43-101 TECHNICAL REPORT,
PREFEASIBILITY STUDY AND MINERAL RESERVE ESTIMATE FOR TIMMINS WEST MINE,
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:

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1.0 SUMMARY

This Technical Report is co-authored 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. ("Lake Shore Gold", "LSG") for the Timmins West Mine. The report contains a summary of the resource estimates previously reported in the report submitted to SEDAR titled: 43-101 Technical Report, Preliminary Economic Assessment and Updated Mineral Resource Estimate for Timmins West Mine, Timmins, Ontario, Canada, having effective dates of October 28, 2011 (Thunder Creek Deposit) and January 31, 2012 (Timmins Deposit), 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. This report also includes a summary of the engineering design, cost analysis, and economic assessment conducted at a prefeasibility level on the indicated subset of the mineral resource pool sufficient in detail to substantiate an updated statement of Mineral Reserves for the Timmins West Mine.

The purpose of this technical report is to provide a comprehensive picture of the total resource pool for the Timmins West Mine ("TWM") including a summary of the findings of a previously completed Preliminary Economic Assessment (PEA) and a full description of subsequent and more detailed work on the mine design, cost analysis, and economic evaluation of the indicated resource subset. This work has been completed at a prefeasibility study level (PFS) and was conducted in order to substantiate declaration of an updated Mineral Reserve Statement for the Timmins West Mine.

It should be noted that any financial results summarized in this report and identified as output from the PEA are preliminary in nature and include inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the financial results of the PEA will be realized.

The most recent work completed to support the declaration of Mineral Reserves has been conducted on the indicated mineral resource only, and it is the QP's opinion that this work meets the definitions of a Preliminary Feasibility Study (PFS) under CIM guidelines. There is significantly less risk in accepting these results as being reasonably achievable subject to the assumptions clearly outlined in the body of this report.

The Timmins West Mine includes mineralized zones from the Timmins Deposit and the Thunder Creek Deposit for which there is a common infrastructure. The resource and reserves statements included in this report have an effective date of March 29, 2012. This revised mineral resource and reserve statement uses exploration data collected by Lake Shore Gold Corp. from underground and surface drilling completed between the years 2003 and 2012. It has been prepared in accordance with National Instrument 43-101, Standards and Disclosure for Mineral Projects.

Commercial production at the Timmins Deposit was announced in January, 2011. Commercial production at the Thunder Creek Deposit commenced January, 2012. As such, Lake Shore Gold considers this, and any future technical reports on the Timmins West Mine to be classified as being issued by a "Producing Issuer" under the definitions of NI 43-101.

The headframe of the Timmins West Mine is located within national topography series ("NTS") map reference 42-A-05; at longitude 81.55° west; 48.32° north latitude. Universal Transverse Mercator ("UTM") co-ordinates for the headframe utilizing projection North American Datum ("NAD") 83, Zone 17

are approximately 458,915 metres east, 5,359,043 metres north. Provincial Highways 101 and 144 provide all weather road access to the property. The street address of the offices and shops infrastructure is 8215 Highway 101 West, Timmins. Bush roads, quad trails, drill trails and foot paths provide access to all areas within the claim boundaries.

The Timmins West Mine ("TWM") area includes the Timmins Deposit property and the Thunder Creek Deposit property for a total area of approximately 12.9 square kilometres, or approximately 1,376 hectares situated in Bristol and Carscallen townships. The majority of the property (97.4%) is situated within Bristol Township and approximately 36 hectares (2.6%) is located in Carscallen Township. The Timmins Deposit portion of the TWM consists of a block of 23 contiguous claims (395 hectares) of which there are eleven individual patented claims and twelve leased claims that are further divided into two 21 year leases. The Thunder Creek portion of the property consists of 57 staked claim units and three lease hold single unit patent claims totaling approximately 960 hectares. Lake Shore Gold Corp. owns 100% interest in the Property subject to underlying royalties. The claims and leases are all in good standing.

The TWM area lies along the northeast trending contact zone between southeast facing mafic metavolcanic rocks of the Tisdale Assemblage (to the northwest) and unconformably overlaying, dominantly southeasterly facing metasedimentary rocks of the Porcupine Assemblage (to the south east). The contact dips steeply to the northwest, and is modified and locally deflected by folds and shear zones that are associated with gold mineralization. Along and within several hundred metres of the contact area, several intrusions intrude mainly the mafic metavolcanic sequence between the Timmins Deposit and the southwestern parts of the Thunder Creek property. These include: a southwesterly-widening alkaline ultramafic set of metamorphosed intrusions comprised dominantly of pyroxenite which occur along the mafic–metasedimentary rock contact or intruding the mafic metavolcanic rocks adjacent to the contact and which are termed the "alkaline intrusive complex"; and fine-grained, equigranular to locally K-feldspar porphyritic intrusions which are dominantly monzonite but may range to syenite in composition. The latter include lenticular northeast trending unexposed body in the Porphyry Zone adjacent to the mafic-sedimentary contact in the Rusk area, and a more irregularly shaped stock to the south which intrudes the Porcupine Assemblage here termed the "Thunder Creek Stock" (Rhys, 2010).

Gold mineralization in the Timmins West Mine occurs in steep north-northwest plunging mineralized zones which plunge parallel to the local orientations of the L4 lineation features which also plunge parallel to the lineation, including folds and elongate lithologies. Mineralization occurs within, or in 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 D3 and D4 deformation. All phases of gold-bearing veins cut and postdate alkali intrusive complex (AIC) and syenitic to monzonitic intrusion, although mineralization is often spatially associated with ore preferentially developed within these intrusions (Rhys, 2010).

Although the primary target of the Timmins West Mine shaft was the Ultramafic (UM) Complex between 525 and 650 vertical metres, mining was initiated in the second half of 2009 via the surface ramp that had been completed to a vertical depth of 200 metres. The mining at the Timmins Deposit from the surface ramp started with the Vein Zones, 1, 2, and 3, Footwall (FW) Zone and the Main Zone (MZ). In the upper levels the results were largely as anticipated, short strike length, narrow quartz-tourmaline veins that returned low grade and small tonnes with poor continuity of mineralization. An exception to

this experience was the MZ, which was comprised of a package of three singular quartz-tourmaline veins hosted within a lens of sediment with interstitial sulfide replacement mineralization between the veins.

In 2010, mining continued down from the 140 metre to the 270 metre Level, mining the MZ on the west side of the ramp and the Vein Zones on the east of the ramp. The Vein Zones and FW Zone mining was largely disappointing, except for Vein 2 between the 180-240 metre Levels. The MZ returned reasonable grade and tonnes as the longhole mining progressed on 30 metre sublevels below the 200 metre Level. Mining in the upper part of the Timmins deposit has largely been shut down since the second half of 2011, due to grade and tonnage challenges with the Vein Zones, along with water problems at the bottom of the surface ramp. The MZ is largely untested below the 260 metre Level where some of the best drill intersections were returned.

The first stope into the UM1 complex from the 650-610 metre Level in the fourth quarter of 2010 was considered highly successful for grade, tonnes and reconciliation to the block model. Sill development was conducted on 20 metre sublevels on the 650 and 630 metre Levels with blind uppers drilled to the 610 metre Level elevation. The large longhole excavation had a strike length of above 75 metres and maximum width of 35 metres. The mining continued well into February 2011, as remnant material continued to be mucked from the stope, some of which was overbreak from the back. The second block between the 610-585 metre Levels was mined in the second half of 2011, delayed substantially due to issues with mucking and backfilling the 650-610 metre Levels.

Mining a number of the smaller, structural hangingwall lenses comprising the UM complex including the UM2, UM1a has also proven successful despite their smaller size, moderately lower grade and complex geometry. The next block of the UM1 is scheduled for mining towards the end of the first quarter and second quarter of 2012. The positive results of the mining to date on the UM complex mineralization, is a promising indicator of planned mining below the 650 metre Level in 2012 and beyond.

Development of the 525 metre Level drill platform in the fourth quarter of 2010 also provided access to the 525 metre Level FW and MZ lenses at the level elevation. Mining was initiated into the FW Zone model with sill development and 10 metre blind uppers between March and December 2011, producing substantial tonnage, but at the cost of grade. This stope was rushed into production to replace the delayed 585 UM1 stope and would likely have returned better grades if an overcut had been excavated for grade control purposes. The mineralization is characterized by albite bleaching of the mafic volcanics and finely disseminated pyrite with minimal quartz stringer development. There appear to be at least two separate lenses, one of better grade tenor along the mafic ultramafic contact and one hosted entirely in the mafic volcanics, structurally in the hangingwall with lower grade, interstitial mineralization located sporadically between the two lenses. The 480 metre Level up ramp has crosscut the 480 metre Level sill on the FW Zone, and longhole stoping is planned for the first quarter of 2012, blasting down into the 525 metre Level FW void. Some sill development has been completed from the 525 metre Level down ramp into the MZ to the west. Although initial drill indications aren't as extensive as the 200-290 metre Level MZ intercepts, sill development grades on individual quartz-tourmaline veins have returned reasonable grade.

The underground mine geology drilling campaign and capital development for the Timmins deposit in 2012 is heavily weighted on the UM complex below the 650 metre Level. 25,000 metres of delineation drilling approaching 10-15 metre centres targeting between the 670-730 metre Levels will provide immediate mining horizons working up from the 730 metre Level to the 670 metre Level on 20 metre sublevel development. A drill drift to be established on the 730 metre Level will provide drill coverage

from the structural hangingwall down to approximately the 810 metre Level on roughly 15-25 metre centres comprising an additional 10,000 metres for future mining. By the end of 2012, it is anticipated that the 650 down ramp will have reached 810 vertical metres.

Access to the Thunder Creek deposit was gained by ramps extending from the 200 metre Level and 650 metre Level shaft stations of the Timmins West Mine. Ramps were driven for horizontal distances of 660 metres and 890 metres in a south-southwest direction from the shaft to intersect the 300 metre Level and 730 metre Level elevations respectively in the Rusk and Porphyry Zones. The Rusk horizon was intersected in July of 2010 at the 300 metre Level elevation, and the Porphyry Zone in November 2010 at the 730 metre Level. Other development work completed near the 300 metre Level has included ramping to the 280 and 350 metre Levels, drifting along mineralization on the 300, 315, and 350 metre Levels as well as development of a drill platform north of the zone near the 280 metre Level. Development work near the 730 metre Level has included drifting along and across the mineralization, ramping to the 690 metre Level and development of drill platforms near the 680 and 710 metre Levels.

Initial mining at Thunder Creek has been completed within one mining block located between the 300 and 315 metre Levels and in a second block between the 730 and the 695 metre Levels. The block between 300 and 315 metre Levels was completed in the first quarter of 2011 and extracted mineralization from the Rusk Zone. Initial mining on the 730 metre Level commenced in September 2011 and extracted mineralization which is a combination of Rusk and Porphyry style mineralization. A comparison of production results to date against the new resource estimate indicates a strong correlation of tonnage, grade and ounces. Mining in 2012 will include longhole mining on the Rusk Zone on 20 metre sublevels between the 330, 350, and 370 metre Levels. Four stopes are planned for the Rusk/Porphyry Zones between the 695-765 metre Levels at Thunder Creek.

The Mineral Resource estimates for the Timmins West Mine are based on historical diamond drilling dating back to March 1984 and drilling completed by LSG between July 2003 and January 31, 2012. A total of 167 surface holes (118,141 metres) and 777 underground holes (115, 439 metres) were used in the Resource Estimate. The Mineral Resource for the Timmins Deposit has been modeled into forty-three sub-zones which refine the broader mineralized Ultramafic, Footwall and Vein Zones. The Thunder Creek Deposit has been modeled into eleven sub-zones which split the broader mineralized Rusk and Porphyry Zones into higher grade zones more suitable for underground mining.

The Timmins West Mine Resource totals 5.83 Mt at 5.99 g/t Au, amounting to 1,122,500 ounces of gold in the Indicated category and 4.27 Mt at 5.76 g/t Au amounting to 791,500 ounces of gold in the Inferred category (Table 1.1). The base case resources are estimated at a 1.5 g/t Au cut-off for the Timmins deposit and a 2.0 g/t Au cut-off for the Thunder Creek deposit.

The Timmins Deposit resource totals 2.95 Mt at 6.34 g/t Au, amounting to 600,900 ounces of gold in the Indicated category and 1.58 Mt at 5.54g/t Au amounting to 281,500 ounces of gold in the Inferred category. The Resources were estimated using Inverse Distance to the power 3 (ID^3) interpolation method with all gold assays capped to 70 gram metres for the Ultramafic Zone and 40 gram metres for the Vein Zones.

The Thunder Creek Deposit resource totals 2.88 Mt at 5.64 g/t Au, amounting to 521,600 ounces of gold in the Indicated category and 2.69 Mt at 5.89g/t Au amounting to 510,000 ounces of gold in the Inferred category. The Resource was estimated using Inverse Distance to the power 2 (ID^2) interpolation method with all gold assays capped to 75 gram metres.

Continuity of grade and structure of the Timmins West Mine deposits' various mineralized zones have been interpreted on 25 metre spaced sections except for the area between the 650 metre Level and 525 metre Level of the Timmins Deposit where 6.25 metre spaced sections were used due to the increased drilling density in this area.

The sectional interpretations were then strung together by tie lines and 3D solids or wireframes were generated that represent the mineralized zones that were used for estimation of tonnes and grade.

Solid intersection composites were generated from all drill holes intersecting the 3D Mineral Resource Solids. The 1 metre composites at the Thunder Creek Deposit were then used to generate a block model grade based on an Inverse Distance Squared ("ID^2") and Inverse Distance to the power 3 (ID^3) interpolation for the Timmins Deposit.

An independent review by Michel Dagbert, Eng. of SGS Geostat of the QA/QC samples routinely introduced into the Timmins West Mine drill hole sample stream, has concluded that the quality of the assaying incorporated into the block model is satisfactory, demonstrating no significant bias and adequate precision and reproducibility.

Validation of the block model was performed visually through a comparison of drill intercepts and block model results on plans and section between the geologic model and domain block model. Sill development and mining results of both the Thunder Creek and Timmins Deposits have demonstrated reasonable correlation with the 3D shapes and grades predicted by the respective block models.

An independent review of the resource estimate was completed by Michel Dagbert, Eng. of SGS Geostat and he is in agreement with the practices employed by Bob Kusins, P. Geo. and Ralph Koch, P. Geo. in the Mineral Resource estimate at Timmins West Mine.

TABLE 1.1: TIMMINS WEST MINE RESOURCE ESTIMATES

Deposit	Resource Classification	Tonnes	Capped Grade (g/t Au)	Contained Gold (ounces)
Timmins				
	Indicated	2,949,000	6.34	600,900
	Inferred	1,579,000	5.54	281,500
Thunder Creek				
	Indicated	2,877,000	5.64	521,600
	Inferred	2,693,000	5.89	510,000
Total Timmins West Mine				
	Total Indicated	5,826,000	5.99	1,122,500
	Total Inferred	4,272,000	5.76	791,500

(Prepared by Lake Shore Gold, January 31, 2012)

Notes:

1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 1.5 g/t Au for the Timmins Deposit and 2.0 g/t Au for Thunder Creek.

3. Mineral Resources are estimated using an average long-term gold price of US $1,200 per ounce and a US$/C$ exchange rate of 0.93.
4. A minimum mining width of 2 metres was used.
5. Capped gold grades are used in estimating the Mineral Resource average grade.
6. Sums may not add due to rounding.
7. Mineral Reserve estimates for the Timmins West Mine are currently in progress.
8. Metallurgical recoveries are assumed to average 96.5%.
9. Mining costs are assumed to average $82.00/tonne.
10. Mr. Robert Kusins, B. Sc., P. Geo. and Mr. Ralph Koch, B. Sc., P. Geo, are the Qualified Persons for this Resource estimate.

A sensitivity analysis was carried out to examine the impact upon the tonnage, average grade and contained ounces by increasing the cut-off grade up to 3.0 g/t Au for the Timmins West Mine; Timmins and Thunder Creek Deposits. The results are graphically presented in Figure 1.1 and Figure 1.2 for the Timmins Deposit and Thunder Creek Deposit respectively. By increasing the cut-off grade, (refer to Figure 1.1 and Figure 1.2) the model demonstrates opportunity to optimize target grade by carving out the fringe, lower grade mineralization while maintaining grade and geological continuity and the loss of minimal total ounces. The application of grade control practices using a higher cut-off grade has been challenging due to the irregular geometry of the quartz stringer zones within the mineralized envelopes and the practical separation of higher grade mineralization at the face. Detailed mapping, chip channel sampling, and muck samples in addition to tighter definition drilling will be required to delineate the higher grade mineralized outlines and 3-D solids.

FIGURE 1.1: GRADE-TONNAGE GRAPH AS A FUNCTION OF CUT-OFF GRADE FOR THE TIMMINS DEPOSIT

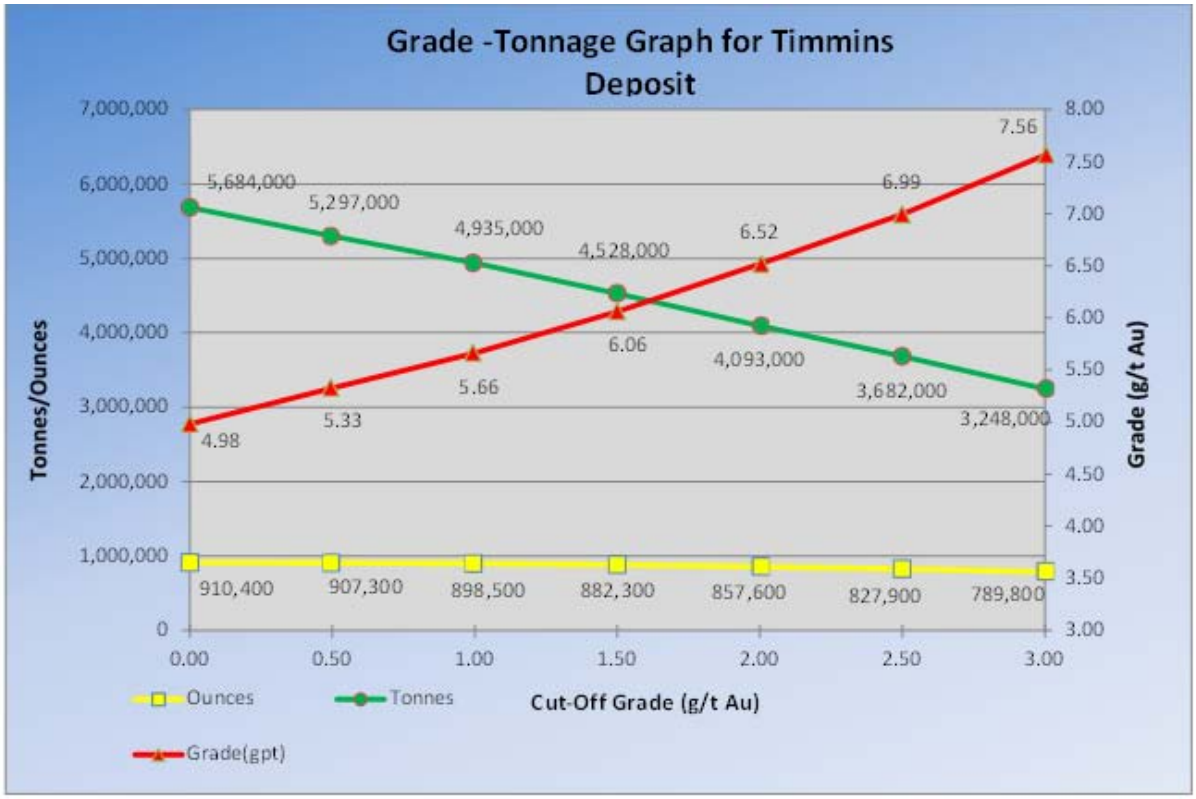
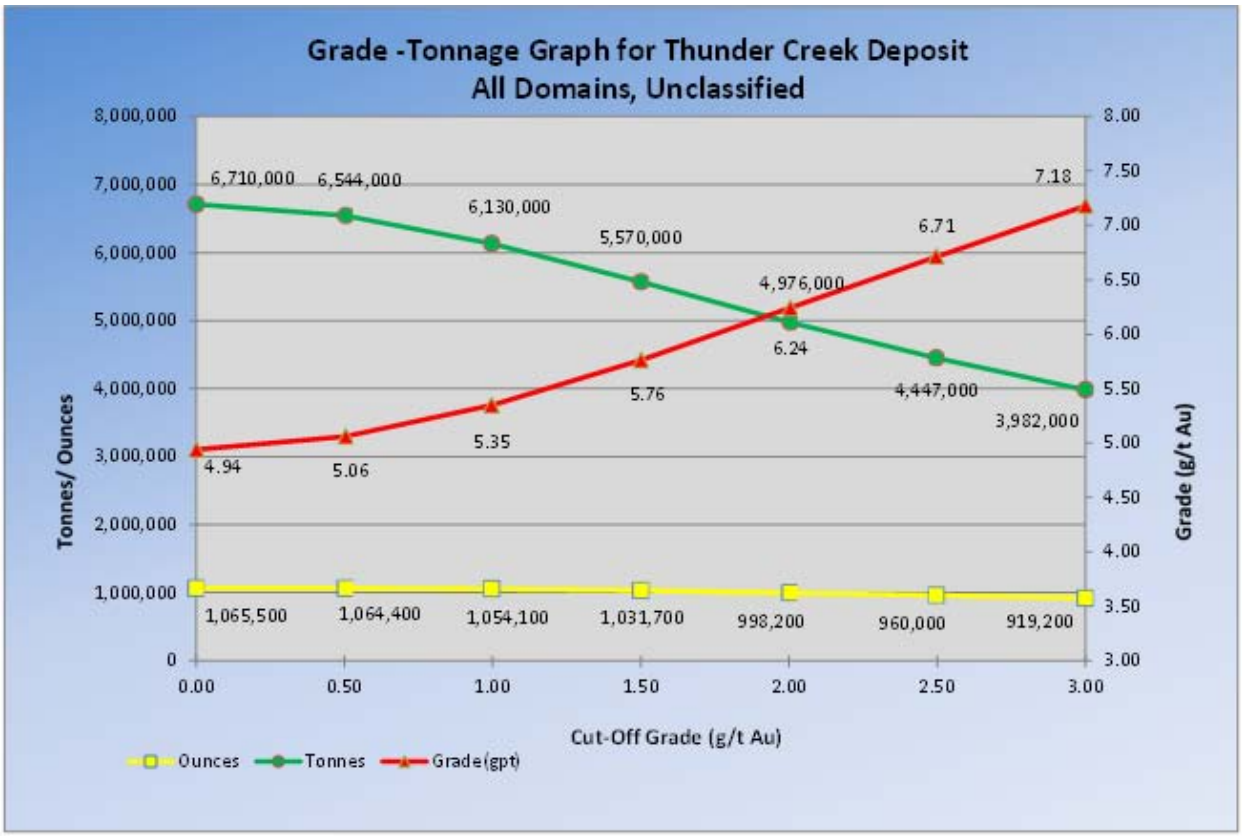


FIGURE 1.2: GRADE-TONNAGE GRAPH AS A FUNCTION OF CUT-OFF GRADE FOR THE THUNDER CREEK DEPOSIT



Although limited additional metallurgical testing has been conducted on the Timmins Deposit and Thunder Creek mineralization since the previous respective technical reports, the best large scale testing was achieved through batch milling of the various sources over a period between September 2010 and June 2011, when capacity at the LSG Bell Creek mill was available. Rusk Shear Zone and Porphyry Zone bulk samples were largely extracted from the 300 metre Level and 730 metre Level elevations respectively during this period (refer to Table 1.2) and returned greater than 96.5 % recovery. The 650-610 metre Level longhole stope comprising the UM1 and UM1a Zones was almost exclusively processed between September and December 2010 returning greater than 96% Au recovery. For most of 2011, and especially after June 2011 the mill production was increased to capacity and run of mine feed was blended from multiple sources; Timmins Mine, Bell Creek and Thunder Creek Deposits achieving similar gold recoveries averaging in excess of 96%.

TABLE 1.2: BATCH MILLING RESULTS FOR THUNDER CREEK DEPOSIT MINERALIZATION

Thunder Creek Batch Mill Processing Results

Year	Month	Tonnes	Grade (g/t Au)	Recovery	Head Ounces	Ounces Produced
2010	September	2824.94	5.21	96.87%	473.11	458.3
2011	March	24028.8	3.75	97.32%	2894.11	2816.62
2011	May	13213.3	3.75	97.03%	1593.53	1546.24
2011	June	5631.9	3.984	97.21%	721.43	701.31

TABLE 1.3: BATCH MILLING RESULTS FOR TIMMINS DEPOSIT MINERALIZATION

Timmins Deposit Batch Processing Results

Year	Month	Tonnes	Grade (g/t Au)	Recovery	Head Ounces	Ounces Produced
2010	September	8,475	4.69	96.52	1,279	1,234.5
2010	October	21,893	7.71	96.97	5,428	5,263.5
2010	November	53,833	7.53	96.83	13,035	12,622
2010	December	45,483	8.57	97.31	12,528	12,191

Based on the recent surface and underground diamond drilling programs incorporating 440 holes totaling 131,431 metres, the first Mineral Resource at Thunder Creek has identified a significant resource, of which approximately 65% of the contained ounces are located between an elevation roughly 100 metres above and below the 730 metre Level elevation. The concentration of a Mineral Resource at 3,250 ounces per vertical metre for all resource categories containing approximately 650,000 ounces, supports an attractive bulk mining scenario. Two of the key zones in the Porphyry Zone style mineralization host approximately 75% of the total contained ounces and possess average horizontal widths of 14.7 metres and 24.4 metres respectively.

A budget of $8.375 M will be required to complete the recommendations listed below for the Thunder Creek project. This estimated budget assumes an all-inclusive underground operating definition drilling budget of $95/metre and exploration drilling budget of $125/metre; and an all-inclusive cost of $150 per metre for surface diamond drilling for drill holes bored to a 1,000 metre depth:

1. Detailed sectional drilling of the Rusk and Porphyry Zones from the 600 – 800 metre Level elevations on 15 metre centres comprising approximately 30,000 metres, ($2.85 M).
2. The upper level Rusk Shear Zone delineation testing the Rusk and emerging Porphyry Zones from the 370 – 500 metre Level elevations at 25 metre centers for a total of 10,000 metres, ($0.95 M).
3. Definition drilling from scram drifts parallel to the sill development in the hangingwall will include 2,500 metres in total over the year, ($0.237 M).

4. Delineation drilling of the Rusk/Porphyry style mineralization between the 500-600 metre Level and the 750 – 850 metre Level at 15-30 metre centers from the 260 metre Level and 710 metre Level drill drifts comprising an additional 7,500 metres, ($0.713 M).
5. Exploration drilling along strike off the ends of the 260 metre Level and the 710 metre Level drill platforms, with step-outs of approximately 100-200 metre to the northeast and southwest comprise approximately 5,000 metre, ($0.625 M).
6. Surface exploration diamond drilling along strike of the Rusk Shear (20,000 metres) over ground held by Lake Shore Gold Corp. ($3.0 M).

A budget of $6.295 M will be required to complete the recommendations listed below for the Timmins deposit. This estimated budget assumes an all-inclusive underground operating definition drilling budget of $95/metre and exploration drilling budget of $125/metre.

1. Detailed sectional drilling at 10-15 metre centres of the UM complex between the 670-730 metre Levels comprising 25,000 metres ($2.37 M).
2. Exploration Drilling of the UM complex from the 730 metre Level drill drift down to 810 metre vertical at 15-25 metre centres for a total of 10,000 metres, ($1.25 M).
3. Delineation drilling of the FW Zone and Vein Zones between the 380-580 metre Levels from the 480 up ramp east comprising 10,000 metres ($0.95 M).
4. Delineation drilling of the MZ between the 525-650 metre Levels from the 525 metre down ramp comprising approximately 5,000 metres, ($0.475 M).

In order to fully understand the impact that the revised resource model for the Timmins Deposit and the new resource model for the Thunder Creek Deposit would have on the long term mining strategy for the Timmins Mine, a Preliminary Economic Assessment (PEA) was conducted. This assessment was conducted to identify the potential economic value of the mine as well as identify any potential bottlenecks or short comings in the capacity of the mine infrastructure. All resource classifications were used in generating the PEA, including inferred material. It must be noted that inferred resources are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the financial results of the PEA will be realized.

Some 8.6 M tonnes of resources grading 5.2 g/tonne (1.4 M ounces recovered) were included in the production stream for purposes of the PEA. The key results of the PEA indicate a 3,000 tonne per day sustainable operation over a 10 year mine life with a NPV (5%) of $575 and an IRR of 105% using market consensus pricing. Once at full production, the all-in operating cost runs just under $100/tonne and $600/recovered ounce. Net cash flow for the operation becomes positive in 2013, running at approximately $100 M annually.

The results of the PEA indicated a very robust operation at the Timmins West Mine.

Subsequent to completion of the PEA, further detailed engineering design, cost analysis, and economic evaluations were completed at a Prefeasibility Study (PFS) level on the Measured and Indicated resource subset of the total resource pool. These results are presented in this report and support a Probable Reserve of 4.9 M tonnes grading 5.2 g/tonne for the Timmins West Mine (795,000 oz. net mill recoveries), including some 2.25 M tonnes grading 5.62 g/tonne for some 406,000 oz mined (392,000 oz. net mill recoveries) at the Timmins Deposit, and a further 2.67 M tonnes grading 4.86 g/tonne at the Thunder Creek Deposit for some 417,000 oz mined (403,000 oz. net mill recoveries).

The high level steps involved in the development of the PFS were as follows. Geological models of the indicated resources were isolated and rigorous assessments were made of the geometry and continuity of each of the mineralized zones. Geomechanical information and assessments collected and conducted over the last two years were taken into account in the assessment and assignment of appropriate mining methods to these mineralized zones. Individual stope designs were then created in three dimensions. These stope shapes were then queried against the block models. This allowed for fair inclusion of internal dilution from both low grade and barren mineral zones. 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 global recovery factor was assigned to the overall reserves to allow for in-stope and process losses. Detailed mine development layouts and construction activities were then assigned to provide access to each of the stoping units. Development, construction, and production costs were then estimated to allow an economic assessment to be made comparing the capital and operating expenses required for each area to its expected revenue stream to ensure economic viability. All inputs were vetted thoroughly and benchmarked against current operating practices and industry norms.

It should also be noted that all capital costs required to complete all surface and underground facilities at the Timmins West Mine and Bell Creek Mill facility have been included in this analysis. It should also be noted that no contributions from the Bell Creek mining operations (positive or negative) have been included in this work.

Key outcomes of this financial analysis indicate that the reserves support a robust 5 year mining plan at a sustained production rate of 2,400 t/d. The reserves can be extracted at an average operating cost of $113 per tonne ($709/oz) and a total capital cost of $329 million. At an assumed gold price of US $1,600 per ounce, the reserves generate a positive cash flow of some $344 million. Based on executing the same mining plan, at an assumed long term gold price of US $1,300 per ounce, the cash flow drops to $112 million.

A series of break-even gold price sensitivities were comducted. The break-even gold price required to cover all capital and operating costs for the reserves only mining plan has been calculated at US $1,156 per ounce. The estimated long term (post 2012) break-even gold price has been calculated at US $972/ounce. This information shows that the mining plan for the reserves as stated, is very robust and can withstand significant fluctuations in market conditions.

2.0 INTRODUCTION

This Timmins West Mine Technical Report is co-authored by: Dean Crick P. Geo.; Robert Kusins, P. Geo., Brian Buss, P. Eng., Ralph Koch, P. Geo., and David Powers P. Geo. on behalf of Lake Shore Gold Corp. ("Lake Shore Gold", "LSG") and conforms to NI 43-101 Standards of Disclosure for Mineral Projects. These individuals are considered QP's under 43-101 definitions.

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

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 Section 27 – References.

The purpose of this technical report is to provide a summary of the total resource pool for the Timmins West Mine ("TWM") including a high level summary of the findings of a previously completed Preliminary Economic Assessment (PEA) and a full description of the subsequent and more detailed work, completed at a prefeasibility study (PFS) level, on the mine design, cost analysis, and economic evaluation of the indicated resource subset. This work was conducted at a PFS in order to substantiate declaration of an updated Mineral Reserve Statement for the Timmins West Mine.

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

2.1 LIST OF QUALIFIED PERSONS

Brian Buss (P. Eng.), VP of Project Development for Lake Shore Gold is responsible for Items: 13, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, and 26.

Dean Crick (P. Geo.), Director of Geology for Lake Shore Gold, Timmins West Mine Complex is responsible for Items: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12.

Ralph Koch (P. Geo.), Chief Mines Resource Geologist for Lake Shore Gold Corp. is responsible for Item 14.

Bob Kusins (P. Geo.), Chief Resource Geologist for Lake Shore Gold Corp. is responsible for Item 14.

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

David Powers (P. Geo.) of David Powers Geological Services is responsible for Items 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 23, and 27.

David Powers visited the site on May 29, 2009. During this visit GPS measurements of selected diamond drill casings were taken and compared with completed diamond drill logs; trench locations were observed for geology and structure and channel sampling; cut line location were noted and compared with MMI sampling and surface exploration grids. These findings were reported in the revised and restated technical report July 29, 2009 (Powers, 2009). Since then the author was present and observed the geological mapping by Camier (2009, report 2010); and present for summary presentations by Rhys at the Timmins Mine Site and Exploration Offices (2009, 2010, 2011). The most recent visit to the Thunder Creek property occurred on December 08, 2011 at which time the underground workings were observed, the Timmins Mine core shack, and core processing facilities were toured and the cold storage core facility was visited. Core logging and data entry process was observed in detail and the QA/QC and data verification procedures reviewed.

2.2 UNITS AND CURRENCY

Metric and Imperial units are used throughout this report. Canadian dollars ("C$", "$") is the currency used unless otherwise noted. On February 29, 2012 the exchange rate was approximately $1.00 C$ to 1.011 US$.

Common conversions used included 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

Unit or Term	Abbreviation or Symbol
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 (10,000m²)	ha
Hour	h (not hr)
Inch	in, “
Kilo (1,000)	k
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

Unit or Term	Abbreviation or Symbol
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
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

Unit or Term	Abbreviation or Symbol
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 November 27, 2010.

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 which has a lower level of confidence than a Measured Mineral Resource.

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

2.4.2 Inferred Mineral Resource

An "Inferred Mineral Resource" is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified geological and grade continuity. The estimate is based on limited information and sampling gathering through appropriate techniques from locations such as outcrops, trenches, pits, workings, and drill holes.

2.4.3 Indicated Mineral Resource

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

2.4.4 Measured Mineral Resource

A "Measured Mineral Resource" is the part of the Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate applications of technical and economic parameters, to support production planning and evaluation for the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

2.4.5 Mineral Reserve

Mineral Reserves are sub-divided in order of increasing confidence into Probable Mineral Reserves and Proven Mineral Reserves. A Probable Mineral Reserve has a lower level of confidence than a Proven Mineral Reserve.

A Mineral Reserve is the economically mineable part of the Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting minerals and allowances for losses that may occur when the material is mined.

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 demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing metallurgical, economic and other relevant factors that demonstrate, at the time of reporting that economic extraction can be justified.

2.4.7 Proven Mineral Reserve

A "Proven Mineral Reserve" is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, the economic extraction is justified.

2.5 GLOSSARY

2.5.1 General Glossary

Table 2.2 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.
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 pyrometallurgical 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.

Term	Explanation
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 Mine Site Terminology

Timmins West Complex: The Company's entire land package on the west side of the city, Extending through Bristol, Thorneloe, Carscallen, 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 two deposits comprising the Timmins West Mine.

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

3.0 RELIANCE ON OTHER EXPERTS

The authors have sourced the information for this report from an amalgamation of several reports listed in Section 27 labeled References. These references include: government geological reports; press releases; company annual reports; assessment reports filed with the Ministry of Northern Development and Mines' ("MNDM"), previously SEDAR filed NI 43-101 reports and reports both public and confidential provided by Lake Shore Gold Corp.

Exploration at the Timmins West Mine has continuously been overseen, and planned by professional geologists and qualified persons. Table 3.1 summarizes the names of the Qualified Persons, the location and the dates that they supervised the exploration and advanced exploration activities. Their knowledge, information, and documentation provided to the authors is instrumental in the preparation of this report.

TABLE 3.1: QUALIFIED PERSON FOR TIMMINS WEST MINE

Location	Period	Qualified Person
Timmins Mine	2003 – 2004	Jacques Samson, P. Geo.
	2005 – 2006	Dr. M.J. Byron, P. Geo.
	2006 – 2009	Jacques Samson, P. Geo.
Mineral Resource Estimate	2009	Heather Miree, P. Geo.
	2009	Stephen Conquer, P. Geo.
	August 2010 to present	Dean Crick, P. Geo.
Thunder Creek	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 to present	Dean Crick, 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; and geological mapping of a 5 km2 area surrounding the Rusk surface showing by Mr. John Camier, P. Geo. His report includes petrographic analysis 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.

The authors rely on the professional integrity of the designated project Qualified Persons, to maintain and provide true and accurate reporting of the facts, throughout the project's 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.

Will Ansley, VP Corporate Development, Lake Shore Gold Corp contributed to Item 19.

Marcel Cardinal, Sr. Environmental Coordinator, Lake Shore Gold Corp. contributed to Items 4 and 20.

Mark Melanson, Mill Systems Projects Specialist contributed to Items 13 and 17.

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.

Michel Dagbert, P. Eng. of SGS Geostat Limited of 10 boul. De la Seigneurie Est., Suite 203, Blainville, Quebec, provided the technical review of QA/QC data, review of the 3D modeling, selection of a

composite and block size for resource modeling the variography of capped composite grades, and verification of the resource block model with additional recommendations for block resource estimation.

Mickey Murphy, P. Eng. of Stantec (Mine Engineering Consultant) contributed to Items 15, 16, 18, 21, 22, 23, 24, 25, and 26.

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

Frank Palkovits, P. Eng. of KOVIT Engineering (Backfill Consultant) contributed to Item 21.

Shiu Kam, P. Eng. of Golder Associates (Tailings and Water Management Consultant) contributed to Item 16.

The authors have reviewed reports, drill logs, and assay certificates issued during the exploration phases and have found them to be consistent and believe the data to be reliable within testable parameters.

Active mining claim abstracts have been reviewed online. The ownership on record is in the name of Lake Shore Gold Corp.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 PROPERTY DESCRIPTION

The Timmins West Mine ("TWM") area includes the Timmins Deposit property and the Thunder Creek property for a total area of approximately 12.9 square kilometres, or approximately 1,376 hectares situated in Bristol and Carscallen townships. The majority of the property (97.4%) is situated within Bristol Township and approximately 36 hectares (2.6%) is located in Carscallen Township. The Mining Land Tenure Map reference for the Timmins Mine West Complex is: Bristol Township; Plan G-3998; Porcupine Mining Division, Land Titles/Registry Division of Cochrane; and Timmins, Ministry of Natural Resources District, Ontario, Canada.

The Timmins Mine Deposit of the TWM consists of a block of 23 contiguous claims (395 hectares) of which there are eleven (11) individual patented claims and twelve (12) leased claims that are held pursuant to two (2) twenty-one (21) year Crown mining leases. The Thunder Creek project portion of the property consists of 57 staked claim units and three Crown leasehold claims totaling approximately 960 hectares. Lake Shore Gold Corp. owns a 100% interest in the Property subject to underlying royalties. The claims and leases are all in good standing. Figure 4.1 illustrates the Timmins West Mine property relative to local topographic and cultural features. Table 4.1 presents the details of staked claims, numbers, ownership, size and expiry date for the Timmins West Mine property; Table 4.2 presents leased lands information; and Table 4.3 presents patent lands information.

4.2 LOCATION

The headframe of the Timmins West Mine is collared at national topography series ("NTS") map reference 42-A-05; at longitude 81.55° west; 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, 5,358,043 metres north. This location is approximately 19 kilometres west-southwest of the Timmins city center and 552 kilometres north-northwest of the City of Toronto. Provincial Highways 101 and 144 provide all weather road access to the property. Bush roads, quad trails, drill trails and foot paths provide access to all areas within the claim boundaries. The junction of Highways 101 and 144 is situated 1.1 kilometres northwest of the property centre. Figure 4.2, Location Map, illustrates the Project area relative to the highways, City of Timmins and the City of Toronto.

FIGURE 4.1: TIMMINS WEST MINE PROPERTY

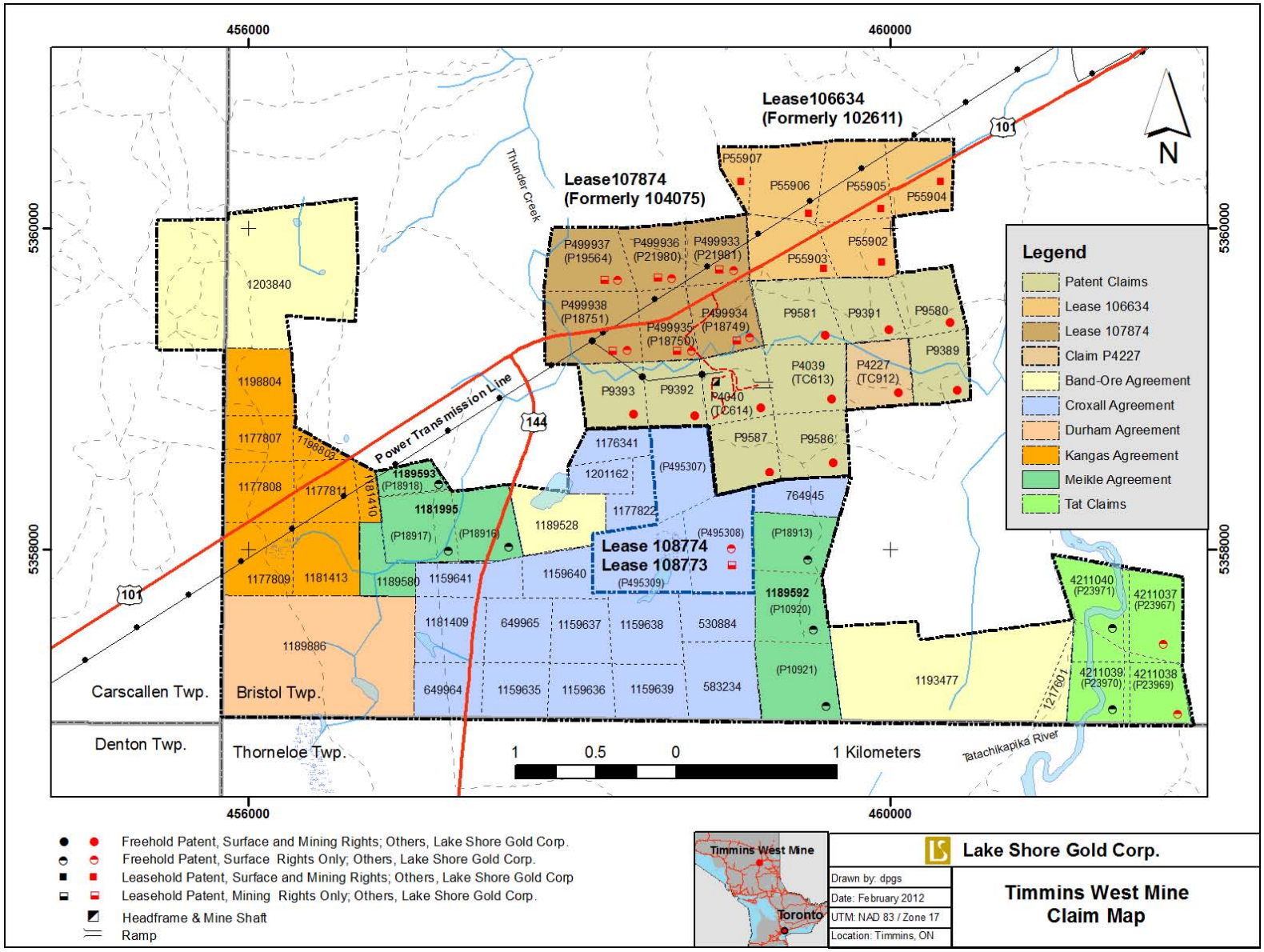


TABLE 4.1: TIMMINS WEST MINE STAKED CLAIMS

STAKED CLAIMS								
Claim No.	**Township**	**Owner**	**No. of Units**	**Recording Date**	**Assessment Due Date**	**Assessment Due $**	**Banked Credits**	**Royalty To**
P1159635	Bristol	LSG	1	1990-Dec-18	2016-Dec-18	400	5,387	Croxall;FNV
P1159636	Bristol	LSG	1	1990-Dec-18	2016-Dec-18	400	29,423	Croxall;FNV
P1159637	Bristol	LSG	1	1990-Dec-18	2016-Dec-18	400	97,374	Croxall;FNV
P1159638	Bristol	LSG	1	1990-Dec-18	2016-Dec-18	400	48,241	Croxall;FNV
P1159639	Bristol	LSG	1	1990-Dec-18	2016-Dec-18	400	6,400	Croxall;FNV
P1159640	Bristol	LSG	1	1990-Dec-18	2016-Dec-18	400	135,326	Croxall;FNV
P1159641	Bristol	LSG	1	1990-Dec-18	2016-Dec-18	400	5,646	Croxall;FNV
P1176341	Bristol	LSG	1	1991-Feb-18	2016-Feb-18	400	6,010	Croxall;FNV
P1177807	Bristol	LSG	1	1991-May-13	2016-May-13	400	0	Kangas;FNV
P1177808	Bristol	LSG	1	1991-May-13	2016-May-13	400	312	Kangas;FNV
P1177809	Bristol	LSG	1	1991-May-13	2016-May-13	400	1,637	Kangas;FNV
P1177811	Bristol	LSG	1	1991-May-13	2016-May-13	400	1,403	Kangas;FNV
P1177822	Bristol	LSG	1	1991-Oct-04	2016-Oct-04	400	190,560	Croxall;FNV
P1181409	Bristol	LSG	1	1994-Feb-14	2016-Feb-14	400	4,997	Croxall;FNV
P1181410	Bristol	LSG	1	1994-Feb-14	2016-Feb-14	400	17,851	Kangas;FNV
P1181413	Bristol	LSG	1	1994-Feb-14	2016-Feb-14	400	1,793	Kangas;FNV
P1181995	Bristol	LSG	2	1992-Jun-22	2016-Jun-22	800	4,054	Durham; Meikle;FNV
P1189528	Bristol	LSG	1	1993-Jun-18	2016-Jun-18	400	95,032	FNV
P1189580	Bristol	LSG	1	1993-Jan-08	2016-Jan-08	400	1,013	Durham; Meikle;FNV
P1189592	Bristol	LSG	3	1992-Jun-19	2016-Jun-19	1,200	33,248	Durham; Meikle;FNV
P1189593	Bristol	LSG	1	1992-Jun-22	2016-Jun-22	400	624	Durham; Meikle;FNV
P1189886	Bristol	LSG	6	1992-May-07	2016-May-07	2,400	58,675	Hutteri;FNV
P1193477	Bristol	LSG	6	1994-May-04	2016-May-04	2,400	1,793	FNV
P1198803	Bristol	LSG	1	1994-Feb-14	2016-Feb-14	400	0	Kangas;FNV
P1198804	Bristol	LSG	1	1994-Feb-14	2016-Feb-14	400	0	Kangas'FNV
P1201162	Bristol	LSG	1	1994-Jul-04	2016-Jul-04	400	5,621	Croxall;FNV
P1203840	Bristol	LSG	6	1995-Jul-21	2016-Jul-21	2,400	0	FNV
P1217601	Bristol	LSG	1	1996-Nov-26	2016-Nov-26	400	0	FNV
P530884	Bristol	LSG	1	1980-Oct-10	2016-Oct-10	400	7,227	CroxalL;FNV
P583234	Bristol	LSG	1	1980-Oct-10	2016-Oct-10	400	29,844	Croxall;FNV
P649964	Bristol	LSG	1	1983-Mar-25	2016-Mar-25	400	5,069	Croxall;FNV
P649965	Bristol	LSG	1	1983-Mar-25	2016-Mar-25	400	34,582	Croxall;FNV
P764945	Bristol	LSG	1	1984-Apr-19	2016-Apr-19	400	1,092	Croxall;FNV
P4211037	Bristol	LSG	2	2-Jun-2006	2-Jun-2014	800	0	FNV
P4211038	Bristol	LSG	1	2-Jun-2006	2-Jun-2014	400	0	FNV
P4211039	Bristol	LSG	1	2-Jun-2006	2-Jun-2014	400	0	FNV
P4211040	Bristol	LSG	2	2-Jun-2006	2-Jun-2014	800	0	FNV

TABLE 4.2: LEASED LANDS

LEASED LANDS									
Claim No.	**Township**	**Owner**	**Rights**	**Lease No.**	**Area (ha)**	**PIN**	**Lease Due Date**	**Banked Credits**	**Royalty To**
P499933	Bristol	LSG	MRO	107874	108.792	65440-0118	July 31 2027		FNV
P499934	Bristol	LSG	MRO						FNV
P499935	Bristol	LSG	MRO						FNV
P499936	Bristol	LSG	MRO						FNV
P499937	Bristol	LSG	MRO						FNV
P499938	Bristol	LSG	MRO						FNV
P55902	Bristol	LSG	MR & SR	106634	99.779	65440-0052	July 31, 2013		FNV
P55903	Bristol	LSG	MR & SR						FNV
P55904	Bristol	LSG	MR & SR						FNV
P55905	Bristol	LSG	MR & SR						FNV
P55906	Bristol	LSG	MR & SR						FNV
P55907	Bristol	LSG	MR & SR						FNV
P495307	Bristol	LSGWTM	MRO	108773	68.898	65440-0120	June 30, 2032	1,506,179	Croxall;FNV
P495308	Bristol	LSGWTM	MRO						Croxall;FNV
P495309	Bristol	LSGWTM	MRO						Croxall;FNV
P495307	Bristol	LSGWTM	SRO	108774		65440-0132	June 30, 2032		FNV
P495308	Bristol	LSGWTM	SRO						FNV
P495309	Bristol	LSGWTM	SRO						FNV

Note: FNV – Franco Nevada

TABLE 4.3: PATENTED LANDS

PATENTED LANDS						
Claim No.	**Township**	**Owner**	**Rights**	**PIN**	**Area (ha)**	**Royalty To**
P.19564	Bristol	LSG	SRO	65440-0038	16	FNV
P.21980	Bristol	LSG	SRO	65440-0041	16	FNV
P.21981	Bristol	LSG	SRO	65440-0044	16	FNV
P.18751	Bristol	LSG	SRO	65440-0039	16	FNV
P.18750	Bristol	LSG	SRO	65440-0042	16	FNV
P.18749	Bristol	LSG	SRO	65440-0045	16	FNV
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	Lebrash;FNV
	Bristol	LSG	SRO	65440-0054		Lebrash;FNV
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	FNV
P23969	Bristol	LSG	SRO	65440-0072	16	FNV

Note: FNV- Franco Nevada

4.3 RECENT OWNERSHIP HISTORY AND UNDERLYING AGREEMENTS

In May of 2003, Lake Shore Gold Corp. and Holmer Gold Mines Limited ("Holmer") entered into an option agreement whereby Lake Shore earned a fifty percent (50%) in the Holmer Property (the present Timmins Deposit property) by March 24, 2006, 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 Lake Shore 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 eleven (11) Freehold Patents with surface and mining rights; Lease 106634 (formerly lease 102611) a group of six (6) Leasehold Patents with surface and mining rights; and Lease 107874 (formerly Lease 104075) a group of six (6) Free Hold Patents mining rights as well as six (6) Lease Hold Patents of surface rights for the same area. Lake Shore completed their requirements to earn 50% of the Holmer property in September of 2004. On December 31st, 2004 a business combination agreement between Lake Shore

Gold Corp., their wholly owned subsidiary LSG Holdings Corp. and Holmer Gold Mines Limited came into effect, where Holmer became a wholly-owned subsidiary of Lake Shore.

Lake Shore Gold Corp. optioned a 60% interest in the Thunder Creek property from Band-Ore Resources Limited ("Band-Ore") in November of 2003. Under the terms of that agreement Lake Shore could earn 60% interest in the project by completing an excess of $1,705,000 C$ expenditures, $370,000 C$ in cash payments and the issuing of 100,000 shares within a four year period. In September of 2006, Band-Ore and Sydney Resources Corporation merged into the new company West Timmins Mining Inc. The terms of the Lake Shore Gold Corp. – Band-Ore option agreement succeeded to West Timmins Mining Inc. In May of 2008, Lake Shore Gold Corp. informed West Timmins Mining Inc. that the obligations to earn a 60% interest in the Thunder Creek property had been fulfilled. On November 06, 2009 Lake Shore Gold Corp. and West Timmins Mining Inc. ("WTM") completed a business combination agreement resulting in West Timmins Mining Inc. becoming a wholly owned subsidiary of Lake Shore Gold Corp. On Janauary 1, 2012, WTM was amalgamated into Lake Shore Gold Corp., which now holds the 100% interest.

Brief summaries of the underlying agreements and royalties are stated below.

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

Mineral claims: 4211037, 4211038, 4211039, and 4211040 were staked by Lake Shore Gold Corp., have no underlying royalties, but were subject to the option agreement with West Timmins Mining Inc. dated November 07, 2003. Because the claims were within the area of influence of the agreement they became part of the joint venture. Lake Shore Gold Corp. has applied for and 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 Resources Ltd. and are not subject to any underlying royalty agreements.

Mineral claims optioned from Mr. Jim Croxall ("Croxall") were subject to a 2% Net Smelter Return ("NSR") royalty. One percent of this royalty may be purchased for a payment of $1,000,000 C$ plus a consumer price index adjustment. These claims were also subject to an advanced annual royalty payment of $5,000 C$ until commercial production begins. Lake Shore Gold Corp. purchased 1% of the NSR in November 2010 in exchange for approximately $1,500,000 C$ equivalent in Lake Shore Gold Corp. stock. The surface rights for leased claims P495307, P495308 and P495309 (mineral rights only lease number 108773) have been acquired by West Timmins Mines Inc (surface lease number 108774). The renewal has been received and is in good standing until June 30, 2030.

The claim with number 1189886 was optioned from Mr. Bruce Durham and partners ("Durham") and has a 3% royalty attached.

Eight claims optioned from the late Mr. Matt Kangas ("Kangas") (1177807,1177808, 1177809, 1177811, 1181410, 1181413, 1198803, and 1198804) are subject to a 2% NSR royalty of which 1% may be purchased for $1,000,000 C$. An advanced royalty payment of $5,000 C$ (indexed for inflation) is paid annually to the estate of Mr. Kangas. 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 ("Meikle") and Steve Anderson and then optioned to Band-Ore Resources Ltd. A 3% NSR royalty is payable, 1.5% from Durham et al., and 1.5% from Meikle and Anderson. There is not a buy down of this royalty.

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 Lake Shore Gold Corp. through which Franco-Nevada paid Lake Shore US$35 million for a 2.25% net smelter return ("NSR") royalty on the sale of minerals from the Timmins West Complex.

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

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 one is reported to be 40 feet (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 Timmins West Mine 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.

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
Easern Cougar	Puma concolor	Endangered

The author is 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 Timmins West Mine have been acquired. Timmins Mine (Darling et al., 2009, Crick, D., 2011; Ternes, T, 2011). These include 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)

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.

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.

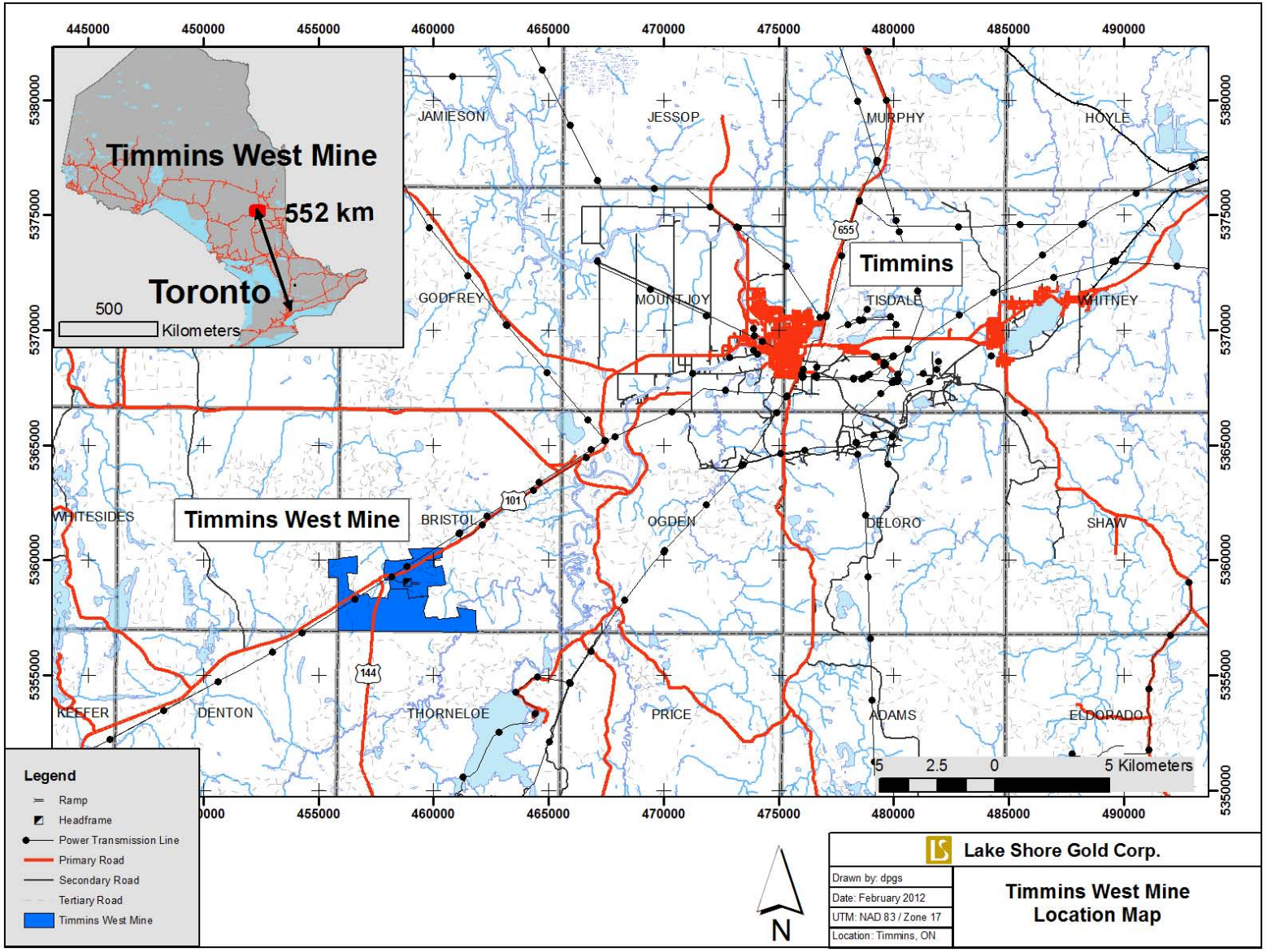
4.5 CONSULTATION

Consultation has been undertaken with regulatory agencies, the general public, the Métis Nation of Ontario, Wabun Tribal Council representing the First Nation communities of Flying Post First Nation and Mattagami First Nation. Consultation provides an opportunity to identify/address the concerns of external stakeholders and 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") with the Mattagami and Flying Post First Nations 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 (Hagan, B.; Samson, J., 2011, personal communication).

FIGURE 4.2: LOCATION MAP



5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

The headframe of the Timmins West Mine is located within national topography series ("NTS") map reference 42-A-05; at longitude 81.55° west; 48.32° north latitude. The offices and shops infrastructure have the street address of 8215 Highway 101 West, Timmins, Ontario. The junction of Highways 101 and 144 is situated 1.1 kilometres northwest of the headframe. All weather road access to the property is provided by provincial Highways 101 and 144. Bush roads, diamond drill trail, quad trails, and foot paths provide access to the centre of the property and other locations within the claim boundaries. A major power transmission line traverses the northwest portion of the property. Figure 4.2, Location Map, illustrates the Project area relative to the highways, City of Timmins and the City of Toronto.

5.2 CLIMATE

The Timmins West Mine area, and the City of Timmins experience a Continental Climate with an average mean temperature range of -17.5°C (January) to +17.4° (July) and an annual precipitation of about 831 mm. The following table (Table 5.1) summaries the average temperatures and precipitation values for the 15 year period taken from the Timmins Airport between 1971 and 2000.

TABLE 5.1: AVERAGE TEMPERATURES, PRECIPITATION AND SNOW FALL DEPTHS FOR THE TIMMINS AREA

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Temperature													
Daily Average (°C)	-17.5	-14.4	-7.7	1.2	9.6	14.7	17.4	15.7	10.3	4.2	-4	-13.2	1.3
Daily Maximum (°C)	-11	-7.5	-0.9	7.6	16.6	21.7	24.2	22.3	16.1	8.9	0.1	-7.8	7.5
Daily Minimum (°C)	-23.9	-21.3	-14.5	-5.2	2.5	7.5	10.5	9.1	4.4	-0.6	-8.1	-18.7	-4.9
Precipiation													
Rainfall (mm)	2.9	1.6	14.7	26.6	62.7	89.1	91.5	82	86.7	64	29.5	7	558.1
Snowfall (cm)	61.7	40.6	49.9	27.5	6.7	0.4	0	0	1.6	14	45.7	65.4	313.4
Precipitation (mm)	53.9	36.6	59.4	52.8	69.2	89.4	91.5	82	88.3	76.8	69.6	61.9	831.3
Average Snow Depth (cm)	58	66	58	25	1	0	0	0	0	0	7	29	20

Local lakes will start to freeze over approximately mid-November, and 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 3,210 square kilometres and a population of 42,455 (2006 Census) has and economic base dominated by the mining and logging industries. The area is serviced from Toronto via Highways 400, 69 to Sudbury; and Highway 144 to Timmins; or Highway 11 from Barrie to Matheson and 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 provide air service between Timmins and Toronto Island airport. The Timmins 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 labour pool, and readily available infrastructure to carry on a mining operation.

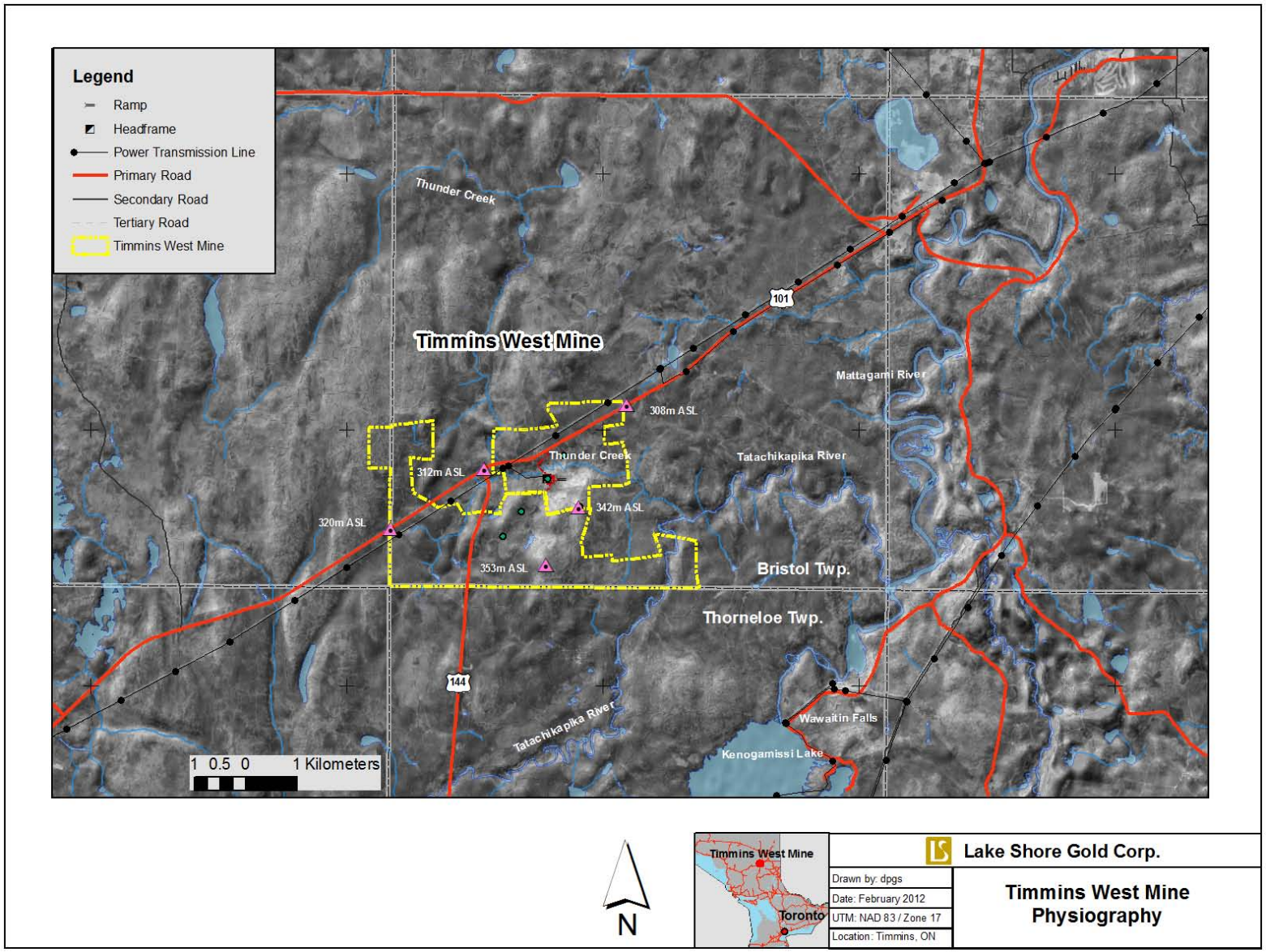
5.4 PHYSIOGRAPHY

The 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 458,879.9 metres east and 5,357,321.5 metres north. The elevation of the Tatachikapika River (historically known as the Lost and/or Redsucker River) ranges from 300 to 292 metres 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; Carscallen, Thorneloe and Bristol townships 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 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. 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.), and completing business combination agreements with those companies making them wholly-owned subsidiaries of Lake Shore Gold. Holmer Gold Mines Limited became a wholly-owned subsidiary of Lake Shore in December of 2004 and West Timmins Mining Inc. became a wholly-owned subsidiary in November of 2009.

6.2 GENERAL HISTORY

The discovery of gold in Bristol Township on the McAuley-Brydge property (currently Lake Shore's Timmins West Mine) occurred in 1911. At this 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 (TC 612, TC613, TC614) at the McAuley-Brydge occurrence plus four claims west of the Rusk occurrence (HR 1187, HR1188, HR1189 and HR1191). Map ARM-21a illustrates only one patented claim in the Gold River mineralized trend area. Claim HR 1257, straddles Tatachikapika River which divides the Gold River West from the Gold River East mineralized zones on Lake Shore'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 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, North Dome, were entirely 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 MINE COMPLEX AREA

Date	Description
1911 – 1914	Gold Discovered on the McAuley-Brydge property and sink two shafts, the deepest is 12 metres deep (Timmins Mine Main Zone)
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 diamond drill 7,620 metres of core
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.

Date	Description
	Eighteen diamond drill holes totaling 1,981 metres were also completed
1945	Piccadilly Porcupine Mines acquired the property and complete 4,983 metres of diamond drilling
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 7 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
1964	United Buffadisson Mines Limited optioned the property from Holmer construct a road from Highway 101 to the Main Showing, and diamond drill 10 boreholes (2,116 metres). United Buffadison Mines Limited interpreted the gold mineralization to be associated with stacked north dipping en-ecelon quartz veins. The property was returned to Holmer Gold Mines Ltd.
1968 – 1981	Holmer diamond drilled 45 bore holes totaling 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 sample 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 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 totaling 1,465 metres. Norex interpreted a historical significant, non 43-101 compliant 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. The Property was returned to Holmer
1984 – 1985	Noranda Exploration Company Ltd. (N.P.L.) in the Thunder Creek property area completed geological mapping, humus geochemical sampling, outcrop mechanical stripping and trenching. The best assays returned in the trenching were 2.86 g/tonne Au and 5.54 g/tonne Au. Nine (9) overburden, reverse circulation drilling and three (3) 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), geological mapping, over the property. A large area of

Date	Description
	the Main Zone was stripped, channel sampled and mapped. Twenty-nine diamond drill holes (6,115 metres) were completed testing the mineralization to a vertical depth of 360 metres. The Property was 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, T.C. Barrie
1994	Noranda Exploration Company Ltd. (N.P.L.) in the Thunder Creek property area completed line cutting, IP and magnetometer ground geophysical surveys. A single diamond drill hole (302 metres) was drilled with no assay results reported.
1995	Hemlo Gold Mines Inc. funded the Thunder Creek area project and the work was carried out by Norex. Surveys include line cutting, magnetometer and IP. Seven (7) 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 the area of 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 (14) diamond drill holes (3,547 metres) tested stratigraphy and geophysical targets. Drill hole MC 97-20 an assay returned the value of 5.9 g/tonne Au over 1 metre. In ddh MC 97-26 there is a 2 metre interval of 1.28 g/tonne Au along with a couple of scattered intervals on a metre and similar 1 gram values. The property was returned to Band-Ore
1998	Holmer Gold Mines Ltd. drilled twenty-two (22) bore holes (3,923 metres) to test the continuity of mineralization at shallow depths
1999	St. Andres Goldfields Ltd. (“St. Andrew”) drilled 10 bore holes (1,341 metres) exploring the potential for an open pit deposit
2000	Ontario Geological Survey published preliminary map P3396, Geology of the Kamiskotia Area, T. C. Barrie
2000	Ontario Geological Survey published study geological circular S059, Geology of the Kamiskotia Area, T. C. 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, 25 metre centers, twenty-two (22) hole diamond drill program totaling 5,220 metres. Holmer completed a Mineral Resource estimate which was audited and revisited by Watts, Griffis, McQuat as 422,000 tonnes grading13.68 grams per tonne gold in the Indicated category and 270,000 tonnes grading 9.0 grams per tonne gold in the Inferred category

Date	Description
2003	Lake Shore Gold Corp. enters into an option agreement with Holmer Gold Mines Limited that allows Lake Shore to earn fifty percent (50%) of the Holmer Property by May 26, 2006 subject to the term that are outlined in Item 6.1 of this report. In November 2003 Lake Shore enter into an agreement with Band-Ore Resources Ltd. to earn a 60% interest in the Thunder Creek property
2004	Lake Shore complete a 25 diamond drill holes (8,399 metres) targeting the Rusk Zone, the ultra mafic complex, and various structures; complete a MMI (mobile metal ion) soil geochemical survey; reconnaissance bed rock mapping program initiate outcrop mechanical stripping; and hydro washing and saw channel sampling program of two locations in the area of the Rusk occurrence
2004	Lake Shore Gold Corp. completed option requirements and business combination agreements to own 100% of the Holmer Gold Mines Ltd. property
2005	Ontario Geological Survey published open file report OFR6155, Geological Setting of Volcanogenic Massive Sulphide Mineralization in the Kamiskotia Area, Discovery 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, Discovery Abitibi Initiative
2006	Lake Shore completed additional outcrop stripping, power-washing and channel sampling at three locations
2009	Lake Shore completed a diamond drill program of 25 drill holes (13,760 metres) and fulfilled the term of the option agreement with West Timmins Mining Inc. (formerly Band-Ore Resources Limited and Sydney Resources Corporation) to earn 60% of the Thunder Creek Property. Lake Shore Gold and West Timmins Mining Inc. ("WTM") signed a complete business combination agreement resulting in WTM becoming a wholly owned subsidiary of LSG. The exploration emphasis of the Thunder Creek project changes from anomaly testing to, systematic, sectional, mineralization definition stage diamond drilling
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

6.3 HISTORICAL RESOURCE ESTIMATES

6.3.1 Historically Significant Non-Compliant NI 43-101 Resource Estimates

The following mineralization estimates are not compliant with NI 43-101 but are considered historically significant in keeping exploration interest active and continuing to entice companies to explore and 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 NI 43-101 Compliant Resource Estimates

In 2002 a Mineral Resource Estimate completed by Holmer and audited and revised by Watts, Griffis and McQuat Limited ("WGM") was 422,000 tonnes grading 13.68 grams gold per tonne in the indicated category and 207,000 tonnes grading 9.0 grams per tonne in the Inferred category (WGM, 2004)

WGM in 2004 audited a Mineral Resource estimate prepared by Lake Shore Gold Corp. WGM modified 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 g/t Au cut-off, a 50 gram per tonne cap, except in the Footwall Zone where a 30 g/t Au cap was employed. An estimated Indicated Resource of 1,369,000 tonnes grading 10.96 g/t gold (cut grade) and 16.45 g/t gold (uncut grade); with an Inferred Resource of 200,000 tonnes grading 8.7 g/t gold (cut grade and 12.43 g/t gold (uncut grade); an additional Inferred Resource grading between 3 and 6 grams per tonne gold is 1.0 Mt at 4.07 g/t gold. Total contained ounces with a cut grade of 6 g/t Au in the Inferred and Indicated categories was estimated to be 538,000 ounces gold (cut), 804,000 ounces gold (uncut), (WGM, 2004).

In November 2006 WGM audited the updated Mineral Resource estimate, validated the assay data, the construction of polygons and the resulting tonnages and grade. The Indicated and Inferred Mineral Resources for the Timmins ("West") Mine as at October 31, 2006, as estimated by Lake Shore and audited and accepted as valid by WGM is documented below.

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

Classification / Zone	Grade Cut to 3.00 g/t Au		Contained Gold (ounces)	Uncut Grade (g Au/t)	Top Cut Grade (g Au/t)
	Tonnes	g Au/t			
Indicated					
Vein Zone	346,000	9.92	110,000	17.60	50
Footwall Zone	1,185,000	7.27	277,100	7.57	30
Ultramafic Zone	1,737,000	9.27	517,600	14.46	50
Total Indicated	3,268,000	8.62	905,000	12.29	
Inferred					
Vein Zone	543,000	5.68	99,100	7.27	50
Footwall Zone	340,000	5.95	65,000	6.27	50
Ultramafic Zone	85,000	3.89	10,600	3.89	50
Total Inferred	968,000	5.54	174,700	5.79	

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

SRK Consulting Canada Inc. estimated the Probable Mineral Reserve at 3,387,000 tonnes grading an average 7.59 g/t Au, containing 826,000 oz gold (25.7M g) (SRK, 2007).

In August of 2009 Lake Shore Gold Corp. 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 was as follows:

TABLE 6.3: LSG UPDATED MINERAL RESOURCE OF SRK POLYGONAL RESOURCE AND STANTEC MINERAL RESERVE, AUGUST 2009

Classification	Grade Cut to 3.00 g/t Au		Contained Gold (ounces)	Uncut Grade (g Au/t)
	Tonnes	g Au/t		
Indicated Resource				
Total Indicated	3,200,000	8.56	893,000	12.24 (1,278,000 oz gold)
Inferred Resource				
Total Inferred	890,000	5.74	165,000	
Probable Mineral Reserve ("PMR")				
Total PMR	3,358,000	7.52	812,006 (Darling et al., 2009)	

In December of 2011 the first estimation of Mineral Resources was complete for the Thunder Creek Deposit of the Timmins West Mine (Table 6.4).

TABLE 6.4: LSG INITIAL MINERAL RESOURCE FOR THUNDER CREEK DEPOSIT, OCTOBER 2011

Classification	Grade Cut to 2.00 g/t Au		Contained Gold (ounces)
	Tonnes	Capped Grade (g Au/t)	
Indicated Resource	2,877,000	5.64	521,600
Inferred Resource	2,693,000	5.89	510,000

6.4 HISTORIC PRODUCTION

Prior to March 2009 there has been no production activity at the Timmins West Mine. Annual production figures for the Timmins West Mine comprising the Timmins and Thunder Creek deposits are tabulated in Table 6.5 and Table 6.6 from March 2009 to the 2011 year-end.

Mine workings on the property are currently under development. Access to lower areas underground was commenced in July 2008 with the excavation of a 5.5 metre (completed inside) diameter shaft (6.1 metre diameter excavation). Access to upper areas underground was commenced in September 2008 with the development of a portal and ramp. To this time the ramp has been developed to the 290 metre Level, accessing advanced exploration targets on the 50, 60, 80, 90, 110, 120, 140, 150, 170, 180, and 200 metre Levels. At present, the shaft has been excavated to a 710 metre depth below surface. Advanced exploration of several potential ore zones is presently being conducted as accessed by the ramp. The Ultramafic Zone and Footwall Zones are the main targets being accessed from the shaft. Shaft stations have been developed on the 200, 400, 525, 650, Levels at this time and the ramp excavated up to above the 480 metre Level and down to the 730 metre Level.

Ancillary to the advanced exploration underground activities, a waste water collection pond has been constructed, waste dumps are actively being accumulated on surface, and several buildings have been constructed in support of the underground operations.

TABLE 6.5: TIMMINS DEPOSIT ANNUAL PRODUCTION FIGURES

Timmins Deposit Annual Production

Years	Deposit	Tonnes	Grade	Head Ounces
2009	Timmins	72,899	3.31	7,745
2010	Timmins	255,243	5.56	45,600
2011	Timmins	337,581	3.84	41,676
Totals	Timmins	665,723	4.44	95,020

TABLE 6.6: THUNDER CREEK ANNUAL PRODUCTION FIGURES

Thunder Creek Annual Production

Years	Deposit	Tonnes	Grade	Head Ounces
2010	Thunder Creek	2,824	5.40	490
2011	Thunder Creek	159,790	4.00	20,529
Totals	Thunder Creek	162,614	4.02	21,019

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY AND STRUCTURE

Supracrustal rocks in the Timmins region are assigned as members of nine (9) 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 80 Ma years time span between the volcanic eruption of the lower Pacaud assemblage (2750 Ma) to 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 The Regional Geology locates the property relative to the regional geology.

Rhys (2010, 2011) has modified the regional structural history interpretation by adding an additional deformation period (D2) to the earlier folding preceding the Timiskaming assemblage. The interpretation demonstrates that there are at least two pre-Timiskaming fold events (D1 and D2), followed by two dominant syn-metamorphic, post-Timiskaming foliation forming events (D3 and D4) and a later crenulation cleavage (D5) (Rhys, 2010).

Regionally, deformation in the Timmins area is characterized by a sequence from early, pre-metamorphic folds lacking axial planar cleavage (D1 and D2) to a series of syn-metamorphic, fabric–forming events, which overprint the earlier folds (D3 and D4 events). 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: a) syn-Timiskaming (2680-2677 Ma) brittle faulting associated with truncation of early D1 and D2 folds, apparent sinistral displacement, and formation of half grabens that are locally filled with Timiskaming clastic sedimentary rocks; and b) syn-metamorphic D3-D4 formation of high strain zones over a broad corridor generally several hundred metres wide generally 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 with north side up displacements (Rhys, 2010).

TABLE 7.1: TECTONIC ASSEMBLAGES

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)**
Procupine 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 7.1: 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)

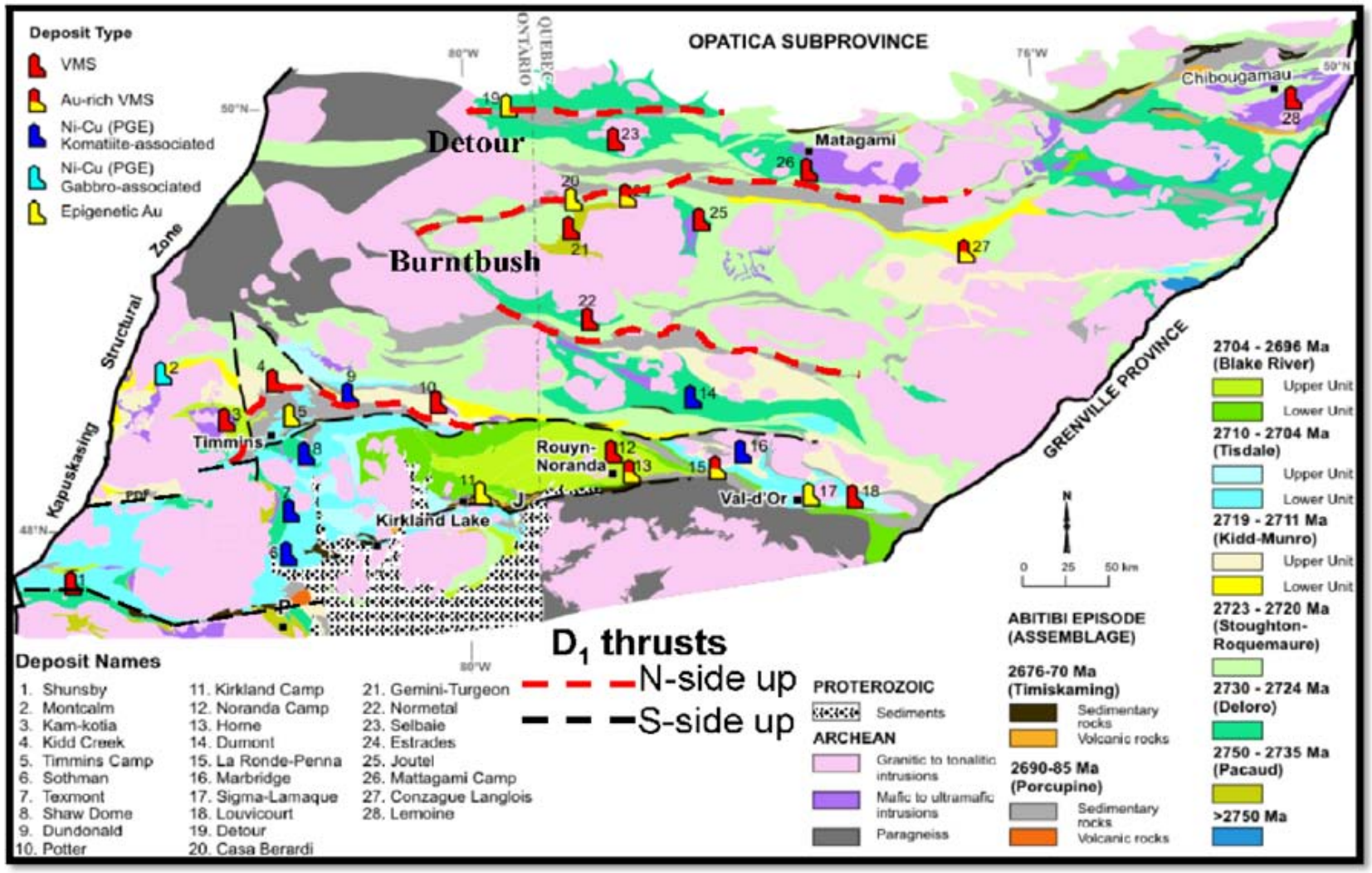
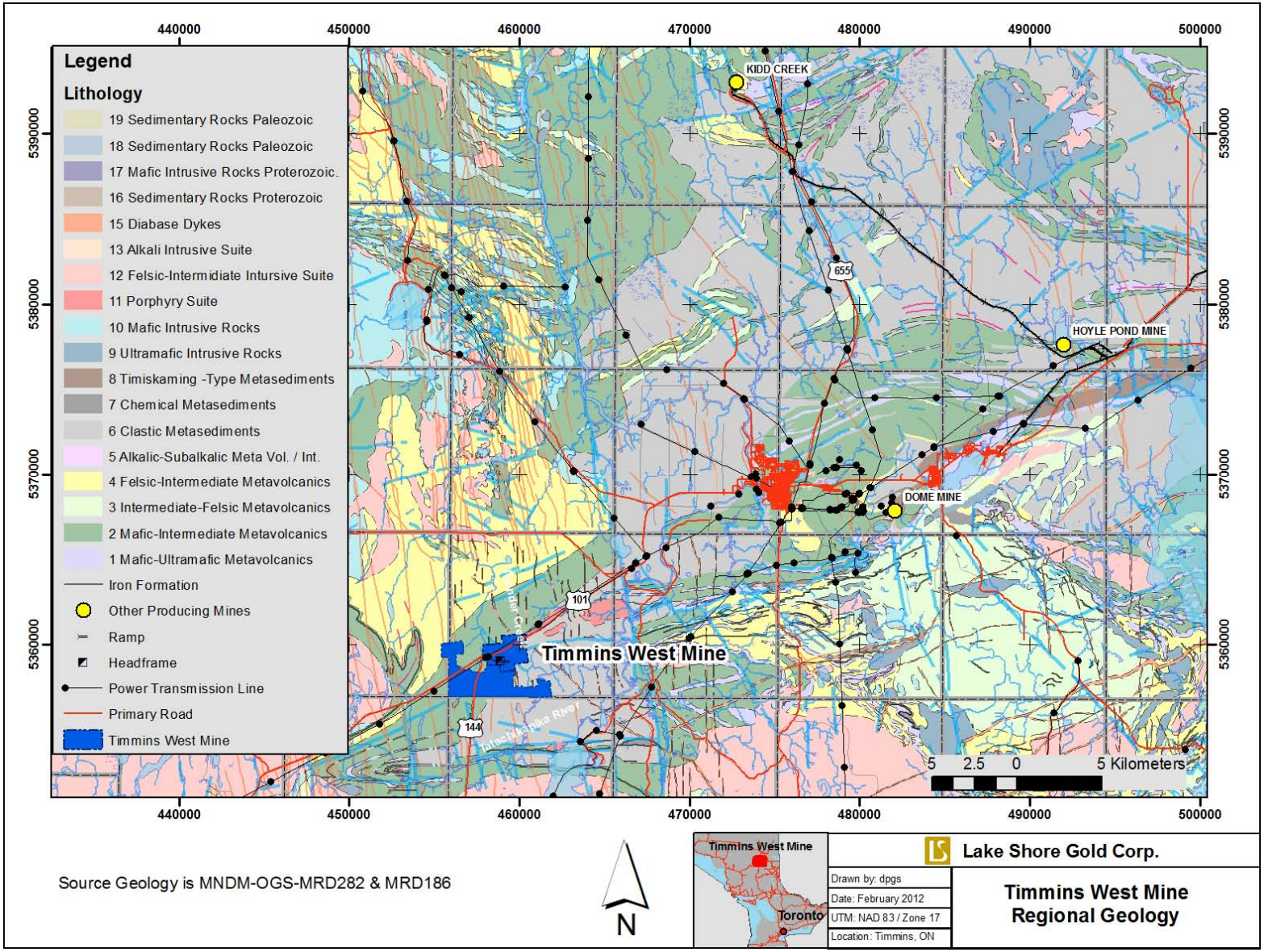


FIGURE 7.2: REGIONAL GEOLOGY



7.2 PROPERTY GEOLOGY

7.2.1 Timmins Mine Portion of the Timmins West Mine

Mr. David Rhys (P. Geo.), of Panterra Geoservices Inc. accurately describes the geology, structure and mineralization and presents a comprehensive valid interpretation of observations. This interpretation is used in exploration planning and project development. The following description is taken in whole and in part from internal memos and reports he has presented to Lake Shore. The TWM area lies along the northeast trending contact zone between southeast facing mafic metavolcanic rocks of the Tisdale Assemblage, to the northwest, and unconformably overlaying, 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. Along and within several hundred metres of the contact area, several intrusions intrude mainly the mafic metavolcanic sequence between the Timmins Deposit and the southwestern parts of the Thunder Creek property. These include: a southwesterly-widening alkaline ultramafic set of metamorphosed intrusions comprised dominantly of pyroxenite which occur along the mafic – metasedimentary rock contact or intruding the mafic metavolcanic rocks adjacent to the contact and which are termed the “alkaline intrusive complex”; and fine-grained, equigranular to locally K-feldspar porphyritic intrusions which are dominantly monzonite but may range to syenite in composition. The latter include lenticular northeast trending unexposed body in the Porphyry Zone adjacent to the mafic-sedimentary contact in the Rusk area, and a more irregularly shaped stock to the south which intrudes the Porcupine Assemblage here termed the “Thunder Creek Stock” (Rhys, 2010).

The patterns of distribution of the Holmer Shear Zone are more complex than suggested by Rhys in 2003, and that the shear zone is affected by significant folding associated with D4 strain. On 140 metre Level most intense area of high strain which are interpreted to represent the down-dip extent of the Holmer Shear Zone from the surface showing occur along the Main Zone are folded megascopically, defining a large fold closure with plunges north-northwest. The shear zone here comprises an approximately 20 to 30 metre wide, intensely S3 foliated phyllonitic sedimentary contact. Consistent textures of compositional laminations, grain size laminations, higher sericite composition that the surrounding mafic rocks, and potential relic primary fragmental textures suggest that the high strain zone may be localized along an inter-flow sedimentary-fragmental unit. Strain is most intense in this potential clastic unit, but also extends outward from it and is high in immediately adjacent mafic volcanic rocks. Such relationships are also apparent in surface outcrops in the Main Zone as noted to be hosted by highly strained clastic sedimentary rocks at the west end of the outcrop exposures, and areas of high strain extend outward and eastward from this unit forming a core to the Holmer Shear Zone.

The pyroxenite body is largely massive and only weakly foliated, but is cut by areas of high strain up to several metres wide which likely formed both D3 and D4 shear zones.

In addition to the locally folded D3 Holmer Shear Zone, zones of high strain associated with S4 foliation are also developed. These typically trend east-west in both the upper levels of the Mine and on the 650 Level. In the upper mine levels for example , an intense 2 to 4 metre wide D4 high strain zone hosting the V1 Vein trends east-west at the mafic sedimentary contact on 120 metre Level where it is host to locally developed mineralized quartz veins. This structure, and a second, narrower shear zone approximately 10 metres to the north of it record reverse, north side up displacement parallel to the L4 lineation indicated by shear bands, oblique foliation (S) fabric development, and sigmoidal shapes of peripheral quartz extension veins. Other D4 minor shear zones were also observed on other levels, having similar north side up kinematics. The close association of these shears with late extension veins,

comparable kinematics of the shear zones with the vein arrays and their crosscutting nature with early tourmaline veins suggest that the D4 shear zones are coeval with, and locally control later phase of quartz extension veins associated with gold mineralization in upper parts of the Timmins Mine.

On the 650 Level, D4 shear zones are also locally developed in the pyroxenite body and are spatially associated with main stage auriferous extension vein arrays. The largest of these shear zones occurs in UM1 Vein system, coring the mineralized extension vein arrays that define that zone. This shear zone is typically several metres wide and contains an intense internal fabric defined by compositional laminations and phyllosilicate alignment, with fabric grading outward to massive, undeformed or more weakly strained wall rocks. Main stage quartz veins associated with these are structurally late and cut across fabrics, although display some stain in the form of open folding. More diffuse, weaker zones of S4 foliation development were also observed in the UM2 and other zones of quartz extension veining in the 650 Level. These structures overprint and crenulate earlier S3 foliations and shear zones. D3 shear zones on the 650 Level are therefore associated with latter stages of vein development in the deeper parts of the deposit. Vein geometries and local oblique fabrics on the 650 Level also imply a reverse, north side up sense as is seen on upper levels of the mine.

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

7.2.2 Thunder Creek Portion of the Timmins West Mine

Geological surface mapping of the Thunder Creek Deposit by Lake Shore Gold Corp., commenced with a survey by Michael Hocking, and Jacques Samson, under the direction of Henry Marsden, Senior Project Manager in 2004. This program traced the contact of the Rusk Shear, the metamorphosed mafic-pyroxenite-sediment-monzonite contacts with a series of trenches staggered along the projected trace of the Rusk Shear. Coincident with the surface, a diamond drill campaign targeting the Rusk Shear Zone and gold mineralization within and proximal to the shear zone, and geophysical magnetic, conductivity and resistivity anomalies was initiated. The results of this program are described and discussed in the technical report prepared by Powers (2009).

During late summer 2009 Mr. John Camier, P. Geo. carried out a surface mapping survey confined to a 5 kilometre square area surrounding the Rusk Zone. The scope of the program was: to concentrate on the syenite (monzonite) intrusion, and try to understand its relationship to the surrounding host metasedimentary rocks, and the hydrothermally altered pyroxenitic intrusion previously mapped and intersected in drill core. Location control for this survey included the previously cut field grids and a Garmin hand held 76 GPS. The “in-house” technical report prepared by Mr. Camier represents field observations, results of geochemical sampling and a petrographic study by Dr. R. Springer, P. Geo., a retired professor from Brandon University, Manitoba.

From 2003 to October 28th, 2011 a total of 150,466.3 metres of diamond drill core have been drilled by Lake Shore Gold Corp. This includes 102 boreholes with 47 wedge splays and three drill hole extensions for a total of 83,656.69 metres of surface diamond drilling. Underground diamond drilling contributes 384 drill holes with 22 restarts for 66,809.65 metres. Underground mapping includes the outlining of major structures as the Rusk Shear; sulphide and quartz vein mineralization; alteration and rock type. Over the course of these programs several samples have been sent for microscopic study to endeavor to determine the rock type, alteration history, accessory minerals, mineralization type, habit, style, and qualifying the geological understanding. Mr. David Rhys, P. Geo. a structural geologist consulting to

Lake Shore Gold Corp. has been studying the Timmins Mine, the Thunder Creek property and the Gold River property on an individual basis comparing similarities, differences in structure, mineralization styles and placing these observations into the regional context of the geological understanding. His work, to date, is the most inclusive and comprehensive description of the geology, structure, and mineralization. Microscopic studies by Dr. A. Miller, Dr. B. Springer, and K. Ross have led to a more advanced understanding of the TWM property geology.

Table 7.2 illustrates a geological table of lithological units for the Timmins area. The lithological units underlying the Timmins West Mine Property are presented in the table as a bold font.

Seven (7) lithological units have been identified underlying the Timmins West Mine property. The Lithologies range in age from Neoarchean, Tisdale assemblage mafic metavolcanic (2.710 - 2.703 Ga) to Paleoproterozoic Matachewan diabase dykes with an age of 2.45 Ga. The understanding of the geological environment continues to evolve. Presented in this report is the current understanding and interpretation for surveys completed to date. The reader is cautioned that as additional information becomes available, or known, the interpretation will be modified based upon the merits of information presented.

The stratigraphic basal unit of the Property is a mafic metavolcanic rock unit that is fine-grained, green in colour, and exhibits massive, pillowed and flow breccia textures and structures. Mafic metavolcanic rocks occur in the western portion of the Property. Metamorphism varies from mid-greenschist to lower-amphibolite facies. Epidote and calcite alteration is common and increases to strong hydrothermal alteration as the unit is in closer proximity to the Rusk shear. Fine-grained disseminated magnetite occurs proximal to the “alkali intrusive complex” (“AIC”). At this location the rocks become darker in colour, chloritized and locally exhibit hematite alteration (Camier, 2009). Felsite to feldspathic rich syenite dyklets; the alkali intrusive unit (“AIC”); quartz, ±carbonate veins with varying amounts of hematite, ±magnetite, ±pyrite, ±pyrrhotite; and diabase dykes intrude the mafic metavolcanic lithology.

In the eastern portion of the Thunder Creek portion of the Property, and overlying the mafic metavolcanic unit is a discontinuous sequence of biotite rich meta-greywacke, metamorphosed siltstones, metamorphosed argillite, fine grained tuff, clastic tuff, and laminated chemical metasediments containing magnetite (Camier, 2009; Samson, 2008). This succession of metasedimentary rocks belongs to the Porcupine assemblage, ranging in age from 2690 to 2685 Ma. It is not known if the sediments are conformable or unconformable to the mafic metavolcanic contact. These metasedimentary units occur in the footwall to the AIC and along the Rusk shear zone. When incorporated in the shear zone the metasedimentary rocks are tectonized to a quartz-sericite-carbonate ±hematite schist that display a crenulation fabrics. Sericite, weak hematite and silicification is the common alteration assemblage. Quartz veins, felsites veins and the Matachewan Diabase dyke swarm intrude the metasedimentary lithology. Camier (2009) noted several outcrop for a felsic, dacitic metavolcaniclastic fragmental unit within the central portion of the mapping area. Although age dates have not been acquired for this subunit, it is speculated that the subunit may be related to the Krist formation of the Porcupine assemblage.

The alkali intrusive complex (“AIC”) is poorly exposed on surface. It has a very strong magnetic signature that the geophysical interpretation indicates that it extends northeasterly for at least 2 kilometres across the central portion of the Thunder Creek Property, and onto the Timmins Mine property to the north. The AIC intrudes along the contact between the volcanic and the sediments. The magnetic trend becomes distorted and exhibits an offset or folded character when intersected by several interpreted

structures. The AIC is a poly-phase and vari-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 as 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: i) a fine- to coarse-grained pyroxenite; ii) a biotite-pyroxenite; and iii) a porphyritic garnet 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 books (poikilitic biotite) up to several centimetres across. In places, "sweats" and dykes containing 40 to over 75% dark brown to black melanite garnets (up to 1 centimetre across) are noted, contained within a fine-grained and leucocratic matrix consisting of plagioclase + orthoclase + biotite + carbonate + apatite + titanite (Miller 2004). The different phases sometimes exhibit clear yet irregular contacts, and sometimes appear to be transitional. Numerous "monzonitic" to "syenitic" dykes are noted throughout the main body of the pyroxenite and also within the volcanic rocks. It is not clear if these phases are genetically related to the AIC or to the monzonite stock located in the southern portion of the property.

A quartz-feldspar porphyritic monzonite occurs as a nearly circular intrusion greater than 500 metres in diameter. This intrusion presents a high topographic relief in the central portion of the property. 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 fine-grained pinkish-grey groundmass. The variation in quartz and feldspar content presents this unit with multiple names: a quartz monzonite, monzoninte, syenite, peralkaline syenite. Pink to brick-red, interpreted as being hematized, and generally fine-grained felsic dykes are observed within shear zones hosted by the sediments. These dykes are possibly related to the monzonite stock. Camier (2009) noted the presence of riebeckite in the eastern half of the intrusive and thus argues the intrusive to be a peralkaline syenite. Although there is no age dating completed from this unit, it is speculated that the intrusive may be part of the Timiskaming assemblage (2676-2670 Ma).

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

TABLE 7.2: LITHOLOGICAL UNITS

PHANEROZOIC (0.540 Ga-Present)

Cenozoic – Quaternary: Recent - Humus, swamp and stream deposits
Pleistocene - Clay, sand, gravel, till
UNCONFORMITY

NEOPROTEROZOIC ERA (1.0-0.54 Ga)

Grenville Orogeny - Assembly of the continent of "Rodinia" 1.3-1.0 Ga

MESOPROTEROZOIC ERA (1.6-1.0 Ga)

Mafic Intrusive Rocks
INTRUSIVE CONTACT
Abitibi Diabase Dyke 1.14 Ga
INTRUSIVE CONTACT
Sudbury Diabase Dyke Swarm 1.238 Ga
INTRUSIVE CONTACT
MacKenzie Diabase Dyke Swarm 1.27 Ga
INTRUSIVE CONTACT

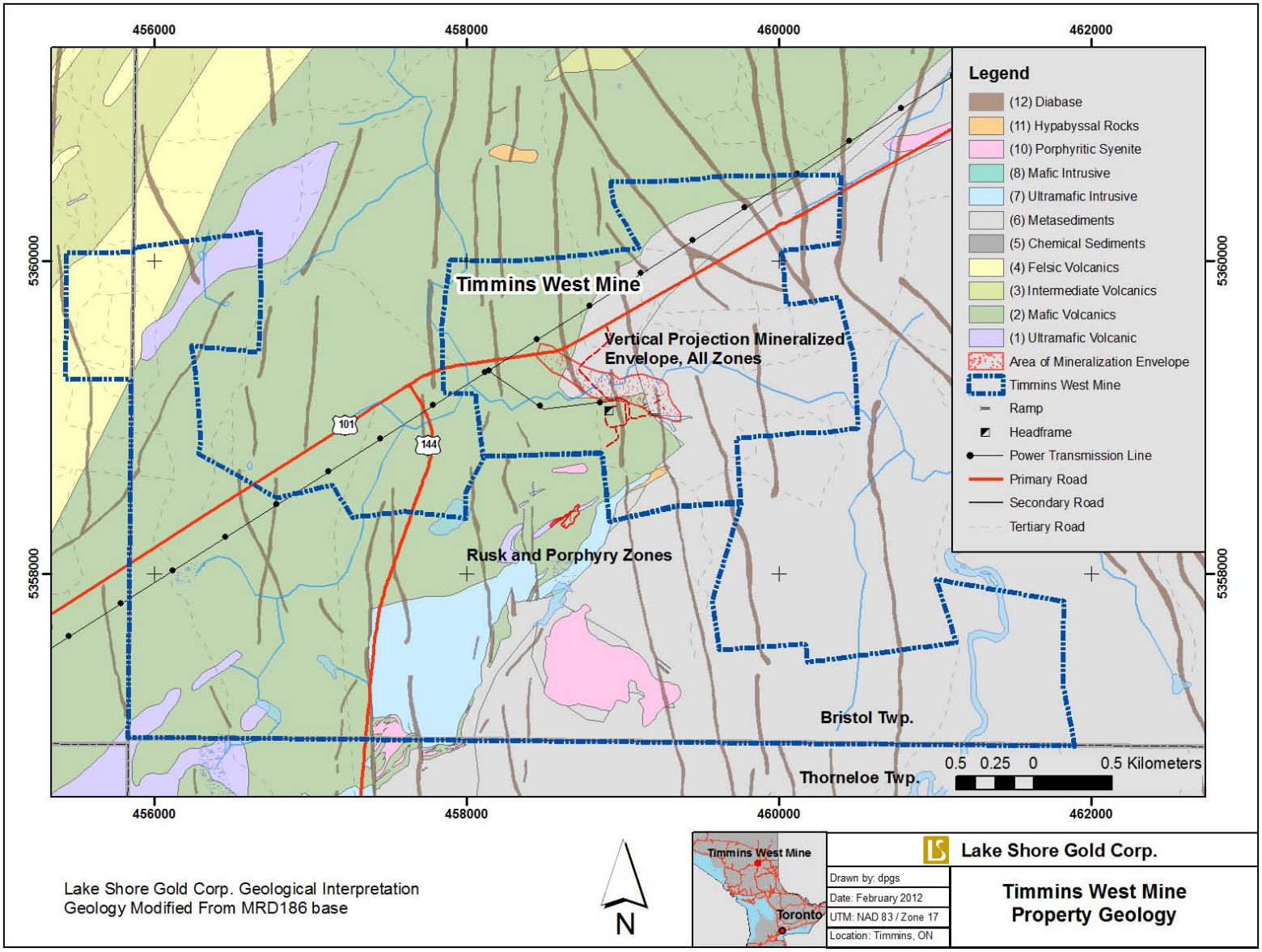
PALEOPROTEROZOIC ERA (2.5-1.6 Ga)

Penokean Orogeny - Wisconsin, Minnesota, Michigan Ontario, 1.8-1.8 Ga
Hudsonian / Trans-Hudsonian Orogeny - Collision of Superior - Hearne Cratons 2.0-1.8 Ga Formation of the continent of "Nena"
Mafic Intrusive Rocks INTRUSIVE CONTACT
Presissac (Biscotasing) Dyke Swarm 2.1 Ga
INTRUSIVE CONTACT
Wopmay Orogeny - Western edge of Canadian Shield 2.1-1.9 Ga
Mafic Intrusive Rocks INTRUSIVE CONTACT
Nipissing Gabbro Suite 2.22 Ga
East Bull Lake Intrusive Suite 2.49-2.47 Ga
Matachewan Dyke Swarm 2.45 Ga
INTRUSIVE CONTACT

NEOARCHEAN ERA (2.8-2.5 Ga)

Kenoran Orogeny Collision of Slave and Superior Cratons 2.72-2.68 Ga - Formation of the continent of "Arctica"
UNCONFORMITY & SHEAR CONTACT
Timiskaming Assemblage (2676 -2670 Ma)
Quartz +/- tourmaline +/- ankerite +/- pyrite +/- native gold
Felsic Intrusive Rocks INTRUSIVE CONTACT
Syenite - Quartz Monzonite - Perialkaline Syenite
(an interpretation, an age date is required)
INTRUSIVE CONTACT & SHEAR CONTACT
Porcupine Assemblage (2690-2685 Ma)
Mafic Intrusive Rocks INTRUSIVE CONTACT
Alkaline Intrusive Complex (AIC) – garnetite dyke 2687 Ma+/-3Ma
INTRUSIVE CONTACT
Meta-sedimentary Rocks
Greywacke, siltstone, clastic tuff, chemical metasediments (magnetite-chert)
CONTACT IS NOT OBSERVED
Felsic Epiclastic Metamorphosed Tuff (possible Krist Formation)
CONTACT NOT OBSERVED
Tisdale Assemblage (2710-2704 Ma)
Mafic Metavolcanic rocks
Mafic metavolcanic flows, massive and pillowed, flow breccias
UNCONFORMITY
Kidd-Munro Assemblage (2719-2711 Ma)

FIGURE 7.3: PROPERTY GEOLOGY



7.3 STRUCTURAL GEOLOGY

Rhys (2010, 2011) has modified the regional structural history interpretation by adding an additional deformation period (D2) to the earlier folding preceding the Timiskaming assemblage. The interpretation demonstrates that there are at least two pre-Timiskaming fold events (D1 and D2), followed by two dominant syn-metamorphic, post-Timiskaming foliation forming events (D3 and D4) and a later crenulation cleavage (D5) (Rhys, 2010).

Regionally, deformation in the Timmins area is characterized by a sequence from early, pre metamorphic folds lacking axial planar cleavage (D1, D2) to a series of syn-metamorphic, fabric –forming events, which overprint the earlier folds (D3, D4 events). 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: a) syn-Timiskaming (2680-2677 Ma) brittle faulting associated with truncation of early D1 and D2 folds, apparent sinistral displacement, and formation of half grabens that are locally filled with Timiskaming clastic sedimentary rocks; and b) syn-metamorphic D3-D4 formation of high strain zones over a broad corridor generally several hundred metres wide generally 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 two areas of high strain reflect probable intense S3 shear zones have been recognized in the Thunder Creek and Timmins Deposit areas: the west-northwest trending, but significantly folded Holmer Shear Zone; and the northeast trending Rusk Shear Zone. 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 F4 fold closures (Rhys, 2010).

The oblique (clockwise) nature of the S3 foliation in the Rusk Shear Zone to the shear zone margins, and shear sense indicators in the Holmer Shear Zone surface outcrops suggest that both structures accommodated sinistral displacement during D3. Subsequent D4 shear zone development in narrower , generally east-west trending and steeply dipping structures with dominantly reverse kinematic indicators in the Timmins Deposit would imply then the change in kinematics later in the deformation history to a more contractional setting associated with development of the stretching lineations. 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 D3 and D4 (Rhys, 2010).

7.4 MINERALIZATION

Gold mineralization in the Timmins and Thunder Creek Deposits occurs in steep north-northwest plunging mineralized zones which plunge parallel to the local orientations of the L4 lineation features which also plunge parallel to the lineation, including folds and elongate lithologies. Mineralization occurs within, or in 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 D3 and D4 deformation. All phases of gold-bearing veins cut and postdate alkali intrusive complex (AIC) and syenitic to monzonitic intrusion, although mineralization is often spatially associated with ore preferentially developed within theses intrusions. (Rhys, 2010).

At the Timmins Deposit the character and sequence of veining in the Main, V1 and V2 veins is similar in all of the exposures. Rhys (2003) defined three phases of veining in the Timmins Deposit surface showings, all of which were also apparent during this study, although an additional phase of shallow dipping quartz extension veins was also recognized during this field work. 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 outer tan carbonate ±sericite alteration envelopes. Tourmaline can comprise the majority of the vein material in these veins, forming a black matrix to 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 S4 axial planar to the folds. Boudins, where developed are linear and shallow plunging, at high angle to the L4 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 what 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 vein phase locally form en echelon, moderate to steeply north dipping extension veins separate from the peripheral to 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. At the southwest margin of the Main Zone folded quartz-tourmaline veins there comprise composite tourmaline dilation veins where are intergrown with younger white quartz vein generations that are also folded. Tourmaline veins may contain disseminated pyrite and arsenopyrite with tourmaline matrix.
2. Quartz-rich Second phase: Exploiting the earlier tourmaline-rich veins, this phase of quartz 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 D4 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 boudinaged and folding, and this generation of quartz also occurs with the 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 L4 stretching / intersection lineation, suggesting that they formed during stretching of the lithology sequence parallel to L4 in response to north-south D4 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.
5. These late veinlets are typically narrow (1 to 10 millimetres thick) and consequently volumetrically minor, although they can be locally very abundant. Their similar orientation with respect to L4 as the preceding extension veins set, but generally undeformed state suggest that they represent a second, structurally late increment of extension veining late during D4.

Textural and timing relationships of the different, but spatially related veining generations listed above suggest that they formed incrementally spanning deformation during D3 and D4. The early quartz-tourmaline veins, including the second phase quartz greater than tourmaline vein phase are affected by all D4 strain, exhibiting folding when development oblique to or at high angles to S4 foliation, and boudinaged in response to the stretching parallel to L4. However, these veins also cross S3 foliation as planar veins where they trend northeast at high angles to S3 suggesting that they were affected by only minor D3 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 D3 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 D3 in response to sinistral displacement along, and shortening across the Holmer Shear Zone. During later potentially progressive D4 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 L4 lineation, suggesting vein formation in response to the stretching parallel to L4. These extension veins and the very late set of extension veinlets may also form along the adjacent to minor east-west trending D4 shear zones which accommodate north side up displacement, and overprint the transposed fabrics associated with D3 (S3). (Rhys, 2010).

In the Thunder Creek area mineralization occurs in two main stages: a) the Rusk Shear Zone adjacent to and in footwall or the pyroxenite unit, and b) in the Porphyry Zone which is hosted by the quartz monzonite intrusion which is present southeast of and in the immediate footwall to the Rusk Shear Zone below approximately 500 metres below surface. 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, 2010-03-12) 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 a) higher quartz-carbonate-pyrite vein density, and or b) 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 which 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.

Most common styles 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 grades. These early deformed veins are very similar in style and texture to the earliest phases of veining seen underground in the 650 metre 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, which cut the deformed veins and which have carbonate-pyrite envelopes that over print the shear zone matrix and sulphidized magnetite, overprinting the shear zone foliation. The coarse pyrite in vein envelopes also overgrows the dominant shear zone foliation, which is preserved textually 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 650 metre Level (Rhys, 2010).

Both of these veining phases are auriferous and can contain high gold grades. Gold in both phases was observed in the Petrographic study occurring in association with pyrite, including as inclusions often in association with chalcopyrite and galena, on fractures in pyrite, and free in gangue adjacent to pyrite grains (Ross, 2010). The relationship of the disseminated pyrite variety here could not be determined, but the overall style of the pyrite and local occurrence in diffuse veinlets has similarities to the second veining phase (Rhys, 2010).

“Porphyry Zone” mineralization is developed in the quartz monzonite intrusion that occurs at depth in the footwall of the Rusk Shear Zone immediately adjacent to areas of mineralization in the adjacent Rusk 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 occasional pyrite grains. Disseminated pyrite locally occurs in the wall rock to the veins and free visible gold was locally observed in association with pyrite both in veins and wallrock immediately adjacent to veins, accompanied rarely by a bluish silvery grey mineral – a possible telluride – and by local fine grained base metal sulphides (sphalerite, galena). The intrusion is generally massive and unfoliated 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, based on known drill hole orientations. Local irregularity in vein shapes and orientations –particularly in areas of the highest vein abundance – suggest some deformation, possibly in the cores of sigmoidal vein arrays such as is seen in the Ultramafic Zones on 650 Level. 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 where it is less than 100 metres thick, in response to brittle behavior of the intrusive body during ductile activity of the Rusk Shear. More isolated narrower intercepts deeper in the intrusion where it is thicker may reflect the more rigid behavior of the unit as its width strengthens it, 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 frequently are 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, although at a local scale, no correlation between gold grade and vein density is apparent in review of assays and representative drill core. In general areas lacking veining, the areas also lack gold grade (Rhys, 2010).

The observations and conclusions made by Camier (2009) and Rhys (2010, 2011) provide a valid argument for their interpretations, and the interpretation has been accepted and adopted by Lake Shore Gold Corp. The most recent interpretations are illustrated in the accompanying figures: Figure 7.3: Property Geology; Figure 7.4: Timmins Deposit Geology 310 m Level (upper mine); Figure 7.5 Timmins Deposit Geology 525 m Level (Lower mine); Figure 7.6 Timmins Deposit Geology 790 m Level (Lower mine); Figure 7.7: Timmins Deposit Generalized Cross-Section 4575E (Timmins West Mine grid); Figure 7.8: Thunder Creek Underground Geology 300 Level (Upper Level); Figure 7.9: Thunder Creek Underground Geology 730 Level (Lower Level); Figure 7.10: Thunder Creek Generalized Cross-Section, 9550N (Thunder Creek rotated surface grid); Figure 7.11: Generalized Long-Section Illustrating Timmins Mine Shaft Ramps, Levels, and the Thunder Creek Mineralization Envelope (looking eastward); and Figure 7.12: Structural Plan 300 Level (Rhys, 2010).

FIGURE 7.4: TIMMINS DEPOSIT UNDERGROUND GEOLOGY 310 M LEVEL (UPPER LEVEL)

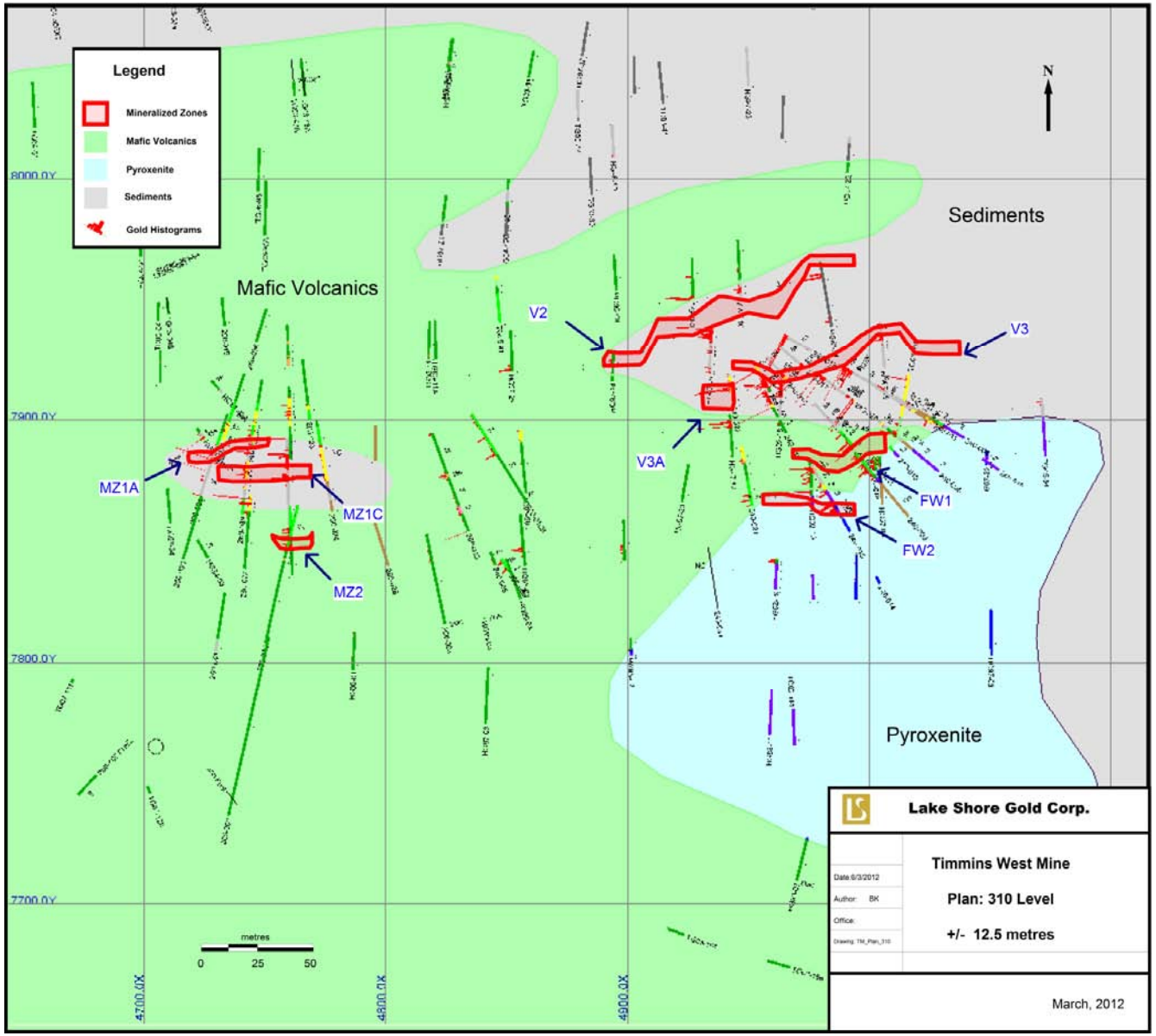


FIGURE 7.5: TIMMINS DEPOSIT UNDERGROUND GEOLOGY 525 M LEVEL (LOWER LEVEL)

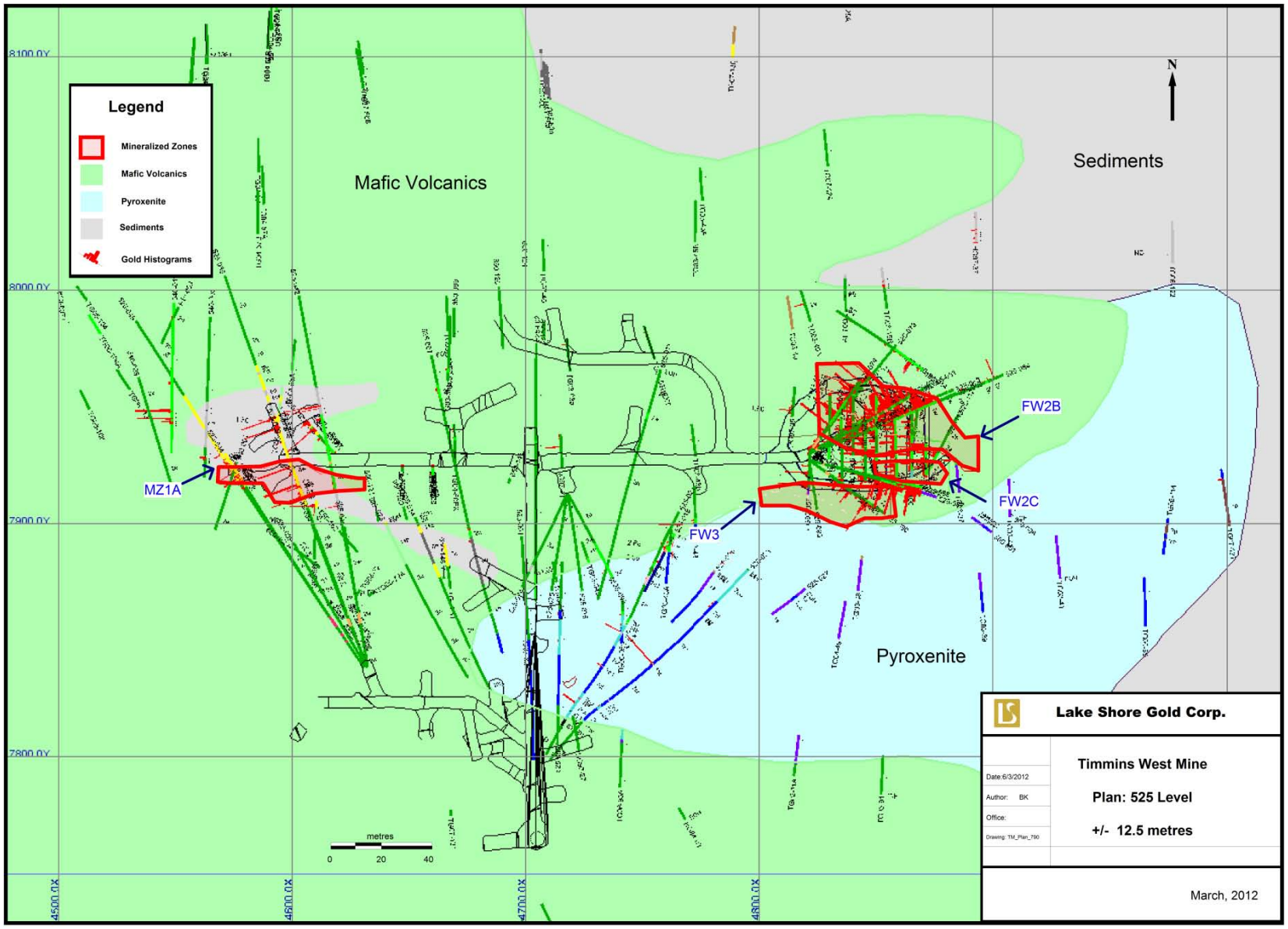


FIGURE 7.6: TIMMINS DEPOSIT UNDERGROUND GEOLOGY 790 M LEVEL (LOWER LEVEL)

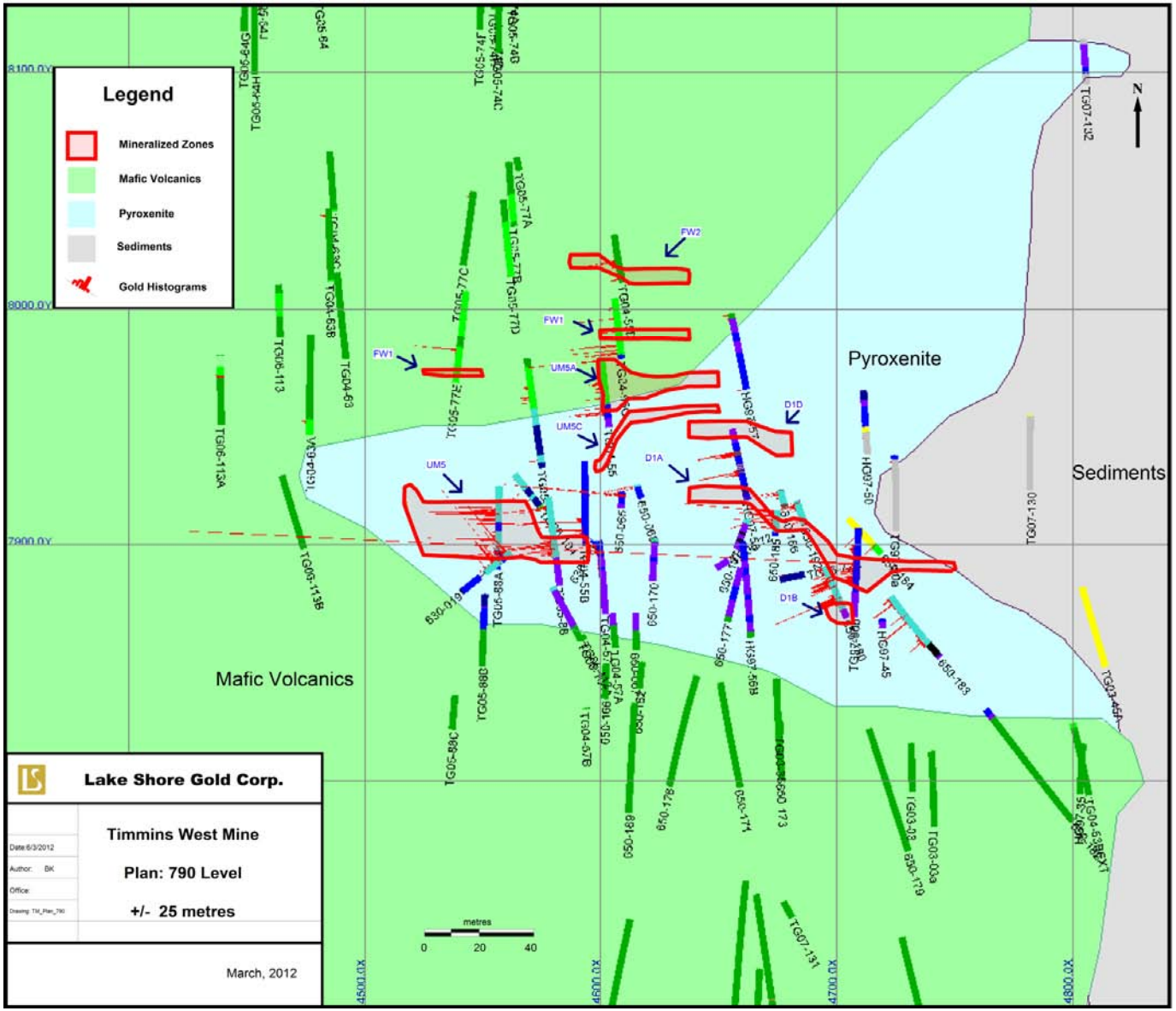


FIGURE 7.7: TIMMINS DEPOSIT GENERALIZED CROSS-SECTION 4575E (TIMMINS WEST MINE GRID)

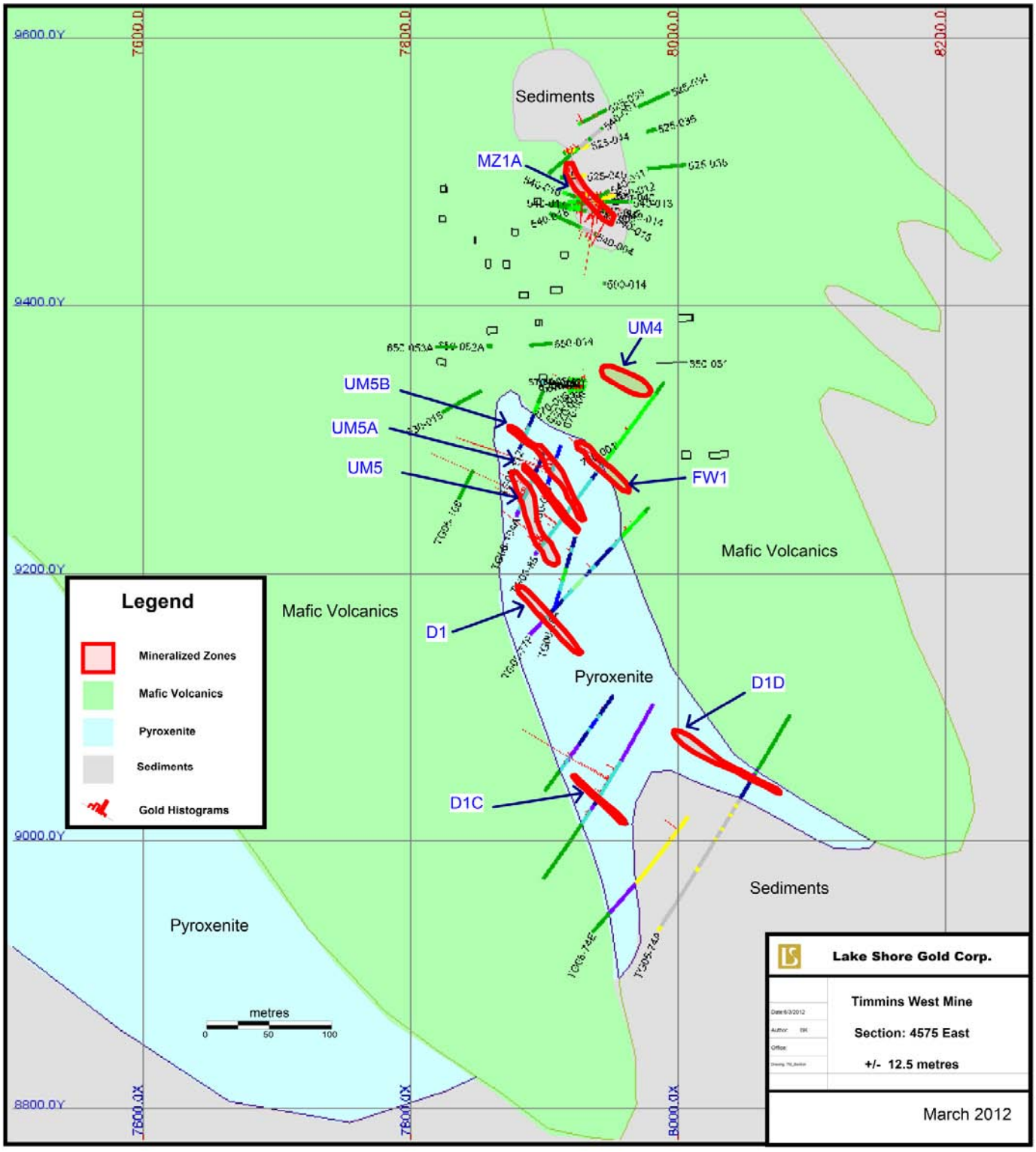


FIGURE 7.8: THUNDER CREEK UNDERGROUND GEOLOGY 300 M LEVEL (UPPER MINE)

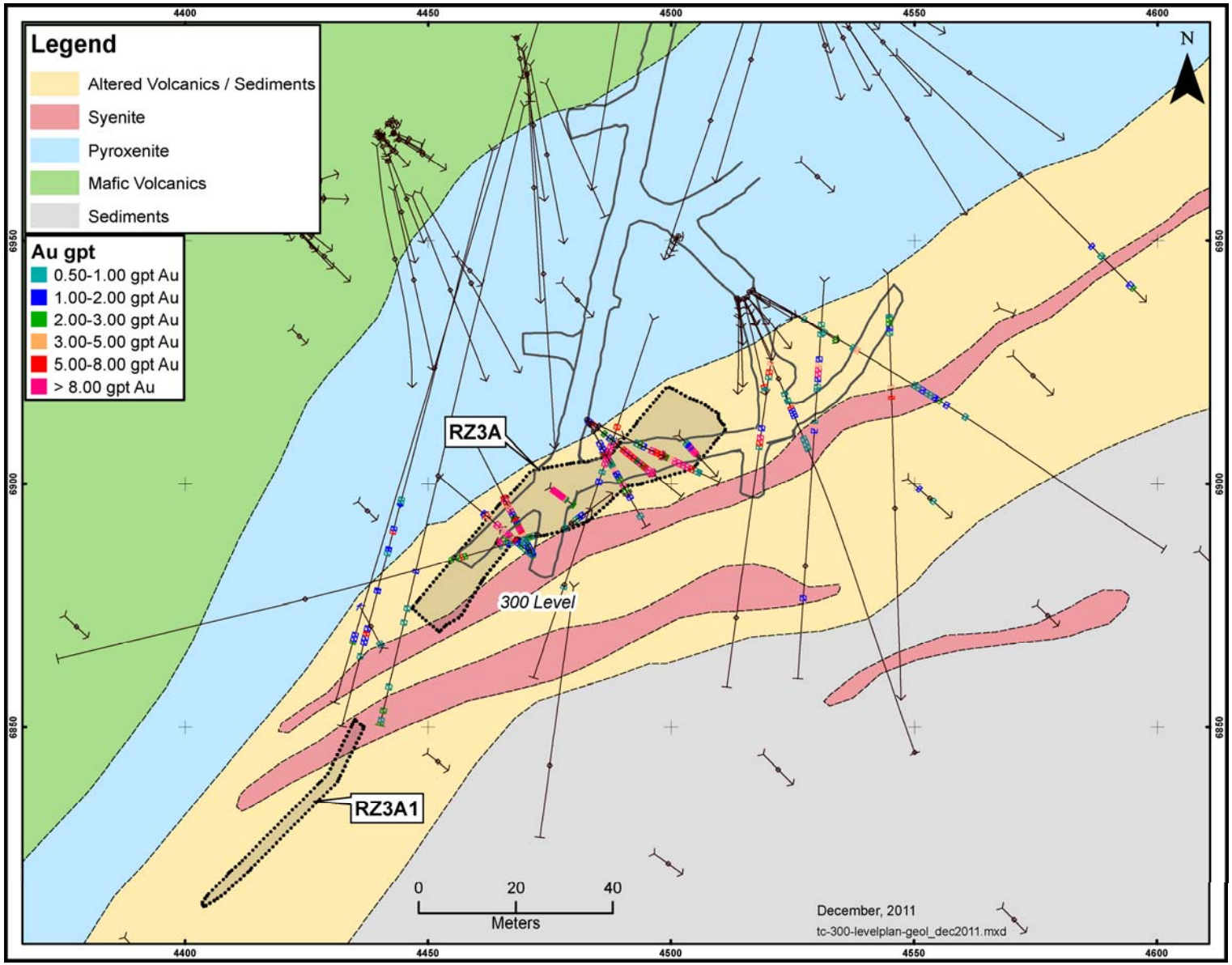


FIGURE 7.9: THUNDER CREEK UNDERGROUND GEOLOGY 730 M LEVEL (LOWER LEVEL)

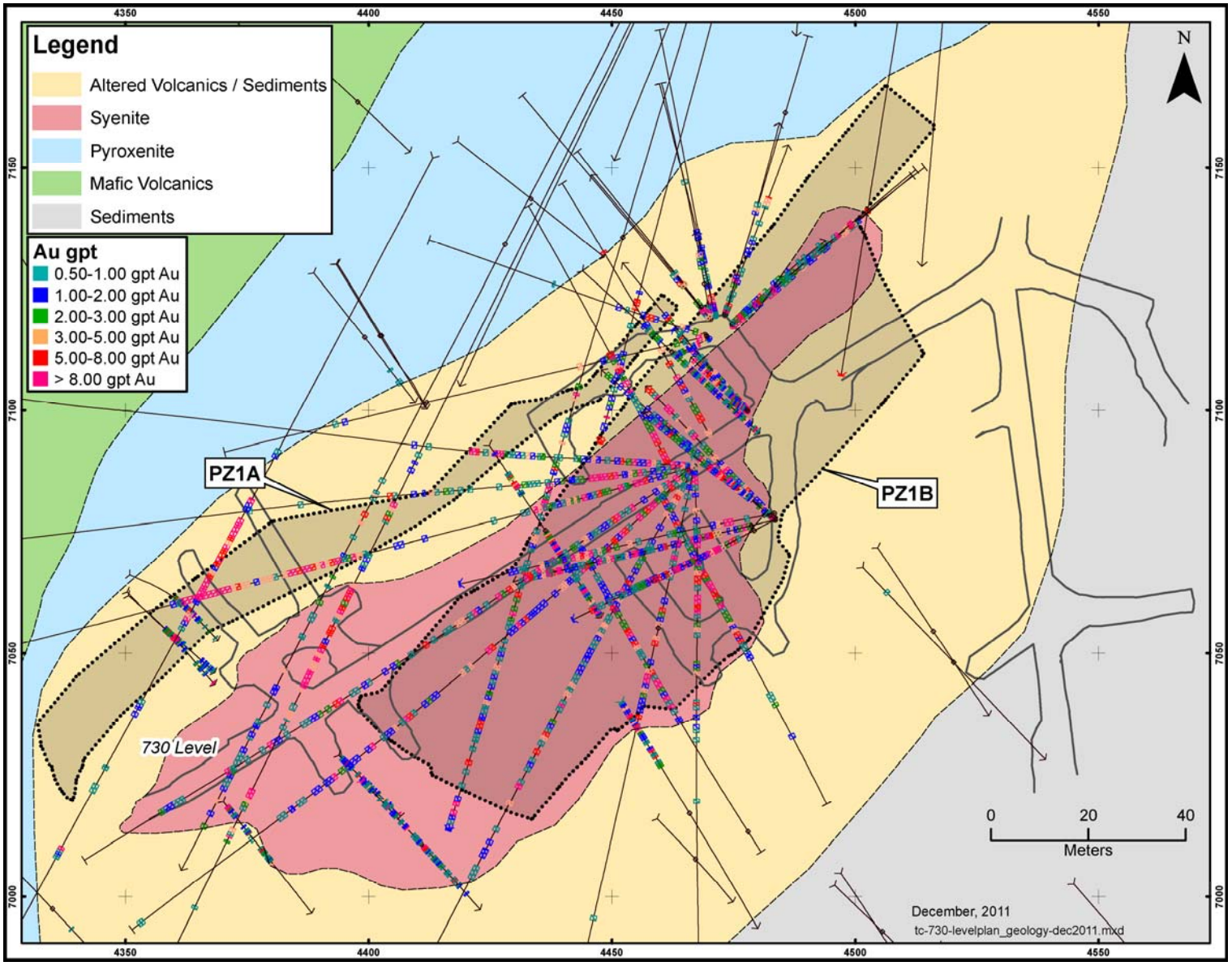


FIGURE 7.10: THUNDER CREEK GENERALIZED CROSS-SECTION, 9550N (THUNDER CREEK SURFACE GRID)

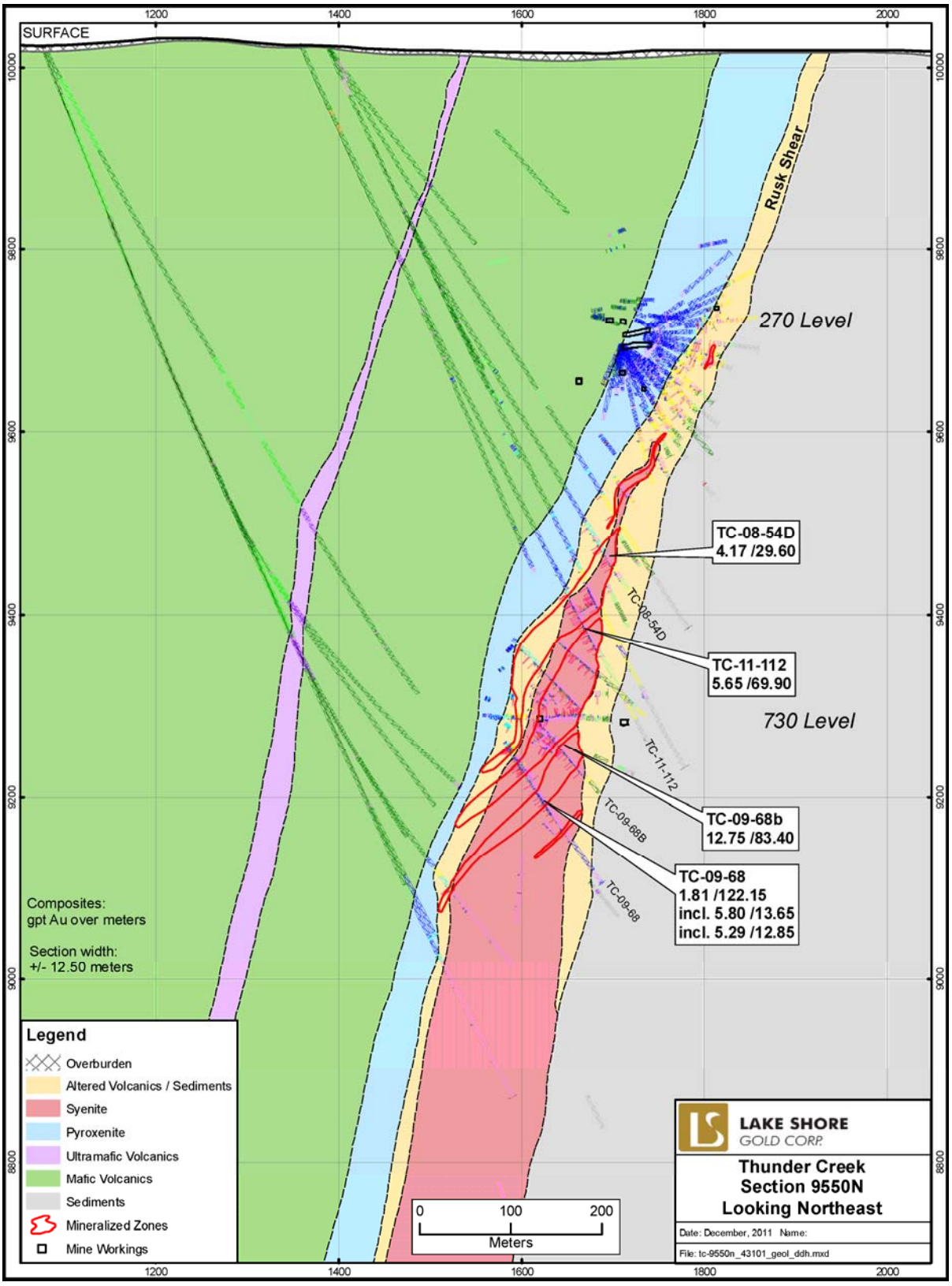


FIGURE 7.11: GENERALIZED LONG-SECTION, ILLUSTRATING TIMMINS WEST MINE SHAFT, RAMPS, LEVELS, AND MINERALIZATION ENVELOPE (LOOKING EASTWARD)

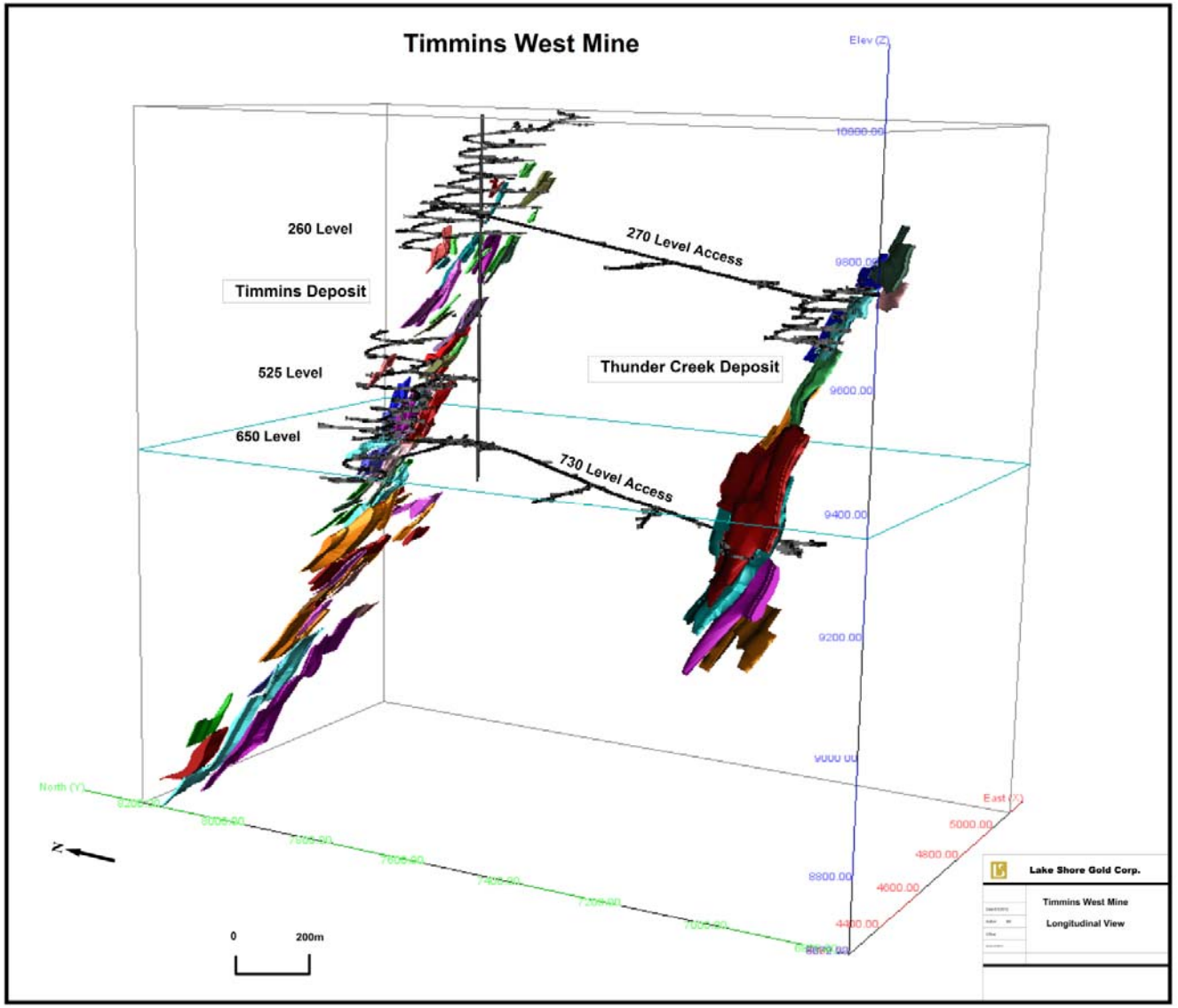
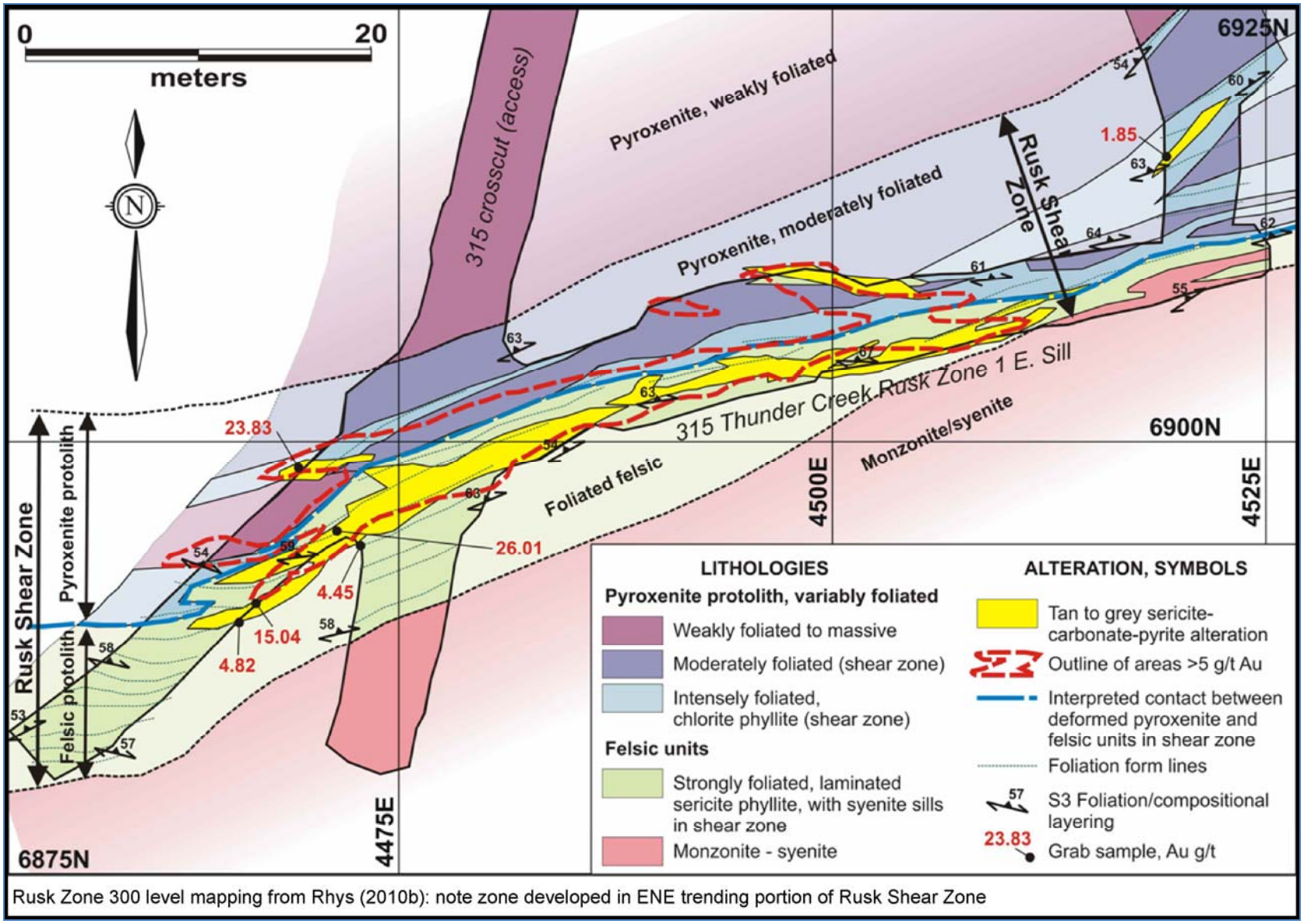


FIGURE 7.12: STRUCTURAL PLAN, 300 LEVEL (RHYS, 2010)



Rusk Zone 300 level mapping from Rhys (2010b): note zone developed in ENE trending portion of Rusk Shear Zone

8.0 DEPOSIT TYPES

The Porcupine area is well known for hosting two mineral deposit types: 1) Xstrata's Kidd Creek mine, which is a volcanogenic massive sulphide deposit; and 2) several mesothermal Archean shear-hosted gold deposits. Gold production to the end of 2006, from some 50 operational sites is reported to be 2,028,140 kilograms of gold (65,206,222 ounces of gold). Table 8.1 highlights the twenty-one locations that exceeded production of 3,110 kilograms of gold (100,000 ounces of gold).

The style of mineralization at the Timmins West Mine is characteristic of mesothermal Archean shear-hosted gold deposits typical of the Timmins and Kirkland Lake gold camps. There are detailed differences with each deposit with respect to individual: structural controls, vein density, gold tenor, gold – silver ratio, and size with deposit sited in Table 8.1, but they do have a commonality. In his 1997 PhD thesis titled "Geological Setting of Gold Deposits in the Porcupine Gold Camp, Timmins, Ontario", Brisbin, generalizes the ore bodies are 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, albatite dykes and gold mineralization were affected by metamorphism, and penetrative deformation during the Kenoran Orogeny (Brisbin, 1997). He further compares the gold productivity at the time of his research with lithology. Over seventy-five (75) percent of the gold production in the Porcupine Camp (1997) was mined from ore bodies in the Tisdale Group rocks which are thus the most important rocks in the camp. Approximately 15%of the gold in the Porcupine Camp has been hosted by Timiskaming Group rocks making them the second most important host. Porphyritic intrusions, hetrolithic breccia bodies and albitite dykes host nearly 10% of the gold produced in the camp. There is little change in the proportional production distribution of gold today.

Gold mineralization in the Timmins West Mine occurs in steep north-northwest plunging mineralized zones which plunge parallel to the local orientations of the L4 lineation features which also plunge parallel to the lineation, including folds and elongate lithologies. Mineralization occurs within, or in 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 D3 and D4 deformation. All phases of gold-bearing veins cut and postdate alkali intrusive complex (AIC) and syenitic to monzonitic intrusion, although mineralization is often spatially associated with ore preferentially developed within theses intrusions. (Rhys, 2010).

TABLE 8.1: OPERATIONS OF GREATER THAN 100,000 OUNCES OF GOLD PRODUCTION IN THE PORCUPINE GOLD CAMP

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

9.1.1 Timmins Deposit

Since Lake Shore Gold optioned the Timmins Mine Property from Holmer Gold Mines in 2003, the focus of the exploration programs was to explore the along strike and down plunge extensions of the Footwall and Ultramafic Zones. This work led to the preparation of NI 43-101 compliant Mineral Resource estimate in 2004, followed by updates in 2006, and 2009. Between 2007 and 2009, most of the surface diamond drilling was allocated to exploring for extensions to the Vein Zones and testing new surface targets.

Drilling completed in 2003 consisted of 53 NQ holes and/or wedges totaling 17,146 metres. Twenty-three holes were deep Mineral Resource expansion holes. Nine were exploration holes completed away from the known resource and 21 short holes were drilled in an area above 100 metre vertical in a program designed to define an open pit resource. The nine exploration holes which tested geological, structural, and alteration targets did not yield significant gold assay results. Other work completed in 2003 included a detailed Fugro Airborne magnetic survey; a detailed structural study of the exposed portion of the Timmins Mine Deposit; and Mobile Metal Ions ("MMI") soil sampling on the overburden-covered eastern and northeastern portions of the “Holmer” Property. Preliminary metallurgical test work was initiated by the preparation and analysis of four composite samples of historic core by SGS Lakefield Mineral Services ("SGS"). This work continued into early 2004.

In 2004, an additional 38 bore holes totaling 17,655 m were drilled, to extend the resources from 4715E to 4595E and to a depth of 850 m. Thirty-five holes were directed towards Mineral Resource expansion and three were exploration holes directed towards various exploration targets on the Property. The exploration holes did not return significant results. Environmental baseline surface water sampling and diamond drill site reclamation programs continued to progress.

During 2005, 58 diamond drill holes totaling 28,875 metres were completed. Forty-seven holes were directed towards Mineral Resource expansion and 11 were exploration holes targeting the sediment-volcanic contact to the north and east of the Deposit. Only minor anomalous gold values were obtained in the northeast portion of the Property. EHA Engineering Ltd. (“EHA”) commenced metallurgical test work and process design for a new on-site 1,500 t/d mill. Drill core samples were forwarded to the RPC – The Technical Solutions Centre testing laboratory in Fredericton, N.B. in May and a report was issued in mid-2006. Environmental baseline surface water sampling continued. Preparations of a Prefeasibility Study commenced in January of 2005 with the study completed by SRK in 2007 for a 1,000 t/d underground mining operation.

In 2006 Lake Shore Gold completed 55 drill holes totaling 28,313 metres. Thirty-seven holes were directed towards down plunge Mineral Resource expansion and 25 were exploration holes. The exploration holes targeted the possible extensions of the deposit along strike and dip, as well as various other exploration models. A small amount of outcrop stripping and diamond-saw channel sampling in the original showing stripped area was completed. The perimeter of the Property was re-surveyed and marked out by an Ontario Land Surveyor.

Lake Shore drilled 20 diamond drill holes (10,959 metres) in 2007. Most were drilling exploration targets with some testing down-plunge extensions of the vein mineralization. No new mineralization has been

discovered in the exploration drilling with limited success in the attempt to follow the veins down-plunge, mainly due to deviation problems in the drill holes. Two sub-vertical shaft pilot holes were completed, and several old holes were re-collared and extended past the proposed shaft area, in order to explore and record additional structural data. Geotechnical core logging and packer testing was also carried out on selected holes by Golder Associates, of Sudbury. Numerous holes drilled into the deposit and around the proposed mining infrastructure were cemented and plugged, and several casings were removed. Lake Shore has also continued with the planning and initial implementation of the AEP throughout 2007 as covered in the 2007 SRK Technical Report.

A total of 47 surface diamond drill holes (9,357 metres) were completed in 2008. Twenty-one shallow holes (877 metres) were designed to assist in the definition of a ramp area in the vicinity of the main showing. Twenty-six holes were focused on exploring to the east and south of the mine site, mainly targeting the volcanic-to-sedimentary contact zone. No significant mineralization was intersected. Historical drill holes into the deposit and near mine developments were also cemented. Underground diamond drilling using electric drill units commenced on the property in October 2008, initially via ramp access. In 2008, a total of 41 NQ-sized (47.6 millimetre core diameter) underground drill holes were completed, totaling 3,185.5 metres, including three service holes totaling 137.5 metres. Underground drilling during late 2008 targeted upper areas accessible from the ramp being developed at the time. This included drilling of the Main Zone, Vein 1 and Vein 2.

In 2009, two surface holes (1,836 metres) targeted the volcanic-to-sediment contact zone south of the mine site. As of August 28, 2009 three infill holes were also in progress, and one drill hole was exploring for the down-plunge extension to the deposit, on section 4300E (1750 metres in progress). In the period from January 1, 2009 to August 28, 2009, a total of 259 drill holes were completed, totaling 21,387 metres, including ten service holes totaling 323 metres. Of these, 214 holes (12,906 metres) were completed in the ramp area, and 45 holes (8,481 metres) were completed in the shaft area. The majority of underground holes are BQTK in diameter (40.7 millimetres core diameter), but HQ-sized holes (77.8 millimetres core diameter) are typically drilled for service holes, and AQTK-sized (30.5 millimetre core diameter) holes are sometimes drilled using air-powered drilling units. All underground drill holes were cemented and/or have a grout plug installed.

As the ramp progressed to ever deeper levels, drilling of several targets followed shortly thereafter. Drill targets included the Main Zone, Vein 1, Vein 2, Vein 3 and Footwall Zones. As soon as access and support were available in the shaft, drilling commenced in the shaft area with drilling on the 525 metre Level, followed shortly after by drilling on the 650 metre Level. Drill targets in the shaft area include the Ultramafic Zone and Footwall Zones. Underground drilling was conducted by Forage Azimut Inc. of Rouyn-Noranda from October 2008 to March 2009. Underground diamond drilling has been conducted by Boart-Longyear since April 2009 to present. Management of all drill programs is by Lake Shore personnel and geologists under contract to Lake Shore.

By 2009 year-end the surface ramp development had reached a vertical depth of 200 metres and ramp development from the 650 metre Level had been driven up to the 630 metre Level. Sill level development on the 650 metre Level UM complex was also completed by year-end.

In March 2010, the Timmins West Mine shaft was completed to a depth of 710 metres.

A total of 398 underground drill holes (53,305 metres) were completed on the Timmins Deposit mineralization in 2010. The drilling was split practically 50:50 between upper mine ramp drilling and

lower mine shaft drilling. The primary targets in the upper mine ranged from drill platforms off the ramp from the 140 metre Level down to the 270 metre Level targeting the FW and Vein Zones on the east side of the ramp and the MZ on the west end of the ramp. The drill coverage from the 270 metre Level collar position was down to about the 400 metre Level. The drilling was a combination of delineation/definition and exploration drilling in the case of the MZ where the Mineral Resource had not been modeled below the 260 metre Level. Drilling from the shaft location was concentrated on the UM1 complex, primarily defining the first longhole stope, 650-610 UM1 and UM1a to be excavated in the fourth quarter. This drilling was extended to delineate the structural hangingwall lenses UM2a, UM2b and UM3, to the north between the 650 – 525 metre Levels. The drill spacing achieved was approaching 7.5 metre centres along the strike and dip of the UM1 mineralization as a result of the irregular geometry of the stinger zone style of veining exposed and mapped in the 650 metre Level and 630 metre Level sill development. Exploration drilling below the 650 metre Level down-plunge of the westward plunging mineralization was delayed until a hangingwall drift filled with waste could be mucked out and dumped as backfill into the 650 UM1 longhole stope. In the fourth quarter of 2010, a 200 metre hanging wall drill platform was developed on the 525 metre Level to allow sectional delineation drilling of the UM1 from the 610-525 metre Levels and test the 525 metre Level FW zone to the east and 525 MZ to the west of the ramp.

The surface ramp development had reached a vertical depth of 290 metres, the ramp down below 650 metre Level had started the decline to the 670 metre Level, the 525 metre Level had ramped up to the 500 metre Level access to the 500 FW zone, and down to the 540 MZ, and the 650 metre Level up ramp had reached the 590 metre Level by the end of 2010.

Commercial production was announced January 1, 2011 at the Timmins deposit.

A total of 297 underground holes (41,503 metres) were completed intersecting the Timmins deposit mineralization in 2011. This was moderately less than 2010 as the focus was shifted to delineating the Thunder Creek mineralization for an initial Mineral Resource by the fourth quarter of 2011. Very little drilling was conducted from the Timmins upper mine ramp area with the exception of the 260 metre Level MZ drilling. The majority of the drilling was focused on shaft area drilling including delineation of the UM complex between the 610-525 metre Levels, and MZ and FW Zone drilling from the 525 metre Level. Drilling in the fourth quarter of 2011 transitioned into drilling below the 650 metre Level, as drills were mobilized from the Thunder Creek drill platforms to the Timmins Deposit.

The last remnants of the 650-610 metre Level UM1 longhole stope was mucked out in February, 2011, prior to being backfilled with waste. Sill development on the 525, 540 and 590 MZ Levels was completed in 2011. Mining of the 525 FW Zone occurred in 2011 comprising sill development on the 500 metre Level elevation followed with 10 metre blind longhole uppers. Sill development on the UM1 was conducted on the 585 metre, 565 metre, and 545 metre Levels, with longhole stoping of the 610 – 585 metre Level block in the second half of 2011.

By the end of 2011 the surface ramp was at 290 vertical metres, the 650 metre Level up ramp had broken through to the 525 metre Level down ramp, and the 500 metre Level up ramp had reached above the 480 metre Level. The 650 metre Level down ramp had reached 725 vertical metres by year-end, with sublevels on the 670, 690 and 710 metre Levels established.

The underground mine geology drilling campaign for the Timmins deposit in 2012 is focused on the UM complex below the 650 metre Level. A sill pillar of 20 metres below the 650 – 610 metre Level longhole

stope corresponds with a down-plunge flattening on the UM complex mineralization as it steps westward. A series of staggered, en-echelon mineralized envelopes comprised of quartz-tourmaline stringers strike at 075 to 085 azimuth and dip at 40-60 degrees to the northwest in the ultramafic core of the volcanic sedimentary fold, while stringer/sulfide replacement zones in the altered mafic volcanic rocks are generally east-west striking and variable north dipping. 25,000 metres of delineation drilling approaching 10-15 metre centres targeting between the 670-730 metre Levels will provide immediate mining horizons working up from the 730 metre Level to the 670 metre Level on 20 metre sublevel development. A drill drift to be established on the 730 metre Level will provide drill coverage from the structural hangingwall down to approximately the 810 metre Level on roughly 15 – 25 metre centres comprising an additional 10,000 metres for future mining. Other Timmins deposit targets include 10,000 metres of drilling off the 480 up ramp east, targeting the structural hangingwall Vein and FW Zones between the 380 – 580 metre Levels. On the west side of the 525 metre Level down ramp 5,000 metres of drilling has been allocated to delineation drilling of the MZ between the 525 – 650 metre Levels.

By the end of 2012, it is anticipated that the 650 down ramp will have reached 810 metre Level.

Between 1938 and 1980, 144 diamond drill holes totaling 26,285 metres were drilled on the Timmins Mine Property. The information from this work is either missing or unreliable/incomplete and has not been considered in the LSG Mineral Resource estimates. Table 9.1 summarizes the diamond drilling statistics from 1984 to the periods indicated within the table.

TABLE 9.1: DIAMOND DRILLING STATISTICS FOR TIMMINS MINE COMPLEX

Company	Year	Holes	Metres
Surface Diamond Drilling (Timmins Mine)			
Norex	1984	4	1,465
Chevron	1987	31	7,870
Holmer	1996 – 2002	114	46,425
St. Andrew	1999	10	1,341
Subtotal Others		*159*	*57,101*
Lake Shore	2003	53	17,146
	2004	38	17,655
	2005	58	28,875
	2006	55	28,313
	2007	20	10,959
	2008	47	9,357
	2009	2	1,836
*Subtotal Lake Shore (to August 28, 2009)**		*273*	*114,140*

refers to holes actually **completed during the period indicated; value includes wedged and abandoned holes; an additional four holes or 1,750 metres are still in progress at present time.*

	2009	12	8,917
	2010	1	1,107
	2010	2	622
	2011	1	879
Underground Diamond Drilling (Timmins Deposit)			
Lake Shore	2008	41	3,186
	2009	259	21,387
Total Lake Shore (to August 28, 2009)		*300*	*24,573*
After August 29	**2009**	**50**	**12,495**
	2010	**398**	**53,304**
	2011	**299**	**41,503**
To January 31	**2012**	**20**	**4,879**
Feb 1 to Mar 21	**2012**	**33**	**6,551**
Surface Diamond Drilling (Thunder Creek)			
	2003	6	1,167
	2004	13	4,370
	2005	6	2,359
	2006	0	0
	2007	23	10,841
	2008	16	9,186
	2009	35	25,828
	2010	6	3,476
	2010	9	3,931
	2011	36	19,222
	2011	1	599
	2011	1	1,553
Underground Diamond Drilling (Thunder Creek)			
	2010	**167**	**20,975**
To October 28	**2011**	**217**	**42,995**
After October 29	**2011**	**30**	**8,865**
To January 31st	**2012**	**29**	**7,940**
February 1 to March 21	**2012**	**26**	**6,482**

9.1.2 Thunder Creek Deposit

Exploration programs completed by Lake Shore Gold Corp. prior to May 10, 2009 are described and discussed in the restated amended technical report submitted July 29, 2009 " A Technical Review and Report of the Thunder Creek Property, Bristol and Carscallen Townships, Porcupine Mining Division, Ontario, Canada" (Powers, 2009). Since that time exploration efforts have focused on defining the geometry and the economic potential of the Rusk and Porphyry gold mineralized zone. The exploration campaign is multi-focused with a surface and underground exploration diamond drill programs defining the overall, or large scale geometry by deep surface drilling and wedging; and refining the details with an underground exploration program with ramp access to the mineralization from the Timmins Mine. Table 9.2 summarizes the details of this phase of the exploration program.

In 2010, an Advanced Exploration program "AEP" was initiated to open up and cross cut mineralization at Thunder Creek utilizing access from the Timmins Mine shaft on two elevations targeting the best surface drill intercepts. Two horizons were selected for access to the Rusk Shear Zone and Porphyry Zone from the 200 metre Level and 650 metre Level shaft stations at Timmins Mine (refer to Figure 7.11). Ramp development driven at 4.5 metres ("m") x 4.5 m was excavated for roughly 660 m and 890 m horizontal distance south southwest of the shaft to intersect the 300 m Level and 730 m Level elevations respectively in the Rusk and Porphyry Zones. The Rusk horizon was intersected in July 2010 at the 300 m Level elevation and the Porphyry Zone in November 2010 at the 730 m Level elevation. Along the ramp development on both levels drill cut-outs were excavated for advanced exploration drilling completed in 2010. A bulk sample and initial mining program was planned for the Rusk horizon on the 300 m Level elevation for the third and fourth quarter of 2010 and first quarter 2011.

On the 300 m Level Rusk horizon, sill development grade control was monitored using standard geologic mapping and face and wall chip channel sampling practices, supported by muck samples collected by the miners routinely on a scoop bucket frequency. A sub-level longhole mining method on a 15 m high sub-level height was employed. The 315 m Level sill development was driven off the down ramp, with a 4 m bench excavated prior to the longhole mining, using waste backfill to re-establish the benched out floor.

Prior to mining the 315 longhole stope, blind uppers for a 10 m height above the back height elevation on the 300 m Level were blasted down and mucked from the sill development access remotely. After mining the 315 longhole stope, the down ramp was driven with sill development horizons at 20 metre increments at the 350 m Level, 370 m Levels and planned for the 330 m Level throughout 2011.

On the 730 m Level Porphyry horizon, a sill development drift along the strike of the outlined, mineralized, quartz monzonite intrusion with planned cross-cuts on 15 to 30 metre centers orthogonal to the strike drift was planned to refine the ore outline and geometry by transecting the hangingwall and footwall contacts. A flat fan of drilling out of the drift face at the northeast entry to the Porphyry Zone was initiated in December 2010. Additional drilling from inside the Porphyry Zone was afforded during the 2011 year testing a block roughly 100 m above and below the 730 m Level elevation.

In 2011, as many as six surface drill rigs and eight underground diamond drills were simultaneously testing the down plunge extensions of the mineralization and refining the strike extension contacts of the mineralization in preparation for a preliminary block model and Mineral Resource Estimation.

The drilling strategy was focused on testing the Rusk Shear and Porphyry Zones over a strike length of 300 m from surface to approximately 1,000 m depth. Detailed, sectional fan drilling approaching a drill spacing of 30 to 50 metre centers along strike and down-dip was achieved using a combination of

surface and underground drill collars/platforms. Intermediate step out drilling on 100 to 200 metre centers along the extension of the Rusk Shear Zone southwest to the Highway 144 property has also been initiated. Tighter spaced drilling was achieved in the upper levels to a minimum of 15 m centres down to approximately the 400 m Level elevation.

In the first quarter of 2011, underground drill platform development was established at three separate locations to facilitate the completion of the sectional delineation drilling campaign designed to produce the first Mineral Resource. Approximately 450 m of linear development was excavated on the 680 m Level and 710 m Level for drill platforms off the 650 m Level ramp. Approximately 260 m of linear development was completed on the 260 m Level drill platform off the 200 m Level Ramp.

In May 2011, deep underground drilling collared from the 680 m Level drill platform comprising two rigs was started targeting the down plunge extension between the 1,000 to 1,500 m elevations. Although only widely spaced drilling has been completed to date predominantly on the northeast contact of the Porphyry Zone, the alteration, veining, and quartz monzonite has demonstrated continuity to depth despite weaker than expected gold mineralization.

In July 2011, mining was advanced for the Rusk shear horizon on the northwest contact with the Porphyry Zone. Two cross-cuts on the 730 m Level sill elevation were excavated to the northwest on 15 m centres for draw points, and the strike drift was ramped up from the western exit point to the 715 m Level sill elevation for overcut development, cable bolting in the hangingwall and production downholes. The second block from the 715 – 695 m sublevels is currently being mined.

The underground budgeted work program for the Thunder Creek project in 2012 includes detailed sectional drilling of the Rusk and Porphyry Zones from the 600 to 800 m Level elevations on 15 metre centers comprising approximately 30,000 metres, orientated roughly along the centerline for sill development cross-cuts designed for transverse longhole stope design. The upper level Rusk Shear Zone delineation is planned from a drill platform at the 390 m Level ramp location, testing the Rusk and emerging Porphyry Zones from the 370 - 500 m Level elevations at 25 metre centres for a total of 10,000 m. Definition drilling from scram drifts parallel to the sill development in the hangingwall will include 2,500 m in total over the year.

There are two elevation ranges of poorly drilled Rusk/Porphyry style mineralization between the 500-600 m Levels and the 750-850 m Level elevations due to drill coverage challenges. Delineation drilling planned to reduce the drill spacing to a maximum of 15 – 30 metre centres from the 260 m Level and 710 m Level drill drifts comprising an additional 7,500 metres is planned. Exploration drilling along strike with step-outs of approximately 100 – 200 m to the northeast and southwest comprising approximately 5,000 m are planned in 2012 off the ends of the 260 m Level and the 680 m Level drill platforms.

TABLE 9.2: SUMMARY OF THUNDER CREEK EXPLORATION ACTIVITIES (MAY 10, 2009 TO OCTOBER 28, 2011)

Geological Mapping			
Surface Geology			
	Camier, 2009:	~5 km square surrounding the Rusk surface showing	
	Rhys, 2009, 2010, 2011:	Structural studies, underground review mapping, re-logging of drill core from the West Timmins Mine Complex (Timmins Mine, Thunder Creek and Golden River projects)	
	K. Ross:	Microscope Petrographic Studies	
	Dr. A. Miller:	Microscope Petrographic Studies	
	Dr. B. Springer:	Microscope Petrographic Studies	
Underground Geology:			
	Lake Shore Gold Staff:	Underground mapping	
	Lake Shore Gold Staff:	Underground face sampling	
	Lake Shore Gold Employees:	Underground muck sampling	
	Rhys, 2009, 2010, 2011:	Structural studies, underground review mapping, re-logging of drill core from the West Timmins Mine Complex	
	K. Ross:	Microscope Petrographic Studies	
	Dr. A. Miller:	Microscope Petrographic Studies	
Geophysics			
	Borehole Gradient Array IP:	9 holes,	5370m
	Borehole Dipole Array IP:	5 holes	2075m
	Ground "tailings" IP (pole-dipole):	45 line kilometres	
	Ground Proton Precession Magnetometer (GSM-19):	82 kilometres	
Diamond Drill Exploration			
	Diamond drilling UG:	66,809.65 metres from 384 diamond drill holes, and 22 re-collared/re-started holes due to unacceptable deviation; and 42 drill hole in various stages of completion	
	Diamond Drilling Surface:	83,656.69 metres from 102 surface diamond drill holes, 47 wedge splays, and 3 drill hole extensions, and 1 hole that was not completely logged and sampled at the time of the effective date.	
	Total Metres Drilled Between 2003 to October 28, 2011 is 150,466.34m		
	Number of samples:	63,697	
	Number of FA aa analysis (Au):	58,624	
	Number of FA g analysis (Au):	808	
	Number of metallic Au:	2,326	
	Number of As aa analysis:	9,283	
	Number of Diamond Drill Holes:	478 with 62 drill holes still being processed and not finalized	
	Number of analysis of blanks:	3711	
	Number of analysis of standards:	2899	

Number of analysis of duplicates:	1721	
Number of pulps submitted or re-assay:	2900	
Number of face chip samples:	4091	
Number of muck samples:	2752	
Number of MMI samples:	160	

Development

Ramp access to Rusk Zone		
Ramp access and drill station development:	280m Level	515 metres
Ramp access to:	300m Level	894 metres
	320m Level	193 metres
	330m Level	194 metres
Drifting from shaft infrastructure:	710m Level	423 metres
	730m Level	639 metres
Cross-cutting:	300m Level	11.6 metres
	315m Level	12.2 metres
Drifting on mineralization:	300m Level	77.8 metres
	315m Level	71.4 metres
	730m Level	127.5 metres

TABLE 9.3: SUMMARY OF TIMMINS DEPOSIT EXPLORATION ACTIVITIES (AUGUST 29, 2009 TO JANUARY 31, 2012)

Underground Geology:

Lake Shore Gold Staff:	Underground mapping
Lake Shore Gold Staff:	Underground face sampling
Lake Shore Gold Employees:	Underground muck sampling
Rhys, 2009, 2010, 2011:	Structural studies, underground review mapping, re-logging of drill core from the Timmins West Mine
Diamond Drilling UG:	118,632.96 metres from 855 diamond drill holes, including 41 re-collared/re-started holes due to unacceptable deviation, 2 wedge splays, and 121 drill hole in various stages of completion
Diamond Drilling Surface:	9,546.35 metres from 1 surface diamond drill hole and 14 wedge splays.

Total Metres Drilled Between August 29, 2009 and January 31, 2012 is 128,179.31m.

Number of samples:	52,203
Number of FA aa analysis (Au):	51,524
Number of FA g analysis (Au):	1,080
Number of metallic Au:	705
Number of As aa analysis:	31
Number of Diamond Drill Holes:	856 with 121 drill holes still being processed and not finalized
Number of analysis of blanks:	2398

Number of analysis of standards:	2318
Number of analysis of duplicates:	1627
Number of pulps submitted for re-assay:	960

Development

Ore Development

140m Level	129.7 metres
150m Level	28.5 metres
170m Level	195.8 metres
180m Level	313.0 metres
200m Level	170.8 metres
210m Level	258.9 metres
230m Level	97.2 metres
240m Level	106.6 metres
260m Level	107.9 metres
270m Level	208.0 metres
480m Level	227.0 metres
525m Level	317.5 metres
540m Level	193.2 metres
545m Level	76.4 metres
550m Level	18.5 metres
565m Level	148.6 metres
585m Level	377.3 metres
610m Level	125.2 metres
630m Level	342.3 metres
650m Level	310.6 metres

The observations and results of the geological mapping programs are discussed in Item 7 Regional and Property Geology. Figure 7.3 illustrates the area of geological mapping completed by Camier (2009) and modified by Samson (2010, 2011).

Geophysical and geochemical surveys reported in the 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, do not have a relevant effect on the outcome of Mineral Resources estimate and are not presented in this report.

10.0 DRILLING

10.1.1 Lake Shore Gold Corp. Historical Drilling Timmins Deposit

Between 1938 and 1980, 144 diamond drill holes totaling 26,285 m were drilled on the Property. The information from this work is either missing or unreliable/incomplete and has not been considered in the LSG Mineral Resource estimates.

Since 1984, exploration on the Property has been covered by the same north-south cut-grid, which has been refurbished as required. The portion of the grid on which deep holes have been and are being drilled has been transit surveyed.

From 1984 to August 28, 2009, 432 surface holes (including wedged and abandoned holes) totaling 171,241 m have been drilled on the Property.

The vast majority of the drilling, including that of LSG, has been NQ-sized (47.6 mm diameter core). Chevron and Holmer drilled a total of 37 BQ-sized holes (36.5 mm diameter core). LSG has occasionally reduced to BQ-size in cases of difficult ground conditions. Bradley Bros. Limited of Timmins carried out all the diamond drilling on the Property for St. Andrew, Holmer and LSG using a variety of drill rigs. Core recovery has consistently been close to 100%.

Casings were generally left in the hole and capped. The hole number was stamped on the cap or indicated by a labeled steel bar emplaced at the collar. Most of the holes were initially not cemented; in 2007 and 2008, cement was pumped down all of the casings which were relatively easy of access.

Please refer to Figure 10.1 for the surface drill collar locations.

9,546.35 metres from one surface diamond drill hole and 14 wedge splays have been completed since the effective date of the previous technical report, August 29th, 2009. Table 10.1b located in Appendix 1, provides collar locations relative to mine grid locations, azimuth and inclination of the collar, as well as the number of metres drilled per hole for the surface drilling.

855 diamond drill holes, including 41 re-collared/re-started holes due to unacceptable deviation, two wedge splays, and 121 drill holes in various stages of completion totaling 118,632.96 metres from underground have been completed since the effective date of the last technical report, August 29th, 2009. These drill holes are tabulated in Table 10.2b in Appendix 2. Drill holes in various stages of completeness with respect to core logging or pending assay results are highlighted in blue in Table 10.2b.

A total of 52,203 core sample intervals have been submitted for assay analysis since the effective date of August 29, 2009. Table 10.3b (Appendix 3) summarizes the diamond drill hole number, the number of samples taken per hole, the number of returned assay results greater than or equal to 1 gram per tonne, the number of returned assay results greater than 34.29 grams per tonne, as well as the number of fire assays with atomic absorption or gravimetric finishes, the number of metallic assays for gold and the number of assays and hole numbers that have arsenic assay results. The numbers reflected in this table do not include the samples submitted for QA/QC purposes.

The drill hole database for the Timmins Deposit was locked down on January 31st, 2012. Drill holes that were not completely logged and sampled or assay results were pending are not used in the block modeling. Diamond drill holes not used in the block model are tabulated in Table 10.4 (Appendix 4).

10.1.2 Lake Shore Gold Corp. Historical Drilling Thunder Creek Deposit

For the purpose of this report and the resource estimation only diamond drill holes initiated and completed by Lake Shore Gold Corp. are relevant and used in the block model and resource calculation. Between the period of 2003 and June 24, 2009 approximately 75 drill holes and seven wedge splays were in various stages of completion for a total of 40,689 metres of diamond drilling. This diamond drilling and the other surface exploration programs completed during this period are the subject of the second technical report for the Thunder Creek property (Powers, 2009). The objectives of the early Lake Shore Gold Corp. diamond drill campaigns was to test: a) the historical showings by twinning the Preussag 1981 hole; b) test MMI soil geochemistry anomalies; c) test geophysical interpreted structure; d) test lithologies and stratigraphy; and definition drilling of mineralization intersected. The emphasis and targeting of the diamond drill programs evolved to the definition drilling of gold mineralization associated with gold zones hosted in the Rusk and Porphyry Zones.

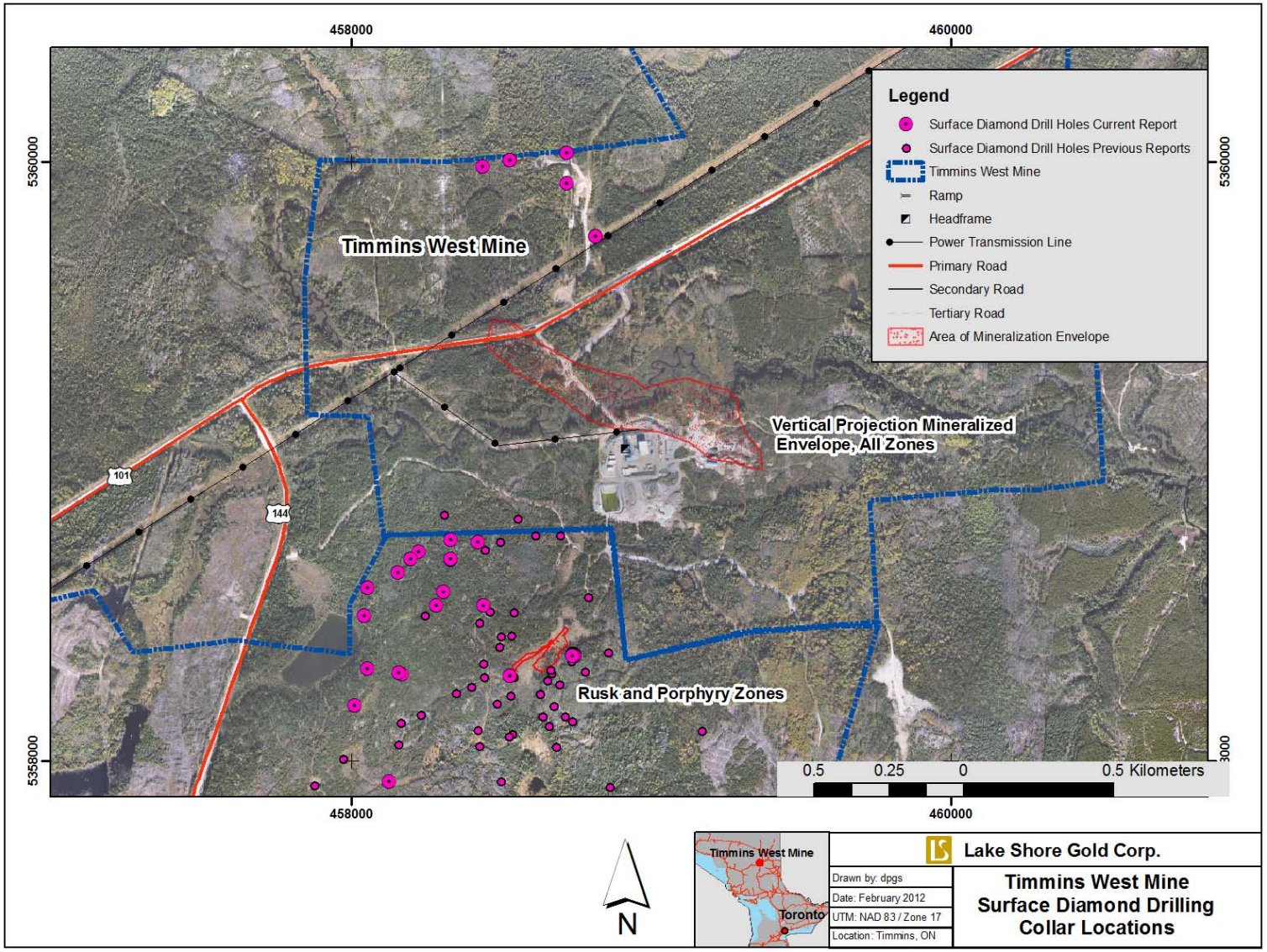
To date (effective date October 28, 2011) Lakeshore Gold Corp. has bored 102 surface diamond drill holes, 47 wedged splays, and three drill hole extensions for a total of 83,656.69 cumulative metres. Table 10.1a located in Appendix 1, provides collar locations relative to mine grid locations, azimuth and inclination of the collar, as well as the number of metres drilled per hole for the surface drilling. The alpha name, after the numerical number of the hole indicates a wedge cut. Drill holes highlighted in blue are considered incomplete for inclusion in the Mineral resource estimate. These drill holes are not relevant to the block modeling presented in this report.

Three-hundred-eighty-four (384) underground diamond drill holes totaling 66,809.65 metres have been drilled, of which 22 were re-collared due to unacceptable deviation (to the effective date of October 28, 2011). Table 10.2a located in Appendix 2, provides collar locations relative to mine grid locations, azimuth and inclination of the collar, as well as the number of metres drilled per hole for the underground drilling. Forty-two (42) drill holes remain in various stages of completeness with respect to core logging or pending assay results. These holes are blue highlighted in Table 10.2a. For underground diamond drilling, the alpha name attached to the hole number indicates a re-collared or re-started hole.

A total of 67,949 core sample intervals have been submitted for assay analysis. Table 10.3a (Appendix 3) summarizes the diamond drill hole number, the number of samples taken per hole, the number of returned assay results greater than or equal to 1 gram per tonne, the number of returned assay results greater than 34.29 grams per tonnes, as well as the number of fire assays with atomic absorption or gravimetric finishes, the number of metallic assays for gold and the number of assays and hole numbers that have arsenic assay results. The numbers reflected in this table do not include the samples submitted for QA/QC purposes.

The drill hole database for the Thunder Creek project was locked down on October 28th, 2011. Drill holes that were not completely logged and sampled or assay results were pending are not used in the block modeling. Diamond drill holes not used in the block model are tabulated in Table 10.4 (Appendix 4).

FIGURE 10.1: SURFACE DIAMOND DRILL HOLE COLLAR LOCATIONS AND VERTICAL PROJECTION TO SURFACE OF THE OUTER PERIMETER OF THE RESOURCE ESTIMATION



11.0 SAMPLING PREPARATION, ANALYSIS AND SECURITY

11.1 LAKE SHORE GOLD CORP. SAMPLING METHOD AND APPROACH

11.1.1 Surface Diamond Drill Program

The sampling preparation, analysis and security for the period of 1998 to 2009 are described in the updated 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. All of these reports are referenced in Item 27 and are filed on SEDAR.

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

11.1.2 Core Handling and Logging Protocols

The diamond drill company employees secure the drill core boxes, at the drill site, for shipment from the field to the core logging facilities located at Lake Shore Gold's exploration office complex at 1515 Government Road South, Timmins, Ontario and a second facility at 216 Jaguar Drive Timmins Ontario. The drill core is delivered to the core shacks by the Bradley Bros. Ltd., and Norex Diamond Drilling Limited ("Norex") drill foremen, or in the case of the Timmins West Mine for both the Timmins and Thunder Creek Deposits, to the mine site core logging and cutting facility at 8215 Highway 101 West. Under the direct supervision of qualified persons Mr. Dean Crick, P. Geo, and Mr. Jacques Samson, P. Geo., Lake Shore personnel open the boxes; check the metre markers for accuracy; label the boxes for hole number, box number and footage; prepare a quick log; take rock quality designation ("RQD") measurements; photograph and log the core. Approximately 20% of all underground holes are geotechnically (RQD) logged. Geological logging, sample number and location are entered directly into a computer using GEMCOM GEMS custom Drill Logger software. Diamond drill logs are then printed, reviewed and edited where required. The logs are detailed, and describe geology, structure, alteration, mineralization and do address lithological transition problem areas where naming nomenclature presents difficulties. After geological logging and photography is complete the core is given to a trained and supervised core sawing technician. The technician saws the core along the designated lines and sample intervals prescribed by the Lake Shore geologist. The core sample length is determined by the geologist based upon lithology, alteration, percent sulphides, the presence of visible gold, and geological contacts. Core to be sent for analysis is cut in half using a diamond blade core saw. The core half not bagged and tagged for assay is returned to the core box with a sample tag number stapled into the core box. All diamond drill core is stored in racks or square piled in a secure compound at the core logging facilities or at the Timmins Mine compound. Drill core from the Thunder Creek project and diamond drill core from the Timmins Mine that has not been whole core sampled is easily accessible for inspection, or re-logging.

11.1.3 Hole Collar and Down-Hole Attitude Surveys

The proposed drill hole locations are pegged on the ground referenced to a 63 kilometre control grid established by Vision Exploration in 2008. Chainsaw cut lines on 50 to 100 metre spacing with labeled pickets every 25 metres provide adequate field control for exploration anomaly drill testing. 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 co-ordinate 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 degrees from true north. Grid line designation decreases southward. All drill holes are spotted on the field grid co-ordinate system, initially using a hand held GPS. On a regular basis or as required the collars are surveyed by L. Labelle Surveys of Timmins for a final collar location. Table 10.1a, 1b, 2a, 2b (Appendix 1 and 2) lists the collar location, drill azimuth, hole inclination (drill dip) end of hole and the number of samples per hole. The underground and surface grid for the Timmins Mine is different than the exploration surface grid at Thunder Creek. The origin of the Timmins Mine grid is the number one claim post of claim P4040, a surveyed claim that was assigned an arbitrary co-ordinate of 5000 East by 8000 North with an elevation of 1,000 metres elevation. 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. An in-house grid transformation equation allows for the conversion of from one grid to the other grid in local grid co-ordinates or in UTM co-ordinates.

As the holes are being drilled, changes in azimuth and inclination are monitored at 30 to 50 metres intervals using an EZ-shot Reflex instrument. Upon completion of a hole it is normal practice to have the holes resurveyed using a north-seeking gyro by Halliburton/Sperry Drilling Services of North Bay, Ontario. If the north-seeking gyro is not available for surveying, a Maxibor instrument from Reflex Instruments of Timmins is used for the final direction and dip orientation survey.

Underground drill hole collar locations and azimuths are established using survey control. The same grid coordinate system is utilized underground in the ramp and shaft areas as is used on surface. Drill hole collars are surveyed after completion. Down hole directional surveying is completed on all BQTK to HQ-sized drill holes using “Reflex” or “EZ-Shot” instruments. Azimuth and dip information is collected at 9 to 15 m intervals downhole, along with magnetic susceptibility readings. Magnetic susceptibility is assessed for each directional reading data point to ensure azimuth readings have not been made inaccurate by highly magnetic materials in proximity to the azimuth data point.

11.1.4 Security

The Timmins West Mine secure chain of custody for diamond drill core and samples starts at the drill and is completed with the safe return and storage of sample pulp and sample rejects locked garage storage facility. Unscheduled visits to the diamond drill sites are made to ensure safety, good working practices and drill core security. The core is transported from the field to the core logging facility by the drill foreman. Lake Shore Gold’s personnel receive the core and carry out the logging and sample preparation procedures as previously described. The samples are enclosed within sealed shipping bags are delivered to the ALS Canada Ltd. (“ALS”) preparation laboratory facility located at 2090 Riverside Drive in Timmins by Lake Shore Gold Corp. employees. The ALS employee that receives the sample shipment signs a chain of custody document that is returned to Lake Shore’s office for reference and filing. The return assay results are reviewed by Mr. Dean Crick, P. Geo. and/or Mr. Jacques Samson, P. Geo., Ms. Christina Riddell, the database manager, and selected members of the Lake Shore management group, on a need to know basis.

11.1.5 Surface Diamond Drill Core Sample Preparation, Analysis and Analytical Procedures

Holmer 1996 to 2002

All core was delivered by the contractor to a secured 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 Hangingwall 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 (Darling et al., 2009).

During the period 1998 to 2002 sample length averaged 1.2 m but was shorter in the well-mineralized sections. Prior to1998 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.) ("Accurassay") in Thunder Bay by BPX.

Lake Shore Gold Corp. 2003 to August 28, 2009

Sample lengths within the well-mineralized sections of core are 0.5 m with minor variations determined on the basis of lithologies and vein contacts. Sample intervals are increased up to as much as 1.5 m where sparse mineralization is encountered. The sample intervals are determined by the logging geologist, then marked on the core, and recorded in the drill log. The core is split by LSG technicians using a diamond saw and half of the core is placed in a plastic sample bag. The remaining half is returned to the core box and retained for future use and to serve as a permanent record. The archived core is stored in racks adjacent to the field office, which is within a gated compound adjacent to the office and warehouse of Bradley Bros. Limited. This facility is located on the north side of Highway 101, about halfway between downtown Timmins and the Property. LSG uses sequentially numbered triplicate sample tags. One portion goes in the sample bag, one goes into the core box at the end of the sample interval and the third stays in the sample book (Darling et al., 2009).

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 (2006 to 2007) (Darling et al., 2009).

Since early 2007, samples are being delivered by LSG personnel or commercial couriers directly to the ALS Chemex Prep Lab in Timmins. The pulps created in Timmins are then shipped to the ALS Chemex Assay Laboratory in Vancouver, B.C or Rouyn-Noranda, PQ (Darling et al., 2009).

Lake Shore Gold Corp Thunder Creek Project 2009 to 2011

The following description outlines the method of treatment and procedures utilized by ALS Canada Ltd., to process and analyze surface diamond drill core from Lake Shore Gold Corp.'s Thunder Creek property. Lake Shore Gold Corp. employees are not involved in the sample preparation or analysis of samples once they have been delivered to the assay preparation laboratory in Timmins. Each project analysis sample program submitted to ALS Canada Ltd. ("ALS Canada", "ALS") is given a separate client number. 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 were 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 of 2004 to 2007, a 50 grams 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 three grams per tonne gold, another pulp sample was taken and analyzed using a gravimetric finish (Au-GRAV22). In October of 2007, the fusion weights 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. If visible gold was noted in the core sample, the samples may be analyzed by the Pulp and Metallic method (Au-SCR21). The entire

samples were crushed to 70% passing 6 millimetres mesh, and the entire sample was 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 30 gram 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.

Drill core from the first 50 holes (10,713 samples) were analyzed for arsenic (As) by Aqua Regia digestion and atomic absorption scanning (AA-45). In late 2007, No significant levels were reported and there does not seem to be a correlation with returned value and gold mineralization for the Thunder Creek Property.

As part of ALS Canada Limited's internal QA/QC program, a duplicate reject sample was prepared every 50th sample. 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, of which, there are two laboratory standards, one laboratory duplicate and one laboratory blank. For regular fire assay methods the rack contains 84 positions, for which there are two laboratory standards, three laboratory duplicates and one blank sample.

Lake Shore Gold Corp. blank samples are prepared from a 0.5 metre, known gold barren diamond drill core samples of diabase. These blank samples are blindly packaged as regular core samples with sequential to the sample stream assay tags and inserted into the sample stream at a random frequency of one every 1 to 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 6-8 Gatwick Road, Bayswater North, Victoria, Australia ("OREA") and provided by Analytical Solutions Ltd. Several standards are used in order to vary the expected value and depending on availability of the standard. These Certified Standards are purchased from Ms. Lynda Bloom, Analytical Solutions Ltd., at 1214-3266 Yonge Street, Toronto, Ontario. Standard samples are inserted into the sample stream at a frequency of one per 20 samples and are used to check the precision of the analytical process. Table 11.1 lists the standards utilized by Lake Shore for the Thunder Creek project.

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-2Pd	**0.885**		0.855	0.914	0.826	0.943	**0.797**	**0.973**
O-4Pb	**0.049**		0.047	0.051	0.044	0.054	**0.042**	**0.056**
O-6Pc	**1.520**		1.460	1.590	1.390	1.660	**1.320**	**1.720**
O-7Pb	**2.770**	0.050	2.720	2.820	2.660	2.880	**2.610**	**2.930**
O-10c	**6.660**				6.270	6.920	**6.110**	**7.080**
O-10Pb	**7.150**	0.190	6.960	7.340	6.770	7.530	**6.570**	**7.730**
O-15h	**1.019**	0.025			0.970	1.068	**0.945**	**1.093**
O-15Pa	**1.020**	0.030	0.990	1.050	0.960	1.080	**0.940**	**1.100**
O-15Pb	**1.060**		1.030	1.090	1.000	1.120	**0.970**	**1.140**
O-17c	**3.04**	**0.08**			2.870	3.210	**2.790**	**3.290**
O-18c	**3.52**				3.310	3.730	**3.200**	**3.840**
O-18Pb	**3.630**	0.070	3.560	3.700	3.490	3.770	**3.420**	**3.840**
O-50Pb	**0.841**	0.031	0.810	0.872	0.778	0.904	**0.746**	**0.936**
O-52Pb	**0.307**		0.290	0.324	0.272	0.342	**0.255**	**0.359**
O-53Pb	**0.623**		0.602	0.644	0.581	0.666	**0.559**	**0.687**
O-54Pa	**2.900**		2.790	3.010	2.680	3.120	**2.570**	**3.230**
O-60b	**2.570**		2.460	2.680	2.350	2.780	**2.250**	**2.890**
O-61d	**4.760**	0.140			4.470	5.040	**4.330**	**5.190**
O-62c	**8.790**	0.210			8.360	9.210	**8.150**	**9.420**
O-62d	**10.500**	0.330			9.840	11.160	**9.510**	**11.490**
O-65a	**0.520**	0.017			0.486	0.554	**0.469**	**0.571**
O-66a	**1.237**	0.054			1.129	1.345	**1.075**	**1.399**
O-67a	**2.238**	0.096			2.046	2.430	**1.950**	**2.526**
O-68a	**3.890**	0.150			3.600	4.180	**3.450**	**4.330**

Prior to May, 2010, ALS had been instructed to take one reject duplicate Lake Shore Gold 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, run it through a riffle splitter to create two samples of approximately equal proportions. One of the halves is then assigned the sample number and the other duplicate sample is placed in a separate plastic bag and labeled with the same sample number and the suffix “dup”. The two samples are 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 May 2010 in order to make a blind duplicate sample. Currently one reject duplicate is selected every 20 samples by the geologist logging the drill core. The geologist gives the duplicate sample a sample number and places it in an empty bag; sequentially 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 a different sample number. From this point on, the sample is blind to the analytical process. The insertion of a duplicate sample is to monitor the integrity of the assay results.

11.1.6 Data Management

Copies of assay certificates are either downloaded from the external lab LIMS system and/or sent via mail to the LSG database manager, and to the project's Qualified Person. 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 interrogated by a Lab Logger Version 2.0 program created by Gemcom. 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.

11.1.7 Accuracy Analysis - Standards and Blanks

Beginning in March 2009, sample results were entered into an Excel spreadsheet to determine if the assay value for the standards falls outside the control limits, if this occurred then these samples would be highlighted for check analysis. Since April 2010 this process has been handled using an ACCESS application developed by Gemcom Software International Inc. called Lab Logger (V.2.0). Sample assay results, internal QC information, shipping data, standards, and duplicate samples were each stored in separate QC database tables, and data can be merged into relevant plot files as needed.

The QC samples in each group were subjected to specific pass or failure criteria, which determined whether a re-assay of the batch was required. A sample group failure was identified whenever the analytical result for any certified standard in the group of 20 was greater than three standard deviations (the control limit) from the certified mean value for the standard and for any blank material, a value greater than 0.100 ppm. All failed groups of samples were 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 or original laboratory data sheets. After the batch pass/failure criteria was applied, a geological override may be applied by the project QP on batches for which re-assay would be of no benefit (i.e. completely barren of gold assay values and mineralization indicators). Sample groups given a geological override were not re-assayed.

Sample groups in which the QC samples were outside the established control limits that did not receive a geological override are not imported into the database. Instead, these samples were requested to be re-run at the analytical lab. In the case that the standard failed, all samples back to either: a) the last blank or standard that passed; or b) the first sample for the project in the sequence of samples being analyzed, were re-run from the pulp. In the case that the blank failed, all samples back to either: a) the last blank or standard that passed; or b) the first sample for the project in the sequence of samples being analyzed, were re-run from the reject material as this indicates contamination in the sample preparation stage. If a request is made for re-analysis due to a standard failure then a new standard is sent to the lab to be analyzed with the samples in question.

11.1.8 Precision Analysis – Duplicates

Prior to April 2010 internal laboratory pulp duplicate data and reject duplicate data were statistically followed and analyzed using EXCEL and after April 2010 using the Lab Logger software and were used for comparative statistical analysis. Comparison was made using descriptive statistics and scatter plots. These plots were used primarily to identify project specific problems in assay reproducibility (precision), and individual erratic results, indicating potential sampling problems or clerical errors in the sample order within the batch. When problems were identified in the data precision, the labs were notified and asked to investigate and report back their findings. Erratic sampling results are then noted in monthly reports so that the geologist would be aware of the uncertainty in the sample value and be able to check

for potential clerical errors within the samples then as per standard procedures, the first assay result from the pair was accepted into the database.

11.1.9 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, together with the reason why. As well, on a monthly basis, graphs are generated of each individual blind standard and blank, as well as the non-blind reject pairs and pulp duplicate pairs to check for sample bias at the assay lab. All major projects are summarized individually, either at year end or at the end of the program, as soon as reasonably possible.

11.2 CHECK ASSAY PROGRAM

11.2.1 General Statement

For major programs, or programs leading to resource or reserve calculations, a check assay program is implemented either during or following completion of drilling. In this program, approximately 5% of the pulps form previously analyzed samples will be selected for re-assay at a neutral assay facility. In order to select these check assays, groups of samples that passed QC but excluding QC samples are picked randomly from samples from a specific program.

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 of Toronto for analysis. The pulps were initially analyzed using the fire assay with an AA finish (SGS analysis code FAA313) method and for results greater than 5 grams per tonne a re-assay was conducted by fire assay using a gravimetric finish.

11.2.2 Procedures

Pulps will be selected by LSG project personnel and an electronic list of selected sample numbers will be prepared for the samplers. The samples will be submitted to the analytical facility in groups of 20, with the blind QC consisting of one standard and one previously analyzed blank pulp. The laboratory will report their internal pulp duplicate results as part of the assay report. The old and new sample numbers and the positions of the standard and blank pulps will be recorded on the Check Assay excel table as the samples are packed and shipped to the lab for analysis. Once analysis has been completed, the assay lab will report their findings in the standard LSG assay file format, including all of their internal QC data as part of the electronic assay file and will also provide a complete documentation of the means and standard deviation values for all internal reference materials used for the analyses.

When the check assay results are returned, the QC inserted in the check assay batches will be analyzed and comparative statistical analysis will be completed on all possible pairs of data, including, internal non-blind pulp duplicates and original assay versus check assay.

Reporting will be completed, after all assays are received, and have passed quality control checks. A master report for each project will be issued documenting the procedures implemented and the QC results for all of the analyses. The check assay results will be reported under separate cover for each individual project.

11.3 UNDERGROUND DIAMOND DRILL PROGRAM

11.3.1 General Description

Boart Longyear from Haileybury, Ontario is the contractor for the underground drilling at the Thunder Creek project. Three different core diameter size holes are bored underground at Thunder Creek: NQ with a core diameter of 47.6 mm; AQTK with a core diameter of 30.5 mm; and BQTK which has a 40.7 mm core diameter. The diameter of hole bored depended on the distance to target, the detail of sectional drilling, and the availability of diamond drill equipment. The more distant underground exploration targets will be tested with the 47.6 mm diameter core, some holes were bored using the 40.7 mm core size. Mineralization definition and delineation drilling utilizes both the 30.5 mm, and 40.7 mm core sizes. Core is placed in core boxes with metreage tags at the drill site and secured for transportation to the shaft station by the diamond drillers. The core boxes are hoisted to surface at the Timmins Mine and delivered to the onsite core logging facility by the Timmins Mine's Senior Core Technician. Depending on the location of the drill collar the core may be transported via the ramp system to the Timmins Mine core logging facility by the diamond drillers. Once the core is received at the logging facility the boxes are open and the core placed into core racks according to drill hole number, box number and metreage in preparation for logging.

Under the direction of the project qualified person (Mr. Stephen Conquer, P. Geo. from April 2010 to August 2010 and Mr. Dean Crick, P. Geo., September 2010 to present) underground diamond drill core is processed by geologist and geological technicians that are employees of Lake Shore Gold Corp. The drill logs are recorded directly into a computer database with the logger recording: rock type, alteration, veining, and amount of mineralization. Sample location and widths are based upon the distribution of sulphides, visible gold, lithology and alteration. Sample lengths will vary from 0.3 to 1.5 metres with samples not crossing a lithological, alteration or mineralization boundary. Samples are identified by marking both the start and finish ends with a "china" marker and placing a sample tag under the core at the end of the sample. Three part tags are used in the sampling process. Each part of these tags come pre labeled with a sample number that is sequential for each tag. The geologist adds the date, hole number, the from and to intervals on the first part of each tag, which will stay in the book and the from/to intervals on the second part of the tag, which will be stapled into the core box at the end of the sample. The third portion of the tag will be placed in the sample bag with the core. After logging and sampling is complete the core is stored in racks or on cross piles onsite at the Timmins Mine.

After logging and sample selection the core is moved back to a core rack to be sampled. Three different processes are used to sample core at the mine site: core is split, saw cut and "whole cored". Splitting and cutting is completed by trained and supervised core technicians along pre-marked lines. "Whole core" sampling is applied to drill core considered to be production definition drilling. The whole core sampling is completed by trained and supervised core technicians who sample the entire length of core sample instead of the core being cut or split. Cut core is sawn using a diamond impregnated core cutting saw blade and saw. Each sample is cut independently of the following sample and placed with the sample tag in a pre-numbered (to match the tag) sample bag. Sample bags are stapled shut and placed in a "rice" bag, "rice" bags are filled with ten cut or split samples or five whole cored samples. Attached to one of the bags is one copy of the "Chain of Custody" document on which the security tag and sample numbers included in the order have been entered.

Four analytical laboratories have been used for the gold analysis of underground diamond drill core: ALS Canada Ltd. between the period of April 2010 to August 2011; Accurassay Laboratories. (150A Jaguar Drive Timmins and 1046 Gorham Street, Thunder Bay) between June 2011 to present for all diamond

drilling considered to be "exploration drilling". Cattarello Assayers Inc. located at 475 Railway Street, Timmins and Lake Shore Gold Corp.'s Bell Creek Complex mill laboratory are used for assaying samples considered to be production oriented drilling.

"The Messenger Service" located at 108 Polaris Road, Timmins is contracted by Lake Shore Gold Corp. to transport the secured, sealed samples from the Timmins Mine to ALS (Timmins), Cattarello and Bell Creek laboratories. Secure, sealed samples are picked up and delivered by Barry's Freight contracted to Accurassay's Timmins preparation laboratory.

11.3.2 Underground Sample Preparation and Analytical Procedures

A total of 27,737 diamond drill core samples for gold assay have been taken up to the effective date. The laboratory distribution of the samples is 71.4% to ALS Canada Ltd, 13.4% to Accurassay Laboratories Limited, 4.9 % to Cattarello Assayers Inc. and 3.8% to the Bell Creek Laboratories. Assay results for 1,935 samples remained outstanding on the effective date of October 28th, 2011.

ALS Canada Ltd.

The protocols and procedures for the preparation and analysis of Lake Shore Gold Corp.'s underground diamond drill core samples by ALS Canada Ltd. is the same procedures as for surface diamond drill core samples described above with the exception that the aliquot sample size is 50 grams rather than 30 grams. In August 2011 the aliquot sized was changed to a 30 gram aliquot.

The ALS procedures and the Lake Shore Gold practice of insertion of blanks, standards and duplicates is the same for the underground drilling program as it is for the surface exploration diamond drill program.

Accurassay Laboratories Limited

Accurassay Laboratories Limited, operate a preparation laboratory at 150A Jaguar Drive Timmins, Ontario. Lake Shore Gold Corp.'s samples are crushed to greater than 70% passing through a -8 mesh (2 mm). A 500 gram split is taken and pulverized so 90% passing through a -150 mesh (106 µm). Silica abrasive clean is routinely completed between each sample preparation. The samples are analyzed by fire assay for gold from a 30 gram aliquot using an atomic absorption finish (code ALFA1). The detection limit is between 0.005 grams and 30 grams. Sample assay results greater than 10 grams per tonne gold are fire assayed again using a 30 gram aliquot from the original pulp portion of the sample and a gravimetric finish. The internal laboratory QA/QC program places a duplicate sample every ten samples of an assay batch. The assay trays consist of 25 to 27 positions for samples. A standard and blank control sample positioned at random by computer for a position within the 25 – 27 sequence.

Bell Creek Complex Mill Laboratory

The diamond drill core samples sent to the Bell Creek mill laboratory are sorted, dried, and then individually crushed to greater than 85% passing 10 mesh [(Tyler) 1.68 mm]. A 150 gram to 200 gram sample split is pulverized to greater than 95% passing 200 mesh [(Tyler) 0.075mm]. All equipment is cleaned between samples using compressed air. A 30 gram aliquot is prepared and fire assayed with an AA finish. Assay results that exceed 10 grams per tonne are automatically re-run using a sample from the pulverized portion of the sample and a gravimetric finish.

Cattarello Assayers Inc.

Diamond drill core samples are sorted into numerical order and dried. Samples are then crushed using two terminator jaw crushers. A 200 gram sample is split out of the crushed fraction and pulverized using two vibrator ring pulverizers. A 30 gram aliquot is weighed out for Fire Assay with an AA finish. Sample

results greater than 10 grams per tonne are re-fire assayed using a gravimetric finish from a sample of the pulverized sample portion. The sample rack holds 24 positions of which a laboratory standard is inserted on every 24 samples and one duplicate sample every 24 samples. Laboratory blank samples are inserted less frequently.

11.4 DATA MANAGEMENT

The procedures for handling and managing the assay data for underground diamond drill core assay samples is the same as described above for surface exploration diamond drill core.

11.4.1 Accuracy Analysis – Standards and Blanks

Underground and surface ALS procedures are the same. For all laboratories the underground operation utilizes an Excel spreadsheet to check whether or not QA/QC samples pass. The Lab Logger program is not used to import the assays, instead two separate ".csv" files are created; one for assays and one for QC samples, and then the results are imported into the database through Gemcom.

11.4.2 Precision Analysis – Duplicates

The underground project has used the Lab Logger program in the past but now does all statistical analysis with Excel.

11.4.3 Reporting and Plotting

The reporting and plotting procedures are the same as stated above for surface exploration samples.

11.4.4 Check Assay Program

Check assays, for the underground project, for 2010 and the first six months of 2011 were sent to Accurassay and run through the same process as mentioned above (ALFA1, ALFA5). As well at the time it was decided to change from a 50 gram aliquot to a 30 gram aliquot check assays were sent back to the original lab (ALS) to determine if there was any significant change in assay value.

11.4.5 Procedures

The procedures for sample submission have been described above.

11.5 UNDERGROUND FACE CHIP CHANNEL AND MUCK SAMPLES

11.5.1 Procedure for Taking Face Chip Channel Samples

Channel samples are taken across the face honoring changes in rock type, alteration, vein style, vein intensity, 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 4 metre by 4 metre 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 metre, another waste sample taken after the initial waste sample may have a length of 1.0 metres. Samples of mineralization have a maximum length of 0.5 metre. 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.

11.5.2 Procedure for Taking Muck Samples

Underground miners and muckers are charged with taking muck samples at the request of Lake Shore Gold's Geology department staff. Samples may be taken from either "ore" or "waste" headings. 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.

When mining from longhole stopes, the scoop operator is instructed to take a sample every 20 tonnes of muck (i.e. truckload, or 2nd bucket depending on equipment configuration).

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

11.6 DISCUSSION

Table 11.2 summarizes the QA/QC statistics for the Timmins West Mine, comprising surface and underground QA/QC programs for both the Timmins and Thunder Creek Deposits. Graphs of the QA/QC results for Standards and Blanks are located in Appendix 6. Michel Dagbert, P. Eng. of SGS Geostat reviewed the QA/QC results, his observations, discussion of results and recommendations are contained in the SGS report located in Appendix 7 and 8 for the Thunder Creek Deposit and Timmins Deposit respectively.

TABLE 11.2: TIMMINS WEST MINE QA/QC DIAMOND DRILL CORE SAMPLING PROGRAM

Sample Type	Surface Diamond Drilling	Underground Diamond Drilling
Thunder Creek Deposit QA/QC		
Number of blank samples	2,244	1,467
Number of duplicate samples	454	1,267
Number of standard samples	1,564	1,335
Total QA/QC Samples	***4,262***	***4,069***
Number of QA/QC failures	159	198
Number of QA/QC failures overridden	58	157
Number of QA/QC failures sent for re-assay	101	41
Timmins Deposit QA/QC		
Number of blank samples	202	2,196
Number of duplicate samples	12	1,615
Number of standard samples	186	2,124
Total QA/QC Samples	***400***	***6,025***
Number of QA/QC failures	0	231
Number of QA/QC failures overridden	0	197
Number of QA/QC failures sent for re-assay	0	34

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 samples, and no ore grade sample was anticipate within the area of the QC failure the sample is overridden as it is believed that no significant assay is affected.
3. Occasionally a failure is due to the wrong standard being recorded as sent or two QC samples being switched at some point in the shipping process. If this occurs and the error can be absolutely proven but corrections cannot be made and 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. Any time there is a failure of a blank ore standard that does not fall into one of the criteria it can still 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.
6. All other failures are pulp re-assayed by the laboratory they were initially assayed.

12.0 DATA VERIFICATION

12.1 GENERAL TIMMINS WEST MINE

Historical assay data from assessment T-Files or AFRI files has been accepted at face value. In some cases, but not all copies of assay certificates have been submitted with the historical reports. Lake Shore has twinned historical holes and re-sampled showings for qualitative controlled assay results. All diamond drill core is archived in core racks or cross piled in a secure systematic indexed core farm. The sawn core half not sent for assay is available for check assay results. Drill core from the Timmins and Thunder Creek Deposits are easily accessible for inspection, or re-logging. Table 10.3 (Appendix 3) summarizes the diamond drill holes sample statistics, illustrating the number of samples, the number of returned assay results per drill hole equal or greater than 1 gram per tonne gold, the number of sample analysis equal to or greater than 34.29 grams per tonne gold (1 ounce per ton gold) plus the number of assay samples taken and the method of analysis.

Lake Shore Gold Corp. have provided detailed information of the exploration programs at Timmins West Mine in the form of: GIS data base, diamond drill logs, assay results spreadsheets, assay certificates, MMI sample sites and lab analysis results, and maps. From the public domain, SEDAR filings of press releases, and technical reports for Band-Ore Resources, West Timmins Mining Inc. and Lake Shore. Historical assessment report files have been reviewed by the author both at the MNDM office in Porcupine and the AFRI files on line.

Co-author (Powers, D.) has checked the MNDM claim registry for the Timmins West Mine ownership and found it to be as described by Lake Shore and West Timmins Mining.

For the 2009 technical report (Powers, D.) author has reviewed, and compared, finalized ALS Chemex Webtrieve analysis worksheets with Lake Shore's surface diamond drill database for the mineralized zones. This comparison totaled 979 samples from 43 drill holes. The database is true to the assay certificates reviewed.

Lake Shore Gold Corp.'s database managers at the Timmins Mine and Lake Shore Gold exploration office have reviewed the diamond drill assay input against assay certificates from August 2011 to the effective date of this report and have verified that the input of assay values within the database is correct. A review of 10% of the diamond drill logs took place between September 2011 and the effective date. No critical errors were found that would affect the geological or mineralization model. The most common errors are related to the completeness of the descriptive header data, such as township, start and finish dates of drilling, notes of the hole was making water, and surveyor for the drill hole. More time spent editing printed diamond drill logs and having the logger sign off of the log will eliminate these non-critical input errors. Six surface diamond drill holes were re-surveyed to verify the survey accuracy. The results of the survey made no changes to the drill collar locations.

Lakeshore Gold Corp.'s mine site geology personnel reviewed 10% of the Timmins deposit underground drill holes from the previous cut-off date of Aug 29th, 2009 to January 31, 2012. No critical errors were found that would affect the geological or mineralization model. Majority of the errors are related to the header data not being completed. The information included in the claim number, UTM Zone and NAD, start and finish dates, reflex data, townships. and if the hole was making water. was also not being completely filled out. Editing and/or changes to the logs will be completed in the summer of 2012. A

written logging procedure/training program for all new core loggers to Timmins West complex are being drafted.

A site visit of the Timmins West Mine, confirming field work discussed in this report took place May 29, 2009. A review of the core shack, drill core geology, core logging and assay sampling procedures, core, pulp and reject storage facilities took place on May 5th, June 1st, and June 29th, 2009 (Powers, D). An additional site visit took place December 08, 2011 with Mark Ross (P. Geo. and Lake Shore Gold's Mine Geologist) and David Powers (P. Geo.) reviewing underground development, workings, plans, sections, logging facilities and core storage.

Michel Dagbert, P. Eng. of SGS Geostat reviewed the QA/QC results for the Thunder Creek Deposit and concluded: "Despite the high variability of gold grades from Thunder Creek samples, the QA/QC data available tends to indicate that the quality of the sample grade values used in the resource estimation is satisfactory. Although we have significant differences between mean results and target values for some standards as well as a rather high proportion of results beyond the quoted gates of standards, we do not see any overall bias from the results of standards. Blanks show a few cases of likely contamination but the proportion of real failures keeps reasonably low (0.8%) at the main ALS Lab. Lab and coarse duplicates show expected sample errors i.e. about 10% relative difference for pulp duplicates and 40% relative difference for coarse duplicates" (Dagbert, M., 2011). His complete report of Statistical Analysis of QA/QC assay data is appended in Appendix 7.

Michel Dagbert, P. Eng. of SGS Geostat reviewed the QA/QC results for the Timmins Deposit between 2009 and 2011 and concluded: "For standards, the performance of the four labs is acceptable although some improvement could be achieved in the reduction of odd returns for the standards in the four labs". Samples from 2009-2011 holes at Timmins West have been processed and assayed at four different labs, mostly ALS and Bell Creek with the balance at Accurassay and Cattarello. His complete report of Statistical Analysis of QA/QC assay data is appended in Appendix 8.

12.2 HISTORICAL TREATMENT

Historical treatment of diamond drill data not drilled by Lake Shore Gold Corp. is not relevant to this report. No historical diamond drill holes are used in the modeling or resource calculated.

13.0 MINERAL PROCESSING AND METALLUGICAL 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 3,000 tonnes per day) was started in the first quarter of 2011 and construction is expected to be completed during the fourth quarter of 2012. 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
- Xstrata Process Support, Falconbridge , Ontario (XPS)
- Outotec Canada Inc.
- 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%. This information is being used as the basis for increasing the efficiency of the gravity circuit.

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 and combined Resource Estimate for the Timmins West Mine which includes mineralized zones from the Timmins and Thunder Creek Deposits. The report updates the Timmins Mine Resources as reported in the National Instrument 43-101 Technical Report, Updated NI 43-101 Technical Report on the Timmins Mine Property, Ontario, Canada, October 1, 2009 and re-states the Technical Report on the Initial Mineral Resource Estimate for the Thunder Creek Property, Bristol Township, West of Timmins, Ontario, December 23, 2011. 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 January 31, 2012. Detailed, sectional fan drilling approaching a drill spacing of 30 to 50 metre centres along strike and down-dip was achieved using a combination of surface and underground drilling. A total of 167 surface holes (118,141 metres) and 777 underground holes (115,439 metres) were used in the Resource Estimate.

The Resources are roughly equally split between the Timmins and Thunder Creek Deposits and are centered on 9700E (4425E mine grid) section and extend from 9900 to 8670 elevation (115 to 1,345 metres below surface) for the Timmins Deposit and centered on 9550N (4675E mine grid) section and extend from 9850 to 9060 elevation (165 to 955 metres below surface) for the Thunder Creek Deposit. The Mineral Resource for the Timmins Deposit has been modeled into 43 sub-zones which refines the broader mineralized Ultramafic, Footwall and Vein Zones. The Thunder Creek Deposit has been modeled into eleven sub-zones which split the broader mineralized Rusk and Porphyry Zones into higher grade zones more suitable for underground mining. The Mineral Resource estimate by category is tabulated in Table 14.1 and by zone for the Timmins Deposit in Table 14.2.

The Timmins West Mine Resource totals 5.83 Mt at 5.99 g/t Au, amounting to 1,122,500 ounces of gold in the Indicated category and 4.27 Mt at 5.76 g/t Au amounting to 791,500 ounces of gold in the Inferred category. Details of the individual deposit calculations are summarized below.

The Timmins Deposit totals 2.95 Mt at 6.34 g/t Au, amounting to 600,900 ounces of gold in the Indicated category and 1.58 Mt at 5.54 g/t Au amounting to 281,500 ounces of gold in the Inferred category. The Resources were estimated using Inverse Distance to the power 3 (ID^3) interpolation method with all gold assays capped to 70 gram metres for the Ultramafic Zone and 40 gram metres for the Vein Zones, and an assumed long-term gold price of US $1,200 per ounce. The base case estimate assumes a cut-off grade of 1.5 g/t Au to maintain zone continuity.

The Thunder Creek Resource totals 2.88 Mt at 5.64 g/t Au, amounting to 521,600 ounces of gold in the Indicated category and 2.69 Mt at 5.89 g/t Au amounting to 510,000 ounces of gold in the Inferred category. The Resource was estimated using Inverse Distance to the power 2 (ID^2) interpolation method with all gold assays capped to 75 gram metres, and an assumed long-term gold price of US $1,200 per ounce. The base case estimate assumes a cut-off grade of 2.0 g/t Au which includes a 10% internal dilution at 1.75g/t Au. This base case is equivalent to the 1.5 g/t Au cut-off, which takes into account mining of 299,000 tonnes of incremental material between the 1.5 and 2.0 g/t cut-off. This internal dilution is included in the total, as it is not known if mining of the zone can be accomplished without mining this material.

TABLE 14.1: TIMMINS WEST MINE RESOURCE ESTIMATES

(Prepared by Lake Shore Gold – January 31, 2012)

Deposit	Resource Classification	Tonnes	Capped Grade (g/t Au)	Contained Gold (ounces)
Timmins				
	Indicated	2,949,000	6.34	600,900
	Inferred	1,579,000	5.54	281,500
Thunder Creek				
	Indicated	2,877,000	5.64	521,600
	Inferred	2,693,000	5.89	510,000
Total Timmins West Mine				
	Total Indicated	5,826,000	5.99	1,122,500
	Total Inferred	4.272,000	5.76	791,500

Notes:

1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 1.5 g/t Au for the Timmins Deposit and 2.0 g/t Au for Thunder Creek.
3. Mineral Resources are estimated using an average long-term gold price of US $1,200 per ounce and a US$/C$ exchange rate of 0.93.
4. A minimum mining width of 2 metres was used.
5. Capped gold grades are used in estimating the Mineral Resource average grade.
6. Sums may not add due to rounding.
7. Mineral Reserve estimates for the Timmins West Mine are currently in progress.
8. Metallurgical recoveries are assumed to average 96.5 percent.
9. Mining costs are assumed to average $82/tonne.
10. Mr. Robert Kusins, B. Sc., P. Geo. and Mr. Ralph Koch, B. Sc., P. Geo, are the Qualified Persons for this Resource estimate.

Mineral Reserve estimates are currently in progress on the property as of the date of this Technical Report.

TABLE 14.2: TIMMINS DEPOSIT RESOURCE ESTIMATES

(Prepared by Lake Shore Gold – January 31, 2012)

Timmins Deposit

Classification	Level	Zone	Tonnes	Capped Grade (g/t Au)	Contained Gold (ounces)
Indicated	260 to Surface	Veins	71,000	4.21	9,600
		Footwall	8,000	6.30	1,700
		Ultramafic	--------	-------	----------
		All zones	**79,000**	**4.44**	**11,300**
	525 to 260	Veins	331,000	5.45	58,000
		Footwall	249,000	4.23	33,900
		Ultramafic	--------	-------	----------
		All zones	**580,000**	**4.93**	**91,900**
	650 to 525	Veins	9,000	6.75	2,000
		Footwall	161,000	3.99	20,600
		Ultramafic	320,000	5.94	61,100
		All zones	**490,000**	**5.32**	**83,700**
	Below 650	Veins	--------	-------	----------
		Footwall	144,000	6.02	27,900
		Ultramafic	1,655,000	7.25	386,000
		All zones	**1,799,000**	**7.16**	**413,900**
	All Levels	Veins	411,000	5.26	69,600
		Footwall	562,000	4.65	84,100
		Ultramafic	1,975,000	7.04	447,100
		All zones	**2,949,000**	**6.34**	**600,900**
Inferred	260 to Surface	Veins	--------	-------	----------
		Footwall	--------	-------	----------
		Ultramafic	--------	-------	----------
		All zones	**--------**	**-------**	**----------**
	525 to 260	Veins	41,000	6.33	8,300
		Footwall	--------	-------	----------
		Ultramafic	--------	-------	----------
		All zones	**41,000**	**6.33**	**8,300**
	650 to 525	Veins	--------	-------	----------
		Footwall	64,000	4.38	9,000
		Ultramafic	2,000	3.73	200
		All zones	**66,000**	**4.36**	**9,300**
	Below 650	Veins	--------	-------	----------
		Footwall	94,000	7.51	22,800
		Ultramafic	1,378,000	5.44	241,100
		All zones	**1,472,000**	**5.57**	**263,900**
	All Levels	Veins	41,000	6.33	8,300
		Footwall	159,000	6.24	31,800
		Ultramafic	1,380,000	5.44	241,300
		All zones	**1,579,000**	**5.54**	**281,500**

14.2 ESTIMATION METHOD

14.2.1 Estimation Method and Parameters

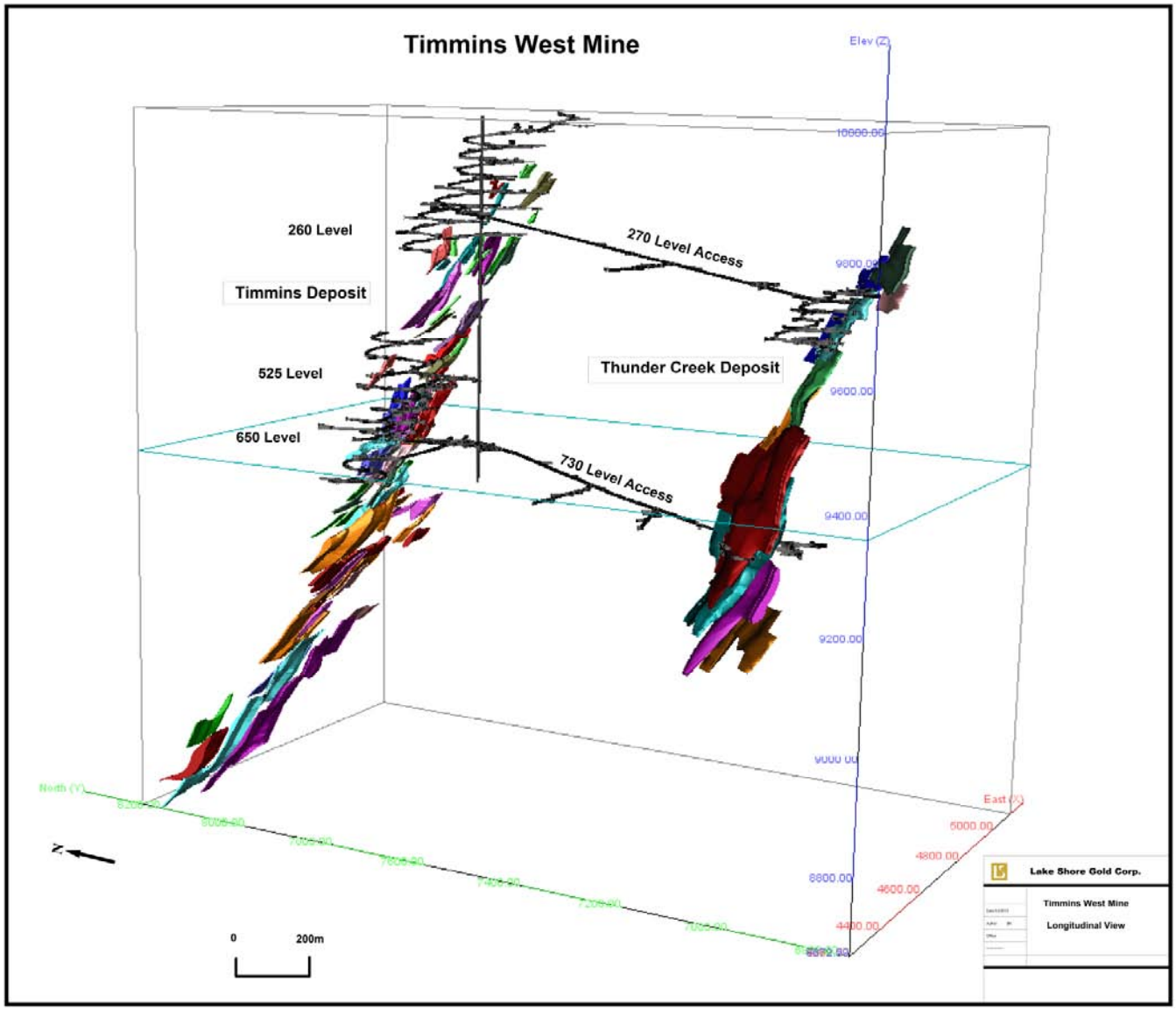
The following general procedure was used to develop the block model Mineral Resource estimate for the Timmins Deposit and Thunder Creek Deposit and includes:

- Database compilation and verification in Gemcom GEMS ("GEMS").
- Interpretation of the zones on 25 metre spaced sections taking into account continuity of lithology, alteration and mineralization except for the area between 650 and 525 of the Timmins Deposit where 6.25 metre spaced sections were used due to the increased drilling in this area. Limits of the zone were defined by a lower cut-off of about 1.0 to 2.0 g/t Au to provide continuity of zones. Mineralization often extends across lithological contacts. A minimum mining width of approximately 2 metres was used. Closed 3D rings were constructed and assigned an appropriate rock type and stored with its section definition in the GEMS polyline workspace.
- Zones are defined by three or more intersections that form a continuous band of mineralization.
- The sectional interpretations are then strung together by tie lines and 3D solids or wireframes are generated that represent the mineralized zones that are used for estimation of tonnes and grade. Outside edges of the 3D model are extruded half the distance to the next section in areas with drilling, or 50 metres in areas with no drilling. Forty-three 3D solids for the Timmins Deposit and eleven solids for the Thunder Creek Deposit were constructed to enable individual volumes, tonnages and grades to be reported. All solids were validated using GEMS validation tools to insure valid solids had been generated. A 3D view of the interpreted zones is shown in Figure 14.1.
- Solid intersection composites are generated from all drill holes intersecting the 3D Mineral Resource Solids. Corresponding entry and exit points are saved to the drill hole workspace and back coded with a zone identifier.
- Individual 1 metre composites are generated from the assay table based on down-the-hole averaging within the limits of the solid intersection composites. Composites whose widths are less than 0.5 metres are removed from the composite table. The composites are stored in a GEMS point area table along with a corresponding rock code for each composite.
- The 1 metre composites at the Timmins Deposit are then used to generate a block model grade based on an Inverse Distance to the power 3 (ID^3) interpolation that encompasses the 3D wireframes that were assigned a unique rock code. Blocks were interpolated utilizing five passes. The first pass populated blocks within a 15 metre search radius requiring two holes within the search radius with a maximum of two composites from any one hole and a maximum of ten composites. The second pass populated blocks within a 30 metre search radius requiring two holes within the search radius with a maximum of two composites per hole and a maximum of ten composites. The third pass populated blocks within a 60 metre search radius requiring two holes within the search radius with a maximum of two composites per hole and a maximum of ten composites. The fourth pass populated blocks within a 60 metre search radius requiring one hole within the search radius with a maximum of two composites per hole and a maximum of ten composites. The final pass was populated within a 120 metre search radius requiring a minimum of one hole, a maximum of two composites per hole and a maximum of ten composites.
- The 1 metre composites at the Thunder Creek Deposit are then used to generate a block model grade based on an Inverse Distance Squared ("ID^2") interpolation that encompasses the 3D

wireframes that were assigned a unique rock code (PZ1A, PZ1B, PZ1C, PZ3, RZ2, RZ2A, RZ3, RZ3A, RZ3A1, RZ3B and RZ5). Blocks were interpolated utilizing four passes. The first pass populated blocks within a 15 metre search radius requiring three holes within the search radius with a maximum of two composites from any one hole and a maximum of ten composites. The second pass populated blocks within a 30 metre search radius requiring three holes within the search radius with a maximum of two composites per hole and a maximum of ten composites. The third pass populated blocks within a 60 metre search radius requiring three holes within the search radius with a maximum of two composites per hole and a maximum of ten composites. The final pass was populated within a 130 metre search radius requiring a minimum of three holes, a maximum of two composites per hole and a maximum of ten composites.

- The Resources were categorized on longitudinal section by grouping of areas of predominately pass 1 and 2 as Indicated and the remaining areas of largely pass 3, 4 or 5 as Inferred Resources. A final category field was added to the block model to track this categorization.

FIGURE 14.1: 3D VIEW OF RESOURCE SOLIDS, LOOKING NORTHEAST



14.2.2 Database

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 database was used for the Mineral Resource estimation process and consists of tables including header, survey, lithology, and assay data with pertinent fields summarized in Table 14.3. Other tables and additional fields within the above tables are currently being utilized by Lake Shore in logging of the drill core and final resource estimation.

The following validation steps were taken to ensure the integrity of the database:

1. Plotting of plans and sections to check for location, elevation and downhole survey errors.
2. Checking for any gaps, overlaps and out of sequence intervals for assay and lithology data using the GEMS validation tools.
3. Thorough review of all historical data available to ensure assay and survey (collar and down hole) information were properly presented in the database.
4. Random validation of approximately 5% of the assay and lithology data against the drill logs and assay certificates.

Only minor discrepancies were noted and corrected prior to the estimation of the resources. None of the errors detected would have a significant impact on the Mineral Resource estimate. The database, in the writer's opinion, is appropriate for reporting of the Timmins West Mine Resource.

In addition to the drill-hole data, other data such as cross-sectional 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 stored within the GEMS database.

TABLE 14.3: 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
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

14.2.3 Grade Capping

Lake Shore Gold has utilized grade capping in its estimation of the Mineral Resources for the Timmins West Mine. To evaluate potential cutting factors, assay values were extracted from the database into a GEMS point area cloud and only those assays within the limits of the solid were used in plotting of cumulative distribution plots and log distribution plots. Individual statistical reports based on the raw gold assays were generated for each of the resource solids and are tabulated in Table 14.4 for the Timmins and Thunder Creek Deposits. Due to a number of zones having a limited number of samples, the zones were grouped into those displaying similar mineralization characteristics to evaluate potential grade caps.

The grouped data for the Timmins Deposit showed that the Footwall Zone, with a coefficient of variation of less than 2.00, did not require grade capping. The Vein and Ultramafic Zones with coefficient of variation of 5.26 and 3.66 respectfully, indicated that gold grade capping of these zones is required.

TABLE 14.4: BASIC STATISTICS OF RAW AU ASSAYS RESOURCE SOLIDS

TIMMINS DEPOSIT

Zone	Total # Samples	Minimum (gpt Au)	Maximum (gpt Au)	Mean (gpt Au)	99th Percentile	Coefficient of Variation
FW1	242	0.003	61.39	4.27	40.20	1.72
FW2	45	0.014	31.90	4.39	31.90	1.25
FW2A	415	0.003	31.40	3.33	25.65	1.62
FW2B	534	0.003	37.00	2.37	19.11	1.67
FW2C	172	0.003	22.53	2.32	17.25	1.43
FW3	85	0.013	22.00	3.36	19.77	1.19
FW4	22	0.050	24.00	4.99	24.00	1.07
UM2A	221	0.003	59.30	3.98	47.75	1.98
UM2B	582	0.003	53.20	3.87	34.25	1.74
UM2C	28	0.011	14.30	2.64	14.30	1.30
UM2D	177	0.003	18.15	2.56	16.45	1.51
Total Footwall	2,523	0.003	61.39	3.30	26.82	1.74
MZ1A	244	0.003	523.27	8.80	201.50	4.45
MZ1B	54	0.021	28.10	4.04	21.90	1.33
MZ1C	18	0.040	28.97	4.05	28.97	1.67
MZ2	72	0.003	725.00	21.43	531.50	4.35
V1	41	0.010	125.00	7.43	125.00	2.66
V2	288	0.003	113.23	3.39	39.20	2.79
V3	304	0.003	201.46	4.29	78.11	3.50
V3A	71	0.025	394.91	9.12	211.85	5.10
V3B	78	0.003	32.11	2.43	26.52	1.99
Total Veins	1,170	0.003	725.00	6.33	79.91	5.26
UM1	2,612	0.002	1340.00	8.44	91.10	4.00
UM1A	11	0.003	6.73	2.21	6.73	0.90
UM1B	1,148	0.003	196.50	5.29	52.20	2.51
UM2	1,069	0.003	74.40	4.07	36.15	1.95
UM2E	52	0.003	331.00	12.42	236.50	3.92
UM3	42	0.003	19.00	4.40	19.00	1.03
UM4	435	0.003	120.91	4.68	52.72	2.26
UM5	263	0.003	75.50	5.49	42.80	1.70
UM5A	199	0.003	135.00	6.55	77.14	2.32
UM5B	62	0.003	74.70	5.22	54.65	2.04
UM5C	62	0.005	58.40	8.34	54.60	1.47
D1	285	0.003	143.50	4.84	70.43	2.52
D1A	106	0.003	369.00	11.15	325.50	3.99
D1B	102	0.003	53.00	6.16	47.50	1.42
D1C	15	1.15	23.50	7.29	23.50	0.89
D1D	130	0.025	121.50	7.59	85.35	1.82
D2	204	0.003	227.00	6.83	87.90	2.91
D2A	52	0.003	209.00	7.94	114.45	3.60
D3	160	0.003	324.00	6.90	124.00	4.25
Total Ultramafic	7,009	0.002	1340.00	6.58	70.85	3.66

THUNDER CREEK DEPOSIT

Zone	Total # Samples	Minimum (gpt Au)	Maximum (gpt Au)	Mean (gpt Au)	99th Percentile	Coefficient of Variation
PZ1A	1,733	0.0025	140.50	5.61	55.72	1.98
RZ2	61	0.0080	91.10	5.98	67.09	2.22
RZ2A	129	0.0025	273.00	5.80	190.00	4.55
RZ3	265	0.0025	87.20	4.31	46.10	2.16
RZ3A	1,051	0.0025	112.00	3.82	33.57	2.04
RZ3A1	32	0.0025	29.70	3.61	29.70	1.74
RZ3B	37	0.0025	35.77	5.60	35.77	1.67
RZ5	101	0.0025	38.90	3.61	31.35	1.79
Total Rusk	3,409	0.0025	273.00	4.89	49.10	2.25
PZ1B	2,882	0.0025	1,600.00	5.30	68.10	6.84
PZ1C	358	0.0025	725.00	4.88	38.30	7.93
PZ3	55	0.0350	147.50	5.53	85.00	3.58
Total Porphyry	3,295	0.0025	1,600.00	5.26	66.60	6.90
Total Thunder Creek Zones	6,704	0.0025	1,600.00	5.07	56.20	5.25

The individual sub-zones were grouped into Footwall, Vein and Ultramafic Zones for the Timmins Deposit and into the Rusk and Porphyry Zones for the Thunder Creek Deposit to reflect the different styles of mineralization. Cumulative frequency plots were generated for the grouped zones to determine discrete breaks in the population at the upper level of the assay data. These breaks were used as an aid to determine appropriate cutting levels for the zones. The GEMS statistical reports were also examined to determine breaks in the populations. Gram metre values were used in the capping exercise to better represent the higher grade samples which are often taken over narrow intervals. Plots of the individual zones requiring capping were created for each of the mineralization styles for gram metre gold values above a 0.1 g/t Au lower cut-off and are shown in Figure 14.2 to Figure 14.5 for the Timmins Deposit and Figure 14.6 to Figure 14.7 for the Thunder Creek Deposit.

The Vein and Ultramafic Zones of the Timmins Deposit were determined to require capping of the gold grades. Evaluating the plots and grade distribution, a 40 m.g/t cap was determined appropriate for the Vein Zone and 70 m.g/t for the Ultramafic Zone. This capping level results in 44 assay values being capped out of a total of 10,702 assays occurring within the limits of the resource solids. This represents 0.41% of the total population.

FIGURE 14.2: CUMULATIVE FREQUENCY TIMMINS DEPOSIT – VEIN ZONES

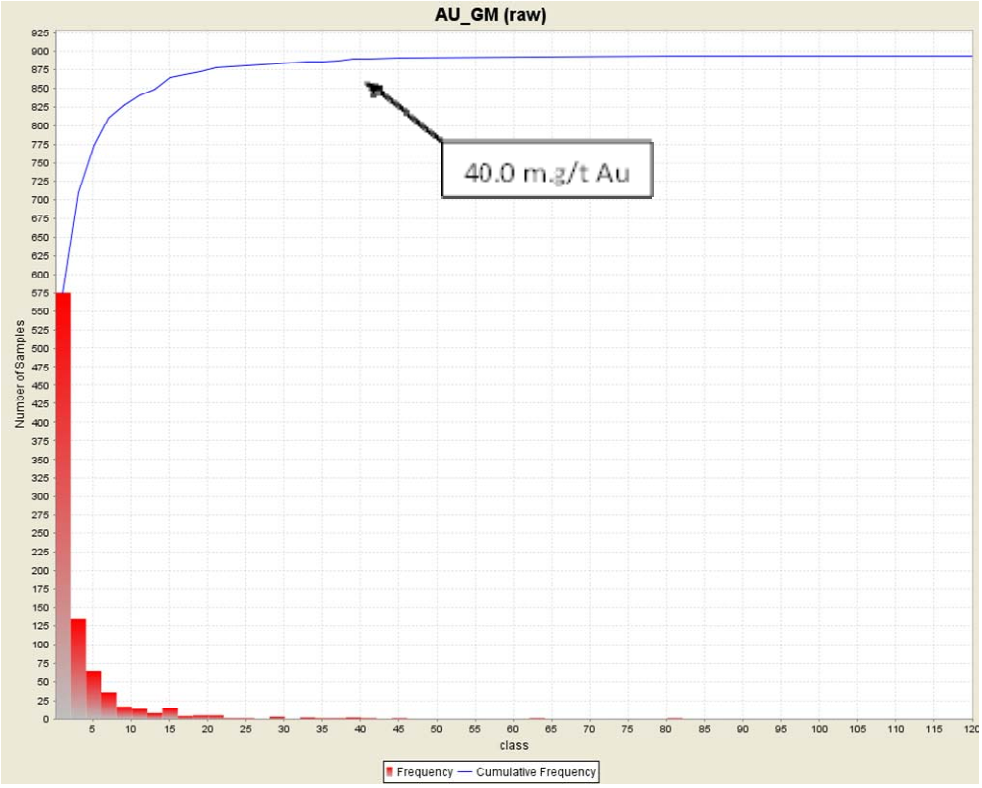


FIGURE 14.3: LOG CUMULATIVE FREQUENCY TIMMINS DEPOSIT – VEIN ZONES

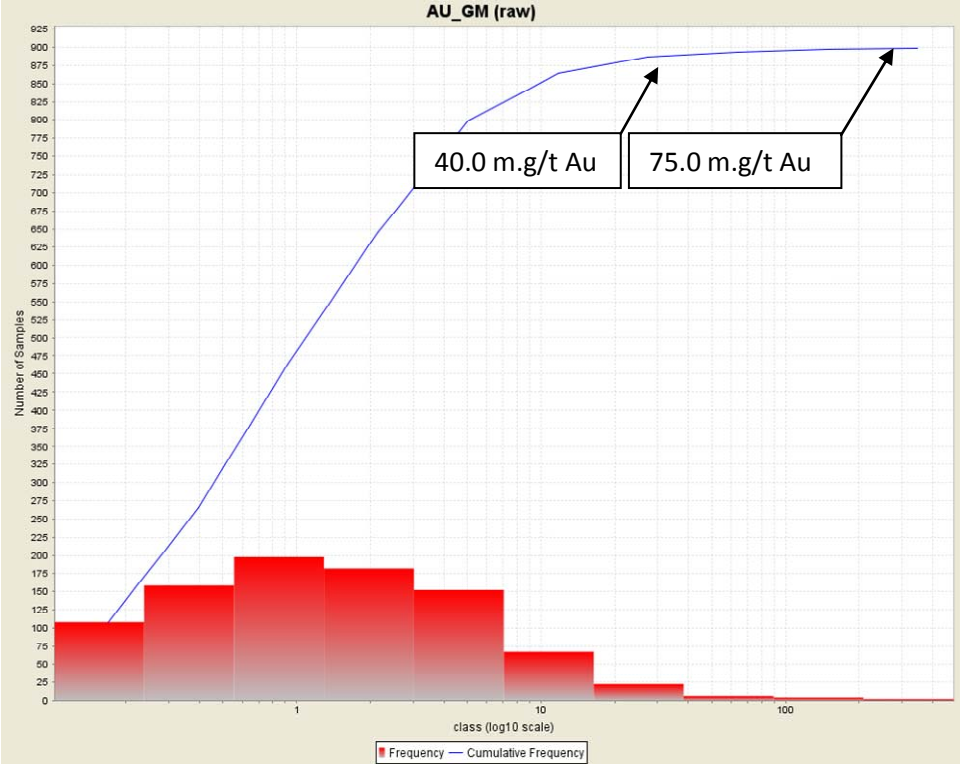


FIGURE 14.4: CUMULATIVE FREQUENCY TIMMINS DEPOSIT – ULTRAMAFIC ZONE

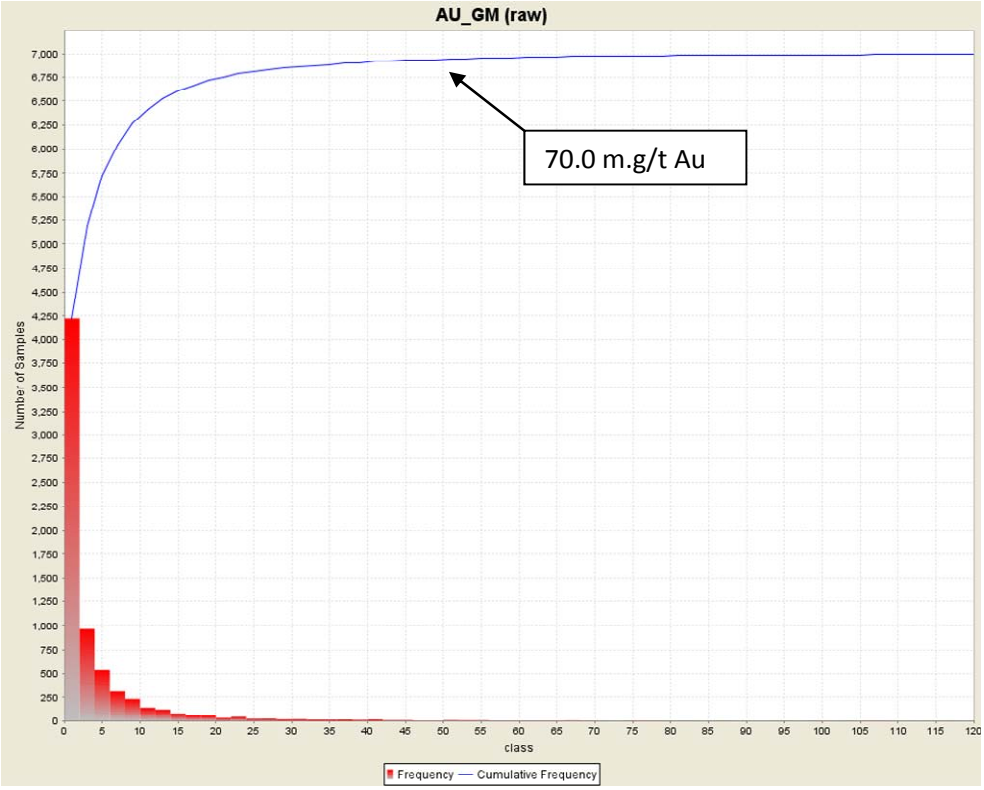


FIGURE 14.5: LOG CUMULATIVE FREQUENCY TIMMINS DEPOSIT – ULTRAMAFIC ZONE

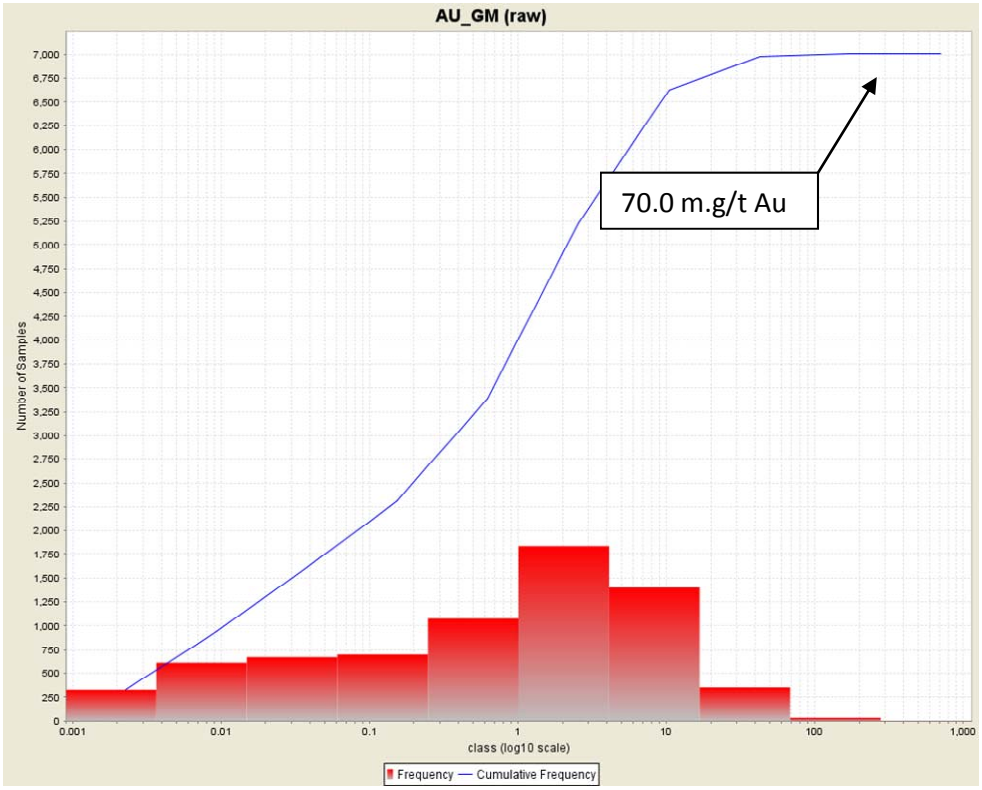


FIGURE 14.6: CUMULATIVE FREQUENCY THUNDER CREEK DEPOSIT – ALL ZONES

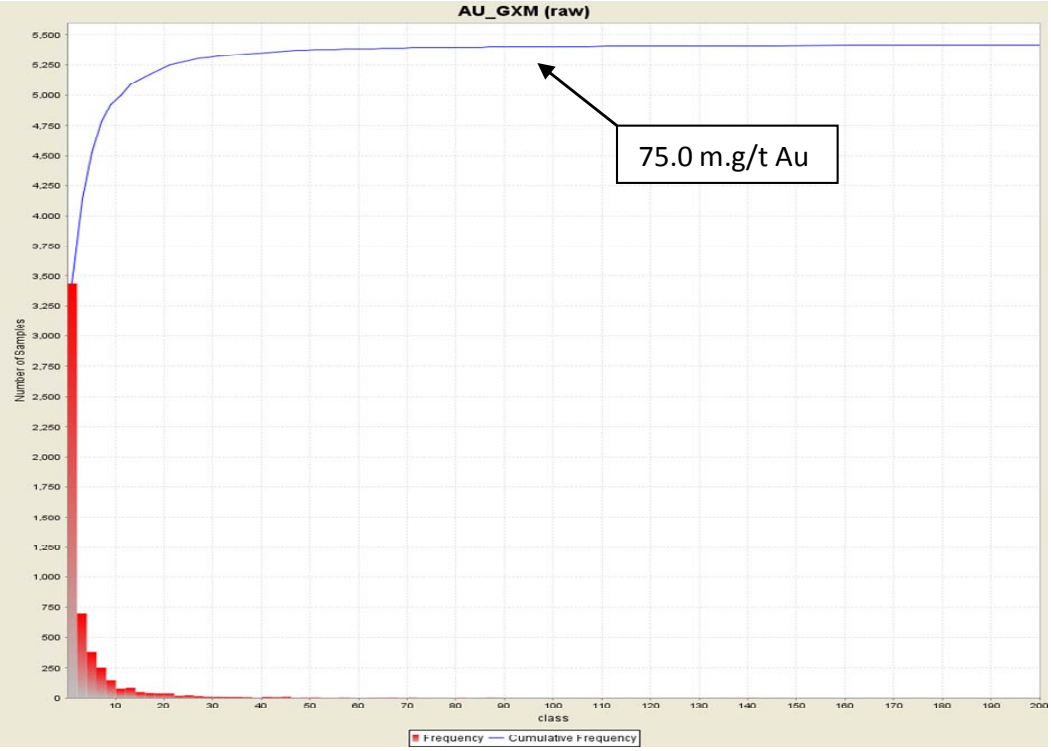
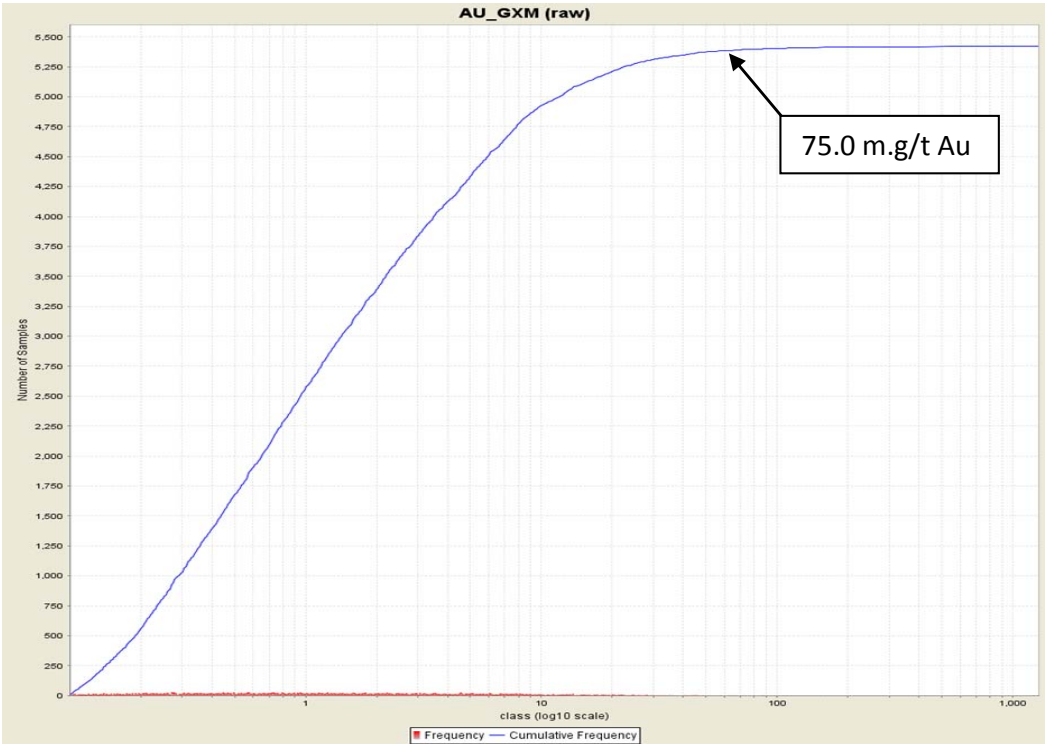


FIGURE 14.7: LOG CUMULATIVE FREQUENCY THUNDER CREEK DEPOSIT – ALL ZONES



Grouped data from the Thunder Creek Deposit indicated that a gram metre value of 75 m.g/t Au was appropriate for both the Rusk and the Porphyry Zones. This capping level results in 24 assay values being capped out of a total of 6,704 assays occurring within the limits of the resource solids. This represents 0.36% of the total population. Table 14.5 summarizes the values for each of the individual zones for the Timmins and Thunder Creek Deposits.

TABLE 14.5: SAMPLES ABOVE GRADE CAP BY ZONE

Zone	Capped Grade (m. g/t Au)	# of Samples Above Cap	Total # of Samples
Footwall	-------	0	2,523
Vein	40	10	1,170
Ultramafic	70	34	7,009
Timmins Deposit		44	10,702
Rusk	75	20	3,409
Porphyry	75	4	3,295
Thunder Creek Deposit	75	24	6,704

Block Model Assay Compositing

Each 3D solid was assigned a unique numeric rock code and name which were used to back code a name and rock code into all drill hole solid intersections. A total of 1,439 solid intersections were used in the resources estimate from 817 unique holes and are summarized in Appendix 5, Timmins and Thunder Creek Deposit Solid Intersections. This solid intersection table was used to generate a set of equal length composites of 1 metre in length within the limits of the 3D solid. The 1 metre composites are stored in a GEMS table and extracted out into a point area cloud for interpolation purposes for each of the Deposits. Both capped and uncapped composite grades are stored in the point area file.

A total of 1,104 solid intersections from 562 unique holes were used in the estimation of the Timmins Deposit Resources, which produced at total of 9,483 1 metre composites. The Thunder Creek Resource utilized 335 solid intersections from 255 unique holes, which resulted in a total of 5,158 1 metre composites being generated. Basic statistics of the 1 metre composites were compiled for the solids used in the Resource estimate and are tabulated in Table 14.6 through Table 14.10 for the Timmins and Thunder Creek Deposits respectively.

TABLE 14.6: SAMPLE COMPOSITE STATISTICS TIMMINS DEPOSIT

TIMMINS DEPOSIT

Statistic	FW1		FW2		FW2A		FW2B	
	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)
# Samples	231	231	34	34	315	315	437	437
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	57.94	40.00	12.39	12.39	22.91	22.91	21.05	21.05
Mean	3.37	3.29	3.64	3.64	2.83	2.83	2.15	2.15
Median	1.41	1.41	2.52	2.52	1.00	1.00	1.10	1.10
Variance	39.28	32.19	9.73	9.73	18.29	18.29	9.32	9.32
Std Dev	6.27	5.67	3.12	3.12	4.28	4.28	3.05	3.05
CV	1.85	1.72	0.86	0.86	1.51	1.51	1.42	1.42

Statistic	FW2C		FW3		FW4		UM2A	
	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)
# Samples	132	132	71	71	11	11	236	236
Minimum	0.00	0.00	0.01	0.01	1.55	1.55	0.00	0.00
Maximum	15.82	15.82	13.06	13.06	18.17	18.17	33.00	33.00
Mean	2.22	2.22	3.33	3.33	5.11	5.11	2.82	2.82
Median	1.10	1.10	2.59	2.59	4.11	4.11	0.32	0.32
Variance	8.67	8.67	9.07	9.07	19.99	19.99	26.47	26.47
Std Dev	2.94	2.94	3.01	3.01	4.47	4.47	5.14	5.14
CV	1.32	1.32	0.90	0.90	0.87	0.87	1.83	1.83

Statistic	UM2B		UM2C		UM2D		All FW Zones	
	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)
# Samples	595	595	31	31	178	178	2,034	2,034
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	32.79	32.79	8.86	8.86	13.89	13.89	57.94	40.00
Mean	2.67	2.67	1.66	1.66	1.82	1.82	2.52	2.51
Median	0.22	0.22	0.59	0.59	0.38	0.38	0.96	0.96
Variance	22.66	22.66	5.03	5.03	9.39	9.39	16.88	16.06
Std Dev	4.76	4.76	2.24	2.24	3.06	3.06	4.11	4.01
CV	1.78	1.78	1.35	1.35	1.68	1.68	1.63	1.60

TABLE 14.7: SAMPLE COMPOSITE STATISTICS TIMMINS DEPOSIT CONTINUED

TIMMINS DEPOSIT

Statistic	MZ1A		MZ1B		MZ1C		MZ2	
	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)
# Samples	383	383	53	53	12	12	49	49
Minimum	0.00	0.00	0.00	0.00	0.61	0.61	0.00	0.00
Maximum	166.81	40.00	15.52	15.52	14.62	14.62	211.72	40.00
Mean	4.37	3.65	2.80	2.80	3.58	3.58	10.39	4.92
Median	1.46	1.46	1.80	1.80	2.29	2.29	2.31	2.31
Variance	154.10	40.79	13.08	13.08	15.28	15.28	1071.02	48.65
Std Dev	12.41	6.39	3.62	3.62	3.91	3.91	32.73	6.98
CV	2.84	1.75	1.29	1.29	1.09	1.09	3.15	1.42

Statistic	V1		V2		V3		V3A	
	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)
# Samples	50	50	220	220	382	382	184	184
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Maximum	125.00	34.25	59.90	40.00	171.28	40.00	161.92	40.00
Mean	7.19	4.50	2.74	2.64	3.07	2.38	4.01	2.93
Median	1.79	1.79	0.93	0.93	0.77	0.77	1.23	1.23
Variance	361.35	48.74	40.20	30.67	137.33	22.97	185.68	29.43
Std Dev	19.01	6.98	6.34	5.54	11.72	4.79	13.63	5.42
CV	2.64	1.55	2.31	2.10	3.81	2.01	3.40	1.85

Statistic	V3B		All Vein Zones	
	Au g/t	Au g/t Cap (40m.g/t)	Au g/t	Au g/t Cap (40m.g/t)
# Samples	74	74	1,407	1,407
Minimum	0.00	0.00	0.00	0.00
Maximum	24.82	24.82	211.72	40.00
Mean	1.95	1.95	3.83	2.99
Median	0.64	0.64	1.16	1.15
Variance	12.06	12.06	163.76	31.24
Std Dev	3.47	3.47	12.80	5.59
CV	1.78	1.78	3.34	1.87

TABLE 14.8: SAMPLE COMPOSITE STATISTICS TIMMINS DEPOSIT CONTINUED

TIMMINS DEPOSIT

Statistic	UM1		UM1A		UM1B		UM2	
	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)
# Samples	2,272	2,272	8	8	972	972	1,065	1,065
Minimum	0.00	0.00	0.09	0.09.	0.00	0.00	0.00	0.00
Maximum	696.61	70.00	3.97	3.97	122.30	70.00	62.83	62.83
Mean	7.16	6.10	1.99	1.99	4.58	4.47	3.05	3.05
Median	2.18	2.18	2.29	2.29	1.48	1.48	0.33	0.33
Variance	563.74	115.15	2.26	2.26	88.04	69.94	36.12	36.12
Std Dev	23.74	10.73	1.50	1.50	9.38	8.36	6.01	6.01
CV	3.31	1.76	0.76	0.76	2.05	1.87	1.97	1.97

Statistic	UM2E		UM3		UM4		UM5	
	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)
# Samples	39	39	30	30	410	410	138	138
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	113.34	70.00	16.77	16.77	67.89	67.89	37.17	37.17
Mean	6.76	5.65	4.40	4.40	3.67	3.67	5.20	5.20
Median	1.56	1.56	2.83	2.83	0.92	0.92	2.89	2.89
Variance	400.40	210.44	17.29	17.29	61.72	61.72	48.53	48.53
Std Dev	20.01	14.51	4.16	4.16	7.86	7.86	6.97	6.97
CV	2.96	2.57	0.94	0.94	2.14	2.14	1.34	1.34

Statistic	UM5A		UM5B		UM5C		D1	
	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)
# Samples	163	163	41	41	38	38	161	161
Minimum	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00
Maximum	105.23	65.16	53.93	53.92	43.61	43.61	143.48	69.99
Mean	5.40	4.98	5.16	5.16	7.67	7.67	5.40	4.95
Median	1.40	1.40	3.22	3.22	3.76	3.76	2.34	2.34
Variance	139.17	87.31	81.74	81.74	101.10	101.10	175.10	82.38
Std Dev	11.80	9.34	9.04	9.04	10.05	10.05	13.23	9.08
CV	2.18	1.88	1.75	1.75	1.31	1.31	2.45	1.83

TABLE 14.9: SAMPLE COMPOSITE STATISTICS TIMMINS DEPOSIT CONTINUED

TIMMINS DEPOSIT

Statistic	D1A		D1B		D1C		D1D	
	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)
# Samples	68	68	65	65	8	8	72	72
Minimum	0.01	0.01	0.00	0.00	3.38	3.38	0.04	0.04
Maximum	177.85	70.00	27.52	27.52	12.36	12.36	55.39	55.39
Mean	9.76	6.82	6.39	6.39	7.69	7.69	7.36	7.36
Median	3.78	3.78	4.00	4.00	7.87	7.87	5.14	5.14
Variance	746.19	119.76	42.58	42.58	7.51	7.51	84.51	84.51
Std Dev	27.32	10.94	6.53	6.53	2.74	2.74	9.19	9.19
CV	2.80	1.61	1.02	1.02	0.36	0.36	1.25	1.25

Statistic	D2		D2A		D3		All UM Zones	
	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)	Au g/t	Au g/t Cap (70m.g/t)
# Samples	105	105	28	28	85	85	6,042	6,042
Minimum	0.00	0.00	0.13	0.13	0.00	0.00	0.00	0.00
Maximum	114.02	70.00	108.30	70.00	154.98	70.00	696.61	70.00
Mean	7.16	6.04	7.70	6.34	6.27	4.68	5.44	4.91
Median	2.92	2.92	2.24	2.24	1.92	1.92	1.59	1.59
Variance	235.59	98.10	389.15	164.49	387.43	93.43	276.24	83.48
Std Dev	15.35	9.90	19.73	12.83	19.68	9.67	16.62	9.14
CV	2.14	1.64	2.56	2.02	3.14	2.07	3.054	1.86

TABLE 14.10: SAMPLE COMPOSITE STATISTICS THUNDER CREEK DEPOSIT

THUNDER CREEK DEPOSIT

Statistic	PZ1A		PZ1B		PZ1C		PZ3	
	Au g/t	Au g/t Cap (75m.g/t)	Au g/t	Au g/t Cap (75m.g/t)	Au g/t	Au g/t Cap (75m.g/t)	Au g/t	Au g/t Cap (75m.g/t)
# Samples	1,183	1,183	2,362	2,362	230	230	37	37
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09
Maximum	101.71	101.71	1,120.80	134.90	363.13	75.63	96.80	96.80
Mean	5.36	5.36	5.15	3.95	4.20	2.95	6.00	6.00
Median	2.34	2.34	1.11	1.11	0.86	0.86	1.55	1.55
Variance	69.98	69.98	882.16	87.76	591.04	51.53	249.82	249.82
Std Dev	8.37	8.37	29.70	9.37	24.31	7.18	15.81	15.81
CV	1.56	1.56	5.75	2.37	5.78	2.43	2.82	2.82

Statistic	RZ2		RZ2A		RZ3		RZ3A	
	Au g/t	Au g/t Cap (75m.g/t)	Au g/t	Au g/t Cap (75m.g/t)	Au g/t	Au g/t Cap (75m.g/t)	Au g/t	Au g/t Cap (75m.g/t)
# Samples	51	51	103	103	204	204	840	840
Minimum	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	45.73	45.73	106.94	74.96	82.84	71.81	67.25	56.30
Mean	5.15	5.15	5.51	4.60	4.17	4.11	3.63	3.61
Median	1.74	1.74	1.21	1.21	1.36	1.36	1.02	1.02
Variance	81.68	81.68	254.90	129.52	74.88	66.74	41.43	39.62
Std Dev	9.04	9.04	15.97	11.38	8.65	8.17	6.44	6.29
CV	1.76	1.76	2.89	2.47	2.07	1.99	1.77	1.74

Statistic	RZ3A1		RZ3B		RZ5		All Zones	
	Au g/t	Au g/t Cap (75m.g/t)	Au g/t	Au g/t Cap (75m.g/t)	Au g/t	Au g/t Cap (75m.g/t)	Au g/t	Au g/t Cap (75m.g/t)
# Samples	29	29	32	32	87	87	5,158	5,158
Minimum	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Maximum	29.54	29.54	34.61	34.61	23.77	23.77	1,120.80	134.90
Mean	3.32	3.32	5.11	5.11	3.41	3.41	4.84	4.21
Median	1.16	1.16	1.86	1.86	0.81	0.81	1.27	1.27
Variance	33.29	33.29	64.46	64.46	29.56	29.56	465.30	74.41
Std Dev	5.77	5.77	8.03	8.03	5.44	5.44	21.57	8.63
CV	1.74	1.74	1.57	1.57	1.59	1.59	4.46	2.05

14.3 SPECIFIC GRAVITY

Specific gravity ("SG") was determined on 994 samples representative of different style of mineralization from the Timmins and Thunder Creek 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. The results were grouped into styles of mineralization which represented the forty-three resource solids for the Timmins Deposit and the eleven resource solids for the Thunder Creek Deposit.

Specific gravity ("SG") was determined on 473 samples of Footwall, Vein and Ultramafic styles of mineralization for the Timmins Deposit. The Footwall zones were represented by 231 samples with an average of 2.81. This value was substantially less than the historical value of 2.88 and so the current average of 2.81 was used in the Resource Estimate. The Vein zones were represented by 19 samples averaging 2.79 while the Ultramafic zones were represented by 223 samples which averaged 2.90 which were in line with historical determinations of 2.81 and 2.92 respectively. The historical values for these two zones were used in the current Resource Estimate.

The Thunder Creek data was similarly grouped into mineralization styles with the Porphyry zone represented by 521 samples with an average value of 2.66. The Rusk zone was represented by 284 samples with an average value of 2.92. The eleven resource solids were grouped into Rusk or Porphyry style mineralization based on the dominant mineralization style within the solid. Table 14.11 summarizes the specific gravity values that were used in the Resource estimate by deposit and zone.

TABLE 14.11: SPECIFIC GRAVITY BY ZONE

Deposit	Zone	Historical Specific Gravity	Number of Readings	Average of Readings	Final Specific Gravity
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
Thunder Creek	Rusk	------	284	2.92	2.92
	Porphyry	------	521	2.66	2.66

14.4 VARIOGRAPHY

Semi-variograms were created for the Resource solids using the 1 metre composites with the assay intervals capped at 70 m.g/t Au for the Timmins Deposit and 75 m.g/t Au for the Thunder Creek Deposit. A spherical model with one or two structures was fitted to each variogram.

The variograms for the Timmins Deposit are shown in Figure 14.8.

In general the variography confirmed the general orientation of the models with the primary direction along the strike of the zones between 75 and 85 degrees azimuth. The models typically produced a range for the primary structure of 15 metres with ranges between 25 to 35 metres for the secondary structure. Sill values ranged from 22 to 87 gammas with high nugget values.

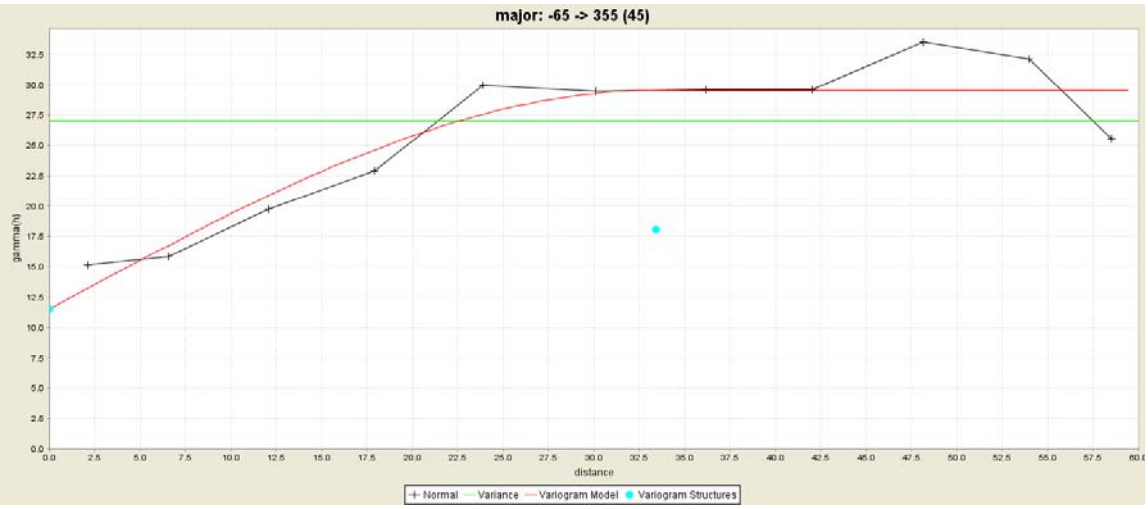
Insufficient data points were available to create suitable variograms for the FW zone below 650 or above 525 Level. For estimation purposes it is assumed that ranges would be similar to the FW zone between 650 and 525 Level.

The variograms for the Rusk and Porphyry zones are shown in Figure 14.9.

In general the variography confirmed the general orientation of the models with the primary direction along the strike of the zones between 30 and 50 degrees azimuth. The models typically produced a range for the primary structure from 20 to 40 metres with sill values from 20 to 60 gammas and high nugget values.

FIGURE 14.8: VARIOGRAMS – TIMMINS DEPOSIT

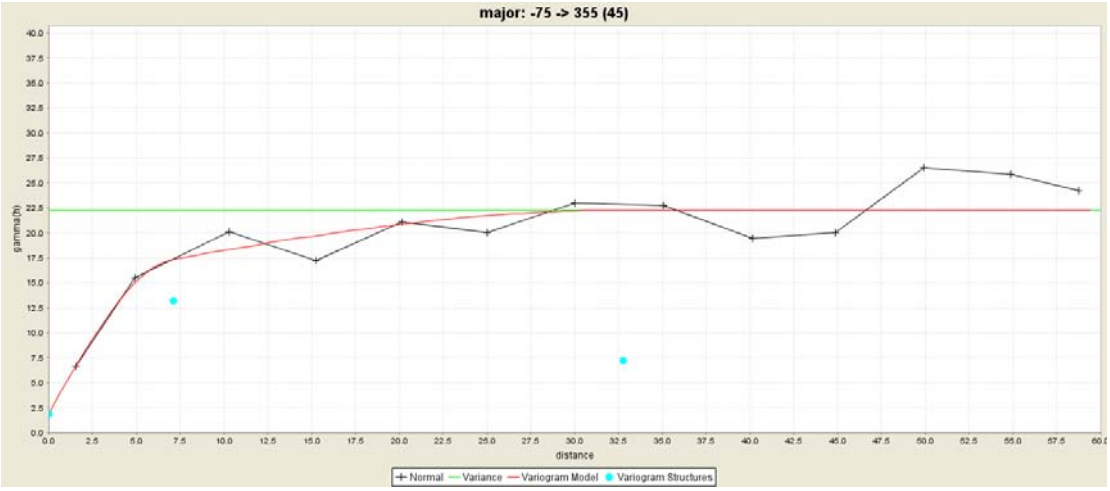
Veins



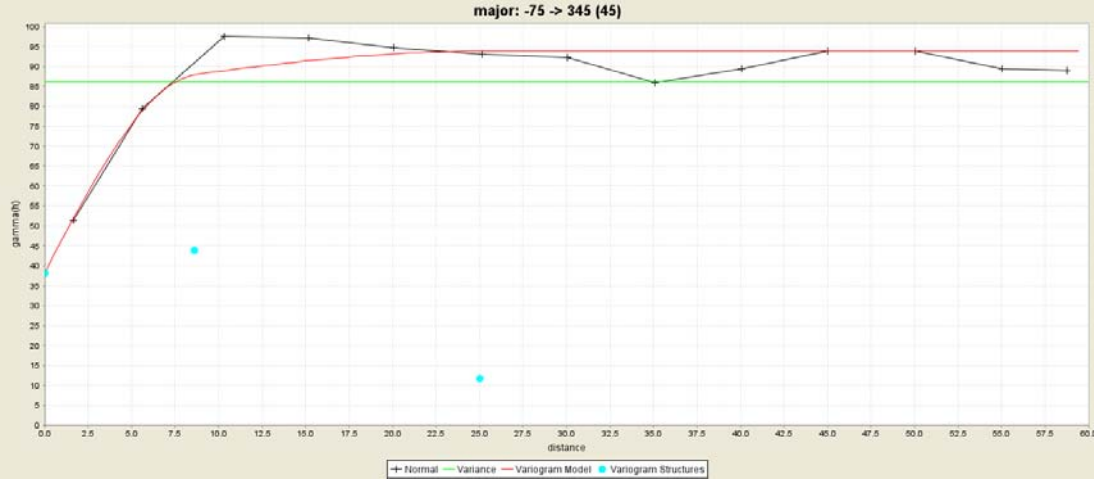
Main Zone



Footwall Zone



Ultramafic 650 to 525 Level



Ultramafic Below 650 Level

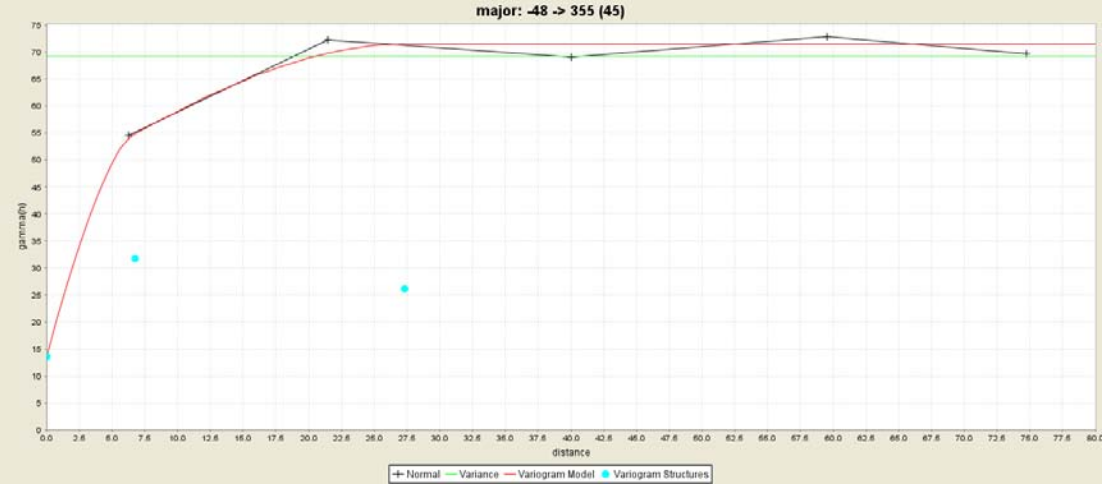


FIGURE 14.9: VARIOGRAMS – THUNDER CREEK DEPOSIT

Rusk



Porphyry



14.5 BLOCK MODEL MINERAL RESOURCE MODELING

14.5.1 General

The grade of the Mineral Resources is estimated by using the ID^3 interpolation method for the Timmins Deposit and ID^2 interpolation method for the Thunder Creek Deposit. 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.

14.5.2 Block Model Parameters

The Mineral Resources for the Timmins Deposit were estimated using three separate block models based on elevation and have been combined into a single block model for reporting purposes which form the Timmins Deposit Resource. The Thunder Creek Deposit was estimated within a single block model. A summary of the Timmins Mine and Thunder Creek block model grid parameters are shown in Table 14.12.

TABLE 14.12: 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	4250 E	Columns	210	Column width	2.0 m
Y	6730 N	Rows	275	Row width	2.0 m
Z	9960 el	Levels	490	Level height	2.0 m
		Orientation	No rotation		

14.5.3 Grade Interpolation

Blocks within the Timmins Deposit block models were interpolated by a five pass system with the first pass requiring that composites from at least two holes be used in determining the block grade. The primary search distance for this pass was set to 15 metres which is roughly equivalent to half the range as determined from the variography. This pass resulted in the interpolation of 130,687 blocks or 32.5 percent of the total. The second pass was based again on two holes required within the search distance and the distance was expanded to 30 metres, or equivalent to the range as determined from the variography. This pass resulted in 123,416 blocks estimated or 30.67% of the total. The third pass required two holes within the search distance which was expanded to 60 metres. This pass resulted in 136,719 blocks being interpolated or 34.0% of the total.

The final two passes both required a minimum of one hole within the search radius of 60 metres and 120 metres to fill in the resource solids. The fourth pass interpolated 11,484 blocks or 2.9% of the total, while the final pass estimated a mere 102 blocks or 0.03% of the total.

Blocks within the Thunder Creek block model were interpolated by a four pass system with the first pass requiring that composites from at least three holes be used in determining the block grade. The primary search distance for this pass was set to 15 metres which is equivalent to half the range as determined from the variography. This pass resulted in the interpolation of 38,195 blocks or 10.4% of the total. The second pass was based again on three holes required within the search distance and the distance was expanded to 30 metres, or equivalent to the range as determined from the variography. This pass resulted in 144,770 blocks estimated or 39.5% of the total.

The final two passes both required a minimum of three holes within the search radius of 60 metres and 130 metres to fill in the resource solids. The third pass interpolated 163,151 blocks or 44.5% of the total, while the final pass estimated 20,555 blocks or 5.6% of the total.

The variography as well as the general geometry of zones, alteration and mineralization were used to establish the search ellipse parameters. The similar nature of the variography and attitude of the mineralization between the Rusk and Porphyry style mineralization allowed a single orientation of the search ellipse to be used. Search ellipse parameters for the Timmins and Thunder Creek Deposits are summarized in Table 14.13.

TABLE 14.13: SEARCH ELLIPSE PARAMETERS

Timmins Mine Deposit
Zone: UM1B, UM2A, UM2B, UM3, UM5, UM5A, UM5B, UM5C, D1, D1A, D1B, D1C, D2, D2A, D4, FW1, FW1A, FW3, 525_FW1, 525_FW2, 525_FW2A, 525_FW3, 525_FW4, 525_MZ1C, 525_MZ2, 525_V3A, 525_V3B

	Search Ellipse Orientation (ZXZ)			Search Ellipse Range			Number of Samples		
Pass	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
1	5	-48	-65	15	15	8	3	10	2
2	5	-48	-65	30	30	20	3	10	2
3	5	-48	-65	60	60	30	3	10	2
4	5	-48	-65	60	60	30	2	10	2
5	5	-48	-65	120	120	60	2	10	2

Zone: 650_UM1, 650_UM1A, 650_UM2, 650_UM2, 650_UM2E

	Search Ellipse Orientation (ZXZ)			Search Ellipse Range			Number of Samples		
Pass	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
1	15	-75	-65	15	15	8	3	10	2
2	15	-75	-65	30	30	20	3	10	2
3	15	-75	-65	60	60	30	3	10	2
4	15	-75	-65	60	60	30	2	10	2
5	15	-75	-65	120	120	60	2	10	2

Zone: 650_UM2A, 650_UM2B, 650_UM2C, 650_UM2D

	Search Ellipse Orientation (ZXZ)			Search Ellipse Range			Number of Samples		
Pass	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
1	5	-75	-65	15	15	8	3	10	2
2	5	-75	-65	30	30	20	3	10	2
3	5	-75	-65	60	60	30	3	10	2
4	5	-75	-65	60	60	30	2	10	2
5	5	-75	-65	120	120	60	2	10	2

Zone: 525_MZ1A, 525_MZ1B, 525_V1, 525_V3

	Search Ellipse Orientation (ZXZ)			Search Ellipse Range			Number of Samples		
Pass	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
1	5	-70	-65	15	15	8	3	10	2
2	5	-70	-65	30	30	20	3	10	2
3	5	-70	-65	60	60	30	3	10	2
4	5	-70	-65	60	60	30	2	10	2
5	5	-70	-65	120	120	60	2	10	2

Zone: UM3, D3, 525_FW2B, 525_V2

	Search Ellipse Orientation (ZXZ)			Search Ellipse Range			Number of Samples		
Pass	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
1	5	-60	-65	15	15	8	3	10	2
2	5	-60	-65	30	30	20	3	10	2
3	5	-60	-65	60	60	30	3	10	2
4	5	-60	-65	60	60	30	2	10	2
5	5	-60	-65	120	120	60	2	10	2

Zone: D1D, FW2

	Search Ellipse Orientation (ZXZ)			Search Ellipse Range			Number of Samples		
Pass	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
1	5	-40	-65	15	15	8	3	10	2
2	5	-40	-65	30	30	20	3	10	2
3	5	-40	-65	60	60	30	3	10	2
4	5	-40	-65	60	60	30	2	10	2
5	5	-40	-65	120	120	60	2	10	2

Zone: UM4, 525_FW2C

	Search Ellipse Orientation (ZXZ)			Search Ellipse Range			Number of Samples		
Pass	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
1	5	-30	-65	15	15	8	3	10	2
2	5	-30	-65	30	30	20	3	10	2
3	5	-30	-65	60	60	30	3	10	2
4	5	-30	-65	60	60	30	2	10	2
5	5	-30	-65	120	120	60	2	10	2

Thunder Creek Deposit

		Search Ellipse Orientation (ZXZ)			Search Ellipse Range			Number of Samples		
Zone	**Pass**	**z**	**x**	**z**	**x**	**y**	**z**	**min**	**max**	**Max/hole**
Porphyry	1	40	-61	0	15	15	8	5	10	2
	2	40	-61	0	30	30	20	5	10	2
	3	40	-61	0	60	60	45	5	10	2
	4	40	-61	0	130	130	65	5	10	2
Rusk	1	40	-61	0	15	15	8	5	10	2
	2	40	-61	0	30	30	20	5	10	2
	3	40	-61	0	60	60	45	5	10	2
	4	40	-61	0	130	130	65	5	10	2

14.6 BLOCK MODEL VALIDATION

Plans and sections were cut through the block model and Resource solids to visually compare the block grades to the drill-hole grades. The grade and distribution of the block grade is consistent with drill hole assay data and the interpolation parameters that were used. A typical section through the Timmins Deposit Resource solids is illustrated in Figure 14.10. Plan views of models cut at the 310 Level, 525 Level and the 790 Level of the Timmins Deposit are shown in Figure 14.11, Figure 14.12, and Figure 14.13.

A typical section through the Thunder Creek Deposit Resource solids is illustrated in Figure 14.14 and plan view of the model at the 730 Level shown in Figure 14.15.

Volumes of the individual solids were compared to volumes of the individual solids from the block model to ensure proper coding of the solid.

A nearest neighbor interpolation of the block model using the same parameters and search ellipse as the ID^3 and ID^2 interpolation was completed and compared. Results showed local variations in the ounce totals but no significant differences between the two interpolation methods for the combined totals which are tabulated in Table 14.14 for the Timmins Deposit and Table 14.15 for the Thunder Creek Deposit.

An independent review of the resource estimate was completed by Michel Dagbert, P. Eng of SGS Geostat. A copy of the review titled “Resource Modeling and Estimation of the Thunder Creek Gold Deposit” and “Resource Modeling and Estimation of the Timmins Gold Deposit below 650 Level” are attached in Appendix 7 and 8.

Only the portion of the Resource below the 650 Level for the Timmins Deposit was reviewed. A similar method of modeling and estimation was used in the upper portion of the Deposit.

FIGURE 14.10: SECTION 4575E – TIMMINS DEPOSIT, RESOURCE BLOCK MODEL

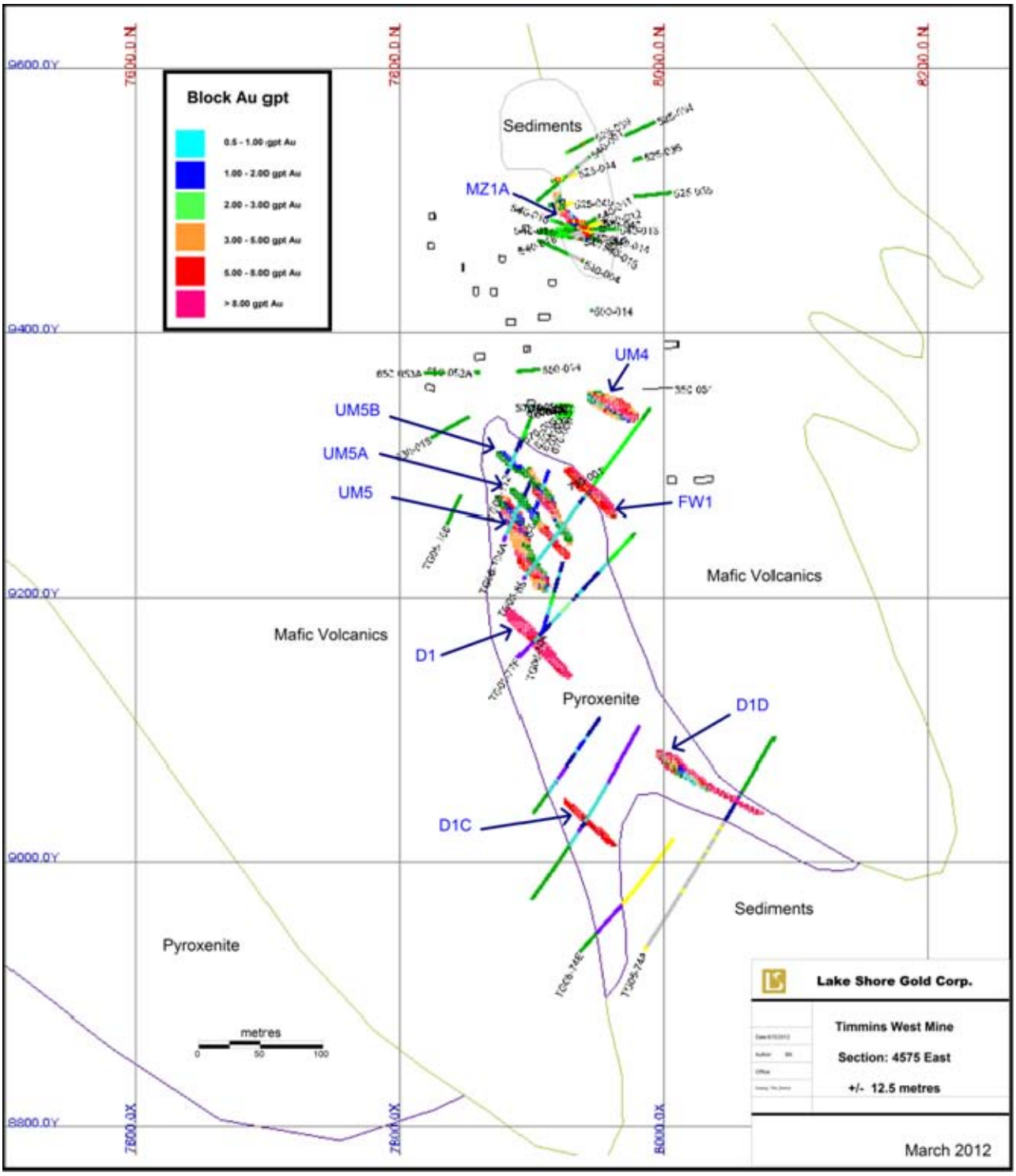


FIGURE 14.11: 310 LEVEL PLAN – TIMMINS DEPOSIT, BLOCK AND DRILL HOLE GRADES

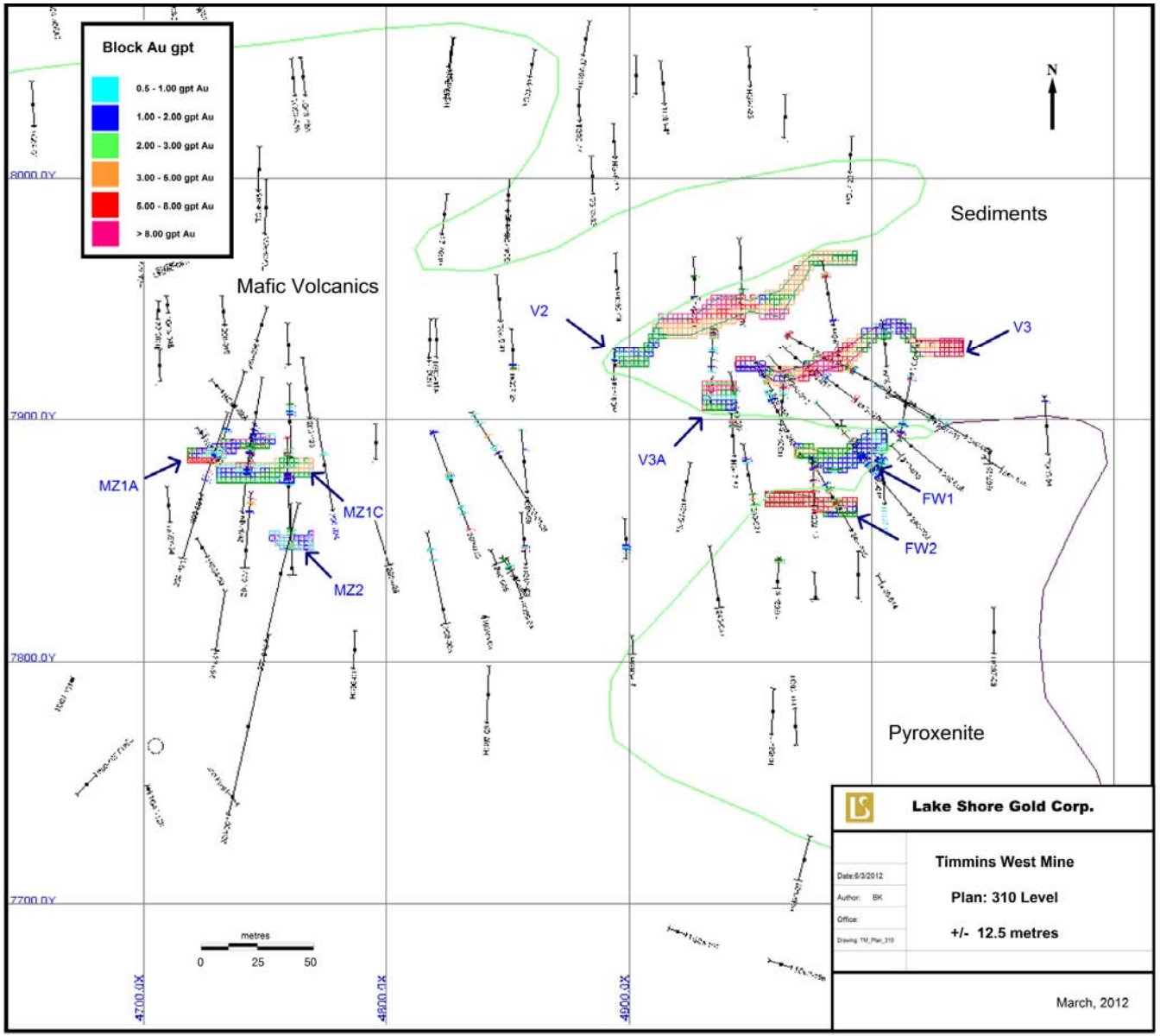


FIGURE 14.12: 525 LEVEL PLAN – TIMMINS DEPOSIT, BLOCK AND DRILL HOLE GRADES

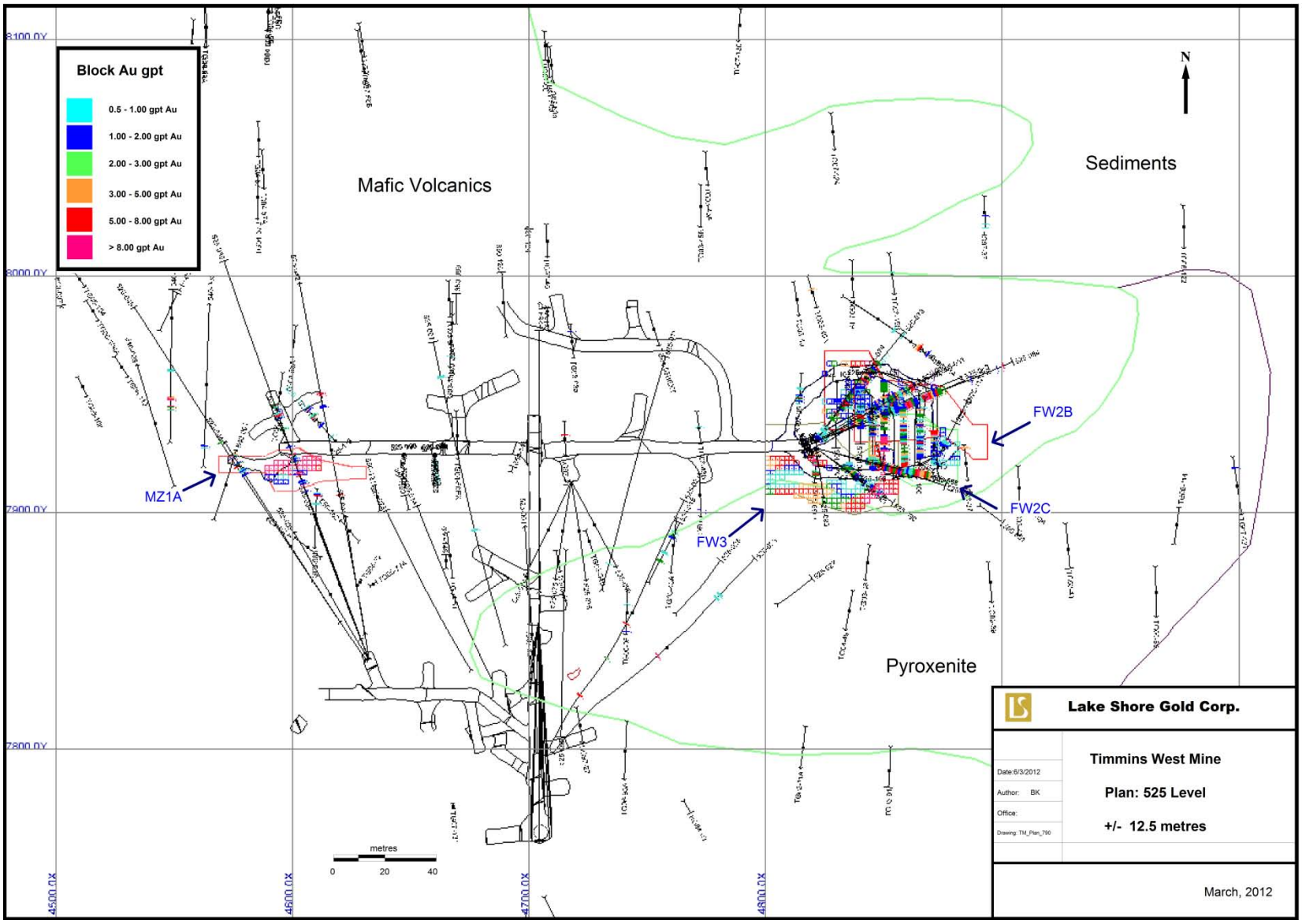


FIGURE 14.13: 790 LEVEL PLAN – TIMMINS DEPOSIT, BLOCK AND DRILL HOLE GRADES

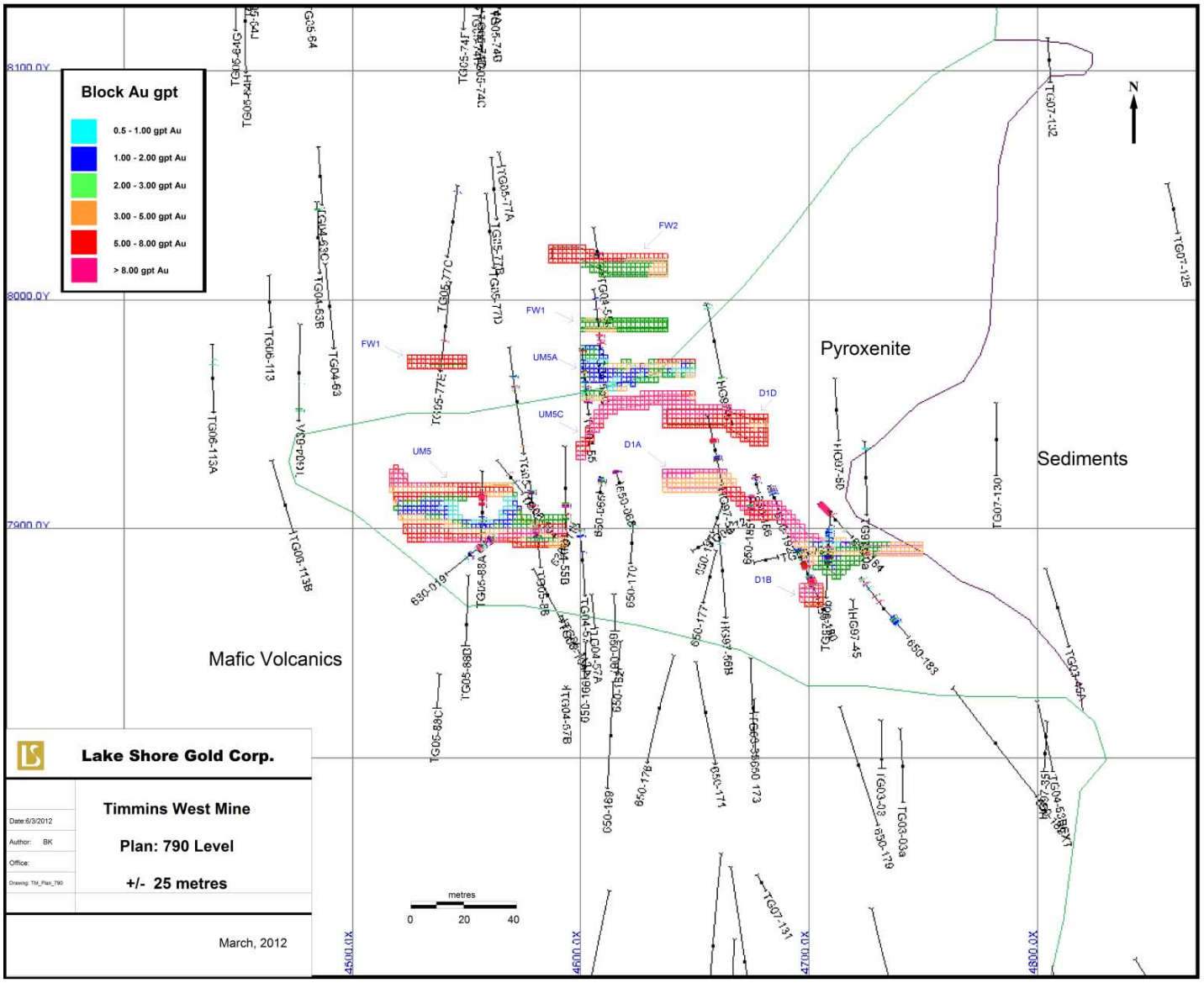


FIGURE 14.14: SECTION 9550N – THUNDER CREEK DEPOSIT, BLOCK AND DRILL HOLE GRADES

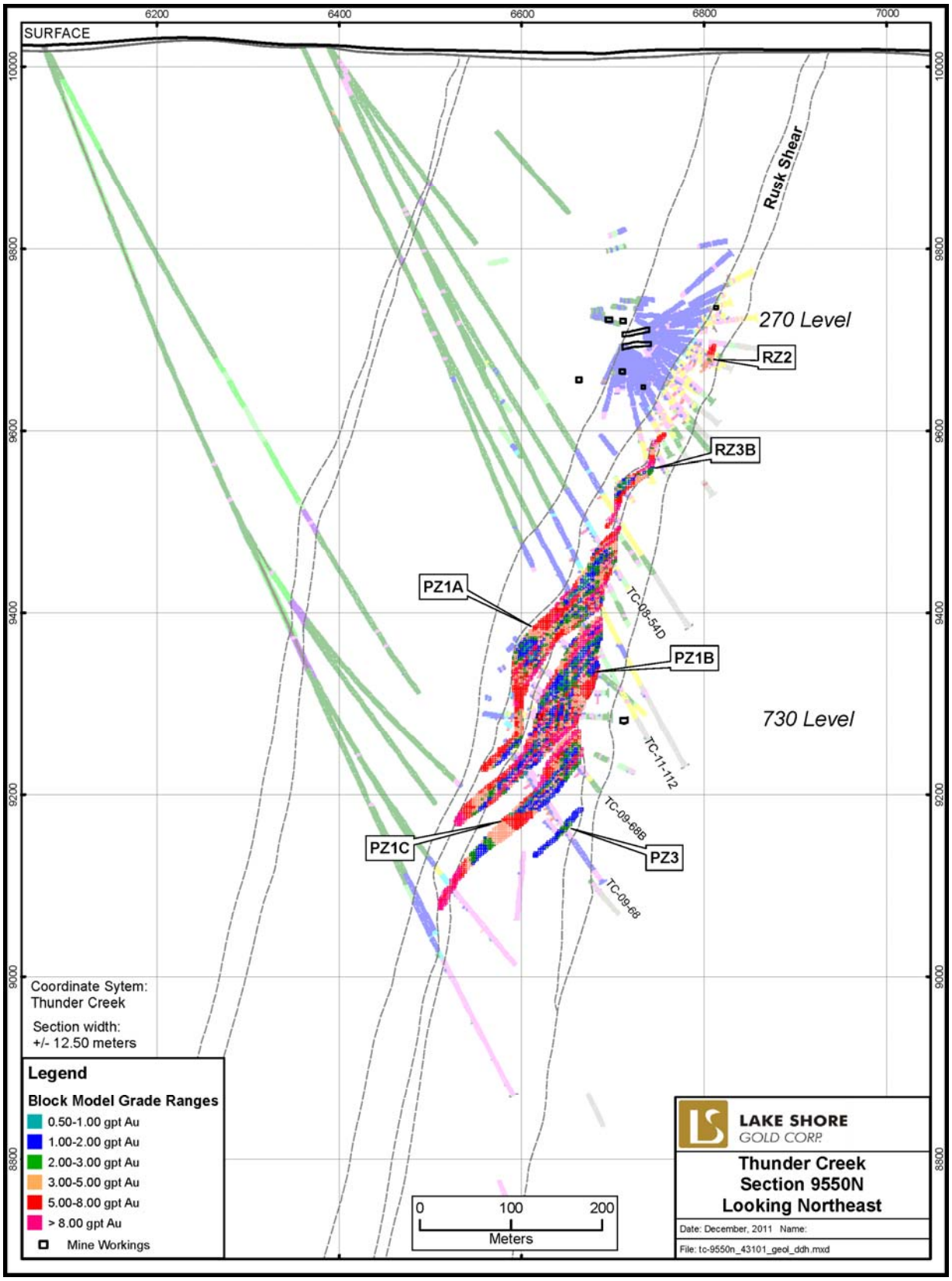


FIGURE 14.15: 730 LEVEL PLAN – THUNDER CREEK DEPOSIT, BLOCK AND DRILL HOLE GRADES

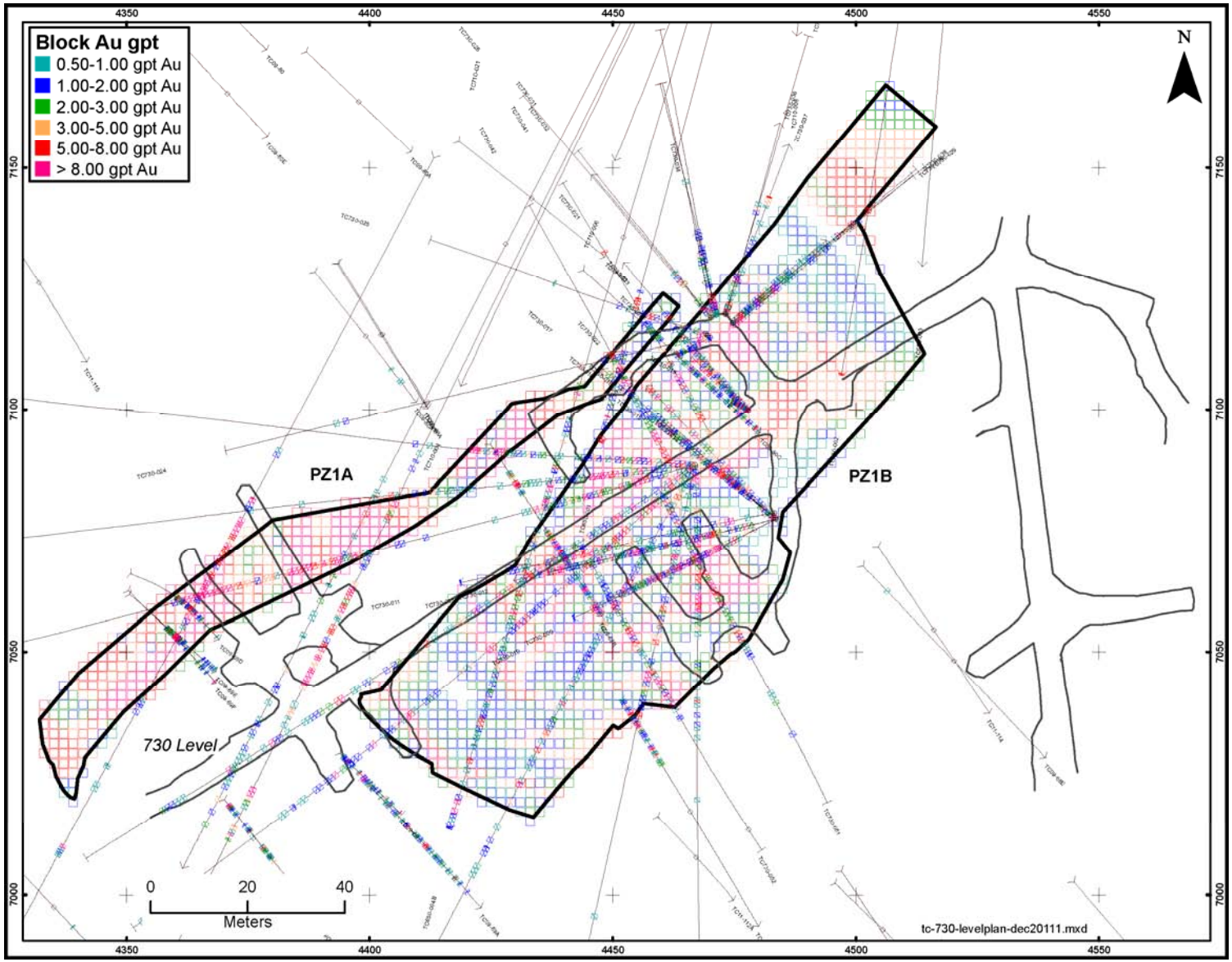


TABLE 14.14: COMPARISON OF ID³ AND NEAREST NEIGHBOUR INTERPOLATIONS, BLOCKS ABOVE 0.0 GPT AU – TIMMINS DEPOSIT

Interpolation Method	Model	Tonnage* (t)	Grade (g/t Au)	Ounces** (oz Au)
ID^3	Above 525	1,113,178	3.89	139,235
NN	Above 525	1,113,378	4.21	150,830
	Relative difference	0%	-8%	-8%

Interpolation Method	Model	Tonnage* (t)	Grade (g/t Au)	Ounces** (oz Au)
ID^3	650 to 525	693,805	3.49	77,757
NN	650 to 525	577,027	4.32	80,114
	Relative difference	17%	-24%	-3%

Interpolation Method	Model	Tonnage* (t)	Grade (g/t Au)	Ounces** (oz Au)
ID^3	Below 650	3,913,790	5.53	695,835
NN	Below 650	3,032,000	5.60	702,451
	Relative difference	0%	-1%	-1%

Interpolation Method	Model	Tonnage* (t)	Grade (g/t Au)	Ounces** (oz Au)
ID^3	Total	5,720,973	4.96	912,827
NN	Total	5,594,472	5.19	933,395
	Relative difference	2%	-5%	-2%

TABLE 14.15: COMPARISON OF ID² AND NEAREST NEIGHBOUR INTERPOLATIONS, BLOCKS ABOVE 1.5 GPT AU – THUNDER CREEK DEPOSIT

Interpolation Method	Resource Category	Tonnage* (t)	Grade (g/t Au)	Ounces** (oz Au)
ID^2	Indicated	2,877,000	5.64	521,600
NN	Indicated	3,032,000	5.42	528,600
	Relative difference	5%	-4%	1%

Interpolation Method	Resource Category	Tonnage* (t)	Grade (g/t Au)	Ounces** (oz Au)
ID^2	Inferred	2,693,000	5.89	510,000
NN	Inferred	2,816,000	5.55	502,100
	Relative difference	5%	-6%	2%

*****Rounded to nearest thousand - ** Rounded to nearest hundred

Development work on the Timmins Deposit has intersected portions of the resource solids on eight levels. Chip sampling results from this development work was compared to the block model grades as interpolated from the diamond drilling and are summarized in Table 14.16. Only chip samples falling within the limits of the Resource solids were used in the estimation of grade. Individual level comparisons show quite a large relative difference both positive and negative due to the limited amount of samples involved. The total grades show slightly higher chip sample grades versus the block grades with a relative difference of -12 percent.

Initial development work on the Thunder Creek Property has intersected portions of the Resource solids on six levels as part of the advanced exploration program on the property. Chip sampling results from this development work was compared to the block model grades as interpolated from the diamond drilling and are summarized in Table 14.16. Only chip samples falling within the limits of the Resource solids were used in the estimation of grade. Individual level comparisons show quite a large relative difference both positive and negative due to the limited amount of samples involved. The total grades show a good correlation of grades between the chips and the block grades with a relative difference of 9 percent.

TABLE 14.16: COMPARISON OF CHIP SAMPLE DEVELOPMENT GRADES AGAINST BLOCK MODEL GRADES

Timmins Deposit

Level	Zone	Chip Grade (g/t)	Number of Chips	Block Grade (g/t)	Tonnes (t)	Relative Difference
480 Level	FW2A	2.60	178	2.45	1,708	-6%
	FW2B	7.62	35	2.88	157	-165%
525 Level	FW2B	1.32	94	2.26	3,005	42%
	FW2C	2.74	31	2.54	963	-8%
	FW3	4.05	29	2.63	1,249	-54%
	MZ1A	0.72	15	3.67	782	80%
540 Level	MZ1A	1.55	8	3.06	206	49%
545 Level	UM1	6.94	90	3.10	712	-124%
585 Level	UM1	4.97	312	6.60	8,050	25%
610 Level	UM2A	4.56	156	4.78	5,592	5%
630 Level	UM1-UM1A	5.64	432	5.49	12,264	-3%
	UM2	3.85	120	3.14	3,581	-23%
650 Level	UM1-UM1A	6.77	459	5.54	17,415	-22%
	UM2	4.72	121	1.66	4,353	-184%
Total		5.23	2,080	4.68	62,514	-12%

Thunder Creek Deposit

Level	Zone	Chip Grade (g/t)	Block Grade (g/t)	Tonnes (t)	Relative Difference
280 Level	RZ2A	3.38	4.87	2,600	-31%
	RZ3A	0.95	2.21	811	-57%
300 Level	RZ3A	4.29	6.24	3,278	-31%
315 Level	RZ3A	4.01	4.33	1,666	-7%
350 Level	RZ3A	3.05	2.35	3,864	30%
715 Level	PZ1A	12.01	7.30	4,034	64%
730 Level	PZ1A	5.43	7.15	1,824	-23%
	PZ1B	4.65	4.17	13,863	12%
Total		5.17	4.74	31,940	9%

Thirty-seven stoping blocks have been initiated or completed at the Timmins Mine since August 2009 amounting to 568,358 tonnes at 4.74 g/t Au. The Timmins Deposit totals are comprised of thirty-two stopes totaling 504,426 tonnes at 4.77 g/t Au, while the Thunder Creek Deposit accounts for five stopes totaling 63,932 tonnes at 4.51g/t Au. Table 14.17 compares the stope muck sampling tonnes and grades versus the block model tonnes and grade for a number of stopes. Muck sample grades at the Timmins Deposit tend to be slightly higher than the block model grades potentially indicating a partial sampling bias of finer material with better grade. Insufficient stoping data is available for the Thunder Creek to make any meaningful conclusions, although currently muck sample grades are tending to be slightly lower grade than the block model grades.

TABLE 14.17: COMPARISON OF MUCK SAMPLE STOPE GRADES AGAINST BLOCK MODEL GRADES

Timmins Deposit

Stope	Zone	Muck Grade (g/t)	Tonnes (t)	Block Grade (g/t)	Tonnes (t)	Relative Difference (g/t)	Relative Difference (t)
525 FW*	FW	2.18	74,386	2.20	79,913	-1%	-7%
585 UM1	UM	2.98	487	2.09	588	42%	-17%
610 UM1	UM	5.24	74,388	4.85	93,591	8%	-21%
610 UM2a	UM	2.53	11,801	3.52	25,986	-28%	-55%
630 UM1a	UM	5.61	16,364	4.66	11,718	20%	40%
630 UM2	UM	3.93	36,795	2.54	16,815	55%	119%
650 UM1	UM	8.06	128,943	6.96	107,468	16%	20%
650 UM1A	UM	6.01	6,843	2.78	9,898	117%	-31%
650 UM2	UM	3.461	8,209	3.04	2,953	14%	178%
Total		5.38	358,216	4.60	348,930	17%	3%

*Stope has not been completely mucked out

Thunder Creek Deposit

Stope	Zone	Muck Grade (g/t)	Tonnes (t)	Block Grade (g/t)	Tonnes (t)	Relative Difference (g/t)	Relative Difference (t)
280 LH	RZ2A	3.26	18,349	4.62	14,479	-29%	27%
315 LH	RZ3A	4.42	7,425	6.07	8,455	-27%	-12%
730 LH	PZ1A	6.09	29,338	6.42	39,296	-5%	-25%
Total		5.43	42,979	5.95	62,230	-17%	-11%

14.7 MINERAL RESOURCES AND CLASSIFICATION

14.7.1 General

Lake Shore has separated the Resources at the Timmins Deposit into forty-three Resource solids between 4250E and 5100E (Timmins Deposit 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). Similarly at the Thunder Creek Deposit the Resources have been separated into eleven Resource solids between 9325N and 9675N (Thunder Creek grid), a horizontal distance of 350 metres. Vertically, the zones have been defined from 9,850 metre elevation (165 metres below surface) to 9,075 metre elevation (940 metres below surface). Details of the Resources by type and Deposit are summarized in the following sections and views of the block models are illustrated in Figure 14.16 and Figure 14.17.

14.7.2 Mineral Resources

The Indicated Resources for the Timmins West Mine totals 5.8 million tonnes at 5.99 g/t Au amounting to 1,122,500 ounces of gold. This total is comprised of Resources for the Timmins and Thunder Creek Deposits and is summarized in Table 14.18. The effective date of this resource is January 31, 2012.

Inferred Resources are as well summarized in Table 14.18 and amount to 4.3 million tonnes at 5.76 g/t Au totaling 791,500 ounces of gold.

The totals for the Timmins Deposit have been adjusted for development and stoping carried out to date which amounts to 154,517 tonnes of development at 3.68 gpt Au and 504,400 tonnes of stoping at 4.77 g/t Au. Development and stoping was removed from the block models by zeroing of the grades and tonnes for those blocks that have been mined.

The totals for the Thunder Creek Deposit have not been adjusted for development and initial stoping that has been carried out to date, which would amount to 130,904 tonnes of development at 3.60 g/t Au and 63,932 tonnes of test stoping at 4.51 g/t Au.

FIGURE 14.16: 3D VIEW OF RESOURCES TIMMINS DEPOSIT LOOKING SOUTHEAST

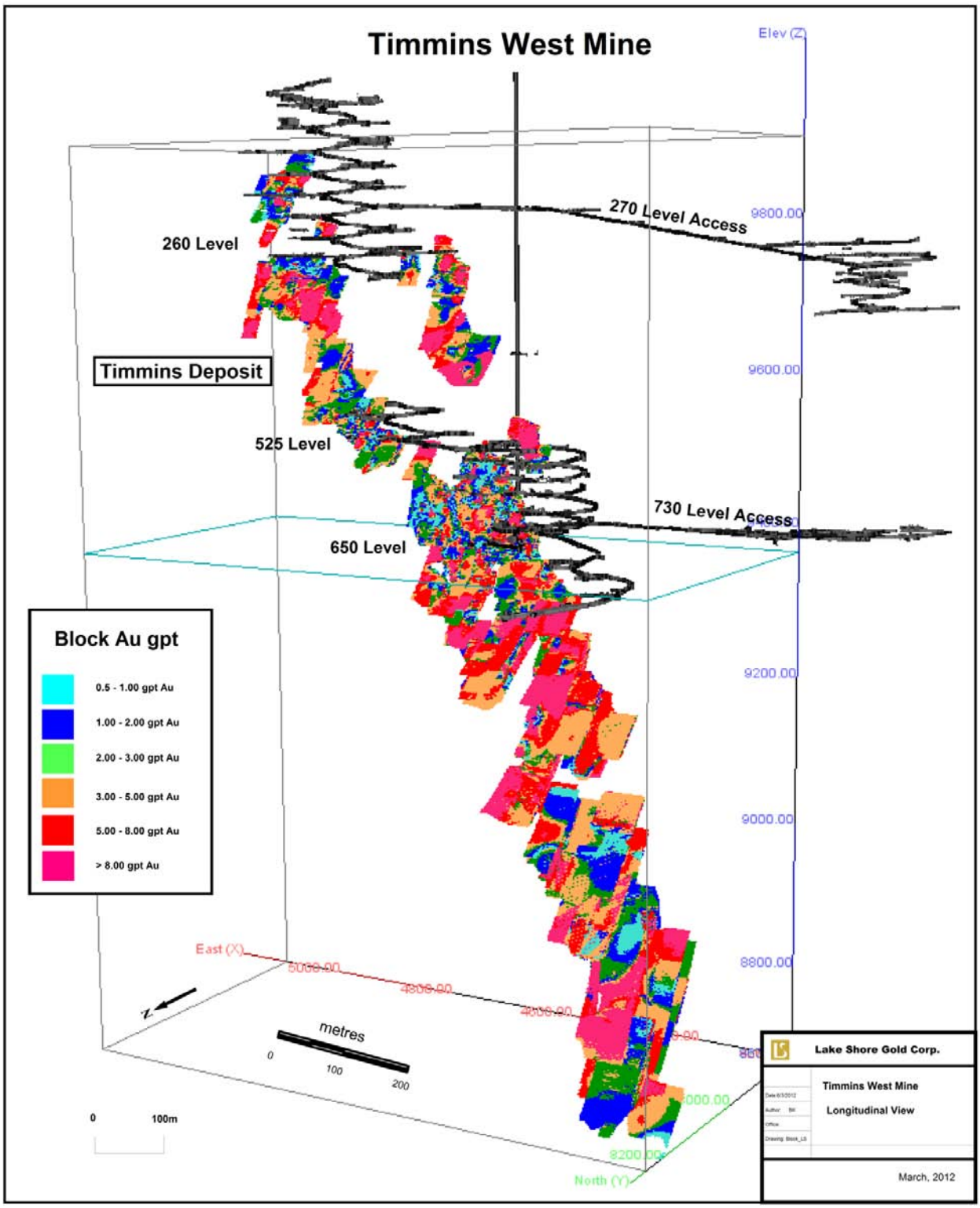


FIGURE 14.17: 3D VIEW OF THUNDER CREEK DEPOSIT LOOKING SOUTHEAST

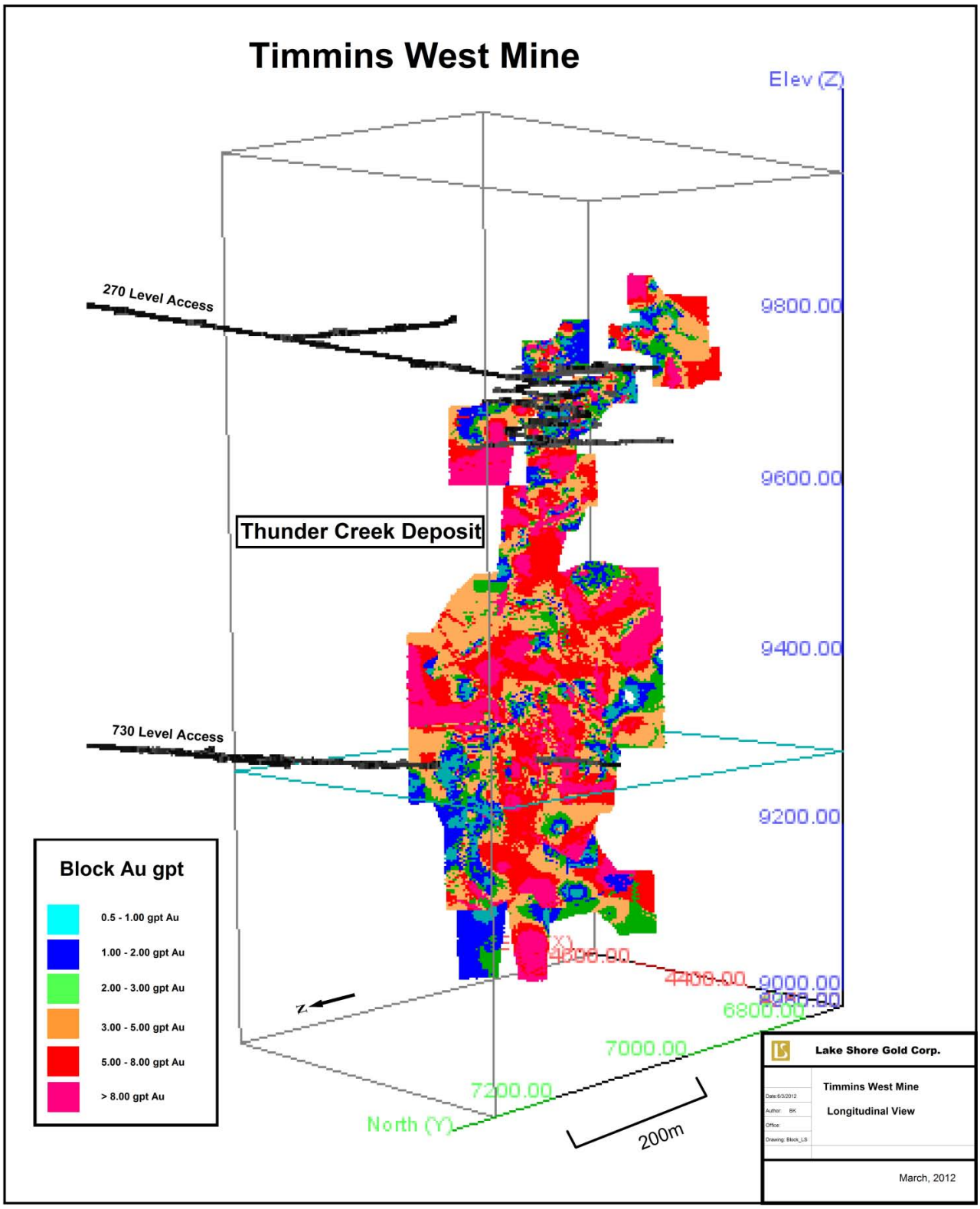


TABLE 14.18: TIMMINS WEST MINE RESOURCES

(Prepared by Lake Shore Gold – January 31, 2012)

Timmins Deposit

Category	Tonnes	Capped Grade (g/t Au)	Capped Ounces Au
Measured	-	-	-
Indicated	2,949,000	6.34	600,900
Measured and Indicated	**2,949,000**	**6.34**	**600,900**
Inferred	1,579,000	5.54	281,500

Thunder Creek Deposit

Category	Tonnes	Capped Grade (g/t Au)	Capped Ounces Au
Measured	-	-	-
Indicated	2,877,000	5.64	521,600
Measured and Indicated	**2,877,000**	**5.64**	**521,600**
Inferred	2,693,000	5.89	510,000

Total Timmins West Mine

Category	Tonnes	Capped Grade (g/t Au)	Capped Ounces Au
Measured	-	-	-
Indicated	5,826,000	5.99	1,122,500
Measured and Indicated	**5,826,000**	**5.99**	**1,122,500**
Inferred	4,272,000	5.76	791,500

Notes:

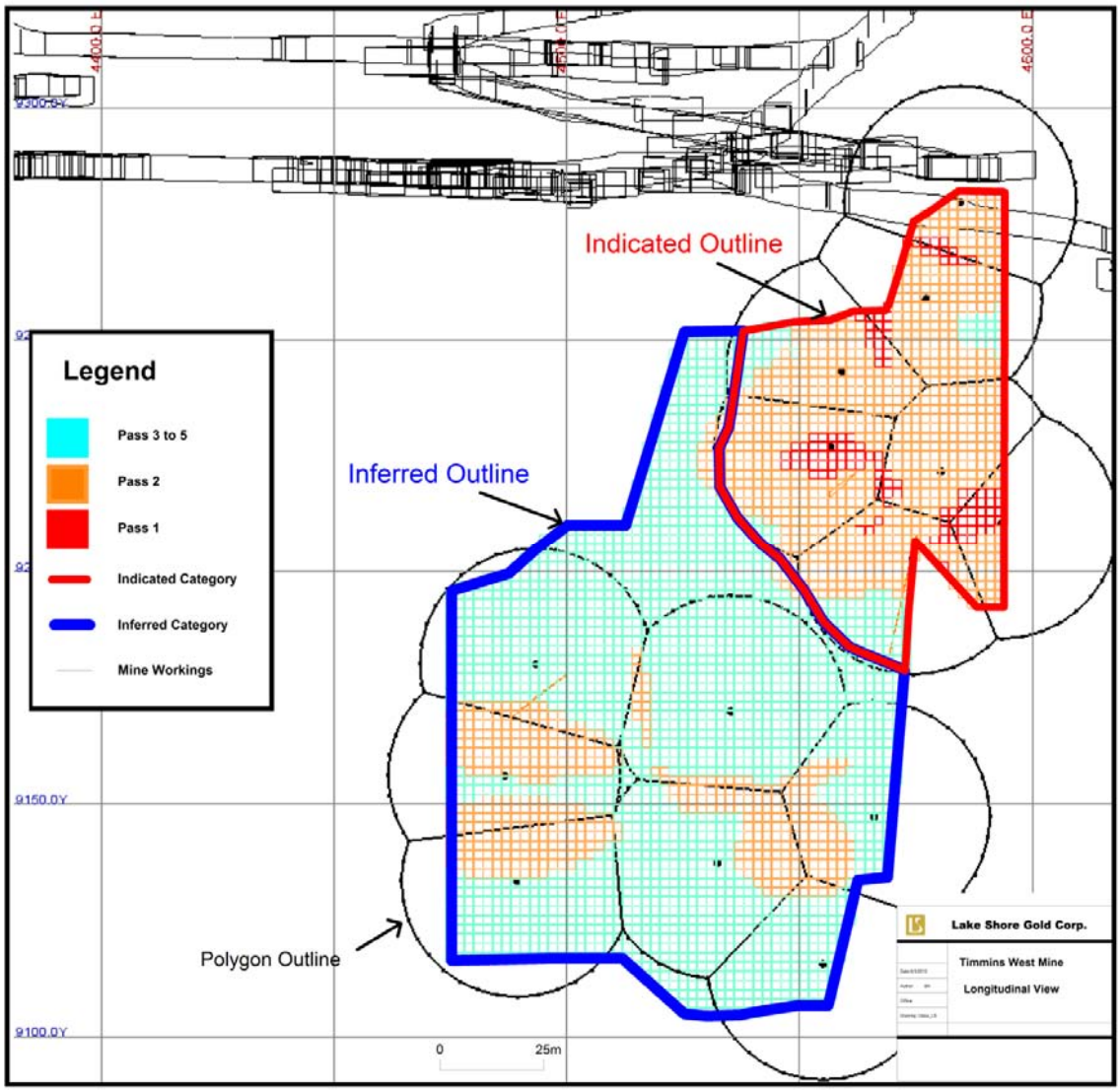
1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 1.5 g/t Au.
3. Mineral Resources are estimated using an average long-term gold price of US $1,200 per ounce and a US$/C$ exchange rate of 0.93.
4. A minimum mining width of 2 metres was used.
5. Capped gold grades are used in estimating the Mineral Resource average grade.
6. Sums may not add due to rounding.
7. Mineral Reserve estimates for the Timmins West Mine are currently in progress.

8. Metallurgical recoveries are assumed to average 96.5 percent.
9. Mining costs are assumed to average $82/tonne.
10. Mr. Robert Kusins, B. Sc., P. Geo. and Mr. Ralph Koch, B. Sc. P. Geo., are the Qualified Persons for this resource estimate.

Resources were classified by plotting of the individual Resource solids on longitudinal section by pass. Pass 1 and 2 were grouped together while the remaining passes were grouped as a separate colour code. Twenty-five metre radius polygons were generated about the drill hole solid intersections to aid in determining continuity and drill hole spacing. Those areas deemed to form a continuous zone with blocks of largely Pass 1 and 2 (30 metre search) were clipped out of the Resource Solid to facilitate re-coding of the resource category as illustrated in Figure 14.18. These areas were re-classified in the block model as Indicated, while the remaining blocks within the Resource solid were classified as Inferred.

FIGURE 14.18: RESOURCE CLASSIFICATION, LONGITUDINAL VIEW OF INTERPOLATION PASSES

For UM5 – Timmins Deposit



Uncut gold values were carried for the Resource to determine the effect of the capped grade and are tabulated in Table 14.19. The uncut gold grade for the Indicated Resource at the 1.5 g/t Au lower cut-off is 6.75 g/t Au amounting to 1,264,000 ounces. The grade capping for the Indicated Resource has reduced the total by 141,600 ounces or 11% of the total resource. Similarly, the uncut gold grade for the Inferred Resource at the 1.5 g/t Au lower cut-off is 6.10 g/t amounting to 837,600 ounces which has been reduced by capping by 46,100 ounces or 6% of the total resource.

TABLE 14.19: TIMMINS WEST MINE MINERAL RESOURCE ESTIMATES

(Prepared by Lake Shore – January 2012)

Category	Deposit	Tonnes (t)	Uncapped Grade (g/t Au)	Uncapped Ounces (oz)	Capped Grade (g/t Au)	Capped Ounces (oz)
Indicated						
	Timmins	2,949,000	7.31	690,600	6.34	600,900
	Thunder Creek	2,877,000	6.20	573,500	5.64	521,600
	Total Indicated	**5,826,000**	**6.75**	**1,264,100**	**5.99**	**1,122,500**

Category	Deposit	Tonnes (t)	Uncapped Grade (g/t Au)	Uncapped Ounces (oz)	Capped Grade (g/t Au)	Capped Ounces (oz)
Inferred						
	Timmins	1,579,000	5.77	292,900	5.54	281,500
	Thunder Creek	2,693,000	6.29	544,700	4.77	510,000
	Total Inferred	**4,272,000**	**6.10**	**837,600**	**5.76**	**791,500**

Notes:

1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 1.5 g/t Au.
3. Mineral Resources are estimated using an average long-term gold price of US $1,200 per ounce and a US$/C$ exchange rate of 0.93.
4. A minimum mining width of 2 metres was used.
5. Capped gold grades are used in estimating the Mineral Resource average grade.
6. Sums may not add due to rounding.
7. Mineral Reserve estimates for the Timmins West Mine are currently in progress.
8. Metallurgical recoveries are assumed to average 96.5 percent.
9. Mining costs are assumed to average $82/tonne.
10. Mr. Robert Kusins, B. Sc., P. Geo. and Mr. Ralph Koch, B. Sc., P. Geo., are the Qualified Persons for this resource estimate.

Sensitivities to lower cut-off were run at 0.50 g/t Au increments from 0.00 g/t Au to 3.00 g/t Au and are summarized in Table 14.20 for the Indicated and Inferred Resources. The higher cut-off grades result in only a slight decrease in total ounces. At the higher cut-offs, the zones become patchier and less continuous and it has not been demonstrated that these higher grades would be achievable in a more selective mining approach. The base case of 1.5 g/t Au attempts to introduce some level of selectivity to the mining of the resource, but yet maintain continuity of the zone. At lower cut-offs, the zones become more continuous, but it becomes apparent that there would be opportunities to not mine portions of the resource.

TABLE 14.20: TIMMINS WEST MINE RESOURCE SENSITIVITIES

Timmins Deposit

	Indicated Mineral Resources			Inferred Mineral Resources		
Cut-off Grade (gpt Au)	Tonnes* (t)	Grade (g/t Au)	Ounces** Au	Tonnes* (t)	Grade (g/t Au)	Ounces** Au
0.00	3,769,000	5.12	620,100	1,915,000	4.71	290,100
0.50	3,480,000	5.52	618,000	1,817,000	4.96	289,500
1.00	3,219,000	5.91	611,700	1,716,000	5.20	287,000
1.50	**2,949,000**	**6.34**	**600,900**	**1,579,000**	**5.54**	**281,500**
2.00	2,667,000	6.82	585,100	1,426,000	5.95	272,800
2.50	2,386,000	7.36	564,700	1,296,000	6.32	263,500
3.00	2,124,000	7.93	541,700	1,124,000	6.87	248,200

Thunder Creek Deposit

	Indicated Mineral Resources			Inferred Mineral Resources		
Cut-off Grade (gpt Au)	Tonnes* (t)	Grade (g/t Au)	Ounces** Au	Tonnes* (t)	Grade (g/t Au)	Ounces** Au
0.00	3,576,000	4.71	541,900	3,134,000	5.20	524,300
0.50	3,451,000	4.87	540,800	3,093,000	5.27	523,800
1.00	3,196,000	5.20	534,400	2,934,000	5.51	519,900
1.50	**2,877,000**	**5.64**	**521,600**	**2,693,000**	**5.89**	**510,000**
2.00	2,578,000	6.09	504,800	2,398,000	6.40	493,400
2.50	2,297,000	6.56	484,600	2,150,000	6.88	475,600
3.00	2,053,000	7.02	463,000	1,929,000	7.35	456,000

Total Timmins West Mine

	Indicated Mineral Resources			Inferred Mineral Resources		
Cut-off Grade (gpt Au)	Tonnes* (t)	Grade (g/t Au)	Ounces** Au	Tonnes* (t)	Grade (g/t Au)	Ounces** Au
0.00	7,345,000	4.92	1,162,000	5,049,000	5.02	814,400
0.50	6,931,000	5.20	1,158,800	4,910,000	5.15	813,300
1.00	6,415,000	5.56	1,146,200	4,651,000	5.40	806,900
1.50	**5,826,000**	**5.99**	**1,122,500**	**4,272,000**	**5.76**	**791,500**
2.00	5,245,000	6.46	1,089,900	3,823,000	6.23	766,200
2.50	4,684,000	6.97	1,049,400	3,446,000	6.67	739,100
3.00	4,177,000	7.48	1,005,000	3,053,000	7.18	704,300

*Rounded to nearest thousand - ** Rounded to nearest hundred

14.8 RECONCILIATION TO PREVIOUS RESOURCE TIMMINS DEPOSIT

The previous resource estimate for the Timmins Deposit amounted to 3,245,000 tonnes at 8.56 g/t Au for 892,700 ounces in the Indicated category and 894,000 tonnes at 5.74 g/t Au in the Inferred category.

Table 14.21 below compares the current Resource estimate with the estimate completed on September 2009.

TABLE 14.21: COMPARISON OF NEW VS. SEPTEMBER 2009 RESOURCE ESTIMATE – TIMMINS DEPOSIT

September 2009 Resource

Level		Indicated Mineral Resources			Inferred Mineral Resources		
From	To	Tonnes* (t)	Grade (g/t Au)	Ounces** Au	Tonnes* (t)	Grade (g/t Au)	Ounces** Au
Surface	260	265,000	8.92	76,000	121,000	4.44	17,200
260	525	339,000	7.83	85,300	250,000	4.92	39,500
525	650	681,000	9.57	209,500	164,000	5.50	29,000
650	1300	1,960,000	8.28	521,900	360,000	6.85	79,200
Total		**3,245,000**	**8.56**	**892,700**	**894,000**	**5.74**	**164,900**

New Resource Estimate

Level		Indicated Mineral Resources			Inferred Mineral Resources		
From	To	Tonnes* (t)	Grade (g/t Au)	Ounces** Au	Tonnes* (t)	Grade (g/t Au)	Ounces** Au
Surface	260	79,000	4.44	11,300	----------	------	----------
260	525	580,000	4.93	91,900	41,000	6.33	8,300
525	650	490,000	5.32	83,700	66,000	4.36	9,300
650	1300	1,799,000	7.16	413,900	1,472,000	5.57	263,900
Total		**2,949,000**	**6.34**	**600,900**	**1,579,000**	**5.54**	**281,500**

Net Difference

Level		Indicated Mineral Resources			Inferred Mineral Resources		
From	To	Tonnes* (t)	Grade (g/t Au)	Ounces** Au	Tonnes* (t)	Grade (g/t Au)	Ounces** Au
Surface	260	-186,000	-4.48	-64,700	-121,000	-4.44	-17,200
260	525	241,000	-2.90	6,600	-209,000	1.41	-31,200
525	650	-191,000	-4.25	-125,800	-98,000	-1.14	-19,700
650	1300	-161,000	-1.12	-108,000	1,112,000	-1.28	184,700
Total		**-296,000**	**-2.22**	**-291,800**	**684,000**	**-0.20**	**116,600**

The net difference since the last estimate, results in a drop in Indicated Resources of 296,000 tonnes, a reduction of grade by 2.22 g/t Au and a reduction of 291,800 ounces. Inferred Resources have seen an increase of 684,000 tonnes, a slight reduction in grade by 0.20 g/t Au and an increase of 184,700 ounces. The changes to the Resources are largely attributed to the mining that has been carried out since the last estimate amounting to 658,943 tonnes at 4.51 g/t Au totaling 95,600 ounces of gold. The remaining differences are a reflection of a more rigorous re-classification and interpretation of resources based on our current understanding of the mineralization at the Timmins Deposit. The previous estimate based largely on polygons, assumed continuity of mineralization at the 3 g/t Au cut-off. Detailed underground drilling and development work has demonstrated the lack of grade continuity at this grade range, with the necessity to reduce the cut-off to 1.5 g/t Au to insure continuity, resulting in a net decrease in overall grade.

14.9 ADDITIONAL DRILL HOLE INFORMATION EVALUATION

Subsequent to the closing of the database on January 31, 2012, additional assays were received for eighteen holes on the Timmins Deposit. Six of these holes were from the area above the 525 Level, with three holes intersecting Resource solids resulting in six solid intersections. The remaining twelve holes were from the area below 650 Level and resulted in eight holes intersecting Resource solids with a total of twenty-five solid intersections. The majority of intersections confirmed the location and grade of the Resource solids and would have minimal impact on the Resource in this area.

Subsequent to the closing of the Thunder Creek Deposit database on October 28, 2011, additional assays were received for thirty-four additional holes. Twenty-one of these holes were from the lower portion of the Resource below the 500 metre Level. Fourteen of these holes intersected Resource solids resulting in eighteen solid intersections. Assays from thirteen holes were received for drilling above the 500 metre Level, three of which intersected Resource solids producing four solid intersections. Minor local adjustments to the models would be required in a few instances but these are expected to have minimal impact on the Resource.

14.10 RECOMMENDATIONS

The following items are recommended for further study and evaluation:

1. Evaluate the replacing of the ID^3 and ID^2 interpolation method by ordinary kriging.
2. Continue monitoring of specific gravity and grade capping, as additional drill hole information is added to the database, to ensure appropriate values are being used.
3. Continue stope reconciliations to monitor the grade predictability of the block model.
4. Additional drilling, particularly in areas of the Inferred Resources, to better delineate the extent of the Resource and increase its confidence level.
5. Reduce the amount of off azimuth and oblique drilling which become problematic in modeling and grade estimation.

14.11 RESOURCE BASE USED FOR THE PRELIMINARY ECONOMIC ASSESSMENT

A Preliminary Economic Assessment (PEA) that included both indicated and inferred resources was completed for the Timmins West Mine to better understand the combined economic potential of the Timmins Deposit and Thunder Creek Deposit resources. Prior to the PEA, previous study work included the Timmins Deposit only as the Thunder Creek Deposit had not been discovered.

The resource base used for the PEA has been summarized in Table 14.22 (Timmins Deposit) and Table 14.23 (Thunder Creek Deposit).

TABLE 14.22: TIMMINS DEPOSIT RESOURCE BASE USED FOR PEA

Classification	Block Model In-Situ Resource (3.0 g/t COG)			Resource used for PEA (Mining Dilution & Recovery)		
	Tonnes	Grade (g/t)	Ounces	Tonnes	Grade (g/t)	Ounces
Indicated	2,124,000	7.93	541,700	2,169,353	6.1	419,432
Inferred	1,124,000	6.87	248,200	1,229,009	5.2	206,392
Total	**3,248,000**	**7.56**	**789,900**	**3,398,362**	**5.8**	**625,824**

TABLE 14.23: THUNDER CREEK DEPOSIT RESOURCE BASE USED FOR PEA

Classification	Block Model In-Situ Resource (3.0 g/t COG)			Resource used for PEA (Mining Dilution & Recovery)		
	Tonnes	Grade (g/t)	Ounces	Tonnes	Grade (g/t)	Ounces
Indicated	2,053,000	7.02	463,000	2,747,936	4.7	415,781
Inferred	1,929,000	7.35	456,000	2,497,727	5.0	402,146
Total	**3,982,000**	**7.18**	**919,000**	**5,245,663**	**4.8**	**817,927**

The mine design considered in the PEA was based on the resource block models, existing surface and underground infrastructure, and actual operating experience at the Timmins West Mine.

The results of the PEA have been summarized in Table 14.24 and Table 14.25.

TABLE 14.24: PEA SUMMARY AND ESTIMATED CASH FLOW

Description	Total	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Mine Production											
Tonnes	8,644,025	586,341	798,948	1,015,088	1,051,078	1,049,707	1,051,577	1,051,713	972,668	679,677	387,228
Tonnes per Day		1,675	2,283	2,900	3,003	2,999	3,005	3,005	2,779	1,942	1,106
Grade (g/t)	5.2	4.5	5.2	5.2	5.0	5.0	5.4	5.3	5.3	5.6	5.3
Timmins Deposit – Mined Ounces	623,601	45,590	56,518	68,255	63,678	62,875	72,187	66,415	57,815	63,805	66,463
Thunder Creek Deposit – Mined Ounces	816,032	39,099	76,352	100,307	105,631	105,567	110,259	113,192	106,762	58,863	0
Stockpile Ounces (from 2012 mining)	4,118	0	4,118	0	0	0	0	0	0	0	0
Ounces Sold											
Timmins Deposit Ounces	603,920	43,994	56,685	65,866	61,449	60,674	69,660	64,090	55,791	61,572	64,137
Thunder Creek Deposit Ounces	789,300	37,731	75,508	96,796	101,934	101,872	106,400	109,230	103,025	56,803	0
Total Ounces Sold	1,393,220	81,725	132,193	162,662	163,383	162,547	176,060	173,321	158,817	118,375	64,137
Gold Price & Exchange											
Gold Price $US		$1,744	$1,725	$1,575	$1,400	$1,347	$1,275	$1,200	$1,200	$1,200	$1,200
Exchange $CDN/$US		1.03	1.02	1.04	1.08	1.09	1.09	1.09	1.09	1.09	1.09
Total Sales (millions $CDN)		**$146.80**	**$225.60**	**$266.44**	**$247.04**	**$238.66**	**$244.68**	**$226.70**	**$207.73**	**$154.83**	**$83.89**
Treatment Charges & Royalties											
Treatment Charges – Timmins Deposit ($millions)	-$0.97	-$0.07	-$0.09	-$0.11	-$0.10	-$0.10	-$0.11	-$0.10	-$0.09	-$0.10	-$0.10
Treatment Charges – Thunder Creek ($millions)	-$1.27	-$0.06	-$0.12	-$0.16	-$0.16	-$0.16	-$0.17	-$0.18	-$0.17	-$0.09	$0.00
Royalties – Timmins Deposit ($millions)	-$19.94	-$1.78	-$2.24	-$2.43	-$2.09	-$2.00	-$2.18	-$1.88	-$1.64	-$1.81	-$1.89
Royalties – Thunder Creek ($millions)	-$37.74	-$2.20	-$4.31	-$5.15	-$5.00	-$4.86	-$4.80	-$4.64	-$4.37	-$2.41	$0.00
Gross Revenue											
Timmins Deposit ($millions)	$865.80	$77.18	$97.40	$105.36	$90.73	$86.99	$94.52	$81.84	$71.25	$78.63	$81.90
Thunder Creek Deposit ($millions)	$1,123.67	$65.52	$128.42	$153.25	$148.96	$144.55	$142.90	$138.06	$130.22	$71.80	$0.00
Total Gross Revenue ($millions)	$1,989.47	**$142.70**	**$225.83**	**$258.61**	**$239.68**	**$231.54**	**$237.42**	**$219.91**	**$201.46**	**$150.42**	**$81.90**
Operating Expenses ($millions)	-$867.94	-$68.31	-$89.20	-$100.06	-$97.99	-$97.26	-$97.55	-$98.00	-$93.85	-$71.87	-$53.85
Operating Costs ($/Tonne)	$100.40	$116.51	$111.64	$98.57	$93.23	$92.66	$92.76	$93.18	$96.49	$105.74	$139.07
Operating Costs ($/Ounce Recovered)	$623	$836	$675	$615	$600	$598	$554	$565	$591	$607	$840
Net Revenue ($millions)	**$1,121.53**	**$74.38**	**$136.63**	**$158.55**	**$141.69**	**$134.27**	**$139.87**	**$121.90**	**$107.61**	**$78.55**	**$28.05**
Capital & Sustaining Capital Costs ($millions)	-$386.19	-$161.65	-$66.51	-$50.14	-$24.07	-$17.97	-$18.27	-$18.90	-$14.40	-$9.31	-$4.98
Net Cash Flow ($CDN millions)	**$735.34**	**-$87.26**	**$70.12**	**$108.42**	**$117.63**	**$116.30**	**$121.61**	**$103.01**	**$93.21**	**$69.24**	**$23.07**

TABLE 14.25: PEA ESTIMATED UNDISCOUNTED CASH FLOW AND NPV (5% AND 10% DISCOUNT INTEREST)

Year	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Discount Period	**Principal**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Net Cash Flow ($CDN millions)	**-$87.26**	**$70.12**	**$108.42**	**$117.63**	**$116.30**	**$121.61**	**$103.01**	**$93.21**	**$69.24**	**$23.07**
Undiscounted Cash Flow Cumulative ($millions)	**-$87.26**	**-$17.15**	**$91.27**	**$208.89**	**$325.20**	**$446.80**	**$549.81**	**$643.02**	**$712.26**	**$735.33**
5% Discount Interest										
Discount Factor	1	0.952	0.907	0.864	0.823	0.784	0.746	0.711	0.677	0.645
Discounted Cash Flow ($millions)	-$87.26	$66.78	$98.34	$101.61	$95.68	$95.28	$76.87	$66.24	$46.87	$14.87
Discounted Cash Flow Cumulative ($millions)	**-$87.26**	**-$20.49**	**$77.85**	**$179.46**	**$275.14**	**$370.42**	**$447.29**	**$513.53**	**$560.40**	**$575.27**
10% Discount Interest										
Discount Factor	1	0.909	0.826	0.751	0.683	0.621	0.564	0.513	0.467	0.424
Discounted Cash Flow ($millions)	-$87.26	$63.74	$89.60	$88.37	$79.44	$75.51	$58.15	$47.83	$32.30	$9.78
Discounted Cash Flow Cumulative ($millions)	**-$87.26**	**-$23.52**	**$66.08**	**$154.45**	**$233.89**	**$309.40**	**$367.54**	**$415.37**	**$447.67**	**$457.46**

15.0 MINERAL RESERVE ESTIMATES

The reserves estimated for the Timmins West Mine have been based on the indicated resource material included in the resource block models for the Thunder Creek Desposit (Thunder_Crk, November 9, 2011) and Timmins Deposit (Timmins_Mine_Combined, February 13, 2012). The block models were prepared by Lake Shore Gold and validated by SGS Geostat. The estimated in-situ indicated resource reported from the block models at a 3.0 gram per tonne (g/t) cut-off grade (capped at 75 metre x g/t) 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) (capped)	Ounces
Timmins Deposit	2,124,000	7.93	541,700
Thunder Creek Deposit	2,053,000	7.02	463,000
Total Indicated Resource	**4,177,000**	**7.48**	**1,004,700**

A mine design was completed to reflect the most likely mining and production scenario for the Timmins West Mine. The mine design includes all development and construction required to access the indicated resources, and the methods required to extract the ore using a combination of Longhole and Mechanized Cut and Fill techniques.

15.1 TIMMINS DEPOSIT RESERVE ESTIMATE

Based on the in-situ indicated resource included in the Timmins Deposit block model, the following methodology was used to estimate the reserves.

The Timmins Deposit block model was reviewed in plan and in section to identify zones of indicated resource material above 3.0 grams per tonne cut-off grade and to determine the most appropriate mining method for each zone.

Sublevels were established at 20 metre vertical intervals, and vertical sections were cut through the model at 10 metre intervals along strike. Mining shapes were designed on each section and each shape had an influence five metres East and five metres West of the section. The mining shapes were joined with shapes on adjacent sections to generate 3D stope wireframes. All probable reserves quoted in Table 15.1 are captured within these specific mining shapes.

The mining shapes were evaluated to determine average stope size, and stope geometry to identify MCAF stoping areas. The average stope size was used to estimate an external dilution factor (unplanned dilution) to apply to the in-situ stope resource. The weighted average external dilution has been estimated to be 15 percent.

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 have been applied to estimate the reserves. The results have been summarized in Table 15.2.

TABLE 15.2: TIMMINS DEPOSIT ESTIMATED RESERVES

Item	Tonnes	Grade (grams/tonne)	Ounces
Block Model Indicated Resource above 3.0 g/t captured within stope wireframes	1,558,205	8.54	427,832
Block Model Indicated Resource Below 3.0 g/t captured within stope wireframes (Planned Dilution)	417,779	1.72	23,151
Internal Waste Rock captured inside the stope wireframe (Planned Dilution)	197,598	0.0	0
External Waste Rock 15% (Unplanned Dilution)	326,037	0.0	0
Subtotal	**2,499,619**	**5.62**	**450,983**
90% Mining Recovery	2,249,658	5.62	405,885
Reserves Mined to Surface	**2,249,658**	**5.62**	**405,885**

A detailed development schedule, production profile, and mine design was created to estimate the capital and operating costs required to access, develop, and extract the Timmins Deposit reserves. A full cost estimate was also prepared to include all Timmins area general and administration costs and all operating and capital costs required to complete and operate essential site infrastructure at both the Timmins West Mine and Bell Creek Mill sites. No allowance (positive or negative) was made for mining operations at Bell Creek Mine.

A cost (direct capital and operating) versus revenue evaluation was completed for each sublevel interval to confirm that each sublevel will generate positive net cash. These cash flows were then summed for each deposit and then summed again to give the overall cash flow balance for the Timmins West Mine. The costs breakdown and cash flow analysis are included in Sections 21 and 22.

15.2 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 Thunder Creek block model was reviewed in plan and in section to identify indicated resources above 3.0 grams per tonne, and to confirm the appropriateness of Longhole mining methods. Sublevels were established at 35 metre vertical intervals and mining shapes were designed at five 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. External dilution parameters were developed and applied to each individual stope based on geometry and size and characteristics of neighboring stopes and sequencing.

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 15.3.

TABLE 15.3: THUNDER CREEK DEPOSIT ESTIMATED RESERVES

Item	Tonnes	Grade (grams/tonne)	Ounces
Block Model Indicated Resource Above 3.0 g/t captured within the stope wireframes	1,830,506	6.99	411,376
Block Model Indicated Resource Below 3.0 g/t captured within the stope wireframes (Planned Dilution)	628,500	1.85	37,382
Internal Waste Rock captured inside the stope wireframe (Planned Dilution)	159,744	0.00	0
External Low Grade Material and Waste Rock (Unplanned Dilution)	304,509	1.00	9,806
Subtotal	**2,923,259**	**4.88**	**458,564**
90% Mining Recovery	2,630,933	4.88	412,708
Adjustment for 2012 Mining Plan (inferred resource mined)	41,589	3.93	5,255
Reserves Mined to Surface	**2,672,522**	**4.86**	**417,963**

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 Thunder Creek Deposit reserves.

A cost (direct capital and operating) versus revenue evaluation was completed for each sublevel interval to confirm that each sublevel will generate positive net cash. The costs breakdown and cash flow analysis are included in Sections 21 and 22.

15.3 TIMMINS WEST MINE COMBINED RESERVES

The Timmins Deposit and Thunder Creek Deposit combined reserves have been summarized in Table 15.4.

TABLE 15.4: TIMMINS WEST MINE COMBINED RESERVES

Deposit	Tonnes	Grade (grams/tonne)	Ounces
Timmins Deposit	2,249,658	5.61	405,885
Thunder creek Deposit	2,672,522	4.86	417,963
Timmins West Mine Total Reserves Mined to Surface	**4,922,180**	**5.21**	**823,848**

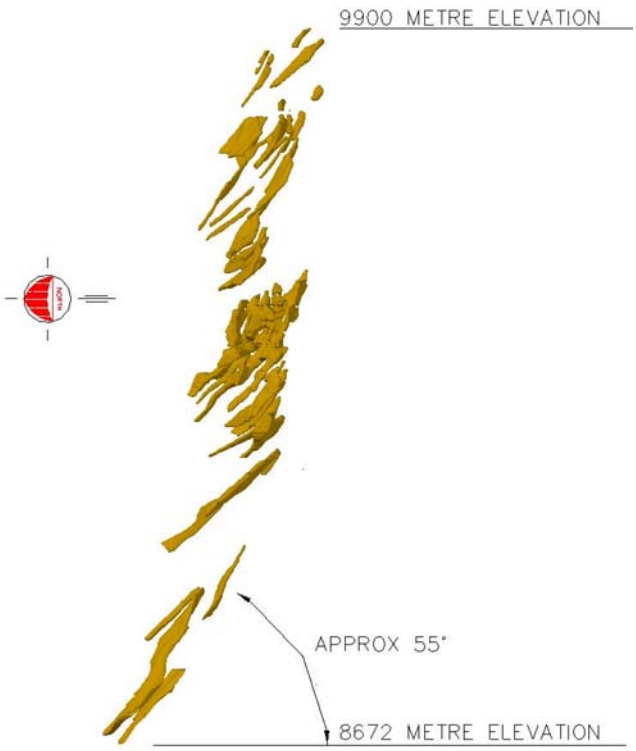
16.0 MINING METHODS

Overview

The Timmins West Mine includes two mineralized gold resource deposits; the Timmins Deposit and nearby Thunder Creek Deposit.

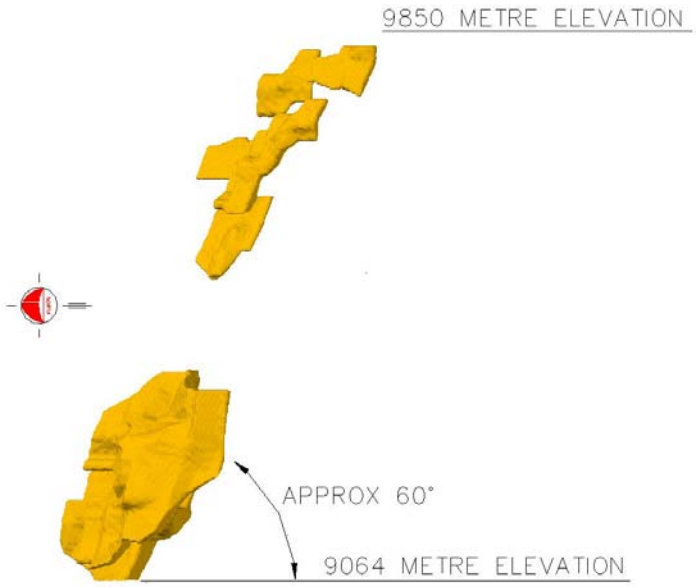
The Timmins Deposit mineralized resource extends from near surface (surface is at 10,015 metre elevation) to approximately 1,340 metres below surface (and remains open at depth). There are three main geological mineralized zones; Vein Zone, Footwall Zone, and Ultramafic Zone. Each zone is further comprised 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 indicated only portion of the Timmins Deposit mineralized zones are shown in Figure 16.1.

FIGURE 16.1: TIMMINS DEPOSIT INDICATED MINERALIZED ZONES, LOOKING EAST



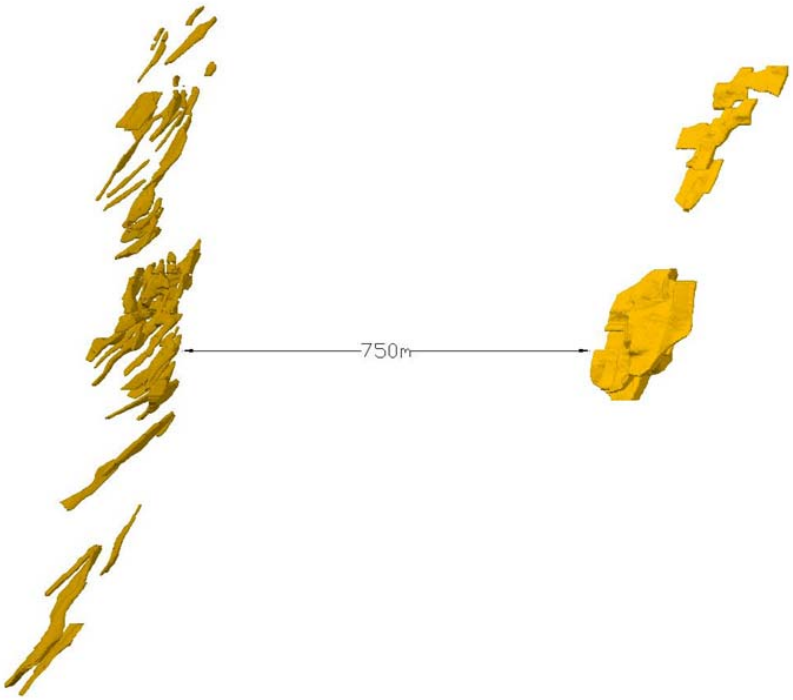
The Thunder Creek Deposit mineralized resource is approximately 750 metres south of the Timmins Deposit and extends from 165 metres to 950 metres below surface. Thunder Creek consists of the Rusk Zone and the Porphyry Zone and is generally massive, striking east-west and dipping 60 degrees to the north. The indicated only portion of the Thunder Creek Deposit mineralized zones are shown in Figure 16.2.

FIGURE 16.2: THUNDER CREEK DEPOSIT INDICATED MINERALIZED ZONES, LOOKING EAST



The geographic relationship between the Timmins Deposit and Thunder Creek Deposit is shown in Figure 16.3.

FIGURE 16.3: TIMMINS DEPOSIT AND THUNDER CREEK DEPOSIT, LOOKING EAST



Lake Shore completed an advanced exploration program on the Timmins Deposit in 2010. The program included establishing surface facilities, sinking a 5.5 metre inside diameter, 710 metre deep shaft,

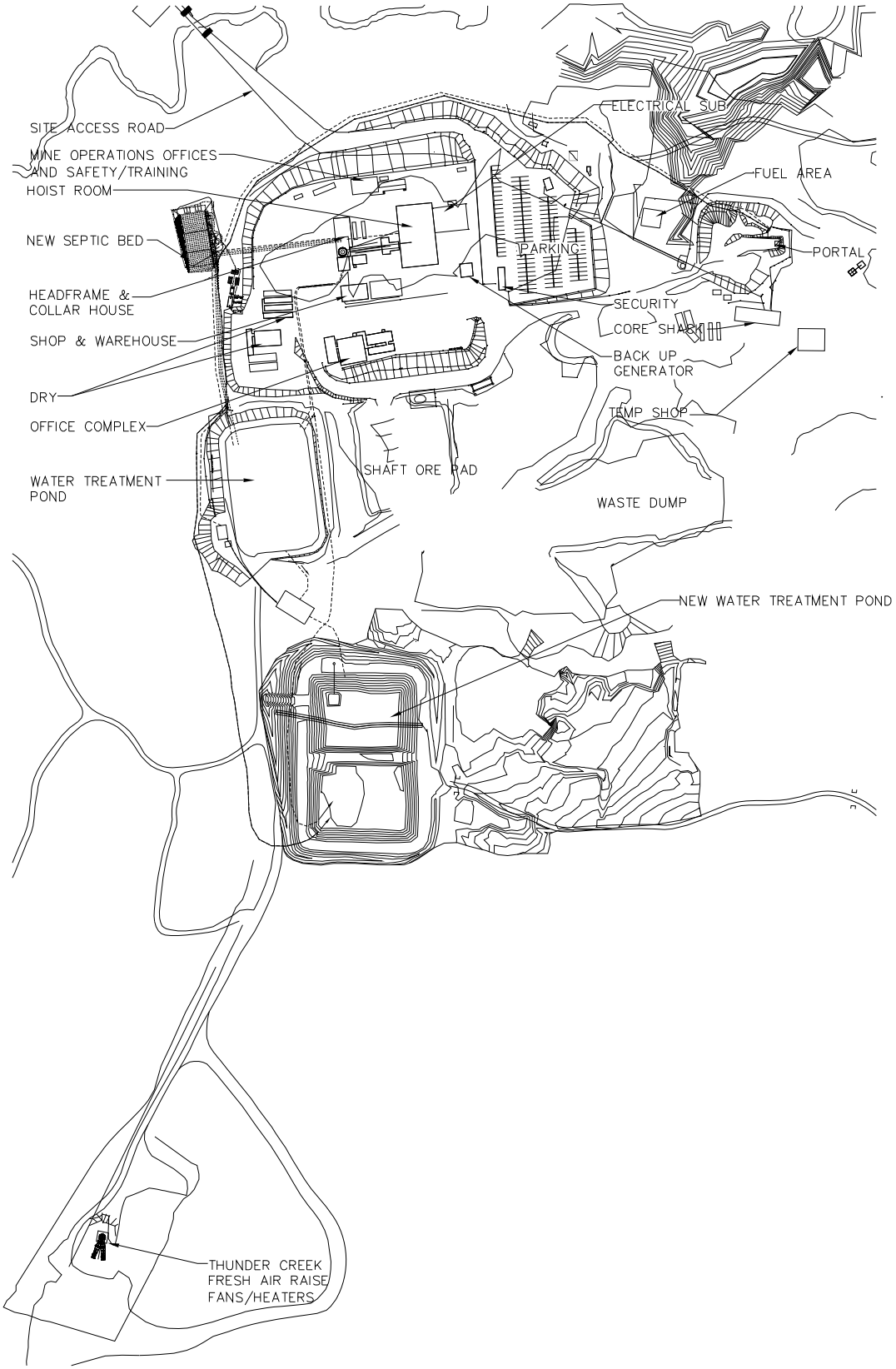
completing an underground diamond drilling program, and developing/constructing required underground infrastructure to extract a bulk sample.

Two exploration ramps were developed from the Timmins Deposit to access the Thunder Creek Deposit at 275 Level and 730 Level. Ongoing advanced exploration activities continued at Thunder Creek, including extraction of a bulk sample, throughout 2011. Development of underground mine infrastructure and surface support facilities has been ongoing, and commercial production started at the Timmins Deposit in 2011.

The existing surface infrastructure at the Timmins West Mine is shown in Figure 16.4 and includes:

- Access roads and site grading.
- Security gate house.
- Shaft headframe, collar house, and hoisting plant.
- Compressed air plant.
- Process water supply.
- 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.

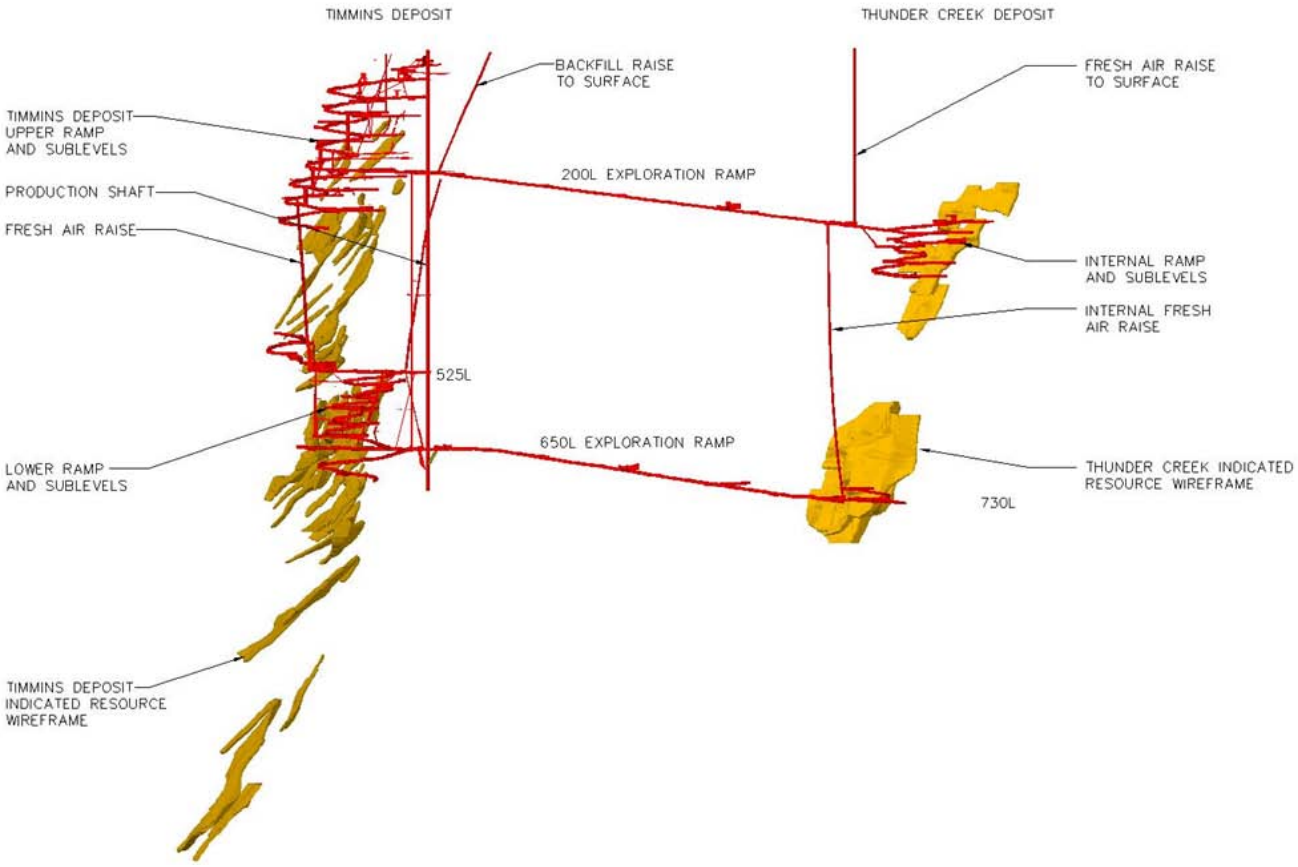
FIGURE 16.4: TIMMINS WEST MINE SURFACE INFRASTRUCTURE



The existing underground infrastructure at the Timmins West Mine is shown in Figure 16.5 and includes:

- The 5.5 metre diameter, 710 metre deep production shaft.
- Main shaft stations at 200 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 290 Level.
- 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.

FIGURE 16.5: TIMMINS WEST MINE EXISTING UNDERGROUND INFRASTRUCTURE



The reserve estimated for the Timmins West Mine has been based on the indicated resource material included in the resource block models for the Thunder Creek Deposit (Thunder_Crk, November 9, 2011) and Timmins Deposit (Timmins Mine Combined, February 13, 2012). The block models were prepared by Lake Shore Gold and validated by SGS Geostat. The estimated in-situ indicated resource reported from the block models at a 3 grams per tonne (g/t) cut-off grade (capped at 75 metre x g/t) are summarized in Table 16.1.

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

Deposit	Tonnes	Grade (g/t) (capped)	Ounces
Timmins Deposit	2,124,000	7.93	541,700
Thunder Creek Deposit	2,053,000	7.02	463,000
Total Indicated Resource	**4,177,000**	**7.48**	**1,004,700**

Engineering and cost assessment work has been conducted on this material to a prefeasibility study level (PFS) of detail in order to substantiate the declaration of reserves for the mine.

The mine design considered in this PFS has been based on the in-situ indicated resources included in the block models, existing surface and underground infrastructure, and current operating experience at the Timmins West Mine.

16.1 UNDERGROUND ACCESS

The Timmins Deposit and Thunder Creek Deposit indicated resource will be extracted using underground mining methods.

16.1.1 Primary / Secondary Access

Trade-off studies have been completed to select a preferred approach to access the underground resources and included:

- Deepening the existing Timmins West Mine Shaft.
- Sinking a new shaft near the Thunder Creek Deposit.
- Truck hauling (from both Timmins Deposit and Thunder Creek Deposit) to the existing Timmins West Mine shaft.
- Conveying ore (from both the Timmins Deposit and Thunder Creek Deposit) to the existing Timmins West Mine shaft.

Based on the trade-off study results, it has been concluded that the primary access will continue to be via the existing Timmins West Mine shaft, and ore and waste rock will be trucked to the 650 Level rockbreakers for sizing and subsequent skipping to surface.

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

An existing portal and ramp from surface currently extends to the Timmins Deposit 290 Level. Development of an internal ramp system at each deposit is ongoing and will connect to each production level in the mine (i.e. no captive levels), including a shaft bottom access ramp.

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 be via the existing production shaft (sunk in close proximity to the Timmins Deposit). 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), 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. There is no manway in the shaft.

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 (assuming 16 hours per day hoisting). This capacity will be sufficient to meet ore production (peak approximately 2,400 tpd) and waste rock (peak approximately 1,000 tpd) 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 will 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 through 0.35 metre by 0.35 metre grizzly openings with stationary hydraulic rockbreakers. The sized material feeds the 350 tonne capacity ore bin below.

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.

Since much of the future ore and waste rock will be produced from below the current shaft bottom, additional ore bin storage capacity will be required. An additional bin has been proposed above 650L and has been included in the mine design. The work will include developing a ramp to 25 metres above

the existing rockbreaker station, and constructing a new bin, dump/grizzly, and rockbreaker arrangement.

16.3 STOPING METHODS

Longhole with delayed unconsolidated rockfill (Longhole) stoping has been the primary mining method used to date at the Timmins West Mine. 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. The narrower, flatter dipping geometry at the Timmins Deposit will require a combination of Longhole and Mechanized Cut and Fill (MCAF) methods, while the massive, steeper dipping geometry at Thunder Creek will support the use of primarily bulk transverse Longhole mining.

16.3.1 Timmins Deposit

The mineralized zones at the Timmins Deposit vary in transverse width and dip. Mining shapes (representing stopes) have been designed for all indicated resources material (i.e. all indicated resource converted to reserves has a mining shape applied). Evaluation of the mining shapes indicates approximately 57% of the resource will be from areas where the footwall dip will be too shallow (i.e. less than 55 degrees) to facilitate effective flow of broken (blasted) material. In these areas, MCAF has been selected as the preferred mining approach. Figure 16.6 and Figure 16.7 represent examples of “mining shapes” at Sections 4540 East and 4550 East.

FIGURE 16.6: MINING SHAPES AT SECTION 4540 EAST

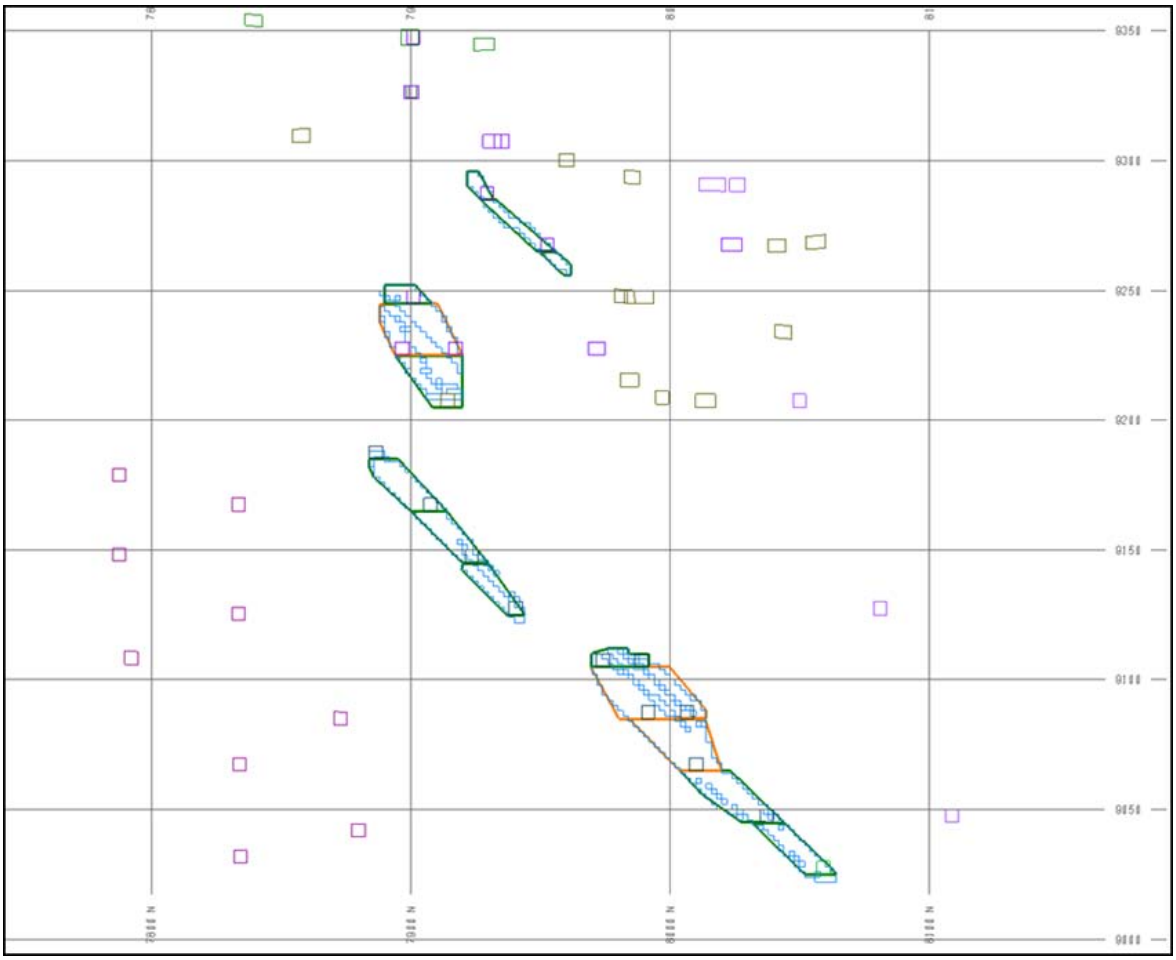
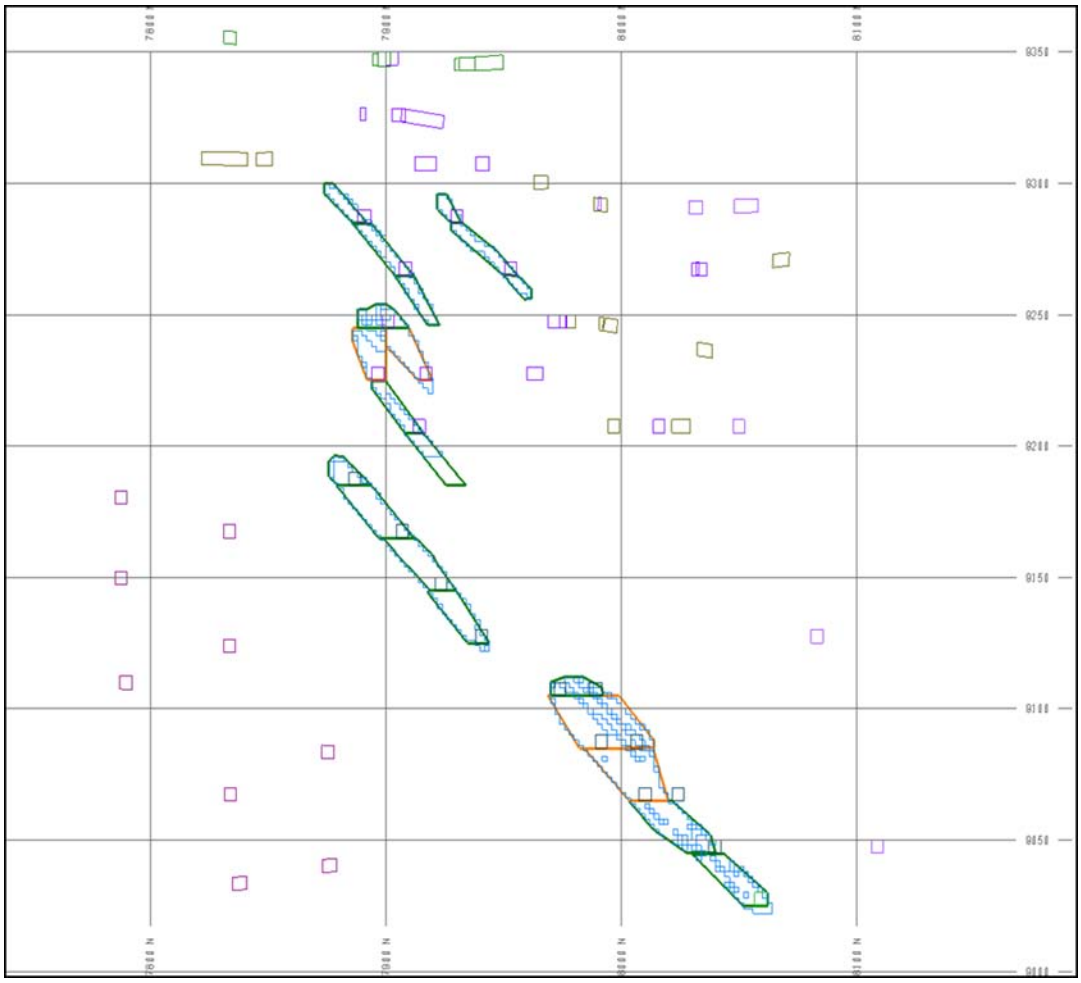


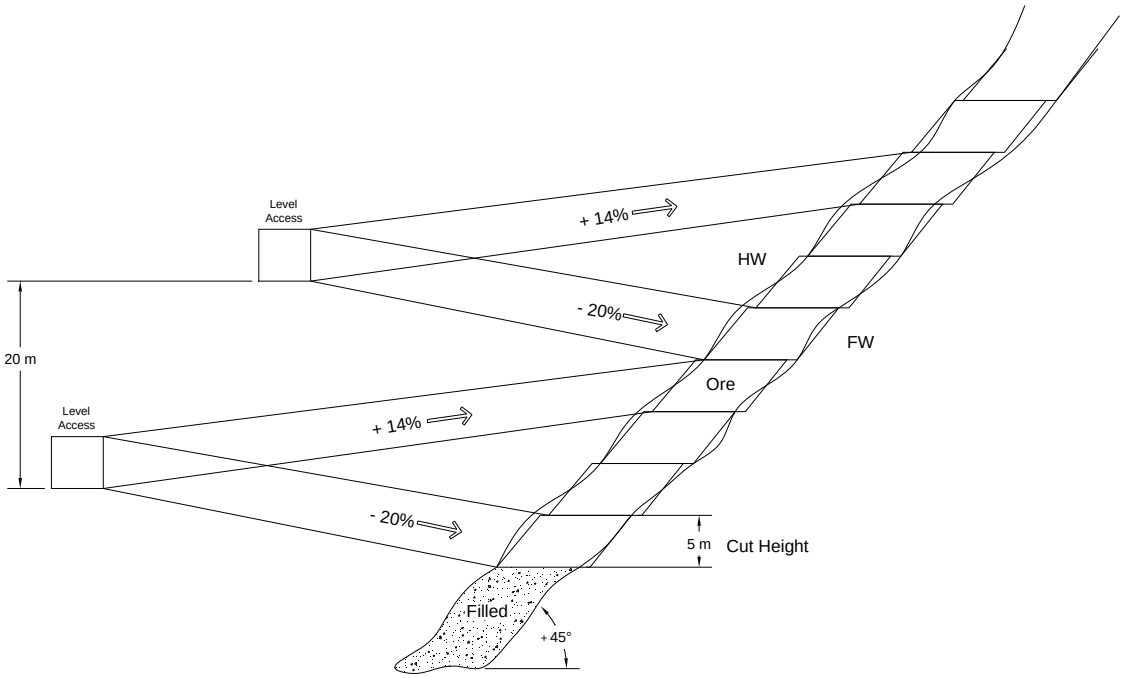
FIGURE 16.7: MINING SHAPES AT SECTION 4550 EAST



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). There will be four, 5 metre high cuts taken from each sublevel as shown in the sketch in Figure 16.8.

FIGURE 16.8: TYPICAL SECTION THROUGH A MCAF STOPE



The 5 metre high cuts will be mined using 2-boom Jumbos, 6 cubic yard class LHD's, with ground support installed using handheld drills from the deck of a scissor lift.

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

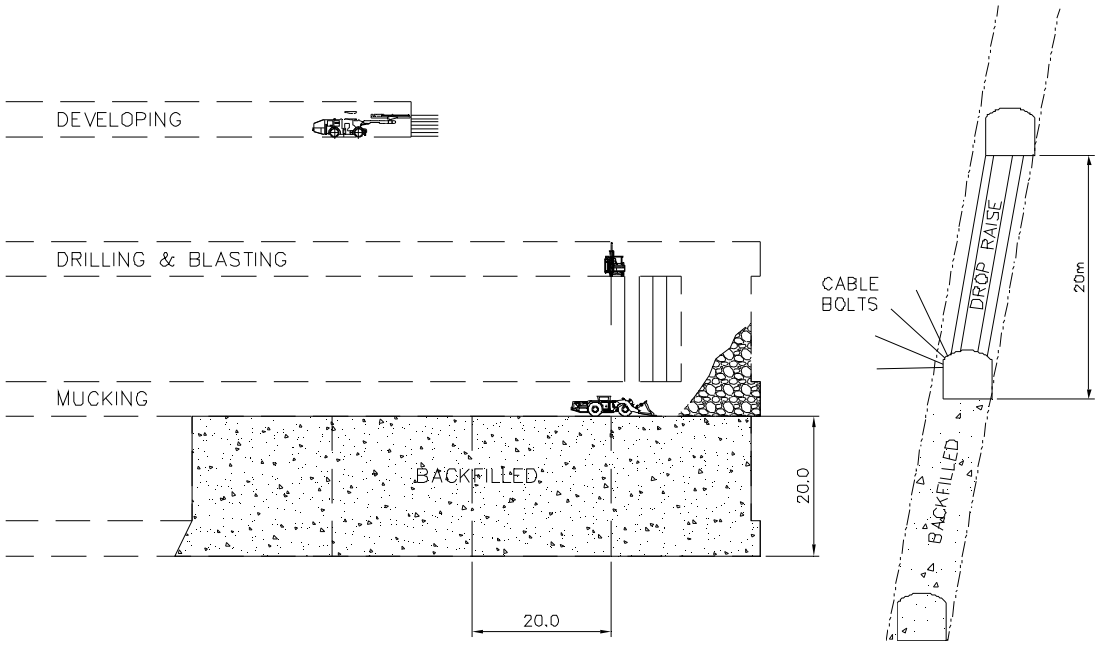
The Longhole method has been successfully used at the Timmins West Mine during bulk sample extraction, and commercial production in 2011.

Where resource geometry is favourable (i.e. the footwall dips 55 degrees or steeper), the Longhole mining method will be the preferred stoping approach (note that in some wider areas, if the footwall dips less than 55 degrees, some waste rock may be mined as part of the stope to steepen the footwall to facilitate use of the Longhole method).

Sublevels will be established at 20 metre vertical intervals (same as MCAF). 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 mining method has been shown in longitudinal and section view in the sketches shown in Figure 16.9.

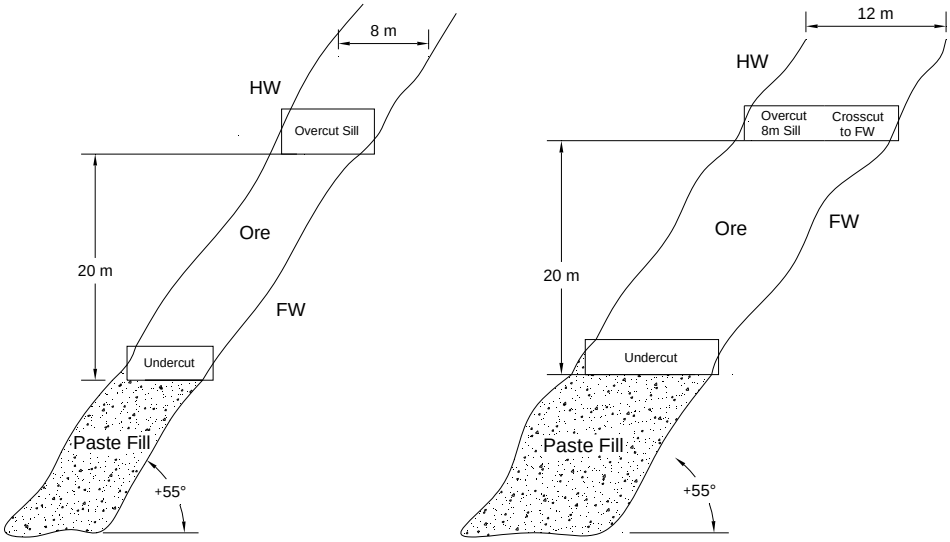
FIGURE 16.9: LONGITUDINAL LONGHOLE MINING METHOD

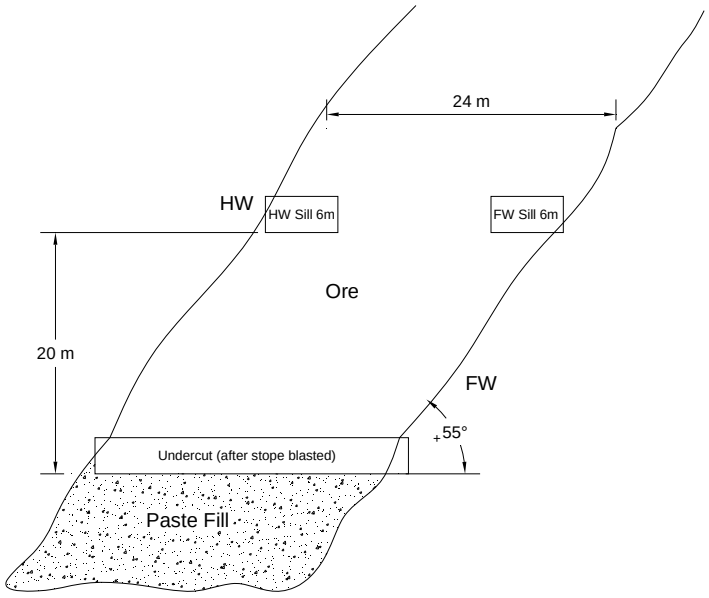


Ore sills will be developed along the strike of the resource under geological control (i.e. under the direction of mine geologists). Where ore widths are less than 8 metres, the entire sill from the hangingwall to footwall contacts will be developed. Where ore widths exceed 8 metres, the hangingwall 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 minimum 4 metres wide to accommodate 6 cubic yard LHDs for stope mucking. Based on the mining shapes, the average longhole stope width will be 8.2 metres from hangingwall to footwall.

The three sill development scenarios are shown in Figure 16.10.

FIGURE 16.10: SILL DEVELOPMENT FOR LONGITUDINAL LONGHOLE STOPES





Longholes will be 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 cubic yard LHD's. 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 42 tonnes 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% 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 20 metres wide and dip approximately 60 degrees to the North. The massive geometry of the Rusk and Porphyry zones at Thunder Creek will be suitable for the transverse longhole mining method with a primary/secondary stoping sequence. The Longhole method has been successfully used throughout the mining industry to mine ore bodies with similar geometry.

Initial preliminary geotechnical study work has concluded that the hangingwall of 15 metre wide stope panels (along strike) will remain stable at 35 vertical metre sublevel intervals. A number of comparison exercises were completed to evaluate if a shorter sublevel interval should be considered.

35 Metre vs. 25 Metre Sublevels

Stantec completed a comparison exercise for the global Thunder Creek resource. Mining shapes were prepared for a sample area with sublevels at 35 metre (base case) and 25 metre intervals. The shapes were evaluated (for each sublevel interval) to estimate the percentage and grade of planned dilution (i.e. low grade and waste rock) that will be mined within stope limits. The percentage of planned dilution from the sample area was then applied to the overall block model in-situ resource.

35 Metre vs. 17.5 Metre Sublevels

A separate exercise was completed at a greater level of detail by Lake Shore Gold personnel for stopes between 695L and 660L. Individual stopes (15 metre wide stopes) were designed for each of the two sublevel intervals and the resource within each stope determined from the block model.

Based on the comparison exercise work completed, it has been concluded that the distribution of grade within the resource offers limited opportunity to selectively mine higher grade areas by reducing the sublevel interval.

Sublevel Interval Comparison Matrix

The sublevel interval selection process also included a joint review meeting involving Lake Shore Gold projects, engineering, geology, operations, safety, and management personnel, Stantec (mine engineering consultant), and Mine Design Engineering (geotechnical consultant). The purpose of the review was to ensure other factors have been considered. The review team identified key items that may be impacted by the sublevel interval, ranked the three interval options (35 metre, 25 metre, and 17.5 metre) as best, worst, or in-between, and applied a weighting to each item.

The results of the comparison review supported the base case 35 metre sublevel interval. The 35 metre sublevel interval has been accepted as the basis for the Thunder Creek Deposit mine design.

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 8 cubic yard class LHD's. 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 orepass finger raise. The orepass will gravity feed a truck loadout at 800L. For stopes mucked at 800L, ore will be mucked to a remuck and/or loaded directly into a haul truck.

Ore will be hauled via the ramp from the 800L loadout to the rockbreaker at Timmins West Mine in 50 tonne class haul trucks. To reduce traffic congestion at 650L, a bypass ramp will be developed and a new grizzly/rockbreaker and ore bin will be constructed above the existing 650L rockbreaker

arrangement. Chain controls will be used to regulate the flow of broken ore from the new bin, through the existing grizzly, and into the existing bin feeding the loading pocket.

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% binder content.

16.4 RESOURCE ANALYSIS (DILUTION AND RECOVERY)

16.4.1 Mining Dilution and Recovery

Mining Dilution
Two sources of dilution have been considered in establishing 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 hanging wall 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 Sections 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 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).
- Ore geometry.
- Broken ore that cannot be extracted (i.e. resting on the footwall, or around corners).
- Unplanned ore pillars left in place.

A 90% mining recovery has been considered in estimating the probable reserves mined to surface.

16.4.2 Block Model Cut-Off Grade

An initial 3 grams per tonne block model cut-off grade has been used to identify and evaluate potential mining areas for both deposits. The following assumptions have been made to establish the initial cut-off grade:

Mine Operating Cost	$75 per tonne
Mill Operating Cost	$25 per tonne
Sustaining Capex	$50 per tonne
Total Cost	$150 per tonne ($CAN)

Gold Price $1,500 ($CAN) per ounce ($48 per gram).

16.4.3 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 Timmins Deposit block model was reviewed in plan and in section to identify indicated resource above the 3 grams per tonne cut-off grade, and to determine appropriate mining methods.

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

The mining shapes were evaluated to determine average stope size and stope geometry to identify MCAF stoping areas. The average stope size was used to estimate an external dilution factor (unplanned dilution) to apply to the in-situ stope resource. The weighted average external dilution has been estimated to be 15% and is summarized in Table 16.2 and Table 16.3. These factors were reviewed with the project team and site personnel and were agreed to be representative of current experience.

TABLE 16.2: TIMMINS DEPOSIT LONGHOLE STOPE AVERAGE EXTERNAL DILUTION

Stope Surface	Surface Area (m^2)	Dilution Source	Over-Break Metres (tonnes)	Over-Break Metres (tonnes)	Over-Break Metres (tonnes)	Over-Break Metres (tonnes)	Over-Break Metres (tonnes)
HW	500	Waste (2.8t/m^3)	0.50m (700t)	0.75m (1,050t)	1.00m (1,400t)	1.25m (1,750t)	1.50m (2,100t)
FW	500	Waste (2.8t/m^3)	0.25m (350t)	0.25m (350t)	0.25m (350t)	0.50m (700t)	0.50m (700t)
Endwall	205	Backfill (2.0t/m^3)	0.25m (103t)	0.50m (205t)	0.50m (205t)	0.50m (205t)	0.50m (205t)
Floor	164	Backfill (2.0t/m^3)	0.25m (82t)	0.25m (82t)	0.25m (82t)	0.25m (82t)	0.25m (82t)
Average in-situ stope tonnes			11,020t	11,020t	11,020t	11,020t	11,020t
Total external dilution			1,235t	1,687t	2,037t	2,737t	3,087t
Total tonnes mined			12,255t	12,707t	13,057t	12,757t	14,107t
% external dilution			10.1%	13.3%	15.6%	19.9%	21.9%
Average external dilution			16.1%				

TABLE 16.3: TIMMINS DEPOSIT MCAF STOPE AVERAGE EXTERNAL DILUTION

Stope Surface	Surface Area (m^2)	Dilution Source	Over-Break Metres (tonnes)	Over-Break Metres (tonnes)	Over-Break Metres (tonnes)	Over-Break Metres (tonnes)	Over-Break Metres (tonnes)
HW	500	Waste (2.8t/m^3)	0.25m (350t)	0.50m (700t)	0.75m (1,050t)	1.00m (1,400t)	1.25m (1,750t)
FW	500	Waste (2.8t/m^3)	0.25m (350t)	0.25m (350t)	0.25m (350t)	0.50m (700t)	0.50m (700t)
Floor	164	Backfill (2.0t/m^3)	0.25m (82t)	0.25m (82t)	0.25m (82t)	0.25m (82t)	0.25m (82t)
Average in-situ stope tonnes			11,020t	11,020t	11,020t	11,020t	11,020t
Total external dilution			782t	1,132t	1,482t	2,182t	2,532t
Total tonnes mined			11,802t	12,152t	12,502t	13,202t	13,552t
% external dilution			6.6%	9.3%	11.9%	16.5%	18.7%
Average external dilution			12.6%				

The tonnes and grade contained within the wireframes were extracted from the block model indicated resource data and external dilution and mining recover factors have been applied to estimate the probable reserves. The results have been summarized in Table 16.4.

TABLE 16.4: TIMMINS DEPOSIT ESTIMATED PROBABLE RESERVES

Item	Tonnes	Grade (grams per tonne)	Ounces
Block Model Indicated Resource Above 3.0 g/t captured within the stope wireframes	1,558,205	8.54	427,832
Block Model Indicated Resource Below 3.0 g/t captured within the stope wireframes (Planned Dilution)	417,779	1.72	23,151
Internal Waste Rock captured within the stope wireframes. (Planned Dilution)	197,598	0.0	0
External Waste Rock 15% (Unplanned Dilution)	326,037	0.0	0
Subtotal	2,499,619	5.62	450,983
90% Mining Recovery	2,249,658	5.62	405,885
Reserves Mined to Surface	2,249,658	5.62	405,885

Further details of the Timmins Deposit estimated probable reserves are included in Appendix 12.

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 Timmins Deposit reserves. A cost (direct capital and operating) versus revenue evaluation was completed for each sublevel interval to confirm each sublevel will generate positive net cash. In addition, a life-of-mine cash flow analysis has been completed to demonstrate that the probable reserves support major capital infrastructure. The costs and cash flow analysis are included in Sections 21 and 22.

16.4.4 Thunder Creek Deposit Probable Reserve Estimate

Based on the in-situ indicated resource included in the Thunder Creek block model, the following methodology was used to estimate the probable reserves.

The Thunder Creek block model was reviewed in plan and in section to identify indicated resource above the 3.0 grams per tonne cut-off grade, and to confirm the Longhole mining method. Sublevels were established at 35 metre vertical intervals and mining shapes were designed at five metre intervals along strike for each sublevel. The mining shapes on each section were meshed with shapes on adjacent sections to generate stope wireframes.

External dilution parameters were developed and applied to each individual stope based on geometry and size. The external dilution parameters are summarized in Table 16.5.

TABLE 16.5: THUNDER CREEK EXTERNAL DILUTION PARAMETERS

Stope Surface Characteristic	Hangingwall Dilution (metres)	Footwall Dilution (metres)	Backfill Dilution (metres)
HW/FW 50 to 60 degrees dip	0.85m	0.20m	
HW/FW 60 to 70 degrees dip	0.65m	0.30m	
HW/FW 70 to 80 degrees dip	0.50m	0.40m	
HW/FW 80 to 90 degrees dip	0.45m	0.50m	
Stope Endwall Span 15m			0.30m
Stope Endwall Span 20m			0.40m
Stope Endwall Span 30m			0.60m
Stope Endwall Span 40m			0.80m
Stope Endwall Span +50m			1.00m

The tonnes and grade contained within the stope wireframes were extracted from the block model indicated resource data and external dilution and mining recover factors have been applied to estimate the probable reserves. The results have been summarized in Table 16.6.

TABLE 16.6: THUNDER CREEK DEPOSIT ESTIMATED PROBABLE RESERVES

Item	Tonnes	Grade (grams per tonne)	Ounces
Block Model Indicated Resource Above 3.0 g/t captured within the stope wireframes	1,830,506	6.99	411,376
Block Model Indicated Resource Below 3.0g/t captured within the stope wireframes (Planned Dilution)	628,500	1.85	37,382
Internal Waste Rock captured within the stope wireframes (Planned Dilution)	159,744	0.00	0
External Low Grade Material and Waste Rock (Unplanned Dilution)	304,509	1.00	9,806
Subtotal	2,923,259	4.88	458,564
90% Mining Recovery	2,630,933	4.88	412,708
Adjustment for 2012 Mining Plan (Inferred Resource Mined)	41,589	3.93	5,255
Reserves Mined to Surface	2,672,522	4.86	417,963

Further details of the Thunder Creek estimated probable reserves are included in Appendix 12.

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 Thunder Creek Deposit reserves. A cost (direct capital and operating) versus revenue evaluation was completed for each sublevel interval to confirm each sublevel will generate positive net cash. In addition, a life-of-mine cash flow analysis has been completed to demonstrate that the probable reserves support major capital infrastructure. The costs and cash flow analysis are included in Sections 21 and 22.

16.5 HAULAGE

All ore and waste rock that will be skipped to surface will be hauled by trucks to the existing production shaft at the 650L grizzly/rockbreaker stations (or to a planned future additional rockbreaker station).

16.5.1 Timmins Deposit Underground Truck Haulage

Ore mined above 650L will be loaded into 42 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 tonne capacity haul trucks that will haul the material up the ramp and dump on the 650L grizzly. The estimated productivity of a 42 tonne truck will range from 1,800 tonnes per day from 670L to 245 tonnes per day from 1290L.

As mining progresses deeper, additional trucks will be added to the fleet to maintain production. Up to four 42 tonne trucks will be required for ore haulage, with additional capacity provided by the 36 tonne truck fleet (for hauling development waste rock).

16.5.2 Thunder Creek Deposit Underground Truck Haulage

Ore mucked from stopes above 800L will be trammed using LHD's and dumped directly into an ore pass dump on each sublevel. The ore pass will gravity feed to a truck loadout chute at 800L. At the 800L 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 Timmins West Mine. The one-way haul distance will be approximately 1,400 metres, with a 31 minute round trip haulage cycle. Ore mucked from stopes at 800L will be loaded into trucks using the LHD. The trucks will also haul up to 730L and across to the Timmins West Mine 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).

Three 50 tonne class trucks will be required (with excess capacity) to haul ore and waste rock from Thunder Creek to the rockbreakers at the Timmins West Mine. As the mine matures and waste rock from development reduces, two 50 tonne trucks will be sufficient for hauling ore and the third truck will be a spare (or cycling through re-builds).

16.6 DEVELOPMENT

Table 16.7 summarizes the estimated development quantities for the Timmins Deposit and Thunder Creek Deposit. Seven development crews will be active in 2012 and 2013 to complete sufficient infrastructure development to support production ramp-up. The estimated development advance per crew will be 4.5 metres per day (based on Lake Shore Gold operating experience and consistent with Stantec experience with other projects). At the Timmins Deposit, development productivity will decrease as crews work deeper in the mine. Crew advance will incrementally reduce to 3.5 metres per day.

As development requirements decrease, the development crews (and gear) will transition to MCAF crews for production.

TABLE 16.7: ESTIMATED DEVELOPMENT QUANTITIES

Item	Timmins Deposit (metres)	Thunder Creek Deposit (metres)	Total (metres)
Ramp	3,641	2,495	6,136
Capital Lateral Waste	6,221	4,402	10,623
Operating Lateral Waste	1,936	2,751	4,687
Operating Lateral Ore	1,818	1,666	3,484
Total Development	13,616	11,314	24,930
Raises	1,376	1,609	2,985

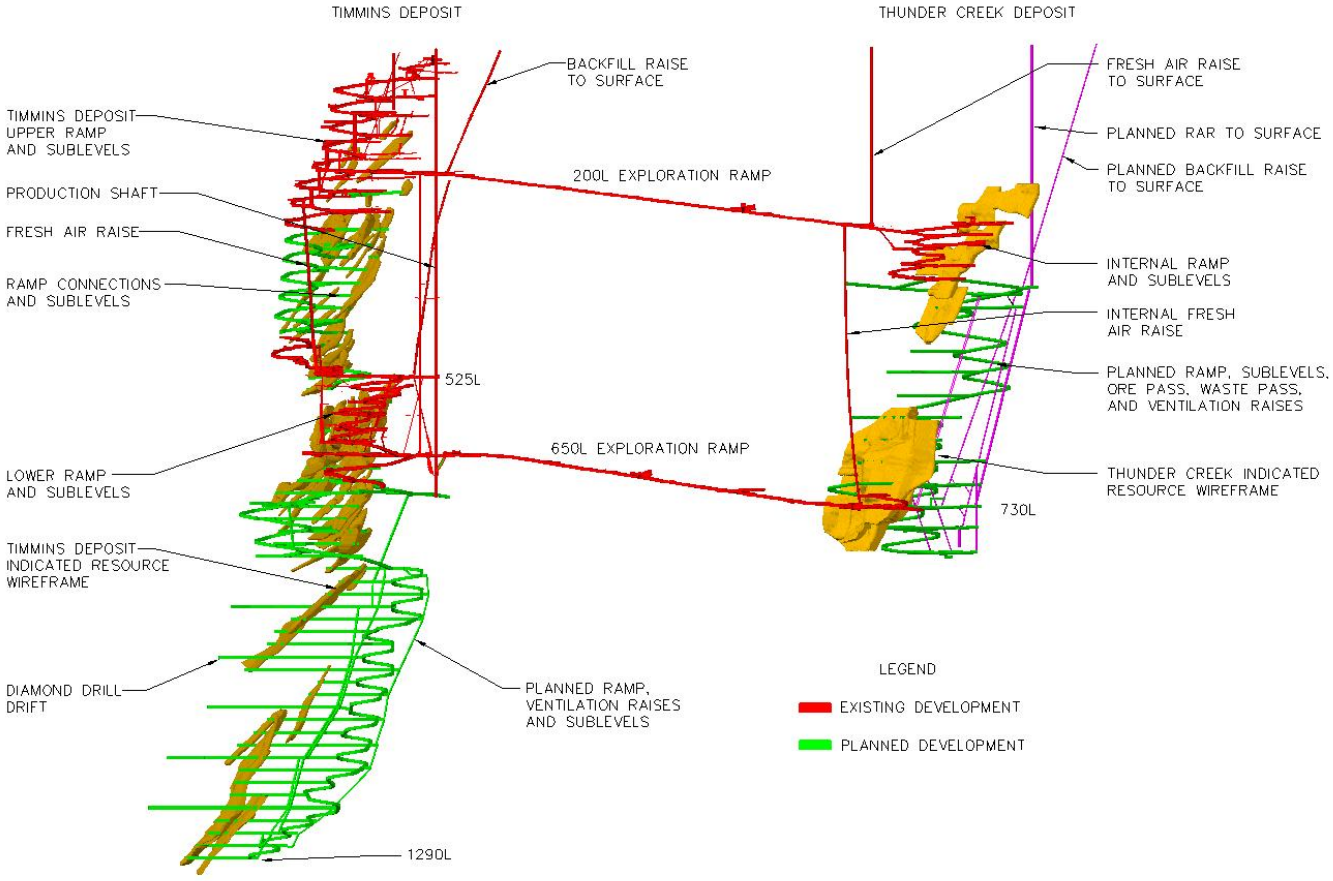
An estimated 2.5 million tonnes of waste rock will be generated from development and raising activities. Where possible, waste rock will be dumped into mined out stopes as backfill, otherwise waste rock will be hauled to the 650L rockbreaker and subsequently skipped to surface (and possibly later returned underground for backfilling). The annual waste rock generated from development and raising activities has been summarized in Table 16.8.

TABLE 16.8: ANNUAL WASTE ROCK GENERATED FROM DEVELOPMENT AND RAISING

Year	Total Waste Rock (tonnes)	Waste Rock Hoisted (tonnes)	Waste Rock Hoisted (tpd)
2012	611,100	305,550	873
2013	708,700	354,350	1,012
2014	440,600	220,300	629
2015	321,000	160,500	458
2016	142,600	71,300	203
2017	188,600	94,300	269
2018	59,500	29,750	85
2019	0	0	0
Total	2,472,100	1,236,050	

The planned life of mine development and infrastructure is shown in Figure 16.11.

FIGURE 16.11: PLANNED MINE INFRASTRUCTURE



16.6.1 Timmins Deposit

Ramp

The existing ramp extends from surface to 290L and from 455L to 730L. The ramp connection between 290L and 455L will be completed and the ramp will extend to 1290L as mining progresses downward.

The ramp will be developed 5 metres wide by 5 metres high (arched back) at a maximum gradient of 15 percent. The assumed ramp face advance will be 3 metres per day (based on current Timmins West Mine operating experience and consistent with Stantec experience with other projects). The ramp development crew overall advance will be 4.5 metres per day when including remucks, establishing initial infrastructure on sublevels, safety bays, etc. As mining progresses deeper in the mine, development crew productivity will decrease incrementally to 3.5 metres per day. 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.

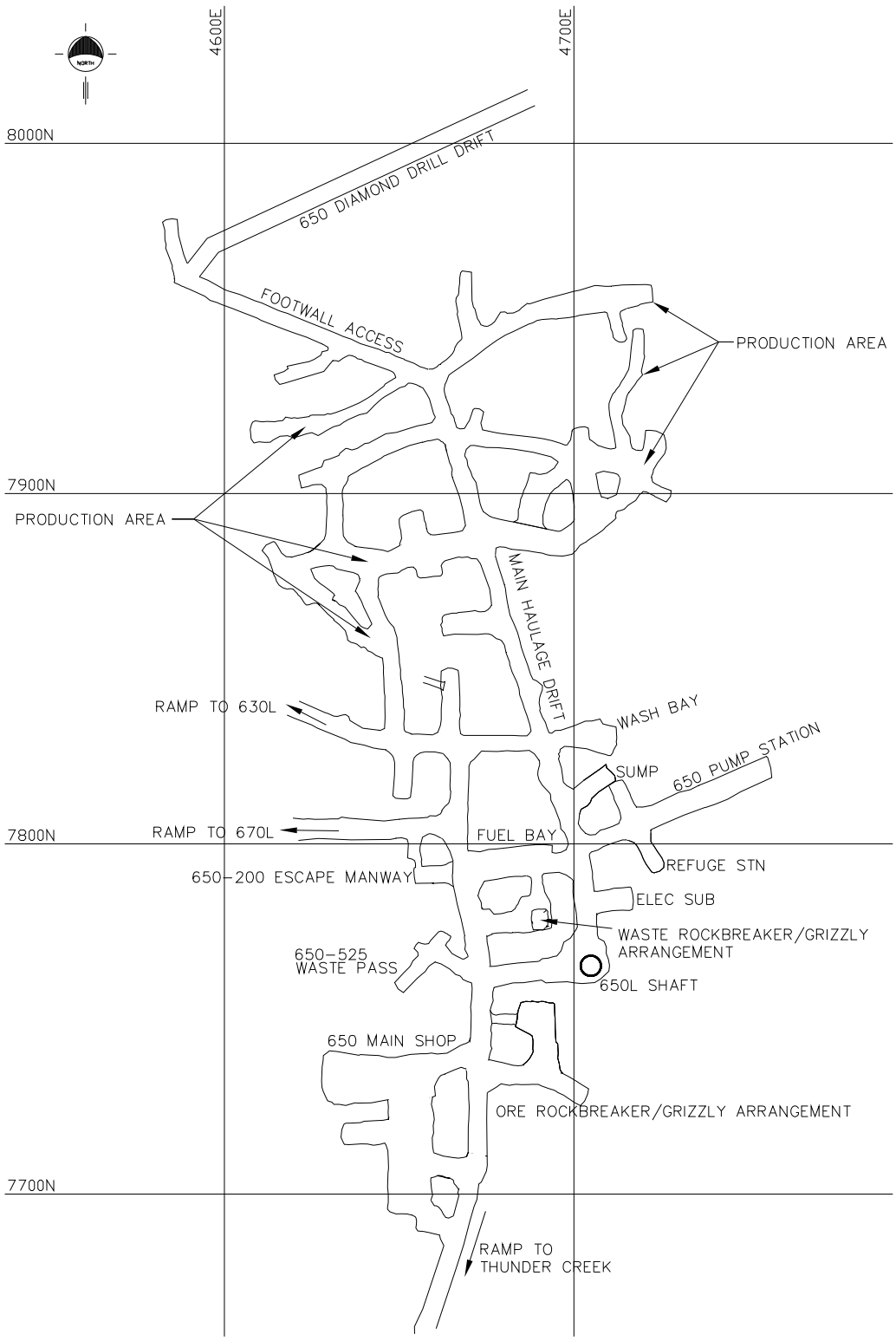
Sublevel Infrastructure Development

Drawings for all sublevel development have been completed and are included in Appendix 11. 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).

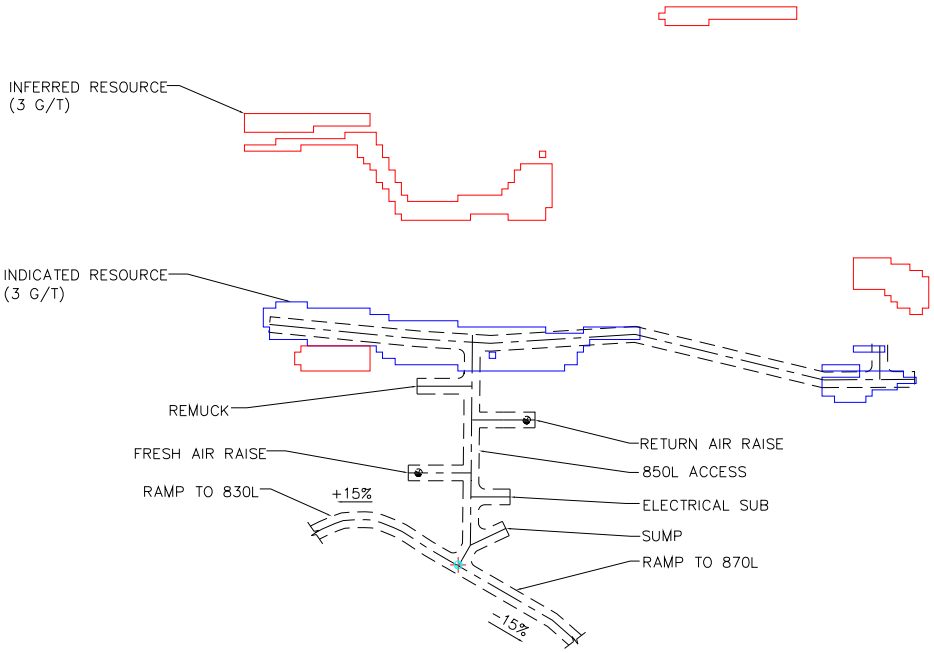
The existing sublevel infrastructure at 650L is shown in Figure 16.12.

FIGURE 16.12: EXISTING 650L INFRASTRUCTURE



Typical sublevel infrastructure for new sublevels below 650L is shown in Figure 16.13.

FIGURE 16.13: TYPICAL TIMMINS DEPOSIT SUBLEVEL INFRASTRUCTURE 850L



16.6.2 Thunder Creek Deposit

Ramp

The main access to the Thunder Creek Deposit will be via the two existing connecting ramps from the Timmins Deposit at 275L and 730L. The Thunder Creek Deposit internal ramp currently extends from 275L to 370L in the upper mine and from 695L to 730L in the lower part of the mine. The ramp will eventually connect through and will extend down to 800L.

The ramp will 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.

The existing haulage ramp from Thunder Creek Deposit (730L) to Timmins Deposit (650L) will require some roadbed (ballast) material and regular grading to provide an appropriate travelway for the haul trucks.

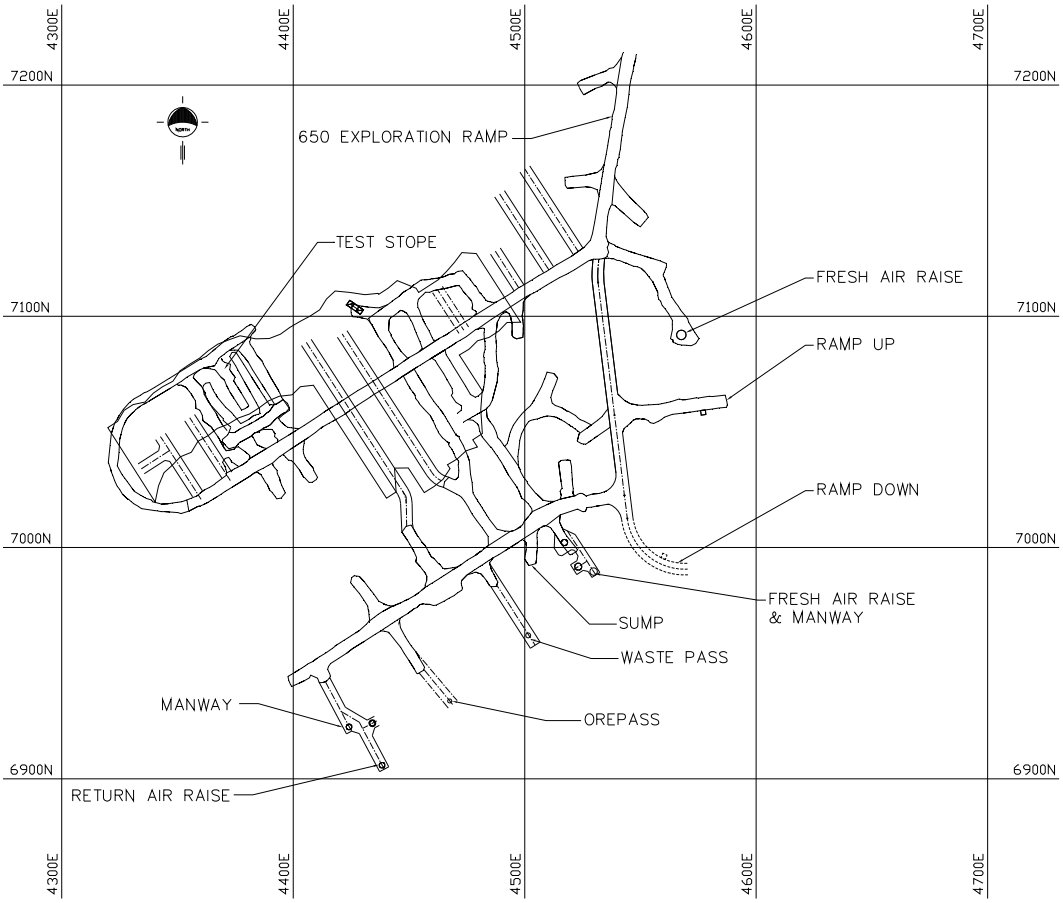
Sublevel Infrastructure Development

Drawings for all sublevel development have been completed and are included in Appendix 11. 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).

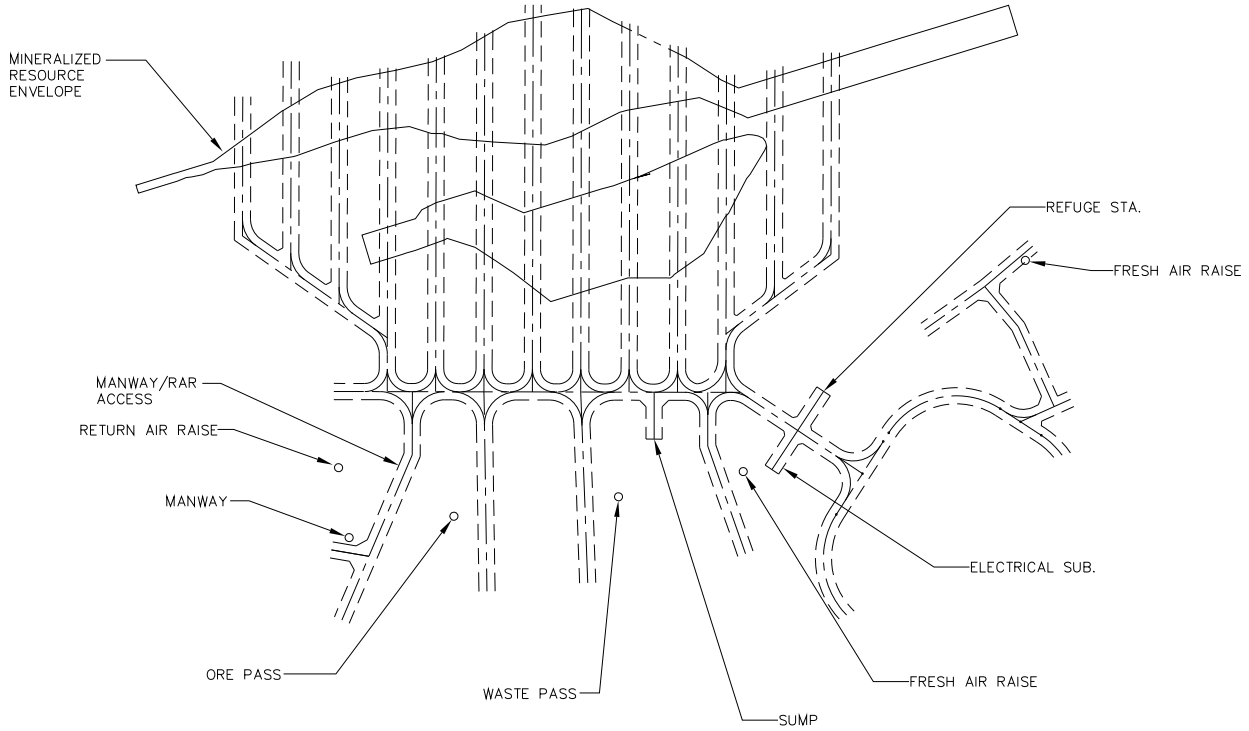
The existing sublevel infrastructure at 730L is shown in Figure 16.14.

FIGURE 16.14: EXISTING 730L INFRASTRUCTURE



Typical sublevel infrastructure for new sublevels above 730L is shown for the 660L in Figure 16.15.

FIGURE 16.15: TYPICAL THUNDER CREEK SUBLEVEL INFRASTRUCTURE 660L



16.6.3 Ground Support

Primary Ground Support

Ground support will be installed in all underground excavations and will remain consistent with current practices. Standard primary ground support in development headings will include 1.8 metre resin rebar (1.2 metre by 1.2 metre pattern) and welded wiremesh screen installed in the back and shoulders, and 1.8 metre resin rebar bolts in the walls (also on a 1.2 metre by 1.2 metre pattern). Additional/alternate ground support measures may be required to accommodate local adverse ground conditions and may include shotcrete and/or cable bolts. The existing ground control quality control program will continue to be implemented.

Secondary Ground Support

Preliminary geotechnical study work has concluded that under certain conditions secondary ground support (generally referring to 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. An allowance for cable bolting has been included in the longhole stoping unit costs.

16.7 DEVELOPMENT SCHEDULE

Development schedules have been completed for the Timmins Deposit and Thunder Creek Deposit. The schedule starts January 1, 2013 and has been based on the development planned in the 2012 Budget prepared by Lake Shore. Development schedule milestones for the Timmins Deposit are summarized in

Table 16.9 and for Thunder Creek in Table 16.10. Additional development schedule details are included in Gantt charts in Appendix 12.

TABLE 16.9: TIMMINS DEPOSIT DEVELOPMENT SCHEDULE MILESTONES

Milestone	Date
Above 650L	
Upper ramp breakthrough	Q2 2014
Start developing upper levels	Q1 2015
260L to 230L Mining Block Ready for Production	Q1 2015
435L to 335L Mining Block Ready for Production	Q3 2015
650L to 525L Salvage Areas Ready for Production	Q2 2016
Below 650L	
Ramp Complete to 890L	Q4 2013
Ramp Complete to 990L	Q4 2014
Ramp Complete to 1130L	Q2 2016
Ramp Complete to 1210L	Q1 2017
Ramp Complete to 1290L	Q1 2018
810L to 750L Mining Block Ready for Production	Q2 2013
890L to 830L Mining Block Ready for Production	Q2 2014
990L to 910L Mining Block Ready for Production	Q2 2015
1130L to 1050L Mining Block Ready for Production	Q1 2017
1210L to 1150L Mining Block Ready for Production	Q4 2017
1290L to 1230L Mining Block Ready for Production	Q2 2018

TABLE 16.10: THUNDER CREEK DEVELOPMENT SCHEDULE MILESTONES

Milestone	Date
Upper Ramp Breakthrough	Q2 2014
660L Infrastructure Complete	Q2 2013
695L Primary Stopes Ready for Production	Q3 2013
625L Infrastructure Complete	Q1 2014
660L Primary Stopes Ready for Production	Q1 2014
590L Infrastructure Complete	Q3 2014
625L Primary Stopes Ready for Production	Q4 2014
415L Infrastructure Complete	Q3 2014
415L Primary Stopes Ready for Production	Q1 2015
450L Infrastructure Complete	Q4 2014
450L Primary Stopes Ready for Production	Q4 2014
485L Infrastructure Complete	Q1 2015
555L Infrastructure Complete	Q1 2015
590L Primary Stopes Ready for Production	Q2 2015

16.8 PRODUCTION

The mine will operate two shifts per day, seven days per week. Underground crews and maintenance workers will work 10.5 hour shifts. Annual production has been based on 350 days per year.

16.8.1 Timmins Deposit Production

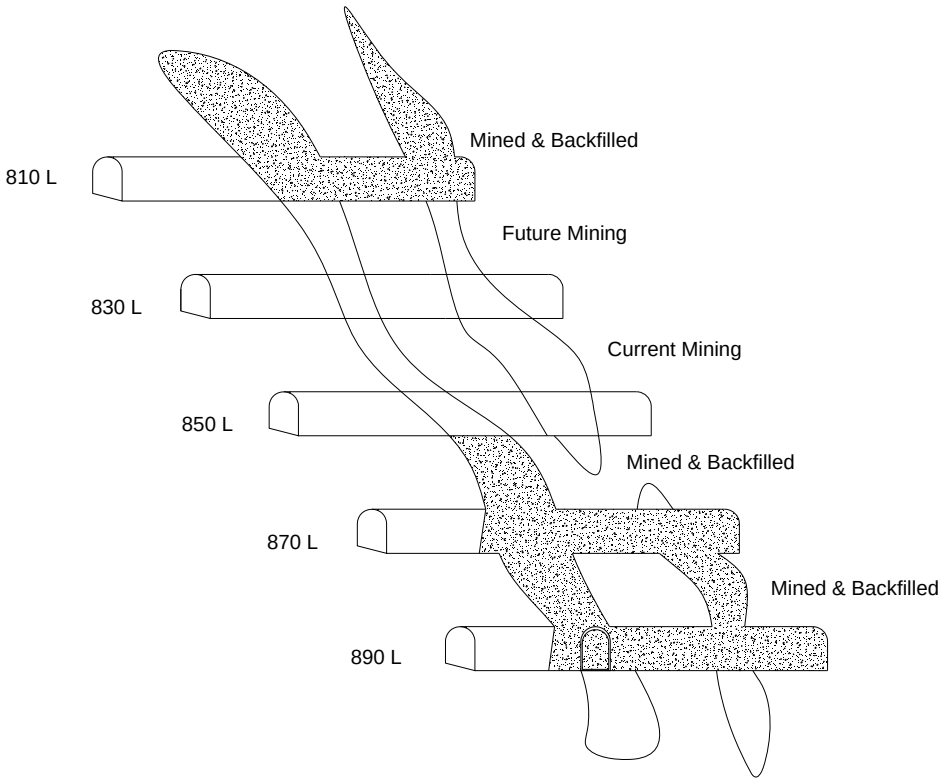
Production from the Timmins Deposit will ramp up to approximately 950 tonnes per day and will include a combination of ore development, MCAF stoping, and longitudinal Longhole stoping. Production will be a combination of:

- Two to three MCAF crews at 250 tpd each.
- Two to three longitudinal Longhole stopes at 170 tpd each.
- Ore development up to 200 tpd.

Approximately 20% of the Timmins Deposit reserves (0.49 million tonnes) will be mined above 650L. Of this quantity, 25% will be mined in 2012. The remaining reserves above 650L will generally be salvage areas adjacent to previously mined out areas, and small independent mining blocks. After 2012, production from these areas will be deferred until 2015 while the development and production focus will be below 650L. In 2016, when production ramps down at Thunder Creek, crews and equipment will transfer to above 650L to increase Timmins Deposit production.

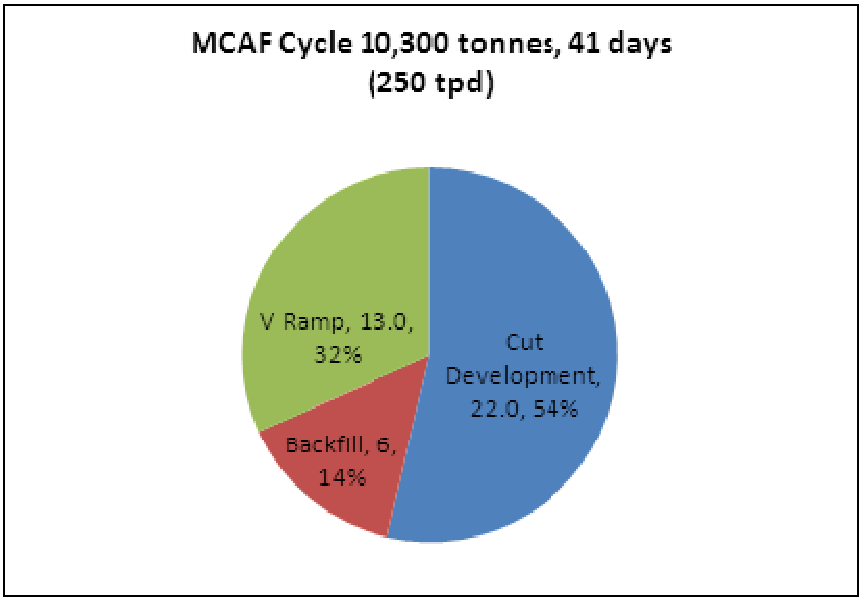
Approximately 80% of the Timmins Deposit reserves will be mined from below 650L. Mining below 650L will progress in blocks as ramp development and sublevel infrastructure advances and the ventilation system expands. Mining blocks will generally be 80 vertical metres (i.e. four sublevels) high. Mining 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. A conceptualized mining block is shown in the sketch in Figure 16.16.

FIGURE 16.16: TYPICAL TIMMINS DEPOSIT MINING BLOCK BELOW 650L

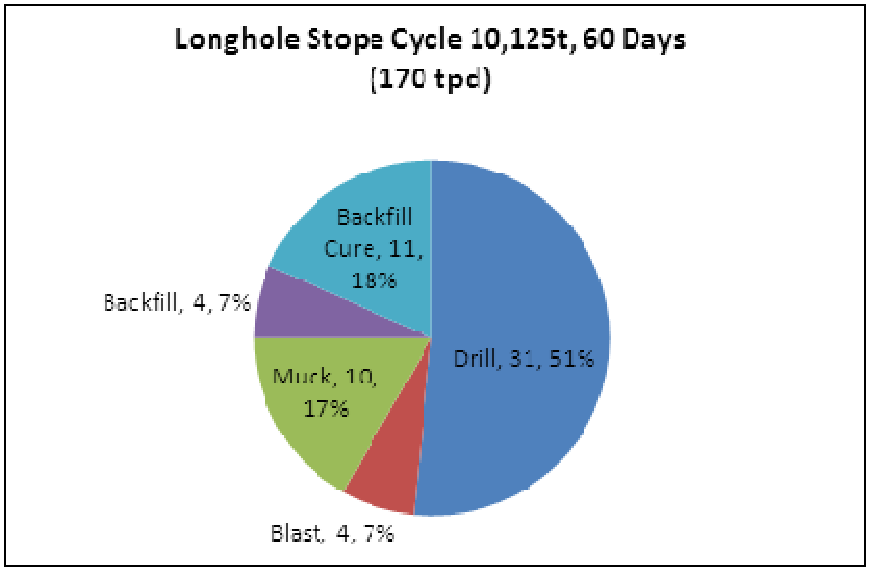


Production will rely on prioritizing down ramp development to bring new mining blocks into production before depleting reserves in previously developed blocks (i.e. multiple blocks in production simultaneously).

The estimated average productivity from a MCAF crew within a mining block will be 250 tonnes per day. The productivity is based on a MCAF crew producing from two headings (each requiring an attack ramp), each having 45 metres of stope strike length, with an average stope width of 7.9 metres. The crew will cycle through the two headings producing 10,300 tonnes in 41 days (250 tonnes per day).



Longhole stopes will be 20 metres along strike, 20 metres high (24 metres along dip) with an average width of 8.2 metres (hangingwall to footwall). The estimated productivity from a Longhole stope will average 170 tonnes per day through the mining cycle of the stope. The productivity has been based on an average stope size of 10,125 tonnes (excluding ore sill development) and a 60 day mining cycle.



16.8.2 Thunder Creek Deposit Production

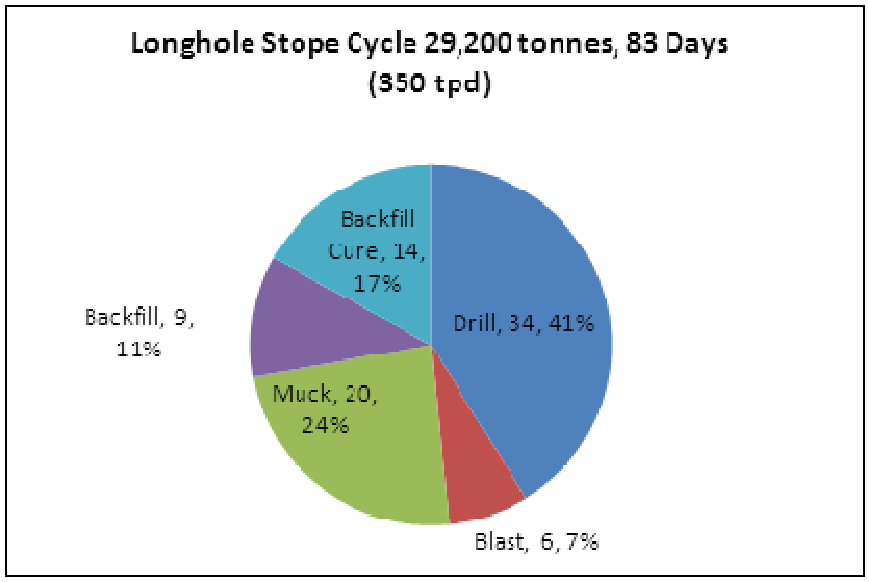
Production at Thunder Creek will ramp up to approximately 1,500 tonnes per day at steady state and will include a combination of ore development and transverse Longhole stoping. Production will be a combination of:

- 4 to 5 Longhole stopes at 350 tpd each.
- Ore development up to 200 tpd.

Longhole stopes will be mined in a primary/secondary stope sequence, with panels 15 metres wide along the strike of the resource. The panels will be mined (opened) from the hangingwall to the footwall prior to backfilling. The main stoping sequence will begin at 765L and advance upwards. At steady state, the sequence will have 3 to 5 stopes active in some stage of the stope cycle at all times.

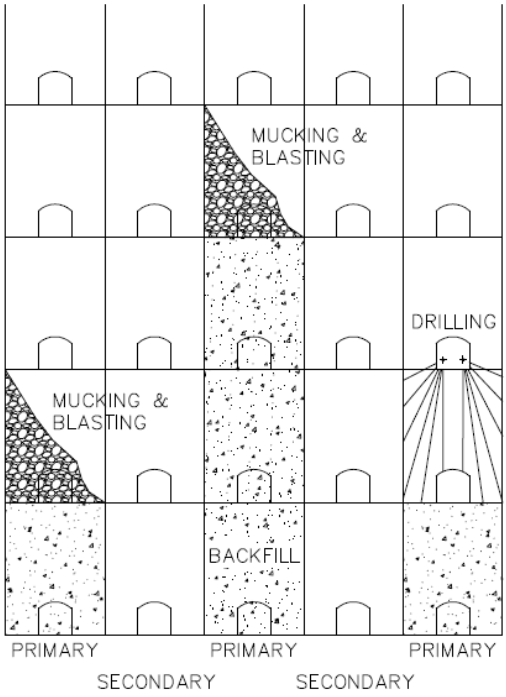
To supplement production from the main sequence, a smaller stoping block will be initiated at 415L in the upper part of the resource. The smaller stoping block will contribute one to two additional active stopes in the production cycle and will provide production flexibility.

The estimated productivity from a Longhole stope will average 350 tonnes per day through the mining cycle of the stope. The productivity has been based on an average stope size of 29,200 tonnes and an 83 day mining cycle.



An example of transverse longhole mining primary/secondary stope sequencing is shown in a sketch in Figure 16.17.

FIGURE 16.17: EXAMPLE OF PRIMARY/SECONDARY STOPE SEQUENCING



16.8.3 Production Summary

The life of mine production profile (based on the reserves) is summarized in Table 16.11 and graphically in Figure 16.18 and Figure 16.19. Additional production details have been included in Appendix 12.

Production will ramp up to approximately 2,400 tonnes per day by 2014 and will begin to ramp down in 2017. It is expected that prior to ramp down, diamond drilling will have converted additional inferred resource material to the indicated category, with potential to locate further resource.

TABLE 16.11: PRODUCTION SUMMARY

Production Area	Total	2012	2013	2014	2015	2016	2017	2018	2019
Thunder Creek									
Tonnes	2,672,522	263,849	529,087	537,478	525,696	547,677	268,734	0	0
Grade	4.8	4.6	4.8	5.3	4.8	5.0	4.1	0.0	0.0
Ounces	417,963	39,099	81,406	92,038	81,834	88,530	35,057	0	0
TPD			1,512	1,536	1,502	1,565	768	0	0
Timmins Deposit									
Tonnes	2,249,658	263,931*	269,417	328,967	336,268	301,174	342,245	352,522	55,134
Grade	5.6	4.5*	5.0	5.2	5.8	6.4	5.4	6.5	6.4
Ounces	405,885	38,930*	42,949	55,333	63,239	61,600	58,955	73,518	11,361
TPD			770	940	961	860	978	1,007	368
Total									
Tonnes	4,922,180	527,780*	798,504	866,445	861,964	848,851	610,979	352,522	55,134
Grade	5.2	4.6*	4.8	5.3	5.2	5.5	4.8	6.5	6.4
Ounces	823,848	78,029*	124,354	147,371	145,073	150,130	94,021	73,518	11,361
TPD			2,281	2,476	2,463	2,425	1,746	1,007	368

**The Timmins Deposit 2012 Production Plan also includes a small amount of inferred resource material (53,075t @ 3.9g/t, 6,660 ounces) that is not included in this total.*

FIGURE 16.18: PRODUCTION SUMMARY (TONNES)

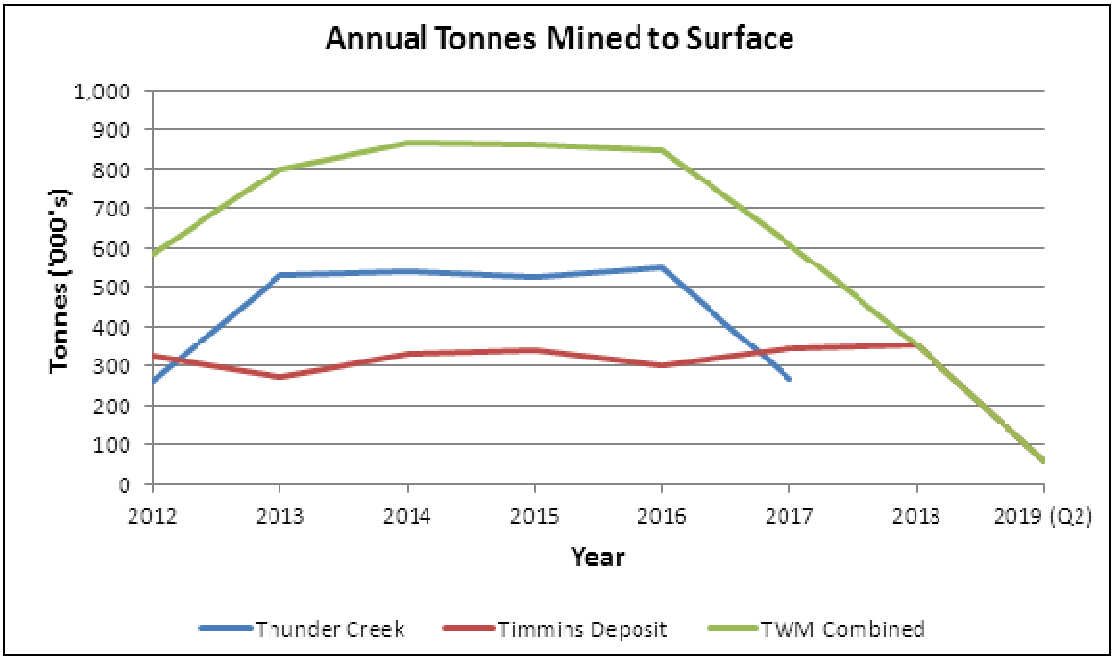
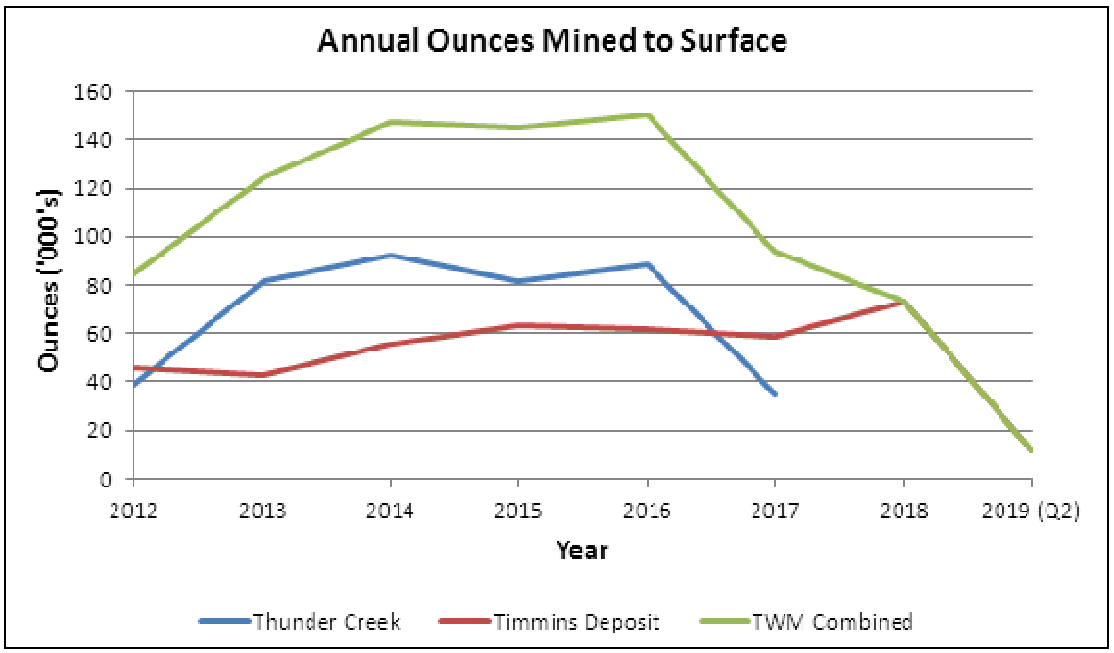


FIGURE 16.19: PRODUCTION SUMMARY (OUNCES)



16.9 PRODUCTION EQUIPMENT

The existing development, production, and auxiliary underground equipment fleet will continue to be used (where applicable), with additional equipment purchased as required to meet increased production demands. The existing mobile equipment fleet and planned additions to the fleet (including spares) are summarized in Table 16.12.

TABLE 16.12: UNDERGROUND MOBILE EQUIPMENT FLEET

Equipment Type	Existing Fleet	Planned Additions (2012)	Future Additions (2013+)	Total
2-Boom Jumbo	6	1	1	8
1-Boom Jumbo	1	1	0	2
LHD – 8 yd	2	0	2	4
LHD – 6 yd	10	1	0	11
LHD – 3.5 yd	3	0	0	3
LHD – 1.25 and 2 yd	3	0	0	3
20 Tonne UG Haul Truck	2	0	0	2
36 Tonne UG Haul Truck	3	1	0	4
42 Tonne UG Haul Truck	1	2	2	5
50 Tonne UG Haul Truck	0	0	3	3
Scissor Lift	8	2	2	12
Flat Deck Boom Truck	2	0	0	2
Grader	1	0	0	1
Personnel Carrier	2	0	2	4
Tractor/Minecat	5	1	2	8
Kubota RTV	11	4	0	15
Toyota UG Pick-Up	4	1	1	6
Blockholer	0	1	0	1
Emulsion Loader (Tractor)	0	1	0	1
Total	**64**	**16**	**17**	**97**

16.10 VENTILATION

Steady state ventilation requirements have been estimated based on providing 0.06 cubic metres per second (cms) of fresh air per kilowatt (kW) of mobile equipment diesel power (including factors for engine utilization), for the equipment anticipated to be operating. The equipment list and estimated ventilation requirements for the Timmins Deposit and Thunder Creek Deposit are shown in Table 16.13 and Table 16.14.

TABLE 16.13: TIMMINS DEPOSIT STEADY STATE MOBILE EQUIPMENT AND VENTILATION

Purpose/Equipment Type	Fleet	kW/Unit	Utilization	CMS
Development				
2-Boom Jumbo	2	58	15%	1.0
6 yd LHD	2	187	80%	17.9
Scissor Lift	2	86	40%	4.1
MCAF				
2-Boom Jumbo	2	58	15%	1.0
6 yd LHD	2	187	80%	17.9
Scissor Lift	2	86	40%	4.1
Longhole				
6 yd LHD	2	187	80%	17.9
Haulage				
36 Tonne Truck	2	298	80%	28.6
42 Tonne Truck	4	392	80%	75.2
Backfill				
Scissor Lift	1	86	40%	2.1
Services/Construction/Misc.				
Service LHD	2	86	40%	4.1
Scissor Lift	1	86	40%	2.1
Personnel Carrier	1	86	40%	2.1
Flatdeck Boom Truck	1	86	40%	2.1
Emulsion Loader	1	74	40%	1.8
Grader	1	82	40%	2.0
Kubota RTV	7	16	40%	2.8
Minecat	4	74	40%	7.1
Totota Pick-up	3	100	40%	7.2
Subtotal	**42**			**201.0**
Contingency 15%				30.2
Total				**231.2**
			CFM	**489,900**

TABLE 16.14: THUNDER CREEK STEADY STATE MOBILE EQUIPMENT AND VENTILATION

Purpose/Equipment Type	Fleet	kW/Unit	Utilization	CMS
Development				
2-Boom Jumbo	3	58	15%	1.6
6 yd LHD	3	187	80%	26.9
Scissor Lift	3	86	40%	6.2
Longhole				
8 yd LHD	3	250	80%	36.0
6 yd LHD	1	187	80%	9.0
Haulage				
36 Tonne Truck	2	298	80%	28.6
50 Tonne Truck	3	485	80%	69.8
Backfill				
Scissor Lift	1	86	40%	2.1

Purpose/Equipment Type	Fleet	kW/Unit	Utilization	CMS
Services/Construction/Misc.				
Service LHD	2	86	40%	4.1
Scissor Lift	1	86	40%	2.1
Personnel Carrier	1	86	40%	2.1
Flatdeck Boom Truck	1	86	40%	2.1
Kubota RTV	7	16	40%	2.8
Minecat	4	74	40%	7.1
Totota Pick-up	3	100	40%	7.2
Blockholer	1	40	15%	0.4
Subtotal	**37**			**207.8**
Contingency 15%				31.2
Total				**239.0**
			CFM	**506,300**

16.10.1 Timmins Deposit Ventilation

Based on the anticipated diesel equipment fleet, Timmins Deposit will require an estimated 231 cubic metres per second (cms) of fresh ventilation air. The existing Timmins Deposit surface ventilation arrangement includes two 450 kW (600 hp) Alphair 8400AMF5000 fans (these fans have been installed, but are currently not in operation). Fresh ventilation air will be delivered to the Timmins Deposit underground workings via an existing 4.5 metre by 4.5 metre raise system. In general, the ventilation system to 650L has already been established.

During steady state operation, the majority of Timmins Deposit mining activity will be at 650L and below. Gradual expansion of the ventilation system as mining progresses to 1290L will increase the system pressure. To provide sufficient air volumes to depth, and relieve pressure demand on the surface fans, two 300 kW booster fans will be installed in the fresh air system at 650L.

As ramp development advances below 650L, two fresh air ventilation raises will be required. A 3 metre by 3 metre “ramp” raise will facilitate ventilating ramp development and will be equipped with an escapeway to provide a second egress to 650L. The second raise will be 4.5 metres by 4.5 metres and will be the main ventilation source for sublevel development and production.

From 650L to 1290L, return air will exhaust from sublevels via the ramp and a 4 metre by 4 metre return air raise. Return air will split between the shaft and ramp and will be exhausted to surface. The Timmins Deposit steady state ventilation system is shown in Figure 16.20.

16.10.2 Thunder Creek Ventilation

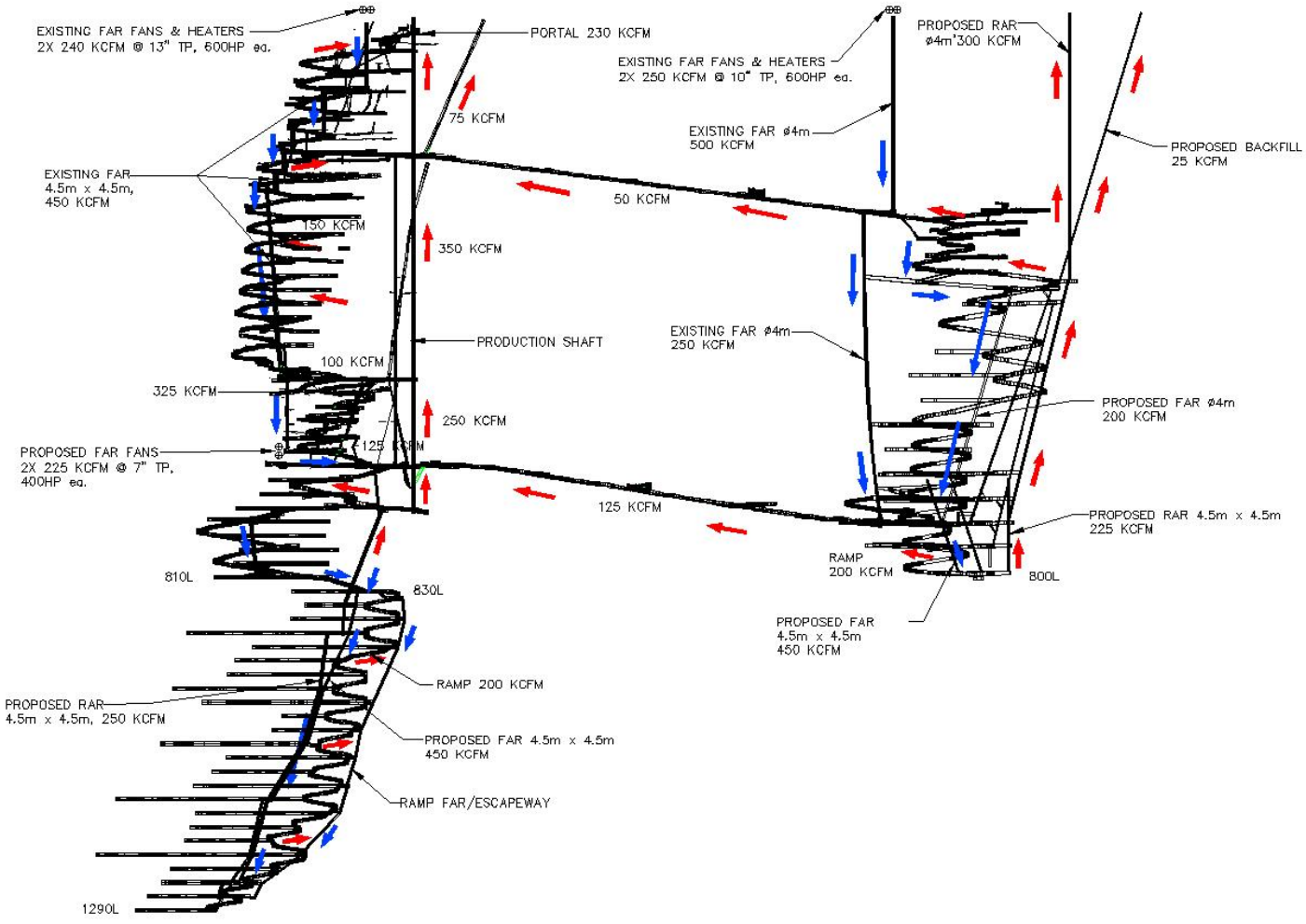
Thunder Creek will require an estimated 240 cms of fresh ventilation air. The existing Thunder Creek surface ventilation system includes two 400 kW Alphair 8400AMF5000 fans (these fans currently provide ventilation to both the Timmins Deposit and Thunder Creek). The fans have been designed to provide 203 cms at 3.0 kPa total pressure. Fresh ventilation air will continue to be delivered to the Thunder Creek underground workings via the existing 4 metre diameter fresh air raise (FAR) from surface to 275L and the existing 4 metre diameter FAR from 275L to 730L.

To deliver the required capacity to Thunder Creek, the pressure on the surface fans will be reduced. To accomplish this (and to avoid booster fans), a planned 4 metre diameter FAR from 730L to 395L will

operate in parallel with the existing FAR from 275L to 730L. The two raises will be connected by drifts at 395L and 730L. Two new fresh air raises will be required from 730L down to the bottom mining horizon at 870L. An initial 3 metre by 3 metre raise will be equipped with an escapeway for secondary egress to 730L and will facilitate ramp development. The second raise will be 4 metres by 4 metres and will provide fresh air for production.

A new return air raise to surface will exhaust Thunder Creek used ventilation air. A 4 metre diameter raise will be bored in two legs; from 730L to 395L, and from 395L to surface. Return air from below 730L will exhaust to 730L via a 4.5 metre by 4.5 metre return air raise. Some ventilation air will transfer from Thunder Creek to the Timmins Deposit via the connecting ramps at 730L and 275L. The Thunder Creek steady state ventilation system is also shown in Figure 16.20.

FIGURE 16.20: TIMMINS WEST MINE VENTILATION SYSTEM



16.10.3 Mine Air Heating and Cooling

The existing surface fresh air ventilation plants at the Timmins Deposit and Thunder Creek each include two ACI-Canefco Inc., 118 cms mine air heaters. Each heating unit has 22.5 MMBH of heating capacity.

The mine design extends to 1,290 metres below surface. Mine air cooling requirements are not anticipated for mining at this depth.

16.11 PERSONNEL

An existing core group of management, environmental, technical services (engineering/geology), administration, maintenance, supervisory, and production personnel will continue to operate the site. Additional personnel will be hired (many in 2012) to support increased production activity.

The estimated personnel required on payroll during steady state operation is summarized in Table 16.15.

TABLE 16.15: PERSONNEL ON PAYROLL (STEADY STATE)

Classification	Number
Site Management	
General Superintendent	1
Electrical Superintendent	1
Maintenance Superintendent	1
Mine General Foreman	2
Administration Staff	
HR Administrator	1
Reception	1
Purchasing	1
Warehouse Worker	2
Mine Clerk	1
Engineering Staff	
Chief Mine Engineer	1
Senior Mine Engineer/Projects Engineer	3
Mine Engineer	1
Mine Planners	2
Longhole Planner/Coordinator	2
Surveyors	2
Ventilation Planner and Technician	2
Geology Staff	
Chief Geologist	1
Senior Geologist	1
Mine Geologist	10
Resource Geologist	1
Diamond Drill Core Technicians	2
Health and Safety	
Safety Coordinator	1
Trainer	2

Classification	Number
Environmental	
Environmental Coordinator	1
Environmental Technician	1
Mine Operations Staff	
Development/Production Shift Supervisor	10
Surface Supervisor	1
Maintenance Staff	
Maintenance Supervisor	1
Hoist Electrical Supervisor	1
Hoist Mechanical Supervisor	1
Hoist/Electrical Planner	1
Maintenance Planner	1
Maintenance Clerk	1
SubTotal Staff	**61**
Mine Construction/Services – Hourly Indirect	
Construction Miner	12
Underground Labourer	6
Rockbreaker Operator	4
Backfill Operator	8
Surface Yard Maintenance Loader/Truck Operator	13
Ammonia Treatment Plant Operator	6
Dry/Janitorial	4
Shaft – Hourly Indirect	
Hoistperson	6
Cage/Skip Tender	5
Deckperson	4
Maintenance – Hourly Indirect	
Lead Mechanic	4
Mechanic	20
Welder	1
Drill / Pump Mechanic	2
Mill Wright	9
Lead Electrician	6
Electrician	10
Hoist Electrician	2
Instrumentation	1
Cap Lamp Maintenance	1
Subtotal Hourly Indirect	**124**
Mine Development / MCAF – Hourly Direct	
Lead Development Miner	46
Development Miner 1	76

Classification	Number
Mine Production – Hourly Direct	
Longhole/Cable Bolt Driller (contractor)	16
Longhole Blaster/Cable Bolt Installer (contractor)	16
LHD Operator	24
Haul Truck Operator	28
Subtotal Hourly Direct	**206**
Total Personnel	**391**

16.12 UNDERGROUND MINE SERVICES

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

16.12.1 Electrical Distribution and Communications

Power is delivered underground at 13.8 kVa via electrical cables installed in the existing shaft, with an additional 13.8 kVa line to underground planned for installation in 2012. Once installed, the power supply will be sufficient for 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"). Underground shaft stations and refuge stations will have direct communications to surface.

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.

16.12.2 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).

The estimated average compressed air requirements during steady state mining activity will be approximately 1,510 litre/second (3,200 cfm) with peaks approaching 3,210 litre/second (6,800 cfm) for short periods possible during the shift (if all compressed air users are operating simultaneously).

16.12.3 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).

The estimated average service water requirements during steady state mining will be 81 cubic metres per hour.

16.12.4 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 Timmins Deposit (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, a portion of the water is pumped to surface via piping in the ramp and in the shaft while the remaining water is returned to the service water supply piping network (in the shaft and ramp). The current dewatering system capacity is approximately 102 cubic metres per hour (450 usgpm).

A full water balance study is currently under way at the site. 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. At Timmins Deposit, pump stations have been considered at 950L and 1250L. Each pump station will include two 75 kW pumps (one duty and the other spare) with capacity to pump 60 cubic metres per hour. The pump stations will transfer dirty water to the main sump at 650L. At Thunder Creek, a new pump station has been included at 800L. The 800L pump station will include two 40 kW pumps (one duty and the other spare) with capacity to transfer 60 cubic metre per hour of dirty water to the main pump station at 650L.

16.12.5 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.

16.13 MATERIALS SUPPLY

The Timmins West Mine is well positioned in the established Timmins mining district. Consumable materials and external services required to support the mining operation will 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 to meet production demands.

16.14 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 Timmins Deposit 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.

A small satellite maintenance shop has been planned for Thunder Creek in 2012 to support minor repairs and servicing of equipment used for Thunder Creek mining activities.

16.15 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 and Mine Rescue Team and training facilities.

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

16.16 GEOTECHNICAL

A geotechnical engineering consultant (Mine Design Engineering) has been providing geotechnical support to Lake Shore Gold for the Timmins West Mine since the start of development. The consultant has completed underground field work to assess rock mass properties and conditions. Geotechnical data collection has been used for 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.

16.16.1 Thunder Creek

Rock Mass Character and Joint Structure

A geotechnical assessment of Thunder Creek has been completed by Mine Design Engineering (MDEng) to characterize rock mass quality, joint distribution and character, and domain delineation. The Thunder Creek rock mass has been delineated into domains according to rock type (1. Pyroxenites, 2. Rusk and Sedimentary, 3. Porphyry, and 4. Mafic Metavolcanics). Rock mass quality and the distribution of joint structure varies between these four identified domains.

Rock mass characterization for all domains at Thunder Creek is summarized in Table 16.16. The pyroxenite is of quality good with Q' ranging from 15 to 20 and RMR typically around 73. The rusk and sedimentary domain is fair with Q' ranging from 7 to 10 and RMR typically around 66. The porphyry domain has the highest rock mass quality at Thunder Creek, it is very good with Q' ranging from 43 to 50 and RMR typically around 88. Lastly, the mafic metavolcanics are good with Q' ranging from 13 to 40 and typical RMR values estimated at 72.

TABLE 16.16: ROCK MASS CHARACTERIZATION SUMMARY BY ROCK UNIT MAPPED AT THUNDER CREEK

Unit	Ja Range (typical)	Jr Range (typical)	Jn	RQD	Q'*	RMR
Pyroxenite	0.75 to 2 (1)	1 to 3 (3)	12	60-80	15 to 20	56-85 (73)
Rusk and Sedimentary	1 to 2 (1)	1	6	40-60	7 to 10	41-75 (66)
Porphyry	0.75 to 1 (1)	1 to 3 (3)	6	85-100	43 to 50	77-88 (83)
Mafic Metavolcanics	0.75 to 1 (1)	1 to 2	4 to 6	80	13 to 40	59-88 (72)

*where typical values are noted for Ja and Jr those are used to define Q'

The nature of jointing in the Thunder Creek rock mass is very scattered and random, and the joint structure varies between the rock mass domains as summarized in Table 16.17. The prominent joint set (A) is sub-parallel to foliation and joint sets B, C, D, and E are weakly defined. Joints are typically smooth to rough and undulating to planar with typically clean joint surfaces or quartz infilling.

TABLE 16.17: SUMMARY OF THUNDER CREEK JOINT SETS BY DOMAIN

(DD = Dip Direction, SD = 2 Standard Deviations of variability, all values are in degrees)

Domain	Pyroxenites			Rusk and Sedimentary			Porphyry			Mafic Metavolcanics		
Set ID	Dip	DD	SD	Dip	DD	SD	Dip	DD	SD	Dip	DD	SD
A	64	341	20	54	320	20				81	330	10
B	65	201	10									
C	51	030	11	42	051	8				51	012	14
D							22	319	19			
E							29	173	19			

UCS (unconfined compressive strength) testing has been completed for Thunder Creek in 2010 and 2011, data from those testing campaigns is provided in Appendix 10.

In-Situ Stress

Thunder Creek in-situ stress state has been estimated based on in-situ stress testing completed at Dome Mine (report provided to MDEng by LSG titled: Arjang, B., Pre-Mining Ground Stresses at the Dome Mine, South Porcupine, CANMET 1988). The assumed stress state at Thunder Creek (σ1 parallel to orebody strike) is summarized in Table 16.18.

TABLE 16.18: ASSUMED IN-SITU STRESS STATE AT THUNDER CREEK

	σ_v	σ_{h1}	σ_{h2}
Magnitude (MPa)	gravity	$1.6\sigma_v$	$1.2\sigma_v$
Dip (˚)	90	0	0
Dip Direction (˚)	0	60	330

It has been recommended that in-situ stress testing be completed at the Timmins West Mine.

Stability Assessment of Proposed Mining Methods

A ground stability assessment of the mining methods, proposed by Lake Shore Gold for the Thunder Creek Deposit, has taken into consideration both stope size and sequencing. Preliminary stope dimension analysis has been conducted using the Stability Graph Analysis method (Hoek et al. 1995). Recommendations for stope face maximum hydraulic radius (HR) dimensions have been made and are summarized in Table 16.19 and Table 16.20. The poorest stope face performance is expected in the rusk unit which is sheared and intensely foliated. The rusk and sedimentary lithologies are of lower rock mass quality than all other Thunder Creek rock mass units. Challenges with instability and dilution are anticipated when mining within and adjacent to this rock unit. The rusk unit is traceable by drilling (Rhys, 2010), and so proactive identification of this weak unit will be pertinent to mine planning so that stope design can adequately account for the lower rock mass quality.

TABLE 16.19: HR RECOMMENDATIONS FOR UPPER MINING AREA

Face	Maximum HR (unsupported)	Maximum HR (cablebolted)
Back (porphyry)	6.5	9
Back (rusk)	5	7.5
FW	8	-
HW (porphyry)	10.0	-
HW (pyroxenite)	7.0	10.5
HW (rusk)	6.0	8.5
Endwall (porphyry)	15.0	-
Endwall (rusk)	7.0	-

TABLE 16.20: HR RECOMMENDATIONS FOR LOWER MINING AREA

Face	Maximum HR (unsupported)	Maximum HR (cablebolted)
Back (porphyry)	5.0	7.5
Back (rusk)	3.5	6.0
Endwall (porphyry)	14.0	-
Endwall (rusk)	7.5	-
FW	4.5	-
HW(porphyry)	12.5	12.5
HW(pyroxenite)	7.0	9.5
HW (rusk)	6.5	9.0

Table 16.21 and Table 16.22 summarize the prefered stope dimensions (as suggested by Lake Shore Gold: 15 metre stope strike lengths, varying hangingwall to footwall spans depending on ore body thickness, with level heights of 17.5 metres, 25 metres, and 35 metres under consideration) and associated hydraulic radii.

TABLE 16.21: HANGINGWALL HR FOR STOPES WITH VARYING STRIKE LENGTH AND VARYING LEVEL SPACING

Level Spacing	17.5 m	25 m	35 m
25 m strike	5.1	6.3	7.3
20 m strike	4.7	5.6	6.4
15 m strike	4.0	4.7	5.3

TABLE 16.22: STOPE BACK AND ENDWALL HR FOR STOPES WITH VARYING HANGINGWALL TO FOOTWALL SPAN

HW-FW span		20 m	30 m	40 m	50 m	60 m
Endwall HR	17.5 m level spacing	4.7	5.5	6.1	6.5	6.8
	25 m level spacing	5.6	6.8	7.7	8.3	8.8
	35 m level spacing	6.4	8.1	9.3	10.3	11.1
Back HR	25 m strike	5.6	6.8	7.7	8.3	8.8
	20 m strike	5.0	6.0	6.7	7.1	7.5
	15 m strike	4.3	5.0	5.5	5.8	6.0

To avoid extensive cablebolting in the upper mining area it is recommended that stope strike length not exceed 20 metres. With a 15 metre stope strike length it is expected that hangingwall stability can be maintained with 35 metre level spacing. Furthermore, with 35 metre level spacing, endwalls are expected to perform well provided the hangingwall to footwall span does not exceed 20 metres in rusk. Larger stope dimensions in the upper mining area can be achieved if stope backs and hangingwalls are cablebolted, for example 25 metre strike lengths with 35 metre level spacing.

With the preferred stope dimensions summarized above it is likely cablebolting will be required to maintain stope back stability in rusk in the lower mining area. Stope backs in porphyry are expected to perform well with 15 metre strike lengths and hangingwall to footwall spans not exceeding 30 metres. With a 15 metre strike length, it is expected that hangingwall stability can be achieved without cablebolting if 35 metre level spacing is utilized. With these stope dimensions, endwalls are predicted to perform well. If cablebolting is utilized for stope backs in porphyry it will be possible to take the entire hangingwall to footwall span at once which will speed up the mining cycle, however difficulties with remote mucking in such long stopes may be encountered.

Three-dimensional linear-elastic numerical models have been developed and analyzed to predict the distribution of in-situ stresses over the planned mine life using the modelling software Examine3D TM (RocScience Inc.). Based on the proposed Thunder Creek mine sequences[1], and assumed model input parameters there are no stress related challenges anticipated over the life of mine. Very little seismicity is predicted and stress induced damage is expected to be very localized and minor. Modelling results suggest no preference for either top-down or bottom-up sequence in the upper mining block; this may be decided by production demands. Low strength factor values are predicted for some stope endwalls, footwalls, and backs where stress shadowing may contribute to gravity driven instability, which can be controlled by standard support in good condition.

Long Term Stability of Major Mine Infrastructure

Long term stability of major mine infrastructure has also been evaluated based on the anticipated stress distribution at the end of mine life. Following current plans for mine development, permanent mine infrastructure will be located sufficiently far from the ore zone so that no significant stress induced instability is anticipated. The minimum recommended standoff distance is a maximum of roughly 6 metres from the footwall at the lower extents of Thunder Creek.

Monitoring and Instrumentation

It has been recommended that all 4-way intersections and 3-way intersections with spans exceeding 6.5 metres (the approximate 3-way intersection span assuming a 5 metre drift width) be instrumented with SMART cablebolts or extensometers to monitor support load and ground deformations. The top cuts of stopes extracted early in mine life should also be instrumented as a means to validate and optimize cablebolt pattern design; once cablebolt design is optimized back instrumentation will not be required for non-entry stopes.

16.16.2 Timmins Deposit

Rock Mass Character and Joint Structure

Assessment of the Timmins Deposit rock mass character by MDEng has been limited to the Ultramafics (UM) host rock and the talc-schist unit (between 650 and 545 Levels) as these have been the lithological units of interest for mine stability analyses. The host rock has an estimated Geological Strength Index (GSI) of 55 to 75, the talc-schist GSI is estimated at 30 to 40. The prominent joint set (J1) is sub-parallel to foliation and the ore contact; this set dips roughly 45˚ to the northwest. Two weakly defined joint sets have also been identified. J2 has an estimated orientation of 75˚/165˚ (dip/dip direction) and the third set (J3) dips shallowly to the south[2]. Joint surfaces where observed to typically be smooth and planar to undulating and joint surfaces are commonly unaltered or have calcite infilling (particularly for J3). The rock mass quality is good with a Modified Rock Quality Index (Q') estimated at 8.9 to 40.

UCS (Unconfined Compressive Strength) testing was completed for the Timmins Deposit in 2009 and data from that testing campaign have been provided in Appendix 10.

[1] Three sequences have been assessed, including two sequences with transverse stopes (30 m along strike x 30 m hangingwall to footwall x 35 m level spacing) are utilized in the lower mining block and longitudinal stoping (25 m on strike x 15 m hangingwall to footwall x 40 m level spacing for levels 9459 to 9599; 50 m on strike x 20 m hangingwall to footwall x 30 m level spacing above 9599 level) proposed for the upper mining block. A third mine sequence utilizes transverse stoping (15 m on strike x varying hangingwall to footwall span x 35 m level spacing below 485 level and 20 to 25 m on strike x varying hangingwall to footwall span x 35 m level spacing above 485 level).

[2] The provided estimates of joint set orientation are based on very little data, additional geotechnical data is required to improve confidence in the joint set orientations.

In-Situ Stress

Timmins West in-situ stress state is assumed to be the same as the Thunder Creek in-situ stress state (Table 16.18).

Stability Assessment of Proposed Mining Methods

Stope stability analyses by MDEng have largely focused on back analysis of UM1 stopes located between 650 and 545 Levels to explain the geomechanical controls on significant stope back and hangingwall overbreak. This has involved 2- and 3-dimensional numerical analyses as well as empirical stope stability assessment. Back analyses have concluded that the low strength talc-schist unit in the UM1 footwall cuts off horizontal stresses ($\sigma 2$) perpendicular to the orebody strike. As a result, the UM1 ore body is partially stress shadowed and low confinement has contributed to the susceptibility of stope backs to overbreak. Numerical and empirical analyses both predict stope back and hangingwall instability similar to what has been experienced.

It has been recommended that all stope backs with HR exceeding 5 and hangingwalls with HR exceeding 7.5 in the UM1 be cablebolted to improve stability and reduce dilution. Cablebolting of stope backs in the UM2 has also been recommended to reduce dilution.

Numerical simulations suggest that the pillar between the UM1 and UM2 have incurred significant rock mass yield. To maintain integrity of the UM1/UM2 pillar and avoid further raveling of UM1 stopes, it is recommended that stopes be completely backfilled prior to mining adjacent stopes.

The performance of UM stopes located below 650 Level has been assessed based on the assumption that the UM zone below 650 Level is hosted in a very similar environment to the UM zones above 650 Level zones, and that the geotechnical conditions are expected to be very similar to the upper UM zones. Lake Shore Gold has proposed stope dimensions of: 20 metre level intervals (24 metre floor to back), 20 metre span on strike, and 20 metre hangingwall to footwall span for UM mining below 650 Level. These dimensions return HR as follows:

HW HR = 5.5
Back HR = 5
Endwall HR = 5.5

Stopes near the upper extent of this lower mining region (near 650 metre depth) are expected to have stable stope faces when unsupported. However at depth (near 1,220 metre depth) higher in-situ stress magnitudes will contribute to stope wall instability. For stopes at depth it has been suggested by MDEng that stope strike span be reduced to 10 metres to maintain hangingwall stability. Alternatively, if stope hangingwalls are cablebolted (if accessibility permits) the stope strike length may be increased to as much as 35 metres. To maintain stope back stability at depth it has been recommended that the stope strike length be reduced (i.e. 10 metre strike length, as per the hangingwall recommendation) and that the hangingwall to footwall span be limited to no more than 20 metres. If stope backs are cablebolted the strike length can be increased to as much as 35 metre strike length with 20 metre hangingwall to footwall span. It is not considered feasible to cablebolt stope endwalls due to accessibility limitations; anticipated stope endwall dilution can be reduced by reducing the hangingwall to footwall span to 15 metres.

It has been recommended that stope stability assessment be updated once additional geotechnical data, and records of stope performance become available in the lower mining areas.

16.17 BELL CREEK TAILINGS FACILITY

Ore mined to date from the Timmins West Mine has been milled at Lake Shore's existing Bell Creek Mill. All future ore mined from the Timmins West Mine will also be processed at the Bell Creek Mill (refer to Section 17.0).

The Bell Creek tailings facility is part of the Bell Creek complex. The facility first received tailings from the Bell Creek Mine in 1986 at an initial rate of 300 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. The Bell Creek Mill currently processes ore from both the Bell Creek advanced exploration project and the Timmins West Mine at a nominal rate of 2,000 tpd.

The tailings facility is located west of the Bell Creek mill, covers an area of approximately 75 ha, and includes the following:

- Two tailings cells (Phase 1/2 cell, Phase 3 cell).
- Clear water pond.
- Effluent treatment pond.

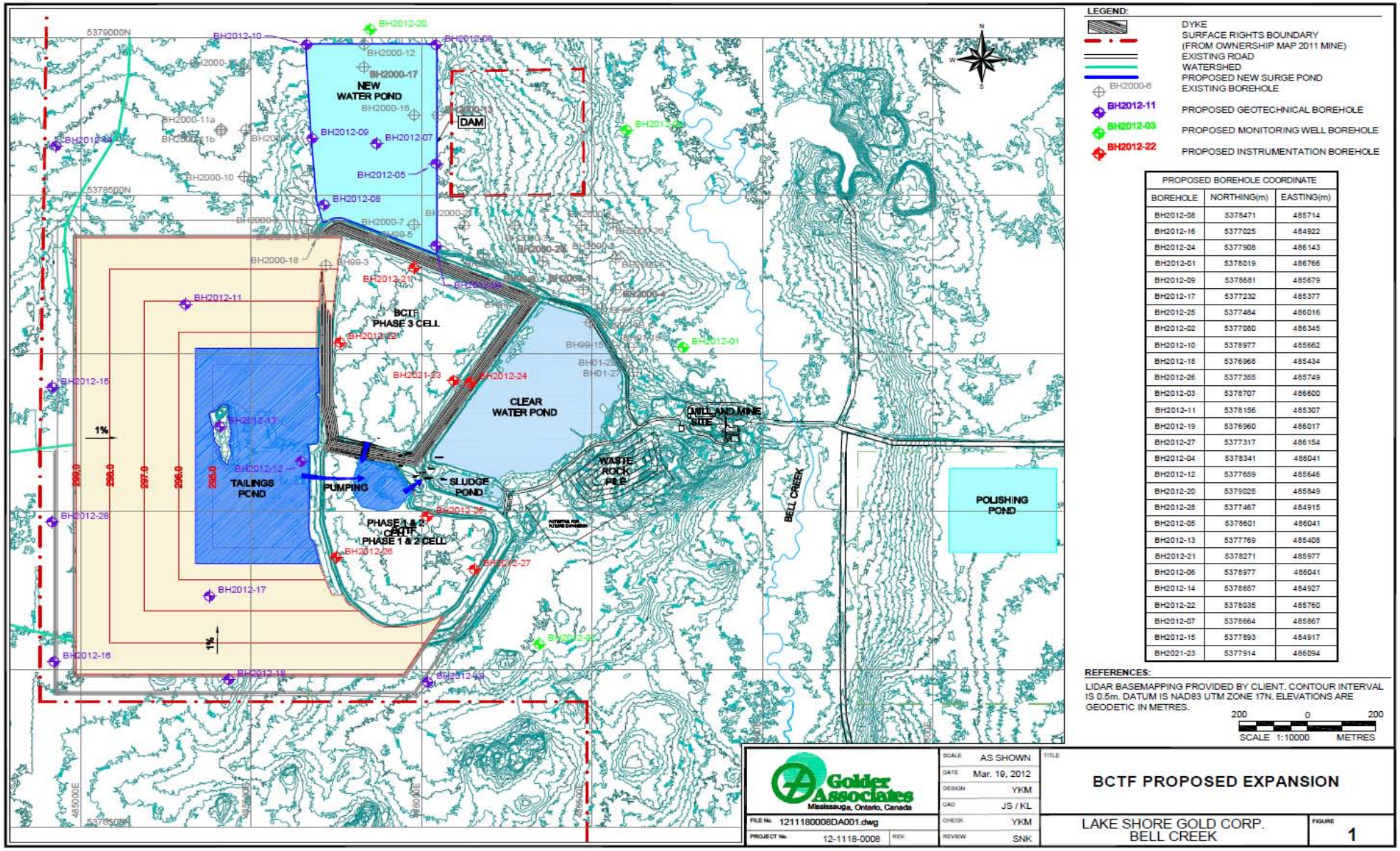
Tailings are pumped in a conventional slurry stream (40% to 45% solids) from the mill to the tailings facility for deposition.

The Bell Creek mill is currently undergoing an expansion to increase throughput capacity to 3,000 tpd by the fourth quarter of 2012. A phased expansion of the Bell Creek tailings facility will follow, with the first phase of expansion planned for completion in 2014. The new tailings area will be expended incrementally and will ultimately hold 20 million tonnes of tailings material.

Reference for this data (Golder Associates Technical Memorandum Mar 8, 2012).

The Bell Creek Tailings facility is shown in Figure 16.21.

FIGURE 16.21: BELL CREEK TAILINGS FACILITY



PROPOSED BOREHOLE COORDINATE

BOREHOLE	NORTHING(m)	EASTING(m)
BH2012-08	5378471	485714
BH2012-16	5377025	484922
BH2012-24	5377908	486143
BH2012-01	5378019	486766
BH2012-09	5378681	485679
BH2012-17	5377232	485377
BH2012-25	5377484	486016
BH2012-02	5377080	486345
BH2012-10	5378977	485662
BH2012-18	5376968	485434
BH2012-26	5377355	485749
BH2012-03	5378707	486600
BH2012-11	5378156	485307
BH2012-19	5376960	486017
BH2012-27	5377317	486154
BH2012-04	5378341	486041
BH2012-12	5377659	485646
BH2012-20	5379025	485849
BH2012-28	5377467	484915
BH2012-05	5378601	486041
BH2012-13	5377769	485408
BH2012-21	5378271	485977
BH2012-06	5378977	486041
BH2012-14	5378657	484927
BH2012-22	5378035	485760
BH2012-07	5378664	485867
BH2012-15	5377893	484917
BH2021-23	5377914	486094

REFERENCES:

LIDAR BASEMAPPING PROVIDED BY CLIENT. CONTOUR INTERVAL IS 0.5m. DATUM IS NAD83 UTM ZONE 17N. ELEVATIONS ARE GEODETIC IN METRES.

200 0 200
SCALE 1:10000 METRES

Golder Associates
Mississauga, Ontario, Canada

SCALE	AS SHOWN
DATE	Mar. 19, 2012
DESIGN	YKM
CAD	JS / KL
CHECK	YKM
REVIEW	SNK
FILE No.	1211180008DA001.dwg
PROJECT No.	12-1118-0008
REV.	

TITLE: BCTF PROPOSED EXPANSION

LAKE SHORE GOLD CORP.
BELL CREEK

FIGURE 1

17.0 RECOVERY METHODS

Mineralized rock from the Timmins West Mine is milled exclusively at the Bell Creek Mill located approximately 6.5 kilometres north of Highway 101 in South Porcupine, Ontario. The current 2,000 tonne per day processing plant consists of a crushing circuit, a two-stage grinding circuit with gravity recovery, followed by oxidation and cyanidation of the slurry and CIL and CIP recovery. Ore from the Timmins West Mine is trucked to the Bell Creek Milling Facility. The round trip haul distance is approximately 112 kilometres.

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 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 is currently operating at this capacity.

17.2 BELL CREEK MILL PROCESS DESCRIPTION

17.2.1 Current Process (Pre-Phase 2 Expansion)

Mineralized rock is trucked to the Bell Creek Mill site from the Timmins West Mine and is stored outside on the ground until processed. Ore is dumped by a loader onto a grizzly and a rockbreaker is used to handle the oversized material. The ore is fed with a track feeder to a 76 cm x 101 cm (30 inch x 40 inch) Nordberg jaw crusher (C100B). The discharge from the crusher is conveyed to the sizing screen. Undersize (-½ inch) material reports to the fine ore bin (FOB). The oversize material reports to the coarse ore bin (COB) which feeds an HP300 Nordberg cone crusher. The crushed material will circulate until it passes through the ½ inch screen and reports to the fine ore bin.

The grinding circuit consists of two ball mills in series. The primary mill is 3.7 metre x 4.9 metre and the secondary mill is 3.8 metre x 4.4 metre. The primary mill is fed from the FOB and is single pass. The primary cyclone overflow reports to the thickener feed box and the underflow reports to the secondary mill (there is a 30 inch Knelson concentrator that takes a bleed from this material for gravity gold collection, while the secondary mill is in closed circuit with the secondary cyclones). The secondary overflow reports to the thickener feed box with the underflow reporting back to the secondary mill (there is a 20 inch Knelson concentrator that takes a bleed from this material for gravity gold collection). The gravity gold reports to the gravity gold hopper while the Knelson discharge reports to the feed of the secondary mill. Both primary and secondary cyclone packs are made up of high efficiency Cavex cyclones, where 80% -200 mesh is being achieved. Lime is added to this circuit to maintain a pH of 11.2 to create a stable alkaline environment for the addition of sodium cyanide.

Flocculent is added to the combined cyclone overflow from both circuits and this slurry is pumped to the 20 metre diameter thickener. The slurry from the cyclones is 32% solids by weight with the thickener underflow at approximately 54% solids by weight. The excess water is recovered and used in the

process. If cyanide is added to the grinding circuit the solution will be gold-bearing and will be pumped through carbon columns to recover the gold before going back to the process. The thickened 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 metres. Cyanide is added to tank No. 1. Each of the leach tanks has air or pure oxygen pumped into it which maintains a high dissolved oxygen level (this is required for the cyanide to dissolve the gold).

The carbon-in-leach (CIL) tank is approximately 1,900 cubic metres and contains 15 grams of carbon per litre of slurry. Retention time in the CIL tank is 19 hours. The circuit will reach equilibrium for loading of the carbon. Usually, the grade of the loaded carbon is in excess of 4,500 grams per tonne. Loaded carbon is pumped from #1 CIL tank, screened, washed, and then transferred to the loaded carbon tank. A portion of carbon from #1 CIP tank is advanced forward. The strip vessel is located in the CIP circuit.

The slurry from the CIL tank reports to the carbon-in-pulp (CIP) circuit which consists of six tanks with approximately 4 tonnes of activated carbon in each tank. The retention time is four hours based on 2,000 tonnes of material. The carbon columns hold 1.3 tonnes of carbon. These are used if the practice of grinding in cyanide is used. The carbon from the carbon columns is also pumped across the loaded carbon screen and columns are advanced forward. Recovery of the gold from the carbon is a batch process with carbon being stripped at a rate of 3 tonnes per batch. The turnaround time between batches is 24 hours. Carbon is cleaned with acid, reactivated with the kiln and reused in the circuit.

The loaded solution from the strip circuit is passed through the electrowinning cell in the refinery. The gold collects on the cathodes in a sludge form. The cell is 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 shaker 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.

17.2.2 Phase 2 Expansion

The Bell Creek Mill currently processes 2,000 tonnes per day. The Phase 2 expansion will increase the mill throughput capacity to 3,000 tonnes per day. The “front end” of the expansion will be designed and built to a capacity of 5,500 tonnes per day, matching the capacity of the new SAG mill. Improvements at the “back end” of the process include the added capacity of two additional CIL tanks and a high capacity thickener.

Trucks will offload directly onto a grizzly. A remote controlled rockbreaker will be used to handle any oversized material. Material will be fed to an 80 tonne capacity hopper and apron feeder which will subsequently feed a conveyor belt leading to the crusher house.

Once in the crusher house, ore will dump onto a vibrating grizzly for sizing. Any plus (+) 6 inch material will go through the jaw crusher (44” x 34”) and then will combine with the minus (-) 6 inch material that bypassed the crusher. The sized ore material will be conveyed from this location to the ore storage dome.

Ore will be pulled from the 7,000 tonne capacity ore storage dome by three apron feeders and a conveyor belt located in a tunnel under the storage dome. The ore flows from the storage dome to the SAG mill. The 5,500 tonne per day SAG mill is 6.7 metres in length x 11.1 metres in diameter and is powered by twin 4,500 kW (6,000 hp) motors. The slurry, at approximately 65% solids, will be discharged from the SAG mill and pumped to the primary cyclones. Cyclone overflow will report to a 20 metre high efficiency thickener with underflow reporting back to the SAG mill. The existing 3.8 metre x 4.4 metre ball mill will be used for secondary grinding. Thickener underflow will report to the leach circuit. Leach tanks No. 1 to No. 3 will be used for oxidation of the slurry before the addition of lime and cyanide for leaching. Cyanide slurry will report to two new 15.7 metre x 15.7 metre CIL tanks and then to the original CIL tank. The adsorption of the gold onto the carbon will begin in the CIL circuit. Finally, the slurry will flow by gravity to the original CIP circuit, then to tailings.

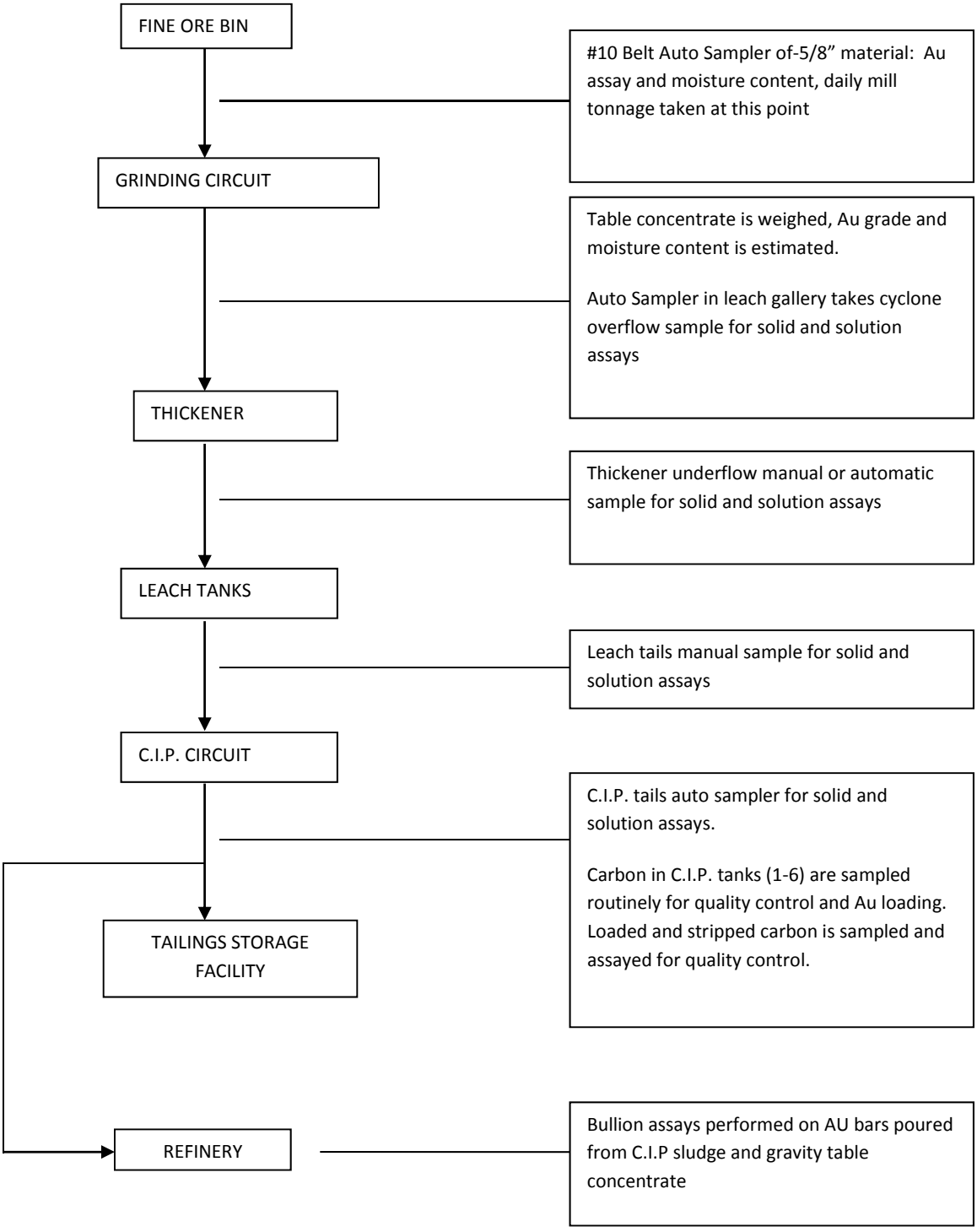
17.3 METALLURGICAL BALANCE

A metallurgical balance is conducted daily based on the tonnage from the double toggle belt weightometer. 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 cyclone overflow solids and solution, the weight of gravity gold collected, the estimated grade, 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). Only designated personnel perform the mill reconciliation. All areas of the circuit are sampled and percent solids are recorded for each slurry tank. Levels are recorded for all carbon bins and pregnant and barren tanks. 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, dry cathodes from the cell 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.

The simplified milling process and the sampling points are shown in Figure 17.1.

FIGURE 17.1: SIMPLIFIED MILLING PROCESS AND SAMPLING POINTS



17.4 ACTUAL MINERAL PROCESSING RESULTS OF TIMMINS WEST MATERIAL

The actual processing results of Timmins West Mine material are shown in Table 17.1 and Table 17.2 below.

TABLE 17.1: TIMMINS WEST MINE MATERIAL PROCESSED IN 2010

Ore Type	Tonnes Processed	Grade (grams Au/tonne)	Recovery
Ramp Ore	100,574	2.91	96.09%
Shaft Ore	154,668	6.97	96.96%
Thunder Creek	2,824	5.21	96.87%

TABLE 17.2: TIMMINS WEST MINE MATERIAL PROCESSED TO END THIRD QUARTER 2011

Ore Type	Tonnes Processed	Grade (grams Au/Tonne)	Recovery
Ramp Ore	48,322	3.00	96.75%
Shaft Ore	232,182	3.87	96.70%
Thunder Creek	74,577	3.65	97.00%

Gold recovery from all Timmins West Mine materials have met expectations established by test work completed prior to plant start-up. All materials yield a consistent high recovery even with variable grade. The average grind size to achieve these recoveries is a P80 of 75 micron. All reagent consumptions remained at normal levels for the different materials processed. Gravity recovery averaged 25% to 30% through this operational period, which was somewhat below expectations. Operational issues related to gravity recovery have been identified and changes aimed at increasing gravity recovery are planned.

18.0 PROJECT INFRASTRUCTURE

18.1 TIMMINS WEST MINE SITE

The existing surface and underground infrastructure at the Timmins West Mine site has been described in Section 16.

18.2 BELL CREEK MILL SITE

The existing infrastructure at the Bell Creek Mill site has been described in Sections 16.16 (Bell Creek Tailings Facility) and 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. Demand is presently high with prices for gold showing remarkable increases during recent times. The 36-month average London PM gold price fix through February 2012 was US $1,421/oz.

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 mining projects, the CEAA process is usually triggered through a Fisheries Act, Navigable Water Act, or Explosives Act approval. Other triggers may include the use of federal funding, land, or facilities. This process has not been triggered to date.

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.

This process was brought to the forefront in October of 2010. During this time Lake Shore Gold conducted all the requirements mentioned in the above paragraph to obtain approval from the MNDM for their submission of a Production Closure Plan for the Timmins West Mine.

Ministry of the Environment

The Ministry of the Environment (MOE) issues permits to take water (both surface and groundwater), emit noise and 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.
- Certificate of Approval # 5028-89PJTR issued September 29, 2010.
- Certificate of Approval for Air and Noise # 3055-6WVLMG.
- 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 Licence 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

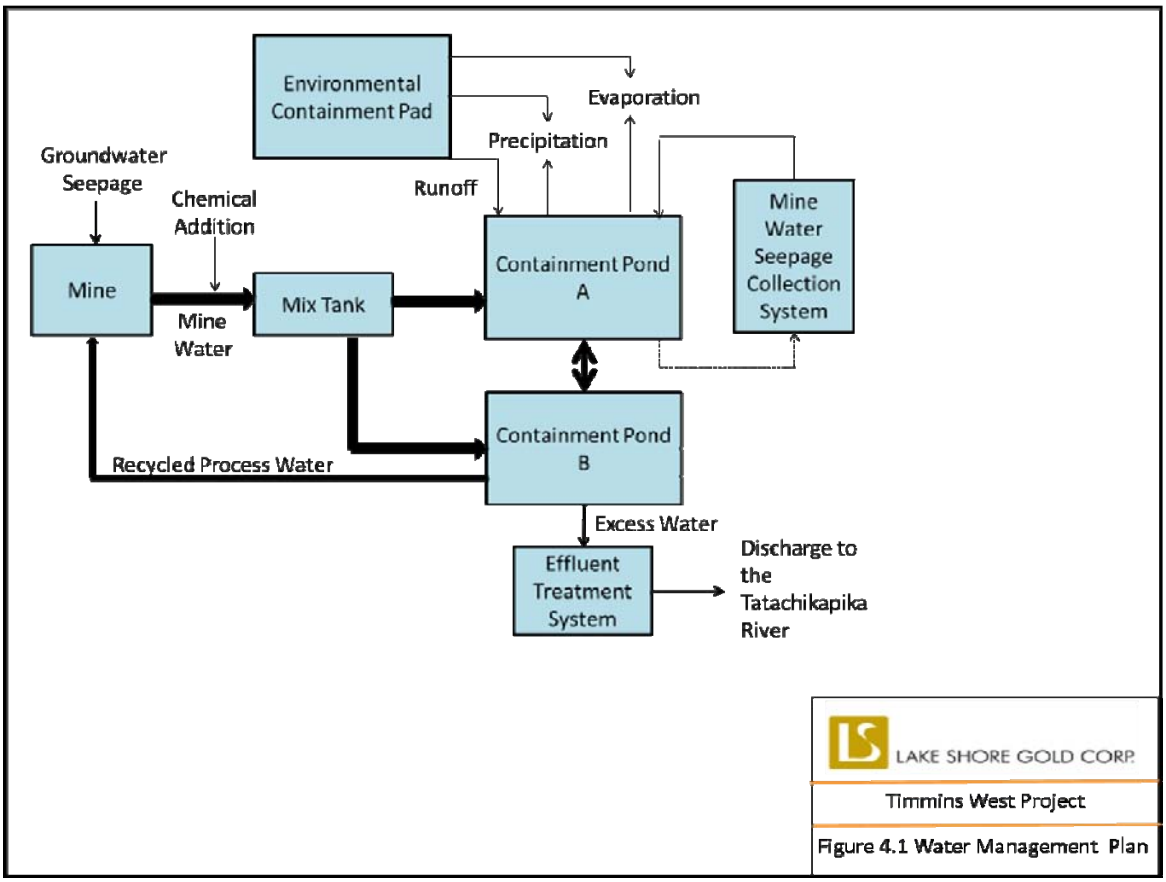
Water management and protection of the cold water systems on and adjacent to the Timmins West Mine site were recognized from the onset of the project as primary environmental concerns. Preliminary design for Timmins West Mine includes the concept of managing rock that can be an acid generating risk within 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 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 COA 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 monitored to confirm that it will not affect the Thunder Creek system. Flow and water quality monitoring for Thunder Creek is ongoing.

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.

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 Certificate of Approval (COA) # 5028-89PJTR.
- 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 the COA # 5028-89PJTR.
- Annual updates to air dispersion model as changes are made to infrastructure at the site that discharges to air as required by COA # 1745-7WMRSZ.
- 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.

20.4 HAZARDOUS MATERIALS HANDLING

Effluent treatment reagents (i.e. acid, flocculent, carbon dioxide) will be stored in designated areas. Currently these materials are stored within the ETP and in accordance with their respective Material Safety Data Sheets (MSDS).

Drinking water treatment reagents (i.e. liquid sodium hypochlorite, alum, citric acid) will be stored within the water distribution plant on site and in accordance with their MSDS.

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 located within containment areas to contain incidental spillage. Propane is stored in above ground tanks.

There are no PCBs at Timmins West Mine.

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. Copies of this document are available in the Safety, Health, and Orientation Manuals, which are available in the field office, in Lake Shore vehicles, and from contractor supervisors.

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 rock drainage 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 of the containment pond by pumping pre-treated water into the underground workings, or treating and releasing any remaining water.
- Deposition of rock from the containment pad into the underground workings.
- Excavation of containment pad and pond and placement of the removed material in the underground workings.
- Flooding of the underground mine workings with lime treated water to above the elevation of backfilled materials to prevent oxidation.
- Securing of mine openings in accordance with regulatory requirements.
- Contouring of any piles of rock that do not pose a metal leaching risk.
- 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 Lake Shore's activities on external stakeholders, and to expedite the authorization process.

The consultations have been held in order to comply with Lake Shore 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 (Hagan, B.; Samson, J., 2011, personal communication).

An exploration agreement is currently in force with the Mattagami, Flying Post, Matachewan, and Waghoshig First Nations for the Bell Creek Complex where all ore is processed (dated March 10, 2009). Negotiations are currently underway to develop a full IBA with these First Nations partners.

21.0 CAPITAL AND OPERATING COSTS

The cost estimates are in 2012 Canadian dollars and are to a level of accuracy of ±25 percent. Escalation has not been included.

21.1 LAKE SHORE BUDGETED 2012 CAPITAL COSTS

The 2012 capital costs include the work planned by Lake Shore and included in the Timmins West Mine 2012 operating plan (budget) to expand/upgrade the existing surface and underground infrastructure to support both the short term production ramp up and the longer term sustained production rate. This also includes full funding of the Bell Creek Mill expansion project and related environmental projects at the Bell Creek Mill site. The 2012 capital costs estimated by Lake Shore are summarized in Table 21.1.

TABLE 21.1: 2012 TIMMINS WEST MINE BUDGETED CAPITAL COSTS

Item	2012 Capital Costs (millions)
Lake Shore Budgeted Mine Capital 2012	**$94.65**
Environmental Projects - Subtotal	**$3.30**
Water discharge upgrades (surface)	$1.20
Water management study	$0.23
Water management upgrades and storm water control	$1.34
Ammonia Treatment Plant expansion and improvements	$0.37
Environmental effect monitoring plan	$0.10
Hazardous waste storage	$0.06
Ventilation Related - Subtotal	**$8.19**
Thunder Creek ventilation raises and escapeways	$5.54
Thunder Creek ventilation bulkheads and doors	$0.26
Timmins Deposit ventilation raises	$1.56
Timmins Deposit ventilation bulkheads and doors	$0.10
Ventilation fans and silencers	$0.73
Miscellaneous Raise Development - Subtotal	**$4.71**
Thunder Creek Waste Pass raise	$3.37
Timmins Deposit Backfill Raise	$0.98
Drop Raises	$0.36
Underground Construction - Subtotal	**$5.13**
Ore/Waste handling system upgrades	$1.30
Underground backfill distribution	$1.74
Underground Satellite Shop and Electrical Shop	$0.30
Underground dewatering system and slimes handling upgrade	$0.40
Fuel transfer system	$0.28
Miscellaneous Construction and Service Holes Drilling	$1.11
Engineering Studies – Subtotal	**$0.38**
Electrical Projects – Subtotal	**$4.68**
Thunder Creek electrical distribution upgrade (13.8 feed upgrade) and expansion	$3.04
Timmins Deposit electrical distribution expansion	$1.04
Surface electrical upgrades	$0.60

Item	2012 Capital Costs (millions)
Surface Infrastructure – Subtotal	**$6.76**
Surface Backfill Plant (temporary and permanent)	$5.21
Surface facilities upgrades and expansion	$0.87
Thunder Creek Backfill Raise access road and raise collar	$0.68
Hoist Related Critical Spares – Subtotal	**$0.97**
Mobile Equipment – Subtotal	**$8.44**
Mobile equipment purchases	$6.21
Mobile equipment rebuilds / major overhauls	$2.23
Capital Development – Subtotal	**$22.40**
Thunder Creek – Upper Levels	$5.94
Thunder Creek – Lower Levels	$7.45
Timmins Deposit – Upper Levels	$0.00
Timmins Deposit – Lower Levels	$9.01
Capital Diamond Drilling – Subtotal	**$3.41**
Thunder Creek	$1.32
Timmins Deposit	$2.09
Capitalized Common Costs – Subtotal	**$26.28**
Indirect Costs Allocated to Thunder Creek Capital	$11.74
Indirect Costs Allocated to Timmins Deposit Capital	$14.46
Project Group Costs Allocated to Capital	$0.08
Lake Shore 2012 Budgeted Bell Creek Mill Expansion and other Mill projects - Total	**$67.00**
Bell Creek Mill Expansion – P2 Construction	$61.40
New Clear Water Pond Construction	$2.50
Polishing Pond Lift Construction	$1.80
Feasibility Design Phase 4 Tailing Expansion	$0.47
Bell Creek Water Management Study	$0.23
Bell Creek Site Water Management physical improvements	$0.50
Miscellaneous Engineering Study/Consultation Work	$0.10
Total Estimated Capital Costs	**$161.65**

Of the estimated $161.65 million capital costs budgeted for 2012, $19.3 million is considered “direct” capital required to establish specific sublevel infrastructure required to mine the reserves and has been used in the economic evaluations (to confirm the reserves for each sublevel) included in Section 22. The remaining $142.35 million in capital costs are attributable to common major underground infrastructure, surface site infrastructure, and Bell Creek Mill Expansion and other mill related projects.

21.2 SUSTAINING CAPITAL COSTS

The sustaining capital costs include the development, infrastructure, construction, and equipment purchases required (after 2012) to support ongoing mining and expansion of the mine into new production areas. The estimated sustaining capital costs have been summarized in Table 21.2.

TABLE 21.2: ESTIMATED SUSTAINING CAPITAL COSTS (2013 TO 2019)

Item	Sustaining Capital Cost (millions)
Lake Shore Estimated Capital Projects TWM Mine Related Only	**$19.64**
Surface water handling facility upgrades	$2.24
Ventilation infrastructure	$3.00
Thunder Creek Ore Pass (765L to 415L)	$2.30
Thunder Creek Auxiliary Shop	$0.15
Remaining Thunder Creek Electrical upgrades (13.8 kVa feed)	$2.00
Underground Communications Network expansion	$1.20
Surface Load-out	$5.00
Surface Truck Weigh Scale	$0.50
Cold Storage Building	$0.25
Portal Cover	$0.50
Surface Facilities Upgrades	$0.50
Hoist Critical Spares	$2.00
Lake Shore Estimated Bell Creek Mill Expansion and other Mill related projects	**$4.95**
Tailings Dyke Lifts	$1.45
New Clear Water Pond construction	$3.00
Site Water Management upgrades	$0.50
Mobile Equipment Purchases	**$11.45**
2-Boom Jumbo	$0.84
Underground Haul Trucks	$6.42
LHDs	$2.78
Auxiliary Equipment	$1.41
Mobile Equipment Rebuilds	**$18.49**
2-Boom Jumbos	$3.53
Underground Haul Trucks	$7.64
LHDs	$5.12
Scissor Lifts	$1.42
Surface Loader	$0.78
Underground Infrastructure and Construction	**$23.26**
Underground Booster and Auxiliary Fans and Accessories	$2.50
Refuge Stations	$1.26
Pumps Stations	$1.24
Satellite Fuel/Lube Stations	$0.48
Ventilation Bulkheads and Doors	$2.59
Explosives and Detonators Storage	$0.40
Thunder Creek Ore Pass and Waste Pass Dumps	$0.92
Ore Pass and Waste Pass Truck Loading Chutes	$1.80
Electrical Distribution Thunder Creek	$4.47
Electrical Distribution Timmins Deposit	$5.16
Service Holes (Electrical and Drain)	$0.44
Rockbreaker/Grizzly/Bin at 625L	$2.00
Timmins Deposit Ramp Development	**$12.63**
Thunder Creek Ramp Development	**$6.06**

Item	Sustaining Capital Cost (millions)
Timmins Deposit Lateral Waste Development	**$18.93**
Thunder Creek Lateral Waste Development	**$10.69**
Timmins Deposit Raise Development	**$7.01**
Ramp FAR	$1.95
Main Internal FAR 790L to 1270L	$2.32
Main Internal RAR 710L to 1270L	$2.74
Thunder Creek Raise Development	**$5.99**
Ore Passes	$0.34
Escapeways	$0.36
Internal RAR	$2.12
Internal FAR	$2.12
Ore Pass Finger Raises	$0.37
Backfill Finger Raises	$0.68
Waste Rock Haulage and Handling	**$6.66**
Timmins Deposit Waste Rock Handling	$5.08
Thunder Creek Waste Rock Handling	$1.58
Subtotal	**$145.76**
Contingency 15%	$21.86
Total Estimated Sustaining Capital Costs	**$167.62**

Of the estimated $167.62 million sustaining capital costs, $53.59 million is considered “direct” capital required to establish specific sublevel infrastructure required to mine the reserves and has been used in the economic evaluations (to confirm the reserves for each sublevel) included in Section 22. The remaining $114.03 million in sustaining capital costs are attributable to common major underground infrastructure, surface site infrastructure, and Bell Creek Mill Expansion and other mill related projects.

21.2.1 Lake Shore Capital Projects

Lake Shore has planned and estimated the costs associated with certain capital projects related to the Timmins West Mine. The estimated costs were developed by Lake Shore operations and projects personnel with experience in the area, and have been based on operating experience and/or interaction with vendors/contractors.

21.2.2 Bell Creek Mill Expansion and Related

Lake Shore has identified and estimated the costs associated with the Bell Creek Mill expansion and other mill site related initiatives. The estimated costs were developed by Lake Shore operations and projects personnel with experience in the area, and have been based on operating experience and/or interaction with vendors/contractors.

21.2.3 Mobile Equipment Purchases

Mobile equipment purchases include the additional jumbos, LHDs, underground haul trucks, and auxiliary equipment required to meet production targets.

Mobile equipment cost estimates have been based on recent quotations from appropriate mobile equipment suppliers.

21.2.4 Mobile Equipment Rebuilds

Mobile equipment rebuilds include significant rebuilds of major mobile production equipment (jumbos, LHDs, haul trucks, scissor lifts). The estimated cost of a rebuild has been based on 60% of the initial purchase price of the unit.

21.2.5 Underground Infrastructure and Construction

Infrastructure includes underground installations (that have not been included in the Lake Shore Capital Projects) required to support production. Infrastructure cost estimates have been based on Stantec's recent experience with similar installations, interaction with vendors, and/or developed from first principles.

21.2.6 Ramp Development

Ramp 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 (including a ramp scheduled to access the shaft bottom in 2012). The ramp development quantities include a 15% allowance for safety bays and miscellaneous remuck bays and material storage bays.

The estimated unit cost for ramp development has been developed from first principles using current Lake Shore labour rates (including wages and overhead), estimated mobile equipment operating costs, consumable materials quantities and costs, services materials, and anticipated productivities. The unit costs do not include haulage of the waste rock (identified separately).

21.2.7 Waste Infrastructure Development

Waste infrastructure development quantities have been based on 3D mine design drawings prepared for the Timmins Deposit and Thunder Creek. Waste development will include the initial sublevel access and ancillary development (sumps, electrical substations, ventilation raise access, etc.), any footwall haulage drifts and the first 15 metres of access to the stopes (i.e. drawpoints). The waste development quantities include a 15% allowance for miscellaneous slashing, remucks, and material storage bays.

The estimated unit cost for waste development has been developed from first principles using current Lake Shore labour rates (including wages and overhead), mobile equipment operating costs, consumable materials quantities and costs, services materials, and anticipated productivities. The unit costs do not include haulage of the waste rock (identified separately).

21.2.8 Raise Development

Raise development quantities include all vertical development (ore passes, waste passes, backfill raises, ventilation raises, and escapeway raises) to support the mine design. 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 developed by Stantec based on recent experience with other projects in the area. The unit costs include mobilization and demobilization of the contractor and the contractor's indirect fees and profit.

21.2.9 Waste Haulage

Waste haulage includes the direct cost of hauling waste rock to stopes for use as backfill, or to the waste rockbreaker at 650L for skipping to surface.

Waste rock quantities have been estimated from the ramp, lateral, and raise development quantities.

The estimated unit cost (per tonne) for waste haulage has been developed by Stantec using current Lake Shore labour rates (including wages and overhead) and estimated haul truck operating costs. The unit rates vary with haulage distance.

21.3 OPERATING COSTS

The life of mine operating costs will include both direct and indirect costs.

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 21.3.

TABLE 21.3: OPERATING COST SUMMARY

Item	Cost (millions)	Cost $/Tonne
Lake Shore Budgeted 2012 Operating Costs	**$68.31**	**$116.50/t[(1)]**
Timmins Deposit Direct Operating Costs (2013 to 2019)	**$102.28**	**$51.51/t[(2)]**
Waste Development	$6.53	$3.29/t
Ore Development	$5.79	$2.92/t
Longhole Stoping	$35.38	$17.82/t
MCAF Stoping	$43.44	$21.88/t
Waste Rock Haulage	$0.55	$0.28/t
Ore Haulage	$10.59	$5.32/t
Thunder Creek Direct Operating Costs (2013 to 2019)	**$67.92**	**$28.20/t[(3)]**
Waste Development	$6.29	$2.61/t
Ore Development	$3.81	$1.58/t
Longhole Stoping	$50.76	$21.07/t
Waste Rock Haulage	$0.34	$0.14/t
Ore Haulage	$6.72	$2.80/t
Indirect Costs (2013 to 2019)	**$197.44**	**$44.93/t[(4)]**
Indirect Labour (Staff and Supervision)	$35.06	$7.98/t
Indirect Labour (Shaft, Construction, Services, Maintenance)	$38.15	$8.68/t
Site Costs	$11.40	$2.59/t
Leases/Rentals	$0.86	$0.19/t
Power Consumption	$26.37	$6.00/t
Electrical Miscellaneous	$1.69	$0.38/t
Surface Facilities Maintenance	$2.74	$0.62/t
Propane Consumption	$9.58	$2.18/t
Engineering Supplies	$1.58	$0.36/t

Item	Cost (millions)	Cost $/Tonne
Environmental Consultants, Supplies, and Consumables	$6.29	$1.43/t
Ammonia Treatment Plant Operation	$8.16	$1.86/t
Safety and Training (includes Mine Rescue)	$2.74	$0.62/t
Geology Labour, Sampling, and Diamond Drilling	$34.91	$7.94/t
Indirect Mobile Equipment Operating	$11.49	$2.61/t
Lake Shore Timmins Administration Team	$6.42	$1.49/t
Surface Haulage and Milling (2013 to 2019)	**$128.05**	**$29.14[4]**
Highway Haulage to Bell Creek Mill	$30.76	$7.00
Milling	$97.29	$22.14
Total Estimated LOM Operating Costs	**$564.00**	**$113.24[5]**

[1] Based on 586,341 tonnes included in the Timmins West Mine 2012 production forecast.
[2] Based on 1,985,727 tonnes produced from Timmins Deposit, during 2013 to 2019.
[3] Based on 2,408,672 tonnes produced from Thunder Creek during 2013 to 2017.
[4] Based on combined 4,394,399 tonnes produced from Timmins West Mine during 2013 to 2019.
[5] Based on combined total 4,980,740 tonnes produced from Timmins West Mine LOM.

The estimated average LOM operating cost will be $113.24 per tonne.

21.3.1 Lake Shore Budgeted 2012 Operating Costs

Lake Shore has prepared a 2012 budget and operating plan for the Timmins West Mine. The operating plan includes the estimated direct and indirect operating costs to achieve production targets. This budget has been based on experiences gained through early stage commercial production in 2011 and factored for units of work planned in 2012.

21.3.2 Direct Operating Costs (2013 to 2019)

The direct operating costs include waste development to access the ore, ore sill development, longhole stoping, MCAF stoping, and ore and waste rock haulage. The direct operating costs have been developed based on actual labour rates provided by Lake Shore, equipment operating costs from Stantec's internal database, and consumable materials costs from Stantec's internal database.

Waste and Ore Sill Development
The direct costs related to waste and ore sill development include:

- 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, and LHD.
- Services material and installation including pipe, ventilation duct, and electrical cables.
- Miscellaneous materials required to support development activities.

The unit costs for development are summarized in Table 21.4.

TABLE 21.4: DEVELOPMENT UNIT COSTS

Item	Advance Rate 4.5 m/day	Advance Rate 4.0 m/day	Advance Rate 3.5 m/day
4 m x 4 m Heading			
Labour	$945.46/m	$1,063.64/m	$1,215.59/m
Materials	$833.71/m	$833.71/m	$833.71/m
Equipment Operating	$506.50/m	$541.03/m	$585.42/m
Total	**$2,285.68/m**	**$2,438.39/m**	**$2,634.73/m**
5 m x 5 m Heading			
Labour	$945.46/m	$1,063.64/m	$1,215.59/m
Materials	$976.58/m	$976.58/m	$976.58/m
Equipment Operating	$506.50/m	$541.03/m	$585.42/m
Total	**$2,428.54/m**	**$2,581.25/m**	**$2,777.59/m**

MCAF Stoping (Timmins Deposit Only)

The direct costs related to MCAF stoping include the labour, consumable material, and equipment operating and maintenance associated with:

- Developing each mining cut (similar to development).
- Backfilling.
- Developing the attack ramp to access the next cut.

The direct costs for MCAF stoping are summarized in Table 21.5.

TABLE 21.5: MCAF UNIT COSTS

Item	Cost/Tonne
Sill (Cut) Development (average 7.9 metres wide)	$26.39
Backfill	$10.63
Attack Ramp Development	$13.76
Total	**$50.78/tonne**

Longhole Stoping

The direct costs related to longhole stoping include the labour, consumable material, and equipment operating and maintenance associated with:

- Drilling, loading, and blasting longholes (including drop raises) by a drilling contractor.
- Mucking from the stope with an LHD and tramming to a remuck or truck loading area or ore pass dump.
- Backfilling.

The direct costs for Longhole stoping are summarized in Table 21.6.

TABLE 21.6: LONGHOLE STOPING UNIT COSTS

Item	Cost/Tonne
Thunder Creek Transverse Longhole Stoping	
Drilling and Blasting	$8.22
Mucking	$2.88
Backfilling	$9.90
Cable Bolting	$0.75
Total	**$21.75/tonne**
Timmins Deposit Longtiudinal Longhole Stoping	
Drilling and Blasting	$18.68
Mucking	$4.14
Backfilling	$9.90
Cable Bolting	$2.16
Total	**$34.88/tonne**

Ore Haulage

Ore haulage costs include labour and haul truck operating and maintenance costs associated with hauling ore to the Timmins Deposit 650L (and/or proposed 625L) rockbreaker station. Ore haulage costs vary incrementally with haul distance.

21.3.3 Indirect Costs

All costs not directly related to mine development, construction, or production activities have been included in the indirect costs. The indirect costs have been based on current operating experience at the site, estimated quantities/consumption (such as power), and actual labour rates provided by Lake Shore. The indirect costs include:

- Timmins West Mine Staff including:
  - Management, administration, technical services, and environmental personnel.
  - Supervisory and health and safety/training personnel.
  - Electrical, mechanical, millwright, and services personnel (hourly).
  - Shaft and material handling related personnel.
- General site services including:
  - Surface ore and waste handling.
  - Shaft operation.
  - Office operating expenses.
  - Miscellaneous travel and expenses.
  - Miscellaneous supplies and services.
- Leases and rentals including office and dry trailers.
- Site electrical power consumption.
- Miscellaneous electrical costs including:
  - Hoist consultants.
  - Cap lamps and radios.
  - Operating supplies.
- Surface maintenance including buildings, yard, roads, and bridge.

- Mine air heating costs.
- Engineering supplies including:
  - Consultants allowance.
  - Survey equipment.
  - Ventilation measuring instrumentation.
  - Professional fees and training.
- Environmental related including:
  - Monitoring and instrumentation.
  - Waste management and recycling.
  - Consultants.
  - Erosion control and site reclamation.
  - Consumables.
- Ammonia Treatment Plant Operation including:
  - Operating labour.
  - Consultants.
  - Reagents and consumable materials.
- Safety and Training including:
  - Safety gear and PPE.
  - Training and safety awards.
  - Mine Rescue and Emergency Procedures tests.
  - First Aid supplies.
- Geology labour and diamond drilling.
- Support equipment operating and maintenance costs such as underground tractors, boom trucks, service LHDs, and the surface loaders.
- Lake Shore Timmins Administration Team located off-site.

21.3.4 Surface Ore Haulage and Milling

Surface ore haulage costs from Timmins West Mine 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 from Lake Shore actual 2011 milling costs. The milling costs have been adjusted to reflect higher tonnage throughput (following mill expansion) and reduced surface re-handling requirements resulting from capital improvements in the dump arrangement.

22.0 ECONOMIC ANALYSIS

An economic analysis has been completed for the Timmins West Mine. The economic analysis has been based on the estimated probable reserves.

22.1 SUBLEVEL EVALUATIONS

Each sublevel was evaluated to confirm that the gross revenue generated from the estimated probable reserves mined will support the operating costs and direct capital costs required for infrastructure specific to the sublevel. The evaluations were completed at US $1,600 and a currency exchange rate ($CDN/$US) of 1.0. An example of the evaluation of Timmins Deposit 930L is summarized in Table 22.1. The evaluations for all sublevels have been included in Appendix 13.

TABLE 22.1: EXAMPLE OF SUBLEVEL EVALUATION – TIMMINS DEPOSIT 930L

930L to 910L Estimated Probable Reserve 71,148 tonnes @ 7.5 g/t	**Quantity**	**Rate**	**Total Cost**
Capital Costs			**$1,091,433**
Ramp Development	153m	$2,428/m	$371,484
Infrastructure Development	196m	$2,428/m	$475,888
Waste Rock Haulage to Stope as Backfill	12,215t	$2.1/t	$25,652
Waste Rock Haulage to Shaft for Hoisting	12,215t	$6.3/t	$76,099
Ramp Fresh Air Raise	16m	$4,880/m	$78,080
Ventilation Bulkhead Construction	3	$21,410 ea	$64,230
Operating Costs			**$8,447,233**
Operating Development through Waste Rock	55m	$2,285/m	$125,675
Operating Development through Ore	112m	$2,285/m	$255,920
Longhole Stope Production	66,130t	$34.88/t	$2,306,628
Waste Rock Haulage to Stope for Backfill	1,232t	$2.1/t	$2,587
Waste Rock Haulage to Shaft for Hoisting	1,232t	$6.3/t	$7,675
Ore Haulage to Shaft for Hoisting	71,148t	$6.3/t	$443,252
Indirect Costs	71,148t	$45.9/t	$3,263,547
Surface Haulage and Milling	71,148t	$28.7/t	$2,041,948
Evaluation	**Value**		
Ounces Mined to Surface	17,156		
Mill Recovery	96.5%		
Ounces Sold (recovered)	16,555		
Gold Price $US	$1,600		
Exchange Rate ($CDN/$US)	1.0		
Total Sales	$26,488,782		
Treatment Charges $1.6 per ounce	-$26,489		
Royalties 2.25%	-$596,594		
Gross Revenue	$25,865,700		
Total Operating Costs	-$8,447,233		
Net Revenue	$17,418,467		
Total Capital Costs	-$1,091,433		
Net Cash from Mining 930L	**$16,327,034**		

The results of all sublevel evaluations for the Timmins Deposit and Thunder Creek are summarized in Table 22.2.

TABLE 22.2: SUBLEVEL EVALUATION SUMMARIES

Sublevel	Tonnes	Grade	Ounces (Recovered)	Revenue (millions)	Capital Costs (millions)	Operating Costs (millions)	Net Cash from Mining (millions)	Comment
Timmins Deposit								
230L	11,236	4.8	1,673	$2.61	$0.00	$1.67	$0.94	
260L	9,182	6.1	1,738	$2.71	$0.00	$1.27	$1.44	
290L	0	0.0	0	$0.00	$0.00	$0.00	$0.00	No production
315L	0	0.0	0	$0.00	$0.41	$0.00	-$0.41	No production, ramp development only
335L	35,374	5.6	6,146	$9.60	$0.75	$4.22	$4.63	
355L	12,972	7.2	2,898	$4.53	$0.96	$1.52	$2.05	
375L	15,797	6.1	2,990	$4.67	$0.90	$1.89	$1.88	
395L	16,902	5.0	2,622	$4.10	$0.87	$2.37	$0.86	
415L	28,896	4.4	3,945	$6.16	$0.86	$4.03	$1.27	
435L	50,182	4.8	7,473	$11.68	$0.78	$6.66	$4.24	
455L	0	0.0	0	$0.00	$0.00	$0.00	$0.00	No production
475L	0	0.0	0	$0.00	$0.00	$0.00	$0.00	No production
500L	0	0.0	0	$0.00	$0.00	$0.00	$0.00	No production
525L	54,642	4.1	6,951	$10.86	$0.19	$6.96	$3.71	
545L	0	0.0	0	$0.00	$0.18	$0.00	-$0.18	No production
565L	51,225	4.3	6,834	$10.68	$0.00	$6.18	$4.50	
585L	78,908	4.3	10,527	$16.45	$0.00	$8.88	$7.57	
610L	75,601	4.0	9,382	$14.66	$0.00	$8.74	$5.92	
630L	21,963	4.4	2,998	$4.68	$0.00	$2.64	$2.04	
650L	29,547	4.5	4,125	$6.45	$0.38	$3.39	$2.68	
670L	149,167	4.4	20,363	$31.81	$0.43	$17.46	$13.92	
690L	89,691	4.9	13,635	$21.30	$0.70	$10.65	$9.95	
710L	119,659	4.4	16,335	$25.52	$1.76	$16.09	$7.67	
730L	75,623	5.2	12,200	$19.06	$1.61	$10.21	$7.24	
750L	68,936	4.9	10,480	$16.37	$1.27	$9.36	$5.74	
770L	104,543	6.4	20,758	$32.43	$0.95	$14.07	$17.41	
790L	125,433	5.7	22,182	$34.66	$0.91	$14.61	$19.14	
810L	59,706	4.7	8,706	$13.60	$1.24	$7.93	$4.43	
830L	25,542	7.2	5,706	$8.91	$0.96	$3.63	$4.32	
850L	78,888	9.2	22,517	$35.18	$1.04	$10.42	$23.72	
870L	70,856	6.8	14,949	$23.36	$1.36	$9.25	$12.75	
890L	66,239	4.2	8,631	$13.49	$1.75	$8.72	$3.02	
910L	50,087	4.0	6,216	$9.71	$1.23	$6.71	$1.77	
930L	71,148	7.5	16,555	$25.87	$1.09	$8.45	$16.33	
950L	68,168	8.3	17,554	$27.43	$1.15	$8.15	$18.13	
970L	44,309	4.2	5,774	$9.02	$1.82	$6.21	$0.99	
990L	25,614	3.3	2,622	$4.10	$1.11	$3.80	-$0.81	Production gains back some capital cost.

Sublevel	Tonnes	Grade	Ounces (Recovered)	Revenue (millions)	Capital Costs (millions)	Operating Costs (millions)	Net Cash from Mining (millions)	Comment
1010L	0	0.0	0	$0.00	$0.80	$0.00	-$0.80	No Production.
1030L	0	0.0	0	$0.00	$0.80	$0.00	-$0.80	No Production.
1050L	0	0.0	0	$0.00	$2.18	$0.15	-$2.33	No Production. Overcut for 1030L Stopes
1070L	44,112	6.2	8,485	$13.26	$1.15	$5.48	$6.63	
1090L	55,927	8.5	14,749	$23.04	$1.28	$6.94	$14.82	
1110L	47,240	5.8	8,501	$13.28	$1.19	$5.91	$6.18	
1130L	45,825	4.5	6,398	$10.00	$1.91	$6.53	$1.56	
1150L	44,466	3.2	4,415	$6.90	$1.25	$5.74	-$0.09	
1170L	12,763	11.9	4,712	$7.36	$1.45	$1.69	$4.22	
1190L	15,849	20.0	9,834	$15.36	$1.27	$2.10	$11.99	
1210L	40,214	4.5	5,614	$8.77	$2.39	$5.19	$1.19	
1230L	41,466	4.1	5,275	$8.24	$1.37	$5.22	$1.65	
1250L	33,319	11.2	11,578	$18.09	$1.35	$4.25	$12.49	
1270L	41,793	7.3	9,466	$14.79	$1.28	$5.38	$8.13	
1290L	40,647	6.0	7,567	$11.82	$1.13	$5.21	$5.48	
Timmins Deposit Total	**2,249,658**	**5.61**	**392,080**	**$612.57**	**$47.46**	**$285.93**	**$279.18**	
Thunder Creek Deposit								
370L	43,029	3.73	4,980	$7.70	$0.12	$4.72	$2.86	
395L	56,414	5.97	10,449	$16.16	$1.50	$6.06	$8.60	
415L	41,358	3.55	4,555	$7.04	$2.00	$4.36	$0.68	
450L	92,898	4.01	11,558	$17.87	$2.00	$9.59	$6.28	
485L	15,329	5.80	2,758	$4.27	$1.25	$1.56	$1.46	
520L	0	0	0	$0.00	$0.78	$0.00	-$0.78	No production. Ramp development only.
555L	0	0	0	$0.00	$1.39	$0.16	-$1.55	No production. Overcut for 590L stopes.
590L	73,215	3.40	7,723	$11.94	$2.56	$8.67	$0.71	
625L	397,371	4.43	54,616	$84.45	$2.53	$41.18	$40.74	
660L	357,515	5.06	56,126	$86.79	$2.36	$37.70	$46.73	
695L	433,939	5.97	80,375	$124.29	$2.52	$45.40	$76.37	
730L	550,077	4.75	81,065	$125.36	$1.91	$54.94	$68.51	
765L	509,044	4.84	76,440	$118.20	$2.06	$52.76	$63.38	
800L	102,335	4.02	12,763	$19.74	$1.82	$10.96	$6.96	
Thunder Creek Deposit Total	**2,672,522**	**4.86**	**403,408**	**$623.81**	**$24.80**	**$278.06**	**$320.95**	
Total Timmins West Mine	**4,922,180**	**5.21**	**795,488**	**$1,236.38**	**$72.26**	**$563.99**	**$600.13**	

Based on the evaluation results, the estimated net cash generated at the Timmins Deposit from mining the probable reserves will be $279.18 million and the net cash generated at the Thunder Creek Deposit will be $320.95 million from mining the probable reserves. This yields an overall total cash flow net of direct mining and processing costs of $600.13 million.

Using the same tonnes, grade, and capital and operating costs (as in Table 22.2), a sensitivity was completed to estimate the net cash per sublevel at US $1,300 per ounce gold price (at the same 1.0 currency exchange rate). At US $1,300 per ounce gold price, the estimated net cash from mining Timmins Deposit probable reserves will be $164.21 million and for mining the Thunder Creek Deposit probable reserves will be $203.85 million (total $368.06 million).

Considering the base case at US $1,600 per ounce gold price, when the capital allowance from 2012 infrastructure is deducted the net remaining becomes $457.78 million and when the sustaining infrastructure capital is removed the net revenue becomes $343.75 million as summarized in Table 22.3.

TABLE 22.3: ESTIMATED NET REVENUE

Item	US $1,600/oz (millions)	Sensitivity US $1,300/oz (millions)
Net Revenue from Direct Mining and Processing	$600.13	$368.06
Less 2012 Capital Costs (common infrastructure)	$142.35	$142.35
Net Remaining	$457.78	$225.71
Less Sustaining Capital Costs (common infrastructure)	$114.03	$114.03
Net Revenue	$343.75	$111.68

Considering the same mine design and production plan, the estimated gold price to break-even on all capital costs will be US $1,156 per ounce. The estimated gold price to break-even on all (direct capital plus common infrastructure capital) post 2012 capital will be US $972 per ounce. The estimated gold price on direct capital only (post 2012) will be approximately US $824 per ounce, and the break-even operating cost is US $ 709 per ounce.

23.0 ADJACENT PROPERTIES

23.1 GENERAL STATEMENT ABOUT ADJACENT PROPERTIES

The Timmins West Mine is surrounded and contiguous with other Lake Shore Gold properties. In the immediate area of the Timmins West Mine there is only one advanced project, Explor Resources Inc.'s Timmins Porcupine West Property, reporting a recently released (January 12, 2012) Inferred Resource of 6.29 million tonnes grading 4.11 grams per tonne for 831,175 ounces of in-situ gold at a cut-off of 2.20 grams gold per tonne (Langton et al., 2012). Figure 23.1 illustrates active projects owned by other companies in the immediate area of Timmins West Mine**.**

The mineralized zones of the Timmins West Mine within Bristol township are situated between 20 to 38 kilometres south west of the historical producing and past producing gold mines of the Porcupine Gold Camp. Table 23.1 states the distance from the Timmins West Mine 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

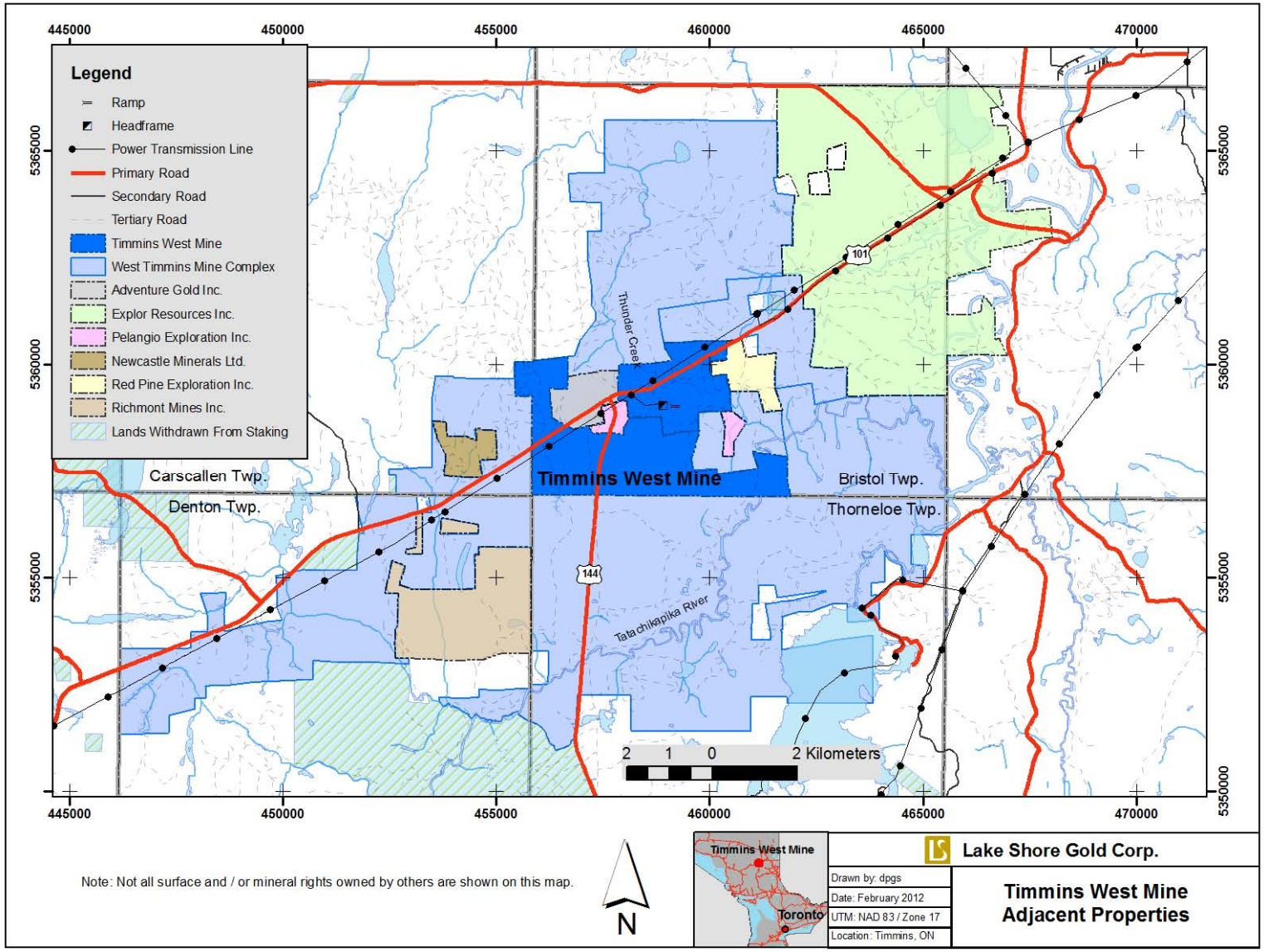
Mine	Distance (kilometres)	General Direction
Kidd Creek Mine	36.7	North-northeast
Hoyle Pond Mine	37.2	North-northeast
Dome Mine	24.8	northeast
McIntyre Mine	22.1	North-northeast
Hollinger Mine	20.4	North-northeast
Bell Creek Mine Complex	33.7	North-northeast
Gold River Project	3.5	South-southeast

23.2 ADVENTURE GOLD INC. – MEUNIER 144 GOLD PROPERTY – BRISTOL TOWNSHIP

RT Minerals Corp. and Lake Shore Gold Corp. have optioned the Meunier 144 Gold Property from Adventures Gold Inc. The property consists of ten (10) freehold patent claims with an approximate area of 160 hectares. The south-east claim, P26393 straddles the junction of highways 101 and 144 with a common boundary to the west boundary of Lake Shore Gold Corp.'s Timmins Mine. The west and south-west boundaries are contiguous with the western portion of the Thunder Creek property. The claims are underlain by metamorphosed mafic volcanics of the Tisdale assemblage that are intruded by diabase dykes belonging to the Matachewan dyke swarm. The property is being drill tested for the possible deep, (2,000 metres) down dip, down plunge extension of Timmins Deposit, and the Rusk horizon.

The 2010 mineral deposits inventory ("MDI") lists MDI42A05NE00004 as a discretionary gold occurrence located in the central east section of claim P26392. The MDI reports the showing as "a 12 inch quartz vein reportedly returned 0.17oz/t gold from a 1946 diamond drill hole".

FIGURE 23.1: LOCATION OF ADJACENT PROPERTIES



23.3 PELANGIO EXPLORATION INC. – POIRIER OPTION – BRISTOL TOWNSHIP

Two staked mineral claims with an area of 64 hectares are situated between the Meunier 144 property – Timmins Mine property and to the north of the Thunder Creek Property portion of the Timmins West Mine. 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 their website Pelangio report completing prospecting, and an MMI soil geochemical survey. They state quartz veining and sulphides where noted on the property during the surveys. The location of the quartz veins and sample results are not available.

23.4 NEWCASTLE MINERALS LIMITED – WEST TIMMINS GOLD PROJECT – CARSCALLEN TOWNSHIP

The property consists of nine (9) freehold patent claims covering an area of approximately 118 hectares in Carscallen township. Newcastle Minerals Limited optioned the patents which have both mineral and surface rights from Timmins Forest Products Limited in 2009. In May of 2010, SGX Exploration entered into an agreement with Newcastle Minerals Limited to acquire an option to earn 75% interest in the nine patents. The east boundary of the Newcastle claims is situated four (4) kilometres west of the Timmins Mine headframe.

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 south-eastern portion of the claim group contains Tisdale assemblage mafic metavolcanic rocks.

The MDI does not locate a mineral occurrence on this property.

Work completed by Newcastle Minerals Inc. is summarized in Table 23.2. Diamond drilling targeted an explanation for geophysical anomalies. No assays greater than 1 gram were reported in the 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. A.C.A. Howe International Ltd., September 26, 2011.

TABLE 23.2: SUMMARY OF WORK 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
2011-09-30	9 BQ diamond drill holes	2,032 metres
	Core samples for gold analysis	817 samples

23.5 RICHMONT MINES INC. – CRIPPLE CREEK PROPERTY – DENTON TOWNSHIP

The north-east corner of the Cripple Creek property is approximately 5 kilometres south west of the Timmins Mine headframe. Richmont acquired the project in 2002 and explored the property until 2005. Exploration activities resumed in 2010 over the project that consists of 26 staked claims, 43 claim units (688 hectares). Ontario's Mineral Deposits Inventory indicates four (4) occurrences are located within

the property. Gold was first discovered in the 1950s by R.E. Halpenny and the showing that bears his name (also known as Mahoney Creek-1984, MDI42A05SE00005). The local stratigraphic, as it is currently understood, is composed of a series of intercalated mafic and ultramafic and mafic 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 section 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.

Richmont Mines Inc., report that they have completed a two phase diamond drill program for a total of 8032 metres of drilling. No resource estimate is reported for this property.

23.6 EXPLOR RESOURCES INC. – TIMMINS PORCUPINE WEST (ONTARIO) PROPERTY – BRISTOL AND OGDEN TOWNSHIPS

Explor Resources Inc. have 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 four (4) kilometres from the Timmins Mine headframe. The 2010 provincial mineral deposits inventory locates 9 mineral occurrences adjacent to the claim line or within the property boundary. These gold mineral occurrences are: 1) MDI42A06NW00055 – Mineral Estates Ltd (Waterhen Group) – 1930 (also known as: Torburn ddh no 2 – 1931; P. Hubert Claim P8504 – 1911; Hulcano Porcupine -1946); 2) MDI42A06NW00195- Cominco DDH BR-87-1 – 1987; 3) MDI42A06NW00196 - Placer Dome DDH 246-10 -1985; (also known as: Cameco South Zone – 2002 and Cameco DDH BRS02-19-2002); 4) MDI42A06NW00197 - Cameco DDH BRS02-12 – 2002; (also known as: Cameco SW Zone – 2002); 5) Mdi42a06nw00198 - Hoyle Mining DDH No. 1 – 1945; (also known as: Cameco DDH BRS02-14 – 2002); 6) MDI42A06NW00199- Cameco Main Zone – 2002; (also known as: Bristol Project – 1998, and Placer Dome Project 246 – 1985); 7) MDI42A06NW00200 - Cameco DDH BRS02- 16 – 2002, or Cameco East Zone – 2002; 8) MDI42A06NW00208 - Hollinger DDH B.O. # 3 – 1959; and 9) 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. Close to the main porphyry intrusion, the sediments are coarser grained with only minor mudstone horizons. The sand stone beds are more massive, crudely bedded and contain an appreciable percentage of quartz grains and granule size siliceous clasts (chilled porphyry 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. These horizons probably represent brecciated contact zones of the porphyry intruding the sediments. Where porphyry dykes are not observed in contact with the conglomerate-like horizons they are alternatively explained as debris flow horizons eroded from the main porphyry. 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 its composition (rich in quartz grains and siliceous clasts), the sediment package is interpreted to be transitional between the Krist formation and the Porcupine Group sediments described in the Timmins area stratigraphy. Over the central and south parts of the property, stratigraphic facing is to the south based upon graded bedding and flame structures in the sediments. Numerous late north-northwest trending diabase dykes of variable width crosscut all units.

Langton et al. (2012) describe the property as marked by 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. A 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 as being hosted by a series of strongly foliated, parallel structural zones interpreted to be striking southwest and dipping about 70° 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 recognized occurring as free grains in chlorite, and 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, late, quartz-chlorite-hematite-tourmaline veinlet stockworks locally crosscut the QFP, but there is no apparent correlation between the veinlets and the gold. Where the QFP is less deformed and sericitized the feldspar phenocrysts are preferentially epidotized, and the rock is generally more siliceous, highly fractured and blocky.

Explor Resources Inc.'s recently filed NI 43-101 Technical Report prepared for utilizing diamond drill results available as of May 03, 2011 and an effective date of November 23, 2011 states an Inferred Mineral Resource of 6.29 million tonnes grading 4.11 grams per tonne for 831,175 ounces of in-situ gold at a cut-off of 2.20 grams gold per tonne (Langton et al., 2012).

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

The Mineral Resource estimates for the Timmins West Mine are based on historical diamond drilling dating back to March 1984 and drilling completed by LSG between July 2003 and January 31, 2012. A total of 167 surface holes (118,141 metres) and 777 underground holes (115,439 metres) were used in the Resource Estimate.

The Timmins West Mine Resource totals 5.83 Mt at 5.99 g/t Au amounting to 1,122,500 ounces of gold in the Indicated category and 4.27 Mt at 5.76 g/t Au amounting to 791,500 ounces of gold in the Inferred category (Table 25.1). The base case resources are estimated at a 1.5 g/t Au cut-off for the Timmins deposit and a 2.0 g/t Au cut-off for the Thunder Creek Deposit.

The Thunder Creek Deposit Resource totals 2.88 Mt at 5.64 g/t Au amounting to 521,600 ounces of gold in the Indicated category and 2.69 Mt at 5.89 g/t Au amounting to 510,000 ounces of gold in the Inferred category. The Resource was estimated using Inverse Distance to the power 2 (ID^2) interpolation method with all gold assays capped to 75 gram metres, and an assumed long-term gold price of US $1,200 per ounce.

The Timmins Deposit Resource totals 2.95 Mt at 6.34 g/t Au amounting to 600,900 ounces of gold in the Indicated category and 1.58 Mt at 5.54 g/t Au amounting to 281,500 ounces of gold in the Inferred category. The Resources were estimated using Inverse Distance to the power 3 (ID^3) interpolation method with all gold assays capped to 70 gram metres for the Ultramafic Zone and 40 gram metres for the Vein Zones, and an assumed long-term gold price of US $1,200 per ounce.

The drilling, development and test mining has demonstrated continuity of grade, mineralization and geologic structure to support the definition of a reasonable prospect of economic extraction defined by CIMM standards for indicated and inferred resource classifications.

A high level Preliminary Economic Assessment (PEA) was previously conducted on the combined Mineral Resources of the Timmins Deposit and the Thunder Creek Deposit. A summary of the results of this work are presented under Item 14.11. This work indicated the potential for a very robust business case based on fair and reasonable production and cost assumptions.

TABLE 25.1: TIMMINS WEST MINE RESOURCE ESTIMATES

(Prepared by Lake Shore Gold – January 31, 2012)

Deposit	Resource Classification	Tonnes	Capped Grade (g/t Au)	Contained Gold (ounces)
Timmins				
	Indicated	2,949,000	6.34	600,900
	Inferred	1,579,000	5.54	281,500
Thunder Creek				
	Indicated	2,877,000	5.64	521,600
	Inferred	2,693,000	5.89	510,000
Total Timmins West Mine				
	Total Indicated	5,826,000	5.99	1,122,500
	Total Inferred	4,272,000	5.76	791,500

Notes:

1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 1.5 g/t Au for the Timmins Deposit and 2.0 g/t Au for Thunder Creek.
3. Mineral Resources are estimated using an average long-term gold price of US $1,200 per ounce and a US$/C$ exchange rate of 0.93.
4. A minimum mining width of 2 metres was used.
5. Capped gold grades are used in estimating the Mineral Resource average grade.
6. Sums may not add due to rounding.
7. Mineral Reserve estimates for the Timmins West Mine are currently in progress.
8. Metallurgical recoveries are assumed to average 96.5 percent.
9. Mining costs are assumed to average $82/tonne.
10. Mr. Robert Kusins, B. Sc., P. Geo. and Mr. Ralph Koch, B. Sc., P. Geo., are the Qualified Persons for this Resource estimate.

A sensitivity analysis was carried out to examine the impact upon the tonnage, average grade and contained ounces by increasing the cut-off grade up to 3.0 g/t Au for the Timmins West Mine; Timmins and Thunder Creek Deposits. The results are graphically presented in Figure 25.1 for the Timmins Deposit and Figure 25.2 for the Thunder Creek Deposit respectively. By increasing the cut-off grade, (refer to Figure 1.1 and Figure 1.2) the model demonstrates opportunity to optimize target grade by carving out the fringe, lower grade mineralization while maintaining grade and geological continuity and the loss of minimal total ounces. The application of grade control practices using a higher cut-off grade has been challenging due to the irregular geometry of the quartz stringer zones within the mineralized envelopes and the practical separation of higher grade mineralization at the face. Detailed mapping, chip channel sampling, and muck samples in addition to tighter definition drilling will be required to delineate the higher grade mineralized outlines and 3-D solids.

FIGURE 25.1: GRADE-TONNAGE GRAPH AS A FUNCTION OF CUT-OFF GRADE, TIMMINS DEPOSIT

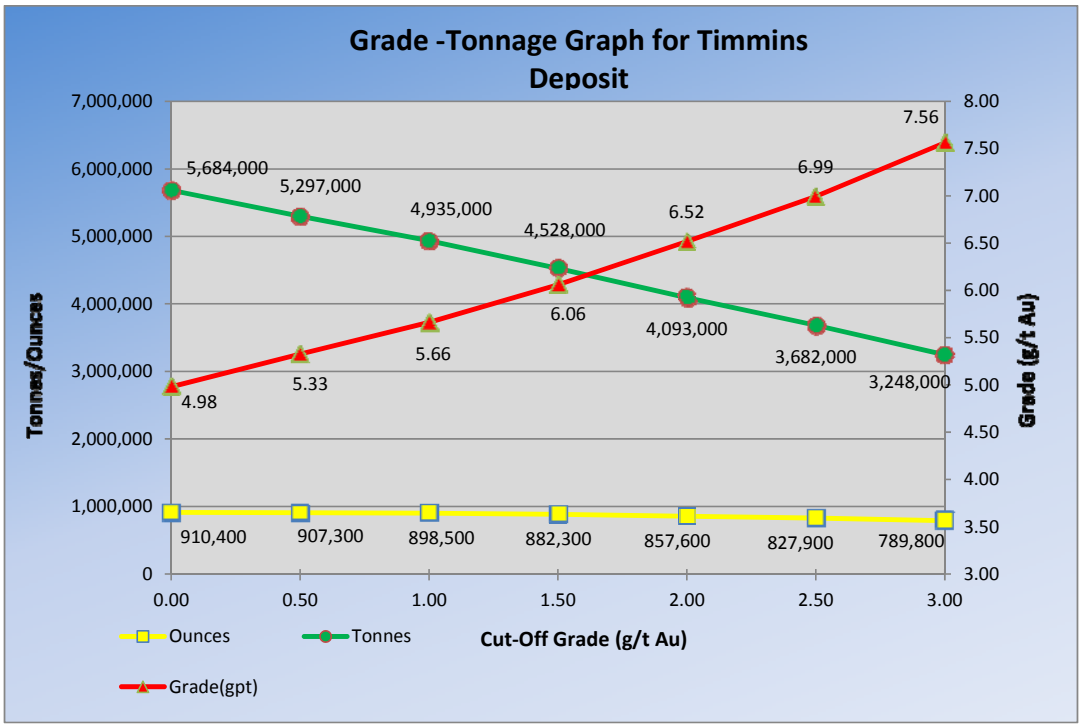
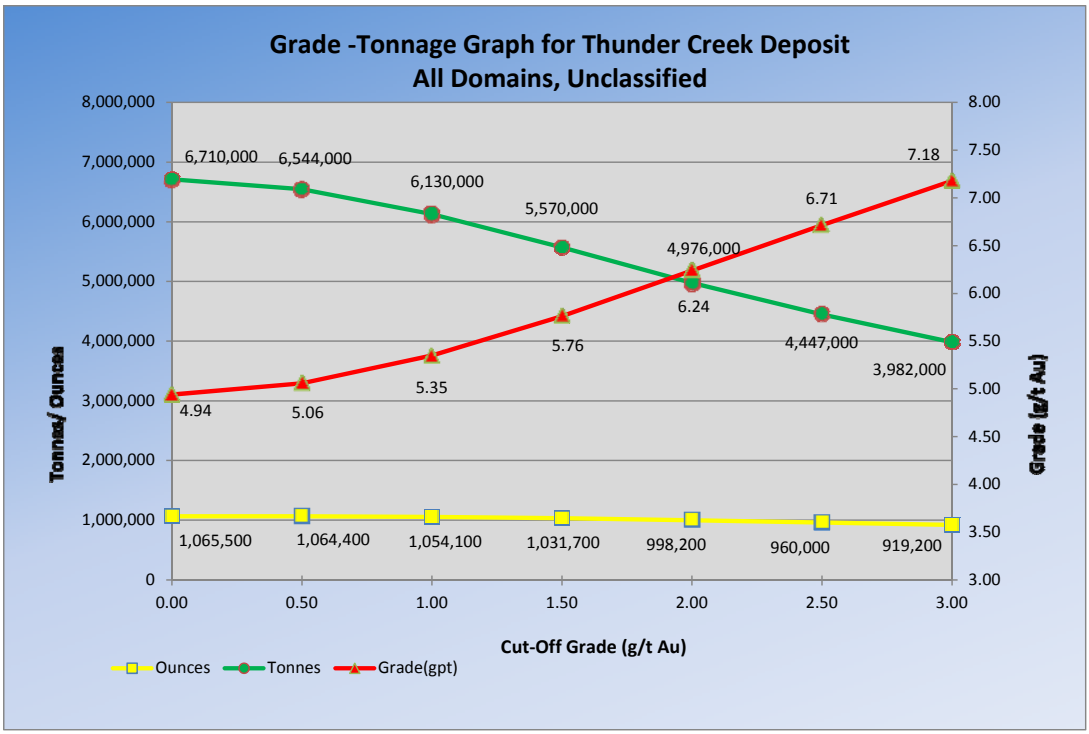


FIGURE 25.2: GRADE-TONNAGE GRAPH AS A FUNCTION OF CUT-OFF GRADE, THUNDER CREEK



Although limited initial metallurgical testing has been conducted on core sample from the Timmins and Thunder Creek Deposits since the previous respective technical reports, the best large scale testing was achieved through batch milling of the various sources over a period between September 2010 and June 2011, when capacity at the Bell Creek mill was available. Rusk Shear Zone and Porphyry Zone bulk samples were largely extracted from the 300 metre Level and 730 metre Level elevations respectively during this period (Table 25.2) and returned greater than 96.5 % recovery. The 650-610 metre Level longhole stope comprising the UM1 and UM1a Zones was almost exclusively processed between September and December 2010 returning greater than 96% Au recovery (Table 25.3). For most of 2011, and especially after June 2011 the mill production was increased to capacity and run of mine feed was blended from multiple sources; Timmins Mine, Bell Creek and Thunder Creek deposits achieving very positive gold recoveries, averaging in excess of 96 percent.

TABLE 25.2: BATCH MILLING RESULTS FOR THUNDER CREEK DEPOSIT MINERALIZATION

Thunder Creek Batch Mill Processing Results

Year	Month	Tonnes	Grade (g/t Au)	Recovery	Head Ounces	Ounces Produced
2010	September	2,824.94	5.21	96.87%	473.11	458.3
2011	March	24,028.8	3.75	97.32%	2,894.11	2,816.62
2011	May	13,213.3	3.75	97.03%	1,593.53	1,546.24
2011	June	5,631.9	3.98	97.21%	721.43	701.31

TABLE 25.3: BATCH MILLING RESULTS FOR TIMMINS DEPOSIT MINERALIZATION

Timmins Deposit Batch Processing Results

Year	Month	Tonnes	Grade (g/t Au)	Recovery	Head Ounces	Ounces Produced
2010	September	8,475	4.69	96.52	1,279	1,234.5
2010	October	21,893	7.71	96.97	5,428	5,263.5
2010	November	53,833	7.53	96.83	13,035	12,622
2010	December	45,483	8.57	97.31	12,528	12,191

The Mineral Resource block model incorporated in Table 25.1 delineated a concentration of approximately 650,000 ounces between the 600 and 800 metre Level elevations of Rusk Shear and Porphyry Zones at 3,250 ounces per vertical metre for all resource categories. This vertical interval contains some of the widest mineralized Porphyry Zones over the entire vertical expression of the Thunder Creek resource with two key domains host to approximately 75% of the total contained ounces and average horizontal widths of 14.7 metres and 24.4 metres respectively (i.e. PZ-1a, PZ-1b).

An independent review by Michel Dagbert, Eng. of SGS Geostat of the QA/QC samples routinely introduced into the AEP drill hole sample stream, has concluded that the quality of the assaying

incorporated into the block model is satisfactory demonstrating no significant bias and adequate precision and reproducibility.

Validation of the block model was performed visually through a comparison of drill intercepts and block model results on plans and section between the geologic model and domain block model. Preliminary sill development and test mining results of both the Rusk Shear and Porphyry Zones demonstrate reasonable correlation with the 3D shapes and grades predicted by the Thunder Creek block model.

No significant differences in grade estimation were realized between the nearest neighbor interpolation of the block model using the same parameters and search ellipse as the ID^2 interpolation.

An independent review of the resource estimate was completed by Michel Dagbert, Eng. of SGS Geostat and he is in agreement with the practices employed by Bob Kusins, P. Geo. in the Mineral Resource estimate and block modeling parameters utilized at both the Timmins and Thunder Creek Deposits.

Subsequent to completion of the Preliminary Economic Assessment (PEA), further detailed engineering design, cost analysis, and economic evaluations were completed at a Prefeasibility (PFS) level on the Measured and Indicated resource subset of the total resource pool. The results of this work support a Probable Reserve of 4.9 M tonnes grading 5.2 g/tonne for the Timmins West Mine for some 823,848 oz mined (795,000 oz. net mill recoveries), including some 2.25 M tonnes grading 5.62 g/tonne at the Timmins Deposit for some 406,000 oz mined (392,000 oz. net mill recoveries), and a further 2.67 M tonnes grading 4.86 g/tonne at the Thunder Creek Deposit for some 417,000 oz mined (403,000 oz. net mill recoveries).

The high level steps involved in the development of the PFS were as follows. Geological models of the indicated resources were isolated and rigorous assessments were made of the geometry and continuity of each of the mineralized zones. Geomechanical information and assessments collected and conducted over the last two years were taken into account in the assessment and assignment of appropriate mining methods to these mineralized zones. Individual stope designs were then created in three dimensions. These stope shapes were then queried against the block models. This allowed for fair inclusion of internal dilution from both low grade and barren mineral zones. 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 global recovery factor was assigned to the overall reserves to allow for in-stope and process losses. Detailed mine development layouts and construction activities were then assigned to provide access to each of the stoping units. Development, construction, and production costs were then estimated to allow an economic assessment to be made comparing the capital and operating expenses required for each area to its expected revenue stream to ensure economic viability. All inputs were vetted thoroughly and benchmarked against current operating practices and industry norms.

It should also be noted that all capital costs required to complete all surface and underground facilities at the Timmins West Mine and Bell Creek Mill facility have been included in this analysis. It should also be noted that no contributions from the Bell Creek mining operations (positive or negative) have been included in this work.

Key outcomes of this financial analysis indicate that the reserves support a robust 5 year mining plan at a sustained production rate of 2,400 t/d. The reserves can be extracted at an average operating cost of $113 per tonne ($709/oz) and a total capital cost of $329 million. At an assumed gold price of US $1,600 per ounce, the reserves generate a positive cash flow of some $344 million. Based on executing the

same mining plan, at an assumed long term gold price of US $1,300 per ounce, the cash flow drops to $112 million.

A series of break-even gold proce sensitivities were conducted. The break-even price required to cover all capital and operating costs for the reserves only mining plan has been calculated at US $1,156 per ounce. The estimated long term (post 2012) break-even gold price has been calculated at US $972/ounce. This information shows that the mining plan for the reserves as stated, is very robust and can withstand significant fluctuations in market conditions.

Based on the outcomes of the financial evaluations from both the PEA (based on total resources) and the PFS (based on indicated resources only), it can be concluded that the mining operations at Timmins West Mine are extremely robust from a financial point of view.

Recommendations are to continue developing the mine and related infrastructure in 2012 to allow continued ramping up of the production profile into 2013 when cash flows are expected to become positive.

Ongoing development of appropriate diamond drilling platforms and completion of diamond drilling programs as indicated in the mine design are recommended. This will allow ongoing mineral resource upgrading and conversion of mineral resources to mineral reserves on a year on year basis to extend the mine production plan as reserves are mined out.

25.1 RISKS

The resource base used for inclusion in the previously completed PEA included inferred mineral resources. Inferred mineral resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the financial outcomes predicted by the PEA will be realized.

The resource base used for the engineering and economic evaluations used in the PFS work completed to support the Reserve statement in this report includes material in the indicated resource category only. This material is considered to be significantly more likely to realize the financial outcomes indicated in Item 22 of this report.

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 Lake Shore Gold Corp. Lower than predicted gold prices will reduce the projected cash flow from the operation. The economic analyses presented in this PFS have been conducted using both short and long term gold price assumptions (US $1,600 and US $1,300 respectively). A break even price has been calculated at US $1,156/oz to cover all costs associated with mining these reserves.

Currency fluctuations are also affected by factors which are beyond the control of Lake Shore Gold Corp. A stronger than predicted Canadian dollar versus the U.S. dollar will reduce the projected cash flow from the operation.

Operating and capital costs determined as the basis for this PFS have been developed based on industry benchmarks and best practice as well as actual performance metrics of the operation in 2011. 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

An internal validation of the Gemcom GEMS (Microsoft SQL) database used in the current Timmins West Mine resource estimate identified only minor discrepancies that were documented and corrected prior to the estimation of the resources.

As a result, the logging geologists will be required to inspect and sign-off that their completed drill logs and assay certificates have been inspected for completeness and accuracy on a quarterly basis as part of an ongoing validation protocol.

Michel Dagbert, Eng., senior geostatistician, SGS Geostat reviewed the Timmins West Mine QA/QC spreadsheet, a compilation of blanks, duplicates standards and check assays assembled for consideration of the quality of surface and underground drilling assay results included in the Mineral Resource calculation reported in this technical report.

Mr. Dagbert stated in his report that there exists no sign of an overall bias in the results for standards.

Mr. Dagbert has concluded that despite there being high variability in the gold grades at Timmins West Mine, the QA/QC data reviewed indicates that the quality of the assay grades used in the resource estimation are satisfactory.

The findings of the report will be communicated to the internal and commercial labs used at the Timmins West Mine and their performance will be monitored monthly for compliance on performance of QA/QC samples against the target grades and accepted variance thresholds. Any significant bias in standards and/or non-compliance to threshold variance in standards, duplicates and/or blanks may result in termination of services.

Development and initial mining at the Timmins West Mine has identified some strengths in the Mineral Resources of specific zones and styles of mineralization that were largely successful in achieving target grades and tonnes i.e. reconciling well to the drill indicated resource. In the upper mine, ramp infrastructure, the MZ and Vein 2 were largely successful targets for follow-up drilling and development below the current 290 metre Level of the surface ramp. Connection of the 290-480 metre Level ramps would provide internal flexibility of equipment movement throughout the mine and the development of a shaft independent source of ore feed.

The performance of the UM complex in the mining block between 650-565 metre Levels to date has been largely successfully and should be pursued with vigor below the 650 metre Level with a focus on mining upwards to avoid sill pillar creation. The focus should be on driving the ramp deeper, drilling and developing mining horizons far in advance of mining so that mineral reserves are largely drilled off and development defined at the annual budget time.

The first Mineral Resource at Thunder Creek has identified a significant resource, of which approximately 65% of the contained ounces are located between an elevation roughly 100 metres above and below the 730 metre Level elevation. Although the base case at a 2.0 g/t cut-off grade provides a more global resource, the target grades generated at a higher cut-off grade are likely more inline with the economic margins preferred for mining at Thunder Creek. The density of drilling that currently exists within the resource estimate was designed to optimize a larger bulk mining approach with more simplistic mineralization outlines distributed within the monzonite intrusion. It is believed

that mineralization outlines for a higher grade cut-off will dictate sectional ring drilling on tighter patterns.

Advancing a larger number of mining horizons will increase production flexibility in the mine planning and scheduling. This will de-risk the production profile.

A budget of $8.375 M will be required to complete the recommendations listed below. This estimated budget assumes an all-inclusive underground operating definition drilling budget of $95/m and exploration drilling budget of $125/m; and an all-inclusive cost of $150 per metre for surface diamond drilling for drill holes bored to a 1,000 metre depth:

1. Detailed sectional drilling of the Rusk and Porphyry Zones from the 600-800 metre Level elevations on 15 metre centers comprising approximately 30,000 metres ($2.85 M).
2. The upper level Rusk Shear Zone delineation testing the Rusk and emerging Porphyry Zones from the 370-500 metre Level elevations at 25 metre centers for a total of 10,000 metres ($0.95 M).
3. Definition drilling from scram drifts parallel to the sill development in the hangingwall will include 2,500 metres in total over the year ($0.237 M).
4. Delineation drilling of the Rusk/Porphyry style mineralization between the 500-600 metre Level and the 750-850 metre Level at 15-30 metre centers from the 260 and 710 metre Level drill drifts comprising an additional 7,500 metres ($0.713 M).
5. Exploration drilling along strike off the ends of the 260 and the 710 metre Level drill platforms, with step-outs of approximately 100-200 metres to the northeast and southwest comprise approximately 5,000 metres ($0.625 M).
6. Surface exploration diamond drilling along strike of the Rusk Shear (20,000 metres) over ground held by Lake Shore Gold Corp. ($3.0 M).

A budget of $6.295 M will be required to complete the recommendations listed below for the Timmins deposit. This estimated budget assumes an all-inclusive underground operating definition drilling budget of $95/m and exploration drilling budget of $125/m.

1. Detailed sectional drilling at 10-15 metre centres of the UM complex between the 670-730 metre Levels comprising 25,000 metres ($2.37 M).
2. Exploration Drilling of the UM complex from the 730 metre Level drill drift down to 810 metre vertical at 15-25 metre centers for a total of 10,000 metres ($1.25 M).
3. Delineation drilling of the FW Zone and Vein Zones between the 380-580 metre Levels from the 480 up ramp east comprising 10,000 metres ($0.95 M).
4. Delineation drilling of the MZ between the 525-650 metre Levels from the 525 metre down ramp comprising approximately 5,000 metres ($0.475 M).

The following items are recommended for further study and evaluation based on the findings of the resource estimation process for the Timmins West Mine:

1. Evaluate the replacing of the ID^3 and ID^2 interpolation method by ordinary kriging.
2. Continue monitoring of specific gravity and grade capping, as addition drill hole information is added to the database, to insure appropriate values are being used.
3. Continue stope reconciliations to monitor the grade predictability of the block model.
4. Additional drilling, particularly in areas of the Inferred Resources, to better delineate the extent of the Resource and increase its confidence level.

5. Reduce the amount of off azimuth and oblique drilling which become problematic in modeling and grade estimation.

The objective of the budget is to be continually upgrading the quality and confidence level of the interpretation and resource classification, converting inferred to indicated resources using delineation drilling from drill platforms in 100 – 200 metre level increments and indicated to measured through definition drilling and sill development at the sublevel elevation to refine the geology and mineralization models. Drilling, chip and muck sampling densities will vary as a function of mineralization strike length and geometry and can be re-examined routinely by selectively running the block model with various data sets for comparison. Until sufficient mining history in the various mineralization styles has been reconciled, sampling densities will be conducted on a more frequent basis, i.e. approaching 7.5 metre centres, in order to ensure the appropriate level of geologic and grade continuity is realized for adequate tonnage and grade estimation.

The resource pool indicated in this report has been tested through a high level Preliminary Economic Assessment (PEA) to have reasonable expectations for economic extraction.

Significant additional engineering, cost evaluation, and financial analysis completed at a preliminary feasibility study (PFS) level on the measured and indicated resource pool indicates strong economic value and therefore substantiates the Reserves declared in this report.

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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.

28.0 DATE AND SIGNATURE PAGE

This report titled ”43-101 Technical Report, Prefeasibility Study, and Mineral Reserve Estimate For Timmins West Mine, Timmins, Ontario, Canada” having an effective date of March 29, 2012 was prepared and signed by the following authors:

(Signed & Sealed) “Brian Buss”

Dated at Timmins, Ontario
May 14, 2012

Brian Buss, P. Eng., PMP
VP Project Development
Lake Shore Gold Corp.

(Signed & Sealed) “Dean Crick”

Dated at Timmins, Ontario
May 14, 2012

Dean Crick, P. Geo.
Director of Geology,
Lake Shore Gold Corp.

(Signed & Sealed) “Robert Kusins”

Dated at Timmins, Ontario
May 14, 2012

Robert Kusins, P. Geo.
Chief Mineral Resource Geologist,
Lake Shore Gold Corp.

(Signed & Sealed) “David Powers”

Dated at Timmins, Ontario
May 14, 2012

David Powers, P. Geo.
David Powers Geological Services

29.0 CERTIFICATES OF QUALIFIED PERSONS

CERTIFICATE

To Accompany the Report titled "43-101 Technical Report, Prefeasibility Study and Mineral Reserve Estimate for Timmins West Mine, Timmins, Ontario, Canada".

I, Brian Buss, do hereby certify that:

1. I reside at 175 Strathmere Crescent Sudbury, Ontario P3E 2J8.

2. I am a graduate of Queen's University at Kingston, Ontario with a B.Sc. (Hons) Mining Engineering – 1985.

3. I have practiced my profession continuously since 1985.

4. I am a member of the Professional Engineers of Ontario (Membership Number 90303512).

5. I have been continuously employed during this period by Hudson's Bay Mining and Smelting (Snow Lake, Manitoba), Johannesburg Consolidated Investment Company – Randfontein Estates Gold Mining Company (Randfontein, Republic of South Africa), Vale (Sudbury, Ontario), and Lake Shore Gold Corporation (Timmins, Ontario)

6. I have experience in operations, engineering, and project management in underground mining environments globally. I hold specialized credentials in the fields of Rock Mechanics, and Project Management. Since 2005 I was directly accountable for the entire portfolio of mining projects for Vale's Canadian operations. 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 (as defined in NI 43-101) 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 Lakeshore Gold Corp, (since June 2011) and now hold the position of Vice President – Project Development. I am directly accountable for the work supporting the Preliminary Economic Assessment of the combined resources of the Timmins West and Thunder Creek deposits carried out by Stantec. I have provided constant feedback and oversight throughout the development of the PEA and have reviewed all supporting documentation.

9. I take personal accountability for the content of sections 1, 13, 16, 17, 18, 19, 20, 21, 22, 25, and 26 which I have reviewed and found to be fair and reasonable assessments suitable for inclusion in the Prefeasibility Study having an effective date of March 29, 2012.

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 National Instrument 43-101 and form 43-101F1, as well as the Repeal and Replacement of National Instrument 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 Timmins, Ontario, this 14th day of May, 2012

"Brian Buss"

(Signed and Sealed)
Brian Buss, P. Eng., PMP

CERTIFICATE

To Accompany the Report titled ”43-101 Technical Report, Prefeasibility Study and Mineral Reserve Estimate For Timmins West Mine, Timmins, Ontario, Canada”.

I, Dean Brian Crick, do here by certify that:

1. I reside at 833 Reg Pope Blvd., Timmins, Ontario, Canada, P4N 8K7.

2. I am a graduate from Laurentian University, Sudbury, Ontario with a M.Sc. in Economic Geology degree (1991), and a Honours B.Sc. in Geology (1986) from Brock University, St. Catharines, Ontario. I have practiced my profession continuously since 1989.

3. I am a member of the Association of Professional Geoscientists of Ontario (Membership Number 1071).

4. I have practiced my profession as a geologist for 22 years being employed by Falconbridge Exploration, VMS Group, Falconbridge Ltd, Kidd Creek Mine, Pentland Firth Ventures- Marlhill Mine, Boliden Westmin, Myra Falls Mine, Wallbridge Mining, Placer Dome Canada Ltd. Campbell Mine, Golcorp Inc., Red Lake Gold Mines, and Lakeshore Gold. I have actively explored for Archean hosted gold deposits since 1991.

5. I have experience with various mineral deposit types, Mineral Resource estimation techniques, and the preparation of technical reports.

6. 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 (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purpose of NI 43-101.

7. I am currently employed by Lakeshore Gold Corp, (since August 2010), as the Director of Geology. I have been directly involved in the design and supervision of the surface and underground diamond drilling Advanced Exploration Program at the Thunder Creek project. I have also provided technical support to the production geology team at the Thunder Creek project for grade control and resource estimation of tonnes and grade for sill development and test mining stopes in the Rusk Shear and Porphyry Zones.

8. I am responsible for the preparation of Items 1, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23 24, 25, 26 of the Technical Report titled: “43-101 Technical Report, Prefeasibility Study and Mineral Reserve Estimate for Timmins West Mine, Timmins, Ontario, Canada”, having an effective date of March 29, 2012.

9. 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.

10. I have read National Instrument 43-101 and form 43-101F1, as well as the Repeal and Replacement of National Instrument 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.

11. 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 Timmins, Ontario, this 14th day of May, 2012

"Dean Crick"

(Signed and Sealed)
Dean Crick, P. Geo.

CERTIFICATE

To accompany the Report titled ”43-101 Technical Report, Prefeasibility Study and Mineral Reserve Estimate For Timmins West Mine, Timmins, Ontario, Canada” for Lake Shore Gold Corp. with an effective date of March 29, 2012.

I, Robert Kusins, P. Geo., do hereby certify that:

1. I reside at 126 Forest Place, Timmins, Ontario. P4N

2. I graduated with a B Sc degree in Geology from McMaster University in 1978.

3. I am a member of the Association of Professional Geoscientists of Ontario (Registration Number 0196).

4. I have worked continuously as a geologist for a total of 33 years since my graduation from university.

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

6. I am responsible for sections 1, 14, 25 and 26 contained in this report.

7. I have worked on interpretation and resource estimates on the Thunder Creek property since February 2010. A site visit was completed on September 8, 2011.

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

9. I am currently employed by Lake Shore Gold as Chief Resource Geologist. I currently hold 1,000 shares of Lake Shore Gold and options under the Lake Shore Gold’s employee stock option plan.

10. I have read National Instrument 43-101 and Form 43-101F1, as well as the Repeal and Replacement of National Instrument 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.

11. 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 Timmins, Ontario, this 14th day of May, 2012

"R. Kusins"

(Signed and Sealed)
R. Kusins, P. Geo.

CERTIFICATE

To Accompany the Report titled "43-101 Technical Report, Prefeasibility Study and Mineral Reserve Estimate for Timmins West Mine, Timmins, Ontario, Canada".

I, David H. R. Powers, do here by certify that:

1. I reside at 385 Sony Street, South Porcupine, Ontario, Canada, P0N 1H0.

2. I am a graduate from Lakehead University, Thunder Bay, Ontario with an Honours B.Sc. Geology degree (1974), and I have practiced my profession continuously since that time.

3. I am a member of the Association of Professional Geoscientists of Ontario (Membership Number 0114).

4. I have practiced my profession as a geologist for 36 years being employed by Noranda Exploration Company Limited (N.P.L.), Noranda Mines Limited, Placer Dome C.L.A. Limited, Placer Dome North America Limited, Dome Mine, Placer Dome (C.L.A.) Limited – Porcupine Joint Venture, and Placer Dome Canada. As an independent geological consultant my services have provided to Central Crude Limited, Dome Mine, CanAlaska Uranium Limited and Pacific North West Capital Corp. I have actively explored for Archean hosted gold deposits since 1985.

5. I have experience with various mineral deposit types, Mineral Resource estimation techniques, and the preparation of technical reports.

6. 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 (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purpose of NI 43-101.

7. I have visited the Thunder Creek Property on May 29th, 2009, and December 08, 2011 examined core from the property as well as the core logging and core storage areas.

8. I am responsible for the preparation of Items 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 23, and 27 of the Technical Report titled: "43-101 Technical Report, Prefeasibility Study and Mineral Reserve Estimate for Timmins West Mine, Timmins, Ontario, Canada", having an effective date of March 29, 2012.

9. 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.

10. I am independent of the issuer (Lake Shore Gold Corp.) applying tests in section 1.4 of National Instrument 43-101, and there were no circumstances that were or could be seen to interfere with my judgment in preparing the Technical Report.

11. I have read National Instrument 43-101 and form 43-101F1, as well as the Repeal and Replacement of National Instrument 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 Timmins, Ontario, this the 14th day of May, 2012

"David H. R. Powers"

(Signed and Sealed)
David H. R. Powers, P.Geo. (APGO No. 0114)

CERTIFICATE

To accompany the Report titled ”43-101 Technical Report, Prefeasibility Study and Mineral Reserve Estimate for Timmins West Mine, Timmins, Ontario, Canada” for Lake Shore Gold Corp. and with an effective date of March 29, 2012.

I, Ralph Koch, B. Sc., P. Geo., as an author of this report do herby certify that:

1. I reside at 428 Pine St. North, Timmins Ontario, P4N 6L7

2. I graduated with a B.Sc Degree in Earth Sciences from the University of Waterloo in 1986.

3. I am a member of the Association of Professional Geoscientists of Ontario (Registration Number 0323).

4. I have worked continuously as a geologist for 26 years since graduation.

5. I have read the definition of “qualified person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional Association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.

6. I am responsible for portions of section 14 and 15 of the report.

7. I visited the property on January 17th, 2012.

8. To the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

9. I am currently employed by Lake Shore Gold Corporation in the capacity of Chief Mine Resource Geologist for the Bell Creek Complex and Timmins West Mine. I currently do not hold any securities of Lake Shore Gold other than options under the Lake Shore Gold’s employee stock option plan.

10. I have read National Instrument 43-101 and Form 43-101F1 as well as the Repeal and Replacement of National Instrument 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.

11. 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.

Dated in Timmins, Ontario, this the 14th day of May, 2012.

"R. Koch"

(Signed and Sealed)
R. Koch, B. Sc, P. Geo.

APPENDIX 1

TABLE 10.1: SURFACE DIAMOND DRILL HOLE COLLAR LOCATIONS, AZIMUTH, INCLINATION, AND METRES DRILLED, TIMMINS WEST MINE

Table 10.1a: Surface Diamond Drilling Collar and Metreage Information (Thunder Creek)

Hole Number	Easting	Northing	Elevation	Azimuth	Dip	Casing Depth	Start Depth	Final Depth	Total Drilled
	Mine Grid								
	(m)	(m)	(m)	(°)	(°)	(m)	(m)	(m)	(m)
TC03-01	4455.82	6834.80	10017.12	125.0	-45.0	3.00	0.00	232.30	232.30
TC03-02	4462.77	7011.98	10016.23	175.0	-45.0	13.00	0.00	290.00	290.00
TC03-03	4770.37	5890.98	10043.05	125.0	-45.0	4.00	0.00	332.00	332.00
TC03-04	4488.42	7471.82	10009.44	180.0	-45.0	16.00	0.00	191.00	191.00
TC03-05	4223.86	6766.41	10018.26	170.0	-45.0	5.00	0.00	284.00	284.00
TC03-06	4336.75	6998.43	10014.82	125.9	-50.8	22.00	0.00	338.00	338.00
TC03-06EXT	4336.75	6998.43	10014.82	125.9	-50.8	0.00	338.00	480.00	142.00
TC03-07	4405.22	7471.66	10013.88	180.0	-60.0	4.00	0.00	278.00	278.00
TC04-08	3608.73	6041.97	10019.12	130.0	-45.0	28.00	0.00	425.00	425.00
TC04-09	3540.45	6267.61	10019.09	130.0	-45.0	15.00	0.00	296.00	296.00
TC04-10	3426.89	6524.86	10021.80	130.0	-45.0	2.00	0.00	329.00	329.00
TC04-11	3589.82	6547.76	10021.09	130.0	-45.0	3.00	0.00	269.00	269.00
TC04-12	4334.08	6807.01	10016.94	180.0	-45.0	13.50	0.00	350.00	350.00
TC04-13	4297.93	6650.67	10019.33	165.0	-46.0	2.20	0.00	296.00	296.00
TC04-14	4459.92	7021.98	10016.89	130.0	-55.0	13.00	0.00	422.00	422.00
TC04-15	4321.73	6800.77	10017.27	130.0	-50.0	12.00	0.00	250.00	250.00
TC04-16	2044.92	6066.97	10000.00	130.0	-45.0	10.00	0.00	297.00	297.00
TC04-17	2448.96	7045.87	10000.00	130.0	-45.0	13.00	0.00	305.00	305.00
TC04-18	4335.10	6999.61	10014.72	124.5	-69.7	16.00	0.00	452.00	452.00
TC04-18EXT	4335.10	6999.61	10014.72	124.5	-69.7	0.00	452.00	551.00	99.00
TC04-19	4281.16	6907.68	10016.84	125.0	-67.0	11.00	0.00	401.00	401.00
TC04-50EXT	4654.24	7997.54	10009.76	187.5	-61.9	0.00	1260.00	1451.00	191.00
TC05-20	2344.91	6069.11	10000.00	130.0	-45.0	25.00	0.00	389.01	389.01
TC05-21	4661.04	6633.69	10019.36	170.0	-45.0	4.00	0.00	374.01	374.01
TC05-22	4966.61	6823.79	10000.00	130.0	-45.0	3.00	0.00	314.01	314.01
TC05-23	3770.41	6721.27	10039.23	130.0	-45.0	4.00	0.00	476.01	476.01
TC05-24	4325.38	6935.01	10014.84	125.6	-62.3	13.00	0.00	405.01	405.01
TC05-25	4217.85	6819.92	10018.52	125.0	-64.0	7.00	0.00	401.01	401.01
TC07-26	4529.55	7051.65	10021.71	130.0	-46.2	4.00	0.00	348.01	348.01
TC07-27	4529.16	7053.37	10021.29	130.0	-61.8	3.00	0.00	381.01	381.01
TC07-28	4488.95	6975.28	10017.80	134.6	-47.0	16.00	0.00	344.01	344.01
TC07-29	4573.61	7017.31	10023.18	129.6	-46.0	4.00	0.00	236.01	236.01
TC07-30	4288.26	7097.80	10016.99	125.6	-48.8	16.00	0.00	560.51	560.51
TC07-31	4288.28	7097.79	10016.93	126.2	-54.6	23.00	0.00	612.01	612.01
TC07-32	4327.11	7135.31	10018.26	127.9	-50.0	7.00	0.00	588.01	588.01
TC07-33	4288.79	7097.37	10016.99	124.6	-43.9	22.00	0.00	482.01	482.01
TC07-34	4327.29	7135.16	10018.28	128.9	-44.5	7.00	0.00	561.01	561.01
TC07-35	4327.04	7135.37	10018.26	128.4	-58.5	7.00	0.00	693.01	693.01
TC07-36	4328.83	7004.29	10015.10	125.3	-59.0	16.00	0.00	429.01	429.01
TC07-37	4238.15	6996.36	10016.02	131.3	-58.1	7.00	0.00	624.01	624.01
TC07-38	4195.15	6964.92	10017.65	132.6	-63.6	7.00	0.00	536.01	536.01
TC07-39	4145.23	6941.57	10019.88	130.0	-50.0	8.00	0.00	531.01	531.01
TC07-40	4026.60	6870.75	10023.21	136.4	-48.7	7.00	0.00	539.11	539.11
TC07-41	4292.27	7132.79	10019.16	132.5	-66.4	10.00	0.00	711.01	711.01
TC07-42	3953.36	6771.07	10028.12	130.3	-49.6	3.00	0.00	566.01	566.01
TC07-43	4292.36	7132.73	10019.19	131.2	-58.2	13.00	0.00	708.01	708.01
TC07-44	3953.03	6771.33	10028.09	132.4	-62.4	3.00	0.00	449.01	449.01
TC07-45	4292.57	7132.55	10019.03	134.3	-50.3	13.00	0.00	510.01	510.01

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
TC08-50	3675.23	6633.26	10024.74	130.3	-47.0	13.00	0.00	702.01	702.01
TC08-51	4584.62	7265.15	10013.21	131.2	-49.0	16.00	0.00	544.01	544.01
TC08-52	4472.29	6901.81	10016.84	130.4	-56.4	7.00	0.00	305.01	305.01
TC08-53	4652.49	7082.53	10021.67	130.5	-46.5	4.00	0.00	260.01	260.01
TC08-54	4254.12	7216.24	10022.88	129.0	-65.5	2.00	0.00	882.01	882.01
TC08-54A	4254.12	7216.24	10022.88	129.0	-65.5	0.00	202.00	803.00	601.00
TC08-54B	4254.12	7216.24	10022.88	129.0	-65.5	0.00	295.00	765.00	470.00
TC08-54C	4254.12	7216.24	10022.88	129.0	-65.5	0.00	544.00	729.00	185.00
TC08-54D	4254.12	7216.24	10022.88	128.8	-65.5	0.00	196.00	807.00	611.00
TC08-55	4449.96	6987.05	10015.29	130.2	-60.3	10.00	0.00	368.01	368.01
TC08-56	4424.47	6941.78	10014.16	130.8	-57.7	4.00	0.00	419.01	419.01
TC08-57	4254.12	7216.24	10023.18	128.5	-59.6	4.00	0.00	750.01	750.01
TC08-58	4510.11	6869.01	10017.37	130.1	-56.2	4.00	0.00	254.01	254.01
TC08-59	4532.31	6851.00	10018.37	125.5	-43.4	4.00	0.00	218.01	218.01
TC08-60	4254.21	7216.17	10023.11	133.6	-54.9	4.00	0.00	687.01	687.01
TC08-61	4434.88	6868.49	10015.32	129.1	-54.5	4.00	0.00	314.01	314.01
TC08-62	4479.22	6765.44	10016.79	139.0	-47.2	4.00	0.00	272.01	272.01
TC08-63	4286.16	6342.63	10017.15	134.4	-44.4	7.00	0.00	563.01	563.01
TC08-64	4220.96	7178.99	10022.08	130.0	-65.0	13.00	0.00	794.01	794.01
TC08-65	4538.99	6132.97	10047.86	129.1	-65.8	2.50	0.00	473.01	473.01
TC08-66	4346.06	7526.82	10011.39	132.9	-65.1	10.10	0.00	933.01	933.01
TC09-67	4288.43	7448.33	10014.43	129.1	-65.8	3.00	0.00	933.01	933.01
TC09-68	4122.14	7456.53	10018.52	133.9	-62.7	4.00	0.00	1172.01	1172.01
TC09-68A	4122.14	7456.53	10018.52	133.9	-62.7	0.00	864.00	941.00	77.00
TC09-68B	4122.14	7456.53	10018.52	133.9	-62.7	0.00	396.00	1072.00	676.00
TC09-68C	4122.14	7456.53	10018.52	134.3	-62.7	0.00	432.00	1045.00	613.00
TC09-68D	4122.14	7456.53	10018.52	134.3	-62.7	0.00	454.00	1028.00	574.00
TC09-68E	4122.14	7456.53	10018.52	134.0	-62.3	0.00	472.00	1005.00	533.00
TC09-68F	4122.14	7456.53	10018.52	134.4	-62.4	0.00	518.00	1028.00	510.00
TC09-69	4098.92	7281.39	10034.21	128.9	-64.9	4.00	0.00	855.00	855.00
TC09-69A	4098.92	7281.39	10034.21	130.0	-66.0	0.00	703.00	1023.00	320.00
TC09-69B	4098.92	7281.39	10034.21	128.7	-65.1	0.00	357.00	1016.00	659.00
TC09-69C	4098.92	7281.39	10034.21	128.0	-65.0	0.00	435.00	998.00	563.00
TC09-69D	4098.92	7281.39	10034.21	124.0	-64.0	0.00	342.00	883.00	541.00
TC09-69E	4098.92	7281.39	10034.21	128.7	-65.1	0.00	732.00	899.00	167.00
TC09-69F	4098.92	7281.39	10034.21	128.7	-65.1	0.00	711.00	1057.00	346.00
TC09-69G	4098.92	7281.39	10034.21	127.6	-67.9	0.00	331.00	993.00	662.00
TC09-69H	4098.92	7281.39	10034.21	127.6	-64.9	0.00	361.00	1035.00	674.00
TC09-69J	4098.92	7281.34	10034.21	127.6	-65.1	0.00	391.00	940.00	549.00
TC09-69K	4098.92	7281.39	10034.21	128.7	-65.2	0.00	379.00	867.00	488.00
TC09-70	4237.40	7421.34	10020.35	133.4	-67.5	3.00	0.00	1043.00	1043.00
TC09-71	4040.16	7201.74	10034.80	130.6	-64.8	4.00	0.00	1221.00	1221.00
TC09-71A	4040.16	7201.74	10034.80	130.6	-64.7	0.00	296.00	1105.00	809.00
TC09-72	4334.69	7214.13	10017.28	131.8	-58.1	3.00	0.00	605.00	605.00
TC09-73	4013.80	7415.87	10021.48	126.6	-67.8	7.00	0.00	1262.00	1262.00
TC09-73A	4013.80	7415.87	10021.48	126.6	-68.3	0.00	905.00	1488.00	583.00
TC09-73B	4013.80	7415.87	10021.48	126.6	-68.3	0.00	703.00	976.00	273.00
TC09-73C	4013.80	7415.87	10021.48	126.2	-68.4	0.00	850.00	1328.00	478.00

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
TC09-73D	4013.80	7415.87	10021.48	126.1	-68.4	0.00	535.00	1290.00	755.00
TC09-73E	4013.80	7415.87	10021.48	126.6	-67.8	0.00	628.00	1218.00	590.00
TC09-73F	4013.80	7415.87	10021.48	126.6	-67.8	0.00	492.00	1440.00	948.00
TC09-74	3962.94	7004.23	10033.22	162.8	-58.8	4.00	0.00	1043.00	1043.00
TC09-75	4101.39	7537.99	10015.67	126.6	-68.5	4.00	0.00	1308.00	1308.00
TC09-76	3962.82	7004.33	10033.22	128.5	-65.4	4.00	0.00	1117.00	1117.00
TC09-77	3946.31	7343.72	10023.65	128.6	-64.7	3.00	0.00	1269.00	1269.00
TC09-77A	3946.31	7343.72	10023.65	128.6	-64.7	0.00	929.00	961.00	32.00
TC09-78	3946.31	7343.72	10023.65	126.0	-65.0	3.00	0.00	282.00	282.00
TC09-79	3946.31	7343.72	10023.65	123.3	-64.8	3.00	0.00	1215.00	1215.00
TC09-79A	3946.31	7343.72	10023.65	124.0	-65.0	0.00	458.00	1212.00	754.00
TC09-79B	3946.31	7343.72	10023.65	123.3	-64.9	0.00	508.00	1332.00	824.00
TC09-79C	3946.31	7343.72	10023.65	123.4	-64.6	0.00	483.00	1128.00	645.00
TC09-80	4123.75	7391.17	10024.00	127.6	-67.9	4.00	0.00	1202.00	1202.00
TC09-80A	4123.75	7391.17	10024.00	127.7	-67.9	0.00	407.00	1256.00	849.00
TC09-80B	4123.96	7389.32	10024.52	127.7	-67.9	0.00	525.10	1108.00	582.90
TC09-80C	4123.96	7389.32	10024.52	127.6	-67.9	0.00	580.00	1104.00	524.00
TC09-80D	4123.75	7391.17	10024.00	127.6	-67.9	0.00	390.00	624.00	234.00
TC09-80E	4123.75	7391.17	10024.00	127.2	-67.8	0.00	199.00	1176.00	977.00
TC09-80F	4123.75	7391.17	10024.00	126.9	-68.1	0.00	428.00	1059.00	631.00
TC09-81	4324.76	7002.17	10015.54	130.0	-59.0	17.00	0.00	627.00	627.00
TC10-82	3953.00	7010.00	10033.00	127.0	-68.0		0.00	6.60	6.60
TC10-83	3845.27	7293.32	10022.11	124.5	-66.5	3.00	0.00	453.00	453.00
TC10-83A	3848.14	7296.07	10023.00	124.5	-66.5	0.00	438.00	1407.00	969.00
TC10-84	3834.90	7200.00	10020.38	137.4	-70.3	6.30	0.00	1472.00	1472.00
TC10-85	3805.00	6899.50	10030.00	128.3	-64.1	4.50	0.00	692.00	692.00
TC10-85A	3805.00	6899.50	10030.00	128.3	-64.1	0.00	657.00	1582.00	925.00
TC10-85B	3805.00	6899.50	10030.00	128.3	-64.1	0.00	527.00	776.00	249.00
TC10-85C	3805.00	6899.50	10030.00	128.3	-64.1	0.00	521.70	797.00	275.30
TC11-101	4077.10	7234.50	10030.00	132.0	-65.4	3.00	0.00	1088.00	1088.00
TC11-102	4538.10	7069.67	10019.37	0.0	-90.0	0.60	0.00	102.00	102.00
TC11-103	4538.79	7071.34	10019.37	0.0	-90.0	0.70	0.00	102.00	102.00
TC11-104	4539.28	7073.94	10019.29	0.0	-90.0	1.00	0.00	102.00	102.00
TC11-105	4538.25	7075.43	10019.29	0.0	-90.0	1.40	0.00	87.00	87.00
TC11-106	4536.47	7075.98	10019.27	0.0	-90.0	1.60	0.00	102.00	102.00
TC11-107	4534.19	7076.08	10019.24	0.0	-90.0	1.50	0.00	102.00	102.00
TC11-108	4533.21	7074.31	10019.25	0.0	-90.0	1.30	0.00	100.00	100.00
TC11-109	4532.91	7072.37	10019.26	0.0	-90.0	1.00	0.00	100.50	100.50
TC11-110	4532.73	7069.74	10019.27	0.0	-90.0	1.70	0.00	102.00	102.00
TC11-111	4077.12	7234.50	10030.00	129.4	-64.0	4.00	0.00	1009.00	1009.00
TC11-111A	4077.12	7234.50	10030.00	129.2	-63.0	0.00	414.00	1004.00	590.00
TC11-111B	4077.10	7234.50	10030.00	129.4	-64.0	0.00	384.00	877.00	493.00
TC11-111C	4077.12	7234.50	10030.00	129.1	-63.8	0.00	408.00	848.00	440.00
TC11-111D	4077.12	7234.50	10030.00	129.2	-63.5	0.00	318.00	887.00	569.00
TC11-112	4230.00	7235.00	10022.00	130.2	-65.8	4.00	0.00	860.00	860.00
TC11-112A	4230.00	7235.00	10022.00	130.4	-65.8	0.00	318.00	851.00	533.00

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
TC11-113	3985.00	7390.00	10022.00	125.9	-64.2	4.00	0.00	1199.00	1199.00
TC11-113A	3985.00	7390.00	10022.00	125.6	-64.2	0.00	395.00	1094.00	699.00
TC11-114	4208.00	7445.00	10030.00	142.0	-62.4	4.00	0.00	936.00	936.00
TC11-115	4013.80	7415.90	10021.50	126.0	-63.0	5.00	0.00	1144.00	1144.00
TC11-86	3922.00	6646.00	10015.00	131.5	-51.7	14.00	0.00	1001.00	1001.00
TC11-87	3847.00	7022.00	10030.00	132.0	-70.0	2.00	0.00	1499.00	1499.00

Total Number of Surface Diamond Drill Holes	102
Total Number of Surface Diamond Drill Wedge Splays	47
Total Number of Metres Drilled	83,656.69
3 Diamond Drill Hole Extensions	
One SurfaceDiamond Drill Hole Remains In Incomplete, TC11-87 (in progress)	

Table 10.1b: Surface Diamond Drilling Collar and Metreage Information (Timmins Deposit)

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
TG05-74D	4600.00	8474.73	10010.68	232.41	-72.82	614.00	616.00	899.00	283.00
TG05-74E	4600.00	8474.73	10010.68	232.12	-72.87	714.00	716.00	1233.00	517.00
TG05-74F	4600.00	8474.73	10010.68	232.15	-72.86	729.00	731.00	1556.00	825.00
TG06-75P	4501.89	8650.56	10012.99	243.14	-75.77	852.00	854.00	1809.00	955.00
TG06-96E	4501.68	8751.42	10013.82	250.80	-77.11	735.00	737.00	862.00	125.00
TG06-96F	4501.68	8751.42	10013.82	250.80	-77.11	756.00	758.00	770.00	12.00
TG08-178B	4312.02	8727.88	10012.00	250.93	-78.97	525.00	527.00	1652.00	1125.00
TG08-178C	4312.02	8727.88	10012.00	249.69	-79.03	822.00	824.00	1679.00	855.00
TG08-178D	4312.02	8727.88	10012.00	249.69	-79.03	972.00	974.00	1404.00	430.00
TG08-178E	4312.02	8727.88	10012.00	249.83	-78.96	1377.00	1379.00	1646.00	267.00
TG08-178F	4312.02	8727.88	10012.00	249.83	-78.96	1005.00	1007.00	2114.00	1107.00
TG08-178G	4312.02	8727.88	10012.00	249.79	-78.77	1468.00	1470.00	2034.00	564.00
TG08-178H	4312.02	8727.88	10012.00	249.83	-78.85	1061.00	1079.65	1119.00	39.35
TG08-178J	4312.02	8727.88	10012.00	250.08	-78.85	996.00	998.00	1877.00	879.00
TG09-181	4220.79	8703.05	10013.28	247.31	-78.90	0.00	9.00	1572.00	1563.00

Total Number of Surface Diamond Drill holes	1
Total Number of Surface Diamond Drill Wedge Splays	14
Total Number of Metres Drilled	9546.35

Highlighted in blue are diamond drill holes that are not used in the modeling.

APPENDIX 2

TABLE 10.2: UNDERGROUND DIAMOND DRILL HOLE COLLAR AND METREAGE INFORMATION TIMMINS WEST MINE; THUNDER CREEK AND TIMMINS DEPOSITS

Table 10.2a: Underground Diamond Drill Hole Collar and Metreage Information (Thunder Creek)

Hole Number	Easting	Northing	Elevation	Azimuth	Dip	Casing Depth	Start Depth	Final Depth	Total Drilled
	Mine Grid								
	(m)	(m)	(m)	(°)	(°)	(m)	(m)	(m)	(m)
TC200-001	4536.59	7275.95	9756.59	183.0	-3.0	0	0	15	15
TC200-001A	4536.59	7275.95	9756.59	183.0	-3.0	0	0	15	15
TC200-001B	4536.59	7275.95	9756.59	197.5	-4.0	0	31.5	519	487.5
TC200-002	4536.33	7275.97	9756.60	189.5	-8.0	0	0	15	15
TC200-002A	4536.33	7275.91	9756.60	189.5	-3.0	0	34.65	436	401.35
TC200-003	4535.95	7275.85	9756.49	189.5	-3.0	0	0	455	455
TC200-004	4535.95	7275.89	9756.56	197.5	5.0	0	0	451	451
TC200-005	4539.20	7068.70	9734.00	197.5	-4.0	0	0	15	15
TC200-005A	4539.20	7068.70	9734.00	197.5	1.0	0	0	220	220
TC200-006	4539.20	7068.70	9734.00	197.5	1.0	0	0	216	216
TC200-007	4539.20	7068.70	9734.00	196.8	4.6	0	0	197	197
TC200-008	4539.20	7068.70	9734.00	197.5	-9.0	0	0	213	213
TC200-009	4539.20	7068.70	9734.00	195.0	-3.0	0	0	15	15
TC200-009A	4539.20	7068.70	9734.00	187.0	-5.0	0	0	12	12
TC200-009B	4539.20	7068.70	9734.00	190.0	5.0	0	0	213	213
TC200-010	4539.20	7068.70	9734.00	177.0	-5.0	0	0	12	12
TC200-010A	4539.20	7068.70	9734.00	177.0	-5.0	0	0	30	30
TC200-010B	4539.20	7068.70	9734.00	195.0	-5.0	0	0	243.8	243.8
TC200-011	4494.10	7083.60	9730.00	195.0	-5.0	0	0	242	242
TC200-012	4494.10	7083.60	9730.00	190.0	-5.0	0	0	240	240
TC200-013	4494.10	7083.60	9730.00	190.0	-5.0	0	0	238	238
TC200-014	4539.20	7068.70	9734.00	119.0	-57.0	0	0	210	210
TC200-016	4494.10	7083.60	9730.00	193.0	-10.0	0	0	240	240
TC200-017	4494.10	7083.60	9730.00	193.0	5.0	0	0	240	240
TC200-018	4539.20	7068.70	9734.00	193.0	-10.0	0	0	240	240
TC200-019	4468.13	6992.65	9724.80	190.0	5.0	0	0	15	15
TC200-019A	4468.13	6992.65	9724.80	190.0	5.0	0	0	210	210
TC200-020	4469.75	6992.70	9724.00	190.0	12.0	0	0	30	30
TC260-001	4497.63	7258.33	9756.48	179.4	-36.4	0	0	420	420
TC260-002	4497.63	7258.38	9756.25	177.5	-42.4	0	0	420	420
TC260-003	4497.63	7258.54	9756.10	179.9	-49.5	0	0	450	450
TC260-004	4497.65	7258.64	9755.18	180.1	-54.6	0	0	462	462
TC260-005	4497.64	7258.68	9755.10	179.5	11.0	0	0	548	548
TC260-006	4497.66	7259.20	9756.31	181.2	-62.0	0	0	450	450
TC260-007	4499.64	7257.98	9756.04	141.1	-44.6	0	0	465	465
TC260-008	4499.78	7257.84	9756.45	137.7	-26.5	0	0	471	471
TC260-009	4498.75	7258.20	9756.02	166.3	-50.4	0	0	421	421
TC260-010	4498.62	7258.55	9756.24	163.5	-56.7	0	0	464	464
TC260-011	4498.59	7258.63	9756.19	162.6	-66.2	0	0	471	471
TC260-012	4497.48	7258.11	9758.22	175.7	13.6	0	0	470	470
TC260-013	4395.50	7257.58	9759.08	180.3	-30.5	0	0	444	444
TC260-014	4395.80	7257.68	9758.73	178.7	-38.0	0	0	447	447
TC260-015	4395.51	7257.84	9758.81	176.3	-47.8	0	0	480	480

Hole Number	Easting	Northing	Elevation	Azimuth	Dip	Casing Depth	Start Depth	Final Depth	Total Drilled
	Mine Grid (m)	(m)	(m)	(°)	(°)	(m)	(m)	(m)	(m)
TC260-016	4350.00	7275.75	9759.80	180.0	-40.0	0	0	480	480
TC260-017	4350.00	7275.75	9759.80	180.0	-32.0	0	0	480	480
TC260-018	4350.00	7275.75	9759.80	180.0	-24.0	0	0	460	460
TC260-019	4350.00	7275.75	9759.80	180.0	-16.0	0	0	460	460
TC260-020	4500.00	7260.00	9759.40	163.0	10.0	0	0	540	540
TC260-021	4395.84	7258.95	9736.80	180.0	10.0	0	0	550	550
TC260-022	4395.84	7258.95	9763.80	173.0	8.0	0	0	510	510
TC260-023	4395.84	7258.95	9763.80	173.0	11.0	0	0	520	520
TC280-001	4469.70	6992.70	9724.80	181.0	3.0	0	0	15	15
TC280-001A	4469.70	6992.70	9724.50	175.0	1.0	0	0	130	130
TC280-002	4469.70	6992.70	9724.80	175.0	-8.0	0	0	160	160
TC280-003	4469.70	6992.70	9724.80	176.0	-12.0	0	0	132.6	132.6
TC280-004	4469.70	6992.70	9724.80	157.0	1.3	0	0	130.8	130.8
TC280-005	4469.70	6992.70	9724.80	157.0	-9.0	0	0	41.7	41.7
TC280-005A	4469.70	6992.70	9724.80	169.0	-15.0	0	0	130.5	130.5
TC280-006	4468.03	6992.73	9724.61	181.0	3.0	0	0	141	141
TC280-007	4468.68	6992.73	9724.01	165.0	-14.0	0	0	15	15
TC280-007A	4468.68	6992.73	9724.01	169.0	-17.0	0	0	141.7	141.7
TC280-008	4439.76	6973.40	9726.50	181.0	1.5	0	0	141	141
TC280-009	4439.76	6973.50	9726.40	165.2	-24.8	0	0	163.2	163.2
TC280-010	4467.95	6992.75	9724.38	170.4	-50.0	0	0	48	48
TC280-011	4439.20	6972.70	9726.00	157.2	-66.3	0	0	15	15
TC280-011A	4439.73	6972.70	9726.00	146.8	-67.0	0	0	15	15
TC280-011B	4439.20	6972.70	9726.00	135.0	-67.0	0	0	150	150
TC280-012	4439.20	6972.70	9726.00	137.5	-52.8	0	0	125.8	125.8
TC280-013	4417.34	6956.03	9729.62	142.0	15.0	0	0	15	15
TC280-013A	4417.34	6956.03	9729.62	142.0	15.0	0	0	150	150
TC280-014	4439.20	6972.70	9726.00	139.0	-82.0	0	0	12	12
TC280-014A	4439.20	6972.70	9726.00	139.0	-82.0	0	0	15	15
TC280-014B	4439.20	6972.70	9726.00	138.4	-81.2	0	0	153	153
TC280-015	4442.00	6975.00	9726.24	115.0	-79.0	0	0	15	15
TC280-015A	4441.04	6974.30	9726.24	115.0	-79.0	0	0	180.3	180.3
TC280-016	4440.73	6973.58	9726.72	157.8	-14.0	0	0	141	141
TC280-017	4440.85	6973.00	9726.62	150.1	-13.0	0	0	141	141
TC280-018	4441.04	6973.00	9726.00	120.0	-40.0	0	0	15	15
TC280-018A	4441.04	6972.70	9726.00	122.3	-41.1	0	0	141	141
TC280-019	4441.04	6973.00	9726.00	110.8	-57.0	0	0	15	15
TC280-019A	4441.04	6973.10	9726.00	119.5	-56.4	0	0	140.5	140.5
TC280-020	4441.04	6973.58	9727.20	165.4	14.6	0	0	141	141
TC280-021	4440.85	6973.58	9727.20	156.4	20.9	0	0	140	140
TC280-022	4438.83	6972.70	9727.20	177.3	17.9	0	0	159.2	159.2
TC280-023	4439.03	6972.70	9727.80	164.5	20.0	0	0	171	171
TC280-024	4438.83	6972.70	9726.87	177.6	4.3	0	0	119.5	119.5
TC280-025	4438.83	6972.70	9727.47	173.0	14.5	0	0	172	172
TC280-026	4441.00	6972.75	9726.50	185.7	1.8	0	0	130	130

Hole Number	Easting	Northing	Elevation	Azimuth	Dip	Casing Depth	Start Depth	Final Depth	Total Drilled
	Mine Grid								
	(m)	(m)	(m)	(°)	(°)	(m)	(m)	(m)	(m)
TC280-069	4411.20	6921.00	9732.50	145.9	12.3	0	0	132	132
TC280-070	4411.80	6921.00	9732.50	150.2	30.7	0	0	156	156
TC280-071	4418.20	6957.10	9727.80	134.7	-33.9	0	0	150	150
TC280-072	4417.30	6956.00	9729.60	149.0	31.1	0	0	186	186
TC280-073	4417.30	6956.00	9729.60	148.6	11.3	0	0	150	150
TC280-074	4411.90	6921.00	9732.50	163.3	14.6	0	0	126	126
TC280-075	4411.90	6921.00	9732.50	163.3	28.4	0	0	171	171
TC280-076	4411.90	6921.00	9732.50	167.9	32.0	0	0	180	180
TC280-077	4417.30	6956.00	9729.60	150.3	24.7	0	0	180	180
TC280-078	4417.30	6956.00	9729.60	150.0	27.0	0	0	186	186
TC280-080	4411.90	6921.00	9732.50	168.2	20.0	0	0	132	132
TC280-081	4493.60	6918.50	9733.40	180.0	0.0	0	0	21	21
TC280-082	4498.60	6923.60	9377.40	180.0	0.0	0	0	25	25
TC280-083	4503.70	6924.50	9733.40	180.0	0.0	0	0	25.7	25.7
TC280-084	4510.00	6922.50	9734.70	180.0	0.0	0	0	25	25
TC280-085	4515.00	6919.40	9734.70	180.0	0.0	0	0	25	25
TC280-086	4495.00	6927.00	9734.70	0.0	0.0	0	0	25	25
TC280-087	4500.00	6929.00	9734.70	0.0	0.0	0	0	25	25
TC280-088	4505.00	6929.50	9734.70	0.0	0.0	0	0	25	25
TC280-089	4510.00	6931.50	9734.70	0.0	0.0	0	0	25	25
TC280-090	4446.70	6854.60	9736.20	332.0	45.0	0	0	35	35
TC280-091	4446.70	6854.60	9736.20	332.0	25.0	0	0	36	36
TC280-092	4446.70	6854.60	9736.20	332.0	-45.0	0	0	70	70
TC280-093	4446.70	6854.60	9736.20	346.0	45.0	0	0	36	36
TC280-094	4446.70	6854.60	9736.20	346.0	25.0	0	0	35	35
TC280-100	4450.30	6850.50	9732.50	208.0	0.0	0	0	42	42
TC280-101	4450.30	6850.50	9732.50	208.0	20.0	0	0	41.5	41.5
TC280-102	4453.40	6851.00	9732.50	196.0	0.0	0	0	40	40
TC280-103	4453.40	6851.00	9732.50	196.0	20.0	0	0	40	40
TC280-104	4453.40	6851.00	9732.50	171.0	0.0	0	0	42	42
TC280-105	4453.40	6851.00	9732.50	171.0	20.0	0	0	40	40
TC280-106	4453.40	6851.00	9732.50	149.0	0.0	0	0	40	40
TC280-107	4450.30	6850.50	9732.50	208.0	0.0	0	0	40	40
TC280-108	4450.30	6851.00	9732.50	196.0	0.0	0	0	60	60
TC280-109	4450.30	6851.00	9732.50	171.0	0.0	0	0	60	60
TC280-110	4450.30	6851.00	9732.50	149.0	0.0	0	0	60	60
TC280-111	4453.40	6851.00	9732.00	149.0	40.0	0	0	44	44
TC300-001	4471.60	6885.20	9719.70	310.0	0.0	0	0	25	25
TC300-002	4471.60	6885.20	9719.70	333.0	0.0	0	0	25.5	25.5
TC300-003	4471.60	6885.20	9719.70	310.0	20.0	0	0	27	27
TC300-004	4471.60	6885.20	9719.70	333.0	20.0	0	0	27	27

Hole Number	Easting | Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
TC300-005	4482.60	6913.10	9718.90	129.0	0.0	0	0	25	25
TC300-006	4482.60	6913.10	9718.90	151.0	0.0	0	0	25	25
TC300-007	4482.60	6913.10	9718.90	129.0	26.0	0	0	36	36
TC300-008	4482.60	6913.10	9718.90	129.0	-37.0	0	0	45	45
TC300-009	4482.60	6913.10	9718.90	151.0	26.0	0	0	36	36
TC300-010	4482.60	6913.10	9718.90	151.0	-37.0	0	0	21	21
TC300-011	4471.60	6885.20	9719.70	310.0	-26.0	0	0	25	25
TC300-012	4471.60	6885.20	9719.70	333.0	-26.0	0	0	25.5	25.5
TC300-013	4482.60	6913.10	9718.90	115.0	0.0	0	0	30	30
TC300-014	4482.60	6913.10	9718.90	115.0	26.0	0	0	55	55
TC300-015	4482.60	6913.10	9718.90	115.0	-37.0	0	0	70.1	70.1
TC300-016	4482.60	6913.10	9718.90	151.0	13.0	0	0	30	30
TC300-017	4482.60	6913.10	9718.90	151.0	-18.0	0	0	30.5	30.5
TC300-018	4482.60	6913.10	9718.90	129.0	13.0	0	0	30.4	30.4
TC300-019	4482.60	6913.10	9718.90	129.0	-18.0	0	0	27	27
TC300-020	4482.60	6913.10	9718.90	115.0	13.0	0	0	30	30
TC300-021	4482.60	6913.10	9718.90	115.0	-18.0	0	0	30.3	30.3
TC320-001	4514.88	6938.05	9717.40	119.0	15.0	0	0	100	100
TC320-002	4516.73	6939.84	9717.30	119.0	1.0	0	0	100	100
TC320-003	4513.83	6937.87	9718.20	180.0	13.9	0	0	33	33
TC320-003A	4513.83	6937.87	9718.20	175.0	15.0	0	0	90	90
TC320-004	4513.49	6938.22	9719.40	175.0	40.0	0	0	48	48
TC320-005	4513.83	6937.87	9716.90	175.0	-30.0	0	0	79.6	79.6
TC320-006	4513.83	6937.87	9716.50	175.0	-30.0	0	0	79.6	79.6
TC320-007	4514.88	6938.05	9718.00	167.0	14.0	0	0	81	81
TC320-008	4514.88	6938.05	9719.30	152.5	31.1	0	0	81	81
TC320-009	4514.88	6938.05	9717.00	155.0	-15.9	0	0	72	72
TC320-010	4514.88	6938.05	9716.60	155.8	-30.4	0	0	72	72
TC320-011	4515.57	6938.45	9716.50	136.0	-13.0	0	0	72	72
TC320-012	4515.57	6938.45	9716.90	142.0	-28.0	0	0	72	72
TC320-013	4516.73	6939.84	9718.20	120.6	13.1	0	0	60	60
TC320-014	4516.02	6939.50	9716.80	117.0	29.7	0	0	90	90
TC320-015	4516.02	6939.50	9716.08	122.0	-16.4	0	0	60	60
TC320-016	4516.02	6939.50	9716.08	125.9	-30.6	0	0	60	60
TC320-017	4513.90	6937.80	9716.50	173.9	-45.5	0	0	72	72
TC320-018	4513.80	6937.90	9716.50	174.0	-59.5	0	0	72	72
TC320-019	4514.90	6938.10	9716.60	154.2	-45.2	0	0	70.6	70.6
TC320-020	4514.90	6938.10	9716.60	160.3	-60.0	0	0	72	72
TC320-021	4525.45	7009.99	9709.00	163.0	23.6	0	0	131	131
TC320-022	4525.45	7009.45	9708.00	165.0	1.5	0	0	130.6	130.6
TC320-023	4526.05	7009.99	9707.90	151.9	-6.4	0	0	120	120
TC320-024	4525.75	7009.99	9708.00	151.2	2.0	0	0	132	132

Hole Number	Easting	Northing	Elevation	Azimuth	Dip	Casing Depth	Start Depth	Final Depth	Total Drilled
	Mine Grid								
	(m)	(m)	(m)	(°)	(°)	(m)	(m)	(m)	(m)
TC320-025	4526.14	7010.10	9707.97	134.4	-6.7	0	0	132	132
TC320-026	4525.45	7009.99	9709.40	161.0	31.1	0	0	130	130
TC320-027	4525.25	7009.99	9707.40	166.0	-31.7	0	0	131	131
TC320-028	4525.75	7009.99	9709.40	152.5	22.7	0	0	130.5	130.5
TC320-029	4525.75	7009.99	9707.15	158.2	-31.2	0	0	130	130
TC320-030	4525.75	7009.99	9706.80	154.0	-51.5	0	0	132	132
TC320-031	4525.85	7010.10	9709.30	147.0	24.1	0	0	132	132
TC320-032	4525.85	7010.10	9708.60	147.0	12.7	0	0	130.9	130.9
TC320-033	4525.85	7010.10	9707.70	147.2	-15.1	0	0	132	132
TC320-034	4525.85	7010.10	9707.50	148.5	-22.0	0	0	132	132
TC320-035	4525.45	7009.99	9707.70	165.0	-8.9	0	0	132	132
TC320-036	4525.45	7009.99	9707.55	167.5	-17.1	0	0	120	120
TC320-037	4526.14	7010.10	9708.70	138.7	8.2	0	0	130	130
TC320-038	4526.14	7010.10	9709.20	138.0	18.8	0	0	106.5	106.5
TC320-039	4526.14	7010.10	9709.75	135.0	29.6	0	0	141	141
TC320-040	4526.14	7010.10	9707.60	144.8	-20.3	0	0	110	110
TC320-041	4526.14	7010.10	9707.10	143.0	-42.7	0	0	111	111
TC320-042	4525.45	7009.99	9707.15	164.6	-39.9	0	0	111	111
TC320-043	4525.45	7009.99	9706.20	163.5	-61.2	0	0	102	102
TC320-044	4526.98	7010.33	9710.50	137.0	41.2	0	0	132.2	132.2
TC320-045	4526.98	7010.33	9709.25	121.5	21.8	0	0	133.4	133.4
TC320-046	4526.98	7010.33	9708.69	128.7	12.5	0	0	119	119
TC320-047	4526.98	7012.33	9708.09	128.7	0.9	0	0	111	111
TC320-048	4526.98	7010.33	9707.79	125.0	-10.1	0	0	102	102
TC320-049	4526.98	7010.33	9707.24	125.0	-30.7	0	0	102	102
TC320-050	4527.13	7010.33	9706.49	126.7	-49.7	0	0	150	150
TC320-051	4501.40	6950.90	9717.20	205.6	-43.0	0	0	101	101
TC320-052	4501.40	6950.90	9717.20	199.0	-52.0	0	0	108	108
TC320-053	4501.40	6950.90	9717.20	217.0	-65.0	0	0	105	105
TC320-054	4501.40	6950.90	9717.20	219.9	-80.7	0	0	102	102
TC320-055	4501.40	6950.90	9717.20	96.1	-76.0	0	0	120	120
TC320-056	4501.40	6950.90	9717.20	79.0	-67.0	0	0	120	120
TC320-057	4532.80	7012.80	9707.50	119.0	-5.0	0	0	120	120
TC320-058	4532.80	7012.80	9707.50	119.0	-17.0	0	0	138	138
TC320-059	4532.80	7012.80	9707.50	119.0	-25.0	0	0	123	123
TC320-060	4532.80	7012.80	9707.50	110.0	0.0	0	0	150	150
TC320-061	4532.80	7012.80	9707.50	110.0	-22.0	0	0	120	120
TC320-062	4532.80	7012.80	9707.50	110.0	-41.0	0	0	126	126
TC330-001	4501.60	6958.30	9697.30	178.6	-23.6	0	0	81	81
TC330-002	4501.60	6958.30	9696.80	180.6	-39.7	0	0	81	81
TC330-003	4501.60	6958.30	9696.20	182.7	61.7	0	0	81	81
TC330-004	4501.60	6958.80	9696.20	180.0	-74.3	0	0	84	84

Hole Number	Easting	Northing	Elevation	Azimuth	Dip	Casing Depth	Start Depth	Final Depth	Total Drilled
	Mine Grid								
	(m)	(m)	(m)	(°)	(°)	(m)	(m)	(m)	(m)
TC330-005	4502.30	6958.30	9697.60	160.0	-15.8	0	0	81	81
TC330-006	4501.40	6961.40	9698.00	161.0	-36.0	0	0	81	81
TC330-007	4501.40	6961.40	9698.00	163.0	-55.1	0	0	93	93
TC330-008	4501.40	6961.40	9698.00	162.6	-66.8	0	0	81	81
TC330-009	4501.40	6961.40	9698.00	140.0	-11.9	0	0	81	81
TC330-010	4501.40	6961.40	9698.00	139.0	-21.8	0	0	81	81
TC330-011	4501.40	6961.40	9698.00	136.0	-30.4	0	0	81	81
TC330-012	4501.40	6961.40	9698.00	136.0	-40.5	0	0	81	81
TC330-013	4507.30	7018.90	9696.00	148.3	-32.0	0	0	126	126
TC330-014	4507.30	7018.90	9696.00	151.9	-58.0	0	0	126	126
TC330-015	4507.30	7018.90	9696.00	157.5	-27.0	0	0	141	141
TC330-016	4507.30	7018.90	9696.00	157.5	-37.0	0	0	141	141
TC330-017	4507.30	7018.90	9696.00	151.3	-58.0	0	0	120	120
TC330-018	4507.30	7018.90	9696.00	169.5	-31.0	0	0	132	132
TC330-019	4507.30	7018.90	9696.00	169.5	-48.0	0	0	132	132
TC330-020	4507.30	7018.90	9696.00	129.2	-48.0	0	0	132	132
TC330-021	4507.30	7018.90	9696.00	131.7	-61.0	0	0	134.95	134.95
TC330-025	4507.30	7018.90	9696.00	186.4	-48.0	0	0	111	111
TC330-026	4507.30	7018.90	9696.00	183.0	-61.0	0	0	111	111
TC330-027	4507.30	7018.90	9696.00	191.0	-52.0	0	0	144	144
TC330-028	4507.30	7018.90	9696.00	216.0	-43.0	0	0	171	171
TC330-029	4507.30	7018.90	9696.00	216.0	-64.0	0	0	171	171
TC330-030	4507.30	7018.90	9696.00	136.0	-80.0	0	0	155	155
TC330-031	4507.30	7018.90	9696.00	145.6	-67.0	0	0	135	135
TC330-032	4507.30	7018.90	9696.00	136.0	-59.0	0	0	144	144
TC330-033	4507.30	7018.90	9696.00	136.0	-48.0	0	0	141	141
TC330-034	4507.30	7018.90	9696.00	136.0	-39.0	0	0	138	138
TC330-035	4507.30	7018.90	9696.00	239.0	-61.0	0	0	210	210
TC330-036	4507.30	7018.90	9696.00	239.0	-43.0	0	0	183	183
TC330-037	4507.30	7018.90	9696.00	259.0	-54.0	0	0	180	180
TC330-038	4507.30	7018.90	9696.00	259.0	-68.0	0	0	181.45	181.45
TC330-039	4507.30	7018.90	9696.00	227.0	-65.0	0	0	189	189
TC330-040	4507.30	7018.90	9696.00	227.0	-59.0	0	0	192	192
TC330-041	4507.30	7018.90	9696.00	227.0	-53.0	0	0	183	183
TC330-042	4507.30	7018.90	9696.00	227.0	-46.0	0	0	183	183
TC330-043	4507.30	7018.90	9696.00	227.0	-38.0	0	0	183	183
TC350-001	4476.80	6969.10	9668.00	110.0	4.0	0	0	112	112
TC350-002	4476.80	6969.10	9668.00	110.0	25.0	0	0	110	110
TC350-003	4476.80	6969.10	9668.00	119.0	4.0	0	0	66	66
TC350-004	4476.80	6969.10	9668.00	134.0	-3.0	0	0	63	63
TC650-001	4548.25	7438.76	9334.55	200.4	-10.8	0	0	560	560

Hole Number	Easting	Northing	Elevation	Azimuth	Dip	Casing Depth	Start Depth	Final Depth	Total Drilled
	Mine Grid (m)	(m)	(m)	(°)	(°)	(m)	(m)	(m)	(m)
TC650-002	4549.09	7439.79	9334.92	187.0	-11.0	0	0	546	546
TC650-003	4549.28	7439.81	9334.92	187.0	-12.3	0	0	492.7	492.7
TC650-004	4548.96	7440.49	9334.92	206.0	-7.2	0	0	108	108
TC650-004B	4548.96	7440.49	9334.92	199.0	-7.0	0	0	510	510
TC650-005	4548.96	7440.49	9334.92	202.8	-4.4	0	0	544	544
TC650-006	4548.30	7438.80	9334.60	200.0	-18.0	0	0	325.5	325.5
TC650-007	4548.30	7438.80	9334.60	199.0	-22.7	0	0	457	457
TC680-001	4499.90	7426.90	9334.80	182.6	-52.1	0	0	657	657
TC680-002	4499.90	7426.90	9334.80	199.0	-67.2	0	0	711	711
TC680-003	4396.80	7422.00	9336.20	182.0	-61.7	0	0	762	762
TC680-004	4396.80	7422.00	9336.20	176.7	-70.9	0	0	750	750
TC680-005	4499.90	7426.90	9334.80	198.6	-55.2	0	0	825	825
TC680-006	4499.90	7426.90	9334.80	197.8	-50.4	0	0	651	651
TC680-007	4394.10	7422.00	9340.00	189.5	-55.1	0	0	552	552
TC680-008	4394.10	7422.00	9340.00	188.0	-59.0	0	0	600	600
TC680-009	4499.90	7426.90	9334.80	197.0	-60.0	0	0	500	500
TC710-001	4497.80	7269.40	9311.00	205.3	1.1	0	0	351	351
TC710-002	4497.80	7269.40	9311.00	203.8	-8.9	0	0	351	351
TC710-003	4497.80	7269.40	9311.00	207.4	8.2	0	0	432	432
TC710-004	4497.80	7269.40	9311.00	204.0	-14.9	0	0	351.3	351.3
TC710-005	4498.70	7269.40	9311.00	207.0	15.0	0	0	351	351
TC710-006	4497.80	7269.40	9311.00	206.0	-21.0	0	0	357	357
TC710-007	4497.80	7269.40	9311.00	183.0	14.8	0	0	351	351
TC710-008	4497.80	7269.40	9311.00	184.8	-29.7	0	0	402	402
TC710-009	4497.80	7269.20	9311.00	184.3	-60.1	0	0	330	330
TC710-010	4497.80	7269.40	9311.00	194.3	-48.1	0	0	480	480
TC710-011	4497.80	7269.40	9311.00	196.1	-63.0	0	0	510	510
TC710-012	4452.50	7264.20	9311.00	171.9	-43.2	0	0	450	450
TC710-013	4440.00	7260.00	9311.00	175.0	-55.0	0	0	504	504
TC710-014	4440.00	7260.00	9311.00	175.0	-60.0	0	0	550	550
TC710-015	4498.70	7269.40	9311.00	184.5	-37.8	0	0	402	402
TC710-016	4497.80	7269.40	9311.00	185.0	-56.0	0	0	402	402
TC710-017	4497.80	7269.40	9311.00	201.0	-60.0	0	0	400	400
TC710-018	4440.00	7269.00	9311.00	190.4	56.8	0	0	459	459
TC710-019	4440.00	7269.00	9311.00	189.1	-60.3	0	0	516	516
TC710-021	4497.80	7269.40	9311.00	191.3	-32.7	0	0	402	402
TC710-022	4497.80	7269.40	9311.00	180.0	3.0	0	0	252	252
TC710-023	4497.80	7269.40	9311.00	180.1	13.3	0	0	300	300
TC710-024	4497.80	7269.40	9311.00	177.4	22.6	0	0	298.15	298.15
TC730-001	4466.90	7088.60	9285.60	235.9	3.2	0	0	150	150
TC730-002	4466.90	7088.60	9285.60	273.9	2.5	0	0	150	150
TC730-003	4466.90	7088.60	9285.60	263.1	3.0	0	0	150	150

Hole Number	Easting Na (m)	Northing Mine Grid (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
TC730-004	4466.90	7088.60	9285.60	253.3	3.5	0	0	150	150
TC730-005	4466.90	7088.60	9285.60	226.0	3.0	0	0	150	150
TC730-006	4466.90	7088.60	9285.60	208.0	3.0	0	0	150	150
TC730-007	4466.90	7088.60	9285.60	192.0	3.0	0	0	150	150
TC730-008	4466.90	7088.60	9285.60	177.6	2.8	0	0	150	150
TC730-009	4483.50	7077.50	9284.10	242.8	-30.1	0	0	250.4	250.4
TC730-010	4483.50	7077.50	9284.10	242.8	30.9	0	0	225	225
TC730-011	4483.50	7077.50	9284.10	259.1	21.0	0	0	150	150
TC730-012	4483.50	7077.50	9284.10	256.0	30.0	0	0	150	150
TC730-013	4483.50	7077.50	9284.10	256.0	-21.0	0	0	177	177
TC730-014	4483.50	7077.50	9284.10	310.0	65.0	0	0	79.6	79.6
TC730-015	4483.50	7077.50	9284.10	310.0	52.0	0	0	76	76
TC730-016	4483.50	7077.50	9284.10	310.0	39.0	0	0	75	75
TC730-017	4483.50	7077.75	9284.10	310.0	-25.2	0	0	111	111
TC730-018	4483.50	7077.50	9284.10	310.8	-35.6	0	0	120	120
TC730-019	4477.82	7099.97	9285.00	300.0	81.9	0	0	100	100
TC730-020	4477.82	7099.97	9285.00	313.0	59.3	0	0	111	111
TC730-021	4477.82	7099.97	9285.00	318.8	34.1	0	0	111	111
TC730-022	4483.50	7077.50	9284.10	316.0	-30.0	0	0	129	129
TC730-023	4477.82	7099.70	9285.00	316.0	-45.0	0	0	130	130
TC730-024	4469.43	7115.28	9284.98	256.4	1.3	0	0	102	102
TC730-025	4469.09	7115.59	9284.98	287.6	0.4	0	0	60	60
TC730-026	4470.08	7118.97	9284.97	320.0	1.0	0	0	60	60
TC730-027	4471.06	7119.49	9284.99	349.1	1.4	0	0	60	60
TC730-028	4473.22	7119.68	9285.00	16.8	2.4	0	0	60	60
TC730-029	4474.71	7117.84	9284.91	0.2	50.0	0	0	51	51
TC730-030	4470.04	7114.81	9283.34	244.0	-70.2	0	0	591	591
TC730-031	4470.14	7118.93	9285.21	320.6	30.6	0	0	51	51
TC730-032	4470.22	7118.90	9284.47	321.3	-30.3	0	0	50	50
TC730-033	4470.22	7118.90	9285.30	350.1	13.1	0	0	51	51
TC730-034	4471.18	7119.46	9284.50	347.2	-51.8	0	0	51	51
TC730-035	4471.28	7119.43	9283.98	347.7	-16.0	0	0	51	51
TC730-036	4473.19	7119.85	9287.00	17.3	31.3	0	0	51	51
TC730-037	4473.18	7119.60	9284.10	20.4	-30.4	0	0	51	51
TC730-038	4474.63	7117.89	9284.86	50.0	15.0	0	0	51	51
TC730-039	4474.71	7117.30	9284.00	50.0	-15.0	0	0	50	50
TC730-040	4474.71	7117.91	9284.10	46.1	-40.5	0	0	51	51
TC730-041	4470.00	7095.00	9285.40	330.7	0.5	0	0	60	60
TC730-042	4461.40	7089.40	9285.50	332.3	1.0	0	0	60	60
TC730-051	4460.30	7082.30	9285.50	151.9	1.0	0	0	71.85	71.85
TC730-052	4443.70	7071.70	9285.50	151.1	1.2	0	0	72.7	72.7
TCGRT-001	4472.40	6889.50	9718.90	260.0	25.0	0	0	75	75

Hole Number	Easting	Northing	Elevation	Azimuth	Dip	Casing Depth	Start Depth	Final Depth	Total Drilled
	Mine Grid								
	(m)	(m)	(m)	(°)	(°)	(m)	(m)	(m)	(m)
TCGRT-002	4472.40	6889.50	9718.50	260.0	-25.0	0	0	75	75
TCGRT-003	4472.40	6889.50	9718.90	253.0	0.0	0	0	102	102
TCGRT-004	4477.80	6890.70	9718.90	55.0	30.0	0	0	102	102
TCGRT-005	4477.80	6890.70	9718.90	55.0	-25.0	0	0	102	102
TCGRT-006	4477.80	6890.70	9718.90	55.0	-35.0	0	0	102	102

Total Number of Underground Diamond Drill Holes	384
Number of Underground Diamond Drill Holes Recollared	22
Number of Underground Diamond Drill Holes In Progress Or Incomplete	42
Total Metres Drilled	66,809.65

Highlighted in blue are diamond drill holes that are not used in the modeling.

Table 10.2b: Underground Diamond Drill Hole Collar and Metreage Information (Timmins Deposit)

Hole Number	Easting	Northing	Elevation	Azimuth	Dip	Casing Depth	Start Depth	Final Depth	Total Drilled
	Mine Grid								
	(m)	(m)	(m)	(°)	(°)	(m)	(m)	(m)	(m)
110-013	4891.20	7830.70	9907.70	223.0	11.0	0	0	18.01	18.01
110-013A	4891.20	7830.70	9907.70	223.1	11.1	0	0	42	42
110-017	4920.10	7814.00	9907.50	128.0	-12.0	0	0	30.4	30.4
120-001	5021.10	7924.80	9898.80	178.0	0.0	0	0	81	81
120-002	5021.10	7924.60	9898.80	140.0	0.0	0	0	87	87
120-003	5018.80	7922.10	9901.50	211.0	20.0	0	0	81	81
120-004	5018.80	7922.10	9901.50	184.0	20.0	0	0	15.1	15.1
120-004a	5018.80	7922.10	9901.50	184.0	20.0	0	0	87.1	87.1
120-005a	5018.80	7922.10	9901.50	158.0	20.0	0	0	81	81
120-006	5041.70	7933.70	9901.50	179.0	1.0	0	0	15	15
120-006a	5041.70	7933.70	9901.50	179.0	1.0	0	0	72	72
120-007a	5041.80	7933.80	9901.50	161.0	1.0	0	0	66	66
120-008a	5041.90	7933.90	9901.50	145.0	1.0	0	0	66	66
120-009	5041.70	7933.70	9901.70	179.0	15.0	0	0	72.05	72.05
120-010	5041.70	7933.70	9901.30	179.0	-15.0	0	0	66	66
120-011	5041.80	7933.80	9901.70	161.0	18.0	0	0	72	72
120-012	5041.80	7933.60	9901.30	161.0	-15.0	0	0	15.05	15.05
120-012A	5041.80	7933.80	9901.30	161.0	-15.0	0	0	66.05	66.05
120-013	5041.90	7933.90	9901.70	145.0	15.0	0	0	72	72
120-015	4977.60	7903.90	9895.20	150.0	30.0	0	0	14	14
120-015a	4977.60	7903.90	9895.20	150.0	30.0	0	0	15	15
120-015b	4977.60	7903.90	9895.20	144.4	30.0	0	0	60	60

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
120-016	4977.60	7903.90	9895.20	144.8	1.0	0	0	22.55	22.55
120-017	4977.60	7903.90	9895.20	150.0	-25.0	0	0	45.05	45.05
120-018	4965.10	7900.40	9896.70	165.0	25.0	0	0	42	42
120-019a	4965.10	7900.40	9896.70	165.0	1.0	0	0	42	42
120-021	4977.60	7903.90	9895.20	150.0	15.0	0	0	57.05	57.05
120-022	4977.60	7903.90	9895.20	150.0	23.0	0	0	45	45
120-023	4977.60	7903.90	9895.20	150.0	33.0	0	0	42.01	42.01
120-025	4989.40	7908.70	9897.40	137.0	23.0	0	0	57	57
120-026	4989.40	7908.70	9897.40	137.0	30.0	0	0	51	51
120-027	4989.40	7908.70	9897.40	152.0	23.0	0	0	15	15
120-027a	4989.40	7908.70	9897.40	152.0	23.0	0	0	57	57
120-028	4989.40	7908.70	9897.40	152.0	30.0	0	0	51	51
140-002	4871.30	7888.00	9878.50	205.0	-19.0	0	0	102	102
140-004a	4871.70	7887.80	9879.70	189.0	21.0	0	0	96	96
140-011	4884.50	7846.00	9875.50	167.0	-24.0	0	0	65	65
140-012	4887.00	7850.80	9876.40	141.0	1.0	0	0	105.01	105.01
140-013	4887.00	7850.80	9877.60	141.0	1.0	0	0	6	6
140-014	4887.80	7850.80	9877.60	141.0	13.0	0	0	15.05	15.05
140-014a	4887.80	7850.80	9876.80	141.0	13.0	0	0	113.05	113.05
140-015	4887.80	7850.80	9875.70	141.0	-17.0	0	0	93	93
140-017	4924.60	7858.60	9875.30	173.0	21.0	0	0	81.05	81.05
140-019	4924.60	7858.60	9874.40	195.0	5.0	0	0	120.01	120.01
140-020	4924.60	7858.60	9874.20	195.0	-7.0	0	0	81	81
140-021	4924.60	7858.60	9874.10	195.0	18.0	0	0	81	81
140-022	4925.10	7858.70	9875.10	161.0	16.0	0	0	81	81
140-023	4925.10	7858.70	9874.90	162.0	6.0	0	0	76.05	76.05
140-025	4925.10	7858.70	9874.90	194.8	-30.8	0	0	111	111
140-026	4925.10	7858.70	9875.10	161.0	-24.0	0	0	90	90
140-027	4925.10	7858.70	9874.90	173.0	-34.0	0	0	15	15
140-027a	4925.10	7858.70	9874.90	173.0	-34.0	0	0	90	90
150-001	4995.00	7937.80	9865.60	170.0	1.0	0	0	57.01	57.01
150-002	4995.60	7938.00	9865.60	158.0	1.0	0	0	55.71	55.71
150-003	4996.30	7938.20	9866.00	132.0	1.0	0	0	65.01	65.01
150-004	4996.40	7938.40	9866.00	120.0	1.0	0	0	72.01	72.01
150-005	4996.60	7938.40	9866.40	120.0	10.0	0	0	75.01	75.01
150-006	4996.60	7938.40	9866.90	120.0	20.0	0	0	75.01	75.01
150-007	4996.30	7938.20	9866.80	132.0	15.0	0	0	75.01	75.01
150-008	4987.50	7934.70	9865.60	175.0	1.0	0	0	75.01	75.01
150-009	4975.90	7926.40	9865.70	175.0	1.0	0	0	75.01	75.01
150-012	4999.90	7940.10	9866.60	191.0	19.0	0	0	140	140
150-013	4999.90	7940.10	9865.90	191.0	15.0	0	0	132.01	132.01
150-015	4987.90	7934.80	9866.40	191.0	15.0	0	0	130	130

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
150-016	4987.90	7934.80	9865.60	191.0	-12.0	0	0	120	120
150-017	4975.90	7926.40	9866.60	191.0	15.0	0	0	132.01	132.01
150-018	4975.90	7926.40	9865.70	180.0	-4.0	0	0	120	120
150-019	4975.90	7926.40	9865.30	180.0	-19.0	0	0	90.01	90.01
150-020	4965.10	7923.10	9866.20	191.0	14.0	0	0	7	7
150-020A	4965.10	7923.10	9866.20	191.0	14.0	0	0	130	130
150-021	4967.50	7921.50	9866.20	191.0	-23.0	0	0	8	8
170-001	4867.00	7855.00	9846.50	173.0	1.0	0	0	57	57
170-002	4868.00	7855.50	9846.50	152.0	1.0	0	0	16.01	16.01
170-002a	4868.00	7855.50	9846.50	152.0	1.0	0	0	57.01	57.01
170-003	4868.00	7856.30	9846.50	135.0	1.0	0	0	71	71
170-004	4868.10	7856.70	9846.50	120.0	1.0	0	0	66.01	66.01
170-005	4868.00	7855.50	9846.70	152.0	20.0	0	0	56	56
170-006	4868.00	7855.50	9846.90	152.0	45.0	0	0	30	30
170-007	4868.00	7855.70	9846.70	146.2	20.7	0	0	66	66
170-008	4868.00	7856.70	9846.50	120.0	26.0	0	0	45.01	45.01
170-009	4867.00	7855.00	9846.50	173.0	20.0	0	0	51	51
170-010	4867.00	7855.00	9846.50	173.0	-16.0	0	0	48.01	48.01
170-011	4865.70	7857.20	9846.50	222.0	1.0	0	0	66.05	66.05
170-012	4865.70	7857.20	9846.50	222.0	1.0	0	0	60.05	60.05
170-013	4867.80	7856.50	9846.90	152.0	-16.0	0	0	48.05	48.05
170-014	4873.90	7824.70	9847.70	348.0	28.0	0	0	45.01	45.01
170-015	4873.90	7824.70	9847.70	327.0	28.0	0	0	45	45
170-016	4873.90	7824.70	9847.70	327.0	28.0	0	0	45.01	45.01
170-017	4873.90	7824.70	9847.70	348.0	28.0	0	0	45.01	45.01
180-002	4985.58	7930.76	9837.70	180.0	2.0	0	0	133.45	133.45
180-003	5010.82	7936.33	9838.20	185.0	5.0	0	0	150.01	150.01
180-004	5038.60	7940.63	9838.98	180.0	2.0	0	0	126.05	126.05
180-007	5041.13	7940.63	9838.90	143.0	2.0	0	0	100.05	100.05
180-008	4975.00	7928.50	9837.55	180.0	11.0	0	0	45.05	45.05
180-009	4985.37	7930.71	9838.37	180.0	30.0	0	0	26	26
180-010	5000.00	7934.11	9838.73	180.0	30.0	0	0	27.05	27.05
180-011	5000.00	7934.11	9837.73	180.0	-5.0	0	0	12.05	12.05
180-012	4975.00	7928.50	9838.15	180.0	30.0	0	0	30.05	30.05
180-013	4999.89	7930.23	9839.40	180.0	30.0	0	0	9	9
180-013A	4999.89	7930.23	9839.40	195.0	-15.0	0	0	90.01	90.01
180-014	4999.89	7930.23	9838.00	180.0	-5.0	0	0	150	150
180-015	4999.89	7930.23	9837.80	180.0	-15.0	0	0	156	156
180-016	4999.89	7930.23	9837.60	180.0	-30.0	0	0	150	150
180-017	4999.68	7930.23	9837.20	180.0	-45.0	0	0	130	130
180-018	4999.89	7930.23	9836.40	180.0	-70.0	0	0	141	141
180-019	4999.68	7930.23	9838.10	192.0	0.0	0	0	150	150

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
180-020	4999.68	7930.23	9837.90	192.0	-5.0	0	0	150	150
180-021	4974.61	7924.20	9838.60	180.0	0.0	0	0	156	156
180-022	4974.61	7924.20	9838.30	180.0	-11.0	0	0	156	156
180-023	4974.10	7924.20	9838.20	192.0	0.0	0	0	156	156
180-024	4974.10	7924.20	9838.30	192.0	-11.0	0	0	156	156
180-025	4974.61	7924.20	9837.27	180.0	-15.0	0	0	150	150
180-026	4974.61	7924.20	9836.87	180.0	-30.0	0	0	156.1	156.1
180-027	4974.61	7924.20	9836.47	180.0	-44.0	0	0	160	160
180-028	4974.61	7924.20	9836.27	180.0	-55.0	0	0	165.1	165.1
180-029	5034.36	7939.20	9839.42	188.0	5.0	0	0	171	171
180-030	5034.36	7939.20	9838.62	185.0	-22.0	0	0	171.1	171.1
180-031	5033.70	7939.50	9838.80	190.0	13.0	0	0	177.1	177.1
180-032	5040.20	7940.60	9839.20	158.0	10.0	0	0	162.1	162.1
180-033A	5040.20	7940.60	9839.20	158.0	-12.0	0	0	162.01	162.01
180-034	5033.70	7939.50	9838.80	188.0	-5.0	0	0	147	147
180-035	5000.00	7930.20	9838.00	171.0	-8.0	0	0	150.1	150.1
180-036	5000.00	7930.20	9838.00	171.0	-21.0	0	0	156.1	156.1
180-037	5000.00	7930.20	9838.00	179.0	5.0	0	0	150.1	150.1
180-038	5000.00	7930.20	9838.00	190.0	-13.0	0	0	90.1	90.1
180-039	5000.00	7930.20	9838.00	190.0	-24.0	0	0	93	93
180-040	5005.40	7813.40	9839.90	215.0	1.0	0	0	51	51
180-041	5005.40	7813.40	9839.90	215.0	-22.0	0	0	51	51
180-042	5009.00	7814.40	9839.90	129.0	1.0	0	0	51	51
180-043	5009.00	7813.40	9839.90	129.0	-22.0	0	0	51.6	51.6
180-044	5009.00	7814.40	9839.90	129.0	22.0	0	0	51	51
180-045	5009.00	7814.40	9839.90	108.0	-22.0	0	0	51	51
180-046	5009.00	7814.40	9839.90	108.0	1.0	0	0	51	51
180-047	5009.00	7814.40	9839.90	108.0	22.0	0	0	51	51
180-048	5005.40	7813.40	9839.90	129.0	-40.0	0	0	60	60
180-049	5005.40	7813.40	9839.90	129.0	-50.0	0	0	60	60
180-050	5005.40	7813.40	9839.90	240.0	15.0	0	0	60	60
180-051	5005.40	7813.40	9839.90	240.0	0.0	0	0	60	60
180-052	5005.40	7813.40	9839.90	240.0	-15.0	0	0	60.5	60.5
200-001	4850.00	7912.60	9820.00	194.6	25.0	0	0	71	71
200-002	4850.00	7912.60	9820.00	208.0	-18.0	0	0	75	75
200-003	4850.00	7912.60	9820.00	192.0	19.0	0	0	95	95
200-004	4850.00	7912.60	9820.00	192.0	-16.0	0	0	96	96
200-005	4850.00	7912.60	9820.00	180.0	13.0	0	0	102	102
200-006	4850.00	7912.60	9820.00	180.0	-13.0	0	0	100	100
200-007	4862.50	7905.00	9817.50	180.0	-10.0	0	0	90	90
200-008	4862.50	7905.00	9817.50	183.6	-13.0	0	0	90	90
200-009	4875.00	7900.00	9815.40	180.0	13.0	0	0	102	102

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
20-001	5092.00	7761.00	9991.00	132.0	-8.0	0	0	51	51
200-010	4875.00	7900.00	9815.40	180.0	-10.0	0	0	102	102
20-002	5092.00	7761.00	9991.00	132.0	-20.0	0	0	111	111
20-005	5089.00	7761.00	9991.00	152.0	-28.0	0	0	111	111
20-006	5089.00	7761.00	9991.00	152.0	-44.0	0	0	51	51
20-007	5090.00	7761.00	9991.00	180.0	-9.0	0	0	42	42
20-009	5090.00	7761.00	9991.00	180.0	-52.0	0	0	60	60
20-010	5089.00	7761.00	9991.00	198.0	-8.0	0	0	42	42
20-011	5089.00	7761.00	9991.00	198.0	-30.0	0	0	105	105
20-012	5089.00	7761.00	9991.00	198.0	-57.0	0	0	147	147
20-013	5089.00	7761.00	9991.00	180.0	11.0	0	0	15	15
200-400 FUEL	4643.80	7712.10	9811.10	40.0	-64.0	0	0	208	208
210-001	4953.20	7941.30	9807.00	154.0	-20.0	0	0	72	72
210-002	4953.20	7941.30	9807.00	154.0	-38.0	0	0	78	78
210-003	4953.20	7941.30	9807.00	154.0	-51.0	0	0	78.1	78.1
210-004	4953.20	7941.30	9807.00	140.0	-20.0	0	0	70	70
210-005	4953.20	7941.30	9807.00	140.0	-38.0	0	0	70	70
210-006	4953.20	7941.30	9807.00	360.0	-90.0	0	0	72	72
210-007	4953.20	7941.30	9807.00	168.0	-20.0	0	0	90.1	90.1
210-008	4953.20	7941.30	9807.00	168.0	-37.0	0	0	90	90
210-009	4964.80	7886.10	9808.50	158.0	9.0	0	0	150	150
210-010	4959.40	7897.62	9808.50	160.0	1.0	0	0	150	150
210-011	4953.20	7941.30	9807.00	126.0	-20.0	0	0	120.1	120.1
210-012	4953.20	7941.30	9807.00	126.0	-38.0	0	0	120	120
210-013	4953.20	7941.30	9807.00	130.0	-51.0	0	0	126	126
210-014	4959.40	7897.60	9808.50	150.0	8.0	0	0	150.1	150.1
210-015	4959.40	7897.60	9808.50	148.0	1.0	0	0	9	9
210-015A	4959.40	7897.60	9808.50	151.0	1.0	0	0	150	150
210-016	4959.40	7897.60	9808.50	144.0	0.0	0	0	102	102
210-017	4988.60	7882.20	9809.50	144.0	9.0	0	0	100.5	100.5
210-018	4988.60	7882.20	9809.50	144.0	-9.0	0	0	106.5	106.5
210-019	5000.30	7886.40	9809.50	143.0	0.0	0	0	102	102
210-020	5000.30	7886.40	9809.50	143.0	9.0	0	0	102	102
210-021	5000.30	7886.40	9809.50	143.0	-9.0	0	0	100.7	100.7
210-029	5020.00	7811.60	9810.00	4.0	-15.0	0	0	100	100
210-030	5020.00	7811.60	9810.00	4.0	-30.0	0	0	100	100
210-031	5020.00	7811.60	9810.00	4.0	-37.0	0	0	94	94
210-032	5020.00	7811.60	9810.00	4.0	-23.0	0	0	102	102
230-001	4796.70	7955.70	9792.50	148.0	-11.0	0	0	150	150
230-002	4796.70	7955.70	9792.50	154.0	-10.0	0	0	150	150
230-003	4796.70	7955.70	9792.50	146.0	10.0	0	0	150	150
230-004	4796.70	7955.70	9792.50	146.0	6.0	0	0	44	44

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
230-004A	4796.70	7955.70	9792.50	154.0	-16.0	0	0	150	150
230-005	4796.70	7955.70	9792.50	146.0	6.0	0	0	159	159
230-006	4796.70	7955.70	9792.50	154.0	-16.0	0	0	150.1	150.1
230-007	4796.70	7955.70	9792.50	154.0	-1.0	0	0	150	150
230-008	4796.70	7955.70	9792.50	154.0	-10.0	0	0	150	150
230-009	4796.70	7955.70	9792.50	154.0	-16.0	0	0	150.1	150.1
230-010	4796.70	7955.70	9792.50	154.0	-22.0	0	0	150	150
230-011	4796.70	7955.70	9792.50	162.0	-10.0	0	0	150	150
230-012	4796.70	7955.70	9792.50	162.0	-2.0	0	0	150.1	150.1
230-013	4796.70	7955.70	9792.50	162.0	-10.0	0	0	150.1	150.1
230-014	4796.70	7955.70	9792.50	162.0	-18.0	0	0	150	150
230-015	4796.70	7955.70	9792.50	169.0	-16.0	0	0	150.1	150.1
230-016	4796.70	7955.70	9792.50	169.0	-3.0	0	0	150.1	150.1
230-017	4796.70	7955.70	9792.50	169.0	-11.0	0	0	150	150
230-018	4796.70	7955.70	9792.50	169.0	-19.0	0	0	150.01	150.01
230-019	4796.70	7955.70	9792.50	177.0	5.0	0	0	150	150
230-020	4796.70	7955.70	9792.50	177.0	11.0	0	0	150.1	150.1
230-021	4796.70	7955.70	9792.50	177.0	-3.0	0	0	150	150
230-023	4796.70	7955.70	9792.50	177.0	0.0	0	0	105	105
240-001	4936.40	7950.40	9779.40	136.0	-21.0	0	0	15	15
240-001A	4936.40	7950.40	9779.40	136.0	-35.0	0	0	250	250
240-002	4936.40	7950.40	9779.40	136.0	-46.0	0	0	150	150
240-003	4936.40	7950.40	9779.40	136.0	-46.0	0	0	150	150
240-004	4936.40	7950.40	9779.40	125.0	-21.0	0	0	150	150
240-005	4936.40	7950.40	9779.40	125.0	-35.0	0	0	150	150
240-006	4936.40	7950.40	9779.40	125.0	-63.0	0	0	150.1	150.1
240-007A	4936.40	7950.40	9779.40	119.0	-21.0	0	0	150	150
240-008	4936.40	7950.40	9779.40	116.0	-35.0	0	0	153	153
240-009	4936.40	7950.40	9779.40	136.0	-63.0	0	0	150	150
240-010	4939.30	7950.50	9779.40	120.0	-25.0	0	0	150	150
240-011	4939.30	7950.50	9779.40	118.0	-40.0	0	0	150	150
240-012	4939.30	7950.50	9779.40	118.0	-90.0	0	0	225	225
240-013	4936.40	7950.40	9779.40	153.0	-63.4	0	0	198	198
240-014	4936.40	7950.40	9779.40	150.0	-25.0	0	0	150	150
240-015	4936.40	7950.40	9779.40	150.0	-38.0	0	0	150	150
240-016	4936.40	7950.40	9779.40	150.0	-63.0	0	0	150	150
240-017	4936.40	7950.40	9779.40	116.0	-63.0	0	0	150	150
240-018	4936.40	7950.40	9779.40	116.0	-63.0	0	0	150	150
240-019	4936.40	7950.40	9779.40	150.0	-55.0	0	0	180	180
240-020	4936.40	7950.40	9779.40	125.0	-50.0	0	0	180	180
240-021	4936.40	7950.40	9779.40	170.0	-45.0	0	0	180	180
240-022	4936.40	7950.40	9779.40	170.0	-63.0	0	0	180	180

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
240-028	4961.10	7902.20	9778.40	135.0	-18.0	0	0	120	120
240-029	4917.00	7950.70	9777.90	171.0	-7.0	0	0	150	150
240-030	4917.00	7950.70	9777.90	171.0	-15.0	0	0	150	150
240-031	4917.00	7950.70	9777.90	171.0	-30.0	0	0	150	150
260-001	4792.30	7971.90	9764.40	168.0	-5.0	0	0	150.1	150.1
260-002	4792.30	7971.90	9764.40	168.0	-13.0	0	0	150	150
260-003	4792.30	7971.90	9764.40	168.0	-21.0	0	0	171.1	171.1
260-004	4792.30	7971.90	9764.40	158.0	-9.0	0	0	150.1	150.1
260-005	4792.30	7971.90	9764.40	158.0	-19.0	0	0	150	150
260-006	4792.30	7971.90	9764.40	165.0	-7.0	0	0	153.1	153.1
260-007	4792.30	7971.90	9764.40	162.0	-15.0	0	0	150	150
260-008	4792.30	7971.90	9764.40	202.0	-12.0	0	0	300	300
260-009	4792.30	7971.90	9764.40	196.0	-7.0	0	0	201.1	201.1
260-010	4792.30	7971.90	9764.40	194.7	-23.0	0	0	201	201
260-011	4792.30	7971.90	9764.40	158.0	-5.0	0	0	150.1	150.1
260-012	4792.30	7971.90	9764.40	201.0	0.0	0	0	150	150
260-013	4792.30	7971.90	9764.40	202.0	-12.0	0	0	150	150
260-014	4792.30	7971.90	9764.40	200.0	11.0	0	0	150	150
260-015	4792.30	7971.90	9764.40	162.0	-30.0	0	0	207	207
260-016	4792.30	7971.90	9764.50	148.0	-30.0	0	0	15	15
260-016A	4792.30	7971.90	9764.40	148.0	-30.0	0	0	15	15
260-016B	4792.30	7971.90	9764.60	148.0	-30.0	0	0	252	252
260-017	4759.70	7972.80	9765.40	180.0	5.0	0	0	150	150
260-018	4759.70	7972.80	9765.40	179.7	14.9	0	0	150	150
260-019	4759.70	7972.80	9765.40	179.6	-23.2	0	0	150	150
260-020	4759.70	7972.80	9765.40	190.4	4.0	0	0	150	150
260-021	4759.70	7972.80	9765.40	190.0	-6.6	0	0	150	150
260-022	4759.70	7972.80	9765.40	189.9	-22.2	0	0	150	150
260-023	4759.70	7972.80	9765.40	170.2	-5.7	0	0	150	150
260-024	4759.70	7972.80	9765.40	171.2	-32.3	0	0	150	150
260-025	4759.70	7972.80	9765.40	173.0	-45.0	0	0	200	200
260-026	4759.70	7972.80	9765.40	162.5	20.4	0	0	150	150
260-027	4759.70	7972.80	9765.40	164.0	1.0	0	0	150	150
260-028	4759.70	7972.80	9765.40	164.0	-20.0	0	0	150	150
260-029	4759.70	7972.80	9765.40	199.0	17.0	0	0	132	132
260-030	4759.70	7972.80	9765.40	199.0	10.0	0	0	150	150
260-031	4759.70	7972.80	9765.40	199.0	1.0	0	0	150	150
260-032	4759.70	7972.80	9765.40	199.0	-10.0	0	0	150	150
260-033	4759.70	7972.80	9765.40	199.0	-21.0	0	0	150	150
260-034	4759.70	7972.80	9765.40	199.0	-31.0	0	0	150	150
260-035	4759.70	7972.80	9765.40	199.0	-40.0	0	0	150	150
260-036	4759.70	7972.80	9765.40	199.0	-60.0	0	0	225	225

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
260-037	4759.70	7972.80	9765.40	180.0	-30.0	0	0	180	180
260-038	4759.70	7972.80	9765.40	180.0	-40.0	0	0	180	180
260-039	4759.70	7972.80	9765.40	192.0	-40.0	0	0	180	180
260-040	4759.70	7972.80	9765.40	192.0	-40.0	0	0	180	180
260-041	4759.70	7972.80	9765.40	192.0	-16.0	0	0	180	180
260-042	4759.70	7972.80	9765.40	199.0	-55.0	0	0	180	180
260-043	4759.70	7972.80	9765.40	191.2	-60.8	0	0	180	180
260-044	4759.70	7972.80	9765.40	182.3	-55.0	0	0	225	225
260-045	4731.70	7972.90	9763.40	180.0	-65.0	0	0	225	225
260-046	4731.70	7972.90	9763.40	180.0	-48.0	0	0	250	250
260-047	4731.70	7972.90	9763.40	180.0	-70.0	0	0	270	270
260-048	4759.70	7972.80	9765.40	175.0	-28.0	0	0	141	141
260-049	4759.70	7972.80	9765.40	185.0	-20.0	0	0	135	135
260-050	4759.70	7972.80	9765.40	185.0	-27.0	0	0	165	165
260-051	4759.70	7972.80	9765.40	175.0	8.0	0	0	135	135
260-052	4759.70	7972.80	9765.40	175.0	0.0	0	0	135	135
260-053	4759.70	7972.80	9765.40	175.0	-8.0	0	0	140	140
260-054	4759.70	7972.80	9765.40	175.0	-22.0	0	0	150	150
260-055	4759.70	7972.80	9765.40	175.0	-28.0	0	0	170	170
260-056	4759.70	7972.80	9765.40	145.0	-15.0	0	0	171	171
260-057	4759.70	7972.80	9765.40	145.0	-21.0	0	0	170	170
260-058	4759.70	7972.80	9765.40	155.5	-11.0	0	0	160	160
260-059	4759.70	7972.80	9765.40	155.5	-20.0	0	0	170.6	170.6
260-060	4759.70	7972.80	9765.40	156.3	-26.0	0	0	171	171
260-061	4745.00	7874.50	9759.00	0.0	20.0	0	0	30	30
260-062	4745.00	7875.50	9759.00	0.0	0.0	0	0	30	30
260-065	4755.00	7871.00	9759.00	0.0	0.0	0	0	30	30
270-001	4981.20	7920.60	9752.80	180.0	45.0	0	0	51	51
270-002	4981.20	7920.60	9752.80	171.0	-51.0	0	0	45	45
270-003	4981.20	7920.60	9752.80	180.0	0.0	0	0	28	28
270-004	4981.20	7920.60	9752.80	180.0	-32.0	0	0	45	45
270-005	4987.50	7920.60	9752.80	180.0	40.0	0	0	50.7	50.7
270-006	4987.50	7920.60	9752.80	180.0	21.0	0	0	68	68
270-007	4987.50	7920.80	9752.80	180.0	0.0	0	0	51	51
270-008	4987.50	7920.80	9752.80	180.0	-34.0	0	0	45	45
270-009	4987.50	7920.80	9752.80	180.0	-59.0	0	0	45	45
270-010	4987.50	7920.80	9752.80	128.0	22.0	0	0	60	60
270-011	4987.50	7920.80	9752.80	128.0	-3.0	0	0	45	45
270-012	4987.50	7920.80	9752.80	128.0	-42.0	0	0	51	51
270-013	4997.60	7892.30	9757.20	155.0	0.0	0	0	71	71
270-014	4997.60	7892.30	9757.20	165.5	-13.0	0	0	72	72
270-015	4997.60	7892.30	9757.20	165.5	13.0	0	0	70	70

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
270-016	4997.60	7892.30	9757.20	143.0	0.0	0	0	72	72
270-017	4997.60	7892.30	9757.20	143.0	-11.0	0	0	72	72
270-018	4997.60	7892.30	9757.20	143.0	11.0	0	0	72	72
270-019	4997.60	7892.30	9757.20	129.0	0.0	0	0	72	72
270-020	4997.60	7892.30	9757.20	129.0	-10.0	0	0	70	70
270-021	4997.60	7892.30	9757.20	129.0	10.0	0	0	150	150
270-024	4989.40	7877.50	9752.50	9.0	-10.0	0	0	72	72
270-025	4989.40	7877.50	9752.50	9.0	-19.0	0	0	73.5	73.5
270-026	4989.40	7877.50	9752.50	19.0	-10.0	0	0	75	75
270-027	4989.40	7877.50	9752.50	19.0	-19.0	0	0	75	75
270-028	4989.40	7877.50	9752.50	29.0	-9.0	0	0	81	81
270-029	4989.40	7877.50	9752.50	29.0	-17.0	0	0	81	81
270-030	5011.20	7841.70	9756.80	8.0	45.0	0	0	63.2	63.2
270-031	5006.10	7851.30	9755.10	1.0	38.0	0	0	77	77
270-032	5006.10	7851.30	9755.10	1.0	20.0	0	0	87	87
400 Fuel	4796.70	7669.80	10020.02	0.0	0.0	0	0	425	425
40-024	5037.80	7810.60	9976.00	20.0	-40.0	0	0	141	141
40-025	5000.00	7802.80	9970.50	17.2	-25.0	0	0	9.01	9.01
40-027	5037.80	7810.70	9975.00	359.0	-42.0	0	0	141.01	141.01
40-044	5037.80	7810.70	9975.60	9.0	-25.0	0	0	107.1	107.1
40-045	5037.80	7810.70	9975.00	9.0	-30.0	0	0	117.01	117.01
40-046	5037.80	7810.70	9975.00	9.0	-34.0	0	0	125	125
40-047	5037.80	7810.70	9975.00	9.0	-38.0	0	0	135	135
480-001	4807.00	7973.00	9540.00	141.8	0.0	0	0	114	114
480-002	4807.00	7973.00	9540.00	140.0	0.0	0	0	114	114
480-003	4807.00	7973.00	9540.00	121.0	0.0	0	0	120	120
480-004	4807.00	7973.00	9540.00	109.0	0.0	0	0	141	141
480-006	4791.30	8000.50	9540.00	124.0	26.0	0	0	190.55	190.55
480-007	4791.30	8000.50	9540.00	124.0	30.0	0	0	201	201
480-008	4791.30	8000.50	9540.00	124.0	34.0	0	0	203	203
480-009	4791.30	8000.50	9540.00	119.0	37.0	0	0	190	190
480-010	4807.90	8006.30	9540.00	120.0	30.0	0	0	252	252
480-011	4807.90	8006.30	9540.00	120.0	27.0	0	0	252	252
480-012	4807.90	8006.30	9540.00	120.0	24.0	0	0	258	258
480-013	4807.90	8006.30	9540.00	120.0	20.0	0	0	252	252
480-014	4807.90	8006.30	9540.00	120.0	-31.0	0	0	132	132
480-015	4807.90	8006.30	9540.00	120.0	-35.0	0	0	130	130
480-016	4807.90	8006.30	9540.00	120.0	-39.0	0	0	132	132
480-017	4807.90	8006.30	9540.00	120.0	-43.0	0	0	132	132
480-018	4807.90	8006.30	9540.00	138.0	37.0	0	0	300	300
480-019	4807.90	8006.30	9540.00	138.0	34.0	0	0	300	300
480-020	4807.90	8006.30	9540.00	138.0	30.0	0	0	300	300

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
480-021	4807.90	8006.30	9540.00	138.0	26.0	0	0	300	300
480-026	4807.90	8006.30	9540.00	144.0	37.0	0	0	300	300
480-027	4807.90	8006.30	9540.00	144.0	33.0	0	0	300	300
500-001	4739.50	8015.60	9531.00	128.0	0.0	0	0	201	201
500-002	4739.50	8015.60	9531.00	128.0	5.0	0	0	207	207
500-003	4739.50	8015.60	9531.00	128.0	9.0	0	0	216	216
500-004	4739.50	8015.60	9531.00	128.0	14.0	0	0	225	225
500-005	4739.50	8015.60	9531.00	128.0	18.0	0	0	225	225
500-006	4739.50	8015.60	9531.00	123.0	0.0	0	0	204	204
500-007	4739.50	8015.60	9531.00	123.0	5.0	0	0	210	210
500-008	4739.50	8015.60	9531.00	123.0	9.0	0	0	222	222
500-009	4739.50	8015.60	9531.00	123.0	14.0	0	0	231	231
500-010	4739.50	8015.60	9531.00	123.0	18.0	0	0	261	261
500-011	4739.50	8015.60	9531.00	116.3	0.0	0	0	213	213
500-012	4739.50	8015.60	9531.00	115.6	5.0	0	0	225	225
500-013	4739.50	8015.60	9531.00	116.6	9.0	0	0	205	205
500-036	4744.90	7968.00	9510.60	180.0	-46.0	0	0	111	111
500-037	4744.90	7968.00	9510.60	180.0	-51.0	0	0	111	111
500-038	4744.90	7968.00	9510.60	180.0	-56.0	0	0	111	111
500-039	4744.90	7968.00	9510.60	170.0	-47.0	0	0	111	111
500-040	4744.90	7968.00	9510.60	170.0	-52.0	0	0	102	102
500-041	4744.90	7968.00	9510.60	170.0	-57.0	0	0	111	111
525-001	4703.20	7791.90	9492.30	0.0	14.0	0	0	177.01	177.01
525-003	4703.20	7791.90	9491.80	360.0	-17.0	0	0	171.05	171.05
525-004	4703.20	7791.90	9491.60	360.0	-28.0	0	0	165.01	165.01
525-007	4702.80	7792.00	9492.00	346.0	1.0	0	0	186.01	186.01
525-008	4702.80	7792.00	9491.80	346.0	-12.0	0	0	195.01	195.01
525-011	4703.70	7791.80	9492.00	15.0	1.0	0	0	183.01	183.01
525-012	4703.70	7791.80	9491.70	15.0	-16.0	0	0	126.01	126.01
525-014	4702.20	7792.10	9492.00	335.0	1.0	0	0	122.01	122.01
525-015	4702.20	7792.10	9491.60	335.0	-20.0	0	0	126.01	126.01
525-016	4702.20	7792.10	9491.80	335.0	-30.0	0	0	135.01	135.01
525-017	4703.90	7791.70	9491.70	21.0	-23.0	0	0	126.01	126.01
525-018	4704.10	7791.70	9492.00	27.0	1.0	0	0	120.05	120.05
525-019	4704.10	7791.70	9491.70	27.0	-16.0	0	0	120.01	120.01
525-020	4704.10	7791.70	9491.70	27.0	-26.0	0	0	135.01	135.01
525-021	4704.10	7791.70	9492.20	27.0	10.0	0	0	132.01	132.01
525-023	4701.80	7792.20	9492.00	327.0	1.0	0	0	126.01	126.01
525-024	4701.80	7792.20	9491.70	327.0	-26.0	0	0	132.01	132.01
525-025	4704.50	7791.60	9492.00	39.0	1.0	0	0	117.01	117.01
525-026	4704.50	7791.60	9492.20	39.0	11.0	0	0	130.01	130.01
525-027	4704.90	7791.50	9492.00	48.0	1.0	0	0	141.01	141.01

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
525-029	4695.60	7761.10	9492.00	174.0	4.0	0	0	506.01	506.01
525-030	4696.40	7761.10	9492.00	174.0	4.0	0	0	510	510
525-031	4696.40	7761.10	9492.00	174.0	-20.0	0	0	501.01	501.01
525-032	4696.40	7761.10	9492.00	152.0	-21.0	0	0	501	501
525-033	4696.40	7761.10	9492.00	139.0	-40.0	0	0	704.501	704.501
525-034	4632.30	7837.70	9493.70	337.6	20.2	0	0	180	180
525-035	4632.30	7837.70	9493.70	338.9	1.7	0	0	180	180
525-036	4632.30	7837.70	9493.70	338.7	12.4	0	0	160.5	160.5
525-037	4632.30	7837.70	9493.70	338.8	-8.4	0	0	160	160
525-038	4632.30	7837.70	9493.70	338.3	-16.8	0	0	162	162
525-039	4632.30	7837.70	9493.70	327.7	21.1	0	0	180	180
525-040	4632.30	7837.70	9493.70	328.9	-7.3	0	0	181.2	181.2
525-041	4632.30	7837.70	9493.70	351.0	20.0	0	0	180	180
525-042	4632.30	7837.70	9493.70	351.1	-8.7	0	0	180	180
525-043	4632.30	7837.70	9493.70	351.1	-8.7	0	0	180	180
525-044	4631.60	7836.90	9493.70	325.0	11.0	0	0	180	180
525-045	4631.60	7836.90	9493.70	325.0	1.0	0	0	180	180
525-046	4717.80	7913.20	9493.70	151.0	-58.0	0	0	132	132
525-047	4717.80	7913.20	9493.70	151.0	-45.0	0	0	132	132
525-048	4717.80	7913.20	9493.70	151.0	-31.0	0	0	132	132
525-049	4717.80	7913.20	9493.70	151.0	-17.0	0	0	130	130
525-050	4717.80	7913.20	9493.70	161.0	-58.0	0	0	130	130
525-051	4717.80	7913.20	9493.70	161.0	-45.0	0	0	132	132
525-052	4717.80	7913.20	9493.70	161.0	-30.0	0	0	132	132
525-053	4717.80	7913.20	9493.70	161.0	-58.0	0	0	132	132
525-054	4717.80	7913.20	9493.70	161.0	-3.0	0	0	130	130
525-055	4717.80	7913.20	9493.70	171.0	-61.0	0	0	130.8	130.8
525-056	4717.80	7913.20	9493.70	171.0	-51.0	0	0	130	130
525-057	4717.80	7913.20	9493.70	171.0	-39.0	0	0	132	132
525-058	4717.80	7913.20	9493.70	171.0	-27.0	0	0	132	132
525-059	4717.80	7913.20	9493.70	171.0	-11.0	0	0	130	130
525-060	4717.80	7913.20	9493.70	171.0	-6.0	0	0	132	132
525-061	4717.80	7913.20	9493.70	181.0	-55.0	0	0	130	130
525-062	4717.80	7913.20	9493.70	181.0	-42.0	0	0	130	130
525-063	4717.80	7913.20	9493.70	181.0	-28.0	0	0	130	130
525-064	4717.80	7913.20	9493.70	181.0	-14.0	0	0	130	130
525-065	4717.80	7913.20	9493.70	206.0	-40.0	0	0	110	110
525-066	4717.80	7913.20	9493.70	191.0	-45.0	0	0	132	132
525-067	4717.80	7913.20	9493.70	191.0	-31.0	0	0	132	132
525-068	4717.80	7913.20	9493.70	196.0	-48.0	0	0	110.5	110.5
525-069	4717.80	7913.20	9493.70	196.0	-34.0	0	0	111	111
525-070	4717.80	7913.20	9493.70	156.2	12.1	0	0	111	111

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
525-071	4717.80	7913.20	9493.70	206.0	-40.0	0	0	126	126
525-072	4717.80	7913.20	9493.70	206.0	-26.0	0	0	126	126
525-073	4717.80	7913.20	9493.70	206.0	-10.0	0	0	126	126
525-074	4717.80	7913.20	9493.70	206.0	30.0	0	0	150.6	150.6
525-075	4717.80	7913.20	9493.70	191.0	30.0	0	0	150	150
525-076	4717.80	7913.20	9493.70	171.0	30.0	0	0	150	150
525-077	4821.00	7930.00	9506.30	35.0	-18.0	0	0	60	60
525-078	4821.00	7930.00	9506.30	35.0	0.0	0	0	60	60
525-079	4821.00	7930.00	9506.00	61.1	0.0	0	0	60	60
525-080	4821.00	7930.00	9506.30	57.0	-14.0	0	0	60	60
525-081	4821.00	7930.00	9506.30	61.1	0.0	0	0	60	60
525-082	4821.00	7930.00	9506.30	61.7	14.0	0	0	60	60
525-083	4821.00	7930.00	9506.30	63.6	-10.0	0	0	90	90
525-084	4821.00	7930.00	9506.30	68.0	0.0	0	0	90	90
525-085	4821.00	7930.00	9506.30	68.0	10.0	0	0	90	90
525-086	4821.00	7927.30	9506.30	105.0	-14.0	0	0	57	57
525-087	4821.20	7927.30	9506.30	105.0	0.0	0	0	57	57
525-088	4821.20	7927.30	9506.30	105.0	14.0	0	0	72	72
525-089	4821.20	7927.30	9506.30	125.0	-27.0	0	0	40	40
525-090	4821.20	7927.30	9506.30	125.0	0.0	0	0	40	40
525-091	4821.20	7927.30	9506.30	125.0	27.0	0	0	42	42
525-092	4717.80	7913.20	9493.70	151.0	30.0	0	0	209.3	209.3
525-093	4821.20	7927.30	9506.30	171.0	30.0	0	0	189	189
525-094	4660.00	7924.60	9494.90	180.0	-38.0	0	0	141	141
525-095	4660.00	7924.60	9494.90	180.0	-29.0	0	0	132	132
525-096	4660.00	7924.60	9494.90	180.0	-20.5	0	0	120	120
525-097	4660.00	7924.60	9494.90	180.0	-12.0	0	0	120	120
525-098	4647.00	7924.80	9494.90	177.4	-40.0	0	0	135	135
525-099	4647.00	7924.80	9494.90	177.7	-30.2	0	0	135	135
525-100	4647.00	7924.80	9494.90	177.1	-19.8	0	0	135	135
525-101	4660.00	7924.60	9494.90	170.0	-42.0	0	0	141	141
525-102	4660.00	7924.60	9494.90	170.0	-35.0	0	0	141	141
525-103	4830.20	7955.50	9506.60	181.0	0.0	0	0	28	28
525-104	4840.00	7956.20	9506.60	180.0	0.0	0	0	27	27
525-105	4850.00	7956.10	9506.60	180.0	0.0	0	0	30	30
525-106	4865.20	7948.80	9506.60	180.0	0.0	0	0	29	29
525-107	4835.40	7918.60	9507.70	359.0	0.0	0	0	27	27
525-108	4845.40	7918.20	9507.70	0.0	20.0	0	0	27	27
525-109	4858.80	7919.40	9507.70	358.0	20.0	0	0	27	27
525-110	4871.20	7923.60	9503.60	0.0	0.0	0	0	10.5	10.5
525-111	4871.20	7920.60	9503.60	0.0	20.0	0	0	15	15
525-112	4871.20	7920.60	9503.60	28.0	0.0	0	0	30	30

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
525-113	4871.20	7920.60	9503.60	28.0	20.0	0	0	21	21
525-114	4617.90	7930.20	9496.50	333.0	20.0	0	0	10	10
525-115	4617.90	7930.20	9496.50	333.0	0.0	0	0	17	17
525-116	4617.90	7930.20	9496.50	333.0	-20.0	0	0	10	10
525-117	4617.90	7930.20	9496.50	319.0	20.0	0	0	20	20
525-119	4617.90	7930.20	9496.50	319.0	-13.0	0	0	21	21
525-120	4605.30	7930.50	9496.50	340.0	0.0	0	0	12	12
525-130	4582.20	7934.90	9497.00	327.0	20.0	0	0	30	30
525-131	4582.20	7934.90	9497.00	327.0	0.0	0	0	30	30
525-132	4582.20	7934.90	9497.00	327.0	-20.0	0	0	30	30
525-133	4686.70	7938.60	9497.00	327.0	20.0	0	0	30	30
525-134	4686.70	7938.60	9497.00	327.0	0.0	0	0	30	30
525-135	4686.70	7938.60	9497.00	327.0	-20.0	0	0	30	30
540-001	4561.00	7881.50	9480.00	20.0	39.0	0	0	111	111
540-002	4561.00	7881.50	9480.00	20.0	-10.0	0	0	102	102
540-003	4561.00	7881.50	9480.00	18.1	-7.0	0	0	111	111
540-004	4561.00	7881.50	9480.00	20.0	-23.0	0	0	100	100
540-005	4561.00	7881.50	9480.00	2.0	19.0	0	0	132	132
540-006	4561.00	7881.50	9480.00	2.0	-7.0	0	0	132	132
540-007	4561.00	7881.50	9480.00	2.0	-16.0	0	0	140	140
540-008	4559.00	7881.90	9480.00	342.3	24.0	0	0	102	102
540-009	4559.00	7881.90	9480.00	342.5	0.0	0	0	102	102
540-010	4559.00	7881.90	9480.00	342.8	-14.0	0	0	111	111
540-011	4578.00	7935.80	9478.80	352.0	30.0	0	0	15	15
540-011A	4548.50	7867.50	9483.00	1.0	7.0	0	0	130	130
540-012	4578.00	7935.80	9478.40	352.0	15.0	0	0	18	18
540-012A	4548.50	7867.50	9483.00	1.0	-2.0	0	0	132	132
540-013	4578.00	7935.80	9478.00	352.0	0.0	0	0	30	30
540-014	4578.00	7935.80	9477.60	352.0	-15.0	0	0	25	25
540-015	4578.00	7935.80	9477.20	352.0	-30.0	0	0	21	21
540-016	4578.10	7931.90	9478.50	189.0	20.0	0	0	20	20
540-017	4578.10	7931.90	9478.00	189.0	0.0	0	0	15	15
540-018	4578.10	7931.90	9477.50	189.0	-20.0	0	0	15	15
540-024	4548.50	7867.50	9483.00	343.0	34.0	0	0	130	130
540-025	4548.50	7867.50	9483.00	343.0	27.0	0	0	130	130
540-026	4548.50	7867.50	9483.00	343.0	14.0	0	0	130	130
540-027	4548.50	7867.50	9483.00	343.0	-5.0	0	0	130	130
540-028	4548.50	7867.50	9483.00	343.0	-18.0	0	0	130	130
540-029	4548.50	7867.50	9483.00	343.0	-27.0	0	0	177	177
540-030	4548.50	7867.50	9483.00	326.0	34.0	0	0	150	150
540-031	4548.50	7867.50	9483.00	326.0	24.0	0	0	150	150
540-032	4548.50	7867.50	9483.00	326.0	12.0	0	0	150	150

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
540-033	4548.50	7867.50	9483.00	326.0	-5.0	0	0	175	175
565-001	4729.70	7901.20	9452.00	74.0	0.0	0	0	42	42
565-002	4729.70	7901.20	9452.00	74.0	-15.0	0	0	41	41
565-003	4729.70	7901.20	9452.00	74.0	-30.0	0	0	40	40
585-001	4737.80	7914.60	9435.50	160.0	0.0	0	0	15	15
585-002	4747.50	7918.00	9435.50	160.0	0.0	0	0	15	15
585-003	4757.00	7921.30	9435.50	160.0	0.0	0	0	15.6	15.6
585-004	4766.38	7924.28	9435.50	160.0	0.0	0	0	15	15
585-005	4764.50	7929.00	9435.50	340.0	0.0	0	0	10.7	10.7
585-006	4755.00	7926.00	9435.50	340.0	0.0	0	0	15	15
585-007	4745.40	7922.80	9435.50	340.0	0.0	0	0	15	15
585-008	4735.90	7919.50	9435.50	340.0	0.0	0	0	15	15
585-009	4775.10	7929.90	9433.00	72.0	0.0	0	0	36	36
585-010	4775.10	7929.90	9433.00	35.0	0.0	0	0	40	40
585-011	4775.10	7929.90	9433.00	100.0	20.0	0	0	30	30
585-012	4775.10	7929.90	9433.00	72.0	20.0	0	0	24	24
585-013	4775.10	7929.90	9433.00	35.0	20.0	0	0	24.4	24.4
585-014	4775.10	7929.90	9433.00	100.0	20.0	0	0	24	24
585-015	4764.53	7929.00	9435.50	340.0	20.0	0	0	24	24
585-016	4755.00	7926.00	9435.50	340.0	20.0	0	0	6	6
585-017	4745.40	7922.80	9435.50	340.0	20.0	0	0	26	26
585-020	4747.50	7918.00	9435.50	160.0	20.0	0	0	30	30
585-021	4757.00	7921.30	9435.50	160.0	20.0	0	0	29.6	29.6
585-022	4766.40	7924.70	9435.50	160.0	20.0	0	0	27	27
590-001	4537.88	7938.50	9415.00	335.0	20.0	0	0	30	30
590-002	4537.88	7938.50	9415.00	335.0	0.0	0	0	30	30
590-003	4537.88	7938.50	9415.00	335.0	-20.0	0	0	30	30
590-004	4537.88	7938.50	9415.00	315.0	20.0	0	0	30	30
590-005	4537.88	7938.50	9415.00	315.0	0.0	0	0	30	30
590-006	4537.88	7938.50	9415.00	315.0	-20.0	0	0	30	30
590-007	4536.10	7957.90	9418.50	15.0	0.0	0	0	30	30
590-008	4536.10	7957.90	9418.50	30.0	0.0	0	0	30	30
590-009	4536.10	7957.90	9418.50	45.0	0.0	0	0	30	30
590-010	4536.10	7957.90	9418.50	60.0	0.0	0	0	30	30
590-011	4545.70	7930.60	9417.50	0.0	0.0	0	0	30.3	30.3
590-012	4545.70	7930.60	9417.50	20.0	0.0	0	0	30	30
590-013	4545.70	7930.60	9417.50	40.0	0.0	0	0	30	30
590-014	4545.70	7930.60	9417.50	60.0	0.0	0	0	30.5	30.5
590-016	4545.70	7930.60	9417.50	20.0	20.0	0	0	27	27
590-017	4545.70	7930.60	9417.50	40.0	20.0	0	0	21	21
590-018	4545.70	7930.60	9417.50	60.0	20.0	0	0	20.4	20.4
60-004	4941.60	7858.60	9959.00	181.0	-20.0	0	0	110.01	110.01

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
610-001	4509.10	7905.10	9399.70	338.0	1.0	0	0	126	126
610-002	4509.10	7905.10	9399.70	336.0	25.0	0	0	150	150
610-003	4510.50	7905.50	9399.70	25.0	50.0	0	0	150	150
610-004	4510.50	7905.50	9399.70	25.0	25.0	0	0	150	150
610-005	4509.10	7905.10	9399.70	25.0	0.0	0	0	150	150
610-006	4509.10	7905.10	9399.70	25.0	-25.0	0	0	150	150
610-007	4509.10	7905.10	9399.70	359.0	50.0	0	0	126	126
610-008	4509.10	7905.10	9399.70	0.0	25.0	0	0	125	125
610-009	4509.10	7905.10	9399.70	0.0	1.0	0	0	126	126
610-010	4509.10	7905.10	9399.70	358.0	-25.0	0	0	161.7	161.7
610-011	4509.10	7905.10	9399.70	328.2	10.9	0	0	126	126
610-012	4509.10	7905.10	9399.70	322.9	-15.1	0	0	150	150
610-013	4509.10	7905.10	9399.70	215.0	1.0	0	0	126	126
610-014	4509.10	7905.10	9399.70	348.0	-15.0	0	0	150	150
610-015	4509.10	7905.10	9399.70	11.0	12.0	0	0	125.3	125.3
610-016	4509.10	7905.10	9399.70	11.0	-15.0	0	0	150	150
610-017	4509.10	7905.10	9399.70	325.0	1.0	0	0	126	126
610-018	4509.10	7905.10	9399.70	348.0	1.0	0	0	126	126
610-019	4509.10	7905.10	9399.70	11.0	1.0	0	0	126	126
630-001	4705.10	7912.00	9390.00	347.0	37.0	0	0	102	102
630-002	4705.10	7912.00	9390.00	347.0	16.0	0	0	105	105
630-003	4703.20	7912.30	9390.00	341.0	22.0	0	0	105	105
630-004	4703.20	7912.30	9390.00	17.0	39.0	0	0	111	111
630-005	4703.20	7912.30	9390.00	17.0	18.0	0	0	117	117
630-006	4703.20	7912.30	9390.00	17.0	0.0	0	0	135	135
630-007	4703.20	7912.30	9390.00	23.0	33.0	0	0	115	115
630-008	4703.20	7912.30	9390.00	33.0	8.0	0	0	126	126
630-009	4703.20	7912.30	9390.00	33.0	8.0	0	0	105	105
630-010	4703.20	7912.30	9390.00	33.0	-17.0	0	0	120	120
630-011	4620.50	7942.20	9387.30	206.0	-72.0	0	0	150	150
630-012	4620.50	7942.20	9387.30	206.0	-64.0	0	0	150	150
630-013	4620.50	7942.20	9387.30	206.0	-54.0	0	0	153	153
630-014	4620.50	7942.20	9387.30	206.0	-38.0	0	0	150	150
630-015	4620.50	7942.20	9387.30	206.0	-27.0	0	0	150	150
630-016	4620.50	7942.20	9387.30	235.0	-20.0	0	0	102	102
630-017	4620.50	7942.20	9387.30	235.0	-36.0	0	0	102	102
630-018	4620.50	7942.20	9387.30	235.0	-51.0	0	0	150	150
630-019	4620.50	7942.20	9387.30	235.0	-60.0	0	0	360	360
650-008	4705.10	7834.00	9367.60	350.0	13.0	0	0	111.01	111.01
650-009	4671.00	7775.70	9365.00	350.0	13.0	0	0	15	15
650-009A	4671.00	7775.70	9365.00	350.0	13.0	0	0	237	237
650-010	4671.00	7775.70	9365.00	350.0	1.0	0	0	261	261

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
650-011	4671.00	7775.70	9365.00	350.0	-5.0	0	0	15	15
650-011a	4671.00	7775.70	9365.00	350.0	-5.0	0	0	303.1	303.1
650-015	4704.90	7834.00	9367.80	341.0	21.0	0	0	111.01	111.01
650-016	4705.00	7834.00	9367.80	8.0	38.0	0	0	120.05	120.05
650-017	4705.50	7834.00	9367.80	8.0	24.0	0	0	117.01	117.01
650-018	4705.50	7834.00	9367.60	8.0	12.0	0	0	117	117
650-019	4705.50	7834.00	9367.60	8.0	1.0	0	0	30.01	30.01
650-019a	4705.50	7834.00	9367.60	8.0	1.0	0	0	204.2	204.2
650-020	4705.30	7834.00	9367.80	359.0	25.0	0	0	117	117
650-021	4671.00	7775.70	9365.00	340.0	5.0	0	0	15	15
650-021a	4671.00	7775.70	9365.00	340.0	5.0	0	0	267	267
650-022	4705.30	7834.00	9367.60	359.0	12.0	0	0	117	117
650-023	4705.30	7834.00	9367.60	359.0	1.0	0	0	234	234
650-024	4671.00	7775.70	9365.00	340.0	12.0	0	0	276	276
650-025	4671.00	7775.70	9365.00	340.0	-2.0	0	0	15.1	15.1
650-025a	4671.00	7775.70	9365.00	340.0	-2.0	0	0	246	246
650-026a	4671.00	7775.70	9365.00	334.0	-1.0	0	0	255.01	255.01
650-027	4671.00	7775.70	9365.00	333.0	0.6	0	0	12	12
650-027a	4671.00	7775.70	9365.00	335.7	1.0	0	0	12	12
650-027b	4671.00	7775.70	9365.00	332.1	0.4	0	0	150	150
650-028	4671.00	7775.70	9365.00	330.0	-6.0	0	0	156.01	156.01
650-029	4671.00	7775.70	9365.00	330.0	-12.0	0	0	192.01	192.01
650-030	4671.00	7775.70	9365.00	324.0	-10.0	0	0	157.01	157.01
650-031	4671.00	7775.70	9365.00	334.0	-5.0	0	0	252	252
650-032	4700.36	7833.44	9368.36	2.6	19.6	0	0	162	162
650-033	4705.10	7834.00	9367.60	350.0	1.0	0	0	147.1	147.1
650-034	4705.70	7834.00	9367.90	17.0	34.0	0	0	120.01	120.01
650-035	4705.70	7834.00	9367.80	17.0	22.0	0	0	117.01	117.01
650-036	4705.70	7834.00	9367.60	17.0	11.0	0	0	117.01	117.01
650-038	4705.80	7834.00	9367.90	23.0	30.0	0	0	120.05	120.05
650-039	4705.80	7834.00	9367.80	23.0	9.5	0	0	120.05	120.05
650-042	4705.00	7834.00	9367.80	23.0	38.0	0	0	120.05	120.05
650-043	4705.30	7834.00	9367.80	359.0	44.0	0	0	117.05	117.05
650-044	4705.80	7834.00	9367.80	350.0	42.0	0	0	112.01	112.01
650-045	4705.00	7834.00	9367.80	341.0	36.0	0	0	117.05	117.05
650-046	4705.10	7834.00	9367.80	350.0	55.0	0	0	111.05	111.05
650-047	4705.00	7834.00	9367.80	8.0	55.0	0	0	120.05	120.05
650-048	4705.00	7834.00	9367.80	359.0	58.0	0	0	120.05	120.05
650-049	4700.34	7833.56	9367.16	358.8	-7.2	0	0	210	210
650-050	4705.70	7834.00	9367.80	17.0	1.0	0	0	87	87
650-051	4680.78	7830.60	9368.73	5.8	26.0	0	0	141	141
650-052	4615.40	7874.30	9369.50	261.0	1.0	0	0	15.01	15.01

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
650-052A	4615.40	7874.30	9369.50	261.0	1.0	0	0	75.01	75.01
650-053	4615.50	7874.70	9369.50	231.0	1.0	0	0	15.01	15.01
650-053A	4615.50	7874.70	9369.50	231.0	1.0	0	0	75.01	75.01
650-054	4727.00	7912.00	9368.00	106.0	14.0	0	0	165.05	165.05
650-055	4680.70	7830.65	9368.29	0.8	19.0	0	0	141	141
650-055A	4727.00	7912.00	9368.00	87.0	15.0	0	0	15.01	15.01
650-056	4680.94	7830.55	9368.04	0.0	11.0	0	0	45	45
650-056A	4680.69	7830.61	9368.06	0.0	14.0	0	0	84	84
650-057	4724.00	7916.00	9370.00	10.5	15.0	0	0	89.5	89.5
650-058	4725.00	7916.00	9370.00	10.5	-16.0	0	0	90	90
650-059	4726.00	7916.00	9370.00	30.0	30.0	0	0	90	90
650-060	4727.00	7916.00	9370.00	30.0	-25.0	0	0	90	90
650-061	4712.50	7930.00	9370.00	0.0	20.0	0	0	81	81
650-062	4712.50	7924.00	9368.00	186.0	-45.0	0	0	102	102
650-063	4612.50	7948.40	9369.80	193.0	-13.0	0	0	126	126
650-064	4612.50	7948.40	9369.80	193.0	-40.0	0	0	126.01	126.01
650-065	4612.50	7948.40	9369.80	193.0	-80.0	0	0	150.01	150.01
650-066	4612.50	7948.40	9369.80	180.0	-42.0	0	0	150	150
650-067	4612.50	7948.40	9369.80	180.0	-60.0	0	0	171	171
650-068	4612.50	7948.40	9369.80	180.0	-80.0	0	0	150	150
650-069	4612.50	7948.40	9369.80	167.8	-35.0	0	0	111	111
650-070	4612.50	7948.40	9369.80	167.0	-54.0	0	0	120	120
650-071	4687.50	7905.30	9370.00	0.0	70.0	0	0	72.01	72.01
650-072	4687.50	7905.30	9370.00	0.0	23.0	0	0	51.01	51.01
650-073	4637.50	7938.74	9370.00	180.0	-24.0	0	0	90.01	90.01
650-074	4637.50	7938.74	9370.00	180.0	-40.0	0	0	90	90
650-075	4637.50	7938.74	9370.00	180.0	-60.0	0	0	115	115
650-076	4680.65	7830.78	9367.11	0.0	-7.0	0	0	28	28
650-076A	4680.65	7830.73	9367.06	0.0	-9.0	0	0	28	28
650-076B	4680.92	7830.66	9367.05	0.0	-13.0	0	0	27	27
650-076C	4665.00	7842.30	9368.90	18.0	-12.0	0	0	225	225
650-077	4700.06	7833.50	9368.82	349.3	25.6	0	0	162.01	162.01
650-078	4700.05	7833.42	9367.92	348.2	11.9	0	0	156	156
650-079	4700.04	7833.45	9367.09	359.4	-9.8	0	0	171.01	171.01
650-080	4625.72	7838.49	9372.65	2.6	11.0	0	0	150	150
650-081	4625.78	7838.64	9373.36	2.5	24.0	0	0	156	156
650-082	4625.77	7838.46	9374.01	1.8	35.9	0	0	162	162
650-083	4706.10	7834.13	9368.51	1.6	35.0	0	0	165	165
650-084	4707.50	7834.90	9368.70	1.5	-5.0	0	0	215	215
650-085	4706.28	7835.18	9369.34	8.3	33.0	0	0	165	165
650-086	4706.37	7835.38	9367.88	10.0	10.0	0	0	168	168
650-087	4705.89	7835.16	9367.27	6.0	-5.0	0	0	216	216

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
650-088	4633.06	7835.57	9371.95	0.5	13.4	0	0	150	150
650-089	4664.70	7845.30	9368.50	0.0	45.0	0	0	201	201
650-090	4664.70	7845.30	9368.50	0.0	-23.0	0	0	200.5	200.5
650-091	4706.47	7835.31	9368.61	14.2	21.3	0	0	177	177
650-092	4706.53	7835.49	9367.19	12.0	-6.0	0	0	225	225
650-093	4666.70	7842.80	9367.70	358.0	40.0	0	0	162.01	162.01
650-094	4666.70	7842.80	9367.70	358.0	30.0	0	0	165	165
650-095	4666.70	7842.80	9367.70	358.0	-10.0	0	0	171	171
650-096	4666.70	7842.80	9367.70	6.0	12.0	0	0	171	171
650-097	4666.70	7842.80	9367.70	6.0	27.0	0	0	165	165
650-098	4666.70	7842.80	9367.70	6.0	38.0	0	0	160	160
650-099	4707.50	7834.90	9368.90	16.0	-8.0	0	0	30	30
650-099A	4707.50	7834.90	9368.90	350.0	16.0	0	0	225	225
650-100	4663.20	7842.30	9368.90	350.0	39.0	0	0	9	9
650-100A	4663.20	7842.30	9368.90	350.0	39.0	0	0	132	132
650-101	4663.20	7842.30	9368.90	348.0	46.0	0	0	135	135
650-102	4663.20	7842.30	9368.90	350.0	-9.0	0	0	132	132
650-103	4707.50	7834.90	9368.90	20.0	-5.8	0	0	201.01	201.01
650-104	4707.50	7834.90	9368.90	20.0	6.4	0	0	201.01	201.01
650-105	4707.50	7834.90	9368.90	19.4	13.1	0	0	201.01	201.01
650-106	4707.50	7834.90	9368.90	20.0	19.6	0	0	201	201
650-107	4707.50	7834.90	9368.90	24.0	-5.0	0	0	200	200
650-108	4707.50	7834.90	9368.90	24.0	8.6	0	0	201.01	201.01
650-109	4707.50	7834.90	9368.90	348.0	46.0	0	0	201.01	201.01
650-110	4707.50	7834.90	9368.90	24.0	20.0	0	0	201	201
650-111	4648.50	7846.50	9368.90	0.0	45.0	0	0	168	168
650-112	4648.50	7846.50	9368.90	0.0	33.0	0	0	174	174
650-113	4648.50	7846.50	9368.90	0.0	18.0	0	0	171	171
650-114	4648.50	7846.50	9368.90	0.0	-15.0	0	0	201	201
650-115	4648.50	7846.50	9368.90	348.0	46.0	0	0	171	171
650-116	4648.50	7846.50	9368.90	348.0	34.0	0	0	171	171
650-117	4707.50	7834.90	9368.90	24.0	26.0	0	0	225	225
650-118	4648.50	7846.50	9368.90	348.0	20.0	0	0	174	174
650-119	4707.50	7834.90	9368.90	20.0	33.0	0	0	201	201
650-120	4707.50	7834.90	9368.70	12.0	41.0	0	0	176	176
650-121	4648.50	7846.50	9368.90	348.0	66.0	0	0	225	225
650-122	4707.50	7834.90	9368.70	0.0	41.0	0	0	201.01	201.01
650-123	4648.50	7846.50	9368.90	0.0	-32.0	0	0	222	222
650-124	4700.00	7833.50	9368.70	0.0	34.0	0	0	225	225
650-125	4700.00	7833.50	9368.70	355.0	42.0	0	0	225	225
650-126	4700.00	7833.50	9368.70	355.0	-18.0	0	0	225	225
650-127	4664.70	7845.30	9368.50	0.0	-28.0	0	0	201	201

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
650-128	4664.70	7845.30	9368.50	16.7	-30.0	0	0	201	201
650-129	4664.70	7845.30	9368.50	15.0	-19.0	0	0	201	201
650-130	4687.50	7905.60	9370.20	0.0	55.0	0	0	20	20
650-131	4687.50	7905.60	9370.20	10.0	11.0	0	0	60	60
650-132	4687.50	7905.60	9369.40	10.0	11.0	0	0	65	65
650-133	4687.50	7905.60	9369.40	10.0	-15.0	0	0	72	72
650-134	4700.00	7918.36	9369.40	0.0	46.0	0	0	63	63
650-135	4700.00	7918.30	9369.40	2.0	16.0	0	0	63	63
650-136	4700.00	7918.30	9369.40	0.0	-20.0	0	0	60	60
650-137	4716.60	7912.50	9369.40	3.0	49.0	0	0	90	90
650-138	4716.60	7912.50	9369.40	3.0	16.0	0	0	102	102
650-139	4684.70	7897.90	9369.40	353.0	20.0	0	0	87	87
650-140	4684.70	7897.90	9369.40	352.0	-12.0	0	0	87.1	87.1
650-141	4684.70	7897.90	9369.40	326.0	16.0	0	0	81	81
650-142	4684.70	7897.90	9369.40	326.0	-12.0	0	0	81	81
650-143	4653.10	7894.30	9369.20	0.0	10.0	0	0	150	150
650-144	4653.10	7894.30	9369.20	0.0	-15.0	0	0	80	80
650-145	4653.10	7894.30	9369.20	0.0	-32.0	0	0	175	175
650-146	4664.70	7846.20	9369.80	20.0	50.0	0	0	150	150
650-147	4664.70	7846.20	9369.80	20.0	60.0	0	0	150	150
650-148	4665.00	7846.10	9370.00	360.0	78.0	0	0	150	150
650-149	4665.00	7846.10	9370.00	344.0	55.0	0	0	140.9	140.9
650-150	4665.00	7846.10	9370.00	343.0	65.0	0	0	150.2	150.2
650-151	4667.00	7845.50	9370.00	35.0	54.0	0	0	150	150
650-152	4665.00	7846.10	9372.40	317.0	67.0	0	0	183	183
650-153	4661.90	7845.30	9372.40	300.0	65.0	0	0	30	30
650-153A	4661.90	7845.30	9372.40	305.0	65.0	0	0	212.6	212.6
650-154	4637.50	7938.70	9370.00	170.0	-15.0	0	0	300	300
650-155	4637.50	7938.70	9370.00	170.0	-33.0	0	0	300	300
650-156	4637.50	7938.70	9370.00	169.0	-20.0	0	0	195	195
650-157	4637.50	7938.70	9370.00	169.0	-40.0	0	0	180	180
650-158	4637.50	7938.70	9370.00	174.1	-62.0	0	0	180	180
650-159	4637.50	7938.70	9370.00	180.0	-48.0	0	0	180	180
650-160	4625.00	7943.60	9370.00	180.0	-21.0	0	0	252	252
650-161	4625.00	7943.60	9370.00	180.0	-30.0	0	0	130	130
650-162	4625.00	7943.60	9370.00	180.0	-50.0	0	0	171	171
650-163	4612.50	7948.40	9370.00	180.0	-18.0	0	0	120	120
650-164	4612.50	7948.40	9370.00	180.0	-21.0	0	0	120	120
650-165	4612.50	7948.40	9370.00	180.0	-34.0	0	0	141	141
650-166	4612.50	7948.40	9370.00	180.0	-49.0	0	0	180	180
650-167	4600.00	7953.40	9370.00	180.0	-20.0	0	0	150	150
650-168	4600.00	7953.40	9370.00	180.0	-47.0	0	0	162	162

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
650-169	4625.00	7943.70	9370.00	180.0	-45.0	0	0	495	495
650-170	4625.00	7943.70	9370.00	180.0	-72.0	0	0	501	501
650-171	4637.50	7938.70	9370.00	170.0	-51.0	0	0	300	300
650-172	4675.00	7941.00	9368.00	180.0	-30.0	0	0	300	300
650-173	4675.00	7941.00	9368.00	180.0	-50.0	0	0	300	300
650-174	4675.00	7941.00	9368.00	180.0	-70.0	0	0	300	300
650-175	4675.00	7941.00	9368.00	200.0	-28.0	0	0	300	300
650-176	4675.00	7941.00	9368.00	200.0	-48.0	0	0	300	300
650-177	4675.00	7941.00	9368.00	200.0	-66.0	0	0	300	300
650-178	4675.00	7941.00	9368.00	159.0	-25.0	0	0	300	300
650-179	4675.00	7941.00	9368.00	159.0	-43.0	0	0	300	300
650-180	4675.00	7941.00	9368.00	159.0	-65.0	0	0	300	300
650-181	4675.00	7941.00	9368.00	140.0	-20.0	0	0	381	381
650-182	4675.00	7941.00	9368.00	140.0	-37.0	0	0	381	381
650-183	4675.00	7941.00	9368.00	140.0	-56.0	0	0	381	381
650-184	4675.00	7941.00	9368.00	140.0	-73.0	0	0	380	380
650-185	4675.00	7941.00	9368.00	180.0	-76.0	0	0	350	350
650-186	4675.00	7941.00	9368.00	180.0	-82.0	0	0	300	300
650-187	4675.00	7941.00	9368.00	200.0	-74.0	0	0	351	351
650-188	4675.00	7941.00	9368.00	200.0	-80.0	0	0	351	351
650-189	4675.00	7941.00	9368.00	200.0	-87.0	0	0	351	351
650-190	4675.00	7941.00	9368.00	140.0	-79.0	0	0	351	351
650-191	4675.00	7941.00	9368.00	140.0	-84.0	0	0	350	350
650-192	4675.00	7941.00	9368.00	159.0	-78.0	0	0	417	417
650-194	4643.30	7936.30	9368.00	180.0	-27.0	0	0	180	180
650-195	4643.30	7936.30	9368.00	180.0	-36.0	0	0	200	200
650-196	4643.30	7936.30	9368.00	180.0	-55.0	0	0	201	201
650-197	4643.30	7963.30	9368.00	180.0	-68.0	0	0	220	220
650-198	4643.30	7936.30	9368.00	180.0	-77.0	0	0	250	250
650-199	4643.30	7936.30	9368.00	180.0	-84.0	0	0	270	270
650-200	4589.50	7958.20	9368.00	180.0	-35.0	0	0	201	201
650-201	4589.50	7958.20	9368.00	180.0	-46.0	0	0	231	231
650-202	4589.50	7958.20	9368.00	180.0	-56.0	0	0	231	231
650-203	4589.50	7958.20	9368.00	180.0	-66.0	0	0	231	231
650-204	4589.50	7958.20	9368.00	180.0	-75.0	0	0	250	250
650-205	4589.50	7958.20	9368.00	180.0	-82.0	0	0	350	350
650-220	4589.50	7958.20	9368.00	200.0	-38.0	0	0	201	201
650-221	4589.50	7958.20	9368.00	200.0	-57.0	0	0	250	250
670-001	4559.00	7932.40	9345.00	92.0	0.0	0	0	171	171
670-002	4559.00	7932.40	9345.00	101.0	0.0	0	0	171	171
670-003	4559.00	7932.40	9345.00	110.0	0.0	0	0	171	171
670-004	4559.00	7932.40	9345.00	110.9	0.0	0	0	171	171

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
670-005	4559.00	7932.40	9345.00	119.0	0.0	0	0	171	171
670-006	4559.00	7932.40	9345.00	121.9	-20.0	0	0	171	171
670-007	4559.00	7932.40	9345.00	112.7	-20.0	0	0	177	177
670-008	4559.00	7932.40	9345.00	110.0	-20.0	0	0	171	171
670-009	4559.00	7932.40	9345.00	101.0	-20.0	0	0	174	174
670-010	4559.00	7932.40	9345.00	92.0	-20.0	0	0	171	171
670-011	4574.40	7901.80	9345.00	12.0	5.0	0	0	126	126
670-012	4574.40	7901.80	9345.00	12.0	-6.0	0	0	125	125
670-013	4574.40	7901.80	9345.00	12.0	-16.0	0	0	125	125
670-014	4574.40	7901.80	9345.00	12.0	-26.0	0	0	150	150
670-015	4574.40	7901.80	9345.00	12.0	-35.0	0	0	150	150
670-016	4574.40	7901.80	9345.00	12.0	-43.0	0	0	180	180
670-017	4574.40	7901.80	9345.00	21.0	11.0	0	0	126	126
670-018	4574.40	7901.80	9345.00	21.0	3.0	0	0	124.75	124.75
670-019	4574.40	7901.80	9345.00	21.0	-7.0	0	0	125	125
670-020	4574.40	7901.80	9345.00	21.0	-16.0	0	0	201	201
670-021	4574.40	7901.80	9345.00	21.0	-26.0	0	0	201	201
670-022	4574.40	7901.80	9345.00	21.0	-35.0	0	0	201	201
670-023	4574.40	7901.80	9345.00	32.0	11.0	0	0	150	150
670-024	4574.40	7901.80	9345.00	32.0	0.0	0	0	148	148
670-025	4574.40	7901.80	9345.00	32.0	-12.0	0	0	150	150
670-026	4574.40	7901.80	9345.00	32.0	-24.0	0	0	180	180
670-027	4574.40	7901.80	9345.00	32.0	-35.0	0	0	101.5	101.5
670-028	4574.40	7901.80	9345.00	32.0	-46.0	0	0	200	200
670-029	4574.40	7901.80	9345.00	44.0	3.0	0	0	199.4	199.4
670-031	4574.40	7901.80	9345.00	44.0	-8.0	0	0	200	200
670-032	4574.40	7901.80	9345.00	44.0	-19.0	0	0	200	200
670-033	4574.40	7901.80	9345.00	44.0	-26.0	0	0	200	200
680-001	4501.04	7430.00	9335.30	359.2	-49.5	0	0	1500	1500
680-001A	4501.04	7430.00	9335.30	359.2	-49.5	0	0	1401	1401
680-002	4395.37	7429.17	9337.33	0.5	-48.6	0	0	1507	1507
680-002A	4395.37	7429.17	9337.33	0.5	-48.6	0	0	1305.9	1305.9
730-001	4524.31	7957.60	9298.40	95.0	0.0	0	0	156	156
730-002	4524.31	7957.60	9298.40	101.0	0.0	0	0	141.2	141.2
730-003	4524.30	7957.60	9298.40	109.0	0.0	0	0	150	150
730-004	4524.30	7957.60	9298.40	128.0	0.0	0	0	150	150
730-005	4524.30	7957.60	9298.40	134.0	0.0	0	0	141	141
730-006	4524.30	7957.60	9298.40	143.0	0.0	0	0	129	129
730-007	4524.30	7957.60	9298.40	150.7	0.9	0	0	150	150
730-008	4524.30	7957.60	9298.40	166.0	0.0	0	0	150	150
90-002	4974.30	7885.70	9929.30	196.0	-58.0	0	0	104	104
90-004	4973.40	7886.60	9929.30	183.0	-43.0	0	0	96	96

Hole Number	Easting Mine Grid (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Casing Depth (m)	Start Depth (m)	Final Depth (m)	Total Drilled (m)
90-007	4974.20	7887.80	9930.80	154.0	-39.0	0	0	99.01	99.01
90-008	4978.00	7887.00	9931.00	163.0	0.0	0	0	75.01	75.01
90-009	4978.20	7887.20	9931.00	147.0	0.0	0	0	78	78
90-010	4978.40	7887.40	9931.00	127.0	0.0	0	0	36	36
90-011	4983.10	7839.20	9931.20	203.0	0.0	0	0	30	30
90-012	4984.00	7839.70	9931.20	176.0	0.0	0	0	30	30
90-013	4984.60	7840.00	9931.20	148.0	0.0	0	0	30	30
90-014	5009.70	7875.70	9931.30	140.0	0.0	0	0	12	12
90-020	5010.60	7876.20	9931.30	112.0	0.0	0	0	21	21
90-022	5021.30	7850.80	9925.00	20.0	2.0	0	0	51	51
90-023	5012.30	7850.80	9925.00	20.0	-15.0	0	0	46	46
90-024	5021.30	7850.80	9925.00	18.0	11.0	0	0	53	53
90-025	5021.30	7850.80	9925.00	18.0	21.0	0	0	53	53
90-026	5021.30	7850.80	9925.00	18.0	31.0	0	0	51	51
90-027	5007.50	7850.90	9925.00	360.0	10.0	0	0	39	39
90-028	5007.50	7850.90	9925.00	360.0	22.0	0	0	41	41
90-030	5007.50	7850.90	9925.00	360.0	-11.0	0	0	42	42
90-031	5003.50	7834.50	9935.40	179.0	5.0	0	0	129	129
90-032	5003.50	7834.50	9935.20	179.0	-18.0	0	0	126	126
90-034	5003.50	7834.50	9935.20	164.0	-22.0	0	0	15.01	15.01
90-034a	5003.50	7834.50	9935.20	164.0	-22.0	0	0	120	120
90-035	5007.50	7850.90	9925.00	180.0	1.0	0	0	25.7	25.7
90-036	5007.50	7850.90	9925.00	180.0	20.0	0	0	27	27

Total Number of Underground Diamond Drill Holes	885
Number of Underground Diamond Drill Holes Recollared	41
Number of Underground Diamond Drill Wege Splays	2
Number of Diamond Drill Holes In Progress Or Incomplete	121
Total Meters Drilled	118,632.96

Holes highlighted blue either have no assays associated with them or were incomplete at the effective cut-off date of January 31, 2012.

APPENDIX 3

TABLE 10.3 DIAMOND DRILL CORE SAMPLING SUMMARY

TABLE 10.3a: DIAMOND DRILL CORE SAMPLING SUMMARY (THUNDER CREEK)

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC03-01	167	3	0	167			167
TC03-02	170	1	0	170			170
TC03-03	105	0	0	105			105
TC03-04	74	0	0	74			74
TC03-05	138	2	0	138			138
TC03-06	128	5	0	128			128
TC03-06EXT	184	0	0	184			184
TC03-07	83	0	0	83			83
TC04-08	98	0	0	98			98
TC04-09	11	0	0	11			11
TC04-10	88	1	0	88			88
TC04-11	77	0	0	77			77
TC04-12	140	1	0	140	1		140
TC04-13	132	0	0	132			132
TC04-14	145	0	0	145			145
TC04-15	135	0	0	135			135
TC04-16	12	0	0	12			12
TC04-17	11	0	0	11			11
TC04-18	226	2	0	226			226
TC04-18EXT	111	0	0	111			111
TC04-19	267	7	0	267	1		267
TC04-50EXT	53	0	0	53			53
TC05-20	81	0	0	81			81
TC05-21	210	0	0	210			210
TC05-22	29	0	0	29			29
TC05-23	51	0	0	51			51
TC05-24	173	11	0	173	3		173
TC05-25	180	0	0	180			180
TC07-26	298	0	0	298			298
TC07-27	217	0	0	217			217
TC07-28	249	2	0	249			249
TC07-29	72	0	0	72			72
TC07-30	285	19	1	275	14	36	285
TC07-31	362	14	0	362	6		362
TC07-32	288	3	0	288	1		288
TC07-33	183	9	0	183	2		183
TC07-34	266	5	0	266	2		266
TC07-35	212	9	0	212	8		212
TC07-36	217	16	3	217	14	17	217
TC07-37	359	1	0	359			359
TC07-38	306	3	0	306	2		306

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC07-39	227	2	0	227	1		227
TC07-40	252	0	0	252			252
TC07-41	306	12	0	306	7		306
TC07-42	163	1	0	163		42	163
TC07-43	247	16	3	247	10		247
TC07-44	160	0	0	160			47
TC07-45	238	6	0	238	3		238
TC08-46	393	3	0	393	1		157
TC08-47	309	6	1	309	3		309
TC08-48	475	0	0	475			
TC08-49	369	1	0	369			
TC08-50	244	1	0	244			
TC08-51	246	0	0	246			
TC08-52	325	6	0	325	4		
TC08-53	96	0	0	96			
TC08-54	584	54	2	523	4	61	56
TC08-54A	207	28	0	166	7	41	
TC08-54B	255	14	0	255		27	
TC08-54C	186	16	0	136		50	
TC08-54D	326	46	1	326	4	78	
TC08-55	264	6	0	264	1		
TC08-56	356	11	0	356	2		
TC08-57	418	6	0	418	4		
TC08-58	246	7	0	246	5		
TC08-59	180	0	0	180			
TC08-60	386	28	0	355	4	44	31
TC08-61	354	4	0	354	1		
TC08-62	356	0	0	356			
TC08-63	467	1	0	467			
TC08-64	603	19	0	576		27	
TC08-65	492	1	0	492			
TC08-66	329	0	0	329			
TC09-67	282	0	0	282			
TC09-68	670	77	2	670	16	74	
TC09-68A	130	27	2	130		68	
TC09-68B	582	102	7	482	3	179	
TC09-68C	460	88	0	315	9	145	
TC09-68D	407	89	2	388	4	146	
TC09-68E	204	33	2	157	4	47	
TC09-68F	186	42	2	135	1	51	
TC09-69	443	60	4	442	8	48	

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC09-69A	381	72	4	326	9	127	
TC09-69B	414	37	5	348		66	
TC09-69C	405	39	1	405	4	34	
TC09-69D	231	37	0	227	17		
TC09-69E	197	42	1	197	15		
TC09-69F	542	93	2	519	34	23	
TC09-69G	287	42	4	287	21		
TC09-69H	364	17	0	364	11		
TC09-69J	100	13	0	100	8		
TC09-69K	173	10	1	173	3		
TC09-70	520	9	0	520		29	
TC09-71	768	2	0	768			
TC09-71A	617	0	0	617			
TC09-72	288	1	0	288	1		
TC09-73	594	4	0	594	1		
TC09-73A	797	2	0	797			
TC09-73B	127	0	0	127			
TC09-73C	607	20	0	603	7	4	
TC09-73D	623	15	1	623	4	8	
TC09-73E	502	30	0	501	9	22	
TC09-73F	565	3	0	565	1		
TC09-74	757	3	0	757			
TC09-75	717	5	0	717		36	
TC09-76	600	0	0	600			
TC09-77	619	2	0	619	1		
TC09-77A	28	0	0	28			
TC09-78	0						
TC09-79	524	19	0	524	2	20	
TC09-79A	454	14	0	451	1		
TC09-79B	681	1	0	680	30		
TC09-79C	283	20		283	2		
TC09-80	586	35	1	584	9	53	
TC09-80A	496	37	0	464	7	32	
TC09-80B	329	35	0	297	11	32	
TC09-80C	302	45	2	219	5	83	
TC09-80D	9	0	0	9			
TC09-80E	357	20	0	357	2		
TC09-80F	332	63	0	332	5		
TC09-81	348	7	0	345	2		
TC10-82	4	0	0	4			
TC10-83	1	0	0	1			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC10-83A	501	3	0	501	1	12	
TC10-84	219	0	0	219			
TC10-85	47	1	0	47			42
TC10-85A	504	7	0	492			313
TC10-85B	122	1	0	122			122
TC10-85C	180	2	0	180			180
TC11-101	151	0	0	151			
TC11-102	0						
TC11-103	0						
TC11-104	0						
TC11-105	0						
TC11-106	0						
TC11-107	0						
TC11-108	0						
TC11-109	0						
TC11-110	0						
TC11-111	192	2	0	144		48	
TC11-111A	101	4	0	101	2		
TC11-111B	150	12	1	150	2		
TC11-111C	46	0	0	46			
TC11-111D	149	0	0	149			
TC11-112	287	86	6	184	4	141	
TC11-112A	210	66	1	11		145	
TC11-113	290	3	0	290	1		
TC11-113A	227	24	4	227	6		
TC11-114	216	34	1	216	8		
TC11-115	277	28	0	228	5	49	
TC11-86	405	0	0	405			
TC11-87	0						
TC200-001	0						
TC200-001A	0						
TC200-001B	302	3	0	302			
TC200-002	0						
TC200-002A	211	15	1	211	10		
TC200-003	148	1	0	148			
TC200-004	174	20	3	174	6		
TC200-005	0						
TC200-005A	106	7	0	106	3		
TC200-006	108	6	0	108	4		
TC200-007	79	3	0	79			
TC200-008	104	9	1	104	4		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC200-009	0						
TC200-009A	0						
TC200-009B	73	5	0	73	1	13	
TC200-010	0						
TC200-010A	0						
TC200-010B	79	5	0	79			
TC200-011	48	9	0	48			
TC200-012	59	3	0	59			
TC200-013	45	3	0	45			
TC200-014	62	8	0	62	2		
TC200-016	51	3	0	51			
TC200-017	48	1	0	48	1		
TC200-018	35	9	0	35			
TC200-019	0						
TC200-019A	129	19	1	129	6		
TC200-020	0						
TC260-001	78	24	0	78	1		
TC260-002	104	7	0	104	1		
TC260-003	90	5	0	90	1		
TC260-004	131	19	0	131	2		
TC260-005	109	7	0	109	5		
TC260-006	81	4	1	81	1		
TC260-007	30	0	0	30			
TC260-008	33	0	1	33			
TC260-009	72	0	0	72			
TC260-010	101	0	0	101			
TC260-011	97	0	0	97			
TC260-012	34	0	0	34			
TC260-013	114	0	0	114			
TC260-014	85	1	0	85			
TC260-015	84	17	1	84	6		
TC260-016	0						
TC260-017	0						
TC260-018	0						
TC260-019	0						
TC260-020	171	2	0	171			
TC260-021	122			75			
TC260-022	0						
TC260-023	0						
TC280-001	0						
TC280-001A	33	2	0	33			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC280-002	80	11	0	80	1		
TC280-003	75	16	0	75	2		
TC280-004	88	9	0	88	1		
TC280-005	0						
TC280-005A	36	8	0	36	2		
TC280-006	42	12	0	42	1		
TC280-007	0						
TC280-007A	66	11	0	66	5		
TC280-008	40	12	0	40	1		
TC280-009	34	5	0	34			
TC280-010	6	0	0	6			
TC280-011	0						
TC280-011A	0						
TC280-011B	63	11	0	63	3		
TC280-012	53	4	0	53			
TC280-013	0						
TC280-013A	75	9	0	75	1		
TC280-014	0						
TC280-014A	0						
TC280-014B	41	2	0	41	1		
TC280-015	0						
TC280-015A	101	15	1	101	3		
TC280-016	60	11	0	60	1		
TC280-017	82	10	0	82	3		
TC280-018	0						
TC280-018A	47	18	0	47	3		
TC280-019	0						
TC280-019A	43	14	1	43	2		
TC280-020	70	3	0	70			
TC280-021	68	8	0	68	2		
TC280-022	54	8	0	54	2		
TC280-023	91	6	0	91	2		
TC280-024	43	7	0	43	1		
TC280-025	111	6	0	111	1		
TC280-026	30	3	0	30			
TC280-027	58	11	0	58	2		
TC280-028	65	1	0	65			
TC280-029	56	11	0	56	1		
TC280-030	94	10	0	94	1		
TC280-031	54	5	0	54	1		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC280-032	108	9	0	108			
TC280-033	84	6	0	84	1		
TC280-034	81	10	1	55		26	
TC280-035	72	10	0	72			
TC280-036	51	6	0	51	3		
TC280-037	58	13	0	58	1		
TC280-038	100	9	0	100			
TC280-040	42	3	0	42			
TC280-041	52	1	0	52			
TC280-042	33	7	0	33			
TC280-043	30	5	0	30	1		
TC280-044	77	2	0	77	1		
TC280-045	97	6	0	97	1		
TC280-046	99	12	0	99			
TC280-047	83	9	0	83	1		
TC280-048	69	14	1	69	5		
TC280-049	76	3	0	76			
TC280-050	62	6	0	62			
TC280-051	70	12	0	70	1		
TC280-052	94	20	0	94	2		
TC280-053	141	8	3	141	2		
TC280-054	119	10	1	119	2		
TC280-055	95	2	0	95			
TC280-056	53	9	0	53	1		
TC280-057	68	12	0	68	1		
TC280-058	36	5	0	36			
TC280-059	50	6	0	50	1		
TC280-060	67	8	0	67			
TC280-061	75	9	0	75	1		
TC280-062	43	2	0	43			
TC280-063	98	0	0	98			
TC280-064	132	3	0	132			
TC280-065	37	2	0	37			
TC280-066	81	3	0	81			
TC280-067	41	4	0	41			
TC280-068	75	12	0	75			
TC280-069	109	0	0	109			
TC280-070	180	12	0	180	1		
TC280-071	59	4	0	59	2		
TC280-072	63	1	0	63			
TC280-073	71	9	0	71	1		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC280-074	50	11	0	50	1		
TC280-075	95	7	0	95			
TC280-076	144	20	0	144			
TC280-077	113	0	0	113			
TC280-078	77	3	0	77	1		
TC280-080	81	11	0	81	1		
TC280-081	16	0	0	16			
TC280-082	23	3	0	23			
TC280-083	26	2	0	26			
TC280-084	28	1	0	28			
TC280-085	28	0	0	28			
TC280-086	10	0	0	10			
TC280-087	26						
TC280-088	22	0	0	22			
TC280-089	11	0	0	11			
TC280-090	23	6	0	23			
TC280-091	17	3	0	17			
TC280-092	75	15	0	75			
TC280-093	27	2	0	27			
TC280-094	22						
TC280-100	37	11	0	37			
TC280-101	46	8	0	46			
TC280-102	45	5	0	45			
TC280-103	33	7	0	33			
TC280-104	45	0	0	45			
TC280-105	42	7	0	42			
TC280-106	55	0	0	55			
TC280-107	44	2	0	44			
TC280-108	61	8	0	61			
TC280-109	63	0	0	63	1		
TC280-110	68	17	0	68			
TC280-111	51	2	0	51			
TC300-001	14	5	0	14			
TC300-002	16	8	0	16			
TC300-003	26	7	0	26			
TC300-004	22	9	0	22			
TC300-005	29	9	0	29			
TC300-006	28	7	0	28			
TC300-007	38	3	0	38			
TC300-008	48	8	0	48			
TC300-009	38	8	0	38			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC300-010	17	7	0	17			
TC300-011	19	10	0	19			
TC300-012	26	18	0	26			
TC300-013	32	9	0	32			
TC300-014	44	3	0	44			
TC300-015	49	11	0	44	4		
TC300-016	26	4	0	26			
TC300-017	27	6	0	27			
TC300-018	20	6	0	20			
TC300-019	31	11	0	31			
TC300-020	19	2	0	19			
TC300-021	30	8	0	30			
TC320-001	43	4	0	43			
TC320-002	65	5	0	65			
TC320-003	0						
TC320-003A	57	5	0	57			
TC320-004	37	4	0	37			
TC320-005	58	2	1	58	1		
TC320-006	52	5	0	52			
TC320-007	68	7	0	68			
TC320-008	52	9	0	52	2		
TC320-009	39	2	0	39	1		
TC320-010	70	2	0	70			
TC320-011	70	3	0	70			
TC320-012	31	3	0	31			
TC320-013	53	8	1	42		11	
TC320-014	67	9	0	59	1	8	
TC320-015	46	5	0	46	1		
TC320-016	59	4	0	59			
TC320-017	66	6	0	66			
TC320-018	35	7	0	35	1		
TC320-019	48	4	0	48	1		
TC320-020	30	3	0	30			
TC320-021	40	10	0	40			
TC320-022	65	7	0	65	1		
TC320-023	52	13	0	52	3		
TC320-024	55	8	0	55	3		
TC320-025	66	5	0	66	1		
TC320-026	32	0	0	32			
TC320-027	59	2	0	59			
TC320-028	47	4	0	47			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC320-029	58	4	0	58	1		
TC320-030	56	3	0	56	1		
TC320-031	43	1	0	43			
TC320-032	72	6	0	72			
TC320-033	54	12	0	54	2		
TC320-034	50	9	0	50	1		
TC320-035	46	7	0	46			
TC320-036	39	1	0	39			
TC320-037	62	3	0	62			
TC320-038	33	1	0	33			
TC320-039	25	1	0	25			
TC320-040	52	7	0	52			
TC320-041	45	4	0	45			
TC320-042	33	1	0	33	1		
TC320-043	45	5	0	45			
TC320-044	0						
TC320-045	59	0	0	59			
TC320-046	29	1	0	29			
TC320-047	50	3	0	50			
TC320-048	49	6	0	49	2		
TC320-049	86	5	0	86	1		
TC320-050	66	3	1	66	1		
TC320-051	38	10	0	38	2		
TC320-052	41	13	0	41	1		
TC320-053	53	14	0	53	3		
TC320-054	81	13	0	81			
TC320-055	78	14	1	78			
TC320-056	75	4	0	65			
TC320-057	68	1	0	68			
TC320-058	65	3	0	65			
TC320-059	63	7	0	51			
TC320-060	109	3	0	109			
TC320-061	79	5	0	79			
TC320-062	85	3	0	85			
TC330-001	35	10	0	35	1		
TC330-002	39	8	0	39	1		
TC330-003	33	13	0	33	2		
TC330-004	64	12	0	64	2		
TC330-005	53	4	0	53	1		
TC330-006	42	5	1	42			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC330-007	53	6	0	53			
TC330-008	69	10	0	69			
TC330-009	55	4	0	55			
TC330-010	56	1	0	56			
TC330-011	53	7	0	53			
TC330-012	54	7	0	54	1		
TC330-013	38	4	0	38			
TC330-014	48	0	0	48			
TC330-015	35	8	0	35	3		
TC330-016	55	1	0	55			
TC330-017	50	5	0	50			
TC330-018	32	7	0	32			
TC330-019	39	9	0	39	1		
TC330-020	58	5	0	58	1		
TC330-021	75	5	1	75	1		
TC330-025	53	8	1	53	3		
TC330-026	53	18	0	53	1		
TC330-027	86	16	0	86	3		
TC330-028	72	0	0	72			
TC330-029	90	18	0	90	2		
TC330-030	121	7	0	121	2		
TC330-031	67	4	0	67			
TC330-032	56	1	0	56			
TC330-033	66	3	0	66			
TC330-034	85	3	0	85			
TC330-035	85	3	0	85			
TC330-036	20	0	0	20			
TC330-037	32	0	0	32			
TC330-038	58	1	0	58			
TC330-039	97	28	3	97	10		
TC330-040	87	4	0	87			
TC330-041	72	0	0	72			
TC330-042	86	5	0	86			
TC330-043	77	0	0	77			
TC350-001	90	6	0	90			
TC350-002	41	12	1	41			
TC350-003	37	8	0	37			
TC350-004	39	12	0	39			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC650-001	227	55	4	227	7		
TC650-002	246	8	0	246			
TC650-003	234	1	0	234			
TC650-004	0						
TC650-004B	181	51	2	181	10		
TC650-005	144	32	0	144	9		
TC650-006	21	0	0	21			
TC650-007	197	40	0	197	2		
TC680-001	197	0	0	163			
TC680-002	325	0	0	325			
TC680-003	456	1	0	456			
TC680-004	401						
TC680-005	601						
TC680-006	0						
TC680-007	0						
TC680-008	0						
TC680-009	0						
TC710-001	186	40	0	186			
TC710-002	189	19	0	189			
TC710-003	214	16	0	214			
TC710-004	160	36	0	160	3		
TC710-005	130	24	2	130			
TC710-006	209	37	0	209	7		
TC710-007	221	0	0	75			
TC710-008	265						
TC710-009	0						
TC710-010	0						
TC710-011	476						
TC710-012	281	21	0	281			
TC710-013	0						
TC710-014	0						
TC710-015	0						
TC710-016	0						
TC710-017	0						
TC710-018	0						
TC710-019	0						
TC710-021	0						
TC710-022	161						
TC710-023	0						
TC710-024	191	41	0	135			
TC730-001	157	48	1	58		133	

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC730-002	101	30	0	101	8		
TC730-003	113	25	4	96		17	
TC730-004	140	63	6	140	24		
TC730-005	156	61	0	156	11		
TC730-006	123	41	0	123	4		
TC730-007	104	26	0	104	4		
TC730-008	108	27	2	108	6		
TC730-009	222	58	4	198	5	24	
TC730-010	177	75	4	177	21		
TC730-011	146	67	4	146	24		
TC730-012	141	65	8	141	20		
TC730-013	173	52	1	173	8		
TC730-014	86	31	0	86	3		
TC730-015	83	17	1	83	3		
TC730-016	84	21	1	84	2		
TC730-017	95	25	0	95	3		
TC730-018	112	31	2	112	7		
TC730-019	103	45	1	103	11		
TC730-020	92	21	3	83	3		
TC730-021	66	15	0	66	1		
TC730-022	71	26	0	71			
TC730-023	106	28	1	106	2		
TC730-024	102	8	1	102	1		
TC730-025	39	9	0	39			
TC730-026	33	3	0	33	1		
TC730-027	49	3	0	49			
TC730-028	47	4	0	47	1		
TC730-029	49	14	0	49	2		
TC730-030	608	55	2	608	4		
TC730-031	44	4	0	44	1		
TC730-032	48	4	0	48			
TC730-033	61	6	0	61			
TC730-034	57	10	0	57			
TC730-035	54	10	0	54			
TC730-036	60	4	1	60	1		
TC730-037	58	9	0	58			
TC730-038	53	12	1	53	3		
TC730-039	52	19	2	52	5		
TC730-040	56	16	0	56	2		
TC730-041	52	16	0	52	1		
TC730-042	52	21	0	52	8		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TC730-051	81	34	0	81	4		
TC730-052	77	29	4	77	7		
TCGRT-001	36	4	0	36	2		
TCGRT-002	0						
TCGRT-003	55	7	0	55			
TCGRT-004	76	6	0	76			
TCGRT-005	114	2	0	114			
TCGRT-006	0						
Totals	67,949	5,298	157	64,190	863	2,377	9,283

Highlighted diamond drill holes are incomplete at the closure of the database for the effective date of October 28, 2011.

TABLE 10.3b: DIAMOND DRILL CORE SAMPLING SUMMARY (TIMMINS DEPOSIT)

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
TG05-74D	108	0	0	108			
TG05-74E	337	17	0	274	3	63	
TG05-74F	404	40	1	364	9	40	
TG06-75P	350	2	0	243		107	
TG06-96E	24	0	0	24			
TG06-96F	0						
TG08-178B	434	8	0	394		40	
TG08-178C	345	8	0	260		85	
TG08-178D	79	0	0	79			
TG08-178E	234	15	0	136		98	
TG08-178F	459	11	0	419		40	
TG08-178G	250	8	0	228	2		
TG08-178H	6	0	0	6			
TG08-178J	271	9	0	197		74	
TG09-181	299	8	0	259		40	
110-013	0						
110-013A	5	1	0	5			
110-017	22	4	1	22	1		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
120-001	24	0	0	24			
120-002	42	0	0	42			
120-003	43	0	0	43			
120-004	8	0	0	8			
120-004a	32	2	0	32			
120-005a	39	3	0	39			
120-006	14	0	0	14			
120-006a	55	0	0	55			
120-007a	64	0	1	64	3	3	
120-008a	66	0	0	66			
120-009	34	0	0	34			
120-010	49	0	0	49			
120-011	60	0	0	60			
120-012	0						
120-012A	13	3	1	13	2		
120-013	51	4	0	51			
120-015	0						
120-015a	0						
120-015b	33	10	0	33			
120-016	6	1	0	6			
120-017	21	1	0	21			
120-018	30	0	0	30			
120-019a	34	2	0	34			
120-021	21	3	0	21			
120-022	21	5	2	21	3		
120-023	17	0	0	17			
120-025	12	0	0	12			
120-026	26	2	0	26			
120-027	0						
120-027a	13	1	1	13	1		
120-028	18	2	0	18			
140-002	28	2	0	28			
140-004a	10	0	0	10	3		
140-011	80	10	0	80	2		
140-012	62	23	1	62	2		
140-013	0						
140-014	0						
140-014a	52	23	1	52	1		
140-015	96	17	1	96	2		
140-017	41	8	0	41	1	1	
140-019	43	11	1	43	2		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
140-020	72	5	0	72			
140-021	80	2	0	80			
140-022	79	9	0	79	1		
140-023	45	3	0	45		1	
140-025	37	3	0	37			
140-026	99	0	0	99			
140-027	0						
140-027a	83	6	0	83	2	1	
150-001	11	1	0	11			
150-002	11	1	0	11			
150-003	14	1	0	14			
150-004	24	4	0	24			
150-005	11	1	0	11			
150-006	5	0	0	5			
150-007	25	2	0	25			
150-008	26	3	0	26	1		
150-009	35	5	0	35			
150-012	74	7	1	74			
150-013	110	11	0	110			
150-015	55	9	0	55			
150-016	50	9	0	50			
150-017	98	6	0	98			
150-018	47	6	0	47			
150-019	62	7	0	62			
150-020	0						
150-020A	70	7	0	70			
150-021	0						
170-001	49	18	0	49	3		
170-002	0						
170-002a	70	22	0	70	2		
170-003	83	30	1	83	4		
170-004	46	10	1	46	3		
170-005	70	19	1	70	1	1	
170-006	37	6	1	37	2	2	
170-007	72	25	0	72	3	3	
170-008	21	14	0	21	1		
170-009	45	17	1	45	1	3	
170-010	52	22	0	52			
170-011	56	17	0	56			
170-012	29	13	0	29	2	2	
170-013	44	17	0	44	2		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
170-014	28	16	1	28			
170-015	25	12	2	25			
170-016	39	11	0	39			
170-017	37	13	0	37			
180-002	69	10	0	69			
180-003	98	19	0	98			
180-004	22	4	0	22	1		
180-007	42	9	0	42			
180-008	14	3	0	14			
180-009	7	0	0	7			
180-010	10	0	0	10			
180-011	0						
180-012	8	0	0	8			
180-013	0						
180-013A	46	2	0	46			
180-014	86	13	1	86	2	3	
180-015	85	17	1	85			
180-016	93	25	0	93			
180-017	71	21	0	71			
180-018	67	12	0	67		3	
180-019	78	10	0	78			
180-020	89	12	0	89			
180-021	77	13	0	77			
180-022	74	10	0	74			
180-023	38	4	0	38			
180-024	78	6	0	78	1		
180-025	75	12	0	75		3	
180-026	40	2	0	40			
180-027	78	18	0	78			
180-028	42	6	1	42	1		
180-029	54	9	0	54	1		
180-030	35	15	0	35			
180-031	68	15	2	68			
180-032	126	22	0	126			
180-033A	79	8	0	79			
180-034	75	30	0	75			
180-035	87	21	0	87	1		
180-036	95	12	1	95			
180-037	101	20	0	101			
180-038	49	6	0	49			
180-039	83	15	0	83			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
180-040	48	11	0	48			
180-041	54	9	0	54			
180-042	46	16	0	46			
180-043	51	9	1	51	1		
180-044	38	6	0	38			
180-045	45	1	0	45			
180-046	45	9	0	45			
180-047	47	7	0	47			
180-048	40	4	0	40			
180-049	42	8	0	42			
180-050	58	0	0	58			
180-051	62	3	0	62			
180-052	65	10	0	65			
200-001	14	0	0	14			
200-002	30	19	0	30	1		
200-003	27	6	0	27			
200-004	51	18	0	51	1		
200-005	43	26	0	43	5	3	
200-006	64	26	0	64	5	1	
200-007	51	23	0	51	3	1	
200-008	59	16	0	59			
200-009	66	5	0	66	1		
20-001	56	6	0	56	1		
200-010	58	7	0	58			
20-002	107	7	0	107			
20-005	87	12	0	87	3		
20-006	48	10	1	48	2		
20-007	17	0	0	17			
20-009	56	5	0	56			
20-010	32	0	0	32			
20-011	78	0	0	78			
20-012	80	4	0	80			
20-013	0						
200-400 FUEL	0						
210-001	70	6	0	70			
210-002	25	3	0	25			
210-003	47	12	2	47			
210-004	29	8	0	29			
210-005	32	8	1	32			
210-006	26	6	0	26			
210-007	54	4	0	54			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
210-008	34	1	0	34			
210-009	54	10	0	54			
210-010	33	6	0	33			
210-011	80	16	2	80	1		
210-012	50	11	3	50	2		
210-013	43	7	0	43			
210-014	85	7	0	85			
210-015	12	1	0	12			
210-015A	48	6	0	48			
210-016	90	13	0	90			
210-017	83	8	0	83			
210-018	76	7	0	76			
210-019	88	11	0	88	1		
210-020	56	7	0	56			
210-021	86	12	0	86			
210-029	0						
210-030	74	20	0	74			
210-031	87	12	0	87	1		
210-032	0						
230-001	66	2	0	66			
230-002	72	19	0	72			
230-003	62	10	1	62			
230-004	0						
230-004A	71	14	0	71			
230-005	64	17	1	64			
230-006	59	29	1	59			
230-007	77	30	2	77			
230-008	64	23	1	64			
230-009	63	18	2	63			
230-010	55	7	0	55			
230-011	56	18	0	56			
230-012	46	26	0	46			
230-013	47	21	0	47			
230-014	42	28	2	42			
230-015	51	10	1	51			
230-016	46	19	1	46			
230-017	53	26	2	53			
230-018	33	18	0	33			
230-019	0						
230-020	0						
230-021	0						

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
230-023	0						
240-001	0						
240-001A	96	24	1	96			
240-002	92	18	0	92			
240-003	88	27	0	88	2		
240-004	50	10	0	50			
240-005	79	8	0	79			
240-006	108	10	0	108	1		
240-007A	72	10	1	72	1		
240-008	73	4	0	73			
240-009	104	15	1	104	1		
240-010	59	12	0	59	2		
240-011	93	12	0	93			
240-012	66	8	0	66	1		
240-013	175	26	0	175	4		
240-014	105	23	0	105			
240-015	119	20	0	119			
240-016	88	19	0	88	1		
240-017	100	17	0	100	2		
240-018	126	30	4	126	7		
240-019	85	15	1	85	1		
240-020	99	17	1	99	1		
240-021	132	15	0	132			
240-022	64	7	0	64			
240-028	0						
240-029	73	1	0	73			
240-030	124	0	0	124			
240-031	3	0	0	3			
260-001	59	29	0	59	1		
260-002	36	10	1	36			
260-003	46	8	1	46			
260-004	77	23	0	77	1		
260-005	59	6	0	59			
260-006	89	19	0	89			
260-007	78	15	1	78			
260-008	74	25	0	74			
260-009	41	12	0	41			
260-010	47	4	0	47			
260-011	94	23	0	94			
260-012	22	7	0	22			
260-013	28	16	1	28	1		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
260-014	0						
260-015	34	6	0	34			
260-016	0						
260-016A	0						
260-016B	63	3	0	63			
260-017	49	11	1	49	2		
260-018	24	0	0	24			
260-019	28	11	0	28			
260-020	10	0	0	10			
260-021	23	0	0	23			
260-022	56	13	1	56			
260-023	0						
260-024	75	3	0	75			
260-025	74	3	0	74			
260-026	6	0	0	6			
260-027	16	0	0	16			
260-028	18	0	0	18			
260-029	7	1	0	7			
260-030	14	0	0	14			
260-031	15	0	0	15			
260-032	8	0	0	8			
260-033	31	19	2	31	3		
260-034	64	8	0	64	2		
260-035	56	7	0	56			
260-036	51	3	0	51			
260-037	50	16	0	50			
260-038	95	10	0	95	1		
260-039	65	10	0	65			
260-040	60	8	1	60	1		
260-041	48	15	2	48	1		
260-042	0						
260-043	0						
260-044	102	21	1	102	4		
260-045	68	4	0	68			
260-046	0						
260-047	0						
260-048	0						
260-049	0						
260-050	0						
260-051	0						
260-052	0						

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics As	Analysis aa Au
260-053	0						
260-054	0						
260-055	0						
260-056	82	12	0	82			
260-057	0						
260-058	0						
260-059	0						
260-060	34	0	0	34			
260-061	0						
260-062	0						
260-065	0						
270-001	27	1	0	27			
270-002	25	3	0	25			
270-003	25	2	0	25			
270-004	32	8	0	32			
270-005	64	9	1	64	1		
270-006	66	7	0	66			
270-007	54	4	1	54	1		
270-008	46	1	0	46			
270-009	41	4	0	41			
270-010	61	13	0	61			
270-011	43	6	0	43			
270-012	44	5	0	44			
270-013	40	9	0	40			
270-014	40	19	0	40			
270-015	62	18	0	62			
270-016	75	7	0	75			
270-017	67	15	0	67			
270-018	55	7	0	55			
270-019	57	9	0	57			
270-020	73	14	0	73			
270-021	57	10	0	57			
270-024	89	11	1	89	1		
270-025	37	8	0	37			
270-026	78	9	1	78	1		
270-027	54	9	0	54			
270-028	38	10	0	38	1		
270-029	47	9	0	47			
270-030	68	11	0	68			
270-031	87	17	1	87	1		
270-032	105	21	0	105			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
400 FUEL	0						
40-024	27	0	0	27			
40-025	0						
40-027	34	0	0	34			
40-044	64	0	0	64			
40-045	81	3	0	81			
40-046	31	1	0	31			
40-047	0						
480-001	97	9	0	97	1		31
480-002	98	15	0	98	1		
480-003	71	31	0	71			
480-004	85	19	0	85			
480-006	133	14	0	133	1		
480-007	129	3	0	129			
480-008	151	0	0	151			
480-009	51	7	0	51			
480-010	200	25	1	200			
480-011	207	32	0	207	1		
480-012	134	30	0	134			
480-013	177	26	1	177	2		
480-014	98	5	0	98			
480-015	86	2	0	86			
480-016	99	5	0	99			
480-017	93	4	0	93	1		
480-018	204	6	1	204	1		
480-019	194	0	0	194			
480-020	150	7	0	150			
480-021	177	21	0	177			
480-026	0						
480-027	0						
500-001	115	29	0	115			
500-002	117	45	1	117			
500-003	106	25	0	106			
500-004	96	23	0	96			
500-005	114	26	0	114			
500-006	104	35	0	104			
500-007	84	39	0	84			
500-008	80	19	0	80			
500-009	106	25	0	106			
500-010	83	13	0	83			
500-011	104	25	1	104	3		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
500-012	118	29	0	118	1		
500-013	0						
500-036	0						
500-037	0						
500-038	0						
500-039	0						
500-040	0						
500-041	0						
525-001	36	2	0	36			
525-003	55	4	0	55			
525-004	143	36	0	143	3		
525-007	32	0	0	32			
525-008	62	6	1	62	1		
525-011	78	8	0	78			
525-012	41	6	0	41			
525-014	0						
525-015	62	11	0	62			
525-016	55	15	0	55	1		
525-017	42	10	0	42	1		
525-018	48	6	0	48			
525-019	55	10	0	55			
525-020	44	5	0	44			
525-021	53	3	0	53			
525-023	27	0	0	27			
525-024	65	3	0	65	1		
525-025	38	1	0	38			
525-026	64	1	1	64	1		
525-027	30	5	0	30		2	
525-029	92	0	0	92			
525-030	86	1	0	86			
525-031	97	0	0	97			
525-032	153	1	0	153			
525-033	169	0	0	169			
525-034	44	5	0	44	2		
525-035	62	10	0	62	3		
525-036	57	7	1	57	2		
525-037	44	7	0	44			
525-038	56	2	0	56			
525-039	40	8	0	40			
525-040	55	10	0	55	2		
525-041	67	15	0	67	3		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
525-042	114	5	1	114	2		
525-043	76	0	0	76			
525-044	46	6	0	46			
525-045	39	4	0	39			
525-046	47	11	1	47	3		
525-047	22	0	0	22			
525-048	11	2	1	11	2		
525-049	60	5	0	60			
525-050	41	19	2	41	3		
525-051	23	4	0	23	1		
525-052	23	7	0	23			
525-053	65	8	0	65			
525-054	55	8	0	55	1		
525-055	41	13	0	41	2		
525-056	40	15	1	40	3		
525-057	64	9	2	64	2		
525-058	31	5	0	31			
525-059	55	7	0	55			
525-060	57	10	0	57			
525-061	48	16	4	48	10		
525-062	60	13	1	60	4		
525-063	56	12	0	56			
525-064	47	8	0	47			
525-065	25	0	0	25			
525-066	69	28	0	69	5		
525-067	69	16	2	69	2		
525-068	77	23	1	77	8		
525-069	55	28	1	55	10		
525-070	63	11	0	63	4		
525-071	71	30	1	71	7		
525-072	67	19	1	67	3		
525-073	13	0	0	13			
525-074	0						
525-075	10	0	0	10			
525-076	17	1	0	17			
525-077	61	23	0	61			
525-078	49	17	1	49	2		
525-079	68	3	0	68			
525-080	56	14	0	56	1		
525-081	68	24	0	68			
525-082	71	6	0	71			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
525-083	79	16	0	79			
525-084	94	18	0	94			
525-085	70	24	0	70			
525-086	36	8	0	36			
525-087	53	16	0	53			
525-088	37	24	0	37			
525-089	51	18	0	51			
525-090	26	9	0	26			
525-091	15	0	0	15			
525-092	22	2	0	22			
525-093	13	0	0	13			
525-094	89	3	0	89			
525-095	39	1	0	39			
525-096	46	1	0	46			
525-097	62	1	0	62			
525-098	51	0	0	51			
525-099	43	2	0	43			
525-100	47	3	0	47			
525-101	117	44	2	117	9		
525-102	104	22	3	104	6		
525-103	25	1	0	25			
525-104	26	10	0	26			
525-105	38	26	0	38	2		
525-106	41	19	0	41			
525-107	25	3	0	25			
525-108	31	11	0	31			
525-109	31	20	0	31			
525-110	14	5	0	14			
525-111	26	11	0	26			
525-112	22	9	0	22			
525-113	21	5	0	21			
525-114	0						
525-115	0						
525-116	0						
525-117	29	6	1	29	1		
525-119	15	0	0	15			
525-120	0						
525-130	0						
525-131	0						
525-132	0						
525-133	0						

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
525-134	0						
525-135	0						
540-001	23	1	0	23			
540-002	26	5	1	26	1		
540-003	34	8	0	34			
540-004	70	5	0	70			
540-005	6	1	0	6			
540-006	36	4	0	36			
540-007	36	7	0	36			
540-008	0						
540-009	26	4	0	26			
540-010	24	0	0	24			
540-011	14	5	0	14			
540-011A	54	6	1	54	2		
540-012	16	1	0	16			
540-012A	31	3	0	31			
540-013	33	3	0	33			
540-014	32	5	0	32			
540-015	23	3	0	23	1		
540-016	21	0	0	21			
540-017	19	0	0	19			
540-018	16	1	0	16			
540-024	0						
540-025	0						
540-026	0						
540-027	0						
540-028	0						
540-029	0						
540-030	0						
540-031	0						
540-032	0						
540-033	0						
565-001	49	9	0	49			
565-002	48	4	0	48			
565-003	48	1	0	48			
585-001	12	4	0	12			
585-002	15	4	0	15			
585-003	12	3	0	12			
585-004	16	4	0	16			
585-005	12	2	0	12			
585-006	13	2	0	13			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
585-007	13	6	0	13			
585-008	16	5	0	16			
585-009	13	2	0	13			
585-010	39	6	0	39			
585-011	9	3	0	9			
585-012	21	3	0	21			
585-013	27	1	0	27			
585-014	12	6	0	12			
585-015	9	2	0	9			
585-016	6	3	0	6			
585-017	29	9	0	29			
585-020	19	8	1	19	1		
585-021	13	0	0	13			
585-022	7	0	0	7			
590-001	22	1	0	22			
590-002	27	4	0	27			
590-003	13	2	0	13			
590-004	15	0	0	15			
590-005	32	5	0	32			
590-006	0						
590-007	33	1	0	33			
590-008	41	1	0	41			
590-009	39	0	0	39			
590-010	33	0	0	33			
590-011	38	3	0	38			
590-012	36	0	0	36			
590-013	38	1	0	38			
590-014	37	0	0	37			
590-016	28	2	0	28			
590-017	37	5	1	37	1		
590-018	25	0	0	25			
60-004	79	7	0	79			
610-001	31	7	1	31	2		
610-002	18	1	0	18			
610-003	11	0	0	11			
610-004	23	4	0	23	2		
610-005	47	0	0	47			
610-006	25	3	0	25			
610-007	25	0	0	25			
610-008	17	4	0	17	2		
610-009	51	1	0	51			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
610-010	39	0	0	39			
610-011	29	0	0	29			
610-012	19	1	0	19			
610-013	20	1	0	20			
610-014	29	2	0	29			
610-015	39	5	0	39			
610-016	33	2	1	33	1		
610-017	6	0	0	6			
610-018	33	4	1	33	1		
610-019	5	0	0	5			
630-001	54	11	0	54	1		
630-002	42	11	1	42	2		
630-003	72	23	2	72	5		
630-004	86	27	0	86			
630-005	65	17	0	65	1		
630-006	105	19	0	105			
630-007	99	14	0	99	1		
630-008	84	28	0	84	1		
630-009	91	20	1	91	1		
630-010	91	24	1	91	3		
630-011	193	62	3	193	6		
630-012	0						
630-013	0						
630-014	0						
630-015	57	4	0	57			
630-016	0						
630-017	0						
630-018	0						
630-019	166	54	3	166	5		
650-008	99	35	2	99	12		
650-009	0						
650-009A	52	11	0	52	5		
650-010	117	18	0	117	1		
650-011	0						
650-011a	97	15	0	97			
650-015	36	19	1	36	4	8	
650-016	58	25	1	58	5	5	
650-017	24	11	0	24	6		
650-018	38	8	0	38	2		
650-019	19	0	0	19			
650-019a	81	29	1	81	10		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
650-020	73	30	0	73	6		
650-021	0						
650-021a	62	17	1	62	4		
650-022	43	19	0	43	6	6	
650-023	76	27	0	76	8		
650-024	51	5	0	51		1	
650-025	0						
650-025a	135	42	1	135	4		
650-026a	142	37	3	142	9		
650-027	0						
650-027a	70	20	0	70	3		
650-027b	70	20	0				
650-028	80	23	0	80	6	3	
650-029	87	25	0	87	5		
650-030	53	0	0	53			
650-031	87	29	0	87	4		
650-032	68	37	1	68	7		
650-033	68	41	1	68	4		
650-034	49	26	1	49	5		
650-035	40	13	1	40	3		
650-036	56	27	1	56	3		
650-038	52	22	0	52	5		
650-039	37	12	0	37		2	
650-042	41	11	0	41	4		
650-043	61	32	4	61	16	16	
650-044	58	27	2	58	10		
650-045	48	30	4	48	12	12	
650-046	58	17	1	58	3	3	
650-047	41	18	0	41	1	1	
650-048	57	15	0	57			
650-049	83	25	0	83	4		
650-050	38	0	0	38			
650-051	87	30	1	87	11		
650-052	5	0	0	5			
650-052A	7	0	0	7			
650-053	6	0	0	6			
650-053A	6	0	0	6			
650-054	3	1	0	3			
650-055	63	33	1	63			
650-055A	5	1	0	5	4		
650-056	0						

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
650-056A	53	21	0	53			
650-057	50	22	0	50	4		
650-058	50	9	0	50			
650-059	25	9	0	25			
650-060	15	5	0	15			
650-061	63	18	1	63	5		
650-062	8	4	0	8			
650-063	56	7	0	56	1		
650-064	101	21	2	101	3		
650-065	93	36	2	93	4		
650-066	73	16	3	73	4		
650-067	74	22	0	74			
650-068	108	41	1	108	6		
650-069	71	15	0	71	2		
650-070	87	25	0	87	4	3	
650-071	92	16	0	92	3		
650-072	26	5	0	26	1		
650-073	51	14	1	51	3		
650-074	40	7	2	40	6		
650-075	49	11	0	49	1		
650-076	7	0	0	7			
650-076A	0						
650-076B	0						
650-076C	136	47	1	136	7		
650-077	97	30	2	97	8		
650-078	71	40	5	71	10		
650-079	83	40	1	83	12		
650-080	63	6	0	63	1		
650-081	47	2	0	47	1		
650-082	35	0	0	35			
650-083	61	19	0	61	7		
650-084	45	21	0	45	3	1	
650-085	88	32	1	88	4		
650-086	72	22	1	72	3		
650-087	95	24	0	95	6		
650-088	77	17	0	77			
650-089	84	28	1	84	4		
650-090	106	44	1	106	7		
650-091	118	39	4	118	16		
650-092	147	23	0	147	1		
650-093	110	32	0	110	10	8	

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
650-094	90	29	2	90	11	8	
650-095	96	22	1	96	9		
650-096	120	49	5	120	19		
650-097	93	41	3	93	9		
650-098	90	24	1	90	5		
650-099	0						
650-099A	83	11	0	83	2		
650-100	0						
650-100A	82	29	2	82	7		
650-101	93	21	1	93	6	6	
650-102	100	19	0	100	4		
650-103	39	6	0	39			
650-104	114	21	0	114	4		
650-105	105	37	0	105	5		
650-106	122	36	3	122	8		
650-107	26	0	0	26			
650-108	99	2	0	99			
650-109	131	9	0	131			
650-110	63	9	0	63	1		
650-111	106	26	1	106	6		
650-112	117	12	2	117	6		
650-113	79	16	0	79	1		
650-114	95	27	0	95	5		
650-115	67	11	0	67	2		
650-116	90	9	0	90	3		
650-117	120	29	0	120	4		
650-118	88	14	0	88	1		
650-119	87	30	1	87	6		
650-120	75	11	0	75	3		
650-121	44	9	0	44	2		
650-122	109	14	0	109	1		
650-123	136	24	2	136	6		
650-124	86	14	0	86	3		
650-125	87	25	5	87	11		
650-126	114	45	3	114	8		
650-127	151	74	7	151	25		
650-128	68	9	0	68			
650-129	180	45	0	180	7		
650-130	15	0	0	15			
650-131	49	16	0	49	1		
650-132	75	30	1	75	7		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
650-133	65	27	3	65	11		
650-134	47	17	0	47	2		
650-135	47	13	0	47	1		
650-136	39	12	0	39	2		
650-137	69	18	0	69	5		
650-138	54	11	0	54			
650-139	66	8	0	66	1		
650-140	73	38	1	73	7		
650-141	64	15	0	64	1		
650-142	75	18	0	75	3		
650-143	0						
650-144	0						
650-145	0						
650-146	66	22	3	66	12		
650-147	61	16	1	61	3		
650-148	74	20	1	74	9		
650-149	48	17	2	48	6		
650-150	64	17	1	64	3		
650-151	102	35	1	102	4		
650-152	45	15	0	45	3		
650-153	0						
650-153A	24	0	0	24			
650-154	69	27	0	69	8		
650-155	53	14	0	53	4		
650-156	57	25	3	57	8		
650-157	0						
650-158	0						
650-159	0						
650-160	0						
650-161	0						
650-162	71	14	2	71	8		
650-163	109	20	1	109	2		
650-164	100	23	0	100			
650-165	99	12	0	99			
650-166	124	29	0	124	3		
650-167	114	22	0	114			
650-168	128	13	0	128	2		
650-169	100	26	1	100	7		
650-170	244	51	2	244	10		
650-171	65	14	2	65	2		
650-172	65	19	1	65	1		

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
650-173	100	21	0	100	3		
650-174	97	29	4	97	4		
650-175	82	13	0	82	2		
650-176	87	8	0	87	1		
650-177	79	33	5	79	10		
650-178	74	17	0	74	1		
650-179	68	19	0	68	2		
650-180	247	48	2	247	7		
650-181	107	13	0	107	2		
650-182	174	20	1	174	4		
650-183	160	24	0	160	4		
650-184	235	11	0	235	3		
650-185	193	45	2	193	11		
650-186	209	31	0	209	4		
650-187	157	21	1	157			
650-188	0						
650-189	0						
650-190	203	15	1	203	3		
650-191	0						
650-192	228	44	0	228	4		
650-194	70	10	0	70	1		
650-195	68	13	0	68			
650-196	81	8	1	81	2		
650-197	106	7	0	106			
650-198	0						
650-199	0						
650-200	127	21	0	127			
650-201	141	0	0	141			
650-202	0						
650-203	0						
650-204	0						
650-205	0						
650-220	0						
650-221	0						
670-001	84	28	1	84	5		
670-002	136	37	0	136	11		
670-003	140	18	1	140	1		
670-004	120	11	0	120			
670-005	103	5	0	103	1		
670-006	116	18	0	116	1		
670-007	112	21	0	112			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
670-008	115	21	0	115	1		
670-009	149	16	0	149			
670-010	0						
670-011	123	11	0	123			
670-012	127	19	0	127			
670-013	104	15	0	104	1		
670-014	144	7	0	144			
670-015	152	0	0	152			
670-016	185	0	0	185			
670-017	131	5	0	131			
670-018	129	20	0	129			
670-019	90	0	0	90			
670-020	139	0	0	139			
670-021	0						
670-022	156	0	0	156			
670-023	116	0	0	116			
670-024	153	0	0	153			
670-025	82	0	0	82			
670-026	142	0	0	142			
670-027	0						
670-028	0						
670-029	116	0	0	116			
670-031	0						
670-032	0						
670-033	0						
680-001	237	0	0	237			
680-001A	101	0	0	101			
680-002	332	1	0	332			
680-002A	68	0	0	68			
730-001	134	3	0	134			
730-002	95	21	0	95			
730-003	120	7	0	120			
730-004	110	17	1	110	3		
730-005	157	26	2	157	4		
730-006	108	0	0	108			
730-007	0						
730-008	0						
90-002	65	5	0	65			
90-004	87	3	0	87			
90-007	106	9	0	106			
90-008	61	1	0	61			

Hole Number	Number of Samples	Number Assays ≥ 1 g/tonne Au	Number of Assays ≥ 34.29 g/tonne Au	Analysis FA aa Au	Analysis FA g Au	Analysis metallics Au	Analysis aa As
90-009	43	2	1	43		1	
90-010	20	4	1	20	1	1	
90-011	23	1	0	23			
90-012	24	1	0	24	1		
90-013	24	0	0	24			
90-014	0						
90-020	0						
90-022	33	1	0	33			
90-023	22	0	0	22			
90-024	38	4	0	38	2		
90-025	40	3	0	40	1		
90-026	29	2	0	29	1		
90-027	20	1	0	20			
90-028	24	1	0	24			
90-030	22	1	0	22	1		
90-031	76	8	0	76			
90-032	82	2	0	82			
90-034	3	0	0	3			
90-034a	50	0	0	50			
90-035	5	0	0	5			
90-036	4	0	0	4			
Totals	52,203	8,977	274	51,524	1,080	705	31

Highlighted diamond drill holes are incomplete (or have no assay data) at the closure of the database for the effective date of January 31, 2012.

APPENDIX 4

TABLE 10.4: DIAMOND DRILL HOLES NOT USED IN THE BLOCK MODEL

TABLE 10.4: DIAMOND DRILL HOLES NOT USED IN THE BLOCK MODEL

Hole Number	Comment
TC09-78	Hole was abandoned due to extreme deviation, no samples taken.
TC11-102	Hole to test area of vent raise, no samples taken.
TC11-103	Hole to test area of vent raise, no samples taken.
TC11-104	Hole to test area of vent raise, no samples taken.
TC11-105	Hole to test area of vent raise, no samples taken.
TC11-106	Hole to test area of vent raise, no samples taken.
TC11-107	Hole to test area of vent raise, no samples taken.
TC11-108	Hole to test area of vent raise, no samples taken.
TC11-109	Hole to test area of vent raise, no samples taken.
TC11-110	Hole to test area of vent raise, no samples taken.
TC11-87	Drill hole is being processed, geology and assays pending.
TC200-001	Hole was abandoned due to extreme deviation, no samples taken.
TC200-001A	Hole was abandoned due to extreme deviation, no samples taken.
TC200-002	Hole was abandoned due to extreme deviation, no samples taken.
TC200-005	Hole was abandoned due to extreme deviation, no samples taken.
TC200-009	Hole was abandoned due to extreme deviation, no samples taken.
TC200-009A	Hole was abandoned due to extreme deviation, no samples taken.
TC200-010	Hole was abandoned due to extreme deviation, no samples taken.
TC200-010A	Hole was abandoned due to extreme deviation, no samples taken.
TC260-016	Drill hole is being processed, geology and assays pending.
TC260-017	Drill hole is being processed, geology and assays pending.
TC206-018	Hole was abandoned due to extreme deviation, no samples taken.
TC206-019	Hole was abandoned due to extreme deviation, no samples taken.
TC206-022	Drill hole is being processed, geology and assays pending.
TC206-023	Drill hole is being processed, geology and assays pending.
TC280-005	Hole was abandoned due to extreme deviation, no samples taken.
TC280-007	Hole was abandoned due to extreme deviation, no samples taken.
TC280-011	Hole was abandoned due to extreme deviation, no samples taken.
TC280-011A	Hole was abandoned due to extreme deviation, no samples taken.
TC280-013	Hole was abandoned due to extreme deviation, no samples taken.
TC280-014	Hole was abandoned due to extreme deviation, no samples taken.
TC280-014A	Hole was abandoned due to extreme deviation, no samples taken.
TC280-015	Hole was abandoned due to extreme deviation, no samples taken.
TC280-018	Hole was abandoned due to extreme deviation, no samples taken.
TC280-019	Hole was abandoned due to extreme deviation, no samples taken.
TC280-087	Drill hole is being processed, geology and assays pending.
TC280-094	Drill hole is being processed, geology and assays pending.
TC300-015	Drill hole is being processed, geology and assays pending.
TC320-003	Hole was abandoned due to extreme deviation, no samples taken.
TC320-044	Hole was abandoned due to extreme deviation, no samples taken.
TC320-056	Drill hole is being processed, geology and assays pending.
TC680-004	Drill hole is being processed, geology and assays pending.
TC680-005	Drill hole is being processed, geology and assays pending.
TC680-006	Drill hole is being processed, geology and assays pending.
TC680-007	Drill hole is being processed, geology and assays pending.

Hole Number	Comment
TC680-008	Drill hole is being processed, geology and assays pending.
TC680-009	Drill hole is being processed, geology and assays pending.
TC710-007	Drill hole is being processed, geology and assays pending.
TC710-008	Drill hole is being processed, geology and assays pending.
TC710-009	Drill hole is being processed, geology and assays pending.
TC710-010	Drill hole is being processed, geology and assays pending.
TC710-011	Drill hole is being processed, geology and assays pending.
TC710-013	Drill hole is being processed, geology and assays pending.
TC710-014	Drill hole is being processed, geology and assays pending.
TC710-015	Drill hole is being processed, geology and assays pending.
TC710-016	Drill hole is being processed, geology and assays pending.
TC710-017	Drill hole is being processed, geology and assays pending.
TC710-018	Drill hole is being processed, geology and assays pending.
TC710-019	Drill hole is being processed, geology and assays pending.
TC710-020	Drill hole is being processed, geology and assays pending.
TC710-021	Drill hole is being processed, geology and assays pending.
TC710-023	Drill hole is being processed, geology and assays pending.
TC730-020	Drill hole is being processed, geology and assays pending.
TCGRT-002	A grout hole, no samples taken.
TCGRT-006	A grout hole, no samples taken.
TG06-96F	Hole shut down indefinitely @ 770m; designed to target ultramafic zone west of the existing resource on section 4350E
110-013	Hole was abandoned due to extreme deviation, no samples taken.
120-012	Hole was abandoned due to extreme deviation, no samples taken.
120-015	Hole was abandoned due to extreme deviation, no samples taken.
120-015a	Hole was abandoned due to extreme deviation, no samples taken.
120-027	Hole was abandoned due to extreme deviation, no samples taken.
140-013	Hole was abandoned due to extreme deviation, no samples taken.
140-014	Hole was abandoned due to extreme deviation, no samples taken.
140-027	Hole was abandoned due to extreme deviation, no samples taken.
150-020	Hole was abandoned due to extreme deviation, no samples taken.
150-021	No assays taken
170-002	Drill hole is being processed, geology and assays pending.
180-011	No assays taken
180-013	Drill hole is being processed, geology and assays pending.
20-013	Hole was abandoned due to extreme deviation, no samples taken.
200-400 FUEL	Service Hole (no assays)
210-029	Drill hole is being processed, geology and assays pending.
210-032	Drill hole is being processed, geology and assays pending.
230-004	Hole was abandoned due to extreme deviation, no samples taken.
230-019	No assays taken
230-020	No assays taken
230-021	No assays taken
230-023	Drill hole is being processed, geology and assays pending.
240-001	Hole was abandoned due to extreme deviation, no samples taken.
240-028	Drill hole is being processed, geology and assays pending.
260-014	No assays taken

Hole Number	Comment
260-016	Hole was abandoned due to extreme deviation, no samples taken.
260-016A	Hole was abandoned due to extreme deviation, no samples taken.
260-023	No assays taken
260-042	Drill hole is being processed, geology and assays pending.
260-043	Drill hole is being processed, geology and assays pending.
260-046	Drill hole is being processed, geology and assays pending.
260-047	Drill hole is being processed, geology and assays pending.
260-048	Drill hole is being processed, geology and assays pending.
260-049	Drill hole is being processed, geology and assays pending.
260-050	Drill hole is being processed, geology and assays pending.
260-051	Drill hole is being processed, geology and assays pending.
260-052	Drill hole is being processed, geology and assays pending.
260-053	Drill hole is being processed, geology and assays pending.
260-054	Drill hole is being processed, geology and assays pending.
260-055	Drill hole is being processed, geology and assays pending.
260-057	Drill hole is being processed, geology and assays pending.
260-058	Drill hole is being processed, geology and assays pending.
260-059	Drill hole is being processed, geology and assays pending.
260-060	Drill hole is being processed, geology and assays pending.
260-061	Drill hole is being processed, geology and assays pending.
260-062	Drill hole is being processed, geology and assays pending.
260-065	Drill hole is being processed, geology and assays pending.
400 FUEL	Service Hole (not logged)
40-025	Hole was abandoned due to extreme deviation, no samples taken.
40-047	Drill hole is being processed, geology and assays pending.
480-013	Drill hole is being processed, geology and assays pending.
480-016	Drill hole is being processed, geology and assays pending.
480-019	Drill hole is being processed, geology and assays pending.
480-020	Drill hole is being processed, geology and assays pending.
480-021	Drill hole is being processed, geology and assays pending.
480-026	Drill hole is being processed, geology and assays pending.
480-027	Drill hole is being processed, geology and assays pending.
500-013	Drill hole is being processed, geology and assays pending.
500-036	Drill hole is being processed, geology and assays pending.
500-037	Drill hole is being processed, geology and assays pending.
500-038	Drill hole is being processed, geology and assays pending.
500-039	Drill hole is being processed, geology and assays pending.
500-040	Drill hole is being processed, geology and assays pending.
500-041	Drill hole is being processed, geology and assays pending.
525-014	No assays taken
525-074	No assays taken
525-114	Drill hole is being processed, geology and assays pending.
525-115	Drill hole is being processed, geology and assays pending.
525-116	Drill hole is being processed, geology and assays pending.
525-120	Drill hole is being processed, geology and assays pending.
525-130	Drill hole is being processed, geology and assays pending.
525-131	Drill hole is being processed, geology and assays pending.

Hole Number	Comment
525-132	Drill hole is being processed, geology and assays pending.
525-133	Drill hole is being processed, geology and assays pending.
525-134	No assays taken
525-135	Drill hole is being processed, geology and assays pending.
540-008	No assays taken
540-024	Drill hole is being processed, geology and assays pending.
540-025	Drill hole is being processed, geology and assays pending.
540-026	Drill hole is being processed, geology and assays pending.
540-027	Drill hole is being processed, geology and assays pending.
540-028	Drill hole is being processed, geology and assays pending.
540-029	Drill hole is being processed, geology and assays pending.
540-030	Drill hole is being processed, geology and assays pending.
540-031	Drill hole is being processed, geology and assays pending.
540-032	Drill hole is being processed, geology and assays pending.
540-033	Drill hole is being processed, geology and assays pending.
590-006	Drill hole is being processed, geology and assays pending.
630-012	Drill hole is being processed, geology and assays pending.
630-013	Drill hole is being processed, geology and assays pending.
630-014	Drill hole is being processed, geology and assays pending.
630-016	Drill hole is being processed, geology and assays pending.
630-017	Drill hole is being processed, geology and assays pending.
630-018	Drill hole is being processed, geology and assays pending.
650-009	Drill hole is being processed, geology and assays pending.
650-011	Hole was abandoned due to extreme deviation, no samples taken.
650-021	Hole was abandoned due to extreme deviation, no samples taken.
650-025	Hole was abandoned due to extreme deviation, no samples taken.
650-027	Hole was abandoned due to extreme deviation, no samples taken.
650-027a	Hole was abandoned due to extreme deviation, no samples taken.
650-056	Hole was abandoned due to extreme deviation, no samples taken.
650-076A	Hole was abandoned due to extreme deviation, no samples taken.
650-076B	Hole was abandoned due to extreme deviation, no samples taken.
650-099	Hole was abandoned due to extreme deviation, no samples taken.
650-100	Hole was abandoned due to extreme deviation, no samples taken.
650-143	Drill hole is being processed, geology and assays pending.
650-144	Drill hole is being processed, geology and assays pending.
650-145	Drill hole is being processed, geology and assays pending.
650-153	Hole was abandoned due to extreme deviation, no samples taken.
650-157	Drill hole is being processed, geology and assays pending.
650-158	Drill hole is being processed, geology and assays pending.
650-159	Drill hole is being processed, geology and assays pending.
650-160	Drill hole is being processed, geology and assays pending.
650-161	Drill hole is being processed, geology and assays pending.
650-167	Drill hole is being processed, geology and assays pending.
650-174	Drill hole is being processed, geology and assays pending.
650-188	Drill hole is being processed, geology and assays pending.
650-189	Drill hole is being processed, geology and assays pending.
650-190	Drill hole is being processed, geology and assays pending.

Hole Number	Comment
650-191	Drill hole is being processed, geology and assays pending.
650-197	Drill hole is being processed, geology and assays pending.
650-198	Drill hole is being processed, geology and assays pending.
650-199	Drill hole is being processed, geology and assays pending.
650-200	Drill hole is being processed, geology and assays pending.
650-201	Drill hole is being processed, geology and assays pending.
650-202	Drill hole is being processed, geology and assays pending.
650-203	Drill hole is being processed, geology and assays pending.
650-204	Drill hole is being processed, geology and assays pending.
650-205	Drill hole is being processed, geology and assays pending.
650-220	Drill hole is being processed, geology and assays pending.
650-221	Drill hole is being processed, geology and assays pending.
670-010	Drill hole is being processed, geology and assays pending.
670-014	Drill hole is being processed, geology and assays pending.
670-015	Drill hole is being processed, geology and assays pending.
670-016	Drill hole is being processed, geology and assays pending.
670-017	Drill hole is being processed, geology and assays pending.
670-018	Drill hole is being processed, geology and assays pending.
670-019	Drill hole is being processed, geology and assays pending.
670-020	Drill hole is being processed, geology and assays pending.
670-021	Drill hole is being processed, geology and assays pending.
670-022	Drill hole is being processed, geology and assays pending.
670-023	Drill hole is being processed, geology and assays pending.
670-024	Drill hole is being processed, geology and assays pending.
670-025	Drill hole is being processed, geology and assays pending.
670-026	Drill hole is being processed, geology and assays pending.
670-027	Drill hole is being processed, geology and assays pending.
670-028	Drill hole is being processed, geology and assays pending.
670-029	Drill hole is being processed, geology and assays pending.
670-031	Drill hole is being processed, geology and assays pending.
670-032	Drill hole is being processed, geology and assays pending.
670-033	Drill hole is being processed, geology and assays pending.
680-001A	Drill hole is being processed, geology and assays pending.
680-002	Drill hole is being processed, geology and assays pending.
680-002A	Drill hole is being processed, geology and assays pending.
730-003	Drill hole is being processed, geology and assays pending.
730-004	Drill hole is being processed, geology and assays pending.
730-005	Drill hole is being processed, geology and assays pending.
730-006	Drill hole is being processed, geology and assays pending.
730-007	Drill hole is being processed, geology and assays pending.
730-008	Drill hole is being processed, geology and assays pending.
90-014	No assays taken
90-020	No assays taken

APPENDIX 5

TIMMINS WEST MINE SOLID INTERSECTIONS

Thunder Creek Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
TC08-54	644.19	684.06	4.09	4.09	39.87	PZ1A	4471.16	7025.31	9425.08
TC08-54A	649.80	664.97	2.11	2.11	15.17	PZ1A	4446.96	7008.94	9430.19
TC08-54B	620.00	630.47	4.88	4.88	10.47	PZ1A	4442.41	6994.22	9471.96
TC08-54C	619.50	629.00	1.63	1.63	9.50	PZ1A	4444.04	6993.07	9474.37
TC08-54D	623.10	652.20	4.28	4.28	29.10	PZ1A	4481.14	7011.45	9464.29
TC08-64	581.46	598.90	2.21	2.21	17.44	PZ1A	4417.86	6995.26	9497.00
TC09-68	896.05	900.44	3.49	3.49	4.40	PZ1A	4414.90	7095.08	9252.66
TC09-68A	895.76	900.75	9.32	9.32	4.99	PZ1A	4415.19	7094.52	9253.22
TC09-68B	866.30	871.20	5.61	5.61	4.90	PZ1A	4429.71	7085.38	9301.34
TC09-68C	815.80	848.00	2.80	2.80	32.20	PZ1A	4427.77	7078.52	9355.06
TC09-68D	823.99	839.70	4.85	4.85	15.71	PZ1A	4451.40	7068.84	9378.60
TC09-68E	844.50	850.30	7.16	7.16	5.80	PZ1A	4473.84	7096.21	9349.06
TC09-68F	825.50	849.20	6.54	6.54	23.70	PZ1A	4477.79	7079.02	9382.67
TC09-69	777.25	806.12	7.59	7.59	28.87	PZ1A	4383.24	7039.23	9336.72
TC09-69A	776.84	803.55	6.01	6.01	26.71	PZ1A	4384.90	7037.99	9340.00
TC09-69B	758.15	776.49	11.25	11.25	18.34	PZ1A	4395.74	7016.75	9382.22
TC09-69C	736.29	762.34	3.38	3.38	26.05	PZ1A	4416.34	7010.23	9423.03
TC09-69D	820.75	834.00	5.58	5.58	13.25	PZ1A	4362.20	7059.64	9282.89
TC09-69E	817.02	830.75	4.98	4.98	13.73	PZ1A	4359.11	7054.14	9287.03
TC09-69F	815.05	829.89	4.62	4.62	14.84	PZ1A	4359.18	7053.92	9288.91
TC09-69G	786.80	803.20	10.82	10.82	16.40	PZ1A	4363.58	7027.47	9330.00
TC09-69H	753.70	763.00	6.19	6.19	9.30	PZ1A	4370.36	7007.41	9386.01
TC09-69J	734.20	744.10	3.77	3.77	9.90	PZ1A	4377.30	7007.99	9413.51
TC09-69K	718.90	727.80	6.72	6.72	8.90	PZ1A	4358.43	6986.28	9441.13
TC09-80B	883.39	891.80	1.08	1.08	8.40	PZ1A	4455.11	7126.10	9250.82
TC09-80C	860.40	864.30	2.43	2.43	3.90	PZ1A	4458.52	7115.55	9292.20
TC09-80F	878.56	882.85	4.20	4.20	4.29	PZ1A	4414.00	7095.62	9251.13
TC11-111	758.88	773.86	0.04	0.04	14.97	PZ1A	4346.70	6988.02	9363.21
TC11-111A	782.50	784.50	9.09	9.09	2.00	PZ1A	4343.22	6993.60	9333.75
TC11-111B	726.50	731.50	9.61	9.61	5.00	PZ1A	4345.49	6975.30	9406.52
TC11-111C	728.49	730.64	0.00	0.00	2.14	PZ1A	4329.30	6956.91	9409.99
TC11-112	669.86	704.21	3.93	3.93	34.35	PZ1A	4458.70	7036.85	9407.54
TC11-112A	687.00	707.40	3.60	3.60	20.40	PZ1A	4437.07	7040.70	9385.57
TC11-113A	933.70	941.30	23.90	23.90	7.60	PZ1A	4343.83	7083.66	9215.56
TC11-114	780.91	799.06	6.18	6.18	18.16	PZ1A	4482.45	7104.85	9360.80
TC11-115	924.13	934.82	6.05	6.05	10.69	PZ1A	4355.73	7085.77	9225.83
TC260-003	353.60	357.10	5.88	5.88	3.50	PZ1A	4503.82	7021.61	9491.38
TC260-004	366.30	388.30	2.85	2.85	22.00	PZ1A	4496.13	7039.50	9448.07
TC260-006	373.00	379.60	3.99	3.99	6.60	PZ1A	4494.41	7087.18	9421.74
TC260-015	365.03	385.96	7.27	7.27	20.93	PZ1A	4411.11	6990.81	9495.34
TC650-001	335.80	342.10	2.08	2.08	6.30	PZ1A	4454.47	7119.97	9268.36
TC650-004B	355.79	360.53	2.17	2.17	4.75	PZ1A	4442.55	7102.97	9280.55
TC650-005	398.80	473.18	3.59	3.59	74.38	PZ1A	4358.34	7049.30	9302.48
TC710-001	207.00	250.50	5.21	5.21	43.50	PZ1A	4395.66	7061.58	9310.24
TC710-002	210.31	216.40	1.46	1.46	6.10	PZ1A	4399.52	7079.27	9276.77
TC710-003	283.50	299.30	1.86	1.86	15.80	PZ1A	4354.57	7015.05	9351.68
TC710-004	200.50	215.80	3.46	3.46	15.30	PZ1A	4409.39	7085.41	9255.87
TC710-005	254.02	311.67	3.52	3.52	57.65	PZ1A	4374.11	7020.88	9380.34
TC710-006	177.49	183.33	3.17	3.17	5.83	PZ1A	4434.30	7110.43	9244.03
TC710-024	169.31	269.75	2.96	2.96	100.44	PZ1A	4473.80	7063.76	9393.37
TC730-002	38.70	46.64	10.13	10.13	7.94	PZ1A	4424.38	7091.36	9287.56
TC730-003	47.89	54.90	1.41	1.41	7.00	PZ1A	4415.88	7083.33	9288.69
TC730-004	70.81	109.60	14.38	14.38	38.80	PZ1A	4379.92	7065.44	9291.34
TC730-010	96.60	96.78	11.28	11.28	0.18	PZ1A	4409.08	7041.17	9333.99
TC730-010	109.18	155.21	7.23	7.23	46.02	PZ1A	4380.95	7029.99	9352.50
TC730-011	79.89	126.00	11.98	11.98	46.11	PZ1A	4389.59	7058.34	9323.53
TC730-012	79.40	120.40	7.89	7.89	41.00	PZ1A	4399.24	7058.49	9334.27
TC730-014	60.52	68.05	0.16	0.16	7.53	PZ1A	4463.76	7095.44	9342.58
TC730-017	54.30	58.95	5.29	5.29	4.65	PZ1A	4444.64	7111.18	9260.04
TC730-018	61.70	76.12	2.20	2.20	14.42	PZ1A	4441.20	7114.09	9243.84
TC730-019	53.65	62.49	17.07	17.07	8.84	PZ1A	4470.85	7104.42	9342.48
TC730-021	28.00	30.85	3.43	3.43	2.85	PZ1A	4461.96	7118.45	9301.51
TC730-022	58.45	66.19	0.01	0.01	7.75	PZ1A	4446.01	7116.32	9252.94
TC730-023	46.00	61.15	1.78	1.78	15.15	PZ1A	4452.87	7128.16	9247.09
TC730-024	14.68	22.37	0.67	0.67	7.69	PZ1A	4451.43	7110.95	9285.43
TC730-025	8.94	13.90	2.60	2.60	4.95	PZ1A	4458.21	7119.05	9285.06

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
TC730-041	23.47	28.55	0.91	0.91	5.08	PZ1A	4457.14	7117.60	9285.69
TC730-042	20.75	25.59	7.46	7.46	4.84	PZ1A	4450.57	7109.88	9285.85
TC09-68	915.12	931.04	5.15	5.15	15.92	PZ1B	4422.04	7082.88	9232.24
TC09-68A	915.10	930.10	3.81	3.81	15.00	PZ1B	4422.50	7081.49	9234.01
TC09-68B	885.53	923.00	15.43	13.08	37.47	PZ1B	4442.16	7066.14	9274.21
TC09-68C	869.30	909.72	2.49	2.49	40.42	PZ1B	4450.01	7043.07	9315.47
TC09-68D	856.50	897.80	4.82	4.82	41.30	PZ1B	4471.82	7040.60	9349.64
TC09-68E	855.90	866.80	4.40	4.40	10.90	PZ1B	4480.96	7088.92	9339.53
TC09-69	819.57	855.01	0.91	0.91	35.44	PZ1B	4400.02	7022.86	9297.60
TC09-69A	815.20	857.66	2.20	2.20	42.46	PZ1B	4403.40	7018.70	9302.28
TC09-69B	797.99	805.40	15.11	11.81	7.41	PZ1B	4409.75	7000.74	9355.22
TC09-69C	778.50	782.15	11.81	11.81	3.65	PZ1B	4431.95	6994.16	9401.60
TC09-69G	818.20	823.50	4.95	4.95	5.30	PZ1B	4371.66	7017.47	9307.58
TC09-73D	976.70	979.35	13.92	13.92	2.65	PZ1B	4350.87	7115.64	9160.71
TC09-73E	967.00	980.90	2.50	2.50	13.90	PZ1B	4371.47	7096.24	9189.12
TC09-80	931.42	938.99	5.90	5.90	7.57	PZ1B	4411.72	7141.76	9170.36
TC09-80A	914.50	933.40	1.72	1.72	18.90	PZ1B	4435.93	7126.32	9197.98
TC09-80B	901.70	918.00	1.24	1.24	16.30	PZ1B	4465.71	7117.57	9233.20
TC09-80C	868.56	908.50	2.97	2.97	39.94	PZ1B	4471.99	7103.03	9273.57
TC09-80E	920.20	927.20	6.28	6.28	7.00	PZ1B	4404.20	7128.35	9184.91
TC09-80F	897.00	913.62	1.11	1.11	16.62	PZ1B	4422.19	7084.36	9230.84
TC11-112	712.67	731.36	9.90	9.90	18.69	PZ1B	4470.66	7025.74	9376.61
TC11-112A	724.00	771.50	2.66	2.66	47.50	PZ1B	4450.76	7025.10	9339.48
TC11-113	971.06	974.41	0.49	0.49	3.35	PZ1B	4337.86	7096.45	9163.94
TC11-114	807.79	812.18	1.17	1.17	4.39	PZ1B	4489.48	7094.35	9345.29
TC650-001	361.50	406.50	7.69	5.37	45.00	PZ1B	4443.33	7077.51	9258.24
TC650-002	282.51	304.42	0.01	0.01	21.91	PZ1B	4504.91	7156.25	9273.86
TC650-002	320.51	347.10	0.62	0.62	26.59	PZ1B	4498.72	7117.50	9264.49
TC650-004B	377.20	430.80	3.46	3.46	53.60	PZ1B	4430.04	7059.75	9271.76
TC650-007	334.00	343.10	4.21	4.21	9.10	PZ1B	4461.58	7138.63	9204.27
TC710-001	274.68	284.00	2.25	2.25	9.33	PZ1B	4373.27	7016.26	9308.19
TC710-004	231.16	248.75	1.30	1.30	17.60	PZ1B	4396.37	7057.78	9247.01
TC710-006	200.10	223.11	7.37	4.61	23.01	PZ1B	4424.16	7083.60	9231.78
TC710-012	159.12	167.20	1.10	1.10	8.08	PZ1B	4463.38	7142.35	9200.53
TC710-022	137.85	222.50	9.25	7.45	84.65	PZ1B	4488.08	7085.83	9313.87
TC730-001	0.00	67.00	4.51	4.51	67.00	PZ1B	4439.15	7069.93	9287.44
TC730-001	87.46	105.00	2.48	2.48	17.54	PZ1B	4386.81	7035.52	9290.70
TC730-001	108.79	116.74	1.28	1.28	7.95	PZ1B	4372.82	7026.76	9291.58
TC730-002	0.00	22.38	3.88	3.88	22.38	PZ1B	4455.74	7089.36	9286.09
TC730-003	0.00	25.45	29.61	14.73	25.45	PZ1B	4454.28	7087.08	9286.27
TC730-004	0.00	29.97	3.79	3.79	29.97	PZ1B	4452.56	7084.34	9286.52
TC730-005	0.00	102.10	3.10	3.10	102.10	PZ1B	4429.17	7054.33	9287.74
TC730-006	0.00	85.94	1.88	1.88	85.94	PZ1B	4445.96	7051.13	9287.53
TC730-007	0.00	53.20	1.91	1.91	53.20	PZ1B	4461.19	7062.64	9286.70
TC730-008	0.00	45.74	5.63	5.63	45.74	PZ1B	4467.59	7065.78	9286.71
TC730-009	0.00	61.64	25.02	5.47	61.64	PZ1B	4459.54	7065.71	9268.73
TC730-010	0.00	70.00	4.24	4.08	70.00	PZ1B	4456.64	7064.07	9302.07
TC730-011	0.00	53.00	4.63	3.36	53.00	PZ1B	4459.06	7073.92	9295.72
TC730-012	0.00	56.30	7.97	6.72	56.30	PZ1B	4459.79	7071.81	9298.16
TC730-013	0.00	102.99	7.58	3.00	102.99	PZ1B	4436.97	7066.41	9265.03
TC730-014	0.00	55.50	2.69	2.69	55.50	PZ1B	4474.68	7085.06	9309.30
TC730-015	0.00	46.81	2.83	2.83	46.81	PZ1B	4472.30	7086.52	9302.56
TC730-016	0.00	41.69	3.81	3.81	41.69	PZ1B	4470.92	7087.79	9297.15
TC730-017	0.00	43.69	1.63	1.63	43.69	PZ1B	4468.40	7090.51	9274.80
TC730-018	0.00	52.45	5.68	4.04	52.45	PZ1B	4467.36	7091.43	9268.82
TC730-019	0.00	49.65	5.00	5.00	49.65	PZ1B	4474.80	7101.77	9309.57
TC730-021	0.00	22.34	2.56	2.56	22.34	PZ1B	4471.73	7106.93	9291.26
TC730-022	0.00	47.23	3.11	3.11	47.23	PZ1B	4469.29	7092.21	9272.29
TC730-023	0.00	29.50	9.11	5.10	29.50	PZ1B	4470.85	7107.45	9274.57
TC730-024	0.00	7.94	5.76	5.76	7.94	PZ1B	4465.57	7114.35	9285.07
TC730-025	0.00	4.48	1.26	1.26	4.48	PZ1B	4466.95	7116.27	9285.00
TC730-026	0.00	2.95	3.26	3.26	2.95	PZ1B	4469.13	7120.10	9285.00
TC730-027	0.00	4.26	0.56	0.56	4.26	PZ1B	4470.66	7121.58	9285.04
TC730-028	0.00	12.00	2.28	2.28	12.00	PZ1B	4474.95	7125.42	9285.25
TC730-029	0.00	32.80	2.22	2.22	32.80	PZ1B	4487.28	7128.37	9284.97
TC730-030	0.00	80.69	2.52	2.52	80.69	PZ1B	4458.06	7108.15	9245.40
TC730-031	0.00	3.00	4.23	4.23	3.00	PZ1B	4469.35	7119.96	9285.96
TC730-032	0.00	4.50	0.97	0.97	4.50	PZ1B	4469.00	7120.41	9283.34

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
TC730-033	0.00	3.71	2.56	2.56	3.71	PZ1B	4469.91	7120.68	9285.72
TC730-034	0.00	6.63	4.89	4.89	6.63	PZ1B	4470.73	7121.46	9281.90
TC730-035	0.00	5.30	9.88	9.88	5.30	PZ1B	4470.74	7121.92	9283.25
TC730-036	0.00	9.69	1.18	1.18	9.69	PZ1B	4474.42	7123.80	9289.52
TC730-037	0.00	30.15	1.21	1.21	30.15	PZ1B	4477.71	7131.77	9276.44
TC730-038	0.00	33.55	2.97	2.97	33.55	PZ1B	4487.04	7128.31	9289.20
TC730-039	0.00	32.05	4.88	4.88	32.05	PZ1B	4486.57	7127.25	9279.85
TC730-040	0.00	39.28	1.84	1.84	39.28	PZ1B	4485.59	7128.11	9271.33
TC730-041	0.00	19.43	4.21	4.21	19.43	PZ1B	4465.24	7103.47	9285.48
TC730-042	0.00	16.70	5.82	5.82	16.70	PZ1B	4457.52	7096.79	9285.65
TC730-051	0.00	34.25	5.51	5.51	34.25	PZ1B	4468.39	7067.20	9285.53
TC730-052	0.00	38.20	7.99	7.99	38.20	PZ1B	4452.97	7055.01	9285.91
TC09-68	952.81	970.56	4.12	4.12	17.75	PZ1C	4432.81	7063.69	9200.51
TC09-68B	927.00	956.50	15.93	6.18	29.50	PZ1C	4455.17	7045.57	9245.70
TC09-69F	911.55	932.80	2.54	2.54	21.25	PZ1C	4390.97	7020.61	9200.51
TC09-73C	1026.20	1030.90	10.80	10.80	4.70	PZ1C	4353.86	7126.17	9099.48
TC09-73D	1015.80	1020.76	0.34	0.34	4.96	PZ1C	4368.11	7098.63	9128.55
TC09-73E	1016.66	1018.78	0.29	0.29	2.12	PZ1C	4391.95	7071.06	9159.76
TC09-80B	942.40	963.90	1.44	1.44	21.50	PZ1C	4486.32	7100.93	9198.95
TC09-80C	918.60	930.50	3.17	3.17	11.90	PZ1C	4490.31	7085.75	9247.81
TC09-80F	935.35	952.87	1.23	1.23	17.52	PZ1C	4434.97	7066.38	9198.92
TC650-001	440.03	446.90	3.02	3.02	6.88	PZ1C	4428.28	7021.60	9244.70
TC650-004B	446.80	472.03	3.66	3.66	25.23	PZ1C	4414.56	7007.70	9260.80
TC650-007	378.23	400.00	1.00	1.00	21.77	PZ1C	4449.77	7094.12	9183.37
TC710-006	266.54	284.10	0.98	0.98	17.57	PZ1C	4403.93	7028.96	9206.00
TC730-030	93.90	118.55	2.34	2.34	24.65	PZ1C	4439.29	7096.30	9183.37
TC09-68	1004.74	1008.16	0.60	0.60	3.41	PZ3	4444.63	7041.07	9163.74
TC09-69F	952.20	954.20	7.19	7.19	2.00	PZ3	4401.13	7010.37	9173.05
TC09-73E	1054.50	1057.00	3.60	3.60	2.50	PZ3	4409.04	7048.19	9134.63
TC09-79	1032.15	1034.10	2.70	2.70	1.95	PZ3	4346.80	7023.09	9128.34
TC09-79C	1019.90	1022.60	6.61	6.61	2.70	PZ3	4365.70	7002.37	9161.82
TC09-80	1022.49	1027.17	16.73	16.73	4.67	PZ3	4440.70	7112.77	9090.66
TC09-80A	1005.20	1009.20	0.40	0.40	4.00	PZ3	4466.14	7095.12	9126.96
TC09-80F	985.07	989.00	2.57	2.57	3.93	PZ3	4449.93	7046.80	9163.78
TC11-113A	1038.00	1040.00	3.13	3.13	2.00	PZ3	4382.90	7037.07	9134.33
TC11-115	1031.97	1034.08	0.19	0.19	2.10	PZ3	4387.17	7030.13	9144.35
TC650-007	450.00	454.00	1.95	1.95	4.00	PZ3	4435.18	7038.85	9157.17
TC710-012	242.20	245.20	3.35	3.35	3.00	PZ3	4473.93	7083.29	9146.82
TC320-023	82.00	87.00	5.06	5.06	5.00	RZ2	4562.82	6934.56	9698.29
TC320-025	87.00	91.18	0.34	0.34	4.18	RZ2	4590.10	6949.01	9697.33
TC320-033	83.90	87.00	9.49	9.49	3.10	RZ2	4569.51	6939.78	9686.49
TC320-034	84.20	86.40	1.37	1.37	2.20	RZ2	4566.62	6942.53	9675.13
TC320-035	88.60	92.20	2.62	2.62	3.60	RZ2	4549.17	6924.02	9693.01
TC320-040	82.90	87.50	2.95	2.95	4.60	RZ2	4574.28	6946.46	9677.79
TC320-041	82.47	83.58	0.54	0.54	1.12	RZ2	4563.09	6961.39	9650.93
TC320-048	82.90	88.90	5.68	5.68	6.00	RZ2	4595.57	6960.98	9692.34
TC320-049	80.00	82.00	11.23	11.23	2.00	RZ2	4583.50	6969.62	9665.90
TC320-050	85.90	89.40	13.70	13.70	3.50	RZ2	4573.33	6976.70	9640.04
TC320-058	80.91	84.97	1.09	1.09	4.06	RZ2	4601.81	6973.69	9683.28
TC320-059	79.77	82.27	3.12	3.12	2.49	RZ2	4598.35	6979.85	9673.17
TC320-061	83.30	85.80	3.64	3.64	2.50	RZ2	4606.68	6988.51	9674.34
TC320-062	82.23	85.31	0.40	0.40	3.08	RZ2	4590.86	6987.92	9652.50
TC330-021	102.05	105.05	15.18	15.18	3.00	RZ2	4548.80	6986.11	9607.01
TC07-33	425.27	428.72	1.66	1.66	3.44	RZ2A	4541.68	6906.91	9730.70
TC07-34	423.81	430.95	0.79	0.79	7.14	RZ2A	4565.64	6930.58	9728.61
TC280-034	125.34	137.03	12.53	7.27	11.69	RZ2A	4546.70	6901.85	9754.03
TC280-035	132.01	136.40	0.64	0.64	4.39	RZ2A	4543.38	6896.90	9769.52
TC280-036	125.76	129.00	1.64	1.64	3.24	RZ2A	4541.03	6899.29	9756.70
TC280-037	142.70	148.30	4.35	4.35	5.60	RZ2A	4545.47	6888.74	9785.45
TC280-047	134.10	136.10	0.87	0.87	2.00	RZ2A	4531.10	6888.02	9753.19
TC280-048	137.80	153.80	11.40	9.40	16.00	RZ2A	4552.47	6909.26	9758.02
TC280-049	141.40	144.40	1.30	1.30	3.00	RZ2A	4526.27	6874.46	9771.32
TC280-050	140.30	143.10	0.79	0.79	2.80	RZ2A	4533.77	6886.02	9768.69
TC320-008	54.84	57.80	3.88	3.88	2.96	RZ2A	4537.56	6895.47	9748.36
TC320-013	41.70	48.00	13.06	13.06	6.30	RZ2A	4553.56	6916.33	9728.20
TC320-014	49.50	59.65	6.17	6.17	10.15	RZ2A	4557.93	6917.22	9743.73
TC320-021	103.00	117.45	1.47	1.47	14.45	RZ2A	4555.20	6912.64	9751.26
TC320-028	93.92	104.70	1.06	1.06	10.78	RZ2A	4566.10	6927.32	9746.77

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	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
TC07-35	466.21	468.70	5.96	5.96	2.49	RZ3	4526.14	6966.54	9630.58
TC07-41	508.75	516.95	2.64	2.64	8.20	RZ3	4451.16	6978.84	9556.53
TC07-43	483.65	492.65	8.57	8.57	9.00	RZ3	4487.94	6955.58	9608.53
TC08-60	548.05	567.95	3.64	3.64	19.90	RZ3	4491.42	6974.34	9579.88
TC260-001	320.70	346.50	3.39	3.39	25.80	RZ3	4484.37	6986.91	9563.37
TC280-011B	117.60	120.50	7.59	7.59	2.90	RZ3	4469.80	6936.81	9616.72
TC280-014B	145.50	147.70	8.56	8.56	2.20	RZ3	4452.78	6952.49	9581.45
TC280-015A	130.50	141.36	1.08	1.08	10.86	RZ3	4467.16	6963.25	9593.31
TC280-019A	112.30	114.70	4.04	4.04	2.40	RZ3	4495.38	6939.90	9632.05
TC280-052	127.70	137.89	3.15	3.15	10.19	RZ3	4498.94	6951.24	9621.98
TC280-053	132.00	141.90	1.75	1.75	9.90	RZ3	4477.80	6950.67	9604.12
TC280-054	145.03	157.71	0.10	0.10	12.68	RZ3	4506.60	6976.69	9605.38
TC320-054	87.75	101.75	0.23	0.23	14.00	RZ3	4490.82	6938.91	9623.81
TC330-019	87.95	88.01	0.01	0.01	0.06	RZ3	4518.30	6961.58	9630.19
TC330-019	88.04	90.88	0.01	0.01	2.84	RZ3	4518.48	6960.60	9629.10
TC330-025	96.23	106.24	0.07	0.07	10.01	RZ3	4499.40	6951.87	9620.55
TC330-026	92.60	105.70	3.77	3.77	13.10	RZ3	4503.64	6970.91	9609.32
TC330-027	96.70	110.40	2.57	2.57	13.70	RZ3	4495.14	6956.32	9614.40
TC330-029	125.24	128.35	5.24	5.24	3.11	RZ3	4474.63	6973.93	9582.04
TC330-039	133.20	153.99	16.63	16.05	20.78	RZ3	4461.18	6980.74	9565.49
TC330-040	133.30	143.88	1.03	1.03	10.58	RZ3	4458.93	6964.71	9578.00
TC07-30	407.04	417.80	5.24	5.24	10.76	RZ3A	4503.08	6908.26	9721.06
TC07-31	424.70	435.60	2.14	2.14	10.90	RZ3A	4479.86	6917.75	9677.18
TC07-35	457.04	463.26	1.70	1.70	6.22	RZ3A	4522.99	6969.27	9636.57
TC07-36	342.82	357.64	11.91	11.91	14.83	RZ3A	4478.03	6896.89	9717.01
TC07-43	474.00	475.50	20.95	20.95	1.50	RZ3A	4482.56	6960.62	9619.72
TC07-45	429.17	437.70	0.21	0.21	8.53	RZ3A	4493.74	6923.20	9697.35
TC200-002A	368.75	389.82	4.84	4.84	21.07	RZ3A	4474.51	6905.24	9705.33
TC200-003	387.99	390.29	0.01	0.01	2.30	RZ3A	4481.65	6891.92	9724.80
TC200-005A	173.44	186.23	0.50	0.50	12.79	RZ3A	4484.28	6898.07	9719.81
TC200-006	210.19	215.86	0.98	0.98	5.67	RZ3A	4463.86	6869.82	9738.20
TC200-008	162.00	178.33	5.51	5.51	16.33	RZ3A	4485.93	6909.44	9706.53
TC200-012	213.28	214.47	0.02	0.02	1.19	RZ3A	4445.93	6875.68	9716.29
TC200-018	154.18	162.40	3.78	3.78	8.22	RZ3A	4497.01	6919.01	9704.59
TC280-001A	98.28	107.46	0.13	0.13	9.18	RZ3A	4475.35	6890.01	9725.78
TC280-002	86.55	101.15	1.59	1.59	14.60	RZ3A	4476.42	6899.98	9711.97
TC280-003	81.69	99.15	3.00	3.00	17.46	RZ3A	4474.83	6904.38	9706.13
TC280-005A	81.50	91.50	6.09	6.09	10.00	RZ3A	4486.14	6910.77	9702.53
TC280-006	110.69	124.44	2.54	2.54	13.75	RZ3A	4464.19	6875.38	9730.47
TC280-007A	78.56	92.20	5.59	5.59	13.65	RZ3A	4480.85	6912.21	9698.37
TC280-008	89.50	97.80	4.25	4.25	8.30	RZ3A	4459.25	6885.00	9702.51
TC280-016	74.94	88.21	2.82	2.82	13.26	RZ3A	4470.00	6900.01	9707.12
TC280-017	72.41	85.80	3.28	3.28	13.39	RZ3A	4478.04	6905.65	9708.25
TC280-018A	81.93	90.70	2.97	2.97	8.77	RZ3A	4495.84	6937.26	9669.51
TC280-019A	96.67	106.70	9.15	9.15	10.03	RZ3A	4489.68	6943.41	9641.79
TC280-028	101.98	103.06	0.39	0.39	1.08	RZ3A	4446.48	6875.06	9704.37
TC280-029	73.90	83.00	2.57	2.57	9.10	RZ3A	4464.44	6907.39	9690.08
TC280-051	111.06	128.46	0.17	0.17	17.41	RZ3A	4505.76	6956.14	9645.69
TC280-051	128.50	134.30	4.19	4.19	5.80	RZ3A	4514.33	6956.01	9637.82
TC280-052	112.20	125.36	4.87	4.87	13.16	RZ3A	4490.37	6952.53	9633.01
TC280-056	71.29	79.60	1.22	1.22	8.31	RZ3A	4463.14	6865.80	9736.66
TC280-057	70.60	78.45	3.36	3.36	7.85	RZ3A	4470.34	6874.90	9736.06
TC300-001	4.46	10.74	3.90	3.90	6.28	RZ3A	4465.78	6890.08	9719.70
TC300-002	3.24	11.50	3.37	3.37	8.26	RZ3A	4468.25	6891.77	9719.70
TC300-003	4.20	9.50	7.91	7.91	5.30	RZ3A	4466.67	6889.34	9722.04
TC300-004	2.87	9.00	6.68	6.68	6.13	RZ3A	4469.07	6890.17	9721.73
TC300-005	8.70	19.53	3.83	3.83	10.83	RZ3A	4493.57	6904.22	9718.90
TC300-006	8.97	16.00	5.78	5.78	7.03	RZ3A	4488.65	6902.18	9718.90
TC300-008	7.44	15.06	5.68	5.68	7.62	RZ3A	4489.58	6907.45	9712.13
TC300-010	7.71	15.50	9.81	9.81	7.79	RZ3A	4487.09	6904.99	9711.92
TC300-011	6.00	18.10	2.54	2.54	12.10	RZ3A	4463.30	6892.16	9714.42
TC300-012	4.93	18.80	6.17	6.17	13.87	RZ3A	4466.76	6894.70	9714.50
TC300-013	9.01	24.30	5.55	5.55	15.29	RZ3A	4497.69	6906.06	9718.90
TC300-016	10.69	19.54	1.12	1.12	8.84	RZ3A	4489.74	6900.22	9722.30
TC300-017	8.00	16.28	3.17	3.17	8.27	RZ3A	4488.20	6903.00	9715.15
TC300-018	10.55	20.30	7.34	7.34	9.75	RZ3A	4494.28	6903.64	9722.37
TC300-019	7.80	17.97	9.92	9.92	10.17	RZ3A	4492.12	6905.39	9714.92
TC300-020	11.02	21.10	0.99	0.99	10.07	RZ3A	4496.78	6906.49	9722.51

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	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
TC300-021	8.02	22.10	8.24	8.24	14.08	RZ3A	4495.58	6907.05	9714.25
TC320-006	20.60	24.82	2.50	2.50	4.22	RZ3A	4515.54	6918.36	9705.01
TC320-017	20.00	23.90	2.17	2.17	3.90	RZ3A	4515.56	6922.51	9700.84
TC320-018	21.59	26.69	5.18	5.18	5.10	RZ3A	4515.07	6925.69	9695.71
TC320-019	17.02	21.40	4.89	4.89	4.38	RZ3A	4520.79	6925.91	9702.97
TC320-020	19.15	23.80	1.97	1.97	4.65	RZ3A	4518.56	6927.87	9698.08
TC320-027	66.20	73.44	1.35	1.35	7.24	RZ3A	4538.93	6952.14	9670.78
TC320-042	67.27	72.67	1.81	1.81	5.40	RZ3A	4539.65	6957.95	9662.59
TC320-051	37.00	54.59	3.27	3.27	17.59	RZ3A	4487.17	6920.67	9685.90
TC320-052	39.05	47.90	3.36	3.36	8.85	RZ3A	4491.22	6925.86	9683.16
TC320-053	46.92	64.80	4.90	4.90	17.88	RZ3A	4485.53	6933.27	9666.63
TC320-054	46.64	78.87	0.86	0.86	32.23	RZ3A	4494.55	6943.03	9655.32
TC320-055	39.20	49.90	1.84	1.84	10.70	RZ3A	4511.07	6949.40	9673.74
TC330-001	36.66	40.37	0.18	0.18	3.71	RZ3A	4502.40	6923.03	9681.85
TC330-002	30.07	37.14	3.21	3.21	7.07	RZ3A	4501.73	6932.43	9675.35
TC330-003	25.11	45.00	2.40	2.40	19.89	RZ3A	4500.95	6941.62	9665.38
TC330-004	25.51	45.50	3.47	3.47	19.99	RZ3A	4501.61	6949.11	9662.04
TC330-005	32.08	36.90	1.43	1.43	4.82	RZ3A	4513.58	6927.12	9688.11
TC330-006	32.35	41.22	5.67	5.67	8.88	RZ3A	4511.06	6933.25	9676.38
TC330-007	25.60	34.99	1.17	1.17	9.39	RZ3A	4506.39	6944.74	9673.20
TC330-008	25.40	44.04	2.60	2.60	18.64	RZ3A	4505.52	6948.30	9666.11
TC330-009	31.70	35.00	1.24	1.24	3.30	RZ3A	4522.58	6936.57	9691.12
TC330-010	30.90	36.06	0.23	0.23	5.16	RZ3A	4521.82	6937.97	9685.57
TC330-011	31.70	37.80	1.62	1.62	6.10	RZ3A	4522.22	6939.79	9680.48
TC330-012	29.48	37.60	2.54	2.54	8.12	RZ3A	4519.04	6942.87	9676.31
TC330-015	74.70	80.40	6.20	6.20	5.70	RZ3A	4529.85	6954.60	9659.03
TC330-016	72.36	77.08	0.22	0.22	4.72	RZ3A	4530.40	6964.91	9649.89
TC330-018	78.80	84.10	2.27	2.27	5.30	RZ3A	4520.77	6951.09	9652.94
TC330-019	77.00	85.00	6.95	6.95	8.00	RZ3A	4517.42	6966.22	9635.33
TC330-025	85.10	90.84	19.91	17.37	5.74	RZ3A	4500.45	6960.69	9630.40
TC330-027	83.70	93.70	5.12	5.12	10.00	RZ3A	4496.88	6965.29	9626.10
TC350-001	57.27	67.40	2.47	2.47	10.13	RZ3A	4535.23	6947.83	9672.35
TC350-003	30.08	44.07	0.51	0.51	13.99	RZ3A	4509.14	6951.17	9670.59
TC350-003	49.22	51.35	0.22	0.22	2.13	RZ3A	4520.68	6944.78	9671.51
TC350-004	28.84	41.47	2.06	2.06	12.62	RZ3A	4502.05	6944.71	9669.84
TCGRT-001	0.00	11.13	1.83	1.83	11.13	RZ3A	4467.43	6888.57	9721.23
TCGRT-003	0.00	3.81	1.12	1.12	3.81	RZ3A	4470.58	6888.94	9718.90
TCGRT-003	4.74	17.20	0.84	0.84	12.46	RZ3A	4461.89	6886.35	9718.82
TCGRT-004	0.00	10.67	0.22	0.22	10.67	RZ3A	4481.63	6893.26	9721.58
TCGRT-005	0.00	12.85	0.28	0.28	12.85	RZ3A	4482.52	6894.09	9716.17
TC280-060	82.14	90.10	1.02	1.02	7.95	RZ3A1	4439.47	6839.63	9738.13
TC280-061	93.99	97.12	11.13	11.13	3.13	RZ3A1	4427.61	6826.95	9738.67
TC280-067	99.50	102.00	6.23	6.23	2.50	RZ3A1	4419.11	6820.63	9736.88
TC280-068	111.00	113.45	5.11	5.11	2.45	RZ3A1	4405.80	6809.11	9738.23
TC280-074	101.60	105.20	5.55	5.55	3.60	RZ3A1	4440.61	6824.64	9756.55
TC280-107	12.08	20.62	0.06	0.06	8.53	RZ3A1	4444.42	6839.44	9747.51
TC08-57	601.30	602.20	12.52	12.52	0.90	RZ3B	4494.27	7013.92	9509.94
TC260-002	324.00	336.00	2.66	2.66	12.00	RZ3B	4502.06	7009.81	9539.31
TC260-003	336.94	339.58	0.01	0.01	2.63	RZ3B	4503.03	7033.13	9503.98
TC260-004	348.60	351.20	8.85	8.85	2.60	RZ3B	4495.77	7055.38	9470.40
TC280-054	177.81	180.80	12.69	12.69	2.99	RZ3B	4523.09	6980.28	9583.11
TC330-030	138.60	145.30	4.75	4.75	6.70	RZ3B	4526.93	6995.00	9557.51
TC330-031	110.90	113.90	5.06	5.06	3.00	RZ3B	4534.40	6982.87	9593.09
TC03-02	264.04	265.72	0.00	0.00	1.67	RZ5	4468.80	6818.69	9835.73
TC08-47	280.00	285.40	5.05	5.05	5.40	RZ5	4461.47	6847.40	9782.70
TC260-005	428.60	433.20	17.10	17.10	4.60	RZ5	4485.28	6835.03	9831.97
TC280-021	109.37	114.50	1.38	1.38	5.13	RZ5	4480.67	6876.96	9767.27
TC280-022	136.59	145.49	1.90	1.90	8.90	RZ5	4442.29	6838.22	9769.48
TC280-023	115.75	122.48	4.71	4.71	6.72	RZ5	4466.77	6863.94	9767.59
TC280-025	119.00	123.11	1.86	1.86	4.10	RZ5	4451.76	6856.12	9757.32
TC280-045	108.32	113.00	0.84	0.84	4.68	RZ5	4461.42	6860.96	9764.62
TC280-070	97.45	107.08	2.40	2.40	9.63	RZ5	4456.38	6844.06	9782.98
TC280-075	110.20	119.20	2.38	2.38	9.00	RZ5	4440.76	6824.02	9786.52
TC280-076	116.60	133.70	2.47	2.47	17.10	RZ5	4437.42	6817.83	9798.53
TC280-077	118.80	121.80	5.22	5.22	3.00	RZ5	4474.88	6862.51	9778.71
TC280-080	90.15	96.45	2.99	2.99	6.30	RZ5	4430.91	6835.37	9764.29

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
150-008	36.60	39.20	7.47	7.47	2.60	525_V1	4990.80	7896.95	9866.26
150-009	29.93	32.71	0.05	0.05	2.77	525_V1	4978.63	7895.20	9866.25
150-009	67.80	70.90	2.77	2.77	3.10	525_V3	4981.94	7857.32	9866.91
150-013	87.00	92.70	1.65	1.65	5.70	525_V3A	5000.42	7850.50	9868.03
150-015	85.30	88.70	2.04	2.04	3.39	525_V3	4980.66	7849.67	9881.45
150-016	67.94	70.40	1.00	1.00	2.46	525_V3	4984.80	7867.52	9850.25
150-016	34.30	36.80	4.24	4.24	2.50	525_V1	4985.90	7900.23	9857.95
150-018	30.97	33.49	8.66	8.66	2.52	525_V1	4974.93	7894.32	9862.85
150-018	63.40	69.00	0.72	0.72	5.60	525_V3	4973.04	7860.56	9859.60
150-019	59.70	65.20	2.42	2.42	5.50	525_V3	4972.98	7867.84	9843.82
180-002	22.80	24.80	1.11	1.11	2.00	525_V1	4985.58	7906.97	9838.53
180-002	58.76	62.93	2.54	2.54	4.17	525_V3	4985.58	7869.95	9839.82
180-003	26.45	29.09	0.00	0.00	2.64	525_V1	5008.63	7908.76	9840.53
180-003	38.90	44.90	2.74	2.74	6.00	525_V2	5007.69	7894.71	9841.65
180-003	80.82	88.53	0.95	0.95	7.71	525_V3A	5005.54	7852.15	9844.75
180-004	103.97	108.15	0.00	0.00	4.18	525_V3B	5038.60	7834.64	9842.68
180-014	51.02	54.07	0.04	0.04	3.06	525_V3	5002.15	7878.00	9832.73
180-014	17.14	20.94	1.15	1.15	3.80	525_V1	5000.52	7911.29	9836.26
180-014	76.10	80.40	15.06	11.64	4.30	525_V3A	5003.27	7852.51	9829.63
180-014	32.76	38.39	0.05	0.05	5.62	525_V2	5001.32	7894.85	9834.59
180-015	49.39	51.42	0.04	0.04	2.03	525_V3	5001.64	7881.79	9823.99
180-015	16.65	19.92	1.37	1.37	3.27	525_V1	5000.40	7912.63	9832.89
180-015	122.70	126.10	9.16	9.16	3.40	525_FW1	5004.44	7811.10	9802.31
180-015	77.30	82.20	2.09	2.09	4.90	525_V3A	5002.77	7853.71	9815.53
180-015	31.14	39.00	1.14	1.14	7.86	525_V2	5001.04	7896.50	9828.28
180-016	16.00	18.00	4.03	4.03	2.00	525_V1	5000.46	7915.53	9829.08
180-016	121.10	125.00	1.36	1.36	3.90	525_FW1	5005.07	7824.43	9775.00
180-016	47.00	51.00	2.14	2.14	4.00	525_V3	5001.86	7887.97	9812.87
180-016	78.80	84.50	3.62	3.62	5.70	525_V3A	5003.21	7859.96	9796.17
180-016	31.30	38.00	2.47	2.47	6.70	525_V2	5001.25	7900.32	9820.17
180-017	53.60	55.60	0.34	0.34	2.00	525_V3	5000.31	7891.55	9798.67
180-017	34.54	38.40	0.76	0.76	3.86	525_V2	5000.04	7904.42	9811.44
180-017	106.80	112.60	3.83	3.83	5.80	525_FW1	5001.30	7852.37	9759.94
180-018	122.20	134.14	0.82	0.82	11.94	525_FW1	5002.40	7884.23	9716.81
180-019	22.20	24.58	0.03	0.03	2.38	525_V1	4994.32	7907.46	9838.14
180-019	59.16	63.78	0.72	0.72	4.63	525_V3	4985.12	7870.51	9838.07
180-020	20.97	23.26	0.02	0.02	2.28	525_V1	4994.81	7908.77	9835.73
180-020	56.20	58.90	3.14	3.14	2.70	525_V3	4987.04	7874.46	9831.47
180-021	51.36	57.00	0.45	0.45	5.64	525_V3	4973.16	7870.06	9837.77
180-022	48.95	53.84	1.03	1.03	4.89	525_V3	4974.01	7873.91	9827.72
180-023	53.10	56.70	3.30	3.30	3.60	525_V3	4960.91	7870.91	9837.95
180-024	49.00	54.10	0.47	0.47	5.10	525_V3	4962.14	7875.16	9827.85
180-025	48.41	52.32	0.29	0.29	3.91	525_V3	4973.36	7875.80	9823.40
180-026	48.10	51.74	0.50	0.50	3.64	525_V3	4973.87	7880.99	9811.88
180-027	52.80	55.40	2.55	2.55	2.60	525_V3	4974.68	7885.66	9798.50
180-027	108.90	114.00	1.82	1.82	5.10	525_FW1	4976.68	7844.51	9758.63
180-028	126.22	126.83	0.00	0.00	0.61	525_FW2	4976.18	7849.58	9734.13
180-029	80.00	85.30	5.99	5.99	5.30	525_V3A	5021.09	7857.92	9846.05
180-030	72.00	77.01	1.01	1.01	5.00	525_V3A	5024.53	7870.97	9810.39
180-031	84.90	95.50	1.92	1.92	10.60	525_V3A	5020.14	7852.81	9859.69
180-032	116.90	125.20	1.64	1.64	8.30	525_V3B	5080.36	7828.02	9858.10
180-033A	72.00	74.60	2.00	2.00	2.60	525_V3B	5062.78	7872.70	9823.36
180-034	80.40	92.79	1.40	1.40	12.39	525_V3A	5015.85	7855.13	9831.38
180-035	50.30	53.00	5.18	5.18	2.70	525_V3	5005.52	7879.48	9830.02
180-035	75.71	78.81	1.52	1.52	3.09	525_V3A	5007.99	7854.43	9825.37
180-035	15.90	20.10	4.39	4.39	4.20	525_V1	5002.27	7912.53	9835.42
180-035	31.17	37.05	0.36	0.36	5.87	525_V2	5003.84	7896.70	9832.92
180-036	16.40	18.94	69.24	16.15	2.54	525_V1	5002.05	7913.87	9831.58
180-036	47.60	50.30	3.08	3.08	2.70	525_V3	5005.06	7884.92	9820.12
180-036	30.09	35.51	0.72	0.72	5.41	525_V2	5003.56	7899.86	9826.06
180-036	76.07	81.65	1.18	1.18	5.58	525_V3A	5007.66	7857.29	9808.97
180-037	19.00	21.31	3.62	3.62	2.31	525_V1	5000.03	7910.13	9839.86
180-037	54.00	57.20	1.10	1.10	3.20	525_V3	4999.60	7874.82	9842.94
180-037	36.00	40.10	0.73	0.73	4.10	525_V2	4999.85	7892.31	9841.47
180-037	74.50	82.20	2.58	2.58	7.70	525_V3A	4999.10	7852.15	9844.70
180-038	18.60	21.02	0.00	0.00	2.42	525_V1	4997.01	7911.16	9833.42

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
180-038	54.20	57.70	1.40	1.40	3.50	525_V3	4991.02	7876.62	9824.65
180-038	32.14	39.66	0.65	0.65	7.53	525_V2	4994.39	7895.76	9829.59
180-039	18.34	19.00	20.33	20.33	0.66	525_V1	4997.40	7913.40	9830.29
180-039	53.90	56.67	0.23	0.23	2.77	525_V3	4992.45	7880.51	9814.98
180-039	31.50	38.67	1.70	1.70	7.17	525_V2	4995.18	7898.65	9823.44
200-002	65.49	74.69	3.01	3.01	9.19	525_MZ1A	4820.73	7853.36	9796.72
200-004	62.26	73.90	0.80	0.80	11.64	525_MZ1A	4836.76	7849.31	9798.77
200-006	60.11	67.04	8.59	8.59	6.93	525_MZ1A	4848.23	7851.37	9803.05
200-008	53.00	62.50	2.89	2.89	9.50	525_MZ1A	4859.63	7849.14	9803.16
210-003	71.90	74.80	6.45	6.45	2.90	525_V3	4973.44	7899.81	9750.00
210-004	69.01	70.00	0.02	0.02	0.99	525_V3	4995.18	7891.27	9783.23
210-009	1.59	6.26	1.92	1.92	4.67	525_V3	4966.23	7882.50	9809.11
210-010	13.47	18.00	1.01	1.01	4.53	525_V3	4964.73	7882.82	9808.73
210-011	68.70	73.60	1.52	1.52	4.90	525_V3	5003.36	7897.25	9782.51
210-013	78.60	82.30	1.77	1.77	3.70	525_V3	4991.50	7906.54	9745.40
210-014	16.09	21.09	1.47	1.47	5.00	525_V3	4968.58	7881.64	9811.05
210-015A	15.00	19.47	0.84	0.84	4.47	525_V3	4967.56	7882.42	9808.80
210-016	16.58	21.35	0.01	0.01	4.77	525_V3	4970.55	7882.26	9808.50
210-017	1.83	4.08	0.08	0.08	2.25	525_V3	4990.32	7879.84	9809.96
210-017	31.14	35.44	0.08	0.08	4.30	525_V3A	5007.92	7855.60	9814.71
210-018	1.72	3.76	0.27	0.27	2.04	525_V3	4990.19	7880.01	9809.07
210-018	28.19	33.14	1.60	1.60	4.95	525_V3A	5006.40	7857.70	9804.70
210-019	23.74	28.80	0.66	0.66	5.06	525_V3A	5016.11	7865.42	9809.50
210-020	24.15	30.70	1.57	1.57	6.55	525_V3A	5016.60	7864.77	9813.79
210-021	23.26	28.21	1.27	1.27	4.95	525_V3A	5015.60	7866.10	9805.47
210-031	39.00	43.00	1.99	1.99	4.00	525_FW1A	5022.28	7844.26	9785.33
230-004A	123.20	132.60	1.99	1.99	9.40	525_MZ1A	4865.96	7848.49	9788.82
230-005	121.93	133.80	2.23	2.23	11.87	525_MZ1A	4865.47	7848.48	9803.30
230-006	112.49	120.00	2.39	2.39	7.51	525_MZ1A	4845.08	7850.60	9798.76
230-007	112.01	117.76	11.65	9.42	5.75	525_MZ1A	4847.58	7852.77	9789.83
230-008	107.00	112.32	2.38	2.38	5.32	525_MZ1A	4843.70	7858.83	9771.70
230-009	106.50	110.90	2.42	2.42	4.40	525_MZ1A	4841.27	7861.48	9761.68
230-010	108.36	115.50	0.45	0.45	7.14	525_MZ1A	4841.52	7863.11	9748.42
230-011	106.70	116.50	2.60	2.60	9.80	525_MZ1A	4832.62	7850.58	9803.09
230-012	102.89	113.15	0.84	0.84	10.26	525_MZ1A	4830.14	7853.03	9790.66
230-013	100.92	105.90	1.02	1.02	4.99	525_MZ1A	4827.27	7858.59	9774.38
230-014	102.07	106.52	2.84	2.84	4.45	525_MZ1A	4829.69	7862.67	9758.86
230-014	127.15	131.85	0.00	0.00	4.70	525_MZ1B	4837.89	7840.48	9750.18
230-016	97.50	105.00	5.85	5.85	7.50	525_MZ1A	4817.01	7856.71	9786.45
230-017	94.60	101.90	2.66	2.66	7.30	525_MZ1A	4814.46	7861.14	9772.67
230-018	127.95	131.78	0.00	0.00	3.84	525_MZ1B	4819.65	7835.94	9747.82
230-018	95.00	101.00	3.99	3.99	6.00	525_MZ1A	4814.07	7865.29	9758.91
240-002	71.14	76.20	0.39	0.39	5.05	525_V3	4977.05	7906.75	9736.31
240-002	107.58	116.23	1.17	1.17	8.65	525_FW1	4997.09	7883.10	9713.94
240-003	115.90	118.50	3.34	3.34	2.60	525_FW1	4992.11	7890.85	9695.23
240-003	72.20	75.80	1.59	1.59	3.60	525_V3	4971.58	7913.17	9726.00
240-003	44.30	51.00	2.32	2.32	6.70	525_V2	4959.24	7926.58	9745.03
240-005	77.00	82.89	1.89	1.89	5.89	525_V3	4988.44	7912.13	9732.34
240-007A	80.63	90.10	1.50	1.50	9.47	525_V3	5005.91	7912.77	9747.21
240-008	84.72	88.40	2.65	2.65	3.67	525_V3	4997.96	7917.30	9728.36
240-009	50.62	56.24	0.33	0.33	5.62	525_V2	4968.08	7933.61	9740.14
240-009	87.80	94.50	5.81	5.81	6.70	525_V3	4990.85	7921.01	9712.82
240-010	76.97	85.54	2.11	2.11	8.56	525_V3	5002.08	7912.94	9744.08
240-011	46.40	48.70	2.05	2.05	2.30	525_V2	4971.07	7932.86	9748.74
240-011	83.87	89.00	2.73	2.73	5.13	525_V3	4996.40	7917.75	9723.41
240-013	117.80	120.60	4.19	4.19	2.80	525_FW1	4972.83	7908.72	9673.90
240-013	86.10	91.80	4.12	4.12	5.70	525_V3	4963.49	7919.60	9700.54
240-013	47.50	56.40	1.12	1.12	8.89	525_V2	4952.04	7932.54	9733.26
240-014	66.10	68.00	1.71	1.71	1.90	525_V3	4966.78	7897.77	9751.06
240-014	120.30	124.00	3.17	3.17	3.70	525_FW2	4991.75	7854.53	9727.78
240-014	103.40	111.60	3.32	3.32	8.20	525_FW1	4985.11	7866.02	9733.97
240-015	65.00	66.30	6.50	6.50	1.30	525_V3	4962.27	7905.60	9738.98
240-015	123.00	127.50	3.38	3.38	4.50	525_FW2	4985.75	7864.92	9702.29
240-015	102.20	107.85	1.23	1.23	5.66	525_FW1	4977.78	7878.73	9714.74
240-016	75.20	78.00	6.37	6.37	2.80	525_V3	4954.13	7920.44	9711.17
240-016	130.80	134.10	3.91	3.91	3.30	525_FW2	4967.51	7897.74	9661.93

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
240-016	47.44	55.86	0.22	0.22	8.42	525_V2	4948.29	7930.31	9733.33
240-017	92.50	96.50	5.64	5.64	4.00	525_V3	4972.09	7922.76	9696.42
240-017	49.80	65.49	1.23	1.23	15.70	525_V2	4958.49	7934.22	9728.70
240-018	100.20	105.00	6.05	6.05	4.80	525_V3	4977.96	7927.71	9688.40
240-018	56.79	73.39	9.51	9.51	16.59	525_V2	4962.84	7936.58	9721.55
240-019	123.39	125.77	0.03	0.03	2.38	525_FW2	4970.86	7885.48	9678.87
240-019	70.46	74.17	0.00	0.00	3.72	525_V3	4955.95	7913.58	9720.31
240-019	41.50	48.10	0.90	0.90	6.60	525_V2	4948.66	7927.77	9742.73
240-020	81.70	87.55	6.57	6.57	5.85	525_V3	4979.64	7918.43	9714.06
240-020	119.20	126.00	1.73	1.73	6.80	525_FW1	4998.96	7903.98	9684.74
240-020	47.60	55.85	2.60	2.60	8.24	525_V2	4962.93	7930.93	9739.50
240-021	45.60	50.60	1.67	1.67	5.00	525_V2	4942.31	7916.90	9745.39
240-022	82.00	87.00	7.86	7.86	5.00	525_V3A	4943.06	7912.62	9704.11
240-022	49.04	58.10	0.26	0.26	9.06	525_V2	4940.62	7926.45	9731.67
260-001	139.97	141.65	0.00	0.00	1.68	525_MZ1B	4818.90	7834.54	9748.65
260-001	107.00	111.00	0.90	0.90	4.00	525_MZ1A	4813.26	7865.60	9752.60
260-004	136.90	140.90	1.56	1.56	4.00	525_MZ1B	4840.96	7844.13	9739.99
260-004	115.50	121.51	5.57	5.57	6.02	525_MZ1A	4833.93	7862.87	9743.88
260-005	135.30	137.10	6.26	6.26	1.80	525_MZ1B	4840.54	7852.50	9720.06
260-006	139.70	143.30	2.94	2.94	3.60	525_MZ1B	4829.24	7836.61	9745.70
260-006	108.24	114.05	2.07	2.07	5.81	525_MZ1A	4821.10	7865.50	9750.21
260-007	137.40	139.20	5.41	5.41	1.80	525_MZ1B	4831.35	7844.60	9727.07
260-008	114.90	125.60	3.85	3.85	10.70	525_MZ1B	4762.90	7859.82	9732.27
260-008	99.90	112.70	2.89	2.89	12.80	525_MZ1A	4766.15	7872.84	9736.07
260-009	103.40	108.00	1.30	1.30	4.60	525_MZ1A	4763.81	7871.09	9750.36
260-009	114.30	120.00	5.98	5.98	5.70	525_MZ1B	4760.88	7860.17	9748.58
260-010	137.99	141.18	0.19	0.19	3.19	525_MZ2	4759.32	7847.72	9709.88
260-010	98.21	107.02	0.00	0.00	8.81	525_MZ1A	4767.74	7880.68	9724.35
260-011	113.20	118.20	2.35	2.35	5.00	525_MZ1A	4833.11	7864.14	9754.32
260-011	136.40	143.10	3.78	3.78	6.70	525_MZ1B	4841.31	7841.66	9751.83
260-012	100.80	105.40	3.50	3.50	4.60	525_MZ1A	4755.66	7875.54	9764.54
260-013	105.18	118.58	5.22	5.22	13.40	525_MZ1A	4752.52	7869.97	9741.07
260-017	97.91	104.19	10.55	10.55	6.28	525_MZ1A	4759.70	7872.14	9774.21
260-019	135.40	138.50	1.65	1.65	3.10	525_MZ2	4760.91	7847.82	9709.46
260-019	94.40	105.30	2.85	2.85	10.90	525_MZ1A	4760.08	7881.40	9725.22
260-022	116.90	120.10	6.23	6.23	3.20	525_MZ1C	4743.96	7866.41	9715.87
260-022	98.60	109.60	4.52	4.52	11.00	525_MZ1A	4745.31	7879.11	9722.51
260-025	136.70	139.00	4.68	4.68	2.30	525_MZ2	4771.58	7876.05	9667.93
260-033	99.80	109.70	19.57	15.35	9.90	525_MZ1A	4727.95	7882.15	9723.77
260-034	109.00	112.90	2.49	2.49	3.90	525_MZ1A	4728.73	7885.19	9704.84
260-036	163.80	166.43	0.50	0.50	2.63	525_MZ2	4739.62	7891.04	9623.64
260-037	110.74	114.32	2.86	2.86	3.58	525_MZ1C	4759.49	7876.33	9707.48
260-037	137.10	143.30	2.03	2.03	6.20	525_MZ2	4760.51	7852.80	9692.97
260-037	91.10	101.30	1.84	1.84	10.20	525_MZ1A	4759.26	7890.22	9716.06
260-038	143.50	145.20	1.31	1.31	1.70	525_MZ2	4761.33	7861.42	9673.61
260-039	101.76	105.00	1.81	1.81	3.24	525_MZ1A	4743.63	7887.02	9710.05
260-039	110.90	115.50	2.58	2.58	4.60	525_MZ1C	4742.55	7878.94	9704.58
260-040	150.00	152.56	7.82	7.82	2.56	525_MZ2	4741.58	7859.57	9666.85
260-041	102.30	114.60	25.05	11.28	12.30	525_MZ1A	4740.20	7871.28	9732.71
260-044	157.20	164.00	9.87	9.87	6.80	525_MZ2	4763.03	7881.14	9633.66
260-045	165.00	168.00	4.20	4.20	3.00	525_MZ2	4741.00	7899.86	9614.20
260-056	151.37	153.80	1.96	1.96	2.43	525_MZ1B	4841.50	7851.88	9721.15
270-001	48.10	50.58	0.00	0.00	2.48	525_V3	4981.20	7885.71	9787.69
270-004	17.01	19.80	0.49	0.49	2.80	525_V3	4981.20	7904.99	9743.05
270-005	48.30	50.30	85.97	21.97	2.00	525_V3	4987.50	7882.83	9784.49
270-008	15.42	19.50	3.92	3.92	4.08	525_V3	4987.50	7906.33	9743.04
270-009	17.20	24.00	1.25	1.25	6.80	525_V3	4987.50	7910.19	9735.14
270-011	15.72	23.30	0.33	0.33	7.58	525_V3	5002.85	7908.81	9751.78
270-012	14.28	21.29	0.84	0.84	7.01	525_V3	4997.92	7912.66	9740.90
270-013	23.79	30.31	1.23	1.23	6.52	525_FW1A	5009.03	7867.78	9757.20
270-014	29.40	35.46	2.06	2.06	6.06	525_FW1	5005.51	7861.71	9749.91
270-015	35.46	41.06	1.21	1.21	5.61	525_FW1A	5006.93	7856.21	9765.81
270-016	27.00	33.97	0.42	0.42	6.97	525_FW1A	5015.95	7867.95	9757.20
270-017	27.00	32.00	4.41	4.41	5.00	525_FW1A	5015.03	7869.17	9751.57
270-018	42.00	45.00	1.93	1.93	3.00	525_FW1A	5023.30	7858.20	9765.50
270-020	31.00	34.00	1.77	1.77	3.00	525_FW1A	5022.47	7872.16	9751.56

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
270-024	27.28	34.57	0.24	0.24	7.28	525_V3	4994.16	7907.58	9747.13
270-025	31.76	41.57	0.39	0.39	9.81	525_V3	4994.82	7911.74	9740.56
270-026	30.86	42.57	1.56	1.56	11.71	525_V3	5001.17	7911.69	9746.12
270-027	36.31	47.23	1.03	1.03	10.92	525_V3	5002.26	7914.85	9738.90
270-028	35.62	48.70	1.74	1.74	13.08	525_V3	5009.59	7913.92	9745.90
270-029	43.50	53.10	3.16	3.16	9.60	525_V3	5011.79	7917.90	9738.38
270-030	15.00	25.50	2.89	2.89	10.50	525_FW1A	5013.19	7855.88	9771.12
270-031	11.00	17.00	0.73	0.73	6.00	525_FW1A	5006.29	7862.33	9763.72
270-031	1.49	8.29	7.48	6.43	6.81	525_FW1	5006.17	7855.15	9758.11
270-032	82.35	84.20	7.66	7.66	1.85	525_V2	5007.47	7929.54	9783.58
270-032	12.00	18.00	3.03	3.03	6.00	525_FW1A	5006.35	7865.39	9760.23
270-032	1.67	9.14	1.85	1.85	7.47	525_FW1	5006.19	7856.38	9756.95
480-001	85.21	86.77	0.00	0.00	1.56	525_FW2C	4858.78	7904.38	9538.73
480-001	68.98	77.72	0.91	0.91	8.74	525_FW2B	4851.17	7914.47	9539.02
480-002	89.30	96.50	2.25	2.25	7.20	525_FW2C	4867.86	7902.87	9538.17
480-002	72.22	79.45	7.72	7.72	7.23	525_FW2B	4856.83	7915.86	9538.88
480-003	61.83	95.63	2.15	2.15	33.80	525_FW2A	4874.48	7932.45	9540.00
480-004	77.81	98.74	4.56	4.56	20.92	525_FW2A	4888.56	7939.25	9540.45
480-012	64.08	96.65	0.80	0.00	32.57	525_V3B	4869.05	7965.84	9572.81
500-001	162.52	173.10	1.40	1.40	10.59	525_FW2C	4873.80	7915.64	9520.81
500-001	129.99	147.98	2.63	2.63	17.99	525_FW2B	4851.00	7933.10	9523.25
500-002	176.90	186.50	4.07	4.07	9.60	525_FW2B	4886.21	7909.59	9546.03
500-002	143.66	162.07	1.50	1.50	18.41	525_FW2A	4863.48	7927.21	9543.92
500-003	182.04	189.30	2.16	2.16	7.27	525_FW2B	4886.35	7904.80	9555.73
500-003	151.35	167.48	1.14	1.14	16.14	525_FW2A	4865.71	7920.79	9553.05
500-004	177.65	183.43	0.00	0.00	5.79	525_FW2A	4881.61	7912.69	9572.80
500-006	145.84	165.60	3.87	3.87	19.76	525_FW2B	4871.09	7933.01	9524.43
500-007	141.17	176.61	1.87	1.87	35.44	525_FW2A	4875.50	7933.95	9539.86
500-008	159.97	178.74	0.60	0.60	18.77	525_FW2A	4878.27	7921.51	9554.04
500-009	178.50	189.19	2.52	2.52	10.69	525_FW2A	4889.57	7918.21	9572.66
500-010	181.48	190.86	1.20	1.20	9.38	525_FW2A	4888.00	7914.96	9579.89
500-011	134.79	164.50	1.12	1.12	29.71	525_FW2A	4872.30	7946.84	9531.75
500-012	158.70	180.46	2.72	2.72	21.76	525_FW2A	4889.12	7936.73	9542.13
525-004	131.00	135.70	4.49	4.49	4.70	650_UM2	4709.74	7910.15	9430.74
525-004	42.51	77.81	5.32	5.32	35.31	650_UM1	4705.47	7845.10	9463.79
525-005	42.69	85.75	4.55	4.55	43.05	650_UM1	4713.35	7848.38	9463.32
525-006	44.36	75.69	1.81	1.81	31.33	650_UM1	4719.47	7844.21	9467.20
525-011	40.46	43.01	5.86	5.86	2.55	650_UM1	4717.61	7830.82	9492.84
525-012	41.10	44.50	6.99	6.99	3.40	650_UM1	4714.35	7831.54	9479.90
525-015	51.99	54.54	3.81	3.81	2.55	650_UM1	4685.61	7839.76	9474.86
525-015	93.93	97.61	0.01	0.01	3.68	650_UM2E	4675.86	7879.41	9463.12
525-016	107.67	110.44	0.64	0.64	2.77	650_UM2E	4668.88	7880.84	9438.13
525-016	65.39	74.30	6.03	6.03	8.91	650_UM1	4680.46	7848.63	9457.21
525-016	120.62	134.99	0.24	0.24	14.36	650_UM2	4663.44	7896.31	9429.03
525-017	43.98	51.01	2.48	2.48	7.03	650_UM1	4717.35	7835.30	9478.84
525-019	64.28	68.00	3.03	3.03	3.72	650_UM1	4736.43	7846.36	9473.62
525-020	74.00	82.65	0.56	0.56	8.65	650_UM1	4739.04	7853.05	9457.88
525-034	80.10	86.70	4.69	4.69	6.60	525_MZ1A	4604.31	7910.47	9523.28
525-035	89.20	93.20	5.61	5.61	4.00	525_MZ1A	4600.48	7923.05	9497.95
525-036	82.78	87.30	9.75	9.55	4.52	525_MZ1A	4603.08	7915.26	9512.74
525-040	103.70	110.10	5.78	5.78	6.40	525_MZ1A	4579.96	7930.30	9484.11
525-041	80.80	84.80	5.31	5.31	4.00	525_MZ1A	4619.80	7913.24	9525.19
525-045	98.90	102.60	1.91	1.91	3.70	525_MZ1A	4575.54	7920.55	9496.64
525-046	72.80	77.50	39.36	19.80	4.70	650_UM1	4735.93	7878.89	9429.35
525-047	74.40	76.99	0.00	0.00	2.59	650_UM1	4743.24	7865.42	9440.81
525-048	73.30	74.70	0.01	0.01	1.40	650_UM1	4746.61	7856.99	9455.16
525-050	63.12	80.99	6.17	6.17	17.88	650_UM1	4725.74	7875.09	9433.12
525-051	69.40	74.00	5.59	5.59	4.60	650_UM1	4733.96	7864.85	9443.28
525-052	71.30	73.80	2.59	2.59	2.50	650_UM1	4741.55	7855.29	9457.05
525-053	76.99	79.35	1.19	1.19	2.36	650_UM1	4743.47	7842.82	9471.44
525-055	60.20	79.51	2.55	2.55	19.31	650_UM1	4722.23	7879.41	9432.73
525-056	61.21	78.60	4.92	4.92	17.39	650_UM1	4723.58	7867.83	9440.86
525-057	64.20	75.00	6.26	6.26	10.80	650_UM1	4726.26	7859.78	9449.90
525-058	66.20	75.70	1.61	1.61	9.50	650_UM1	4727.58	7850.91	9461.18
525-059	72.80	76.50	2.11	2.11	3.70	650_UM1	4728.55	7840.76	9479.36
525-060	75.20	79.00	4.66	4.66	3.80	650_UM1	4728.31	7837.43	9484.34

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
525-061	59.10	82.52	13.11	13.10	23.42	650_UM1	4717.69	7872.81	9435.54
525-062	61.19	61.70	0.23	0.23	0.51	650_UM1	4720.44	7867.81	9452.40
525-062	61.70	77.55	3.27	3.27	15.85	650_UM1	4720.88	7861.77	9446.90
525-063	65.30	79.90	6.16	6.16	14.60	650_UM1	4717.16	7849.18	9459.53
525-064	77.39	86.90	4.13	4.13	9.50	650_UM1	4712.75	7834.50	9471.14
525-066	61.70	85.00	5.60	5.60	23.30	650_UM1	4710.14	7862.99	9440.80
525-067	66.80	86.00	4.20	4.20	19.20	650_UM1	4707.93	7848.43	9454.40
525-068	63.50	88.10	8.44	8.44	24.60	650_UM1	4705.92	7866.01	9435.60
525-069	66.52	89.00	7.68	7.68	22.48	650_UM1	4703.00	7851.08	9449.35
525-070	75.50	85.80	4.34	4.34	10.30	650_UM1	4698.04	7840.20	9465.72
525-071	70.21	101.00	4.26	4.26	30.79	650_UM1	4690.26	7854.85	9437.47
525-072	76.50	85.50	7.34	7.34	9.00	650_UM1	4686.40	7847.87	9457.56
525-077	11.64	41.57	2.25	2.25	29.92	525_FW2B	4836.70	7949.74	9497.87
525-078	6.86	39.24	2.35	2.35	32.38	525_FW2B	4834.93	7948.33	9506.36
525-080	19.82	36.31	1.61	1.61	16.49	525_FW2B	4844.17	7944.40	9499.74
525-081	11.25	48.90	2.11	2.11	37.65	525_FW2B	4847.28	7944.61	9506.65
525-082	50.16	60.00	0.24	0.24	9.84	525_FW2A	4867.29	7956.38	9520.21
525-082	19.39	33.62	0.09	0.09	14.24	525_FW2B	4843.50	7942.34	9512.92
525-083	23.66	38.85	2.17	2.17	15.19	525_FW2B	4848.91	7943.00	9500.94
525-084	19.83	54.05	0.78	0.78	34.22	525_FW2B	4855.13	7944.12	9506.71
525-085	17.91	58.69	2.60	2.60	40.78	525_FW2B	4856.04	7943.76	9513.28
525-086	22.69	29.80	4.02	4.02	7.11	525_FW3	4845.65	7921.19	9499.67
525-087	29.20	36.39	5.38	5.38	7.19	525_FW3	4852.80	7918.56	9506.65
525-088	33.25	63.65	2.87	2.87	30.41	525_FW2C	4866.83	7916.28	9518.25
525-089	14.80	25.00	2.57	2.57	10.20	525_FW3	4835.77	7917.16	9497.31
525-090	22.77	31.00	2.44	2.44	8.23	525_FW3	4843.01	7911.59	9506.25
525-101	64.40	71.60	4.37	4.37	7.20	650_UM2E	4668.30	7875.04	9449.09
525-101	86.91	111.00	6.53	6.53	24.08	650_UM1	4672.44	7852.55	9428.22
525-102	58.50	63.40	36.48	30.50	4.90	650_UM2E	4667.96	7875.39	9459.85
525-102	87.00	97.00	6.72	6.72	10.00	650_UM1	4671.73	7850.46	9441.72
525-103	0.00	20.30	0.14	0.14	20.30	525_FW2B	4830.02	7945.35	9506.60
525-104	0.00	18.60	1.75	1.75	18.60	525_FW2B	4840.00	7946.90	9506.60
525-105	24.00	30.00	9.83	9.83	6.00	525_FW2C	4850.00	7929.10	9506.60
525-105	1.00	18.50	1.96	1.96	17.50	525_FW2B	4850.00	7946.35	9506.60
525-106	0.00	6.51	0.56	0.56	6.51	525_FW2B	4865.20	7945.55	9506.60
525-106	17.20	28.01	1.42	1.42	10.81	525_FW2C	4865.20	7926.19	9506.60
525-107	19.90	27.00	0.26	0.26	7.10	525_FW2B	4834.99	7942.05	9507.70
525-108	6.00	9.00	0.96	0.96	3.00	525_FW2C	4845.40	7925.25	9510.27
525-108	16.30	26.96	2.04	2.04	10.66	525_FW2B	4845.40	7938.53	9515.10
525-109	0.00	11.00	3.38	3.38	11.00	525_FW2C	4858.62	7924.57	9509.58
525-109	15.53	27.00	2.39	2.39	11.47	525_FW2B	4858.10	7939.37	9514.97
525-110	0.00	10.50	0.82	0.82	10.50	525_FW2C	4871.20	7928.85	9503.60
525-111	2.52	13.39	1.64	1.64	10.87	525_FW2C	4871.20	7928.08	9506.32
525-112	3.40	16.26	0.89	0.89	12.86	525_FW2C	4875.81	7929.28	9503.60
525-113	2.83	15.46	0.51	0.51	12.63	525_FW2C	4875.23	7928.19	9506.73
540-003	61.00	66.59	3.11	3.11	5.59	525_MZ1A	4581.08	7941.67	9473.23
540-011	0.00	2.60	2.79	2.79	2.60	525_MZ1A	4577.84	7936.91	9479.45
540-012	0.13	2.82	0.16	0.16	2.69	525_MZ1A	4577.80	7937.21	9478.78
540-013	0.90	3.27	2.72	2.72	2.37	525_MZ1A	4577.71	7937.87	9478.00
540-014	1.28	4.13	3.53	3.53	2.84	525_MZ1A	4577.64	7938.39	9476.90
540-015	2.00	7.35	4.88	4.88	5.35	525_MZ1A	4577.44	7939.81	9474.86
565-001	26.71	30.87	6.62	6.62	4.16	650_UM2	4757.37	7909.14	9452.00
585-001	0.00	3.44	5.48	5.48	3.44	650_UM2	4738.39	7912.98	9435.50
585-002	0.00	4.45	6.05	6.05	4.45	650_UM2	4748.26	7915.91	9435.50
585-003	0.00	6.94	1.00	1.00	6.94	650_UM2	4758.19	7918.04	9435.50
585-004	0.00	2.10	4.50	4.50	2.10	650_UM2C	4766.74	7923.29	9435.50
585-005	2.46	6.14	3.38	3.38	3.68	650_UM2B	4763.03	7933.04	9435.50
585-006	7.40	9.70	5.89	5.89	2.30	650_UM2B	4752.08	7934.03	9435.50
585-006	0.00	2.86	0.40	0.40	2.86	650_UM2C	4754.51	7927.34	9435.50
585-007	0.00	5.44	3.99	3.99	5.44	650_UM2	4744.47	7925.36	9435.50
585-008	0.00	3.09	0.34	0.34	3.09	650_UM2	4735.37	7920.95	9435.50
585-015	2.00	5.29	4.67	4.67	3.29	650_UM2B	4763.36	7932.22	9436.75
585-016	0.00	2.55	2.20	2.20	2.55	650_UM2C	4754.59	7927.13	9435.94
585-017	17.75	21.40	8.24	8.24	3.65	650_UM2B	4739.11	7940.08	9442.19
585-017	0.00	6.10	2.90	2.90	6.10	650_UM2	4744.42	7925.49	9436.54
585-020	0.00	5.00	4.00	4.00	5.00	650_UM2	4748.30	7915.79	9436.36

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
585-021	0.00	7.39	0.04	0.04	7.39	650_UM2	4758.19	7918.04	9436.76
585-022	0.00	2.67	0.00	0.00	2.67	650_UM2C	4766.83	7923.52	9435.96
630-001	2.00	23.55	2.03	2.03	21.54	650_UM2	4702.71	7921.97	9397.62
630-002	36.42	44.97	0.00	0.00	8.55	650_UM2B	4696.30	7950.12	9401.22
630-002	2.91	22.80	2.16	2.16	19.89	650_UM2	4702.32	7924.04	9393.54
630-003	36.76	43.04	2.94	2.94	6.27	650_UM2B	4691.16	7947.28	9404.95
630-003	3.70	24.80	4.82	4.82	21.10	650_UM2	4698.90	7924.79	9395.34
630-004	66.00	77.80	5.17	5.17	11.80	650_UM2D	4715.56	7966.33	9435.70
630-004	42.54	56.60	1.66	1.66	14.06	650_UM2B	4712.67	7949.34	9421.51
630-004	2.45	21.92	0.41	0.41	19.46	650_UM2	4705.86	7921.35	9397.71
630-005	35.54	49.00	1.62	1.62	13.46	650_UM2B	4715.52	7950.55	9403.11
630-005	2.89	19.39	0.08	0.08	16.50	650_UM2	4706.34	7922.42	9393.45
630-005	61.41	80.69	0.16	0.16	19.28	650_UM2D	4723.66	7976.64	9412.08
630-006	34.95	45.10	1.61	1.61	10.15	650_UM2B	4713.69	7950.88	9390.36
630-006	4.42	17.05	0.35	0.35	12.63	650_UM2	4706.38	7922.55	9390.02
630-006	64.09	78.58	2.45	2.45	14.49	650_UM2D	4720.38	7981.47	9390.90
630-007	38.68	46.93	1.00	1.00	8.25	650_UM2B	4717.61	7945.35	9413.06
630-007	67.20	82.50	0.20	0.20	15.30	650_UM2D	4729.05	7969.51	9430.71
630-007	2.35	18.61	1.34	1.34	16.26	650_UM2	4706.62	7920.34	9395.79
630-008	70.34	75.86	0.00	0.00	5.52	650_UM2D	4742.31	7972.99	9401.02
630-008	39.69	49.74	0.11	0.11	10.05	650_UM2B	4728.02	7948.87	9396.68
630-008	3.30	15.50	2.14	2.14	12.20	650_UM2	4708.32	7920.07	9391.33
630-009	72.49	77.45	0.01	0.01	4.95	650_UM2D	4741.38	7976.79	9391.32
630-009	4.04	15.80	4.12	4.12	11.76	650_UM2	4708.46	7920.71	9390.09
630-009	37.39	50.58	3.23	3.23	13.19	650_UM2B	4726.02	7949.90	9390.71
630-010	40.46	54.90	0.82	0.82	14.44	650_UM2B	4728.03	7950.54	9376.06
630-010	9.00	27.20	3.99	3.99	18.20	650_UM2	4712.63	7926.82	9384.71
630-011	125.70	136.20	15.27	15.27	10.50	UM5A	4599.65	7905.75	9263.27
630-011	21.49	32.41	2.15	2.15	10.92	UM4	4616.37	7934.83	9361.71
630-011	85.50	97.10	6.00	6.00	11.60	650_UM1	4606.07	7916.91	9300.77
630-011	84.00	97.09	5.44	5.44	13.09	UM1B	4606.19	7917.12	9301.48
630-019	142.80	145.20	0.80	0.80	2.40	UM5A	4566.38	7900.44	9260.57
630-019	40.50	44.00	1.71	1.71	3.50	UM3	4604.51	7929.97	9350.16
630-019	26.33	35.89	0.04	0.04	9.56	UM4	4608.63	7933.25	9359.98
630-019	117.40	129.00	9.65	9.65	11.60	UM5B	4574.09	7906.59	9278.88
630-019	152.00	175.50	4.26	4.26	23.50	UM5	4559.06	7894.59	9243.18
650-001	153.90	157.37	2.21	2.21	3.47	650_UM2A	4682.04	7930.49	9368.85
650-001	172.29	182.70	1.62	1.62	10.40	650_UM2B	4685.57	7952.05	9368.67
650-001	109.74	126.72	2.50	2.50	16.98	650_UM1	4676.08	7893.58	9368.71
650-002	171.25	174.74	1.94	1.94	3.49	650_UM2B	4679.74	7946.01	9392.80
650-002	141.65	159.09	3.02	3.02	17.44	650_UM2	4677.16	7923.75	9389.66
650-002	94.61	121.20	9.84	9.84	26.59	650_UM1	4672.86	7882.01	9383.36
650-003	92.40	105.00	18.94	15.96	12.60	650_UM1	4671.51	7868.43	9398.99
650-003	134.11	155.24	4.61	4.61	21.12	650_UM2	4673.51	7911.91	9413.76
650-004	154.86	161.19	0.00	0.00	6.33	650_UM2	4697.90	7931.25	9371.87
650-004	174.90	186.50	5.41	5.41	11.60	650_UM2B	4702.94	7953.35	9372.29
650-004	105.00	134.80	8.65	8.32	29.80	650_UM1	4690.25	7893.92	9370.77
650-005	198.32	205.09	0.00	0.00	6.78	650_UM2D	4710.64	7970.53	9397.35
650-005	150.41	162.23	0.01	0.01	11.82	650_UM2	4699.41	7926.96	9391.42
650-005	176.67	188.60	2.24	2.24	11.93	650_UM2B	4706.09	7952.17	9394.90
650-005	106.03	124.90	9.30	9.30	18.87	650_UM1	4689.90	7887.66	9385.55
650-006	85.00	104.00	7.04	7.04	19.00	650_UM2	4697.41	7919.03	9408.23
650-006	44.90	72.13	9.28	9.28	27.22	650_UM1	4700.28	7886.58	9392.94
650-007	142.60	154.35	1.84	1.84	11.75	650_UM2	4708.65	7914.47	9402.10
650-007	177.80	189.84	1.37	1.37	12.03	650_UM2B	4719.52	7947.10	9410.25
650-007	206.95	219.43	0.00	0.00	12.48	650_UM2D	4729.35	7973.92	9417.03
650-007	107.50	130.87	13.39	7.74	23.37	650_UM1	4699.78	7887.35	9395.48
650-008	90.82	101.20	1.13	1.13	10.39	650_UM2	4698.24	7926.89	9390.41
650-008	43.30	69.00	6.94	6.94	25.70	650_UM1	4699.17	7888.17	9380.96
650-009A	178.30	182.22	0.89	0.89	3.92	650_UM2B	4650.29	7950.93	9400.99
650-009A	96.00	108.00	7.04	7.04	12.00	650_UM1	4656.90	7874.21	9387.12
650-010	178.85	183.23	0.00	0.00	4.38	650_UM2B	4652.39	7955.27	9369.12
650-010	133.90	143.40	4.31	4.31	9.50	UM4	4652.95	7912.90	9368.74
650-010	102.40	113.06	2.43	2.43	10.66	650_UM1	4654.80	7882.10	9368.27
650-011a	116.74	128.52	1.09	1.09	11.78	UM1B	4652.95	7896.45	9354.26
650-011a	115.50	128.63	1.23	1.23	13.13	650_UM1	4652.99	7895.89	9354.32

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
650-012	193.50	197.30	0.87	0.87	3.80	650_UM2B	4684.11	7967.09	9328.67
650-012	176.00	179.80	4.69	4.69	3.80	650_UM2A	4682.13	7950.05	9332.09
650-012	191.72	196.10	0.05	0.05	4.38	UM2B	4683.95	7965.64	9328.96
650-012	178.88	185.41	0.58	0.58	6.53	UM2A	4682.61	7954.18	9331.27
650-012	137.26	153.22	6.54	6.54	15.96	650_UM1	4678.69	7918.21	9338.46
650-012	229.21	245.47	0.00	0.00	16.26	UM2B	4689.34	8007.83	9320.23
650-012	134.00	155.07	4.96	4.96	21.06	UM1B	4678.63	7917.52	9338.60
650-015	85.63	101.03	1.31	1.31	15.40	650_UM2	4679.21	7917.06	9401.61
650-015	50.00	69.40	6.25	6.25	19.41	650_UM1	4688.04	7887.00	9389.43
650-016	105.78	110.75	0.01	0.01	4.97	650_UM2	4728.17	7916.59	9433.43
650-016	48.40	84.37	5.34	5.34	35.97	650_UM1	4718.35	7884.86	9408.13
650-017	93.77	102.12	0.00	0.00	8.35	650_UM2	4722.52	7922.43	9406.16
650-017	47.50	74.79	3.26	3.26	27.29	650_UM1	4715.25	7889.25	9392.05
650-018	94.00	101.00	4.68	4.68	7.00	650_UM2	4725.97	7927.09	9387.55
650-018	54.99	79.25	0.34	0.34	24.25	650_UM1	4719.93	7897.99	9381.47
650-019a	116.10	120.00	8.84	8.84	3.90	650_UM2B	4716.23	7951.38	9369.53
650-019a	96.00	104.00	12.75	12.75	8.00	650_UM2	4714.81	7933.39	9369.20
650-019a	54.01	79.10	5.38	5.38	25.09	650_UM1	4713.18	7900.05	9368.65
650-020	82.97	102.50	4.56	4.56	19.53	650_UM2	4703.23	7918.66	9405.56
650-020	43.00	70.00	4.26	4.26	27.00	650_UM1	4704.71	7885.48	9391.06
650-021a	89.97	93.00	1.01	1.01	3.03	650_UM1A	4641.00	7861.74	9373.10
650-021a	102.00	111.00	11.93	11.93	9.00	650_UM1	4637.02	7876.15	9374.42
650-022	115.37	116.98	0.00	0.00	1.60	650_UM2B	4703.76	7947.25	9392.95
650-022	85.92	101.20	4.07	4.07	15.28	650_UM2	4703.85	7925.17	9388.06
650-022	44.50	74.01	1.33	1.33	29.51	650_UM1	4705.55	7891.73	9380.68
650-023	90.03	100.18	0.06	0.06	10.15	650_UM2	4704.66	7928.91	9369.83
650-023	110.40	125.13	3.74	3.74	14.73	650_UM2B	4704.50	7951.55	9370.61
650-023	51.62	77.90	3.09	3.09	26.29	650_UM1	4702.71	7898.65	9368.91
650-024	121.00	124.00	11.93	11.93	3.00	650_UM2	4632.12	7888.51	9392.66
650-024	102.00	105.00	1.31	1.31	3.00	650_UM1	4637.67	7870.90	9388.15
650-025a	93.20	95.55	4.55	4.55	2.35	650_UM1A	4638.53	7864.25	9361.89
650-025a	105.35	117.35	3.75	3.75	12.00	650_UM1	4633.10	7880.33	9361.50
650-025a	93.20	117.13	2.37	2.37	23.93	UM1B	4635.07	7874.47	9361.63
650-025a	157.07	201.59	1.89	1.89	44.52	UM4	4609.69	7944.11	9360.58
650-026a	96.21	104.49	18.35	15.30	8.28	650_UM1A	4633.30	7868.29	9360.95
650-026a	108.50	120.76	4.02	4.02	12.26	650_UM1	4627.35	7881.13	9359.17
650-026a	95.22	121.20	9.17	8.20	25.98	UM1B	4629.95	7875.33	9359.98
650-027b	97.00	100.05	1.65	1.65	3.05	650_UM1A	4627.75	7864.17	9366.93
650-027b	95.68	100.33	1.44	1.44	4.65	UM1B	4627.94	7863.68	9366.92
650-027b	106.00	118.66	5.96	5.96	12.65	650_UM1	4623.05	7877.14	9367.19
650-028	99.86	102.10	8.88	8.88	2.24	650_UM1A	4627.76	7866.70	9359.57
650-028	107.00	123.19	4.08	4.08	16.19	650_UM1	4622.17	7879.65	9359.15
650-028	98.61	122.94	3.56	3.56	24.33	UM1B	4623.79	7875.65	9359.27
650-029	178.70	188.50	7.78	7.78	9.80	UM3	4594.22	7939.08	9332.90
650-029	116.00	127.20	3.48	3.48	11.20	UM1B	4617.79	7882.56	9342.56
650-029	116.01	128.38	3.15	3.15	12.38	650_UM1	4617.57	7883.10	9342.47
650-031	99.00	102.73	14.76	14.76	3.73	650_UM1A	4629.81	7867.59	9360.57
650-031	107.44	121.00	3.68	3.68	13.56	650_UM1	4624.98	7880.03	9360.14
650-031	177.56	195.94	0.25	0.25	18.38	UM4	4596.15	7946.53	9358.27
650-031	97.00	121.17	4.97	4.97	24.17	UM1B	4626.84	7875.25	9360.30
650-032	119.87	131.50	1.50	1.50	11.63	650_UM2B	4706.24	7952.03	9409.56
650-032	83.19	106.24	0.17	0.17	23.05	650_UM2	4704.74	7922.69	9399.76
650-032	44.00	73.00	6.12	6.12	29.00	650_UM1	4703.00	7888.52	9387.87
650-033	101.00	104.33	4.70	4.70	3.33	650_UM2	4694.41	7935.93	9370.60
650-033	111.51	126.02	4.37	4.37	14.51	650_UM2B	4693.03	7951.96	9371.30
650-033	49.39	78.17	3.78	3.78	28.79	650_UM1	4696.71	7897.15	9369.15
650-034	102.00	110.45	6.73	6.73	8.45	650_UM2	4726.68	7918.82	9428.23
650-034	54.50	80.27	2.92	2.92	25.77	650_UM1	4719.57	7887.49	9406.41
650-035	109.30	111.80	1.35	1.35	2.50	650_UM2	4739.12	7931.03	9408.28
650-035	59.74	84.70	2.26	2.26	24.96	650_UM1	4727.51	7897.33	9394.52
650-036	65.20	97.59	3.92	3.92	32.39	650_UM1	4734.11	7908.52	9383.07
650-038	109.39	117.00	1.77	1.77	7.60	650_UM2	4746.34	7923.51	9423.56
650-038	69.30	82.90	4.76	4.76	13.60	650_UM1	4732.98	7894.24	9405.47
650-042	107.51	119.98	7.88	7.88	12.47	650_UM2	4741.14	7915.79	9437.92
650-042	69.66	83.89	0.00	0.00	14.22	650_UM1	4729.33	7889.17	9415.26
650-043	50.18	81.99	12.74	12.19	31.81	650_UM1	4705.95	7881.63	9413.55

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
650-044	92.00	99.50	3.86	3.86	7.50	650_UM2	4697.70	7905.41	9431.05
650-044	49.50	74.00	12.01	12.01	24.50	650_UM1	4700.26	7879.90	9408.72
650-045	50.00	66.00	38.14	26.49	16.00	650_UM1	4691.69	7879.09	9401.73
650-045	83.00	109.00	1.27	1.27	26.00	650_UM2	4681.68	7908.23	9423.97
650-046	90.37	94.99	2.68	2.68	4.63	650_UM2E	4698.51	7887.55	9443.13
650-046	57.00	75.00	6.70	6.70	18.00	650_UM1	4700.81	7871.99	9421.58
650-047	61.90	85.88	3.25	3.25	23.98	650_UM1	4711.26	7877.22	9427.28
650-048	61.70	75.41	2.09	2.09	13.71	650_UM1	4706.34	7872.98	9424.16
650-049	118.00	122.92	7.38	7.38	4.91	650_UM2B	4697.16	7953.09	9352.54
650-049	115.20	124.38	6.63	6.63	9.18	UM2B	4697.18	7952.42	9352.62
650-049	95.38	110.70	2.35	2.35	15.32	650_UM2A	4697.60	7935.80	9354.64
650-049	95.26	111.44	2.32	2.32	16.18	UM2A	4697.59	7936.11	9354.60
650-049	57.85	81.09	0.91	0.91	23.25	650_UM1	4698.46	7902.48	9358.64
650-049	55.30	80.51	0.84	0.84	25.22	UM1B	4698.50	7900.93	9358.83
650-051	49.90	69.01	10.09	10.09	19.11	650_UM1	4686.21	7883.81	9394.69
650-051	86.74	107.15	1.85	1.85	20.40	650_UM2	4689.65	7917.48	9410.80
650-054	0.00	1.04	0.63	0.63	1.04	650_UM1	4727.48	7911.86	9368.13
650-055	119.30	123.95	2.16	2.16	4.65	650_UM2B	4680.75	7945.95	9406.98
650-055	83.28	99.80	5.22	5.22	16.51	650_UM2	4680.75	7917.43	9397.42
650-055	48.77	68.90	3.63	3.63	20.13	650_UM1	4680.75	7886.37	9387.17
650-055A	0.00	1.31	2.55	2.55	1.31	650_UM1	4727.63	7912.03	9368.17
650-056A	50.60	69.10	3.47	3.47	18.50	650_UM1	4680.69	7888.51	9383.20
650-057	0.00	1.51	0.00	0.00	1.51	650_UM1	4724.13	7916.72	9370.20
650-057	30.50	38.12	5.22	5.22	7.62	650_UM2B	4727.76	7948.89	9378.70
650-057	59.20	75.40	2.52	2.52	16.20	650_UM2D	4728.64	7980.81	9386.97
650-058	0.00	1.88	0.09	0.09	1.88	650_UM1	4725.16	7916.89	9369.74
650-058	50.00	53.16	0.89	0.89	3.16	650_UM2B	4734.04	7964.75	9355.78
650-059	50.14	53.00	1.08	1.08	2.85	650_UM2B	4750.11	7953.57	9395.70
650-059	0.00	3.79	2.77	2.77	3.79	650_UM1	4726.82	7917.43	9370.95
650-060	0.00	5.70	3.38	3.38	5.70	650_UM1	4728.30	7918.23	9368.80
650-061	41.30	48.20	4.22	4.22	6.90	650_UM2D	4712.50	7972.05	9385.31
650-061	0.00	10.00	1.73	1.73	10.00	650_UM2	4712.50	7934.70	9371.71
650-061	17.90	28.00	4.65	4.65	10.10	650_UM2B	4712.50	7951.57	9377.85
650-062	17.10	19.60	4.46	4.46	2.50	UM1B	4711.11	7910.85	9355.28
650-062	17.10	20.60	3.63	3.63	3.50	650_UM1	4711.07	7910.49	9354.94
650-064	67.00	69.15	17.00	17.00	2.15	UM1B	4603.79	7896.23	9327.03
650-064	67.00	69.15	16.99	16.99	2.15	650_UM1	4603.79	7896.23	9327.03
650-064	78.70	81.70	2.31	2.31	3.00	UM5B	4602.88	7886.74	9319.54
650-064	90.30	98.20	9.18	9.18	7.90	UM5A	4601.83	7875.69	9310.92
650-064	8.04	22.55	0.41	0.41	14.51	UM4	4609.88	7936.92	9360.05
650-065	77.00	79.50	4.10	4.10	2.50	650_UM1	4610.15	7933.09	9293.13
650-065	77.00	79.50	4.10	4.10	2.50	UM1B	4610.15	7933.09	9293.13
650-065	48.00	51.00	2.59	2.59	3.00	UM3	4610.77	7939.47	9321.15
650-065	127.43	131.50	22.30	22.30	4.07	UM5C	4609.00	7920.74	9243.44
650-065	7.58	18.08	2.60	2.60	10.50	UM4	4611.96	7946.21	9357.17
650-065	108.21	121.15	0.56	0.56	12.94	UM5A	4609.33	7924.34	9257.78
650-066	62.50	64.50	4.37	4.37	2.00	UM1B	4614.20	7901.23	9327.33
650-066	63.00	70.00	1.40	1.40	7.00	650_UM1	4614.30	7899.00	9325.32
650-066	97.50	105.00	26.04	19.18	7.50	UM5A	4615.44	7873.21	9302.06
650-066	8.24	22.17	1.14	1.14	13.93	UM4	4612.78	7937.12	9359.60
650-067	115.60	119.00	3.31	3.31	3.40	UM5C	4614.33	7885.05	9271.12
650-067	62.00	65.50	0.76	0.76	3.50	650_UM1	4613.58	7914.40	9315.89
650-067	101.00	107.80	2.68	2.68	6.80	UM5A	4614.14	7892.16	9281.88
650-067	62.57	70.66	0.09	0.09	8.09	UM1B	4613.61	7912.84	9313.49
650-067	7.46	19.50	2.68	2.68	12.04	UM4	4612.64	7941.48	9358.24
650-068	80.90	83.19	0.00	0.00	2.29	UM1B	4614.03	7933.42	9289.16
650-068	79.50	81.92	0.03	0.03	2.42	650_UM1	4614.00	7933.67	9290.47
650-068	48.04	51.01	0.68	0.68	2.98	UM3	4613.27	7939.60	9321.07
650-068	120.70	130.88	6.29	6.29	10.18	UM5C	4615.50	7924.62	9246.33
650-068	7.66	18.00	1.56	1.56	10.34	UM4	4612.56	7946.18	9357.16
650-068	105.00	116.50	11.53	9.98	11.50	UM5A	4614.85	7927.74	9261.03
650-069	84.30	87.50	6.02	6.02	3.20	FW1	4630.65	7880.60	9320.49
650-069	59.40	65.50	1.74	1.74	6.10	650_UM1	4626.83	7899.31	9334.06
650-069	59.40	65.50	1.74	1.74	6.10	UM1B	4626.83	7899.31	9334.06
650-069	8.11	21.00	1.36	1.36	12.89	UM4	4615.16	7936.78	9361.45
650-070	7.90	18.23	5.07	5.07	10.33	UM4	4614.30	7940.91	9359.25

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
650-070	57.71	69.27	4.69	4.69	11.56	650_UM1	4623.24	7911.30	9319.44
650-070	57.70	71.10	4.53	4.53	13.40	UM1B	4623.42	7910.77	9318.72
650-071	0.00	2.28	0.00	0.00	2.28	650_UM1	4687.50	7905.69	9371.07
650-071	31.00	53.01	2.36	2.36	22.01	650_UM2	4687.86	7919.59	9409.50
650-072	21.83	24.81	0.94	0.94	2.98	650_UM2	4687.50	7926.75	9379.15
650-072	0.00	3.13	0.01	0.01	3.13	650_UM1	4687.50	7906.74	9370.61
650-072	42.03	47.18	0.00	0.00	5.14	650_UM2B	4687.50	7946.29	9387.60
650-073	55.20	59.34	5.79	5.79	4.14	650_UM1	4637.50	7886.42	9346.71
650-073	14.00	19.97	14.01	14.01	5.97	UM4	4637.50	7923.22	9363.09
650-073	55.20	61.30	3.93	3.93	6.10	UM1B	4637.50	7885.53	9346.31
650-074	51.70	53.90	2.21	2.21	2.20	650_UM1	4638.57	7898.03	9336.55
650-074	52.50	57.27	1.01	1.01	4.77	UM1B	4638.41	7896.44	9335.22
650-074	11.97	17.80	20.20	20.20	5.83	UM4	4637.85	7927.22	9360.59
650-074	67.30	73.81	0.00	0.00	6.51	FW1	4636.93	7884.52	9325.18
650-075	59.10	61.20	4.45	4.45	2.10	UM1B	4639.61	7908.91	9317.86
650-075	62.01	64.55	0.21	0.21	2.54	650_UM1	4639.89	7907.38	9315.14
650-075	11.85	16.14	2.60	2.60	4.29	UM4	4637.45	7931.75	9357.88
650-076C	146.49	152.59	1.36	1.36	6.10	650_UM2B	4717.91	7977.78	9334.22
650-076C	142.56	150.20	0.49	0.49	7.63	UM2B	4716.77	7974.92	9334.95
650-076C	105.60	117.07	0.09	0.09	11.47	650_UM2A	4704.17	7943.26	9343.13
650-076C	50.00	90.70	4.93	4.93	40.69	650_UM1	4689.45	7906.27	9352.87
650-076C	50.01	93.89	4.67	4.67	43.89	UM1B	4690.02	7907.71	9352.48
650-077	84.09	103.16	2.46	2.46	19.06	650_UM2	4684.86	7916.41	9409.56
650-077	48.92	68.10	6.41	6.41	19.18	650_UM1	4690.46	7885.27	9394.34
650-078	114.94	119.11	4.71	4.71	4.17	650_UM2B	4677.32	7945.61	9392.22
650-078	86.50	95.00	4.34	4.34	8.50	650_UM2	4682.37	7920.41	9386.79
650-078	46.00	71.00	12.50	12.27	25.00	650_UM1	4688.51	7889.45	9380.18
650-079	119.10	123.40	17.27	17.27	4.30	UM2B	4698.07	7953.21	9348.22
650-079	119.06	123.40	17.12	17.12	4.34	650_UM2B	4698.07	7953.19	9348.22
650-079	97.03	112.67	3.48	3.48	15.63	UM2A	4698.22	7937.00	9350.70
650-079	94.85	111.74	3.80	3.80	16.89	650_UM2A	4698.23	7935.46	9350.94
650-079	61.37	81.70	7.51	7.51	20.33	650_UM1	4698.72	7904.08	9355.83
650-079	58.00	81.70	6.79	6.79	23.70	UM1B	4698.76	7902.42	9356.08
650-080	56.57	58.74	9.59	9.59	2.17	650_UM2	4630.11	7894.79	9384.22
650-081	53.38	56.49	0.00	0.00	3.10	650_UM2	4627.67	7888.92	9395.39
650-083	87.90	96.20	3.34	3.34	8.30	650_UM2	4709.35	7910.00	9420.53
650-083	45.80	76.89	2.59	2.59	31.09	650_UM1	4708.27	7884.63	9403.28
650-084	120.50	124.50	0.78	0.78	4.00	650_UM2B	4711.88	7956.75	9356.89
650-084	120.50	124.50	0.78	0.78	4.00	UM2B	4711.88	7956.75	9356.89
650-084	63.38	78.50	4.29	4.29	15.12	650_UM1	4709.88	7905.48	9362.01
650-084	62.49	78.50	4.10	4.10	16.01	UM1B	4709.87	7905.04	9362.06
650-084	90.49	111.09	0.62	0.62	20.60	UM2A	4710.97	7935.16	9359.05
650-085	153.00	161.09	3.21	3.21	8.10	650_UM2D	4731.82	7965.61	9452.94
650-085	94.39	106.83	2.20	2.20	12.44	650_UM2	4722.50	7918.59	9423.17
650-085	45.90	73.00	4.43	4.43	27.10	650_UM1	4715.51	7884.41	9401.32
650-086	118.61	124.58	0.00	0.00	5.98	650_UM2B	4731.77	7952.91	9385.89
650-086	146.00	152.00	1.96	1.96	6.00	650_UM2D	4737.10	7979.50	9389.84
650-086	95.30	101.50	2.45	2.45	6.20	650_UM2	4726.91	7930.48	9382.53
650-086	57.01	78.96	2.62	2.62	21.95	650_UM1	4720.41	7901.10	9378.10
650-087	123.00	127.70	13.18	13.18	4.70	650_UM2B	4720.08	7959.24	9356.49
650-087	123.00	127.70	13.18	13.18	4.70	UM2B	4720.08	7959.24	9356.49
650-087	68.40	78.81	5.58	5.58	10.41	650_UM1	4713.91	7908.04	9360.82
650-087	67.30	78.32	5.51	5.51	11.02	UM1B	4713.81	7907.26	9360.89
650-087	90.80	111.80	1.13	1.13	21.00	UM2A	4717.16	7935.45	9358.45
650-088	24.00	26.10	3.97	3.97	2.10	650_UM1A	4634.58	7859.89	9377.72
650-088	62.56	65.16	0.81	0.81	2.59	650_UM2	4637.80	7897.50	9386.74
650-088	37.00	44.00	2.78	2.78	7.00	650_UM1	4635.86	7874.87	9381.28
650-089	30.20	42.80	4.55	4.55	12.60	650_UM1	4665.08	7871.45	9393.96
650-089	66.20	94.94	3.22	3.22	28.74	650_UM2	4666.26	7903.46	9424.23
650-090	120.90	124.90	6.42	6.42	4.00	650_UM2A	4667.77	7958.38	9320.48
650-090	175.30	179.60	6.54	6.54	4.30	UM2B	4669.26	8008.58	9299.16
650-090	175.75	180.46	5.58	5.58	4.71	650_UM2B	4669.28	8009.18	9298.91
650-090	120.23	126.63	4.02	4.02	6.40	UM2A	4667.78	7958.87	9320.27
650-090	63.20	85.40	4.94	4.94	22.20	UM1B	4666.44	7913.67	9339.47
650-090	63.20	92.51	3.76	3.76	29.31	650_UM1	4666.54	7916.94	9338.08
650-091	140.50	146.20	3.01	3.01	5.70	650_UM2D	4739.67	7965.88	9417.56

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
650-091	116.90	123.80	4.17	4.17	6.90	650_UM2B	4734.41	7944.84	9409.88
650-091	93.90	104.20	4.40	4.40	10.30	650_UM2	4729.56	7925.35	9402.80
650-091	51.70	83.60	5.64	5.64	31.90	650_UM1	4722.28	7896.66	9392.33
650-092	137.00	144.00	1.83	1.83	7.00	650_UM2B	4735.27	7971.91	9349.78
650-093	31.94	44.87	6.66	6.66	12.93	650_UM1	4668.18	7871.71	9392.91
650-093	70.56	96.30	3.53	3.53	25.74	650_UM2	4670.49	7906.07	9421.92
650-094	31.50	47.50	18.48	10.43	16.00	650_UM1	4667.72	7876.95	9387.50
650-094	75.30	92.50	6.74	6.74	17.20	650_UM2	4670.06	7915.46	9409.46
650-095	86.53	93.78	4.22	4.22	7.25	UM2A	4670.59	7931.46	9351.96
650-095	109.08	118.50	3.73	3.73	9.42	650_UM2B	4671.97	7954.67	9347.75
650-095	83.90	94.21	6.08	6.08	10.30	650_UM2A	4670.53	7930.38	9352.15
650-095	47.60	60.60	0.69	0.69	13.00	650_UM1	4668.49	7896.03	9358.30
650-095	48.53	62.23	0.13	0.13	13.70	UM1B	4668.56	7897.29	9358.08
650-095	111.60	125.80	3.27	3.27	14.20	UM2B	4672.26	7959.49	9346.87
650-096	105.55	108.88	7.03	7.03	3.33	650_UM2B	4680.77	7946.33	9391.69
650-096	76.00	90.21	6.96	6.96	14.21	650_UM2	4677.24	7923.10	9386.29
650-096	32.70	55.00	18.84	17.96	22.30	650_UM1	4672.04	7885.19	9377.52
650-097	74.00	93.06	2.03	2.03	19.06	650_UM2	4680.04	7916.15	9405.32
650-097	32.50	57.00	11.49	11.49	24.51	650_UM1	4673.24	7882.16	9387.93
650-098	31.40	46.86	5.79	5.79	15.46	650_UM1	4670.16	7873.28	9391.99
650-098	73.20	99.29	2.69	2.69	26.08	650_UM2	4676.22	7909.86	9421.04
650-099A	145.04	147.80	0.01	0.01	2.76	650_UM2B	4739.34	7975.10	9345.92
650-100A	33.00	43.70	13.59	13.59	10.70	650_UM1	4658.20	7871.87	9392.80
650-100A	63.03	85.94	1.98	1.98	22.92	650_UM2	4654.34	7900.28	9414.78
650-101	33.00	44.60	16.23	13.79	11.60	650_UM1	4657.19	7879.10	9379.58
650-102	88.36	92.45	4.94	4.94	4.09	650_UM2A	4657.44	7931.20	9353.95
650-102	123.99	128.50	4.57	4.57	4.50	650_UM2B	4656.99	7966.59	9348.35
650-102	47.50	59.20	4.16	4.16	11.70	UM1B	4658.46	7894.66	9359.97
650-102	39.40	59.20	2.57	2.57	19.80	650_UM1	4658.70	7890.68	9360.65
650-102	97.68	120.05	0.28	0.28	22.37	UM4	4657.20	7949.42	9351.03
650-104	76.13	77.33	3.06	3.06	1.20	650_UM1	4733.41	7906.63	9377.29
650-105	129.52	132.18	0.12	0.12	2.66	650_UM2B	4751.82	7955.40	9394.07
650-105	62.75	95.90	2.54	2.54	33.15	650_UM1	4734.17	7907.87	9384.92
650-106	146.39	148.35	2.26	2.26	1.96	650_UM2D	4755.92	7965.78	9416.25
650-106	120.30	123.00	3.31	3.31	2.70	650_UM2B	4747.39	7942.84	9408.34
650-106	61.01	64.30	2.92	2.92	3.29	650_UM1	4727.77	7890.41	9389.73
650-106	65.00	88.50	13.86	13.86	23.50	650_UM1	4732.38	7902.96	9394.19
650-109	141.37	142.90	1.20	1.20	1.53	650_UM2B	4763.52	7962.07	9396.34
650-109	86.21	95.85	1.62	1.62	9.64	650_UM1	4742.73	7916.20	9387.64
650-110	121.90	125.80	4.83	4.83	3.90	650_UM2C	4763.83	7938.03	9407.85
650-111	29.80	40.00	8.09	8.09	10.20	650_UM1	4649.94	7870.95	9393.75
650-111	55.40	81.10	2.40	2.40	25.70	650_UM2	4651.76	7894.56	9417.24
650-112	29.10	38.30	12.47	12.47	9.20	650_UM1	4649.54	7874.84	9387.09
650-112	59.32	70.43	0.10	0.10	11.11	650_UM2	4651.73	7900.92	9404.02
650-113	110.50	113.10	11.60	11.60	2.60	650_UM2B	4654.08	7953.07	9402.13
650-113	28.00	35.41	2.53	2.53	7.40	650_UM1	4649.39	7876.68	9378.57
650-114	37.90	57.00	5.09	5.09	19.10	UM1B	4648.50	7892.33	9356.62
650-114	31.70	57.00	4.41	4.41	25.30	650_UM1	4648.50	7889.34	9357.42
650-115	32.04	38.50	3.98	3.98	6.46	650_UM1	4643.78	7870.61	9394.18
650-115	55.30	62.70	1.58	1.58	7.40	650_UM2	4640.81	7886.99	9411.09
650-116	50.70	53.30	14.66	14.66	2.60	650_UM2	4641.36	7889.08	9397.86
650-116	29.90	35.40	3.22	3.22	5.50	650_UM1	4643.99	7873.23	9387.09
650-117	69.40	70.40	0.99	0.99	1.00	650_UM1	4734.46	7891.51	9399.65
650-117	122.30	124.70	2.88	2.88	2.40	650_UM2C	4757.71	7933.87	9422.82
650-117	129.60	134.40	2.35	2.35	4.80	650_UM2B	4761.76	7940.39	9426.43
650-117	70.40	82.30	6.47	6.47	11.90	650_UM1	4737.26	7896.59	9402.47
650-118	53.27	56.00	3.69	3.69	2.73	650_UM2	4637.83	7896.72	9387.59
650-118	28.90	33.54	2.03	2.03	4.64	650_UM1	4642.40	7875.20	9379.58
650-119	127.96	131.34	0.00	0.00	3.38	650_UM2B	4744.69	7937.07	9439.51
650-119	157.01	160.88	2.26	2.26	3.88	650_UM2D	4753.09	7960.16	9455.47
650-119	104.30	119.10	1.90	1.90	14.80	650_UM2	4739.54	7922.93	9429.74
650-119	65.66	82.10	1.39	1.39	16.44	650_UM1	4728.69	7893.12	9409.14
650-120	56.20	84.80	2.64	2.64	28.60	650_UM1	4718.56	7886.94	9414.95
650-121	37.20	47.64	4.22	4.22	10.44	650_UM1	4644.91	7863.38	9407.65
650-122	94.91	98.34	3.87	3.87	3.42	650_UM2	4707.50	7907.82	9432.09
650-122	47.20	81.80	1.20	1.20	34.60	650_UM1	4707.50	7883.58	9411.02

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
650-123	112.90	119.20	12.92	12.92	6.30	UM1B	4648.50	7944.92	9307.40
650-123	112.90	119.20	12.91	12.91	6.30	650_UM1	4648.50	7944.92	9307.40
650-123	60.57	68.80	1.13	1.13	8.23	650_UM1	4648.50	7901.35	9334.62
650-123	160.40	172.80	1.80	1.80	12.40	UM1B	4648.50	7987.78	9280.62
650-123	160.40	188.70	3.09	3.09	28.30	650_UM1	4648.50	7994.53	9276.40
650-124	87.00	99.16	1.51	1.51	12.16	650_UM2	4700.00	7910.67	9420.75
650-124	47.00	78.50	2.86	2.86	31.50	650_UM1	4700.00	7885.52	9403.79
650-125	86.01	99.35	2.07	2.07	13.35	650_UM2	4695.12	7902.60	9430.27
650-125	48.94	71.40	38.65	16.99	22.46	650_UM1	4696.72	7878.31	9408.71
650-126	126.90	130.30	3.22	3.22	3.40	650_UM2A	4691.28	7955.97	9330.59
650-126	137.00	140.40	9.42	9.42	3.40	650_UM2B	4690.89	7965.71	9327.94
650-126	137.01	142.02	6.39	6.39	5.01	UM2B	4690.87	7966.49	9327.73
650-126	123.33	129.41	1.69	1.69	6.08	UM2A	4691.38	7953.83	9331.18
650-126	171.81	191.66	5.07	5.07	19.85	650_UM2B	4690.43	8007.47	9317.61
650-126	171.80	191.69	5.08	5.08	19.89	UM2B	4690.43	8007.48	9317.60
650-126	83.99	104.80	5.81	5.81	20.81	650_UM1	4693.38	7923.11	9339.85
650-126	83.20	104.80	5.69	5.69	21.60	UM1B	4693.40	7922.73	9339.96
650-127	170.31	183.61	4.32	4.32	13.29	UM2A	4664.70	8001.55	9285.42
650-127	170.30	183.80	4.36	4.36	13.50	650_UM2A	4664.70	8001.63	9285.38
650-127	86.40	137.20	13.55	12.40	50.80	UM1B	4664.70	7944.01	9316.01
650-127	82.36	137.20	12.59	11.53	54.84	650_UM1	4664.70	7942.23	9316.96
650-129	158.40	162.60	1.40	1.40	4.20	650_UM2B	4708.34	7990.64	9316.36
650-129	126.00	130.79	0.90	0.90	4.79	650_UM2A	4700.36	7961.39	9326.92
650-129	56.36	61.50	0.02	0.02	5.14	UM1B	4681.43	7898.52	9349.56
650-129	162.75	168.08	0.11	0.11	5.34	650_UM2B	4709.52	7995.12	9314.74
650-129	158.40	167.57	0.71	0.71	9.18	UM2B	4708.94	7992.90	9315.54
650-129	68.82	96.81	4.03	4.03	28.00	650_UM1	4688.21	7920.08	9341.83
650-129	63.01	97.09	3.34	3.34	34.08	UM1B	4687.44	7917.57	9342.73
650-130	0.00	1.91	0.02	0.02	1.91	650_UM1	4687.50	7906.15	9370.98
650-131	0.00	2.22	0.00	0.00	2.22	650_UM1	4687.50	7906.52	9370.82
650-131	45.40	49.30	5.26	5.26	3.90	650_UM2B	4687.50	7944.85	9396.68
650-131	22.09	28.17	0.18	0.18	6.08	650_UM2	4687.50	7926.44	9384.25
650-132	0.00	7.68	3.93	3.93	7.68	650_UM1	4688.16	7909.31	9370.13
650-132	27.25	35.80	12.70	12.70	8.55	650_UM2	4692.97	7936.04	9375.49
650-132	37.76	59.31	1.70	1.70	21.56	650_UM2B	4695.98	7952.43	9378.89
650-133	31.30	35.40	14.57	14.57	4.10	650_UM2A	4693.45	7937.22	9360.64
650-133	47.70	53.28	1.05	1.05	5.58	650_UM2B	4696.58	7953.44	9356.08
650-133	45.15	53.20	0.73	0.73	8.05	UM2B	4696.34	7952.20	9356.43
650-133	0.00	8.50	25.90	21.54	8.50	650_UM1	4688.22	7909.64	9368.30
650-133	26.10	36.89	5.79	5.79	10.79	UM2A	4693.11	7935.47	9361.14
650-134	41.99	56.69	1.70	1.70	14.69	650_UM2B	4700.37	7952.45	9405.06
650-134	4.00	20.30	2.93	2.93	16.30	650_UM2	4700.04	7926.79	9378.16
650-135	4.40	15.60	2.90	2.90	11.20	650_UM2	4700.32	7927.92	9372.10
650-135	27.80	49.00	0.80	0.80	21.20	650_UM2B	4701.12	7955.40	9379.20
650-136	32.08	40.40	1.46	1.46	8.32	UM2B	4700.87	7952.03	9356.21
650-136	32.03	40.40	1.45	1.45	8.37	650_UM2B	4700.87	7952.01	9356.22
650-136	5.70	14.90	8.56	8.56	9.20	650_UM2A	4700.07	7927.95	9365.81
650-136	5.10	21.74	4.75	4.75	16.64	UM2A	4700.13	7930.86	9364.70
650-137	0.00	3.30	7.18	7.18	3.30	650_UM1	4716.66	7913.58	9370.65
650-137	20.00	23.81	2.23	2.23	3.81	650_UM2	4717.41	7926.83	9385.95
650-137	45.37	59.33	0.72	0.72	13.96	650_UM2B	4718.69	7946.65	9409.02
650-137	73.54	90.00	3.65	3.65	16.46	650_UM2D	4720.07	7965.68	9431.42
650-138	0.00	1.93	0.00	0.00	1.93	650_UM1	4716.65	7913.42	9369.67
650-138	18.65	24.79	0.46	0.46	6.14	650_UM2	4718.28	7933.17	9375.84
650-138	33.00	44.98	0.94	0.94	11.97	650_UM2B	4719.93	7949.52	9381.14
650-138	67.70	81.00	1.10	1.10	13.30	650_UM2D	4723.19	7983.00	9392.04
650-139	22.60	25.77	0.90	0.90	3.17	650_UM2	4681.97	7920.46	9377.69
650-139	48.81	54.28	0.00	0.00	5.46	650_UM2B	4678.99	7945.97	9387.11
650-139	0.00	6.80	2.69	2.69	6.80	650_UM1	4684.31	7901.07	9370.56
650-140	11.63	12.65	1.61	1.61	1.02	UM1B	4683.07	7909.65	9366.85
650-140	37.90	41.00	4.60	4.60	3.10	650_UM2A	4679.57	7936.07	9360.87
650-140	0.00	15.00	3.09	3.09	15.00	650_UM1	4683.69	7905.16	9367.83
650-140	46.70	62.10	7.80	7.80	15.40	650_UM2B	4677.75	7950.51	9357.47
650-140	46.72	68.00	5.93	5.93	21.28	UM2B	4677.40	7953.37	9356.79
650-141	62.64	64.44	3.45	3.45	1.81	650_UM2B	4650.48	7948.63	9386.53
650-141	0.00	6.54	4.21	4.21	6.54	650_UM1	4682.94	7900.51	9370.29

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
650-142	0.00	10.43	1.92	1.92	10.43	650_UM1	4681.85	7902.13	9368.30
650-142	40.67	80.00	1.78	1.78	39.33	UM4	4651.76	7946.73	9356.34
650-146	84.00	96.54	0.97	0.97	12.54	650_UM2	4684.55	7900.72	9438.95
650-146	33.30	50.00	20.66	20.21	16.70	650_UM1	4673.86	7871.36	9401.71
650-147	79.80	85.20	2.78	2.78	5.40	650_UM2E	4680.01	7886.02	9440.40
650-147	33.35	56.70	4.62	4.62	23.35	650_UM1	4672.79	7867.69	9408.52
650-148	46.00	61.00	11.74	11.74	15.00	650_UM1	4665.04	7858.44	9422.05
650-149	33.00	44.30	14.46	14.46	11.30	650_UM1	4659.11	7868.16	9401.18
650-150	40.99	50.20	10.05	10.05	9.20	650_UM1	4659.82	7863.82	9411.69
650-151	86.37	90.32	0.54	0.54	3.95	650_UM2E	4698.12	7888.15	9440.83
650-151	37.90	61.20	4.63	4.63	23.30	650_UM1	4684.32	7869.44	9409.78
650-152	47.40	60.70	3.65	3.65	13.30	650_UM1	4650.41	7862.51	9421.78
650-154	51.63	54.00	6.52	6.52	2.38	UM1B	4645.94	7888.43	9356.16
650-154	45.50	54.00	4.17	4.17	8.50	650_UM1	4645.45	7891.34	9357.00
650-154	14.50	25.50	6.58	6.58	11.00	UM4	4640.73	7919.64	9364.86
650-155	13.03	21.00	4.55	4.55	7.97	UM4	4639.61	7924.43	9360.99
650-155	46.19	55.00	1.24	1.24	8.81	650_UM1	4644.30	7896.32	9343.24
650-156	44.72	53.50	6.52	6.52	8.78	UM1B	4648.82	7894.11	9352.88
650-156	14.88	25.20	12.10	12.10	10.32	UM4	4641.67	7920.38	9363.04
650-156	42.87	53.50	5.41	5.41	10.63	650_UM1	4648.57	7894.94	9353.21
650-162	53.30	59.70	9.44	9.44	6.40	650_UM1	4622.93	7908.76	9325.60
650-162	95.67	102.11	0.00	0.00	6.44	UM5A	4620.61	7882.90	9292.09
650-162	0.00	8.90	14.87	14.87	8.90	UM4	4625.00	7940.76	9366.57
650-162	54.00	64.32	4.17	4.17	10.31	UM1B	4622.78	7907.13	9323.50
650-163	69.80	77.15	5.99	5.99	7.35	650_UM1	4613.42	7879.03	9345.82
650-163	66.53	77.40	4.14	4.14	10.87	UM1B	4613.40	7880.45	9346.33
650-163	17.10	31.86	0.90	0.90	14.75	UM4	4612.87	7925.29	9361.95
650-164	69.71	76.91	0.00	0.00	7.20	650_UM1	4612.02	7880.07	9343.44
650-164	66.98	75.54	0.00	0.00	8.56	UM1B	4612.02	7881.98	9344.19
650-164	16.19	32.20	1.33	1.33	16.01	UM4	4612.22	7925.80	9361.36
650-165	97.33	100.27	0.00	0.00	2.94	UM5A	4611.16	7868.58	9311.83
650-165	63.32	66.40	2.58	2.58	3.08	UM1B	4612.15	7895.80	9332.06
650-165	64.70	71.70	3.61	3.61	7.00	650_UM1	4612.10	7893.11	9330.08
650-165	10.16	25.36	0.53	0.53	15.21	UM4	4612.47	7933.83	9359.85
650-166	113.39	115.53	0.00	0.00	2.14	UM5C	4605.06	7875.82	9281.93
650-166	64.70	70.50	9.42	9.42	5.80	650_UM1	4609.67	7905.17	9318.16
650-166	98.90	107.22	0.64	0.64	8.32	UM5A	4606.30	7882.90	9290.78
650-166	58.25	68.44	3.71	3.71	10.19	UM1B	4609.99	7907.87	9321.43
650-166	7.98	21.00	3.06	3.06	13.02	UM4	4612.59	7939.01	9358.97
650-167	74.10	76.10	3.09	3.09	2.00	650_UM1	4600.44	7883.28	9343.16
650-167	86.10	90.10	2.82	2.82	4.00	UM5B	4600.39	7871.21	9338.33
650-168	73.70	75.70	9.85	9.85	2.00	650_UM1	4599.31	7902.20	9315.62
650-168	73.70	75.70	9.85	9.85	2.00	UM1B	4599.31	7902.20	9315.62
650-168	86.37	90.22	1.03	1.03	3.85	UM5B	4598.71	7892.92	9305.70
650-168	29.88	34.10	2.08	2.08	4.22	UM3	4599.76	7931.52	9346.66
650-168	6.18	20.53	0.17	0.17	14.35	UM4	4599.85	7944.29	9360.24
650-169	75.30	82.30	16.65	16.65	7.00	FW1	4619.78	7890.07	9312.57
650-169	95.07	102.79	0.00	0.00	7.72	UM5A	4618.13	7876.55	9297.76
650-169	53.79	62.04	0.34	0.34	8.25	UM1B	4621.77	7904.12	9327.89
650-169	0.00	10.10	3.28	3.28	10.10	UM4	4624.95	7940.15	9366.41
650-169	53.92	67.80	3.10	3.10	13.88	650_UM1	4621.48	7902.14	9325.73
650-170	76.50	78.80	3.90	3.90	2.30	650_UM1	4624.04	7919.10	9296.37
650-170	76.50	78.80	3.90	3.90	2.30	UM1B	4624.04	7919.10	9296.37
650-170	33.20	35.50	3.47	3.47	2.30	UM3	4624.70	7933.21	9337.30
650-170	99.40	107.00	1.94	1.94	7.60	UM5A	4623.60	7910.61	9272.27
650-170	0.00	7.90	12.40	12.40	7.90	UM4	4624.99	7942.49	9366.24
650-170	114.00	122.40	10.89	10.89	8.40	UM5C	4623.23	7905.61	9258.13
650-171	60.00	62.30	3.71	3.71	2.30	650_UM1	4643.16	7900.35	9322.72
650-171	60.00	62.30	3.71	3.71	2.30	UM1B	4643.16	7900.35	9322.72
650-171	12.00	17.10	12.85	12.85	5.10	UM4	4638.86	7929.61	9358.72
650-171	66.00	72.79	2.48	2.48	6.79	FW1	4643.79	7895.18	9316.32
650-172	0.00	3.01	4.06	4.06	3.01	650_UM2B	4674.99	7939.70	9367.25
650-172	19.00	24.99	4.86	4.86	5.99	650_UM2A	4674.34	7922.23	9356.56
650-172	36.80	45.41	7.97	7.97	8.61	650_UM1	4674.03	7906.03	9346.44
650-172	35.45	45.33	7.24	7.24	9.88	UM1B	4674.04	7906.63	9346.82
650-173	18.00	21.05	4.19	4.19	3.05	650_UM2A	4675.13	7928.57	9352.95

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
650-173	0.00	3.37	1.66	1.66	3.37	650_UM2B	4675.00	7939.92	9366.71
650-173	15.91	21.85	2.63	2.63	5.94	UM2A	4675.13	7928.98	9353.44
650-173	34.56	44.90	5.28	5.28	10.34	UM1B	4675.19	7915.71	9337.36
650-173	34.45	44.90	5.23	5.23	10.45	650_UM1	4675.19	7915.75	9337.40
650-175	0.00	2.64	4.15	4.15	2.64	650_UM2B	4674.61	7939.91	9367.38
650-175	37.00	47.16	4.23	4.23	10.16	UM1B	4662.90	7906.59	9347.04
650-175	37.00	50.20	3.40	3.40	13.20	650_UM1	4662.45	7905.36	9346.27
650-176	18.00	21.04	0.15	0.15	3.04	UM2A	4670.28	7929.09	9353.27
650-176	0.00	3.20	2.91	2.91	3.20	650_UM2B	4674.63	7940.00	9366.81
650-176	18.13	21.88	0.13	0.13	3.75	650_UM2A	4670.17	7928.80	9352.90
650-176	36.08	44.62	0.43	0.43	8.54	UM1B	4665.21	7916.46	9337.50
650-176	34.68	45.60	0.66	0.66	10.92	650_UM1	4665.26	7916.59	9337.66
650-177	0.00	4.02	2.14	2.14	4.02	650_UM2B	4674.72	7940.23	9366.16
650-177	17.73	22.17	2.55	2.55	4.44	650_UM2A	4672.36	7933.36	9349.76
650-177	17.27	24.26	1.79	1.79	6.99	UM2A	4672.26	7933.05	9349.01
650-177	38.13	46.91	30.89	30.89	8.78	UM1B	4669.65	7924.52	9329.17
650-177	36.70	49.50	26.54	26.54	12.80	650_UM1	4669.58	7924.30	9328.64
650-178	0.00	2.21	2.00	2.00	2.21	650_UM2B	4675.35	7940.07	9367.53
650-178	11.47	15.09	0.00	0.00	3.62	650_UM2A	4678.71	7929.69	9362.13
650-178	31.12	43.47	2.85	2.85	12.35	UM1B	4684.51	7909.20	9351.03
650-178	27.37	41.50	2.32	2.32	14.14	650_UM1	4683.86	7911.65	9352.37
650-179	11.46	13.62	0.00	0.00	2.17	650_UM2A	4678.02	7932.31	9359.48
650-179	0.00	2.69	2.34	2.34	2.69	650_UM2B	4675.35	7940.08	9367.08
650-179	13.87	17.74	0.00	0.00	3.87	UM2A	4678.77	7930.03	9357.26
650-179	34.79	42.90	6.88	6.88	8.10	650_UM1	4684.00	7913.90	9341.67
650-179	30.88	41.31	2.93	2.93	10.43	UM1B	4683.38	7915.83	9343.52
650-180	0.00	3.88	0.01	0.01	3.88	650_UM2B	4675.30	7940.24	9366.24
650-180	14.23	19.13	4.91	4.91	4.90	650_UM2A	4677.62	7934.75	9352.76
650-180	15.17	21.34	4.07	4.07	6.17	UM2A	4677.87	7934.16	9351.32
650-180	161.55	168.60	9.71	9.71	7.05	D1B	4700.91	7877.07	9218.04
650-180	143.05	151.90	5.97	5.97	8.85	D1A	4697.94	7883.97	9233.96
650-180	33.91	45.01	15.83	15.83	11.10	UM1B	4681.10	7926.06	9331.99
650-180	35.70	50.69	13.10	13.10	14.99	650_UM1	4681.66	7924.62	9328.60
650-181	0.00	1.92	0.07	0.07	1.92	650_UM2B	4675.58	7940.31	9367.67
650-181	8.55	12.02	0.18	0.18	3.47	650_UM2A	4681.24	7933.63	9364.46
650-181	37.07	47.10	0.56	0.56	10.03	650_UM1	4699.68	7910.24	9353.36
650-181	36.63	48.18	0.95	0.95	11.55	UM1B	4699.86	7910.00	9353.24
650-182	9.02	10.98	0.01	0.01	1.96	650_UM2A	4680.04	7934.91	9361.88
650-182	0.00	2.27	3.51	3.51	2.27	650_UM2B	4675.58	7940.31	9367.31
650-182	12.84	15.65	0.00	0.00	2.81	UM2A	4682.15	7932.34	9359.25
650-182	29.09	44.27	2.43	2.43	15.18	UM1B	4693.33	7918.86	9345.22
650-182	19.20	43.23	3.32	3.32	24.03	650_UM1	4690.61	7922.12	9348.65
650-183	0.00	3.08	0.01	0.01	3.08	650_UM2B	4675.55	7940.34	9366.73
650-183	10.34	13.52	0.01	0.01	3.18	650_UM2A	4679.30	7935.87	9358.12
650-183	13.37	17.90	0.01	0.01	4.53	UM2A	4680.63	7934.27	9355.06
650-183	143.45	148.45	2.91	2.91	5.00	D1A	4724.22	7876.50	9246.71
650-183	28.97	43.85	3.85	3.85	14.88	650_UM1	4688.07	7925.34	9337.84
650-183	24.81	43.15	4.47	4.47	18.34	UM1B	4687.21	7926.39	9339.86
650-184	166.75	168.42	1.61	1.61	1.67	D1A	4715.81	7899.71	9210.86
650-184	16.30	19.95	2.03	2.03	3.65	650_UM2A	4678.68	7936.89	9350.74
650-184	0.00	4.57	0.70	0.70	4.57	650_UM2B	4675.43	7940.49	9365.82
650-184	15.80	22.09	1.18	1.18	6.29	UM2A	4678.86	7936.70	9349.96
650-184	42.86	49.95	2.59	2.59	7.09	650_UM1	4685.18	7930.15	9324.06
650-184	37.33	46.13	0.36	0.36	8.80	UM1B	4684.08	7931.27	9328.46
650-185	19.09	23.08	7.85	7.85	3.99	650_UM2A	4674.91	7936.42	9347.42
650-185	144.40	149.25	8.35	8.35	4.85	D1A	4674.39	7909.09	9224.70
650-185	121.55	126.55	14.78	14.78	5.00	D1D	4674.82	7914.01	9246.93
650-185	0.00	5.10	0.31	0.31	5.10	650_UM2B	4675.00	7940.39	9365.52
650-185	43.05	50.95	1.78	1.78	7.90	650_UM1	4674.94	7930.82	9322.12
650-185	18.89	27.18	3.97	3.97	8.29	UM2A	4674.91	7936.00	9345.52
650-185	199.53	211.21	9.88	9.88	11.69	D1	4673.15	7896.04	9167.64
650-185	40.36	54.84	1.23	1.23	14.48	UM1B	4674.94	7930.69	9321.53
650-186	20.00	23.79	10.46	10.46	3.79	650_UM2A	4674.92	7938.00	9346.31
650-186	184.65	189.65	9.54	9.54	5.00	D1B	4679.16	7912.98	9183.06
650-186	0.00	5.88	0.20	0.20	5.88	650_UM2B	4675.00	7940.59	9365.09
650-186	20.34	29.02	4.87	4.87	8.67	UM2A	4674.91	7937.61	9343.55

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
650-186	124.10	132.95	4.29	4.29	8.85	D1D	4676.47	7922.01	9240.91
650-186	42.70	51.65	2.06	2.06	8.96	650_UM1	4674.94	7934.35	9321.30
650-186	41.48	58.75	1.29	1.29	17.27	UM1B	4674.94	7933.91	9318.39
650-187	0.00	4.73	2.04	2.04	4.73	650_UM2B	4674.77	7940.39	9365.73
650-187	18.87	24.24	4.31	4.31	5.37	650_UM2A	4672.74	7935.62	9347.25
650-187	18.62	26.27	5.13	5.13	7.65	UM2A	4672.64	7935.41	9346.40
650-187	39.30	48.45	7.32	7.32	9.15	650_UM1	4670.16	7930.16	9325.76
650-187	39.95	53.10	5.03	5.03	13.15	UM1B	4669.85	7929.51	9323.21
650-192	18.49	22.34	4.27	4.27	3.85	650_UM2A	4676.09	7937.26	9347.97
650-192	0.00	5.17	0.50	0.50	5.17	650_UM2B	4675.18	7940.50	9365.47
650-192	205.00	213.00	0.82	0.82	8.00	D1	4689.16	7900.20	9163.54
650-192	18.42	26.50	3.20	3.20	8.08	UM2A	4676.18	7936.89	9345.95
650-192	43.69	52.00	1.09	1.09	8.31	650_UM1	4677.75	7932.23	9321.05
650-192	182.00	191.00	6.59	6.59	9.00	D1B	4687.60	7905.07	9185.45
650-192	39.86	53.28	0.74	0.74	13.42	UM1B	4677.66	7932.47	9322.30
650-194	51.23	55.56	0.03	0.03	4.32	UM1B	4640.65	7888.69	9344.01
650-194	9.99	18.81	3.59	3.59	8.82	UM4	4642.90	7923.48	9361.46
650-194	42.00	52.41	1.16	1.16	10.41	650_UM1	4641.01	7894.21	9346.78
650-195	49.69	53.71	4.14	4.14	4.02	UM1B	4641.07	7894.47	9337.73
650-195	64.69	68.94	0.00	0.00	4.25	FW1	4640.15	7882.18	9328.99
650-195	46.60	53.50	2.70	2.70	6.90	650_UM1	4641.17	7895.81	9338.69
650-195	9.32	16.61	3.57	3.57	7.29	UM4	4643.13	7925.82	9360.39
670-001	114.34	142.91	5.36	5.36	28.58	UM1B	4686.63	7917.54	9340.27
670-001	103.86	139.13	5.04	5.04	35.27	650_UM1	4679.55	7918.32	9340.62
670-002	105.65	121.50	2.86	2.86	15.86	UM1B	4670.29	7910.75	9339.64
670-002	100.56	120.20	8.40	2.76	19.64	650_UM1	4667.16	7911.30	9339.84
670-003	92.10	104.07	7.17	7.17	11.97	650_UM1	4652.32	7902.65	9340.10
670-004	89.09	96.48	0.43	0.43	7.39	650_UM1	4644.77	7897.24	9342.26
670-005	71.97	84.81	1.53	1.53	12.84	650_UM1	4623.82	7888.44	9343.17
670-005	70.89	88.92	1.34	1.34	18.03	UM1B	4625.03	7887.53	9343.11
670-006	58.72	61.19	0.01	0.01	2.47	UM1B	4604.42	7899.37	9324.37
670-006	58.53	62.34	0.01	0.01	3.81	650_UM1	4604.76	7899.07	9324.20
670-006	80.65	85.87	0.15	0.15	5.22	FW1	4620.56	7884.70	9316.17
670-007	68.78	71.82	0.24	0.24	3.04	650_UM1	4619.28	7907.10	9319.16
670-007	88.84	96.52	0.80	0.80	7.68	FW1	4638.37	7899.10	9310.65
670-007	56.60	75.85	0.31	0.31	19.24	UM1B	4615.80	7908.56	9320.69
670-008	95.00	99.35	0.14	0.14	4.35	FW1	4642.91	7900.34	9309.38
670-008	69.22	79.26	0.11	0.11	10.04	650_UM1	4624.63	7910.95	9318.03
670-008	64.32	81.68	0.17	0.17	17.35	UM1B	4623.59	7911.42	9318.49
670-009	71.93	74.93	0.02	0.02	2.99	UM1B	4625.64	7917.03	9318.43
670-009	88.40	93.57	0.03	0.03	5.18	UM1B	4641.43	7912.90	9311.96
80-006b	107.60	110.80	0.95	0.95	3.20	525_V3	4948.00	7857.43	9854.46
90-002	66.60	69.75	3.35	3.35	3.15	525_V3	4963.10	7851.03	9871.68
90-006	65.15	68.05	1.26	1.26	2.90	525_V3A	4997.71	7836.32	9894.71
90-007	66.20	69.00	1.35	1.35	2.80	525_V3A	4995.89	7840.12	9888.08
HG02-07	160.40	162.17	19.74	19.74	1.77	525_V1	4971.26	7896.44	9864.15
HG02-07	275.40	278.05	3.78	3.78	2.65	525_FW1	4970.14	7832.25	9768.21
HG02-07	200.11	207.05	2.31	2.31	6.94	525_V3	4970.85	7873.17	9828.84
HG02-09	334.53	336.25	2.64	2.64	1.72	525_FW2	4962.24	7852.45	9729.61
HG02-10	377.10	378.61	6.97	6.97	1.51	525_FW2	4976.20	7870.53	9700.35
HG02-10	323.40	325.62	78.79	19.69	2.22	525_V3	4974.71	7904.01	9741.86
HG02-10	359.64	363.43	2.02	2.02	3.79	525_FW1	4975.66	7880.79	9713.04
HG02-11	163.20	169.56	2.92	2.92	6.36	525_V3A	5012.44	7847.18	9879.06
HG02-12	220.25	227.86	11.66	8.26	7.61	525_V3A	5018.47	7863.11	9820.33
HG02-14	269.34	279.00	2.35	2.35	9.66	525_MZ1A	4813.11	7857.40	9782.70
HG02-15	284.41	291.29	0.61	0.61	6.88	525_MZ1A	4816.20	7864.03	9761.06
HG02-16	269.02	273.07	0.02	0.02	4.05	525_FW1	5004.73	7812.01	9800.52
HG02-16	205.28	214.00	1.74	1.74	8.72	525_V3A	5009.90	7854.11	9844.93
HG02-17	190.00	192.80	2.14	2.14	2.80	525_V1	5016.49	7902.59	9849.46
HG02-17	276.70	279.92	2.63	2.63	3.22	525_FW1A	5013.58	7847.09	9782.64
HG02-17	199.98	206.12	0.03	0.03	6.14	525_V2	5016.10	7895.22	9840.43
HG02-17	246.42	254.00	2.86	2.86	7.58	525_V3A	5014.52	7865.12	9804.17
HG02-18	402.25	405.05	3.03	3.03	2.80	525_FW2	4962.09	7885.66	9677.40
HG02-18	355.32	359.38	4.89	4.89	4.06	525_V3	4963.66	7914.25	9713.78
HG02-18	323.19	329.57	2.81	2.81	6.38	525_V2	4964.88	7933.21	9738.24
HG84-01	306.87	309.55	5.32	5.32	2.68	525_MZ1A	4724.78	7892.97	9694.21

Timmins Deposit Resource Solid Intersections

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	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
HG84-01	368.41	372.92	4.53	4.53	4.51	525_MZ2	4736.06	7880.07	9634.21
HG84-02A	381.45	383.87	4.14	4.14	2.41	525_MZ2	4747.86	7895.27	9624.11
HG87-03	278.08	282.44	0.34	0.34	4.36	525_MZ1A	4844.79	7855.29	9781.00
HG87-04	298.00	304.22	1.49	1.49	6.23	525_MZ1A	4837.04	7852.59	9787.74
HG88-11	212.59	214.66	3.60	3.60	2.07	525_V3	4955.11	7875.18	9829.68
HG88-12	221.33	225.00	1.47	1.47	3.67	525_V3B	5052.44	7860.65	9826.12
HG88-14	188.10	193.00	9.85	9.85	4.90	525_V3B	5037.23	7827.40	9849.39
HG88-24	395.00	398.00	4.50	4.50	3.00	525_V2	4980.69	7960.17	9712.25
HG88-24	429.90	433.32	3.32	3.32	3.42	525_V3	4985.19	7934.64	9688.58
HG96-03	297.58	301.97	0.14	0.14	4.39	525_MZ1B	4835.78	7840.90	9747.23
HG96-03	265.50	271.95	2.61	2.61	6.45	525_MZ1A	4832.05	7859.10	9772.08
HG96-04	283.44	298.77	1.54	1.54	15.34	525_MZ1A	4842.87	7862.07	9746.97
HG96-09	382.50	384.50	22.90	20.69	2.00	525_V3	4897.03	7938.02	9665.50
HG96-09	369.50	372.00	9.07	9.07	2.50	525_V2	4896.33	7944.55	9676.43
HG96-09	446.00	454.50	4.13	4.13	8.50	525_FW2A	4902.30	7902.64	9609.21
HG96-10	412.00	414.00	3.18	3.18	2.00	525_V2	4898.35	7976.46	9640.30
HG96-10	430.80	435.00	2.11	2.11	4.20	525_V3	4899.97	7965.61	9623.70
HG96-10	495.00	511.00	5.18	5.18	16.00	525_FW2A	4906.67	7926.64	9565.83
HG97-01	194.00	196.77	6.73	6.73	2.77	525_V1	5002.95	7910.10	9842.40
HG97-01	265.76	268.89	1.30	1.30	3.13	525_V3A	4994.97	7868.97	9783.93
HG97-01	309.64	313.00	2.19	2.19	3.36	525_FW2	4989.25	7843.78	9748.32
HG97-01	233.87	238.62	0.67	0.67	4.75	525_V3	4998.78	7886.82	9809.09
HG97-01	293.20	301.10	1.91	1.91	7.90	525_FW1	4991.12	7851.87	9759.80
HG97-01	211.93	220.86	3.55	3.55	8.92	525_V2	5000.95	7898.17	9825.23
HG97-02	274.87	278.80	0.03	0.03	3.93	525_V3	4993.87	7891.59	9777.43
HG97-02	242.00	247.44	1.53	1.53	5.44	525_V2	4994.80	7911.14	9802.88
HG97-02	315.00	322.92	2.65	2.65	7.92	525_FW1	4994.32	7865.75	9744.18
HG97-04	302.44	309.72	0.43	0.43	7.28	525_V3	5002.30	7909.72	9749.15
HG97-04	341.55	352.10	1.26	1.26	10.55	525_FW1	5004.04	7884.83	9716.95
HG97-07	372.40	379.56	28.76	6.77	7.16	525_V3A	4933.83	7919.92	9692.93
HG97-07	340.48	351.96	5.70	5.70	11.48	525_V2	4934.78	7937.55	9716.88
HG97-08	227.57	228.14	0.02	0.02	0.56	525_V3B	5084.23	7846.29	9832.39
HG97-12	348.77	353.90	3.99	3.99	5.13	525_V3A	4942.54	7898.73	9712.37
HG97-12	314.86	321.09	3.69	3.69	6.23	525_V2	4941.32	7918.06	9739.53
HG97-17	131.35	133.39	0.34	0.34	2.04	525_V3A	4994.76	7833.82	9896.69
HG97-18	179.83	184.30	1.93	1.93	4.47	525_V3	4992.79	7866.17	9854.03
HG97-18	266.00	272.72	5.43	5.43	6.72	525_FW1	4988.54	7812.85	9785.06
HG97-19	356.40	359.00	1.45	1.45	2.60	525_V3	5005.14	7934.19	9708.60
HG97-24	323.36	328.00	1.44	1.44	4.64	525_V2	4894.01	7923.92	9707.71
HG97-27	428.55	430.17	1.93	1.93	1.63	525_MZ2	4709.39	7879.57	9627.16
HG97-30	467.00	469.05	3.41	3.41	2.05	525_MZ2	4698.20	7913.36	9597.20
HG97-30	610.82	622.35	1.97	1.97	11.53	650_UM1	4700.23	7837.58	9469.46
HG97-32	584.46	587.00	4.22	4.22	2.54	525_FW2C	4866.07	7936.85	9499.11
HG97-32	476.27	480.85	8.14	8.14	4.58	525_V3	4872.84	7991.62	9590.98
HG97-32	507.16	511.76	3.00	3.00	4.60	525_V3B	4870.73	7975.85	9564.49
HG97-32	548.68	559.21	7.19	7.19	10.53	525_FW2A	4868.15	7953.08	9526.36
HG97-32	563.61	575.62	0.13	0.13	12.01	525_FW2B	4867.17	7945.07	9512.92
HG97-35	578.13	591.84	3.27	3.27	13.71	525_FW3	4813.39	7940.01	9482.70
HG97-35B	573.00	584.00	2.93	2.93	11.00	525_FW3	4821.07	7918.78	9502.33
HG97-41	646.82	680.73	1.71	1.71	33.91	650_UM1	4715.05	7882.82	9420.96
HG97-45	724.28	733.10	1.43	1.43	8.82	650_UM2	4712.36	7934.22	9364.76
HG97-45	657.45	667.65	1.49	1.49	10.20	650_UM2D	4709.71	7967.16	9422.04
HG97-45	725.96	740.78	0.81	0.81	14.82	UM2A	4712.61	7931.90	9360.70
HG97-45	684.00	704.60	0.56	0.56	20.60	650_UM2B	4710.72	7951.32	9394.54
HG97-50	765.74	768.18	8.80	8.80	2.44	UM2B	4709.75	7998.10	9311.65
HG97-50	765.74	768.18	8.80	8.80	2.44	650_UM2B	4709.75	7998.10	9311.65
HG97-56	887.10	890.50	6.64	6.64	3.40	D1A	4659.70	7930.37	9218.84
HG97-56	870.88	874.60	8.71	8.71	3.72	D1D	4657.95	7938.61	9232.52
HG97-56	798.75	804.60	5.15	5.15	5.85	650_UM1	4650.17	7975.21	9292.93
HG97-56	798.75	805.26	4.85	4.85	6.51	UM1B	4650.20	7975.04	9292.65
HG97-56	948.00	959.06	6.32	6.32	11.06	D1	4666.93	7896.83	9163.96
HG97-56B	763.05	767.06	0.08	0.08	4.01	650_UM2B	4650.72	7971.73	9339.10
HG97-56B	794.94	802.36	2.42	2.42	7.42	650_UM1	4653.92	7951.12	9312.77
HG97-56B	790.90	808.97	1.84	1.84	18.07	UM1B	4654.04	7950.33	9311.77
HG97-57	855.95	858.31	13.37	13.37	2.36	650_UM1	4654.22	8002.79	9257.20
HG97-57	855.95	858.31	13.37	13.37	2.36	UM1B	4654.22	8002.79	9257.20

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
HG97-57	822.74	825.78	0.91	0.91	3.04	650_UM2B	4650.77	8020.49	9284.69
HG97-57	925.17	929.00	3.49	3.49	3.83	D1A	4661.89	7964.95	9198.87
HG98-07	141.32	144.90	1.23	1.23	3.58	525_V3A	4995.69	7846.18	9881.46
HG98-12	164.50	167.34	1.59	1.59	2.84	525_V3	4965.54	7845.69	9879.04
HG98-15	153.50	161.00	2.62	2.62	7.50	525_V3B	5044.96	7817.86	9866.08
TG03-01	492.00	493.75	2.53	2.53	1.75	525_V3B	4848.05	7979.55	9557.67
TG03-01	582.62	585.50	2.47	2.47	2.88	525_FW3	4836.76	7939.94	9476.36
TG03-01	541.05	563.62	4.50	4.50	22.57	525_FW2B	4840.82	7953.93	9504.54
TG03-02	464.85	467.00	11.90	11.90	2.15	525_FW2A	4928.70	7892.98	9612.82
TG03-02	365.25	369.75	8.64	8.64	4.50	525_V2	4926.98	7950.19	9692.86
TG03-03	665.44	678.94	0.47	0.47	13.50	650_UM2	4724.62	7921.32	9419.10
TG03-03	692.30	719.70	8.37	8.37	27.40	650_UM1	4726.58	7903.90	9390.19
TG03-03a	663.10	677.72	0.00	0.00	14.62	650_UM2	4725.26	7921.48	9421.15
TG03-03a	692.68	720.19	0.00	0.00	27.50	650_UM1	4728.39	7902.20	9390.88
TG03-04	417.03	418.71	0.04	0.04	1.69	525_MZ2	4707.42	7911.09	9597.54
TG03-04	566.27	586.15	62.83	9.06	19.88	650_UM1	4716.35	7858.44	9448.50
TG03-04A	420.29	421.45	229.11	68.87	1.16	525_MZ2	4715.92	7915.75	9593.22
TG03-04B	420.29	421.57	237.77	19.60	1.27	525_MZ2	4716.14	7915.82	9593.15
TG03-04B	577.00	582.34	1.36	1.36	5.34	650_UM1	4733.32	7864.38	9444.04
TG03-15	132.50	136.50	1.80	1.80	4.00	525_V3A	5013.18	7833.69	9892.92
TG03-35	744.00	756.50	6.56	6.56	12.50	650_UM1	4673.06	7897.65	9360.73
TG03-35	700.62	713.15	1.99	1.99	12.53	650_UM2	4671.59	7921.27	9397.07
TG03-35	744.00	757.00	6.40	6.40	13.00	UM1B	4673.07	7897.51	9360.52
TG03-35A	735.50	755.25	8.09	8.09	19.75	650_UM1	4665.14	7881.25	9377.85
TG03-35A	685.54	708.33	7.49	7.49	22.79	650_UM2	4666.34	7911.27	9415.81
TG03-35B	732.00	744.00	16.34	16.34	12.00	650_UM1	4656.80	7868.52	9398.59
TG03-35B	683.19	711.12	6.56	6.56	27.93	650_UM2	4660.68	7897.61	9427.00
TG03-37	440.00	442.00	1.16	1.16	2.00	525_V3	4880.83	7981.22	9611.99
TG03-37	465.00	470.50	2.15	2.15	5.50	525_V3A	4881.34	7968.42	9588.51
TG03-37	543.70	550.50	2.22	2.22	6.80	525_FW2B	4883.93	7928.87	9519.78
TG03-37	521.50	530.48	11.95	11.95	8.98	525_FW2A	4883.00	7939.62	9537.92
TG03-39	426.80	428.50	3.76	3.76	1.70	525_V3	4887.02	7959.20	9638.53
TG03-39	457.10	460.50	3.79	3.79	3.40	525_V3A	4888.00	7942.15	9612.48
TG03-39	521.00	528.79	3.37	3.37	7.79	525_FW2B	4891.54	7905.47	9557.62
TG03-39	496.68	510.12	2.33	2.33	13.44	525_FW2A	4890.38	7917.53	9575.37
TG03-40A	612.30	618.80	2.96	2.96	6.50	525_FW3	4825.71	7971.45	9466.81
TG03-41	524.50	538.50	6.08	6.08	14.00	525_FW2A	4923.27	7933.72	9564.69
TG03-42	456.90	458.75	4.13	4.13	1.85	525_V2	4904.48	7986.61	9617.00
TG03-42	488.00	491.00	9.93	9.93	3.00	525_V3A	4905.26	7969.26	9590.52
TG03-42	536.85	546.82	1.72	1.72	9.97	525_FW2A	4906.20	7939.69	9547.36
TG03-43	611.35	614.40	9.63	9.63	3.05	525_FW4	4772.68	7894.03	9488.32
TG03-43B	614.70	622.50	3.44	3.44	7.80	525_FW4	4774.69	7915.04	9468.84
TG03-46	472.90	473.90	5.01	5.01	1.00	525_V3B	4847.51	7930.80	9594.18
TG03-46	524.00	527.00	3.23	3.23	3.00	525_FW2B	4846.03	7904.32	9549.34
TG04-50	689.40	692.35	6.59	6.59	2.95	650_UM2E	4670.87	7880.09	9441.52
TG04-50	709.60	728.60	17.28	15.54	19.00	650_UM1	4671.03	7862.45	9419.48
TG04-50EXT	689.40	692.35	0.00	0.00	2.95	650_UM2E	4670.87	7880.09	9441.52
TG04-50EXT	709.60	728.60	0.00	0.00	19.00	650_UM1	4671.03	7862.45	9419.48
TG04-53B	652.20	655.75	0.01	0.01	3.55	650_UM2B	4766.25	7935.29	9433.74
TG04-53B	661.00	667.80	1.33	1.33	6.80	650_UM2C	4767.91	7930.05	9424.88
TG04-53BEXT	652.20	655.75	0.00	0.00	3.55	650_UM2B	4766.25	7935.29	9433.74
TG04-53BEXT	661.00	667.80	0.00	0.00	6.80	650_UM2C	4767.91	7930.05	9424.88
TG04-55	823.45	824.90	3.26	3.26	1.45	FW3	4599.25	7989.98	9270.55
TG04-55	891.99	894.64	9.37	9.37	2.65	UM5C	4602.82	7955.74	9210.58
TG04-55	846.50	849.60	8.65	8.65	3.10	FW2	4600.41	7978.21	9249.80
TG04-55	866.20	881.10	1.60	1.60	14.90	UM5A	4601.75	7965.52	9227.61
TG04-55B	911.50	925.85	4.37	4.37	14.35	UM5	4593.44	7907.12	9210.43
TG04-55C	854.00	855.50	5.55	5.55	1.50	FW2	4606.91	7996.04	9233.69
TG04-55C	893.36	895.69	0.03	0.03	2.32	UM5C	4608.86	7977.76	9198.41
TG04-55C	831.00	833.50	5.80	5.80	2.50	FW3	4605.51	8006.32	9253.64
TG04-55C	864.75	867.40	3.23	3.23	2.65	FW1	4607.47	7990.85	9223.63
TG04-55C	875.69	888.08	4.53	4.53	12.39	UM5A	4608.23	7983.59	9209.61
TG04-55D	874.70	876.20	3.17	3.17	1.50	FW1	4608.96	8012.79	9204.16
TG04-55D	905.00	907.00	4.02	4.02	2.00	UM5C	4611.31	8001.12	9176.02
TG04-55D	894.50	897.00	5.08	5.08	2.50	UM5A	4610.58	8005.07	9185.45
TG04-55D	854.70	858.20	4.36	4.36	3.50	FW2	4607.43	8019.93	9221.69

Timmins Deposit Resource Solid Intersections

HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
TG04-57	794.70	795.87	5.91	5.91	1.17	UM3	4593.61	7942.50	9315.68
TG04-57	876.00	877.50	4.82	4.82	1.50	UM5C	4599.39	7899.78	9246.57
TG04-57	852.95	864.23	2.73	2.73	11.28	UM5A	4598.07	7909.30	9261.97
TG04-57	754.95	766.85	8.71	8.71	11.90	UM4	4592.08	7960.61	9344.87
TG04-57A	818.25	819.75	2.26	2.26	1.50	UM1B	4600.61	7911.15	9307.74
TG04-57A	818.75	820.25	2.06	2.06	1.50	650_UM1	4600.64	7910.87	9307.33
TG04-57A	866.00	868.15	2.44	2.44	2.15	UM5C	4603.48	7883.80	9268.32
TG04-57A	839.50	841.85	3.92	3.92	2.35	UM5B	4601.90	7898.82	9289.97
TG04-57A	775.00	778.00	5.65	5.65	3.00	UM3	4597.98	7935.32	9342.61
TG04-57A	852.00	859.70	4.25	4.25	7.70	UM5A	4602.81	7890.18	9277.52
TG04-57A	748.62	764.50	1.18	1.18	15.89	UM4	4596.66	7946.60	9359.00
TG04-57B	810.22	811.88	0.00	0.00	1.66	UM1B	4590.63	7895.28	9328.58
TG04-57B	823.80	826.62	6.96	6.96	2.82	UM5B	4591.06	7886.38	9317.58
TG04-57B	839.65	844.00	6.55	6.55	4.35	UM5A	4591.57	7875.90	9304.70
TG04-58A	777.00	778.50	2.34	2.34	1.50	UM5B	4594.99	7875.02	9330.50
TG04-58A	784.50	793.00	4.13	4.13	8.50	UM5A	4594.76	7869.60	9320.93
TG04-63	1037.40	1039.85	6.24	6.24	2.45	D1C	4497.48	7914.93	9118.89
TG04-63	1013.75	1017.25	9.77	9.77	3.50	D1A	4496.39	7929.37	9136.91
TG04-63	1004.90	1009.25	5.29	5.29	4.35	D1	4495.97	7934.60	9143.51
TG04-63	1022.25	1026.75	10.47	10.47	4.50	D1B	4496.82	7923.77	9129.88
TG04-63	952.50	968.74	5.90	5.90	16.24	UM5	4493.42	7963.14	9180.07
TG04-63B	1048.20	1049.60	9.34	9.34	1.40	D1C	4488.14	7940.08	9089.96
TG04-63B	1024.60	1026.10	12.14	12.14	1.50	D1A	4487.71	7953.07	9109.59
TG04-63B	1040.90	1042.60	6.17	6.17	1.70	D1B	4488.02	7944.03	9095.92
TG04-63B	937.50	939.75	3.79	3.79	2.25	FW1A	4485.94	8000.22	9182.36
TG04-63B	967.65	972.00	3.27	3.27	4.35	UM5	4486.57	7983.38	9156.10
TG04-63B	1006.30	1014.95	4.08	4.08	8.65	D1	4487.42	7961.17	9121.89
TG04-63C	1032.30	1033.64	2.58	2.58	1.35	D1A	4490.72	7981.93	9085.23
TG04-63C	977.90	979.40	5.10	5.10	1.50	UM5	4489.42	8006.94	9133.43
TG04-63C	1111.10	1113.10	3.32	3.32	2.00	D3	4491.71	7944.55	9015.49
TG04-63C	954.50	957.00	3.42	3.42	2.50	FW1A	4488.51	8017.44	9153.76
TG04-63C	1016.70	1025.00	2.41	2.41	8.30	D1	4490.55	7987.57	9095.96
TG05-64	1197.50	1199.25	4.82	4.82	1.75	D3	4507.38	7967.50	8978.66
TG05-64	1119.72	1122.08	0.89	0.89	2.36	D1	4499.87	8015.89	9038.67
TG05-64	1143.50	1149.25	5.62	5.62	5.75	D1B	4502.33	8000.31	9018.68
TG05-64	1128.85	1134.98	4.34	4.34	6.13	D1A	4500.93	8009.20	9029.99
TG05-64B	1132.00	1133.50	8.46	8.46	1.50	D1	4509.64	8043.77	9008.61
TG05-64B	1142.48	1151.49	25.05	11.37	9.01	D1A	4511.58	8036.03	8996.83
TG05-64C	1187.90	1189.40	7.34	7.34	1.50	D1C	4500.71	8036.26	8947.98
TG05-64C	1136.61	1138.41	0.01	0.01	1.80	D1	4496.77	8062.94	8991.43
TG05-64C	1149.20	1154.75	3.95	3.95	5.55	D1A	4497.89	8055.44	8979.12
TG05-64C	1158.95	1169.75	6.20	6.20	10.80	D1B	4498.84	8049.00	8968.59
TG05-64G	1189.00	1190.65	2.05	2.05	1.65	D3	4452.02	7951.17	8999.22
TG05-64G	1170.90	1173.50	4.63	4.63	2.60	D2	4451.66	7963.01	9012.27
TG05-64G	1129.00	1134.95	4.82	4.82	5.95	D1B	4451.14	7989.76	9042.30
TG05-64J	1195.80	1206.15	1.02	1.02	10.35	D3	4468.81	7972.90	8969.60
TG05-64K	1146.01	1150.15	0.00	0.00	4.13	D1B	4457.31	8023.27	8999.71
TG05-64K	1221.00	1226.50	9.74	9.74	5.50	D3	4458.91	7979.68	8937.87
TG05-64K	1176.00	1182.55	2.77	2.77	6.55	D2A	4458.01	8005.39	8974.15
TG05-65A	1320.26	1329.05	4.42	4.42	8.79	D3	4339.14	8044.30	8816.11
TG05-65A	1284.85	1294.90	1.24	1.24	10.05	D2	4337.11	8064.04	8844.67
TG05-65B	1296.50	1298.50	2.64	2.64	2.00	D3	4342.55	8011.28	8869.00
TG05-65B	1265.20	1267.70	11.20	11.20	2.50	D2	4340.69	8031.11	8892.82
TG05-72	860.32	862.10	0.00	0.00	1.78	D1	4658.59	7895.83	9158.10
TG05-72	688.10	698.05	3.38	3.38	9.94	FW1	4641.68	7884.73	9325.00
TG05-72	650.85	671.89	6.19	6.19	21.05	650_UM1	4638.99	7882.38	9356.51
TG05-72	650.74	671.90	6.16	6.16	21.16	UM1B	4638.98	7882.38	9356.55
TG05-72A	845.00	854.30	4.81	4.81	9.30	D1	4692.39	7888.59	9173.41
TG05-72A	626.78	656.50	5.81	4.46	29.72	650_UM1	4652.28	7878.22	9377.22
TG05-74A	1062.55	1063.35	9.51	9.51	0.80	D1D	4572.44	8055.37	9046.31
TG05-74B	1119.15	1120.00	2.26	2.26	0.85	D4	4565.46	7985.32	9025.23
TG05-74B	1064.70	1075.90	3.77	3.77	11.20	D1D	4565.44	8018.56	9061.59
TG05-74C	1137.50	1139.45	7.86	7.86	1.95	D1C	4548.44	7942.16	9035.97
TG05-74C	1016.00	1024.25	3.47	3.47	8.25	UM5	4555.06	8029.44	9115.60
TG05-74C	1049.15	1073.50	10.61	10.61	24.35	D1D	4552.93	7999.49	9087.39
TG05-74E	1125.20	1126.20	6.36	6.36	1.00	D4	4570.11	7999.99	9007.68

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	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
TG05-74E	1065.50	1073.20	2.92	2.92	7.70	D1D	4564.71	8032.88	9053.11
TG05-74F	1119.80	1122.40	3.66	3.66	2.60	D4	4553.25	7987.40	9021.14
TG05-74F	1067.05	1077.15	6.21	6.21	10.10	D1D	4551.12	8016.34	9060.63
TG05-75A	1285.20	1292.20	5.87	5.87	7.00	D2A	4431.96	8079.19	8895.89
TG05-75A	1307.10	1321.45	3.65	3.65	14.35	D2	4433.40	8061.84	8877.16
TG05-75B	1291.10	1292.60	4.16	4.16	1.50	D2A	4425.02	8052.68	8915.35
TG05-75B	1299.10	1304.10	5.14	5.14	5.00	D2	4425.24	8045.57	8908.69
TG05-75C	1251.50	1254.30	3.35	3.35	2.80	D1B	4439.76	8066.28	8957.73
TG05-75C	1304.30	1309.96	33.95	14.22	5.66	D2	4442.93	8024.38	8923.46
TG05-75C	1285.00	1293.80	14.00	10.08	8.80	D2A	4441.90	8038.14	8934.59
TG05-77B	1075.00	1076.10	6.48	6.48	1.10	D1C	4575.22	7940.49	9031.60
TG05-77B	1058.90	1060.40	32.41	32.41	1.50	D4	4573.73	7948.75	9045.10
TG05-77C	898.10	899.80	19.10	19.10	1.70	FW1	4540.78	8013.95	9192.87
TG05-77C	964.40	966.50	7.20	7.20	2.10	UM5	4532.37	7978.46	9137.28
TG05-77D	950.30	962.60	4.07	4.07	12.30	UM5	4565.95	7977.95	9147.19
TG05-77E	893.20	894.75	7.03	7.03	1.55	FW1	4540.04	7982.12	9217.15
TG05-77E	996.70	998.30	4.62	4.62	1.60	D1B	4531.17	7918.06	9136.31
TG05-77E	953.60	955.35	20.72	20.72	1.75	UM5	4535.20	7944.66	9169.89
TG05-77E	983.40	988.90	4.85	4.85	5.50	D1	4532.27	7925.08	9145.17
TG05-77F	979.25	985.20	3.76	3.76	5.95	D1	4579.38	7902.29	9167.95
TG05-88	905.80	908.25	8.87	8.87	2.45	UM5A	4578.29	7915.68	9243.83
TG05-88	892.90	896.49	2.55	2.55	3.59	UM5B	4577.33	7923.02	9253.68
TG05-88	857.55	863.75	8.03	8.03	6.20	FW1	4574.57	7943.43	9280.80
TG05-88	929.50	940.20	6.21	6.21	10.70	UM5	4580.45	7899.00	9221.66
TG05-88A	864.70	866.10	5.83	5.83	1.40	FW1	4557.05	7942.89	9275.07
TG05-88A	907.35	909.40	1.68	1.68	2.05	UM5A	4556.70	7917.86	9240.15
TG05-88A	967.15	974.20	19.31	19.31	7.05	D1	4555.36	7882.02	9189.23
TG05-88A	911.90	937.31	5.53	5.53	25.41	UM5	4556.68	7908.49	9226.89
TG05-88B	890.75	893.00	8.18	8.18	2.25	UM5B	4551.15	7900.17	9274.40
TG06-104	836.79	837.62	0.00	0.00	0.83	UM5	4574.37	7916.04	9202.73
TG06-104	872.00	874.00	71.85	35.12	2.00	D1	4582.02	7906.18	9169.19
TG06-104	757.40	759.56	10.48	10.48	2.16	FW1	4557.35	7937.37	9276.58
TG06-104A	758.80	760.50	3.22	3.22	1.70	UM5B	4569.40	7899.53	9289.36
TG06-104A	776.60	779.10	2.42	2.42	2.50	UM5A	4573.56	7892.45	9273.13
TG06-104A	786.85	801.09	5.94	5.94	14.24	UM5	4577.19	7886.13	9258.75
TG06-112	754.00	756.59	1.75	1.75	2.60	UM5B	4578.89	7884.97	9301.06
TG06-112	778.00	780.75	2.89	2.89	2.75	UM5	4584.53	7875.59	9279.62
TG06-113	958.80	964.40	3.88	3.88	5.60	D1	4465.61	7954.71	9128.50
TG06-115	309.80	317.80	1.55	1.55	8.00	525_FW1	5002.53	7817.26	9789.14
TG06-115	489.00	497.70	4.01	4.01	8.70	525_V3	5022.45	7947.95	9667.86
TG06-115	347.80	357.90	0.40	0.40	10.10	525_FW1	5005.27	7845.16	9761.96
TG06-58b	589.80	597.50	4.82	4.82	7.70	525_MZ1A	4610.43	7914.64	9523.93
TG06-75d	1290.00	1292.60	5.88	5.88	2.60	D2A	4429.23	8027.98	8942.12
TG06-75d	1328.20	1331.20	5.73	5.73	3.00	D3	4429.40	7998.02	8918.09
TG06-75d	1296.90	1301.10	18.31	18.31	4.20	D2	4429.27	8021.97	8937.30
TG06-75d	1255.40	1260.20	4.77	4.77	4.80	D1B	4428.93	8054.06	8963.13
TG06-75e	1372.85	1376.30	0.74	0.74	3.45	D3	4369.45	8078.83	8792.10
TG06-75e	1346.60	1353.80	8.12	8.12	7.20	D2	4370.65	8093.46	8811.56
TG06-75f	1326.45	1333.90	15.54	15.54	7.45	D2	4390.50	8077.26	8848.11
TG06-75f	1368.80	1376.50	1.25	1.25	7.70	D3	4390.82	8048.12	8817.21
TG06-75g	1322.10	1325.20	0.62	0.62	3.10	D2	4389.42	8047.40	8882.46
TG06-75g	1344.40	1355.00	2.38	2.38	10.60	D3	4389.43	8028.13	8864.94
TG06-75h	1310.30	1317.60	0.97	0.97	7.30	D2	4382.88	8033.98	8910.24
TG06-75h	1339.80	1351.20	4.84	4.84	11.40	D3	4380.73	8008.65	8891.56
TG06-75j	1347.20	1351.40	1.67	1.67	4.20	D3	4389.01	7982.63	8922.31
TG06-75j	1305.10	1309.60	1.42	1.42	4.50	D2	4391.25	8020.13	8940.97
TG06-75k	1365.59	1367.70	2.25	2.25	2.10	D2	4382.48	8101.84	8786.84
TG06-75k	1379.00	1383.00	65.65	46.69	4.00	D3	4382.02	8093.37	8775.25
TG06-75k	1292.50	1298.29	7.63	7.63	5.80	FW1	4384.28	8143.23	8844.79
TG06-75m	1386.25	1387.50	4.73	4.73	1.25	D2	4353.61	8108.17	8761.64
TG06-75m	1394.60	1396.20	2.29	2.29	1.60	D3	4352.92	8103.24	8754.71
TG06-75m	1333.40	1349.50	1.59	1.59	16.10	D1	4357.18	8134.23	8798.67
TG06-75N	1382.20	1383.70	1.86	1.86	1.50	D3	4348.56	8071.90	8792.22
TG06-75N	1368.00	1376.90	2.05	2.05	8.90	D2	4349.48	8079.19	8799.72
TG06-95	645.10	649.00	2.55	2.55	3.90	650_UM1	4740.26	7839.38	9482.15
TG06-95A	503.00	505.10	6.63	6.63	2.10	525_MZ2	4745.85	7902.94	9614.54

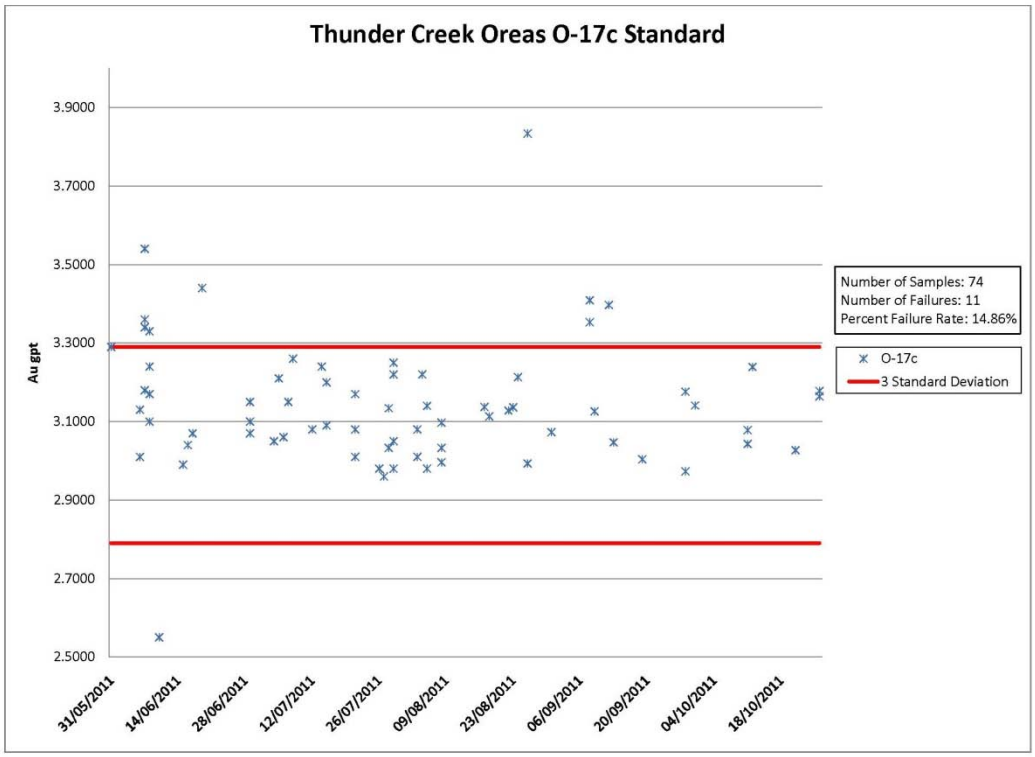
Timmins Deposit Resource Solid Intersections

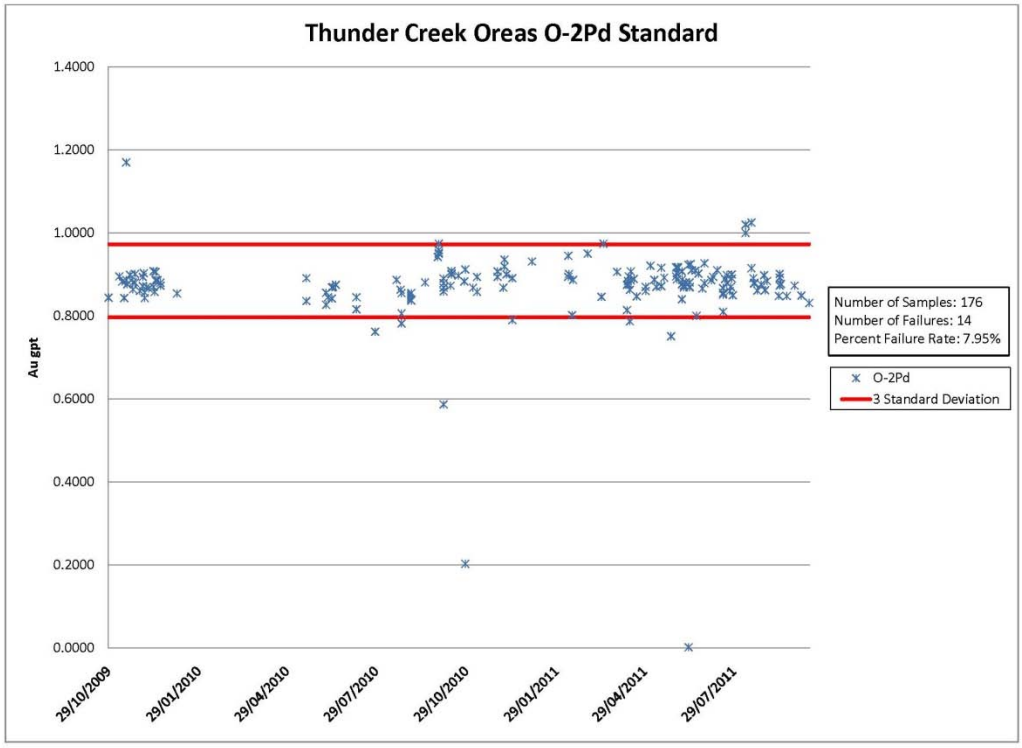
HOLE-ID	FROM	TO	AU	Au Capped	Width	Zone	LOCATIONX	LOCATIONY	LOCATIONZ
	(m)	(m)	g/t	m.g/t	(m)		(m)	(m)	(m)
TG06-96	1458.60	1460.60	1.21	1.21	2.00	D1	4332.65	8202.36	8710.75
TG06-96A	1466.30	1468.30	3.34	3.34	2.00	D2	4367.05	8152.01	8739.09
TG06-96C	1501.40	1503.00	4.57	4.57	1.60	D3	4337.20	8120.18	8729.09
TG06-96C	1472.50	1481.00	12.13	12.13	8.50	D2	4343.37	8141.55	8741.44
TG06-96C	1445.00	1458.51	4.74	4.74	13.51	D1	4349.12	8162.28	8754.15
TG06-96D	1506.93	1508.70	2.42	2.42	1.78	D3	4335.41	8099.09	8750.05
TG06-96D	1488.10	1490.30	7.06	7.06	2.20	D2	4339.22	8115.65	8757.63
TG06-96D	1413.90	1416.95	7.64	7.64	3.05	FW1	4354.09	8180.98	8788.51
TG06-96D	1436.75	1466.40	2.77	2.77	29.65	D1	4346.88	8149.06	8773.15
TG08-178B	1404.50	1407.50	2.01	2.01	3.00	D1	4325.97	8229.97	8712.06
TG08-178C	1444.98	1447.31	0.29	0.29	2.33	D2	4281.14	8189.10	8686.27
TG08-178E	1441.50	1445.00	3.32	3.32	3.50	D2	4302.07	8171.94	8702.84
TG97-50a	760.90	763.75	15.82	15.82	2.85	650_UM2B	4719.50	7983.12	9325.40
TG97-50a	760.40	764.18	12.55	12.55	3.78	UM2B	4719.50	7983.14	9325.43
TG97-50a	743.40	747.40	6.13	6.13	4.00	UM4	4718.49	7991.81	9339.89
TG97-50b	756.25	758.53	0.20	0.20	2.28	650_UM2B	4711.93	7972.71	9337.71
TG97-50b	756.36	759.93	0.11	0.11	3.56	UM2B	4711.92	7972.26	9337.11
TG97-50b	746.30	751.60	7.41	7.41	5.30	UM4	4712.09	7977.76	9344.47
TG97-50b	891.85	903.47	15.25	9.14	11.62	D1A	4708.39	7888.81	9225.35

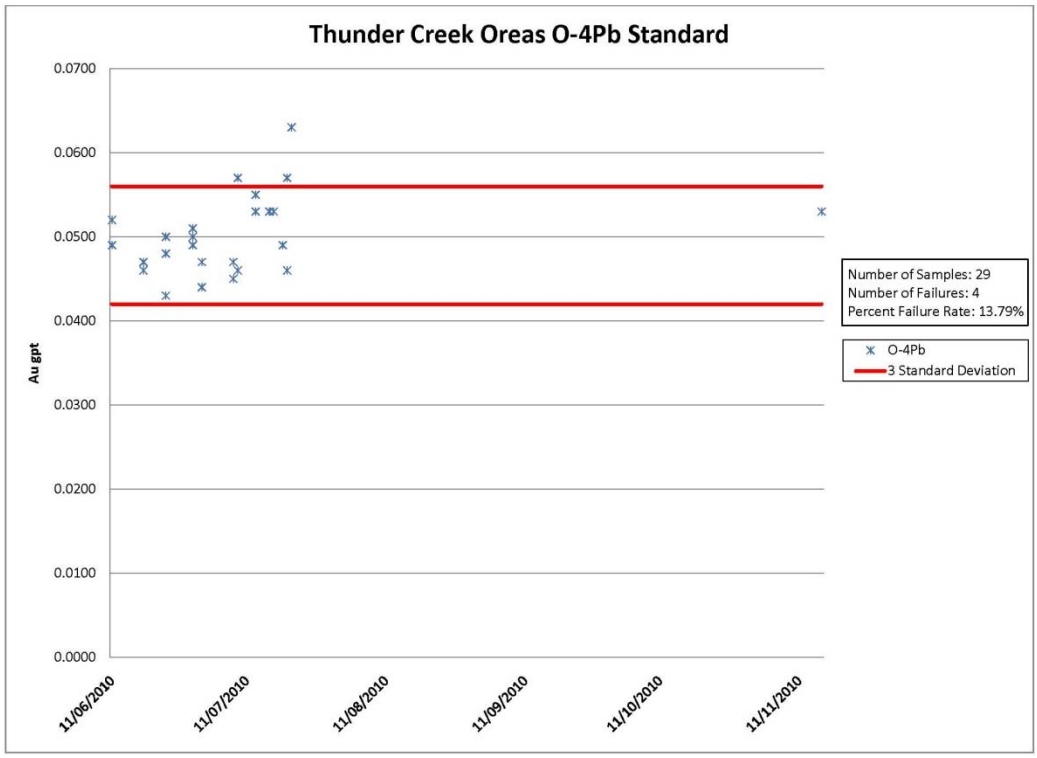
APPENDIX 6

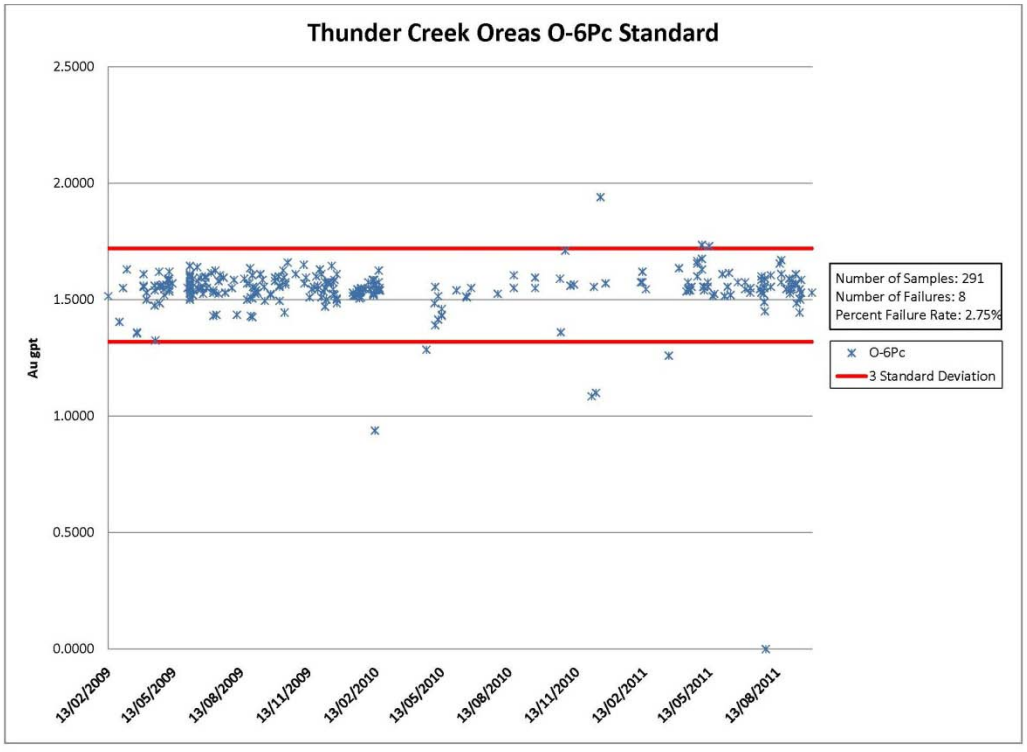
TIMMINS WEST MINE QA/QC GRAPHS OF STANDARDS, BLANKS

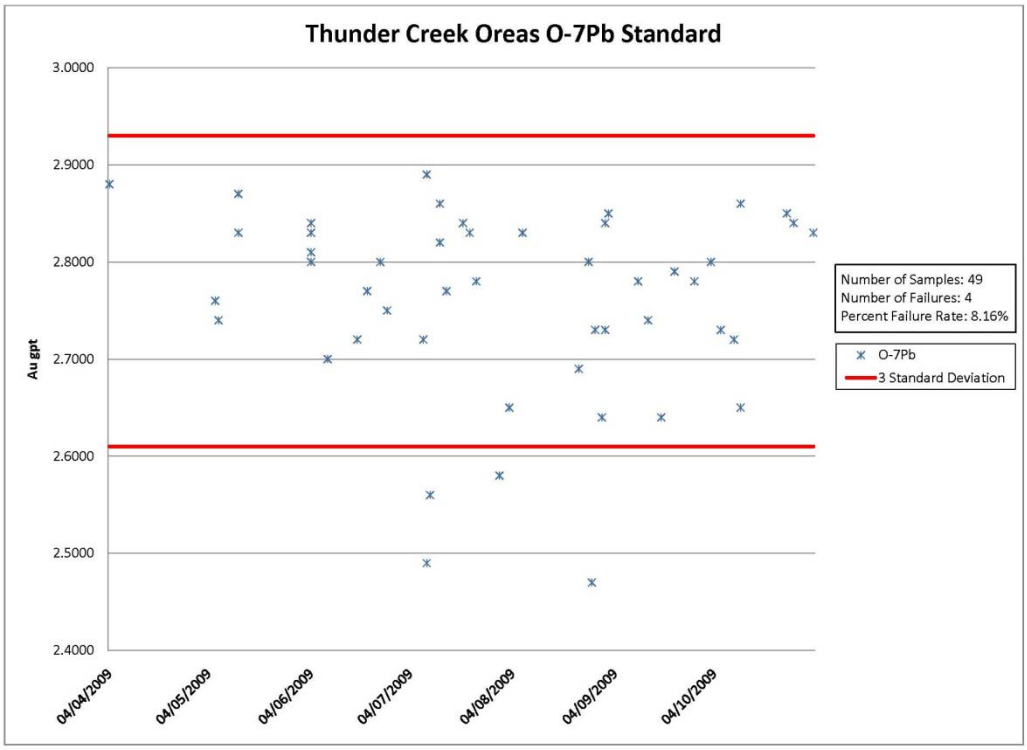
THUNDER CREEK GRAPHS:

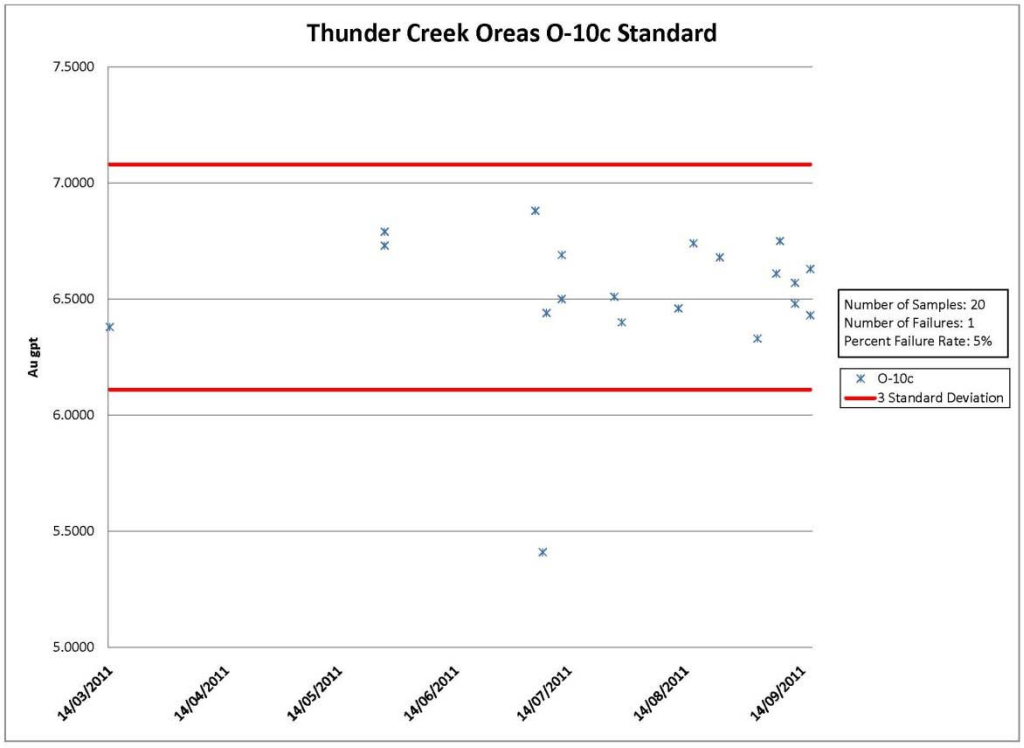


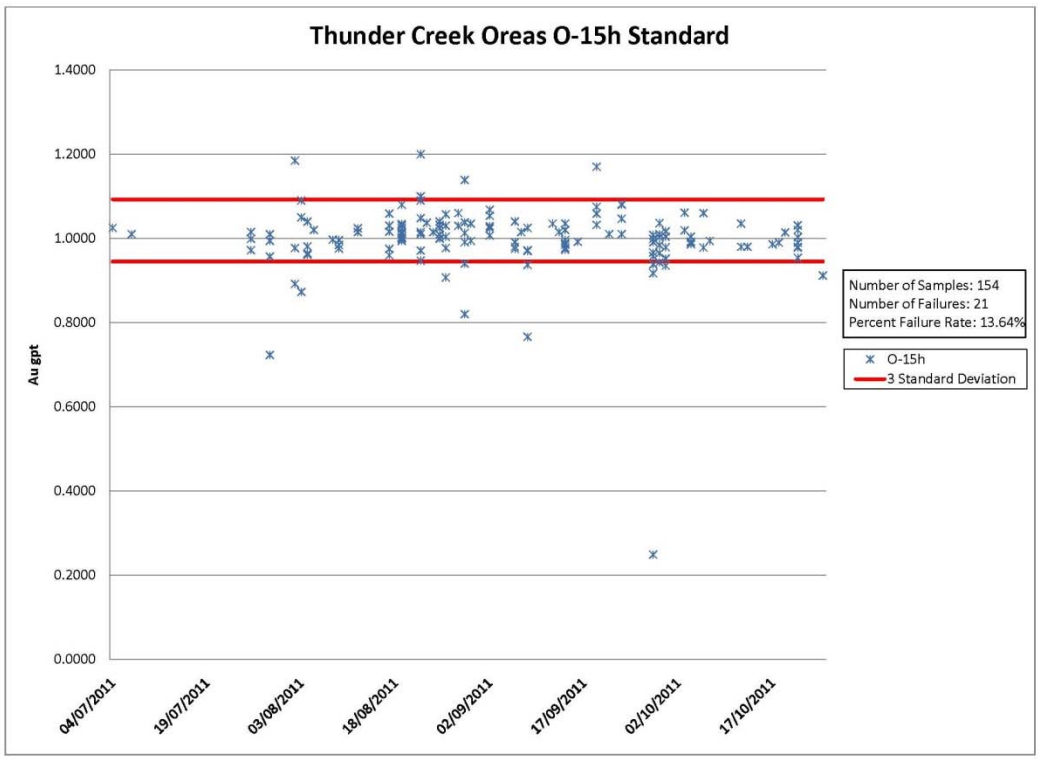


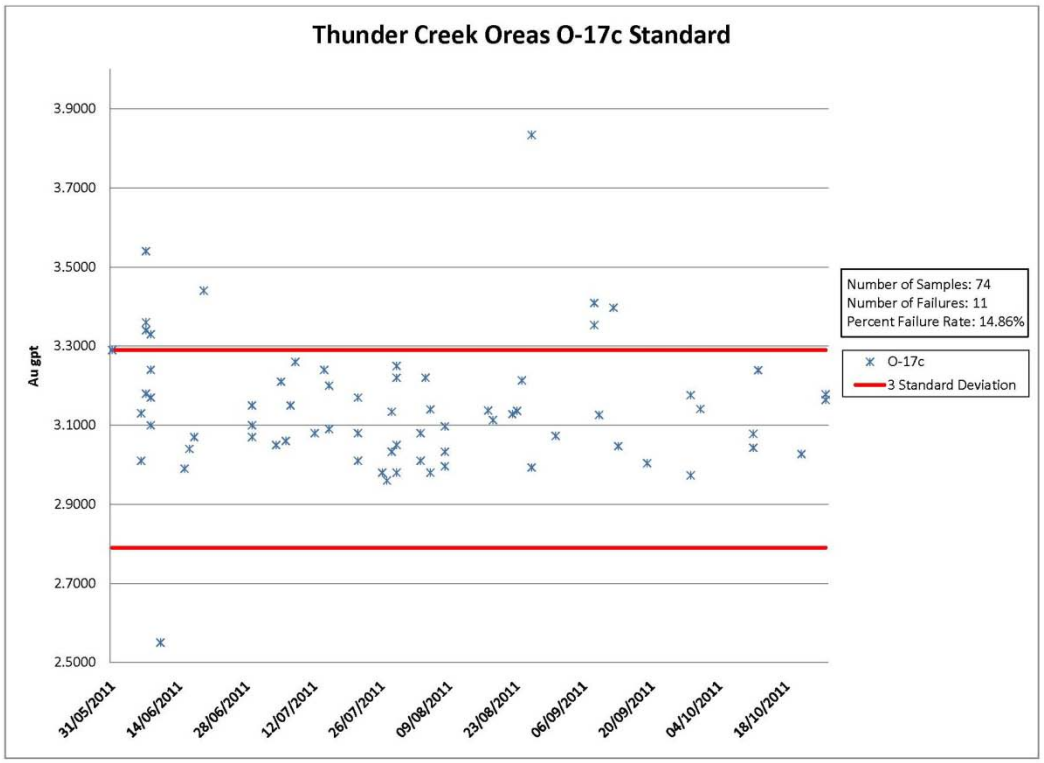

Thunder Creek Oreas O-4Pb Standard
0.0700
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
Au gpt
11/06/2010
11/07/2010
11/08/2010
11/09/2010
11/10/2010
11/11/2010
Number of Samples: 29
Number of Failures: 4
Percent Failure Rate: 13.79%
O-4Pb
3 Standard Deviation

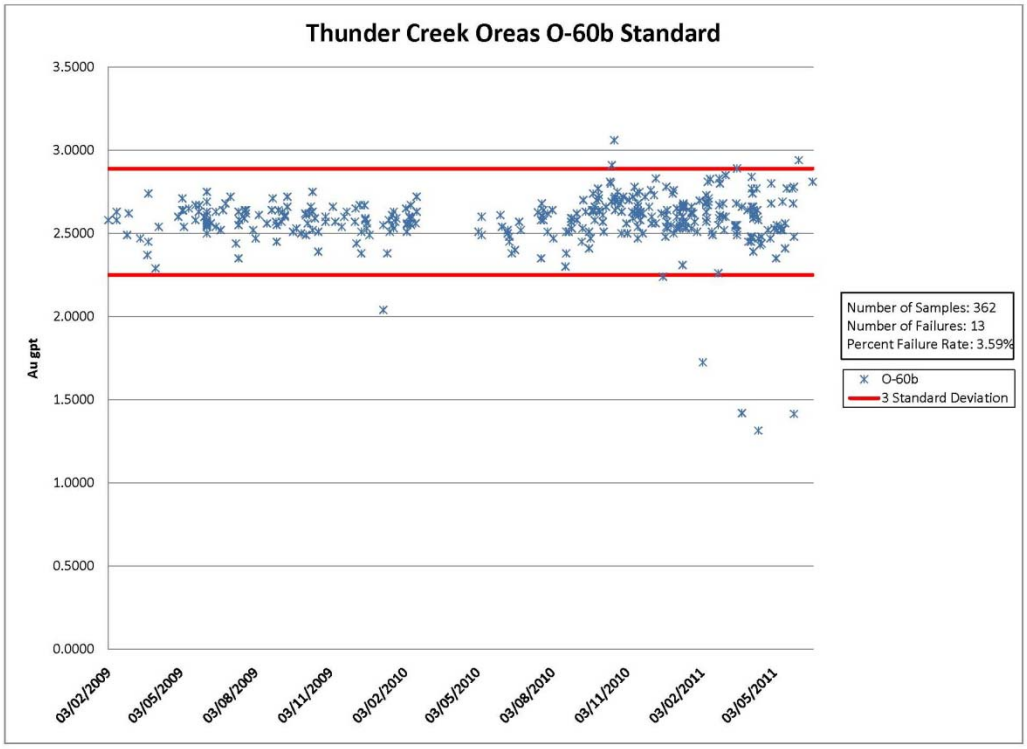

Thunder Creek Oreas O-6Pc Standard
2.5000
2.0000
1.5000
1.0000
0.5000
0.0000
Au gpt
13/02/2009
13/05/2009
13/08/2009
13/11/2009
13/02/2010
13/05/2010
13/08/2010
13/11/2010
13/02/2011
13/05/2011
13/08/2011
Number of Samples: 291
Number of Failures: 8
Percent Failure Rate: 2.75%
O-6Pc
3 Standard Deviation

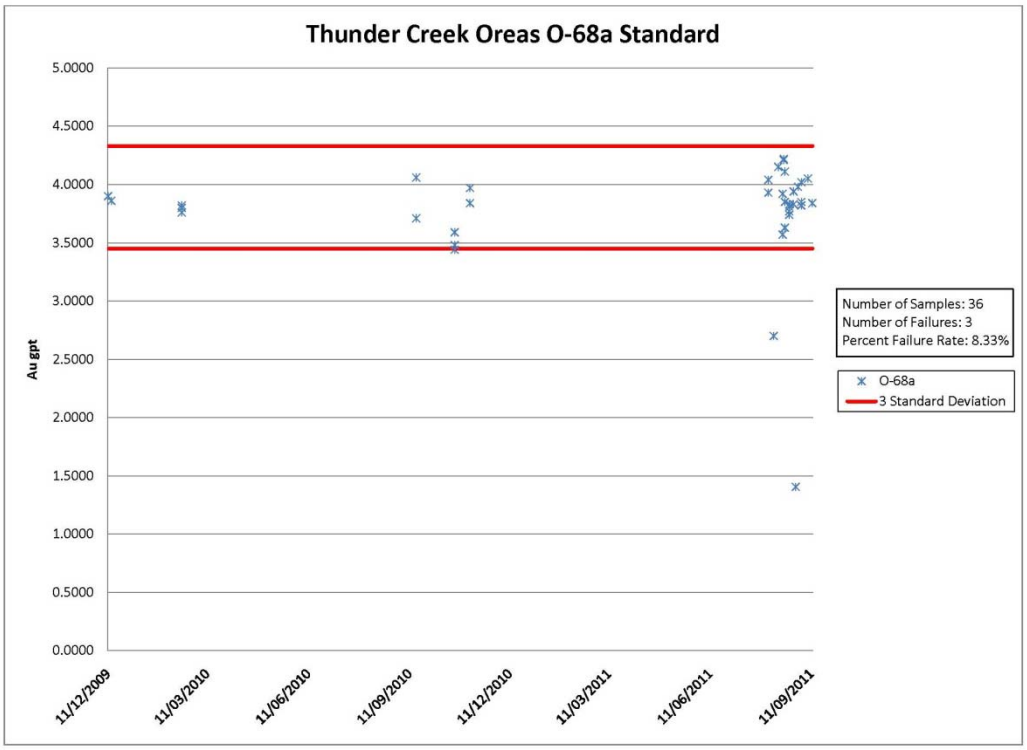

Thunder Creek Oreas O-7Pb Standard
3.0000
2.9000
2.8000
2.7000
2.6000
2.5000
2.4000
Au gpt
04/04/2009
04/05/2009
04/06/2009
04/07/2009
04/08/2009
04/09/2009
04/10/2009
Number of Samples: 49
Number of Failures: 4
Percent Failure Rate: 8.16%
O-7Pb
3 Standard Deviation

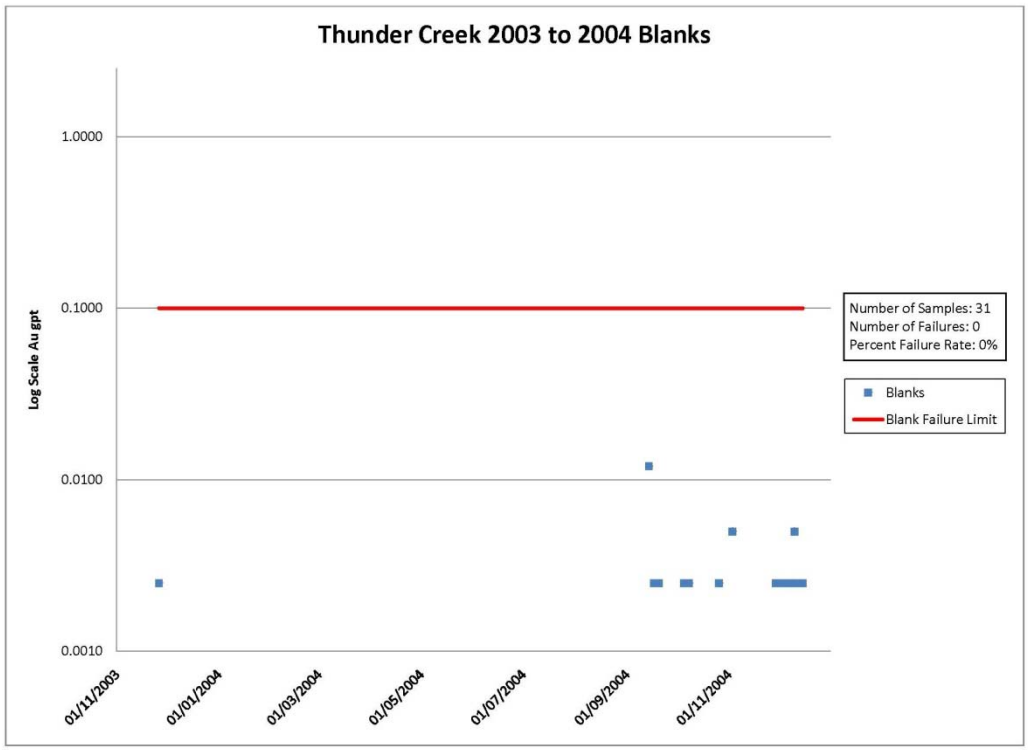

Thunder Creek Oreas O-10c Standard
7.5000
7.0000
6.5000
6.0000
5.5000
5.0000
Au gpt
14/03/2011
14/04/2011
14/05/2011
14/06/2011
14/07/2011
14/08/2011
14/09/2011
Number of Samples: 20
Number of Failures: 1
Percent Failure Rate: 5%
O-10c
3 Standard Deviation

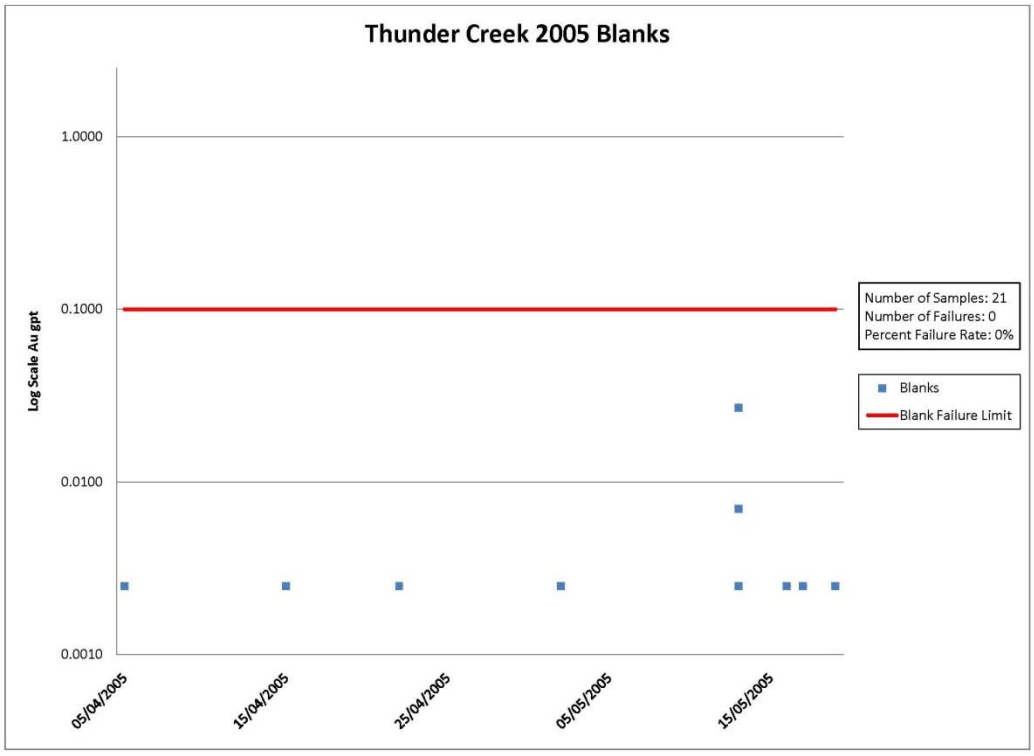

Thunder Creek Oreas O-15h Standard
1.4000
1.2000
1.0000
0.8000
0.6000
0.4000
0.2000
0.0000
Au gpt
04/07/2011
19/07/2011
03/08/2011
18/08/2011
02/09/2011
17/09/2011
02/10/2011
17/10/2011
Number of Samples: 154
Number of Failures: 21
Percent Failure Rate: 13.64%
O-15h
3 Standard Deviation

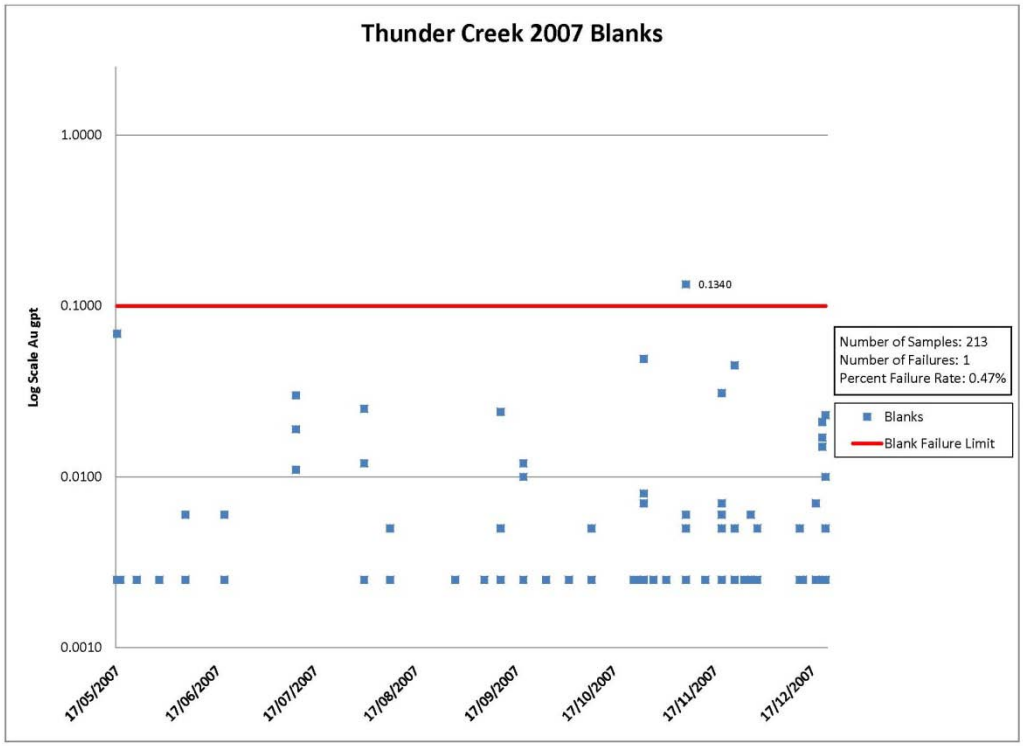

Thunder Creek Oreas O-17c Standard
3.9000
3.7000
3.5000
3.3000
3.1000
2.9000
2.7000
2.5000
Au gpt
31/05/2011
14/06/2011
28/06/2011
12/07/2011
26/07/2011
09/08/2011
23/08/2011
06/09/2011
20/09/2011
04/10/2011
18/10/2011
Number of Samples: 74
Number of Failures: 11
Percent Failure Rate: 14.86%
O-17c
3 Standard Deviation

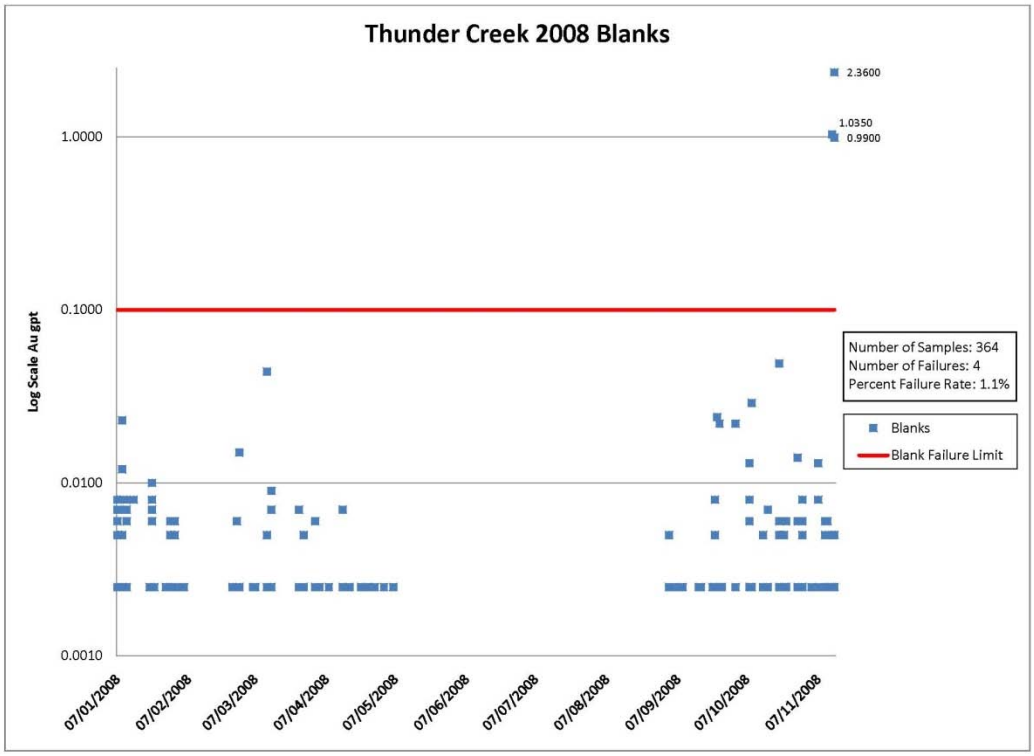

Thunder Creek Oreas O-60b Standard
Au gpt
3.5000
3.0000
2.5000
2.0000
1.5000
1.0000
0.5000
0.0000
03/02/2009
03/05/2009
03/08/2009
03/11/2009
03/02/2010
03/05/2010
03/08/2010
03/11/2010
03/02/2011
03/05/2011
Number of Samples: 362
Number of Failures: 13
Percent Failure Rate: 3.59%
O-60b
3 Standard Deviation

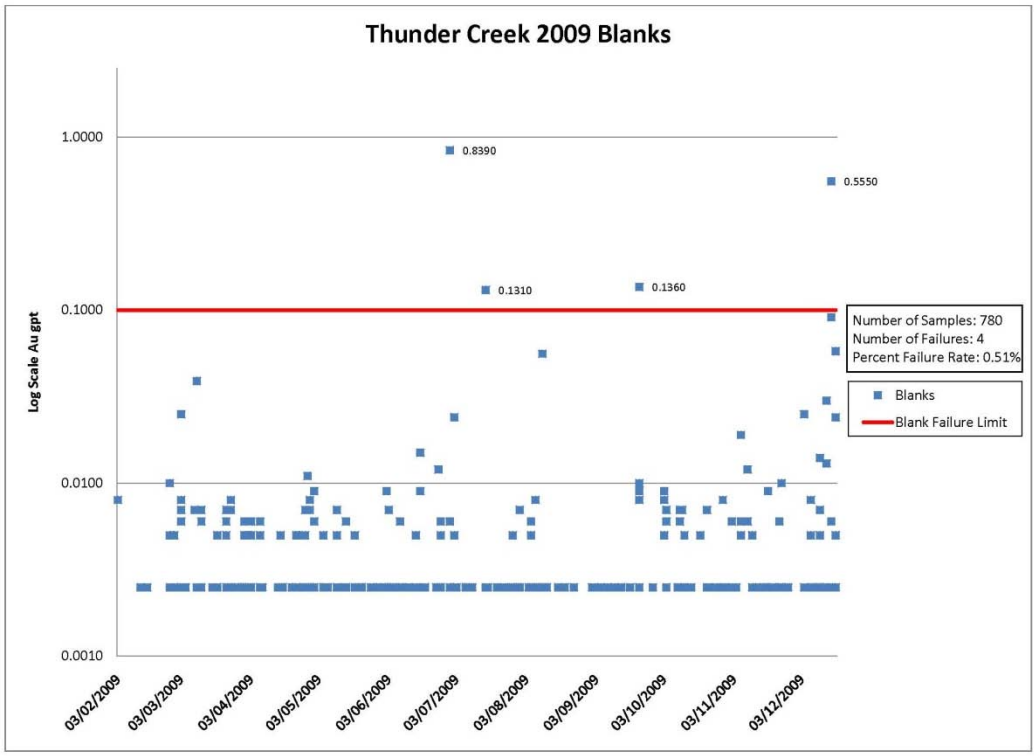

Thunder Creek Oreas O-68a Standard
Au gpt
5.0000
4.5000
4.0000
3.5000
3.0000
2.5000
2.0000
1.5000
1.0000
0.5000
0.0000
11/12/2009
11/03/2010
11/06/2010
11/09/2010
11/12/2010
11/03/2011
11/06/2011
11/09/2011
Number of Samples: 36
Number of Failures: 3
Percent Failure Rate: 8.33%
O-68a
3 Standard Deviation

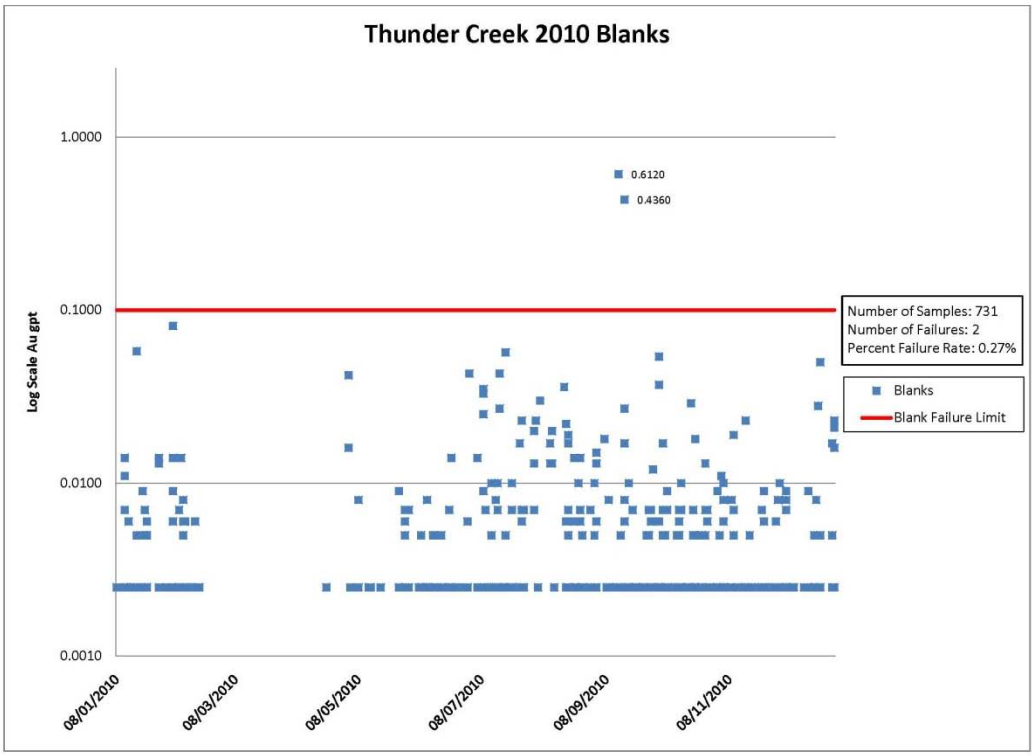

Thunder Creek 2003 to 2004 Blanks
1.0000
0.1000
0.0100
0.0010
Log Scale Au gpt
01/11/2003
01/01/2004
01/03/2004
01/05/2004
01/07/2004
01/09/2004
01/11/2004
Number of Samples: 31
Number of Failures: 0
Percent Failure Rate: 0%
Blanks
Blank Failure Limit

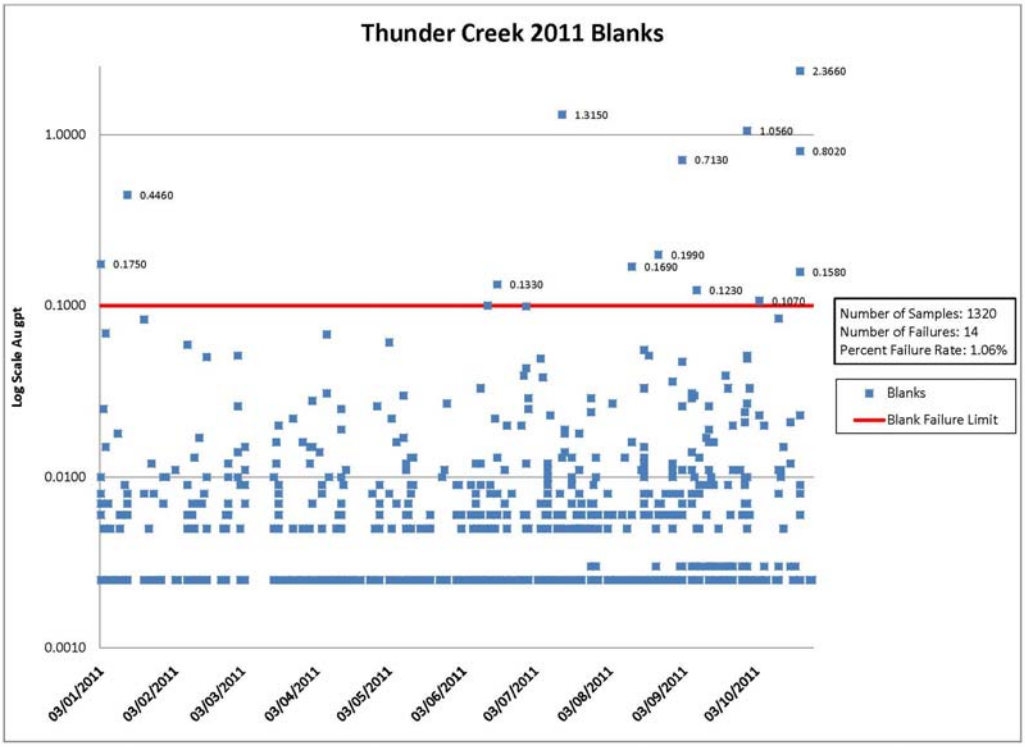

Thunder Creek 2005 Blanks
1.0000
0.1000
0.0100
0.0010
Log Scale Au gpt
05/04/2005
15/04/2005
25/04/2005
05/05/2005
15/05/2005
Number of Samples: 21
Number of Failures: 0
Percent Failure Rate: 0%
Blanks
Blank Failure Limit


Thunder Creek 2007 Blanks
Log Scale Au gpt
1.0000
0.1000
0.0100
0.0010
0.1340
Number of Samples: 213
Number of Failures: 1
Percent Failure Rate: 0.47%
Blanks
Blank Failure Limit
17/05/2007
17/06/2007
17/07/2007
17/08/2007
17/09/2007
17/10/2007
17/11/2007
17/12/2007

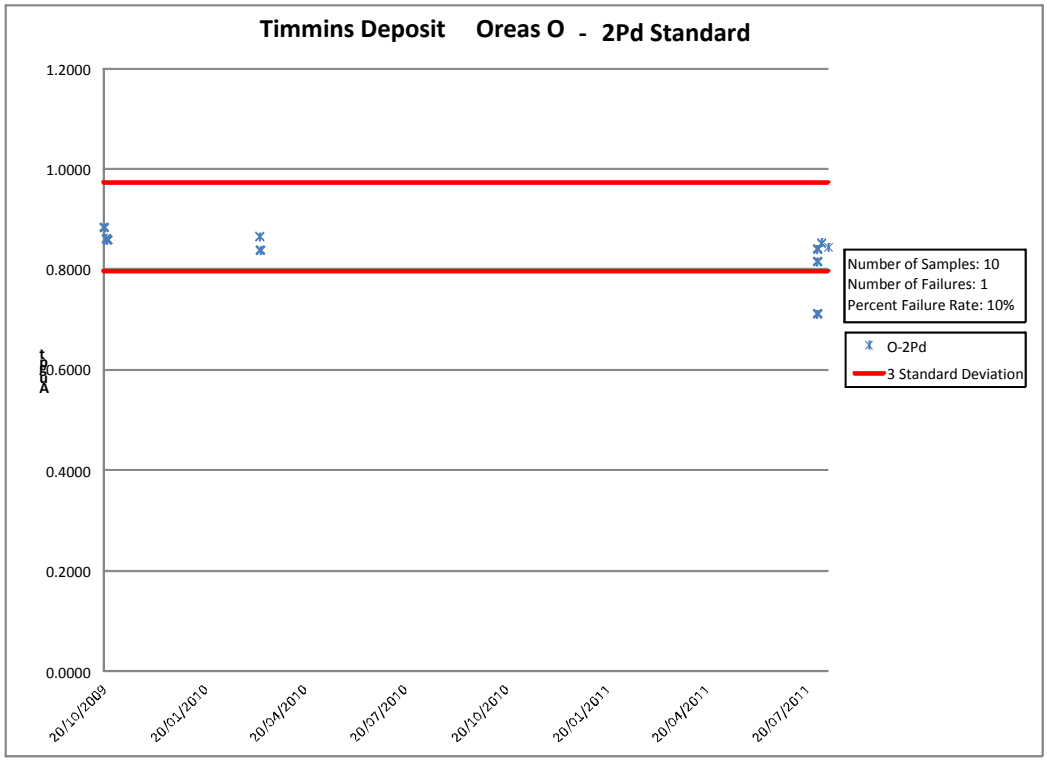

Thunder Creek 2008 Blanks
Log Scale Au gpt
2.3600
1.0350
0.9900
1.0000
0.1000
0.0100
0.0010
Number of Samples: 364
Number of Failures: 4
Percent Failure Rate: 1.1%
Blanks
Blank Failure Limit
07/01/2008
07/02/2008
07/03/2008
07/04/2008
07/05/2008
07/06/2008
07/07/2008
07/08/2008
07/09/2008
07/10/2008
07/11/2008

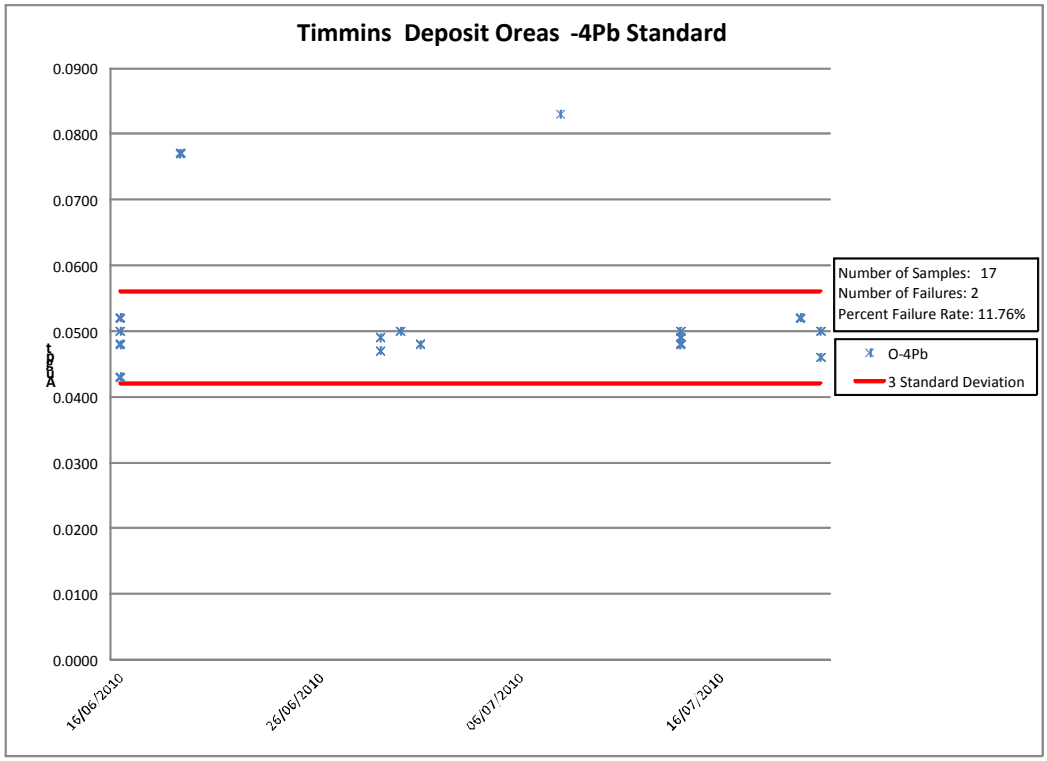

Thunder Creek 2009 Blanks
1.0000
0.1000
0.0100
0.0010
Log Scale Au gpt
0.8390
0.5550
0.1310
0.1360
Number of Samples: 780
Number of Failures: 4
Percent Failure Rate: 0.51%
Blanks
Blank Failure Limit
03/02/2009
03/03/2009
03/04/2009
03/05/2009
03/06/2009
03/07/2009
03/08/2009
03/09/2009
03/10/2009
03/11/2009
03/12/2009

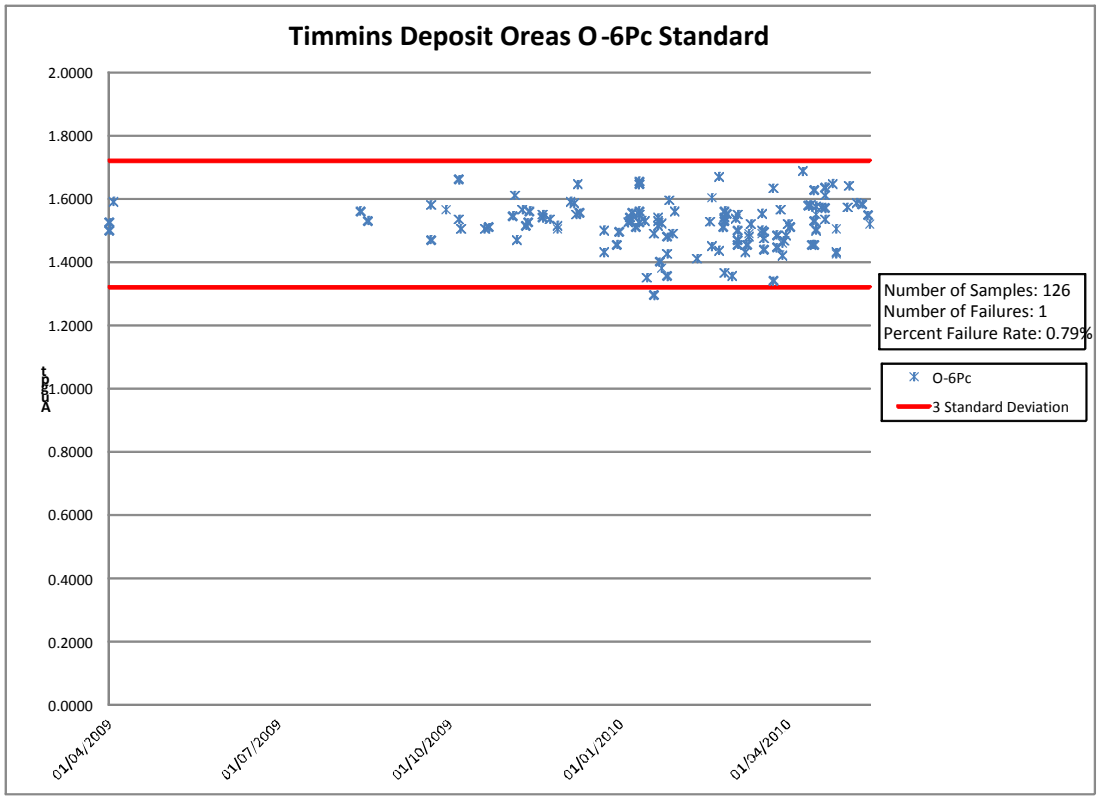

Thunder Creek 2010 Blanks
1.0000
0.1000
0.0100
0.0010
Log Scale Au gpt
0.6120
0.4360
Number of Samples: 731
Number of Failures: 2
Percent Failure Rate: 0.27%
Blanks
Blank Failure Limit
08/01/2010
08/03/2010
08/05/2010
08/07/2010
08/09/2010
08/11/2010

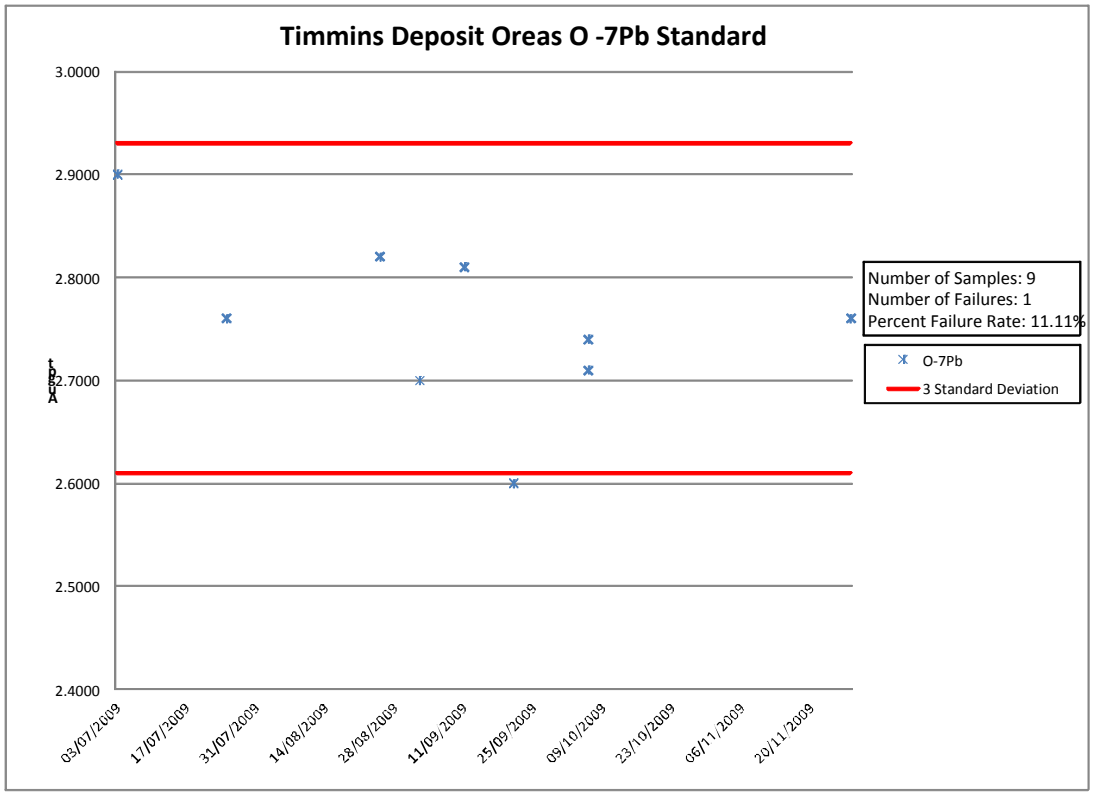

Thunder Creek 2011 Blanks
Log Scale Au gpt
1.0000
0.1000
0.0100
0.0010
2.3660
1.3150
1.0560
0.8020
0.7130
0.4460
0.1990
0.1750
0.1690
0.1580
0.1330
0.1230
0.1070
03/01/2011
03/02/2011
03/03/2011
03/04/2011
03/05/2011
03/06/2011
03/07/2011
03/08/2011
03/09/2011
03/10/2011
Number of Samples: 1320
Number of Failures: 14
Percent Failure Rate: 1.06%
Blanks
Blank Failure Limit

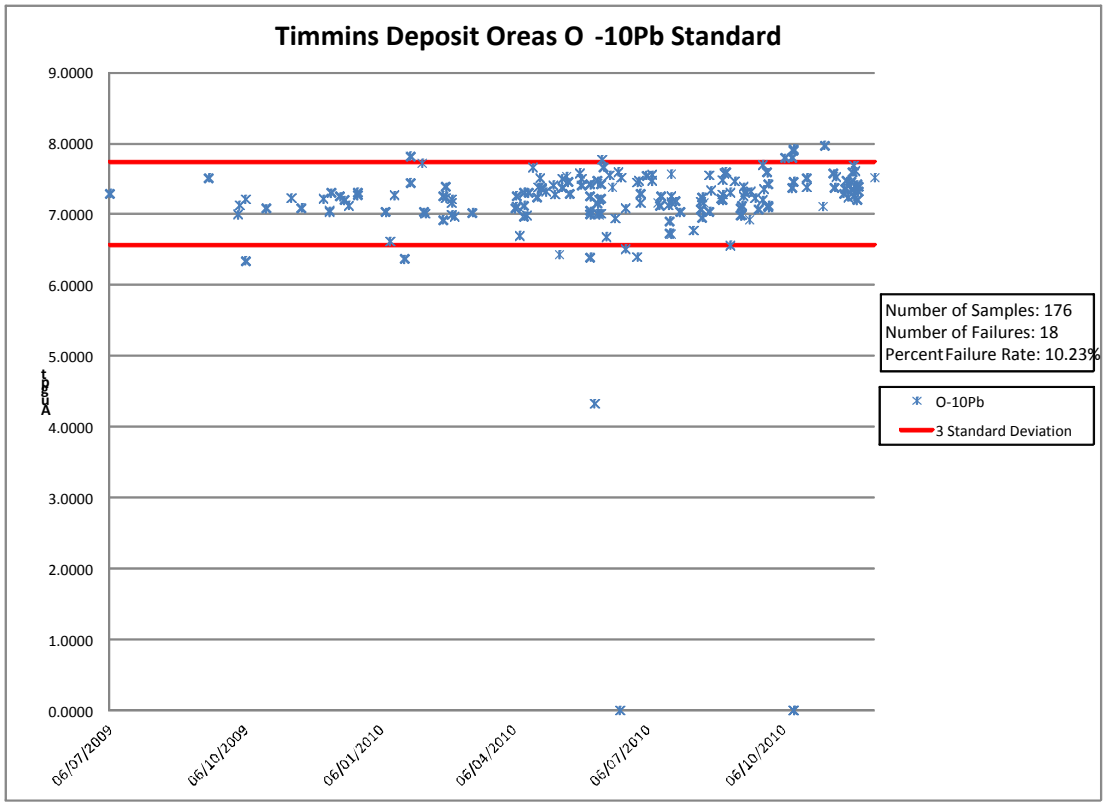
TIMMINS DEPOSIT GRAPHS:

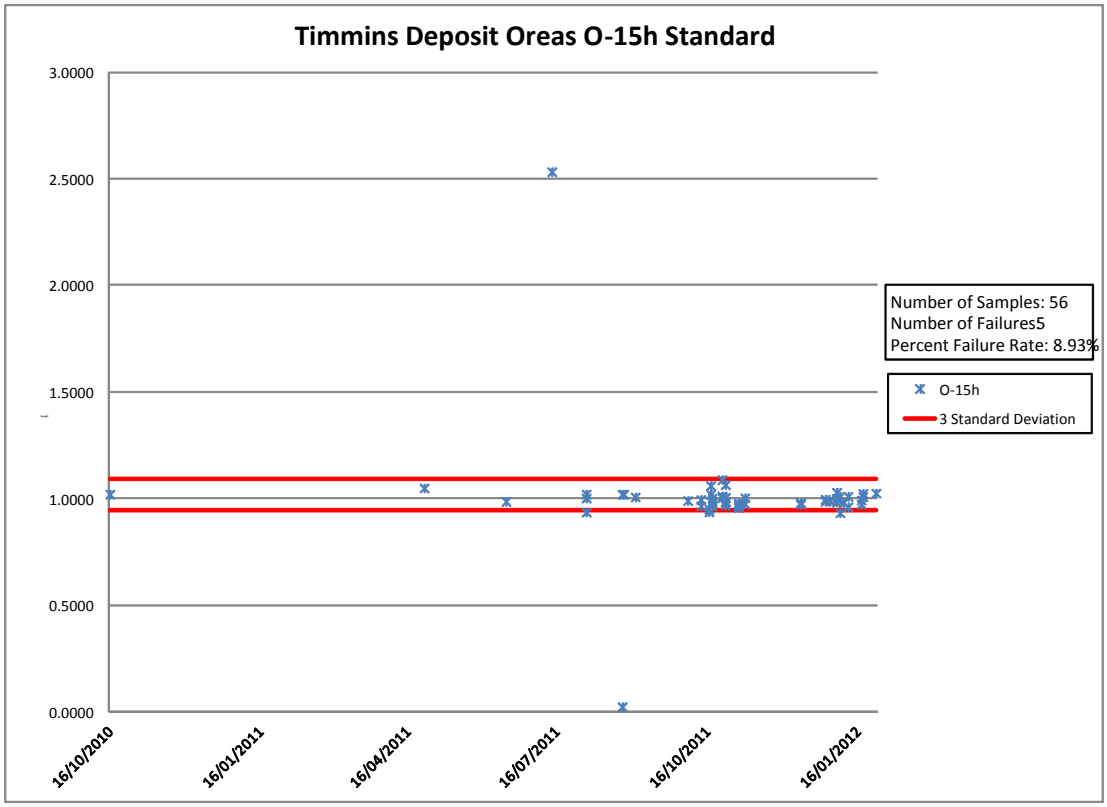


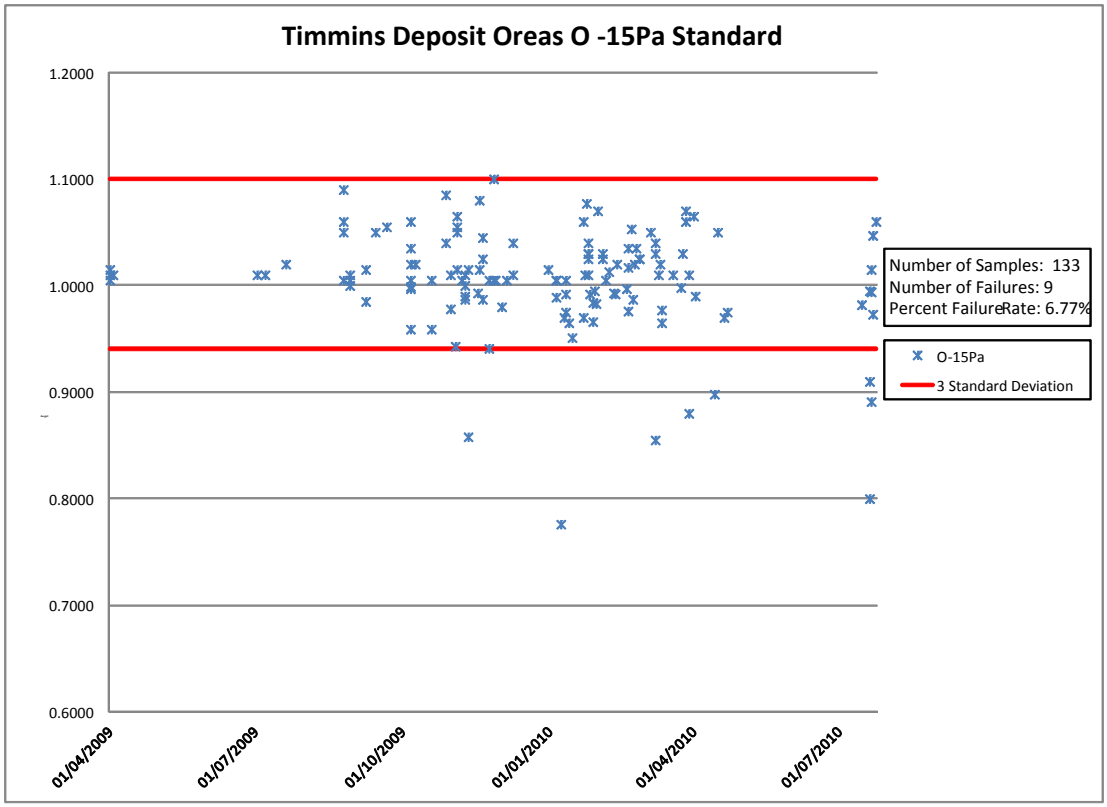


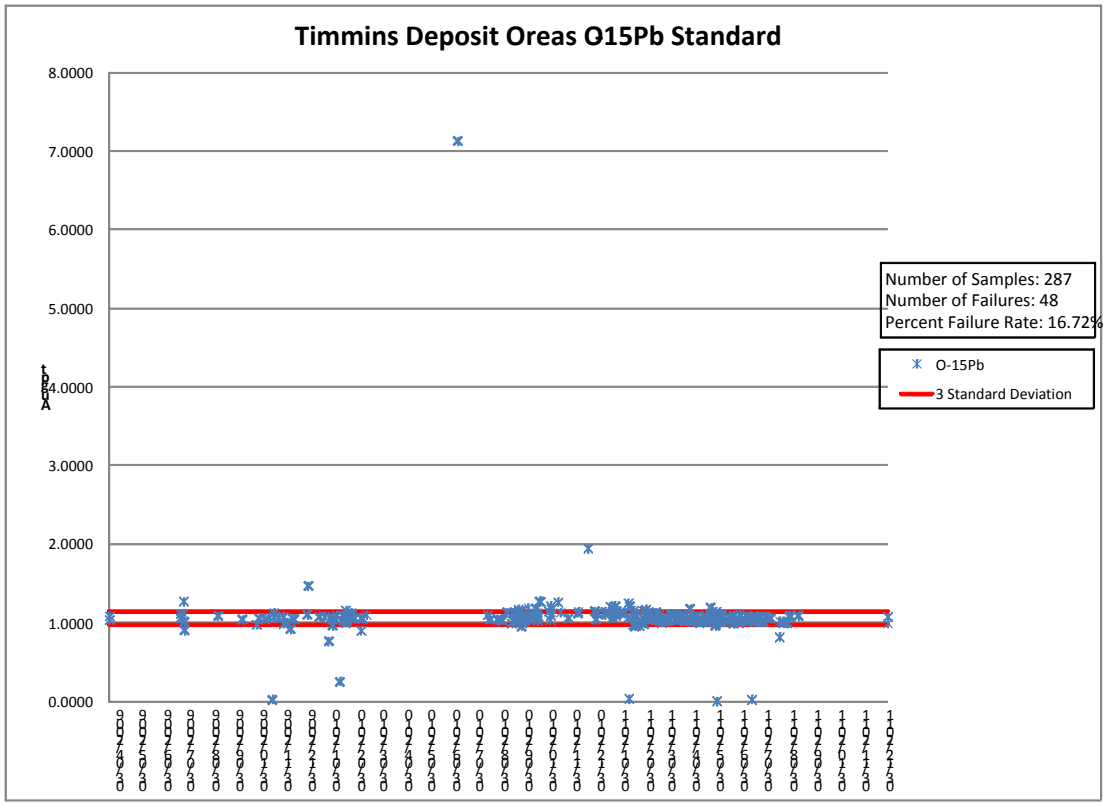

Timmins Deposit Oreas O -6Pc Standard
2.0000
1.8000
1.6000
1.4000
1.2000
1.0000
0.8000
0.6000
0.4000
0.2000
0.0000
01/04/2009
01/07/2009
01/10/2009
01/01/2010
01/04/2010
Number of Samples: 126
Number of Failures: 1
Percent Failure Rate: 0.79%
O-6Pc
3 Standard Deviation

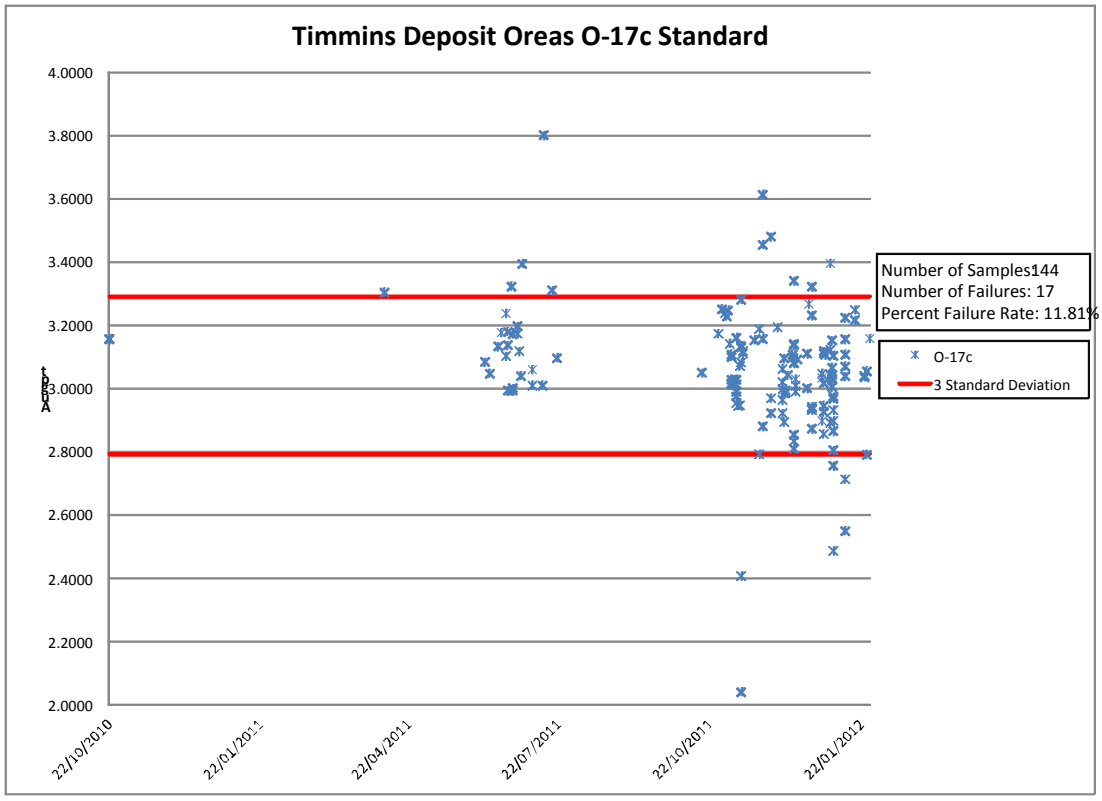

Timmins Deposit Oreas O -7Pb Standard
3.0000
2.9000
2.8000
2.7000
2.6000
2.5000
2.4000
03/07/2009
17/07/2009
31/07/2009
14/08/2009
28/08/2009
11/09/2009
25/09/2009
09/10/2009
23/10/2009
06/11/2009
20/11/2009
Number of Samples: 9
Number of Failures: 1
Percent Failure Rate: 11.11%
O-7Pb
3 Standard Deviation

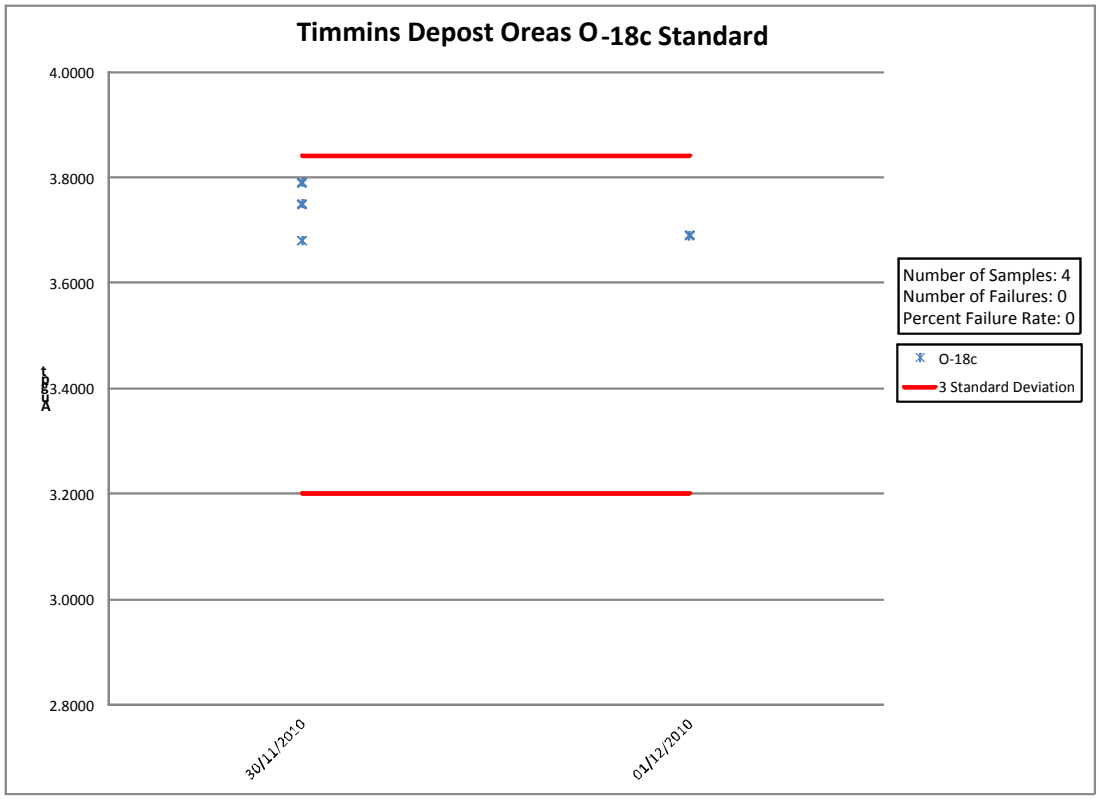

Timmins Deposit Oreas O -10Pb Standard
9.0000
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
06/07/2009
06/10/2009
06/01/2010
06/04/2010
06/07/2010
06/10/2010
Number of Samples: 176
Number of Failures: 18
Percent Failure Rate: 10.23%
O-10Pb
3 Standard Deviation

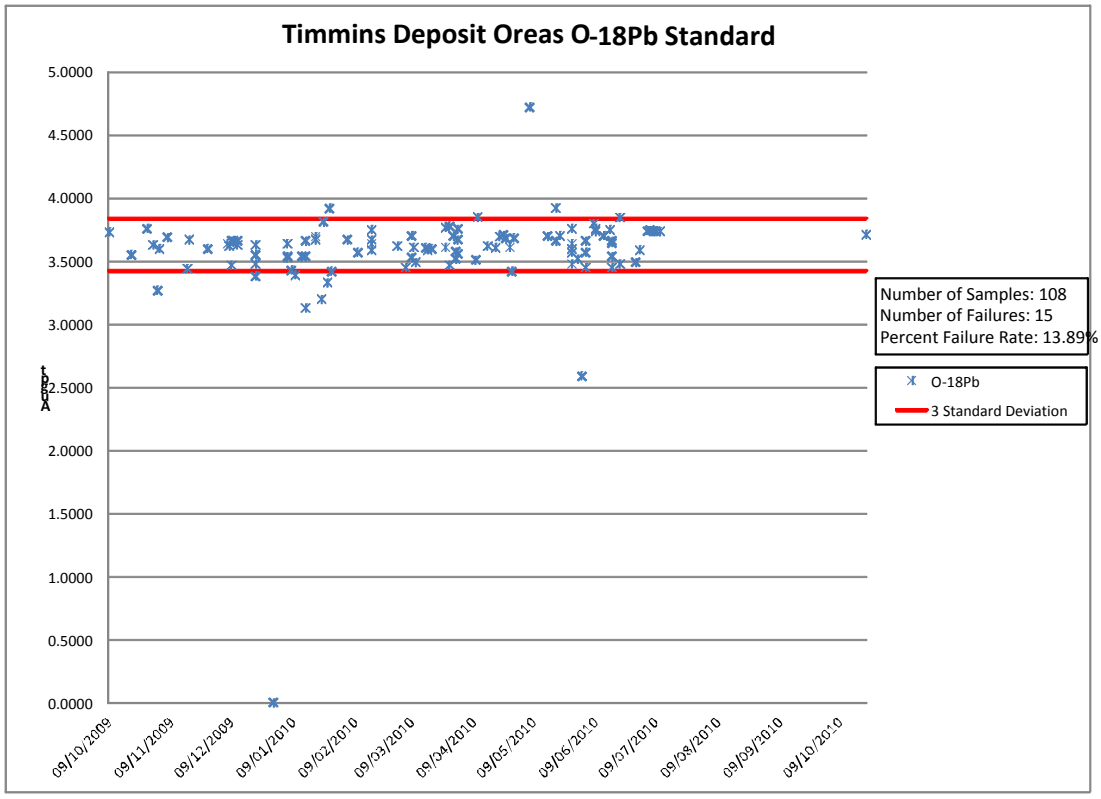

Timmins Deposit Oreas O-15h Standard
3.0000
2.5000
2.0000
1.5000
1.0000
0.5000
0.0000
16/10/2010
16/01/2011
16/04/2011
16/07/2011
16/10/2011
16/01/2012
Number of Samples: 56
Number of Failures5
Percent Failure Rate: 8.93%
O-15h
3 Standard Deviation

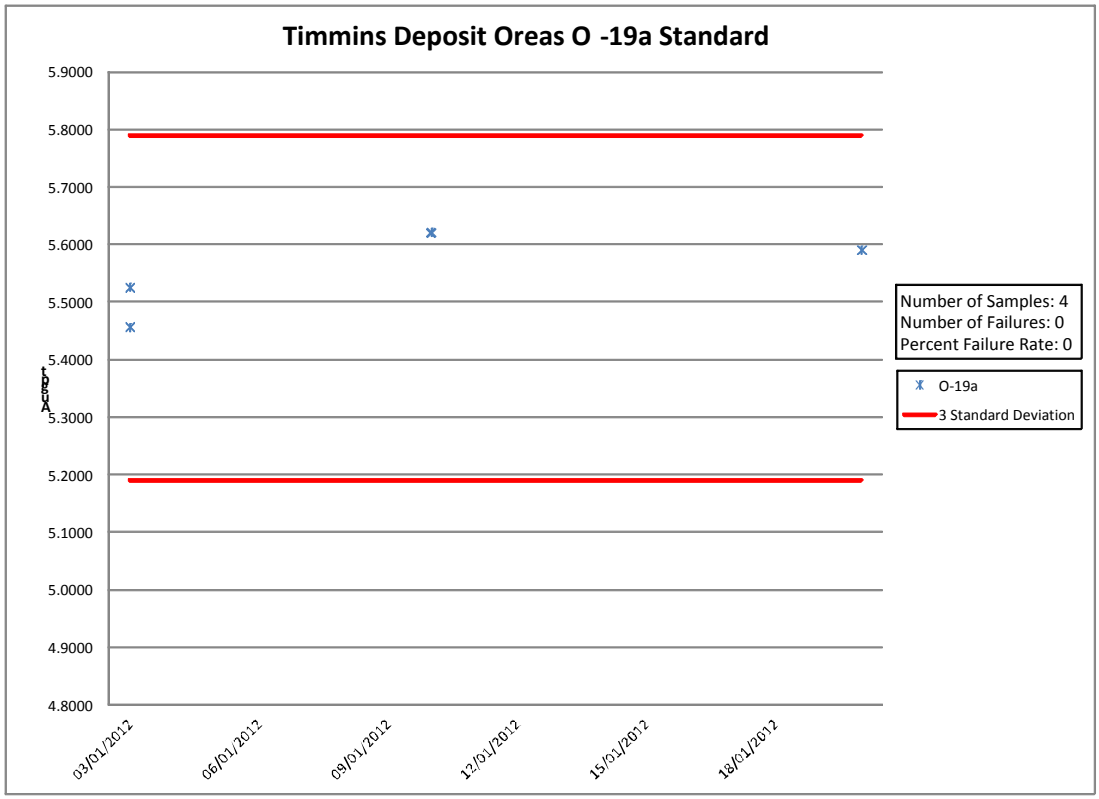

Timmins Deposit Oreas O -15Pa Standard
1.2000
1.1000
1.0000
0.9000
0.8000
0.7000
0.6000
01/04/2009
01/07/2009
01/10/2009
01/01/2010
01/04/2010
01/07/2010
Number of Samples: 133
Number of Failures: 9
Percent Failure Rate: 6.77%
O-15Pa
3 Standard Deviation

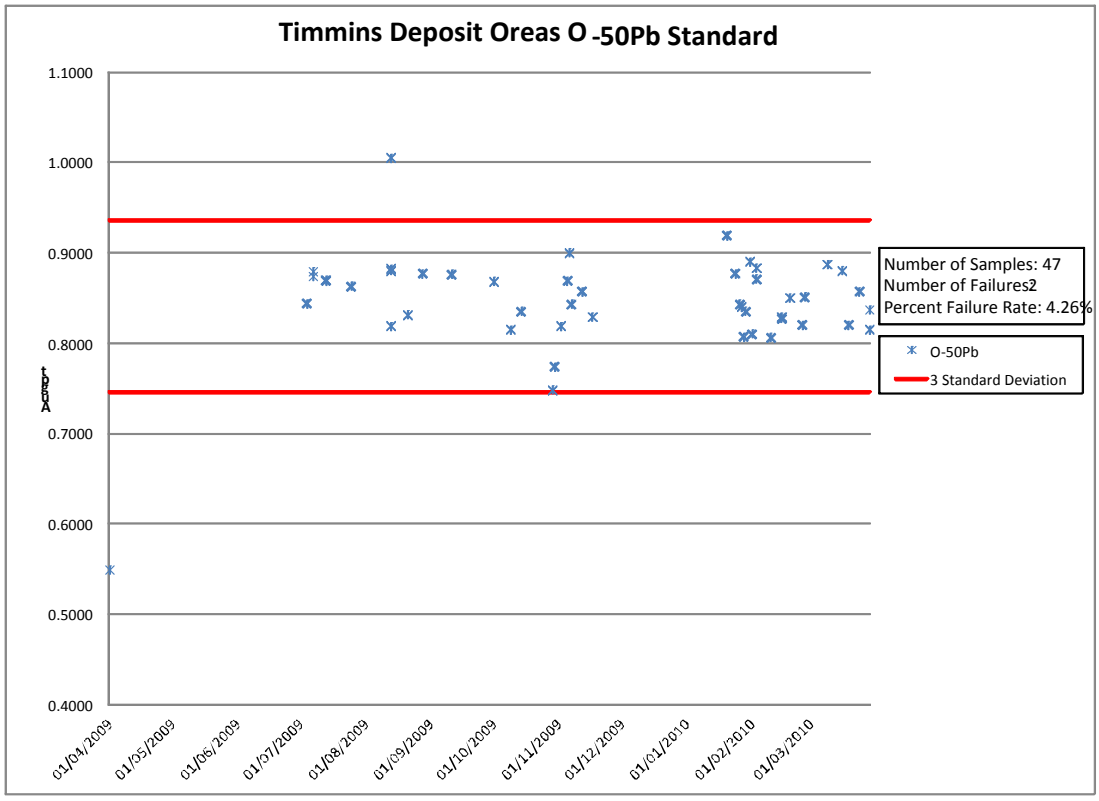

Timmins Deposit Oreas O15Pb Standard
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
Number of Samples: 287
Number of Failures: 48
Percent Failure Rate: 16.72%
O-15Pb
3 Standard Deviation

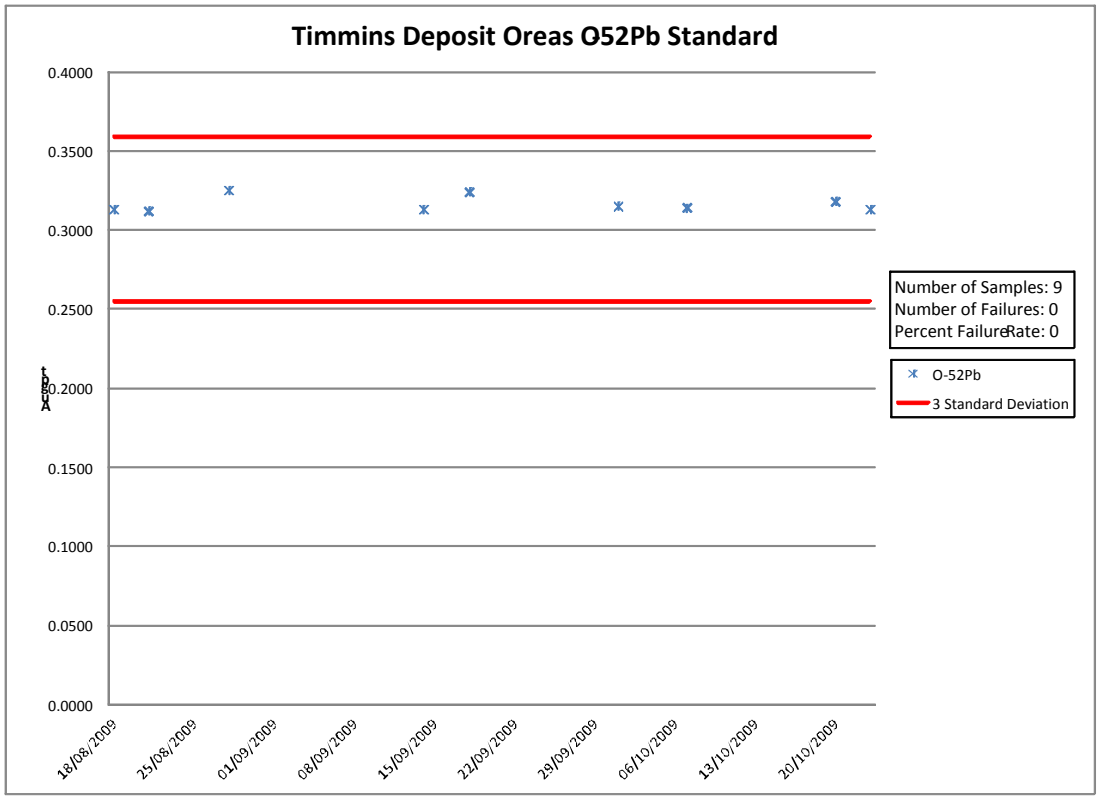

Timmins Deposit Oreas O-17c Standard
4.0000
3.8000
3.6000
3.4000
3.2000
3.0000
2.8000
2.6000
2.4000
2.2000
2.0000
22/10/2010
22/01/2011
22/04/2011
22/07/2011
22/10/2011
22/01/2012
Number of Samples144
Number of Failures: 17
Percent Failure Rate: 11.81%
O-17c
3 Standard Deviation

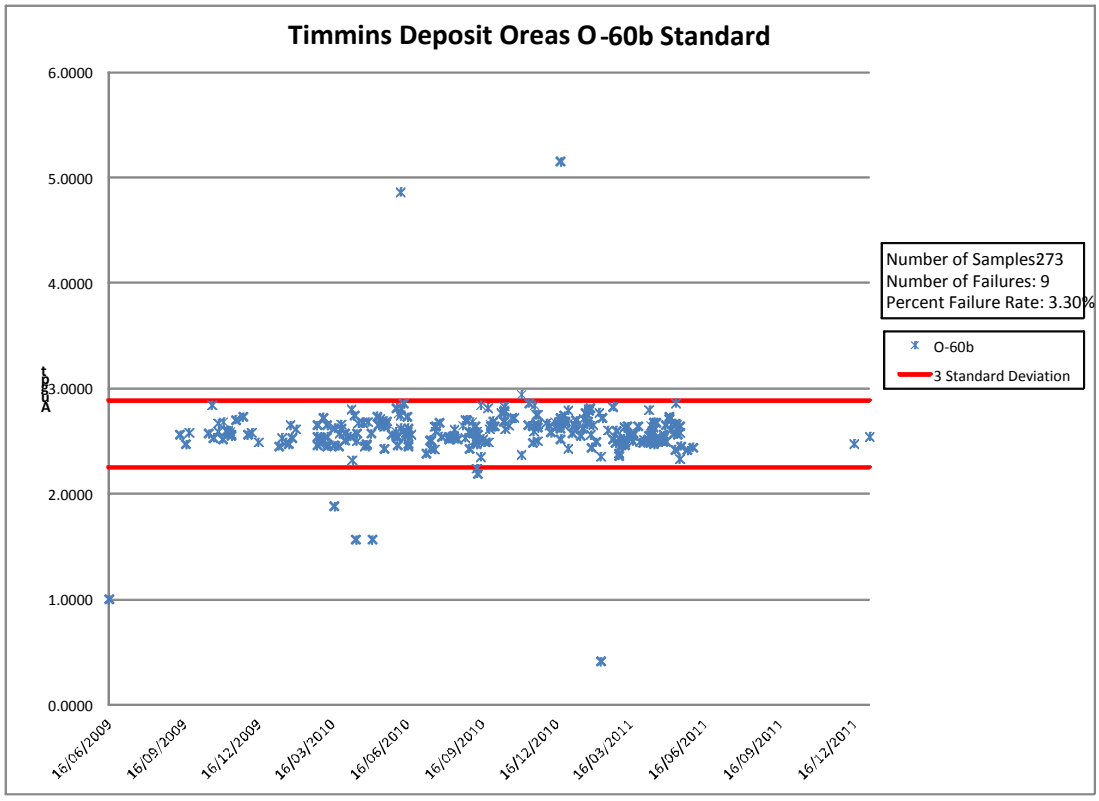

Timmins Depost Oreas O-18c Standard
4.0000
3.8000
3.6000
3.4000
3.2000
3.0000
2.8000
30/11/2010
01/12/2010
Number of Samples: 4
Number of Failures: 0
Percent Failure Rate: 0
O-18c
3 Standard Deviation

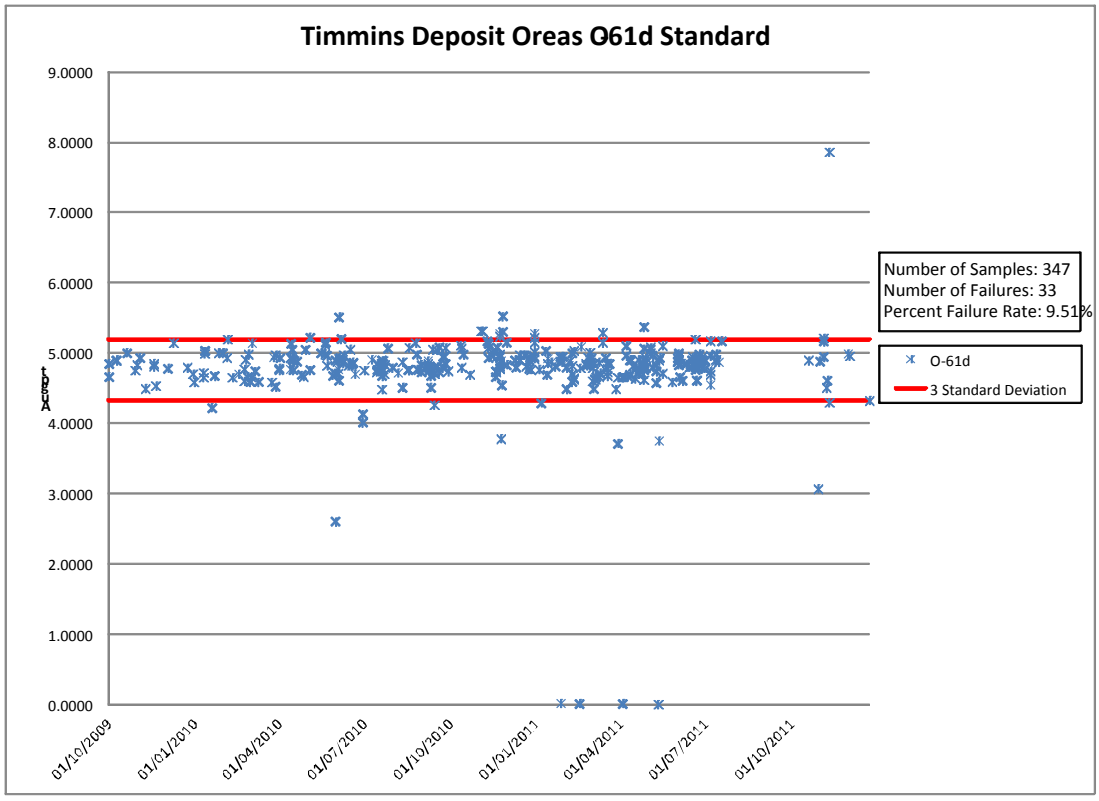

Timmins Deposit Oreas O-18Pb Standard
5.0000
4.5000
4.0000
3.5000
3.0000
2.5000
2.0000
1.5000
1.0000
0.5000
0.0000
09/10/2009
09/11/2009
09/12/2009
09/01/2010
09/02/2010
09/03/2010
09/04/2010
09/05/2010
09/06/2010
09/07/2010
09/08/2010
09/09/2010
09/10/2010
Number of Samples: 108
Number of Failures: 15
Percent Failure Rate: 13.89%
O-18Pb
3 Standard Deviation

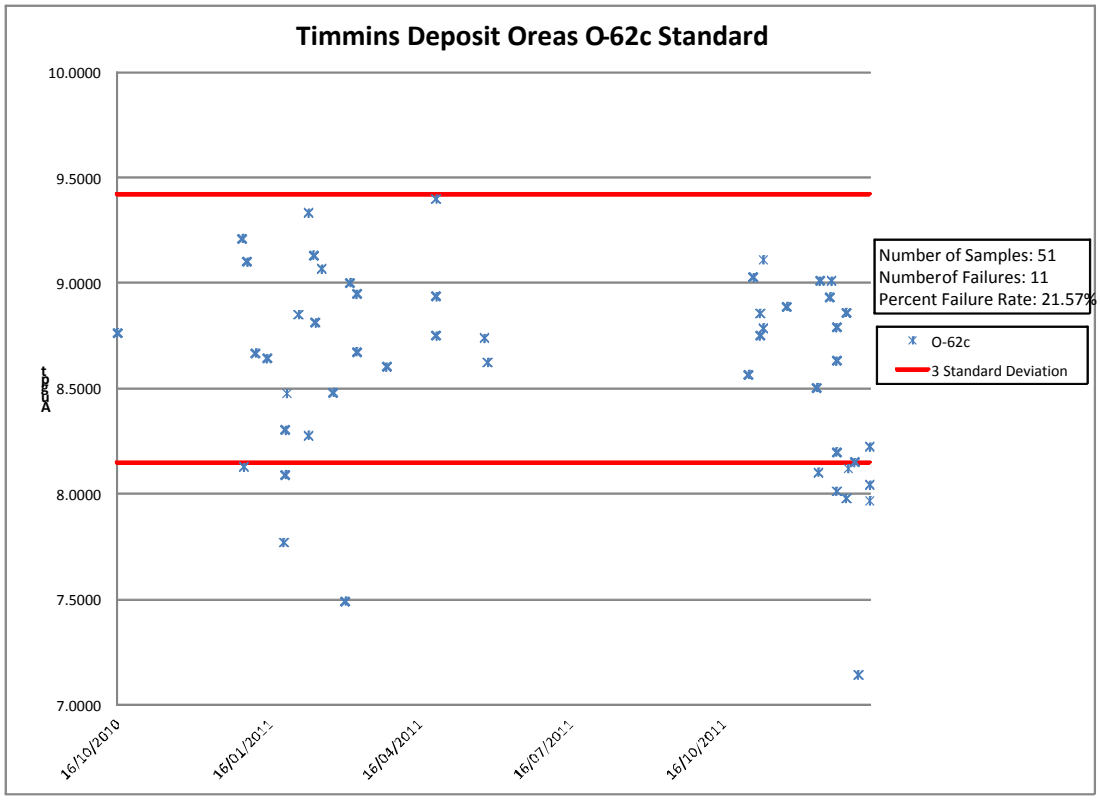

Timmins Deposit Oreas O -19a Standard
5.9000
5.8000
5.7000
5.6000
5.5000
5.4000
5.3000
5.2000
5.1000
5.0000
4.9000
4.8000
03/01/2012
06/01/2012
09/01/2012
12/01/2012
15/01/2012
18/01/2012
Number of Samples: 4
Number of Failures: 0
Percent Failure Rate: 0
O-19a
3 Standard Deviation

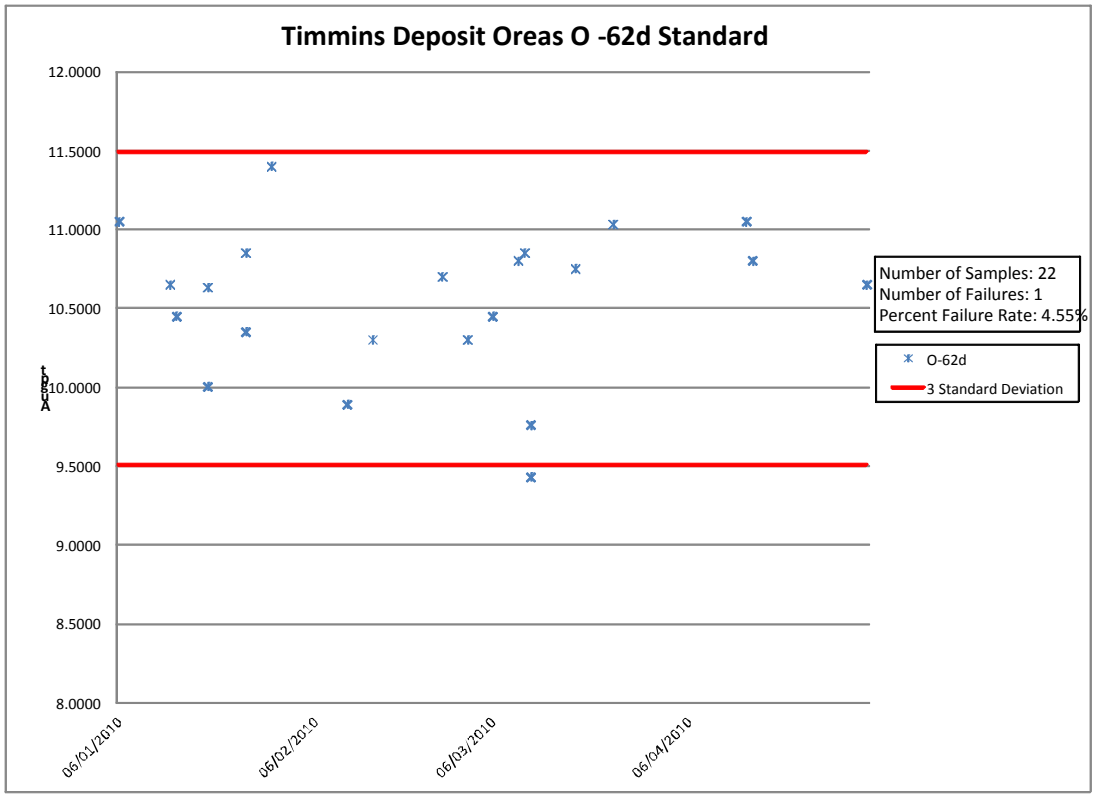

Timmins Deposit Oreas O -50Pb Standard
1.1000
1.0000
0.9000
0.8000
0.7000
0.6000
0.5000
0.4000
01/04/2009
01/05/2009
01/06/2009
01/07/2009
01/08/2009
01/09/2009
01/10/2009
01/11/2009
01/12/2009
01/01/2010
01/02/2010
01/03/2010
Number of Samples: 47
Number of Failures2
Percent Failure Rate: 4.26%
O-50Pb
3 Standard Deviation

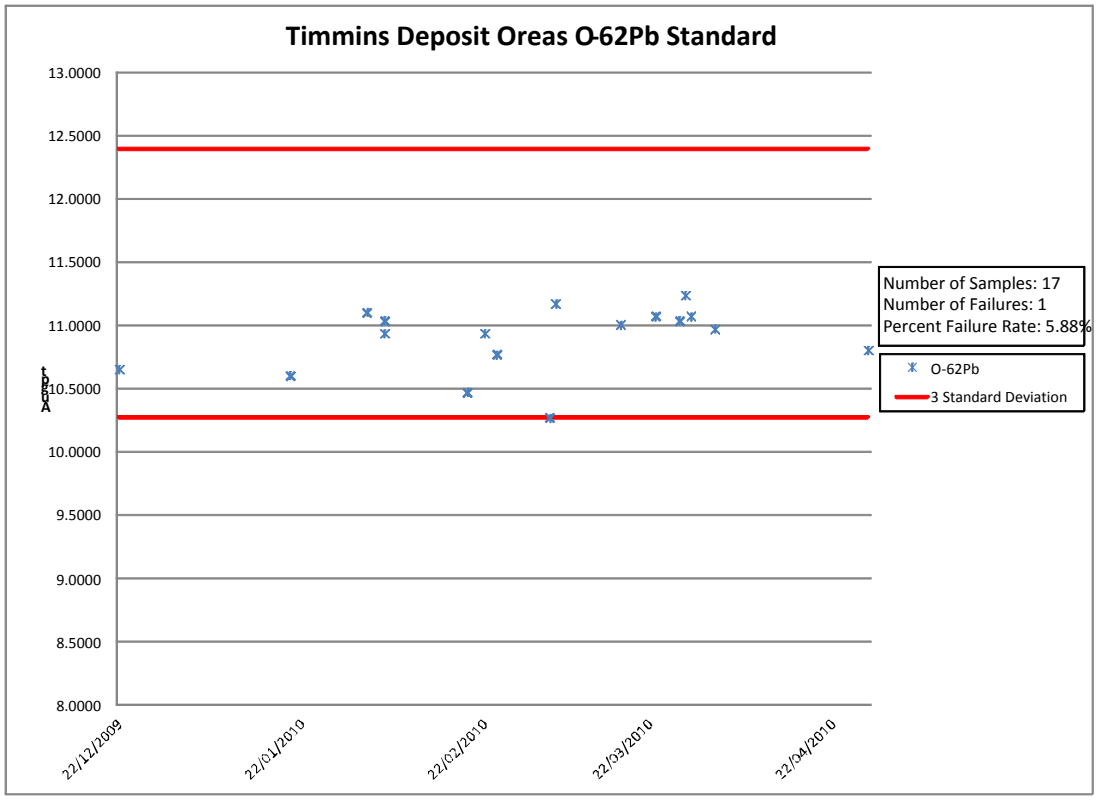

Timmins Deposit Oreas O52Pb Standard
0.4000
0.3500
0.3000
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
18/08/2009
25/08/2009
01/09/2009
08/09/2009
15/09/2009
22/09/2009
29/09/2009
06/10/2009
13/10/2009
20/10/2009
Number of Samples: 9
Number of Failures: 0
Percent FailureRate: 0
O-52Pb
3 Standard Deviation

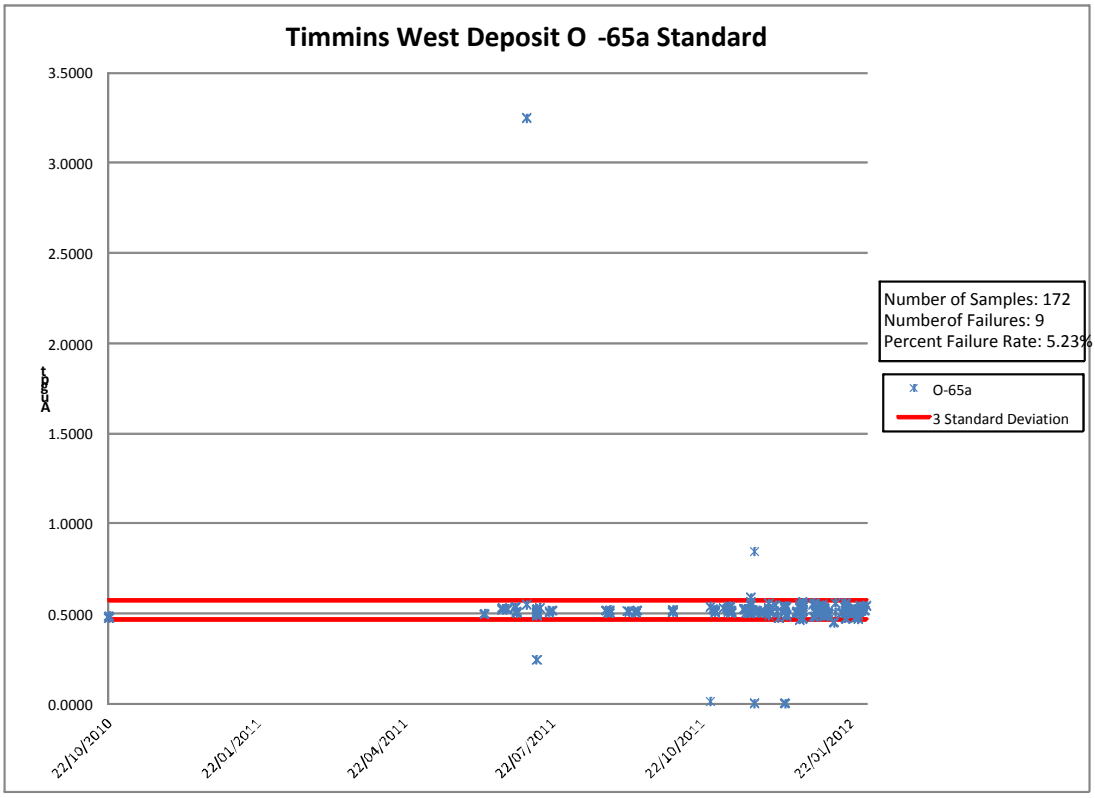

Timmins Deposit Oreas O-60b Standard
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
16/06/2009
16/09/2009
16/12/2009
16/03/2010
16/06/2010
16/09/2010
16/12/2010
16/03/2011
16/06/2011
16/09/2011
16/12/2011
Number of Samples273
Number of Failures: 9
Percent Failure Rate: 3.30%
O-60b
3 Standard Deviation

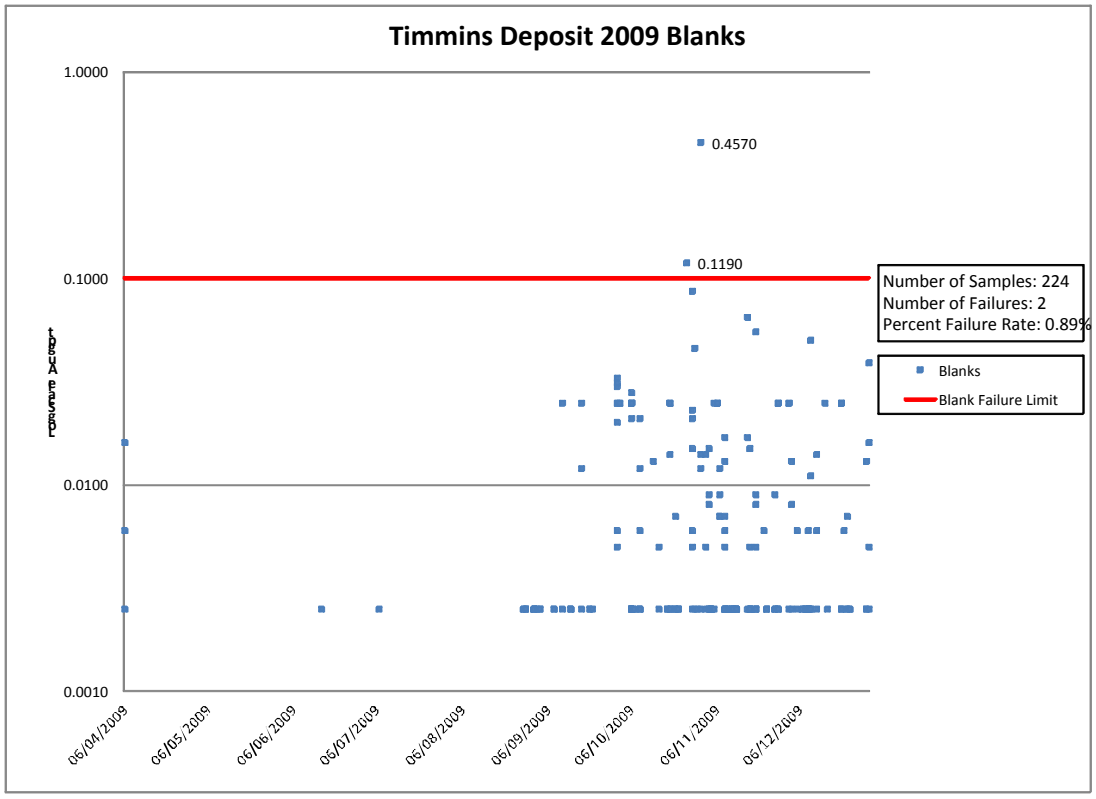

Timmins Deposit Oreas O61d Standard
9.0000
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
01/10/2009
01/01/2010
01/04/2010
01/07/2010
01/10/2010
01/01/2011
01/04/2011
01/07/2011
01/10/2011
Number of Samples: 347
Number of Failures: 33
Percent Failure Rate: 9.51%
O-61d
3 Standard Deviation

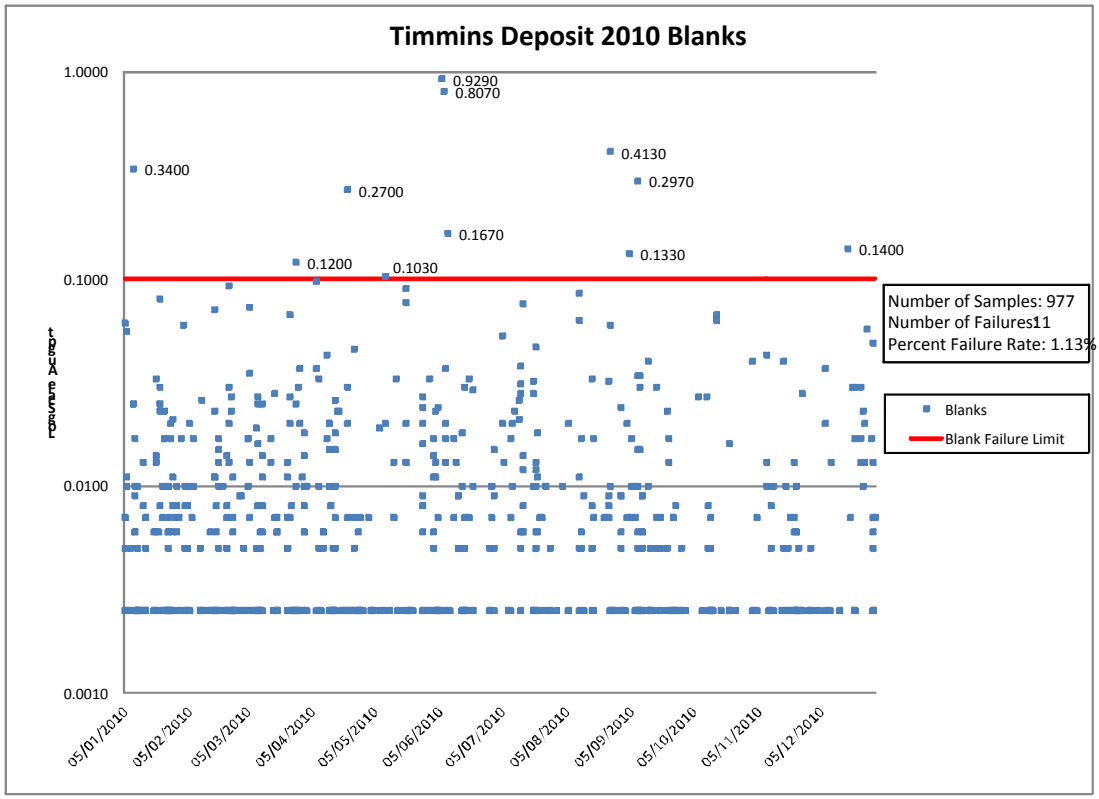

Timmins Deposit Oreas O-62c Standard
10.0000
9.5000
9.0000
8.5000
8.0000
7.5000
7.0000
16/10/2010
16/01/2011
16/04/2011
16/07/2011
16/10/2011
Number of Samples: 51
Numberof Failures: 11
Percent Failure Rate: 21.57%
O-62c
3 Standard Deviation

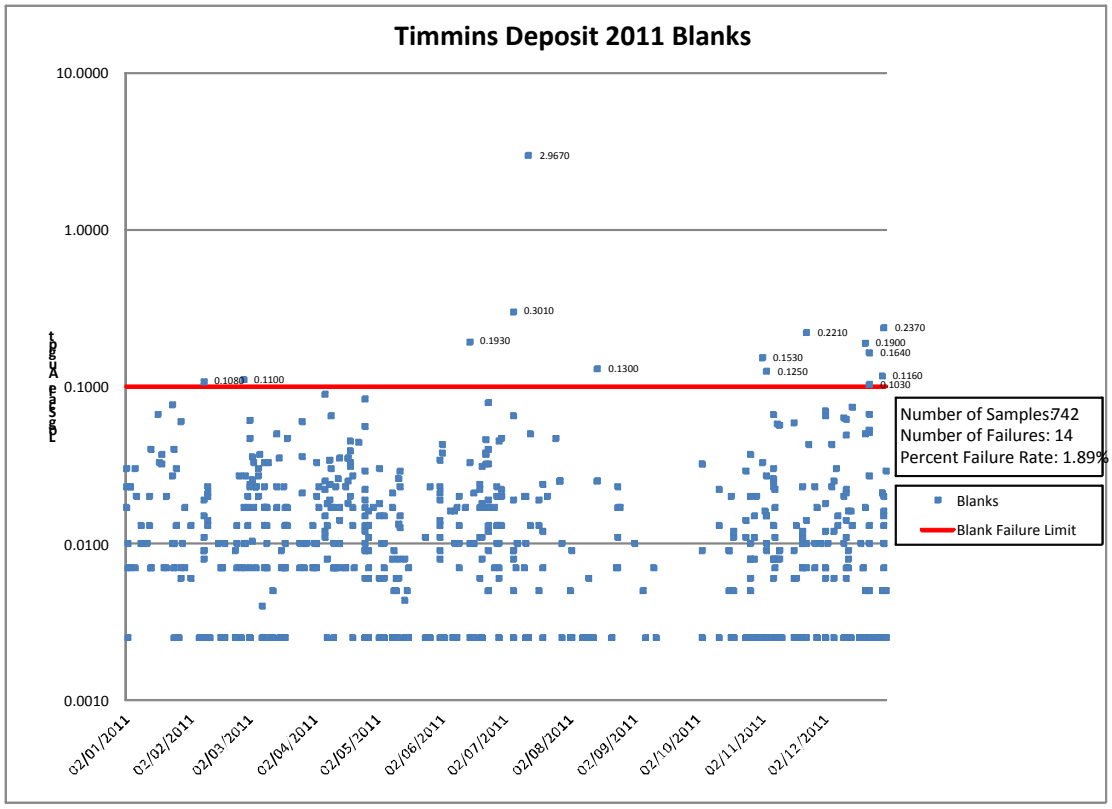

Timmins Deposit Oreas O -62d Standard
12.0000
11.5000
11.0000
10.5000
10.0000
9.5000
9.0000
8.5000
8.0000
06/01/2010
06/02/2010
06/03/2010
06/04/2010
Number of Samples: 22
Number of Failures: 1
Percent Failure Rate: 4.55%
O-62d
3 Standard Deviation

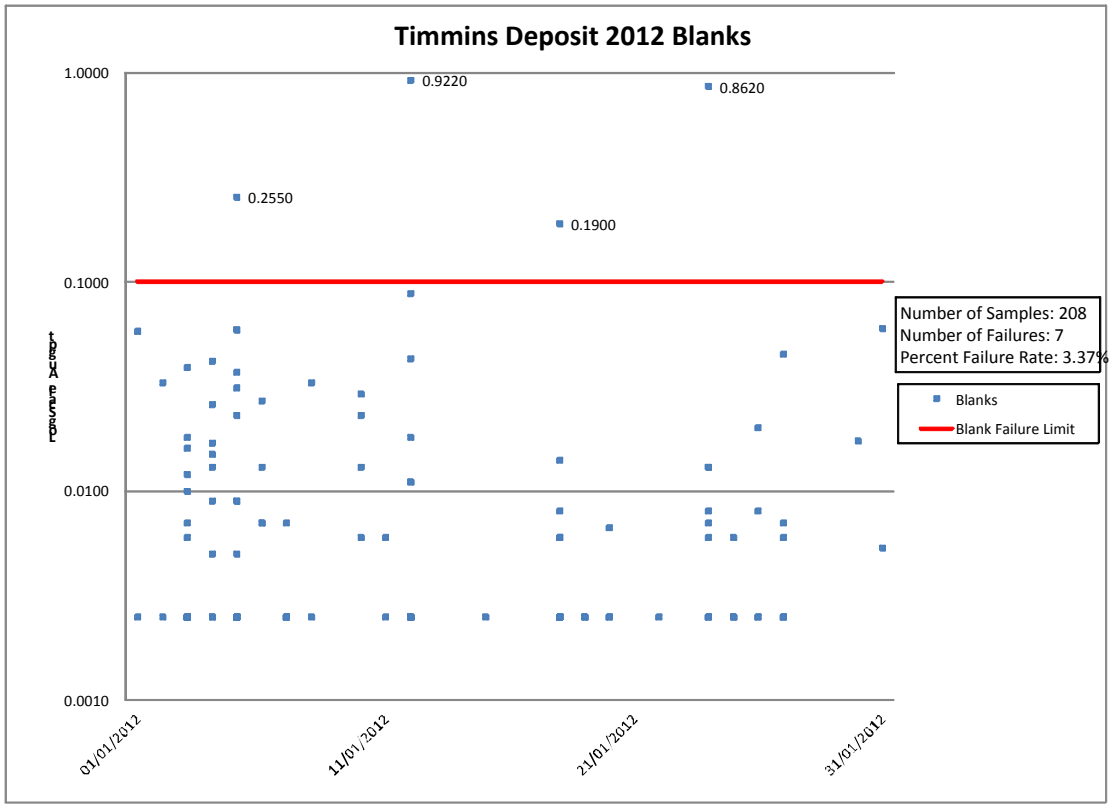

Timmins Deposit Oreas O-62Pb Standard
13.0000
12.5000
12.0000
11.5000
11.0000
10.5000
10.0000
9.5000
9.0000
8.5000
8.0000
22/12/2009
22/01/2010
22/02/2010
22/03/2010
22/04/2010
Number of Samples: 17
Number of Failures: 1
Percent Failure Rate: 5.88%
O-62Pb
3 Standard Deviation


Timmins West Deposit O -65a Standard
3.5000
3.0000
2.5000
2.0000
1.5000
1.0000
0.5000
0.0000
22/10/2010
22/01/2011
22/04/2011
22/07/2011
22/10/2011
22/01/2012
Number of Samples: 172
Numberof Failures: 9
Percent Failure Rate: 5.23%
O-65a
3 Standard Deviation


Timmins Deposit 2009 Blanks
1.0000
0.1000
0.0100
0.0010
0.4570
0.1190
Number of Samples: 224
Number of Failures: 2
Percent Failure Rate: 0.89%
Blanks
Blank Failure Limit
06/04/2009
06/05/2009
06/06/2009
06/07/2009
06/08/2009
06/09/2009
06/10/2009
06/11/2009
06/12/2009


Timmins Deposit 2010 Blanks
1.0000
0.1000
0.0100
0.0010
0.9290
0.8070
0.4130
0.3400
0.2970
0.2700
0.1670
0.1330
0.1400
0.1200
0.1030
Number of Samples: 977
Number of Failures11
Percent Failure Rate: 1.13%
Blanks
Blank Failure Limit
05/01/2010
05/02/2010
05/03/2010
05/04/2010
05/05/2010
05/06/2010
05/07/2010
05/08/2010
05/09/2010
05/10/2010
05/11/2010
05/12/2010


Timmins Deposit 2011 Blanks
10.0000
1.0000
0.1000
0.0100
0.0010
2.9670
0.3010
0.1930
0.1300
0.2210
0.2370
0.1900
0.1640
0.1530
0.1250
0.1160
0.1030
0.1080
0.1100
02/01/2011
02/02/2011
02/03/2011
02/04/2011
02/05/2011
02/06/2011
02/07/2011
02/08/2011
02/09/2011
02/10/2011
02/11/2011
02/12/2011
Number of Samples: 742
Number of Failures: 14
Percent Failure Rate: 1.89%
Blanks
Blank Failure Limit


Timmins Deposit 2012 Blanks
1.0000
0.1000
0.0100
0.0010
0.9220
0.8620
0.2550
0.1900
01/01/2012
11/01/2012
21/01/2012
31/01/2012
Number of Samples: 208
Number of Failures: 7
Percent Failure Rate: 3.37%
Blanks
Blank Failure Limit

APPENDIX 7

RESOURCE MODELING AND ESTIMATION OF THE THUNDER CREEK GOLD DEPOSIT
M. DAGBERT (2011)
SGS CANADA INC. GEOSTAT

RESOURCE MODELING AND ESTIMATION OF THE THUNDER CREEK GOLD DEPOSIT

Respectfully submitted to Lakeshore Gold Corp.
by SGS Canada Inc. - Geostat
December 14, 2011

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Member of SGS Group (SGS SA)

Foreword

This report describes the work completed in the fall of 2011 at SGS Canada Inc. – Geostat (thereafter SGS) to assist Lakeshore Gold Corp. (thereafter LSG) in their modeling and estimation of the resources of their Thunder Creek gold deposit (thereafter TC) from latest drill hole information available in the early fall of 2011. This report is not an NI43-101 Technical Report but it can be used to support the results in the NI43-101 Technical Report authored by LSG on the TC resources to be produced in December 2011. This work is covered by a proposal from SGS to LSG dated July 22, 2011 and accepted by LSG on September 09, 2011.

Summary, conclusions and recommendations

1- The main purpose of this work was to support resource estimates of the Thunder Creek deposit derived by LSG's geologists from DH information available at the end of October 2011 by a comparison model using the same DH information and mineralized zones limits but a different block grade interpolation from samples within those limits. The LSG's model uses a standard inverse squared distance method to interpolate the grade of 2m cube blocks from all 1m composites within zones. Our model first delineates blocks with a very low grade by interpolating an indicator at the 0.5 g/t cut-off. We then interpolate the blocks above that cut-off from just composites above the cut-off. Both interpolations (indicator + grade above 0.5 g/t) are done by ordinary kriging with appropriate variogram models.

2- In most zones, the average grade above a 1.5 g/t Au cut-off of our comparison model is more than the average grade above the same cut-off of the LSG's model (9.2% for all zones) and the gold metal above the same cut-off is less (6.2% for all zones). In other words, the estimated resources above 1.5 g/t from the comparison model correspond to the estimated resources from the standard ID2 model but at a higher cut-off (with slightly less metal, less than 5%).As expected, differences between models are more important in small zones with a small number of composites e.g. zone 332 with only 32 1m composites. Resources in those zones have generally been classified in the inferred category. Results from the alternative resource model support estimated resources derived from the standard ID2 model.

3- The Thunder Creek resources are currently confined to an inclined prism strongly dipping to the NW between elevations 9000 and 9950 (topo elevation is around Z=10000). Up to 11 mineralized zones or domains have been interpreted by LSG's geologists. Those zones are generally elongated along the N40 with the same strong dip of 60° to N310 for all of them. Some statistics of assay intervals above various cut-offs inside and outside the interpreted mineralized zones indicate that there is a potential to refine existing zone limits or define additional mineralized zones in sectors where assay intervals with significant grade are not too much scattered.

4- We suggest a capping of 75m.g/tAu applied to the length*grade product of original assay intervals. It caps 24 intervals (0.35% of total) and generates a gold loss of 13.0% (length weighted average capped grade is down to 4.13g/t from 4.75 g/t uncapped). This capping has a similar effect as the one generally used by LSG i.e. a 95 g/t Au high cut which caps 28 intervals with a gold loss of 13.3%.

5- As a general rule, LSG's classification of block material of any given zone into indicated and inferred corresponds to the density DH intercepts with the zone in the various sectors of the zone. In particular, it is clear that all the material in the RZ2A and RZ3A deserves to be in the indicated category while all the material in the RZ3A1, RZ3A2, PZ1C and PZ3 can only be qualified as inferred at this stage.

6- Despite the high variability of gold grades from Thunder Creek samples, the QAQC data available tend to indicate that the quality of the sample grade values used in the resource estimation is satisfactory. Although we have significant differences between mean results and target values for some standards as well as a rather high proportion of results beyond the quoted gates of standards, we do not see any overall bias from the results of standards. Blanks show a few cases of likely contamination but the proportion of real failures keeps reasonably low (0.8%) at the main ALS lab. Lab and coarse duplicates show expected sample errors i.e. about 10% relative difference for pulp duplicates and 40% relative difference for coarse duplicates. Reproduction of original values at the Accurassay lab is more problematic and since the blanks and check data performance of this lab is not as good as the others, we would recommend discontinuing the use of their services. Check (pulp) samples at Accurassay and SGS do not show any statistically significant bias.

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1- Drill hole data

The last version of the drill hole database for Thunder Creek was received from LSG on Nov. 10, 2011. It has collar coordinates, orientation at collar, depth, deviation data, assay and litho intervals data for 502 drill holes.

Up to 151 of those holes are from surface (including wedges) with numbers from: TC03-01 to TC11-115 (in TCxx-yyy, xx is the year, yyy a sequential number and z a letter from A to K for wedges). Those holes are dipping to the SE on sections along N130 spaced by about 50m.

The balance of 351 holes are drilled from underground with numbers from TC200-001 to TC730-052 (in TCxxx-yyy, xxx is the level depth in meters i.e. 200, 260, 280, 300,320, 330, 350 then 650, 680, 710 and 730) and TCGRT-001 to TCGRT-005. Those holes are arranged in 3D fan pattern from a level at around Z=9700 (TC200 to TC330 series) and from a level at around Z=9300 (TC650 to 730 series).

Collar coordinates range from 2045x,5891y,9283z to 4967x,7997y,10048z i.e. about 3x2.0x0.8km extension. A majority of the drill holes dip from 45° to 60° to the N130 to N180. Drill hole length varies from 7 to 1582m. Total meterage is 160,688m including the depth of wedges. Holes are surveyed in azimuth and dip generally at depth of 10m and then at depth intervals of 20-30m.

We have 65,723 valid assay intervals along those holes. Assay length varies from a mere 0.1m to 9.8m (after excluding a 98.1m interval in hole TC260-015 from 261.9 to 360m with grade of 0.007g/t and with very low grades for the few intervals of 3m and more) for a total meterage of 54,214m (average of 0.83m/interval). A majority of intervals (42%) are 1m long with significant groups of 0.5m intervals (19%) and 1.5m intervals (4%). Gold assay values are mostly FA with AA finish for low grades or FA with gravimetry finish or PM (metallic screen?) for high grades. Final values range from 0 to 1600g/t (a 0.8m interval in TC730-009) with an uncapped weighted average of 0.62 g/t.

2- Mineralized domains

As illustrated on Figure 1, the Thunder Creek resources are currently confined to an inclined prism strongly dipping to the NW between elevations 9000 and 9950 (topo elevation is around Z=10000). Up to 11 mineralized zones or domains have been interpreted by LSG's geologists. As illustrated by the level maps of Figure 2, those zones are generally elongated along the N40 with the same strong dip of 60° to N310 for all of them.

Some statistics of assay intervals above various cut-offs inside and outside the interpreted mineralized zones (Table 1) indicate that there is a potential to refine the limits of existing zones or to define additional mineralized zones in sectors where assay intervals with significant grade are not too much scattered.

Table 1 Statistics of sample data inside and outside mineralized zones

Cut-off	All	Inside Zones		Outside Zones	
g/tAu	m	m	%	m	%
0	54,414	5,250	9.6%	49,164	90.4%
1	4,023	2,494	62.0%	1,529	38.0%
2	2,551	1,826	71.6%	725	28.4%
3	1,913	1,451	75.9%	462	24.1%
5	1,307	1,053	80.6%	254	19.4%
10	622	522	84.0%	100	16.0%

Figure 1 Drill holes and mineralized domains

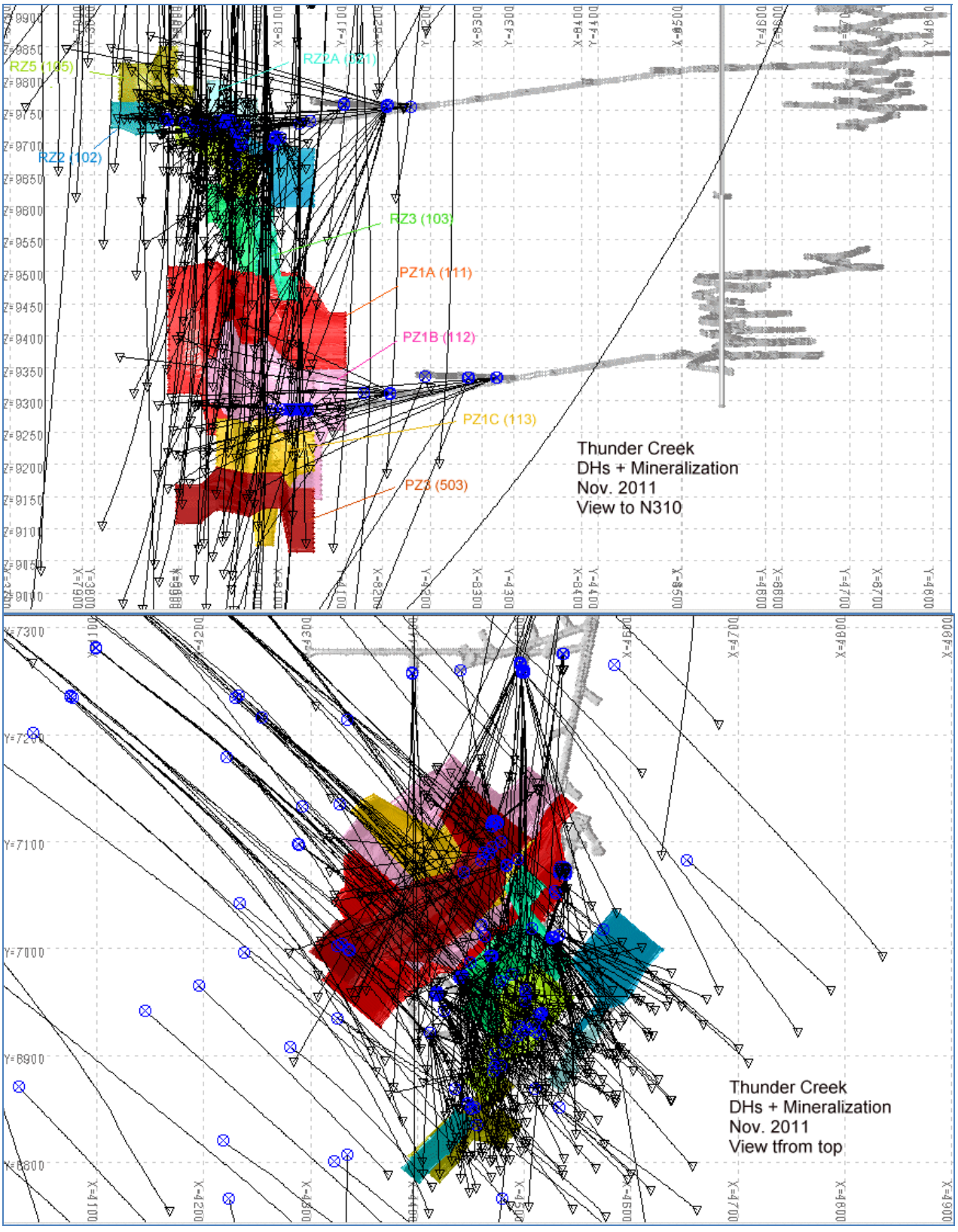
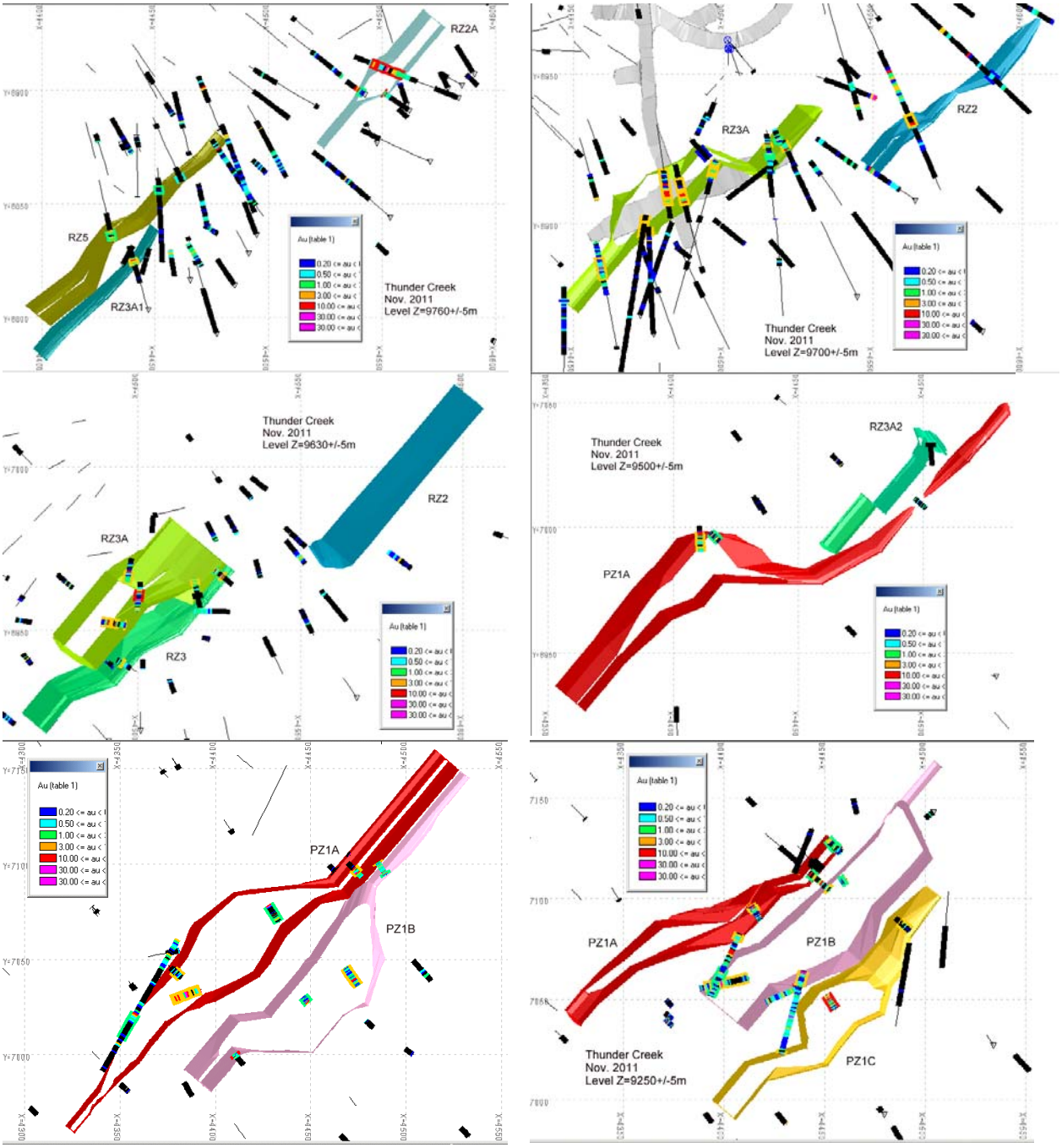


Figure 2 Level maps with outline of interpreted mineralized zones



3- Assay intervals in mineralized intercepts and capping

We have up to 6839 assay intervals in the 336 mineral intercepts of domains with holes. Their length ranges from 0.2m to 1.6m with an average of 0.77m. Like before, 1m is the most current length (47%) followed by 0.5m (24%). Gold grade of those assay intervals range from 0.002 to 1600g/t with a (weighted and uncapped) average of 4.75g/t

As shown on Table 2, intervals with the highest gold grade (above 80g/t) have a quite variable length (from 0.3m to 1m). Given that those outliers tend to be isolated with much lower grades on both sides, it makes more sense to cap according to gold content, hence the GT product of grade by length, rather than gold grade alone. In other words a 200 g/t over 0.5m is the same as a 100g/t over 1m when it comes to capping given that both yield the same 100g/t when composited over 1m.

The histogram of GTs of mineralized intervals with a logarithmic scale (which excludes zero grade intervals) is on top of next Figure 3. We clearly see a lognormal shape but still with a some very low values (less than 0.05m.g/t). On the high side, there is a clear tail of very high data above say 80 m.g/t.

The high end of the cumulative frequency plot with a log scale (bottom of Figure 3) shows several kicks upward corresponding to natural gaps in the distribution of GT products. We would tend to go with the middle one i.e. 75mg/t which corresponds to a gap between 72.9 and 80.4m.g/t. It caps 24 intervals (0.35% of total) and generates a gold loss of 13.0% (length weighted average capped grade is down to 4.13g/t from 4.75 g/t uncapped). This capping has a similar effect as the one generally used by LSG i.e. a 95 g/t Au high cut which caps 28 intervals with a gold loss of 13.3%. . Actually, the range of potential gold loss from capping is rather limited: from 15.6% with the low cap of 55m.g/t to 10.5% with the high cap of 110m.g/t.

Most of the capped intervals are in the large PZ1B zone with 43% of all mineralized intervals. In that zone, the capping limit could be raised to 90m.g/t i.e. right at the start of a long gap between 88.5m.g/t to 138.5 m.g/t with only two values at 99.5 m.g/t and 110.5 m.g/t. With that limit, 13 intervals are capped with a gold loss of 21% in the zone. In the PZ1A zone with 26% of intervals, the overall limit of 75 m.g/t can be kept with no interval capped in that zone. The next zone with the highest number of intervals is RZ3A with 16% of them. In that zone, the maximum of 89.6 m.g/t is an outlier (next value is 43.7m.g/t) hence the limit is lowered to 45 m.g/t with only one interval capped and a gold loss of 1.5%. The other 8 zones just capture 16% of the intervals. Proposed cap limits vary from 20 to 55 m.g/t (Table 3) and they generally correspond to obvious outliers with large gaps between them and the next highest value (e.g. zone PZ1C with a maximum at 362.5 m.g/t and next value at 51 m.g/t – cap limit would be at 55 m.g1t). Like zone PZ1A, zones RZ5 and RZ3A1 do not show outlier interval data which need to be capped. With this alternative zone capping scheme, 22 intervals are capped with an overall gold loss of 13.3% i.e. not far from overall capping of 75 m.g/t (24 interval capped with gold loss of 13.0%) or overall capping of 95 g/t (28 intervals capped with gold loss of 13.3%). All those capping schemes are almost equivalent in terms of bearing on estimated resources.

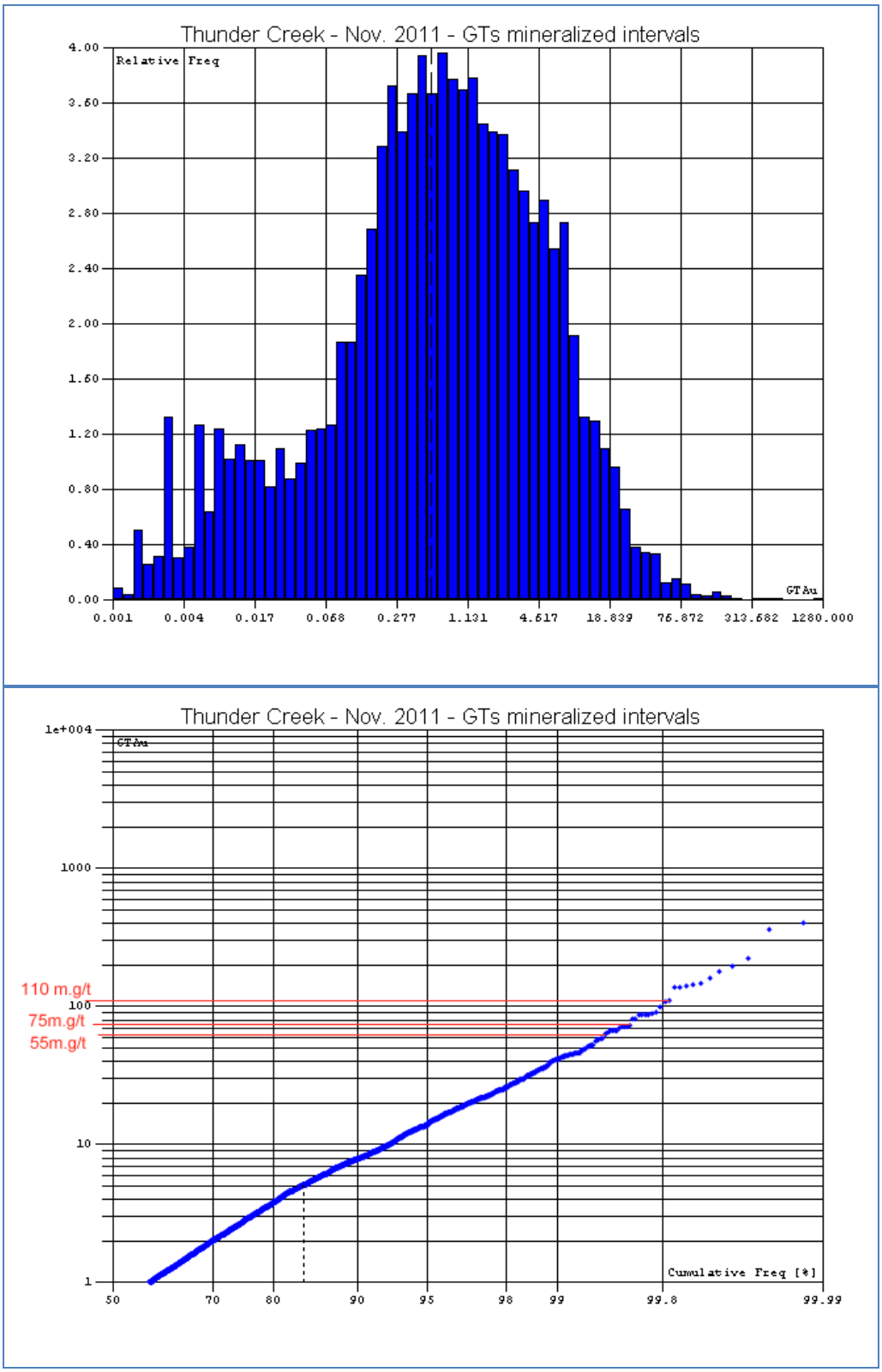
Table 2 Highest grade intervals in the mineralized intercepts

Hole name	Zone	Length	From	To	g/tAu
TC730-003	110	1	19.9	20.9	80.7
TC08-54D	110	0.3	645.6	645.9	82.5
TC11-113A	110	0.6	935.7	936.3	84.4
TC09-68A	110	0.5	916.1	916.6	86.2
TC730-010	110	1	25.7	26.7	86.2
TC330-039	103	1	143.3	144.3	87.2
TC09-69G	110	0.4	798	798.4	87.3
TC730-003	110	1	10.9	11.9	88.5
TC08-54	110	0.5	668.9	669.4	88.8
TC320-050	102	0.5	85.9	86.4	91.1
TC09-68B	110	0.5	893.4	893.9	97.4
TC11-112	110	0.3	734.7	735	101.5
TC650-001	110	0.5	387.6	388.1	104
TC280-048	102	1	144.8	145.8	107
TC280-109	103	0.6	25.3	25.9	109.1
TC730-003	110	1	17.9	18.9	110.5
TC330-025	103	0.8	89.5	90.3	112
TC09-68B	110	0.6	899	899.6	121.5
TC11-113A	110	0.5	936.3	936.8	128
TC710-006	110	1	216	217	138.5
TC09-69G	110	0.5	797.5	798	140.5
TC11-112	110	0.5	723.4	723.9	141.5
TC730-011	110	1	45	46	142
TC09-68B	110	0.6	917.9	918.5	143
TC09-68B	110	0.6	921.5	922.1	145
TC730-012	110	1	23	24	145
TC09-80	503	0.45	1026.75	1027.2	147.5
TC09-80C	110	0.4	902.9	903.3	156
TC730-018	110	1	35.45	36.45	161
TC650-001	110	1	398.5	399.5	179.5
TC730-023	110	1	23	24	193.5
TC09-69B	110	0.45	798	798.45	221
TC280-034	102	0.5	132.2	132.7	273
TC09-68B	110	0.5	898.5	899	281
TC730-003	110	1	18.9	19.9	399
TC730-013	110	1	93	94	547
TC09-68B	110	0.5	931.5	932	725
TC730-009	110	0.8	24.9	25.7	1600

Table 3 Capping statistics in the different zones

Zone	Nzone	Int.	Aver. Length (m)	Aver. g/tAu	Aver. m.g/tAu	Cap m.g/tAu	Nb. capped	Aver g/tAuc	%Au loss
All together		6839	0.77	4.75	3.65	75	24	4.13	13.0%
RZ2	102	67	0.83	4.62	3.85	20	2	3.75	18.9%
RZ3	103	268	0.77	4.12	3.18	50	1	3.94	4.4%
RZ5	105	102	0.85	3.38	2.89	25	0	3.38	0.0%
PZ1A	111	1763	0.68	5.27	3.6	75	0	5.27	0.0%
PZ1B	112	2913	0.82	5.13	4.19	90	13	4.03	21.2%
PZ1C	113	361	0.64	4.13	2.64	55	1	2.8	30.1%
PZ3	503	58	0.67	4.33	2.92	20	1	3.14	27.4%
RZ2A	321	133	0.81	5.44	4.4	30	2	3.34	38.5%
RZ3A	330	1101	0.8	3.47	2.77	45	1	3.42	1.5%
RZ3A1	331	36	0.87	3.02	2.64	30	0	3.02	0.0%
RZ3A2	332	37	0.84	4.82	4.07	20	1	4.35	9.8%
All by zone		6839	0.77	4.75	3.651	20-90	22	4.11	13.3%

Figure 3 Histogram and cumulative frequency plot of GTs of all mineralized intervals



4- Compositing and Variography

Given the variability of the length of original drill hole assay intervals, they need to be composited before being in block grade interpolation. The selected composite size is 1m which corresponds to the most frequent size of original assay intervals and is in accordance with the selected block size (2m cubes) of the resource model.

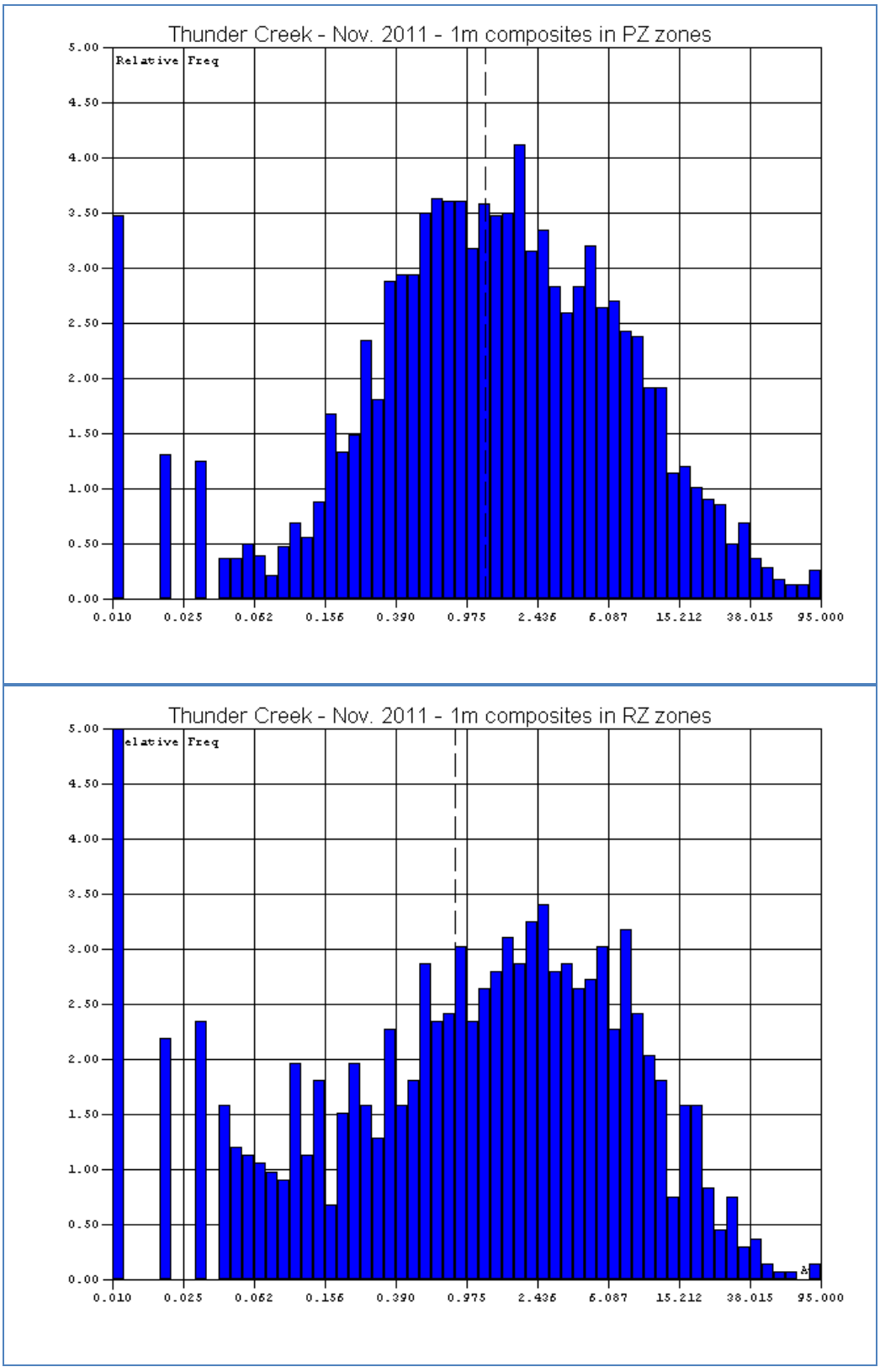
We have used the composite file produced by LSG (*TRCreek_Nov09_11.csv*). That file has coordinates, zone id and gold values of up to 5158 1m composites (with a documented length of at least 0.5m). Gold values include uncapped grade, grade with the 95 g/tAu capping and grade with the 75 m.g/t capping. Given that the last two are almost equivalent (see previous section), the rest of the work is conducted on composite grades with the 95 g/t cap on original assay interval data. We checked that those composite data are in accordance with original assay data and mineralized zone intercept limits in drill holes.

Statistics of composite (capped) grades are in Table 4. Composites can be regrouped into PZ zones at the bottom and RZ at the top. Histograms (with a log scale for grade) of composite grades in the two sets are on Figure 4. In both cases, we see a somewhat bimodal distribution with a lognormal like histogram for values above about 0.10-0.15 g/t plus a significant background of very low values, mostly 0.01 g/t Au. Those background values are still present despite repeated efforts by LSG geologists to interpret mineralized zone limits that exclude them. The bimodality of composite grade distributions in mineralized zones generates a high variability with coefficients of variation (standard deviation divided by mean) around 200% and means generally more than three times medians.

Table 4 Statistics of the capped grade of 1m composites in the mineralized zones

Zone	Nzone	# composites	MinAu	MedAu	MaxAu	Mean Au	%CVAu
			g/tAu	g/tAu	g/tAu	g/tAu	%
RZ2	102	51	0.01	1.62	45.7	5.15	177
RZ2A	321	103	0	1.18	95.0	4.53	265
RZ3	103	204	0	1.31	82.8	4.17	208
RZ3A	330	840	0	1.01	57.1	3.61	175
RZ3A1	331	29	0	0.91	29.5	3.32	177
RZ3A2	332	32	0.01	1.69	34.6	5.11	160
RZ5	105	87	0	0.75	23.8	3.41	160
All RZ		1346	0	1.15	95.0	3.84	192
PZ1A	111	1183	0	2.34	88.5	5.33	153
PZ1B	112	2362	0	1.11	95.0	3.96	240
PZ1C	113	230	0	0.85	51.0	2.83	216
PZ3	503	37	0.09	1.44	64.4	4.73	233
All PZ		3812	0	1.31	95.0	4.32	207
All		5158	0	1.27	95.0	4.17	204

Figure 4 Histograms of 1m composite capped grades in PZ and RZ zones



Because of the bimodality of composite grade distribution, the spatial analysis of composite grades is conducted in two steps : first, we look at the continuity of the very low grade through a low cut-off indicator and then we look at the grade continuity above that indicator cut-off. The selected cut-off for this indicator is 0.5 g/t with respectively 28% and 36% of composites above that limit in the PZ and RZ zones.

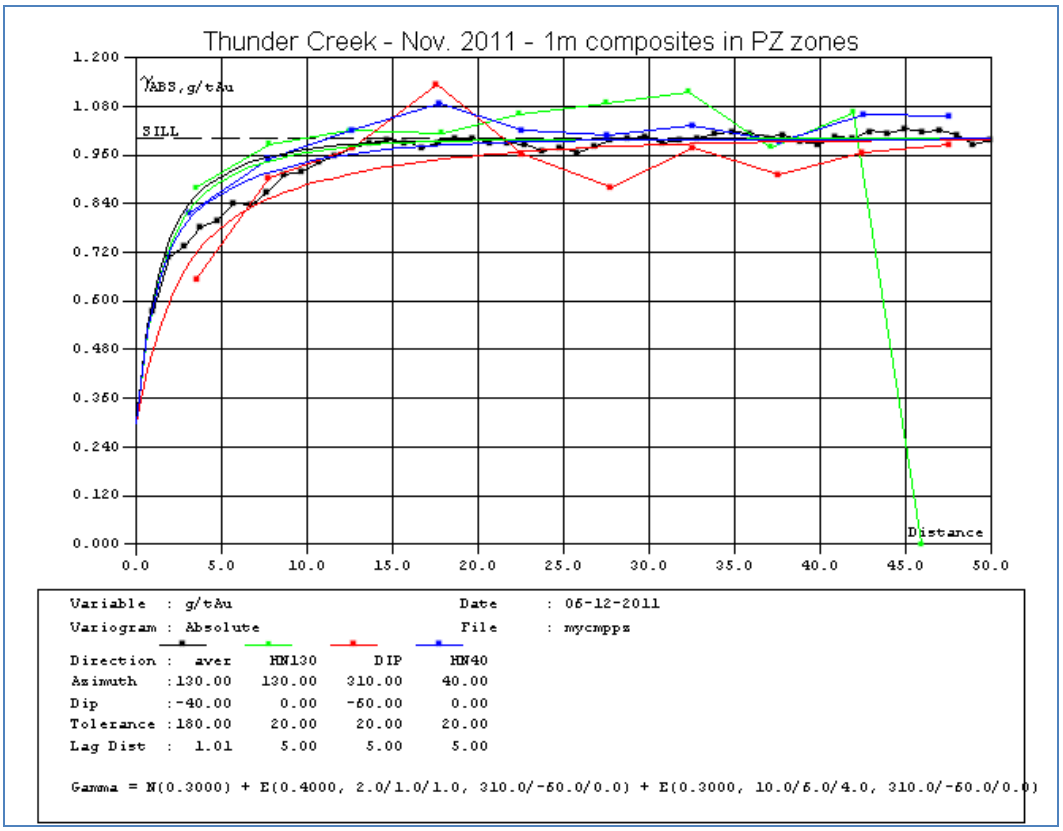
Variograms (actually 1-correlograms) are computed along all directions at the same time (average variogram with a lag of 1m) as well as along the principal directions of the mineralized zones themselves i.e. a dip of 60° to N310, an horizontal strike of N40 as well as the horizontal N130 across dip and strike, all with a lag of 5m.

Variograms are computed with capped composite grades in RZ and PZ zones separately. In most zones, there are not enough composites to derive meaningful variograms from just composites in the zone. Exceptions could be PZ1B with 2362 composites, PZ1A with 1183 composites and RZ3A with 840 composites. The PZ variograms are somewhat of an average of PZ1A and PZ1B variograms while the RZ variograms mostly reflect RZ3A variograms. In any case, variograms are computed after excluding any pair with composites in two different zones.

The indicator variograms in PZ (top of Figure 5) are those showing the best continuity with a relative nugget effect of 30% and a maximum range of 30m along dip, 20m along strike and 10m across dip and strike. Continuity of the low grade indicator in RZ zones (bottom of Figure 5) is not as good although the relative nugget effect is the same 30% but the range does not exceed 15m along dip and strike and 5m across dip and strike.

Ranges of the variograms of mineralized grade (above the 0.5g/t cut-off) are fairly short. In the PZ zones (top of Figure 6), they do not exceed 5m along dip and 3m along strike and across dip and strike. In the RZ zones (bottom of Figure 6), variograms are more erratic but we can guess maximum ranges of 10m along dip, 5m along strike and 3m across dip and strike. In both cases, relative nugget effect keeps equal to 30%.

Figure 5 Variograms of low cut-off (0.5 g/t) indicators in PZ and RZ zones



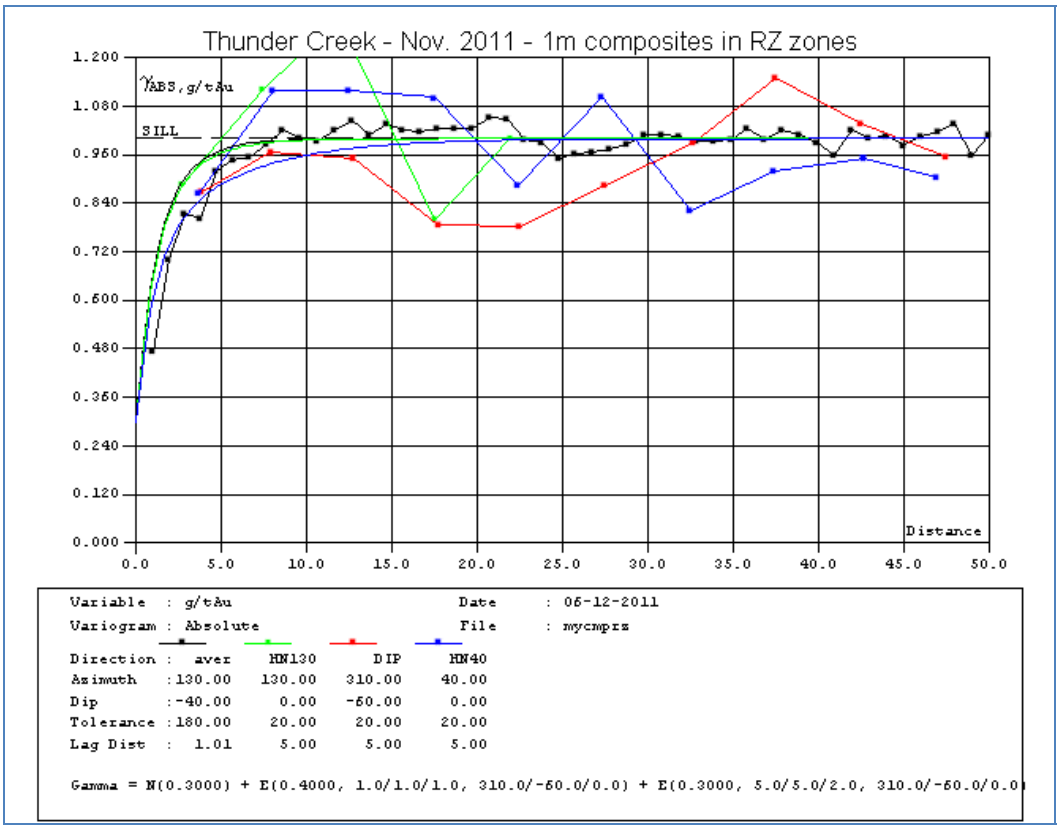
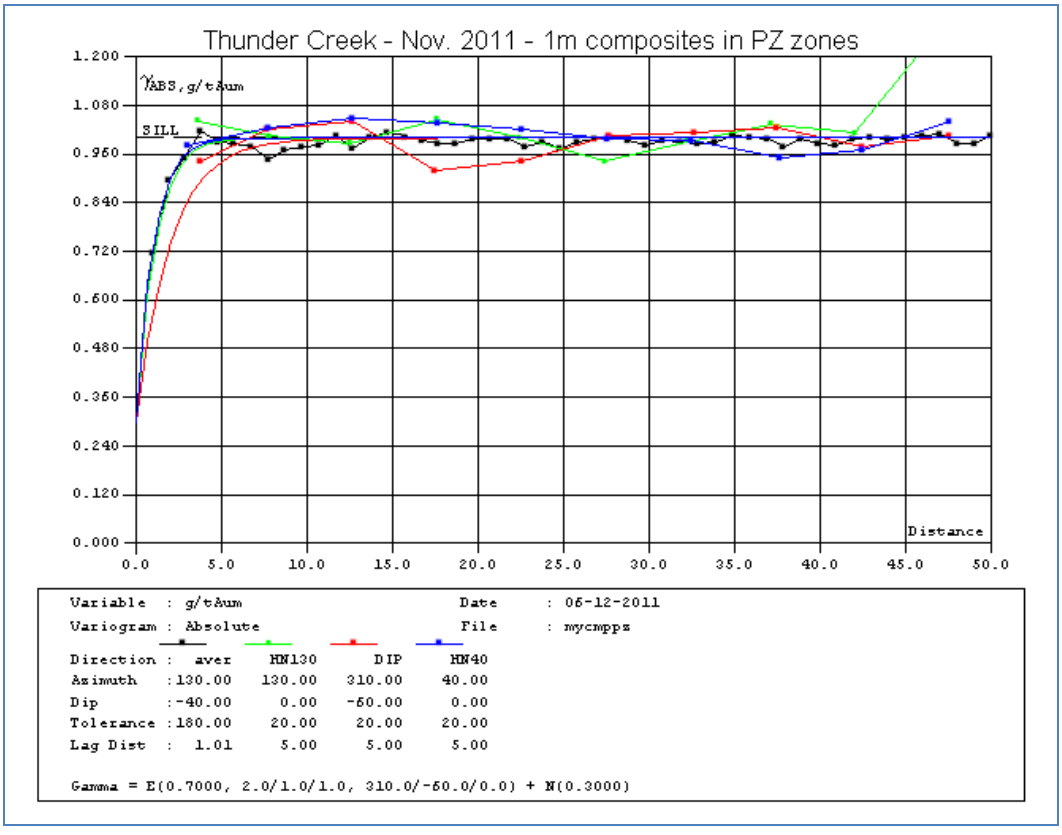
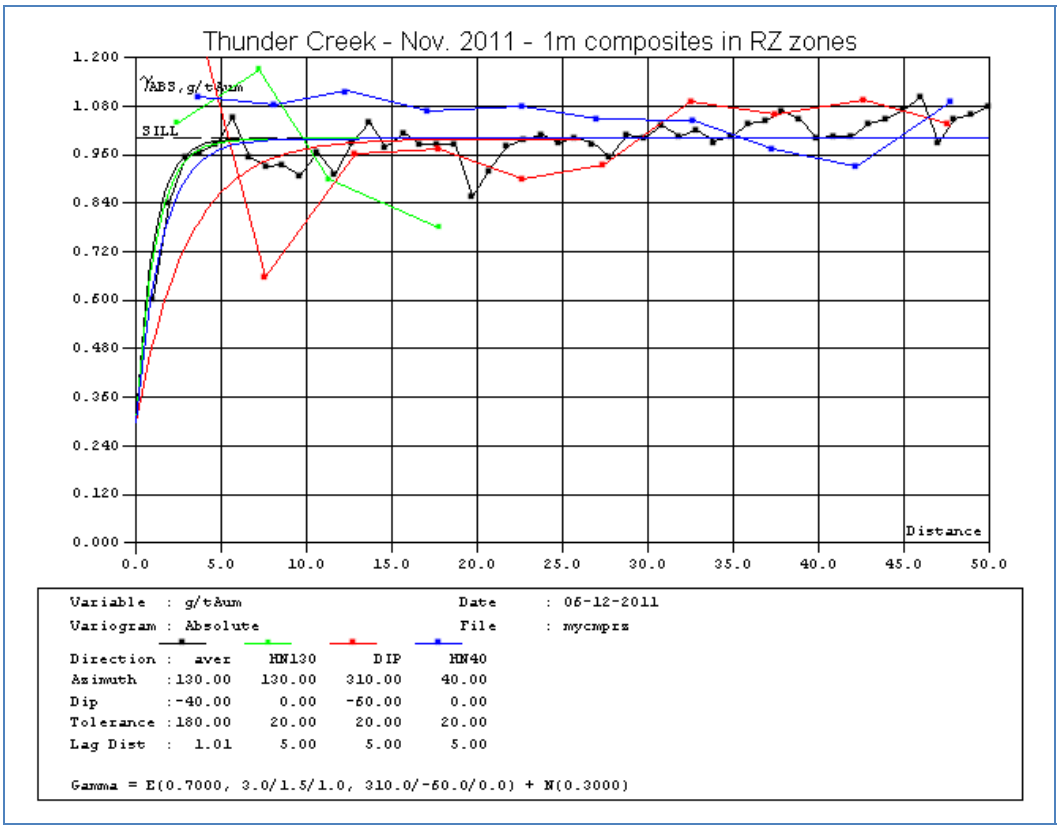


Figure 6 Variograms of mineralized grade (above 0.5 g/t) in PZ and RZ zones





5- Block grade interpolation with indicators

Although we do not see some natural cut-off or gap in the grade distribution of composites in the interpreted mineralized zones, it is clear that within the current limits of those zones, we have some high grade shoots in a background of weakly mineralized material. Block grade interpolation methods which use all available composites around a block i.e. from both high grade shoots and very low grade background is likely to over-dilute the grade of blocks in those high grade shoots.

In an attempt to separate blocks and composites in the two different types of mineralization, we can introduce a new variable called indicator which is defined at a cut-off which should correspond to the limit grade between the two types. As a first guess, we have selected 0.5 g/t Au for this limit. Any composite with a grade less than 0.5 g/t has an indicator value of 0 (i.e. 0% above 0.5g/t) and any composite with a grade equal to or more than 0.5 g/t has an indicator of 1 (i.e. 100% above or equal to 0.5 g/t). The indicator can be interpolated in blocks in the same way as grade. The interpolated block value, always between 0 and 1, can be interpreted as the estimated proportion of material (in the form of 1m DH intervals) inside the block above the indicator cut-off of 0.5g/t. The next step is then to interpolate the grade of that fraction just using composites with a grade above 0.5 g/t around the block while, if needed, the grade of the block fraction below 0.5 g/t is interpolated from just composites with a grade below 0.5g/t around the block. Resources above an economic cut-off (above the indicator cut-off) just consider the block fraction above 0.5 g/t with its interpolated grade.

In order to avoid the use of fractional blocks, we can set a limit to the interpolated indicator in blocks such that if it is above, the full block is considered to be made of material above 0.5g/t with the interpolated grade for that material and if it is below, the block is all less than 0.5g/t. This limit is not necessarily 0.5 or 50%. It has to be selected in such a way that the overall proportion of full blocks above

0.5g/t is equal to the average interpolated indicator in block which is close to the proportion of composites above 0.5g/t in the domain.

> We have applied this approach to the 1m composites and 2m cube blocks in the 11 interpreted mineralized zones. In each zone, we first interpolate the indicator in the blocks of the zone by ordinary kriging based on the variogram models presented in the previous section. That interpolation is done in up to 4 successive runs with a relaxation of search conditions from one run to the next until all blocks are interpolated. In the PZ zones, the first run uses a 30x20x10m ellipsoid tilted by 60° to the N310 and asks for a minimum of 7 composites in a minimum of 3 holes (maximum of 3 composites in the same hole). Maximum number of composites kept is 20 (there is no risk of over-dilution at this stage). Next run uses a 60x40x20m ellipsoid of similar orientation with the same minimum conditions while the maximum number of composites kept is raised to 25. Third run uses a 120x80x40m ellipsoid with the same orientation and minimum conditions. Maximum number of composites is raised to 35. If needed, a fourth and last run uses the same 120x80x40m ellipsoid but a default minimum of 1 composite in that ellipsoid. In the RZ zones, the min./max. numbers of composites in each run are the same but the starting ellipsoid is 35x35x12m with the 35m long radius along dip and strike.

The next step is to determine the cut-off on interpolated indicator such that if it is above, then we can assume that the entire block is above 0.5g/t. For example, in zone PZ1A (or 111), from the kriged indicator in each of the 133,933 2x2x2m blocks with a portion in the PZ1A zone and the size of that portion (in the block file supplied by LSG), we estimate that the total volume with material above 0.5g/t is 688,210m3 and we have about the same volume (688,048m3) in the 101,669 blocks with a kriged indicator above or equal to 0.6565. The “mineralized fraction” of the PZ1A zone would then be restricted to those 101,669 blocks.

We then krige the average grade of the blocks above 0.5g/t retained in each zone using the composites above that grade and the variograms of grade above 0.5g/t presented in the previous section. Again that interpolation is done in successive runs with a relaxation of search conditions from one run to the next until all retained blocks are interpolated. In the PZ zones, the first run uses a 30x15x15m ellipsoid tilted by 60° to the N310 and asks for a minimum of 5 composites in a minimum of 3 holes (maximum of 2 composites in the same hole). Maximum number of composites kept is 10. Next run uses a 60x30x30m ellipsoid of similar orientation with the same min./max. number of composites. Third run uses a 120x60x60m ellipsoid with the same orientation and min./max. number of composites. If needed, a fourth run uses a the same 120x60x60m ellipsoid but a default minimum of 1 composite in that ellipsoid. In the RZ zones, the min./max. number of composites in each run are the same but the starting ellipsoid is 30x15x10m with the 35m long radius along dip and the 15m intermediate radius along strike.

6- Mineral inventory at various cut-offs from the alternative model

Next Table 5 compares the mineral inventory in blocks above 1.5 g/t derived from our alternative model and the block model supplied by LSG with block grades derived by ID2 interpolation from all composites in the same zone. We understand that LSG has used composites with grade capped with the 75 m.g/t limit while our alternative model uses composites capped with the 95 g/t limit but we have seen in the first section of this report that the two capping schemes are almost equivalent.

Table 5 Mineral inventory from supplied LSG model and alternative SGS model

Zone	Zone	Cut-off	Density [1]	LSG	LSG	LSG	SGS	SGS	SGS
		g/tAu	t/m3	Tonnage	g/tAu	OzAu	Tonnage	g/tAu	OzAu
102	RZ2	1.5	2.92	75,157	7.44	17,969	60,806	7.30	14,279
103	RZ3	1.5	2.92	208,182	5.36	35,909	166,218	4.76	25,459
105	RZ5	1.5	2.92	110,912	4.94	17,631	74,125	5.19	12,372
111	PZ1A	1.5	2.92	2,390,461	6.51	500,292	2,003,245	7.53	485,043
112	PZ1B	1.5	2.65	1,756,156	5.15	290,810	1,578,754	5.44	275,944
113	PZ1C	1.5	2.65	633,746	4.69	95,494	523,501	4.86	81,811
503	PZ3	1.5	2.65	123,593	3.46	13,757	101,671	3.43	11,220
321	RZ2A	1.5	2.92	45,914	4.96	7,317	41,467	4.87	6,498
330	RZ3A	1.5	2.92	146,219	5.22	24,557	134,054	5.74	24,759
331	RZ3A1	1.5	2.92	24,130	5.44	4,222	20,845	5.41	3,623
332	RZ3A2	1.5	2.92	57,607	5.18	9,602	43,025	10.04	13,891
All		1.5	2.65-2.92	5,572,077	5.68	1,017,560	4,747,711	6.26	954,899

[1] From LSG – not checked by SGS

In most zones, the average grade above cut-off of the alternative model is more than the average grade above the same cut-off of the supplied model (9.2% for all zones) and the gold metal above cut-off is less (6.2% for all zones). In other words, the estimated resources above 1.5 g/t from the alternative model correspond to the estimated resources from the standard ID2 model but at a higher cut-off (with slightly less metal, less than 5%).

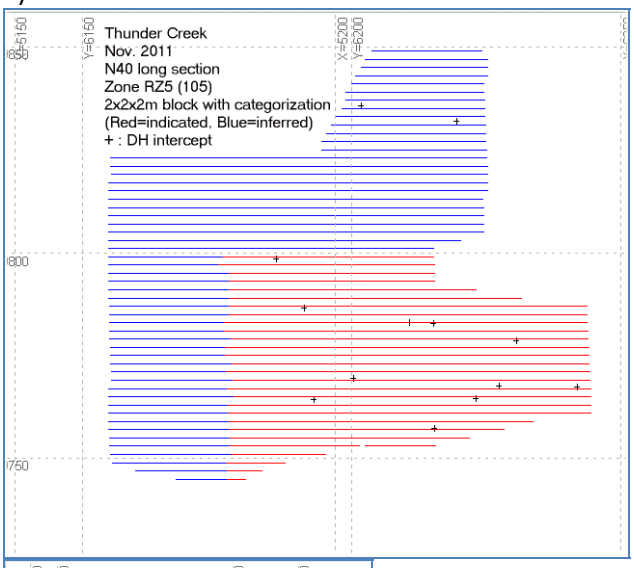
As expected, differences between models are more important in small zones with a small number of composites e.g. zone 332 with only 32 1m composites. Resources in those zones have generally been classified in the inferred category.

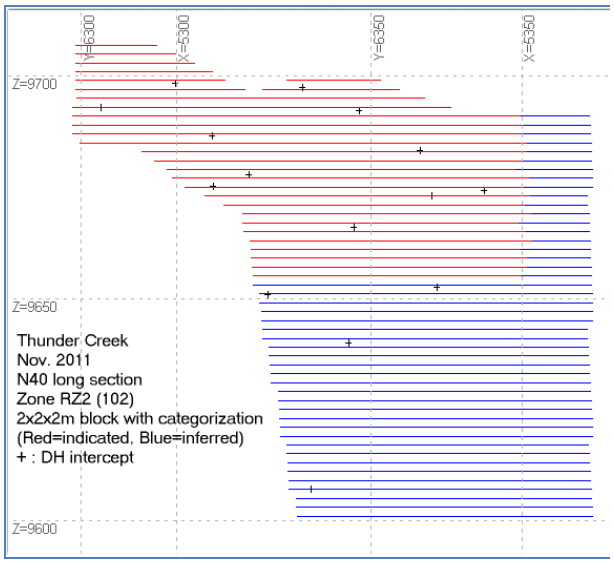
Results from the alternative resource model support estimated resources derived from the standard ID2 model.

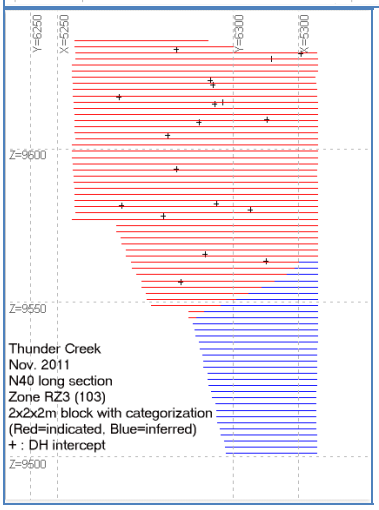
7- Resource classification

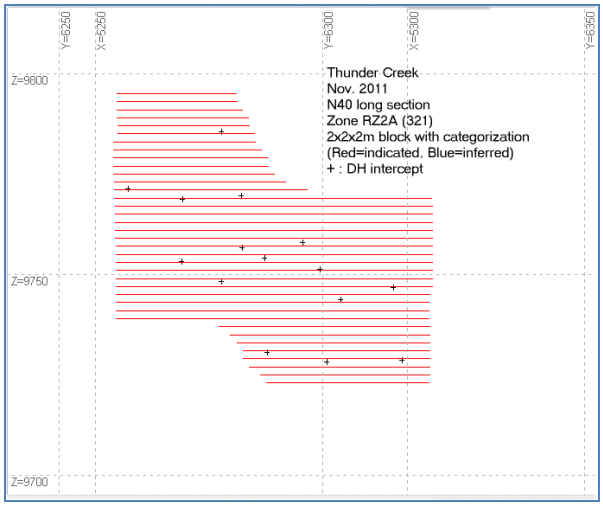
LSG ‘s classification of 2x2x2m resource blocks is illustrated on long vertical sections of each mineralized zone along the N40 strike on Figures 7 and 8. On the same sections, we have plotted the center point of DH intercepts with the zone. As a general rule, LSG’s classification into indicated (red) and inferred (blue) corresponds to the density of those intercepts in the various sectors of the zone. In particular, it is clear that all the material in the RZ2A and RZ3A deserves to be in the indicated category while all the material in the RZ3A1, RZ3A2, PZ1C and PZ3 can only be qualified as inferred at this stage.

Figure 7 N40 long section with resource classification of each zone (1 of 2)









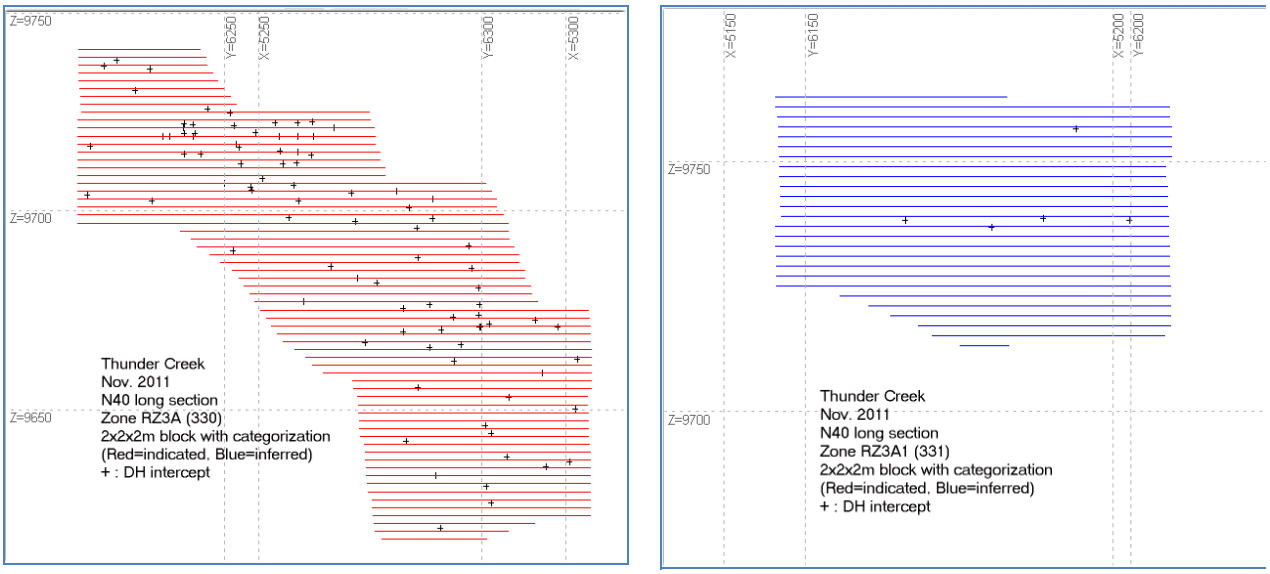
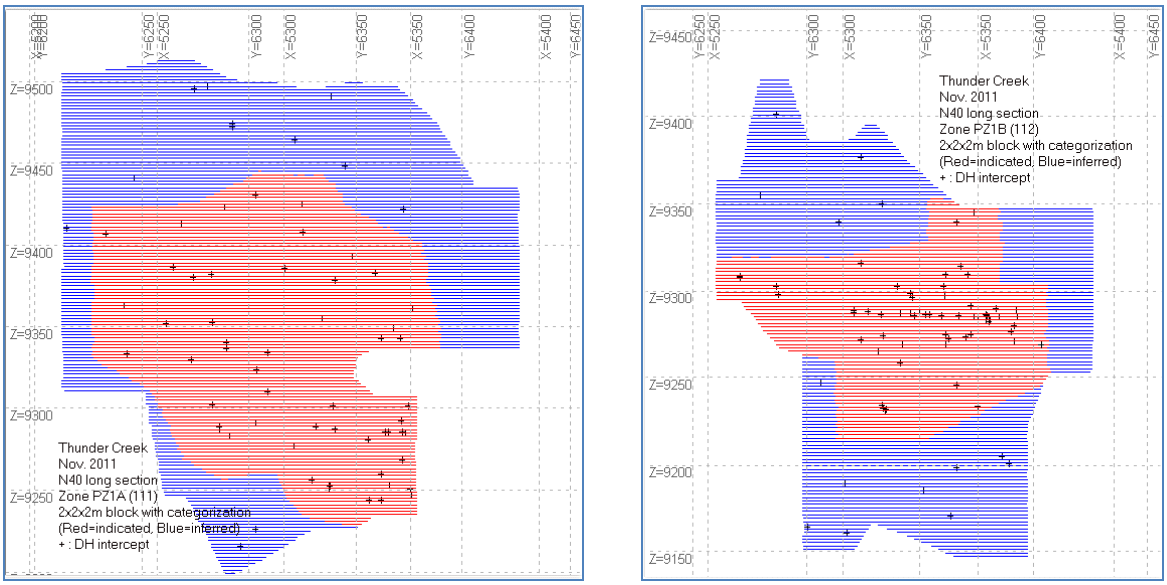
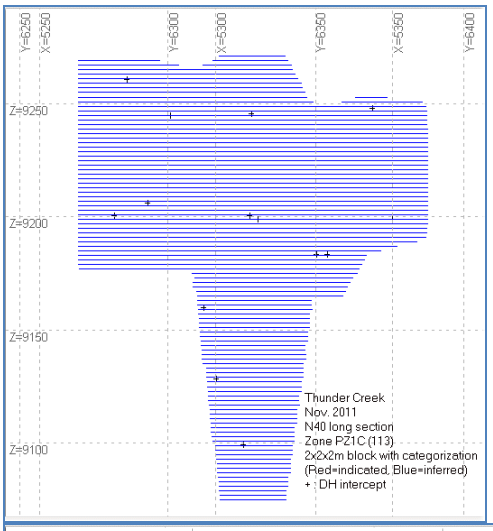


Figure 8 N40 long section with resource classification of each zone (2 of 2)

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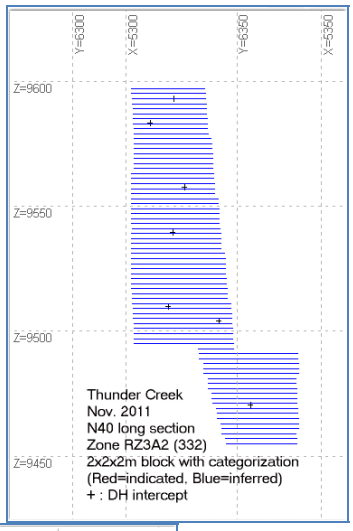
X=5250
Y=6300
X=5300
Y=6350
X=5350
Y=6400
Z=9250
Z=9200
Z=9150
Z=9100
Thunder Creek
Nov. 2011
N40 long section
Zone PZ1C (113)
2x2x2m block with categorization
(Red=indicated, Blue=inferred)
+ : DH intercept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Y=6350
X=5350
Z=9600
Z=9550
Z=9500
Z=9450
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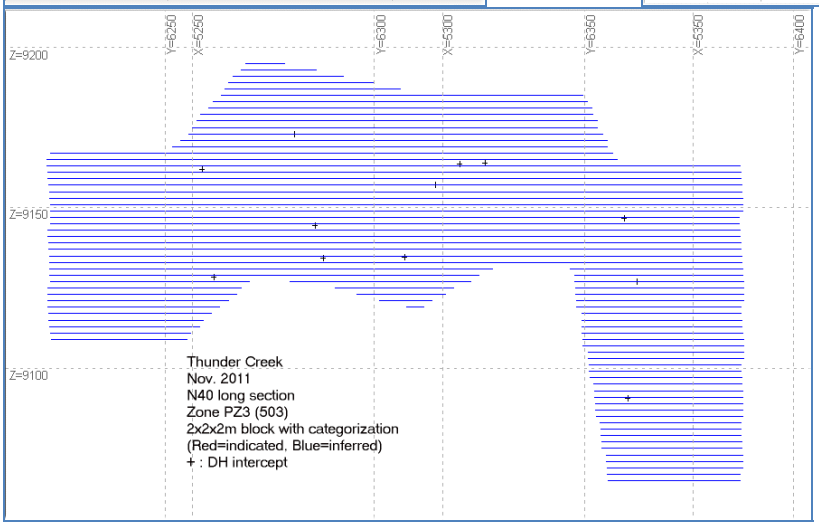
N40 long section
Zone RZ3A2 (332)
2x2x2m block with categorization
(Red=indicated, Blue=inferred)
+ : DH intercept


Y=6250
X=5250
Y=6300
X=5300
Y=6350
X=5350
Y=6400
Z=9200
Z=9150
Z=9100
Thunder Creek
Nov. 2011
N40 long section
Zone PZ3 (503)
2x2x2m block with categorization
(Red=indicated, Blue=inferred)
+ : DH intercept

8- Statistical analysis of QAQC assay data

What follows is a statistical analysis of QAQC data for gold assays in Thunder Creek drill holes. Those data are in file *Master_List_QAQC_Thunder_Creek_43-101.xls* made available to us on Nov. 21, 2011.

8-1 Standards

From February 2009 to October 2011, up to 2900 standard pulps have been submitted to assay labs. Most of them (2628 or 91%) went to the ALS Canada Ltd. lab with the balance split between the Accurassay Laboratories lab (168), Cattarello Assayers Inc. lab (61)and the Bell Creek lab (42). Given the small number of results from labs other than ALS, the statistical analysis of the lab performance for standards is done with all data available and it mostly reflects the performance of the ALS lab.

Summary statistics of standard results are on Table 6. Up to 24 standards have been used by LSG in the last 3 years. Most commonly used standards are O-15Pb with a low target value of 1.06 g/t, O-60b with a medium target value of 2.57 g/t and O-61d with a high target value of 4.76 g/t. In addition to the target value, standard deviation (StDev) and corresponding "gates" of target +/- 3 standard deviations (Min and Max), the table lists :

+ the number of results for the standard (Nb)
+ the mean result (Average)
+ the % relative difference between the mean result and the target (%Diff.)
+ a flag to indicate if the difference between the mean result and the target is significant at the 95% confidence level given the quoted standard deviation and the number of results (Sig. = 1 if significant). The difference is significant if its absolute value exceeds $2*StDev/Nb^{0.5}$
+ the percentage of results below and above the target (PBelow and PAbove)
+ the percentage of results outside the Min/Max "gates" of Target+/- 3*StDev.

Relative differences between mean result and target range from -8.5% to 4.0%. As expected, highest relative differences occur with standards with a low number of results. Relative differences for the three most used standards quoted above are of the order of 1% or less. Nevertheless, with the quoted standard deviations of standards, most of differences (15 out of 24) are found to be significant at the 95% confidence level. As usual with standards, the quoted standard deviations are likely to be undervalued since derived from results in ideal conditions (round robin involving several labs). There is no specific trend for the sign of difference i.e. we have negative and positive differences for low grade and high grade standards. All together, average (weighted by number of results) difference is almost null (average result of 2.371 g/t vs. average target of 2.368 g/t Au) hence **there is no sign of an overall bias in the results for standards.**

Despite the above, there is some tendency to have more results above target value (average 59%) than below (average 41%). Also linked to the likely undervaluation of standard deviations, the average proportion of results beyond the three standard deviations gates is rather high (7.5% versus a "normal" score of only 1%).

Table 6 Statistics of results for standard pulps

Standar	Target g/tAu	StdDev g/tAu	Min g/tAu	Max g/tAu	Nb	Average g/tAu	%Diff. %	Sig.	PBelow %	PAbove %	POutside %
O-4Pb	0.049	0.002	0.042	0.056	29	0.049	-0.7%	0	43.1%	56.9%	13.8%
O-52Pb	0.307	0.017	0.255	0.359	63	0.319	4.0%	1	15.9%	84.1%	0.0%
O-65a	0.52	0.017	0.469	0.571	20	0.476	-8.5%	1	35.0%	65.0%	10.0%
O-53Pb	0.623	0.021	0.559	0.687	65	0.632	1.5%	1	27.7%	72.3%	0.0%
O-50Pb	0.841	0.032	0.746	0.936	102	0.859	2.1%	1	28.9%	71.1%	2.9%
O-2Pd	0.885	0.029	0.797	0.973	176	0.872	-1.5%	1	56.5%	43.5%	8.0%
O-15h	1.019	0.025	0.945	1.093	154	0.986	-3.3%	1	66.6%	33.4%	13.6%
O-15Pa	1.02	0.027	0.94	1.1	111	1.017	-0.3%	0	76.1%	23.9%	5.4%
O-15Pb	1.06	0.030	0.97	1.14	571	1.057	-0.3%	1	45.5%	54.5%	10.0%
O-66a	1.237	0.054	1.075	1.399	45	1.225	-0.9%	0	51.1%	48.9%	4.4%
O-6Pc	1.52	0.067	1.32	1.72	290	1.545	1.7%	1	21.6%	78.4%	1.7%
O-67a	2.238	0.096	1.95	2.526	18	2.209	-1.3%	0	52.8%	47.2%	0.0%
O-60b	2.57	0.107	2.25	2.89	362	2.562	-0.3%	0	40.2%	59.8%	3.3%
O-7Pb	2.77	0.053	2.61	2.93	49	2.761	-0.3%	0	42.9%	57.1%	8.2%
O-54Pa	2.9	0.110	2.57	3.23	62	2.903	0.1%	0	41.1%	58.9%	3.2%
O-17c	3.04	0.083	2.79	3.29	74	3.095	1.8%	1	23.6%	76.4%	13.5%
O-18c	3.52	0.107	3.2	3.84	6	3.507	-0.4%	0	33.3%	66.7%	0.0%
O-18Pb	3.63	0.070	3.42	3.84	44	3.603	-0.7%	1	61.4%	38.6%	9.1%
O-68a	3.89	0.147	3.45	4.33	36	3.762	-3.3%	1	61.1%	38.9%	8.3%
O-61d	4.76	0.143	4.33	5.19	476	4.814	1.1%	1	29.3%	70.7%	10.7%
O-10c	6.66	0.183	6.11	7.08	20	6.521	-2.1%	1	65.0%	35.0%	5.0%
O-10Pb	7.15	0.193	6.57	7.73	97	7.237	1.2%	1	32.5%	67.5%	10.3%
O-62c	8.79	0.213	8.15	9.42	28	8.164	-7.1%	1	50.0%	50.0%	17.9%
O-62d	10.5	0.330	9.51	11.49	1	10.400	-1.0%	0	100.0%	0.0%	0.0%
All	2.368				2899	2.371	0.0%		40.6%	59.4%	7.5%

8-2 Blanks

From September 2004 to October 2011, up to 3677 blanks have been submitted to assay labs. Like for standards, most of them (3369 or 92%) went to the ALS Canada Ltd. lab with the balance split between the Accurassay Laboratories lab (199), Cattarello Assayers Inc. lab (65)and the Bell Creek lab (44). Given the small number of results from labs other than ALS, the statistical analysis of the lab performance for standards is done with all data available and it mostly reflects the performance of the ALS lab.

The only statistics which can be derived from results for blanks is the proportion of them above a given threshold. Traditionally, this threshold is five times the detection limit which in the case of Thunder Creek looks like 0.0025 g/tAu hence a threshold of 0.0125 g/tAu. This in fact pretty low and we generally prefer to use a “practical” threshold of 0.1 g/t Au.

For the ALS lab, we have 329 results (9.8%) above 0.0125 g/t Au and 28 results (0.8%) above 0.1 g/t (up to 2.58 g/t Au). Most of the failures in that last batch are documented with contamination from extremely high assays before blank being the most common explanation.

For the Accurassay results, we have 27 results (14%) above 0.0125 g/t Au and 7 results (3.5%) above 0.1 g/t (up to 2.37 g/t Au).For the Bell Creek results, we have 19 results (43%) above 0.0125 g/t Au and none above 0.1 g/t (maximum is 0.057g/t Au). For the Cattarello results, we have 8 results (12%) above

0.0125 g/t Au and 2 results (3%) above 0.1 g/t (maximum is 0.199g/t Au). The performance of those labs is clearly worse than that of ALS.

8-3 Duplicates

Lab duplicates are assays from another split of the same pulp selected at random from the lab for its own quality control purposes. Up to 3780 lab duplicates from January 2008 to October 2011 and with an original and a duplicate grade can be identified in the supplied database. Like usual, the majority (3352 or 89%) are from ALS with the balance from Accurassay (301), Cattarello (61) and Bell Creek (66).

The statistic of interest with duplicates at the same lab is either the correlation coefficient of originals and duplicates (preferably with a log scale) or the average relative difference of originals and duplicates above a given threshold (very low grades tend to generate high relative differences with an undue influence on the average relative difference). In this case we use a threshold of 0.5g/tAu.

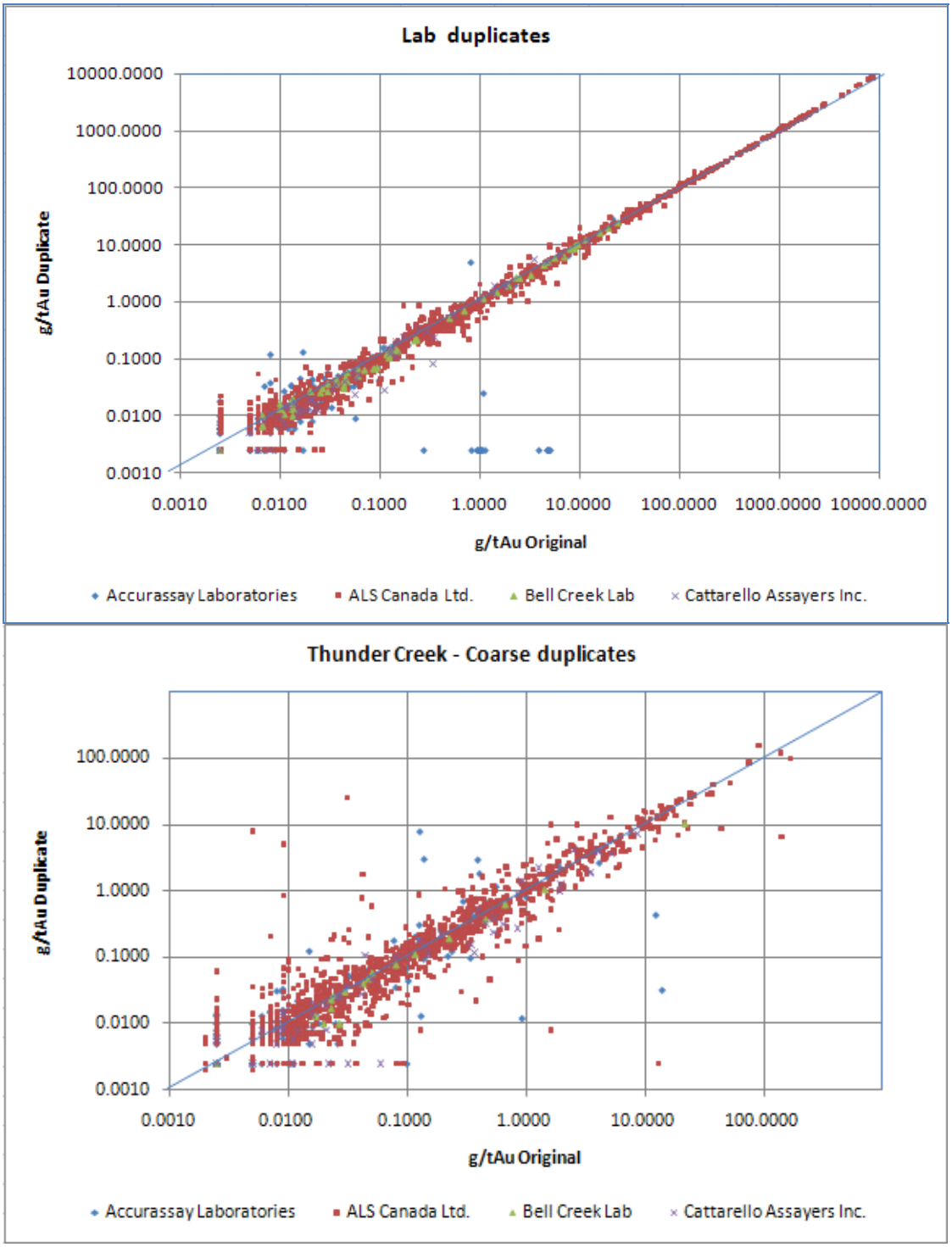
Like with blanks, the best performance is observed with duplicates from ALS with an average relative difference of 12.5% and a correlation coefficient of 0.997 as well as duplicates from Bell Creek with an average relative difference of 11.8% and a correlation coefficient of 0.998. Next comes Cattarello with an average relative difference of 22.7% and a correlation coefficient of 0.986. Accurassay has the worst performance with an average relative difference of 59.4% and a correlation coefficient of 0.749. The correlation plot at the top of Figure 9 shows that most of the outlier pairs are Accurassay duplicates (blue dots). An updated file of lab duplicates from the Accurassay lab gives much better results with an average relative difference of 8.6% and a log-log correlation coefficient of 0.94 (301 pairs). Apparently, in the original QAQC file, some missing duplicated data have been unduly replaced by the detection limit of 0.0025 g/t.

Coarse duplicates are normally assays from a new pulp made out of the crushed and ground (but not pulverized) reject of the original sample. Up to 1721 coarse duplicates from May 2010 to October 2011 and with an original and a duplicate grade can be identified in the supplied database. Like usual, the majority (1479 or 86%) are from ALS with the balance from Accurassay (165), Cattarello (58) and Bell Creek (19).

As expected, we see more differences between duplicated and original values with the coarse duplicates. For ALS, the average relative difference is 43.0% with a correlation coefficient of 0.951. For Bell Creek, average relative difference is a similar 37.4% with a correlation coefficient of 0.985. For Catarello, average relative difference is a similar 41.4% with a correlation coefficient of 0.954. For Accurassay, the performance of coarse duplicates is not as good with an average relative difference is 50.6% and a correlation coefficient of 0.904.

The scatter plot at the bottom of Figure 9 illustrates the lower reproduction of original values in the coarse duplicates.

Figure 9 Correlation plots of lab and coarse duplicates



8-4 Check assays

From data supplied, check assays look like samples from rejects of pulp originally assayed by ALS which have been sent to a different lab for a check assay. In the case of Thunder Creek the two check labs are Accurassay and SGS Canada Inc.

We can identify 758 complete check assay samples at Accurassay from July to September 2011. Original (ALS) values range from 0.0025 to 112.0 g/t with an average of 1.30 g/t while check (Accurassay) values range from 0.0025 to 91.33 g/t with a mean of 1.04 g/t. A T-test of paired data run on log grade (to respect some normality of parent population) shows that the differences of means is not significant at the 95% confidence level (T= -1.18 with a limit at -1.96 – the correlation coefficient of log data is 0.93). A sign test confirms the absence of a significant bias between the two sets (we have 53.2% of pairs with original value more than duplicate value with a 95% confidence limit at 53.6%).

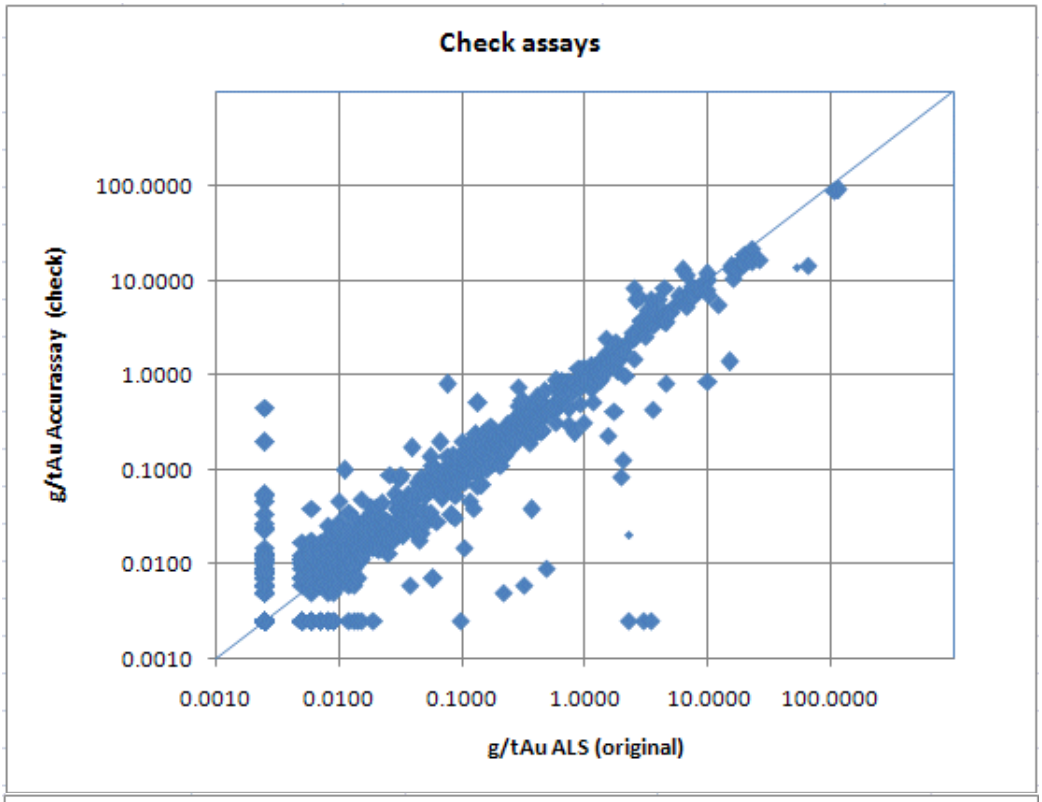
We also have 1117 complete check assay samples at SGS in February 2010, January-February 2011 and September 2011. Original (ALS) values range from 0.0025 to 97.4 g/t with an average of 1.36 g/t while check (SGS) values range from 0.0025 to 60.9 g/t with a mean of 1.32 g/t. The T-test of paired data run on log grade shows that the differences of means is not significant at the 95% confidence level (T= -0.58 with a limit at -1.96 – the correlation coefficient of log data is 0.97). In this case however, the sign test would show original data significantly higher than check data (we have 53.4% of pairs with original value more than duplicate value with a 95% confidence limit at 53.0%). However, the sign test is known to be rather severe when the number of pairs is quite high.

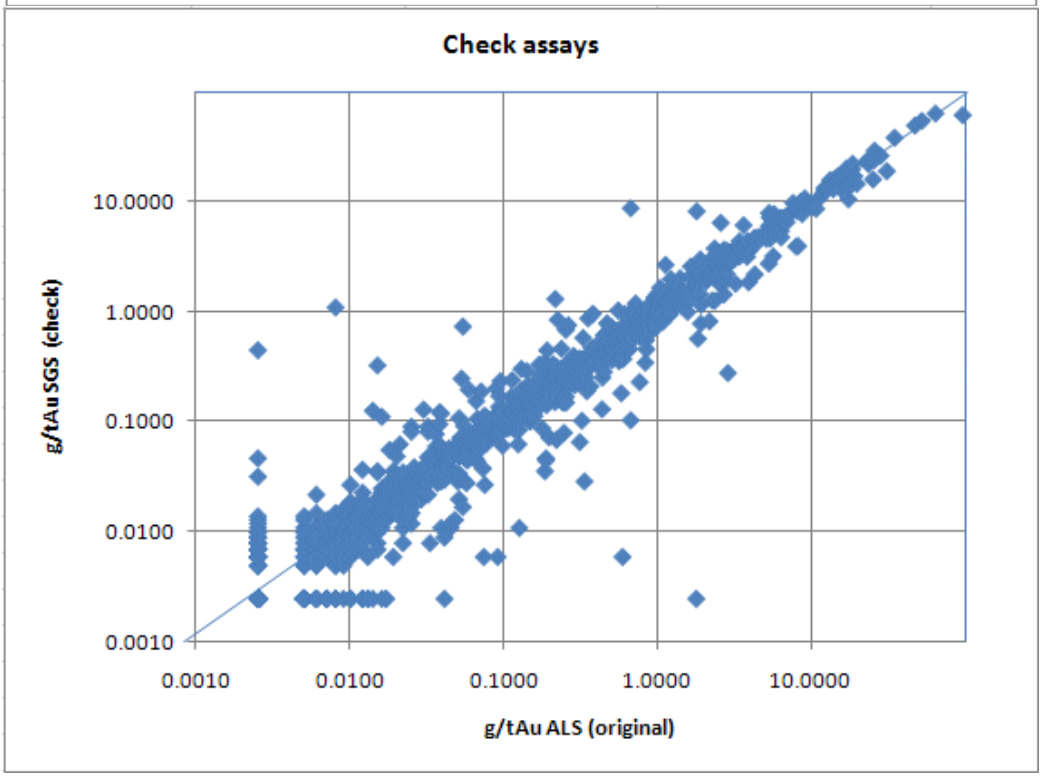
Correlation plots of check and original values in the two sets are on Figure 10.

8-5 Conclusions

Despite the high variability of gold grades from Thunder Creek samples, the QAQC data available tend to indicate that the quality of the sample grade values used in the resource estimation is satisfactory. Although we have significant differences between mean results and target values for some standards as well as a rather high proportion of results beyond the quoted gates of standards, we do not see any overall bias from the results of standards. Blanks show a few cases of likely contamination but the proportion of real failures keeps reasonably low (0.8%) at the main ALS lab. Lab and coarse duplicates show expected sample errors i.e. about 10% relative difference for pulp duplicates and 40% relative difference for coarse duplicates.

Figure 10 Correlation plots of check and original assays





APPENDIX 8

RESOURCE MODELING AND ESTIMATION OF THE TIMMINS GOLD DEPOSIT
M. DAGBERT (2012)
SGS CANADA INC. GEOSTAT

RESOURCE MODELING AND ESTIMATION OF THE TIMMINS WEST GOLD DEPOSIT BELOW LEVEL 650

Respectfully submitted to Lakeshore Gold Corp.
by SGS Canada Inc. - Geostat
March 23,2012

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Foreword

This report describes the work completed in the fall of 2011 and winter 2011-2012 at SGS Canada Inc. – Geostat (thereafter SGS) to assist Lakeshore Gold Corp. (thereafter LSG) in their modeling and estimation of the resources below level 650 of their Timmins West gold deposit (thereafter TW) that they currently mine to the west of Timmins, Ontario, from latest drill hole information available in the fall of 2011. This report is not an NI43-101 Technical Report but it can be used to support the results in the NI43-101 Technical Report authored by LSG on the TW resources to be produced in March 2012. This work is covered by a proposal from SGS to LSG dated July 22, 2011 and accepted by LSG on September 09, 2011.

Summary, conclusions and recommendations

7- SGS has reviewed two successive resource models by LSG for the Timmins West gold deposit below level 650. In a first prototype model of September 2011, SGS had interpreted fairly large mineralized zones with a high proportion of zero or low grade assay intervals in the zones. In order to avoid an over-dilution of estimated resources within those zones, SGS had suggested the same approach which had been tested in the early models for the near-by Thunder Creek deposit i.e. the interpolation by kriging of a low cut-off indicator (0.5 g/t) followed by the interpolation (also by kriging) of the gold grade of the block fraction with material above the low cut-off. Results obtained with this approach were found to be similar to the preferred interpolation method of LSG i.e. a direct interpolation of block grade by inverse distance to the cube (ISD3) with the same objective of reducing the over-dilution of block grade from the large number of low grade samples within the large zones.

8- The second (and final) model of February 2012 by LSG has also been reviewed by SGS. Following some recommendations after the review of the prototype model, it uses much tighter mineralized zone limits with a significant reduction of the proportion of zero or very low grade samples within those limits. With that reduction of internal waste, the double interpolation approach suggested by SGS (low cut-off indicator + grade above low cut-off) becomes less appropriate and the ISD3 approach of LSG is adequate with results similar to those from the prototype model.

9- In both models, blocks are 2m cubes and their grade is interpolated from capped assay intervals in the same mineralized composited over 1m. Given the reduced size of the final mineralized limits, this block and composite sizes are adequate.

10- After reviewing the raw assay data within mineralized zones for the prototype resource model, SGS recommended a capping of 70m.g/t on the grade x length product of assay intervals. That limit corresponds to a natural gap of those products in the high end of their distribution. The implication of sample size (length) in the grade capping is justified by the tendency to have very high grade data in fairly short intervals. That capping is preferred to the straight 95 g/t grade limit of LSG although the overall result, a gold metal loss of 5%, is about the same. That limit of 70 m.g/t on the grade x length products continues to apply to the updated assay data of the final model.

11- The resource categorization of the final model by LSG has been checked on the E-W long section with projected hole intercepts in a given mineralized zone and the projected limit between indicated and inferred blocks in the same zone. The indicated blocks generally correspond to the part of the projected zone with intercepts on a grid of 30m spacing or less which is considered as reasonable.

12- Samples from 2009-2011 holes at Timmins West have been processed and assayed at four different labs, mostly ALS and Bell Creek with the balance at Accurassay and Cattarello. The quality performance of labs is derived from results for “external” reference material i.e. material supplied by LSG to the labs. For standards, the performance of the four labs is acceptable although some improvement could be achieved in the reduction of odd returns for the standards in the four labs. For blanks and despite the very high grade returned for a blank, the best performance is with ALS followed by Bell Creek+Cattarello and finally Accurassay. For coarse duplicates, ALS, Bell Creek and Cattarello have a similar performance (average relative difference around 30%) but Accurassay is not as good (average relative difference of more than 40%). Check (pulp) samples at Accurassay and originally assayed at ALS show slightly higher returns. However, Accurassay has somewhat discredited itself as a reference lab for ALS by failing to adequately report low and medium grade.

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1- September 2011 prototype model

1-1 Drill hole data

A first version of the drill hole database for Timmins West mine was received on Aug. 31, 2011. It has collar coordinates, orientation at collar, depth, deviation data, assay and litho intervals data for up to 1330 drill holes with various names: 20-001 to 650-173, HG84-01 to HG02-22, RC08-15 to 44, SH-001 to SH260-001 and TG97-50a to TG09-181. We understand that the two main groups of holes are (1) the xxx-yyy series of UG holes with xxx (from 80 to 650) referring to a level depth in meters (2) the TGxx-yyy series of surface holes where xx (from 97 to 09) refers to the year when the hole was drilled.

Collar coordinates range from 3832x, 7319y, and 9365z to 7820x, 9695y, and 10026z i.e. about 4x2.5x0.8km extension. A majority of the 468 surface drill holes dip from 45° to 78° to the south (from N175 to N202). Drill hole length varies from 1.8m (short RC or SH holes) to 2114m (wedge TG08-178F). Total meterage is 335,095m (average 252m).

We have 103,387 assay intervals along those holes. Assay length varies from a mere 0.01m to 7.8m with two very long intervals of low values : 21m with Au=0 in TG08-158 and 73m with Au=0.123 g/t in 525-035. A majority of intervals (32%) are 1m long with significant groups of 0.5m intervals (17%) and 1.5m intervals (13%). Gold assay values are mostly FA with AA finish for low grades or FA with gravimetry finish or PM (metallic screen?) for high grades. Final values range from 0 (which includes 363 intervals coded as NULL) to 1340g/t (a 0.85m interval in TG03-04) with an uncapped weighted average of 0.74 g/t.

1-2 Mineralized zones

Up to 16 different mineralized zones have been interpreted in the bottom part (below level 650) of the Timmins West mine. In addition to a small FW zone, we have 8 UM zones at the top (1B, 1C, 1D +3-6+3A) and 7 D zones at the bottom (D1-4+1A, 1B, 1C). Those zones are generally dipping from 30° to 60° to N. They look like en-echelon structures within a pipe-like trend plunging steeply to the WNW (Figure 1). They extend from 4225E to 4730E. Their outline has been interpreted on N-S sections at 12.5m intervals (down to 6.25m intervals in a few places). They have been made available to us in DXF format.

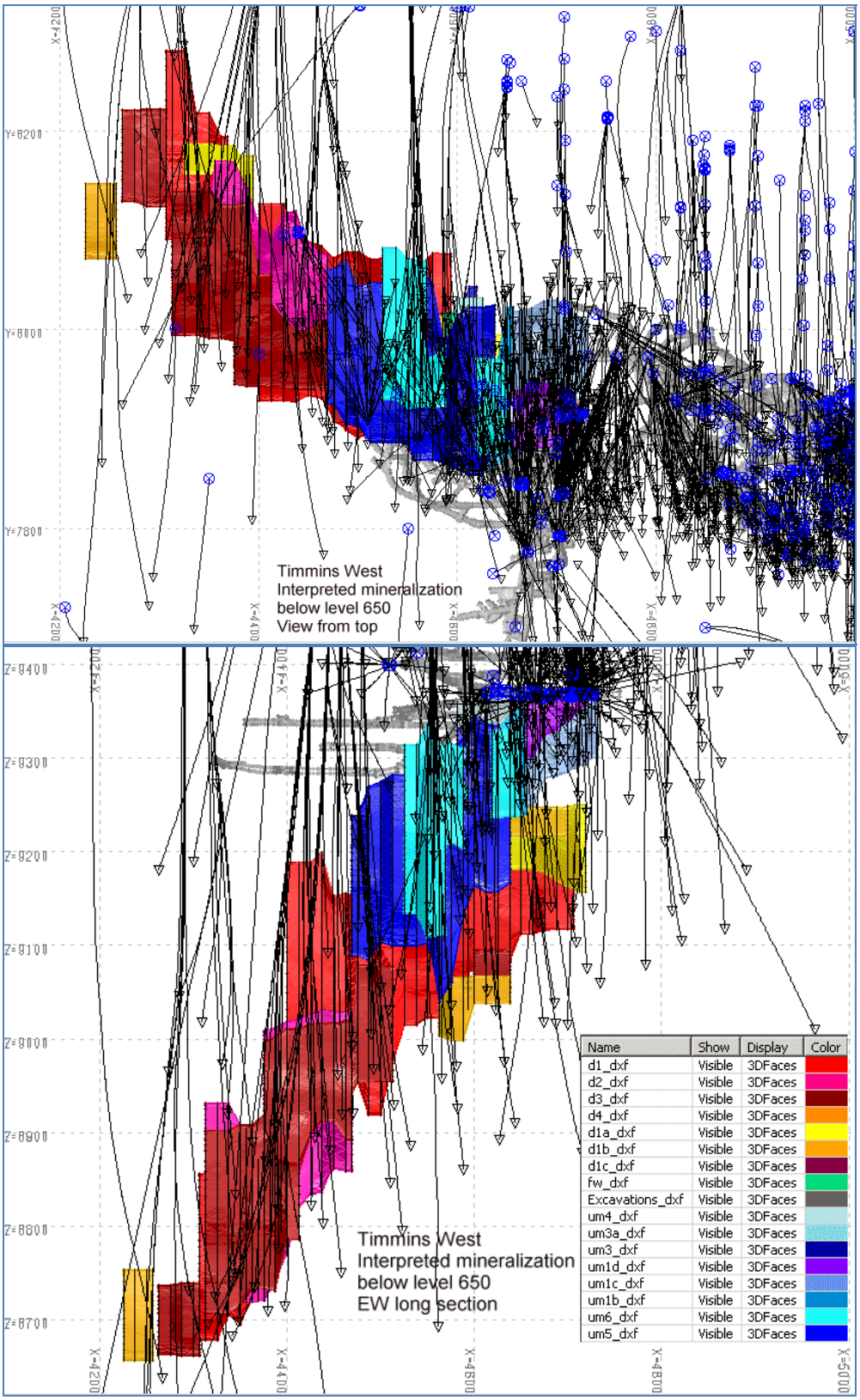


Figure 11 Views of DHs and interpreted mineralized zones below level 650

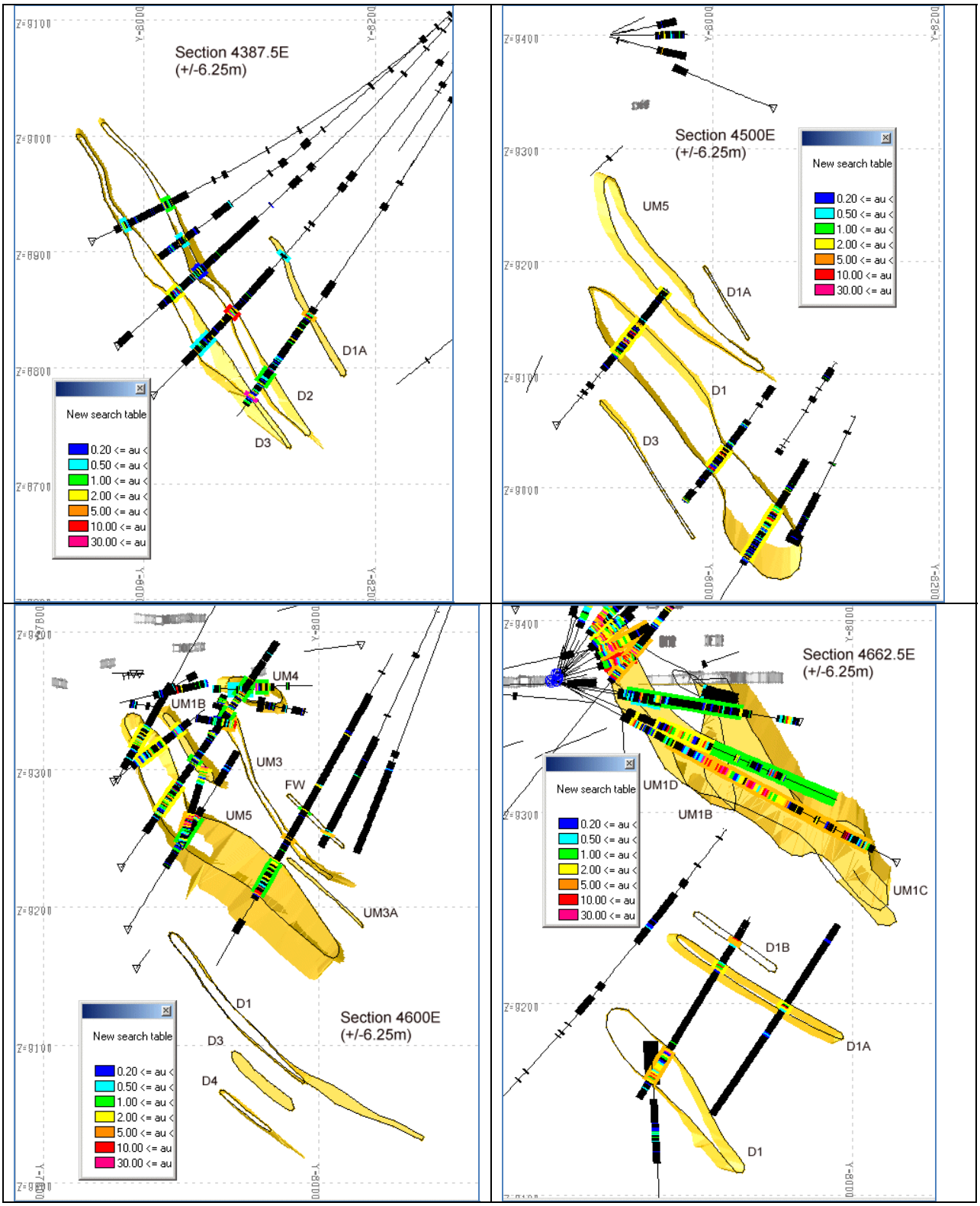


Figure 12 N-S sections through mineralized zones below level 650

1-3 Composites

A file of 1m drill hole composites within the above mineralized zones has been received from LSG on Sep. 28, 2011. That file has the hole name, from-to depth limits + corresponding length, coordinates, domain number and gold grades of 7,679 composites, reduced to 7,534 after eliminating the 145 composites (all with a zero grade) in holes 630-012,013 and 018 with no collar, deviation and assay data in the DH database received.

Like with Thunder Creek composites, we noticed that some very short composites at the end of mineralized intercepts have been kept in the composite file. We generally recommend not using composites with a documented length less than half the nominal composite length in the block grade interpolation, in this case 186 composites with a length less than 0.5m.

Two grades are given in the composite table: the uncapped grade and the grade after capping original assay interval data to 95 g/t. Statistics of composite data in the 16 mineralized zones are in Table 1. We observe a large number of zero composite grade values but we are not sure that they are real zero grades i.e. they could correspond to portion of drill holes with no assay data or assay data pending. Overall average grade of composites in mineralized zones is 2.9 g/t reduced to 2.7 g/t aver capping grade of original assay intervals to 95g/t, i.e. a 5.2% gold metal loss. The large number of composites in zone UM1D (6014), almost 40% of total, is quite noticeable.

Composite data can be used to derive mineralized intercept data i.e. the from-to depth limits and corresponding length of individual intercepts of holes with interpreted mineralized zones. Statistics of those intercept lengths are on Table 2. As a general rule, any given hole intersects a given zone only once (the only exception is with 3 holes intersecting the UM1C zone twice). Average intercept length is 19.4m with variations from a mere 0.8m up to 124.6m. The corresponding true thickness assuming a dip of 48° to N355 for zones everywhere varies from 0.1 to 59.6m and averages 9.9m. Average N-S horizontal thickness (if intercepts are projected on an E-W long section) is 21.5m.

We can calculate the average grade of each intercept from the supplied DH assay table and from-to depth limits of intercepts. Rather surprisingly, on average, only 84.5% of intercept length is documented with assay interval data. This proportion can be as low as 66.5% in zone D1A or 70.8% in zone UM1C. In those zones, intercept limits (hence interpreted zone outlines) might have to be reviewed to reduce the amount of non documented mineralized material. The significant non-documented mineralized material likely corresponds to the high proportion of zero grade 1m composites in some zones**.** If gaps of assay data within intercepts are assumed to be zero grade, average uncapped intercept grade is 2.72 g/t instead of 3.41 g/t if those gaps are assumed to be of unknown grade.

Zone	Zone	#composites	Min.Au	Max.Au	MaxAu95	MeanAu	MeanAu95
			g/t	g/t	g/t	g/t	g/t
FW	401	6	0.02	6.8	6.8	3.62	3.62
UM3	603	70	0.00	18.5	18.5	2.35	2.35
UM4	604	327	0.00	102.3	95.0	3.01	2.99
UM5	605	754	0.00	84.6	64.9	2.95	2.91
UM6	606	154	0.00	21.5	21.5	1.92	1.92
UM3A	613	5	0.44	5.2	5.2	2.90	2.90
D1	801	792	0.00	221.6	58.3	2.66	2.42
D2	802	226	0.00	181.7	76.1	3.98	3.26
D3	803	239	0.00	154.9	95.0	2.81	2.27
D4	804	48	0.00	74.9	74.9	4.48	4.48
D1A	811	73	0.00	141.3	53.2	4.36	3.08
D1B	812	3	6.11	14.9	14.9	9.55	9.55
D1C	813	8	0.07	6.2	6.2	2.40	2.40
UM1B	6012	939	0.00	87.5	44.3	2.27	2.15
UM1C	6013	974	0.00	124.5	63.6	2.52	2.46
UM1D	6014	2916	0.00	214.4	95.0	3.10	2.99
All		7534	0.00	221.6	95.0	2.87	2.72

Table 7 Statistics of gold values of 1m composites in mineralized zones (as received)

Zone	Zone	#inter.	#holes	Length(m)					TThck(m)	NSThck(m)
				Min.	Max.	Aver.	Aver.Au	%Assayed	Aver.	Aver.
FW	401	2	2	2.5	2.7	2.6	2.6	100.0%	2.4	3.3
UM3	603	10	10	3.2	14.8	6.4	5.6	87.2%	4.5	7.1
UM4	604	23	23	4.9	54.6	13.7	10.4	75.9%	7.8	16.0
UM5	605	36	36	1.4	56.5	20.4	19.6	96.0%	17.8	25.5
UM6	606	20	20	2.1	17.1	7.1	5.9	82.5%	6.0	9.0
UM3A	613	2	2	1.5	2.7	2.7	2.1	76.7%	1.9	2.6
D1	801	44	44	4.1	54	17.5	15.5	88.5%	14.3	22.3
D2	802	19	19	2.1	36.8	11.3	11.3	100.4%	8.5	15.2
D3	803	23	23	1.7	23.6	9.9	9.9	100.0%	7.3	13.0
D4	804	7	7	1.6	12.7	6.4	6.4	100.3%	5.3	8.5
D1A	811	11	11	2.5	15.5	6.3	4.2	66.5%	5.2	8.2
D1B	812	1	1	3.7	3.7	3.7	3.7	100.5%	3.3	4.8
D1C	813	1	1	6.4	6.4	6.4	6.4	100.0%	5.6	8.3
UM1B	6012	47	47	2	124.6	19.5	17.4	89.2%	9.3	19.3
UM1C	6013	40	37	6.4	93.8	23.8	16.8	70.8%	6.3	20.1
UM1D	6014	92	92	0.8	61.7	31.2	25.6	82.0%	10.7	33.9
All		378		0.8	124.6	19.4	16.4	84.5%	9.9	21.5

Table 8 Statistics of mineralized intercept length and thickness

Length = along hole, LengthAu (AverAu) = length with assay data, %Assayed = ratio of LenghtAu to Length. TThck = true thickness (assuming a 48° dip to N355 for all zones), NSThck = NS horizontal thickness (assuming a 48° dip to N355 for all zones)

1-4 Current resource block model

LSG current resource block model for the bottom part (below level 650) of the Timmins West mine is made of 505,759 blocks 2x2x2m within limits of the 16 interpreted mineralized zones. For each block, we have an estimate of the uncapped gold grade as well as a gold grade derived from composites capped to 95 g/t.

A category flag (from 1 to 3) indicate the interpolation run number when the block has been processed with the following details:
Run 1 : 15x15x8m ellipsoid dipping 48° to N355 – Minimum of 3 composites – Maximum of 6 composites overall and 2 composites by hole
Run 2 : 35x35x18m ellipsoid dipping 48° to N355 – Minimum of 3 composites – Maximum of 6 composites overall and 2 composites by hole.
Run 3 : 100x100x50m ellipsoid dipping 48° to N355 – Minimum of 2 composites – Maximum of 6 composites overall and 2 composites by hole.

Interpolation is by inverse distance to the cube. Block statistics are on Table 3.Only 4 zones (UM5, D1, D2 and D3) capture 78% of the total mineralized volume. Mineralized volumes of zones UM1B, 1C and 1D with a large number of composites look rather limited (at least below the 650 level). A few N-S cross-sections and levels through this model illustrates the geometrical pattern of high grade shoots (say above 5 g/t) from that model i.e. narrow planar structures dipping about 45° to the North i.e. the dip and strike of search ellipsoids. A different and sub-vertical pattern can be observed in the top zones UM1C and UM1D around elevation Z=9300 with no explanation to it.

Zone	Zone	#blocks	Min.	Max.Au	MaxAu95	MeanAu	MeanAu95
			g/t	g/t	g/t	g/t	g/t
FW	401	952	0.24	6.7	6.7	3.27	3.27
UM3	603	4,685	0.00	13.8	13.8	2.4	2.4
UM4	604	5,746	0.00	59.2	55.5	3.47	3.44
UM5	605	93,555	0.00	78.6	60.7	2.7	2.67
UM6	606	18,630	0.00	19.3	19.3	2.16	2.16
UM3A	613	1,001	1.08	4.6	4.6	3.01	3.01
D1	801	181,019	0.00	139.3	36.4	2.4	2.29
D2	802	57,393	0.00	105.3	44.2	3.14	2.77
D3	803	65,084	0.01	124.0	60.5	2.82	2.41
D4	804	9,699	0.03	60.5	60.5	4.91	4.91
D1A	811	15,939	0.00	54.7	20.6	3.93	3.37
D1B	812	2,400	5.57	13.8	13.8	7.96	7.96
D1C	813	1,417	0.07	5.9	5.9	1.93	1.93
UM1B	6012	17,426	0.00	53.6	33.3	1.67	1.62
UM1C	6013	20,728	0.00	69.4	41.4	2.52	2.46
UM1D	6014	10,085	0.00	52.5	47.1	3.21	3.18
All		505,759	0.00	139.3	60.7	2.72	2.55

Table 9 Statistics of block data in the current resource block model (below level 650)

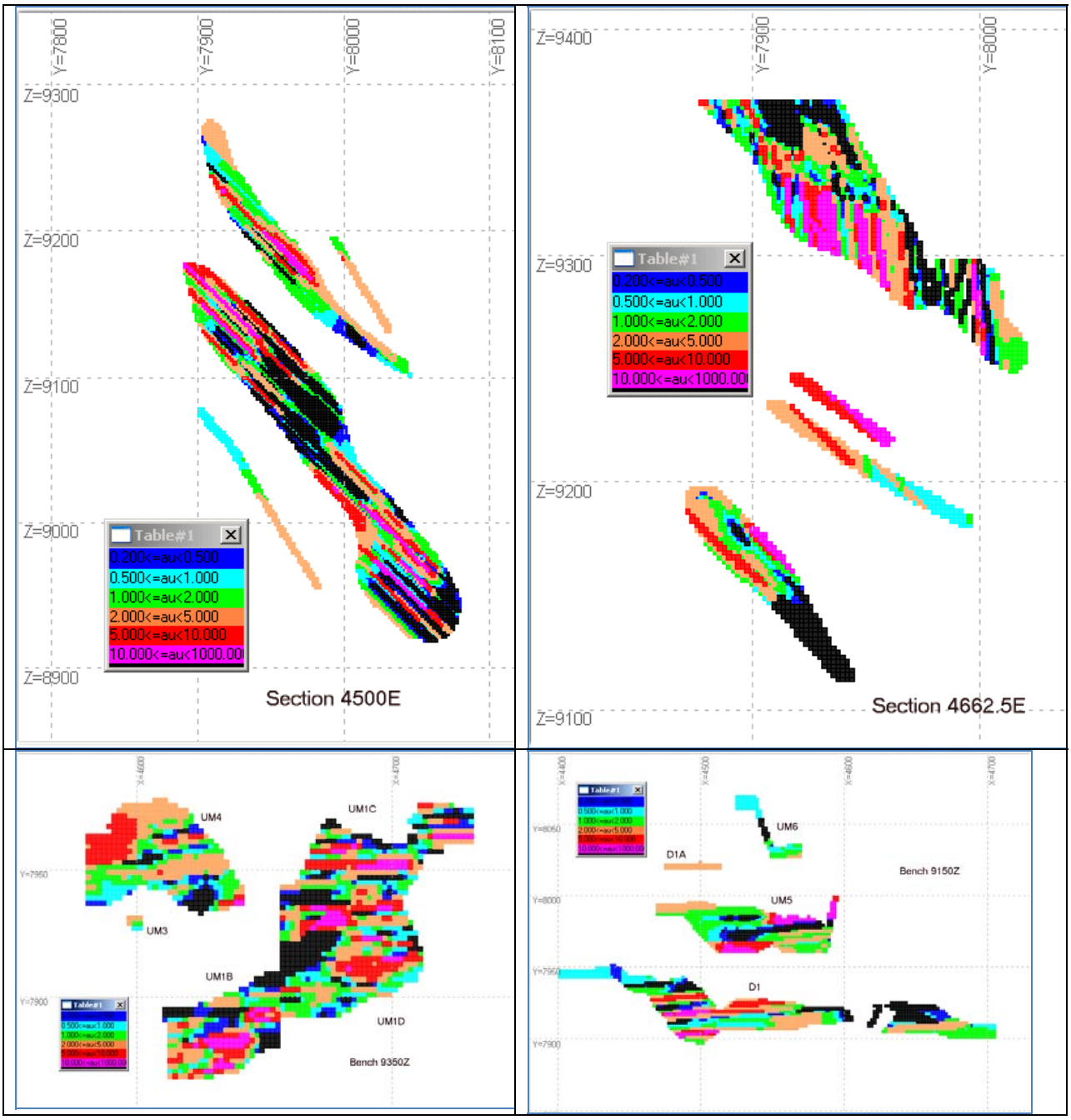


Figure 13 N-S sections and benches through current resource block model

1-5 Assay intervals in mineralized intercepts and capping

We have 8816 assay intervals within the from-to depth limits of the 378 mineralized intercepts in drill holes. Gold values of those assay intervals range from 0 to 505 g/t with a length-weighted average of 3.36 g/t. Obviously, we have some very high gold values which need be capped before being composited and used in block grade interpolation.

Table 4 lists the assay intervals with the highest gold values (above the current cap of 95 g/tAu). The length of those intervals is quite variable (from 0.4 to 1.4m) and given that those outliers tend to be isolated with much lower grades on both sides, it makes more sense to cap according to gold content, hence the GT product of grade by length, rather than gold grade alone. In other words a 200 g/t over 0.5m is the same as a 100g/t over 1m when it comes to capping given that both yield the same 100g/t when composited over 1m.

The top of Figure 4 shows the histogram (with a log scale hence excluding zero grade intervals) of those GT products for all assay intervals in the mineralized zones. The significant proportion of very low grade intervals is quite noticeable which again raises the need to review interpreted mineralized zone outlines in order to exclude more of this low grade material from them.

The bottom of Figure 4 shows the high end of the cumulative frequency plot of the same GT products, still with a log scale. This is the tool of choice to detect natural gaps which show up as upward kicks of the experimental curve. Such a kick is quite noticeable around 70m.g/t (70 g/t over 1m or 140 g/t over 0.5m).

A similar type of analysis could be conducted on just intervals in any of the 16 mineralized zones. On Figure 5, mineralized intervals have been regrouped into the upper UM zones (6549 intervals) and lower D zones (2267 intervals). In both cases, the 70m.g/t value corresponds to a kick of the experimental cumulative frequency curve. In the D zone, there is another noticeable kick around 30m.g/t.

An overall capping of 70m.g/t touches 20 intervals with a length weighted average grade of capped data of 3.19 g/t i.e. 5% less than the uncapped average of 3.36 g/t. It is in fact fairly similar to the current capping of 95 g/t on grade alone that touches 25 samples with a loss of 5.3% of the gold metal. It is less severe in UM zones (14 intervals and 3.2% gold loss) than in D zones (6 intervals and 12.3% gold loss).

A more conservative capping of 30 m.g/t would touch 102 intervals overall with a 13.3% gold loss (85 intervals and 11.2% gold loss in UM zones;17 intervals with 22.1% gold loss in D zones).

For sake of conservatism, a trade-off capping of 50 m.g/t could be used, although it does not correspond to any natural gap in the distribution of GT products. Overall, it caps 38 intervals with a gold loss of 7.5% (i.e. only 2.5% more than the 70m.g/t “logical” choice).

Hole	Zone	From	To	Length (m)	G/tAu	GT ((m.g/tAu)
TG06-75f	802	1331.3	1331.8	0.5	97.2	48.6
650-101	6014	36	37	1	98.2	98.2
650-156	604	23	23.5	0.5	102.27	51.1
650-106	6014	75	75.5	0.5	103.5	51.8
TG06-75k	803	1382.6	1383	0.4	104.5	41.8
650-133	6014	6.5	7.5	1	107	107.0
650-021a	6012	103	103.5	0.5	109	54.5
650-004	6014	109.8	110.5	0.7	114	79.8
650-079	6014	81.2	81.7	0.5	119.5	59.8
TG05-74C	801	1071.2	1071.65	0.45	121.5	54.7
650-097	6014	49	49.5	0.5	128	64.0
650-066	605	100.8	101.7	0.9	135	121.5
650-094	6014	35.5	36.9	1.4	142	198.8
TG06-104	801	872	873	1	143.5	143.5
TG06-75k	803	1382.15	1382.6	0.45	143.5	64.6
650-096	6014	38.6	39.1	0.5	155	77.5
650-026a	6012	100.7	101.2	0.5	190.5	95.3
650-127	6013	100.5	101.1	0.6	196.5	117.9
TG05-72A	6012	634.95	635.5	0.55	200	110.0
TG05-75C	802	1287	1287.5	0.5	209	104.5
TG05-75C	802	1307	1307.8	0.8	227	181.6
TG97-50b	811	892.3	892.8	0.5	282	141.0
TG06-75k	803	1381.7	1382.15	0.45	324	145.8
TG05-64B	801	1151	1151.6	0.6	369	221.4
650-007	6014	109.9	110.3	0.4	505	202.0

Table 10 Assay intervals within mineralized intercepts with highest gold values

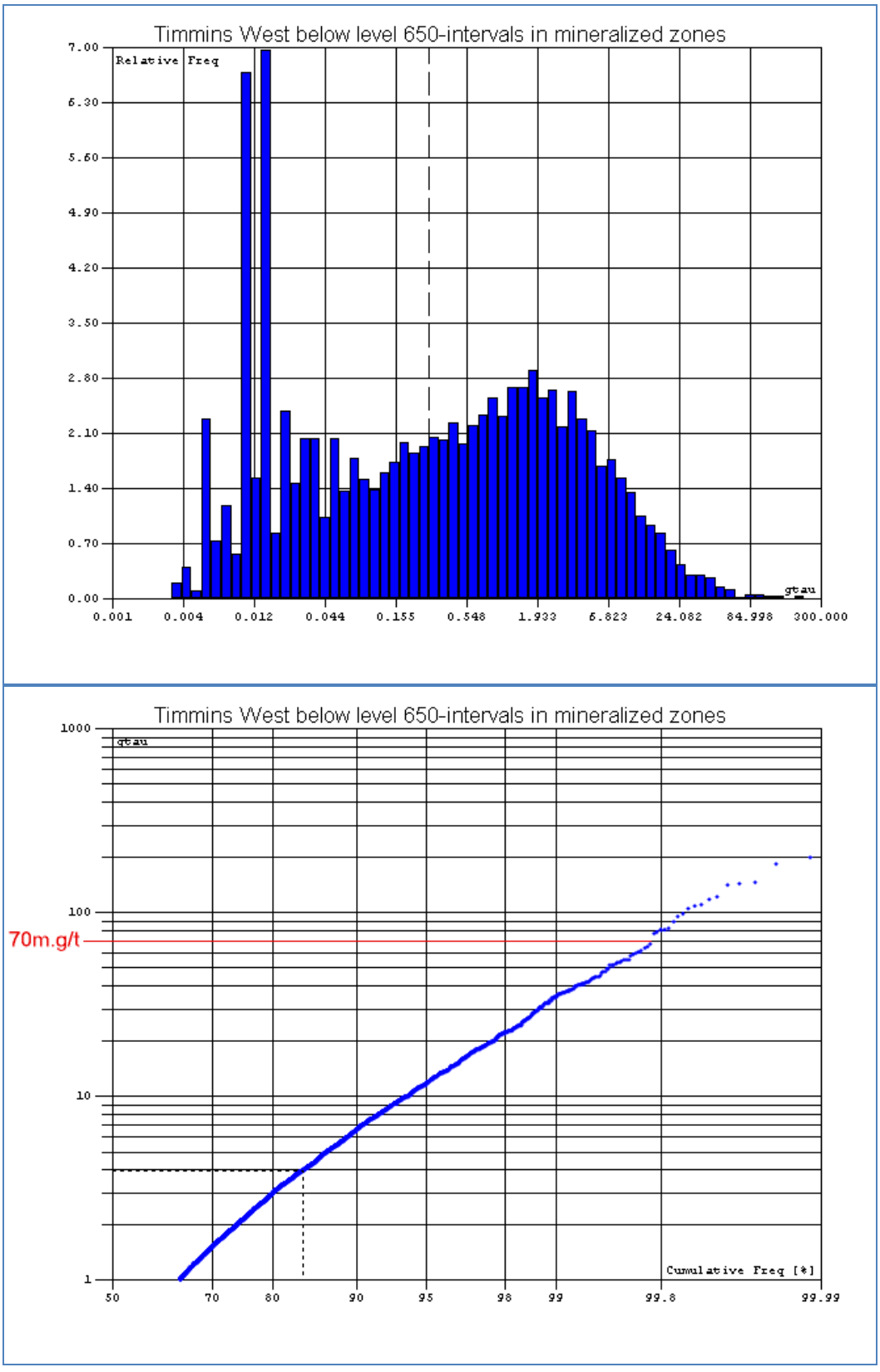


Figure 14 Histogram and cumulative frequency plot of GTs of all mineralized intervals

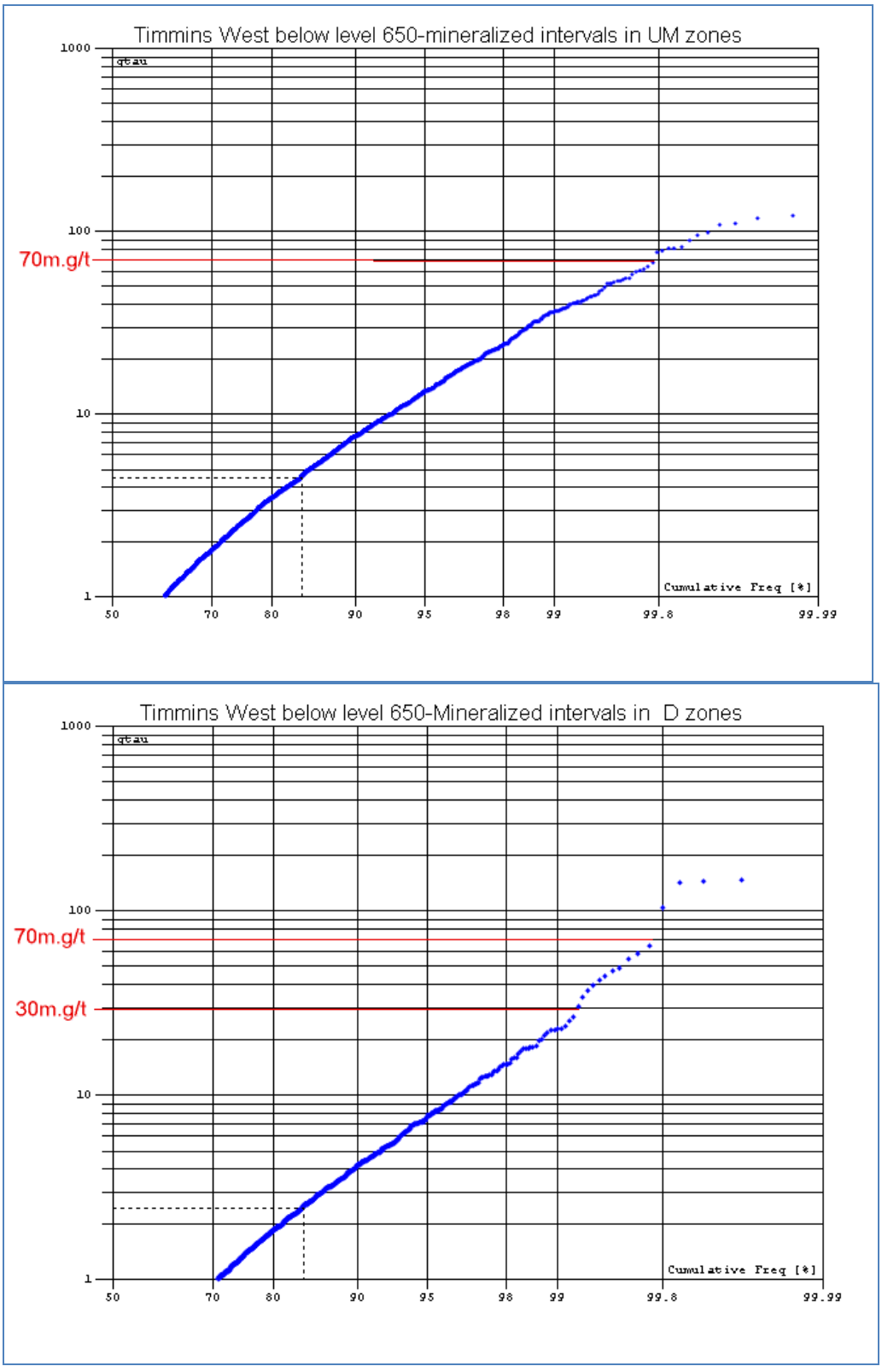


Figure 15 Cumulative frequency plots of GTs of intervals in UM and D zones

1-6 Resource block modeling of mineralized zones

Once mineralized zones are defined as solids with corresponding DH intercepts and capped assay intervals within intercepts, resources of each zone can be derived through a block model with small blocks on a regular grid filling the solid and with a gold grade interpolated from composited assay intervals within mineralized intercepts. This is in fact what is being done in the current LSG resource model (section 4 above) with 2m cubic blocks and 1m composites.

However, because of the large proportion of low grade samples left in mineralized solids, LSG is using a fairly restrictive interpolation method (ID3 with limited number of composites) to reduce the block grade over-dilution and this method leads to somewhat artificial patterns for high grade shoots within mineralized solids. If solids cannot be further edited to limit the amount of low grade material within them, an alternative block grade interpolation method involving more composites around each block but at the same time limiting the over-dilution is based on indicators. This method has already been tested at the nearby Thunder Creek deposit. We now show its application to the resource estimation of one of the 16 mineralized zones of Timmins West below level 650, namely the D1 (or 801) zone.

Back to the supplied solid of that zone, we can find 157,464 blocks 2x2x2m with a center within the solid (Figure 6). This is significantly less than the 181,019 blocks in the LSG block model (Table 3) but the difference can be explained by the fact that LSG is using partial blocks whereas we just consider full blocks (given the small size of blocks and the uncertainty on limits of mineralized zones, we think that full blocks are good enough). Hence in our model, the tonnage of mineralized material in zone D1 is 3.53Mt assuming a fixed density of 2.8 /t/m3.

Within the 44 mineralized intercepts of drill holes with the interpreted limits of zone D1, we can find 774 1m composites of at least 0.5m with a diluted (if gaps) and capped (using the 50m.g/t limit) gold grades from 0 to 57.97 g/t and averaging 2.43g/t (not far from the statistics of LSG capped composites in Table 1). Those 774 composites are also shown on the long section of Figure 6.

The histogram of composite data (top of Figure 7) illustrates the large proportion of low grade composites within the interpreted limits of the D1 zone (40% are less than 0.05g/t and 56% less than 0.5g/t). In order to separate that portion from the ultimate resource blocks, we define an indicator at 0.5g/t (although 0.05g/t looks like a more natural limit from the histogram of Figure 7 – 0.5g/t was the cut-off used at Thunder Creek). Like usual, composites above 0.5g/t have an indicator value of 1 and those below 0.5g/t have an indicator value of 0. Indicator variograms (bottom of Figure 7) show a relative nugget of about 30%, a long range of about 45m along average dip and strike and a short range of about 15m across dip+strike.

The indicator is kriged in the 157,464 blocks of D1. First run (84,369 blocks) uses a 45x45x15m ellipsoid dipping 48° to the N355 and asks for a minimum of 7 composites in a minimum of 3 holes while the maximum number of composites is set to 30. Second run (remaining 73,095 blocks) uses a 90x90x30m ellipsoid of similar orientation and asks for a minimum of 4 composites in a minimum of 2 holes with the same maximum of 30 composites. Average kriged indicator is 0.422 (which means that 42.2% of the D1 tonnage is above 0.5g/t) i.e. 0.422*157,464 = 66,450 blocks. Those mineralized blocks are those with a kriged indicator above 0.462.

The grade of the mineralized blocks is interpolated from the grade of the 340 composites above 0.5g/t. Correlograms of those composite grades are on Figure 8. They show the same anisotropy and ranges as

the indicator but the relative nugget effect increases to 60%. Grade kriging with those correlograms is also done in two runs with the same search as for the indicator for the first run (25,100 blocks) and a 150x150x50m ellipsoid for the second run (remaining 41,341 blocks). Kriged grade of the 66,461 mineralized blocks ranges from 0.86 to 21.47 g/t with a mean of 4.82 g/t (Figure 9).

Like with any block model, estimated resources can be given at any cut-off by just applying that cut-off to the block kriged grade. Lowest cut-off is 0.5 g/t with total resources of 1.49Mt @4.82g/t i.e. 230koz (assuming a fixed density of 2.8t/m3). At a 2.0g/t cut-off, total resources are 1.29Mt @5.30g/t i.e.219koz.

Given that most of the identified mineralized zones of Timmins West below level 650 are planar structures fully intersected by drill holes, the most logical way of classifying their resources should be based on the density of intercepts or the average spacing between intercepts.

A standard way to look at intercepts is on long sections with a projection of the mid-point of supposedly complete intercepts as well as the interpreted solid itself (Figure 10). Assuming that indicated resources need a 30m grid of intercepts, then portions of the zone recognized by such a grid of intercepts would be defined by joint polygons (or circles) of influence with a radius of 30x0.707 = 22m around intercepts. Hence a tentative indicated resource limit is drawn around those joint polygons (in blue on Figure 10).

Similarly, if we assume that a 15m grid of intercepts is sufficient to delineate measured resources, then a tentative limit for those measured resources can be drawn around joint polygons with a radius of 11m (in green on Figure 11). By simply cookie-cutting the mineralized resource blocks with those E-W vertical outlines, we get resource estimates at any cut-off in the different categories. Hence, at the 2g/tAu cut-off, we have: (1) 97kt measured @ 6.73 g/t (21koz) (2) 879kt indicated @ 5.40 g/t (153koz) (3) 312kt inferred @4.57 g/t (46koz).

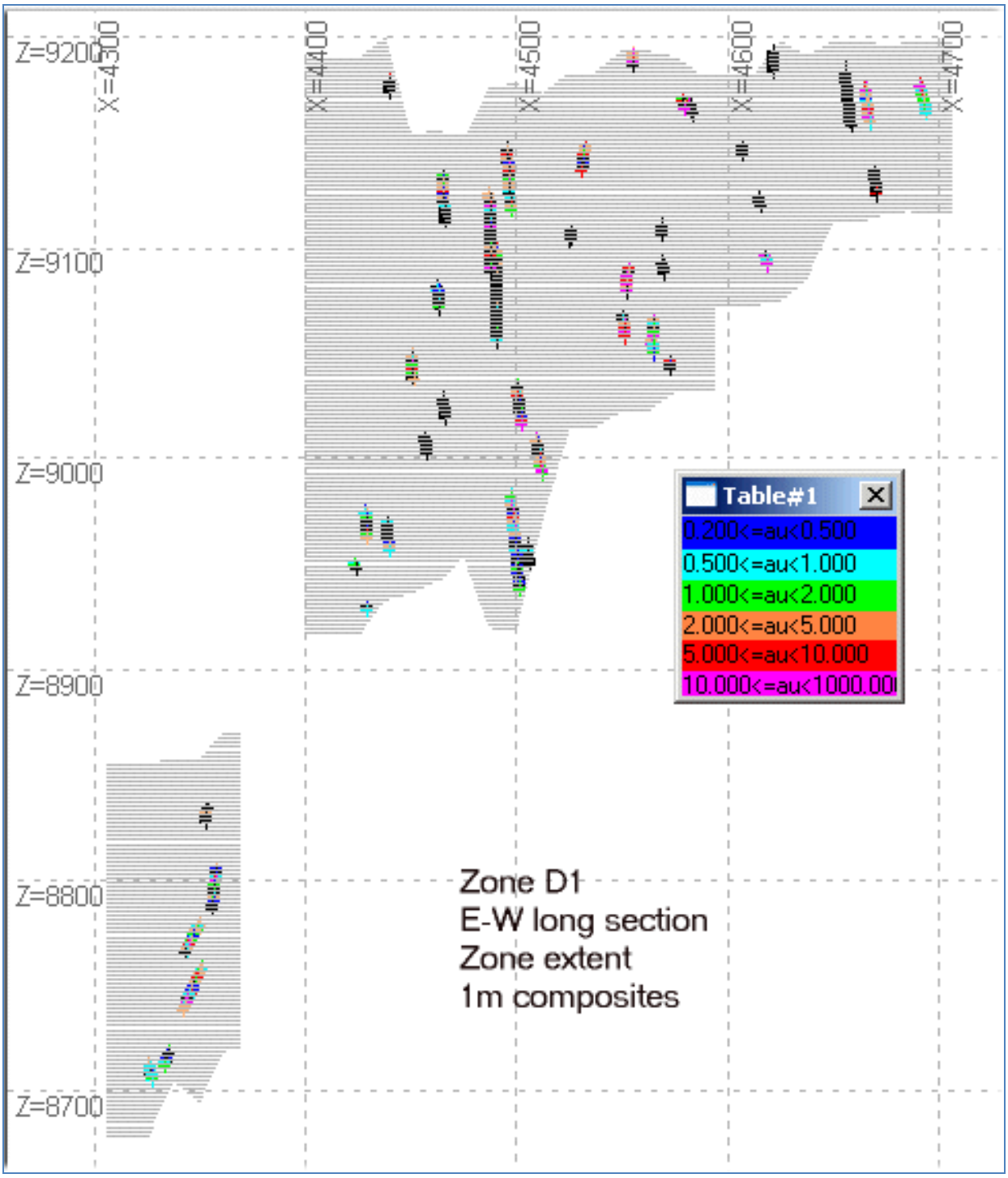


Figure 16 Zone D1 – EW long section – Block extent + 1m composites

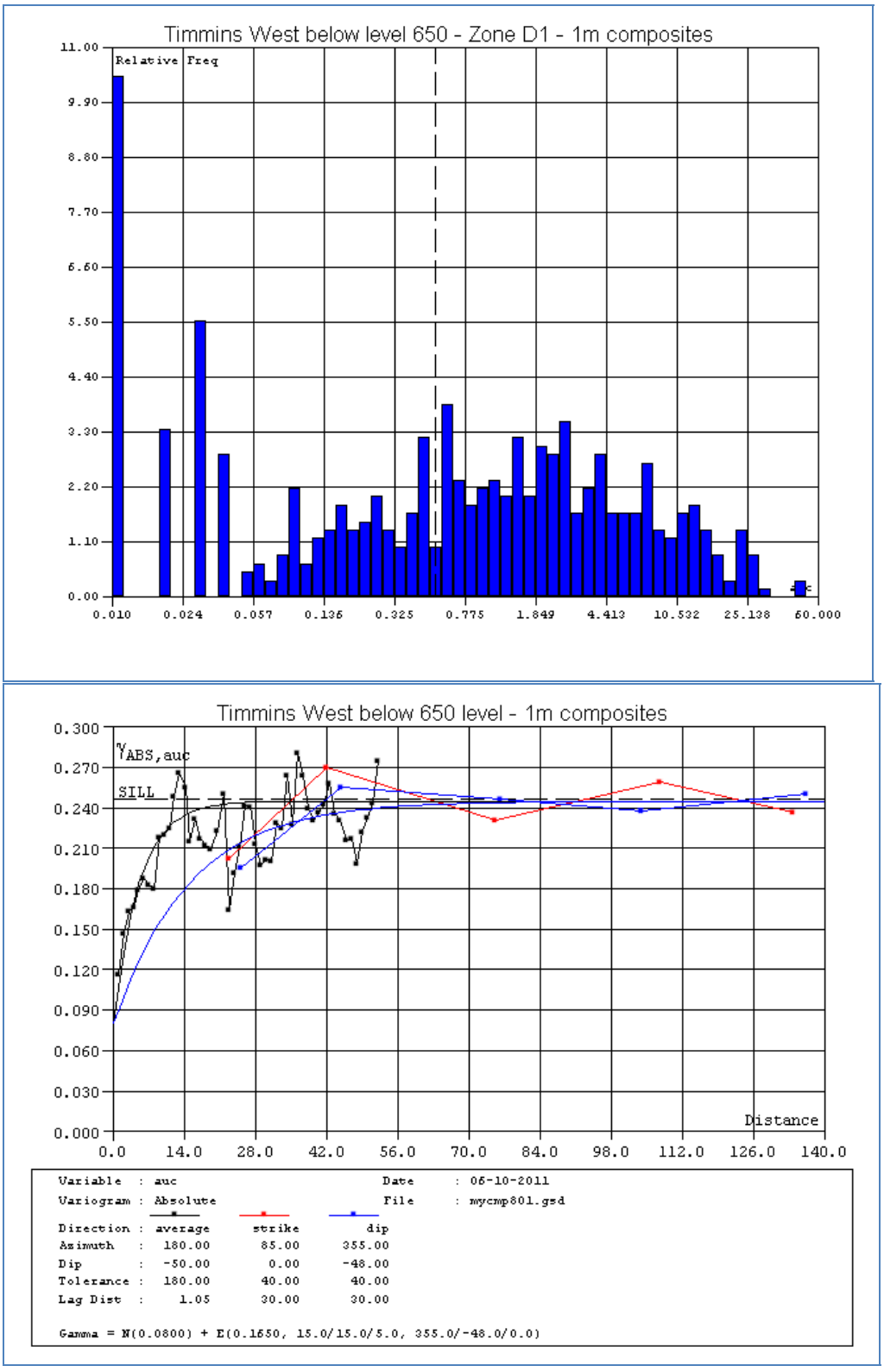


Figure 17 Histogram and indicator (0.5g/t cut-off) variograms of 1m composites in D1

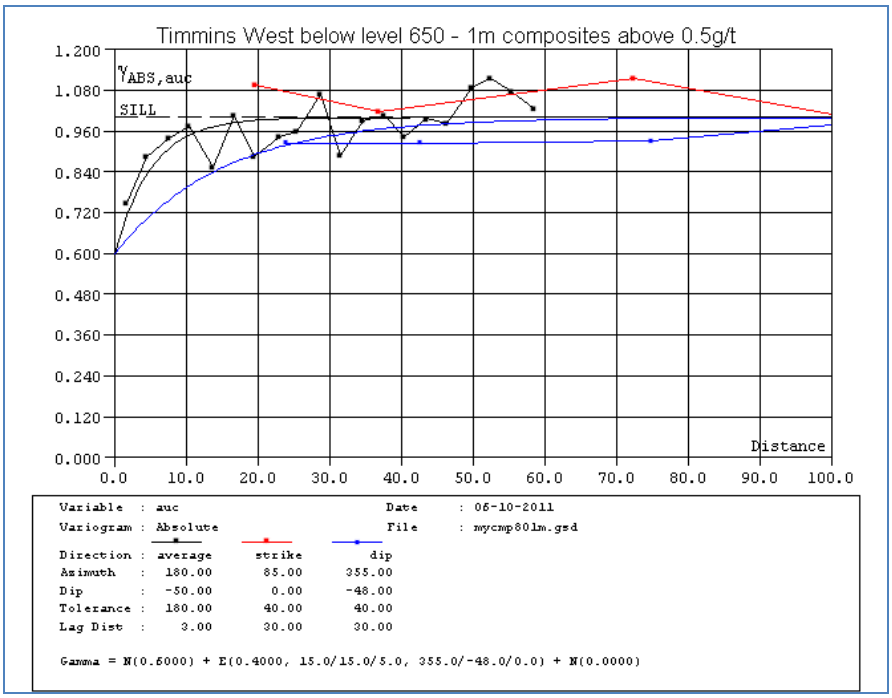


Figure 18 Grade correlograms of 1m composites above 0.5g/t in D1

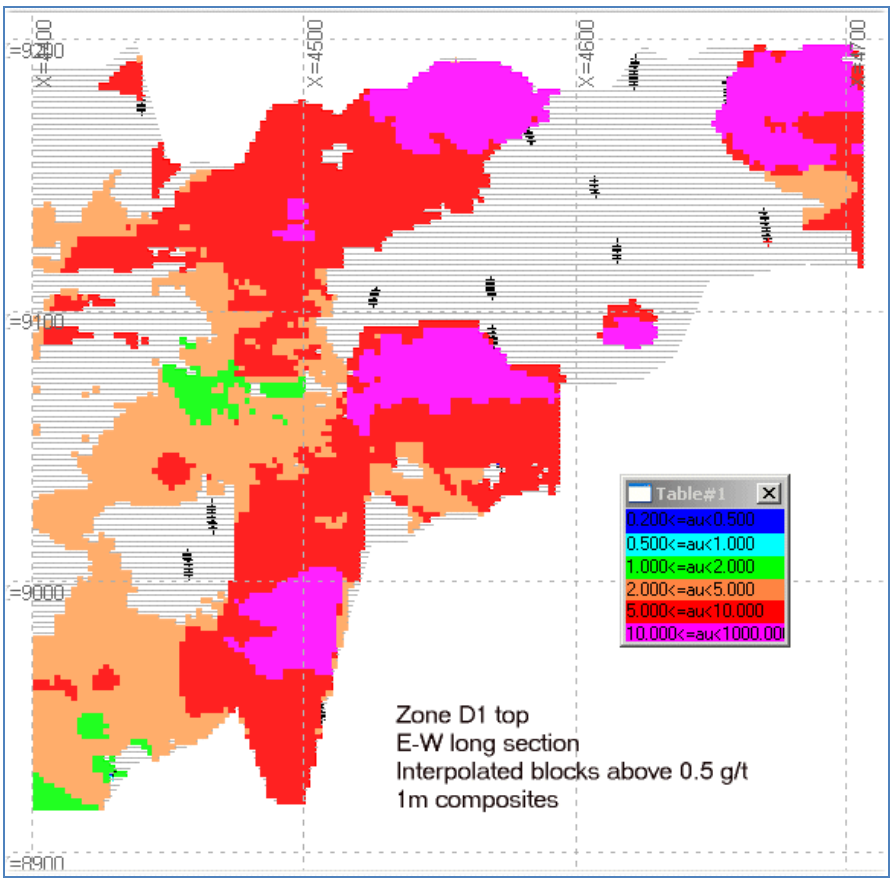


Figure 19 Blocks above 0.5g/t with interpolated grade in top part of D1

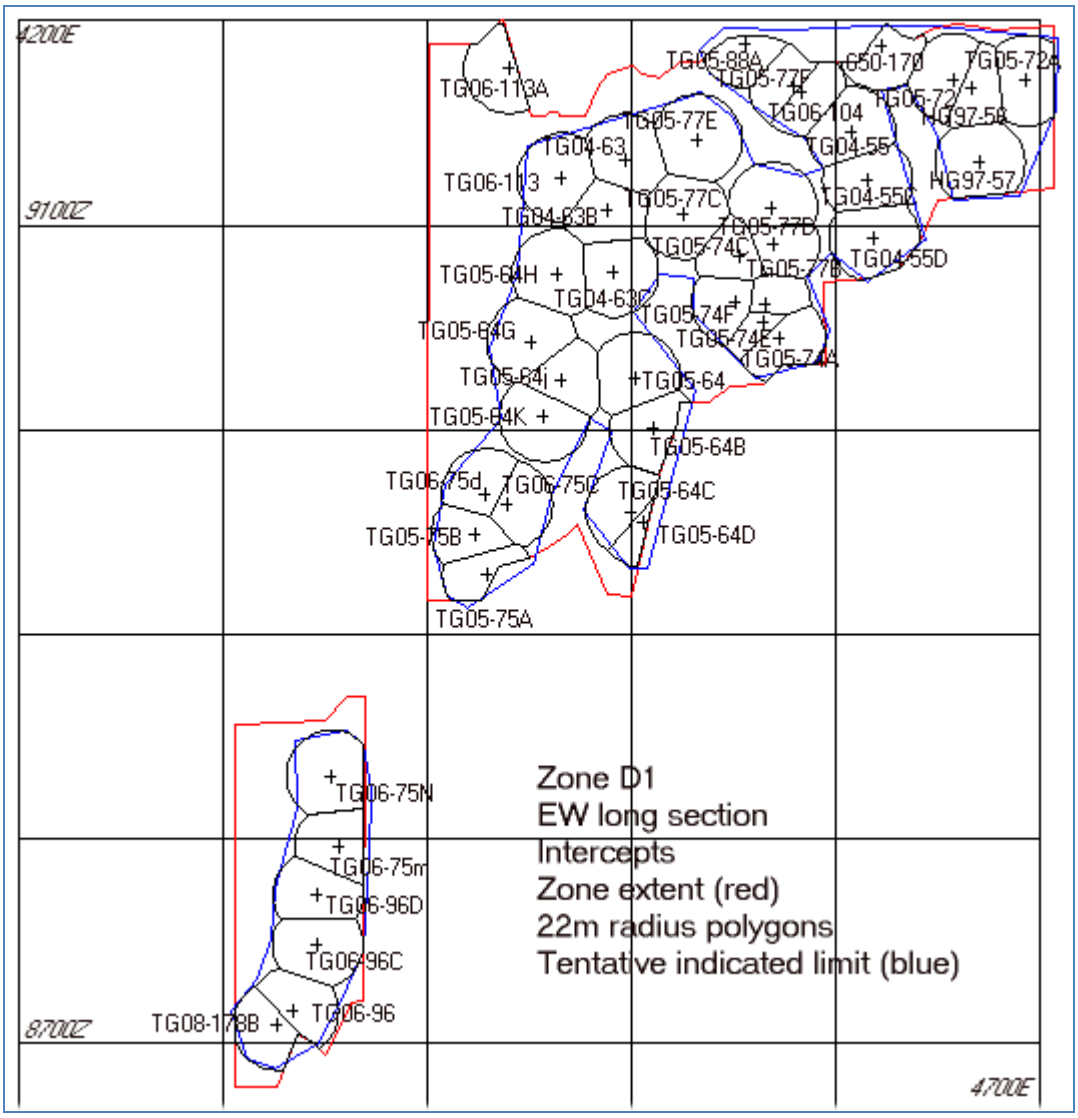


Figure 20 Long section of D1 zone with "indicated" polygons around intercepts

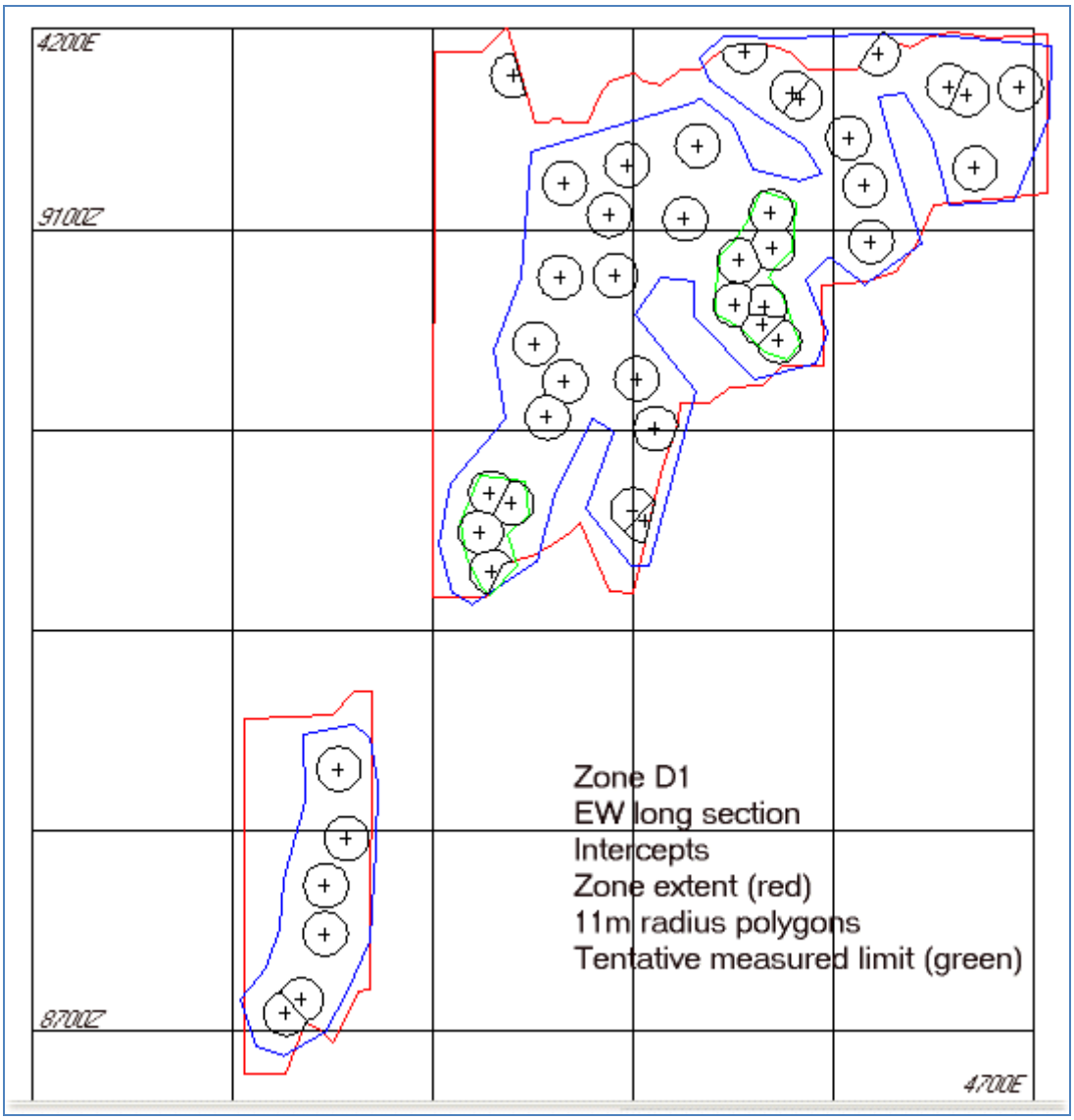


Figure 21 Long section of D1 zone with "measured" polygons around intercepts

1-7 Checking mineralized zone limits with polygons of influence on long sections

Besides helping delineate resources in various categories, polygons of influence around mineralized intercepts on long section can also help delineating the extents of mineralized zone themselves i.e. of the solid interpreted for each zone. The idea is to also project on the long section dummy intercepts of low thickness and zero grade in surrounding holes not intersecting the zone but defined at the location where those holes should have intersected the zone. The limit of the mineralized zone on the long section should go halfway between those dummy intercepts outside the zone and the last mineralized intercepts inside the zone.

Figure 12 illustrates that exercise in the case of the D1 zone. Polygons of influence with a 30m maximum radius are drawn around the 44 mineralized intercepts (in red) as well as 15 dummy intercepts around (in black). The current limits of the solid describing the zone are in red. All the mineralized intercepts are within that limit. An alternative limit for the zone is drawn (in blue) following the contact between polygons around mineralized intercepts and polygons around dummy intercepts. In a few places, that alternative limit is more conservative than the limit around the projected solid. Obviously, it is difficult to take into account a projected limit on the long section when delineating the sectional ring of the mineralized solid. However, the alternative limit could be use to further cookie-cut the blocks of the resource model in the same way that it is done with measured and indicated resource limits drawn on the long section.

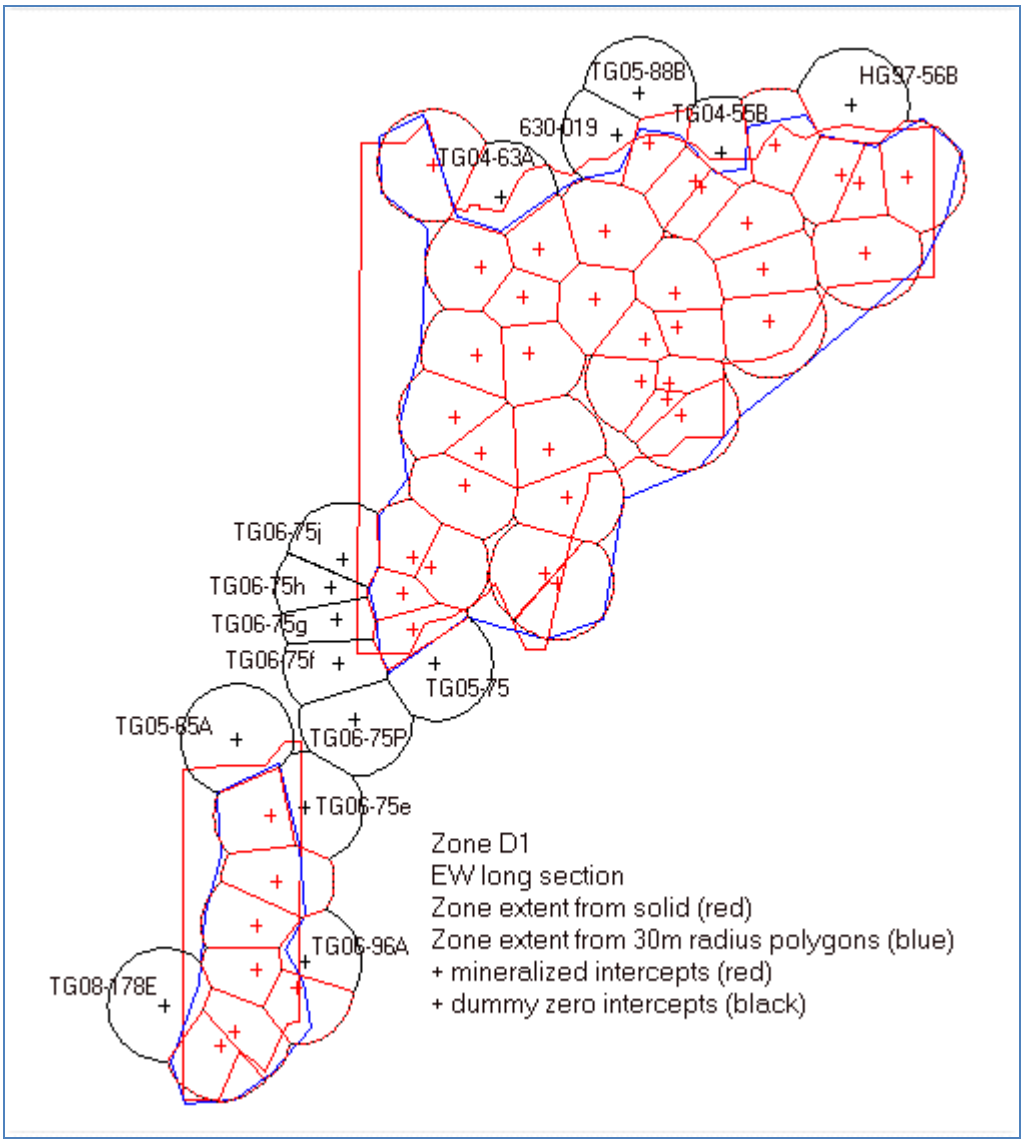


Figure 22 Long section of D1 zone with an alternative zone outside limits around polygons

2- February 2012 final model

2-1 Drill hole data

A new version of the drill hole database for Timmins West mine was received on Feb. 3, 2012. It has collar coordinates, orientation at collar, depth, deviation data, assay and litho intervals data for up to 1427 drill holes. We had missing surveys at collar for hole 80-034 (we guessed an azimuth of 20 and a dip of +10) and hole TG06-96F (we guessed an azimuth of 250.1 and a dip of -77.17 like for the other wedges of TG06-96).

Most of the 103 new holes are from the xxx-yyy series of UG holes with xxx (from 80 to 730) referring to a level depth in meters (99 holes totalling 15509m) and the balance in 4 deep surface holes (M-10-04 to M-10-05B) totalling 8898m? (actually those new deep holes are not involved in the deep Timmins West resources).

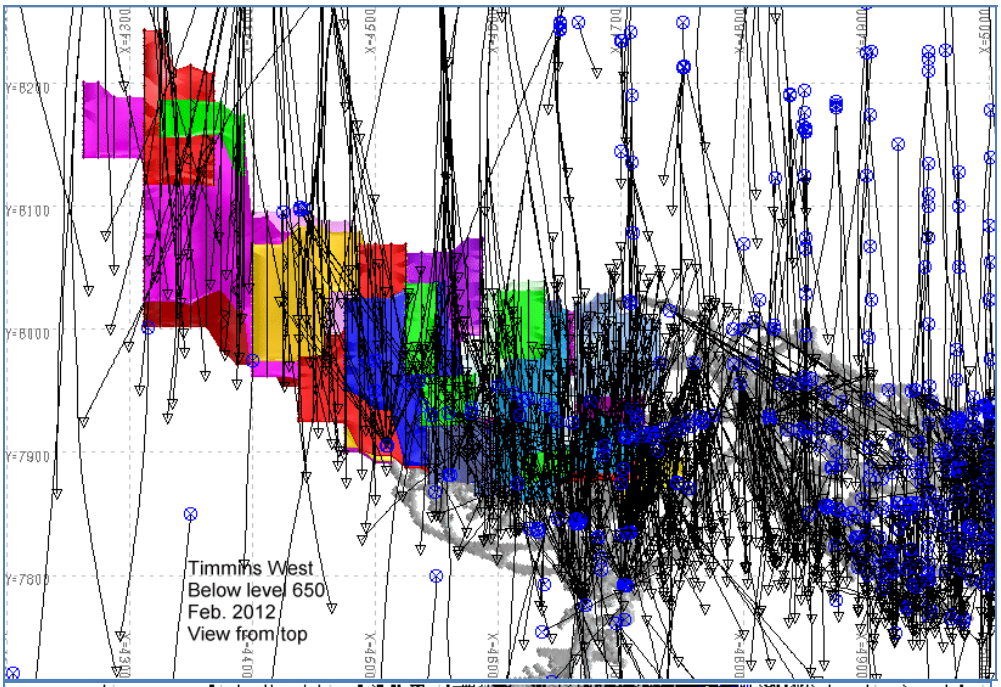
We have 112,249 assay intervals along those holes i.e. 8862 more than before. After correcting a negative length in 540-011 with from=7.5 and to =0 replaced by to=8.5, assay length varies from a mere 0.01m to 10.05m plus, like before, two very long intervals of low values : 21m with Au=0 in TG08-158 and 73m with Au=0.123 g/t in 525-035. Like before, a majority of intervals (35%) are 1m long with significant groups of 0.5m intervals (16%) and 1.5m intervals (12%). Gold assay values are mostly FA with AA finish for low grades or FA with gravimetry finish or PM (metallic screen?) for high grades. Final values range from 0 (which includes 95 intervals coded as NULL) to 1340g/t (a 0.85m interval in TG03-04) with an uncapped weighted average of 0.74 g/t.

2-2 Mineralized zones

We now have 22 different mineralized zones which have been interpreted in the bottom part (below level 650) of the Timmins West mine. This is 6 more than before mostly as a result of splitting relatively thick but low grade zones like D1 into several thin but higher grade zones (D1A+B+C+D). As a result the total mineralized volume is less than half what it was before. We still have up to 9 UM zones at the top (1B, 2A+B, 3, 4,5+A+B+C) and up to 9 D zones at the bottom (D1+A+B+C+D,2+A,3,4) as well as 4 FW zones in between (FW1+A,2,3).

Those zones are generally dipping from 30° to 60° to N. They look like en-echelon structures within a pipe-like trend plunging steeply to the WNW (Figure 13). They extend from 4260E to 4760E and from Z=9367 (bottom of openings on level 650) down. Their outline has been interpreted on N-S sections at 12.5m intervals (down to 6.25m intervals in a few places). They have been made available to us in DXF format.

On a few sections, we noticed mineralized intercepts in holes but with no solid around (Table 5). Later on those intercepts generate 1m composites but with no blocks around to estimate. It looks like a deliberate choice in small zones FW1A, FW3 and D4 but more like some kind of accidental omission in zones D1C and UM4. In that last case, the two intercepts with no modelled mineralization around are rather thick and good grade.



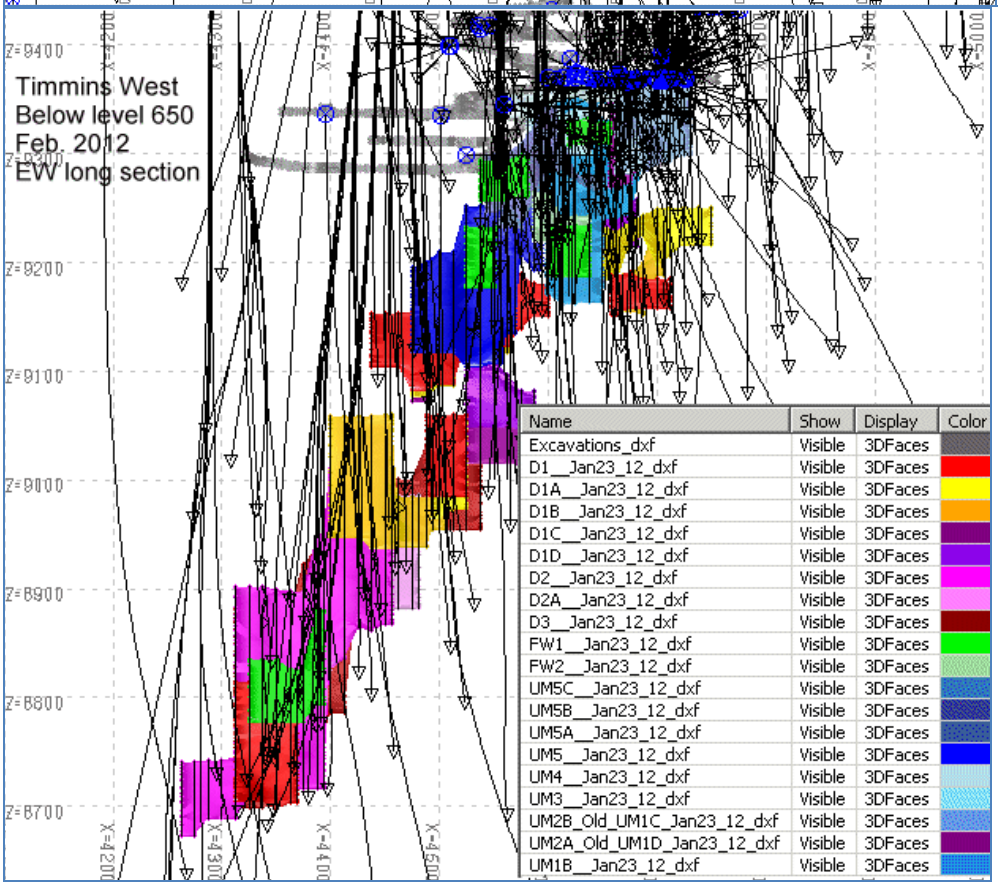


Figure 23 Views of DHs and interpreted mineralized zones below level 650

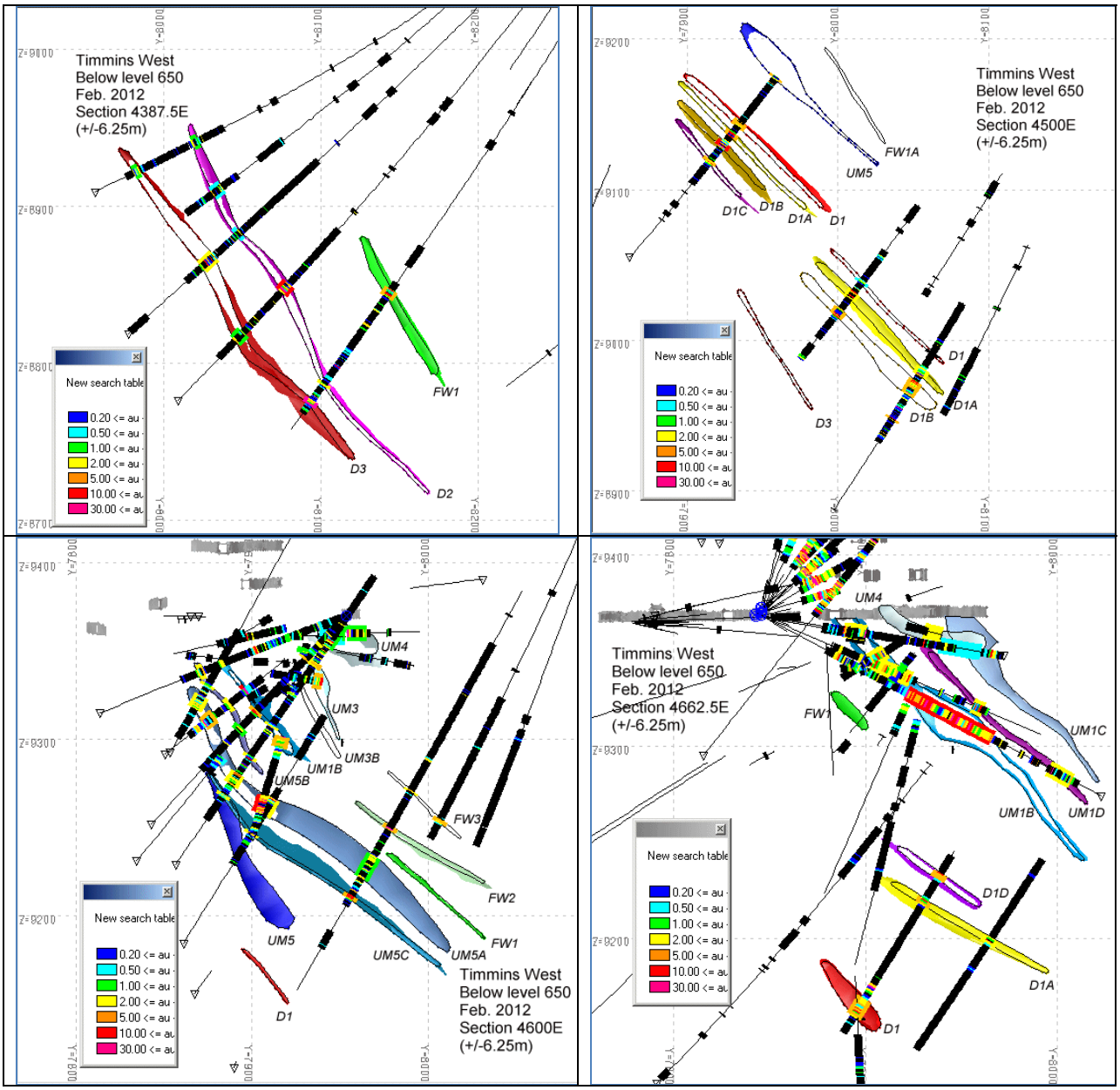


Figure 24 N-S sections through mineralized zones below level 650

Hole	Section	From	To	Length (m)	g/tAu	Zone	Zone
TG04-63C	4489E	954.5	957	2.5	3.42	FW1A	411
TG04-63B	4485E	937.5	939.75	2.25	3.79	FW1A	411
TG05-64C	4500E	1187.9	1189.4	1.5	7.35	D1C	813
TG05-74F	4553E	1119.80	1122.4	2.6	3.66	D4	804
TG05-74B	4565E	1119.15	1120	0.85	2.28	D4	804
TG05-74E	4571E	1125.2	1126.2	1	6.36	D4	804
TG05-77B	4573E	1058.9	1060.4	1.5	32.41	D4	804
TG04-55	4599E	823.45	824.9	1.45	3.26	FW3	403
TG04-55C	4605E	831	833.5	2.5	5.80	FW3	403
TG97-50b	4713E	746.3	751.6	5.3	7.41	UM4	604
TG97-50a	4719E	743.4	747.4	4	6.13	UM4	604

Table 11 Intercepts with composites but with no solid hence blocks around

2-3 Assay intervals in mineralized intercepts and capping

We have 3996 assay intervals within the from-to depth limits of the 354 mineralized intercepts in drill holes i.e. less than half the number of assay intervals that we had before. Gold values of those assay intervals range from 0 to 369 g/t with a length-weighted average of 5.02 g/t vs. 3.36 g/t before.

Like before, the capping of high gold assay values is performed on the GT product of length by grade to account for the variety of interval length of high grade samples (from 0.4 to 1.5m). The top of Figure 15 shows the histogram (with a log scale hence excluding zero grade intervals) of those GT products for all assay intervals in the mineralized zones. There is still a noticeable group of very low grade intervals (around 0.01 g/t) within the more restrictive mineralized intercepts but it is much less significant than before.

The bottom of Figure 15 shows the high end of the cumulative frequency plot of the same GT products, still with a log scale. It continues to show a kick upward, hence a natural gap in the high end of the GT products distribution, at about 70 m.g/t which is our proposed capping limit (70 g/t over 1m or 140 g/t over 0.5m). That capping touches 11 intervals with a length weighted average grade of capped data of 4.78 g/t i.e. 4.7% less than the uncapped average of 5.02 g/t and very similar to the gold loss that we had before.

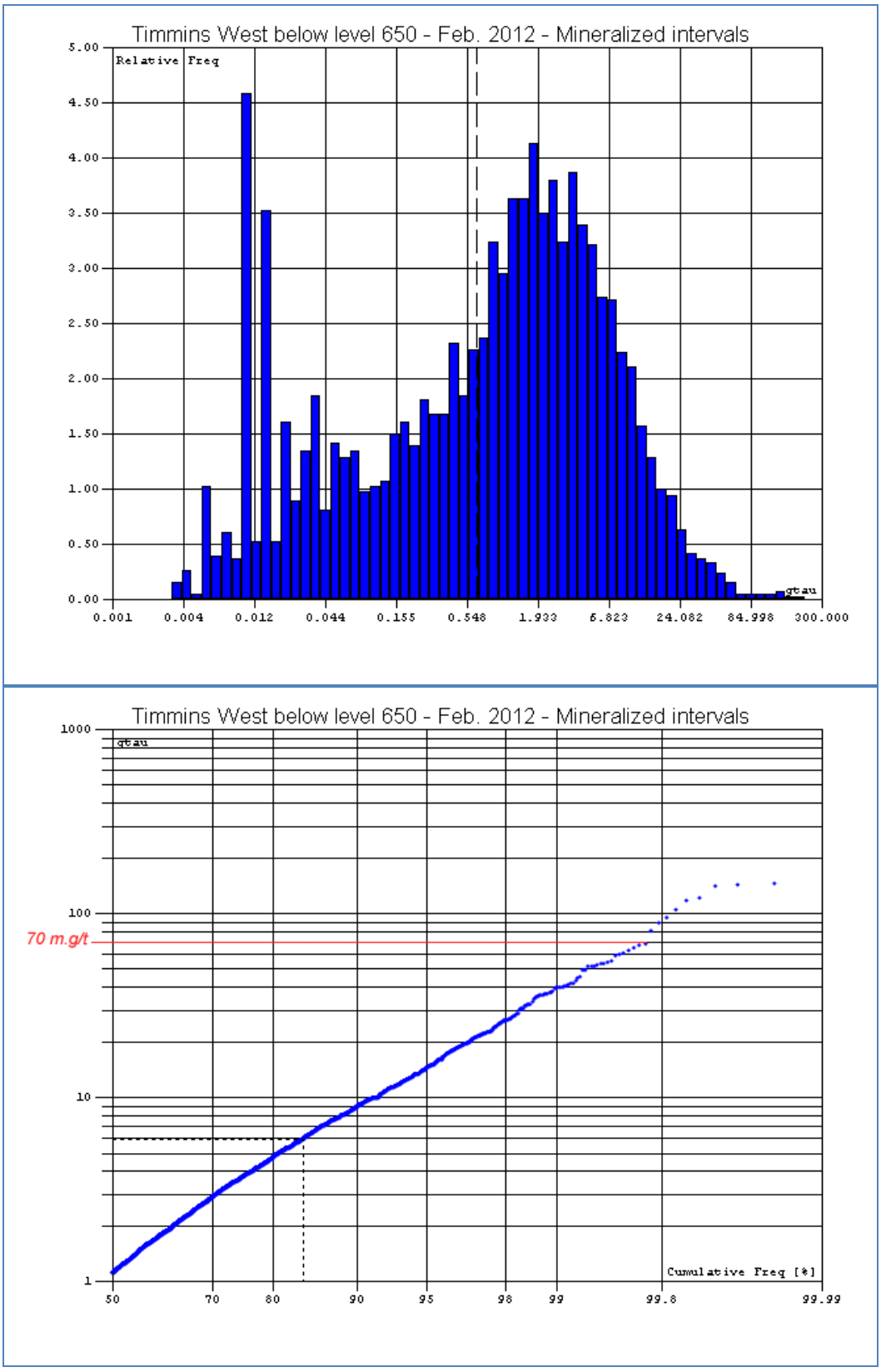


Figure 25 Histogram and cumulative frequency plot of GTs of all mineralized intervals

2-4 Composites

Like before, block grade interpolation in the various mineralized zones is done from the capped assay intervals in the same zone composited over 1m intervals to account for the variable length of those original assay intervals. Up to 2902 composites with a documented length of at least 0.5m can be produced with a capped grade from 0 to 70 g/t and averaging 4.60 g/t. We checked that we would produce exactly the same composites with the same grades within the 354 mineralized intercepts of interpreted zones with holes.

2-5 Resource block model

LSG new resource block model for the bottom part (below level 650) of the Timmins West mine is made of 248,526 (more than twice that number before) full or partial blocks 2x2x2m within limits of the 22 interpreted mineralized zones.

The interpolation of block grades from the grade of 1m composites in the same zone around the block is done by inverse distance to the cube in up to 5 runs with the following search conditions:
Run 1 : 15x15x8m ellipsoid dipping from 30° to 60° to N355 – Minimum of 3 composites – Maximum of 10 composites overall and 2 composites by hole – 16% of blocks are interpolated in this run.
Run 2 : 30x30x15m ellipsoid dipping 30° to 60° to N355 – Minimum of 3 composites – Maximum of 10 composites overall and 2 composites by hole – 33% of blocks are interpolated in this run.
Run 3 : 60x60x30m ellipsoid dipping 30° to 60° to N355 – Minimum of 3 composites – Maximum of 10 composites overall and 2 composites by hole – 48% of blocks are interpolated in this run.
Run 4 : 60x60x30m ellipsoid dipping 30° to 60° to N355 – Minimum of 2 composites – Maximum of 10 composites overall and 2 composites by hole – 3% of blocks are interpolated in this run.
Run 5 : 120x120x60m ellipsoid dipping 30° to 60° to N355 – Minimum of 2 composites – Maximum of 10 composites overall and 2 composites by hole – less than 1% of blocks are interpolated in this run.
The dip to north angle of the search ellipsoid is 30° in zone UM4, 40° in D1D and FW2, 60° in UM3 and D3 and 48° in all the other zones. Those search conditions look reasonable.

Mean block grade estimates are compared to mean composite grades in the same zone on Table 6. It should be noted that no block modelling has been done in three small zones with less than 8 composites (FW3, FW1A and D4). If composites were distributed on a regular grid within the zone, the two means (estimated block grade and composite grade) should be close. This is indeed the case for a majority of zones (i.e. FW2, UM3, UM2B, D1, D2, D3, D1C, UM1B, UM5B and UM5C). The few cases where the mean block grade estimate is clearly above the mean composite grade (FW1, UM4, UM5, UM2A and D1D) are somewhat balanced by the few cases where the mean block grade is clearly below the mean composite grade (D1A, D1B, D2A and UM5A).
The large difference between overall mean composite capped grade of 4.60 g/t and mean block grade estimate of 5.52 g/t is easily explained by the very different spatial density of composites in zones i.e. we have up to 972 composites averaging a relatively low 4.47 g/t in zone UM1B with a total volume of just about 102,000m3 but just 65 composites averaging a relatively high 6.39 g/t in zone D1B with about the same volume (90,000m3).

2-6 Resource classification

Material in each of the estimated 248,526 blocks has been classified as either indicated or inferred. The last column of Table 6 indicates the volumetric proportion of indicated material in each of the 22 zones. It

varies from 0% (zones FW2, D1B, D1C) to 100% (zones UM3, UM4, UM2A, UM2B, D2A, UM1B and UM5B) with an average of 57%.

It can be verified that 90% of the blocks interpolated in the first run and close to 70% of the blocks interpolated in the second run are classified as indicated while more than 60% of the blocks interpolated in the third run are in the inferred category.

The proportion of indicated material in each zone is compared to an indicator of sample data density in Table 6. This indicator (column *Dinfl* in Table 6) is derived as the squared root of the ratio of mineralized volume in the zone to number of composites available in the same zone. The ratio is the average volume of influence of a composite and, since composites are 1m long, its squared root is the length of the side of the polygon of influence of a composite assuming that this polygon of influence is a square. For example, in zone FW1, the mineralized volume of 37,887m3 is documented by 82 composites hence a 37887/82 = 462m i.e. a 21.5x21.5x1m prism of influence. If composite were from holes on a perfectly regular grid, this calculated length would be the spacing between holes. It varies from 10m (zones UM2A, UM4 and UM1B with a large number of composites for a relatively small mineralized volume) to 42m (zones D2A and D3 with few composites to document a relatively large mineralized volume) with an average of 22m. There is generally a good agreement between *Dinfl* and the proportion of indicated material in the same zone i.e. zones UM3, UM4, UM2A, UM2B, UM1B and UM5B with 100% indicated material are all with a *Dinfl* less than 20m (from 9.9m to 18.2m). The exception is zone D2A which is also all classified as indicated but with a large *Dinfl* of 42m. Figure 16 shows an alternative classification of blocks in that zone with indicated restricted to the central area with composites and inferred on the sides, somewhat similar to the classification of blocks in zone D2 (also shown).

Zone	Zone	#comp.	MeanAu	MeanAuC	#blocks	Volume	Density	Tonnage	MeanAu	MeanAuC	OzAuC	Dinfl.	Ind.
			(g/t)	(g/t)		(m3)		(t)	(g/t)	(g/t)	(oz)	(m)	%
FW1	401	82	4.97	4.97	8788	37,887	2.81	106,462	7.43	7.43	25,434	21.5	32.7
FW2	402	9	5.72	5.72	2071	8,796	2.81	24,716	5.66	5.66	4,498	31.3	0
FW3	403	4	5.34	5.34	0	0	0	0	0	0	0	0.0	
FW1A	411	5	3.46	3.46	0	0	0	0	0	0	0	0.0	
UM3	603	30	4.40	4.40	1805	7,646	2.92	22,328	4.61	4.61	3,310	16.0	100
UM4	604	443	3.41	3.41	6906	44,018	2.92	128,531	4.80	4.80	19,838	10.0	100
UM5	605	138	5.20	5.20	22413	133,820	2.92	390,754	6.10	6.10	76,643	31.1	40.2
UM2A	621	229	2.70	2.70	4319	22,349	2.81	62,800	3.41	3.41	6,886	9.9	100
UM2B	622	149	4.23	4.23	7252	38,896	2.81	109,297	4.48	4.48	15,744	16.2	100
D1	801	161	5.40	4.95	37550	228,103	2.92	666,062	5.59	4.72	101,087	37.6	41.2
D2	802	105	7.16	6.04	33058	173,872	2.92	507,705	6.70	6.13	100,072	40.7	58.6
D3	803	85	6.27	4.68	29282	148,943	2.92	434,914	6.19	4.64	64,887	41.9	49.6
D4	804	7	14.77	14.77	0	0	0	0	0	0	0	0.0	
D1A	811	68	9.76	6.82	12795	66,093	2.92	192,992	8.59	6.31	39,157	31.2	44.2
D1B	812	65	6.39	6.39	17589	89,555	2.92	261,500	5.23	5.23	43,976	37.1	0
D1C	813	8	7.69	7.69	3645	13,361	2.92	39,015	7.91	7.91	9,923	40.9	0
D1D	814	72	7.36	7.36	12861	79,416	2.92	231,896	8.19	8.19	61,068	33.2	86.3
D2A	821	28	7.70	6.34	9351	50,069	2.92	146,200	6.61	5.95	27,971	42.3	100
UM1B	6012	972	4.58	4.47	17333	102,114	2.92	298,173	4.78	4.68	44,870	10.2	100
UM5A	6051	163	5.40	4.98	12204	69,194	2.92	202,045	4.43	4.23	27,481	20.6	60.8
UM5B	6052	41	5.16	5.16	3224	13,633	2.92	39,808	5.16	5.16	6,605	18.2	100
UM5C	6053	38	7.67	7.67	6080	28,622	2.92	83,576	7.79	7.79	20,934	27.4	65.9
All		2902	4.85	4.60	248,526	1,356,387	2.91	3,948,774	6.06	5.52	700,384	21.6	57

Table 12 Statistics of composite and estimated block grades in the various zones of Timmins West (below level 650)

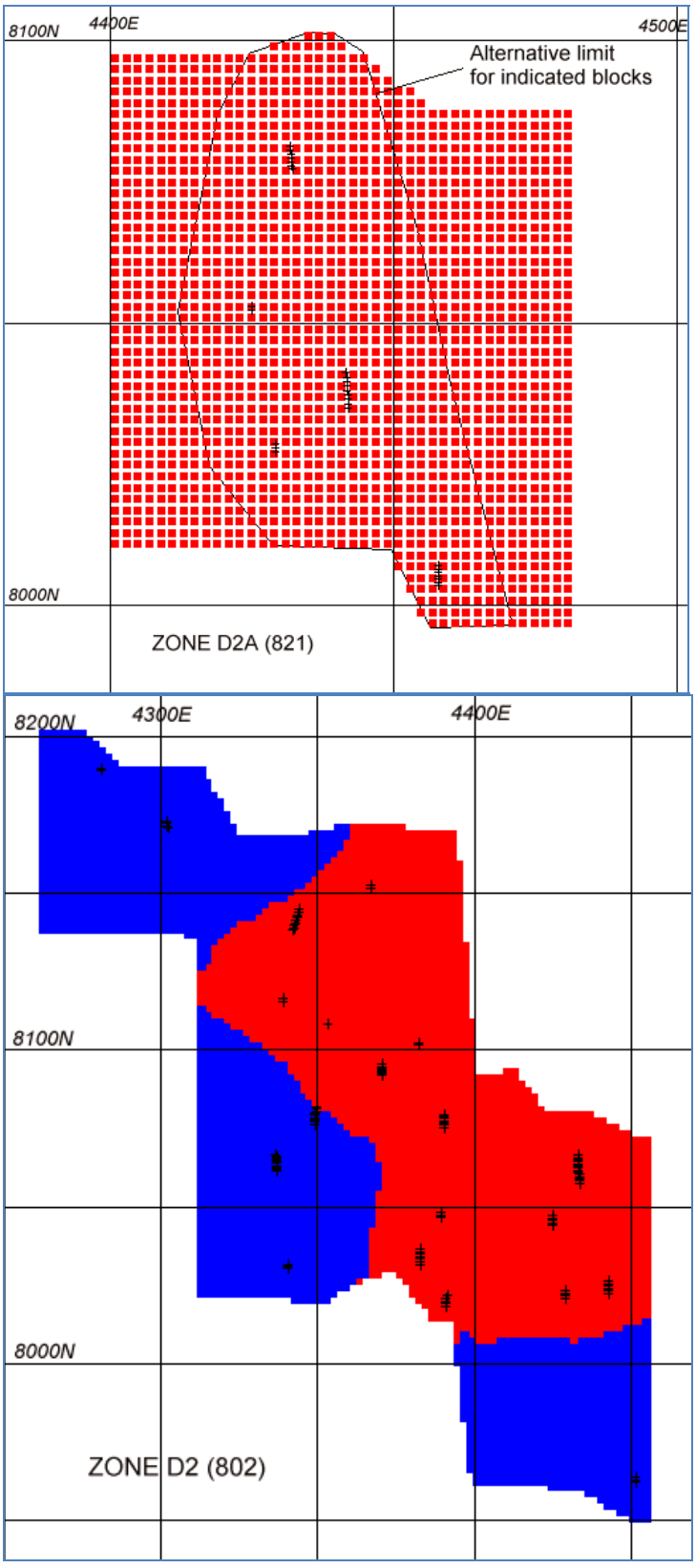


Figure 26 Plan views of classified blocks and composites in zones D2A and D2

3- Statistical analysis of QAQC assay data for Timmins West

What follows is a statistical analysis of QAQC data for gold assays in Timmins West drill holes by LSG in 2009-2011. Those data are in file *Master_List_QAQC_43-101_Timmins_West.xlsx*, made available to us on March 08, 2012.

3-1 Standards

From April 2009 (hole TG-08-175) to late January 2012 (hole 480-018), up to 2022 standard pulps have been submitted (and results have been returned) to four laboratories i.e.: 197 at Accurassay Laboratories, 987 at ALS Canada Ltd., 689 at Bell Creek lab (in house) and 149 at Cattarello Assayers Inc. Summary statistics of standard results are on Tables 7 to 10. Up to 26 standards have been used by LSG. In addition to the target value, standard deviation (StDev) and corresponding "gates" of target +/- 3 standard deviations (Min and Max), the table lists :
+ the number of results for the standard (Nb)
+ the mean result (Average)
+ the % relative difference between the mean result and the target (%Diff.)
+ a flag to indicate if the difference between the mean result and the target is significant at the 95% confidence level given the quoted standard deviation and the number of results (Sig. = 1 if significant). The difference is significant if its absolute value exceeds $2*StDev/Nb^{0.5}$
+ the percentage of results below and above the target (PBelow and PAbove)
+ the percentage of results outside the Min/Max "gates" of Target+/- 3*StDev.

It should be noted that :
+reported standard deviations and gates for some of the standards have been standardized to reflect a standard deviation to target ratio of about 2-4% and gates equal to the target plus or minus 3 standard deviations
+ some odd results are not reported and used in the statistical compilation. By odd results, we mean a result which is an order of magnitude different from the target value. For example, Accurassay returned twice a 0.0025 g/t for the O-65a standard with a target value of 0.52 g/t. Those odd results likely originate from transcription errors (or the lab wrongly guessing the value of the standard). We have 3 of those odd results for Accurassay returns, 16 for ALS returns, 8 for Bell Creek and 2 for Cattarello i.e. about the same proportion for all the labs (between 1.2 % and 1.6%)

In all three cases, there is no specific trend for the sign of difference between average result and target value i.e. we have negative and positive differences for low grade and high grade standards.

In terms of accuracy, ALS looks the best with an overall average relative difference between target and return of -0.3% and about the same 50-50% proportion of returns below and above target (52% and 48%). Both Accurassay and Cattarello are on the low side (resp. -1.4% and -2.5% overall average relative differences and both with 56% of returns below target) while Bell Creek is on the high side (+1.4% overall average relative difference and only 35% of returns below target).

In terms of precision, Bell Creek , Cattarello and ALS have a similar performance (percentage of return beyond gate limits from 5% to 7%) while Accurassay is not as good (percentage of 14%).
All together, the performance of the four labs is acceptable although some improvement could be achieved in the reduction of odd returns for the standards. Also the tendency of Bell Creek lab to have returns 1% above target on average would have to be monitored and corrected.

Standar	Target	StdDev	Min	Max	Nb	Average	%Diff.	Sig.	PBelow	PAbove	POutside
	g/tAu	g/tAu	g/tAu	g/tAu		g/tAu	%		%	%	%
O-10c	6.660	0.183	6.110	7.080	0						
O-10Pb	7.150	0.193	6.570	7.730	0						
O-15h	1.019	0.025	0.945	1.093	36	0.990	-2.8%	1	86.1%	13.9%	5.6%
O-15Pa	1.020	0.027	0.940	1.100	0						
O-15Pb	1.060	0.030	0.970	1.140	1	1.176	10.9%	1	0.0%	100.0%	100.0%
O-17c	3.04	0.083	2.790	3.290	71	3.007	-1.1%	1	56.3%	43.7%	18.3%
O-18c	3.52	0.107	3.200	3.840	0						
O-18Pb	3.630	0.070	3.420	3.840	0						
O-19a	5.490	0.100	5.190	5.790	1	5.621	2.4%	0	0.0%	100.0%	0.0%
O-2Pd	0.885	0.029	0.797	0.973	0						
O-4Pb	0.049	0.002	0.042	0.056	0						
O-50Pb	0.841	0.032	0.746	0.936	0						
O-52Pb	0.307	0.017	0.255	0.359	0						
O-53Pb	0.623	0.021	0.559	0.687	0						
O-54Pa	2.900	0.110	2.570	3.230	0						
O-60b	2.570	0.107	2.250	2.890	0						
O-60P	2.610	0.070	2.400	2.800	0						
O-61d	4.760	0.143	4.330	5.190	9	5.195	9.1%	1	22.2%	77.8%	44.4%
O-62c	8.790	0.213	8.150	9.420	15	8.274	-5.9%	1	76.7%	23.3%	46.7%
O-62d	10.500	0.330	9.510	11.490	0						
O-62Pb	11.330	0.353	10.270	12.390	0						
O-65a	0.520	0.017	0.469	0.571	61	0.513	-1.4%	1	41.0%	59.0%	1.6%
O-66a	1.237	0.054	1.075	1.399	0						
O-67a	2.238	0.096	1.950	2.526	0						
O-6Pc	1.520	0.067	1.320	1.720	0						
O-7Pb	2.770	0.053	2.610	2.930	0						
All	**2.399**				**194**	**2.361**	**-1.3%**		**56.4%**	**43.6%**	**14.4%**

Table 13 Statistics of results for standard pulps with LSG samples to Accurassay (2009-2011)

Standar	Target	StdDev	Min	Max	Nb	Average	%Diff.	Sig.	PBelow	PAbove	POutside
	g/tAu	g/tAu	g/tAu	g/tAu		g/tAu	%		%	%	%
O-10c	6.660	0.183	6.110	7.080	1	6.370	-4.4%	0	100.0%	0.0%	0.0%
O-10Pb	7.150	0.193	6.570	7.730	118	7.164	0.2%	0	43.6%	56.4%	10.2%
O-15h	1.019	0.025	0.945	1.093	0						
O-15Pa	1.020	0.027	0.940	1.100	123	1.000	-1.9%	1	70.7%	29.3%	6.5%
O-15Pb	1.060	0.030	0.970	1.140	132	1.067	0.6%	1	45.8%	54.2%	12.1%
O-17c	3.04	0.083	2.790	3.290	4	3.095	1.8%	0	50.0%	50.0%	25.0%
O-18c	3.52	0.107	3.200	3.840	4	3.728	5.9%	1	0.0%	100.0%	0.0%
O-18Pb	3.630	0.070	3.420	3.840	75	3.555	-2.1%	1	64.7%	35.3%	10.7%
O-19a	5.490	0.100	5.190	5.790	0						
O-2Pd	0.885	0.029	0.797	0.973	10	0.837	-5.5%	1	100.0%	0.0%	10.0%
O-4Pb	0.049	0.002	0.042	0.056	12	0.049	-1.0%	0	58.3%	41.7%	0.0%
O-50Pb	0.841	0.032	0.746	0.936	40	0.841	0.0%	0	47.5%	52.5%	5.0%
O-52Pb	0.307	0.017	0.255	0.359	9	0.316	3.0%	0	0.0%	100.0%	0.0%
O-53Pb	0.623	0.021	0.559	0.687	2	0.618	-0.9%	0	50.0%	50.0%	0.0%
O-54Pa	2.900	0.110	2.570	3.230	2	2.885	-0.5%	0	50.0%	50.0%	0.0%
O-60b	2.570	0.107	2.250	2.890	138	2.564	-0.2%	0	54.7%	45.3%	2.9%
O-60P	2.610	0.070	2.400	2.800	0						
O-61d	4.760	0.143	4.330	5.190	152	4.807	1.0%	1	38.2%	61.8%	10.5%
O-62c	8.790	0.213	8.150	9.420	3	8.940	1.7%	0	33.3%	66.7%	0.0%
O-62d	10.500	0.330	9.510	11.490	19	10.478	-0.2%	0	47.4%	52.6%	5.3%
O-62Pb	11.330	0.353	10.270	12.390	2	10.725	-5.3%	1	100.0%	0.0%	0.0%
O-65a	0.520	0.017	0.469	0.571	9	0.487	-6.3%	1	55.6%	44.4%	11.1%
O-66a	1.237	0.054	1.075	1.399	3	1.202	-2.9%	0	66.7%	33.3%	0.0%
O-67a	2.238	0.096	1.950	2.526	2	2.215	-1.0%	0	50.0%	50.0%	0.0%
O-6Pc	1.520	0.067	1.320	1.720	102	1.510	-0.7%	0	52.9%	47.1%	1.0%
O-7Pb	2.770	0.053	2.610	2.930	9	2.756	-0.5%	0	66.7%	33.3%	11.1%
All	**3.076**				**971**	**3.074**	**-0.3%**		**51.7%**	**48.3%**	**7.4%**

Table 14 Statistics of results for standard pulps with LSG samples to ALS Canada (2009-2011)

Standar	Target	StdDev	Min	Max	Nb	Average	%Diff.	Sig.	PBelow	PAbove	POutside
	g/tAu	g/tAu	g/tAu	g/tAu		g/tAu	%		%	%	%
O-10c	6.660	0.183	6.110	7.080	0						
O-10Pb	7.150	0.193	6.570	7.730	54	7.435	4.0%	1	9.3%	90.7%	3.7%
O-15h	1.019	0.025	0.945	1.093	14	1.038	1.9%	1	64.3%	35.7%	7.1%
O-15Pa	1.020	0.027	0.940	1.100	10	1.053	3.2%	1	20.0%	80.0%	0.0%
O-15Pb	1.060	0.030	0.970	1.140	124	1.057	-0.3%	0	46.8%	53.2%	12.1%
O-17c	3.04	0.083	2.790	3.290	35	3.150	3.6%	1	12.9%	87.1%	8.6%
O-18c	3.52	0.107	3.200	3.840	0						
O-18Pb	3.630	0.070	3.420	3.840	31	3.720	2.5%	1	16.1%	83.9%	9.7%
O-19a	5.490	0.100	5.190	5.790	1	5.590	1.8%	0	0.0%	100.0%	0.0%
O-2Pd	0.885	0.029	0.797	0.973	0						
O-4Pb	0.049	0.002	0.042	0.056	5	0.067	37.6%	1	0.0%	100.0%	60.0%
O-50Pb	0.841	0.032	0.746	0.936	7	0.869	3.3%	1	14.3%	85.7%	0.0%
O-52Pb	0.307	0.017	0.255	0.359	0						
O-53Pb	0.623	0.021	0.559	0.687	0						
O-54Pa	2.900	0.110	2.570	3.230	0						
O-60b	2.570	0.107	2.250	2.890	116	2.654	3.3%	1	26.7%	73.3%	0.0%
O-60P	2.610	0.070	2.400	2.800	1	2.630	0.8%	0	0.0%	100.0%	0.0%
O-61d	4.760	0.143	4.330	5.190	153	4.784	0.5%	1	19.6%	80.4%	3.3%
O-62c	8.790	0.213	8.150	9.420	18	8.617	-2.0%	1	66.7%	33.3%	16.7%
O-62d	10.500	0.330	9.510	11.490	3	11.022	5.0%	1	0.0%	100.0%	0.0%
O-62Pb	11.330	0.353	10.270	12.390	15	10.909	-3.7%	1	100.0%	0.0%	6.7%
O-65a	0.520	0.017	0.469	0.571	71	0.509	-2.2%	1	85.2%	14.8%	1.4%
O-66a	1.237	0.054	1.075	1.399	0						
O-67a	2.238	0.096	1.950	2.526	0						
O-6Pc	1.520	0.067	1.320	1.720	23	1.559	2.6%	1	17.4%	82.6%	0.0%
O-7Pb	2.770	0.053	2.610	2.930	0						
All	**3.279**				**681**	**3.321**	**1.4%**		**34.8%**	**65.2%**	**5.4%**

Table 15 Statistics of results for standard pulps with LSG samples to Bell Creek (2009-2011)

Standar	Target	StdDev	Min	Max	Nb	Average	%Diff.	Sig.	PBelow	PAbove	POutside
	g/tAu	g/tAu	g/tAu	g/tAu		g/tAu	%		%	%	%
O-10c	6.660	0.183	6.110	7.080	0						
O-10Pb	7.150	0.193	6.570	7.730	0						
O-15h	1.019	0.025	0.945	1.093	5	1.007	-1.2%	0	40.0%	60.0%	20.0%
O-15Pa	1.020	0.027	0.940	1.100	0						
O-15Pb	1.060	0.030	0.970	1.140	23	1.010	-4.7%	1	82.6%	17.4%	17.4%
O-17c	3.04	0.083	2.790	3.290	34	3.065	0.8%	0	50.0%	50.0%	0.0%
O-18c	3.52	0.107	3.200	3.840	0						
O-18Pb	3.630	0.070	3.420	3.840	0						
O-19a	5.490	0.100	5.190	5.790	2	5.491	0.0%	0	50.0%	50.0%	0.0%
O-2Pd	0.885	0.029	0.797	0.973	0						
O-4Pb	0.049	0.002	0.042	0.056	0						
O-50Pb	0.841	0.032	0.746	0.936	0						
O-52Pb	0.307	0.017	0.255	0.359	0						
O-53Pb	0.623	0.021	0.559	0.687	0						
O-54Pa	2.900	0.110	2.570	3.230	0						
O-60b	2.570	0.107	2.250	2.890	14	2.338	-9.0%	1	92.9%	7.1%	0.0%
O-60P	2.610	0.070	2.400	2.800	0						
O-61d	4.760	0.143	4.330	5.190	27	4.639	-2.5%	1	40.7%	59.3%	7.4%
O-62c	8.790	0.213	8.150	9.420	15	8.792	0.0%	0	46.7%	53.3%	6.7%
O-62d	10.500	0.330	9.510	11.490	0						
O-62Pb	11.330	0.353	10.270	12.390	0						
O-65a	0.520	0.017	0.469	0.571	27	0.504	-3.0%	1	44.4%	55.6%	7.4%
O-66a	1.237	0.054	1.075	1.399	0						
O-67a	2.238	0.096	1.950	2.526	0						
O-6Pc	1.520	0.067	1.320	1.720	0						
O-7Pb	2.770	0.053	2.610	2.930	0						
All	**3.090**				**147**	**3.040**	**-2.5%**		**55.8%**	**44.2%**	**6.8%**

Table 16 Statistics of results for standard pulps with LSG samples to Cattarello (2009-2011)

3-2 Blanks

In the same period, up to 2077 blanks have been submitted to the same four labs i.e.: 218 at Accurassay, 990 at ALS, 718 at Bell Creek and 151 at Cattarello. The only statistics which can be derived from results for blanks is the proportion of them above a given threshold. Traditionally, this threshold is five times the detection limit which in the case of Timmins West looks like 0.0025 g/tAu hence a threshold of 0.0125 g/tAu. This in fact pretty low and we generally prefer to use a "practical" threshold of 0.1 g/t Au.

For Accurassay, we have 28.0% of blank returns above 0.0125 g/t and 4.1% above 0.1 g/t up to 0.92 g/t.
For ALS, we have 16.9% of blank returns above 0.0125 g/t and 1.0% above 0.1 g/t up to an impressive 22.9 g/t.
For Bell Creek, we have 40.7% of blank returns above 0.0125 g/t and 1.5% above 0.1 g/t up to 2.97 g/t.
For Cattarello, we have 31.8% of blank returns above 0.0125 g/t and 2.0% above 0.1 g/t up to 0.86 g/t..

Like with standards and despite the very high grade returned for a blank, the best performance is with ALS followed by Bell Creek+Cattarello and finally Accurassay. Based on our experience, we find the performance of ALS, Bell Creek and Cattarello acceptable.

3-3 Coarse Duplicates

Coarse duplicates are normally assays from a new pulp made out of the crushed and ground (but not pulverized) reject of the original sample. Up to 1213 coarse duplicates from April 2009 to January 2012 have been assayed at the same 4 labs as standards and blanks, with an original and a duplicate grade : 204 at Accurassay, 413 at ALS, 487 at Bell Creek and 109 at Cattarello. The statistic of interest with duplicates at the same lab is either the correlation coefficient of originals and duplicates (preferably with a log scale) or the average relative difference of originals and duplicates above a given threshold (very low grades tend to generate high relative differences with an undue influence on the average relative difference). In this case we use a threshold of 0.5g/tAu.

For Accurassay, we have a correlation of R=0.91 and an average relative difference of 44.8%.
For ALS, we have a correlation of R=0.97 and an average relative difference of 32.8%.
For Bell Creek, we have a correlation of R=0.95 and an average relative difference of 24.0%.
For Cattarello, we have a correlation of R=0.97 and an average relative difference of 23.6%.

Here again, ALS, Bell Creek and Cattarello have a similar performance but Accurassay is not as good.

The correlation plot of duplicated and original grades for coarse duplicates in the four labs is on Figure 17. Although most pairs follow the first diagonal, we can notice outlier pairs (= large difference of original and duplicated grade) in all the labs which explain the magnitude of average relative differences but they are not surprising for coarse duplicates in gold mineralization.

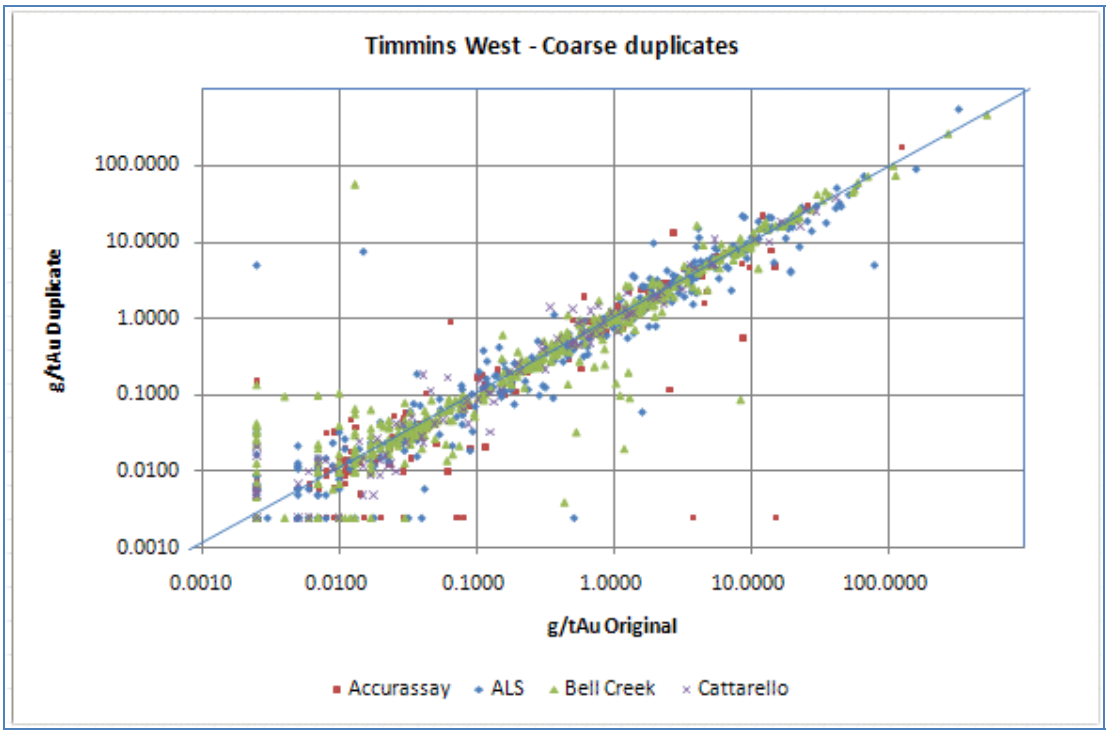


Figure 27 Correlation plot of coarse duplicates

3-4 Check assays

From data supplied, check assays look like samples from rejects of pulp originally assayed by ALS which have been sent to the Accurassay lab for a check assay. The original ALS samples were processed during the year 2010 while check data are dated in July 2011.

We can identify 676 complete check assay samples at Accurassay. Original (ALS) values range from 0.0025 to 142.0 g/t with an average of 2.05 g/t while check (Accurassay) values range from 0.0025 to 154.38 g/t with a mean of 2.02 g/t. Despite the similarity of means, a T-test of paired data run on log grade (to respect some normality of parent population) shows that the differences of log means i.e. -1.20 (originals) and -1.04 (checks) is significant at the 95% confidence level (T= -9.16 with a limit at -1.96 – the correlation coefficient of log data is 0.93). However a sign test shows the absence of a significant bias between the two sets (we have 47.5% of pairs above 0.5 g/t with original value more than duplicate value with a 95% confidence lower limit at 42.9%). Several pairs with a high difference between original and duplicated values are noticeable: 0.0025 g/t (original) and 71.40 g/t (check) but also 82.1 g/t (original) and 1.02 g/t (check).

Correlation plots of check and original values in the two sets are on Figure 18.

Up to 36 blanks and 35 standard pulps were sent to Accurassay with the 676 ALS pulps to check. Results for blanks are perfect with no return above 0.0125 g/t. Results from standards (Table 11) are not that good with Accurassay clearly overstating low and medium grade standards by 2 to 10%.

In other words, Accurassay has somewhat discredited itself as a reference lab for ALS by failing to adequately report low and medium grade standards. Moreover, if anything, ALS data of the check samples are lower than Accurassay check results for the same samples, which is fine.

Standar	Target	StdDe	Min	Max	Nb	Averag	%Diff	Sig	PBelow	PAbove	POutsid
	g/tAu	g/tAu	g/tAu	g/tAu		g/tAu	%		%	%	%
O-15h	1.019	0.025	0.945	1.093	1	1.109	8.8%	1	0.0%	100.0%	100.0%
O-15Pb	1.060	0.030	0.970	1.140	15	1.135	7.1%	1	0.0%	100.0%	46.7%
O-17c	3.04	0.083	2.790	3.290	4	3.366	10.7%	1	0.0%	100.0%	75.0%
O-61d	4.760	0.143	4.330	5.190	7	4.868	2.3%	1	14.3%	85.7%	42.9%
O-62c	8.790	0.213	8.150	9.420	8	8.733	-0.6%	0	50.0%	50.0%	0.0%
All	3.792				35	3.873	4.8%		14.3%	85.7%	40.0%

Table 17 Statistics of results for standard pulps with ALS check samples at Accurassay

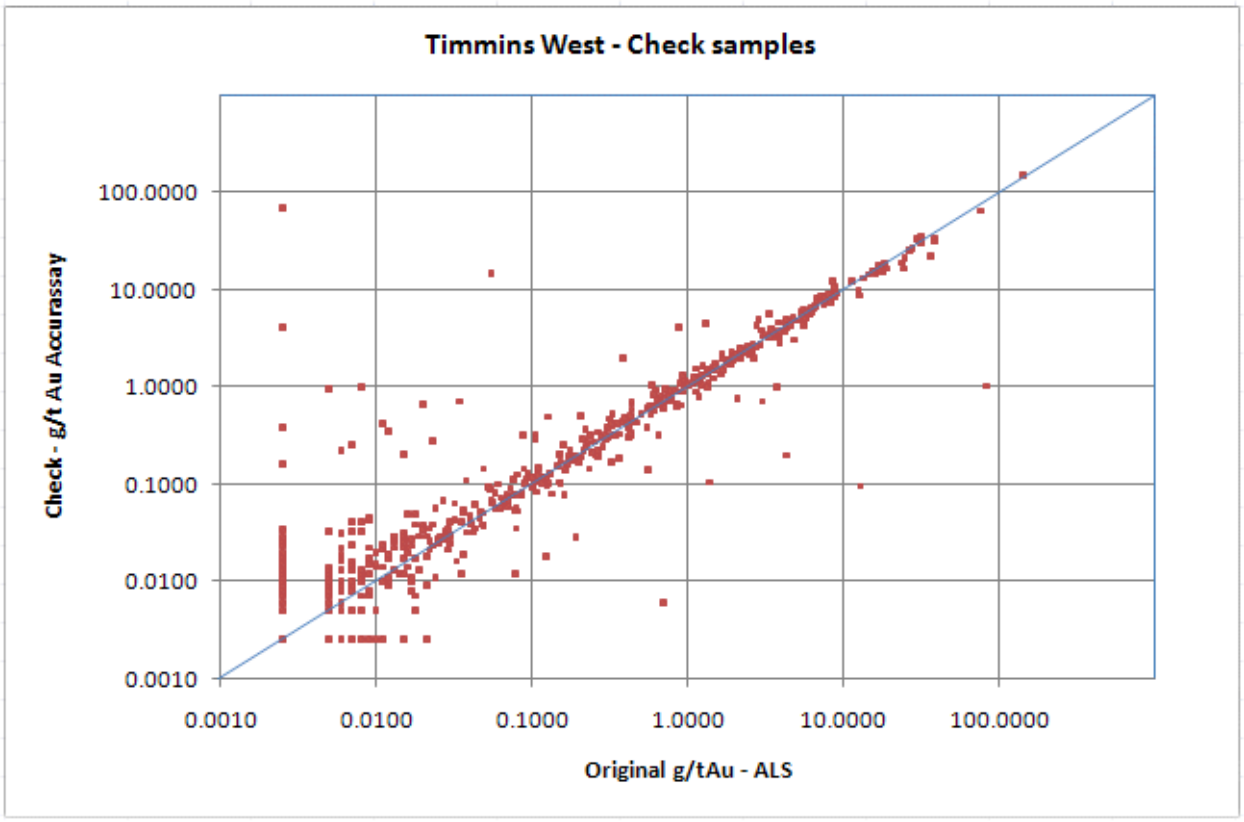


Figure 28 Correlation plot of check samples

3-5 Lab standards, blanks and duplicates

Internal QAQC data in the form of duplicates, blanks and standards are available.

ALS used the CDN-CGS-19 standard with target grade of 0.74 g/t and gates from 0.67 to 0.81 g/t (according to CDN Resource Laboratories Ltd. brochure on the internet). We have 316 returns for that standard from October 2009 to March 2010 (no standards results for ALS afterward). They range from 0.663 to 0.859 g/t with a mean of 0.747 g/t a mere 1% average difference from target. 56% of returns are above target while 44% are below. 5.4% of returns are beyond the gates. Those results are more than adequate.

Cattarello has used 4 standards for which they give the gates: C-88 with 0.193-0.213 g/t gates (hence a 0.203g/t target), G-83 with 0.975-1.023 gates (hence a 0.999g/t target), H-82 with 1.150-1.406 g/t gates (hence a 1.278g/t target) and K-2 with 3.301-3.649 g/t gates (hence a 3.475g/t target). The relative magnitude of the range between gates is quite variable and thus questionable: 5% for G-83, 10% for C-88 and K-2 and 20% for H-82. Here again, returns from Cattarello standards are almost perfect, with only one value (1.98 g/t for C-88) out of range. Average relative differences range from -1.5% (K-2) to -0.3% (C-88 without the above outlier), +0.2% (H-82) and +0.4% (G-83) and there is only one return (out of 289 for the 4 standards) beyond the gates. This performance with "internal" standards can be compared to that of the same lab with "external" standards (Table 4).

We also have the returns of ALS internal blanks, up to 6415 of them but for a variety of elements. 2297 of those returns deal with gold. Almost all returns are less than the usual low threshold of 0.0125 g/t with only one return (0.12 g/t) above the practical threshold of 0.1 g/t. Again this almost perfect performance with "internal" blanks can be compared with that of "external" blanks (section 1-2).

We have internal (pulp) duplicates from Accurassay, ALS and Bell Creek labs. The 469 duplicates at Accurassay are again almost perfect with an average relative difference for returns above 0.5 g/t of only 8.4% (corresponding to a high correlation coefficient of 0.97) , no significant difference between average log original and log duplicated data (T=1.4) and an acceptable proportion of points above and below the diagonal (44%-56%). A similar performance is observed with the 998 lab duplicates dealing with gold at ALS: average relative difference for returns above 0.5 g/t is only 10.0% (correlation coefficient is 0.987) and the difference of log means is not significant (T=0.50). In this case however, the proportion of duplicates above originals (54.9%) is significantly different from the expected 50% (limit proportion is 53.0%). For Bell Creek, with 1320 lab duplicates, the average relative difference is a mere 5.9% (correlation coefficient is 0.996), difference of log means is not significant (T=0.75)and proportions of points above and below the first diagonal are very close to the 50% target (49%-51%). The closeness of duplicates to originals in the three labs is illustrated on Figure 3. This plot can be compared to that of check assay on Figure 19. Check samples are equivalent to lab duplicates in the sense that both are pulp duplicates. However the scatter of check samples is more important than that of lab duplicates.

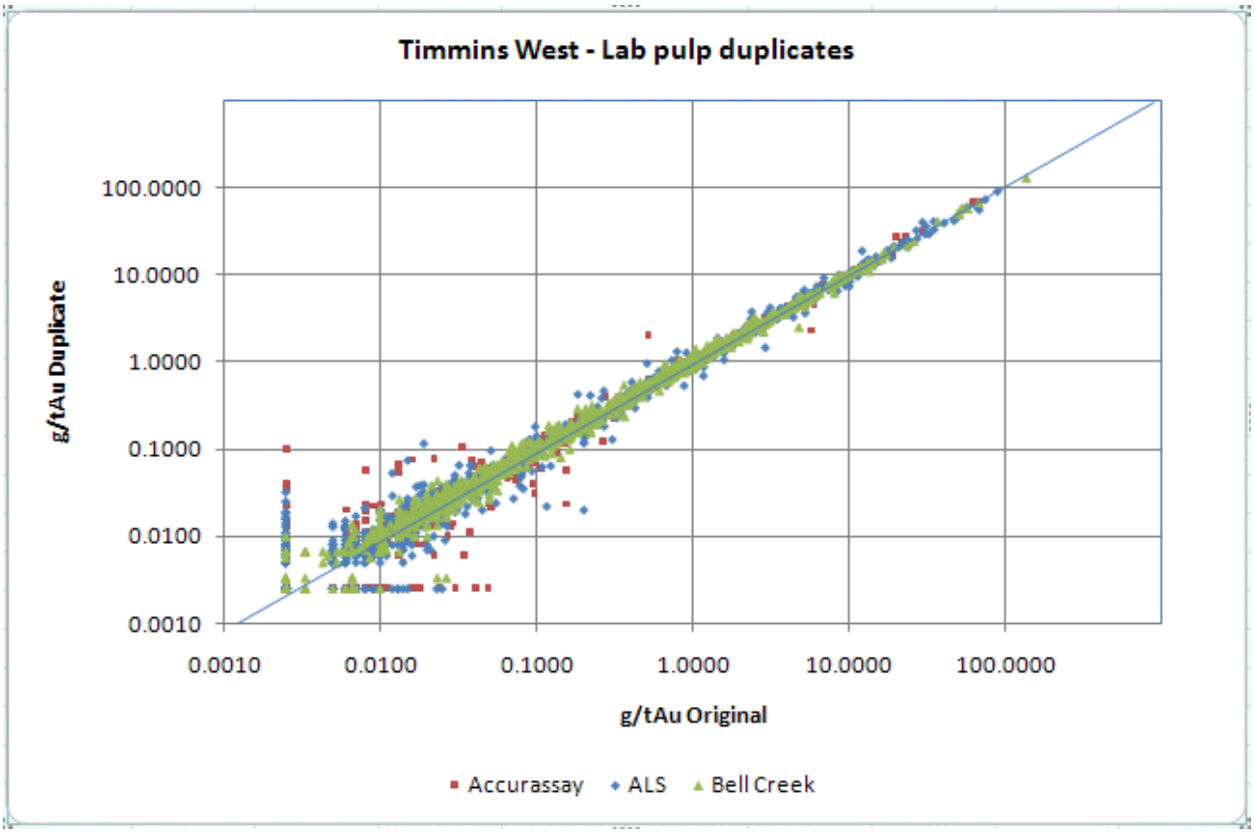


Figure 29 Correlation plot of lab duplicates

3-6 Conclusions

Samples from 2009-2011 holes at Timmins West have been processed and assayed at four different labs, mostly ALS and Bell Creek with the balance at Accurassay and Cattarello.

Lab QAQC results in the form of standards (ALS+Cattarello), blanks (ALS) and (pulp) duplicates (Accurassay, ALS and Bell Creek) are almost perfect with standards within gates, virtually no result above 0.1 g/t for thousands of blanks and average relative grade difference of duplicated and original values of only 10% or less.

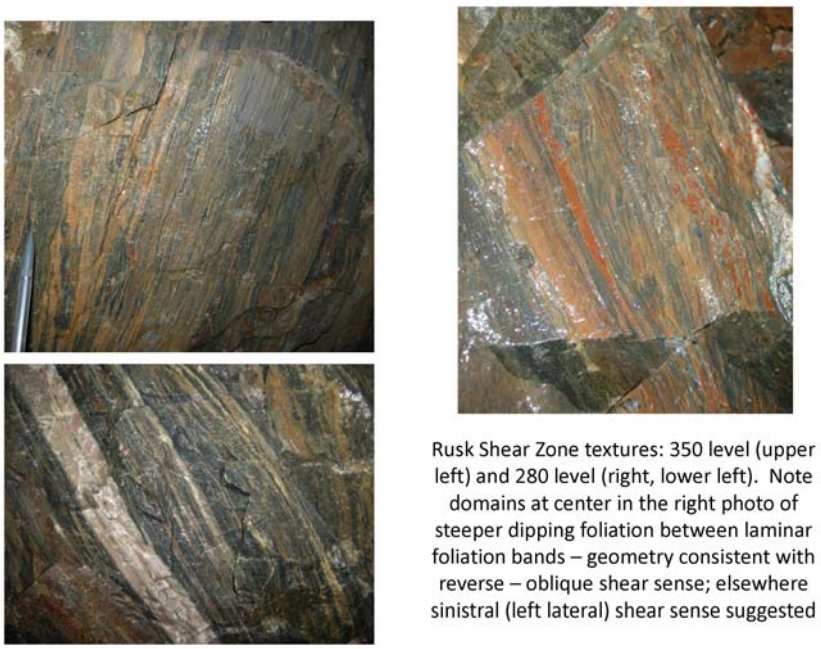
The real quality performance of labs is derived from results for “external” reference material i.e. material supplied by LSG to the labs. For standards, the performance of the four labs is acceptable although some improvement could be achieved in the reduction of odd returns for the standards in the four labs. Also the tendency of Bell Creek lab to have returns 1% above target on average would have to be monitored and corrected. For blanks and despite the very high grade returned for a blank, the best performance is with ALS followed by Bell Creek+Cattarello and finally Accurassay. Based on our experience, we find the performance of ALS, Bell Creek and Cattarello acceptable. For coarse duplicates, ALS, Bell Creek and Cattarello have a similar performance (average relative difference around 30%) but Accurassay is not as good (average relative difference of more than 40%). Check (pulp) samples at Accurassay and originally assayed at ALS show slightly higher returns. However, Accurassay has somewhat discredited itself as a reference lab for ALS by failing to adequately report low and medium grade

APPENDIX 9

UNDERGROUND PHOTOS OF TIMMINS WEST MINE MINERALIZATION AT THUNDER CREEK AND TIMMINS DEPOSITS

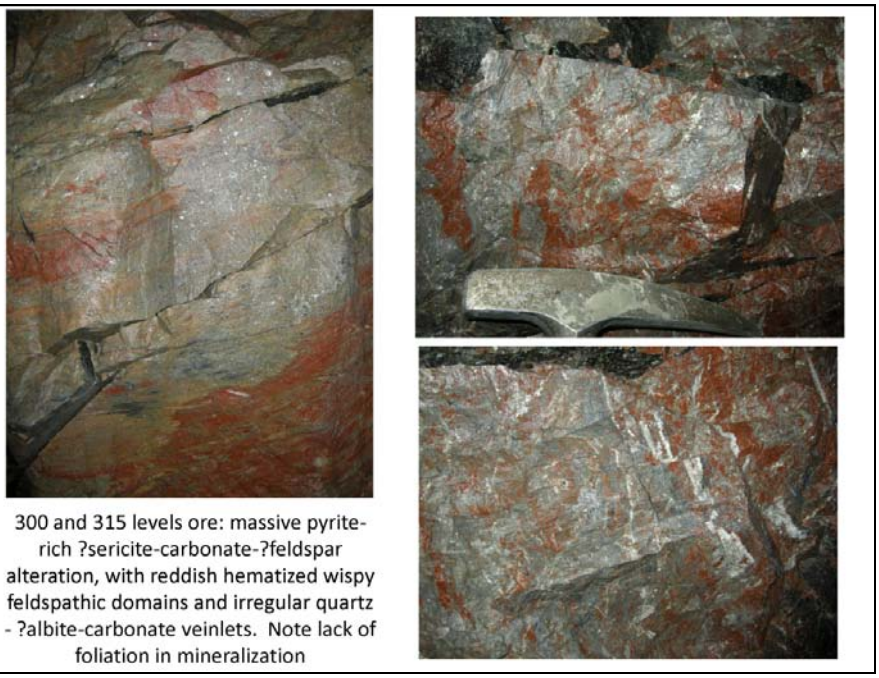
The following photos and commentary have been provided courtesy of Mr. David Rhys from a PowerPoint presentation titled “Lake Shore Gold Thunder Creek Zones: Mineralization, Setting and Style in the Rusk and Porphyry Zones” (Rhys, 2011). The various styles of mineralization are represented in this suite of underground pictures from Rusk and Porphyry styles of the Thunder Creek deposit (Plates 1-6) and the Vein and Ultramafic hosted extensional vein arrays of the Timmins deposit (Plates 7-11).

Plate 1:



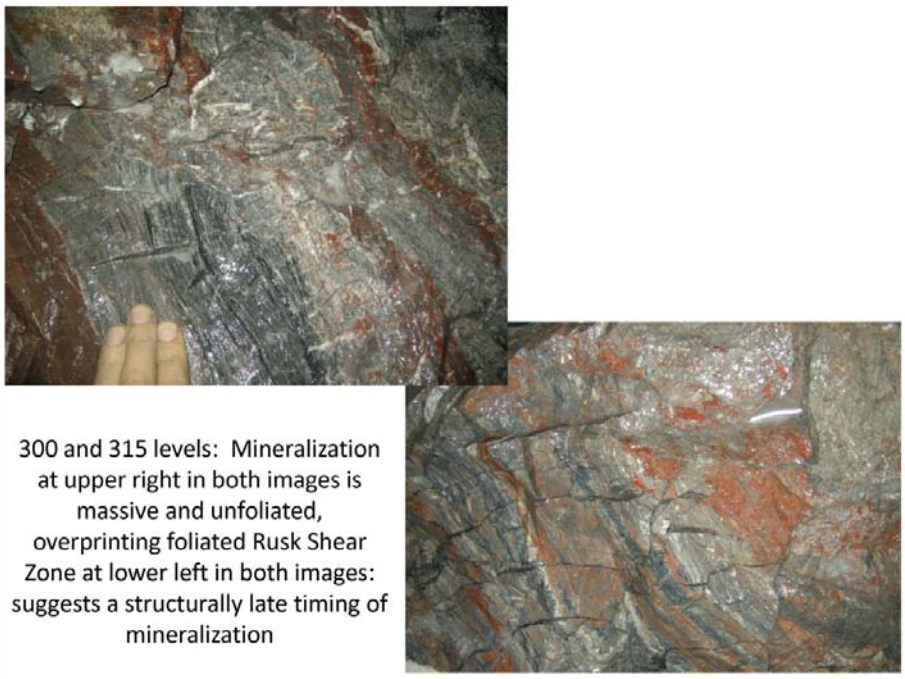
Rusk Shear Zone textures: 350 level (upper left) and 280 level (right, lower left). Note domains at center in the right photo of steeper dipping foliation between laminar foliation bands – geometry consistent with reverse – oblique shear sense; elsewhere sinistral (left lateral) shear sense suggested

Plate 2:



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 3:



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 4:



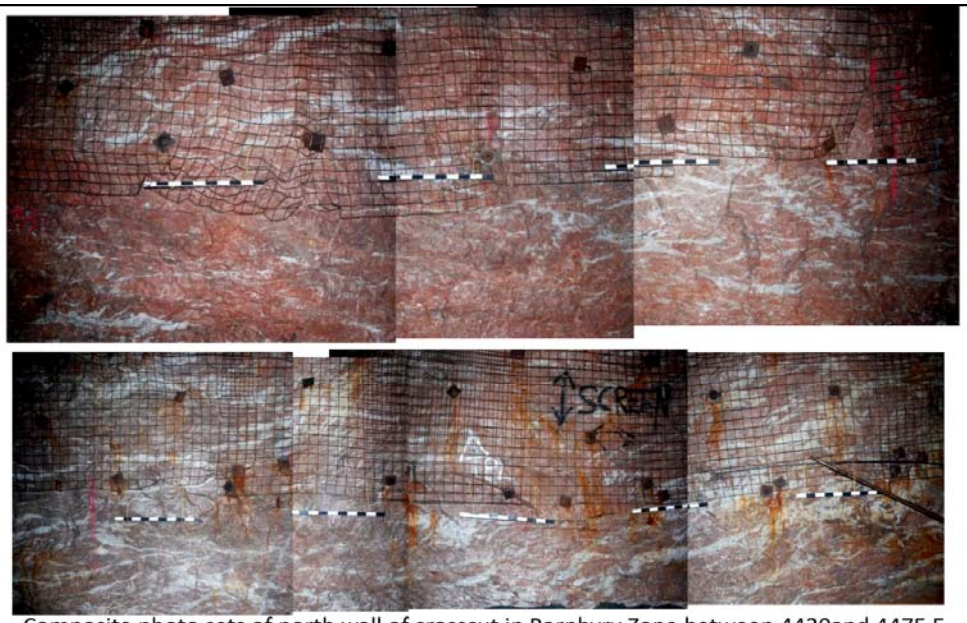
Late shallow dipping quartz veins occur preferentially in narrow syenite sills, cutting the shear zone fabric (left), but are also affected by the later set of folds with shallow dipping axial planes (D5) that overprint the shear zone (right), indicating that the folding is entirely post-mineral. 350 level crosscut (left, looking west)) and 280 level west crosscut (right photo, looking west)

Plate 5:



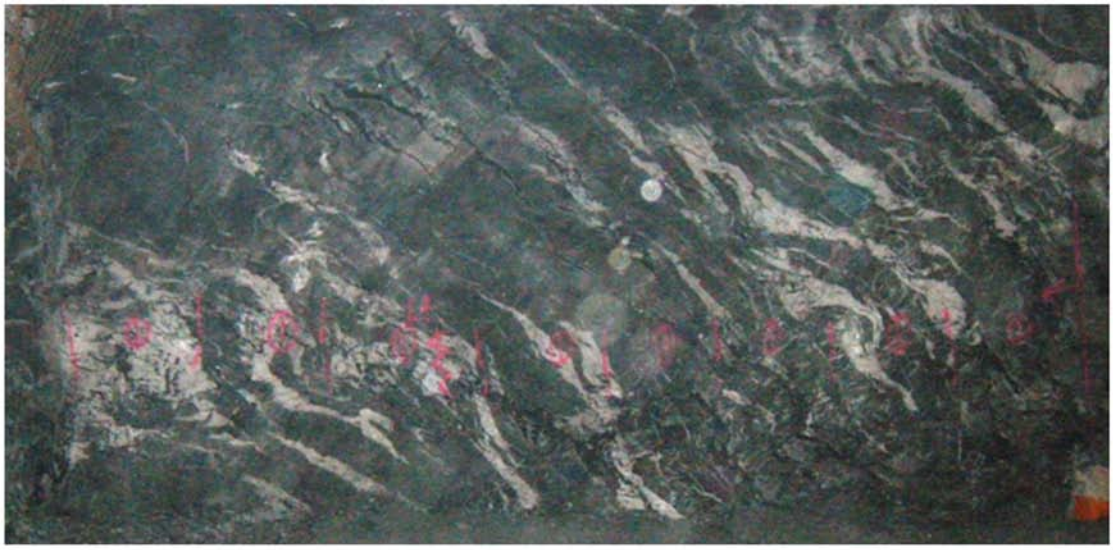
North wall, 730 level in Porphyry Zone within monzonite. Shallow easterly dipping sheeted quartz extension veins in central part of zone.

Plate 6:



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 7:



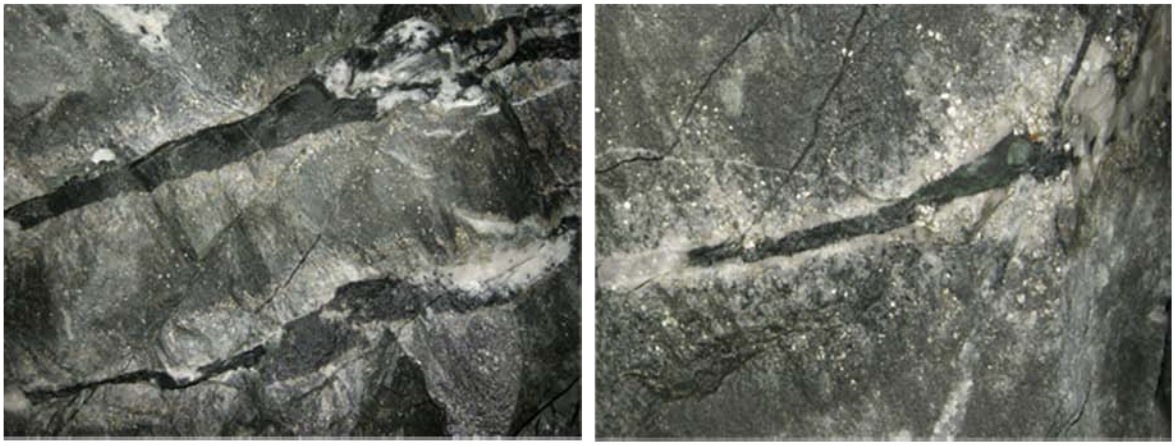
UM 1E, face 32: Main stage mineralized extension vein array in ultramafic, view east. Veins dip SE, array shallowly north with north side up shear sense

Plate 8:



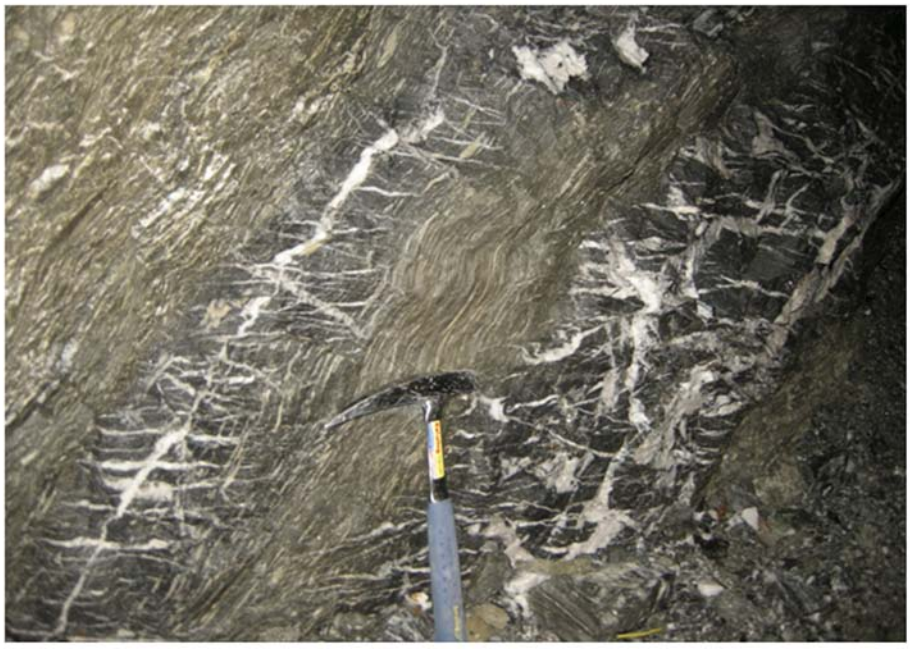
UM 2 west, face 13: well developed shallow north dipping, reverse vein array with southeast dipping internal veins

Plate 9:



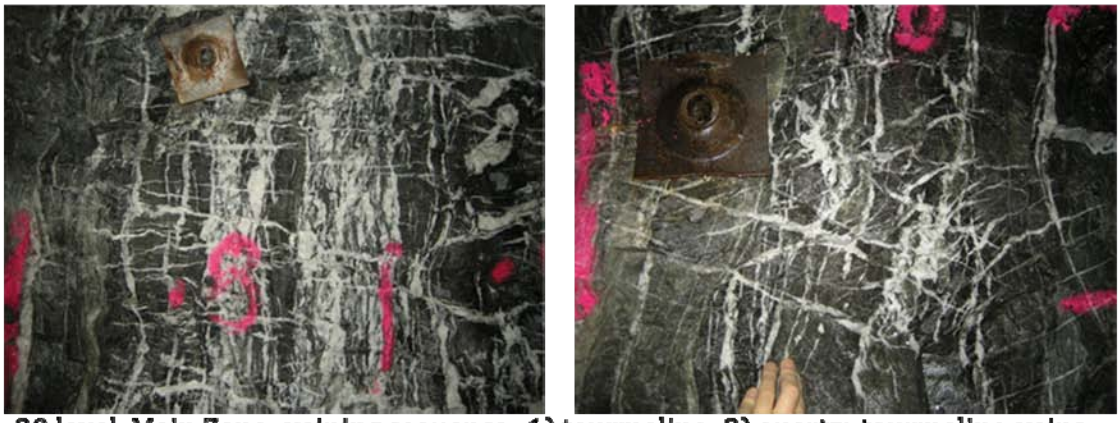
650 L, UM1E area: bleached (?albitic) pyritiferous envelopes to tourmaline-quartz extension veins, veins cut across and alteration overprints dominant foliation

Plate 10:



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 11: **(photos are courtesy of Mr. David Rhys, August 2011)**



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.

APPENDIX 10

GEOTECHNICAL DATA

Thunder Creek UCS Data

Testing Completed 2010 by Queen's University, as summarized in Memo titled "Re: Core Strength Testing" dated March 18, 2010.

Sample, Hole (depth)	Type	Density (g/cm^3)	Sigma 1 (MPa)	Sigma 3 (MPa)	Young's Modulus E (GPa)	Poisson's ratio (m)	UCS (MPa)	Foliation (pf or f)	Tensile Strength (range) (MPa)
E088528, TC09-73E (1104-1104.15)	TRI & BRAZ	2.60	248.7 365.9 465.5	5 10 15	35.637	---	---		13.8 (9.1-17.3)
E088529, TC09-80 (961-961.15)	UCS	2.58	---	---	15.006	0.15	28.4	pf	---
E088530, TC09-80 (1113.8-1114)	TRI	2.57	144.0 217.1 303.2	5 10 15	34.806	---	---		---
E088534, TC09-69D (876.5-876.65)	UCS	2.63	---	---	51.901	---	210.0		
E088537, TC09-79a (968-968.15)	TRI	2.57	212.8 291.1 349.3	5 10 15	35.823	---	---		---
E088535, TC09-79a (932.2-932.4)	TRI	2.95	88.9 --- ---	5 10 15	26.816	---	---	pf	---
E088539, TC09-81 (372-372.2)	UCS	2.85	---	---	58.447	0.10	187.8		---
E088540, TC09-81 (381-381.15)	TRI	2.87	102.3 126.4 152.1	5 10 15	31.486	---	---	pf	---
E088542, TC09-69F (860.05-860.2)	BRAZ	---	---	---	---	---	---	---	13.7 (10.2-17.0)
E088533, TC09-69d (865.5-865.65)	BRAZ	---	---	---	---	---	---	---	12.4 (10.1-19.3)
E088541, TC09-79B (921-921.2)	TRI	2.93	131.9 --- ---	5 10 15	30.466	---	---	pf	---
E088531, TC09-69d (852.85-853)	UCS	2.92	---	---	37.087	0.11	116.0		---
E088532, TC09-69d (858.5-858.65)	TRI	2.90	199.7 249.9 275.9	5 10 15	40.136	---	---		---
E088536, TC09-79a (955.5-955.65)	UCS	2.91	---	---	55.732	0.11	114.1		---
E088538, TC09-81 (365.15-365.3)	BRAZ	---	---	---	---	---	---	---	13.9 (5.3-19.1)

(f) – indicates failure along pre-existing foliation surfaces
(pf) – indicates failure partially along pre-existing foliation surfaces

Testing Completed 2011 by Queen's University, as summarized in Memo titled "Re: Core Strength Testing" dated March 11, 2011:

Sample and Type	Density (g/cm^3)	Young's Modulus E (GPa)	Poisson's ratio (μ)	UCS (MPa)	Foliation (pf or f)
I155484 (Unaltered Pyroxenite)	3.27	37.574	0.12	166.3	
I155485 (Unaltered Pyroxenite)	3.35	55.762	0.12	265.6	
I155496 (Unaltered Pyroxenite)	3.43	36.831	0.21	93.2	f
I155497 (Unaltered Pyroxenite)	3.41	58.344	0.11	253.9	
I155498 (Unaltered Pyroxenite)	3.33	25.829	0.10	116.9	pf
I155486 Rusk	2.69	34.862	0.12	141.9	
I155487 Rusk	broken				
I155493 Rusk	3.02	40.803	0.15	252.9	
I155495 Rusk	3.06	33.688	0.12	140.9	
I155494 Rusk	2.94	38.277	0.13	171.7	
I155488 Porphyry	2.62	19.427	0.09	83.9	
I155489 Porphyry	2.63	20.576	0.10	85.6	
I155490 Porphyry	2.63	34.772	0.11	122.2	
I155491 Porphyry	2.62	41.185	0.16	158.7	
I1554923.27 Porphyry	2.60	36.083	0.13	294.6f	

(f) – indicates failure along pre-existing foliation surfaces
(pf) – indicates failure partially along pre-existing foliation surfaces

Summary of Timmins Mine Rock Strength Data

Testing Completed 2009 by Queen's University, as summarized in Memo titled "Re: Core Strength Testing" dated November 20, 2009:

Sample (depth)	Type	Density (g/cm^3)	Sigma 1 (MPa)	Sigma 3 (MPa)	Young's Mod. E (GPa)	Poisson's ratio (μ)	UCS (MPa)	Foliation pf or f	Tensile Strength (MPa)
MVFH665515 650023(139.0-139.2)	UCS	2.83			14.086	0.20	69.0		
MVFH665516 650023(224.4-224.6)	UCS	2.82			37.559	0.19	103.1		
MVFH665532 650026a(135.0-135.20)	UCS	2.88			40.386	0.18	112.7		
MVFH665513 140020(24.65-24.95)	UCS	2.78			19.994	---	61.8	pf	
MVFH665502 650026(13.35-13.64)	UCS	2.86			20.695	0.13	91.4	pf	
MVFH665501 650011a(294.0-294.25)	UCS	2.92			40.310	0.14	116.3		
MVFH665513 140020(24.65-24.95)	TENS								11.6 (10.5-12.9)
MVFH665502 650026(13.35-13.64)	TENS								15.5 (13.2-19.0)
MVFH665501 650011a(294.0-294.25)	TENS								14.5 (11.5-18.0)
MVFH665515 650023(139.0-139.2)	TRI	2.84	172.6 188.4 ---	5 10 15	23.104	---	---		
MVFH665515 650023(224.4-224.6)	TRI	2.82	108.6 160.7 190.7	5 10 15	24.043	---	---		
MVFH665532 650026a(135.0-135.20)	TRI	2.80	207.8 226.8 252.9	5 10 15	28.806	---	---		
MVFH665513 140020(24.65-24.95)	TRI	2.77	125.1 149.0 ---	5 10 15	26.831	---	---		
MVFH665502 650026(13.35-13.64)	TRI	2.96	223.5 --- ---	5 10 15	30.657	---	---		
MVFH66501 650-011a(294.0-294.2)	TRI	2.95	114.1 155.0 170.7	5 10 15	30.129	---	---		
Meta Sed H665504 120-004a(29.10-29.40)	UCS	2.79			27.384	0.24	49.2		
Meta Sed H665517 120-007(3.90-4010	UCS	2.76			8.977	---	25.5		
Meta Sed H665503 120015b(8.77-9.00)	TENS								12.4 (6.7-15.2)
Meta Sed H665505 120004a(84.2-84.4)	TENS								13.1 (11.6-15.7)
Meta Sed H665504 120004a(29.10-29.40)	TRI	2.78	59.0 128.4 158.7	5 10 15	20.007	---	---	pf	
Meta Sed H665517 120007(3.90-4.10)	TRI	2.74	145.9 191.8 215.2	5 10 15	27.301	---	---		
QTVH665514 140020(54.20-54.40)	UCS	2.78			47.722	0.15	161.6		
QTVH665511 650027b(108.87-109.03)	UCS	2.80			35.467	0.34	88.6		
QTVH665533 120003(16.35-16.53	UCS	2.60			32.232	0.20	59.5		
QTVH665511 650027b(108.87-109.03)	TENS								14.4 (7.2-30.9)
QTVH665514 140020(54.20-54.46)	TRI	2.73	347.8 381.0 436.7	5 10 15	37.996	---	---		

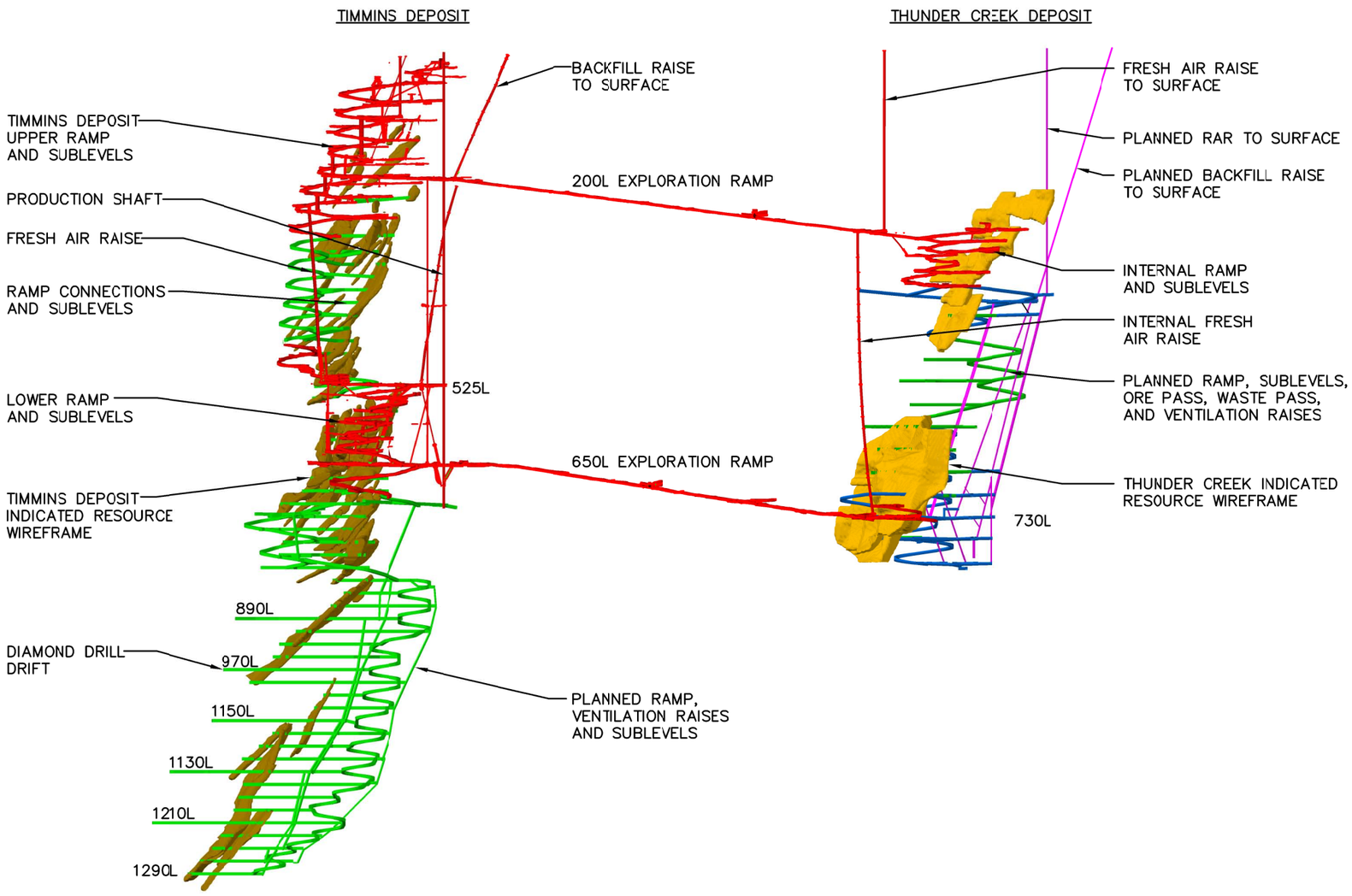
Sample (depth)	Type	Density	Sigma 1 (MPa)	Sigma 3 (MPa)	Young's Mod. E (GPa)	Poisson's ratio (m)	UCS Sc (MPa)	Foliation pf or f	Tensile Strength (MPa)
QTVH665520 650018(52.65-52.85)	TRI	2.65	326.8 425.4 479.5	5 10 15	41.122	---	---		
QTVH665508 90034a(19.0-19.16)	TRI	2.73	234.2 338.5 364.7	5 10 15	41.304	---	---		
PYXT/ALTD PYXT H665521 650018(64.85-65.05)	UCS	3.00			19.928	0.15	57.4		
PYXT/ALTD PYXT H665512 650027b(124.70-124.93)	UCS	2.93			35.924	0.12	95.1		
PYXT/ALTD PYXT H665522 650018(77.7-77.95)	UCS	3.04			30.126	0.13	93.1		
PYXT/ALTD PYXT H665512 650027b(124.70-124.93)	TENS								10.3 (8.7-12.4)
PYXT/ALTD PYXT H665509 650010(124.68-124.80)	TENS								14.4 (11.2-15.9)
PYXT/ALTD PYXT H665521 650018(64.85-65.05)	TRI	3.03	116.4 146.2 --	5 10 15	25.828	---	---		
PYXT/ALTD PYXT H665512 650027b(124.70-124.93)	TRI	2.92	173.0 220.1 253.4	5 10 15	32.296	---	---		
PYXT/ALTD PYXT H665522 650018(77.7-77.95)	TRI	2.99	166.7 204.8 228.8	5 10 15	25.911	---	---		
UMFH665519 650018(36.0-36.2)	UCS	Broken			Broken	Broken			
UMFH665523 650008(23.8-24.0)	UCS	2.79			10.741	0.17	23.4	pf	
UMFH665519 650018(25.2-25.4)	UCS	2.84			6.349	0.13	13.4	pf	
UMFH665519 650018(36.0-36.2)	TENS								2.7 (1.6-3.5)
UMFH665530 650026a(87.10-87.26)	TENS								2.7 (1.8-3.7)
UMFH665523 650008(23.8-24.0)	TRI	2.81	62.8 --- ---	5 10 15	13.944	---	---		
UMFH665519 650018(25.2-25.4)	TRI	2.85	40.4 61.1 77.6	5 10 15	15.453	---	---	pf	
UMFH665530 650026a(87.10-87.26)	TRI	2.85	65.1 --- 79.3	5 10 15	11.956	---	---		
UMZH665531 650026a(117.70-117.90)	UCS	2.89			22.257	0.10	74.9		
UMZH665527 650009(107.50-107.65)	UCS	2.88			43.431	0.11	152.9		
UMZH665525 650008(60.00-60.17)	UCS	2.96			40.281	0.10	107.5		
UMZH665528 650009(113.88-114.00)	TENS								14.2 (10.2-17.3)

Sample (depth)	Type	Density	Sigma 1 (MPa)	Sigma 3 (MPa)	Young's Mod. E (GPa)	Poisson's ratio (m)	UCS Sc (MPa)	Foliation pf or f	Tensile Strength (MPa)
UMZH665527 650009(107.50-107.65)	TENS								15.7 (13.7-20.0)
UMZH665531 650026a(117.70-117.90)	TRI	2.91	194.7 230.4 254.5	5 10 15	33.346	---	---		
UMZH665524 650008(51.0-51.27)	TRI	2.89	315.6 376.7 438.3	5 10 15	41.395	---	---		
UMZH665525 650008(60.00-60.17)	TRI	2.99	295.2 343.3 387.9	5 10 15	34.575	---	---		

(f) – indicates failure along pre-existing foliation surfaces
(pf) – indicates failure partially along pre-existing foliation surfaces

APPENDIX 11

DRAWINGS



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CLIENT: LAKE SHORE GOLD CORP.
PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS & THUNDER CREEK DEPOSIT
MINE LONGITUDINAL SECTION

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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PROJ. NO. 169512508
DWG. NO. 510–U0010
REV. NO. A

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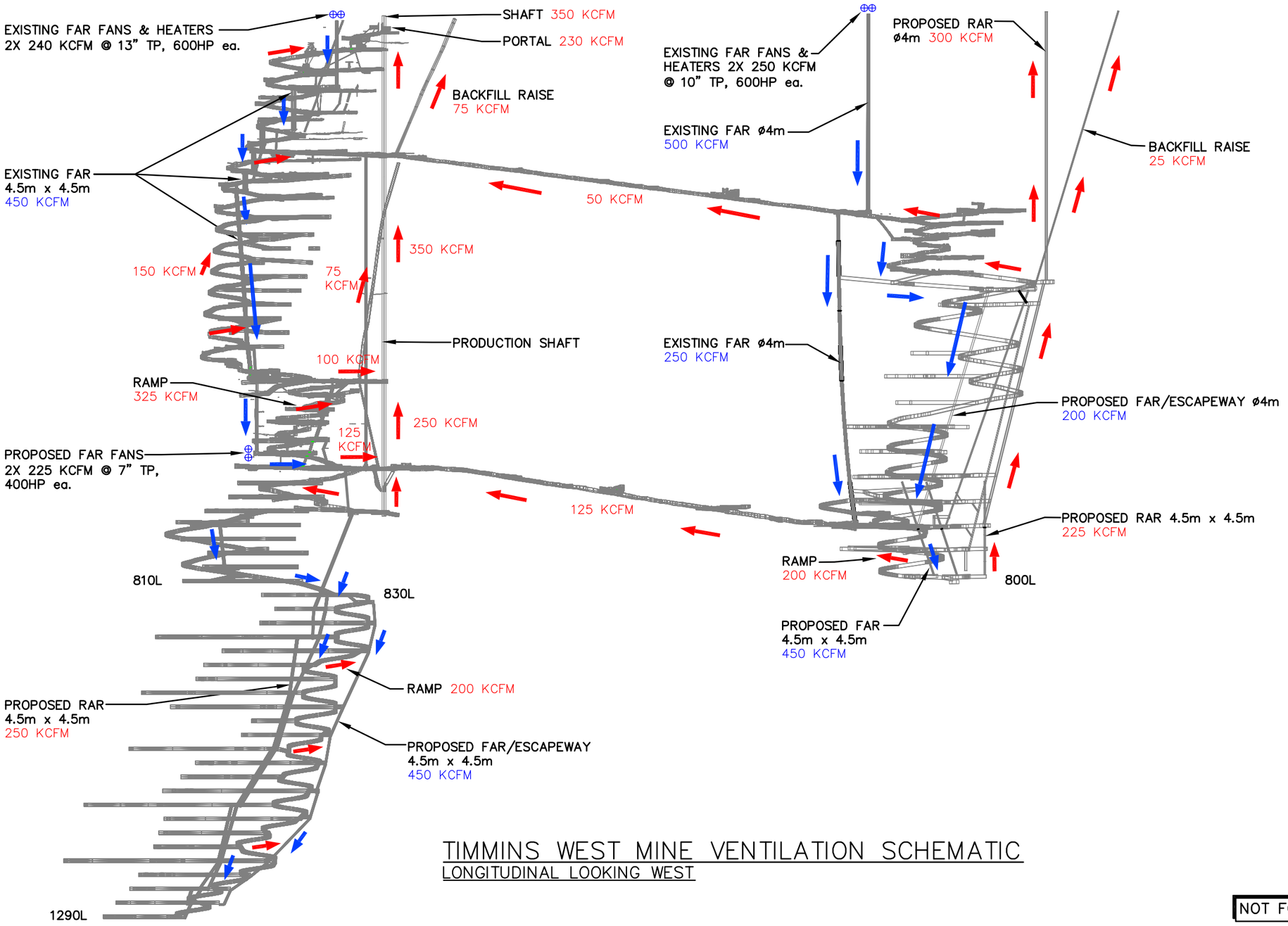

TIMMINS WEST MINE VENTILATION SCHEMATIC
LONGITUDINAL LOOKING WEST

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VENTILATION SCHEMATIC
SECTION

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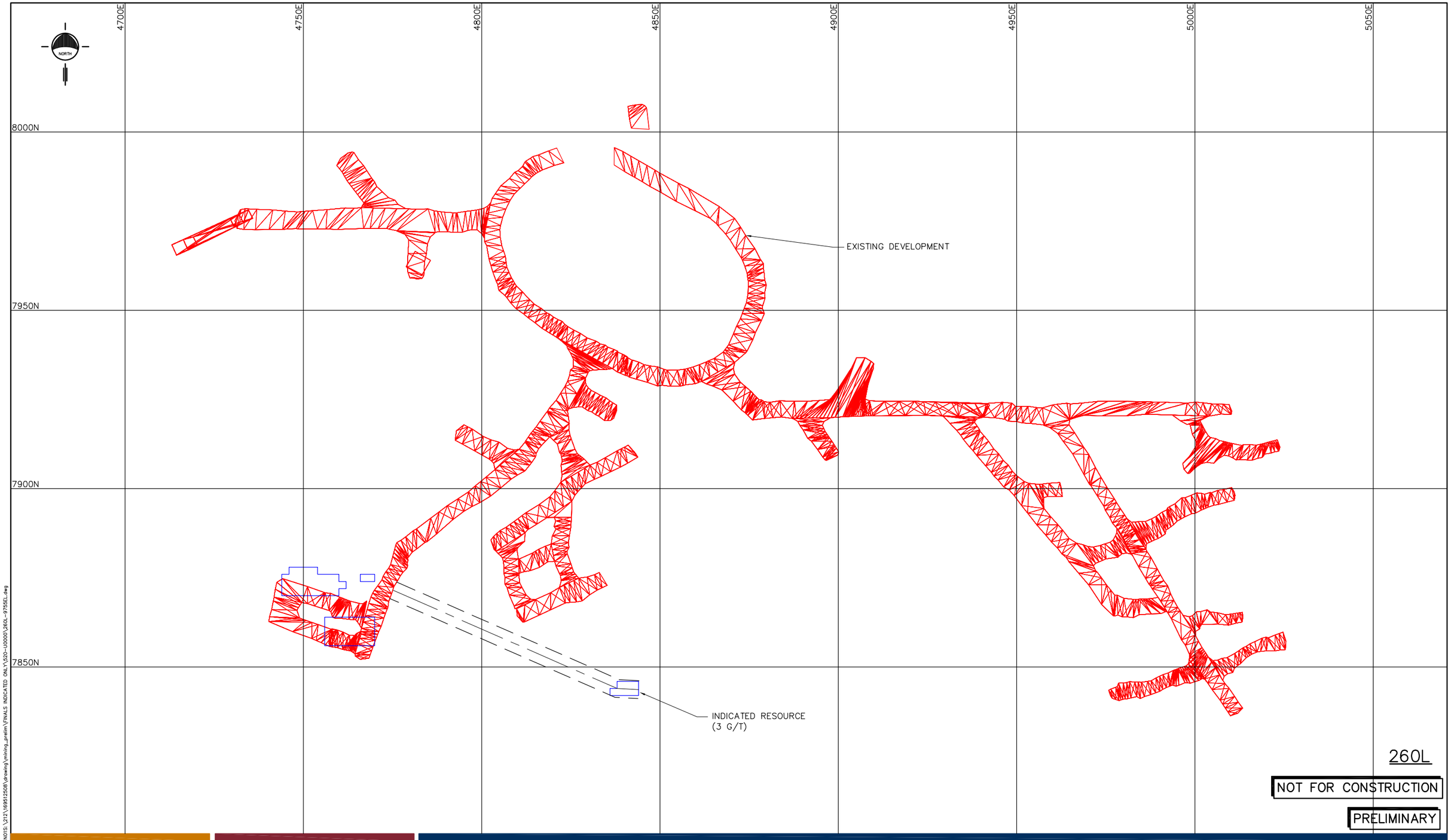

260L

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DWG. NO. 520–U0260
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260L
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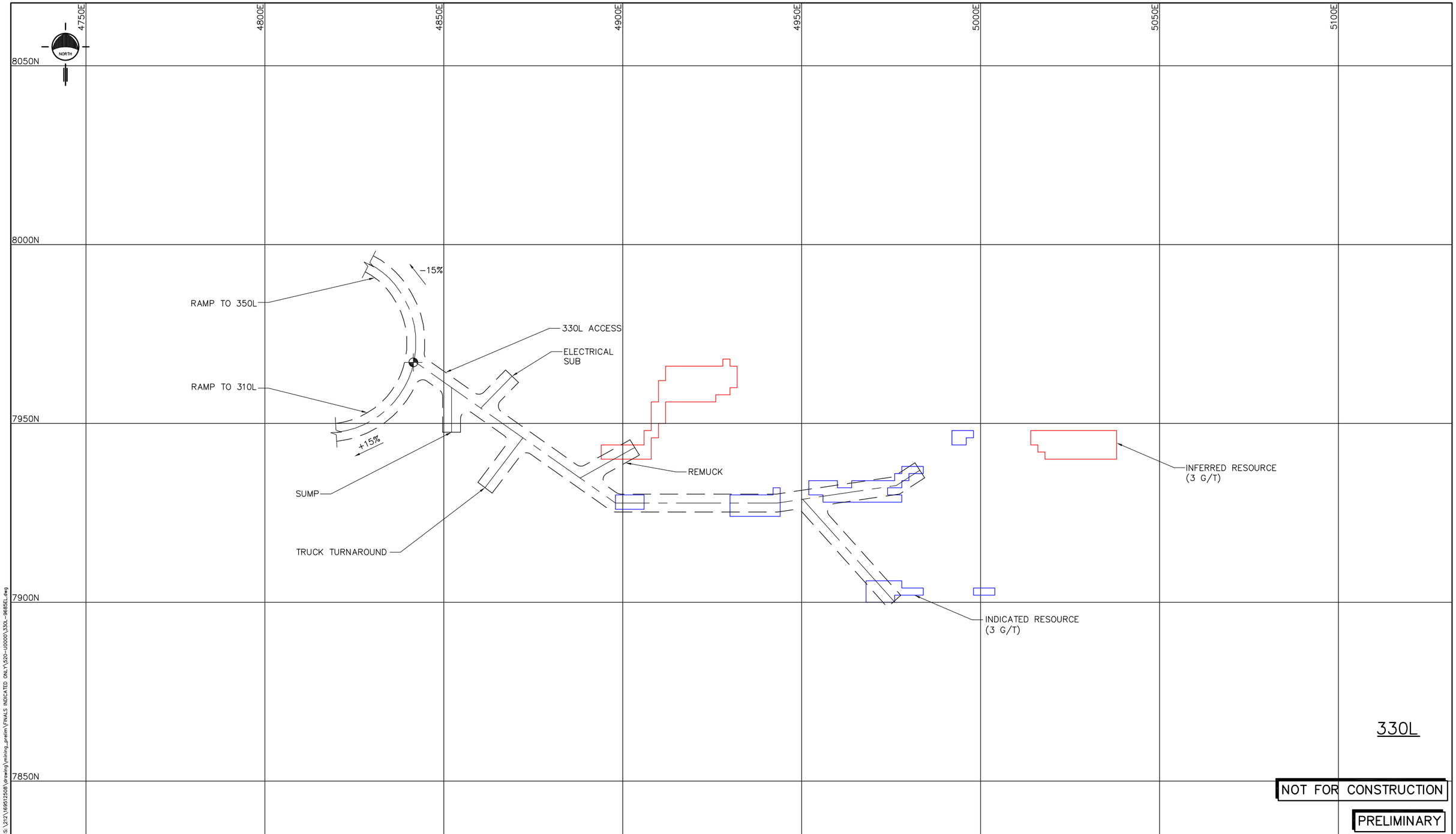

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SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520–U0330 | REV. NO. A

4650E 4700E 4750E 4800E 4850E 4900E 4950E 5000E

8000N

7950N

7900N

7850N

NORTH

RAMP TO 370L

-15%

+15%

RAMP TO 330L

350L ACCESS #2

INFERRED RESOURCE
(3 G/T)

SUMP

ELECTRICAL SUB

REMUCK

350L ACCESS #1

TRUCK TURNAROUND

INDICATED RESOURCE
(3 G/T)

350L

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350L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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PROJ. NO. 169512508
DWG. NO. 520–U0350
REV. NO. A

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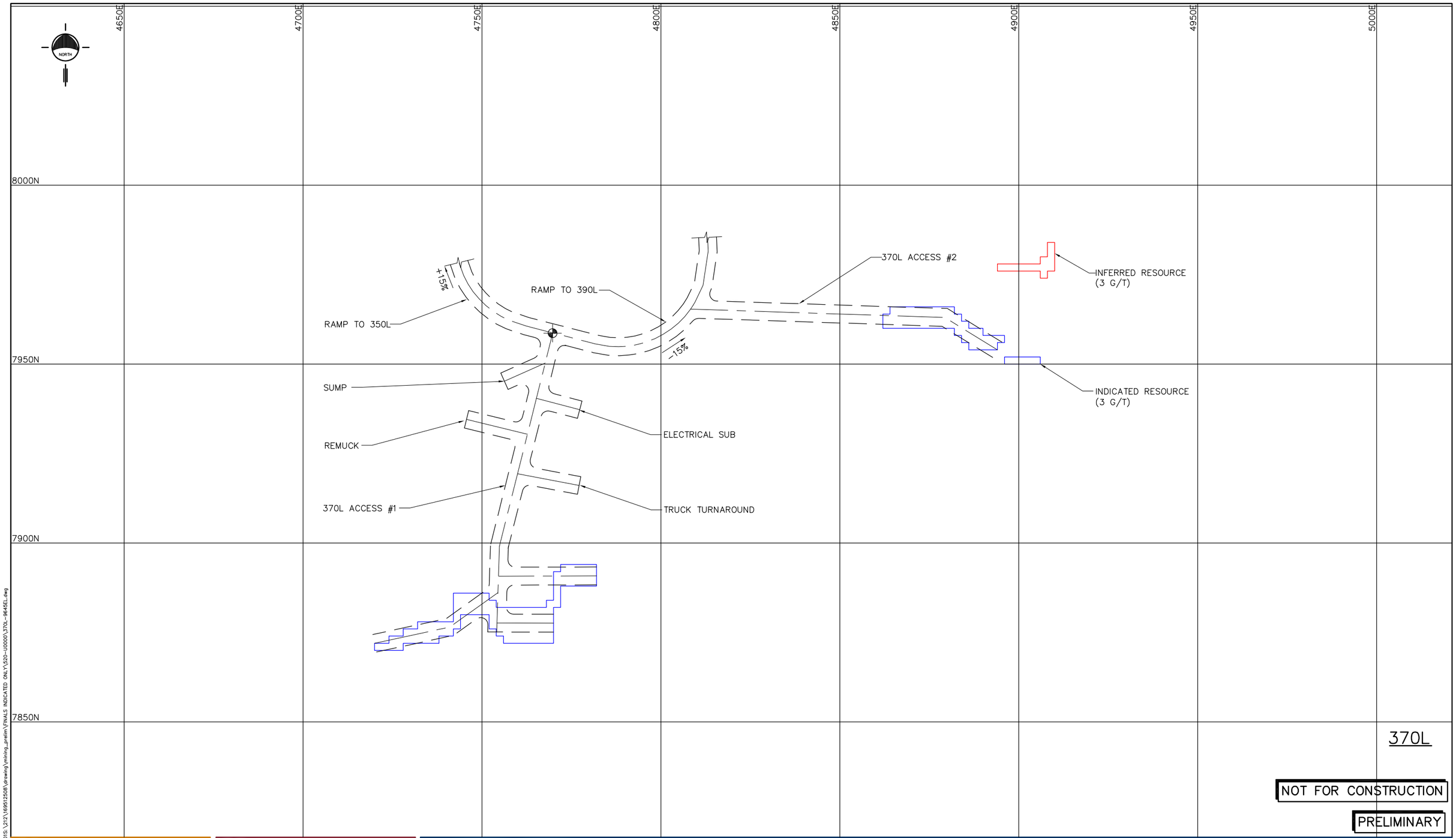

370L

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PLAN

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PROJ. NO. 169512508
DWG. NO. 520–U0370

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8050N

8000N

7950N

7900N

7850N

RAMP TO 410L

-15%

SUMP

REMUCK

ELECTRICAL SUB

RAMP TO 370L

+15%

TRUCK TURNAROUND

390L ACCESS

INFERRED RESOURCE
(3 G/T)

INDICATED RESOURCE
(3 G/T)

390L

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TIMMINS DEPOSIT
390L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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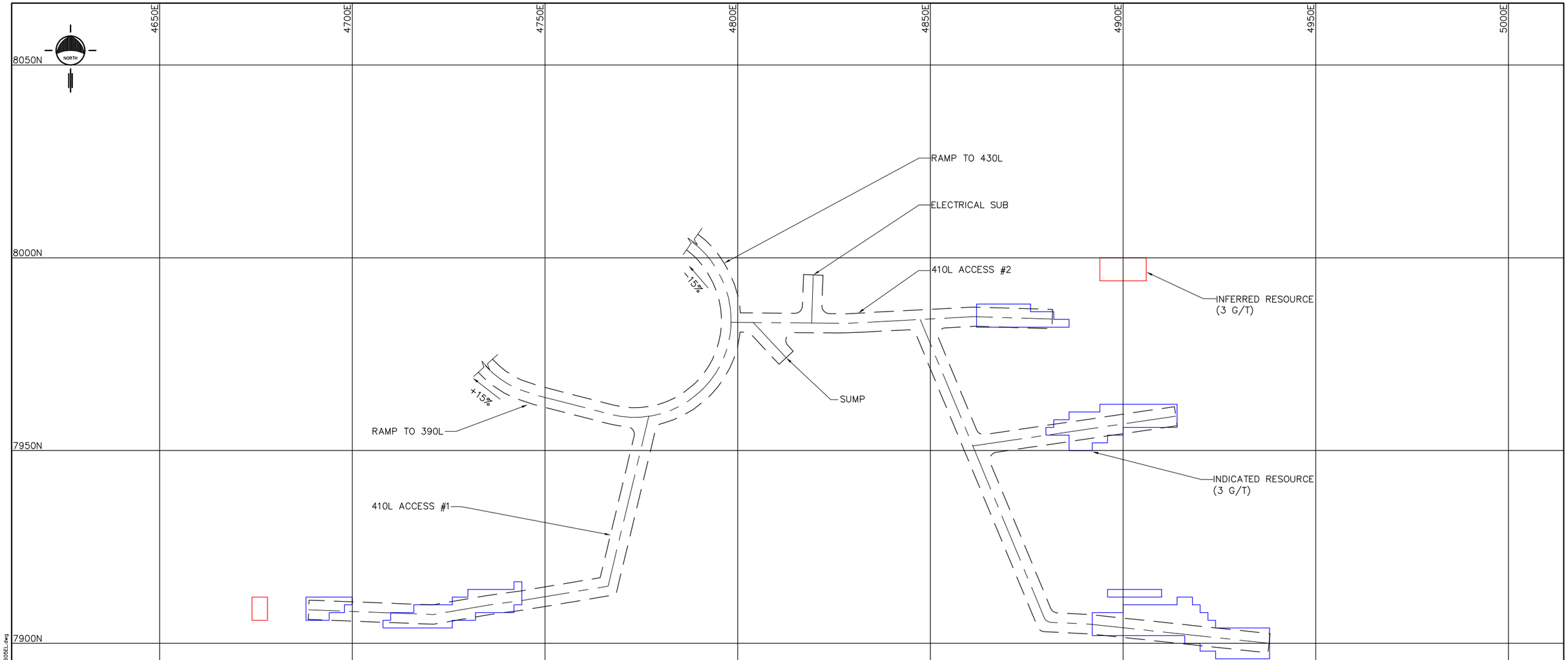

410L

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PRELIMINARY

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A	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL		

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DWG. NO. 520–U0410

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PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
410L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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8050N

8000N

7950N

7900N

7850N

NORTH

ELECTRICAL SUB

430L ACCESS

REMUCK

RAMP TO 455L

-15%

+15%

SUMP

RAMP TO 410L

INDICATED RESOURCE
(3 G/T)

430L

NOT FOR CONSTRUCTION

PRELIMINARY

REF. DWG. NO.	REFERENCE DRAWING TITLE
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REV.	DESCRIPTION	DATE	BY	CHK'D DSGN. CHECK	DSGN ENG. PR.MGR.
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DATE: 2012.04.03

Stantec

CLIENT: LAKE SHORE GOLD CORP.

PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
430L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0430	A

PROJ. NO. 169512508
DWG. NO. 520–U0430
REV. NO. A

May 10, 2012 – 2:32pm \\CD1212-N01S.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\430L-95585L.dwg

4650E 4700E 4750E 4800E 4850E 4900E 4950E 5000E

NORTH

8050N

8000N

7950N

7900N

7850N

EXISTING DEVELOPMENT

INDICATED RESOURCE
(3 G/T)

NO MINING FOR PFS

475L

NOT FOR CONSTRUCTION

PRELIMINARY

REV. NO.								
A								
169512508								
520-U0475								
PROJ. NO. DWG. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHK'D DSGN. CHECK	DSGN ENG. PM/MGR
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DATE: 2012.04.03

Stantec

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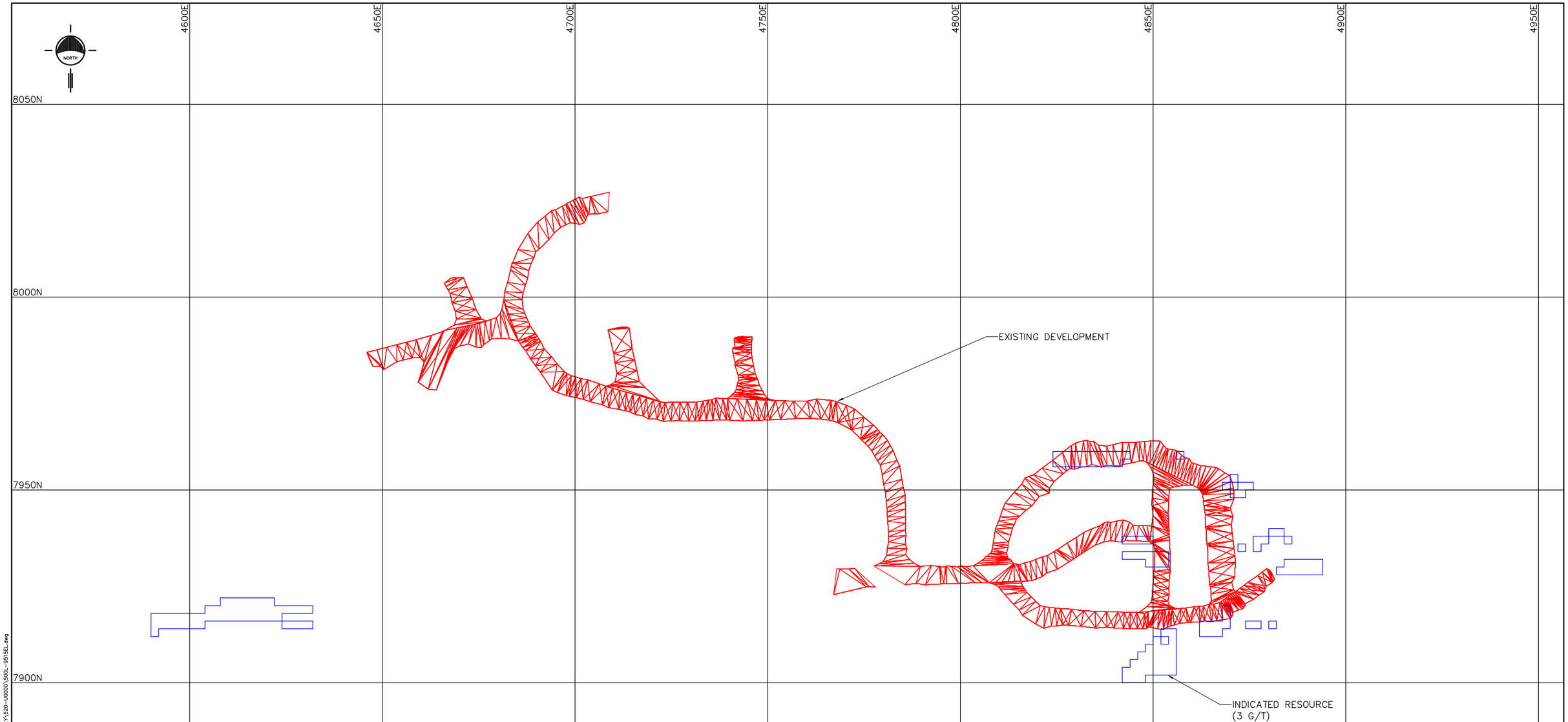
PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
475L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520-U0475	A

May 10, 2012 - 2:32pm \\CD1212-N01S\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\475L-9540EL.dwg



NO MINING FOR PFS

500L

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PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN. ENG. PRJMGR
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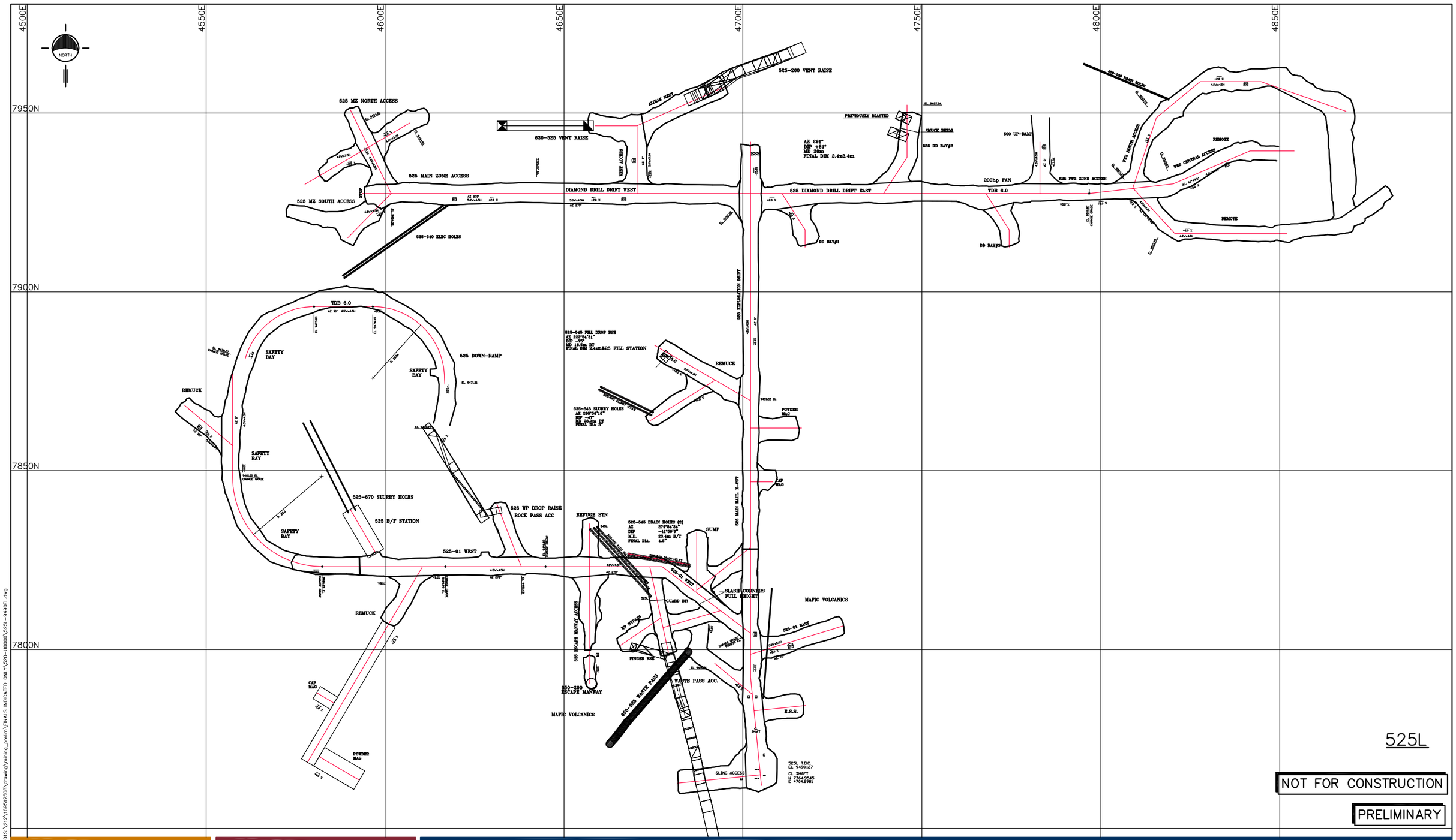
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
500L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0500	A

PROJ. NO. 169512508
DWG. NO. 520–U0500
REV. NO. A

May 10, 2012 – 2:32pm \\CD1212–N01S.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520–U0000\500L–951EL.dwg



525L

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DWG. NO. 520-U0525
REV. NO. A

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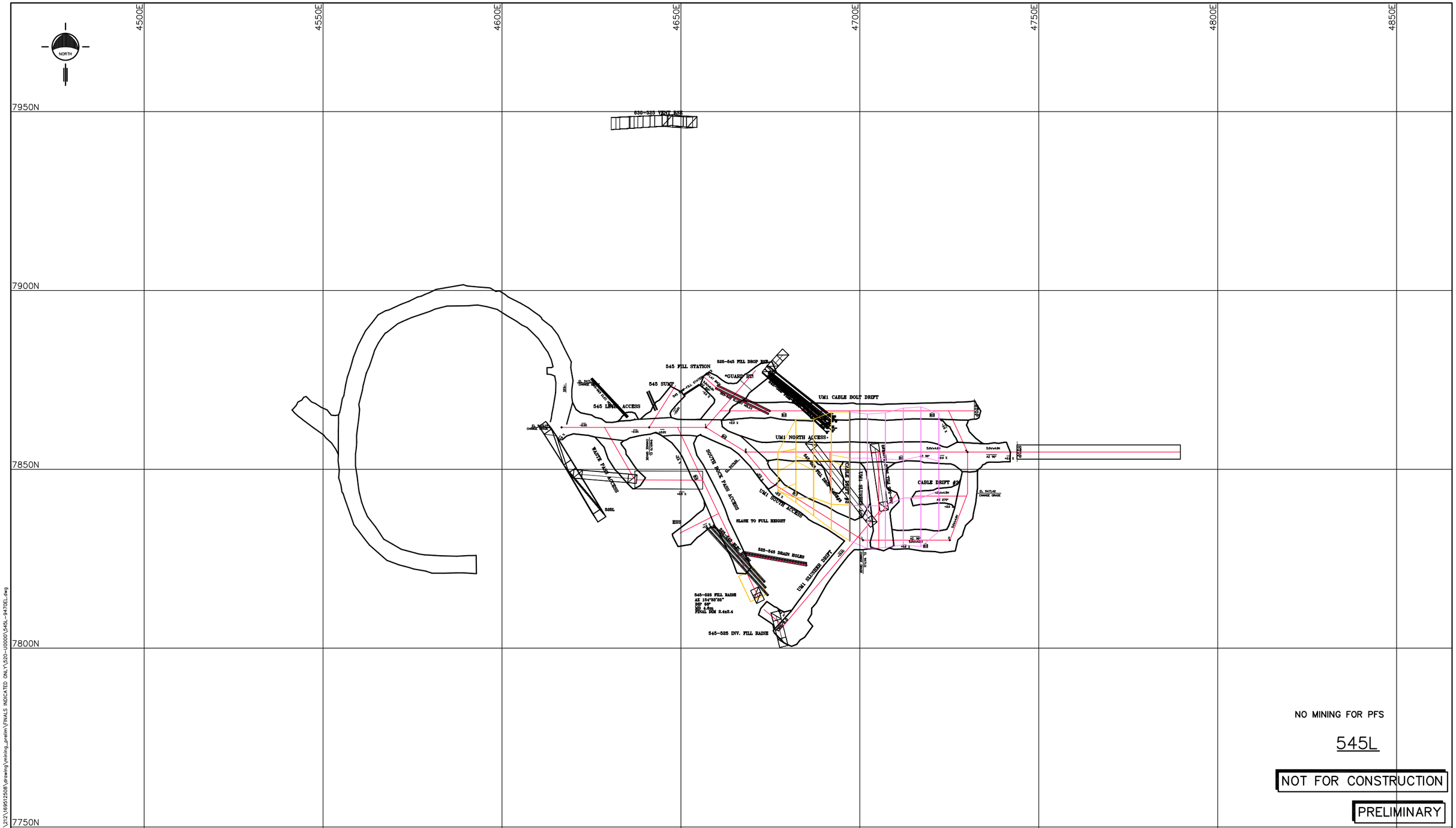
PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
525L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520-U0525 | REV. NO. A

May 10, 2012 - 2:32pm \\GD1212-NOIS.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\525L-9490EL.dwg



NO MINING FOR PFS

545L

NOT FOR CONSTRUCTION

PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY
A	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL

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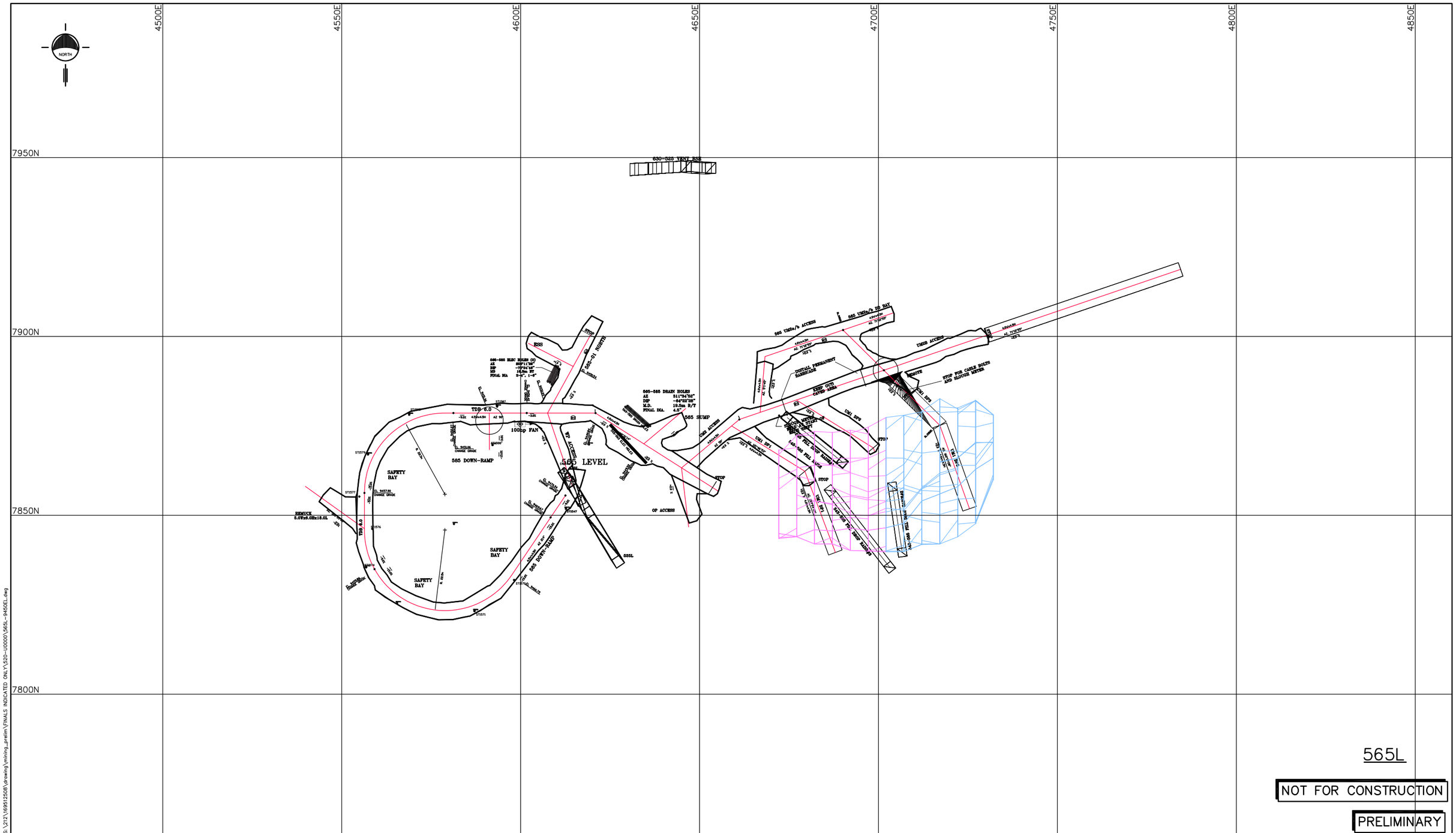
PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
545L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520-U0545 | REV. NO. A

May 10, 2012 - 2:32pm \\CD1212-N01S\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\545L-9470EL.dwg



565L

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PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN ENG. PR.MGR
A	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL		

PROJ. NO. 169512508 DWG. NO. 520-U0565

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TIMMINS DEPOSIT
565L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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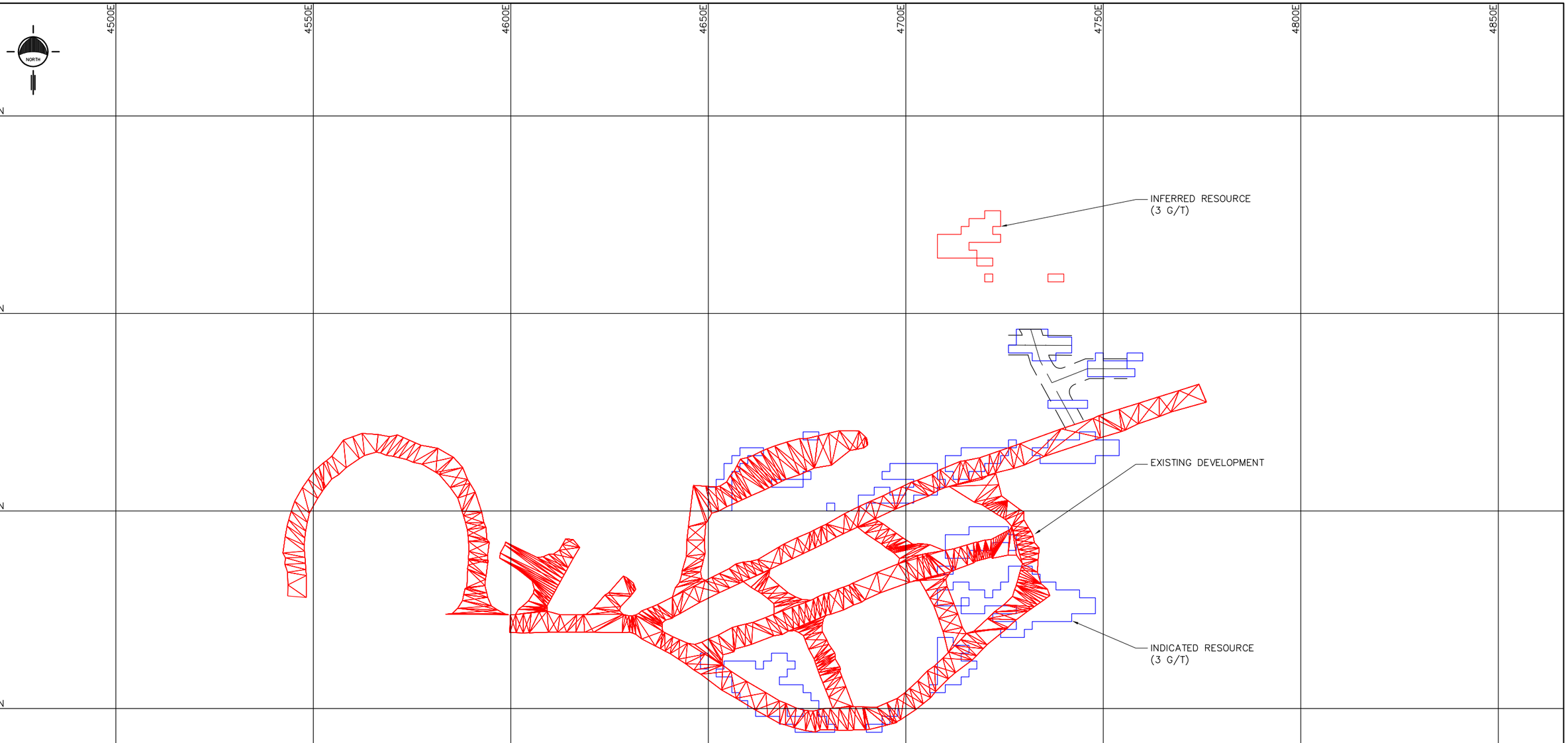

585L

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DWG. NO. 520–U0585

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PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
585L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0585	A

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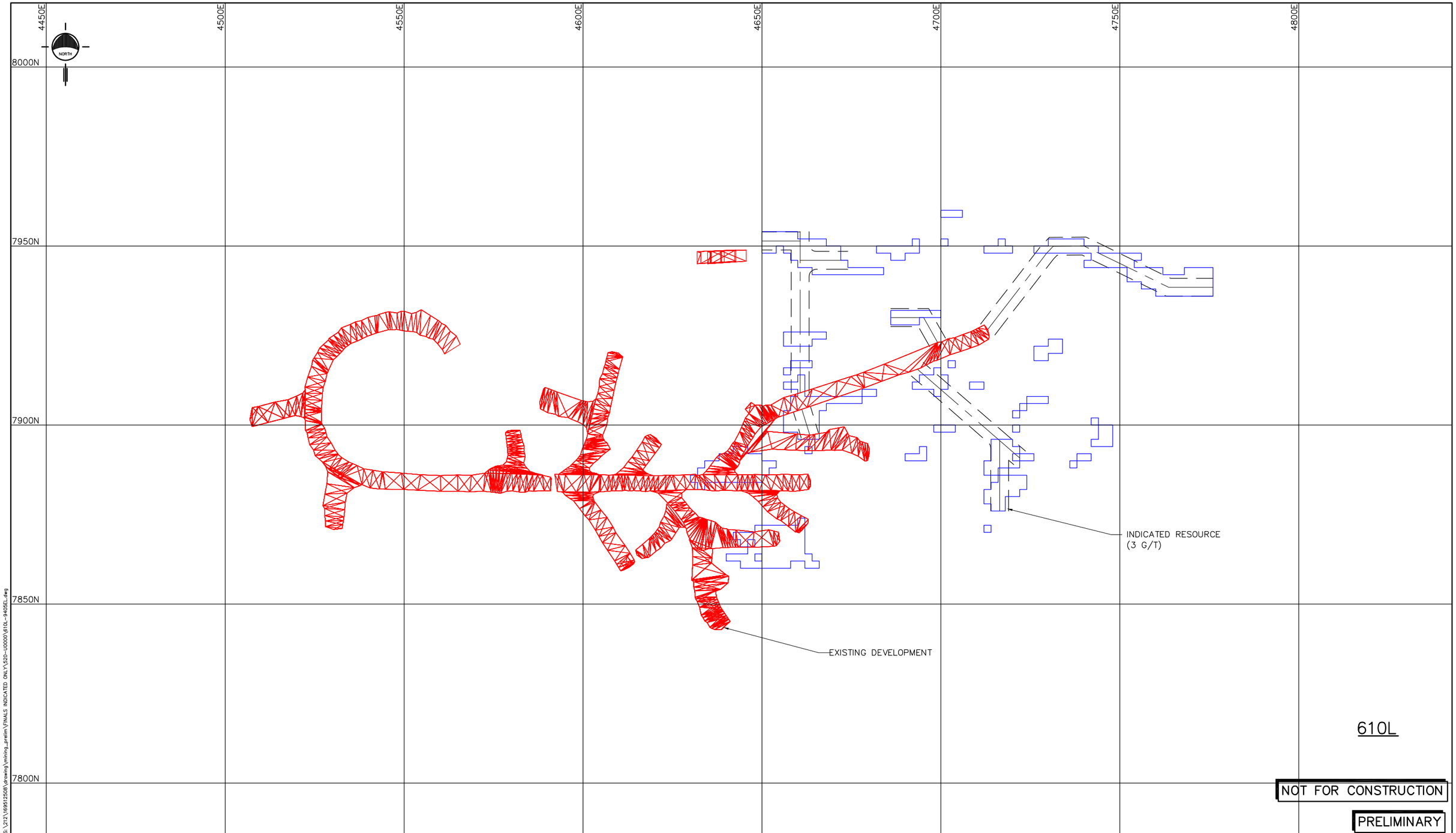

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PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
610L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0610	A

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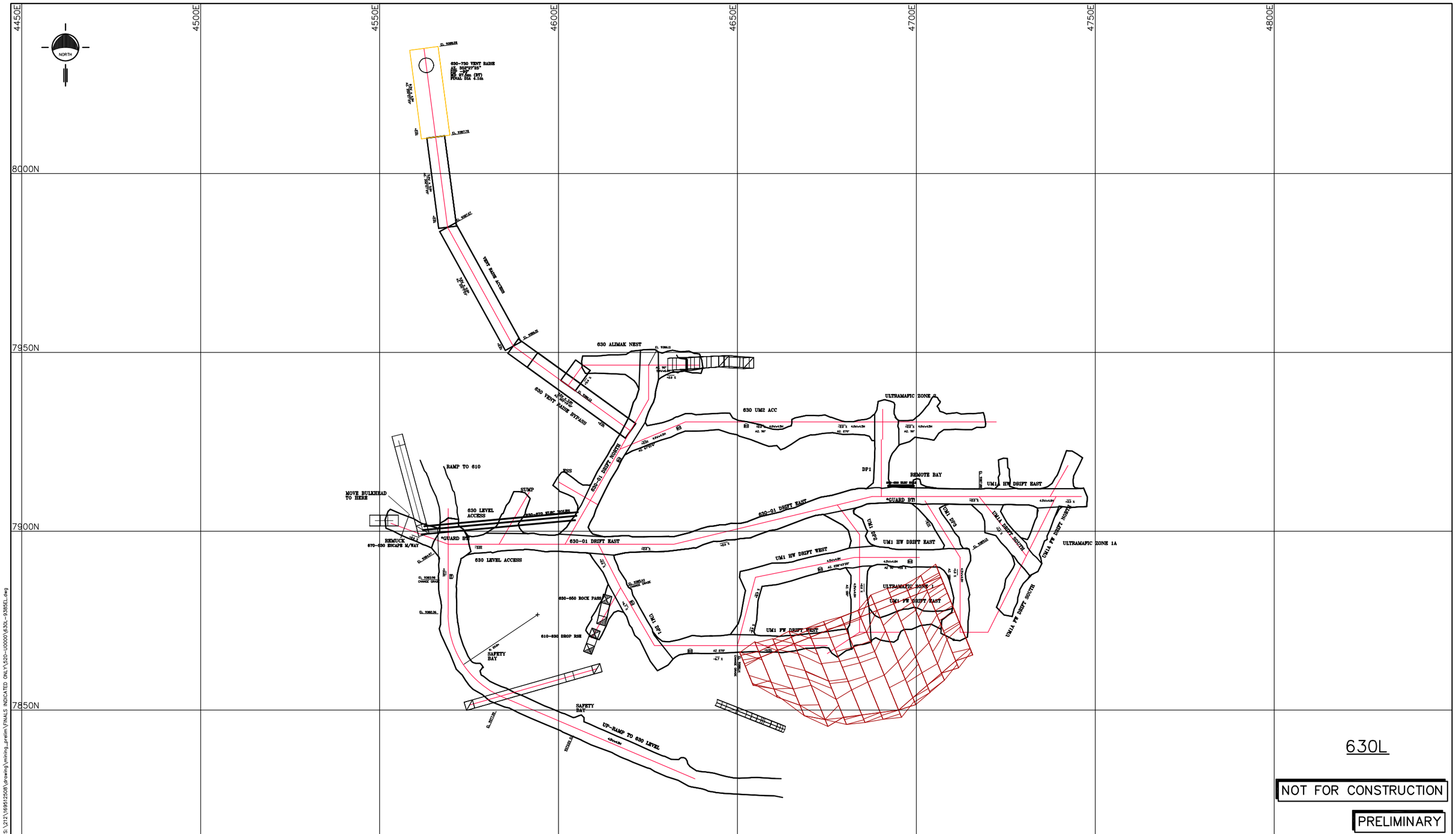

630L

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REV. NO.	DWG. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHEF DSGN CHECK	DSGN ENG. PR.MGR
A	520-U0630	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL		

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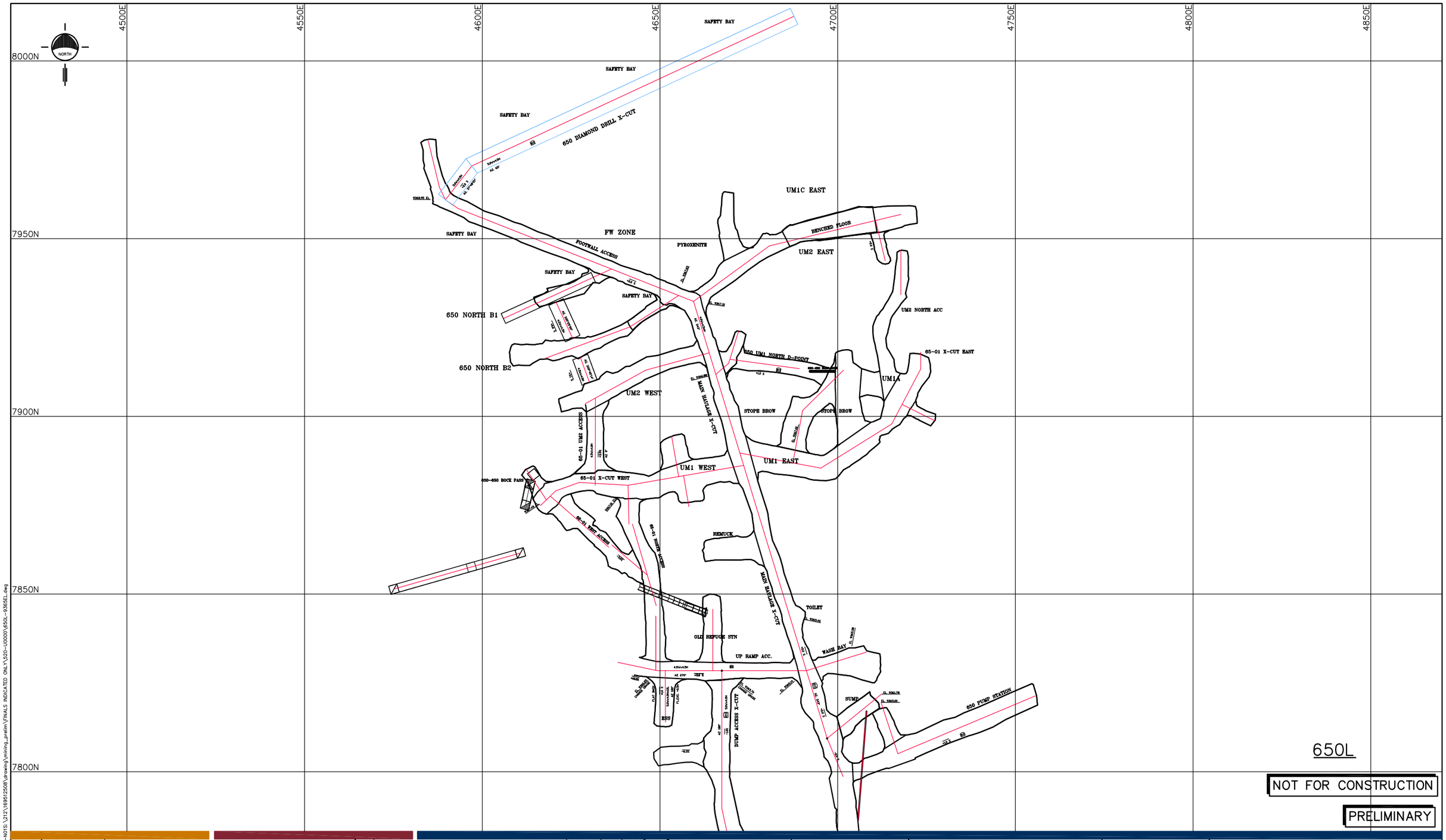
PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
630L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520-U0630	A

May 10, 2012 – 2:33pm \\CD1212-N01S\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\630L-9385EL.dwg



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REV. NO.	DESCRIPTION	DATE	BY
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REF. DWG. NO.	REFERENCE DRAWING TITLE
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DWG. NO. 520-U0650
REV. NO. A

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PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
650L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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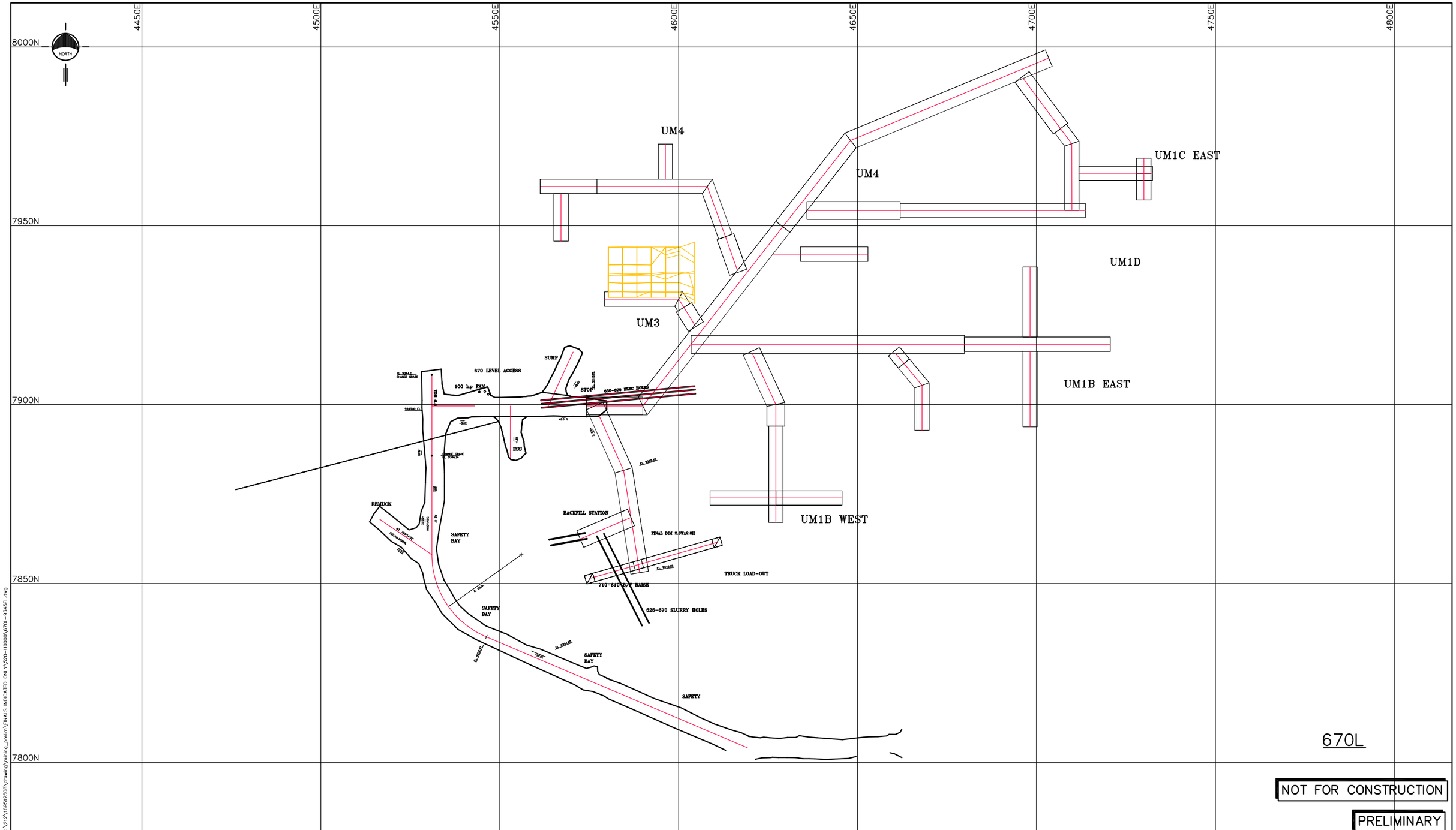

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TIMMINS DEPOSIT
670L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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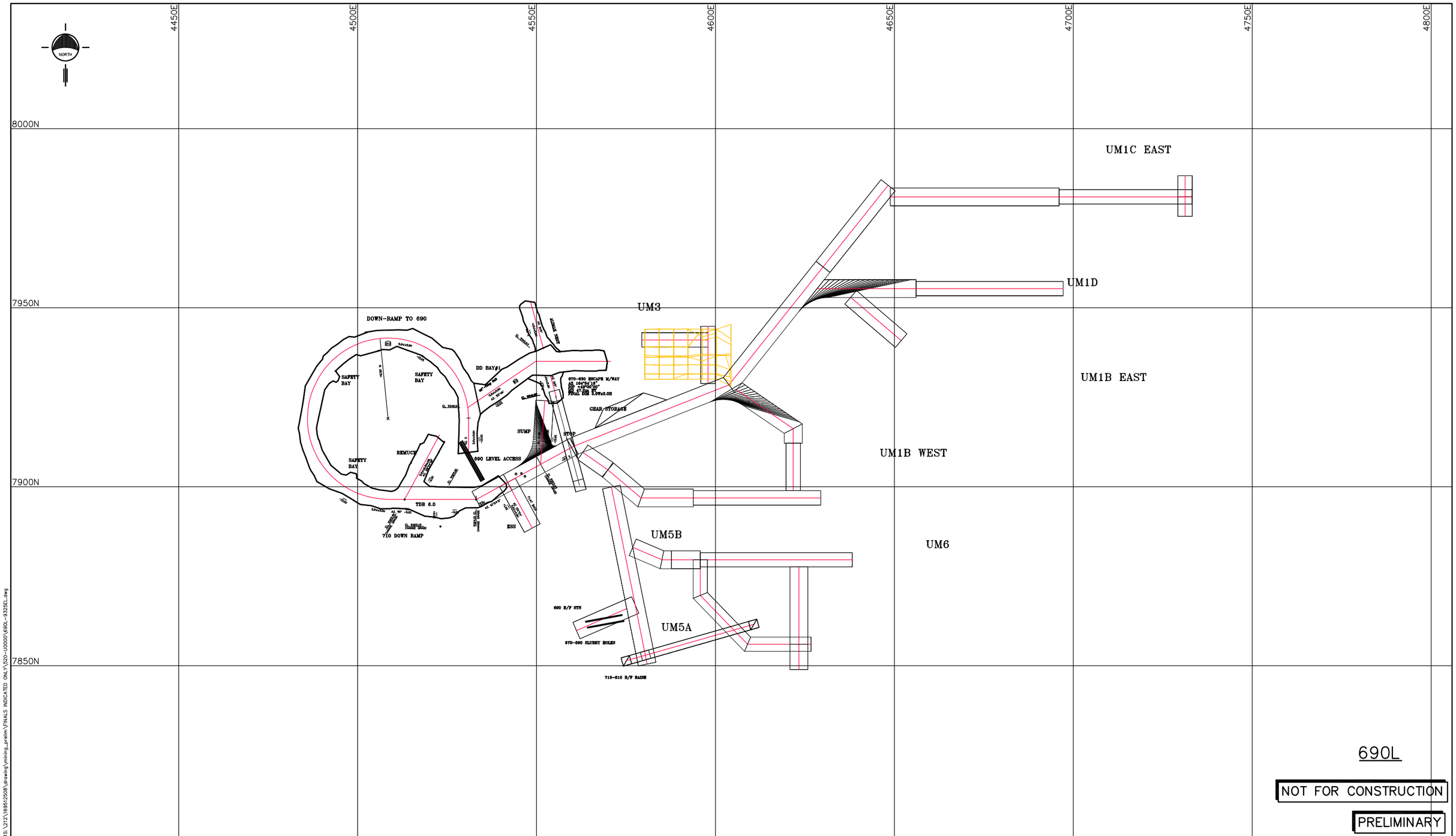

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PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
690L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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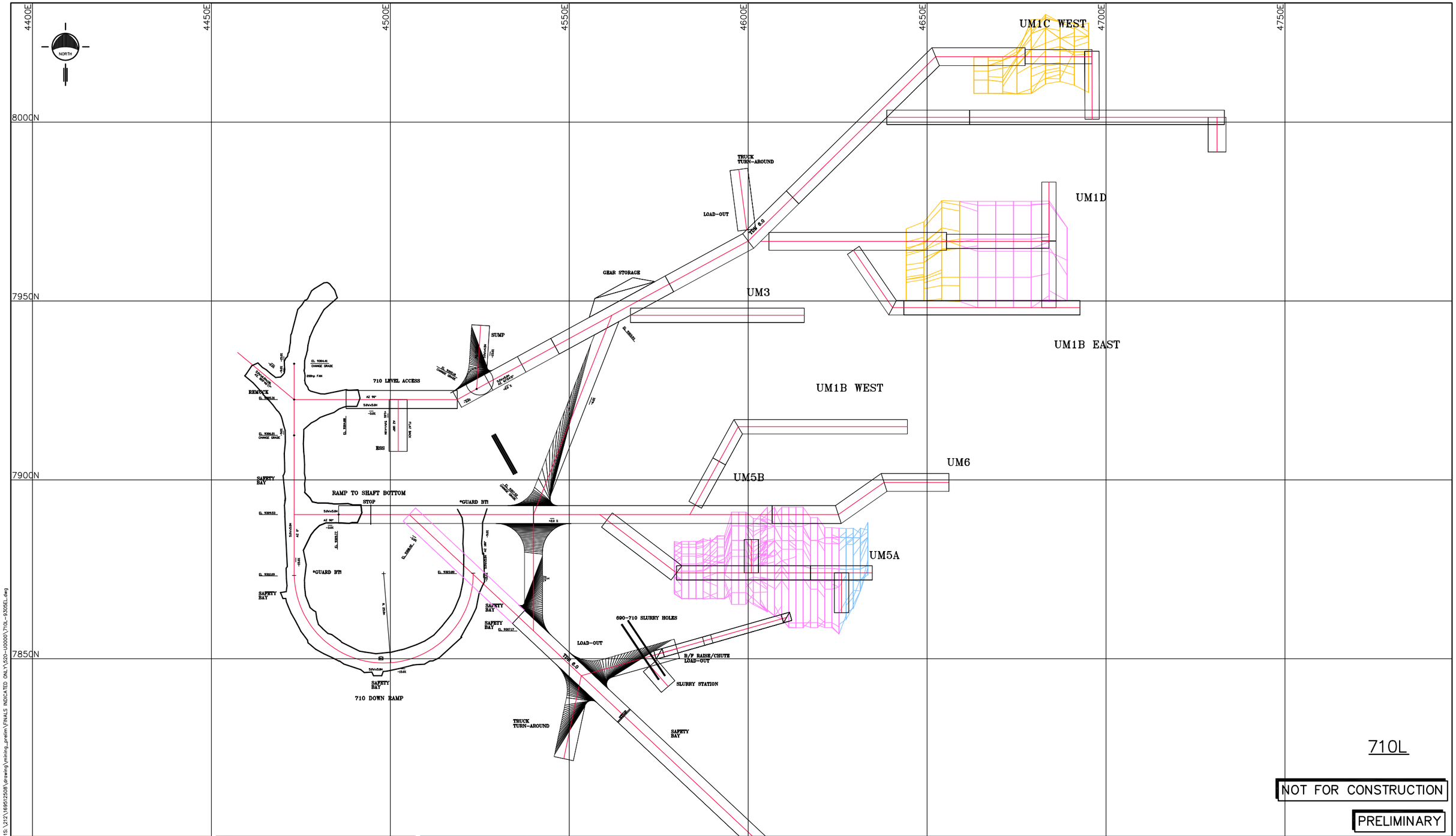

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PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
710L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0710	A

May 10, 2012 – 2:33pm \\CD1212-N01S\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\710L-9305EL.dwg

4400E 4450E 4500E 4550E 4600E 4650E 4700E 4750E

8050N 8000N 7950N 7900N 7850N

730-810 VENT RAISE
VENT ACCESS
630-730 VENT RAISE
SUMP
SUMP
730 DEEP D.D. DRIFT
750 DOWN RAMP
730 LEVEL ACCESS
GEAR STORAGE
UM1C WEST
UM1D
SAFETY BAY
SAFETY BAY
SAFETY BAY
SAFETY BAY
730 LEVEL ACCESS
SUMP
ESS
STOP
UM1B EAST
730 D.D. DRIFT
RAMP TO 730
SHMUCK
UM6
LOAD-OUT
UM1B WEST
UM5B
UM5A

730L

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PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
730L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520-U0730 | REV. NO. A

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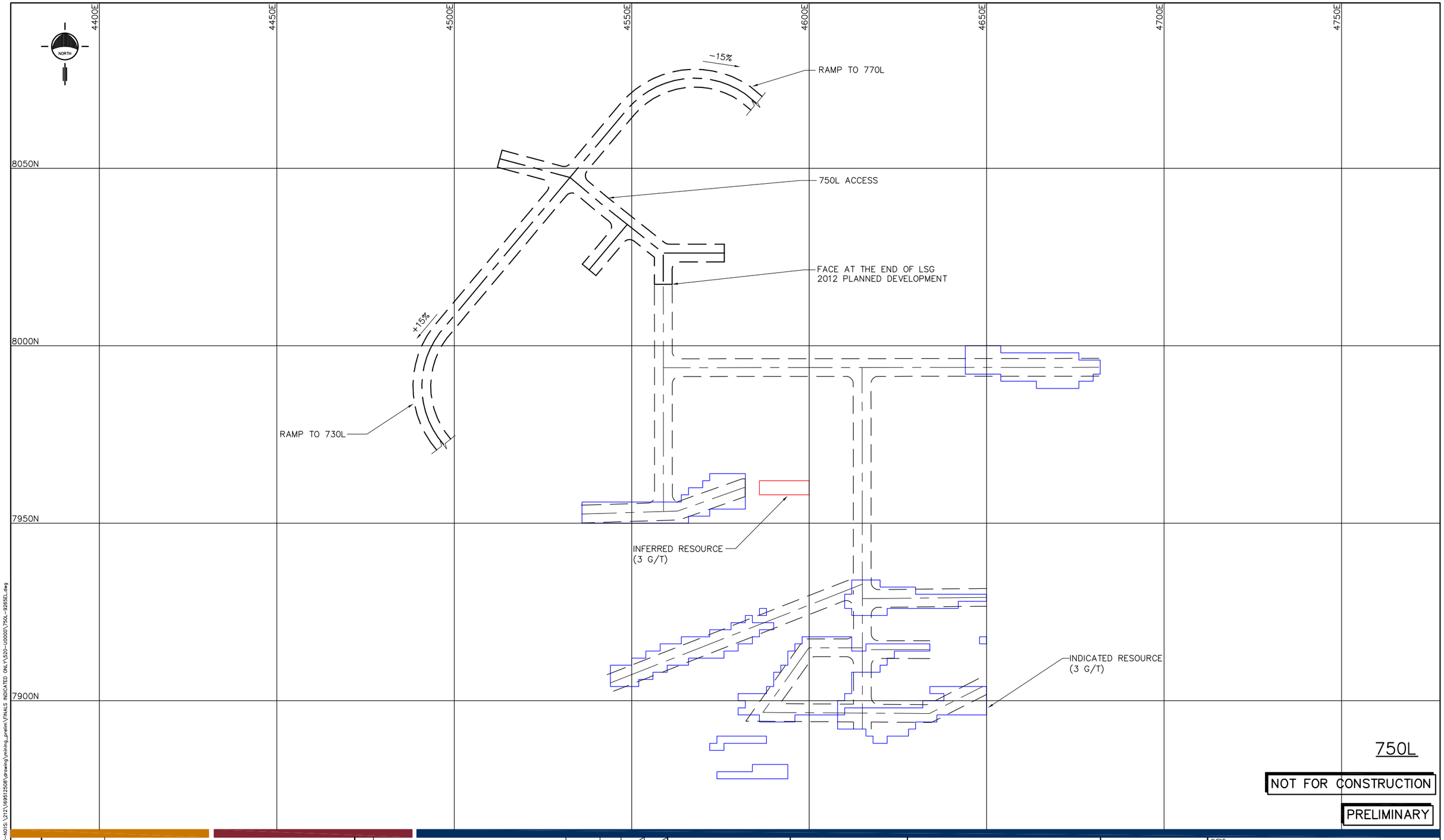

750L

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DATE: 2012.04.03

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PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
750L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0750	A

PROJ. NO. 169512508
DWG. NO. 520–U0750
REV. NO. A

May 10, 2012 – 2:33pm \\CD1212-N01S.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520–U0000\750L–9265EL.dwg

4450E 4500E 4550E 4600E 4650E 4700E 4750E 4800E

8050N

8000N

7950N

7900N

7850N

NORTH

+15%

RAMP TO 790L

770L ACCESS

-15%

RAMP TO 750L

FACE AT THE END OF LSG
2012 PLANNED DEVELOPMENT

INFERRED RESOURCE
(3 G/T)

INDICATED RESOURCE
(3 G/T)

770L

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A	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL		

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DATE: 2012.04.03

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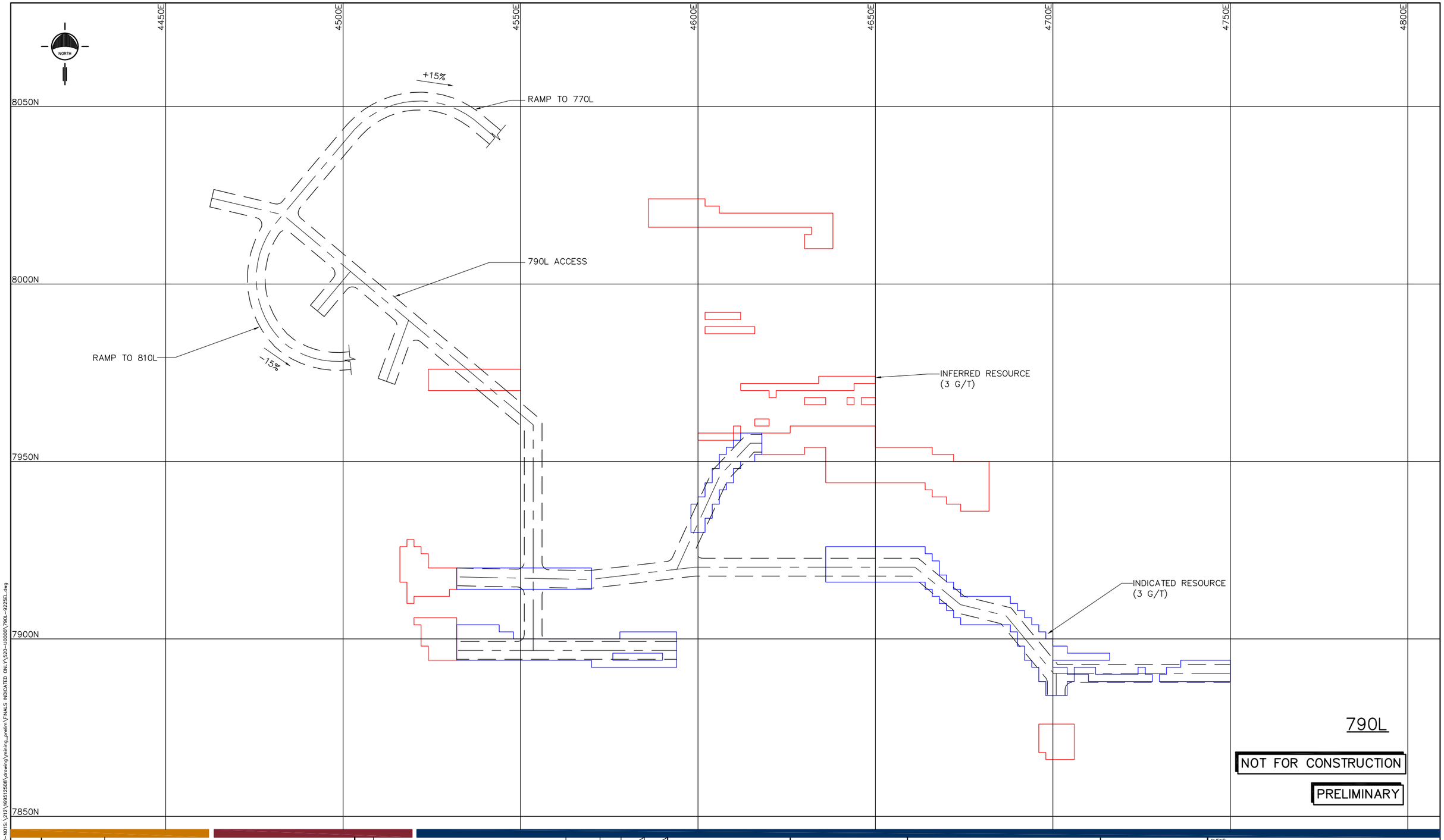
PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
770L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520-U0770 | REV. NO. A

PROJ. NO. 169512508
DWG. NO. 520-U0770

May 10, 2012 - 2:33pm \\CH1212-N016\J212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\770L-9245EL.dwg



790L

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PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. / CHECK	DSGN. ENG. / PR.MGR.
A	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL		

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ORIGINAL DRAWN BY: MDL

DATE: 2012.04.03

Stantec

CLIENT: LAKE SHORE GOLD CORP.

PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
790L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0790	A

PROJ. NO. 169512508
DWG. NO. 520–U0790
REV. NO. A

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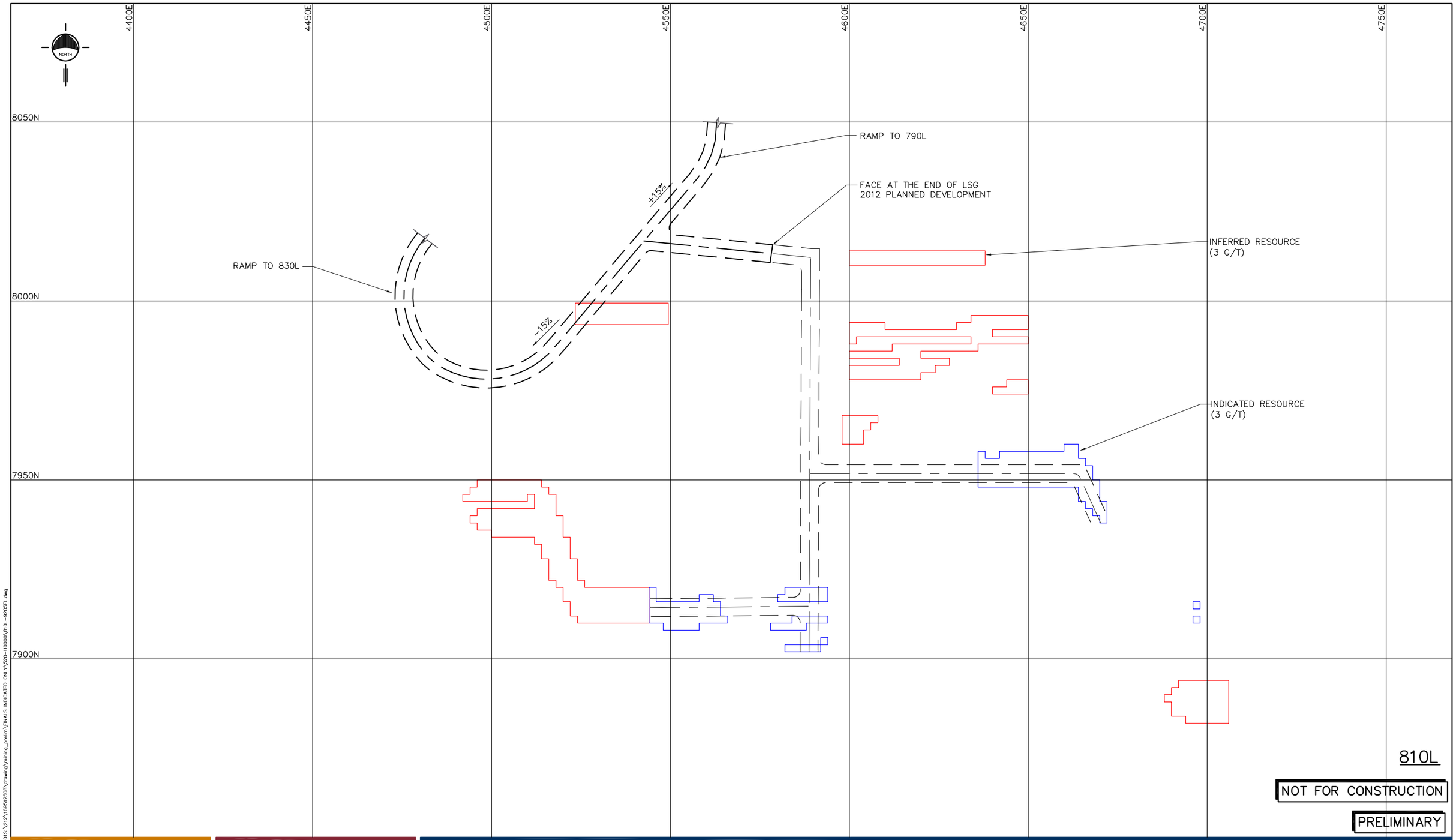

REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY
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DATE: 2012.04.03

Stantec

CLIENT: LAKE SHORE GOLD CORP.

PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
810L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0810	A

PROJ. NO. 169512508 DWG. NO. 520–U0010 REV. NO. A

May 10, 2012 – 2:33pm \\CD1212-N01S\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\810L-9205EL.dwg

4450E 4500E 4550E 4600E 4650E 4700E 4750E 4800E

8000N

7950N

7900N

7850N

INDICATED RESOURCE
(3 G/T)

INFERRED RESOURCE
(3 G/T)

REMUCK

TRUCK TURNAROUND

RETURN AIR RAISE

830L ACCESS

FRESH AIR RAISE

ELECTRICAL SUB

SUMP

RAMP TO 810L

+15%

-15%

RAMP TO 850L

830L

NOT FOR CONSTRUCTION

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DATE: 2012.04.03

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PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
830L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0830	A

PROJ. NO. 169512508
DWG. NO. 520–U0830
REV. NO. A

May 10, 2012 – 2:33pm \\CD1212-N01S.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520–U0000\830L–9185EL.dwg

NORTH

4400E 4450E 4500E 4550E 4600E 4650E 4700E 4750E

8000N

7950N

7900N

7850N

7800N

INFERRED RESOURCE
(3 G/T)

INDICATED RESOURCE
(3 G/T)

REMUCK

FRESH AIR RAISE

RAMP TO 830L

+15%

RETURN AIR RAISE

850L ACCESS

ELECTRICAL SUB

SUMP

RAMP TO 870L

-15%

850L

NOT FOR CONSTRUCTION

PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHK'D DSGN. CHECK	DSGN ENG. PR.MGR.
A	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL		

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DWG. NO. 520–U0850

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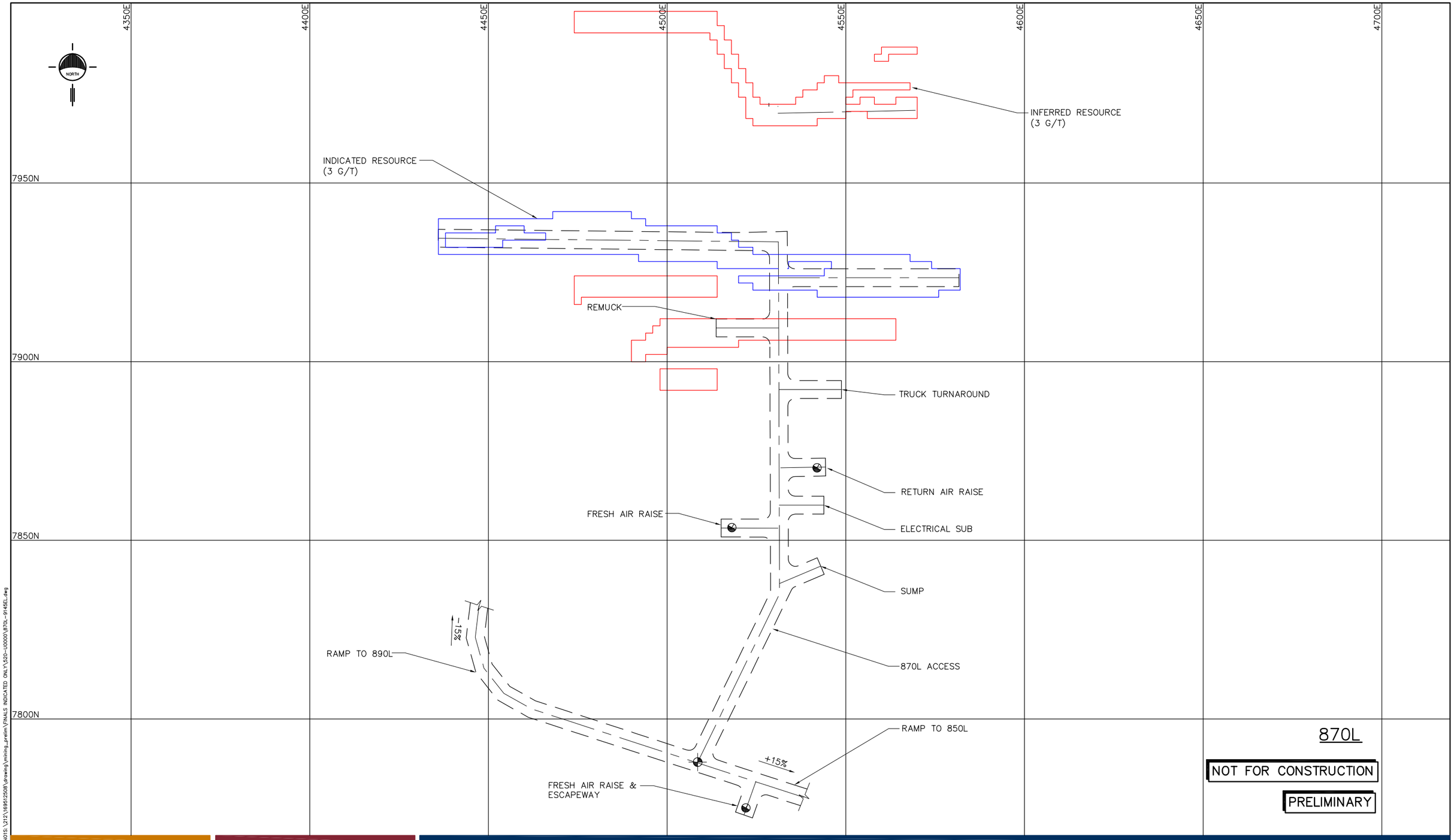
CLIENT: LAKE SHORE GOLD CORP.

PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
850L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0850	A

May 10, 2012 - 2:33pm \\CD1212-N01S.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\850L-9165EL.dwg



870L

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PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN. ENG. APPROV.
A	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL		

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DWG. NO. 520–U0870

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PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
870L
PLAN

SCALE	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0870	A

May 10, 2012 – 2:34pm \\CD1212-N01S.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520–U0000\870L–9145EL.dwg

4350E 4400E 4450E 4500E 4550E 4600E 4650E 4700E

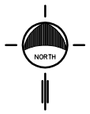
8000N

7950N

7900N

7850N

7800N



DIAMOND DRILL DRIFT

INDICATED RESOURCE
(3 G/T)

INFERRED RESOURCE
(3 G/T)

890L ACCESS

REMUCK

FRESH AIR RAISE

REFUGE STATION

RAMP TO 870L

RETURN AIR RAISE

ELECTRICAL SUB

SUMP

RAMP TO 910L

+15%

-15%

890L

NOT FOR CONSTRUCTION

PRELIMINARY

REF. DWG. NO.	REFERENCE DRAWING TITLE
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REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. / CHECK	DSGN. ENG. / PRJMGR
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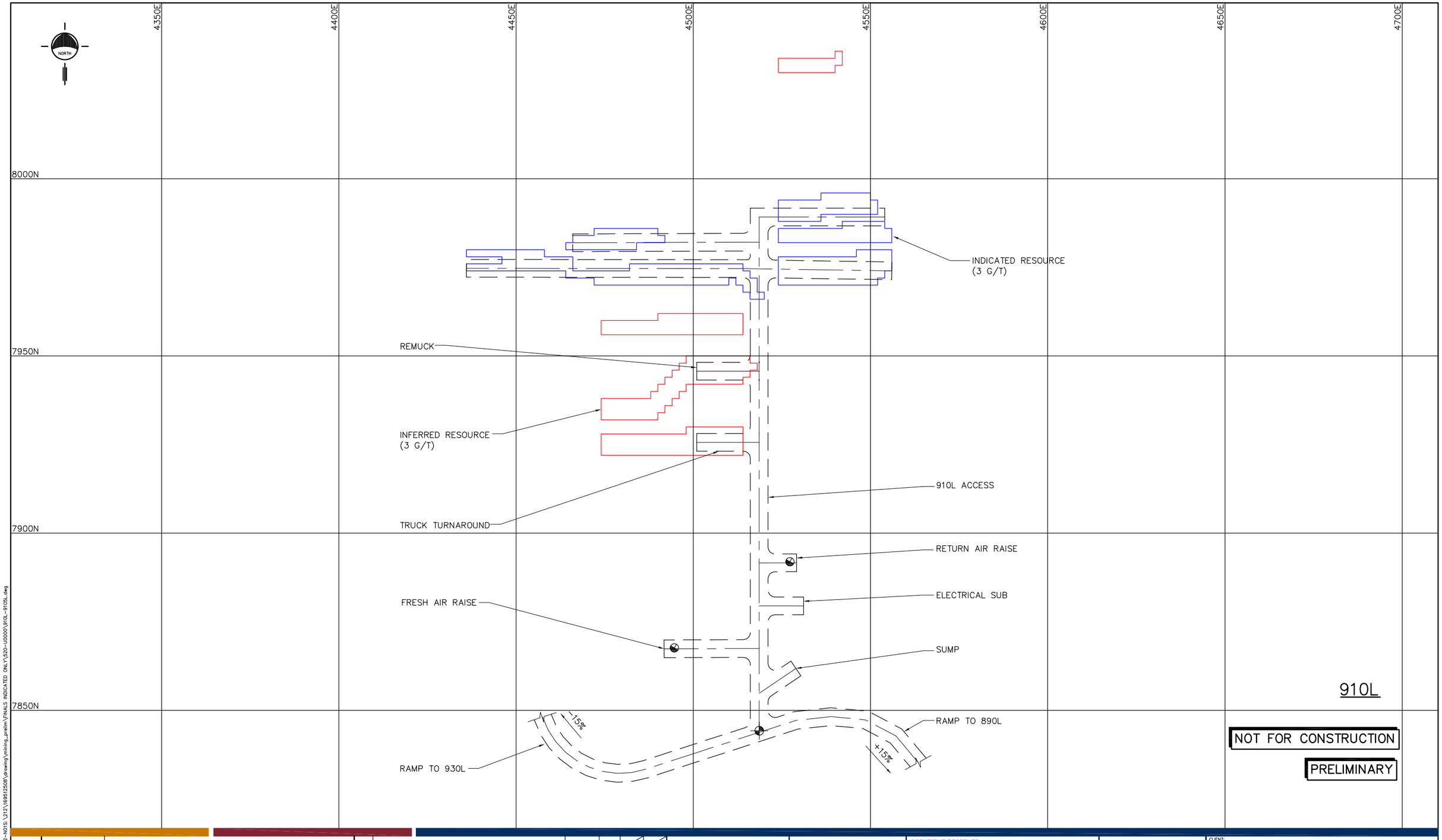
PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
890L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0890	A

PROJ. NO. 169512508
DWG. NO. 520–U0890
REV. NO. A

May 10, 2012 – 2:34pm \\CD1212-N01S.\d12\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520–U0000\890L–9125EL.dwg



910L

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PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHKD DSGN CHECK	DSGN ENG. PR.MGR
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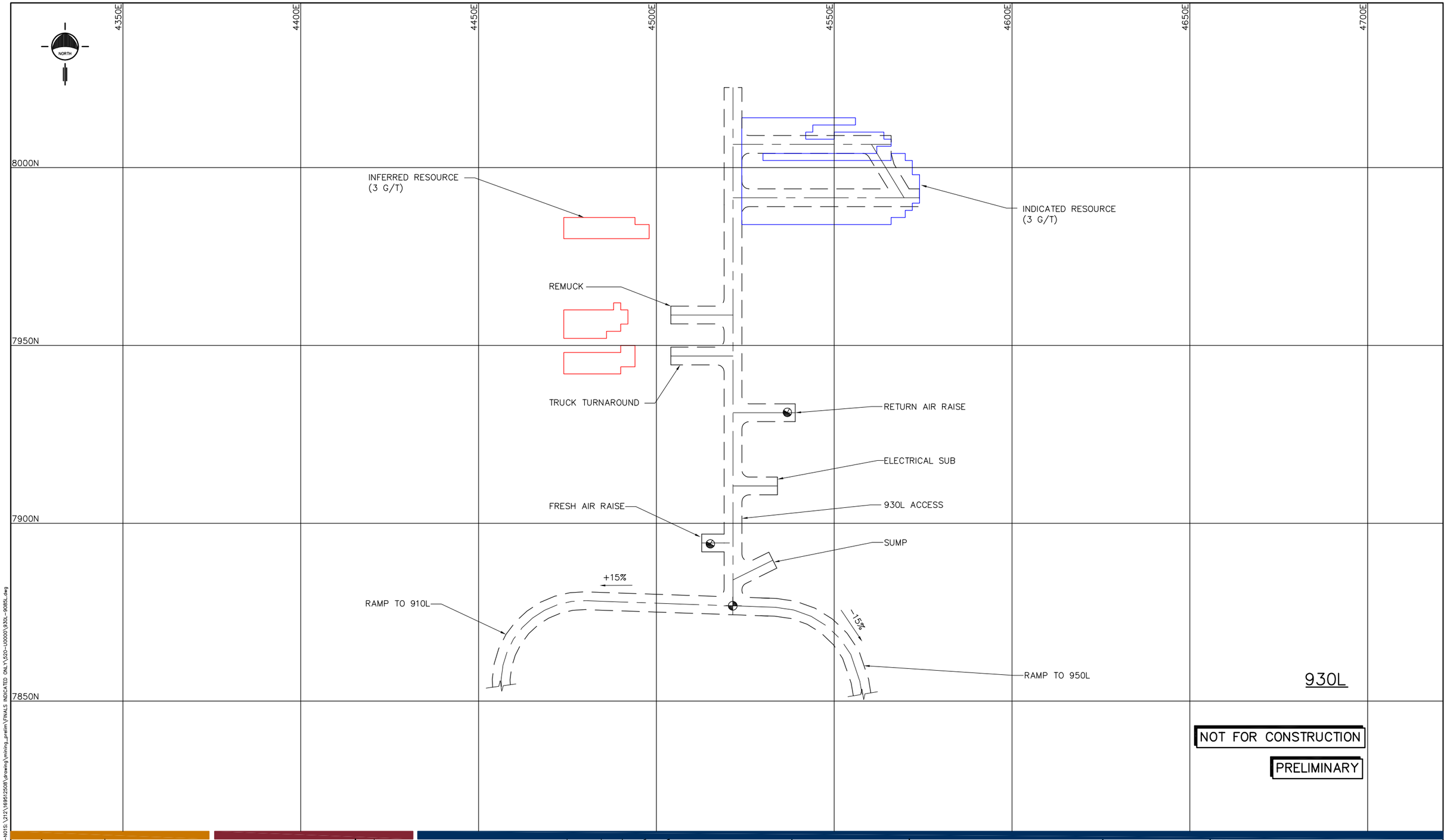
PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
910L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U0910	A

May 10, 2012 – 2:34pm \\CD1212-N01S.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520–U0000\910L–910L.dwg



930L

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PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
930L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520–U0930 | REV. NO. A

PROJ. NO. 169512508
DWG. NO. 520–U0930

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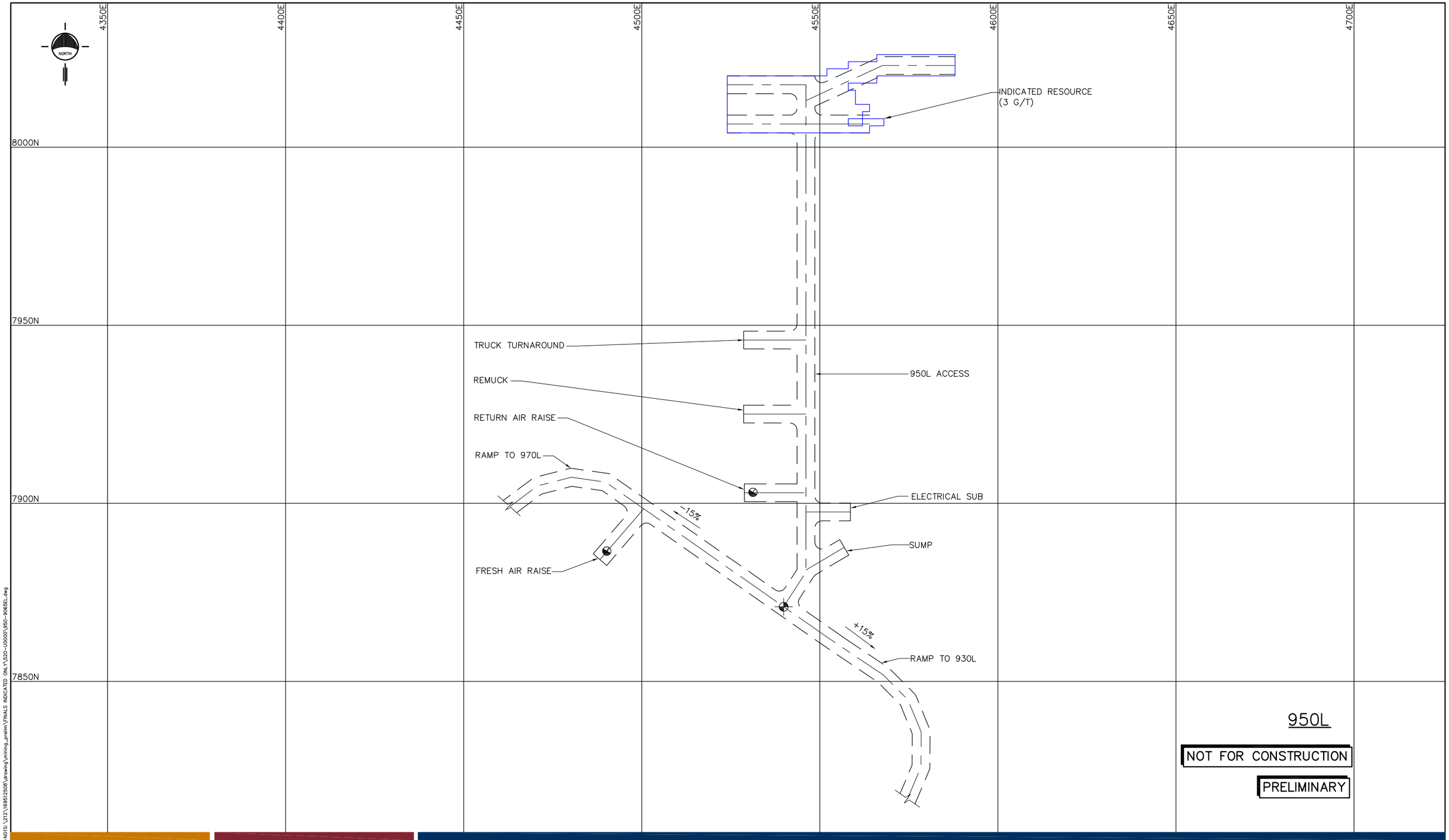

950L

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REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHKD DSGN CHECK	DSGN ENG. PR.MGR
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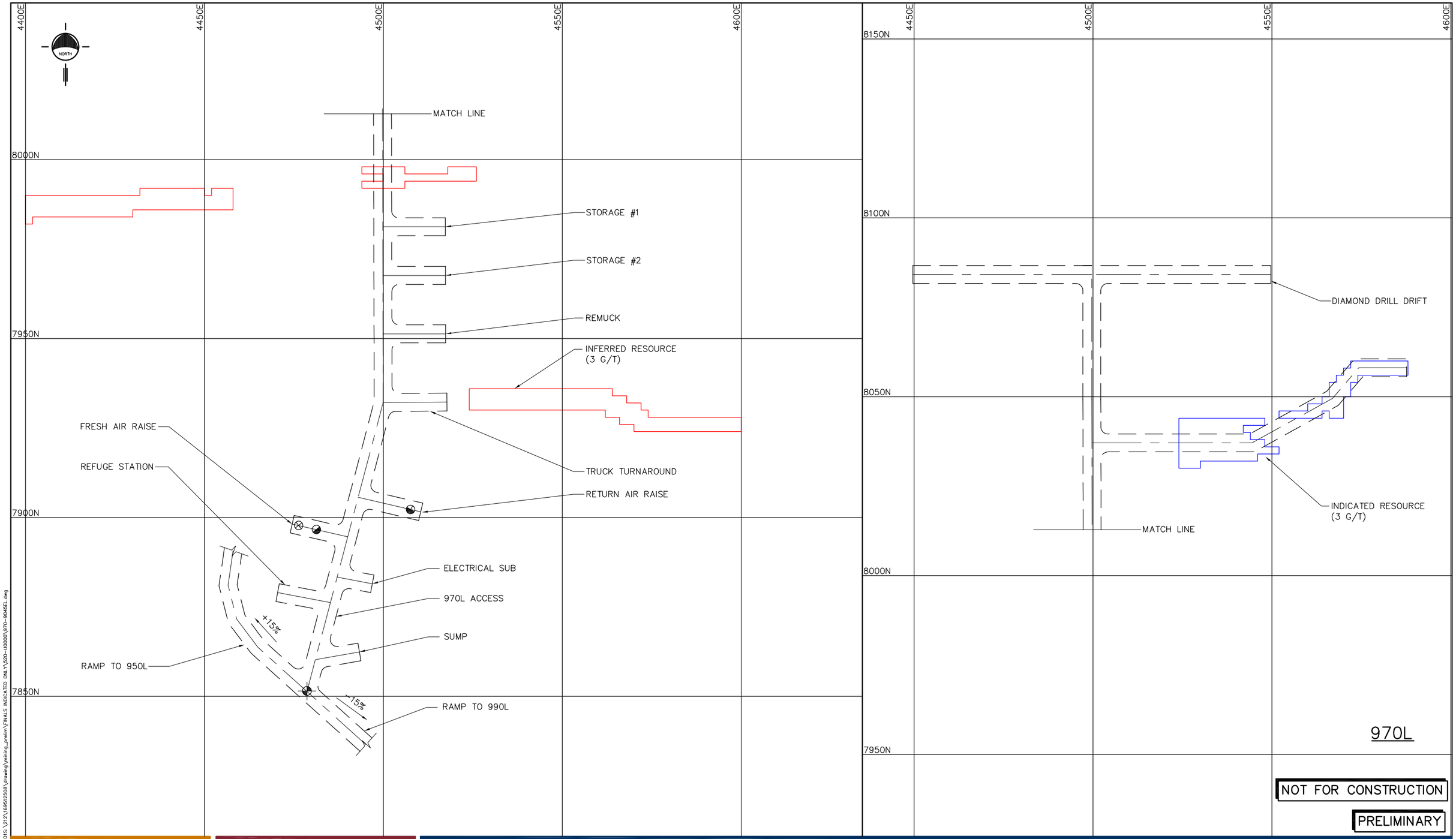
PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
950L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520–U0950 | REV. NO. A

PROJ. NO. 169512508
DWG. NO. 520–U0950

May 10, 2012 – 2:34pm \\CI1212-NOTS.1212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520–U0000\950–9065EL.dwg



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PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN ENG. PR.MGR
A	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL		

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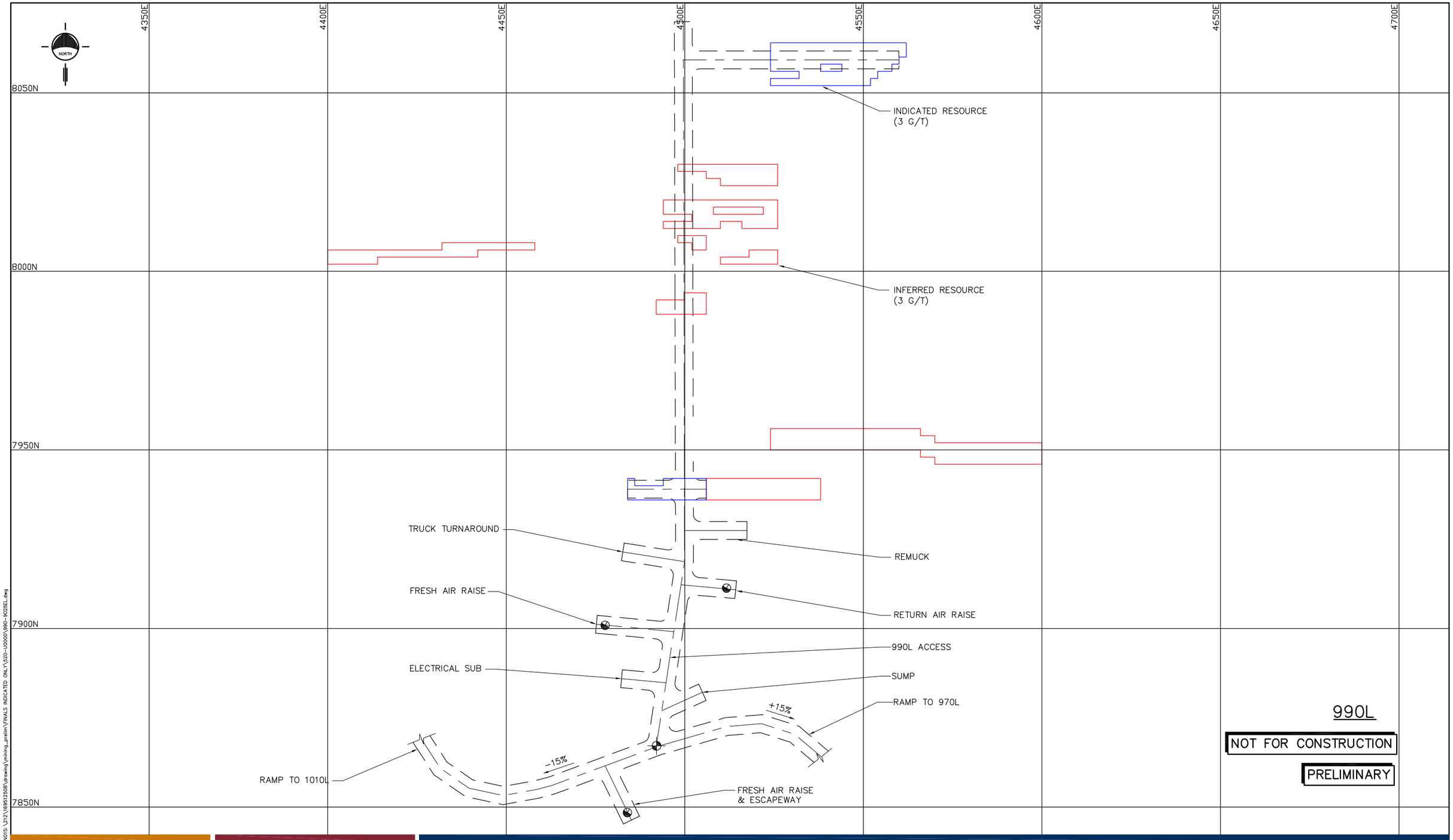
CLIENT: LAKE SHORE GOLD CORP.

PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
970L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520–U0970 | REV. NO. A

May 10, 2012 – 2:34pm \\C01212-N01S:\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\970-9045EL.dwg



990L

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PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN. ENG. PR.MGR.
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PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
990L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520–U0990 | REV. NO. A

May 10, 2012 – 2:34pm \\CD1212-N01S.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U0000\990-9025EL.dwg

4300E 4350E 4400E 4450E 4500E 4550E 4600E 4650E

NORTH

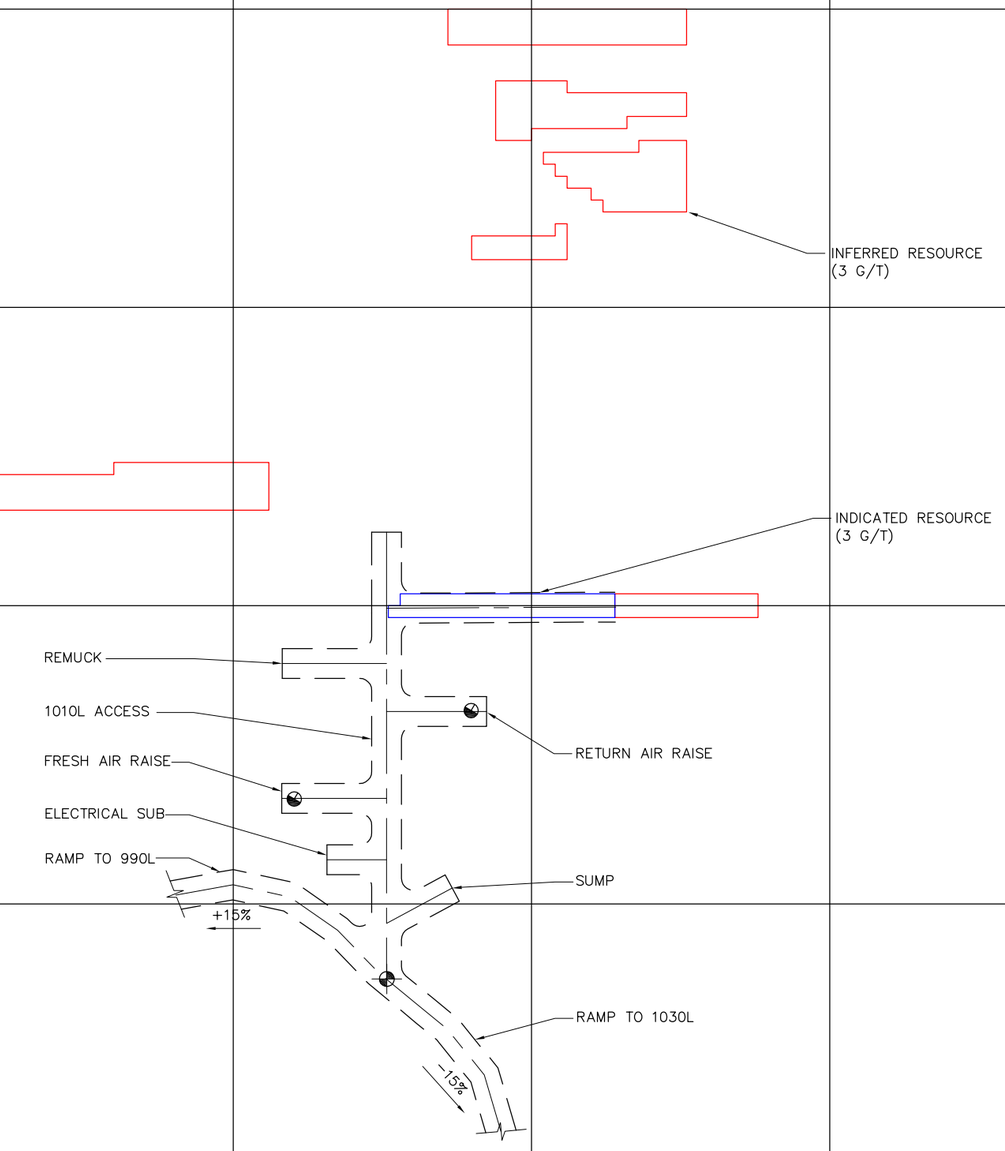
8050N

8000N

7950N

7900N

7850N



1010L

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PRELIMINARY

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PROJ. NO. 169512508
DWG. NO. 520-U1010
REV. NO. A

REF. DWG. NO.	REFERENCE DRAWING TITLE
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REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN ENG. PR.MGR
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DATE: 2012.04.03

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PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
1010L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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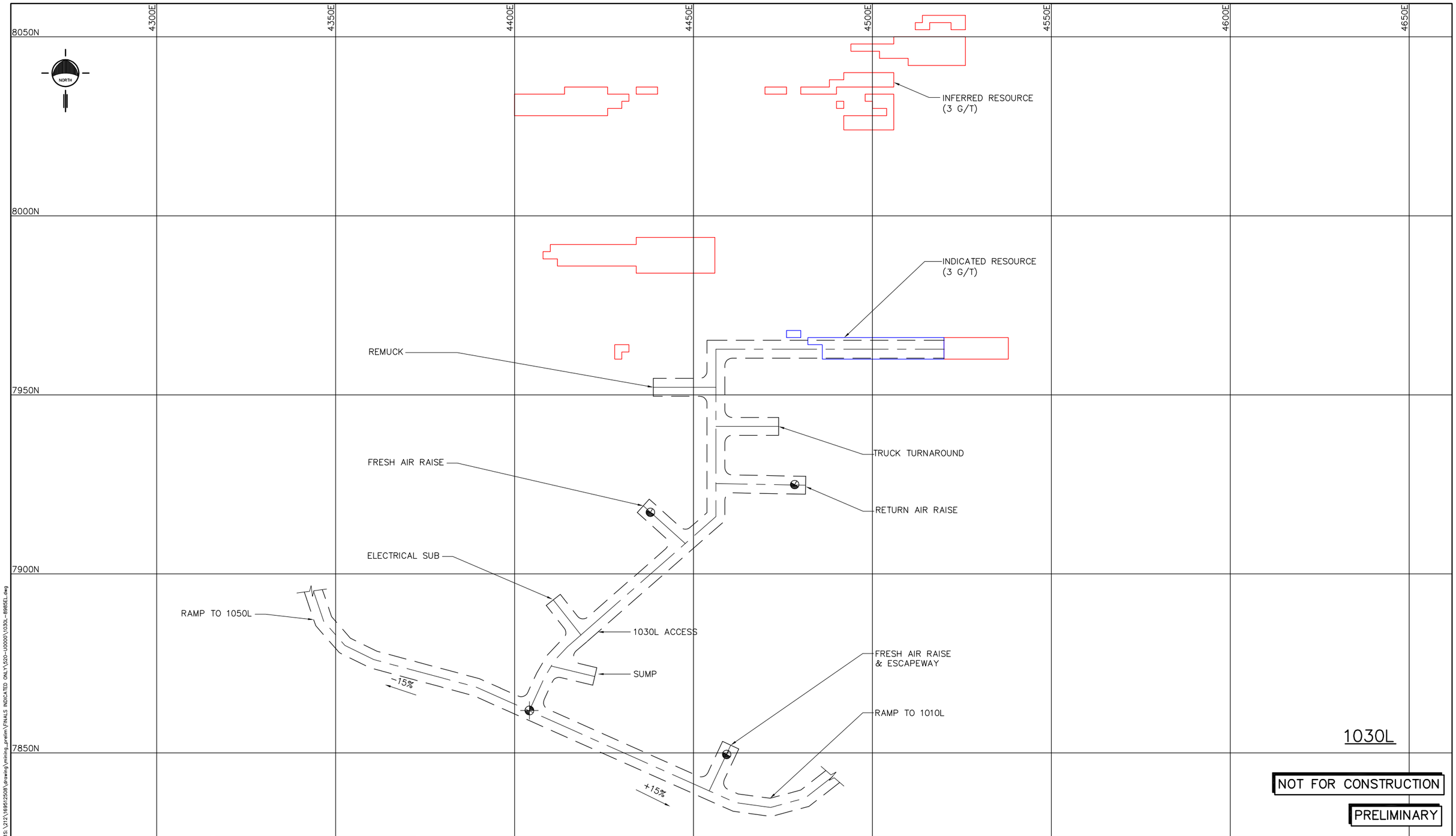

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PRELIMINARY

REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY
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PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
1030L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520-U1030 | REV. NO. A

4250E 4300E 4350E 4400E 4450E 4500E 4550E 4600E

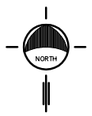
8100N

8050N

8000N

7950N

7900N



DIAMOND DRILL DRIFT

INFERRED RESOURCE
(3 G/T)

INDICATED RESOURCE
(3 G/T)

REMUCK

TRUCK TURNAROUND

FRESH AIR RAISE

RAMP TO 1030L

+15%

RETURN AIR RAISE

1050L ACCESS

RAMP TO 1070L

-15%

1050L

NOT FOR CONSTRUCTION

PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN ENG. PRMGR
A	---	---	A	PRELIMINARY – ISSUED FOR PFS	12.05.11	MDL		

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ORIGINAL DRAWN BY: MDL
DATE: 2012.04.03

Stantec

CLIENT: LAKE SHORE GOLD CORP.
PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
1050L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U1050	A

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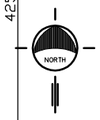
4250E 4300E 4350E 4400E 4450E 4500E 4550E 4600E

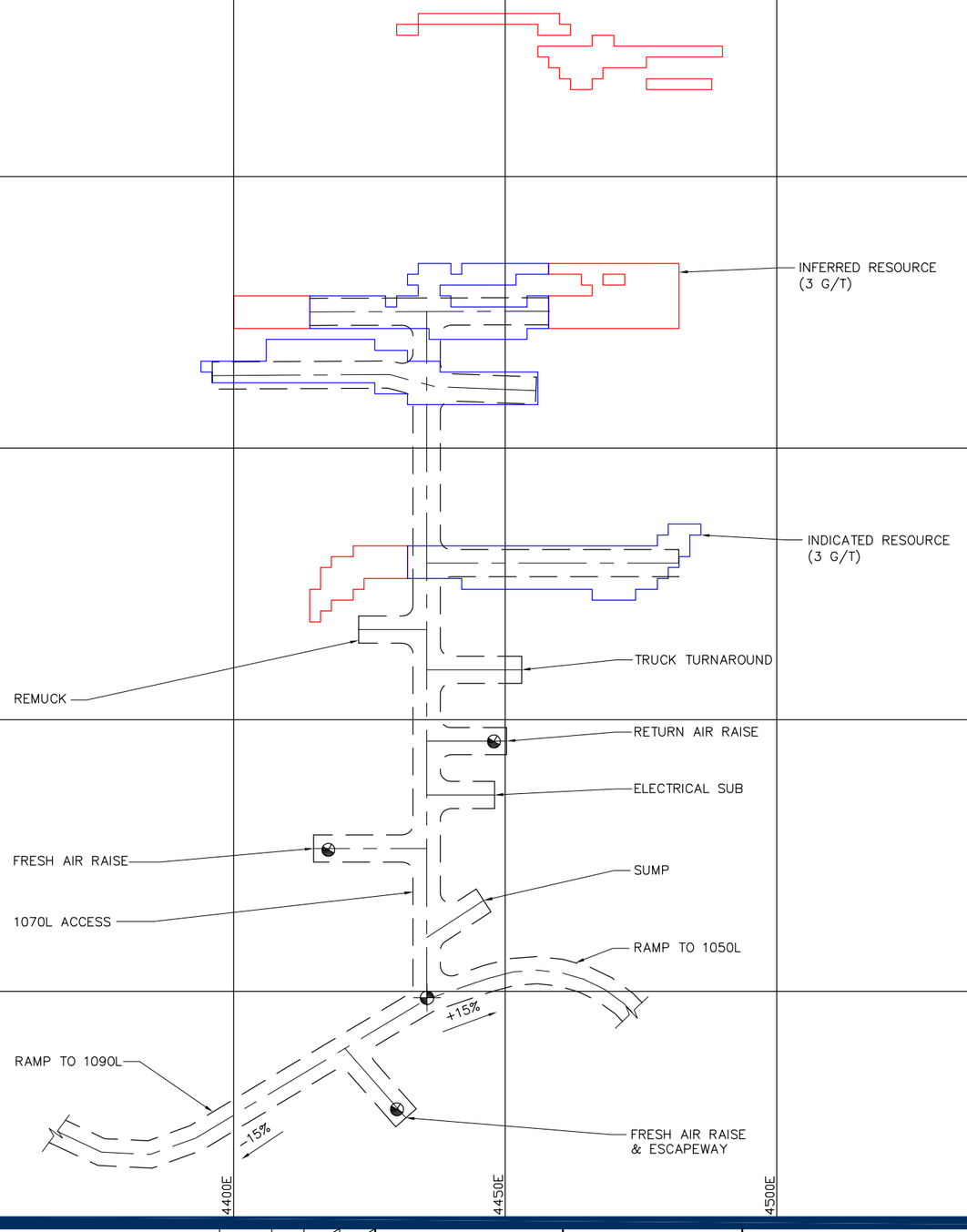
8050N

8000N

7950N

7900N





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1070L

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REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN ENG. PRMGR
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DATE: 2012.04.03

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CLIENT: LAKE SHORE GOLD CORP.

PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
1070L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U1070	A

PROJ. NO. 169512508
DWG. NO. 520–U1070

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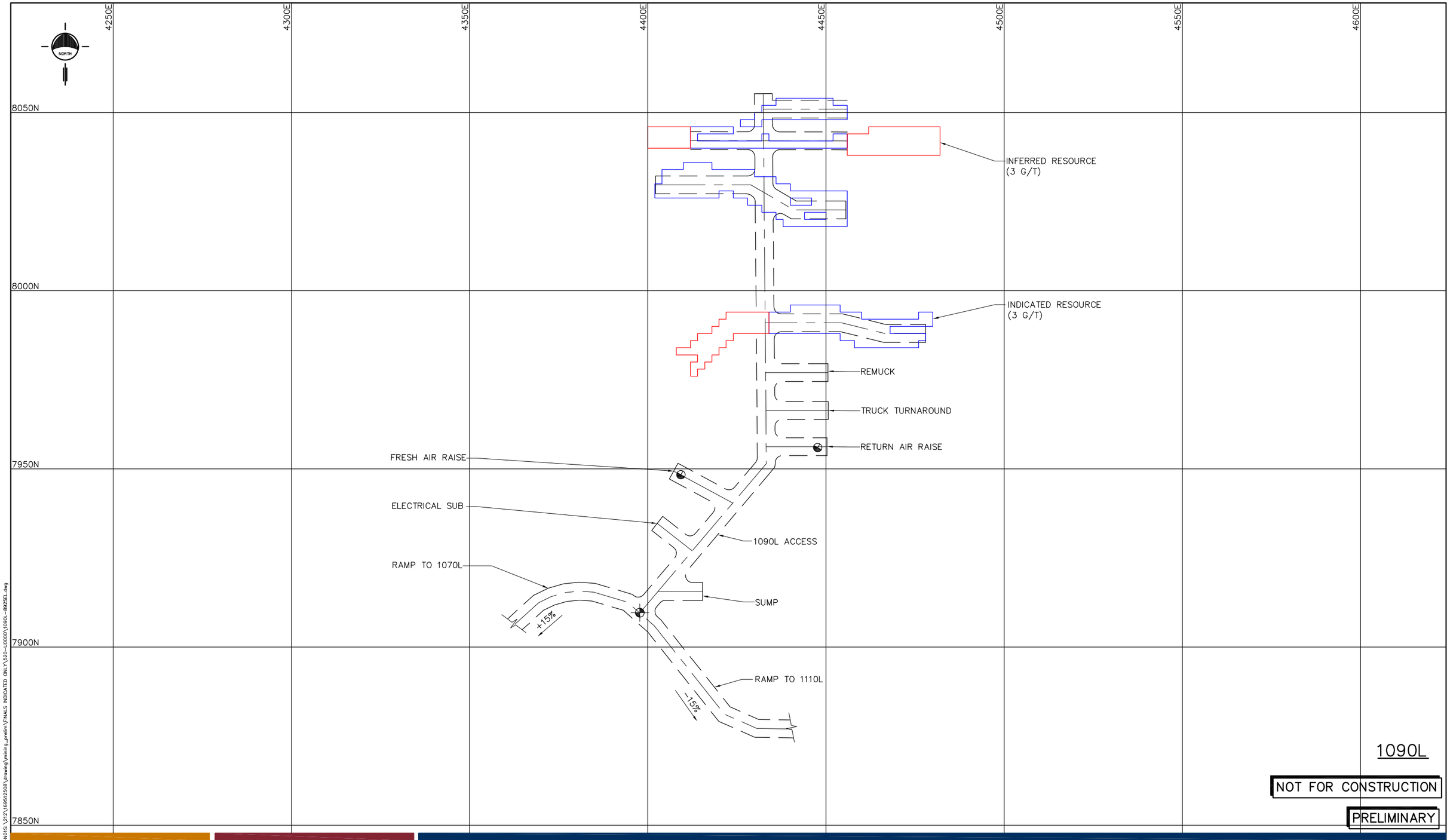

1090L

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REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN. ENG. PRJMGR
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1090L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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DWG. NO. 520–U1090
REV. NO. A

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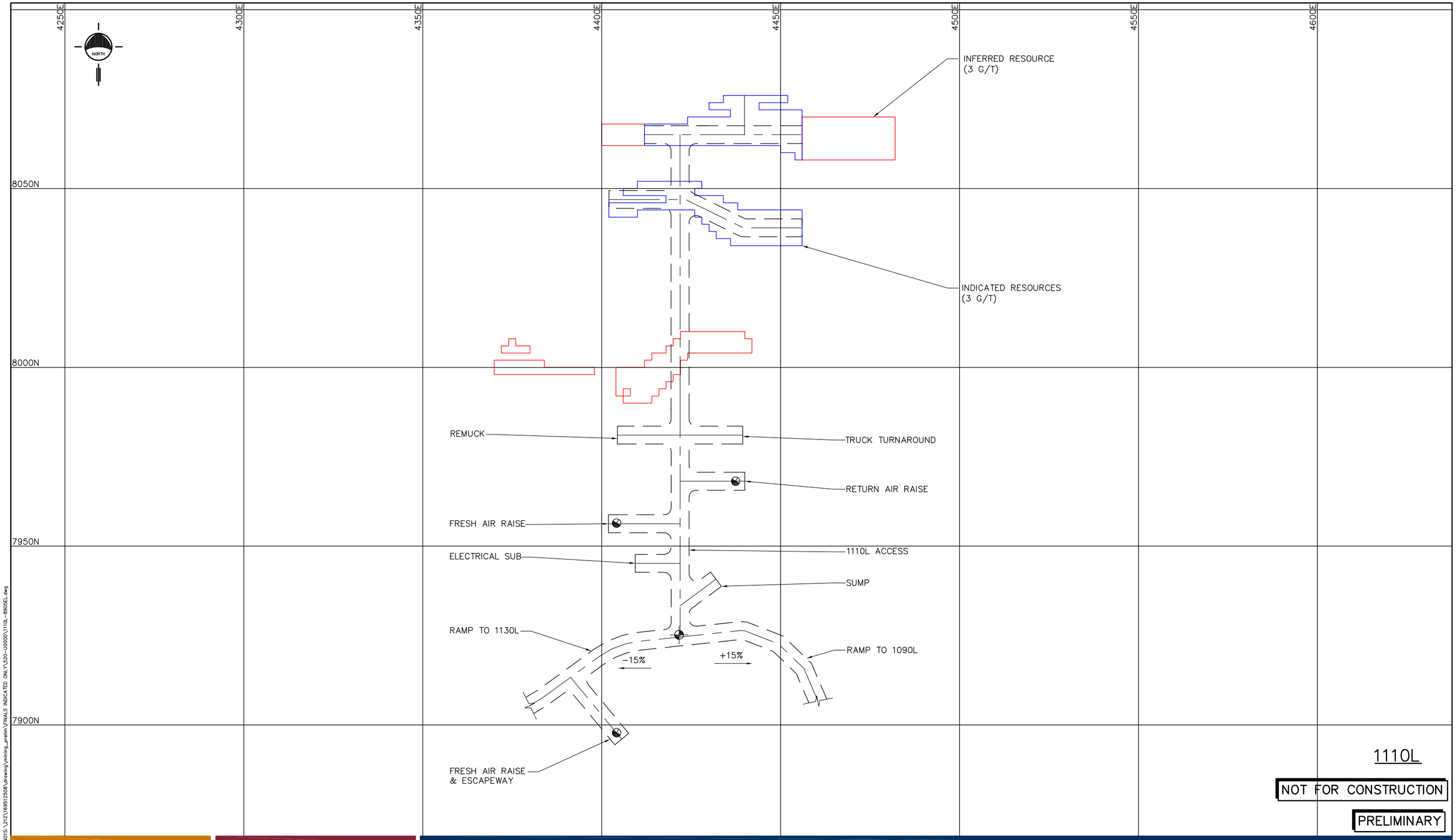

1110L

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TIMMINS DEPOSIT
1110L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520-U1110 | REV. NO. A

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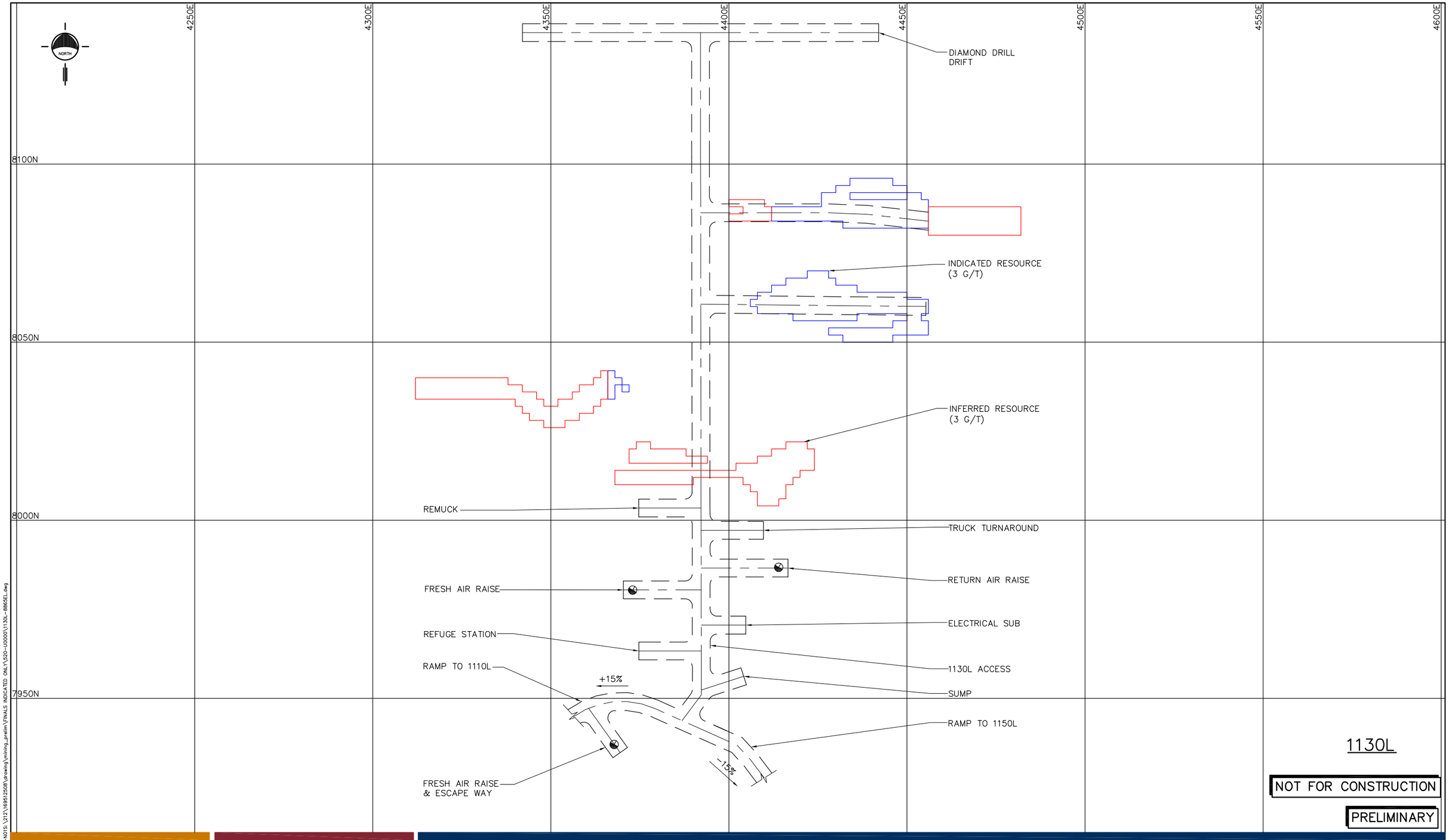

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REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGR. CHECK	DSGN. ENG. PR.MGR
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TIMMINS DEPOSIT
1130L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U1130	A

May 10, 2012 – 2:35pm \\CD1212-N01S.\212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520–U0000\1130L–886SEL.dwg

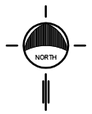
4200E 4250E 4300E 4350E 4400E 4450E 4500E 4550E

8100N

8050N

8000N

7950N



INDICATED RESOURCE
(3 G/T)

INFERRED RESOURCE
(3 G/T)

TRUCK TURNAROUND

REMUCK

RETURN AIR RAISE

FRESH AIR RAISE

1150L ACCESS

ELECTRICAL SUB

SUMP

RAMP TO 1130L

RAMP TO 1170L

-15%

+15%

1150L

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REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN ENG. PRJMGR
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DWG. NO. 520–U1150
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PROJECT: PREFEASIBILITY STUDY
TIMMINS DEPOSIT
1150L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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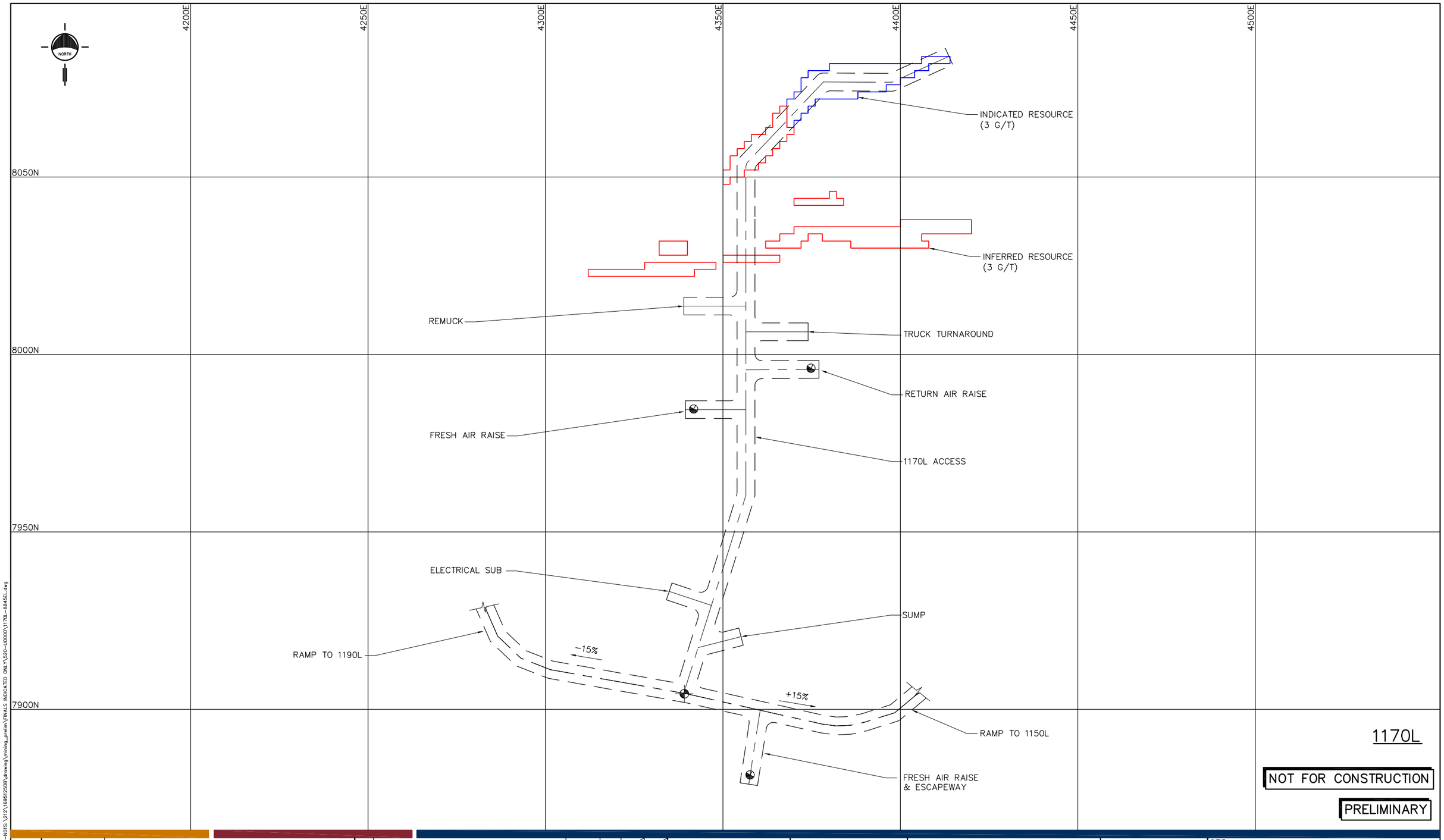

1170L

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REF. DWG. NO.	REFERENCE DRAWING TITLE
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REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN ENG. PR.MGR
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TIMMINS DEPOSIT
1170L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
1:1000	169512508	520–U1170	A

PROJ. NO. 169512508
DWG. NO. 520–U1170
REV. NO. A

May 10, 2012 - 2:35pm \\Cl1212-NOIS\1212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520-U1000\U1170L-88456L.dwg

4200E 4250E 4300E 4350E 4400E 4450E 4500E 4550E

NORTH

8150N

8100N

8050N

8000N

7950N

INFERRED RESOURCE
(3 G/T)

INDICATED RESOURCE
(3 G/T)

REMUCK

TRUCK TURNAROUND

FRESH AIR RAISE

RETURN AIR RAISE

1190L ACCESS

ELECTIRCAL SUB

SUMP

RAMP TO 1210L

RAMP TO 1170L

+15%

-15%

1190L

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REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN ENG. PR.MGR.
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TIMMINS DEPOSIT
1190L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520-U1190 | REV. NO. A

PROJ. NO. 169512508
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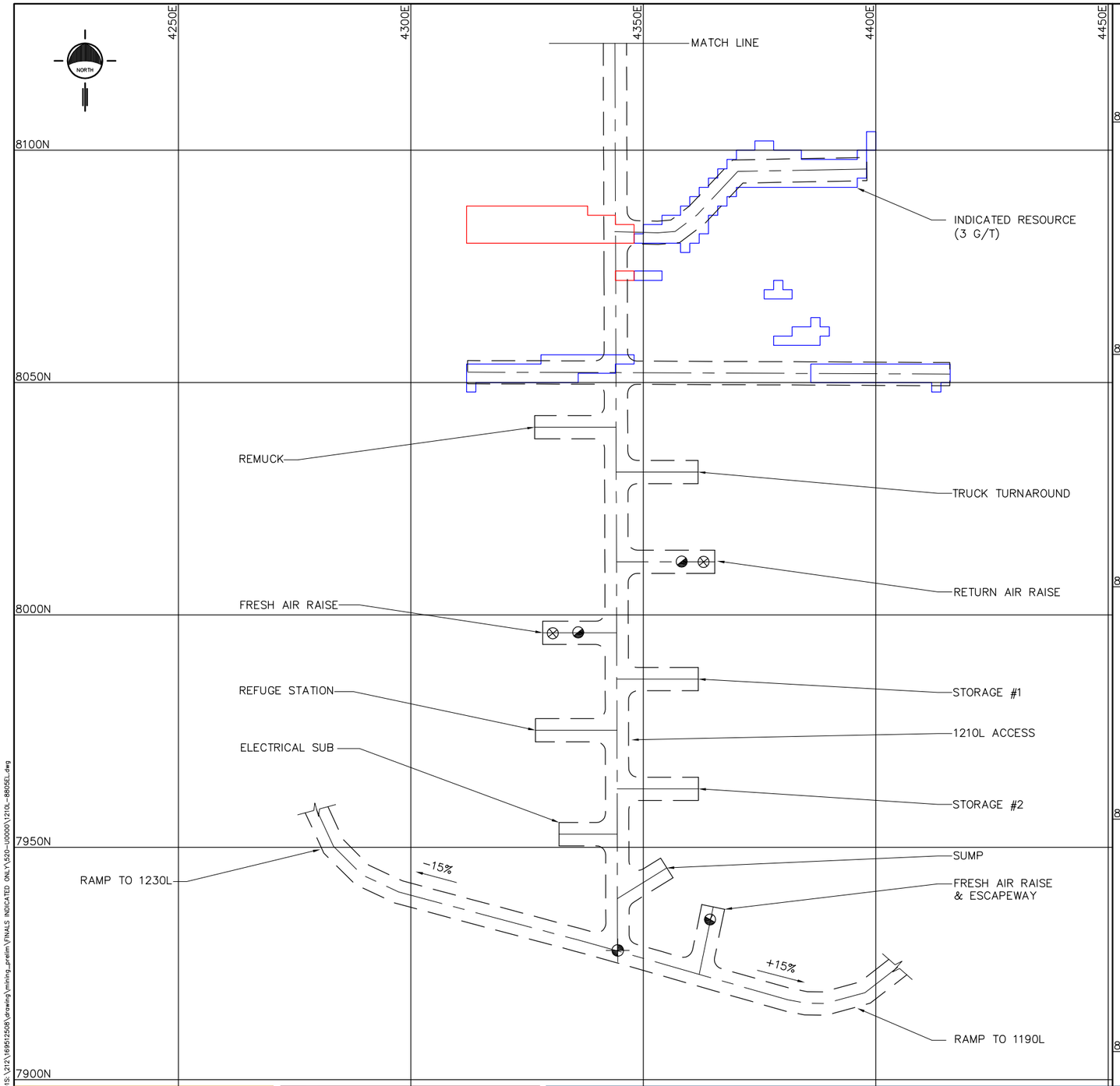

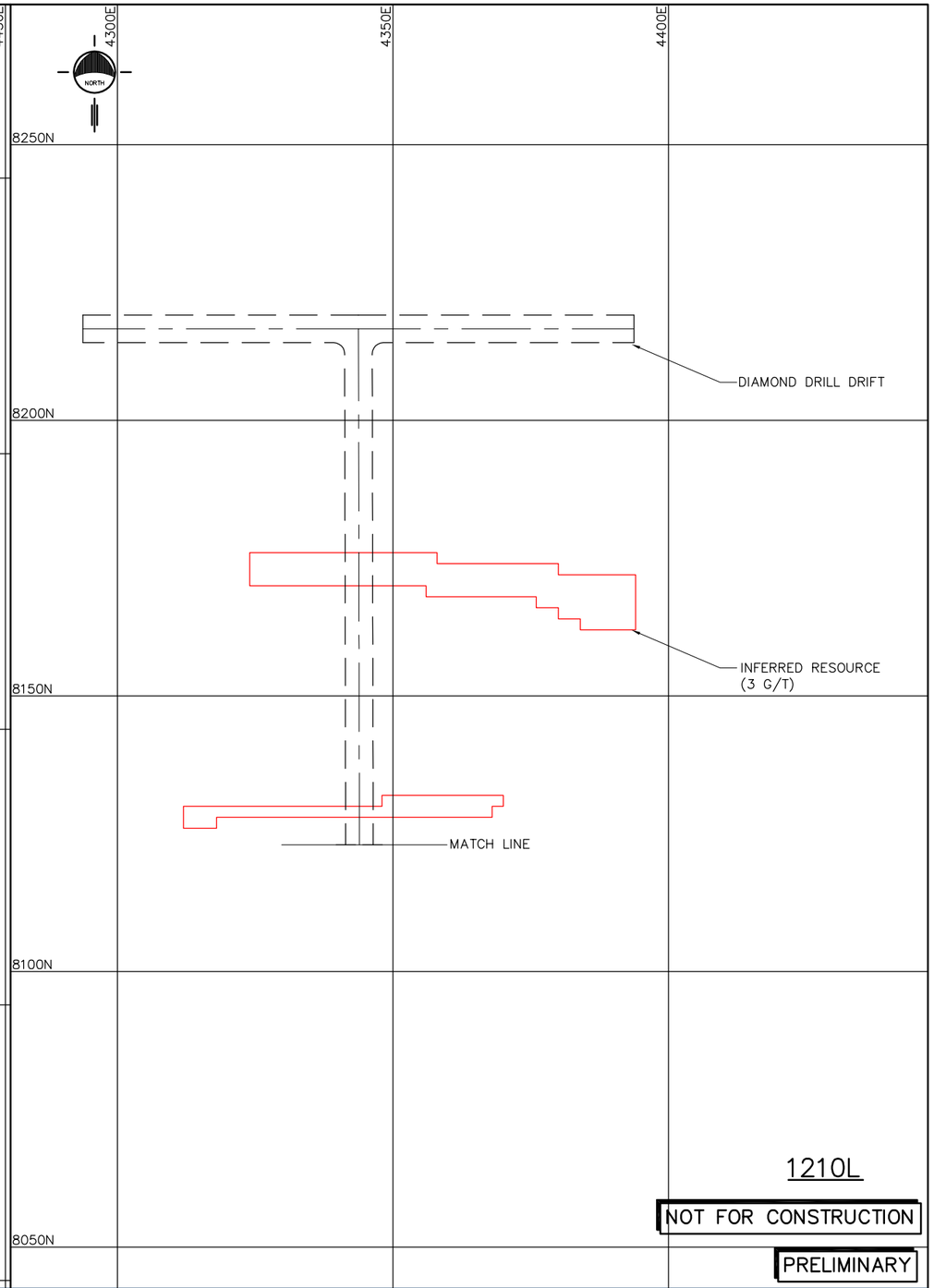

1210L

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REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN CHECK	DSGN ENG. PR.MGR
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TIMMINS DEPOSIT
1210L
PLAN

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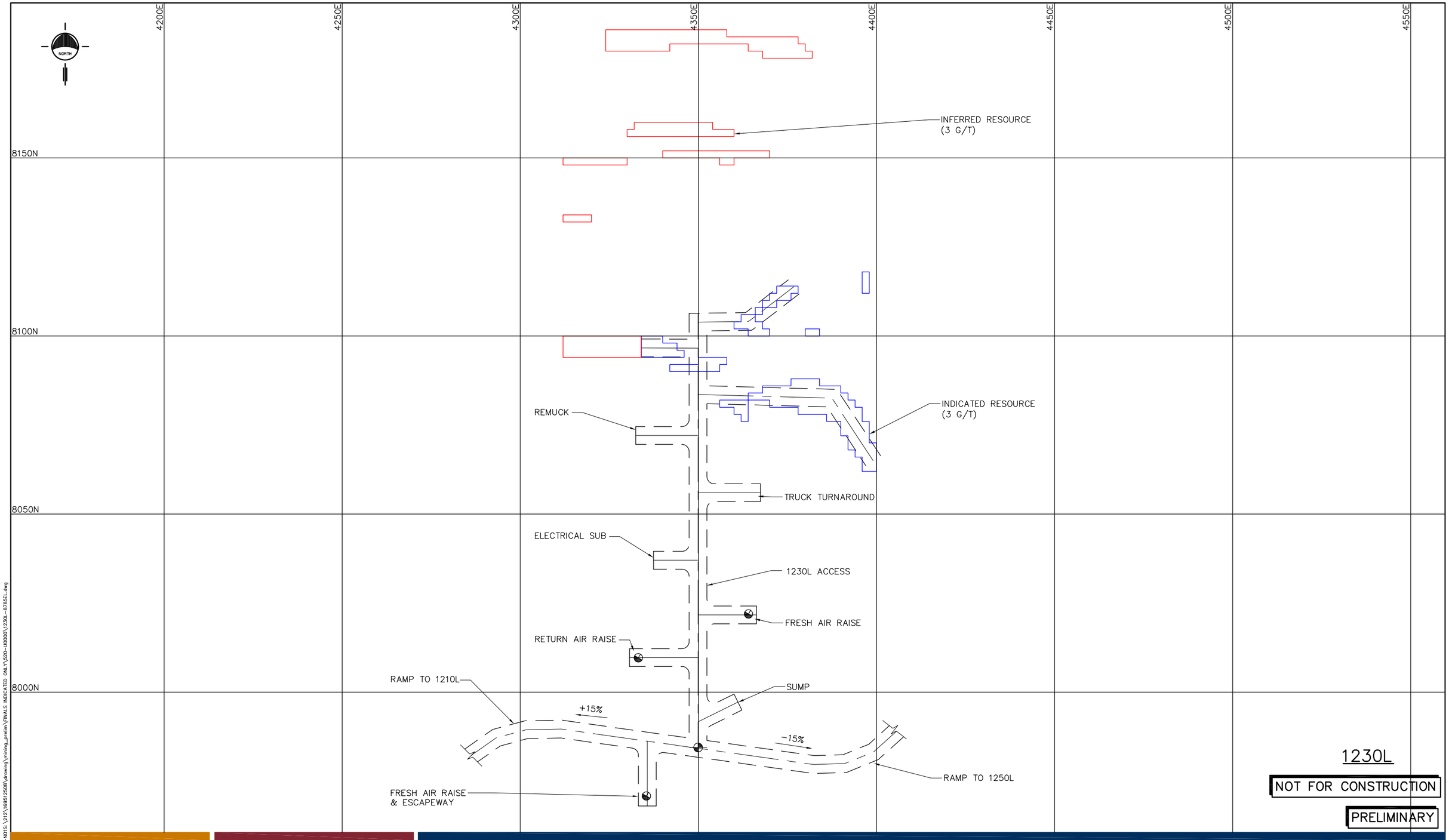

1230L

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REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN. ENG. PR.MGR.
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TIMMINS DEPOSIT
1230L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520-U1230 | REV. NO. A

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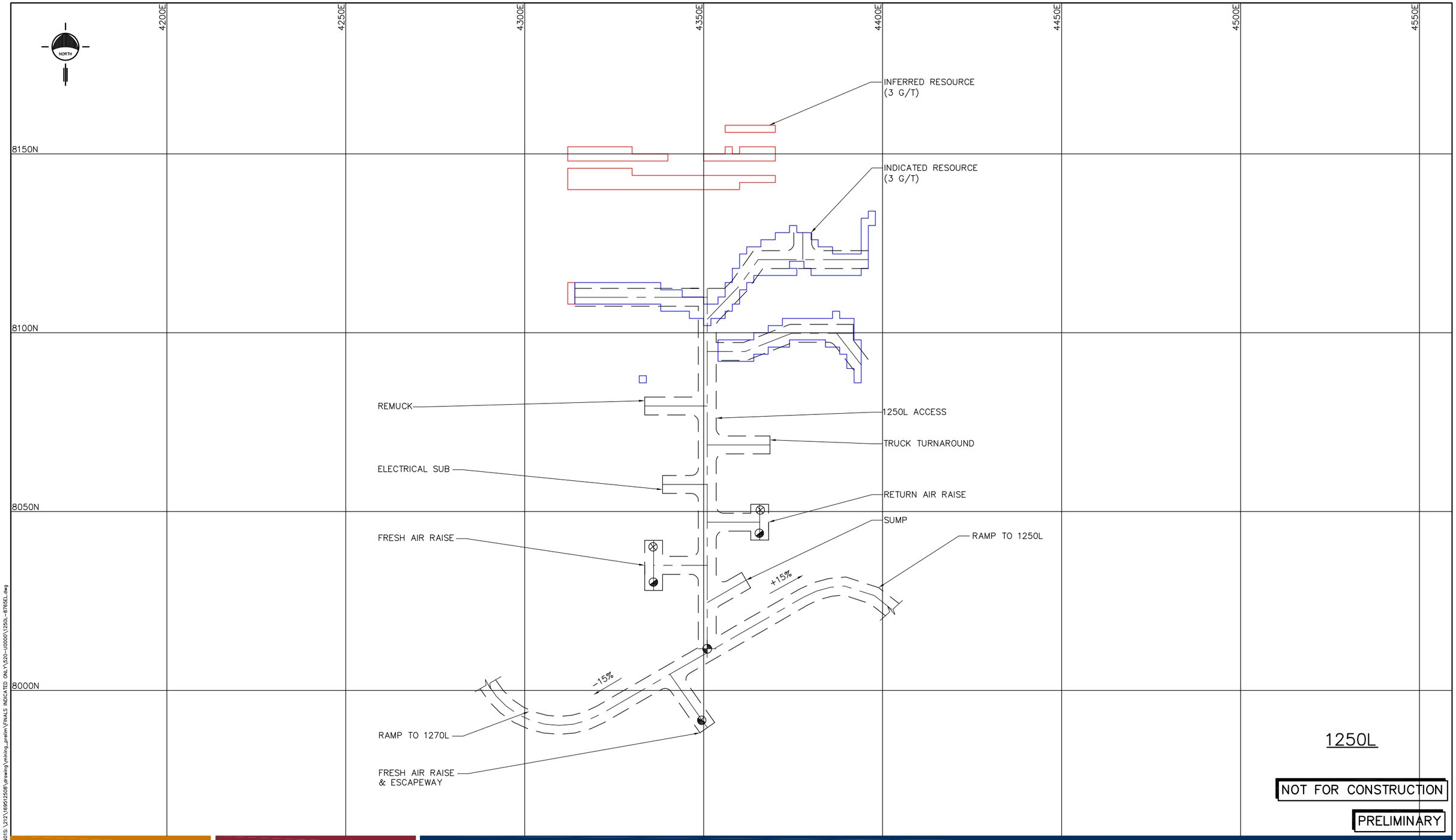

1250L

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SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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PROJ. NO. 169512508
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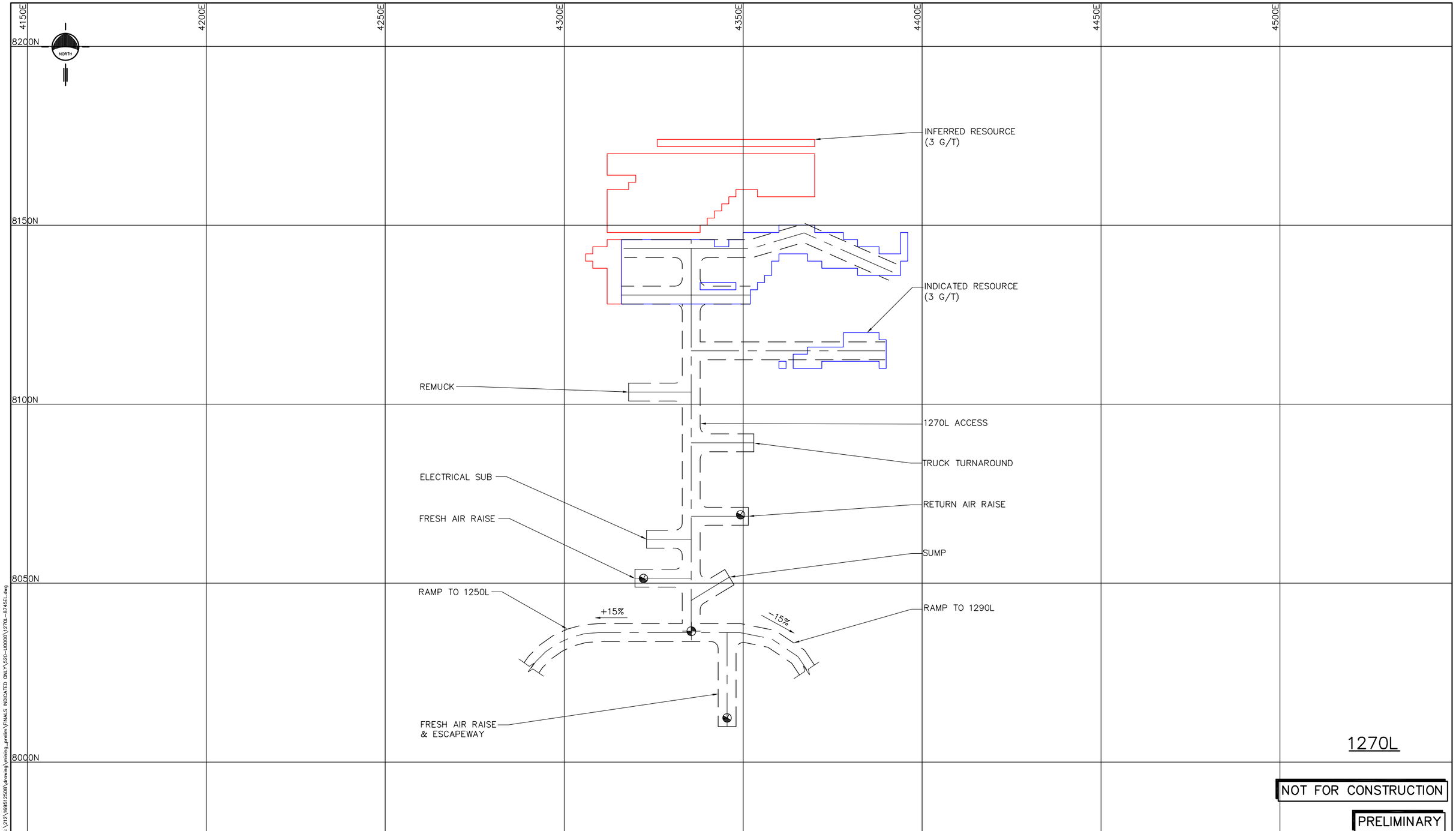

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1270L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520–U1270 | REV. NO. A

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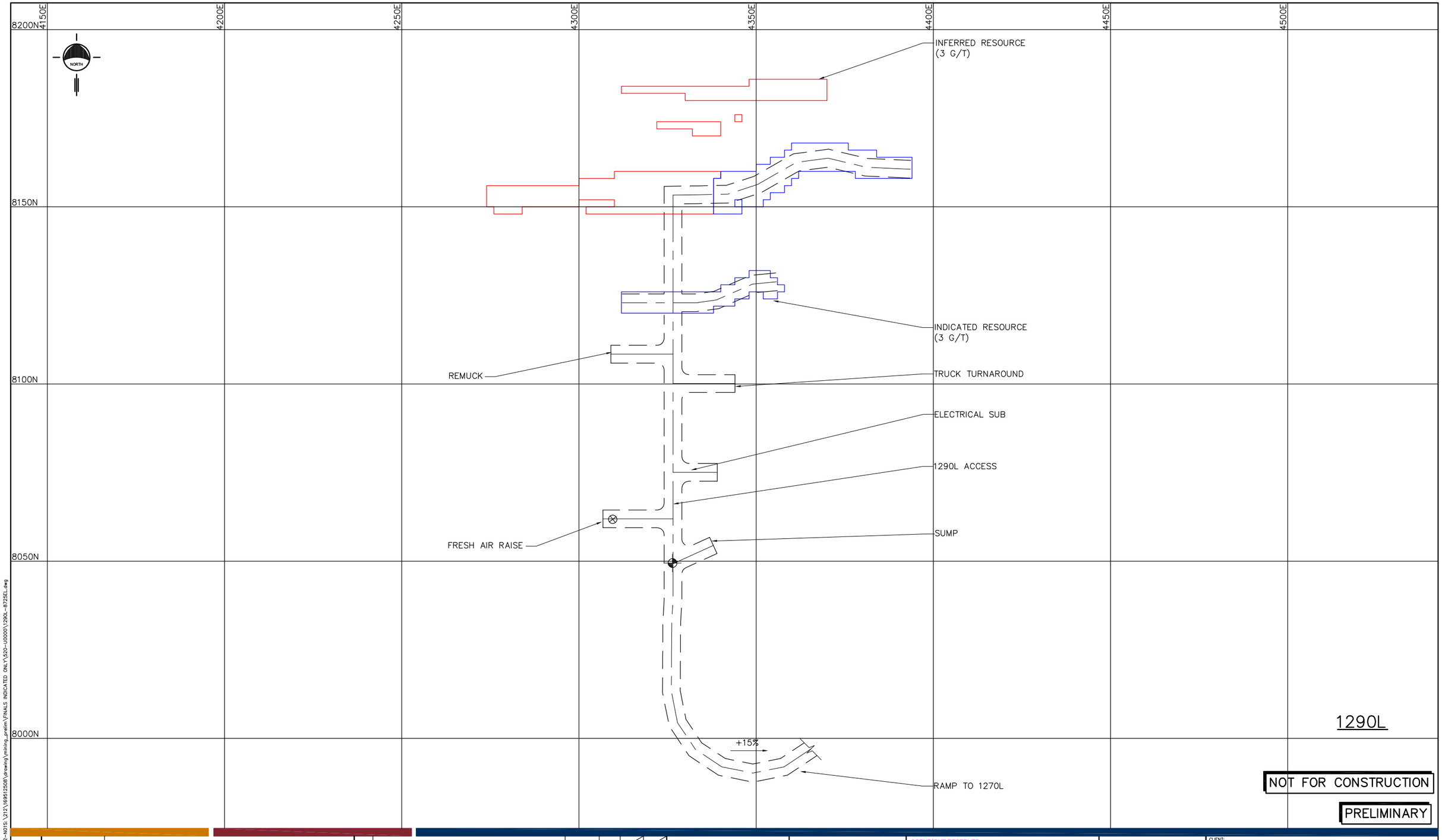

1290L

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TIMMINS DEPOSIT
1290L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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PROJ. NO. 169512508
DWG. NO. 520–U1290
REV. NO. A

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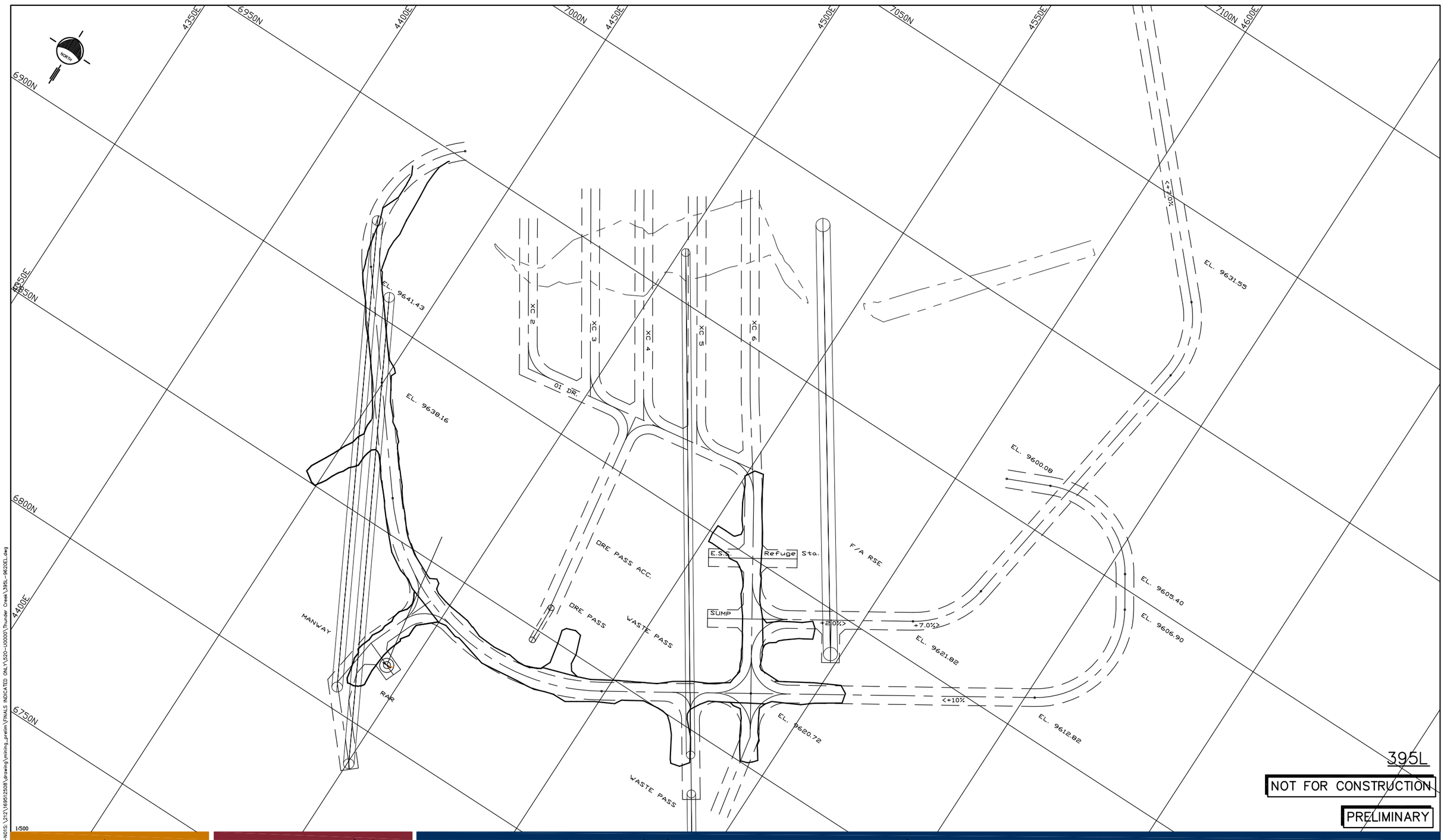

395L

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1:500

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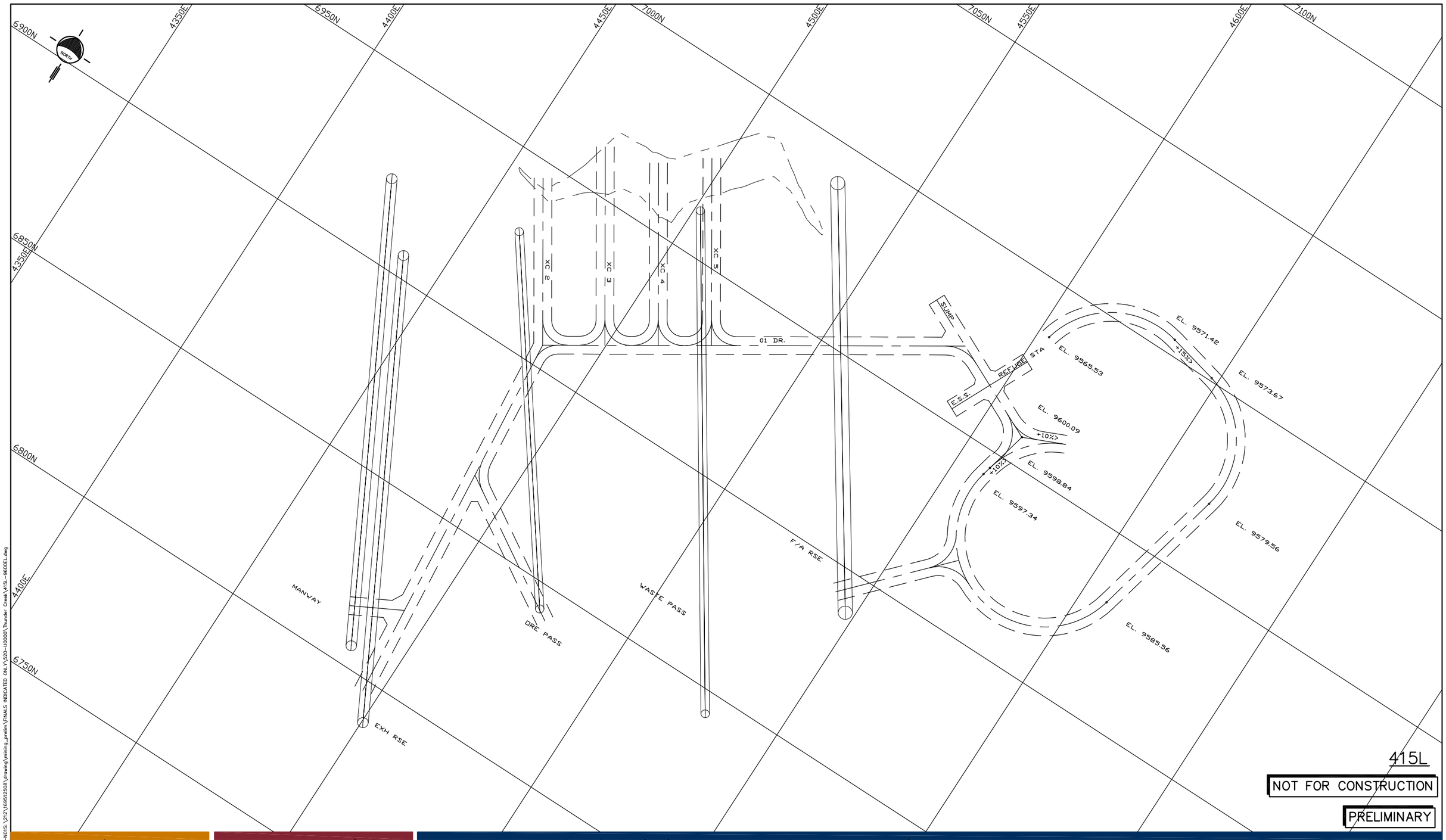
PROPERTY: TIMMINS WEST MINE
PROJECT: PREFEASIBILITY STUDY
THUNDER CREEK
395L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520–U0395 | REV. NO. A

May 10, 2012 – 2:35pm \\CI\1212-NOTS\1212\169512508\drawing\mining_prelim\FINALS INDICATED ONLY\520–U0000\Thunder Creek\395L–9620EL.dwg



415L

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PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
THUNDER CREEK
415L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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6950N
7000N
7050N
7100N
6850N
6800N
6750N
4350E
4400E
4450E
4500E
4550E
4600E
NORTH
XC 2
XC 3
XC 4
XC 5
01 DR.
SUMP
REFUGE
STA
E.S.S.
<13.0%
+10%
+15%
EL. 9529.97
EL. 9535.86
EL. 9538.11
EL. 9565.53
EL. 9564.03
EL. 9562.53
EL. 9544.00
EL. 9550.75
ORE PASS ACC
RAR ACC
MANWAY
F/A RSE
EXH RSE
ORE PASS
WASTE PASS

450L

NOT FOR CONSTRUCTION

PRELIMINARY

REV. NO.							
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REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED	DATE	BY	CHIEF DSGN CHECK	DSGN ENG. PR.MGR

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DWG. NO. 520–U0450

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THUNDER CREEK
450L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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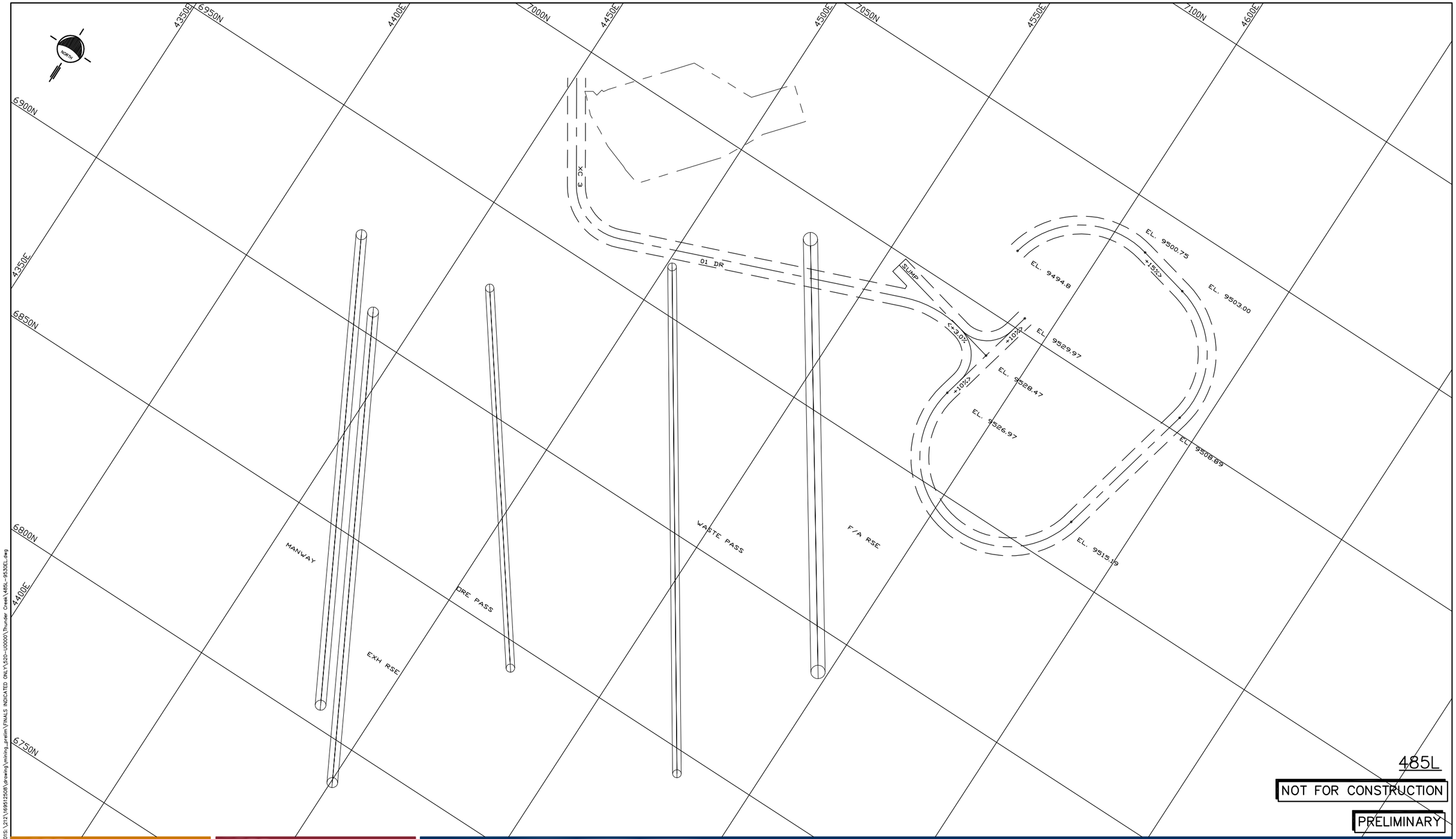

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THUNDER CREEK
485L
PLAN

SCALE: 1:1000
PROJ. NO. 169512508
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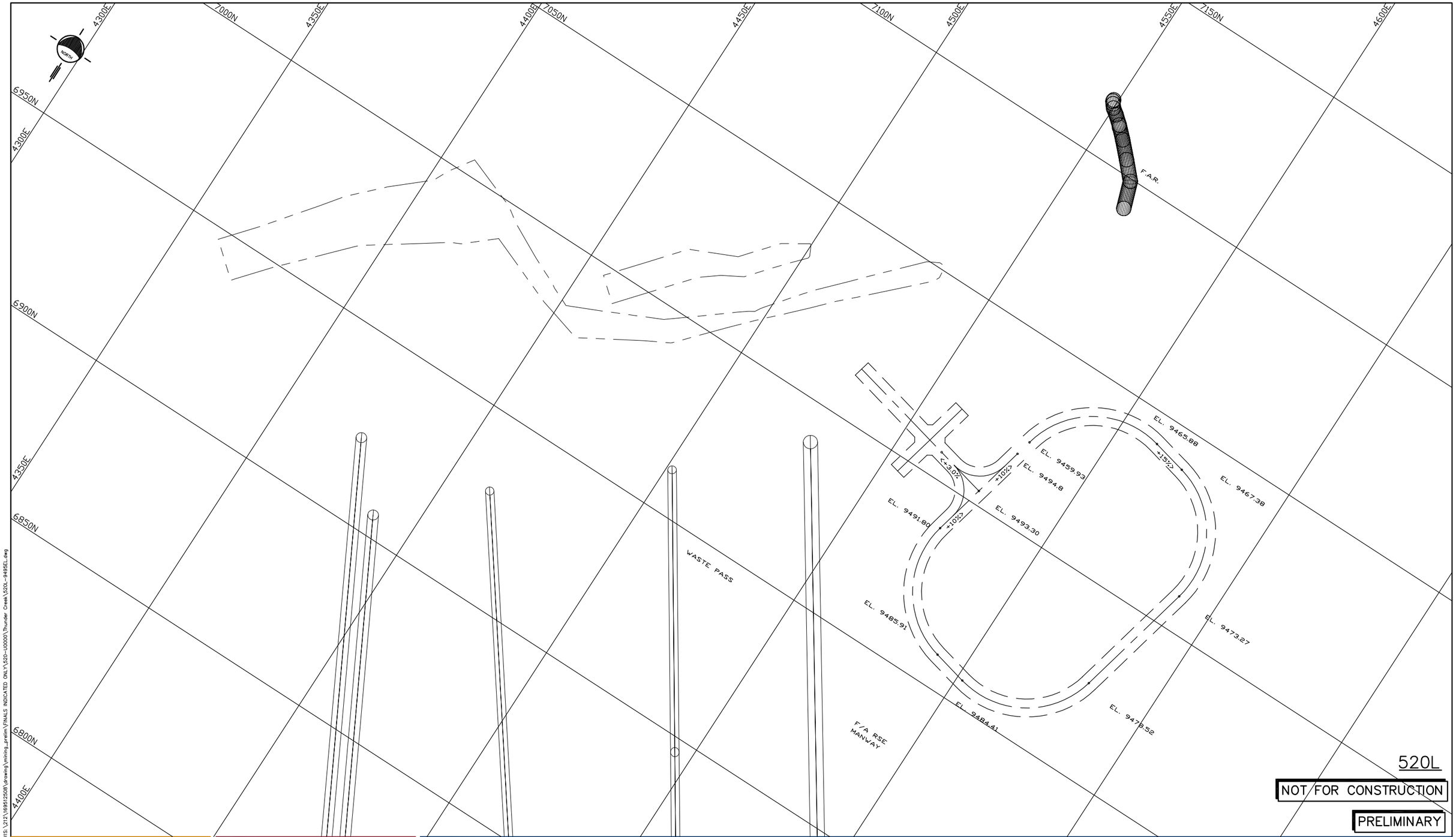
REV. NO. A



520L

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DWG. NO. 520–U0520

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520L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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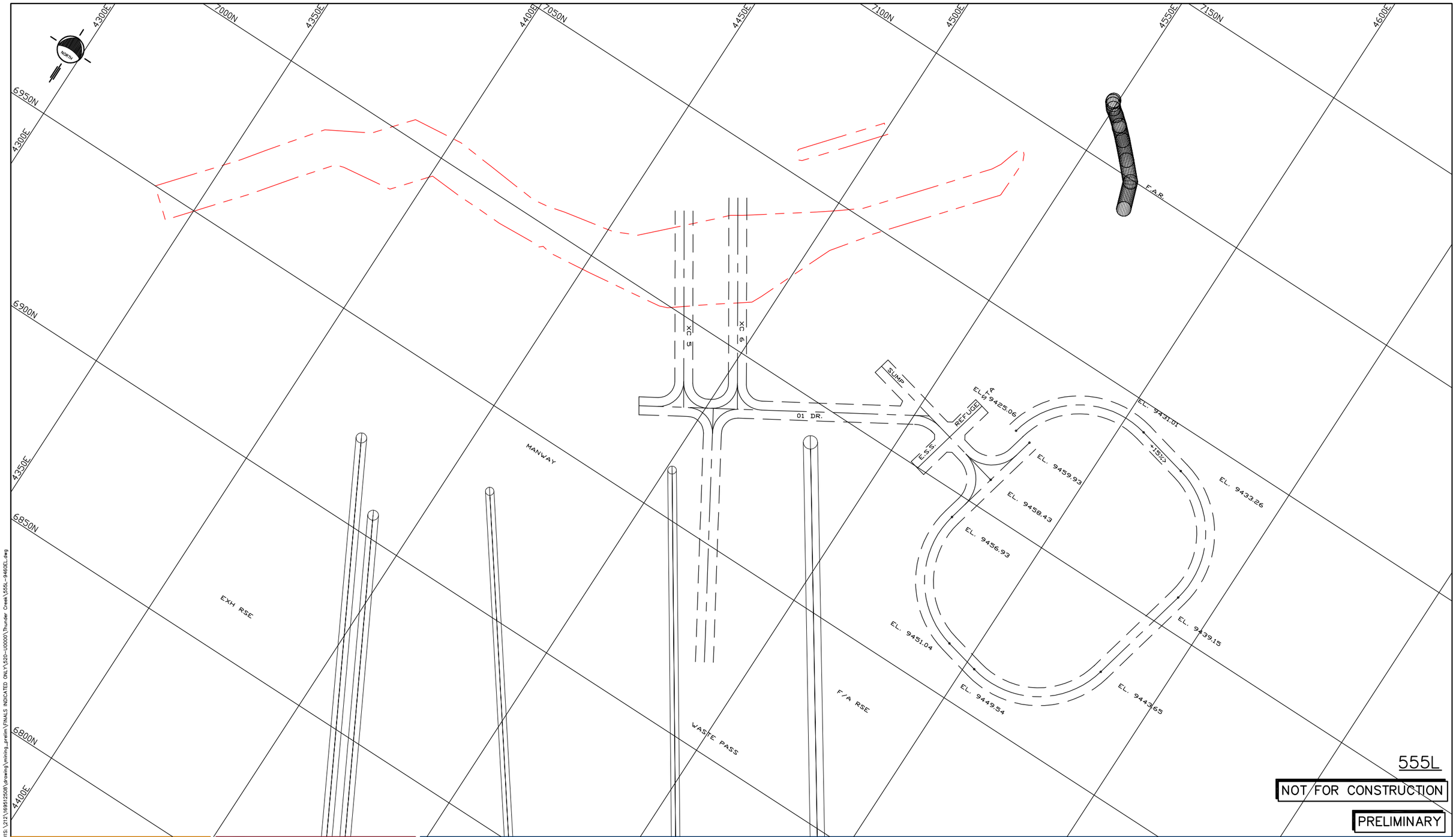

555L

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PRELIMINARY

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PROJECT: PREFEASIBILITY STUDY
THUNDER CREEK
555L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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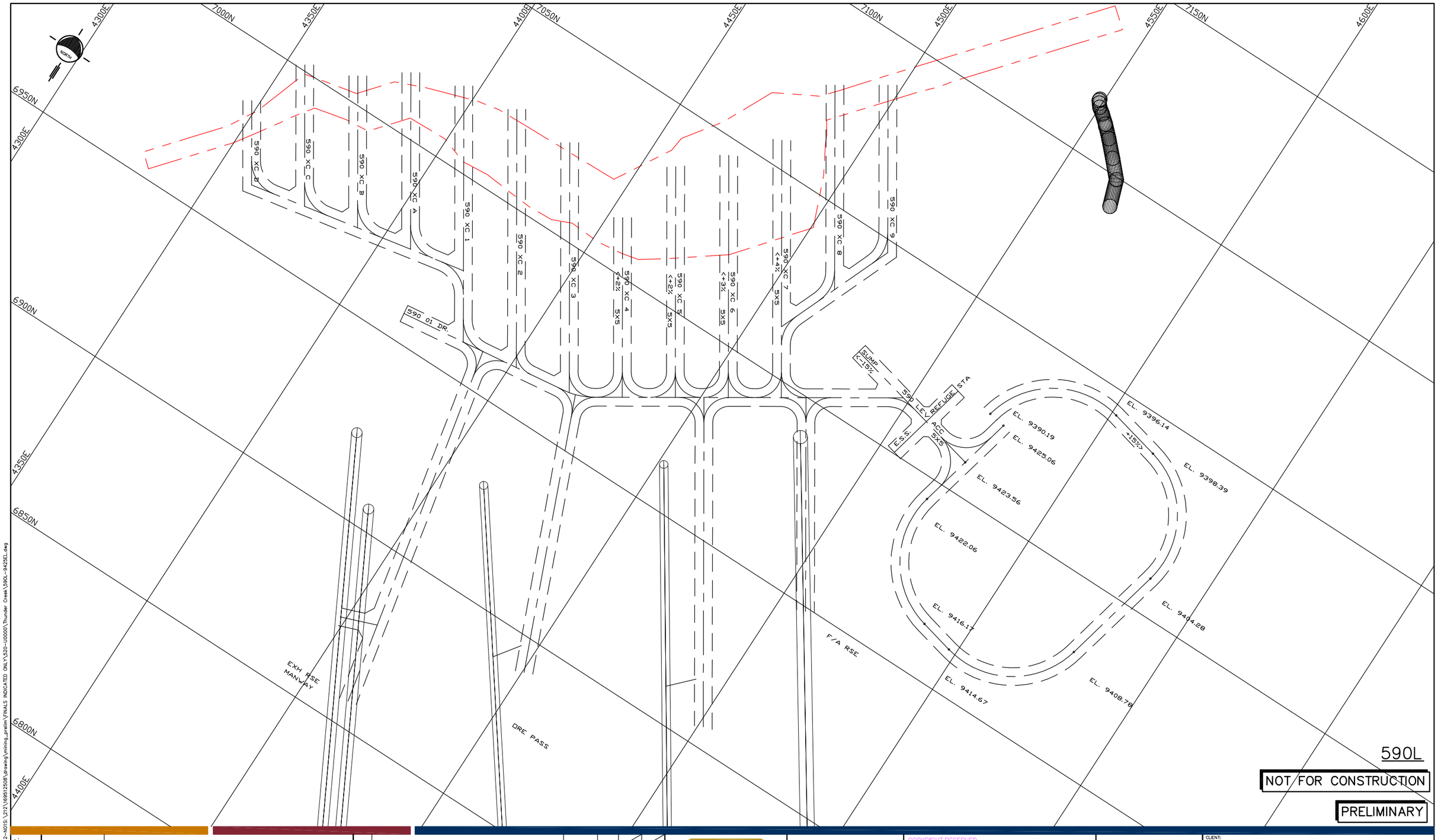

590L

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PRELIMINARY

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THUNDER CREEK
590L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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4350E
7050N
4400E
7100N
4450E
4500E
7150N
4550E
7200N
6950N
4300E
6900N
4350E
6850N
6800N
NORTH
625 XC 1
625 XC 2
625 XC 3
625 XC 4
625 XC 5
625 XC 6
625 XC 7
625 XC 8
625 XC 9
02 DR W
02 DR E
01 DR
5X5
<+2%
SUMP
<+15%
REFUGE
E.S.S.
+15%
EL. 9353.81
STA
EL. 9360.52
EL. 9390.19
EL. 9387.19
EL. 9388.69
EL. 9363.52
EL. 9369.41
EL. 9381.30
EL. 9379.80
EL. 9373.91
F/A RSE
EXH RSE
MANWAY
ORE PASS
1:500

625L

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PRELIMINARY

REV. NO.	REF. DWG. NO.	REFERENCE DRAWING TITLE	REV.	DESCRIPTION	DATE	BY	CHIEF DSGN. CHECK	DSGN ENG. PRIMGR
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PROPERTY: TIMMINS WEST MINE

PROJECT: PREFEASIBILITY STUDY
THUNDER CREEK
625L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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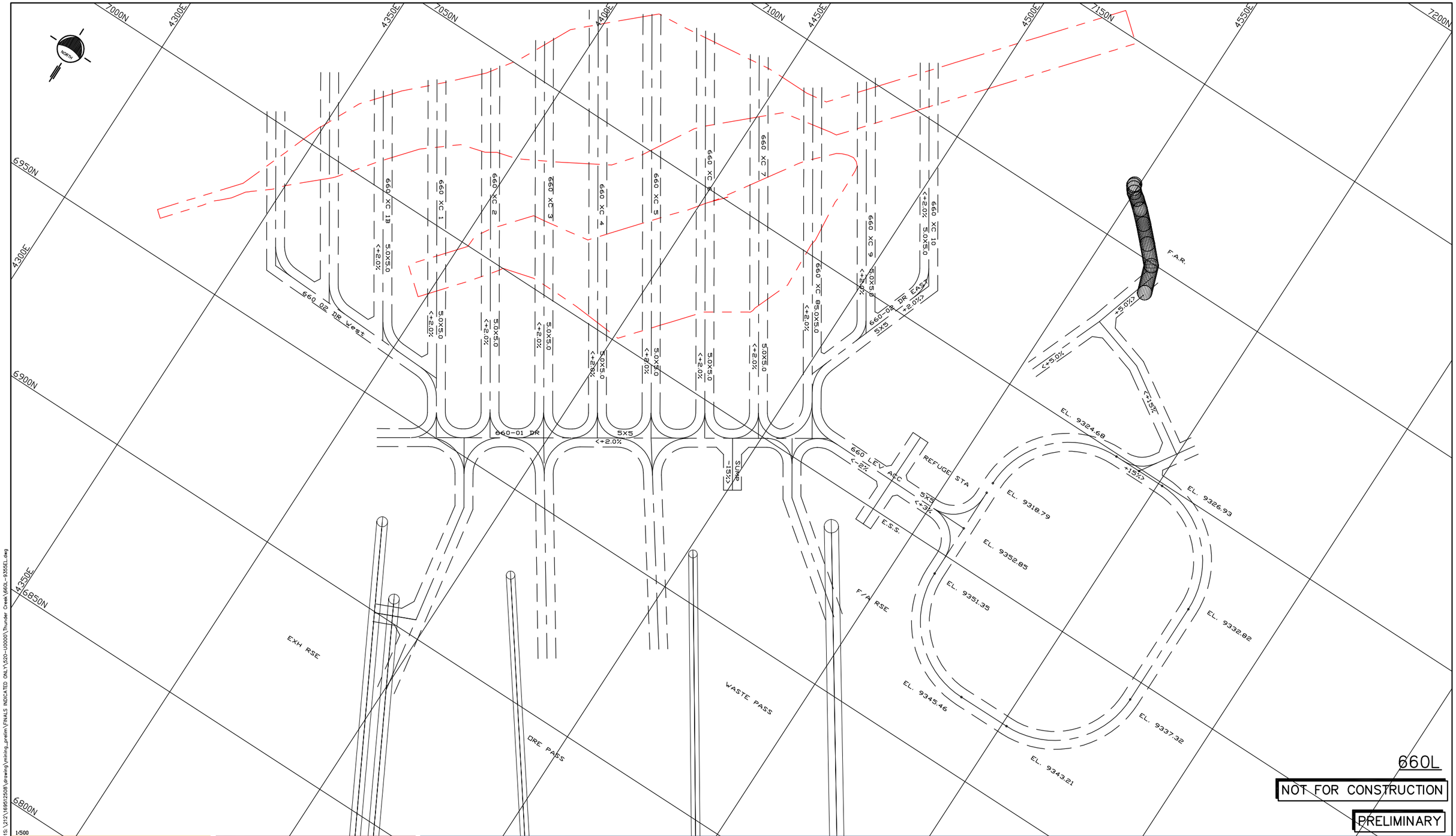

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REV. NO. A

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PROJECT: PREFEASIBILITY STUDY
THUNDER CREEK
660L
PLAN

SCALE: 1:1000
PROJ. NO. 169512508
DWG. NO. 520-U0660
REV. NO. A

7000N
4300E
4350E
7050N
4400E
7100N
4450E
4500E
7150N
4550E
7200N
6950N
4300E
6900N
4350E
6850N
6800N
NORTH
EXH RSE
ORE PASS
WASTE PASS
F/A RSE MANWAY
CROSSOVER DR 4.5X4.5
+5.0%
+5.0%
+7.5%
+15%
EL. 9324.68
EL. 9318.79
EL. 9326.93
EL. 9332.82
675L
NOT FOR CONSTRUCTION
PRELIMINARY
1:500

REV. NO.							
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PROJECT: PREFEASIBILITY STUDY
THUNDER CREEK
675L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520-U0675 | REV. NO. A

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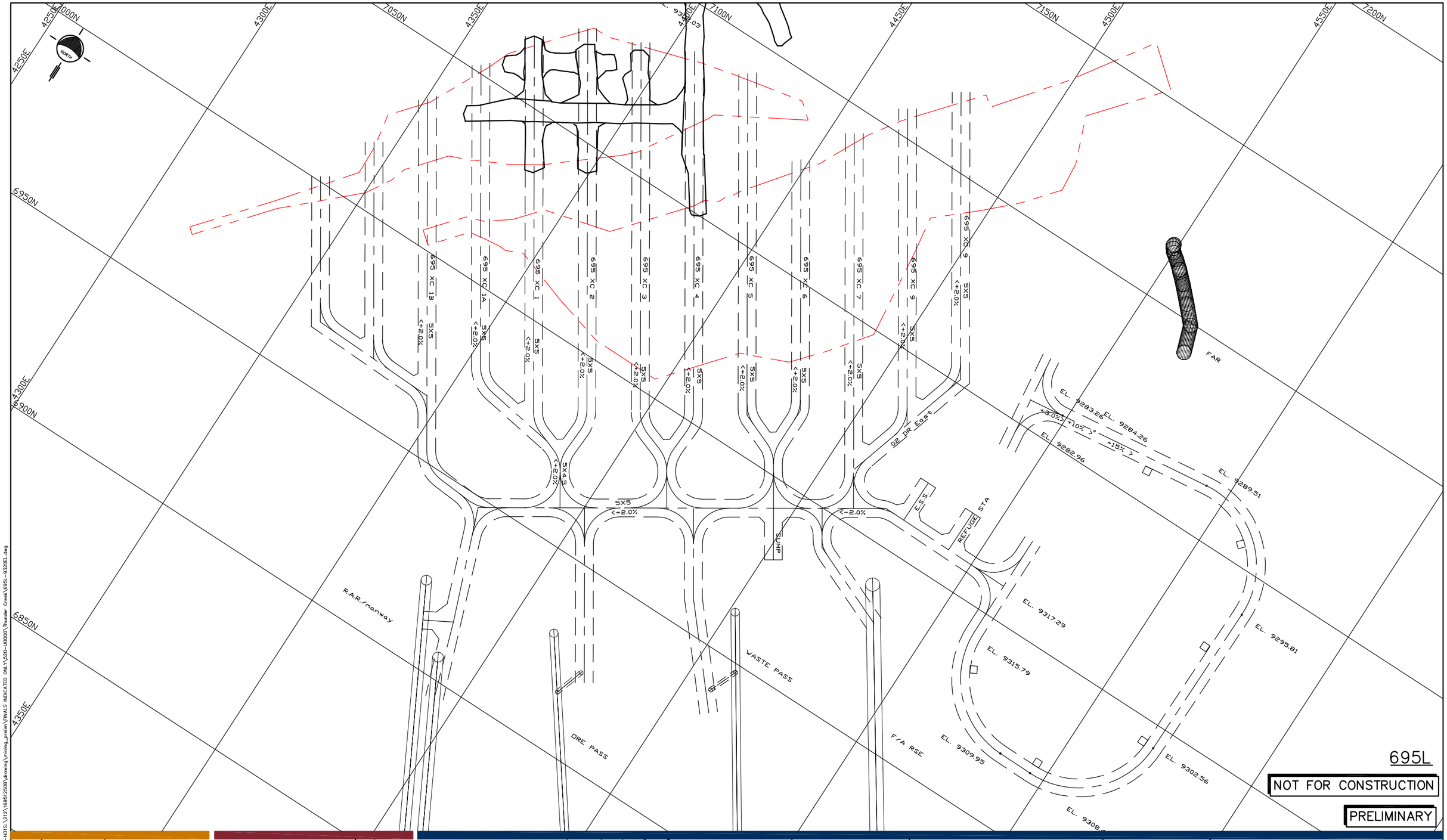

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THUNDER CREEK
695L
PLAN

SCALE: 1:1000 | PROJ. NO. 169512508 | DWG. NO. 520–U0695 | REV. NO. A

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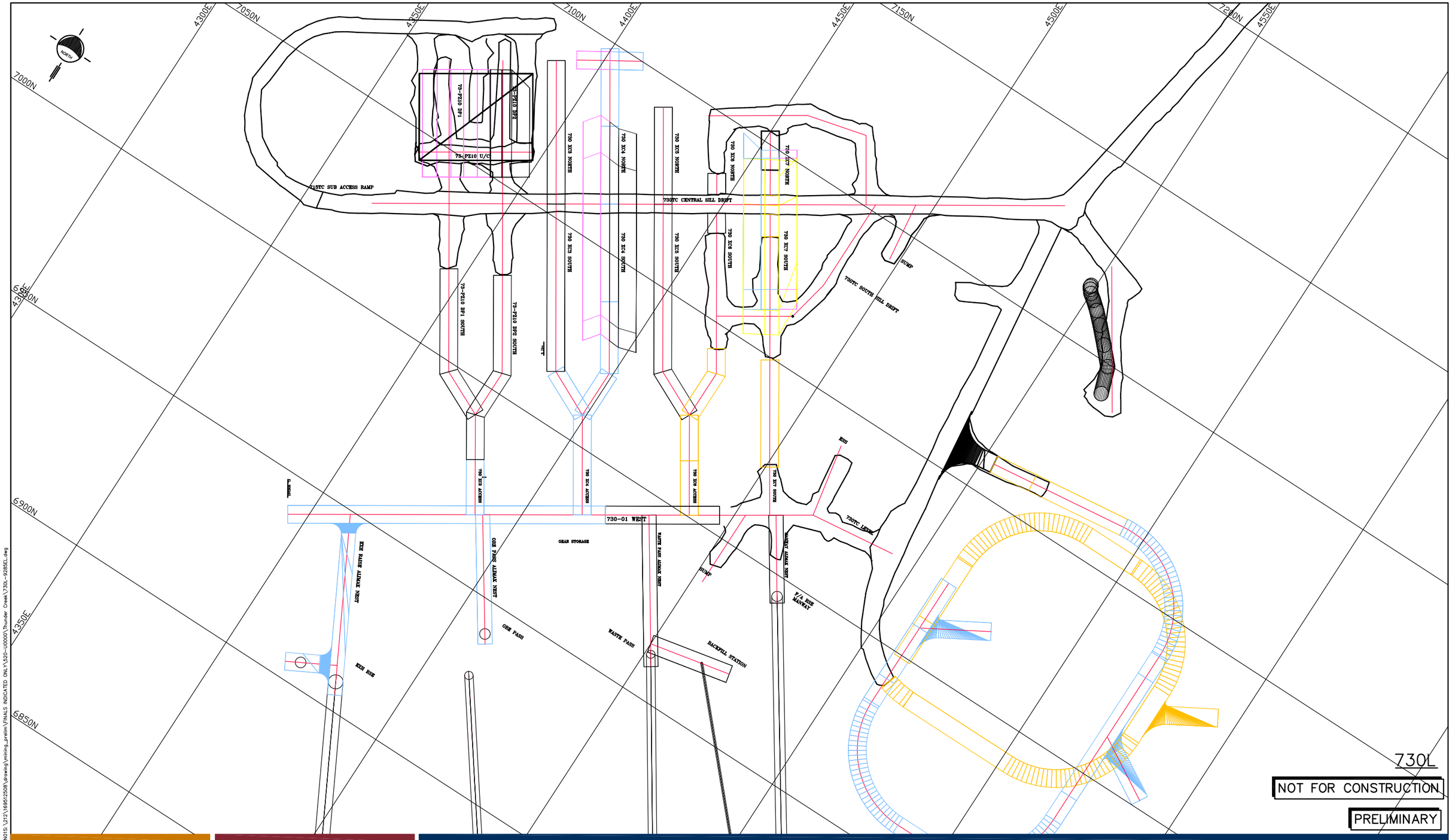

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DWG. NO.	REFERENCE DRAWING TITLE		THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED				

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THUNDER CREEK
730L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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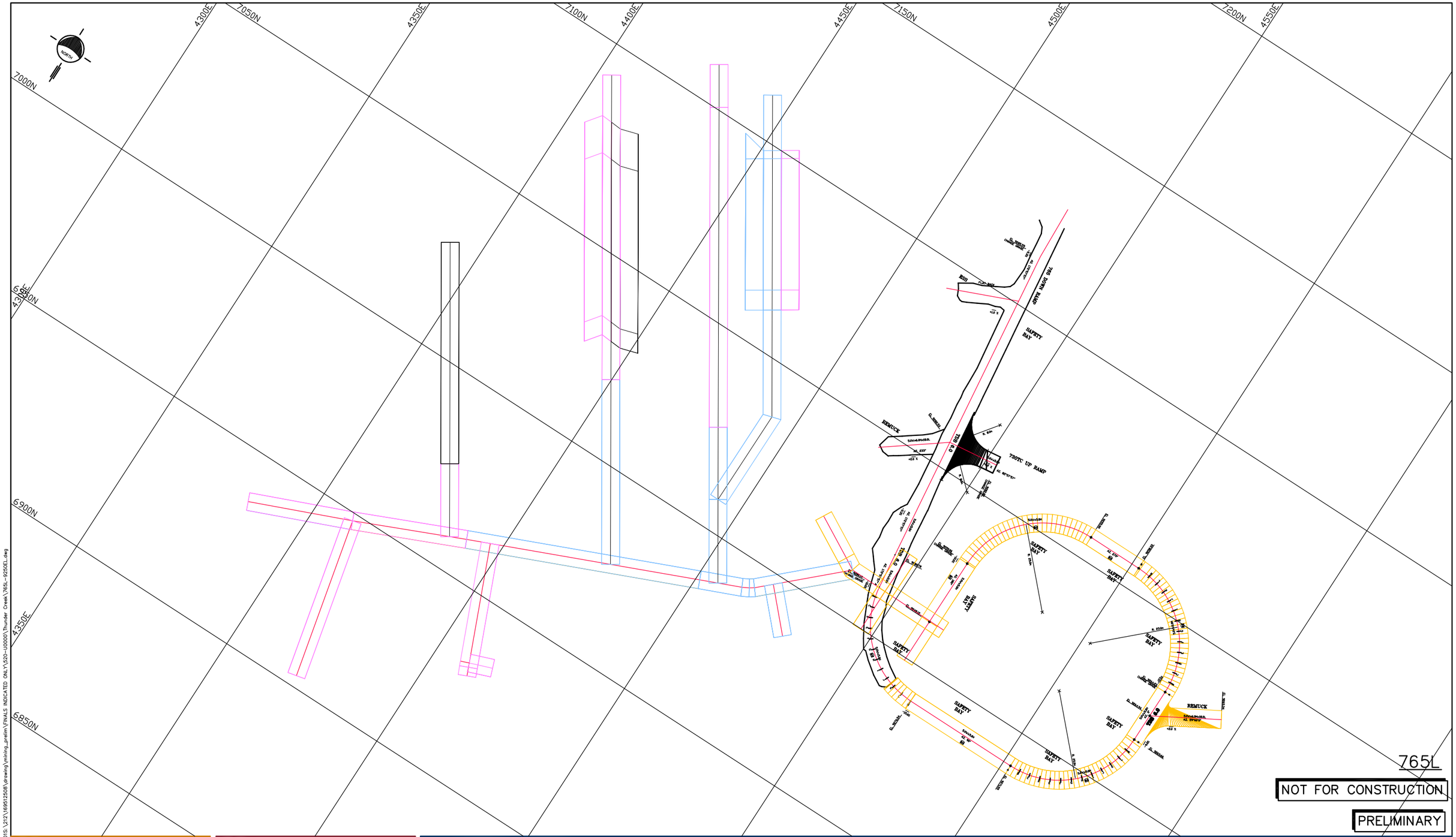

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THUNDER CREEK
765L
PLAN

SCALE:	PROJ. NO.	DWG. NO.	REV. NO.
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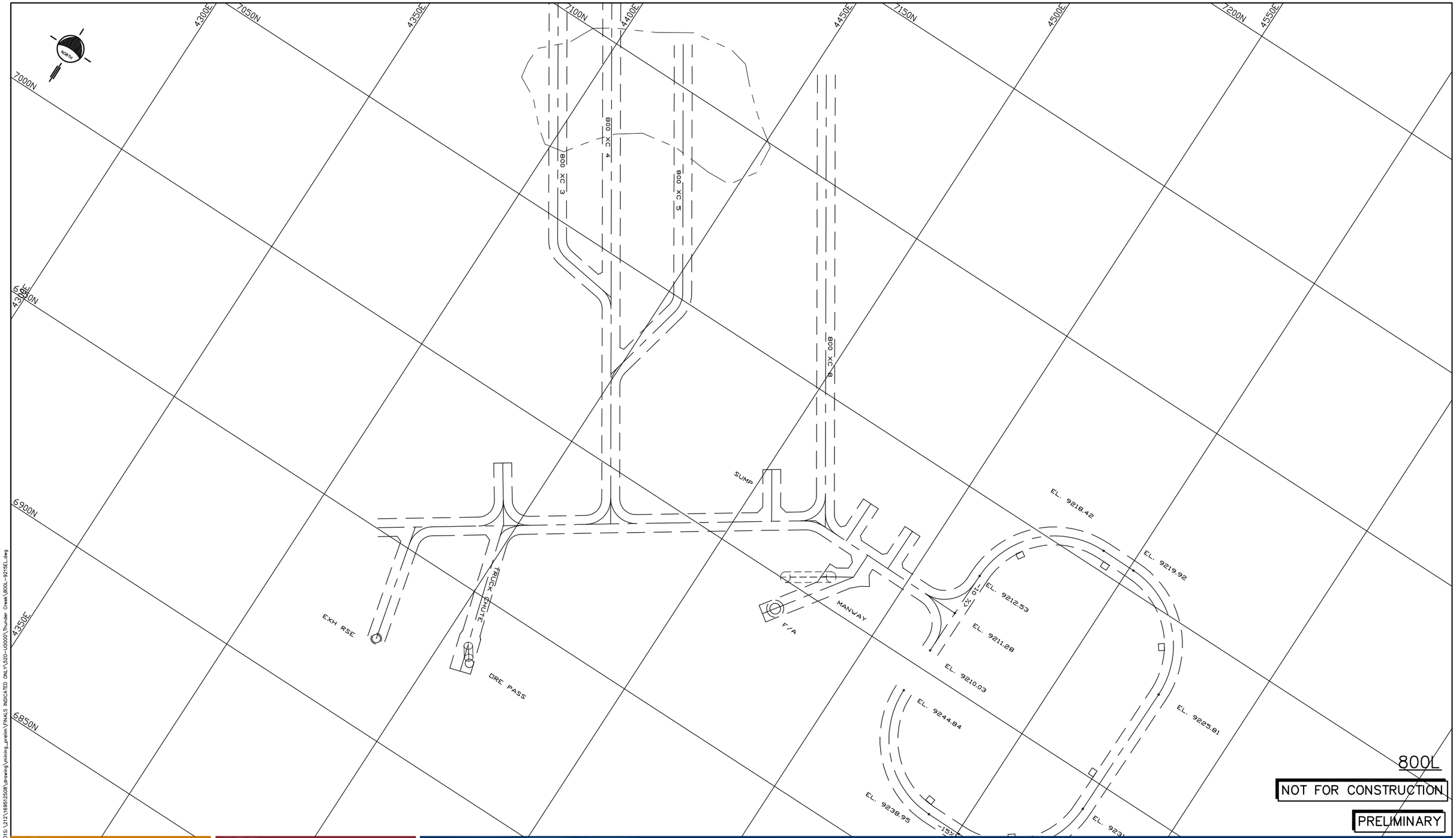

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A	PRELIMINARY – ISSUED FOR PFS		

REF. DWG. NO.	REFERENCE DRAWING TITLE
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THUNDER CREEK
800L
PLAN

SCALE: 1:1000
PROJ. NO. 169512508
DWG. NO. 520–U0800
REV. NO. A

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APPENDIX 12

SCHEDULES

169512508 - Lake Shore Gold Timmins West Mine PFS
Timmins Deposit Probable Reserves - Stope Tonnes and Grade
May 4, 2012.

Timmins Deposit - Probable Reserves

Mine Level	Stope Resource Below 3.0 g/t (planned dilution from Block Model)		Stope Resource Above 3.0 g/t (from Block Model)		Planned Waste Dilution (outside block model) 10%		Total Stope In-situ Resource			Unplanned Dilution 15%	Diluted Stope Resource		Tonnes Mined to Surface Recovery Factor	Total Resource Mined to Surface		
	Tonnes	Grade (g/t)	Tonnes	Grade (g/t)	Tonnes	Grade (g/t)	Tonnes	Grade (g/t)	Ounces		Tonnes	Grade (g/t)	90%	Tonnes	Grade	Mined Ounces
Above 650L																
230	1,328	1.7	8,541	6.8	987	0.0	10,856	5.6	1,940	1,628	12,484	4.8	11,236	11,236	4.8	1,746
260	166	2.4	7,899	7.8	807	0.0	8,872	7.0	1,994	1,331	10,202	6.1	9,182	9,182	6.1	1,794
290														No Mining		
315														No Mining		
335	5,466	1.6	25,605	8.3	3,107	0.0	34,178	6.5	7,114	5,127	39,305	5.6	35,374	35,374	5.6	6,403
355	1,565	1.9	9,829	10.2	1,139	0.0	12,533	8.2	3,319	1,880	14,413	7.2	12,972	12,972	7.2	2,987
375	1,411	2.0	12,464	8.3	1,388	0.0	15,263	7.0	3,417	2,289	17,552	6.1	15,797	15,797	6.1	3,075
395	2,643	2.1	12,203	7.3	1,485	0.0	16,331	5.8	3,042	2,450	18,780	5.0	16,902	16,902	5.0	2,738
415	4,179	1.5	21,202	6.4	2,538	0.0	27,919	5.1	4,564	4,188	32,107	4.4	28,896	28,896	4.4	4,108
435	6,499	2.1	37,578	6.7	4,408	0.0	48,485	5.5	8,533	7,273	55,757	4.8	50,182	50,182	4.8	7,680
455														No Mining		
475														No Mining		
500														No Mining		
525	15,000	1.6	32,995	6.8	4,800	0.0	52,795	4.7	7,985	7,919	60,714	4.1	54,642	54,642	4.1	7,187
545														No Mining		
565	15,560	1.5	29,433	7.5	4,499	0.0	49,492	4.9	7,848	7,424	56,916	4.3	51,225	51,225	4.3	7,063
585	23,220	1.6	46,089	7.3	6,931	0.0	76,240	4.9	12,012	11,436	87,676	4.3	78,908	78,908	4.3	10,810
610	25,053	1.4	41,351	7.2	6,640	0.0	73,044	4.6	10,700	10,957	84,001	4.0	75,601	75,601	4.0	9,630
630	4,596	1.8	14,695	6.7	1,929	0.0	21,220	5.0	3,431	3,183	24,403	4.4	21,963	21,963	4.4	3,088
650	7,959	1.5	17,994	7.6	2,595	0.0	28,548	5.2	4,781	4,282	32,831	4.5	29,547	29,547	4.5	4,303
Total Above 650L	**114,645**	**1.6**	**317,878**	**7.3**	**43,252**	**0.0**	**475,775**	**5.3**	**80,679**	**71,366**	**547,142**	**4.6**	**492,427**	**492,427**	**4.6**	**72,611**
670L to 970L																
670	45,424	1.5	85,597	7.7	13,102	0.0	144,123	5.0	23,381	21,618	165,742	4.4	149,167	149,167	4.4	21,043
690	25,277	1.7	53,503	8.3	7,878	0.0	86,658	5.6	15,659	12,999	99,657	4.9	89,691	89,691	4.9	14,093
710	29,775	1.6	75,327	7.2	10,510	0.0	115,612	5.1	18,969	17,342	132,954	4.4	119,659	119,659	4.4	17,072
730	6,895	2.0	59,528	7.1	6,642	0.0	73,065	6.0	14,032	10,960	84,025	5.2	75,623	75,623	5.2	12,629
750	14,336	2.1	46,214	7.4	6,055	0.0	66,605	5.6	11,963	9,991	76,596	4.9	68,936	68,936	4.9	10,767
770	17,058	1.9	74,767	9.5	9,183	0.0	101,008	7.4	23,878	15,151	116,159	6.4	104,543	104,543	6.4	21,490
790	16,619	2.0	93,555	8.1	11,017	0.0	121,191	6.5	25,432	18,179	139,370	5.7	125,433	125,433	5.7	22,889
810	13,787	1.8	38,656	7.5	5,244	0.0	57,687	5.5	10,119	8,653	66,340	4.7	59,706	59,706	4.7	9,107
830	4,008	1.5	18,427	10.8	2,244	0.0	24,679	8.3	6,592	3,702	28,380	7.2	25,542	25,542	7.2	5,932
850	7,945	1.5	61,346	12.9	6,929	0.0	76,220	10.5	25,826	11,433	87,653	9.2	78,888	78,888	9.2	23,243
870	3,956	2.3	58,280	9.0	6,224	0.0	68,460	7.8	17,156	10,269	78,729	6.8	70,856	70,856	6.8	15,441
890	13,194	2.1	44,987	6.3	5,818	0.0	63,999	4.9	10,003	9,600	73,599	4.2	66,239	66,239	4.2	9,003
910	13,649	1.5	30,345	6.6	4,399	0.0	48,393	4.6	7,097	7,259	55,652	4.0	50,087	50,087	4.0	6,388
930	11,380	2.2	51,113	11.1	6,249	0.0	68,742	8.6	19,046	10,311	79,054	7.5	71,148	71,148	7.5	17,141
950	4,907	1.8	54,968	11.3	5,988	0.0	65,863	9.6	20,254	9,879	75,742	8.3	68,168	68,168	8.3	18,229
970	8,747	1.4	30,172	6.4	3,892	0.0	42,811	4.8	6,602	6,422	49,233	4.2	44,309	44,309	4.2	5,942
Total 670L to 970L	**236,957**	**1.7**	**876,785**	**8.6**	**111,374**	**0.0**	**1,225,116**	**6.5**	**256,009**	**183,767**	**1,408,884**	**5.7**	**1,267,995**	**1,267,995**	**5.7**	**230,408**
990L to 1290L																
990	3,162	2.3	19,336	4.5	2,250	0.0	24,748	3.8	3,031	3,712	28,460	3.3	25,614	25,614	3.3	2,728
1010														No Mining		
1030														No Mining		
1050														No Mining		
1070	2,893	2.4	35,853	8.3	3,875	0.0	42,621	7.1	9,791	6,393	49,014	6.2	44,112	44,112	6.2	8,812
1090	10,667	1.8	38,456	13.2	4,912	0.0	54,035	9.7	16,938	8,105	62,141	8.5	55,927	55,927	8.5	15,244
1110	6,820	2.3	34,673	8.3	4,149	0.0	45,642	6.6	9,757	6,846	52,489	5.8	47,240	47,240	5.8	8,781
1130	4,824	1.5	35,426	6.2	4,025	0.0	44,275	5.1	7,294	6,641	50,916	4.5	45,825	45,825	4.5	6,565
1150	10,709	2.1	28,348	4.8	3,906	0.0	42,963	3.7	5,098	6,444	49,407	3.2	44,466	44,466	3.2	4,588
1170	2,556	1.6	8,654	19.1	1,121	0.0	12,331	13.7	5,446	1,850	14,181	11.9	12,763	12,763	11.9	4,901
1190	382	1.6	13,539	26.0	1,392	0.0	15,313	23.0	11,337	2,297	17,610	20.0	15,849	15,849	20.0	10,203
1210	4,908	1.4	30,414	6.4	3,532	0.0	38,854	5.2	6,479	5,828	44,682	4.5	40,214	40,214	4.5	5,831
1230	10,047	1.7	26,375	6.6	3,642	0.0	40,064	4.8	6,146	6,010	46,074	4.1	41,466	41,466	4.1	5,531
1250	5,082	2.3	24,184	16.7	2,927	0.0	32,193	12.9	13,361	4,829	37,021	11.2	33,319	33,319	11.2	12,025
1270	1,086	2.1	35,623	9.5	3,671	0.0	40,380	8.4	10,954	6,057	46,437	7.3	41,793	41,793	7.3	9,858
1290	3,041	2.7	32,661	8.0	3,570	0.0	39,272	6.9	8,665	5,891	45,163	6.0	40,647	40,647	6.0	7,798
Total 990L to 1290L	**66,177**	**2.0**	**363,542**	**9.4**	**42,972**	**0.0**	**472,691**	**7.5**	**114,295**	**70,904**	**543,595**	**6.5**	**489,235**	**489,235**	**6.5**	**102,866**
Timmins Deposit Total	**417,779**	**1.7**	**1,558,205**	**8.5**	**197,598**	**0.0**	**2,173,582**	**6.5**	**450,983**	**326,037**	**2,499,620**	**5.6**	**2,249,658**	**2,249,658**	**5.6**	**405,885**

169512508 - Lake Shore Gold Timmins West Mine PFS
Thunder Creek Deposit Probable Reserves - Stope Tonnes and Grade
May 4, 2012.

Thunder Creek Deposit - Probable Reserves

2012 Budget				2013				2014				2015				2016				2017				TOTAL			
		Reserve				Reserve				Reserve				Reserve				Reserve				Reserve				Reserve		
Seq	Stope	Tonnes	Grade	Seq	Stope	Tonnes	Grade	Seq	Stope	Tonnes	Grade	Seq	Stope	Tonnes	Grade	Seq	Stope	Tonnes	Grade	Seq	Stope	Tonnes	Grade	Year	Tonnes	Grade	Ounces
1	730 #1,2	42,528	7.5	4	730 #7	62,576	5.6	20	765 #1	20,417	5.6	36	695 #B	25,703	7.5	56	695 #3 hw	53,289	6.2	75	625 #5	60,574	4.3	2012	263,850	4.6	39,095
2	765 #7	51,823	4.6	5	765 # A	16,723	5.9	21	765 #5 FW	77,996	5.9	37	730 #6 FW	67,536	5.8	57	450 #5	33,224	4.1	76	395 #6	14,727	3.1	2013	529,087	4.8	81,405
3	765 #4	69,916	3.4	6	730 #4 HW	19,019	5.1	22	660 #A	22,589	5.8	38	450 #4	25,253	4.3	58	660 #9	35,161	5.6	77	625 #1	19,083	4.5	2014	537,478	5.3	92,036
4	730 #7	22,766	5.4	7	765 #8	43,544	4.0	23	660 #8	29,431	5.7	39	625 #A	16,513	4.6	59	660 #2	39,678	6.4	78	625 #7	53,002	3.9	2015	525,696	4.8	81,833
				8	765 #2	23,223	5.4	24	730 #B FW	6,876	3.3	40	625 #8	20,480	4.2	60	395 #3	10,350	8.0	79	625 #3	32,804	4.7	2016	547,677	5.0	88,528
	Development	33,788	4.2	9	730 #10	33,493	3.1	25	730 #5 HW	15,853	4.2	41	695 #6 HW	16,697	4.2	61	625 #6	54,543	4.3	80	590 #6	48,924	3.3	2017	268,734	4.1	35,066
				10	730 #A	26,680	4.5	26	660 #4	39,490	4.1	42	765 #3	18,898	4.7	62	800 #4	29,001	4.3	81	485 #3	15,329	5.8					
	Above 370			11	765 #5 HW	16,916	4.2	27	730 #9	43,532	4.4	43	625 #D	16,544	6.6	63	695 #5 HW	27,916	4.3	82	590 #5	24,291	3.6					
	Stopes	33,010	3.8	12	730 #8	34,834	4.6	28	765 #6 HW	13,451	3.7	44	415 #2	9,069	3.8	64	625 #2	27,389	4.1								
				13	695 #A	31,684	7.9	29	695 #C	15,446	5.2	45	695 #1 HW	45,906	6.8	65	625 #B	16,924	4.4								
	Above 370			14	730 #4 FW	55,736	3.4	30	695 #2 HW	48,624	8.4	46	800 #5	37,480	3.5	66	415 #5	5,428	2.8								
	Development	10,019	3.5	15	765 #B	17,946	5.6	31	765 #6 FW	81,887	6.2	47	415 #4	12,872	4.3	67	660 #7	26,014	5.2								
				16	695 #8 HW	25,749	4.5	32	450 #2	16,350	3.4	48	800 #8 HW	17,631	3.2	68	660 #3	45,651	4.2								
				16	695 #8 FW	23,157	6.4	33	625 #4	39,279	4.4	49	730 #3	33,498	5.9	69	395 #4	17,225	7.5								
				17	695 #D	13,452	3.1	34	730 #6 HW	16,083	3.5	50	660 #6	29,648	4.5	70	625 #C	18,985	6.3								
				18	765 #9	43,517	3.5	35	695 #9	50,174	4.3	51	450 #3	18,071	4.0	71	625 #9	21,251	3.2								
				19	695 #4 HW	40,838	5.7					52	730 #5 FW	63,369	3.2	72	660 #5	38,314	4.0								
												53	660 #B	18,317	4.7	73	395 #5	14,112	5.6								
												54	415 #3	13,989	3.0	74	660 #1	33,222	5.9								
												55	800 #3 HW	18,222	5.4												
	TOTAL	263,850	4.6		TOTAL	529,087	4.8		TOTAL	537,478	5.3		TOTAL	525,696	4.8		TOTAL	547,677	5.0		TOTAL	268,734	4.1	TOTAL	2,672,522	4.9	417,963

169512508 - Lake Shore Gold Timmins West Mine PFS
Timmins West Mine Combined Production
May 4, 2012.

Timmins West Mine Production Summary - Reserves

Production Area	Total	2012	2013	2014	2015	2016	2017	2018	2019 (Q2)
Thunder Creek Deposit									
Tonnes Mined to Surface	**2,672,522**	263,849	529,087	537,478	525,696	547,677	268,734		
Average Grade	**4.9**	4.6	4.8	5.3	4.8	5.0	4.1		
Ounces Mined to Surface	**417,963**	39,099	81,406	92,038	81,834	88,530	35,057		
Tonnes per Day			1,512	1,536	1,502	1,565	768		
Timmins Deposit									
Total Tonnes	**2,249,658**	263,931	269,417	328,967	336,268	301,174	342,245	352,522	55,134
Average Grade	**5.6**	4.4	5.0	5.2	5.8	6.4	5.4	6.5	6.4
Ounces Mined to Surface	**405,885**	38,930	42,949	55,333	63,239	61,600	58,955	73,518	11,361
Tonnes per Day			770	940	961	860	978	1,007	368
Thunder Creek + Timmins Deposit									
Total Tonnes Mined to Surface	**4,922,180**	**527,780**	**798,504**	**866,445**	**861,964**	**848,851**	**610,979**	**352,522**	**55,134**
Grade (g/t)	**5.2**	**4.5**	**4.8**	**5.3**	**5.2**	**5.5**	**4.8**	**6.5**	**6.4**
Total Ounces Mined to Surface	**823,848**	**78,029**	**124,354**	**147,371**	**145,073**	**150,130**	**94,012**	**73,518**	**11,361**
Tonnes per Day		**0**	**2,281**	**2,476**	**2,463**	**2,425**	**1,746**	**1,007**	**368**

*The Timmins Deposit 2012 Budget and Production plan also Includes 53,075t @ 3.9g/t (6,660 ounces) of inferred resource.

169512508 - Lake Shore Gold Timmins West Mine PFS
Timmins Deposit Production Profile
May 4, 2012.

Timmins Deposit Production Profile

Reserves

Mine Level	Reserves Diluted/Recovered (tonnes)	Grade Diluted (g/t)	2012	2013	2014	2015	2016	2017	2018	2019
LSG 2012 Budget*	263,931	4.4	263,931							
230	11,236	4.8					11,236			
260	9,182	6.1				9,182				
335	35,374	5.6						10,000	25,374	
355	12,972	7.2						12,972		
375	15,797	6.1						15,797		
395	16,902	5.0					3,898	13,005		
415	28,896	4.4					28,896			
435	50,182	4.8					50,182			
525	19,642	4.1							19,642	
565	45,479	4.3							45,479	
585	17,372	4.3						17,372		
610	64,972	4.0						64,972		
630	16,217	4.4					16,217			
650	29,547	4.5					29,547			
670	129,734	4.4			59,160	70,574				
690	61,472	4.9		21,420	40,052					
710	97,659	4.4		97,659						
730	Mined Out									
750	68,936	4.9		13,216	25,950	29,770				
770	104,543	6.4		15,232	55,760	33,551				
790	125,433	5.7		62,184	63,249					
810	59,706	4.7		59,706						
830	25,542	7.2			5,252		20,290			
850	78,888	9.2			6,720	54,740	17,428			
870	70,856	6.8			6,585	64,271				
890	66,239	4.2			66,239					
910	50,087	4.0						50,087		
930	71,148	7.5					55,088	16,060		
950	68,168	8.3				4,256	63,912			
970	44,309	4.2				44,309				
990	25,614	3.3				25,615				
1,070	44,112	6.2						3,360	40,752	
1,090	55,927	8.5						18,074	37,853	
1,110	47,240	5.8						47,240		
1,130	45,825	4					4,480	41,345		
1,150	44,466	3.2							44,466	
1,170	12,763	11.9						3,360	9,403	
1,190	15,849	20.0						4,659	11,190	
1,210	40,214	5						23,942	16,272	
1,230	41,466	4.1							3,942	37,524
1,250	33,319	11.2							15,709	17,610
1,270	41,793	7.3							41,793	
1,290	40,647	6.0							40,647	
Total	**2,249,657**	**5.6**	**263,931**	**269,417**	**328,967**	**336,268**	**301,174**	**342,245**	**352,522**	**55,134**
Average grade per year			**4.4**	**5.0**	**5.2**	**5.8**	**6.4**	**5.4**	**6.5**	**6.4**
Average tpd			754	770	940	961	860	978	1,007	368
			LSG 2012* Budget							

*The Timmins Deposit 2012 Budget and Production plan also Includes 53,075t @ 3.9g/t (6,660 ounces) of inferred resource.

169512508 - Lake Shore Gold Timmins West Mine PFS
Thunder Creek Production Profile
May 4, 2012.

Thunder Creek Deposit Production Profile

Reserves

Stope	Tonnes Mined to Surface	Grade (g/t)	2012	2013	2014	2015	2016	2017
LSG 2012 Budget	263,849	4.6	263,849					
730 #7	62,576	5.6		62,576				
765 # A	16,723	5.9		16,723				
730 #4 HW	19,019	5.1		19,019				
765 #8	43,544	4.0		43,544				
765 #2	23,223	5.4		23,223				
730 #10	33,493	3.1		33,493				
730 #A	26,680	4.5		26,680				
765 #5 HW	16,916	4.2		16,916				
730 #8	34,834	4.6		34,834				
695 #A	31,684	7.9		31,684				
730 #4 FW	55,736	3.4		55,736				
765 #B	17,946	5.6		17,946				
695 #8 HW	25,749	4.5		25,749				
695 #8 FW	23,157	6.4		23,157				
695 #D	13,452	3.1		13,452				
765 #9	43,517	3.5		43,517				
695 #4 HW	40,838	5.7		40,838				
765 #1	20,417	5.6			20,417			
765 #5 FW	77,996	5.9			77,996			
660 #A	22,589	5.8			22,589			
660 #8	29,431	5.7			29,431			
730 #B FW	6,876	3.3			6,876			
730 #5 HW	15,853	4.2			15,853			
660 #4	39,490	4.1			39,490			
730 #9	43,532	4.4			43,532			
765 #6 HW	13,451	3.7			13,451			
695 #C	15,446	5.2			15,446			
695 #2 HW	48,624	8.4			48,624			
765 #6 FW	81,887	6.2			81,887			
450 #2	16,350	3.4			16,350			
625 #4	39,279	4.4			39,279			
730 #6 HW	16,083	3.5			16,083			
695 #9	50,174	4.3			50,174			
695 #B	25,703	7.5				25,703		
730 #6 FW	67,536	5.8				67,536		
450 #4	25,253	4.3				25,253		
625 #A	16,513	4.6				16,513		
625 #8	20,480	4.2				20,480		
695 #6 HW	16,697	4.2				16,697		
765 #3	18,898	4.7				18,898		
625 #D	16,544	6.6				16,544		
415 #2	9,069	3.8				9,069		
695 #1 HW	45,906	6.8				45,906		
800 #5	37,480	3.5				37,480		
415 #4	12,872	4.3				12,872		
800 #8 HW	17,631	3.2				17,631		
730 #3	33,498	5.9				33,498		
660 #6	29,648	4.5				29,648		
450 #3	18,071	4.0				18,071		
730 #5 FW	63,369	3.2				63,369		
660 #B	18,317	4.7				18,317		
415 #3	13,989	3.0				13,989		
800 #3 HW	18,222	5.4				18,222		
695 #3 hw	53,289	6.2					53,289	
450 #5	33,224	4.1					33,224	
660 #9	35,161	5.6					35,161	
660 #2	39,678	6.4					39,678	
395 #3	10,350	8.0					10,350	
625 #6	54,543	4.3					54,543	
800 #4	29,001	4.3					29,001	
695 #5 HW	27,916	4.3					27,916	
625 #2	27,389	4.1					27,389	
625 #B	16,924	4.4					16,924	
415 #5	5,428	2.8					5,428	
660 #7	26,014	5.2					26,014	
660 #3	45,651	4.2					45,651	
395 #4	17,225	7.5					17,225	
625 #C	18,985	6.3					18,985	
625 #9	21,251	3.2					21,251	
660 #5	38,314	4.0					38,314	
395 #5	14,112	5.6					14,112	
660 #1	33,222	5.9					33,222	
625 #5	60,574	4.3						60,574
395 #6	14,727	3.1						14,727
625 #1	19,083	4.5						19,083
625 #7	53,002	3.9						53,002
625 #3	32,804	4.7						32,804
590 #6	48,924	3.3						48,924
485 #3	15,329	5.8						15,329
590 #5	24,291	3.6						24,291
TOTAL	**2,672,521**	**4.86**	**263,849**	**529,087**	**537,478**	**525,696**	**547,677**	**268,734**
Average grade per year			**4.6**	**4.8**	**5.3**	**4.8**	**5.0**	**4.1**
Average tpd				1,512	1,536	1,502	1,565	768

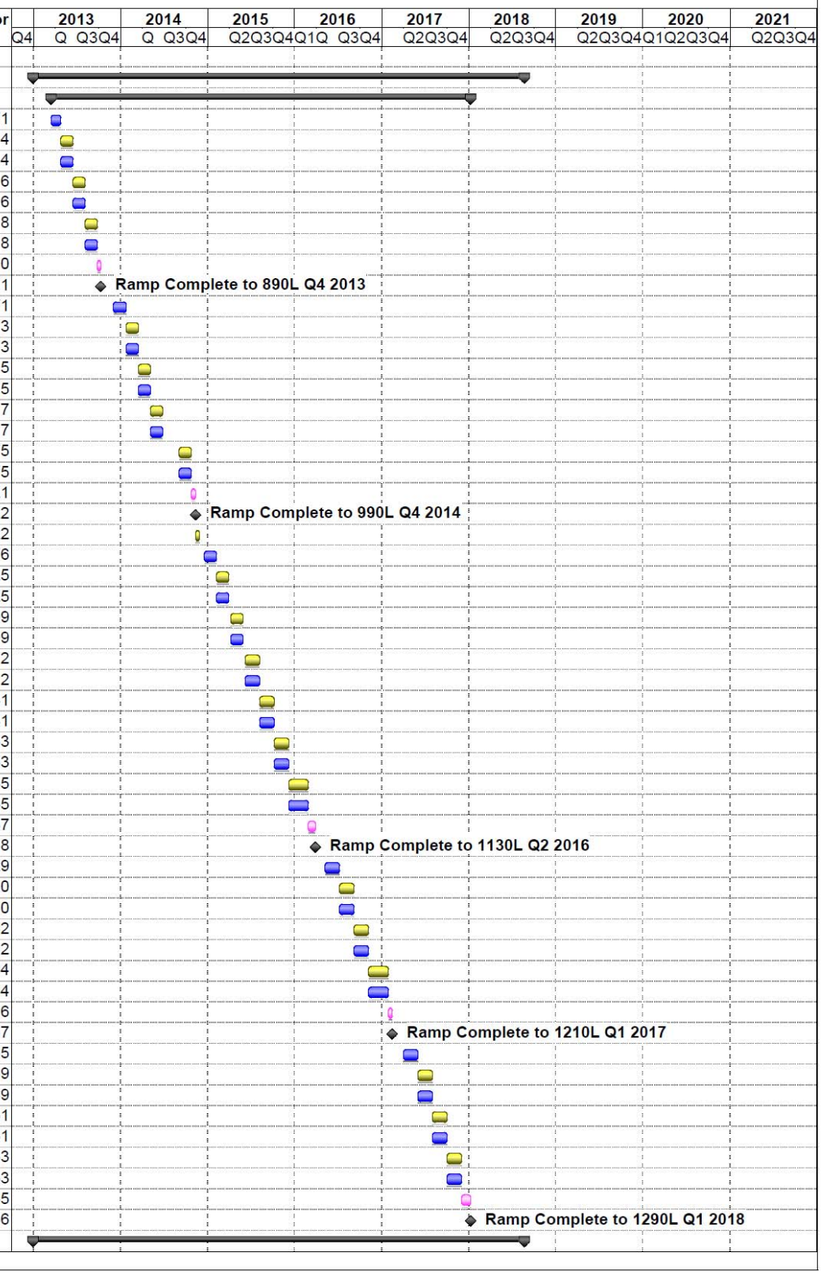
LSG 2012 Budget

169512508 Lake Shore Gold
Timmins West Mine
PFS

Timmins Deposit
Below 650L Development Schedule

May 4, 2012.

ID	Task Name	Qty	Rate	Duration	Start	Finish	Predecessor
1							
2	**Timmins Deposit Below 650L (2013 to 2020)**			**1993 days**	**Tue 1/1/13**	**Thu 8/23/18**	
3	**Ramp Development**			**1692 days**	**Sun 3/17/13**	**Tue 1/9/18**	
4	810L to 830L Ramp (transfer from HW to FW)	122m	3.0 m/day	41 days	Sun 3/17/13	Fri 4/26/13	71
5	830L Initial Infrastructure	76m	1.5 m/day	51 days	Sat 4/27/13	Sun 6/16/13	4
6	830L to 850L Ramp	153m	3.0 m/day	51 days	Sat 4/27/13	Sun 6/16/13	4
7	850L Initial Infrastructure	76m	1.5 m/day	51 days	Mon 6/17/13	Tue 8/6/13	6
8	850L to 870L Ramp	153m	3.0 m/day	51 days	Mon 6/17/13	Tue 8/6/13	6
9	870L Initial Infrastructure	76m	1.5 m/day	51 days	Wed 8/7/13	Thu 9/26/13	8
10	*870L to 890L Ramp	153m	3.0 m/day	51 days	Wed 8/7/13	Thu 9/26/13	8
11	Risk and Delays Allowance		2 days/month	14 days	Fri 9/27/13	Thu 10/10/13	10
12	Ramp Complete to 890L Q4 2013			0 days	Thu 10/10/13	Thu 10/10/13	11
13	890L to 910L Ramp	153m	3.0 m/day	51 days	Tue 12/3/13	Sat 1/25/14	171
14	910L Initial Infrastructure	51m	1.0 m/day	51 days	Sun 1/26/14	Mon 3/17/14	13
15	910L to 930L Ramp	153m	3.0 m/day	51 days	Sun 1/26/14	Mon 3/17/14	13
16	930L Initial Infrastructure	51m	1.0 m/day	51 days	Tue 3/18/14	Wed 5/7/14	15
17	930L to 950L Ramp	153m	3.0 m/day	51 days	Tue 3/18/14	Wed 5/7/14	15
18	950L Initial Infrastructure	51m	1.0 m/day	51 days	Thu 5/8/14	Fri 6/27/14	17
19	*950L to 970L Ramp	153m	3.0 m/day	51 days	Thu 5/8/14	Fri 6/27/14	17
20	970L Infrastructure (2nd face)	51m	1.0 m/day	51 days	Fri 9/5/14	Sat 10/25/14	175
21	970L to 990L Ramp	153m	3.0 m/day	51 days	Fri 9/5/14	Sat 10/25/14	175
22	Risk and Delays Allowance		2 days/month	18 days	Sun 10/26/14	Wed 11/12/14	21
23	Ramp Complete to 990L Q4 2014			0 days	Wed 11/12/14	Wed 11/12/14	22
24	990L Initial Infrastructure	50m	3.0m/day	17 days	Thu 11/13/14	Sat 11/29/14	22
25	990L to 1010L Ramp	153m	3.0 m/day	51 days	Sat 12/20/14	Sun 2/8/15	176
26	1010L Initial Infrastructure	51m	1.0 m/day	51 days	Mon 2/9/15	Tue 3/31/15	25
27	1010L to 1030L Ramp	153m	3.0 m/day	51 days	Mon 2/9/15	Tue 3/31/15	25
28	1030L Initial Infrastructure	51m	1.0 m/day	51 days	Fri 4/10/15	Sat 5/30/15	109
29	1030L to 1050L Ramp	153m	3.0 m/day	51 days	Fri 4/10/15	Sat 5/30/15	109
30	1050L Initial Infrastructure	61m	1.0 m/day	61 days	Tue 6/9/15	Sat 8/8/15	112
31	1050L to 1070L Ramp	153m	2.5 m/day	61 days	Tue 6/9/15	Sat 8/8/15	112
32	1070L Initial Infrastructure	61m	1.0 m/day	61 days	Sun 8/9/15	Thu 10/8/15	31
33	1070L to 1090L Ramp	153m	2.5 m/day	61 days	Sun 8/9/15	Thu 10/8/15	31
34	1090L Initial Infrastructure	61m	1.0 m/day	61 days	Fri 10/9/15	Tue 12/8/15	33
35	1090L to 1110L Ramp	153m	2.5 m/day	61 days	Fri 10/9/15	Tue 12/8/15	33
36	1110L Initial Infrastructure	61m	1.0 m/day	61 days	Wed 12/9/15	Sun 2/28/16	35
37	*1110L to 1130L Ramp	153m	2.5 m/day	61 days	Wed 12/9/15	Sun 2/28/16	35
38	Risk and Delays Allowance		2 days/month	30 days	Mon 2/29/16	Tue 3/29/16	37
39	Ramp Complete to 1130L Q2 2016			0 days	Tue 3/29/16	Tue 3/29/16	38
40	1130L to 1150L Ramp	153m	2.5 m/day	61 days	Mon 5/9/16	Fri 7/8/16	129
41	1150L Initial Infrastructure	61m	1.0 m/day	61 days	Sat 7/9/16	Wed 9/7/16	40
42	1150L to 1170L Ramp	153m	2.5 m/day	61 days	Sat 7/9/16	Wed 9/7/16	40
43	1170L Initial Infrastructure	61m	1.0 m/day	61 days	Thu 9/8/16	Mon 11/7/16	42
44	1170L to 1190L Ramp	153m	2.5 m/day	61 days	Thu 9/8/16	Mon 11/7/16	42
45	1190L Initial Infrastructure	61m	1.0 m/day	61 days	Tue 11/8/16	Sun 1/29/17	44
46	*1190L to 1210L Ramp	153m	2.5 m/day	61 days	Tue 11/8/16	Sun 1/29/17	44
47	Risk and Delays Allowance		2 days/month	16 days	Mon 1/30/17	Tue 2/14/17	46
48	Ramp Complete to 1210L Q1 2017			0 days	Tue 2/14/17	Tue 2/14/17	47
49	1210L to 1230L Ramp	153m	2.5 m/day	61 days	Mon 4/3/17	Fri 6/2/17	145
50	1230L Initial Infrastructure	61m	1.0 m/day	61 days	Sat 6/3/17	Wed 8/2/17	49
51	1230L to 1250L Ramp	153m	2.5 m/day	61 days	Sat 6/3/17	Wed 8/2/17	49
52	1250L Initial Infrastructure	61m	1.0 m/day	61 days	Thu 8/3/17	Mon 10/2/17	51
53	1250L to 1270L Ramp	153m	2.5 m/day	61 days	Thu 8/3/17	Mon 10/2/17	51
54	1270L Initial Infrastructure	61m	1.0 m/day	61 days	Tue 10/3/17	Sat 12/2/17	53
55	1270L to 1290L Ramp	153m	2.5 m/day	61 days	Tue 10/3/17	Sat 12/2/17	53
56	Risk and Delays Allowance		2 days/month	16 days	Sun 12/3/17	Tue 1/9/18	55
57	Ramp Complete to 1290L Q1 2018			0 days	Tue 1/9/18	Tue 1/9/18	56
58	**Lateral Development**			**1993 days**	**Tue 1/1/13**	**Thu 8/23/18**	

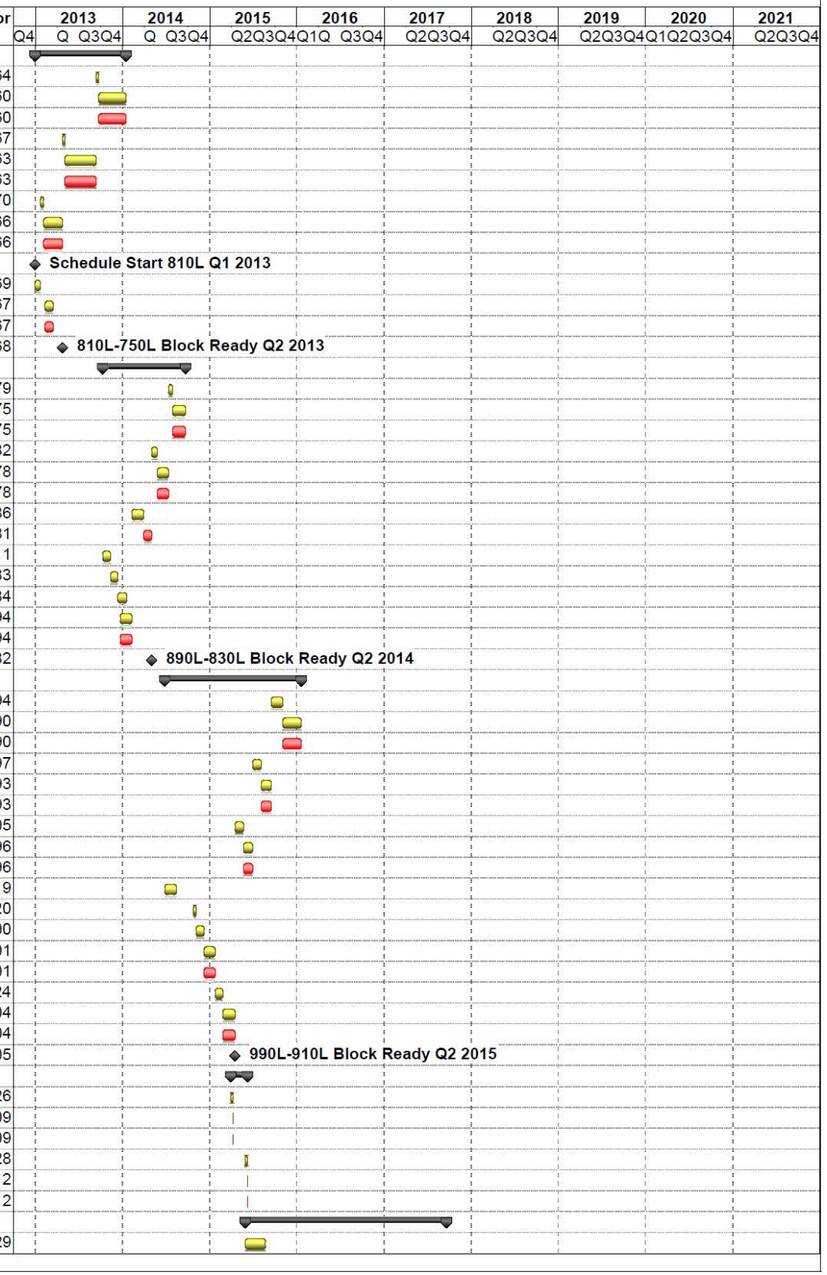


169512508 Lake Shore Gold
Timmins West Mine
PFS

Timmins Deposit
Below 650L Development Schedule

May 4, 2012.

ID	Task Name	Qty	Rate	Duration	Start	Finish	Predecessor
59	**810L to 750L Mining Block**			**378 days**	**Tue 1/1/13**	**Thu 1/16/14**	
60	750L Infrastructure (Capital Waste)	45m	4.5 m/day	10 days	Sat 9/14/13	Mon 9/23/13	64
61	750L Stope Access (Operating Waste)	210m	1.9 m/day	112 days	Tue 9/24/13	Thu 1/16/14	60
62	750L Stope Development (Operating Ore)	295m	2.6 m/day	112 days	Tue 9/24/13	Thu 1/16/14	60
63	770L Infrastructure (Capital Waste)	45m	4.5 m/day	10 days	Fri 4/26/13	Sun 5/5/13	67
64	770L Stope Access (Operating Waste)	250m	1.9 m/day	131 days	Mon 5/6/13	Fri 9/13/13	63
65	770L Stope Development (Operating Ore)	340m	2.6 m/day	131 days	Mon 5/6/13	Fri 9/13/13	63
66	790L Infrastructure (Capital Waste)	65m	4.5 m/day	14 days	Wed 1/23/13	Tue 2/5/13	70
67	790L Stope Access (Operating Waste)	90m	1.2 m/day	79 days	Wed 2/6/13	Thu 4/25/13	66
68	790L Stope Development (Operating Ore)	265m	3.3 m/day	79 days	Wed 2/6/13	Thu 4/25/13	66
69	Schedule Start 810L Q1 2013			0 days	Tue 1/1/13	Tue 1/1/13	
70	810L Infrastructure (Capital Waste)	100m	4.5 m/day	22 days	Tue 1/1/13	Tue 1/22/13	69
71	810L Stope Access (Operating Waste)	85m	2.6 m/day	33 days	Tue 2/12/13	Sat 3/16/13	167
72	810L Stope Development (Operating Ore)	65m	1.9 m/day	33 days	Tue 2/12/13	Sat 3/16/13	167
73	810L-750L Block Ready Q2 2013			0 days	Thu 4/25/13	Thu 4/25/13	68
74	**890L to 830L Mining Block**			**344 days**	**Fri 10/11/13**	**Mon 9/22/14**	
75	830L Infrastructure (Capital Waste)	77m	4.5 m/day	17 days	Mon 7/14/14	Wed 7/30/14	79
76	830L Stope Access (Operating Waste)	130m	2.4 m/day	54 days	Thu 7/31/14	Mon 9/22/14	75
77	830L Stope Development (Operating Ore)	115m	2.1 m/day	54 days	Thu 7/31/14	Mon 9/22/14	75
78	850L Infrastructure (Capital Waste)	107m	4.5 m/day	24 days	Sun 5/4/14	Tue 5/27/14	82
79	850L Stope Access (Operating Waste)	60m	1.3 m/day	47 days	Wed 5/28/14	Sun 7/13/14	78
80	850L Stope Development (Operating Ore)	150m	3.2 m/day	47 days	Wed 5/28/14	Sun 7/13/14	78
81	870L Infrastructure (Capital Waste)	225m	4.5 m/day	50 days	Mon 2/10/14	Mon 3/31/14	86
82	870L Stope Development (Operating Ore)	147m	4.5 m/day	33 days	Tue 4/1/14	Sat 5/3/14	81
83	890L Infrastructure to Establish Vent	150m	4.5 m/day	33 days	Fri 10/11/13	Tue 11/12/13	11
84	890L Infrastructure Remaining	138m	4.5 m/day	31 days	Wed 11/13/13	Fri 12/13/13	83
85	890L Hangingwall Diamond Drill Drift	155m	4.5 m/day	34 days	Sat 12/14/13	Sun 1/19/14	84
86	890L Stope Access (Operating Waste)	35m	0.7 m/day	46 days	Mon 12/23/13	Sun 2/9/14	194
87	890L Stope Development (Operating Ore)	173m	3.8 m/day	46 days	Mon 12/23/13	Sun 2/9/14	194
88	890L-830L Block Ready Q2 2014			0 days	Sat 5/3/14	Sat 5/3/14	82
89	**990L to 910L Mining Block**			**551 days**	**Sat 6/28/14**	**Wed 1/20/16**	
90	910L Infrastructure (Capital Waste)	196m	4.0 m/day	49 days	Thu 9/17/15	Wed 11/4/15	94
91	910L Stope Access (Operating Waste)	55m	1.0 m/day	56 days	Thu 11/5/15	Wed 1/20/16	90
92	910L Stope Development (Operating Ore)	167m	3.0 m/day	56 days	Thu 11/5/15	Wed 1/20/16	90
93	930L Infrastructure (Capital Waste)	145m	4.0 m/day	36 days	Wed 7/1/15	Wed 8/5/15	97
94	930L Stope Access (Operating Waste)	55m	1.3 m/day	42 days	Thu 8/6/15	Wed 9/16/15	93
95	930L Stope Development (Operating Ore)	112m	2.7 m/day	42 days	Thu 8/6/15	Wed 9/16/15	93
96	950L Infrastructure (Capital Waste)	145m	4.0 m/day	36 days	Sat 4/18/15	Sat 5/23/15	105
97	950L Stope Access (Operating Waste)	55m	1.5 m/day	38 days	Sun 5/24/15	Tue 6/30/15	96
98	950L Stope Development (Operating Ore)	95m	2.5 m/day	38 days	Sun 5/24/15	Tue 6/30/15	96
99	970L Infrastructure to Establish Ventilation	195m	4.0 m/day	49 days	Sat 6/28/14	Fri 8/15/14	19
100	970L Remaining Infrastructure	45m	4.0 m/day	11 days	Sun 10/26/14	Wed 11/5/14	195,20
101	970L Hangingwall Diamond Drill Drift	135m	4.0 m/day	34 days	Thu 11/6/14	Tue 12/9/14	100
102	970L Stope Access (Operating Waste)	125m	2.7 m/day	46 days	Wed 12/10/14	Sat 1/24/15	101
103	970L Stope Development (Operating Ore)	60m	1.3 m/day	46 days	Wed 12/10/14	Sat 1/24/15	101
104	990L Infrastructure (Capital Waste)	129m	4.0 m/day	32 days	Sun 1/25/15	Wed 2/25/15	195,102,24
105	990L Stope Access (Operating Waste)	145m	2.8 m/day	51 days	Thu 2/26/15	Fri 4/17/15	104
106	990L Stope Development (Operating Ore)	60m	1.2 m/day	51 days	Thu 2/26/15	Fri 4/17/15	104
107	990L-910L Block Ready Q2 2015			0 days	Fri 4/17/15	Fri 4/17/15	105
108	**1030L to 1010L Block - No Mining**			**69.1 days**	**Wed 4/1/15**	**Tue 6/9/15**	
109	1010L Infrastructure (Capital Waste)	35m	4.0 m/day	9 days	Wed 4/1/15	Thu 4/9/15	26
110	1010L Stope Access (Operating Waste)	0m	0 m/day	0.1 days	Fri 4/10/15	Fri 4/10/15	109
111	1010L Stope Development (Operating Ore)	0m	0 m/day	0.1 days	Fri 4/10/15	Fri 4/10/15	109
112	1030L Infrastructure (Capital Waste)	35m	4.0 m/day	9 days	Sun 5/31/15	Mon 6/8/15	28
113	1030L Stope Access (Operating Waste)	0m	0 m/day	0.1 days	Tue 6/9/15	Tue 6/9/15	112
114	1030L Stope Development (Operating Ore)	0m	0 m/day	0.1 days	Tue 6/9/15	Tue 6/9/15	112
115	**1130L to 1050L Mining Block**			**801 days**	**Sun 5/31/15**	**Wed 9/20/17**	
116	1050L Infrastructure (Capital Waste)	341m	4.0 m/day	85 days	Sun 5/31/15	Sun 8/23/15	29

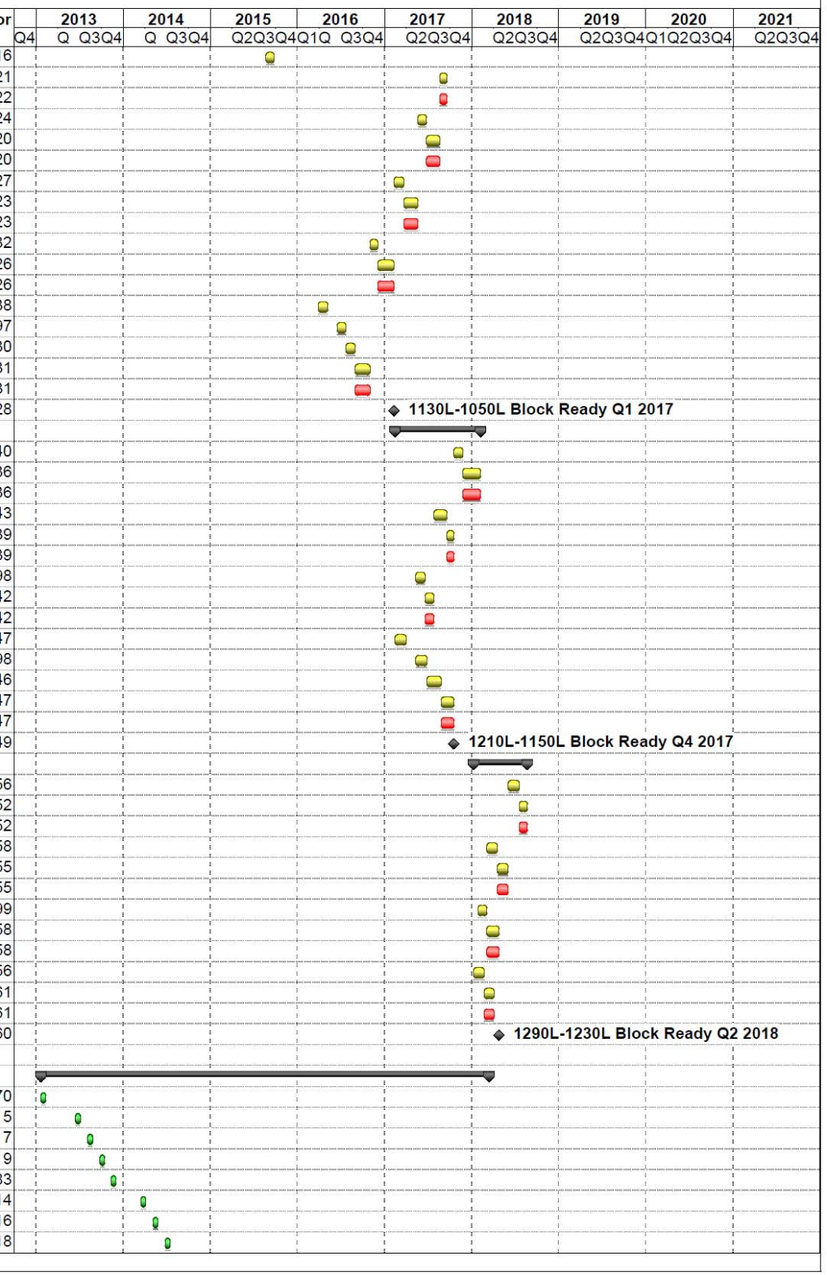


169512508 Lake Shore Gold
Timmins West Mine
PFS

Timmins Deposit
Below 650L Development Schedule

May 4, 2012.

ID	Task Name	Qty	Rate	Duration	Start	Finish	Predecessor
117	1050L Hangingwall Diamond Drill Drift	135m	4.0 m/day	34 days	Mon 8/24/15	Sat 9/26/15	116
118	1050L Stope Access (Operating Waste)	42m	1.4 m/day	30 days	Tue 8/22/17	Wed 9/20/17	121
119	1050L Stope Development (Operating Ore)	79m	2.6 m/day	30 days	Tue 8/22/17	Wed 9/20/17	122
120	1070L Infrastructure (Capital Waste)	125m	3.5 m/day	36 days	Mon 5/22/17	Mon 6/26/17	124
121	1070L Stope Access (Operating Waste)	38m	0.7 m/day	56 days	Tue 6/27/17	Mon 8/21/17	120
122	1070L Stope Development (Operating Ore)	159m	2.8 m/day	56 days	Tue 6/27/17	Mon 8/21/17	120
123	1090L Infrastructure (Capital Waste)	143m	3.5 m/day	41 days	Sat 2/11/17	Thu 3/23/17	127
124	1090L Stope Access (Operating Waste)	36m	0.6 m/day	59 days	Fri 3/24/17	Sun 5/21/17	123
125	1090L Stope Development (Operating Ore)	169m	2.9 m/day	59 days	Fri 3/24/17	Sun 5/21/17	123
126	1110L Infrastructure (Capital Waste)	114m	3.5 m/day	33 days	Wed 11/2/16	Sun 12/4/16	132
127	1110L Stope Access (Operating Waste)	54m	1.2 m/day	46 days	Mon 12/5/16	Fri 2/10/17	126
128	1110L Stope Development (Operating Ore)	108m	2.3 m/day	46 days	Mon 12/5/16	Fri 2/10/17	126
129	1130L Infrastructure to Establish Ventilation	140m	3.5m/day	40 days	Wed 3/30/16	Sun 5/8/16	38
130	1130L Infrastructure (Capital Waste)	125m	3.5 m/day	36 days	Sat 6/18/16	Sat 7/23/16	197
131	1130L Hangingwall Diamond Drill Drift	135m	3.5 m/day	39 days	Sun 7/24/16	Wed 8/31/16	130
132	1130L Stope Access (Operating Waste)	100m	1.6 m/day	62 days	Thu 9/1/16	Tue 11/1/16	131
133	1130L Stope Development (Operating Ore)	116m	1.9 m/day	62 days	Thu 9/1/16	Tue 11/1/16	131
134	1130L-1050L Block Ready Q1 2017			0 days	Fri 2/10/17	Fri 2/10/17	128
135	**1210L to 1150L Mining Block**			337 days	Wed 2/15/17	**Thu 2/8/18**	
136	1150L Infrastructure (Capital Waste)	131m	3.5 m/day	37 days	Fri 10/20/17	Sat 11/25/17	140
137	1150L Stope Access (Operating Waste)	116m	2.2 m/day	53 days	Sun 11/26/17	Thu 2/8/18	136
138	1150L Stope Development (Operating Ore)	70m	1.3 m/day	53 days	Sun 11/26/17	Thu 2/8/18	136
139	1170L Infrastructure (Capital Waste)	192m	3.5 m/day	55 days	Fri 7/28/17	Wed 9/20/17	143
140	1170L Stope Access (Operating Waste)	27m	0.9 m/day	29 days	Thu 9/21/17	Thu 10/19/17	139
141	1170L Stope Development (Operating Ore)	75m	2.6 m/day	29 days	Thu 9/21/17	Thu 10/19/17	139
142	1190L Infrastructure (Capital Waste)	135m	3.5 m/day	39 days	Sat 5/13/17	Tue 6/20/17	198
143	1190L Stope Access (Operating Waste)	25m	0.7 m/day	37 days	Wed 6/21/17	Thu 7/27/17	142
144	1190L Stope Development (Operating Ore)	104m	2.8 m/day	37 days	Wed 6/21/17	Thu 7/27/17	142
145	1210L Infrastructure to Establish Ventilation	164m	3.5 m/day	47 days	Wed 2/15/17	Sun 4/2/17	47
146	1210L Infrastructure (Capital Waste)	163m	3.5 m/day	47 days	Sat 5/13/17	Wed 6/28/17	198
147	1210L Hangingwall Diamond Drill Drift	211m	3.5 m/day	60 days	Thu 6/29/17	Sun 8/27/17	146
148	1210L Stope Access (Operating Waste)	68m	1.3 m/day	53 days	Mon 8/28/17	Thu 10/19/17	147
149	1210L Stope Development (Operating Ore)	117m	2.2 m/day	53 days	Mon 8/28/17	Thu 10/19/17	147
150	1210L-1150L Block Ready Q4 2017			0 days	Thu 10/19/17	Thu 10/19/17	149
151	**1290L to 1230L Mining Block**			226 days	Wed 1/10/18	**Thu 8/23/18**	
152	1230L Infrastructure (Capital Waste)	163m	3.5 m/day	47 days	Mon 6/4/18	Fri 7/20/18	156
153	1230L Stope Access (Operating Waste)	31m	0.9 m/day	34 days	Sat 7/21/18	Thu 8/23/18	152
154	1230L Stope Development (Operating Ore)	88m	2.6 m/day	34 days	Sat 7/21/18	Thu 8/23/18	152
155	1250L Infrastructure (Capital Waste)	154m	3.5 m/day	44 days	Wed 3/7/18	Thu 4/19/18	158
156	1250L Stope Access (Operating Waste)	15m	0.3 m/day	45 days	Fri 4/20/18	Sun 6/3/18	155
157	1250L Stope Development (Operating Ore)	143m	3.2 m/day	45 days	Fri 4/20/18	Sun 6/3/18	155
158	1270L Infrastructure (Capital Waste)	131m	3.5 m/day	37 days	Mon 1/29/18	Tue 3/6/18	199
159	1270L Stope Access (Operating Waste)	45m	0.9 m/day	51 days	Wed 3/7/18	Thu 4/26/18	158
160	1270L Stope Development (Operating Ore)	134m	2.6 m/day	51 days	Wed 3/7/18	Thu 4/26/18	158
161	1290L Infrastructure (Capital Waste)	158m	3.5 m/day	45 days	Wed 1/10/18	Fri 2/23/18	56
162	1290L Stope Access (Operating Waste)	44m	1.1 m/day	41 days	Sat 2/24/18	Thu 4/5/18	161
163	1290L Stope Development (Operating Ore)	100m	2.4 m/day	41 days	Sat 2/24/18	Thu 4/5/18	161
164	1290L-1230L Block Ready Q2 2018			0 days	Thu 4/26/18	Thu 4/26/18	160
165							
166	**Ventilation Raises**			1810 days	Wed 1/23/13	**Thu 3/15/18**	
167	790L to 810L Ramp FAR (c/w Escapeway)	16m		20 days	Wed 1/23/13	Mon 2/11/13	70
168	810L to 830L Ramp FAR (c/w Escapeway)	16m		20 days	Mon 6/17/13	Sat 7/6/13	5
169	830L to 850L Ramp FAR (c/w Escapeway)	16m		20 days	Wed 8/7/13	Mon 8/26/13	7
170	850L to 870L Ramp FAR (c/w Escapeway)	16m		20 days	Fri 9/27/13	Wed 10/16/13	9
171	870L to 890L Ramp FAR (c/w Escapeway)	16m		20 days	Wed 11/13/13	Mon 12/2/13	83
172	890L to 910L Ramp FAR (c/w Escapeway)	16m		20 days	Tue 3/18/14	Sun 4/6/14	14
173	910L to 930L Ramp FAR (c/w Escapeway)	16m		20 days	Thu 5/8/14	Tue 5/27/14	16
174	930L to 950L Ramp FAR (c/w Escapeway)	16m		20 days	Sat 6/28/14	Thu 7/17/14	18



169512508 Lake Shore Gold
Timmins West Mine
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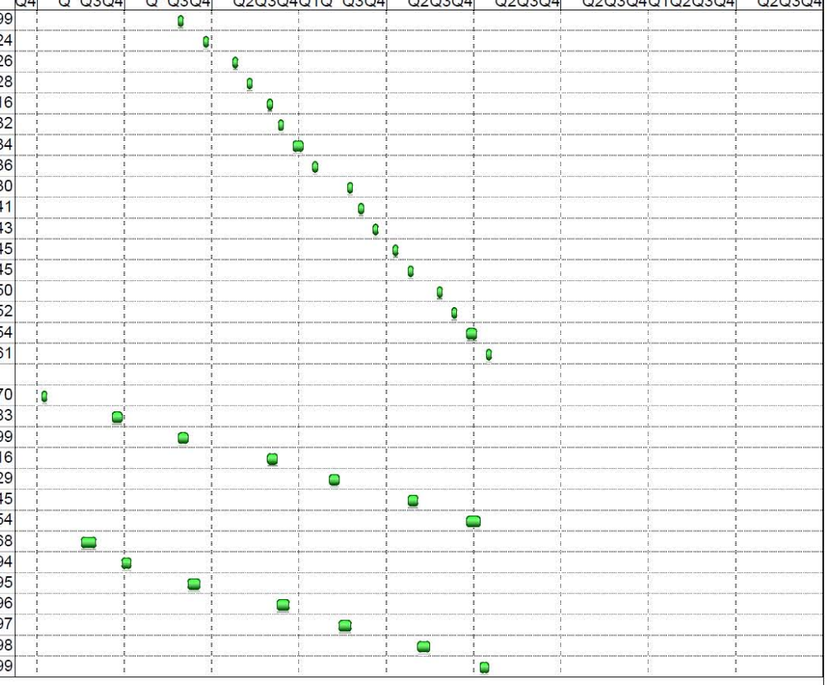
Timmins Deposit
Below 650L Development Schedule

May 4, 2012.

ID	Task Name	Qty	Rate	Duration	Start	Finish	Predecessor
175	950L to 970L Ramp FAR (c/w Escapeway)	16m		20 days	Sat 8/16/14	Thu 9/4/14	99
176	970L to 990L Ramp FAR (c/w Escapeway)	16m		20 days	Sun 11/30/14	Fri 12/19/14	24
177	990L to1010L Ramp FAR (c/w Escapeway)	16m		20 days	Wed 4/1/15	Mon 4/20/15	26
178	1010L to1030L Ramp FAR (c/w Escapeway)	16m		20 days	Sun 5/31/15	Fri 6/19/15	28
179	1030L to1050L Ramp FAR (c/w Escapeway)	16m		20 days	Mon 8/24/15	Sat 9/12/15	116
180	1050L to1070L Ramp FAR (c/w Escapeway)	16m		20 days	Fri 10/9/15	Wed 10/28/15	32
181	1070L to1090L Ramp FAR (c/w Escapeway)	16m		20 days	Wed 12/9/15	Mon 1/18/16	34
182	1090L to1110L Ramp FAR (c/w Escapeway)	16m		20 days	Mon 2/29/16	Sat 3/19/16	36
183	1110L to1130L Ramp FAR (c/w Escapeway)	16m		20 days	Sun 7/24/16	Fri 8/12/16	130
184	1130L to1150L Ramp FAR (c/w Escapeway)	16m		20 days	Thu 9/8/16	Tue 9/27/16	41
185	1150L to1170L Ramp FAR (c/w Escapeway)	16m		20 days	Tue 11/8/16	Sun 11/27/16	43
186	1170L to1190L Ramp FAR (c/w Escapeway)	16m		20 days	Mon 1/30/17	Sat 2/18/17	45
187	1190L to1210L Ramp FAR (c/w Escapeway)	16m		20 days	Mon 4/3/17	Sat 4/22/17	145
188	1210L to1230L Ramp FAR (c/w Escapeway)	16m		20 days	Thu 8/3/17	Tue 8/22/17	50
189	1230L to1250L Ramp FAR (c/w Escapeway)	16m		20 days	Tue 10/3/17	Sun 10/22/17	52
190	1250L to1270L Ramp FAR (c/w Escapeway)	16m		20 days	Sun 12/3/17	Sat 1/13/18	54
191	1270L to1290L Ramp FAR (c/w Escapeway)	16m		20 days	Sat 2/24/18	Thu 3/15/18	161
192							
193	790L to 810L FAR (4.5m x 4.5m)	16m		20 days	Wed 1/23/13	Mon 2/11/13	70
194	810L to 890L FAR (4.5m x 4.5m)	80m		40 days	Wed 11/13/13	Sun 12/22/13	83
195	890L to 970L FAR (4.5m x 4.5m)	80m		40 days	Sat 8/16/14	Wed 9/24/14	99
196	1050L to 970L FAR (4.5m x 4.5m)	80m		40 days	Mon 8/24/15	Fri 10/2/15	116
197	1130L to 1050L FAR (4.5m x 4.5m)	80m		40 days	Mon 5/9/16	Fri 6/17/16	129
198	1210L to 1130L FAR (4.5m x 4.5m)	80m		40 days	Mon 4/3/17	Fri 5/12/17	145
199	1270L to 1210L FAR (4.5m x 4.5m)	60m		35 days	Sun 12/3/17	Sun 1/28/18	54
200	710L to 830L RAR (4m x 4m)	120m		60 days	Sun 7/7/13	Wed 9/4/13	168
201	830L to 890L RAR (4m x 4m)	60m		35 days	Mon 12/23/13	Wed 1/29/14	194
202	890L to 970L RAR (4m x 4m)	80m		50 days	Thu 9/25/14	Thu 11/13/14	195
203	1050L to 970L RAR (4m x 4m)	80m		50 days	Sat 10/3/15	Sat 11/21/15	196
204	1130L to 1050L RAR (4m x 4m)	80m		50 days	Sat 6/18/16	Sat 8/6/16	197
205	1210L to 1130L RAR (4m x 4m)	80m		50 days	Sat 5/13/17	Sat 7/1/17	198
206	1270L to 1210L RAR (4m x 4m)	60m		35 days	Mon 1/29/18	Sun 3/4/18	199



169512508 Lake Shore Gold
Timmins West Mine
PFS

Timmins Deposit
Above 650L Development Schedule

May 4, 2012.

ID	Task Name	Qty	Rate	Duration	Start	Finish	Predecessor	Resource Names
1								
2	**Timmins Deposit Above 650L**			**1014 days**	**Mon 7/1/13**	**Tue 5/3/16**		
3	**Ramp Development**			**275 days**	**Mon 7/1/13**	**Fri 4/4/14**		
4	Dewater & Rehab 290L Ramp Complete			1 day	Mon 7/1/13	Mon 7/1/13		
5	290L to 315L Ramp	160m	3.0 m/day	53 days	Tue 7/2/13	Fri 8/23/13	4	Ramp[160 Metres]
6	315L Initial Infrastructure	20m	1.5 m/day	13 days	Sat 8/24/13	Thu 9/5/13	5	apital Waste[20 Metres]
7	315L to 335L Ramp	153m	3.0 m/day	51 days	Sat 8/24/13	Sun 10/13/13	5	Ramp[153 Metres]
8	335L Initial Infrastructure	75m	1.5 m/day	51 days	Mon 10/14/13	Tue 12/3/13	7	apital Waste[75 Metres]
9	335L to 355L Ramp	153m	3.0 m/day	51 days	Mon 10/14/13	Tue 12/3/13	7	Ramp[153 Metres]
10	355L Initial Infrastructure	75m	1.5 m/day	51 days	Wed 12/4/13	Sun 1/26/14	9	apital Waste[75 Metres]
11	355L to 375L Ramp	153m	3.0 m/day	51 days	Wed 12/4/13	Sun 1/26/14	9	Ramp[153 Metres]
12	375L Initial Infrastructure	75m	1.5 m/day	51 days	Mon 1/27/14	Tue 3/18/14	11	apital Waste[75 Metres]
13	375L to 395L Ramp	153m	3.0 m/day	51 days	Mon 1/27/14	Tue 3/18/14	11	Ramp[153 Metres]
14	Risk and Delays Allowance		2 days/month	17 days	Wed 3/19/14	Fri 4/4/14	13	
15	Timmins Deposit Upper Ramp Breakthrough Q2 2014			0 days	Fri 4/4/14	Fri 4/4/14	14	
16	Risk and Delays Allowance		2 days/month	10 days	Sat 1/25/14	Mon 2/3/14	17	
17	395L Initial Infrastructure	75m	1.5 m/day	51 days	Mon 12/2/13	Fri 1/24/14	18	apital Waste[75 Metres]
18	415L to 395L Ramp	153m	3.0 m/day	51 days	Sat 10/12/13	Sun 12/1/13	20	Ramp[153 Metres]
19	415L Initial Infrastructure	75m	1.5 m/day	51 days	Sat 10/12/13	Sun 12/1/13	20	apital Waste[75 Metres]
20	435L to 415L Ramp	153m	3.0 m/day	51 days	Thu 8/22/13	Fri 10/11/13	22	Ramp[153 Metres]
21	435L Initial Infrastructure	75m	1.5 m/day	51 days	Thu 8/22/13	Fri 10/11/13	22	apital Waste[75 Metres]
22	455L to 435L Ramp	153m	3.0 m/day	51 days	Tue 7/2/13	Wed 8/21/13	4	Ramp[153 Metres]
23	**Sublevel Lateral Development**			**468 days**	**Thu 1/1/15**	**Tue 5/3/16**		
24	**260L to 230L Mining Block**			**62 days**	**Thu 1/1/15**	**Tue 3/3/15**		
25	230L Waste Access	145m	3.6 m/day	40 days	Fri 1/23/15	Tue 3/3/15	27	iting Waste[145 Metres]
26	230L Ore sill	38m	0.9 m/day	40 days	Fri 1/23/15	Tue 3/3/15	28	Ore[38 Metres]
27	260L Waste Access	75m	3.4 m/day	22 days	Thu 1/1/15	Thu 1/22/15	45	ating Waste[75 Metres]
28	260L Ore Sill	23m	1.1 m/day	22 days	Thu 1/1/15	Thu 1/22/15	45	Ore[23 Metres]
29	260L-230L Mining Block Ready Q1 2015			0 days	Tue 3/3/15	Tue 3/3/15	26	
30	**435L to 335L Mining Block**			**410 days**	**Thu 1/1/15**	**Sun 3/6/16**		
31	335L Infrastructure	55m	4.5 m/day	12 days	Thu 1/28/16	Mon 2/8/16	34	apital Waste[55 Metres]
32	335L Waste Access	61m	2.3 m/day	27 days	Tue 2/9/16	Sun 3/6/16	31	ating Waste[61 Metres]
33	335L Ore Sill	60m	2.2 m/day	27 days	Tue 2/9/16	Sun 3/6/16	31	Ore[60 Metres]
34	355L Infrastructure	134m	4.5 m/day	30 days	Tue 12/8/15	Wed 1/27/16	37	pital Waste[134 Metres]
35	355L Ore Sill	63m	4.5 m/day	14 days	Thu 1/28/16	Wed 2/10/16	34	Ore[63 Metres]
36	375L Infrastructure	114m	4.5 m/day	25 days	Tue 10/20/15	Fri 11/13/15	40	pital Waste[114 Metres]
37	375L Waste Access	13m	0.5 m/day	24 days	Sat 11/14/15	Mon 12/7/15	36	ating Waste[13 Metres]
38	375L Ore Sill	95m	4.0 m/day	24 days	Sat 11/14/15	Mon 12/7/15	36	Ore[95 Metres]
39	395L Infrastructure	102m	4.5 m/day	23 days	Mon 8/3/15	Tue 8/25/15	43	pital Waste[102 Metres]
40	395L Waste Access	163m	3.0 m/day	55 days	Wed 8/26/15	Mon 10/19/15	39	iting Waste[163 Metres]
41	395L Ore Sill	87m	1.5 m/day	55 days	Wed 8/26/15	Mon 10/19/15	39	Ore[87 Metres]
42	415L Infrastructure	100m	4.5 m/day	22 days	Tue 5/12/15	Tue 6/2/15	47	pital Waste[100 Metres]
43	415L Waste Access	130m	2.1 m/day	61 days	Wed 6/3/15	Sun 8/2/15	42	iting Waste[130 Metres]
44	415L Ore Sill	145m	2.4 m/day	61 days	Wed 6/3/15	Sun 8/2/15	42	Ore[145 Metres]
45	Start Developing Upper Levels			0 days	Thu 1/1/15	Thu 1/1/15		
46	435L Infrastructure	70m	4.5 m/day	16 days	Wed 3/4/15	Thu 3/19/15	25	apital Waste[70 Metres]
47	435L Waste Access	94m	1.8 m/day	53 days	Fri 3/20/15	Mon 5/11/15	46	ating Waste[94 Metres]
48	435L Ore Sill	143m	2.7 m/day	53 days	Fri 3/20/15	Mon 5/11/15	46	Ore[143 Metres]
49	435L-335L Mining Block Ready Q3 2015			0 days	Sun 8/2/15	Sun 8/2/15	44	
50	**650L to 525L Mining Block (Salvage)**			**58 days**	**Mon 3/7/16**	**Tue 5/3/16**		
51	585L Waste Access	25m	2.1 m/day	12 days	Fri 4/22/16	Tue 5/3/16	53	ating Waste[25 Metres]
52	585L Ore Sill	27m	2.4 m/day	12 days	Fri 4/22/16	Tue 5/3/16	53	Ore[27 Metres]
53	610L Waste Access	97m	2.2 m/day	46 days	Mon 3/7/16	Thu 4/21/16	32	ating Waste[97 Metres]
54	610L Ore Sill	108m	2.3 m/day	46 days	Mon 3/7/16	Thu 4/21/16	32	Ore[108 Metres]
55	650L-525L Salvage Areas Ready Q2 2016			0 days	Tue 5/3/16	Tue 5/3/16	52	

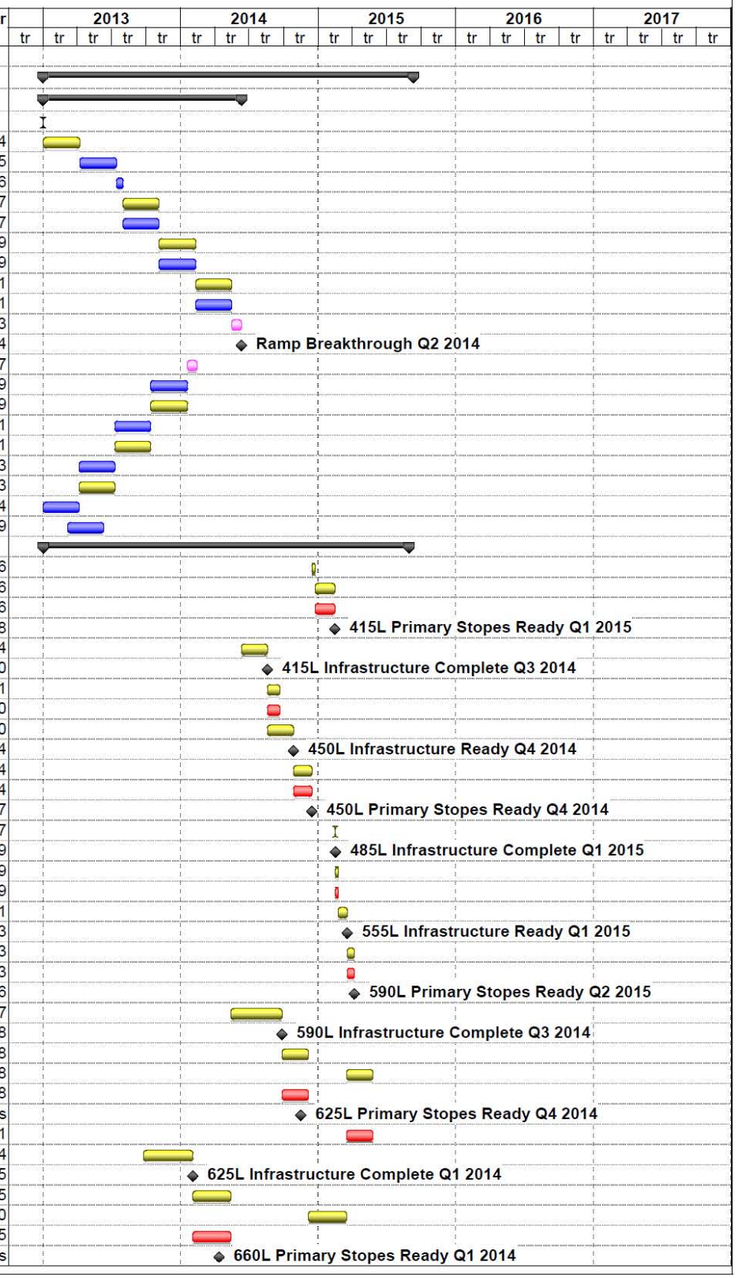


169512508 Lake Shore Gold
Timmins West Mine
PFS

Thunder Creek
Development Schedule

May 4, 2012.

ID	Task Name	Qty	Rate	Duration	Start	Finish	Predecessor
1							
2	**Thunder Creek**			**981 days**	**Tue 1/1/13**	**Fri 9/11/15**	
3	**Ramp Development**			**524 days**	**Tue 1/1/13**	**Wed 6/11/14**	
4	Schedule Start Q1 2013			1 day	Tue 1/1/13	Tue 1/1/13	
5	395L FAR Bypass	290m	3.0 m/day	97 days	Wed 1/2/13	Mon 4/8/13	4
6	395L to 415L Ramp (as a 2nd face)	145m	1.5 m/day	97 days	Tue 4/9/13	Sun 7/14/13	5
7	395L to 415L Ramp (as a primary face)	55m	3.0 m/day	18 days	Mon 7/15/13	Thu 8/1/13	6
8	415L Initial Infrastructure	142m	1.5 m/day	95 days	Fri 8/2/13	Mon 11/4/13	7
9	415L to 450L Ramp	285m	3.0 m/day	95 days	Fri 8/2/13	Mon 11/4/13	7
10	450L Initial Infrastructure	142m	1.5 m/day	95 days	Tue 11/5/13	Mon 2/10/14	9
11	450L to 485L Ramp	285m	3.0 m/day	95 days	Tue 11/5/13	Mon 2/10/14	9
12	485L Initial Infrastructure	142m	1.5 m/day	95 days	Tue 2/11/14	Fri 5/16/14	11
13	485L to 520L Ramp	300m	3.0 m/day	95 days	Tue 2/11/14	Fri 5/16/14	11
14	Risk and Delays (2 days per month)			26 days	Sat 5/17/14	Wed 6/11/14	13
15	Ramp Breakthrough Q2 2014			0 days	Wed 6/11/14	Wed 6/11/14	14
16	Risk and Delays (2 days per month)			25 days	Mon 1/20/14	Thu 2/13/14	17
17	555L to 520L Ramp	285m	3.0 m/day	95 days	Mon 10/14/13	Sun 1/19/14	19
18	555L Initial Infrastructure	142m	1.5 m/day	95 days	Mon 10/14/13	Sun 1/19/14	19
19	590L to 555L Ramp	285m	3.0 m/day	95 days	Thu 7/11/13	Sun 10/13/13	21
20	590L Initial Infrastructure	142m	1.5 m/day	95 days	Thu 7/11/13	Sun 10/13/13	21
21	625L to 590L Ramp	285m	3.0 m/day	95 days	Sun 4/7/13	Wed 7/10/13	23
22	625L Initial Infrastructure	142m	1.5 m/day	95 days	Sun 4/7/13	Wed 7/10/13	23
23	660L to 625L Ramp	285m	3.0 m/day	95 days	Wed 1/2/13	Sat 4/6/13	4
24	765L to 800L Ramp	285m	3.0 m/day	95 days	Fri 3/8/13	Mon 6/10/13	69
25	**Sublevel Lateral Development**			**968 days**	**Wed 1/2/13**	**Sun 8/30/15**	
26	395L Remaining Infrastructure	40m	4.5 m/day	9 days	Tue 12/16/14	Wed 12/24/14	36
27	395L Drawpoint	160m	3.0 m/day	52 days	Thu 12/25/14	Sat 2/14/15	26
28	395L Ore X-cut	72m	1.5 m/day	52 days	Thu 12/25/14	Sat 2/14/15	26
29	415L Primary Stopes Ready Q1 2015			0 days	Sat 2/14/15	Sat 2/14/15	28
30	415L Remaining Infrastructure	313m	4.5 m/day	69 days	Thu 6/12/14	Tue 8/19/14	14
31	415L Infrastructure Complete Q3 2014			0 days	Tue 8/19/14	Tue 8/19/14	30
32	415L Drawpoint	82m	2.5 m/day	33 days	Wed 8/20/14	Sun 9/21/14	31
33	415L Ore X-cut	65m	2.0 m/day	33 days	Wed 8/20/14	Sun 9/21/14	30
34	450L Remaining Infrastructure	312m	4.5 m/day	69 days	Wed 8/20/14	Mon 10/27/14	30
35	450L Infrastructure Ready Q4 2014			0 days	Mon 10/27/14	Mon 10/27/14	34
36	450L Drawpoint	141m	2.8 m/day	49 days	Tue 10/28/14	Mon 12/15/14	34
37	450L Ore X-cut	80m	1.7 m/day	49 days	Tue 10/28/14	Mon 12/15/14	34
38	450L Primary Stopes Ready Q4 2014			0 days	Mon 12/15/14	Mon 12/15/14	37
39	485L Remaining Infrastructure	8m	4.5 m/day	2 days	Sun 2/15/15	Mon 2/16/15	27
40	485L Infrastructure Complete Q1 2015			0 days	Mon 2/16/15	Mon 2/16/15	39
41	485L Drawpoint	15m	2.25 m/day	7 days	Tue 2/17/15	Mon 2/23/15	39
42	485L Ore X-cut	15m	2.25 m/day	7 days	Tue 2/17/15	Mon 2/23/15	39
43	555L Remaining Infrastructure	108m	4.5 m/day	24 days	Tue 2/24/15	Thu 3/19/15	41
44	555L Infrastructure Ready Q1 2015			0 days	Thu 3/19/15	Thu 3/19/15	43
45	555L Drawpoint	40m	2.2 m/day	19 days	Fri 3/20/15	Tue 4/7/15	43
46	555L Ore X-cut	44m	2.3 m/day	19 days	Fri 3/20/15	Tue 4/7/15	43
47	590L Primary Stopes Ready Q2 2015			0 days	Tue 4/7/15	Tue 4/7/15	46
48	590L Remaining Infrastructure	613m	4.5 m/day	136 days	Thu 5/15/14	Sat 9/27/14	20,57
49	590L Infrastructure Complete Q3 2014			0 days	Sat 9/27/14	Sat 9/27/14	48
50	590L Primary Drawpoints	171m	2.4 m/day	70 days	Sun 9/28/14	Sat 12/6/14	48
51	590L Secondary Drawpoints	171m	2.4 m/day	70 days	Wed 3/18/15	Tue 5/26/15	58
52	590L Primary Ore X-cuts	144m	2.1 m/day	70 days	Sun 9/28/14	Sat 12/6/14	48
53	625L Primary Stopes Ready Q4 2014			0 days	Sun 11/16/14	Sun 11/16/14	SS+50 days
54	590L Secondary Ore X-cuts	145m	2.1 m/day	70 days	Wed 3/18/15	Tue 5/26/15	61
55	625L Remaining Infrastructure	576m	4.5 m/day	128 days	Wed 9/25/13	Sun 2/2/14	22,64
56	625L Infrastructure Complete Q1 2014			0 days	Sun 2/2/14	Sun 2/2/14	55
57	625L Primary Drawpoints	302m	3.0 m/day	101 days	Mon 2/3/14	Wed 5/14/14	55
58	625L Secondary Drawpoints	302m	3.0 m/day	101 days	Sun 12/7/14	Tue 3/17/15	50
59	625L Primary Ore X-cuts	153m	1.5 m/day	101 days	Mon 2/3/14	Wed 5/14/14	55
60	660L Primary Stopes Ready Q1 2014			0 days	Sun 4/13/14	Sun 4/13/14	SS+70 days



169512508 Lake Shore Gold
Timmins West Mine
PFS

Thunder Creek
Development Schedule

May 4, 2012.

ID	Task Name	Qty	Rate	Duration	Start	Finish	Predecessor
61	625L Secondary Ore X-cuts	153m	1.5 m/day	101 days	Sun 12/7/14	Tue 3/17/15	52
62	660L Infrastructure	667m	4.5 m/day	148 days	Wed 1/2/13	Wed 5/29/13	4
63	660L Infrastructure Complete Q2 2013			0 days	Wed 5/29/13	Wed 5/29/13	62
64	660L Primary Drawpoints	393m	3.3 m/day	118 days	Thu 5/30/13	Tue 9/24/13	62
65	660L Secondary Drawpoints	393m	3.3 m/day	118 days	Sat 1/4/14	Thu 5/1/14	72
66	660L Primary Ore X-cuts	138m	1.2 m/day	118 days	Thu 5/30/13	Tue 9/24/13	62
67	695L Primary Stopes Ready Q2 2013			0 days	Wed 8/7/13	Wed 8/7/13	SS+70 days
68	660L Secondary Ore X-cuts	137m	1.2 m/day	118 days	Sat 1/4/14	Thu 5/1/14	73
69	675L Ventilation Drift	172m	3.0 m/day	57 days	Thu 1/10/13	Thu 3/7/13	74
70	695L Drawpoint	160m	2.3 m/day	68 days	Wed 9/11/13	Sun 11/17/13	77
71	695L Ore X-cut	144m	2.2 m/day	68 days	Wed 9/11/13	Sun 11/17/13	77
72	730L Drawpoint	52m	1.1 m/day	44 days	Mon 11/18/13	Fri 1/3/14	70
73	730L Ore X-cut	148m	4.5 m/day	44 days	Mon 11/18/13	Fri 1/3/14	71
74	765L Infrastructure	35m	4.5 m/day	8 days	Wed 1/2/13	Wed 1/9/13	4
75	765L Drawpoint	90m	2.5 m/day	36 days	Fri 3/8/13	Fri 4/12/13	69
76	765L Ore X-cut	74m	2.0 m/day	36 days	Fri 3/8/13	Fri 4/12/13	69
77	800L Infrastructure	415m	4.5 m/day	92 days	Tue 6/11/13	Tue 9/10/13	24
78	800L Drawpoint	279m	2.9 m/day	96 days	Wed 5/27/15	Sun 8/30/15	51
79	800L Ore X-cut	155m	1.6 m/day	96 days	Wed 5/27/15	Sun 8/30/15	54
80	800L Primary Stopes Ready Q3 2015			0 days	Tue 8/4/15	Tue 8/4/15	SS+70 days
81	650L Access Ramp to New Rockbreaker Station	254m	3.0 m/day	85 days	Fri 3/8/13	Fri 5/31/13	69
82	**Raise Development**			**980 days**	**Wed 1/2/13**	**Fri 9/11/15**	
83	395L to 415L Ore Pass (Drop Raise)	38m	1.6 m/day	24 days	Thu 12/25/14	Sat 1/17/15	26
84	765L to 415L Ore Pass (Alimak)	360m	2.4 m/day	150 days	Tue 11/5/13	Sun 4/6/14	8,4
85	800L to 765L Ore Pass Bin (Alimak)	35m	2.4 m/day	15 days	Wed 9/11/13	Wed 9/25/13	77
86	765L to 730L Escapeway	38m	1.6 m/day	24 days	Thu 1/10/13	Sat 2/2/13	74
87	800L to 765L Escapeway	38m	1.6 m/day	24 days	Wed 9/11/13	Fri 10/4/13	77
88	730L to 395L FAR (Alimak)	367m	2.4 m/day	153 days	Tue 4/9/13	Sun 9/8/13	5
89	730L to 800L FAR (Raise Bore)	68m	2.4 m/day	28 days	Wed 9/11/13	Tue 10/8/13	77
90	730L to 395L RAR #2 (Alimak)	367m	2.4 m/day	153 days	Mon 9/9/13	Tue 2/11/14	88
91	730L to 800L RAR (Raise Bore)	68m	2.4 m/day	28 days	Wed 10/9/13	Tue 11/5/13	89
92	395L BF Finger	15m	1.2 m/day	12 days	Thu 12/25/14	Mon 1/5/15	26
93	555L BF Finger	15m	1.2 m/day	12 days	Fri 3/20/15	Tue 3/31/15	43
94	590L BF Finger	15m	1.2 m/day	12 days	Sun 9/28/14	Thu 10/9/14	48
95	625L BF Finger	15m	1.2 m/day	12 days	Mon 2/3/14	Fri 2/14/14	55
96	660L BF Finger	15m	1.2 m/day	12 days	Thu 5/30/13	Mon 6/10/13	62
97	695L BF Finger	15m	1.2 m/day	12 days	Wed 1/2/13	Sun 1/13/13	4
98	730L BF Finger	15m	1.2 m/day	12 days	Mon 1/14/13	Fri 1/25/13	97
99	765L BF Finger	15m	1.2 m/day	12 days	Mon 8/31/15	Fri 9/11/15	78
100	450L OP Drop Raise	15m	1.2 m/day	12 days	Tue 10/28/14	Sat 11/8/14	34
101	590L OP Drop Raise	15m	1.2 m/day	12 days	Sun 9/28/14	Thu 10/9/14	48
102	625L OP Drop Raise	15m	1.2 m/day	12 days	Tue 5/13/14	Sat 5/24/14	103
103	660L OP Drop Raise	15m	1.2 m/day	12 days	Thu 5/1/14	Mon 5/12/14	104
104	695L OP Drop Raise	15m	1.2 m/day	12 days	Sat 4/19/14	Wed 4/30/14	105
105	730L OP Drop Raise	15m	1.2 m/day	12 days	Mon 4/7/14	Fri 4/18/14	84
106	New Ore Bin above 650L Rockbreaker Station	20m	1.2 m/day	30 days	Sat 6/1/13	Sun 6/30/13	81



APPENDIX 13

LEVEL EVALUATIONS

Timmins Deposit

230 to 210 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	11,236					
Mined Grade	4.8					
Capital Cost						
Ramp to 230 Level		m	0		$0	Already Developed
230 Level Capital Infrastructure		m	0		$0	Already Developed
230 Level Other Capital Development		m	0		$0	
230 Level Waste Haulage to Backfill Stope		t	0		$0	
230 Level Waste Haulage to Shaft		t	0		$0	
230 Level OP and WP Dumps		ea	0		$0	
230 Level Other Construction		ea			$0	
230 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
230 Level Operating Waste Development		m	145	$2,285	$331,325	
230 Level Ore Development		m	38	$2,285	$86,830	
Longhole Stope Production		t	9,534	$34.9	$332,532	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	3,248	$2.1	$6,821	
Waste Haulage to Surface		t	3,248	$5.2	$16,760	
Ore Haulage to Surface		t	11,236	$5.2	$57,978	
Indirect Costs		t	11,236	$45.9	$515,393	
Surface Hauling and Milling Cost		t	11,236	$28.7	$322,473	
Total Operating Cost					**$1,670,112**	
Evaluation		**Value**				
Ounces Mined		1,734				
Mill Recovery		96.5%				
Recovered Ounces		1,673				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$2,677,263				
Treatment Charges $1.6 per ounce		-$2,677				
Royalties 2.25%		-$60,299				
Gross Revenue from Level		**$2,614,287**				
Total Operating Costs		$1,670,112				
Net Revenue from Level		**$944,175**				
Total Capital Costs		$0				
Net Cash from Level		**$944,175**				

Timmins Deposit

260 to 230 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	9,182					
Mined Grade	6.1					
Capital Cost						
Ramp to 260 Level		m	0		$0	Already Developed
260 Level Access, Sump, Elec Sub		m	0		$0	Already Developed
260 Level Other Capital Development		m	0		$0	
260 Level Waste Haulage to Backfill Stope		t	0		$0	
260 Level Waste Haulage to Shaft		t	0		$0	
260 Level OP and WP Dumps		ea	0		$0	
260 Level Other Construction		ea			$0	
260 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
260 Level Operating Waste Development		m	75	$2,285	$171,375	
260 Level Ore Development		m	23	$2,285	$52,555	
Longhole Stope Production		t	8,152	$34.9	$284,328	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	2,625	$2.1	$5,513	
Waste Haulage to Shaft		t	2,625	$5.7	$14,831	
Ore Haulage to Shaft		t	9,182	$5.7	$51,878	
Indirect Costs		t	9,182	$45.9	$421,177	
Surface Hauling and Milling Cost		t	9,182	$28.7	$263,523	
Total Operating Cost					**$1,265,180**	
Evaluation		**Value**				
Ounces Mined		1,801				
Mill Recovery		96.5%				
Recovered Ounces		1,738				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$2,780,386				
Treatment Charges $1.6 per ounce		-$2,780				
Royalties 2.25%		-$62,621				
Gross Revenue from Level		**$2,714,985**				
Total Operating Costs		$1,265,180				
Net Revenue from Level		**$1,449,805**				
Total Capital Costs		$0				
Net Cash from Level		**$1,449,805**				

Timmins Deposit

290 to 260 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	0					
Mined Grade	0					
Capital Cost						
Ramp to 290 Level		m	0		$0	Already Developed
290 Level Access, Sump, Elec Sub		m	0		$0	
290 Level Other Capital Development		m	0		$0	
290 Level Waste Haulage to Backfill Stope		t	0		$0	Assume 50%
290 Level Waste Haulage to Shaft		t	0		$0	
290 Level OP and WP Dumps		ea	0		$0	
290 Level Other Construction		ea			$0	
290 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
290 Level Operating Waste Development		m	0		$0	
290 Level Ore Development		m	0		$0	
Longhole Stope Production		t	0		$0	
MCAF Stope Production		t	0		$0	
Waste Haulage to Backfill Stope (50%)		t	0		$0	
Waste Haulage to Shaft		t	0		$0	
Ore Haulage to Shaft		t	0		$0	
Indirect Costs		t	0	$45.9	$0	
Milling Cost		t	0		$0	
Total Operating Cost					**$0**	
Evaluation		**Value**				
Ounces Mined		0				
Mill Recovery		96.5%				
Recovered Ounces		0				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$0				
Treatment Charges $1.6 per ounce		$0				
Royalties 2.25%		$0				
Gross Revenue from Level		**$0**				
Total Operating Costs		$0				
Net Revenue from Level		**$0**				
Total Capital Costs		$0				
Net Cash from Level		**$0**				

Timmins Deposit

315 to 290 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	0					
Mined Grade	0					
Capital Cost						
Ramp to 315 Level		m	160	$2,428	$388,480	
315 Level Access, Sump, Elec Sub		m	0		$0	
315 Level Other Capital Development		m	0		$0	
315 Level Waste Haulage to Backfill Stope		t	5,600	$2.1	$11,760	Assume 50%
315 Level Waste Haulage to Surface		t	5,600	$2.1	$11,760	
315 Level OP and WP Dumps		ea	0		$0	
315 Level Other Construction		ea			$0	
315 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$412,000**	
Operating Cost						
315 Level Operating Waste Development		m	0		$0	
315 Level Ore Development		m	0		$0	
Longhole Stope Production		t	0		$0	
MCAF Stope Production		t	0		$0	
Waste Haulage to Backfill Stope (50%)		t	0		$0	
Waste Haulage to Shaft		t	0		$0	
Ore Haulage to Shaft		t	0		$0	
Indirect Costs		t	0	$45.9	$0	
Milling Cost		t	0		$0	
Total Operating Cost					**$0**	
Evaluation		**Value**				
Ounces Mined		0				
Mill Recovery		96.5%				
Recovered Ounces		0				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$0				
Treatment Charges $1.6 per ounce		$0				
Royalties 2.25%		$0				
Gross Revenue from Level		**$0**				
Total Operating Costs		$0				
Net Revenue from Level		**$0**				
Total Capital Costs		$412,000				
Net Cash from Level		**-$412,000**				

Timmins Deposit

335 to 315 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**35,374**					
Mined Grade	**5.6**					
Capital Cost						
Ramp to 335 Level		m	153	$2,428	$371,484	
335 Level Access, Sump, Elec Sub		m	130	$2,428	$315,640	
335 Level Other Capital Development		m	0		$0	
335 Level Waste Haulage to Backfill Stope		t	9,905	$2.1	$20,801	Assume 50%
335 Level Waste Haulage to Shaft		t	9,905	$4.5	$44,672	
335 Level OP and WP Dumps		ea	0		$0	
335 Level Other Construction		ea			$0	
335 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$752,596**	
Operating Cost						
335 Level Operating Waste Development		m	61	$2,285	$139,385	
335 Level Ore Development		m	60	$2,285	$137,100	
Longhole Stope Production		t	32,686	$34.9	$1,140,088	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	1,366	$2.1	$2,869	
Waste Haulage to Pass		t	1,366	$4.5	$6,162	
Ore Haulage to Pass		t	35,374	$4.5	$159,537	
Indirect Costs		t	35,374	$45.9	$1,622,600	
Surface Hauling and Milling Cost		t	35,374	$28.7	$1,015,234	
Total Operating Cost					**$4,222,975**	
Evaluation		**Value**				
Ounces Mined		6,369				
Mill Recovery		96.5%				
Recovered Ounces		6,146				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$9,833,548				
Treatment Charges $1.6 per ounce		-$9,834				
Royalties 2.25%		-$221,476				
Gross Revenue from Level		**$9,602,238**				
Total Operating Costs		$4,222,975				
Net Revenue from Level		**$5,379,263**				
Total Capital Costs		$752,596				
Net Cash from Level		**$4,626,667**				

Timmins Deposit

355 to 335 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**12,972**					
Mined Grade	**7.2**					
Capital Cost						
Ramp to 355 Level		m	153	$2,428	$371,484	
355 Level Access, Sump, Elec Sub		m	209	$2,428	$507,452	
355 Level Other Capital Development		m	0		$0	
355 Level Waste Haulage to Backfill Stope		t	12,670	$2.1	$26,607	Assume 50%
355 Level Waste Haulage to Shaft		t	12,670	$4.2	$53,087	
355 Level OP and WP Dumps		ea	0		$0	
355 Level Other Construction		ea			$0	
355 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$958,630**	
Operating Cost						
355 Level Operating Waste Development		m	0	$2,285	$0	
355 Level Ore Development		m	63	$2,285	$143,955	
Longhole Stope Production		t	10,150	$34.9	$354,018	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	0	$2.1	$0	
Waste Haulage to Pass		t	0	$4.2	$0	
Ore Haulage to Pass		t	12,972	$4.2	$54,353	
Indirect Costs		t	12,972	$45.9	$595,024	
Surface Hauling and Milling Cost		t	12,972	$28.7	$372,296	
Total Operating Cost					**$1,519,646**	
Evaluation		**Value**				
Ounces Mined		3,003				
Mill Recovery		96.5%				
Recovered Ounces		2,898				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$4,636,363				
Treatment Charges $1.6 per ounce		-$4,636				
Royalties 2.25%		-$104,422				
Gross Revenue from Level		**$4,527,305**				
Total Operating Costs		$1,519,646				
Net Revenue from Level		**$3,007,659**				
Total Capital Costs		$958,630				
Net Cash from Level		**$2,049,029**				

Timmins Deposit

375 to 355 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	15,797					
Mined Grade	6.1					
Capital Cost						
Ramp to 375 Level		m	153	$2,428	$371,484	
375 Level Access, Sump, Elec Sub		m	189	$2,428	$458,892	
375 Level Other Capital Development		m	0		$0	
375 Level Waste Haulage to Backfill Stope		t	11,970	$2.1	$25,137	Assume 50%
375 Level Waste Haulage to Shaft		t	11,970	$3.9	$46,204	
375 Level OP and WP Dumps		ea	0		$0	
375 Level Other Construction		ea			$0	
375 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$901,717**	
Operating Cost						
375 Level Operating Waste Development		m	13	$2,285	$29,705	
375 Level Ore Development		m	95	$2,285	$217,075	
Longhole Stope Production		t	11,541	$34.9	$402,550	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	291	$2.1	$612	
Waste Haulage to Pass		t	291	$3.9	$1,124	
Ore Haulage to Pass		t	15,797	$3.9	$60,976	
Indirect Costs		t	15,797	$45.9	$724,606	
Surface Hauling and Milling Cost		t	15,797	$28.7	$453,374	
Total Operating Cost					**$1,890,022**	
Evaluation		**Value**				
Ounces Mined		3,098				
Mill Recovery		96.5%				
Recovered Ounces		2,990				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$4,783,464				
Treatment Charges $1.6 per ounce		-$4,783				
Royalties 2.25%		-$107,736				
Gross Revenue from Level		**$4,670,945**				
Total Operating Costs		$1,890,022				
Net Revenue from Level		**$2,780,923**				
Total Capital Costs		$901,717				
Net Cash from Level		**$1,879,206**				

Timmins Deposit

395 to 375 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	16,902					
Mined Grade	5					
Capital Cost						
Ramp to 395 Level		m	153	$2,428	$371,484	
395 Level Access, Sump, Elec Sub		m	177	$2,428	$429,756	
395 Level Other Capital Development		m	0		$0	
395 Level Waste Haulage to Backfill Stope		t	11,550	$2.1	$24,255	Assume 50%
395 Level Waste Haulage to Shaft		t	11,550	$3.5	$40,887	
395 Level OP and WP Dumps		ea	0		$0	
395 Level Other Construction		ea			$0	
395 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$866,382**	
Operating Cost						
395 Level Operating Waste Development		m	163	$2,285	$372,455	
395 Level Ore Development		m	87	$2,285	$198,795	
Longhole Stope Production		t	13,004	$34.9	$453,593	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	3,651	$2.1	$7,668	
Waste Haulage to Shaft		t	3,651	$3.5	$12,925	
Ore Haulage to Shaft		t	16,902	$3.5	$59,833	
Indirect Costs		t	16,902	$45.9	$775,292	
Milling Cost		t	16,902	$28.7	$485,087	
Total Operating Cost					**$2,365,649**	
Evaluation		**Value**				
Ounces Mined		2,717				
Mill Recovery		96.5%				
Recovered Ounces		2,622				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$4,195,137				
Treatment Charges $1.6 per ounce		-$4,195				
Royalties 2.25%		-$94,485				
Gross Revenue from Level		**$4,096,457**				
Total Operating Costs		$2,365,649				
Net Revenue from Level		**$1,730,808**				
Total Capital Costs		$866,382				
Net Cash from Level		**$864,426**				

Timmins Deposit

415 to 395 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**28,896**					
Mined Grade	**4.4**					
Capital Cost						
Ramp to 415 Level		m	153	$2,428	$371,484	
415 Level Access, Sump, Elec Sub		m	175	$2,428	$424,900	
415 Level Other Capital Development		m	0		$0	
415 Level Waste Haulage to Backfill Stope		t	11,480	$2.1	$24,108	Assume 50%
415 Level Waste Haulage to Shaft		t	11,480	$3.2	$36,851	
415 Level OP and WP Dumps		ea	0		$0	
415 Level Other Construction		ea			$0	
415 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$857,343**	
Operating Cost						
415 Level Operating Waste Development		m	130	$2,285	$297,050	
415 Level Ore Development		m	145	$2,285	$331,325	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	22,400	$50.8	$1,137,472	
Waste Haulage to Backfill Stope (50%)		t	2,912	$2.1	$6,115	
Waste Haulage to Shaft		t	2,912	$3.2	$9,348	
Ore Haulage to Shaft		t	28,896	$3.2	$92,756	
Indirect Costs		t	28,896	$45.9	$1,325,455	
Surface Hauling and Milling Cost		t	28,896	$28.7	$829,315	
Total Operating Cost					**$4,028,836**	
Evaluation		**Value**				
Ounces Mined		4,088				
Mill Recovery		96.5%				
Recovered Ounces		3,945				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$6,311,440				
Treatment Charges $1.6 per ounce		-$6,311				
Royalties 2.25%		-$142,149				
Gross Revenue from Level		**$6,162,979**				
Total Operating Costs		$4,028,836				
Net Revenue from Level		**$2,134,143**				
Total Capital Costs		$857,343				
Net Cash from Level		**$1,276,800**				

Timmins Deposit

435 to 415 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**50,182**					
Mined Grade	**4.8**					
Capital Cost						
Ramp to 435 Level		m	153	$2,428	$371,484	
435 Level Access, Sump, Elec Sub		m	145	$2,428	$352,060	
435 Level Other Capital Development		m	0		$0	
435 Level Waste Haulage to Backfill Stope		t	10,430	$2.1	$21,903	Assume 50%
435 Level Waste Haulage to Shaft		t	10,430	$2.9	$30,143	
435 Level OP and WP Dumps		ea	0		$0	
435 Level Other Construction		ea			$0	
435 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$775,590**	
Operating Cost						
435 Level Operating Waste Development		m	94	$2,285	$214,790	
435 Level Ore Development		m	143	$2,285	$326,755	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	43,776	$50.8	$2,222,925	
Waste Haulage to Backfill Stope (50%)		t	2,106	$2.1	$4,422	
Waste Haulage to Shaft		t	2,106	$2.9	$6,085	
Ore Haulage to Shaft		t	50,182	$2.9	$145,026	
Indirect Costs		t	50,182	$45.9	$2,301,840	
Surface Hauling and Milling Cost		t	50,182	$28.7	$1,440,223	
Total Operating Cost					**$6,662,066**	
Evaluation		**Value**				
Ounces Mined		7,744				
Mill Recovery		96.5%				
Recovered Ounces		7,473				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$11,957,138				
Treatment Charges $1.6 per ounce		-$11,957				
Royalties 2.25%		-$269,305				
Gross Revenue from Level		**$11,675,876**				
Total Operating Costs		$6,662,066				
Net Revenue from Level		**$5,013,810**				
Total Capital Costs		$775,590				
Net Cash from Level		**$4,238,220**				

Timmins Deposit

455 to 435 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	0					
Mined Grade	0					
Capital Cost						
Ramp to 455 Level		m	0		$0	Already Developed
455 Level Access, Sump, Elec Sub		m	0		$0	
455 Level Other Capital Development		m	0		$0	
455 Level Waste Haulage to Backfill Stope		t	0		$0	Assume 50%
455 Level Waste Haulage to Shaft		t	0		$0	
455 Level OP and WP Dumps		ea	0		$0	
455 Level Other Construction		ea			$0	
455 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
455 Level Operating Waste Development		m	0		$0	
455 Level Ore Development		m	0		$0	
Longhole Stope Production		t	0		$0	
MCAF Stope Production		t	0		$0	
Waste Haulage to Backfill Stope (50%)		t	0		$0	
Waste Haulage to Shaft		t	0		$0	
Ore Haulage to Shaft		t	0		$0	
Indirect Costs		t	0	$45.9	$0	
Surface Hauling and Milling Cost		t	0		$0	
Total Operating Cost					**$0**	
Evaluation		**Value**				
Ounces Mined		0				
Mill Recovery		96.5%				
Recovered Ounces		0				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$0				
Treatment Charges $1.6 per ounce		$0				
Royalties 2.25%		$0				
Gross Revenue from Level		**$0**				
Total Operating Costs		$0				
Net Revenue from Level		**$0**				
Total Capital Costs		$0				
Net Cash from Level		**$0**				

Timmins Deposit

475 to 455 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	0					
Mined Grade	0					
Capital Cost						
Ramp to 475 Level		m	0		$0	Already Developed
475 Level Access, Sump, Elec Sub		m	0		$0	
475 Level Other Capital Development		m	0		$0	
475 Level Waste Haulage to Backfill Stope		t	0		$0	Assume 50%
475 Level Waste Haulage to Shaft		t	0		$0	
475 Level OP and WP Dumps		ea	0		$0	
475 Level Other Construction		ea			$0	
475 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
475 Level Operating Waste Development		m	0		$0	
475 Level Ore Development		m	0		$0	
Longhole Stope Production		t	0		$0	
MCAF Stope Production		t	0		$0	
Waste Haulage to Backfill Stope (50%)		t	0		$0	
Waste Haulage to Shaft		t	0		$0	
Ore Haulage to Shaft		t	0		$0	
Indirect Costs		t	0	$45.9	$0	
Surface Hauling and Milling Cost		t	0		$0	
Total Operating Cost					**$0**	
Evaluation		**Value**				
Ounces Mined		0				
Mill Recovery		96.5%				
Recovered Ounces		0				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$0				
Treatment Charges $1.6 per ounce		$0				
Royalties 2.25%		$0				
Gross Revenue from Level		**$0**				
Total Operating Costs		$0				
Net Revenue from Level		**$0**				
Total Capital Costs		$0				
Net Cash from Level		**$0**				

Timmins Deposit

500 to 475 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	0					
Mined Grade	0					
Capital Cost						
Ramp to 500 Level		m	0		$0	Already Developed
500 Level Access, Sump, Elec Sub		m	0		$0	
500 Level Other Capital Development		m	0		$0	
500 Level Waste Haulage to Backfill Stope		t	0		$0	
500 Level Waste Haulage to Shaft		t	0		$0	
500 Level OP and WP Dumps		ea	0		$0	
500 Level Other Construction		ea			$0	
500 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
500 Level Operating Waste Development		m	0		$0	
500 Level Ore Development		m	0		$0	
Longhole Stope Production		t	0		$0	
MCAF Stope Production		t	0		$0	
Waste Haulage to Backfill Stope (50%)		t	0		$0	
Waste Haulage to Shaft		t	0		$0	
Ore Haulage to Shaft		t	0		$0	
Indirect Costs		t	0	$45.9	$0	
Surface Hauling and Milling Cost		t	0		$0	
Total Operating Cost					**$0**	
Evaluation		**Value**				
Ounces Mined		0				
Mill Recovery		96.5%				
Recovered Ounces		0				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$0				
Treatment Charges $1.6 per ounce		$0				
Royalties 2.25%		$0				
Gross Revenue from Level		**$0**				
Total Operating Costs		$0				
Net Revenue from Level		**$0**				
Total Capital Costs		$0				
Net Cash from Level		**$0**				

Timmins Deposit

525 to 500 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	54,642					
Mined Grade	4.1					
Capital Cost						
Ramp to 525 Level		m	0	$2,428	$0	Already Developed
525 Level Access, Sump, Elec Sub		m	75	$2,428	$182,100	2012 Budget
525 Level Other Capital Development		m	0		$0	
525 Level Waste Haulage to Backfill Stope		t	2,625	$2.1	$5,513	Assume 50%
525 Level Waste Haulage to Shaft		t	2,625	$2.1	$5,513	
525 Level OP and WP Dumps		ea	0		$0	
525 Level Other Construction		ea			$0	
525 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$193,125**	
Operating Cost						
525 Level Operating Waste Development		m	0	$2,285	$0	
525 Level Ore Development		m	0	$2,285	$0	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	54,642	$50.8	$2,774,721	
Waste Haulage to Backfill Stope (50%)		t	0	$2.1	$0	
Waste Haulage to Shaft		t	0	$2.1	$0	
Ore Haulage to Shaft		t	54,642	$2.1	$114,748	
Indirect Costs		t	54,642	$45.9	$2,506,420	
Surface Hauling and Milling Cost		t	54,642	$28.7	$1,568,225	
Total Operating Cost					**$6,964,114**	
Evaluation		**Value**				
Ounces Mined		7,203				
Mill Recovery		96.5%				
Recovered Ounces		6,951				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$11,121,119				
Treatment Charges $1.6 per ounce		-$11,121				
Royalties 2.25%		-$250,475				
Gross Revenue from Level		**$10,859,522**				
Total Operating Costs		$6,964,114				
Net Revenue from Level		**$3,895,408**				
Total Capital Costs		$193,125				
Net Cash from Level		**$3,702,283**				

Timmins Deposit

545 to 525 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	0					
Mined Grade	0					
Capital Cost						
Ramp to 545 Level		m	0		$0	Already Developed
545 Level Access, Sump, Elec Sub		m	70	$2,428	$169,960	2012 Budget
545 Level Other Capital Development		m	0		$0	
545 Level Waste Haulage to Backfill Stope		t	2,450	$2.1	$5,145	Assume 50%
545 Level Waste Haulage to Shaft		t	2,450	$2.1	$5,145	
545 Level OP and WP Dumps		ea	0		$0	
545 Level Other Construction		ea			$0	
545 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$180,250**	
Operating Cost						
545 Level Operating Waste Development		m	0		$0	
545 Level Ore Development		m	0		$0	
Longhole Stope Production		t	0		$0	
MCAF Stope Production		t	0		$0	
Waste Haulage to Backfill Stope (50%)		t	0		$0	
Waste Haulage to Shaft		t	0		$0	
Ore Haulage to Shaft		t	0		$0	
Indirect Costs		t	0	$45.9	$0	
Milling Cost		t	0		$0	
Total Operating Cost					**$0**	
Evaluation		**Value**				
Ounces Mined		0				
Mill Recovery		96.5%				
Recovered Ounces		0				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$0				
Treatment Charges $1.6 per ounce		$0				
Royalties 2.25%		$0				
Gross Revenue from Level		**$0**				
Total Operating Costs		$0				
Net Revenue from Level		**$0**				
Total Capital Costs		$180,250				
Net Cash from Level		**-$180,250**				

Timmins Deposit

565 to 545 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	51,225					
Mined Grade	4.3					
Capital Cost						
Ramp to 565 Level		m	0		$0	Already Developed
565 Level Access, Sump, Elec Sub		m	0		$0	Already Developed
565 Level Other Capital Development		m	0		$0	
565 Level Waste Haulage to Backfill Stope		t	0		$0	
565 Level Waste Haulage to Shaft		t	0		$0	
565 Level OP and WP Dumps		ea	0		$0	
565 Level Other Construction		ea			$0	
565 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
565 Level Operating Waste Development		m	150	$2,285	$342,750	
565 Level Ore Development		m	150	$2,285	$342,750	
Longhole Stope Production		t	44,505	$34.9	$1,552,334	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	3,360	$2.1	$7,056	
Waste Haulage to Shaft		t	3,360	$2.1	$7,056	
Ore Haulage to Shaft		t	51,225	$2.1	$107,573	
Indirect Costs		t	51,225	$45.9	$2,349,682	
Surface Hauling and Milling Cost		t	51,225	$28.7	$1,470,158	
Total Operating Cost					**$6,179,359**	
Evaluation		**Value**				
Ounces Mined		7,082				
Mill Recovery		96.5%				
Recovered Ounces		6,834				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$10,934,236				
Treatment Charges $1.6 per ounce		-$10,934				
Royalties 2.25%		-$246,266				
Gross Revenue from Level		**$10,677,036**				
Total Operating Costs		$6,179,359				
Net Revenue from Level		**$4,497,677**				
Total Capital Costs		$0				
Net Cash from Level		**$4,497,677**				

Timmins Deposit

585 to 565 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**78,908**					
Mined Grade	**4.3**					
Capital Cost						
Ramp to 585 Level		m	0		$0	Already Developed
585 Level Access, Sump, Elec Sub		m	0		$0	Already Developed
585 Level Other Capital Development		m	0		$0	
585 Level Waste Haulage to Backfill Stope		t	0		$0	
585 Level Waste Haulage to Shaft		t	0		$0	
585 Level OP and WP Dumps		ea	0		$0	
585 Level Other Construction		ea			$0	
585 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
585 Level Operating Waste Development		m	25	$2,285	$57,125	
585 Level Ore Development		m	27	$2,285	$61,695	
Longhole Stope Production		t	77,698	$34.9	$2,710,120	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	560	$2.1	$1,176	
Waste Haulage to Shaft		t	560	$2.1	$1,176	
Ore Haulage to Shaft		t	78,908	$2.1	$165,707	
Indirect Costs		t	78,908	$45.9	$3,619,497	
Surface Hauling and Milling Cost		t	78,908	$28.7	$2,264,660	
Total Operating Cost					**$8,881,156**	
Evaluation		**Value**				
Ounces Mined		10,909				
Mill Recovery		96.5%				
Recovered Ounces		10,527				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$16,843,313				
Treatment Charges $1.6 per ounce		-$16,843				
Royalties 2.25%		-$379,354				
Gross Revenue from Level		**$16,447,116**				
Total Operating Costs		$8,881,156				
Net Revenue from Level		**$7,565,961**				
Total Capital Costs		$0				
Net Cash from Level		**$7,565,961**				

Timmins Deposit

610 to 585 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**75,601**					
Mined Grade	**4**					
Capital Cost						
Ramp to 610 Level		m	0		$0	Already Developed
610 Level Access, Sump, Elec Sub		m	0		$0	Already Developed
610 Level Other Capital Development		m	0		$0	
610 Level Waste Haulage to Backfill Stope		t	0		$0	
610 Level Waste Haulage to Shaft		t	0		$0	
610 Level OP and WP Dumps		ea	0		$0	
610 Level Other Construction		ea			$0	
610 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
610 Level Operating Waste Development		m	97	$2,285	$221,645	
610 Level Ore Development		m	108	$2,285	$246,780	
Longhole Stope Production		t	70,763	$34.9	$2,468,199	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	2,173	$2.1	$4,563	
Waste Haulage to Shaft		t	2,173	$2.1	$4,563	
Ore Haulage to Shaft		t	75,601	$2.1	$158,762	
Indirect Costs		t	75,601	$45.9	$3,467,806	
Surface Hauling and Milling Cost		t	75,601	$28.7	$2,169,749	
Total Operating Cost					**$8,742,067**	
Evaluation		**Value**				
Ounces Mined		9,723				
Mill Recovery		96.5%				
Recovered Ounces		9,382				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$15,011,551				
Treatment Charges $1.6 per ounce		-$15,012				
Royalties 2.25%		-$338,098				
Gross Revenue from Level		**$14,658,442**				
Total Operating Costs		$8,742,067				
Net Revenue from Level		**$5,916,375**				
Total Capital Costs		$0				
Net Cash from Level		**$5,916,375**				

Timmins Deposit

630 to 610 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	21,963					
Mined Grade	4.4					
Capital Cost						
Ramp to 630 Level		m	0		$0	Already Developed
630 Level Access, Sump, Elec Sub		m	0		$0	Already Developed
630 Level Other Capital Development		m	0		$0	
630 Level Waste Haulage to Backfill Stope		t	0		$0	
630 Level Waste Haulage to Shaft		t	0		$0	
630 Level OP and WP Dumps		ea	0		$0	
630 Level Other Construction		ea			$0	
630 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$0**	
Operating Cost						
630 Level Operating Waste Development		m	50	$2,285	$114,250	
630 Level Ore Development		m	100	$2,285	$228,500	
Longhole Stope Production		t	17,483	$34.9	$609,807	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	1,120	$2.1	$2,352	
Waste Haulage to Shaft		t	1,120	$2.1	$2,352	
Ore Haulage to Shaft		t	21,963	$2.1	$46,122	
Indirect Costs		t	21,963	$45.9	$1,007,439	
Surface Hauling and Milling Cost		t	21,963	$28.7	$630,338	
Total Operating Cost					**$2,641,161**	
Evaluation					**Value**	
Ounces Mined					3,107	
Mill Recovery					96.5%	
Recovered Ounces					2,998	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$4,797,140	
Treatment Charges $1.6 per ounce					-$4,797	
Royalties 2.25%					-$108,044	
Gross Revenue from Level					**$4,684,299**	
Total Operating Costs					$2,641,161	
Net Revenue from Level					**$2,043,138**	
Total Capital Costs					$0	
Net Cash from Level					**$2,043,138**	

Timmins Deposit

650 to 630 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	29,547					
Mined Grade	4.5					
Capital Cost						
Ramp to 650 Level		m	0		$0	Already Developed
650 Level Access, Sump, Elec Sub		m	150	$2,428	$364,200	2012 Budget
650 Level Other Capital Development		m	0		$0	
650 Level Waste Haulage to Backfill Stope		t	5,250	$2.1	$11,025	Assume 50%
650 Level Waste Haulage to Shaft		t	0	$0.0	$0	Included in Dev Cost
650 Level OP and WP Dumps		ea	0		$0	
650 Level Other Construction		ea	0		$0	
650 Level Other Miscellaneous		ea	0		$0	
Total Capital Costs					**$375,225**	
Operating Cost						
650 Level Operating Waste Development		m	0	$2,285	$0	
650 Level Ore Development		m	0	$2,285	$0	
Longhole Stope Production		t	29,547	$34.9	$1,030,599	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	0	$2.1	$0	
Waste Haulage to Shaft		t	0	$5.2	$0	
Ore Haulage to Shaft		t	29,547	$5.2	$152,463	
Indirect Costs		t	29,547	$45.9	$1,355,316	
Surface Hauling and Milling Cost		t	29,547	$28.7	$847,999	
Total Operating Cost					**$3,386,377**	
Evaluation					**Value**	
Ounces Mined					4,275	
Mill Recovery					96.5%	
Recovered Ounces					4,125	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$6,600,304	
Treatment Charges $1.6 per ounce					-$6,600	
Royalties 2.25%					-$148,655	
Gross Revenue from Level					**$6,445,048**	
Total Operating Costs					$3,386,377	
Net Revenue from Level					**$3,058,672**	
Total Capital Costs					$375,225	
Net Cash from Level					**$2,683,447**	

Timmins Deposit

670 to 650 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	149,167					
Mined Grade	4.4					
Capital Cost						
Ramp to 670 Level		m	0		$0	Already Developed
670 Level Access, Sump, Elec Sub		m	167	$2,428	$405,476	2012 Budget
670 Level Other Capital Development		m	0		$0	
670 Level Waste Haulage to Backfill Stope		t	5,845	$2.1	$12,275	Assume 50%
670 Level Waste Haulage to Shaft		t	5,845	$1.8	$10,287	
670 Level OP and WP Dumps		ea	0		$0	
670 Level Other Construction		ea			$0	
670 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$428,038**	
Operating Cost						
670 Level Operating Waste Development		m	253	$2,285	$578,105	2012 Budget
670 Level Ore Development		m	371	$2,285	$847,735	2012 Budget
Longhole Stope Production		t	132,546	$34.9	$4,623,211	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	5,667	$2.1	$11,901	
Waste Haulage to Shaft		t	5,667	$1.8	$9,974	
Ore Haulage to Shaft		t	149,167	$1.8	$262,534	
Indirect Costs		t	149,167	$45.9	$6,842,266	
Surface Hauling and Milling Cost		t	149,167	$28.7	$4,281,093	
Total Operating Cost					**$17,456,820**	
Evaluation		**Value**				
Ounces Mined		21,102				
Mill Recovery		96.5%				
Recovered Ounces		20,363				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$32,580,929				
Treatment Charges $1.6 per ounce		-$32,581				
Royalties 2.25%		-$733,804				
Gross Revenue from Level		**$31,814,544**				
Total Operating Costs		$17,456,820				
Net Revenue from Level		**$14,357,725**				
Total Capital Costs		$428,038				
Net Cash from Level		**$13,929,687**				

Timmins Deposit

690 to 670 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	89,691					
Mined Grade	4.9					
Capital Cost						
Ramp to 690 Level		m	0		$0	Already Developed
690 Level Access, Sump, Elec Sub		m	273	$2,428	$662,844	2012 Budget
690 Level Other Capital Development		m	0		$0	
690 Level Waste Haulage to Backfill Stope		t	9,555	$2.1	$20,066	Assume 50%
690 Level Waste Haulage to Shaft		t	9,555	$2.1	$20,066	
690 Level OP and WP Dumps		ea	0		$0	
690 Level Other Construction		ea			$0	
690 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$702,975**	
Operating Cost						
690 Level Operating Waste Development		m	195	$2,285	$445,575	2012 Budget
690 Level Ore Development		m	257	$2,285	$587,245	2012 Budget
Longhole Stope Production		t	78,177	$34.9	$2,726,828	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	4,368	$2.1	$9,173	
Waste Haulage to Shaft		t	4,368	$2.1	$9,173	
Ore Haulage to Shaft		t	89,691	$2.1	$188,351	
Indirect Costs		t	89,691	$45.9	$4,114,112	
Surface Hauling and Milling Cost		t	89,691	$28.7	$2,574,132	
Total Operating Cost					**$10,654,588**	
Evaluation		**Value**				
Ounces Mined		14,130				
Mill Recovery		96.5%				
Recovered Ounces		13,635				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$21,816,395				
Treatment Charges $1.6 per ounce		-$21,816				
Royalties 2.25%		-$491,360				
Gross Revenue from Level		**$21,303,218**				
Total Operating Costs		$10,654,588				
Net Revenue from Level		**$10,648,631**				
Total Capital Costs		$702,975				
Net Cash from Level		**$9,945,656**				

Timmins Deposit

710 to 690 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	119,659					
Mined Grade	4.4					
Capital Cost						
Ramp to 710 Level Shaft Bottom		m	227	$2,428	$551,156	2012 Budget
710 Level Access, Sump, Elec Sub		m	454	$2,428	$1,102,312	2012 Budget
710 Level Other Capital Development		m	0		$0	
710 Level Waste Haulage to Backfill Stope		t	23,835	$2.1	$50,054	Assume 50%
710 Level Waste Haulage to Shaft		t	23,835	$2.4	$57,204	
710 Level OP and WP Dumps		ea	0		$0	
710 Level Other Construction		ea			$0	
710 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,760,726**	
Operating Cost						
710 Level Operating Waste Development		m	336	$2,285	$767,760	2012 Budget
710 Level Ore Development		m	420	$2,285	$959,700	2012 Budget
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	100,843	$50.8	$5,120,808	
Waste Haulage to Backfill Stope (50%)		t	7,526	$2.1	$15,805	
Waste Haulage to Shaft		t	7,526	$2.4	$18,214	
Ore Haulage to Shaft		t	119,659	$2.4	$289,575	
Indirect Costs		t	119,659	$45.9	$5,488,739	
Surface Hauling and Milling Cost		t	119,659	$28.7	$3,434,213	
Total Operating Cost					**$16,094,814**	
Evaluation					**Value**	
Ounces Mined					16,927	
Mill Recovery					96.5%	
Recovered Ounces					16,335	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$26,135,817	
Treatment Charges $1.6 per ounce					-$26,136	
Royalties 2.25%					-$588,644	
Gross Revenue from Level					**$25,521,037**	
Total Operating Costs					$16,094,814	
Net Revenue from Level					**$9,426,223**	
Total Capital Costs					$1,760,726	
Net Cash from Level					**$7,665,498**	

Timmins Deposit

730 to 710 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	75,623					
Mined Grade	5.2					
Capital Cost						
Ramp to 730 Level		m	78	$2,428	$189,384	2012 Budget
730 Level Access, Sump, Elec Sub		m	543	$2,428	$1,318,404	2012 Budget
730 Level Other Capital Development		m	0		$0	
730 Level Waste Haulage to Backfill Stope		t	21,735	$2.1	$45,644	Assume 50%
730 Level Waste Haulage to Shaft		t	21,735	$2.7	$59,554	
730 Level OP and WP Dumps		ea	0		$0	
730 Level Other Construction		ea			$0	
730 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,612,985**	
Operating Cost						
730 Level Operating Waste Development		m	216	$2,285	$493,560	2012 Budget
730 Level Ore Development		m	287	$2,285	$655,795	2012 Budget
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	62,765	$50.8	$3,187,227	
Waste Haulage to Backfill Stope (50%)		t	4,838	$2.1	$10,161	
Waste Haulage to Shaft		t	4,838	$2.7	$13,257	
Ore Haulage to Shaft		t	75,623	$2.7	$207,207	
Indirect Costs		t	75,623	$45.9	$3,468,815	
Surface Hauling and Milling Cost		t	75,623	$28.7	$2,170,380	
Total Operating Cost					**$10,206,402**	
Evaluation					**Value**	
Ounces Mined					12,643	
Mill Recovery					96.5%	
Recovered Ounces					12,200	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$19,520,695	
Treatment Charges $1.6 per ounce					-$19,521	
Royalties 2.25%					-$439,655	
Gross Revenue from Level					**$19,061,520**	
Total Operating Costs					$10,206,402	
Net Revenue from Level					**$8,855,118**	
Total Capital Costs					$1,612,985	
Net Cash from Level					**$7,242,133**	

Timmins Deposit

750 to 730 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**68,936**					
Mined Grade	**4.9**					
Capital Cost						
Ramp to 750 Level		m	179	$2,428	$434,612	2012 Budget
750 Level Access, Sump, Elec Sub		m	306	$2,428	$742,968	2012 Budget
750 Level Other Capital Development		m	0		$0	
750 Level Waste Haulage to Backfill Stope		t	16,975	$2.1	$35,648	Assume 50%
750 Level Waste Haulage to Shaft		t	16,975	$3.1	$52,113	
750 Level OP and WP Dumps		ea	0		$0	
750 Level Other Construction		ea			$0	
750 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,265,341**	
Operating Cost						
750 Level Operating Waste Development		m	210	$2,285	$479,850	2012 Budget
750 Level Ore Development		m	295	$2,285	$674,075	2012 Budget
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	55,720	$50.8	$2,829,462	
Waste Haulage to Backfill Stope (50%)		t	4,704	$2.1	$9,878	
Waste Haulage to Shaft		t	4,704	$3.1	$14,441	
Ore Haulage to Shaft		t	68,936	$3.1	$211,634	
Indirect Costs		t	68,936	$45.9	$3,162,083	
Surface Hauling and Milling Cost		t	68,936	$28.7	$1,978,463	
Total Operating Cost					**$9,359,886**	
Evaluation		**Value**				
Ounces Mined		10,860				
Mill Recovery		96.5%				
Recovered Ounces		10,480				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$16,767,959				
Treatment Charges $1.6 per ounce		-$16,768				
Royalties 2.25%		-$377,656				
Gross Revenue from Level		**$16,373,534**				
Total Operating Costs		$9,359,886				
Net Revenue from Level		**$7,013,648**				
Total Capital Costs		$1,265,341				
Net Cash from Level		**$5,748,308**				

Timmins Deposit

770 to 750 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**104,543**					
Mined Grade	**6.4**					
Capital Cost						
Ramp to 770 Level		m	181	$2,428	$439,468	2012 Budget
770 Level Access, Sump, Elec Sub		m	180	$2,428	$437,040	2012 Budget
770 Level Other Capital Development		m	0		$0	
770 Level Waste Haulage to Backfill Stope		t	12,635	$2.1	$26,534	Assume 50%
770 Level Waste Haulage to Shaft		t	12,635	$3.4	$42,959	
770 Level OP and WP Dumps		ea	0		$0	
770 Level Other Construction		ea			$0	
770 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$946,001**	
Operating Cost						
770 Level Operating Waste Development		m	250	$2,285	$571,250	2012 Budget
770 Level Ore Development		m	340	$2,285	$776,900	2012 Budget
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	89,311	$50.8	$4,535,213	
Waste Haulage to Backfill Stope (50%)		t	5,600	$2.1	$11,760	
Waste Haulage to Shaft		t	5,600	$3.4	$19,040	
Ore Haulage to Shaft		t	104,543	$3.4	$355,446	
Indirect Costs		t	104,543	$45.9	$4,795,370	
Surface Hauling and Milling Cost		t	104,543	$28.7	$3,000,384	
Total Operating Cost					**$14,065,363**	
Evaluation		**Value**				
Ounces Mined		21,511				
Mill Recovery		96.5%				
Recovered Ounces		20,758				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$33,213,372				
Treatment Charges $1.6 per ounce		-$33,213				
Royalties 2.25%		-$748,048				
Gross Revenue from Level		**$32,432,110**				
Total Operating Costs		$14,065,363				
Net Revenue from Level		**$18,366,747**				
Total Capital Costs		$946,001				
Net Cash from Level		**$17,420,746**				

Timmins Deposit

790 to 770 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**125,433**					
Mined Grade	**5.7**					
Capital Cost						
Ramp to 790 Level		m	181	$2,428	$439,468	2012 Budget
790 Level Access, Sump, Elec Sub		m	164	$2,428	$398,192	2012 Budget
790 Level Other Capital Development		m	0		$0	
790 Level Waste Haulage to Backfill Stope		t	12,075	$2.1	$25,358	Assume 50%
790 Level Waste Haulage to Shaft		t	12,075	$3.7	$45,040	
790 Level OP and WP Dumps		ea	0		$0	
790 Level Other Construction		ea			$0	
790 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$908,057**	
Operating Cost						
790 Level Operating Waste Development		m	90	$2,285	$205,650	2012 Budget
790 Level Ore Development		m	265	$2,285	$605,525	2012 Budget
Longhole Stope Production		t	113,561	$34.9	$3,961,008	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	2,016	$2.1	$4,234	
Waste Haulage to Shaft		t	2,016	$3.7	$7,520	
Ore Haulage to Shaft		t	125,433	$3.7	$467,865	
Indirect Costs		t	125,433	$45.9	$5,753,591	
Surface Hauling and Milling Cost		t	125,433	$28.7	$3,599,927	
Total Operating Cost					**$14,605,319**	
Evaluation		**Value**				
Ounces Mined		22,987				
Mill Recovery		96.5%				
Recovered Ounces		22,182				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$35,491,528				
Treatment Charges $1.6 per ounce		-$35,492				
Royalties 2.25%		-$799,358				
Gross Revenue from Level		**$34,656,679**				
Total Operating Costs		$14,605,319				
Net Revenue from Level		**$20,051,359**				
Total Capital Costs		$908,057				
Net Cash from Level		**$19,143,302**				

Timmins Deposit

810 to 790 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**59,706**					
Mined Grade	**4.7**					
Capital Cost						
Ramp to 810 Level		m	183	$2,428	$444,324	2012 Budget
810 Level Access, Sump, Elec Sub		m	231	$2,428	$560,868	2012 Budget
810 Level Other Capital Development		m	0		$0	
810 Level Waste Haulage to Backfill Stope		t	14,490	$2.1	$30,429	Assume 50%
810 Level Waste Haulage to Shaft		t	14,490	$4.1	$58,829	
810 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
810 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
810 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,236,760**	
Operating Cost						
810 Level Operating Waste Development		m	85	$2,285	$194,225	2012 Budget
810 Level Ore Development		m	65	$2,285	$148,525	2012 Budget
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	56,794	$50.8	$2,883,999	
Waste Haulage to Backfill Stope (50%)		t	1,904	$2.1	$3,998	
Waste Haulage to Shaft		t	1,904	$4.1	$7,730	
Ore Haulage to Shaft		t	59,706	$4.1	$242,406	
Indirect Costs		t	59,706	$45.9	$2,738,704	
Surface Hauling and Milling Cost		t	59,706	$28.7	$1,713,562	
Total Operating Cost					**$7,933,151**	
Evaluation		**Value**				
Ounces Mined		9,022				
Mill Recovery		96.5%				
Recovered Ounces		8,706				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$13,930,088				
Treatment Charges $1.6 per ounce		-$13,930				
Royalties 2.25%		-$313,740				
Gross Revenue from Level		**$13,602,418**				
Total Operating Costs		$7,933,151				
Net Revenue from Level		**$5,669,267**				
Total Capital Costs		$1,236,760				
Net Cash from Level		**$4,432,506**				

Timmins Deposit

830 to 810 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**25,542**					
Mined Grade	**7.2**					
Capital Cost						
Ramp to 830 Level		m	153	$2,428	$371,484	
830 Level Access, Sump, Elec Sub		m	153	$2,428	$371,484	
830 Level Other Capital Development		m	0		$0	
830 Level Waste Haulage to Backfill Stope		t	10,710	$2.1	$22,491	Assume 50%
830 Level Waste Haulage to Shaft		t	10,710	$4.5	$48,409	
830 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
830 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
830 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$956,178**	
Operating Cost						
830 Level Operating Waste Development		m	130	$2,285	$297,050	
830 Level Ore Development		m	115	$2,285	$262,775	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	20,390	$50.8	$1,035,404	
Waste Haulage to Backfill Stope (50%)		t	2,912	$2.1	$6,115	
Waste Haulage to Shaft		t	2,912	$4.5	$13,162	
Ore Haulage to Shaft		t	25,542	$4.5	$115,450	
Indirect Costs		t	25,542	$45.9	$1,171,607	
Surface Hauling and Milling Cost		t	25,542	$28.7	$733,055	
Total Operating Cost					**$3,634,619**	
Evaluation		**Value**				
Ounces Mined		5,913				
Mill Recovery		96.5%				
Recovered Ounces		5,706				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$9,129,047				
Treatment Charges $1.6 per ounce		-$9,129				
Royalties 2.25%		-$205,609				
Gross Revenue from Level		**$8,914,309**				
Total Operating Costs		$3,634,619				
Net Revenue from Level		**$5,279,689**				
Total Capital Costs		$956,178				
Net Cash from Level		**$4,323,511**				

Timmins Deposit

850 to 830 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**78,888**					
Mined Grade	**9.2**					
Capital Cost						
Ramp to 850 Level		m	153	$2,428	$371,484	
850 Level Access, Sump, Elec Sub		m	183	$2,428	$444,324	
850 Level Other Capital Development		m	0		$0	
850 Level Waste Haulage to Backfill Stope		t	11,760	$2.1	$24,696	Assume 50%
850 Level Waste Haulage to Shaft		t	11,760	$4.9	$57,154	
850 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
850 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
850 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,039,968**	
Operating Cost						
850 Level Operating Waste Development		m	60	$2,285	$137,100	
850 Level Ore Development		m	210	$2,285	$479,850	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	69,480	$50.8	$3,528,194	
Waste Haulage to Backfill Stope (50%)		t	1,344	$2.1	$2,822	
Waste Haulage to Shaft		t	1,344	$4.9	$6,532	
Ore Haulage to Shaft		t	78,888	$4.9	$383,396	
Indirect Costs		t	78,888	$45.9	$3,618,580	
Surface Hauling and Milling Cost		t	78,888	$28.7	$2,264,086	
Total Operating Cost					**$10,420,560**	
Evaluation		**Value**				
Ounces Mined		23,334				
Mill Recovery		96.5%				
Recovered Ounces		22,517				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$36,027,722				
Treatment Charges $1.6 per ounce		-$36,028				
Royalties 2.25%		-$811,434				
Gross Revenue from Level		**$35,180,260**				
Total Operating Costs		$10,420,560				
Net Revenue from Level		**$24,759,701**				
Total Capital Costs		$1,039,968				
Net Cash from Level		**$23,719,733**				

Timmins Deposit

870 to 850 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	70,856					
Mined Grade	6.8					
Capital Cost						
Ramp to 870 Level		m	153	$2,428	$371,484	
870 Level Access, Sump, Elec Sub		m	301	$2,428	$730,828	
870 Level Other Capital Development		m	0		$0	
870 Level Waste Haulage to Backfill Stope		t	15,890	$2.1	$33,369	Assume 50%
870 Level Waste Haulage to Shaft		t	15,890	$5.2	$82,628	
870 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
870 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
870 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,360,619**	
Operating Cost						
870 Level Operating Waste Development		m	0	$2,285	$0	
870 Level Ore Development		m	147	$2,285	$335,895	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	64,270	$50.8	$3,263,651	
Waste Haulage to Backfill Stope (50%)		t	0	$2.1	$0	
Waste Haulage to Shaft		t	0	$5.2	$0	
Ore Haulage to Shaft		t	70,856	$5.2	$368,451	
Indirect Costs		t	70,856	$45.9	$3,250,153	
Surface Hauling and Milling Cost		t	70,856	$28.7	$2,033,567	
Total Operating Cost					**$9,251,717**	
Evaluation		**Value**				
Ounces Mined		15,491				
Mill Recovery		96.5%				
Recovered Ounces		14,949				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$23,917,929				
Treatment Charges $1.6 per ounce		-$23,918				
Royalties 2.25%		-$538,692				
Gross Revenue from Level		**$23,355,320**				
Total Operating Costs		$9,251,717				
Net Revenue from Level		**$14,103,602**				
Total Capital Costs		$1,360,619				
Net Cash from Level		**$12,742,983**				

Timmins Deposit

890 to 870 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	66,239					
Mined Grade	4.2					
Capital Cost						
Ramp to 890 Level		m	153	$2,428	$371,484	
890 Level Access, Sump, Elec Sub		m	443	$2,428	$1,075,604	
890 Level Other Capital Development		m	0		$0	
890 Level Waste Haulage to Backfill Stope		t	20,860	$2.1	$43,806	Assume 50%
890 Level Waste Haulage to Shaft		t	20,860	$5.6	$115,773	
890 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
890 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
890 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,748,977**	
Operating Cost						
890 Level Operating Waste Development		m	20	$2,285	$45,700	
890 Level Ore Development		m	170	$2,285	$388,450	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	58,623	$50.8	$2,976,876	
Waste Haulage to Backfill Stope (50%)		t	448	$2.1	$941	
Waste Haulage to Shaft		t	448	$5.6	$2,486	
Ore Haulage to Shaft		t	66,239	$5.6	$367,626	
Indirect Costs		t	66,239	$45.9	$3,038,372	
Surface Hauling and Milling Cost		t	66,239	$28.7	$1,901,059	
Total Operating Cost					**$8,721,511**	
Evaluation		**Value**				
Ounces Mined		8,944				
Mill Recovery		96.5%				
Recovered Ounces		8,631				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$13,810,236				
Treatment Charges $1.6 per ounce		-$13,810				
Royalties 2.25%		-$311,041				
Gross Revenue from Level		**$13,485,384**				
Total Operating Costs		$8,721,511				
Net Revenue from Level		**$4,763,873**				
Total Capital Costs		$1,748,977				
Net Cash from Level		**$3,014,896**				

Timmins Deposit

910 to 890 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	50,087					
Mined Grade	4.0					
Capital Cost						
Ramp to 910 Level		m	153	$2,428	$371,484	
910 Level Access, Sump, Elec Sub		m	247	$2,428	$599,716	
910 Level Other Capital Development		m	0		$0	
910 Level Waste Haulage to Backfill Stope		t	14,000	$2.1	$29,400	Assume 50%
910 Level Waste Haulage to Shaft		t	14,000	$5.9	$82,460	
910 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
910 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
910 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,225,370**	
Operating Cost						
910 Level Operating Waste Development		m	55	$2,285	$125,675	
910 Level Ore Development		m	167	$2,285	$381,595	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	42,605	$50.8	$2,163,502	
Waste Haulage to Backfill Stope (50%)		t	1,232	$2.1	$2,587	
Waste Haulage to Shaft		t	1,232	$5.9	$7,256	
Ore Haulage to Shaft		t	50,087	$5.9	$295,012	
Indirect Costs		t	50,087	$45.9	$2,297,483	
Surface Hauling and Milling Cost		t	50,087	$28.7	$1,437,497	
Total Operating Cost					**$6,710,608**	
Evaluation					**Value**	
Ounces Mined					6,441	
Mill Recovery					96.5%	
Recovered Ounces					6,216	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$9,945,418	
Treatment Charges $1.6 per ounce					-$9,945	
Royalties 2.25%					-$223,996	
Gross Revenue from Level					**$9,711,477**	
Total Operating Costs					$6,710,608	
Net Revenue from Level					**$3,000,869**	
Total Capital Costs					$1,225,370	
Net Cash from Level					**$1,775,499**	

Timmins Deposit

930 to 910 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	71,148					
Mined Grade	7.5					
Capital Cost						
Ramp to 930 Level		m	153	$2,428	$371,484	
930 Level Access, Sump, Elec Sub		m	196	$2,428	$475,888	
930 Level Other Capital Development		m	0		$0	
930 Level Waste Haulage to Backfill Stope		t	12,215	$2.1	$25,652	Assume 50%
930 Level Waste Haulage to Shaft		t	12,215	$6.2	$76,099	
930 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
930 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
930 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,091,433**	
Operating Cost						
930 Level Operating Waste Development		m	55	$2,285	$125,675	
930 Level Ore Development		m	112	$2,285	$255,920	
Longhole Stope Production		t	66,130	$34.9	$2,306,628	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	1,232	$2.1	$2,587	
Waste Haulage to Shaft		t	1,232	$6.2	$7,675	
Ore Haulage to Shaft		t	71,148	$6.2	$443,252	
Indirect Costs		t	71,148	$45.9	$3,263,547	
Surface Hauling and Milling Cost		t	71,148	$28.7	$2,041,948	
Total Operating Cost					**$8,447,233**	
Evaluation					**Value**	
Ounces Mined					17,156	
Mill Recovery					96.5%	
Recovered Ounces					16,555	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$26,488,782	
Treatment Charges $1.6 per ounce					-$26,489	
Royalties 2.25%					-$596,594	
Gross Revenue from Level					**$25,865,700**	
Total Operating Costs					$8,447,233	
Net Revenue from Level					**$17,418,467**	
Total Capital Costs					$1,091,433	
Net Cash from Level					**$16,327,034**	

Timmins Deposit

950 to 930 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	68,168					
Mined Grade	8.3					
Capital Cost						
Ramp to 950 Level		m	153	$2,581	$394,893	
950 Level Access, Sump, Elec Sub		m	196	$2,581	$505,876	
950 Level Other Capital Development		m	0		$0	
950 Level Waste Haulage to Backfill Stope		t	12,215	$2.1	$25,652	Assume 50%
950 Level Waste Haulage to Shaft		t	12,215	$6.8	$83,062	
950 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
950 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
950 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,151,793**	
Operating Cost						
950 Level Operating Waste Development		m	55	$2,438	$134,090	
950 Level Ore Development		m	95	$2,438	$231,610	
Longhole Stope Production		t	63,912	$34.9	$2,229,251	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	1,232	$2.1	$2,587	
Waste Haulage to Shaft		t	1,232	$6.8	$8,378	
Ore Haulage to Shaft		t	68,168	$6.8	$463,542	
Indirect Costs		t	68,168	$45.9	$3,126,855	
Surface Hauling and Milling Cost		t	68,168	$28.7	$1,956,422	
Total Operating Cost					**$8,152,734**	
Evaluation		**Value**				
Ounces Mined		18,191				
Mill Recovery		96.5%				
Recovered Ounces		17,554				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$28,086,439				
Treatment Charges $1.6 per ounce		-$28,086				
Royalties 2.25%		-$632,577				
Gross Revenue from Level		**$27,425,776**				
Total Operating Costs		$8,152,734				
Net Revenue from Level		**$19,273,041**				
Total Capital Costs		$1,151,793				
Net Cash from Level		**$18,121,249**				

Timmins Deposit

970 to 950 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	44,309					
Mined Grade	4.2					
Capital Cost						
Ramp to 970 Level		m	153	$2,581	$394,893	
970 Level Access, Sump, Elec Sub		m	426	$2,581	$1,099,506	
970 Level Other Capital Development		m	0		$0	
970 Level Waste Haulage to Backfill Stope		t	20,265	$2.1	$42,557	Assume 50%
970 Level Waste Haulage to Shaft		t	20,265	$7.2	$145,097	
970 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
970 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
970 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,824,363**	
Operating Cost						
970 Level Operating Waste Development		m	125	$2,438	$304,750	
970 Level Ore Development		m	60	$2,438	$146,280	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	41,621	$50.8	$2,113,514	
Waste Haulage to Backfill Stope (50%)		t	2,800	$2.1	$5,880	
Waste Haulage to Shaft		t	2,800	$7.2	$20,048	
Ore Haulage to Shaft		t	44,309	$7.2	$317,252	
Indirect Costs		t	44,309	$45.9	$2,032,447	
Surface Hauling and Milling Cost		t	44,309	$28.7	$1,271,668	
Total Operating Cost					**$6,211,840**	
Evaluation		**Value**				
Ounces Mined		5,983				
Mill Recovery		96.5%				
Recovered Ounces		5,774				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$9,238,028				
Treatment Charges $1.6 per ounce		-$9,238				
Royalties 2.25%		-$208,063				
Gross Revenue from Level		**$9,020,726**				
Total Operating Costs		$6,211,840				
Net Revenue from Level		**$2,808,887**				
Total Capital Costs		$1,824,363				
Net Cash from Level		**$984,524**				

Timmins Deposit

990 to 970 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	25,614					
Mined Grade	3.3					
Capital Cost						
Ramp to 990 Level		m	153	$2,581	$394,893	
990 Level Access, Sump, Elec Sub		m	179	$2,581	$461,999	
990 Level Other Capital Development		m	0		$0	
990 Level Waste Haulage to Backfill Stope		t	11,620	$2.1	$24,402	Assume 50%
990 Level Waste Haulage to Shaft		t	11,620	$7.5	$87,266	
990 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
990 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
990 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,110,870**	
Operating Cost						
990 Level Operating Waste Development		m	145	$2,438	$353,510	
990 Level Ore Development		m	60	$2,438	$146,280	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	22,926	$50.8	$1,164,182	
Waste Haulage to Backfill Stope (50%)		t	3,248	$2.1	$6,821	
Waste Haulage to Shaft		t	3,248	$7.5	$24,392	
Ore Haulage to Shaft		t	25,614	$7.5	$192,361	
Indirect Costs		t	25,614	$45.9	$1,174,910	
Surface Hauling and Milling Cost		t	25,614	$28.7	$735,122	
Total Operating Cost					**$3,797,579**	
Evaluation			**Value**			
Ounces Mined			2,718			
Mill Recovery			96.5%			
Recovered Ounces			2,622			
Gold Price $US			$1,600			
FX $CDN/$US			1.000			
Total Sales			$4,195,941			
Treatment Charges $1.6 per ounce			-$4,196			
Royalties 2.25%			-$94,503			
Gross Revenue from Level			**$4,097,242**			
Total Operating Costs			$3,797,579			
Net Revenue from Level			**$299,664**			
Total Capital Costs			$1,110,870			
Net Cash from Level			**-$811,207**			

Timmins Deposit

1010 to 990 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	0					
Mined Grade	0.0					
Capital Cost						
Ramp to 1010 Level		m	153	$2,581	$394,893	
1010 Level Access, Sump, Elec Sub		m	86	$2,581	$221,966	
1010 Level Other Capital Development		m	0		$0	
1010 Level Waste Haulage to Backfill Stope		t	8,365	$2.1	$17,567	Assume 50%
1010 Level Waste Haulage to Shaft		t	8,365	$7.9	$65,833	
1010 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1010 Ventilation Bulkheads/Walls		ea	1	$21,410	$21,410	
1010 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$799,748**	
Operating Cost						
1010 Level Operating Waste Development		m	0	$2,438	$0	
1010 Level Ore Development		m	0	$2,438	$0	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	0	$2.1	$0	
Waste Haulage to Shaft		t	0	$7.9	$0	
Ore Haulage to Shaft		t	0	$7.9	$0	
Indirect Costs		t	0	$45.9	$0	
Surface Hauling and Milling Cost		t	0	$28.7	$0	
Total Operating Cost					**$0**	
Evaluation			**Value**			
Ounces Mined			0			
Mill Recovery			96.5%			
Recovered Ounces			0			
Gold Price $US			$1,600			
FX $CDN/$US			1.000			
Total Sales			$0			
Treatment Charges $1.6 per ounce			$0			
Royalties 2.25%			$0			
Gross Revenue from Level			**$0**			
Total Operating Costs			$0			
Net Revenue from Level			**$0**			
Total Capital Costs			$799,748			
Net Cash from Level			**-$799,748**			

Timmins Deposit

1030 to 1010 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	0					
Mined Grade	0.0					
Capital Cost						
Ramp to 1030 Level		m	153	$2,581	$394,893	
1030 Level Access, Sump, Elec Sub		m	86	$2,581	$221,966	
1030 Level Other Capital Development		m	0		$0	
1030 Level Waste Haulage to Backfill Stope		t	8,365	$2.1	$17,567	Assume 50%
1030 Level Waste Haulage to Shaft		t	8,365	$8.2	$68,844	
1030 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1030 Ventilation Bulkheads/Walls		ea	1	$21,410	$21,410	
1030 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$802,759**	
Operating Cost						
1030 Level Operating Waste Development		m	0	$2,438	$0	
1030 Level Ore Development		m	0	$2,438	$0	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	0	$2.1	$0	
Waste Haulage to Shaft		t	0	$8.2	$0	
Ore Haulage to Shaft		t	0	$8.2	$0	
Indirect Costs		t	0	$45.9	$0	
Surface Hauling and Milling Cost		t	0	$28.7	$0	
Total Operating Cost					**$0**	
Evaluation					**Value**	
Ounces Mined					0	
Mill Recovery					96.5%	
Recovered Ounces					0	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$0	
Treatment Charges $1.6 per ounce					$0	
Royalties 2.25%					$0	
Gross Revenue from Level					**$0**	
Total Operating Costs					$0	
Net Revenue from Level					**$0**	
Total Capital Costs					$802,759	
Net Cash from Level					**-$802,759**	

Timmins Deposit

1050 to 1030 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	0					
Mined Grade	0.0					
Capital Cost						
Ramp to 1050 Level		m	153	$2,581	$394,893	
1050 Level Access, Sump, Elec Sub		m	537	$2,581	$1,385,997	1070L Stopes O/C & DD Drift
1050 Level Other Capital Development		m	0		$0	
1050 Level Waste Haulage to Backfill Stope		t	24,150	$2.1	$50,715	Assume 50%
1050 Level Waste Haulage to Shaft		t	24,150	$8.6	$207,449	
1050 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1050 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1050 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$2,181,364**	
Operating Cost						
1050 Level Operating Waste Development		m	42	$2,438	$102,396	1070L Stopes Overcut
1050 Level Ore Development		m	79	$2,438	$192,602	1070L Stopes Overcut
Longhole Stope Production		t	-1,770	$34.9	-$61,724	
MCAF Stope Production		t	-1,770	$50.8	-$89,860	
Waste Haulage to Backfill Stope (50%)		t	941	$2.1	$1,976	
Waste Haulage to Shaft		t	941	$8.6	$8,081	
Ore Haulage to Shaft		t	0	$8.6	$0	
Indirect Costs		t	0	$45.9	$0	
Surface Hauling and Milling Cost		t	0	$28.7	$0	
Total Operating Cost					**$153,471**	
Evaluation					**Value**	
Ounces Mined					0	
Mill Recovery					96.5%	
Recovered Ounces					0	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$0	
Treatment Charges $1.6 per ounce					$0	
Royalties 2.25%					$0	
Gross Revenue from Level					**$0**	
Total Operating Costs					$153,471	
Net Revenue from Level					**-$153,471**	
Total Capital Costs					$2,181,364	
Net Cash from Level					**-$2,334,835**	

Timmins Deposit

1070 to 1050 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**44,112**					
Mined Grade	**6.2**					
Capital Cost						
Ramp to 1070 Level		m	153	$2,581	$394,893	
1070 Level Access, Sump, Elec Sub		m	186	$2,581	$480,066	
1070 Level Other Capital Development		m	0		$0	
1070 Level Waste Haulage to Backfill Stope		t	11,865	$2.1	$24,917	Assume 50%
1070 Level Waste Haulage to Shaft		t	11,865	$9.3	$109,751	
1070 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1070 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1070 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,151,937**	
Operating Cost						
1070 Level Operating Waste Development		m	38	$2,438	$92,644	
1070 Level Ore Development		m	159	$2,438	$387,642	
Longhole Stope Production		t	36,989	$34.9	$1,290,169	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	851	$2.1	$1,788	
Waste Haulage to Shaft		t	851	$9.3	$7,874	
Ore Haulage to Shaft		t	44,112	$9.3	$408,036	
Indirect Costs		t	44,112	$45.9	$2,023,410	
Surface Hauling and Milling Cost		t	44,112	$28.7	$1,266,014	
Total Operating Cost					**$5,477,577**	
Evaluation		**Value**				
Ounces Mined		8,793				
Mill Recovery		96.5%				
Recovered Ounces		8,485				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$13,576,458				
Treatment Charges $1.6 per ounce		-$13,576				
Royalties 2.25%		-$305,776				
Gross Revenue from Level		**$13,257,106**				
Total Operating Costs		$5,477,577				
Net Revenue from Level		**$7,779,528**				
Total Capital Costs		$1,151,937				
Net Cash from Level		**$6,627,592**				

Timmins Deposit

1090 to 1070 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**55,927**					
Mined Grade	**8.5**					
Capital Cost						
Ramp to 1090 Level		m	153	$2,777	$424,881	
1090 Level Access, Sump, Elec Sub		m	204	$2,777	$566,508	
1090 Level Other Capital Development		m	0		$0	
1090 Level Waste Haulage to Backfill Stope		t	12,495	$2.1	$26,240	Assume 50%
1090 Level Waste Haulage to Shaft		t	12,495	$9.5	$118,328	
1090 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1090 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1090 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,278,266**	
Operating Cost						
1090 Level Operating Waste Development		m	36	$2,634	$94,824	
1090 Level Ore Development		m	169	$2,634	$445,146	
Longhole Stope Production		t	48,356	$34.9	$1,686,650	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	806	$2.1	$1,693	
Waste Haulage to Shaft		t	806	$9.5	$7,637	
Ore Haulage to Shaft		t	55,927	$9.5	$529,629	
Indirect Costs		t	55,927	$45.9	$2,565,362	
Surface Hauling and Milling Cost		t	55,927	$28.7	$1,605,105	
Total Operating Cost					**$6,936,046**	
Evaluation		**Value**				
Ounces Mined		15,284				
Mill Recovery		96.5%				
Recovered Ounces		14,749				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$23,598,179				
Treatment Charges $1.6 per ounce		-$23,598				
Royalties 2.25%		-$531,490				
Gross Revenue from Level		**$23,043,090**				
Total Operating Costs		$6,936,046				
Net Revenue from Level		**$16,107,044**				
Total Capital Costs		$1,278,266				
Net Cash from Level		**$14,828,778**				

Timmins Deposit

1110 to 1090 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	47,240					
Mined Grade	5.8					
Capital Cost						
Ramp to 1110 Level		m	153	$2,777	$424,881	
1110 Level Access, Sump, Elec Sub		m	175	$2,777	$485,975	
1110 Level Other Capital Development		m	0		$0	
1110 Level Waste Haulage to Backfill Stope		t	11,480	$2.1	$24,108	Assume 50%
1110 Level Waste Haulage to Shaft		t	11,480	$9.8	$112,963	
1110 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1110 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1110 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,190,237**	
Operating Cost						
1110 Level Operating Waste Development		m	54	$2,634	$142,236	
1110 Level Ore Development		m	108	$2,634	$284,472	
Longhole Stope Production		t	42,402	$34.9	$1,478,968	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	1,210	$2.1	$2,540	
Waste Haulage to Shaft		t	1,210	$9.8	$11,902	
Ore Haulage to Shaft		t	47,240	$9.8	$464,842	
Indirect Costs		t	47,240	$45.9	$2,166,891	
Surface Hauling and Milling Cost		t	47,240	$28.7	$1,355,788	
Total Operating Cost					**$5,907,639**	
Evaluation		**Value**				
Ounces Mined		8,809				
Mill Recovery		96.5%				
Recovered Ounces		8,501				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$13,601,159				
Treatment Charges $1.6 per ounce		-$13,601				
Royalties 2.25%		-$306,332				
Gross Revenue from Level		**$13,281,226**				
Total Operating Costs		$5,907,639				
Net Revenue from Level		**$7,373,587**				
Total Capital Costs		$1,190,237				
Net Cash from Level		**$6,183,349**				

Timmins Deposit

1130 to 1110 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	45,825					
Mined Grade	4.5					
Capital Cost						
Ramp to 1130 Level		m	153	$2,777	$424,881	
1130 Level Access, Sump, Elec Sub		m	400	$2,777	$1,110,800	
1130 Level Other Capital Development		m	0		$0	
1130 Level Waste Haulage to Backfill Stope		t	19,355	$2.1	$40,646	Assume 50%
1130 Level Waste Haulage to Shaft		t	19,355	$10.0	$193,550	
1130 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1130 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1130 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,912,187**	
Operating Cost						
1130 Level Operating Waste Development		m	100	$2,634	$263,400	
1130 Level Ore Development		m	116	$2,634	$305,544	
Longhole Stope Production		t	0	$34.9	$0	
MCAF Stope Production		t	40,628	$50.8	$2,063,100	
Waste Haulage to Backfill Stope (50%)		t	2,240	$2.1	$4,704	
Waste Haulage to Shaft		t	2,240	$10.0	$22,400	
Ore Haulage to Shaft		t	45,825	$10.0	$458,250	
Indirect Costs		t	45,825	$45.9	$2,101,985	
Surface Hauling and Milling Cost		t	45,825	$28.7	$1,315,178	
Total Operating Cost					**$6,534,561**	
Evaluation		**Value**				
Ounces Mined		6,630				
Mill Recovery		96.5%				
Recovered Ounces		6,398				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$10,236,536				
Treatment Charges $1.6 per ounce		-$10,237				
Royalties 2.25%		-$230,552				
Gross Revenue from Level		**$9,995,747**				
Total Operating Costs		$6,534,561				
Net Revenue from Level		**$3,461,186**				
Total Capital Costs		$1,912,187				
Net Cash from Level		**$1,549,000**				

Timmins Deposit

1150 to 1130 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	44,466					
Mined Grade	3.2					
Capital Cost						
Ramp to 1150 Level		m	153	$2,777	$424,881	
1150 Level Access, Sump, Elec Sub		m	192	$2,777	$533,184	
1150 Level Other Capital Development		m	0		$0	
1150 Level Waste Haulage to Backfill Stope		t	12,075	$2.1	$25,358	Assume 50%
1150 Level Waste Haulage to Shaft		t	12,075	$10.4	$125,218	
1150 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1150 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1150 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,250,950**	
Operating Cost						
1150 Level Operating Waste Development		m	116	$2,634	$305,544	
1150 Level Ore Development		m	70	$2,634	$184,380	
Longhole Stope Production		t	41,330	$34.9	$1,441,590	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	2,598	$2.1	$5,457	
Waste Haulage to Shaft		t	2,598	$10.4	$26,945	
Ore Haulage to Shaft		t	44,466	$10.4	$461,112	
Indirect Costs		t	44,466	$45.9	$2,039,648	
Surface Hauling and Milling Cost		t	44,466	$28.7	$1,276,174	
Total Operating Cost					**$5,740,851**	
Evaluation					**Value**	
Ounces Mined					4,575	
Mill Recovery					96.5%	
Recovered Ounces					4,415	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$7,063,437	
Treatment Charges $1.6 per ounce					-$7,063	
Royalties 2.25%					-$159,086	
Gross Revenue from Level					**$6,897,287**	
Total Operating Costs					$5,740,851	
Net Revenue from Level					**$1,156,436**	
Total Capital Costs					$1,250,950	
Net Cash from Level					**-$94,514**	

Timmins Deposit

1170 to 1150 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	12,763					
Mined Grade	11.9					
Capital Cost						
Ramp to 1170 Level		m	153	$2,777	$424,881	
1170 Level Access, Sump, Elec Sub		m	253	$2,777	$702,581	
1170 Level Other Capital Development		m	0		$0	
1170 Level Waste Haulage to Backfill Stope		t	14,210	$2.1	$29,841	Assume 50%
1170 Level Waste Haulage to Shaft		t	14,210	$10.7	$152,615	
1170 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1170 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1170 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,452,228**	
Operating Cost						
1170 Level Operating Waste Development		m	27	$2,634	$71,118	
1170 Level Ore Development		m	75	$2,634	$197,550	
Longhole Stope Production		t	9,403	$34.9	$327,977	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	605	$2.1	$1,270	
Waste Haulage to Shaft		t	605	$10.7	$6,496	
Ore Haulage to Shaft		t	12,763	$10.7	$137,075	
Indirect Costs		t	12,763	$45.9	$585,437	
Surface Hauling and Milling Cost		t	12,763	$28.7	$366,298	
Total Operating Cost					**$1,693,220**	
Evaluation					**Value**	
Ounces Mined					4,883	
Mill Recovery					96.5%	
Recovered Ounces					4,712	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$7,539,417	
Treatment Charges $1.6 per ounce					-$7,539	
Royalties 2.25%					-$169,807	
Gross Revenue from Level					**$7,362,071**	
Total Operating Costs					$1,693,220	
Net Revenue from Level					**$5,668,851**	
Total Capital Costs					$1,452,228	
Net Cash from Level					**$4,216,623**	

Timmins Deposit

1190 to 1170 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	15,849					
Mined Grade	20.0					
Capital Cost						
Ramp to 1190 Level		m	153	$2,777	$424,881	
1190 Level Access, Sump, Elec Sub		m	196	$2,777	$544,292	
1190 Level Other Capital Development		m	0		$0	
1190 Level Waste Haulage to Backfill Stope		t	12,215	$2.1	$25,652	Assume 50%
1190 Level Waste Haulage to Shaft		t	12,215	$11.1	$135,831	
1190 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1190 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1190 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,272,965**	
Operating Cost						
1190 Level Operating Waste Development		m	25	$2,634	$65,850	
1190 Level Ore Development		m	104	$2,634	$273,936	
Longhole Stope Production		t	11,190	$34.9	$390,300	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	560	$2.1	$1,176	
Waste Haulage to Shaft		t	560	$11.1	$6,227	
Ore Haulage to Shaft		t	15,849	$11.1	$176,241	
Indirect Costs		t	15,849	$45.9	$726,991	
Surface Hauling and Milling Cost		t	15,849	$28.7	$454,866	
Total Operating Cost					**$2,095,588**	
Evaluation		**Value**				
Ounces Mined		10,191				
Mill Recovery		96.5%				
Recovered Ounces		9,834				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$15,735,114				
Treatment Charges $1.6 per ounce		-$15,735				
Royalties 2.25%		-$354,394				
Gross Revenue from Level		**$15,364,985**				
Total Operating Costs		$2,095,588				
Net Revenue from Level		**$13,269,397**				
Total Capital Costs		$1,272,965				
Net Cash from Level		**$11,996,432**				

Timmins Deposit

1210 to 1190 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	40,214					
Mined Grade	4.5					
Capital Cost						
Ramp to 1210 Level		m	153	$2,777	$424,881	
1210 Level Access, Sump, Elec Sub		m	538	$2,777	$1,494,026	
1210 Level Other Capital Development		m	0		$0	
1210 Level Waste Haulage to Backfill Stope		t	24,185	$2.1	$50,789	Assume 50%
1210 Level Waste Haulage to Shaft		t	24,185	$11.5	$277,886	
1210 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1210 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1210 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$2,389,891**	
Operating Cost						
1210 Level Operating Waste Development		m	68	$2,634	$179,112	
1210 Level Ore Development		m	117	$2,634	$308,178	
Longhole Stope Production		t	34,972	$34.9	$1,219,837	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	1,523	$2.1	$3,199	
Waste Haulage to Shaft		t	1,523	$11.5	$17,502	
Ore Haulage to Shaft		t	40,214	$11.5	$462,059	
Indirect Costs		t	40,214	$45.9	$1,844,610	
Surface Hauling and Milling Cost		t	40,214	$28.7	$1,154,142	
Total Operating Cost					**$5,188,638**	
Evaluation		**Value**				
Ounces Mined		5,818				
Mill Recovery		96.5%				
Recovered Ounces		5,614				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$8,983,133				
Treatment Charges $1.6 per ounce		-$8,983				
Royalties 2.25%		-$202,323				
Gross Revenue from Level		**$8,771,827**				
Total Operating Costs		$5,188,638				
Net Revenue from Level		**$3,583,189**				
Total Capital Costs		$2,389,891				
Net Cash from Level		**$1,193,298**				

Timmins Deposit

1230 to 1210 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	41,466					
Mined Grade	4.1					
Capital Cost						
Ramp to 1230 Level		m	153	$2,777	$424,881	
1230 Level Access, Sump, Elec Sub		m	224	$2,777	$622,048	
1230 Level Other Capital Development		m	0		$0	
1230 Level Waste Haulage to Backfill Stope		t	13,195	$2.1	$27,710	Assume 50%
1230 Level Waste Haulage to Shaft		t	13,195	$11.9	$156,493	
1230 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1230 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1230 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,373,441**	
Operating Cost						
1230 Level Operating Waste Development		m	31	$2,634	$81,654	
1230 Level Ore Development		m	88	$2,634	$231,792	
Longhole Stope Production		t	37,524	$34.9	$1,308,823	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	694	$2.1	$1,458	
Waste Haulage to Shaft		t	694	$11.9	$8,236	
Ore Haulage to Shaft		t	41,466	$11.9	$491,787	
Indirect Costs		t	41,466	$45.9	$1,902,039	
Surface Hauling and Milling Cost		t	41,466	$28.7	$1,190,074	
Total Operating Cost					**$5,215,863**	

Evaluation	Value
Ounces Mined	5,466
Mill Recovery	96.5%
Recovered Ounces	5,275
Gold Price $US	$1,600
FX $CDN/$US	1.000
Total Sales	$8,439,448
Treatment Charges $1.6 per ounce	-$8,439
Royalties 2.25%	-$190,077
Gross Revenue from Level	**$8,240,931**
Total Operating Costs	$5,215,863
Net Revenue from Level	**$3,025,068**
Total Capital Costs	$1,373,441
Net Cash from Level	**$1,651,627**

Timmins Deposit

1250 to 1230 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	33,319					
Mined Grade	11.2					
Capital Cost						
Ramp to 1250 Level		m	153	$2,777	$424,881	
1250 Level Access, Sump, Elec Sub		m	215	$2,777	$597,055	
1250 Level Other Capital Development		m	0		$0	
1250 Level Waste Haulage to Backfill Stope		t	12,880	$2.1	$27,048	Assume 50%
1250 Level Waste Haulage to Shaft		t	12,880	$12.2	$157,522	
1250 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1250 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1250 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,348,816**	
Operating Cost						
1250 Level Operating Waste Development		m	15	$2,634	$39,510	
1250 Level Ore Development		m	143	$2,634	$376,662	
Longhole Stope Production		t	26,913	$34.9	$938,711	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	336	$2.1	$706	
Waste Haulage to Shaft		t	336	$12.2	$4,109	
Ore Haulage to Shaft		t	33,319	$12.2	$407,491	
Indirect Costs		t	33,319	$45.9	$1,528,337	
Surface Hauling and Milling Cost		t	33,319	$28.7	$956,255	
Total Operating Cost					**$4,251,782**	

Evaluation	Value
Ounces Mined	11,998
Mill Recovery	96.5%
Recovered Ounces	11,578
Gold Price $US	$1,600
FX $CDN/$US	1.000
Total Sales	$18,524,565
Treatment Charges $1.6 per ounce	-$18,525
Royalties 2.25%	-$417,220
Gross Revenue from Level	**$18,088,821**
Total Operating Costs	$4,251,782
Net Revenue from Level	**$13,837,039**
Total Capital Costs	$1,348,816
Net Cash from Level	**$12,488,222**

Timmins Deposit

1270 to 1250 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	41,793					
Mined Grade	7.3					
Capital Cost						
Ramp to 1270 Level		m	153	$2,777	$424,881	
1270 Level Access, Sump, Elec Sub		m	192	$2,777	$533,184	
1270 Level Other Capital Development		m	0		$0	
1270 Level Waste Haulage to Backfill Stope		t	12,075	$2.1	$25,358	Assume 50%
1270 Level Waste Haulage to Shaft		t	12,075	$12.6	$152,266	
1270 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1270 Ventilation Bulkheads/Walls		ea	3	$21,410	$64,230	
1270 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,277,998**	
Operating Cost						
1270 Level Operating Waste Development		m	45	$2,634	$118,530	
1270 Level Ore Development		m	134	$2,634	$352,956	
Longhole Stope Production		t	35,790	$34.9	$1,248,348	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	1,008	$2.1	$2,117	
Waste Haulage to Shaft		t	1,008	$12.6	$12,711	
Ore Haulage to Shaft		t	41,793	$12.6	$527,010	
Indirect Costs		t	41,793	$45.9	$1,917,038	
Surface Hauling and Milling Cost		t	41,793	$28.7	$1,199,459	
Total Operating Cost					**$5,378,169**	
Evaluation		**Value**				
Ounces Mined		9,809				
Mill Recovery		96.5%				
Recovered Ounces		9,466				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$15,144,831				
Treatment Charges $1.6 per ounce		-$15,145				
Royalties 2.25%		-$341,099				
Gross Revenue from Level		**$14,788,587**				
Total Operating Costs		$5,378,169				
Net Revenue from Level		**$9,410,418**				
Total Capital Costs		$1,277,998				
Net Cash from Level		**$8,132,420**				

Timmins Deposit

1290 to 1270 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	40,647					
Mined Grade	6.0					
Capital Cost						
Ramp to 1290 Level		m	153	$2,777	$424,881	
1290 Level Access, Sump, Elec Sub		m	158	$2,777	$438,766	
1290 Level Other Capital Development		m	0		$0	
1290 Level Waste Haulage to Backfill Stope		t	10,885	$2.1	$22,859	Assume 50%
1290 Level Waste Haulage to Shaft		t	10,885	$13.0	$141,287	
1290 Ramp FAR/Escapeway		m	16	$4,880	$78,080	
1290 Ventilation Bulkheads/Walls		ea	1	$21,410	$21,410	
1290 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,127,283**	
Operating Cost						
1290 Level Operating Waste Development		m	44	$2,634	$115,896	
1290 Level Ore Development		m	100	$2,634	$263,400	
Longhole Stope Production		t	36,167	$34.9	$1,261,505	
MCAF Stope Production		t	0	$50.8	$0	
Waste Haulage to Backfill Stope (50%)		t	986	$2.1	$2,070	
Waste Haulage to Shaft		t	986	$13.0	$12,793	
Ore Haulage to Shaft		t	40,647	$13.0	$527,598	
Indirect Costs		t	40,647	$45.9	$1,864,471	
Surface Hauling and Milling Cost		t	40,647	$28.7	$1,166,569	
Total Operating Cost					**$5,214,302**	
Evaluation		**Value**				
Ounces Mined		7,841				
Mill Recovery		96.5%				
Recovered Ounces		7,567				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$12,106,477				
Treatment Charges $1.6 per ounce		-$12,106				
Royalties 2.25%		-$272,668				
Gross Revenue from Level		**$11,821,702**				
Total Operating Costs		$5,214,302				
Net Revenue from Level		**$6,607,400**				
Total Capital Costs		$1,127,283				
Net Cash from Level		**$5,480,118**				

Thunder Creek

800 to 765 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	102,335					
Mined Grade	4.02					
Capital Cost						
Ramp to 800 Level		m	285	$2,428	$691,980	
800 Level Access, Sump, Elec Sub		m	69	$2,428	$167,532	
800 Level FW/Haulage Drift		m	122	$2,428	$296,216	
800 Level Drawpoints		m	30	$2,428	$72,840	
800 Level OP Access		m	57	$2,428	$138,396	
800 Level WP Access		m	60	$2,428	$145,680	
800 Level FAR Access		m	35	$2,428	$84,980	
800 Level RAR Access		m	30	$2,428	$72,840	
800 Level Other Capital Development		m	12	$2,428	$29,136	Refuge Station
800 Level Waste Haulage to Backfill Stope		t	24,500	$2.1	$51,450	Assume 50%
800 Level Waste Haulage 800L to Shaft		t	24,500	$2.8	$68,600	
800 Level OP and WP Dumps		ea			$0	
800 Level Other Construction		ea			$0	
800 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,819,650**	
Operating Cost						
800 Level Operating Waste Development		m	279	$2,285	$637,515	
800 Level Ore Development		m	155	$2,285	$354,175	
Longhole Stope Production		t	95,391	$21.8	$2,074,754	
Waste Haulage to Backfill Stope (50%)		t	9,765	$2.1	$20,507	
Waste Haulage from 800L to Shaft		t	9,765	$2.8	$27,342	
Ore Haulage from 800L to Shaft		t	102,335	$2.1	$214,904	
Indirect Costs		t	102,335	$45.9	$4,694,090	
Surface Hauling and Milling Cost		t	102,335	$28.7	$2,937,015	
Total Operating Cost					**$10,960,301**	
Evaluation		**Value**				
Ounces Mined		13,226				
Mill Recovery		96.5%				
Recovered Ounces		12,763				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$20,421,530				
Treatment Charges $1.6 per ounce		-$20,422				
Royalties 3.25%		-$664,363				
Gross Revenue from Level		**$19,736,745**				
Total Operating Costs		$10,960,301				
Net Revenue from Level		**$8,776,445**				
Total Capital Costs		$1,819,650				
Net Cash from Level		**$6,956,795**				

Thunder Creek

765 to 730 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	509,044					
Mined Grade	4.84					
Capital Cost						
Ramp to 765 Level		m	285	$2,428	$691,980	
765 Level Access, Sump, Elec Sub		m	83	$2,428	$201,524	
765 Level FW/Haulage Drift		m	122	$2,428	$296,216	
765 Level Drawpoints		m	90	$2,428	$218,520	
765 Level OP Access		m	55	$2,428	$133,540	
765 Level WP Access		m	59	$2,428	$143,252	
765 Level FAR Access		m	35	$2,428	$84,980	
765 Level RAR Access		m	50	$2,428	$121,400	
765 Level Other Capital Development		m	12	$2,428	$29,136	Ref Sta
765 Level Waste Haulage to Backfill Stope		t	27,685	$2.1	$58,139	Assume 50%
765 Level Waste Haulage 800L to Shaft		t	27,685	$2.8	$77,518	
765 Level OP and WP Dumps		ea			$0	
765 Level Other Construction		ea			$0	
765 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$2,056,205**	
Operating Cost						
765 Level Operating Waste Development		m	815	$2,285	$1,862,275	
765 Level Ore Development		m	233	$2,285	$532,405	
Longhole Stope Production		t	498,606	$21.8	$10,844,672	
Waste Haulage to Backfill Stope (50%)		t	28,525	$2.1	$59,903	
Waste Haulage from 800L to Shaft		t	28,525	$2.8	$79,870	
Ore Haulage from 800L to Shaft		t	509,044	$2.8	$1,425,323	
Indirect Costs		t	509,044	$45.9	$23,349,765	
Surface Hauling and Milling Cost		t	509,044	$28.7	$14,609,563	
Total Operating Cost					**$52,763,776**	
Evaluation		**Value**				
Ounces Mined		79,212				
Mill Recovery		96.5%				
Recovered Ounces		76,440				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$122,303,453				
Treatment Charges $1.6 per ounce		-$122,303				
Royalties 3.25%		-$3,978,837				
Gross Revenue from Level		**$118,202,312**				
Total Operating Costs		$52,763,776				
Net Revenue from Level		**$65,438,537**				
Total Capital Costs		$2,056,205				
Net Cash from Level		**$63,382,332**				

Thunder Creek

730 to 695 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**550,077**					
Mined Grade	**4.75**					
Capital Cost						
Ramp to 730 Level		m	285	$2,428	$691,980	
730 Level Access, Sump, Elec Sub		m	44	$2,428	$106,832	
730 Level FW/Haulage Drift		m	130	$2,428	$315,640	
730 Level Drawpoints		m	60	$2,428	$145,680	
730 Level OP Access		m	44	$2,428	$106,832	
730 Level WP Access		m	42	$2,428	$101,976	
730 Level FAR Access		m	45	$2,428	$109,260	
730 Level RAR Access		m	55	$2,428	$133,540	
730 Level Other Capital Development		m		$2,428	$0	
730 Level Waste Haulage to Backfill Stope		t	24,675	$2.1	$51,818	Assume 50%
730 Level Waste Haulage 800L to Shaft		t	24,675	$2.8	$69,090	
730 Level OP and WP Dumps		ea	2	$38,308	$76,616	
730 Level Other Construction		ea			$0	
730 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,909,264**	
Operating Cost						
730 Level Operating Waste Development		m	210	$2,285	$479,850	
730 Level Ore Development		m	221	$2,285	$504,985	
Longhole Stope Production		t	540,176	$21.8	$11,748,832	
Waste Haulage to Backfill Stope (50%)		t	7,350	$2.1	$15,435	
Waste Haulage from 800L to Shaft		t	7,350	$2.8	$20,580	
Ore Haulage from 800L to Shaft		t	550,077	$2.1	$1,155,162	
Indirect Costs		t	550,077	$45.9	$25,231,942	
Surface Hauling and Milling Cost		t	550,077	$28.7	$15,787,210	
Total Operating Cost					**$54,943,996**	
Evaluation		**Value**				
Ounces Mined		84,006				
Mill Recovery		96.5%				
Recovered Ounces		81,065				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$129,704,526				
Treatment Charges $1.6 per ounce		-$129,705				
Royalties 3.25%		-$4,219,612				
Gross Revenue from Level		**$125,355,209**				
Total Operating Costs		$54,943,996				
Net Revenue from Level		**$70,411,213**				
Total Capital Costs		$1,909,264				
Net Cash from Level		**$68,501,949**				

Thunder Creek

695 to 660 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	**433,939**					
Mined Grade	**5.97**					
Capital Cost						
Ramp to 695 Level		m	285	$2,428	$691,980	
695 Level Access, Sump, Elec Sub		m	62	$2,428	$150,536	
695 Level FW/Haulage Drift		m	130	$2,428	$315,640	
695 Level Drawpoints		m	60	$2,428	$145,680	
695 Level OP Access		m	48	$2,428	$116,544	
695 Level WP Access		m	56	$2,428	$135,968	
695 Level FAR Access		m	35	$2,428	$84,980	
695 Level RAR Access		m	62	$2,428	$150,536	
695 Level Other Capital Development		m	184	$2,428	$446,752	
695 Level Waste Haulage to Backfill Stope		t	32,270	$2.1	$67,767	Assume 50%
695 Level Waste Haulage 800L to Shaft		t	32,270	$2.8	$90,356	
695 Level OP and WP Dumps		ea	2	$38,308	$76,616	
695 Ventilation Bulkheads/Walls		ea	2	$21,410	$42,820	
695 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$2,516,175**	
Operating Cost						
695 Level Operating Waste Development		m	863	$2,285	$1,971,955	
695 Level Ore Development		m	439	$2,285	$1,003,115	
Longhole Stope Production		t	414,272	$21.8	$9,010,412	
Waste Haulage to Backfill Stope (50%)		t	30,205	$2.1	$63,431	
Waste Haulage from 800L to Shaft		t	30,205	$2.8	$84,574	
Ore Haulage from 800L to Shaft		t	433,939	$2.1	$911,272	
Indirect Costs		t	433,939	$45.9	$19,904,711	
Surface Hauling and Milling Cost		t	433,939	$28.7	$12,454,049	
Total Operating Cost					**$45,403,519**	
Evaluation		**Value**				
Ounces Mined		83,290				
Mill Recovery		96.5%				
Recovered Ounces		80,375				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$128,600,024				
Treatment Charges $1.6 per ounce		-$128,600				
Royalties 3.25%		-$4,183,680				
Gross Revenue from Level		**$124,287,744**				
Total Operating Costs		$45,403,519				
Net Revenue from Level		**$78,884,225**				
Total Capital Costs		$2,516,175				
Net Cash from Level		**$76,368,050**				

Thunder Creek

660 to 625 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	357,515					
Mined Grade	5.06					
Capital Cost						
Ramp to 660 Level		m	285	$2,428	$691,980	
660 Level Access, Sump, Elec Sub		m	67	$2,428	$162,676	
660 Level FW/Haulage Drift		m	126	$2,428	$305,928	
660 Level Drawpoints		m	120	$2,428	$291,360	
660 Level OP Access		m	59	$2,428	$143,252	
660 Level WP Access		m	59	$2,428	$143,252	
660 Level FAR Access		m	49	$2,428	$118,972	
660 Level RAR Access		m	85	$2,428	$206,380	
660 Level Other Capital Development		m	12	$2,428	$29,136	Ref Sta
660 Level Waste Haulage to Backfill Stope		t	30,170	$2.1	$63,357	Assume 50%
660 Level Waste Haulage 800L to Shaft		t	30,170	$2.8	$84,476	
660 Level OP and WP Dumps		ea	2	$38,308	$76,616	
660 Ventilation Bulkheads/Walls		ea	2	$21,410	$42,820	
660 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$2,360,205**	
Operating Cost						
660 Level Operating Waste Development		m	876	$2,285	$2,001,660	
660 Level Ore Development		m	275	$2,285	$628,375	
Longhole Stope Production		t	345,195	$21.8	$7,507,991	
Waste Haulage to Backfill Stope (50%)		t	30,660	$2.1	$64,386	
Waste Haulage from 800L to Shaft		t	30,660	$2.8	$85,848	
Ore Haulage from 800L to Shaft		t	357,515	$2.1	$750,782	
Indirect Costs		t	357,515	$45.9	$16,399,155	
Surface Hauling and Milling Cost		t	357,515	$28.7	$10,260,681	
Total Operating Cost					**$37,698,877**	
Evaluation		**Value**				
Ounces Mined		58,161				
Mill Recovery		96.5%				
Recovered Ounces		56,126				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$89,801,340				
Treatment Charges $1.6 per ounce		-$89,801				
Royalties 3.25%		-$2,921,462				
Gross Revenue from Level		**$86,790,077**				
Total Operating Costs		$37,698,877				
Net Revenue from Level		**$49,091,200**				
Total Capital Costs		$2,360,205				
Net Cash from Level		**$46,730,995**				

Thunder Creek

625 to 590 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	397,371					
Mined Grade	4.43					
Capital Cost						
Ramp to 625 Level		m	285	$2,428	$691,980	
625 Level Access, Sump, Elec Sub		m	56	$2,428	$135,968	
625 Level FW/Haulage Drift		m	158	$2,428	$383,624	
625 Level Drawpoints		m	135	$2,428	$327,780	
625 Level OP Access		m	69	$2,428	$167,532	
625 Level WP Access		m	69	$2,428	$167,532	
625 Level FAR Access		m	55	$2,428	$133,540	
625 Level RAR Access		m	88	$2,428	$213,664	
625 Level Other Capital Development		m	12	$2,428	$29,136	Ref Sta
625 Level Waste Haulage to Backfill Stope		t	32,445	$2.1	$68,135	Assume 50%
625 Level Waste Haulage 800L to Shaft		t	32,445	$2.8	$90,846	
625 Level OP and WP Dumps		ea	2	$38,308	$76,616	
625 Ventilation Bulkheads/Walls		ea	2	$21,410	$42,820	
625 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$2,529,173**	
Operating Cost						
625 Level Operating Waste Development		m	680	$2,285	$1,553,800	
625 Level Ore Development		m	306	$2,285	$699,210	
Longhole Stope Production		t	383,662	$21.8	$8,344,653	
Waste Haulage to Backfill Stope (50%)		t	23,800	$2.1	$49,980	
Waste Haulage from 800L to Shaft		t	23,800	$2.8	$66,640	
Ore Haulage from 800L to Shaft		t	397,371	$2.1	$834,479	
Indirect Costs		t	397,371	$45.9	$18,227,343	
Surface Hauling and Milling Cost		t	397,371	$28.7	$11,404,548	
Total Operating Cost					**$41,180,653**	
Evaluation		**Value**				
Ounces Mined		56,597				
Mill Recovery		96.5%				
Recovered Ounces		54,616				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$87,385,209				
Treatment Charges $1.6 per ounce		-$87,385				
Royalties 3.25%		-$2,842,859				
Gross Revenue from Level		**$84,454,965**				
Total Operating Costs		$41,180,653				
Net Revenue from Level		**$43,274,312**				
Total Capital Costs		$2,529,173				
Net Cash from Level		**$40,745,139**				

Thunder Creek

590 to 555 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	73,215					
Mined Grade	3.4					
Capital Cost						
Ramp to 590 Level		m	285	$2,428	$691,980	
590 Level Access, Sump, Elec Sub		m	55	$2,428	$133,540	
590 Level FW/Haulage Drift		m	142	$2,428	$344,776	
590 Level Drawpoints		m	105	$2,428	$254,940	
590 Level OP Access		m	80	$2,428	$194,240	
590 Level WP Access		m	90	$2,428	$218,520	
590 Level FAR Access		m	60	$2,428	$145,680	
590 Level RAR Access		m	110	$2,428	$267,080	
590 Level Other Capital Development		m	12	$2,428	$29,136	Ref Sta
590 Level Waste Haulage to Backfill Stope		t	32,865	$2.1	$69,017	Assume 50%
590 Level Waste Haulage 800L to Shaft		t	32,865	$2.8	$92,022	
590 Level OP and WP Dumps		ea	2	$38,308	$76,616	
590 Ventilation Bulkheads/Walls		ea	2	$21,410	$42,820	
590 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$2,560,367**	
Operating Cost						
590 Level Operating Waste Development		m	443	$2,285	$1,012,255	
590 Level Ore Development		m	289	$2,285	$660,365	
Longhole Stope Production		t	60,268	$21.8	$1,310,825	
Waste Haulage to Backfill Stope (50%)		t	15,505	$2.1	$32,561	
Waste Haulage from 800L to Shaft		t	15,505	$2.8	$43,414	
Ore Haulage from 800L to Shaft		t	73,215	$2.1	$153,752	
Indirect Costs		t	73,215	$45.9	$3,358,360	
Surface Hauling and Milling Cost		t	73,215	$28.7	$2,101,271	
Total Operating Cost					**$8,672,801**	
Evaluation		**Value**				
Ounces Mined		8,003				
Mill Recovery		96.5%				
Recovered Ounces		7,723				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$12,357,113				
Treatment Charges $1.6 per ounce		-$12,357				
Royalties 3.25%		-$402,008				
Gross Revenue from Level		**$11,942,748**				
Total Operating Costs		$8,672,801				
Net Revenue from Level		**$3,269,947**				
Total Capital Costs		$2,560,367				
Net Cash from Level		**$709,580**				

Thunder Creek

555 to 520 Level (no mining)		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes						
Mined Grade						
Capital Cost						
Ramp to 555 Level		m	285	$2,428	$691,980	
555 Level Access, Sump, Elec Sub		m	56	$2,428	$135,968	
555 Level FW/Haulage Drift		m	81	$2,428	$196,668	
555 Level Drawpoints		m	30	$2,428	$72,840	
555 Level OP Access		m	0	$2,428	$0	
555 Level WP Access		m	71	$2,428	$172,388	
555 Level FAR Access		m	0	$2,428	$0	
555 Level RAR Access		m	0	$2,428	$0	
555 Level Other Capital Development		m	12	$2,428	$29,136	Ref Sta
555 Level Waste Haulage to Backfill Stope		t	18,725	$2.1	$39,323	Assume 50%
555 Level Waste Haulage 800L to Shaft		t	18,725	$2.8	$52,430	
555 Level OP and WP Dumps		ea	0	$38,308	$0	WP dump
555 Ventilation Bulkheads/Walls		ea	0	$21,410	$0	
555 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,390,733**	
Operating Cost						
555 Level Operating Waste Development		m	40	$2,285	$91,400	
555 Level Ore Development		m	44	$2,285	$100,540	
Longhole Stope Production		t	-1,971	$21.8	-$42,874	
Waste Haulage to Backfill Stope (50%)		t	1,400	$2.1	$2,940	
Waste Haulage from 800L to Shaft		t	1,400	$2.8	$3,920	
Ore Haulage from 800L to Shaft		t	0	$2.1	$0	
Indirect Costs		t	0	$45.9	$0	
Surface Hauling and Milling Cost		t	0	$28.7	$0	
Total Operating Cost					**$155,926**	
Evaluation		**Value**				
Ounces Mined		0				
Mill Recovery		96.5%				
Recovered Ounces		0				
Gold Price $US		$1,600				
FX $CDN/$US		1.000				
Total Sales		$0				
Treatment Charges $1.6 per ounce		$0				
Royalties 3.25%		$0				
Gross Revenue from Level		**$0**				
Total Operating Costs		$155,926				
Net Revenue from Level		**-$155,926**				
Total Capital Costs		$1,390,733				
Net Cash from Level		**-$1,546,659**				

Thunder Creek

520 to 485 Level (No mining)	Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes					
Mined Grade					
Capital Cost					
Ramp to 520 Level	m	285	$2,428	$691,980	
520 Level Access, Sump, Elec Sub	m	15	$2,428	$36,420	
520 Level FW/Haulage Drift	m		$2,428	$0	
520 Level Drawpoints	m		$2,428	$0	
520 Level OP Access	m		$2,428	$0	
520 Level WP Access	m		$2,428	$0	
520 Level FAR Access	m		$2,428	$0	
520 Level RAR Access	m		$2,428	$0	
520 Level Other Capital Development	m		$2,428	$0	
520 Level Waste Haulage to Backfill Stope	t	10,500	$2.1	$22,050	Assume 50%
520 Level Waste Haulage 800L to Shaft	t	10,500	$2.8	$29,400	
520 Level OP and WP Dumps	ea	0	$38,308	$0	
520 Ventilation Bulkheads/Walls	ea	0	$21,410	$0	
520 Level Other Miscellaneous	ea			$0	
Total Capital Costs				**$779,850**	
Operating Cost					
520 Level Operating Waste Development	m		$2,285	$0	
520 Level Ore Development	m		$2,285	$0	
Longhole Stope Production	t	0	$21.8	$0	
Waste Haulage to Backfill Stope (50%)	t	0	$2.1	$0	
Waste Haulage from 800L to Shaft	t	0	$2.8	$0	
Ore Haulage from 800L to Shaft	t	0	$2.1	$0	
Indirect Costs	t	0	$45.9	$0	
Surface Hauling and Milling Cost	t	0	$28.7	$0	
Total Operating Cost				**$0**	
Evaluation				**Value**	
Ounces Mined				0	
Mill Recovery				96.5%	
Recovered Ounces				0	
Gold Price $US				$1,600	
FX $CDN/$US				1.000	
Total Sales				$0	
Treatment Charges $1.6 per ounce				$0	
Royalties 3.25%				$0	
Gross Revenue from Level				**$0**	
Total Operating Costs				$0	
Net Revenue from Level				**$0**	
Total Capital Costs				$779,850	
Net Cash from Level				**-$779,850**	

Thunder Creek

485 to 450 Level	Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes 15,329					
Mined Grade 5.8					
Capital Cost					
Ramp to 485 Level	m	285	$2,428	$691,980	
485 Level Access, Sump, Elec Sub	m	30	$2,428	$72,840	
485 Level FW/Haulage Drift	m	105	$2,428	$254,940	
485 Level Drawpoints	m	15	$2,428	$36,420	
485 Level OP Access	m		$2,428	$0	
485 Level WP Access	m		$2,428	$0	
485 Level FAR Access	m		$2,428	$0	
485 Level RAR Access	m		$2,428	$0	
485 Level Other Capital Development	m		$2,428	$0	
485 Level Waste Haulage to Backfill Stope	t	15,225	$2.1	$31,973	Assume 50%
485 Level Waste Haulage 800L to Shaft	t	15,225	$2.8	$42,630	
485 Level OP and WP Dumps	ea	2	$38,308	$76,616	
485 Ventilation Bulkheads/Walls	ea	2	$21,410	$42,820	
485 Level Other Miscellaneous	ea			$0	
Total Capital Costs				**$1,250,219**	
Operating Cost					
485 Level Operating Waste Development	m	15	$2,285	$34,275	
485 Level Ore Development	m	15	$2,285	$34,275	
Longhole Stope Production	t	14,657	$21.8	$318,790	
Waste Haulage to Backfill Stope (50%)	t	525	$2.1	$1,103	
Waste Haulage from 800L to Shaft	t	525	$2.8	$1,470	
Ore Haulage from 800L to Shaft	t	15,329	$2.1	$32,191	
Indirect Costs	t	15,329	$45.9	$703,139	
Surface Hauling and Milling Cost	t	15,329	$28.7	$439,942	
Total Operating Cost				**$1,565,184**	
Evaluation				**Value**	
Ounces Mined				2,858	
Mill Recovery				96.5%	
Recovered Ounces				2,758	
Gold Price $US				$1,600	
FX $CDN/$US				1.000	
Total Sales				$4,413,467	
Treatment Charges $1.6 per ounce				-$4,413	
Royalties 3.25%				-$143,581	
Gross Revenue from Level				**$4,265,472**	
Total Operating Costs				$1,565,184	
Net Revenue from Level				**$2,700,288**	
Total Capital Costs				$1,250,219	
Net Cash from Level				**$1,450,069**	

Thunder Creek

450 to 415 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	92,898					
Mined Grade	4.01					
Capital Cost						
Ramp to 450 Level		m	285	$2,428	$691,980	
450 Level Access, Sump, Elec Sub		m	54	$2,428	$131,112	
450 Level FW/Haulage Drift		m	133	$2,428	$322,924	
450 Level Drawpoints		m	60	$2,428	$145,680	
450 Level OP Access		m	62	$2,428	$150,536	
450 Level WP Access		m		$2,428	$0	
450 Level FAR Access		m	31	$2,428	$75,268	
450 Level RAR Access		m	102	$2,428	$247,656	
450 Level Other Capital Development		m	12	$2,428	$29,136	Ref Sta
450 Level Waste Haulage to Backfill Stope		t	25,865	$2.1	$54,317	Assume 50%
450 Level Waste Haulage 800L to Shaft		t	25,865	$2.8	$72,422	
450 Level OP and WP Dumps		ea	1	$38,308	$38,308	
450 Ventilation Bulkheads/Walls		ea	2	$21,410	$42,820	
450 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$2,002,159**	
Operating Cost						
450 Level Operating Waste Development		m	141	$2,285	$322,185	
450 Level Ore Development		m	80	$2,285	$182,800	
Longhole Stope Production		t	89,314	$21.8	$1,942,580	
Waste Haulage to Backfill Stope (50%)		t	4,935	$2.1	$10,364	
Waste Haulage from 800L to Shaft		t	4,935	$2.8	$13,818	
Ore Haulage from 800L to Shaft		t	92,898	$2.1	$195,086	
Indirect Costs		t	92,898	$45.9	$4,261,216	
Surface Hauling and Milling Cost		t	92,898	$28.7	$2,666,173	
Total Operating Cost					**$9,594,221**	
Evaluation					**Value**	
Ounces Mined					11,977	
Mill Recovery					96.5%	
Recovered Ounces					11,558	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$18,492,208	
Treatment Charges $1.6 per ounce					-$18,492	
Royalties 3.25%					-$601,598	
Gross Revenue from Level					**$17,872,118**	
Total Operating Costs					$9,594,221	
Net Revenue from Level					**$8,277,898**	
Total Capital Costs					$2,002,159	
Net Cash from Level					**$6,275,739**	

Thunder Creek

415 to 395 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	41,358					
Mined Grade	3.55					
Capital Cost						
Ramp to 415 Level		m	285	$2,428	$691,980	
415 Level Access, Sump, Elec Sub		m	58	$2,428	$140,824	
415 Level FW/Haulage Drift		m	119	$2,428	$288,932	
415 Level Drawpoints		m	60	$2,428	$145,680	
415 Level OP Access		m	45	$2,428	$109,260	
415 Level WP Access		m		$2,428	$0	
415 Level FAR Access		m	36	$2,428	$87,408	
415 Level RAR Access		m	125	$2,428	$303,500	
415 Level Other Capital Development		m	12	$2,428	$29,136	Ref Sta
415 Level Waste Haulage to Backfill Stope		t	25,900	$2.1	$54,390	Assume 50%
415 Level Waste Haulage 800L to Shaft		t	25,900	$2.8	$72,520	
415 Level OP and WP Dumps		ea	1	$38,308	$38,308	
415 Ventilation Bulkheads/Walls		ea	2	$21,410	$42,820	
415 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$2,004,758**	
Operating Cost						
415 Level Operating Waste Development		m	82	$2,285	$187,370	
415 Level Ore Development		m	65	$2,285	$148,525	
Longhole Stope Production		t	38,446	$21.8	$836,201	
Waste Haulage to Backfill Stope (50%)		t	2,870	$2.1	$6,027	
Waste Haulage from 800L to Shaft		t	2,870	$2.8	$8,036	
Ore Haulage from 800L to Shaft		t	41,358	$2.1	$86,852	
Indirect Costs		t	41,358	$45.9	$1,897,085	
Surface Hauling and Milling Cost		t	41,358	$28.7	$1,186,975	
Total Operating Cost					**$4,357,070**	
Evaluation					**Value**	
Ounces Mined					4,720	
Mill Recovery					96.5%	
Recovered Ounces					4,555	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$7,288,295	
Treatment Charges $1.6 per ounce					-$7,288	
Royalties 3.25%					-$237,106	
Gross Revenue from Level					**$7,043,900**	
Total Operating Costs					$4,357,070	
Net Revenue from Level					**$2,686,830**	
Total Capital Costs					$2,004,758	
Net Cash from Level					**$682,072**	

Thunder Creek

395 to 370 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	56,414					
Mined Grade	5.97					
Capital Cost						
Ramp to 395 Level		m	200	$2,428	$485,600	
395 Level Access, Sump, Elec Sub		m	87	$2,428	$211,236	
395 Level FW/Haulage Drift		m	69	$2,428	$167,532	
395 Level Drawpoints		m	75	$2,428	$182,100	
395 Level OP Access		m	59	$2,428	$143,252	
395 Level WP Access		m	30	$2,428	$72,840	
395 Level FAR Access		m	0	$2,428	$0	
395 Level RAR Access		m	0	$2,428	$0	
395 Level Other Capital Development		m	12	$2,428	$29,136	Ref Sta
395 Level Waste Haulage to Backfill Stope		t	18,620	$2.1	$39,102	Assume 50%
395 Level Waste Haulage 800L to Shaft		t	18,620	$2.8	$52,136	
395 Level OP and WP Dumps		ea	2	$38,308	$76,616	
395 Ventilation Bulkheads/Walls		ea	2	$21,410	$42,820	
395 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$1,502,370**	
Operating Cost						
395 Level Operating Waste Development		m	165	$2,285	$377,025	
395 Level Ore Development		m	75	$2,285	$171,375	
Longhole Stope Production		t	53,054	$21.8	$1,153,925	
Waste Haulage to Backfill Stope (50%)		t	5,775	$2.1	$12,128	
Waste Haulage from 800L to Shaft		t	5,775	$2.8	$16,170	
Ore Haulage from 800L to Shaft		t	56,414	$2.1	$118,469	
Indirect Costs		t	56,414	$45.9	$2,587,701	
Surface Hauling and Milling Cost		t	56,414	$28.7	$1,619,082	
Total Operating Cost					**$6,055,874**	
Evaluation					**Value**	
Ounces Mined					10,828	
Mill Recovery					96.5%	
Recovered Ounces					10,449	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$16,718,575	
Treatment Charges $1.6 per ounce					-$16,719	
Royalties 3.25%					-$543,897	
Gross Revenue from Level					**$16,157,959**	
Total Operating Costs					$6,055,874	
Net Revenue from Level					**$10,102,085**	
Total Capital Costs					$1,502,370	
Net Cash from Level					**$8,599,715**	

Thunder Creek

370 to 280 Level		Units	No. Units	$/Unit	Total Cost	Comment
Mined Tonnes	43,029					
Mined Grade	3.73					
Capital Cost						
Ramp to 370 Level		m	0	$2,428	$0	
370 Level Access, Sump, Elec Sub		m	48	$2,428	$116,544	
370 Level FW/Haulage Drift		m		$2,428	$0	
370 Level Drawpoints		m		$2,428	$0	
370 Level OP Access		m		$2,428	$0	
370 Level WP Access		m		$2,428	$0	
370 Level FAR Access		m		$2,428	$0	
370 Level RAR Access		m		$2,428	$0	
370 Level Other Capital Development		m		$2,428	$0	
370 Level Waste Haulage to Backfill Stope		t	1,680	$2.1	$3,528	Assume 50%
370 Level Waste Haulage 800L to Shaft		t	1,680	$2.8	$4,704	
370 Level OP and WP Dumps		ea		$38,308	$0	
370 Level Other Construction		ea		$21,410	$0	
370 Level Other Miscellaneous		ea			$0	
Total Capital Costs					**$124,776**	
Operating Cost						
370 Level Operating Waste Development		m	91	$2,285	$207,935	
370 Level Ore Development		m	197	$2,285	$450,145	
Longhole Stope Production		t	34,203	$21.8	$743,924	
Waste Haulage to Backfill Stope (50%)		t	3,185	$2.1	$6,689	
Waste Haulage from 800L to Shaft		t	3,185	$2.8	$8,918	
Ore Haulage from 800L to Shaft		t	43,029	$2.1	$90,361	
Indirect Costs		t	43,029	$45.9	$1,973,733	
Surface Hauling and Milling Cost		t	43,029	$28.7	$1,234,932	
Total Operating Cost					**$4,716,637**	
Evaluation					**Value**	
Ounces Mined					5,160	
Mill Recovery					96.5%	
Recovered Ounces					4,980	
Gold Price $US					$1,600	
FX $CDN/$US					1.000	
Total Sales					$7,967,244	
Treatment Charges $1.6 per ounce					-$7,967	
Royalties 3.25%					-$259,194	
Gross Revenue from Level					**$7,700,082**	
Total Operating Costs					$4,716,637	
Net Revenue from Level					**$2,983,446**	
Total Capital Costs					$124,776	
Net Cash from Level					**$2,858,670**	