10	1.6%	2.85	-7%
ALL	**10762**	**3.61**	**Variable**	**64**	**0.6%**	**3.21**	**-9%**

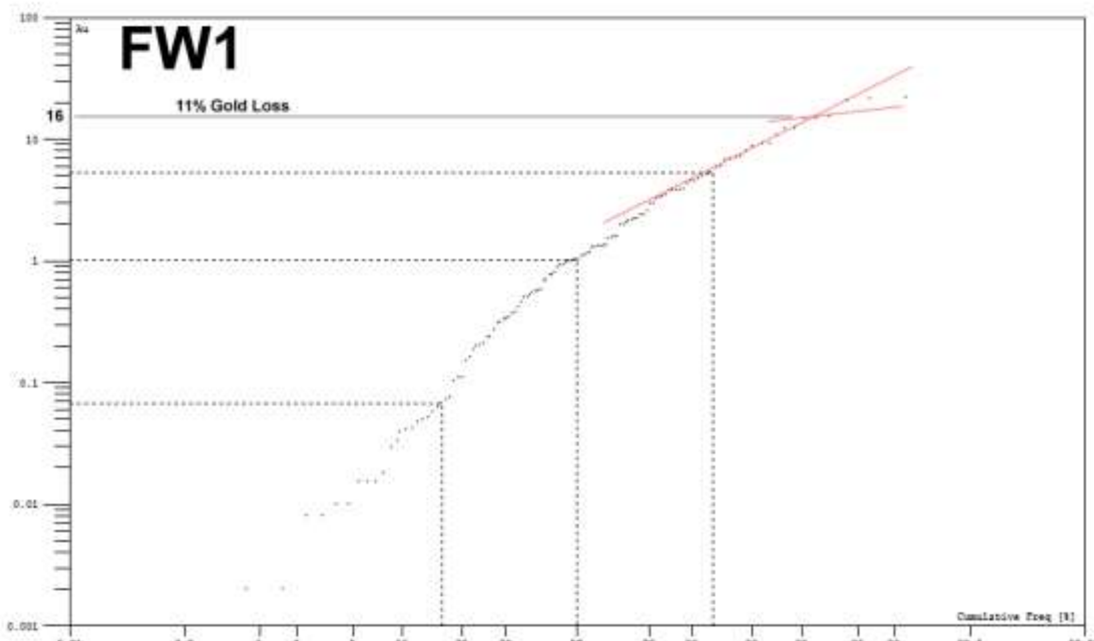
* compensated by lengths of assays



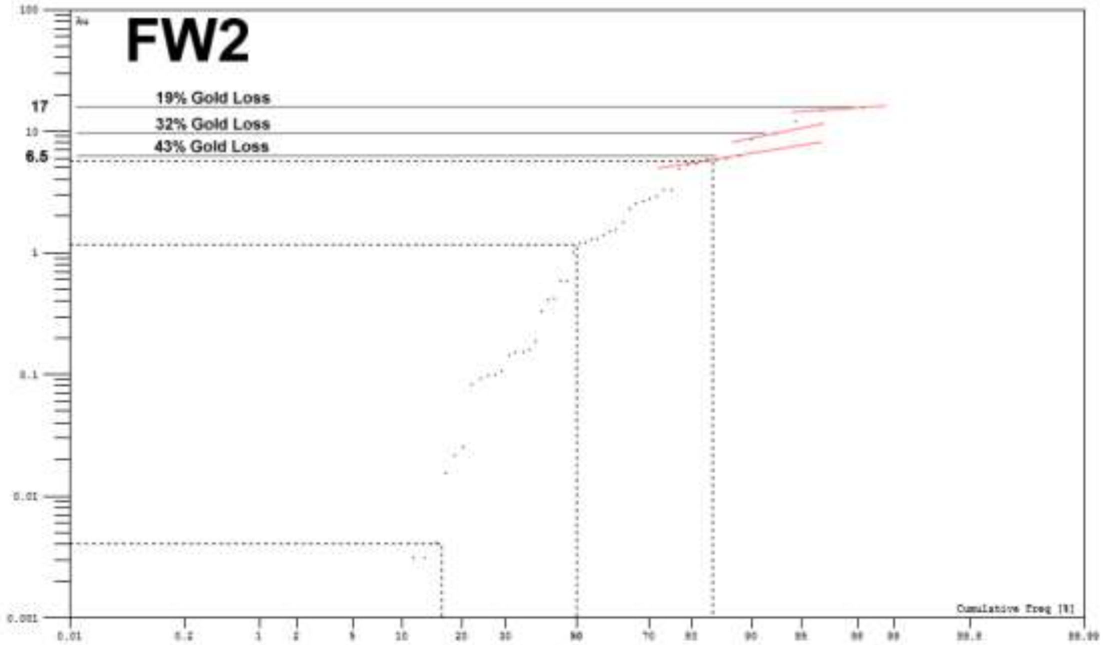
Main zone cumulative frequency graph. A 7% Gold Loss is the current recommendation based on other factors.



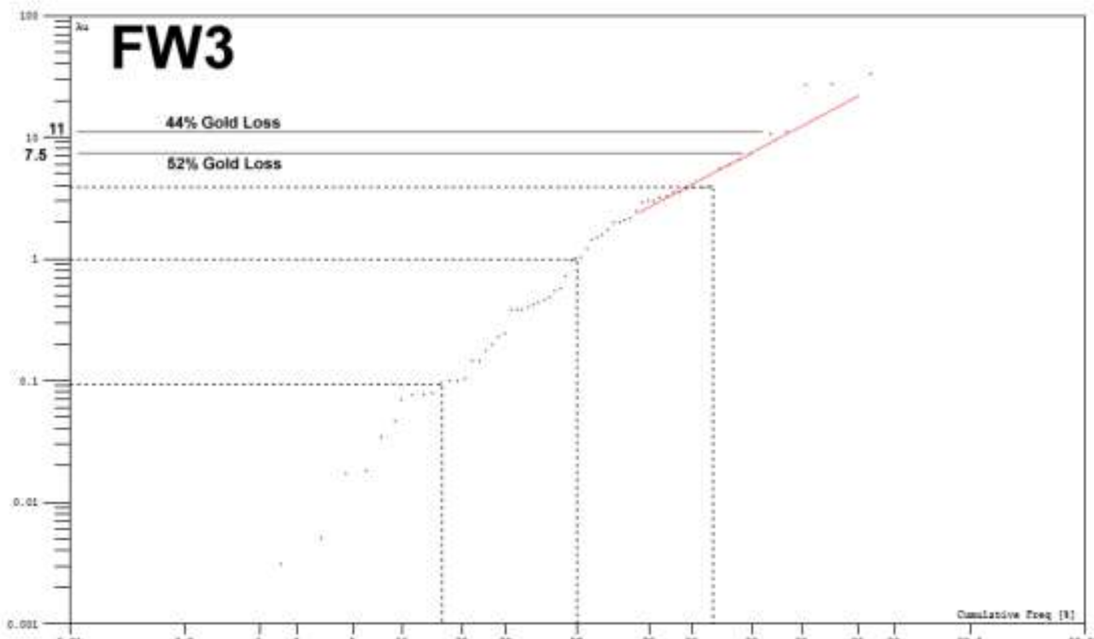
East zone cumulative frequency graph. A 12% Gold Loss is the current recommendation based on other factors.



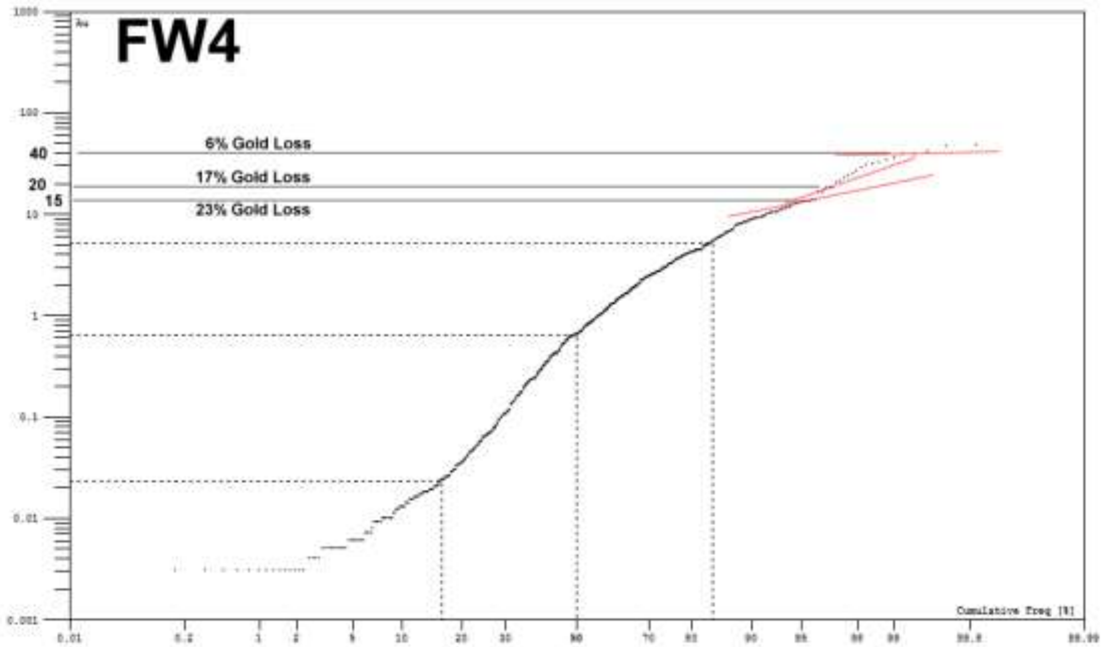
FW1 zone cumulative frequency graph. A 8% Gold Loss is the current recommendation based on other factors.



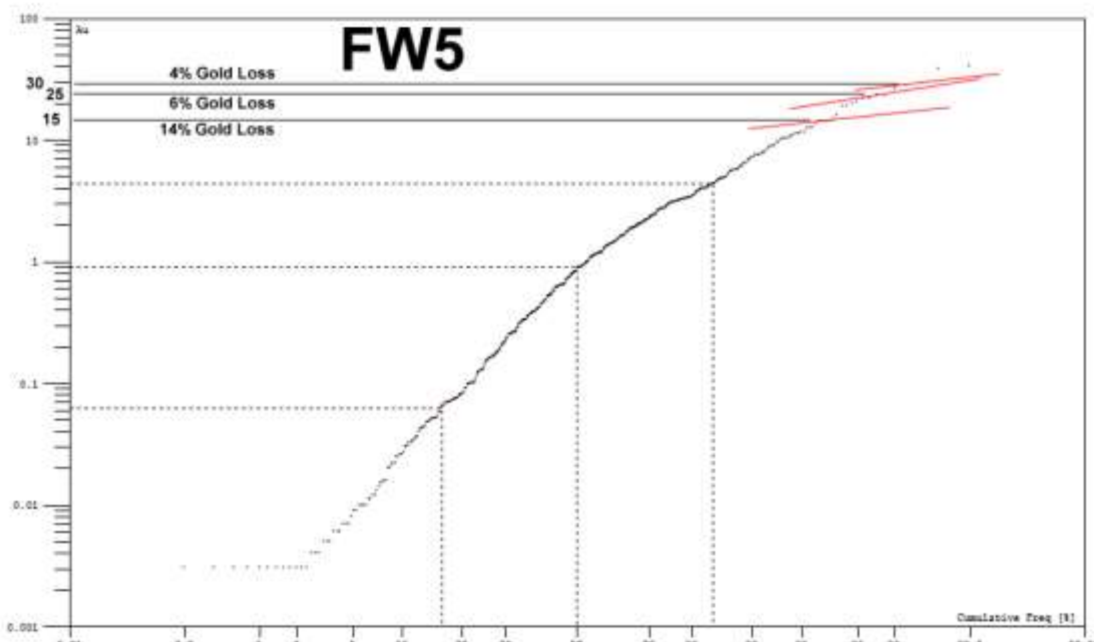
FW2 zone cumulative frequency graph. A 19% Gold Loss is the current recommendation based on other factors.



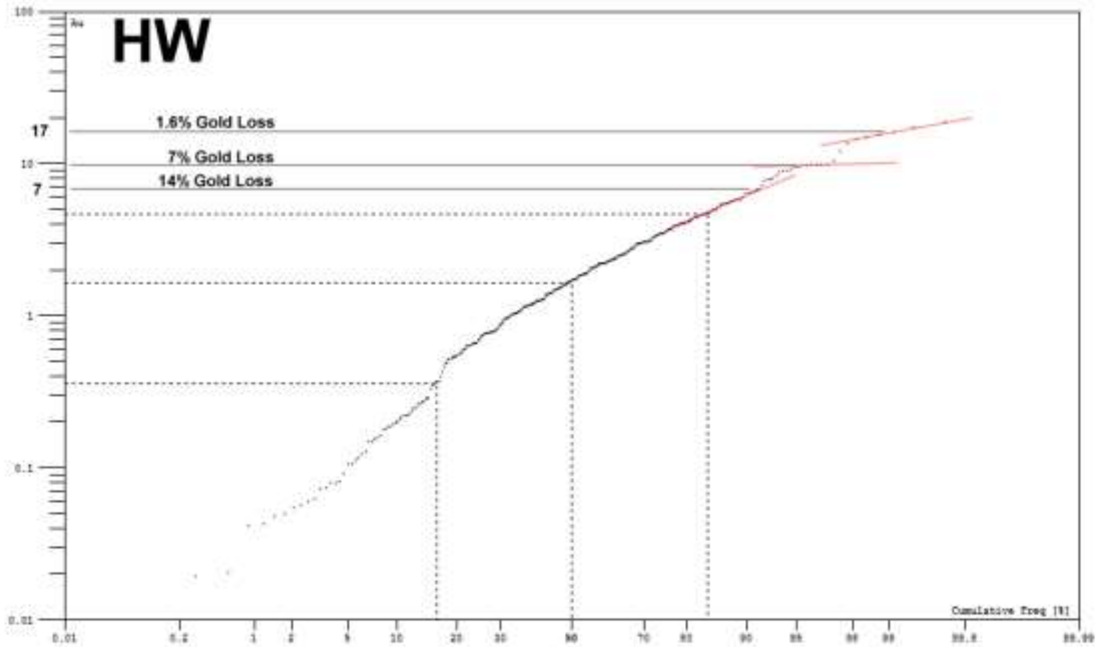
FW3 zone cumulative frequency graph. An 18% Gold Loss is the current recommendation based on other factors.



FW4 zone cumulative frequency graph. A 9% Gold Loss is the current recommendation based on other factors.



FW5 zone cumulative frequency graph. A 7% Gold Loss is the current recommendation based on other factors.



HW zone cumulative frequency graph. A 1.6% Gold Loss is the current recommendation based on other factors.

Verification of volumes

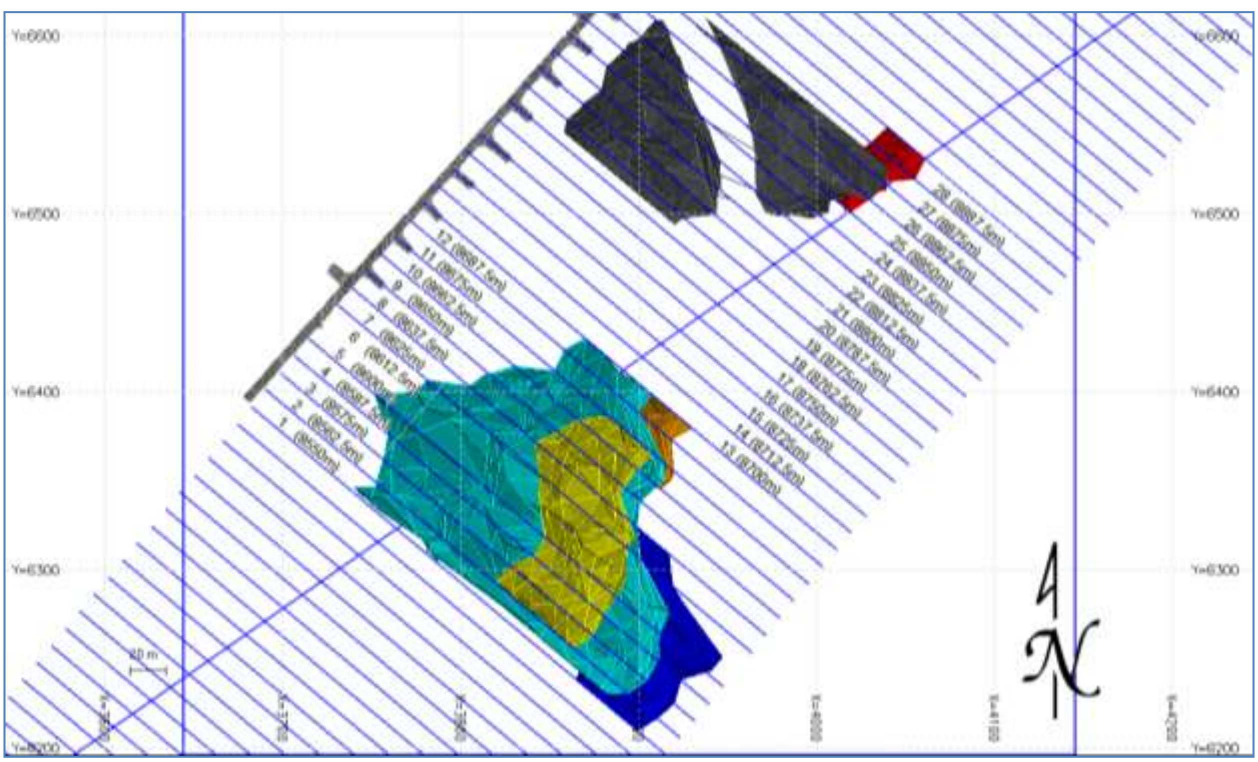
In general, SGS believes that the volumes used are adequate for the purpose. A few recommendations are set in the following pages.

SGS looked at about 20 sections as displayed in the next figure. Some recommendations are provided directly in the following 8 figures.

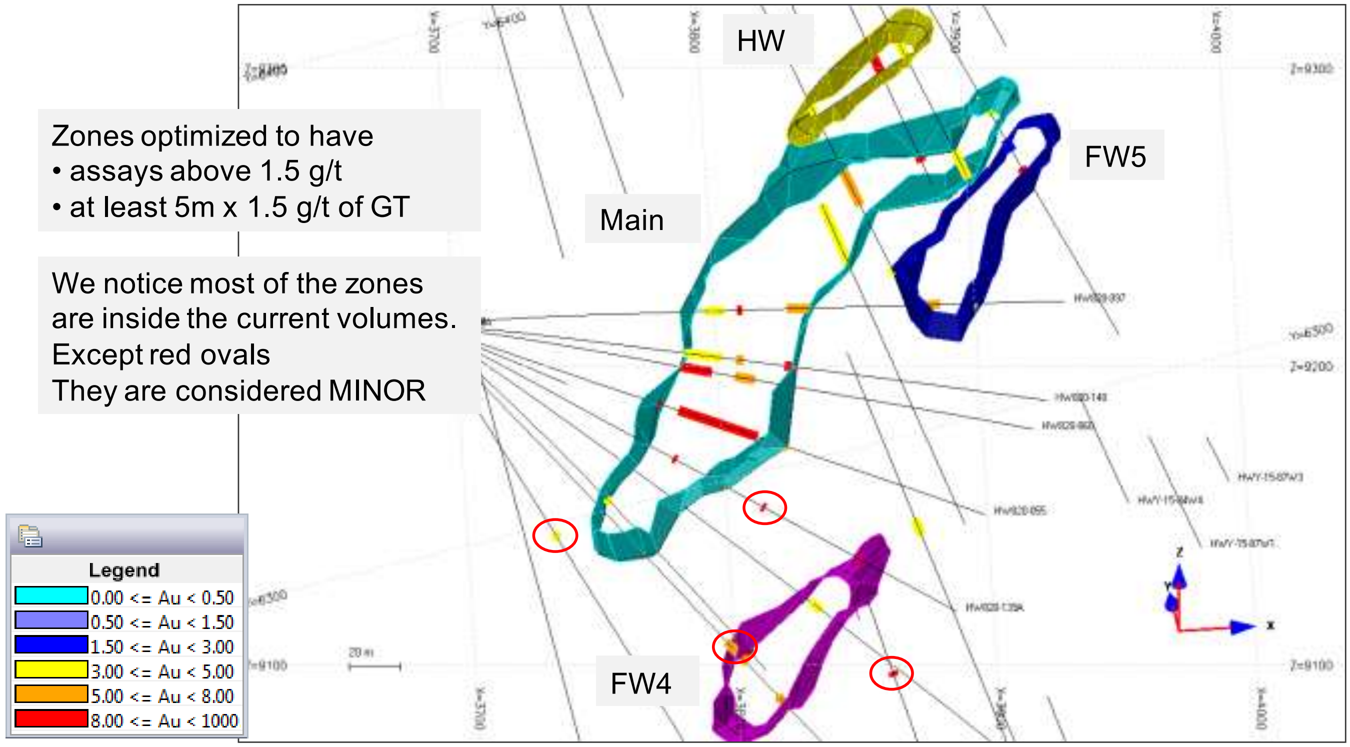
Also close to section 8800, the hole HW820-104 is snapped at 2 depths. It creates an unwanted kink in the volume. On section 8875, the upper part of the East volume has strange triangles. The interpretation on section 8887.5 should be revised in accordance to 8875. The interpretation on 8850 and 8862.5 should be revised in accordance to 8875. These changes would result in smaller volumes. On section 8887.5, the hole HW820-126 from 170.9m to 175.9m (5m length) at 25.94 g/t is currently excluded from volume FW1 and SGS believes it should be included. On section 8887.5, an interval of 13m at 0.25 g/t could be trimmed in the hole HW820-005.

Nothing special was found on other sections displayed.

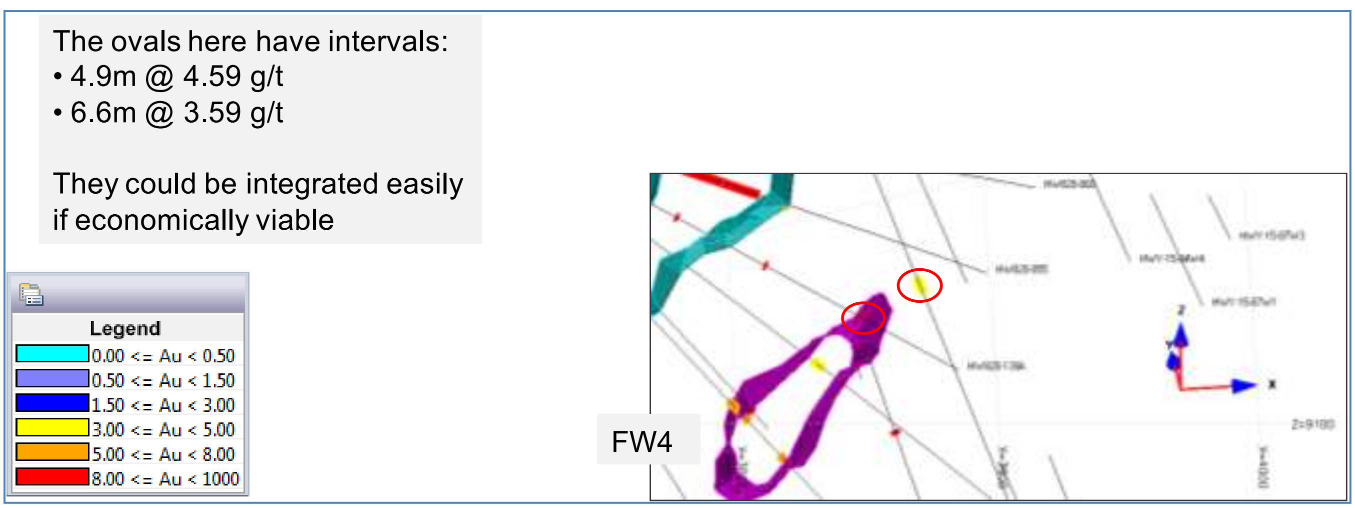
In conclusion, there is no easy volume modeling with the erratic gold. Current volumes are acceptable for now, however more refinement would be welcome to include a few significant intervals left out, exclude some waste intervals and also make the volumes more consistent (with fewer kinks).



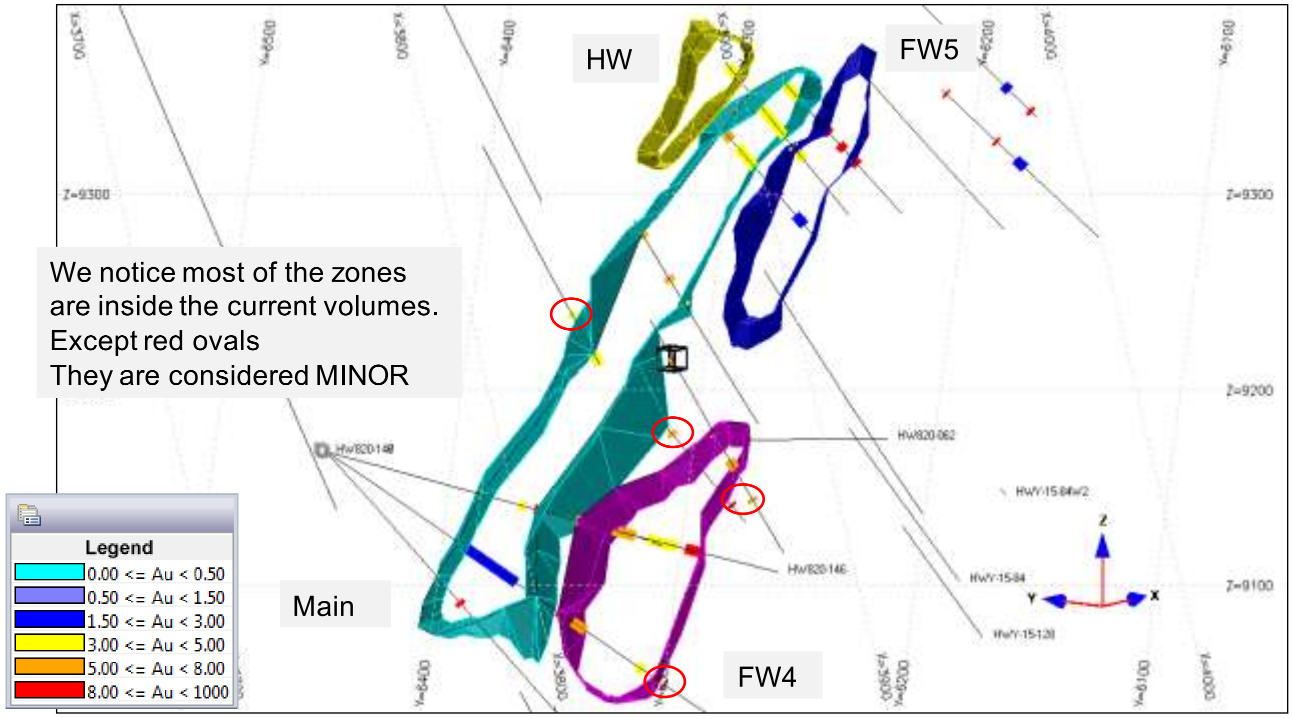
Plan view of sections



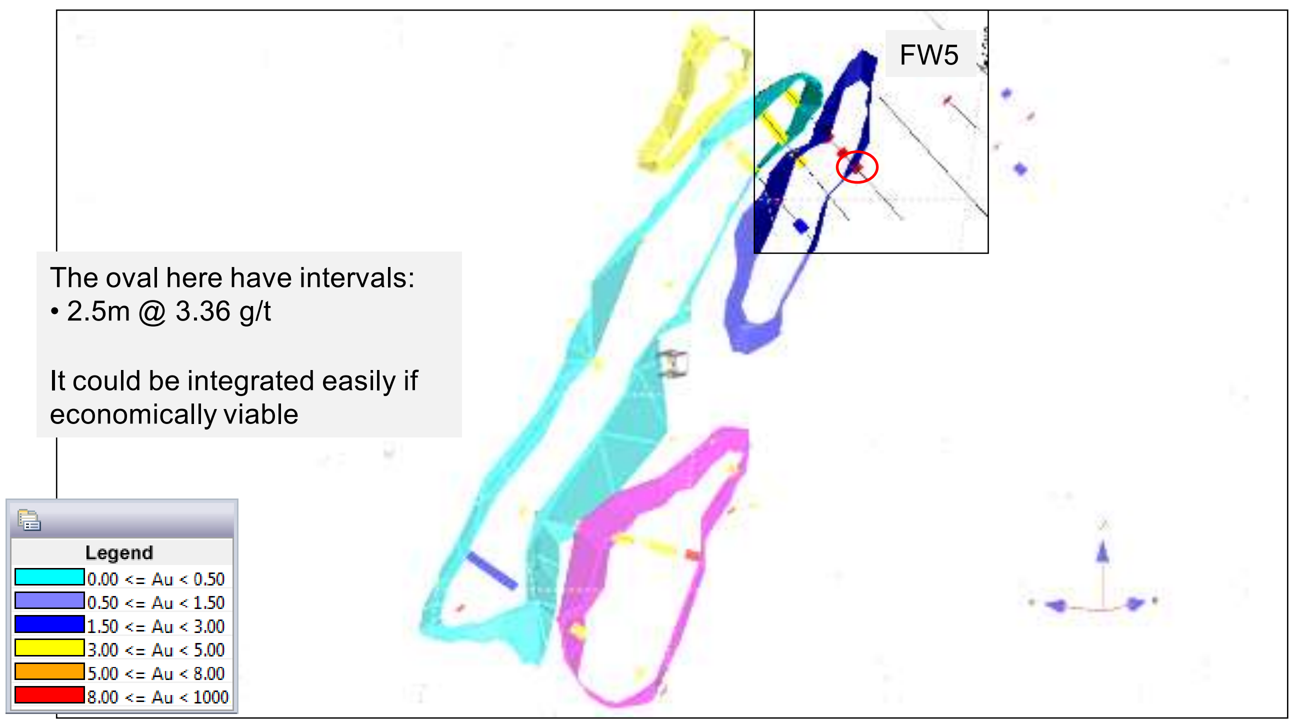
Section 8575 with most valuable intervals over 1.5 g/t and 5 m length (or grade-thickness equivalent)



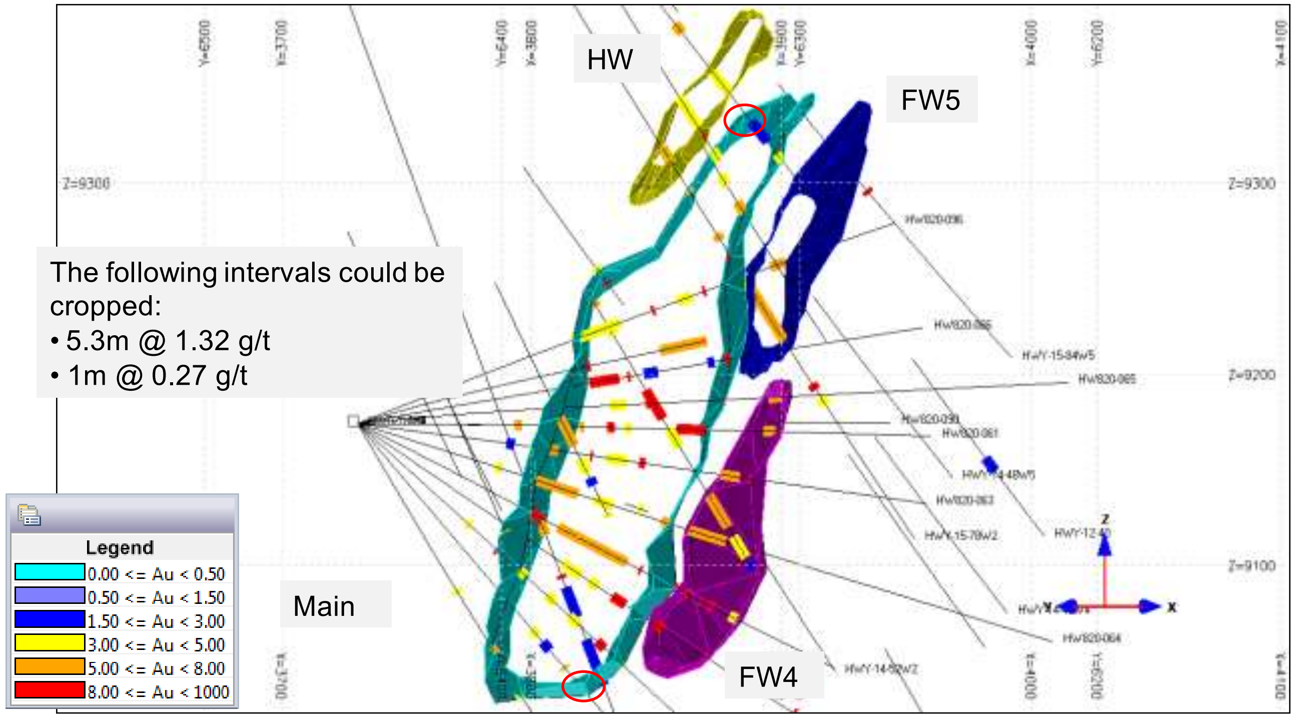
Zoom on section 8575



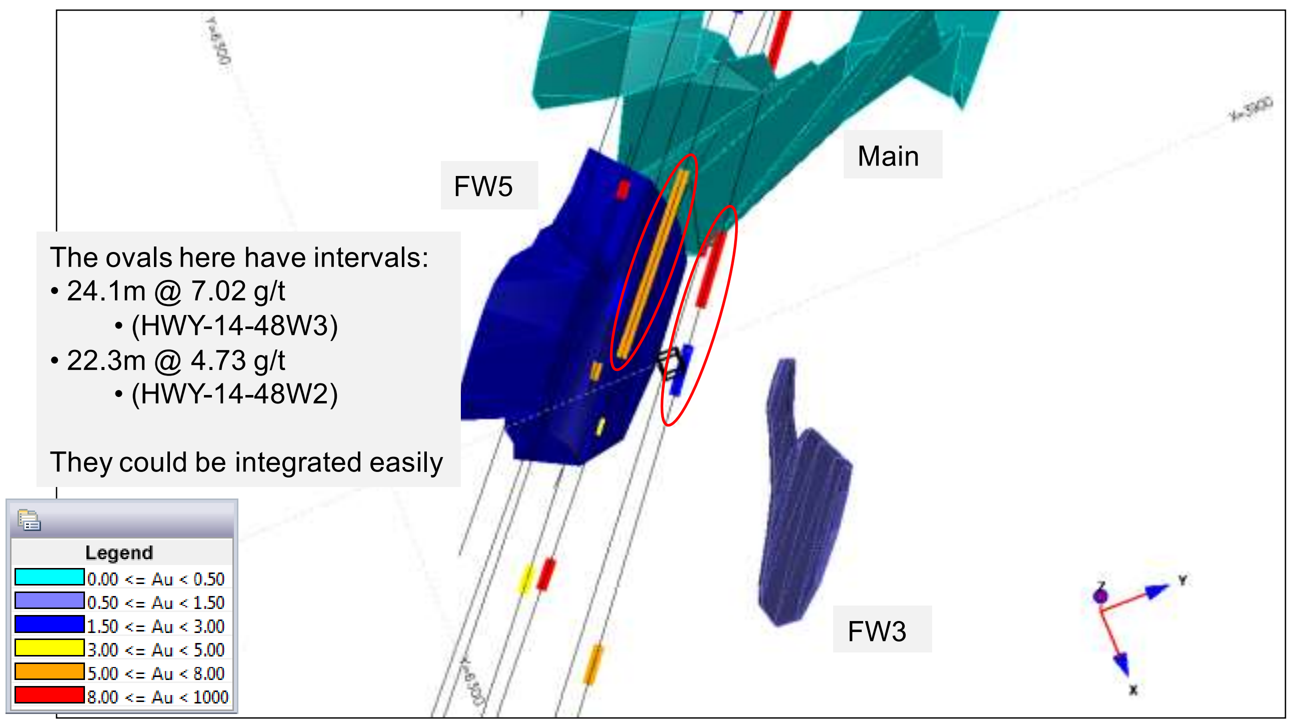
Section 8600 (1)



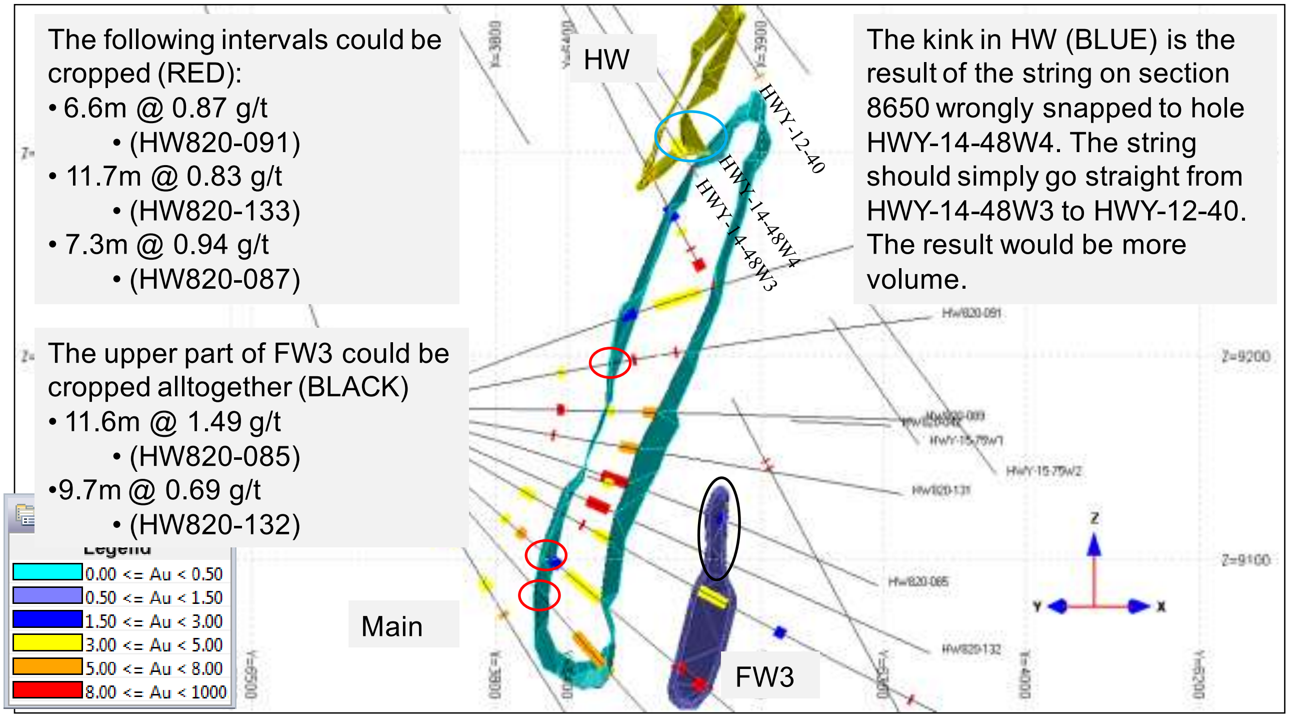
Section 8600 (2)



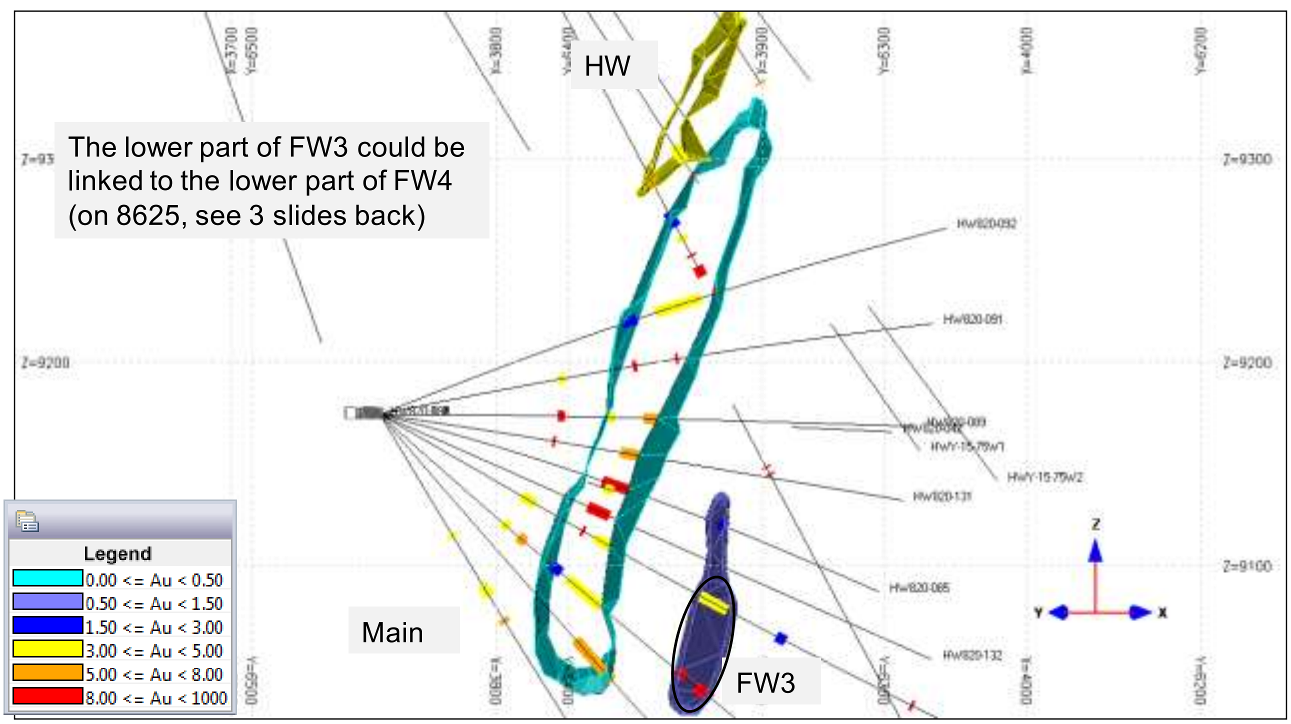
Section 8625



Section 8637.5



Section 8650 (1)



Section 8650 (2)

Verification of the current block model by comparison with other models

Specifically, SGS was asked to prepare an indicator kriging (IK) model. The geostatistical method was used as a verification tool. The first step was to build the required variograms. An indicator of 0.5 g/t was used. It corresponds to the 40% percentile of the 1m composites population and is adequate for this exercise.

In order to make a more complete exercise, SGS did the following estimates: Nearest Neighbour (NN), Kriging (K), Indicator Kriging (IK) (categorized blocks), IK (reconstituted blocks). With the categorized blocks IK method, blocks were tagged as high grade (HG) or low grade (LG) and received solely the grade from the high grade composites or from the low grade composites. This model was calibrated to get the same grade as the K model overall. In the reconstituted blocks IK model, each block gets a weighted average of its HG and LG parts.

The methodology for the IK was:

- Variography on indicators (COG chosen is 0.5 g/t)
- Variography on only composites >0.5 g/t
- Variography on only composites <0.5 g/t
- Kriging of indicators (all blocks, all composites)
- Kriging of high grade (all blocks, composites >0.5 g/t)
- Kriging of low grade (all blocks, composites <0.5 g/t)

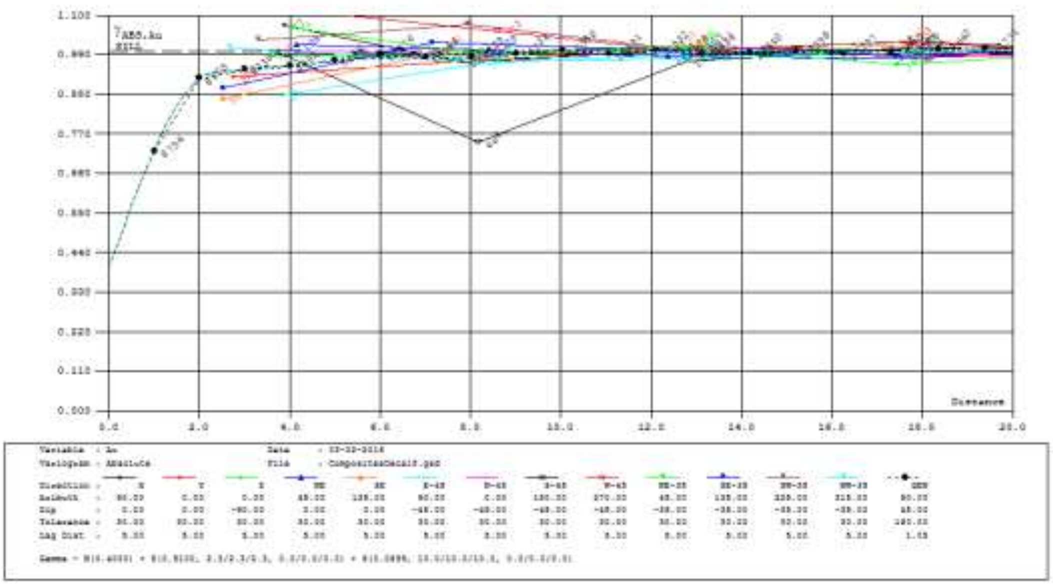
Global results show very little variations at 0g/t cut off grade (COG)

Over smoothing effects (OSR) are very acceptable (except for NN). The OSR of 2% on IDS is unusual (usually 20-30% for this type of estimate). It is due to the high nugget of the variogram, therefore high intra-block variance, and low inter-block variance is predicted.

	Au	Difference	Var	SD	OSR
LSG 2016 (IDS)	3.01	0%	8.7	2.9	2%
NN	3.27	+9%	46.3	6.8	-126%
K	3.11	+3%	4.8	2.2	27%
IK (LSG method)	3.10	+3%	8.4	2.9	4%
IK (reconst)	2.92	-3%	3.5	1.9	38%

Global statistics

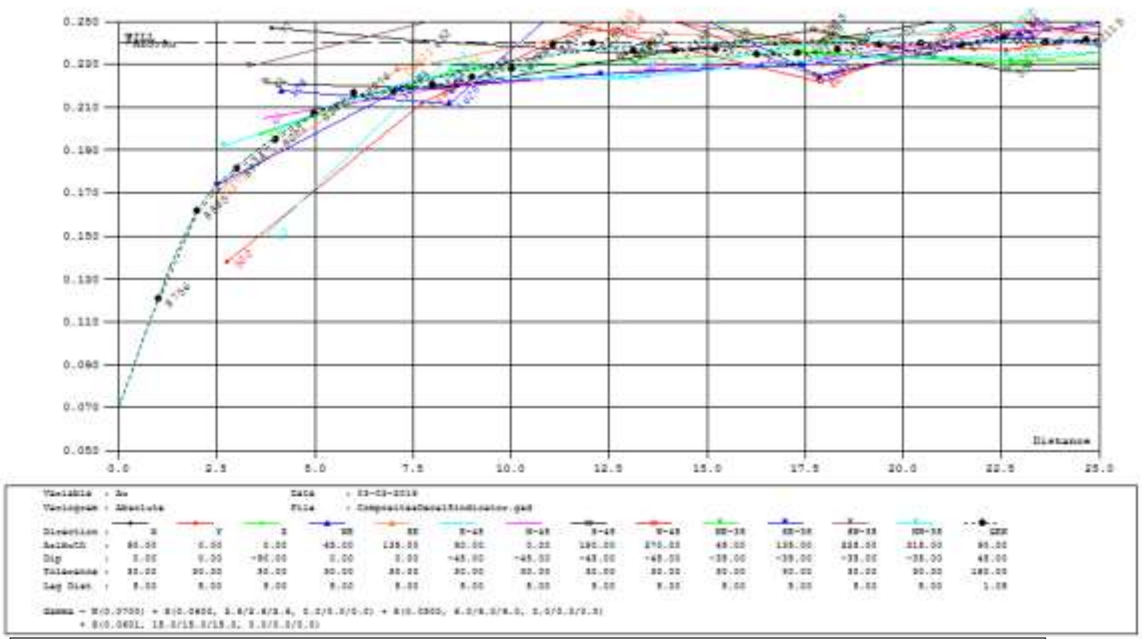
In general, the IDS model by LSG may be a little optimistic on the number of blocks in the 12 to 21 g/t range. On the other hand, the K model is clearly too smoothed and conservative. The 2 g/t, 3 g/t and 5 g/t COG tables presented after the variograms. In the 2 first tables, the ISD model appears to be conservative compared to the IK model. LSG has an economic COG of 2.6 g/t therefore the IDS LSG model is acceptable. The third table shows that the ISD model is relatively optimistic on the grade compared to the IK model, this should be kept in mind when using the block model with high COG as the number of blocks above 12 g/t in the IDS model is questionable at this stage of verification.



Variance = 42.7 g/t x g/t

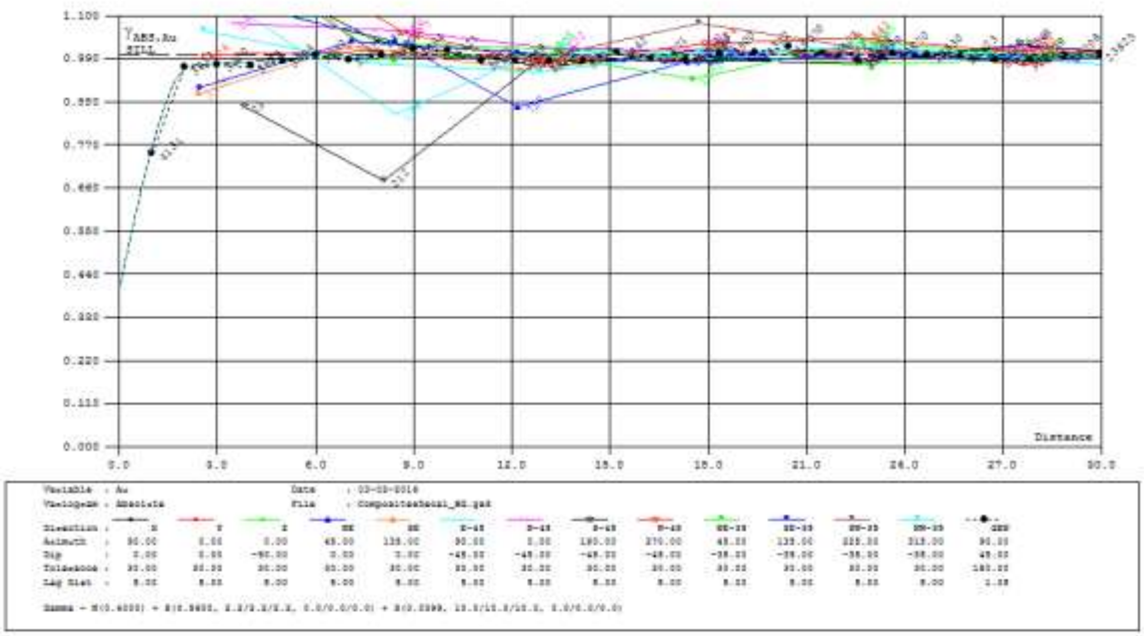
`Gamma = N(0.4000) + S(0.5100, 2.3/2.3/2.3, 0.0/0.0/0.0) + S(0.0899, 10.0/10.0/10.0, 0.0/0.0/0.0)`

Variogram built on composites Au (correlogram)



`Gamma = N(0.0700) + S(0.0600, 2.6/2.6/2.6, 0.0/0.0/0.0) + S(0.0500, 6.0/6.0/6.0, 0.0/0.0/0.0) + S(0.0601, 15.0/15.0/15.0, 0.0/0.0/0.0)`

Variogram built on indicator at 0.5 g/t



Gamma = N(0.4000) + S(0.5600, 2.2/2.2/2.2, 0.0/0.0/0.0) + S(0.0399, 10.0/10.0/10.0, 0.0/0.0/0.0)

Variogram built only on high grade composites (Au >= 0.5 g/t)

Gamma = N(0.4000) + S(0.2500, 2.6/2.6/2.6, 0.0/0.0/0.0) + S(0.2099, 7.0/7.0/7.0, 0.0/0.0/0.0)
+ S(0.1400, 40.0/40.0/40.0, 0.0/0.0/0.0)

Variogram built only on low grade composites (Au < 0.5 g/t)

Zone	COG	Tonnage	Au_LSG_IDS	Ounces
HW	2	232,770	3.73	27,890
East	2	1,220,780	4.64	182,283
FW1	2	126,991	4.70	19,198
FW2	2	118,858	6.77	25,869
Main	2	2,094,310	4.54	305,551
FW3	2	24,453	8.13	6,392
FW4	2	426,779	4.92	67,456
FW5	2	326,249	4.65	48,756
TOT		4,571,190	4.65	683,396

Zone	COG	Tonnage	Au_IK_LSG	Ounces
HW	2	302,551	3.40	33,069
East	2	1,367,490	4.83	212,429
FW1	2	152,067	6.68	32,681
FW2	2	107,470	7.08	24,472
Main	2	2,494,410	4.75	380,726
FW3	2	26,059	6.51	5,458
FW4	2	357,634	6.04	69,410
FW5	2	357,401	4.37	50,220
TOT		5,165,082	4.87	808,465

Tonnage	Au	Ounces
-23%	+10%	-16%
-11%	-4%	-14%
-16%	-30%	-41%
+11%	-4%	+6%
-16%	-4%	-20%
-6%	+25%	+17%
+19%	-19%	-3%
-9%	+6%	-3%
+13%	+5%	+18%

Comparison between the IDS LSG model and the SGS IK (categorized blocks) model (2 g/t COG)

Zone	COG	Tonnage	Au_LSG_IDS	Ounces
HW	3	135,797	4.60	20,066
East	3	781,988	5.87	147,472
FW1	3	94,295	5.47	16,590
FW2	3	109,167	7.15	25,083
Main	3	1,330,630	5.73	245,172
FW3	3	17,807	10.24	5,864
FW4	3	309,157	5.84	58,081
FW5	3	213,694	5.80	39,846
TOT		2,992,535	5.80	558,173

Zone	COG	Tonnage	Au_IK_LSG	Ounces
HW	3	167,739	4.09	22,041
East	3	1,056,390	5.51	187,106
FW1	3	145,274	6.87	32,093
FW2	3	107,465	7.08	24,472
Main	3	1,832,490	5.56	327,578
FW3	3	22,178	7.22	5,146
FW4	3	319,751	6.45	66,321
FW5	3	261,925	5.04	42,418
TOT		3,913,212	5.62	707,174

Tonnage	Au	Ounces
-19%	+12%	-9%
-26%	+6%	-21%
-35%	-20%	-48%
+2%	+1%	+2%
-27%	+3%	-25%
-20%	+42%	+14%
-3%	-9%	-12%
-18%	+15%	-6%
+31%	-3%	+27%

Comparison between the IDS LSG model and the SGS IK (categorized blocks) model (3 g/t COG)

Zone	COG	Tonnage	Au_LSG_IDS	Ounces
HW	5	36,348	6.62	7,737
East	5	347,381	8.41	93,882
FW1	5	41,989	7.37	9,943
FW2	5	63,237	9.59	19,501
Main	5	581,533	8.19	153,162
FW3	5	12,929	12.64	5,254
FW4	5	151,517	7.86	38,280
FW5	5	102,725	7.92	26,171
TOT		1,337,658	8.23	353,932

Zone	COG	Tonnage	Au_IK_LSG	Ounces
HW	5	21,751	6.21	4,345
East	5	481,517	7.41	114,677
FW1	5	126,727	7.32	29,826
FW2	5	79,115	8.19	20,832
Main	5	923,783	7.19	213,608
FW3	5	19,737	7.61	4,831
FW4	5	206,146	7.80	51,670
FW5	5	107,493	6.68	23,072
TOT		1,966,269	7.32	462,861

Tonnage	Au	Ounces
+67%	+7%	+78%
-28%	+13%	-18%
-67%	+1%	-67%
-20%	+17%	-6%
-37%	+14%	-28%
-34%	+66%	+9%
-27%	+1%	-26%
-4%	+19%	+13%
+47%	-11%	+31%

Comparison between the IDS LSG model and the SGS IK (categorized blocks) model (5 g/t COG)

Evaluation of the search spheres used by LSG compared to ellipsoids

Some tests have already been done by Guy Desharnais of SGS that indicate using flattened ellipsoids instead of spheres. This is recommended to get rid of artefacts in the block model (due to drilling orientation). The total resources above the different COGs do not change (on average) but rather their locations do change slightly for each of the given sections. The stopes should not follow the artefacts due to drilling because they are not believed to reflect reality. A flattened ellipsoid, with ellipsoid influenced distance for: Initial selection, Final selection and Estimation, is recommended.

The following figure shows section 8625 with both search spheres used by LSG compared to ellipsoids. The results with ellipsoids are more adapted to the geological understanding of the zones.

Ellipsoid sizes used by LSG are: 15m Sphere, 30m sphere, 60m sphere and 90m sphere
Recommended ellipsoids by SGS are:

- 15m x 15m x 7.5m (azi = 325°, dip = -75°) (ratio of 1/2)
- 30m x 30m x 15m (325°, -75°) (ratio of 1/2)
- 60m x 60m x 40m (325°, -75°) (ratio of 2/3)
- 90m sphere

If required, it is possible to use different orientations for different volumes to adapt to specific geological knowledge. Also, it is possible to further separate volumes into panels to more precisely reflect local continuity

Looking at overall results on Main Zone of 144 Gap, the differences are between -3.5% and +5.8% as shown in the following tables.

In conclusion, the use of search spheres creates artefacts. It is recommended that ellipsoids should be used instead of spheres.

SGS

LSG (spheres) COG 1.5			
Class	Au	Tonnes	Ounces
indicated	3.99	1,768,140	226,643
inferred	3.91	869,669	109,351
Total	3.96	2,637,810	335,990

SGS (ellipsoids) COG 1.5			
Class	Au	Tonnes	Ounces
indicated	3.99	1,716,090	220,115
inferred	4.00	860,189	110,650
Total	3.99	2,576,280	330,762

Differences		
Au	Tonnes	Ounces
0.1%	-2.9%	-2.9%
2.3%	-1.1%	1.2%
0.8%	-2.3%	-1.6%

COG 2			
Class	Au	Tonnes	Ounces
indicated	4.57	1,405,820	206,361
inferred	4.48	688,485	99,186
Total	4.54	2,094,310	305,546

COG 2			
Class	Au	Tonnes	Ounces
indicated	4.57	1,363,470	200,381
inferred	4.48	709,776	102,214
Total	4.54	2,073,240	302,592

Differences		
Au	Tonnes	Ounces
0.1%	-3.0%	-2.9%
0.0%	3.1%	3.1%
0.0%	-1.0%	-1.0%

COG 3			
Class	Au	Tonnes	Ounces
indicated	5.81	882,912	165,055
inferred	5.57	447,718	80,114
Total	5.73	1,330,630	245,168

COG 3			
Class	Au	Tonnes	Ounces
indicated	5.78	867,251	161,224
inferred	5.48	473,906	83,511
Total	5.68	1,341,160	244,736

Differences		
Au	Tonnes	Ounces
-0.6%	-1.8%	-2.3%
-1.5%	5.8%	4.2%
-1.0%	0.8%	-0.2%

COG 4			
Class	Au	Tonnes	Ounces
indicated	7.12	568,579	130,117
inferred	6.77	285,021	62,019
Total	7.00	853,600	192,134

COG 4			
Class	Au	Tonnes	Ounces
indicated	7.04	562,408	127,292
inferred	6.67	298,651	64,073
Total	6.91	861,059	191,366

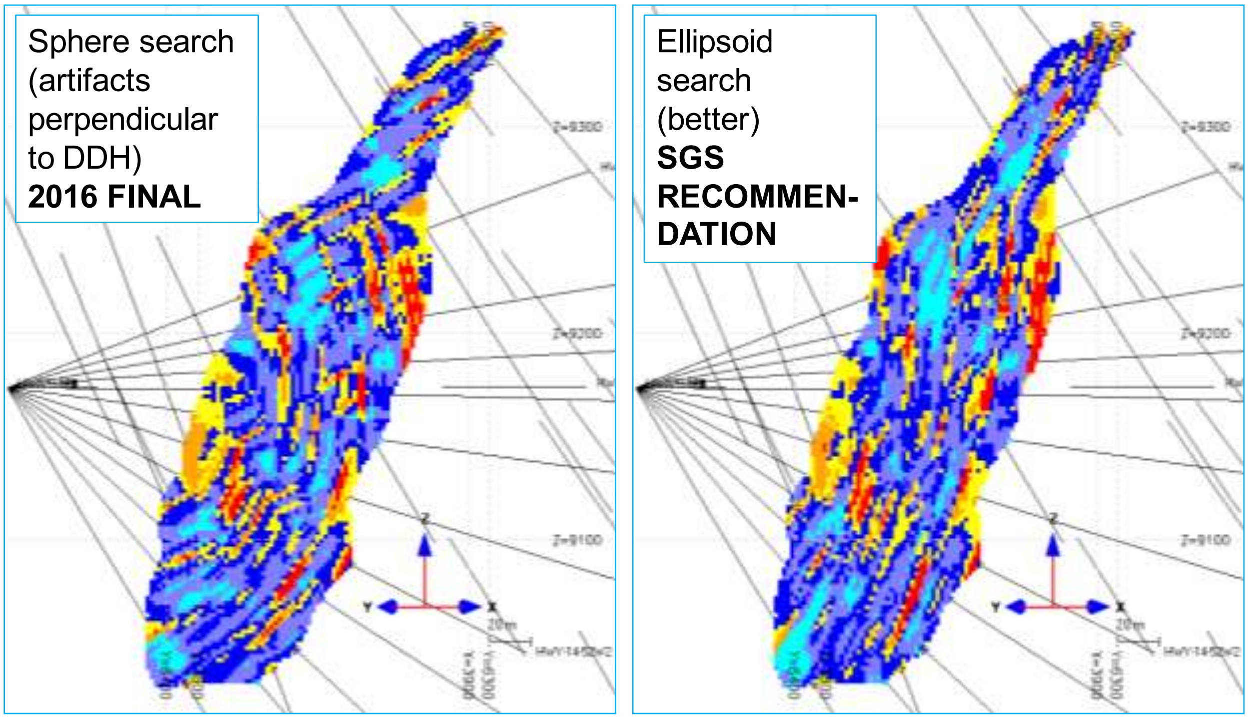
Differences		
Au	Tonnes	Ounces
-1.1%	-1.1%	-2.2%
-1.4%	4.8%	3.3%
-1.3%	0.9%	-0.4%

COG 5			
Class	Au	Tonnes	Ounces
indicated	8.36	387,461	104,170
inferred	7.85	194,072	48,990
Total	8.19	581,533	153,160

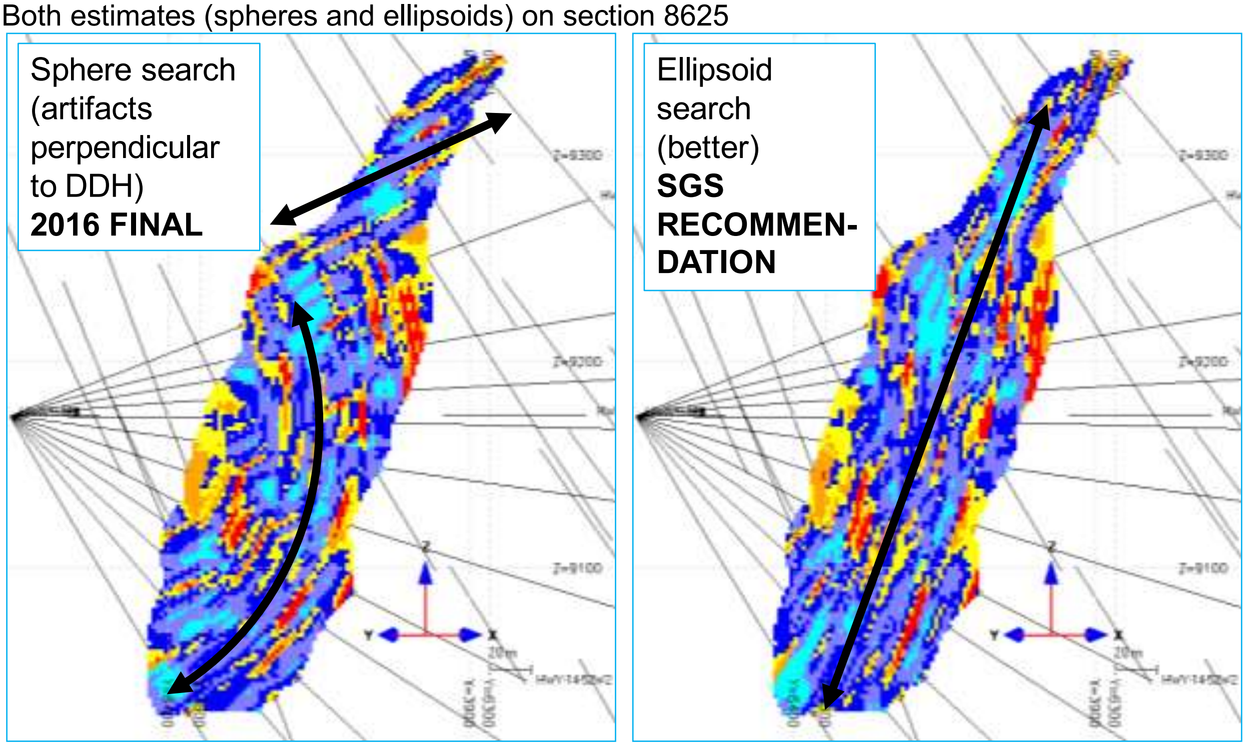
COG 5			
Class	Au	Tonnes	Ounces
indicated	8.32	375,554	100,501
inferred	7.82	196,652	49,472
Total	8.15	572,207	149,973

Differences		
Au	Tonnes	Ounces
-0.5%	-3.1%	-3.5%
-0.3%	1.3%	1.0%
-0.5%	-1.6%	-2.1%

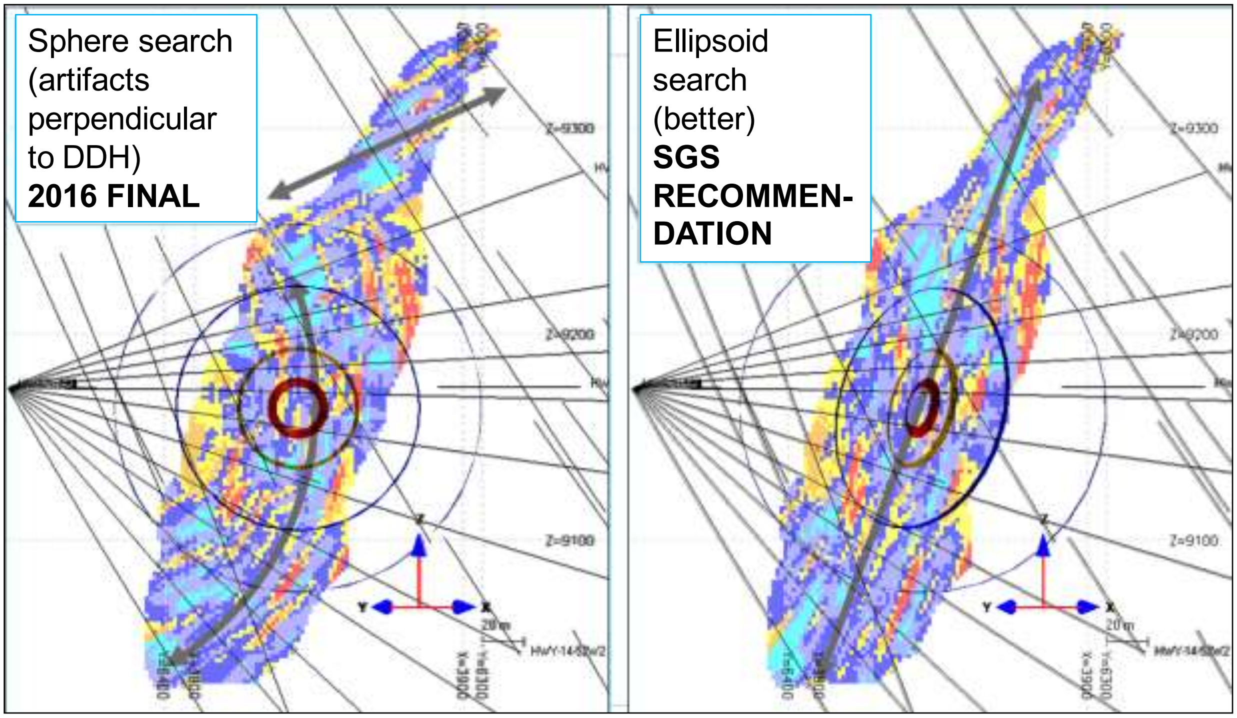
Resource tables with both estimates compared (spheres and ellipsoids)



Both estimates (spheres and ellipsoids) on section 8625



Both estimates with arrows showing artifacts on section 8625



Both estimates with corresponding search spheres or ellipsoids on section 8625

SGS

Conclusion

The estimation of 144 gap is good for the current exercise. The IK estimation by SGS concurs with the current IDS block model by LSG.

Some refinement is possible for future estimates notably:

- The capping grades should be lowered in some of the smaller volumes to reduce risks
- A few volumes can be adjusted
- Ellipsoids should be used instead of spheres for
    - Initial selection
    - Final selection
    - Estimation

APPENDIX 3

UNDERGROUND PHOTOS OF THE TIMMINS WEST MINE MINERALIZATION AT THE TIMMINS, THUNDER CREEK, AND 144 GAP DEPOSITS

The following photos and commentary have been provided courtesy of consultant Mr. David Rhys from internal reports, including: 1) "Lake Shore Gold Thunder Creek Zones: Mineralization, Setting and Style in the Rusk and Porphyry Zones" (Rhys, 2011), and; 2) Structural Settin and Style of the 144 Gap Zone and Other Areas: Observations from Drill Core, and Underground Exposure with Exploration Recommendations" (Rhys, 2015). The various styles of mineralization are represented in this suite of underground and drill core pictures from the Vein and Ultramafic hosted extensional vein arrays of the Timmins Deposit (Plates 1-5), the Rusk and Porphyry styles of the Thunder Creek deposit (Plates 6-11), and the Syenite-hosted extensional vein sets and disseminated Rusk Shear Zone and footwall mafic volcanic styles of mineralization in the 144 Gap Zone (Plates 12-15).

Plate 1:

UM 1E, face 32: Main stage mineralized extension vein array in ultramafic, view east. Veins dip SE, array shallowly north with north side up shear sense

Plate 2:

UM 2 west, face 13: well developed shallow north dipping, reverse vein array with southeast dipping internal veins

Plate 3:

650 L, UM1E area: bleached (?albitic) pyritiferous envelopes to tourmaline-quartz extension veins, veins cut across and alteration overprints dominant foliation

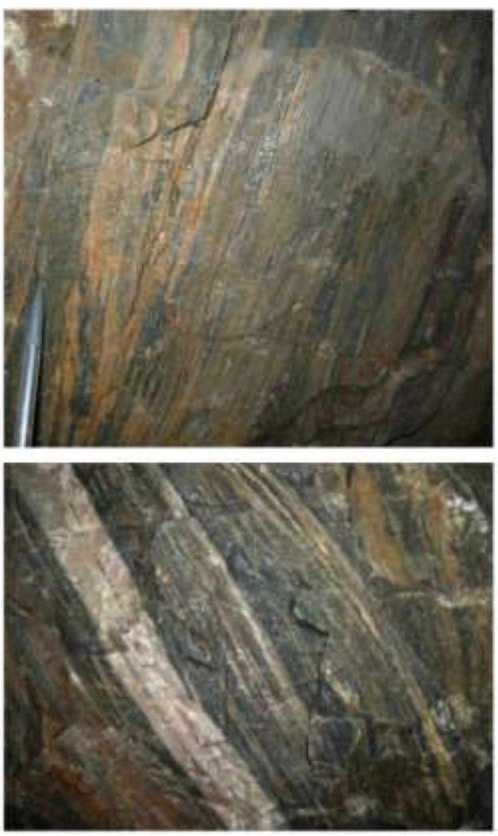
Plate 4:

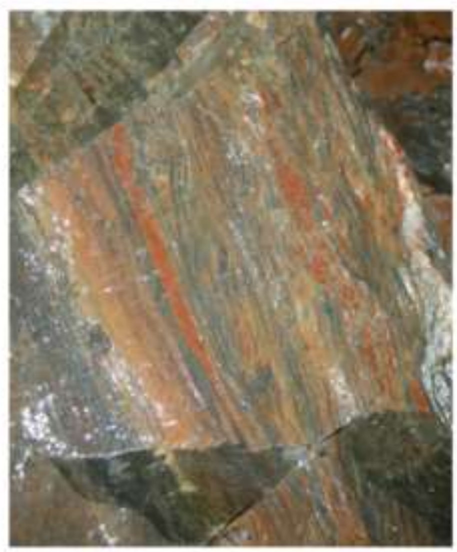
140 level, Main Zone: tourmaline replacement veins in high strain zone cut by shallow dipping extension veins: the latter probably are coeval with the Porphyry Zone and Ultramafic extension vein arrays

Plate 5:

30 level, Main Zone: veining sequence: 1) tourmaline, 2) quartz>tourmaline veins that are parallel to early tourmaline, 3) generation 1 extension veins (probably same as those in ultramafic zone, 650 level), 4) generation 2 late thin extension veinlets. Late shallow dipping extensional veinlets contain visible Au.

Plate 6:





Rusk Shear Zone textures: 350 level (upper left) and 280 level (right, lower left). Note domains at center in the right photo of steeper dipping foliation between laminar foliation bands – geometry consistent with reverse – oblique shear sense; elsewhere sinistral (left lateral) shear sense suggested

Plate 7:

300 and 315 levels ore: massive pyrite-rich ?sericite-carbonate-?feldspar alteration, with reddish hematized wispy feldspathic domains and irregular quartz - ?albite-carbonate veinlets. Note lack of foliation in mineralization

Plate 8:

300 and 315 levels: Mineralization at upper right in both images is massive and unfoliated, overprinting foliated Rusk Shear Zone at lower left in both images: suggests a structurally late timing of mineralization

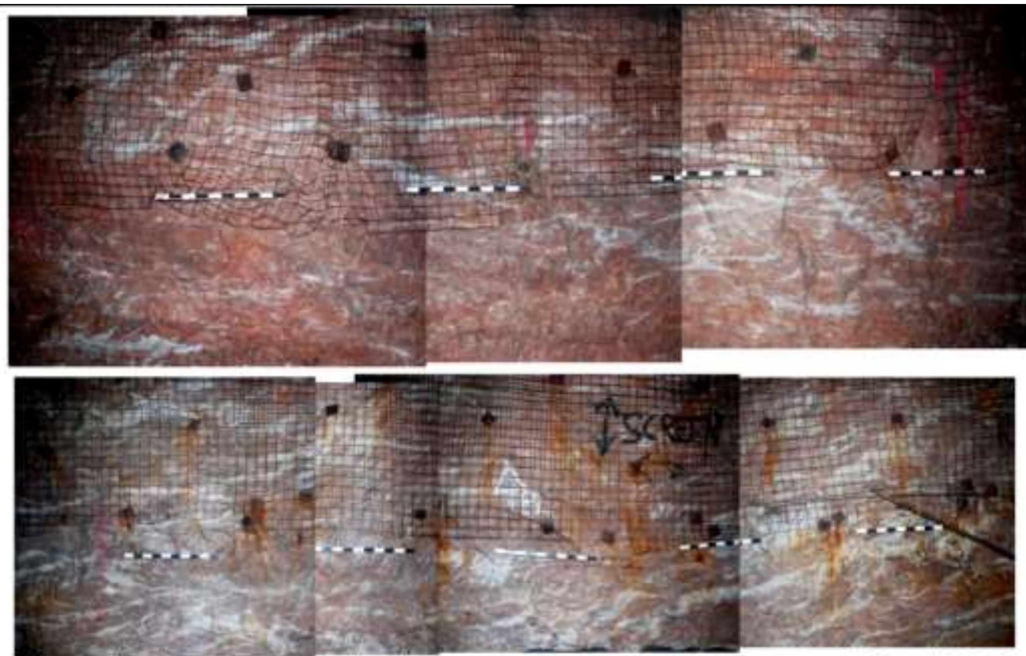
Plate 9:

Late shallow dipping quartz veins occur preferentially in narrow syenite sills, cutting the shear zone fabric (left), but are also affected by the later set of folds with shallow dipping axial planes (D5) that overprint the shear zone (right), indicating that the folding is entirely post-mineral. 350 level crosscut (left, looking west)) and 280 level west crosscut (right photo, looking west)

Plate 10:

North wall, 730 level in Porphyry Zone within monzonite. Shallow easterly dipping sheeted quartz extension veins in central part of zone.

Plate 11:



Composite photo sets of north wall of crosscut in Porphyry Zone between 4430and 4475 E, from mine photos. Lower photo is of north wall of approximately faces 18 to 20 which, returned high grades along this wall (4 to 30 g/t Au). Exposures contain multiple shallow N to NE dipping extension vein arrays which contain highest vein densities. Sigmoidal shapes record reverse, N side up shear sense.

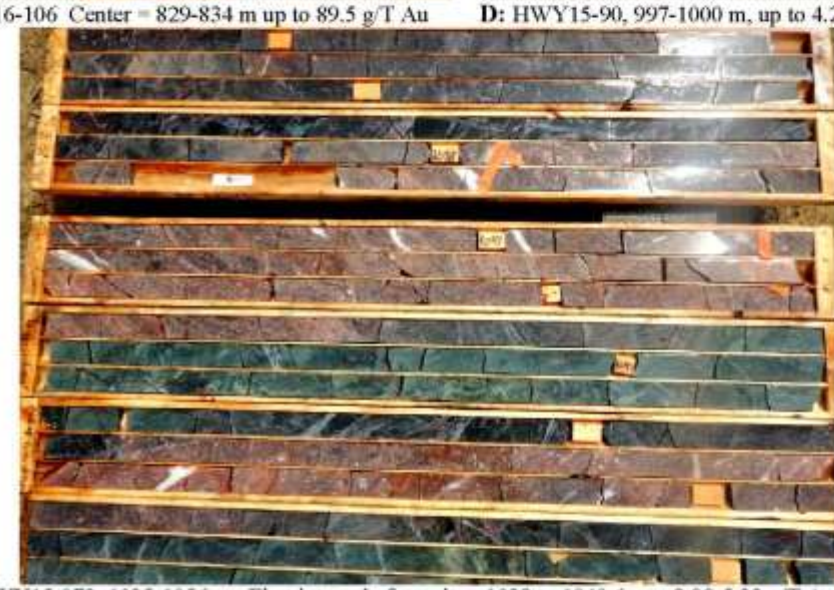
Plate 12:

A: HWY15-72, 984-997 m, up to 50.6 g/T Au at center

B: HWY14-48, 872-890 m

C: HWY16-106 Center = 829-834 m up to 89.5 g/T Au

D: HWY15-90, 997-1000 m, up to 4.26 g/T at center

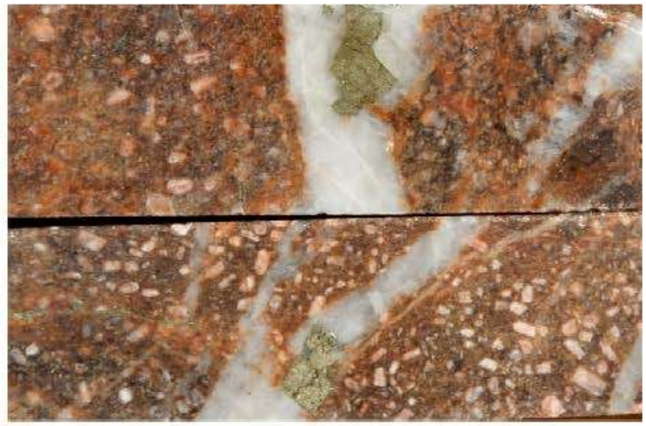


E: HWY15-072, 1035-1056 m. First interval of syenite - 1038 to 1040.6 m = 2.99-5.33 g/T Au, second syenite interval up to 6.38 g/T Au

Plate 12: Quartz vein mineralization in syenite in the Gap Zone. A and B: Preferential development of quartz extension veins in syenite verses mafic volcanics; mafic units occur in the uppermost row in A and the three top rows in B. Core axis angles of veins in the syenite are variable, in A showing core axis parallel and high core axis veins suggesting two vein generations, in B typically at 35 to 45 degrees. Au grades are concentrated in syenite. **C to E:** Intervals of syenite (reddish orange/pinkish) surrounded by green-grey mafic volcanics. Note the localization of white quartz extension veinlets in the syenite, and lack of quartz veins in the surrounding mafic units. Patchy, although locally high Au grades occur in the syenite, and are absent from the surrounding mafic units here. The patterns are consistent with a rheological control to the position of the quartz veins and mineralization development. Note the consistent core axis angles of the veins in these examples.

Plate 13:

A: HWY15-87, 835.4 m, 7.8 g/T Au



B: HWY15-87, 868-868.3 m, 11.05 g/T Au

C: HWY14-62, 1041-1046 m, inlcudes 26.7 g/T Au

D: HWY15-116, 985.9 m, 4.24 g/T Au

Plate 13: Examples of mineralized intervals in syenite in the Gap Zone area. A and B: Quartz extension veins in massive syenite containing widely spaced clots-aggregates of coarse cubic pyrite. Where visible gold is present it generally occurs in association with pyrite of this style. Note the massive, unfoliated nature and orange-brown to reddish brown colour of the syenite matrix which is K-feldspar bearing but may contain also secondary albite-quartz and tinting by fine-grained hematite. **C:** Typical density and style of veining in different syenite and alteration types. Quartz extension veining is present in all syenite styles, from later finer grained syenite phases in the center rows, to reddish-orange K-feldspar-albite-quartz-hematite altered syenite at top, and coarse trachytic textured syenite in the bottom row. **D:** Quartz veinlets and disseminated pyrite grains occur in fine-grained syenite with variable orange-pink K-feldspar-albite-quartz alteration. While pyrite grains at center look superficially to be disseminated, most are associated with, and wider than quartz stringers that they occur along. A series of sheeted narrow hairline quartz stringers cross the matrix here in association with the pyrite.

Plate 14:

A: HWY16-106, 758.5, 762; 1.09-1.65 g /T Au

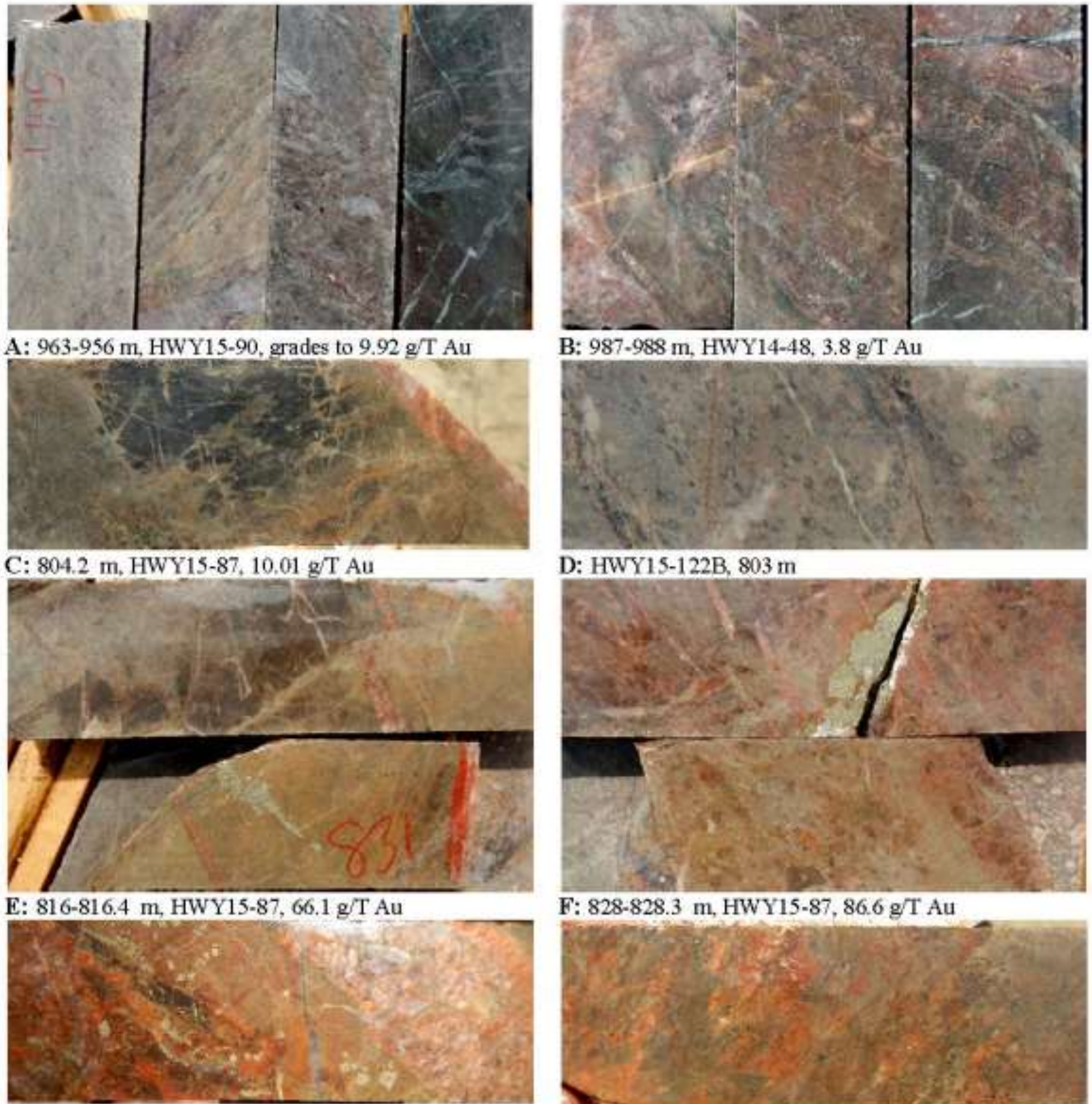
B: HWY16-106, 789.2 m 39.3 g/T Au

C: HWY15-117, 492m, 4.24 g/T Au

D: HWY15-117, 492, 4.24 g/T Au

Plate 14: Mineralization in the Rusk Shear Zone in the Gap Zone area. A: Orangey weathering ferroandolomite carbonate-sericite rich laminated shear zone has trails of disseminated pyrite parallel to foliation, and foliation is cut by late quartz extension veinlets. **B:** Carbonate-pyrite-hematite-K-feldspar altered portion of the shear zone, probably overprinting mafic volcanics, cataclastic textures, and disseminated grains of undeformed pyrite occur both independently and associated with quartz stringers. **C and D:** Carbonate (dolomite-ferroandolomite)-chlorite-pyrite altered foliated mafic volcanic rocks in footwall portions of the shear zone have hematite-K-feldspar bands. Pyrite occurs as disseminations and trails in carbonate altered domains.

Plate 15:



A: 963-956 m, HWY15-90, grades to 9.92 g/T Au

B: 987-988 m, HWY14-48, 3.8 g/T Au

C: 804.2 m, HWY15-87, 10.01 g/T Au

D: HWY15-122B, 803 m

E: 816-816.4 m, HWY15-87, 66.1 g/T Au

F: 828-828.3 m, HWY15-87, 86.6 g/T Au

G: HWY16-106, 861.1 m, 53.3 g/T Au

H: 777.5 m, HWY15-87, 3.1 g/T Au

Plate 15: Alteration and mineralization on margins of syenite sills-dykes in and adjacent to altered mafic volcanic rocks: Alteration of mafic units generally lacks sericite and is carbonate (dolomite-ankerite series) dominant, with some secondary pyrite, albite, K-feldspar and pyrite. **A to D:** Grey-brown carbonate (dolomite-ferroandolomite) +/- pyrite alteration of originally chlorite-albite-biotite-calcite altered mafic volcanic rocks between or marginal to syenite units. In A, at far right shows biotite-rich mafics more distal to the syenite contact which preserve an early alteration; samples at left are affected by the younger, auriferous carbonate-pyrite alteration. Similar patterns occur in B and C, where earlier biotite alteration is preserved as patchy brown-pink areas in B and as darker areas in C. Pale areas in C are carbonate-pyrite altered and Au-bearing. In D, spotted texture is relict amygdaloidal texture in mafic volcanics, here completely dolomitic carbonate altered. **E:** Tan carbonate alteration containing pyrite veinlets (lower core) overprints dark brown earlier biotite alteration in mafic volcanics (upper core) beside syenite dyke. **F to H:** Mineralization on contact areas of syenite. Disseminated bands (H) and veinlet pyrite-quartz with disseminated pyrite grains (F and H) cut across earlier brecciated and K-feldspar-quartz-albite altered syenite and mafics; units are difficult to distinguish due to the degree of alteration and brecciation. Pyrite-quartz is late and is both undeformed and unbrecciated.

(Photos and descriptions are courtesy of Mr. David Rhys, LSG Internal Reports, 2011 and 2015)