



Fenn-Gib Resource Estimate Technical Report, Timmings Canada

Respectfully submitted to:
Lakeshore Gold Corporation

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1- Summary

SGS Canada Inc. (“SGS Geostat”) was commissioned by Lake Shore Gold Corp. (“Lake Shore Gold”) on June 10th, 2011 to prepare an independent estimate of the mineral resources of the Fenn-Gib gold deposit. The mineral resource estimate was completed by SGS Geostat based on data available from historical drilling data primarily completed between 1994 and 1999. The mineral resource estimate was completed in accordance with National Instrument 43-101: Standards and Disclosure for Mineral Projects. This report represents the first NI 43-101 compliant resource estimation on the Fenn-Gib Deposit. Although the Fenn-Gib deposit is principally a gold deposit hosted in disseminated pyrite mineralization, it does contain silver concentrations that are potentially economically extractable.

Lake Shore Gold’s wholly owned Fenn-Gib property is located along highway 101, approximately 80 km’s east of Timmins and 21km east of Matheson, Ontario. Geologically, the Fenn-Gib property is located in the southern portion of the Abitibi Sub-province, which is part of the Superior Province of the Canadian Shield. The Abitibi Sub-province is principally underlain by volcanic and sedimentary assemblages that have generally been metamorphosed to greenschist facies. The property area is underlain by rocks of the Hoyle sedimentary Assemblage and the Kidd-Munro volcanic Assemblage; in places the contact has been intruded by a series of felsic to intermediate intrusions. The property lies on the northern portion of the Blake River Synclinorium and approximately three kilometers north of the Porcupine-Destor Fault.

Gold within the Fenn-Gib deposit is primarily associated with disseminated pyrite in syenites and basalts affected by albitization and silicification in proximity to the fault contact between the Hoyle and Kidd-Munro packages. There appears to be a close association of the mineralization with syenite dykes and intrusions. The deposit itself can be traced for 1.25km along strike, and is thickest at the western end (300m). The mineralization forms a thinner extension to the east along the same contact concentrated within the deformation zone itself. Although the deposit is open in all directions, the quality of mineralization (grade and thickness) appears to decrease away from the core of the Fenn-Gib deposit.

Historic exploration attempted to outline a continuous high-grade zone that could be exploited from an underground mine. The style of mineralization was not particularly apt for this type of mining approach due to the disseminated and chaotic nature of the geological controls on the mineralization. The recent rise in gold prices has significantly lowered cut-off grades in many open pit mines around the world. The Fenn-Gib deposit is particularly impacted by this change in prices because it has a relatively large tonnage of rock with grades between 0.5g/t and 1.5g/t Au. The best example is from drill hole G-94-08 which intersected 271.88m of 1.52g/t starting at a downhole depth of 109.9m. Higher grade intersections are commonly found within these thicker intersections (in this case 23.72m of 5.19g/t); but these are very difficult to link between drill holes to form discrete bodies.

The Fenn-Gib property has a very complex history: previous owners include Hollinger Consolidated, Cominco, Lacana Mining, Pangea, St Andrews and Barrick. Lake Shore Gold currently holds 100% of the claims within the property. Most of the drilling on the property, and more specifically on the Fenn-Gib deposit was completed by Pangea Goldfields Inc. in the mid-

1990s. The property comprises a collage of staked claims, leases and patented claims. These claims are subject to 3 types of royalty payments that are triggered by start of production. These vary from 0.75% Net Smelter Return to 5% Net Profit return. Most of the deposit is not subject to any royalties; however $\approx 26\%$ of the gold in the western portion of the resources is subject to a 2% NSR.

The resource estimates includes 40.8 million tonnes grading 0.99 g/t in the Indicated category and 24.5 million tonnes at 0.95 g/t in the Inferred category (Table 1).

Table 1. Summary of resource estimate.

Category	Type	Cut off grade (g/t)	Tonnes (Mt)	Grade (g/t)	Ounces (millions)
Indicated	In Pit	0.5	40.8	0.99	1.3
Inferred	In Pit	0.5	23.3	0.9	0.67
Inferred	Out of Pit	1.5	1.2	1.9	0.08
Inferred	Total		24.5	0.95	0.75

The resource estimate was completed using a database containing 319 holes totaling 86,017 metres which were drilled almost entirely between 1986 and 1999. The vast majority of holes were drilled to test the Fenn-Gib Deposit over a 1.25 km strike length and to depths within 300 metres of surface. The typical drill spacing of Indicated resources was 25 metres or less, and Inferred resources are typically drilled at a spacing of less than 50 metres.

Resource estimation was completed within a newly constructed 3D model of geological domains and by using the ordinary kriging interpolation method. Kriging was completed using 10 by 5 by 10 meter blocks. A total of 5,991 composites representing 5 meters of core length were capped to 25 grams per tonne. Review of data suggests the grade estimates comprise approximately 10 % dilution. Validation of the block model was done by visual comparisons of grade data from the block model and drill holes on plans and sections, as well as through cross validation studies using drill hole and block model data which showed excellent results. Tabulation of “in pit resources” was completed from within a Whittle optimized pit shell generated using a gold price of US\$1,190 per ounce; which resulted in a theoretical cut off grade of 0.35g/t. Maximum dimensions of the final pit are 1.5 km long by 800 meters wide by 460 meters deep. Only blocks above the 0.5g/t base case cut-off grade occurring within the optimized pit were tabulated as “in pit resources”. All blocks occurring outside the optimized pit were subject to a cut-off grade of 1.5g/t.

SGS Geostat is of the opinion that the Lake Shore Gold retains a significant Au deposit amenable to open pit mining based on historic exploration programs. Work completed by Lake Shore Gold and SGS have successfully shown that the historic data is of sufficient quality to be used for a NI 43-101 resource estimate. This work included a comprehensive resampling program and drilling of 4 diamond drill holes to confirm historical work and continuity of mineralization within the deposit. SGS Geostat considers the project to be sufficiently robust to warrant the following work:

- Recompilation of exploration data including geophysical surveys, drilling, soil geochemistry and geological mapping.

- Drilling within the following areas: a) north of the Fenn-Gib Deposit, b) east and west along strike, c) in the near surface gap and d) at depth. These are the higher priority targets that should be addressed in the short term. Infill drilling to upgrade the resources to indicated or measured category should be planned as a second phase of drilling.
- Initiate environmental and engineering projects to evaluate the impact of the Little Pike River and Guibord Lake on any open pit mine plan. Although these water bodies are very shallow their potential environmental and economic impact should be analyzed and addressed at this early stage. Additionally, Highway 101 falls within the conceptual pit design, and its impact will have to be assessed as well. A geotechnical study will also provide key information regarding the angle of pit slope walls.
- Complete a preliminary metallurgical study using a single representative sample of 50kg with grade similar to the expected head grade of the deposit. Complete a mineralogical study by using 5 samples via Qemscan to study the distribution of gold within the Fenn-Gib Deposit.
- Complete a Preliminary Economic Assessment to assess the economic potential of the Fenn-Gib deposit.
- Following the recompilation; soil geochemistry (MMI) and geophysical surveys (dipole-dipole IP, and ground magnetic) should be undertaken to address prospective areas regionally.
- Following the soil geochemical and geophysical surveys; a small regional drill program should be undertaken to assess the potential for additional gold mineralization within the Fenn-Gib Property.
- Lake Shore Gold should continue to have open and transparent discussions with all the local stakeholders to ensure a smooth transition to an eventual development of the project.

2- Introduction

2.1 General

This technical report was prepared by SGS Geostat for Lake Shore Gold to support the first disclosure of mineral resources completed for the Fenn-Gib deposit since they acquired the property from Barrick. The report describes the basis and methodology used for modeling and estimation of the Fenn-Gib deposit. The report presents a summary of the history, geology, sample preparation and analysis, data verification, and metallurgical work completed on the Fenn-Gib property (“Property”). The report also provides recommendations for future work.

2.2 Terms of Reference

This report on the mineral resource estimation at the Fenn-Gib Property was prepared by Guy Desharnais Ph.D. P.Geo. and Michel Dagbert Eng. Mr. Desharnais was responsible for the site visit, independent validation of the resource estimate and sections 1-11, 13 and 15-19 of this technical report. Mr. Dagbert was responsible for the data verification and validation, geological modelling, resource estimates and sections 12 and 14 of this technical report.

This technical report was prepared according to the guidelines set under “Form 43-101F1 Technical Report” of National Instrument 43-101 Standards and Disclosure for Mineral Projects. The certificates of qualifications for the Qualified Persons responsible for this technical report have been supplied to Lake Shore Gold as a separate document and can also be found at the very end of the report.

Mr. Desharnais visited the Property between October 19th to October 22nd, for a review of exploration methodology, sampling procedures and to conduct an independent check sampling of selected mineralized drill intervals.

2.3 Source of Information

Information in this report is based on critical review of the documents, information and maps provided by personnel of Lake Shore Gold, in particular Bob Kusins, Chief Resource Geologist and Stephen Conquer, Senior Project Geologist. A complete list of the reports available to the authors is found in the References section of this report. Drilling data was provided by Lake Shore Gold and validated against information obtained during the field visit and certificates from the analytical laboratories. Property descriptions and historic work was summarized primarily from comprehensive geological report prepared by Kateri Marchand and Paul Brown on behalf of Pangea.

2.4 Units and Currency

All measurements in this report are presented in the Système International d'Unités (SI) metric units, including metric tonnes (tonnes) or grams (g) for weight, meters (m) or kilometers (km) for distance, hectare (ha) for area, and cubic metres (m³) for volume. All currency amounts are Canadian Dollars (C\$) unless otherwise stated. Abbreviations used in this report are listed in Table 2.

Table 2. List of Abbreviations.

tonnes or t	Metric tonnes
kg	Kilograms
g	Grams
km	Kilometers
m	Meters
µm	Micrometers
ha	Hectares
m ³	Cubic meters
%	Percentage
\$	Dollars (CAD unless otherwise specified)
°	Degree
°C	Degree Celsius
NSR	Net smelter return
NPR	Net profit return
ppm	Parts per million
BQ	Drill core size (3.65cm in diameter)
NQ	Drill core size (4.76 cm in diameter)
SG	Specific Gravity
UTM	Universal Transverse Mercator

3- Reliance on Other Experts

Material information contained in this report does not rely on experts other than the authors.

4- Property Description and Location

4.1 Location

The Fenn-Gib property is located in Guibord and Munro Townships in northeast Ontario. It is 43 km to the northwest of Kirkland Lake and 21 km east of Matheson, south of Abitibi Lake. The center of the property is at 5374037 N and 559078 E (UTM zone 17). The property is accessible all year long by the highway 101 which passed through the property. Highway 101 connects with the Trans Canada Highway at Matheson (Figure 1) The nearest airport is located 20km north of Timmins, which itself is 80km from the property. The property is located in a very mining-friendly jurisdiction amongst dozens of historical mines and several active mines between Rouyn and Timmins camps.

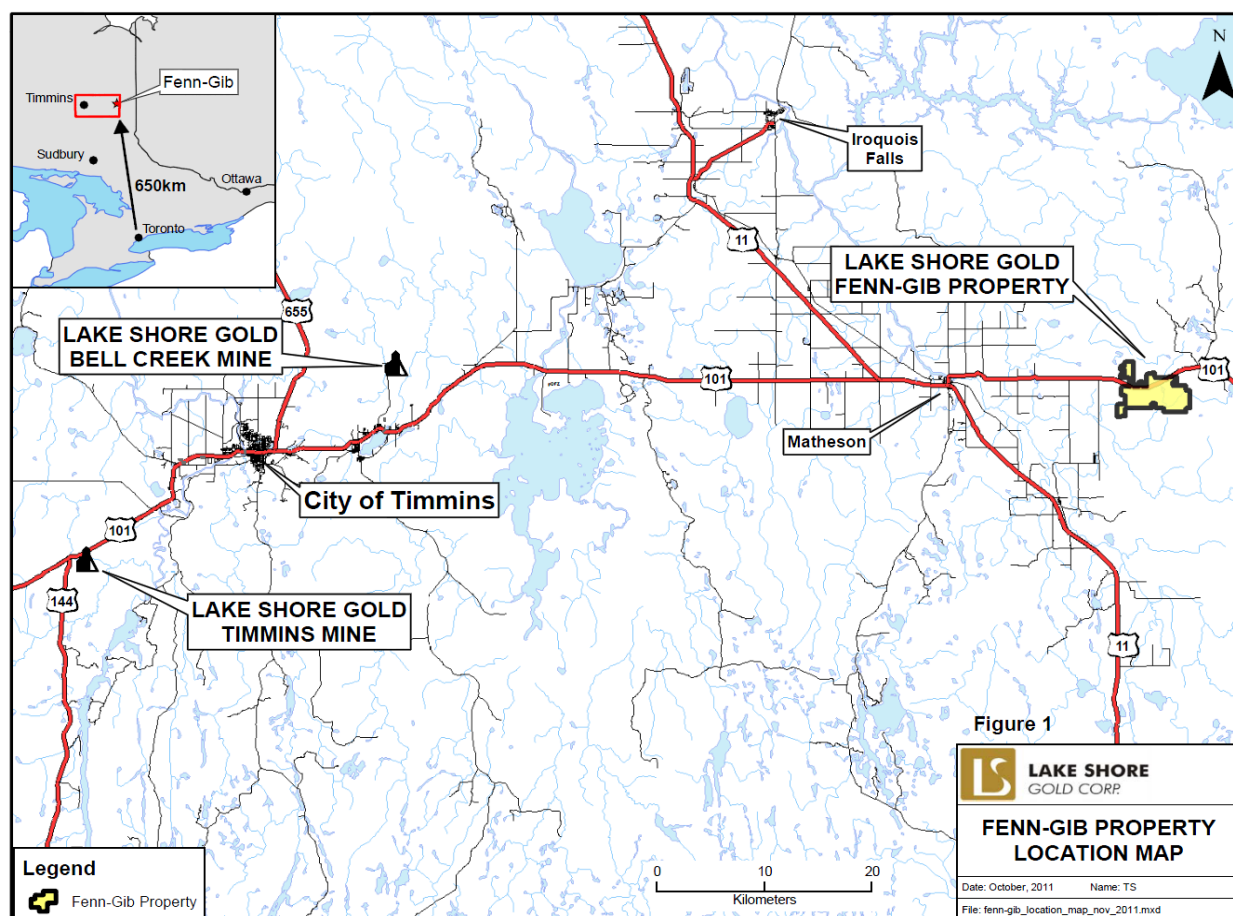


Figure 1. Location map of the Fenn-Gib Property. The inset shows southern Ontario and western Québec.

4.2 Mineral Tenure

The information contained in this section was compiled by, and provided by Lake Shore Gold and was verified by cross checking with the underlying agreements and the Ontario Ministry of Northern Development and Mines website. According to this website, only 4 of the staked claims are currently under ownership by Lake Shore Gold. The website shows the remaining staked claims as belonging to Richmond Minerals Inc. and all leased claims as belonging to Barrick Gold. The claim patents are not available online and cannot be independently verified. The waiting period for updating of the online database is very long, and it is expected that all the mineral tenures held by Lake Shore Gold will be transferred within a year. All the underlying legal agreements pertaining to the land tenure claims were compared to the compilation provided by Lake Shore Gold and they appear to be in order.

The property is 100% owned by Lake Shore Gold and comprises a patchwork of claims, leases and patents that cover 1,877.8 hectares (Figure 2). The property straddles the Munro and Guibord townships in northeastern Ontario. The Fenn-Gib deposit is located within a block of mining leases that include the surface rights. These were applied for and acquired by Pangea in the mid 1990's and are not due to expire till either 2025 or 2032.

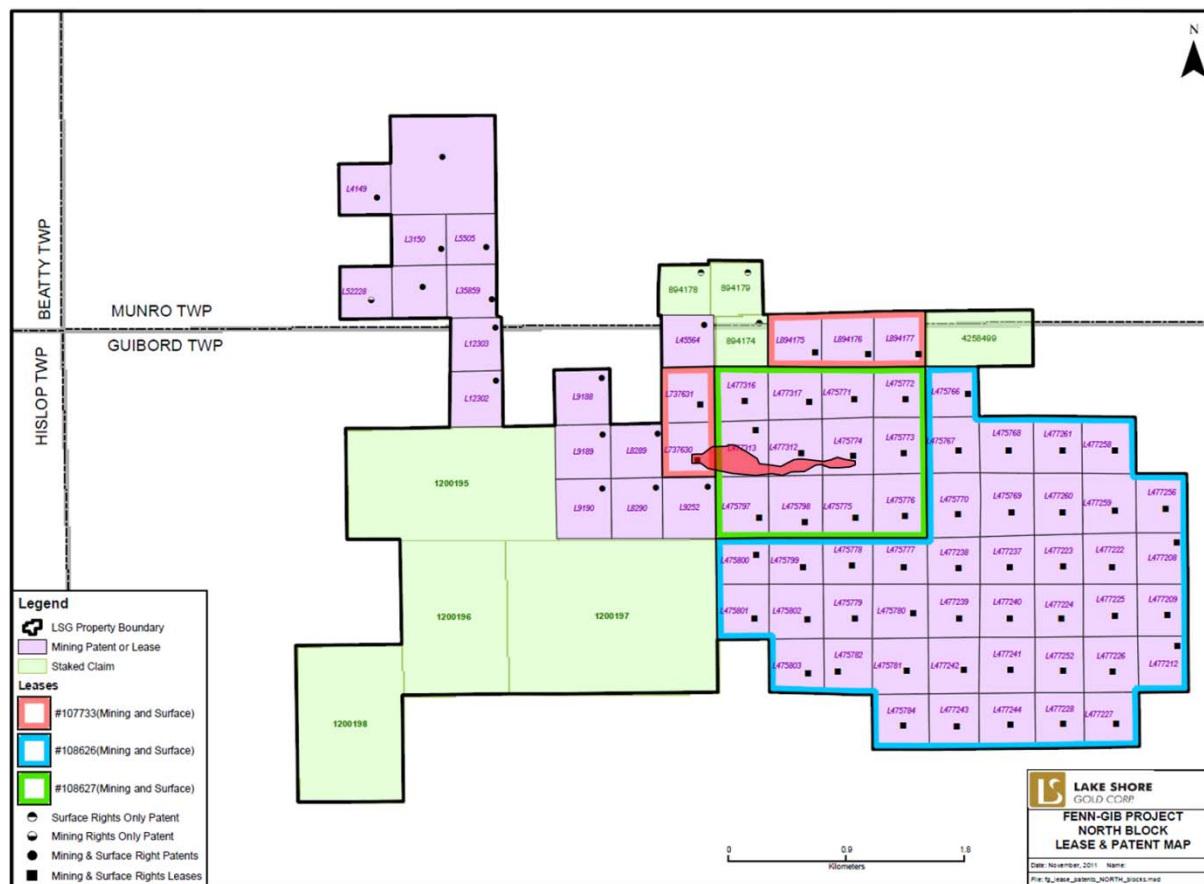


Table 3. Summary of staked claims within the Fenn-Gib Property.

Claim Number	Township	Acquisition Date	Expiry Date	Type	Rights	Units	Royalties To	Royalty Info
894174	GUIBORD	1986-JUL-14	2012-JUL-14	STAKED	Mining	1	A. Fenn	5% NPR
894178	MUNRO	1986-JUL-14	2012-JUL-14	STAKED	Mining	1		
894179	MUNRO	1986-JUL-14	2012-JUL-14	STAKED	Mining	1		
4258499	MUNRO AND GUIBORD	2010-JUL-07	2012-JUL-07	STAKED	Mining	2	NA	NA
1200195	GUIBORD	1993-Apr-23	2015-Apr-23	STAKED	Mining	8	NA	NA
1200196	GUIBORD	1993-Apr-23	2015-Apr-23	STAKED	Mining	6	NA	NA
1200197	GUIBORD	1993-Apr-23	2015-Apr-23	STAKED	Mining	12	NA	NA
1200198	GUIBORD	1993-Apr-23	2015-Apr-23	STAKED	Mining	6	NA	NA

Table 4. Summary of mining patents within the Fenn-Gib Property.

Claim Number	Holder under a Lease	Owner	Township	PIN	Type	Rights	Royalties To	Royalty Info
4215/L9252	Lake Shore Gold Corp.	Shareholders Securities Ltd.	Guibord	65379-0195(LT)	Patent	M&S	Shareholders Securities Ltd. (The current term of the lease expires November 27, 2019, but it is renewable for successive 10 year terms)	Greater of: <u>1.</u> 3/4% Net Smelter Returns royalty before payback and 2% Net Smelter Returns royalty after payback <u>2.</u> 10% Net Profits royalty after payback
2416/L8289	Lake Shore Gold Corp.	Shareholders Securities Ltd.	Guibord	65379-0193(LT)	Patent	M&S		
4217/L9188	Lake Shore Gold Corp.	Shareholders Securities Ltd.	Guibord	65379-0189(LT)	Patent	M&S		
4218/L8290	Lake Shore Gold Corp.	Shareholders Securities Ltd.	Guibord	65379-0194(LT)	Patent	M&S		
4219/L9190	Lake Shore Gold Corp.	Shareholders Securities Ltd.	Guibord	65379-0192(LT)	Patent	M&S		
4220/L9189	Lake Shore Gold Corp.	Shareholders Securities Ltd.	Guibord	65379-0191(LT)	Patent	M&S		
565/L12302		Lake Shore Gold Corp.	Guibord	65379-0188(LT)	Patent	M&S	Croesus Gold & Wood-Croesus Gold	3% NSR
566/L12303		Lake Shore Gold Corp.	Guibord	65379-0187(LT)	Patent	M&S		
732		Lake Shore Gold Corp.	Munro	65367-0112(LT)	Patent	M&S		
1115		Lake Shore Gold Corp.	Munro	65367-0114(LT)	Patent	M&S		
3328/3150		Lake Shore Gold Corp.	Munro	65367-0113(LT)	Patent	M&S		
7415/L35859		Lake Shore Gold Corp.	Munro	65367-0115(LT)	Patent	M&S		
16365/4149		Lake Shore Gold Corp.	Munro	65367-0110(LT)	Patent	M&S		
12010/L52228		Lake Shore Gold Corp.	Munro	65367-0153(LT)	Patent	MRO	Backman	5% NPR
9929/L39421		Lake Shore Gold Corp.	Munro	65367-0141(LT)	Patent	M&S		
2636		Lake Shore Gold Corp.	Munro	65367-0116(LT)	Patent	M&S		
11516/L45561		Lake Shore Gold Corp.	Munro	65367-0145(LT)	Patent	S		
11393/L45562		Lake Shore Gold Corp.	Munro	65367-0119(LT)	Patent	S		
11392/L45563		Lake Shore Gold Corp.	Munro Guibord	65379-0197(LT)	Patent	S		
11391/L45564		Lake Shore Gold Corp.	Munro Guibord	65379-0196(LT)	Patent	M&S		

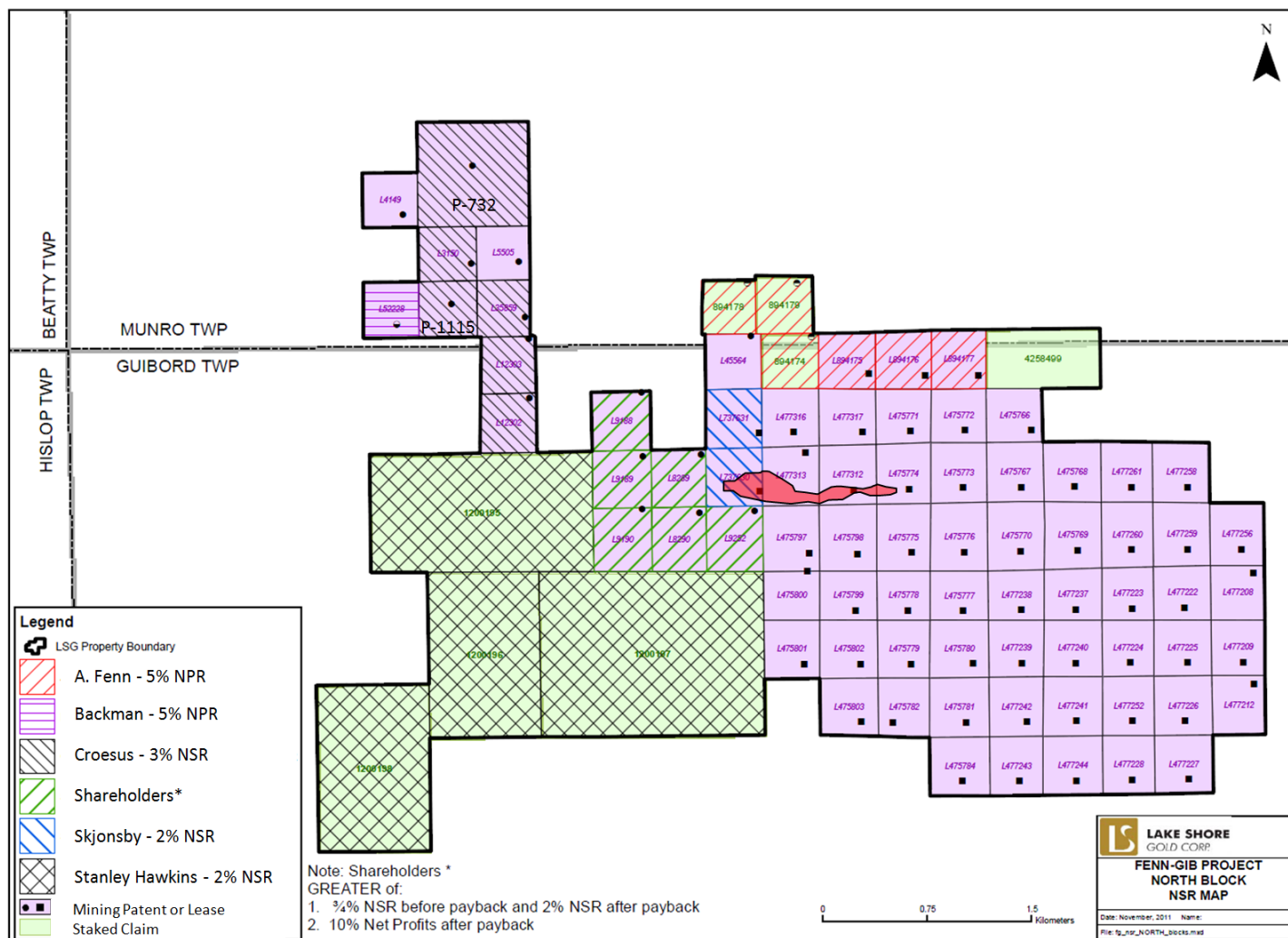
Table 5. Summary of leased claims within the Fenn-Gib Property.

Claim Number	Township	Expiry Date	Lease/Lic#	Type	Rights	Royalty To	Royalty Info
L475766	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475767	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475768	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475769	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475770	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475771	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L475772	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L475773	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L475774	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L475775	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L475776	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L475777	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475778	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475779	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475780	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475781	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475782	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475784	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475797	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L475798	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L475799	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475800	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475801	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475802	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L475803	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477208	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477209	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477212	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477222	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477223	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477224	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477225	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477226	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477227	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477228	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477237	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477238	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477239	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477240	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477241	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477242	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477243	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477244	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477252	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477256	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477258	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477259	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477260	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477261	GUIBORD	2032-Mar-31	108626	Leased	M & S		
L477312	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L477313	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L477316	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L477317	GUIBORD	2032-Jan-31	108627	Leased	M & S		
L894175	GUIBORD	2025-Dec-31	107733	Leased	M & S	A. Fenn	5% NPR
L894176	GUIBORD	2025-Dec-31	107733	Leased	M & S		
L894177	GUIBORD	2025-Dec-31	107733	Leased	M & S		
L737630	GUIBORD	2025-Dec-31	107733	Leased	M & S	Skjonsby	2 % NSR
L737631	GUIBORD	2025-Dec-31	107733	Leased	M & S		

4.3 Mining Royalties

The mining royalties situation on the Fenn-Gib Property is relatively complex (Figure 3, Table 3, Table 4, Table 5). There are 7 different royalty agreements in effect on the property which vary from 0% to 3% Net Smelter Royalty (NSR) and 0 to 10% Net Profit Royalty (NPR). Within the resources reported in this report approximately 26% of the gold ounces occur within leased claim L737630 which is subject to a 2% NSR. The remaining resources are not subject to an NSR or NPR (Table 3, Table 4, Table 5).

Barrick has a right to acquire a 51% interest in the Fenn-Gib Project, and become the Project's operator. This option is triggered by a NI 43-101 resource of at least 5 million ounces; in which case Barrick will pay the Lake Shore Gold cash consideration representing two times the total investment by the Company (excluding acquisition costs) in the Fenn-Gib Project at the time the right is exercised. These rights are restricted to the mining tenures in purple in Figure 3. There are no other back-in rights on the property.



4.4 Potential Liabilities

An environmental baseline study was undertaken by Agra Earth and Environmental in 1997 on behalf of Pangea. The initial environmental study was concerning an open-pit scenario which would have impacted the Little Pike River system and the Guibord Lake. The proposed mine plan was revised to an underground operation with a ramp portal north of Highway 101. The potential impacts of the open-pit mine scenario were therefore not explored or defined in this report, although some descriptions and data collection for this watershed was completed.

The Little Pike River and its tributary, Perry Creek, are slow flowing, cool water creeks with a relatively wide floodplain (30-100m). The watershed has an approximate surface area of 86km² (Agra 1997). The channel width varies from 1.2 to 9.0m and the depth varies from 0.5 to 0.8m. The measured mean flow rate varied from 0.25 to 0.82m³/s depending on location. Fish communities include northern pike, yellow perch, white suckers and other small fish. Guibord Lake is very shallow with a maximum depth of 1.1m and a mean depth of 0.5m. The lake supports a warm water fish community, comprising yellow perch and potentially northern pike. A conceptual optimized pit shell used to define the open-pitable portion of the resource overlaps with Guibord Lake. See the discussion below concerning the preliminary nature of the pit design.

Highway 101 links Timmins Ontario with Rouyn Quebec and provides access to the property. A power-line runs along the highway. A conceptual optimized pit shell used to define the open-pitable portion of the resource impinges the current position of the highway. Although this pit outline is preliminary in nature it suggests that a section of the highway and the electrical power-line may have to be displaced to the north to make room an eventual open pit mine.

The geometry and maximum limits of a final pit design depends on the pit depth, angles of pit walls, and security buffer distance that is allowed. None of these factors are currently defined by an advanced study and are very speculative in nature. The environmental impact or cost of displacing Highway 101 or the Little Pike River cannot be estimated at the current level of study; nevertheless they are not expected to present impassible barriers to project development.

The Fenn-Gib Property does not intersect any federal lands, parks or others land category that would necessitate special permitting or negotiations with local communities or governmental organizations. Surrounding First Nations communities hold traditional treaty rights to hunt, fish, trap and harvest the land. Lake Shore Gold has initiated discussions with some local stakeholders to ensure transparency in the development process and further discussions are planned.

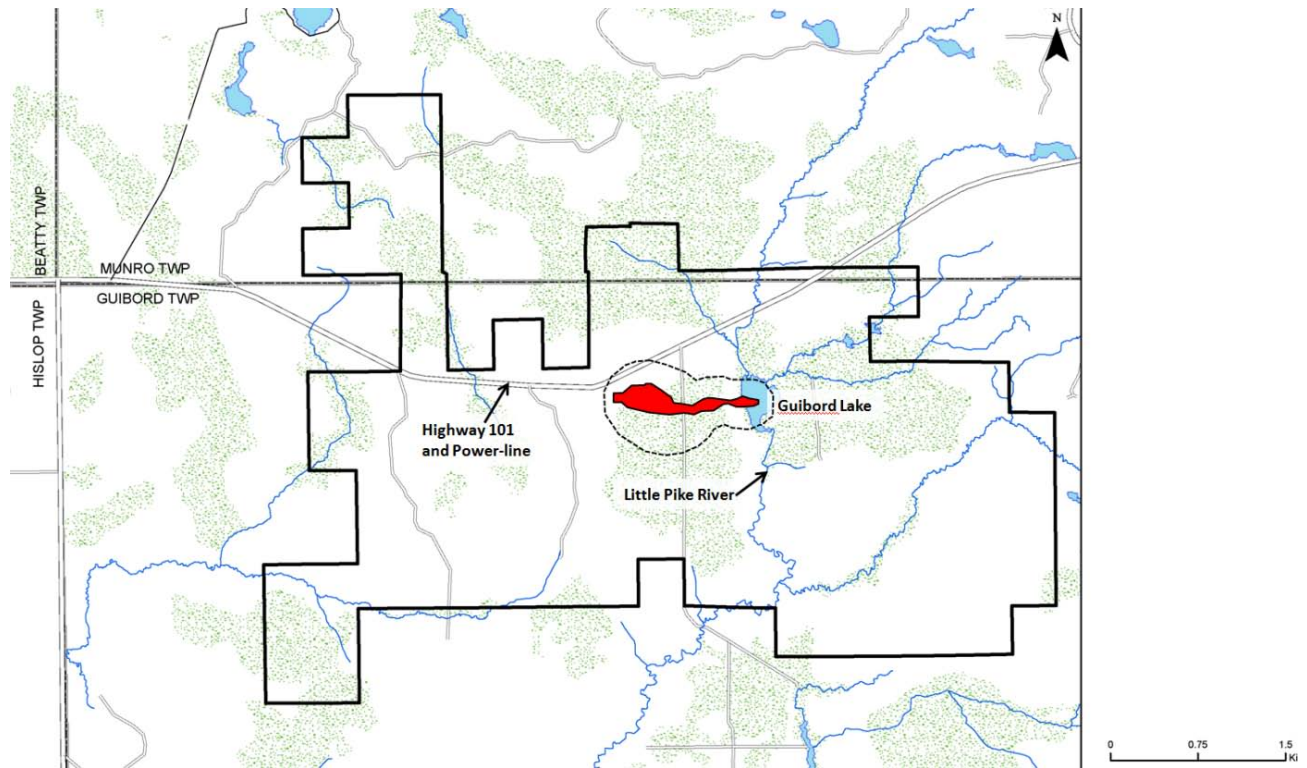


Figure 4. Hydrographic map of the Fenn-Gib Property showing the position of the deposit and optimized pit with respect to the hydrographic features and Highway 101. The green stippled pattern represents swamp land.

5- Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Physiography

The Fenn and Gib properties lie within the extensive Abitibi Clay Belt, a continuous flat lying sheet of glaciolacustrine sediments deposited in glacial lakes Barlow and Ojibway as the Laurentide Ice Sheet receded during the Quaternary period approximately 10,000 years ago. A large glaciofluvial deposit, the Munro Esker which flanks the project area rises about 40 metres above the clay plain.

Averaging 315m above the sea level most of the Property is covered by dense alder swamp which supports a thin growth of poorly developed black spruce. The hydrography is described briefly in section 4.4. Higher parts of the area support a mature growth of black spruce, jackpine, poplar and white birch. Most of the property has little commercial value but the well drained sands and gravels of the esker support commercially valuable white pine stands. Differences in elevation are not more than 15 m within the Property.



Figure 5. Photograph of a stand of spruce trees near Highway 101 (Left) and photo of drill witness post with typical vegetation over the Fenn-Gib Deposit.

5.2 Accessibility

The property is easily accessible via highway 101, which crosses the upper central part of the property. The highway links the provinces of Ontario and Quebec between the cities of Matheson and Duparquet just below the Abitibi Lake; the highway becomes “Autoroute 388” in the Province of Quebec. A few drill trails cross the property in a north-south direction (Figure 4).

5.3 Climate

Climatic conditions are continental; characterized by cold winters with snow, and warm summers with moderate precipitations. The temperature ranges between 11°C to 25 °C during the summer and between -10 °C to -25 °C during the winter. July is the warmest month in the opposite of January. Total precipitation ranges between 801 mm to 1200 mm per year. The rainiest month is July with an average of 92 mm and January gets an average of 62 mm of snow during winter. Exploration activities can be undertaken all year long; work is made difficult during transitional seasons where the ground is saturated with water from the melting snow in spring, and before winter when lakes are not frozen.

5.4 Local Resources and Infrastructures

The nearest populated center is Matheson (pop. 3,000) located less than 20 km away from the property. However, Kirkland Lake (pop. 8,300), Timmins (pop. 43,000) and Rouyn-Noranda (pop. 40,000) are established mining centers within 1 hour drive where services and supplies are available. An Ontario power transmission line follows Hydro Highway 101 through the property and a high voltage transformer station is located at Ramore, some 15 kilometres to the southwest. A natural gas pipeline is located about two kilometres west of the northwest corner of Guibord township, at Highway 527.

6- History

Pangea Goldfields Incorporated (Pangea) completed the bulk of the exploration work on the Fenn-Gib property and mineral deposit. Barrick Gold Corporation (Barrick) acquired Pangea in 2000; primarily to acquire land holdings in Tanzania. In August of 2011 Barrick sold the Property to Lake Shore Gold after a single drill campaign of limited scope. Lake Shore Gold has completed two additional property acquisition deals increase the size of the property.

6.1 Property History and Mineral Exploration Work

This section is largely summarized from Pangea's Fenn Gib Drilling Report (2002) it has been reviewed by SGS Geostat, and appears accurate according to independent sources.

The first project that was developed on the property was the American Eagle Prospect which was active from 1911 to 1912. It had a 70 foot shaft, 30 feet of drifting and 50 feet of crosscutting. The total recorded production included 54 tonnes milled for a total production of 40 ounces of gold. The mineralization occurred in quartz veins and stringers present in a carbonatized greywacke of the Hoyle Assemblage. (ODM 1951).

The Talisman Mine prospect was originally staked in 1919 and 1921 by N. Faulkenham and F. Gardiner. During 1923 and 1924, Gardiner Guibord Mines Limited sank a shaft to a depth of 115 feet and carried out 500 feet of lateral development on the 100 foot level to test narrow gold bearing quartz veins in the Hoyle sediments associated with sericite alteration. The old workings were reopened in 1934 by Talisman Gold Mines Limited and 694 feet of cross cutting, 30 feet of raising and 374 feet of drifting were completed. No gold values are reported. In 1942 the property was acquired by Shareholders Securities Limited (Figure 6).

Other early work was done some time prior to 1944 on a five claim property called the Quinn claims located at the Fenn-Gib property boundary along highway 101. Prospecting and trenching on these claims resulted in the location of a north-easterly trending shear zone with disseminated sulphides, quartz veins and carbonate alteration. This shear is probably what is now called the Skjonsby Zone.

Perron Gold Mines Limited optioned a 17 claim block known as the Hansen-McDonnell property including near the center of the current Fenn-Gib property. In 1948 six diamond drill holes, five of which were abandoned in overburden, were collared approximately 700 metres south-west of Guibord Lake. The one hole which reached bedrock penetrated 214 metres of unmineralized Hoyle sediments.

A ground magnetic survey and two diamond drill holes totaling 420 metres were completed by Canadian Johns Manville Company in 1953-1954 in the north-central portion of the Fenn-Gib property. These holes encountered altered volcanic rocks cut by syenite dykes.

Between 1964 and 1966, K. E. Skjonsby undertook a program of trenching and diamond drilling on what is now a portion of the Fenn-Gib property immediately south of highway 101. The objective of this work was to test the extent of north-easterly trending mineralization encountered on the old Quinn property. Twelve shallow holes totaling 375.2 metres were completed. This showing returned up to 28 g/t across narrow intervals (less than 45cm).

Hollinger Consolidated Gold Mines Limited conducted substantial exploration programs in Guibord Township in the mid 1960's. Seven holes totaling 1,825m were drilled in various parts between 1964 and 1966. One of these holes G-15, drilled on the west shore of Guibord Lake encountered several short intervals of gold mineralization including 2.23 g/t over 0.91m. This drilling is near the current west limit of the Fenn-Gib Deposit.

The Gib property (eastern Fenn-Gib) was included in a group of 134 claims that was later reduced to 53 claims staked by Cominco Limited in 1976. A series of work programs including geological and geophysical surveys with overburden and diamond drilling were carried out between 1976 and 1985. The bulk of this work included 73 overburden holes totaling 2,758 metres and 27 diamond drill holes totaling 2,763 metres was carried out on and adjacent to a syenite plug in the south central portion of the property. A number of gold intersections including 3.05 metres of 7.54 g/t (average of two assays), 3.94g/t over 6.13 metres and 19.55 g/t over 1.70 metres were returned. Cominco appeared to have lost interest in the project and the property became dormant after 1985.

Lacana Exploration acquired the Fenn property (western Fenn-Gib) and between 1984 and 1986 conducted geological mapping, trenching, geophysical surveys and almost 4,000 metres of diamond drilling. In 1988, Lacana's successor company, Corona Corporation, drilled FE88-10 near the eastern boundary of the Fenn property, at the core of the Fenn-Gib Deposit. This hole penetrated a 222.51 metre section of altered volcanics which averaged 1.63 g/t. At this point Corona tried to option the adjoining Gib property but was unsuccessful.

Both the Gib and Fenn properties were acquired by Normina Mineral Development Corporation in the summer of 1993. During 1993 Normina completed ground geophysics and a four-hole 2,306.7 meter drill program. Pangea Goldfields Inc. acquired Normina's interest in the property in January 1994. Between 1994 and 1997 Pangea conducted additional ground geophysical surveys and 60,805 metres of diamond drilling in 202 holes on both the Fenn and Gib properties. Their work resulted in the outlining a low grade Main Zone (western portion of the Fenn-Gib Deposit) a non NI 43-101 compliant estimate of 8.0 million tonnes averaging 2.3 g/t using a 1.5 g/t cut-off and several higher grade lenses in the adjacent Deformation Zone (eastern part of the Fenn-Gib Deposit) (MRDI 1999 Memo). A qualified person has not done sufficient work to classify the historical estimate as current mineral resources. The issuer is not treating this historical estimate as current mineral resources. This estimate used a significantly higher cut-off grade than that reported herein; this is reflected by a lower tonnage and higher grade. The available drill data for this historic estimation is very similar to that used for the resource estimation declared herein. It is expected that the current geological and block model would provide a similar result given the same parameters.

In 1998 St Andrew Goldfields Ltd. optioned the property. St Andrew's completed a limited I.P. survey and conducted 1,430 metres of drilling in 21 holes in 1998-1999. St Andrew's work concentrated mainly on the Main Zone, outlined previously by Pangea. As part of the option agreement Pangea completed in 1998 their planned exploration program consisting of 14,090 metres of drilling in 69 diamond drill holes.

Pangea performed mining studies between 1999 and 2000 consisting of a block model, a preliminary pit and a geological potential of the zone. Exploration activity focused in the eastern half of the property, and consisted of line cutting, geophysics and diamond drilling. A total of 76.5 kilometres of line cutting, 67.5 kilometres of magnetometer and 29 kilometres of I.P. surveying followed by 1,465 metres of diamond drilling in five holes.

Barrick purchased Pangea in June of 2000 primarily for its gold assets in Tanzania. Barrick hired Breton, Banville and Associates (BBA) to complete an open-pit economic evaluation on the Fenn-Gib Deposit (Live et al. 2005). The authors used an altered version of the MRDI block model. The result was a non NI 43-101 “reserve” of 3.64Mt (diluted) at 1.69g/t using a mill cut-off of 0.9g/t and assuming a 450\$US/oz for gold. A qualified person has not done sufficient work to classify the historical estimate as current mineral reserves. The issuer is not treating this historical estimate as current mineral reserves. This historic estimate has a significantly lower tonnage than that reported herein, likely due to the lower price assumptions used for the pit optimization. The grade is higher owing to the higher cut-off grade. The available drill data for this historic estimation is very similar to that used for the resource estimation declared herein. Barrick also completed a small drill campaign on the property in search of new mineralization with no significant results.

Lake Shore Gold acquired the “Highway 101” property from Richmond Minerals Incorporated (Richmond). This property comprises the south-western corner (51.8 ha) of the Fenn-Gib Property. The claims have been held by various companies including Gui-por Gold Mines and Tandem Resources Limited. The most significant result is from C4-1A which intersected 6.7m of 7g/t Au at a hole depth of 85m (Figure 6). Richmond optioned the property to Vendome Resources Corp. in August 2009 and completed a three hole, 1200 metre drill program in March 2011. Significant values include up to 77.01g/0.81m of silver in VDR-11-1 and 1.02g/7.02m and 1.18g/6.0m of gold in VDR-11-3.

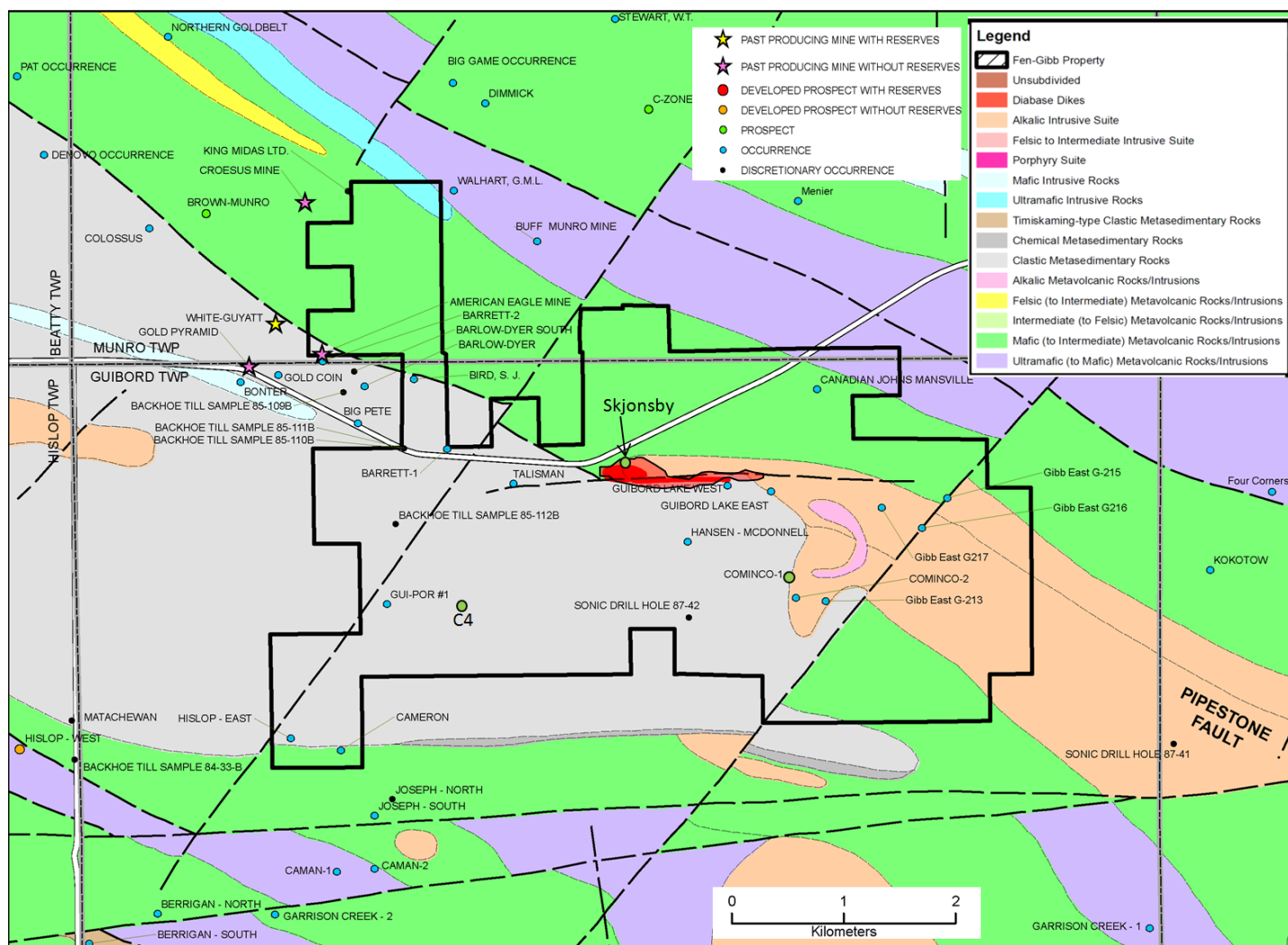


Figure 6. Geological map showing the position of the various mineral showings on and around the Fenn-Gib Property. Mineral occurrences mainly compiled by the Ontario Ministry of Northern Development and Mines. See Table 6.

Table 6. Table of mineral occurrences within the Fenn-Gib Property mainly compiled by the Ontario Ministry of Northern Development and Mines. See Figure 6 for map.

Name	Identifier	Description	Source Map	Commodity
AMERICAN EAGLE MINE	MDI42A09SE00018	The shaft 0.03 km north and 2.2 km east of the southwest corner of Munro Township.	OGS 1980, P866 MUNRO TP	GOLD
BACKHOE TILL SAMPLE 85-110B	MDI42A08NE00049	Sample pit	OGS 1986 MAP 80-843	GOLD
BACKHOE TILL SAMPLE 85-111B	MDI42A08NE00050	Sample pit	OGS 1986 MAP 80-843	GOLD
BACKHOE TILL SAMPLE 85-112B	MDI42A08NE00051	Sample pit	OGS 1986 MAP 80-843	GOLD
BARRETT-1	MDI42A09SE00155	Diamond drill hole	OGS 1951 MAP 1951-6 GUIBORD	GOLD, COPPER, ZINC
BIRD, S. J.	MDI42A09SE00057	Pit	OGS 1987 GDIF 399 EXPLORATION DATA MAP	GOLD
C4	NA	Several anomalous gold including 6.7m @ 7.1g/t Au (C4-1A)	Rennick 2004 (Tandem Resources HW101)	GOLD
CAMERON	MDI42A09SE00062	TRENCHES & DDH	OGS 1987 GDIF 399 EXPLORATION DATA MAP	GOLD, ZINC
CANADIAN JOHNS MANSVILLE	MDI42A09SE00193	Stripped area	OGS 1987 GDIF 399 EXPLORATION DATA MAP	GOLD, COPPER
COMINCO-1	MDI42A09SE00054	Diamond drill hole (G80-1: 1.9m @5.4g/t Au)	OGS 1987 GDIF 399 EXPLORATION DATA MAP	GOLD
COMINCO-2	MDI42A09SE00187	Point	OGS 1987, GDIF 399 EXPLORATION DATA MAP	GOLD, COPPER
Gibb East G-213	MDI000000000540	DDH G-313 in assessment file KL-5295	DDH G-213	GOLD
Gibb East G-215	MDI000000000539	Diamond drill hole G-215	DDH G-215	GOLD
Gibb East G216	MDI000000000541	DDH G-216 in assessment file KL-5295	DDH G-216 in file KL-5295	GOLD
Gibb East G217	MDI000000000542	DDH G-217 in assessment file KL-5295	DDH G-217	GOLD
GUIBORD LAKE EAST	MDI42A09SE00190	Diamond drill hole 397.	OGS 1987 GDIF 399 EXPLORATION DATA MAP	GOLD, COPPER, ZINC
GUIBORD LAKE WEST	MDI42A08SE00121	Diamond drill hole #398.	OGS 1987 GDIF 399 EXPLORATION DATA MAP	GOLD, COPPER, LEAD, ZINC
GUI-POR #1	MDI42A09SE00052	Point	OGS 1987 GDIF 399 EXPLORATION DATA MAP	GOLD
HANSEN - MCDONNELL	MDI42A09SE00063	Point	OGS 1987 GDIF 399 EXPLORATION DATA MAP	GOLD
HISLOP - EAST	MDI42A08SW00019	Quartz vein	OGS 1956 MAP 1955-5 TOWNSHIP OF HISLOP	GOLD
SONIC DRILL HOLE 87-42	MDI42A09SE00066	Diamond drill hole 87-42.	OGS 1988 MAP 81-119	GOLD
Skjonsby	NA	NA	NA	GOLD
TALISMAN	MDI42A09SE00188	Shaft	OGS 1951 AR VOL 60 PT9 MAP 1951-6 GUIBORD	GOLD, LEAD, SILVER

Table 7. Table of mineral occurrences surrounding the Fenn-Gib Property compiled by the Ontario Ministry of Northern Development and Mines. See Figure 6 for map.

Name	Identifier	Description	Commodity
BACKHOE TILL SAMPLE 84-33-B	MDI42A09SW00044	Sample pit 84-33B.	GOLD, ZINC
BACKHOE TILL SAMPLE 85-109B	MDI42A08NE00048	Sample pit	GOLD
BARLOW-DYER	MDI42A09SE00152	Shaft in Guibord Tp.	GOLD, LEAD, ZINC
BARLOW-DYER SOUTH	MDI42A09SE00050	SHAFT, TRENCHES & PITS	GOLD
BARRETT-2	MDI42A09SE00051	Point	GOLD
BERRIGAN - NORTH	MDI42A08NE00059	PITS & DDH	GOLD
BERRIGAN - SOUTH	MDI42A08NE00060	Diamond drill hole #375.	GOLD
BIG GAME OCCURRENCE	MDI42A09SE00149	A point 2.40 km north and 3.48 km east of the southwest corner of Munro Township.	GOLD, ZINC
BIG PETE	MDI42A09SE00154	SHAFT in Guibord Township. The Big Pete occurrence is on patented claim no. 9454.	GOLD, LEAD, ZINC
BONTER	MDI42A09SE00151	Pits in Guibord tp.	GOLD, LEAD
BROWN-MUNRO	MDI42A09SW00002	Old shafts, pits, and trenches are in the (patented) north half of lot 11, concession I,	GOLD
BUFF MUNRO MINE	MDI42A09SW00154	The two Buff-Munro Mine shafts are in the southwest quarter of the north half of lot 7, concession 1 area	GOLD, ASBESTOS, LEAD, ZINC
CAMAN-1	MDI42A08NE00052	Diamond drill hole #8.	GOLD
CAMAN-2	MDI42A08SE00027	Diamond drill hole #3.	GOLD
COLOSSUS	MDI42A09SW00140	Shaft in Lot 12, Con 1.	GOLD, LEAD, ZINC
CROESUS MINE	MDI42A09SE00012	The Croesus Mine is in southwest Munro Township, about 15 km east of Matheson. The old shaft and most of the underground workings are on patented claim no. 11581.	GOLD, SILVER
C-ZONE	MDI42A09SE00199	Trench	GOLD
DENOVO OCCURRENCE	MDI42A09SW00019	The former Denovo Gold Mines Ltd. Property	GOLD
DIMMICK	MDI42A09SE00027	A point 2.35 km north and 3.70 km east of the southwest corner of Munro Township.	GOLD
Four Corners	MDI00000000592	Diamond drill hole FC-07-09	GOLD
GARRISON CREEK - 1	MDI42A08NE00222	Diamond drill hole #302.	GOLD, COPPER
GARRISON CREEK - 2	MDI42A08NE00067	Diamond drill hole #309.	GOLD
GOLD COIN	MDI42A09SE00185	Pits And Trenches	GOLD, LEAD, ZINC
GOLD PYRAMID	MDI42A09SE00153	A point 1.57 km east and 0.01 km south of the northwest corner of Guibord Township. Overgrown pits and trenches blasted into quartz veins occur	GOLD, COPPER, LEAD, SILVER
HISLOP - WEST	MDI42A09SW00033	Old Pit: A point 3.49 km south and 0.50 km west of the northeast corner of Hislop Township. Sparse bedrock exposure, overgrown trenches, and two (now rock and gravel filled) shafts are east of the Pike River in the north half of lot 1, concession	GOLD
JOSEPH - NORTH	MDI42A09SE00064	Point	GOLD
JOSEPH - SOUTH	MDI42A09SE00065	Point	GOLD
KING MIDAS LTD.	MDI42A09SE00029	A point 1.90 km north and 2.53 km east of the southwest corner of Munro Township.	, GOLD
KOKOTOW	MDI42A09SE00177	Diamond drill hole M-3.	GOLD, COPPER
MATACHEWAN	MDI42A09SW00042	Diamond drill hole 84-1.	GOLD
Menier	MDI00000000537	Diamond drill hole MM-90-3 from assessment file map KL-3243	GOLD
NORTHERN GOLDBELT	MDI42A09SW00155	A point 2.84 km north and 0.95 km east of the southwest corner of Munro Township.	GOLD, SILVER, COPPER, LEAD, ZINC
PAT OCCURRENCE	MDI42A09SW00022	Pits 2.60 km north and 0.51 km west of the southeast corner of Beatty Township.	GOLD
SONIC DRILL HOLE 87-41	MDI42A09SE00048	Sonic drill hole 87-41.	GOLD
STEWART, W.T.	MDI42A09SE00010	A point 3.03 km north and 4.84 km east of the southwest corner of Munro Township.	GOLD
WALHART, G.M.L.	MDI42A09SE00009	A point 1.40 km north and 3.60 km east of the southwest corner of Munro Township.	GOLD
WHITE-GUYATT	MDI42A09SW00127	A point 0.40 km north and 1.80 km east of the southwest corner of Munro Township.	GOLD, LEAD, ZINC

7- Geological Setting and Mineralization

This section is largely summarized from Pangea Drilling Reports (Brown 2002; Marchand 1996) it has been reviewed and verified by SGS Geostat.

7.1 Regional Geology, Structure and Local Geology

The Fenn-Gib property is located in the southern portion of the Abitibi Sub-province, which is part of the Superior Province of the Canadian Shield. The Abitibi Sub-province is principally composed of volcanic and sedimentary assemblages that have generally been metamorphosed to greenschist facies and intruded by late tectonic plutons of tonalite and trondhjemite affinity. The property area is underlain by rocks of the Hoyle sedimentary Assemblage and the Kidd-Munro volcanic Assemblage, and lies on the northern portion of the Blake River Synclinorium and approximately three kilometres north of the Porcupine-Destor Fault (Figure 7).

The Hoyle Assemblage, a sedimentary package, consists of feldspathic wackes, argillites, siltstone and conglomerate. The Kidd-Munro Assemblage, a volcanic package, consists of mafic to ultramafic basalts, with peridotitic to basaltic komatiite and minor rhyolite tuff. Both assemblages are considered to be north facing and conformable, but appear to be in an unconformable relationship in Guibord Township. This unconformity is represented by the Contact Fault, deformation, various intermediate and felsic intrusions.

The main structural features of the area are the Blake River Synclinorium, the Porcupine-Destor Fault Zone and the Cadillac-Larder Lake Fault Zone. The fault zones are respectively located on the north and south limbs of the synclinorium. These structures were formed during the Kenoran Orogeny, a period of north-south compression. The Blake River Synclinorium forms a steeply dipping structure with a south-east to east trend. It consists of successive isoclinally folded strata with an east-west fabric. The two main breaks are high strain zones characterized by moderate to strong shearing, brecciation, carbonate alteration and quartz veining. The break is the preferred site of intrusion of a variety of granitoid rocks and mafic dykes with associated gold mineralization. It appears that all known major gold deposits in the southern Abitibi are located within a few kilometres of these two fault zones (Figure 8). Within the vicinity of the Fenn-Gib property the Porcupine-Destor fault Zone occurs as a "z-shaped" sigmoidal structure that splits into three branches. Both extremities of the "z-shaped" structure are east-west trending while the central portion is more south-easterly trending. Due to poor exposure, the sense and magnitude of displacement along these structure in the Fenn-Gib property area is unknown, but based on more regional information it is thought to mainly be vertical. In the Timmins area where it is well exposed, a sinistral strike-slip movement with a vertical component is reported whereby the south block moved up relative to the north block (Berger 2002).

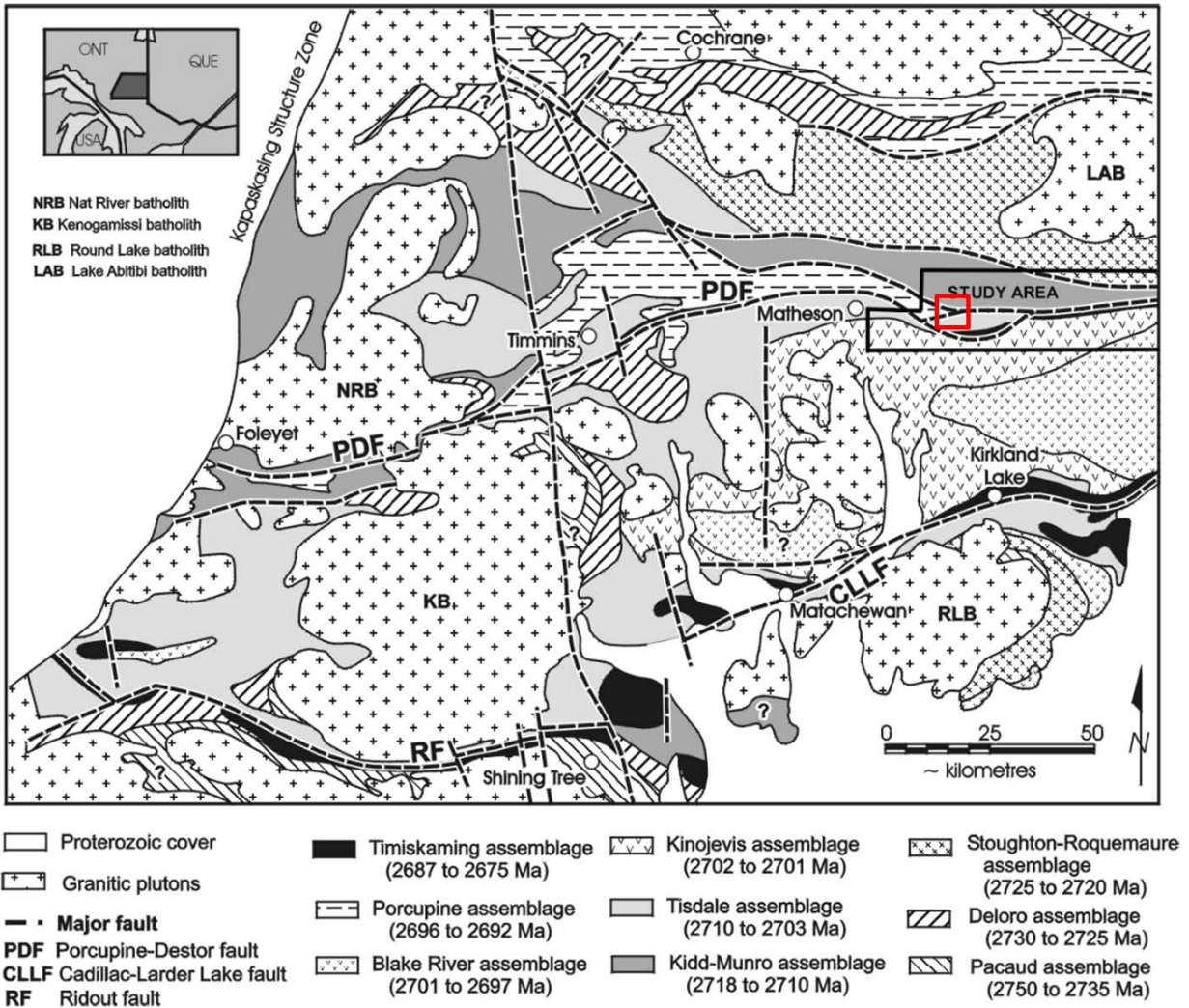


Figure 7. Regional Geological map of the Timmins area. The location of the Fenn-Gib property is shown by the red square. Image from Berger (2002).

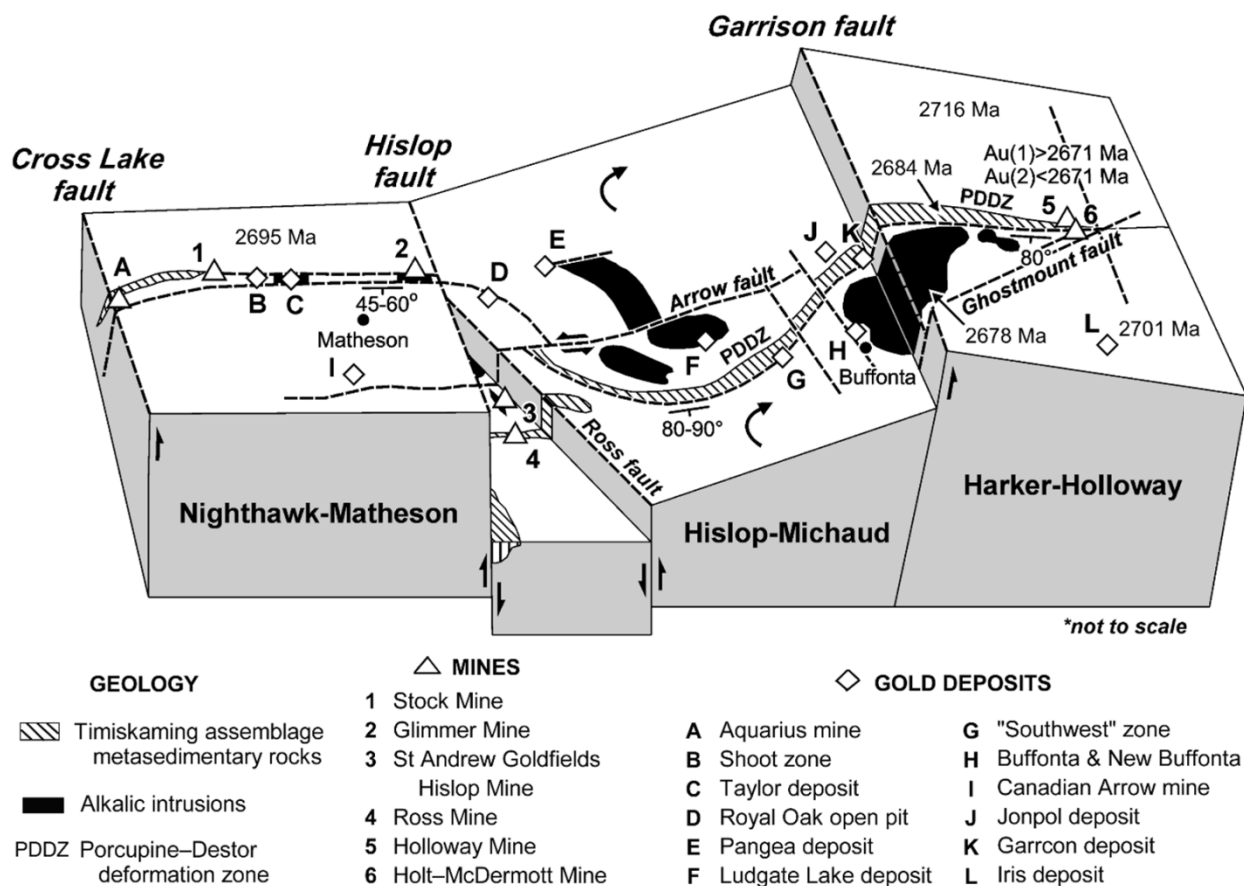


Figure 8. Structural model of the area east of Matheson. The lozenge labelled "F" near the center of the figure (Pangea deposit) is the Fenn-Gib deposit. Figure from Berger (2002).

Stratigraphic assemblages located on both sides of the Destor-Porcupine Break System display prehnite-pumpellyite facies metamorphism. Locally, these rocks were affected by contact metamorphism caused by the late emplacement of alkali syenite stocks and the rise of the lake Abitibi and Round Lake Batholiths. Contact aureoles of albite-epidote-hornblende are developed in the volcanic rocks surrounding the region's alkalic intrusions, and alkali metasomatism is common, particularly where rocks are sheared along the Destor-Porcupine Fault Zone. Towards the Lake Abitibi Batholith, the metamorphic grade gradually increases from sub-greenschist to lower, middle and upper greenschist facies to eventually reach amphibole facies at the contact.

7.2 Property Geology

7.2.1 General Geology

The property is underlain by the dominantly volcanic Kidd-Munro Assemblage to the north and the dominantly sedimentary Hoyle Assemblage to the south. The two sequences are juxtaposed along the Contact Fault, an east-west to south-east trending shear zone, which is interpreted to be a splay of the Porcupine-Destor Fault Zone. Within the property the Contact Fault is characterized by brittle deformation accompanied by intense carbonatization and silicification. Rocks from both assemblages were intruded by a variety of late intrusive rock including syenite and granitoid plugs and dykes, lamprophyre dykes and diabase dykes (Figure 10). A three kilometre long, by 100 to 200 metres wide mafic intrusive complex intrudes the Kidd-Munro Assemblage at or near its southern contact.

All lithologic units in and adjacent to the deformation zone are moderately to intensely altered. This alteration persists for a distance north and south of the fault outlining a major alteration halo at least two kilometres in length and 500 metres wide. A variety of alteration styles occur within the broad alteration halo including silicification, albitization, potash metasomatism, carbonatization, sericitization, chloritization and hematization. Mariposite occurrences are widespread within the deformation zone. Sulphide mineralization, chiefly pyrite, occurs as disseminations and fracture fillings in concentrations ranging from trace to 15% in association with the more strongly altered areas. Gold is commonly associated with the sulphide mineralization especially in areas of coincident silicification and albitization.



Figure 9. Photographs of drill core illustrating the alteration surrounding the Fenn-Gib Deposit. Albite-Quartz-Pyrite alteration associated with gold mineralization (left). Epidote carbonate alteration in volcanic rocks distal from mineralization (right). Photos are 3cm in height.

Several styles of gold mineralization are recognized in the Fenn-Gib property area. The most common type of gold mineralization recognized to date consists of quartz-carbonate veins, stringers and breccias hosted within intensely altered volcanic rocks and granitoid intrusions (Fenn-Gib Deposit). A second style is gold associated with intensely altered sediments with variable fine crystalline pyrite within and in the hanging wall to the Deformation Zone. A third style of gold mineralization is associated with alteration, shearing and sulphides in NNE trending structures.

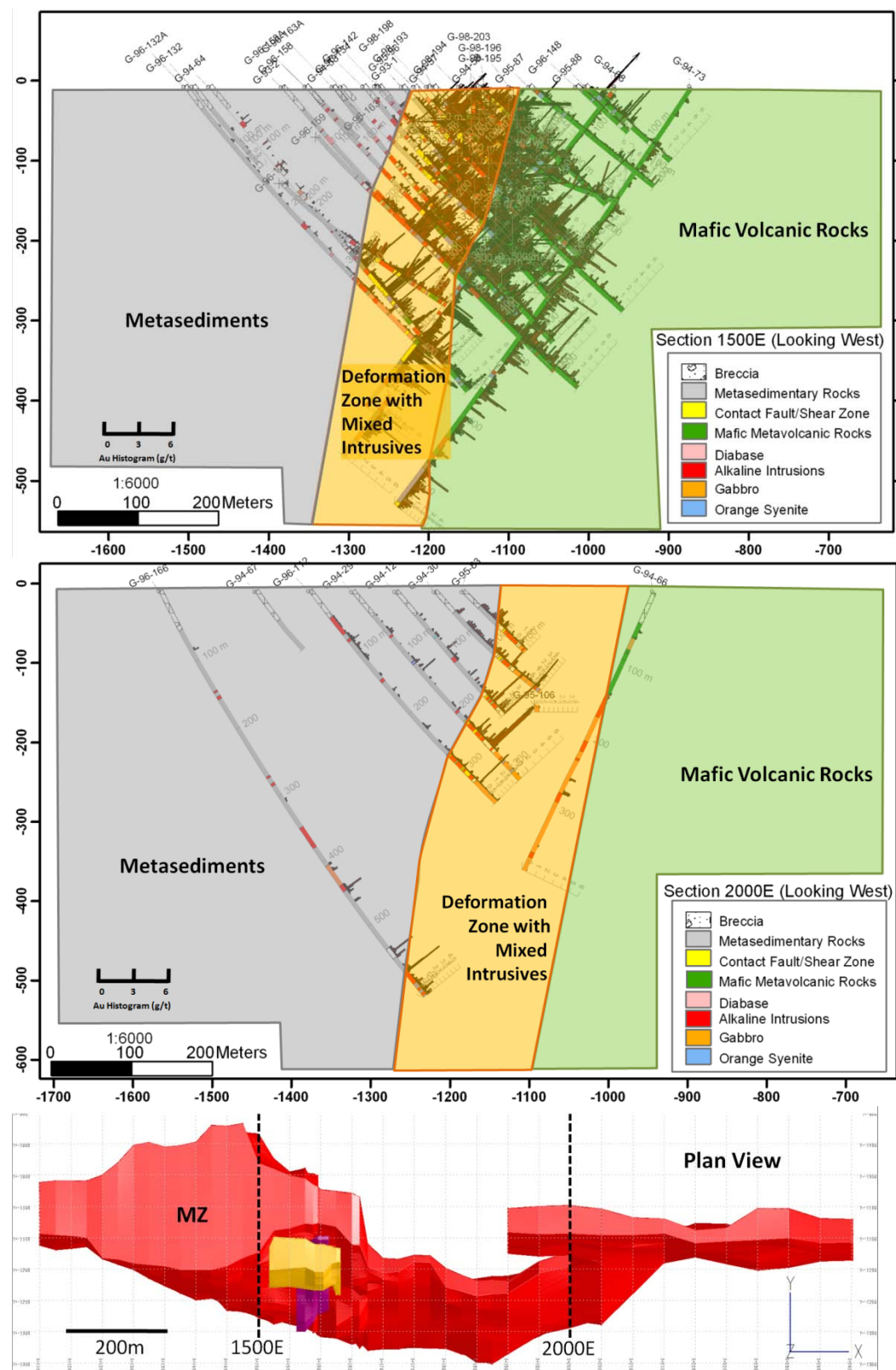


Figure 10. Schematic cross section showing distribution of drilling, lithological contacts and gold grade at two typical sections in the Fenn-Gib Deposit.

7.2.2 Kidd Munro Assemblage

The Kidd-Munro Assemblage consists of iron rich tholeiitic flows interlayered with komatiitic flows and peridotitic sills. Tholeiitic flows are medium to dark green, aphanitic to medium crystalline and include pillow lavas, flow top breccias and variolitic lavas. Komatiitic flows are dark green and consist of fine crystalline and massive serpentine rich rocks usually altered to talc-chlorite. These units are generally east-west trending, interpreted to be north facing, and dip gently to the south at 45 to 55 degrees.

The Kidd-Munro Assemblage is host to a highly magnetic mafic intrusive body. This intrusion is 100 to 200 metres wide with a strike length of greater than two kilometres inferred from diamond drilling and geophysical data. It consists of a biotitic gabbro with minor peridotite and komatiitic flows. The magnetic map suggests that the mineralization is associated with this intrusion. The magnetism is likely a function of excess Fe taking the form of magnetite during the serpentinization and chloritization of olivine and pyroxene in the ultramafic rocks. The southern contact of the intrusion is truncated by the Contact fault while the northern contact with its volcanic host is often gradual and typically marked by syenitic dyklets.

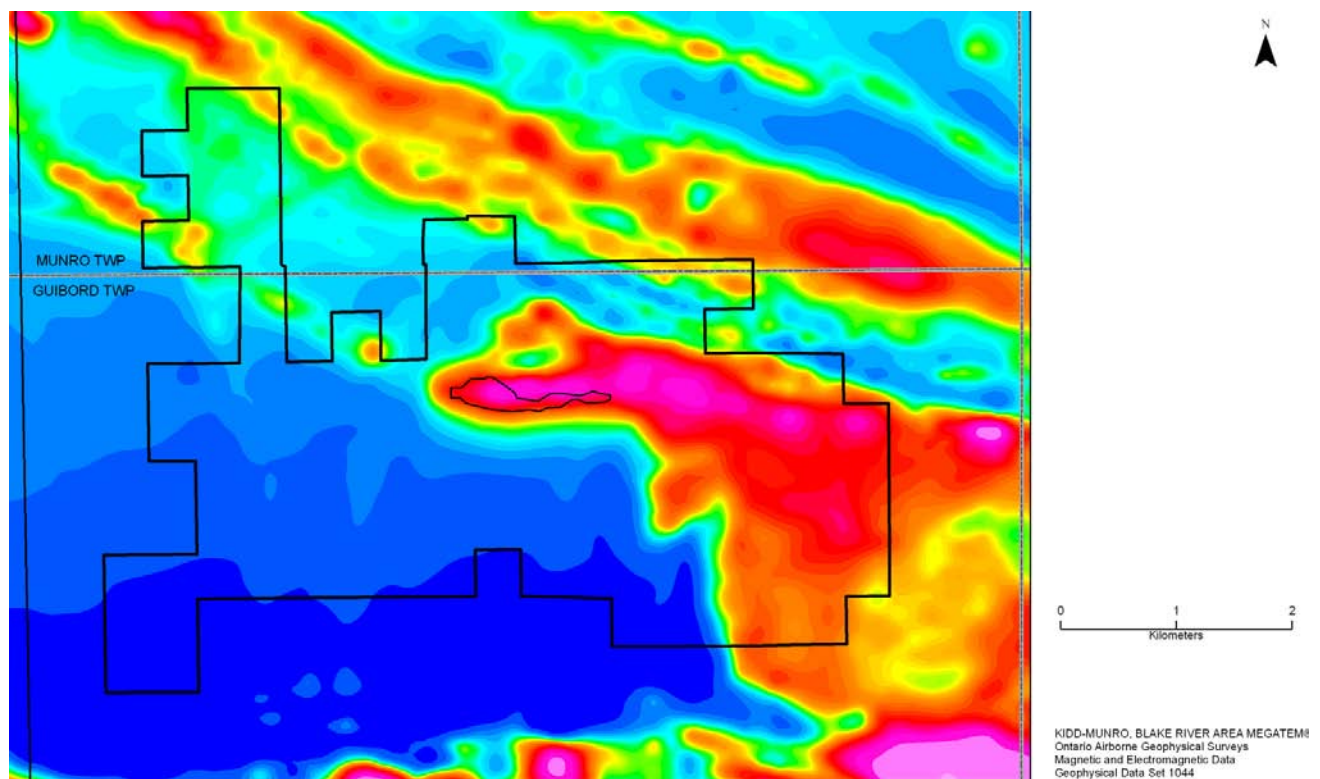


Figure 11. Aeromagnetic map of the Fenn-Gib Property (Ontario regional MegaTEM survey). The outline of the Fenn-Gib deposit is shown.

7.2.3 Hoyle Assemblage

The Hoyle Assemblage consists mainly of turbiditic greywackes interlayered with argillites and occasionally conglomerates. Greywackes are generally massive, medium grey to grey green in colour whereas the argillites are dark grey to black, massive or finely laminated. Beds dip steeply to the south and are interpreted to be north-facing, based on well developed upward fining cycles, cross bedding and rip-up clasts. Within the Deformation Zone of the Fenn-Gib deposit, the Hoyle sedimentary package is the main host for gold mineralization, and two historic mines occur on the property within this unit (American Eagle and Talisman; Figure 6). Mineralization within this unit tends to be far more localized within veins as opposed to the broad disseminations observed in the volcanic rocks to the north.



Figure 12. Photograph of Argillite (bottom row) and sandstone (upper row) cut by veinlets of quartz-carbonate within the Hoyle Assemblage.

NQ core (47mm diameter).

7.2.4 Late Intrusive Dykes

Several generations and compositions of late dykes and sills intrude the deformation zone as well as the Hoyle and Kidd-Munro Assemblages. The various rock types form an elongated east-striking intrusion that is varitextured, pegmatitic and aplitic in the west and becomes more equigranular, homogenous and mafic (diorite to gabbro) to the east. The intrusion progressively widens eastward from approximately 150m to greater than 1000m and becomes more felsic to the south. Syenite and lamprophyre dikes extend up to 800m west of the intrusion, but are most abundant near the west contact of the intrusion with the Kidd-Munro assemblage (in the vicinity of the Fenn-Gib Deposit). The alkalic rocks display an intrusive contact with the Kidd-Munro assemblage. Greenstone xenoliths occur in the intrusion near the contact. There is a narrow contact-metamorphic aureole developed along the north side of the intrusion (Berger 2002). The Deformation Zone represents the preferential site of intrusion of five of these late intrusive dykes. The different lithological types of late intrusive rocks are described in MPH Consulting report on the Fenn-Gib property as follows.

- 1: Grey Syenite: These dykes are medium grey coloured, siliceous, fine crystalline to aphanitic with occasional tiny white feldspar phenocrysts. They are generally well mineralized with pyrite (trace-10%), and are gold bearing. This unit is generally highly fractured and sheared due to its position within the Deformation Zone.
- 2: Feldspar porphyry: Two types of feldspar porphyry are recognized. The first one consists of a 10 to 15 metre wide body intruding the Hoyle sediments south of the Deformation Zone. This unit has abundant often well zoned euhedral to subhedral feldspar phenocrysts up to 1 cm in diameter in a sericitized light grey groundmass. This unit is not affected by deformation and is barren. The second type of feldspar porphyry is a unit which marks the north contact of the Deformation Zone. It contains 3% to 10% white feldspar phenocrysts (<1mm) in a fine crystalline siliceous groundmass which has been variably carbonatized, sericitized and locally hematized. It is light olive green to buff beige in colour and is generally not gold bearing.
- 3: Orange syenite: Orange to red porphyritic to megacrystic syenite dykes and dykelets cut the volcanic flows and intrusive complex of the Kidd-Munro Assemblage. They are not noted in the Hoyle sediments and only rarely noted within the Deformation Zone. Within the volcanics, they occur as single injections up to 20 metres wide and as swarm-like injections up to 1 metre wide. They are interpreted to be late and often have a sharp but low-angled contact with the volcanics. They generally dip 45 to 55 degrees in the volcanics and steepen to about 70 degrees in the Deformation Zone. The orange syenite dykes are thought to be closely related to gold mineralization in the Main Zone, since their contacts with the volcanics are often enriched in gold (1-8 g/t).
- 4: Ferro-Diorite: This unit is primarily encountered in the eastern portion of the Deformation Zone. It consists of whitish, aphanitic, feldspathic groundmass speckled with up to 10% black magnetite. It often has significant gold mineralization over narrow widths.
- 5: Intermediate dyke: The intermediate dyke is fine crystalline to aphanitic and often pervasively altered by carbonatization, sericitization and silicification. It is light green to beige in colour and generally massive.

6: Lamprophyre: The lamprophyre is a massive light grey to brick red dyke characterized by the presence of 3 to 8% biotite phenocrysts in a moderately to strongly carbonatized groundmass. It is weakly to moderately magnetic and usually barren of mineralization. Thin-section study of the lamprophyre dykes and altered intermediate dykes shows that the two rocks are related and of syenitic origin.



Figure 13. Photograph of mineralized intrusive units encountered in core.

Upper row comprises diorite, whereas the bottom row represents an orange syenite. NQ core (47mm diameter).

The link between the various felsic intrusive and gold mineralization has not been independently tested by either Lake Shore Gold or SGS Geostat. Over the course of the estimation process, an attempt was made to model the individual felsic units within and between sections. This proved impossible due to the chaotic nature of these rocks. Any future three dimensional lithological models may have to lump units together. This would be appropriate because several of these units appear to be cogenetic and represent lateral evolution within the same intrusions.

7.3 Mineralization

7.3.1 Introduction

Significant concentrations of gold mineralization on the Fenn-Gib property occur within two zones; 1) the Main Zone, and 2) the Deformation Zone. These two zones overlap completely and are referred herein as the Fenn-Gib Deposit.

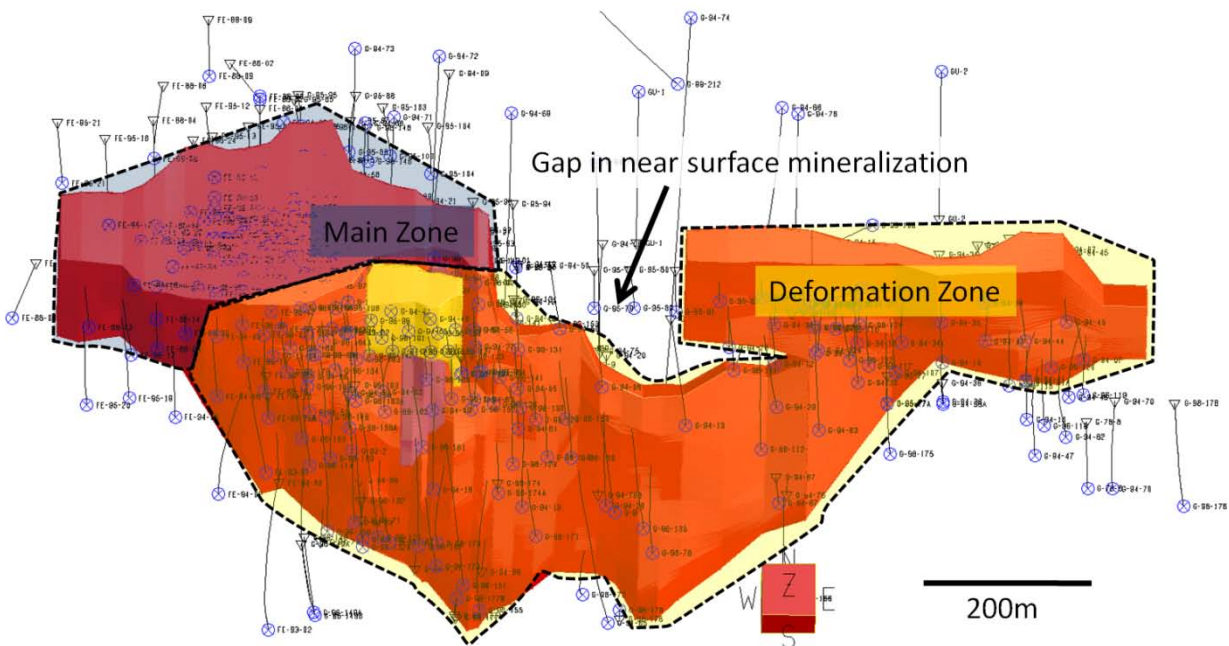


Figure 14. Orthogonal image of the mineralized envelopes of the Fenn-Gib Deposit (looking down and slightly north).

Note the gap in near surface gold mineralization near the center of the deposit. Also note that the Main Zone mineralization continues at depth behind the deformation zone shown here.

The Main Zone is a broad zone of disseminated gold mineralization up to 250 metres wide with grades for gold between 0.50 to 3.00 g/t. Massive, pillowed and variolitic basalts crop out and can be seen in diamond-drill core from holes collared near Highway 101. Hydrothermally altered variolitic basalts are the principal hosts of the Main Zone mineralization. These basalts were affected by pervasive and vein silicification, carbonatization, albitization, pervasive but weak hematization, and vein sericitization. Syenite and lamprophyre dikes intruded the basalts and are locally mineralized. Pyrite is the main sulphide mineral and occurs as disseminations and in veins, locally up to 50%, over narrow intervals (average 5 to 10%) (Berger 2002).

The Deformation Zone contains narrower and higher grade intersections associated with altered sediments, intermediate dykes and grey syenite. Gold mineralization is associated with pyrite either in quartz healed breccias or as very fine disseminations. It has been interpreted that the Contact

Fault acted as a channel for gold bearing hydrothermal fluids and is host to the Deformation Zone and the southern boundary of the Main Zone.

A diatreme breccia was encountered in diamond-drill core in the southeast part of the property; see Cominco showings in Figure 6. This breccia is associated with anomalous gold mineralization and represents another exploration target on the Pangea property. Rocks in this area are ultrapotassic; pseudoleucite bearing and associated with fluorite.

Two historic mines were operated in the early 1900s within quartz-carbonate veins in the Hoyle sediments (Talisman and American Eagle on Figure 6). Little is known about these deposits, in terms of grade and control on mineralization.

7.3.2 Main Zone

The Main Zone comprises the western part of the Fenn-Gib deposit, and makes up the bulk of the tonnage. Most of the mineralization lies west of a late diabase dyke at 1525E. It comprises a broad area of disseminated gold mineralization containing higher grade lenses and shoots. At the east and west extremities of the zone the mineralization breaks up in to a number of narrow finger like lenses. Diamond drilling on 25 metre centres has delineated the zone to a depth of 300 metres (Figure 14). A few deep holes have demonstrated that a portion of this zone does extend to at least 600 metres vertically below surface.

Geologically, the Main Zone comprises a series of east-west striking, vertical to steeply south dipping massive to variolitic basalts lying near the western nose of an intrusive gabbro body. In this area the basalt has been intruded and intensely altered by a swarm of syenite dykes. The basalt, syenite and gabbro have in turn been intruded by lamprophyre and diabase dykes. The northern boundary of the zone is a series of chloritic basalts while the southern boundary is marked by highly altered and strained rocks related to the contact fault. The mineralization is hosted in albitized and silicified variolitic mafic volcanic rocks, syenite dykes and quartz veins. Pyrite is present in the altered rocks and averages up to 12% (Figure 9 and Figure 13). Magnetite is common in the syenite and altered mafic volcanics.

Early exploration of the Main Zone interpreted the mineralization to be contained within a series of stacked veins but recognized the possibility that some of the gold mineralization may be related to north-northeast trending structures. Several holes were completed drilling to the west to test this hypothesis. Although a number of drill holes encountered mineralization along the western edge of a syenite complex orientated in a general north-northeast direction the overall results of this east-west drilling were inconclusive (Brown 2002).

7.3.3 Deformation Zone

The Deformation Zone comprises the eastern and southern parts of the Fenn-Gib Deposit. Mineralization extends over a length of 1.2 kilometres and is hosted within highly strained and altered rocks associated with the contact fault. The mineralization is contained within a series of lenses that strike east-west, dip vertically or steeply to the south and plunge to the southeast. The Deformation Zone mineralization has been tested by diamond drilling to approximately 300 metres below surface and sporadically below 300 metres to a maximum of 600 metres below surface (Figure 14). There is a gap in near surface mineralization; however drilling suggests that gold mineralization is connected at depth (Figure 14).

The Deformation Zone is marked by hydrothermal alteration. The alteration is more pervasive and widespread in the sediments to the south than in the volcanic package to the north. As a result the gold mineralization is more extensive within the Hoyle sediments than in the Kidd-Munro volcanic rocks.

The hanging wall of the Deformation Zone consists of moderately to strongly microfractured and brecciated sediments affected by pervasive silicification, carbonatization and sericitization. Gold mineralization is associated with disseminated pyrite but is more commonly concentrated in pyritic quartz-healed breccias and quartz-carbonate stringers. Cataclasites can occur as mineralized lenses which have been transposed along fault planes. These lenses are also cut by late barren lamprophyre dykes. The Deformation Zone has been interpreted to vary in width from less than 20 metres to locally greater than 75 metres, on average it is 40 to 50 metres wide, and is host to a wide variety of syn- to post-mineralization dykes. The hanging wall or south contact of the Deformation Zone is marked by either a lamprophyre or intermediate dyke, which is often barren. The footwall or north contact of the Deformation Zone is almost invariably marked by a buff-beige feldspar porphyry dyke (Figure 15). Lesser amounts of grey syenite and ferro-diorite have also been noted within the Deformation Zone. Dykes account for anywhere 40% to 80% of the width of the Deformation Zone, with the remainder of the zone comprised of strongly altered and sheared rocks interpreted to be sediments (Brown 2002).



Figure 15. Photograph of “Buff Porphyry” which often marks the north limit of the deformation zone.

NQ core (47mm diameter).

8- Deposit Types

Four major types of gold deposits are recognized in the Abitibi Greenstone Belt. Robert and Poulsen (1997) identified three major types and Berger and Amelin (1998) have suggested a fourth. In order of the timing of development, these deposit types are synvolcanic and synsedimentary deposits, syenite - associated deposits, syntectonic mesothermal vein deposits, and remobilized post-tectonic vein deposits.

Synvolcanic deposits include VMS related gold deposits with ocean floor alteration and replacement facies, and are represented primarily by the Horne deposit in Quebec. Synsedimentary deposition of gold is considered to be at least one important factor localizing gold in the Aunor and Dome deposits of the Timmins camp. These early mineralizing events sparked interest in volcanic and sedimentary processes.

Syntectonic plutons, intruded near regional-scale shear zones became the focus of exploration and research due to their close spatial relationships with some gold deposits. Mineralizing fluids are interpreted to have been derived from the plutons during emplacement. Numerous examples of this type of deposit can be found in the Abitibi, including at least one phase of mineralization at the Aunor and Dome deposits, as well as deposits associated with the Bourlamaque pluton of the Val D'Or district, the Kienna mine, the Kerr-Addison deposit, the Hollinger McIntyre deposit, the Holt McDermott deposit and the Holloway deposit. The Fenn-Gib deposit is best represented by this model.

Mesothermal syntectonic vein deposits are associated with carbonate-albite-tourmaline veins which cross-cut the regional foliation. The deposits are thought to have developed syntectonically, based on structural relationships, with deep crustal fluids that used the active shear zones as conduits, contemporaneous with orogenesis and peak metamorphism. Examples of such deposits include the Camflo Mine and the Sigma mine.

A fourth, less common type of deposit, occurs as quartz veins with north-south strikes and moderate dips, and is thought to be due to a remobilization of gold bearing fluids along north-south fractures (Berger and Amelin 1998). These deposits cross cut regional fabrics and formed late in the tectonic history of the area. The Croesus mine, perhaps the highest grade deposit in the Abitibi, is thought to be one such deposit. This historic mine is located less than 4km to the north west of the Fenn-Gib Deposit within the volcanic rocks of the Kidd-Munro Assemblage.

In the case of synvolcanic and syenite associated deposits the fluids were most likely derived from magmatic activity. For the syntectonic mesothermal vein deposits, fluids may have been metamorphic fluids from the deep crust. The literature suggests that there were at least three phases of gold introduction into the Abitibi: synsedimentary and synvolcanic introduction of gold, followed by intrusion-related gold mineralization and a final metamorphism related mineralizing event.

9- Exploration

Prior to the effective date of this report, Lake Shore Gold has not completed any exploration activities on the property other than data compilation, check sampling and drill hole twinning. Those activities are described in other sections of this report. An orientation soil geochemical survey (MMI) on a single line was initiated prior to the effective date of this report; however the data has not been reviewed.

10- Drilling

The vast majority of drilling on the Fenn-Gib Property was completed by previous exploration and mining companies. Lake Shore Gold completed 4 drill holes whose primary purpose was to duplicate existing drill holes and mineralized sections to illustrate the quality of historic drilling. The data from these 4 drill holes were not included in the resource estimation reported herein.

Cominco completed 4 fences of short Reverse Circulation (RC) drill holes that were completed on the east side of the property. The apparent goal of this drilling was to test the bedrock composition. The results of this drilling was not available to SGS Geostat at the writing of this report and we cannot comment on its validity.

The remaining drilling is of the traditional diamond drill core variety; mostly BQ and some NQ diameter. The majority of drilling completed on the Fenn-Gib deposit was completed by Pangea in the mid to late 1990s. They used a combination of BQ and NQ core which was split by saw and sample tags were inserted in the wooden core box with the remaining core (Figure 16). Samples were sent to various laboratories for analyses depending on the year; this is described in section 11. Core is stored in a series of racks in Matheson and is in very good condition. Access to the core is not restricted by any security measures. Pangea measured deviation with Sperry Sun instruments that use a gyroscope and are not susceptible to magnetic effects. No obvious deviation errors were encountered in the database. No specific mention of core recovery was encountered in the historical reports however NQ drilling executed by Lake Shore Gold in 2011 returned 99.9% core recovery. The Fenn-Gib gold mineralization is hosted in competent rocks.



Figure 16. Photographs showing the state of historic core. Core racks on left, and typical BQ core with preserved box tag and legible sample tag.

Drill holes were located in the field with respect to the exploration grid that was established by Pangea (Table 8). Collar locations are generally indicated by a metal tag embossed with the drill hole number attached to a metal post that is generally 1.5 metres high. Eleven historic drill collars were identified in the field with a handheld GPS by SGS Geostat. These positions differed by 3.1m on average from the position in the database, with a maximum of 8.2m. These values are well within the error for a handheld GPS. Lake Shore Gold had a sample of 18 drill collars positioned by Differential GPS. The position of these drill holes differed on average by 1.6m with a maximum of 7.8m when compared to those recorded in the database. The DGPS position is considered correct and the difference is likely related the inherent error when locating drill holes in the field with a local grid. Overall, the drill hole positions in the database appear to correspond closely with those measured independently.

The average dip of drill holes is -50.9° to the north, and the mineralized body has an average dip of -75° to the south (relatively consistent). This means that on average the intersection width is over-representing the true length by an average of 22%.



Figure 17. Photographs showing the drill collar witnesses. Two types of metal tags were found which were embossed with the drill hole number.

The resource estimate reported herein uses a 3D model which uses the real geometrical limits of the deposits. A list of drill holes and the mineralized intervals that were used in the resource estimation is shown in Table 9. The mineralized intervals are limited by the mineralized envelope which is mainly guided by the gold grades, as described in Section 14. In some cases the grade of the mineralized interval is below the cut-off grade; this is due to attempts to retain a geologically reasonable shape for the mineralized envelope. It is impossible to model out all the waste gaps; the interpolation process is designed to respect the low grade portions within the mineralized envelope. In most mineralized intervals there are some higher grade intersections which have an impact on the overall grade of the intervals. The Fenn-Gib deposit is not particularly prone to overstatement of grade due to very thin and high grade intersections; principally because mineralization is generally lower grade and spread over significant widths. See discussion regarding capping and compositing in section 14.3.

Table 8. Drill hole collar locations and lengths (1 of 2)

HOLE-ID	X	Y	Z	Az	DIP	LENGTH	HOLE-ID	X	Y	Z	Az	DIP	LENGTH
FE-86-01	1219	-500	-7	360	-45	146.3	FE-99-58	1390	-1098	-6	360	-45	50
FE-86-02	1388	-940	-4	335	-45	112.62	FE-99-59	1405	-1089	-5	360	-45	50
FE-86-03	1389	-936	-4	180	-45	363.65	G-02-213	3150	-2175	0	179	-60	245
FE-86-04	1390	-1031	-7	0	-45	167.03	G-02-214	3750	-2050	0	134	-60	281
FE-88-04	1264	-1100	-6	0	-50	312.72	G-02-215	4250	-1325	0	179	-60	398
FE-88-05	1266	-1257	-6	0	-50	288.34	G-02-216	4050	-1500	0	359	-60	269
FE-88-06	1093	-1218	-7	15	-45	160.32	G-02-217	3650	-1400	0	359	-60	272
FE-88-07	1265	-1177	-6	0	-45	267	G-78-8	2380	-1424	-11	360	-50	173.7
FE-88-08	1262	-1016	-4	0	-45	181.36	G-9	1814	-1460	-8	356	-55	441
FE-88-09	1328	-911	-3	0	-45	139.29	G-93-1	1495	-1234	-7	0	-50	395.02
FE-88-10	1395	-1309	-6	0	-45	464.82	G-93-2	1499	-1384	-7	0	-50	529.13
FE-88-11	1280	-1122	-6	0	-45	106.98	G-94-01	1593	-1257	-7	360	-50	331
FE-88-12	1247	-1120	-6	0	-45	108.51	G-94-02	1639	-809	-7	330	-46	178.92
FE-88-13	1184	-1229	-7	0	-45	302.97	G-94-03	1733	-754	-7	330	-45	169.47
FE-88-14	1266	-1219	-7	360	-45	191.44	G-94-04	1833	-709	-8	330	-45	158.84
FE-93-01	1396	-1412	-7	355	-45	537.67	G-94-05	1698	-1303	-8	360	-50	367.59
FE-93-02	1399	-1611	-7	360	-60	844.91	G-94-06	1799	-1301	-8	360	-50	420.62
FE-94-01	1393	-1237	-6	360	-45	349.65	G-94-07	2375	-1261	-12	360	-51	346.25
FE-94-02	1340	-1440	-7	360	-51	638.25	G-94-08	1447	-1290	-7	360	-45	434.64
FE-94-03	1338	-1240	-6	360	-45	316.38	G-94-09	1595	-1332	-7	360	-50	935.8
FE-94-04	1334	-1140	-6	360	-45	175.56	G-94-10	2206	-1266	-11	360	-50	273.1
FE-94-05	1393	-1187	-6	360	-45	331.62	G-94-11	2820	-1224	-12	360	-50	280.42
FE-94-06	1338	-1316	-7	358	-44	369.71	G-94-12	2006	-1270	-9	360	-50	207.64
FE-94-07	1333	-1115	-7	0	-85	15.85	G-94-13	1899	-1349	-8	360	-50	327.96
FE-94-07A	1333	-1115	-7	0	-90	257.12	G-94-14	2823	-1401	-12	360	-50	401.12
FE-94-08	1288	-1342	-6	0	-50	467	G-94-15	2105	-1243	-9	360	-50	325.53
FE-94-09	1417	-969	-5	180	-55	512	G-94-16	2307	-1338	-10	360	-50	321.87
FE-95-10	1392	-1133	-6	358	-45	260.81	G-94-17	4021	-1129	-12	360	-50	192.02
FE-95-11	1387	-1081	-6	358	-45	237.13	G-94-18	1597	-1432	-7	360	-50	595.88
FE-95-12	1335	-1040	-3	358	-45	182.27	G-94-19	1703	-1454	-8	360	-50	590.09
FE-95-13	1335	-1090	-5	358	-45	200.56	G-94-20	1803	-1451	-8	360	-50	455.98
FE-95-14	1336	-1187	-6	360	-45	337.72	G-94-21	1548	-1258	-7	1	-51	421.84
FE-95-15	1370	-1272	-6	360	-48	279	G-94-22	4022	-1202	-12	360	-50	221.28
FE-95-16	1238	-1176	-5	360	-45	167.35	G-94-23	3306	-767	-3	360	-50	181.66
FE-95-17	1235	-1265	-5	360	-45	201	G-94-24	3315	-1068	-3	360	-50	236.52
FE-95-18	1208	-1100	-4	360	-45	222	G-94-25	3321	-1269	-3	357	-50	321.26
FE-95-19	1233	-1319	-5	360	-48	363	G-94-26	3325	-1469	-3	4	-50	373.68
FE-95-20	1182	-1328	-5	360	-48	346.5	G-94-27	1647	-1251	-7	360	-50	343.44
FE-95-21	1152	-1048	-4	360	-45	157	G-94-28	1951	-1250	-8	1	-50	290.78
FE-95-22	1268	-1109	-5	90	-45	374.5	G-94-29	2008	-1324	-9	355	-50	318.87
FE-96-23	1364	-1112	-6	360	-52	189.2	G-94-30	2005	-1220	-9	2	-49	184.7
FE-96-24	1306	-1083	-5	360	-45	180.5	G-94-31	2055	-1256	-9	360	-50	83.21
FE-96-25	1399	-1343	-6	360	-46	57	G-94-31A	2057	-1252	-9	3	-50	227.38
FE-96-25A	1399	-1343	-6	360	-48	108	G-94-32	2103	-1193	-9	360	-50	151.18
FE-96-25B	1399	-1343	-6	360	-55	411	G-94-33	2105	-1293	-8	358	-52	286.39
FE-96-26	1369	-1142	-6	90	-48	269.9	G-94-34	2157	-1242	-9	360	-50	204.52
FE-96-27	1370	-1108	-6	90	-48	269.9	G-94-35	2205	-1216	-10	360	-51	227.38
FE-97-28	1298	-1129	-5	90	-47	42	G-94-36	2207	-1316	-10	360	-50	60.77
FE-97-28A	1298	-1129	-5	90	-49	304.6	G-94-36A	2207	-1319	-10	358	-53	332.5
FE-97-29	1369	-1165	-6	90	-48.5	186	G-94-37	1446	-1235	-7	7	-45	324.61
FE-97-30	1415	-1172	-6	360	-51	39	G-94-38	1443	-1160	-7	360	-45	178.31
FE-97-30A	1415	-1172	-6	360	-54	221.7	G-94-39	2256	-1191	-10	360	-50	178.61
FE-97-31	1415	-1230	-6	360	-50	289.15	G-94-40	2257	-1239	-10	4	-52	240.47
FE-97-32	1415	-1119	-6	360	-50	159	G-94-41	2307	-1288	-12	360	-50	5
FE-97-33	1284	-1152	-5	90	-48	324.8	G-94-41A	2307	-1290	-12	359	-52	337.11
FE-98-34	1350	-1116	-7	90	-49	261	G-94-42	1546	-1158	-7	360	-45	166.12
FE-98-35	1300	-1236	-7	360	-50	252	G-94-43	1546	-1207	-7	360	-45.5	224.33
FE-98-36	1315	-1178	-6	360	-48	177	G-94-44	2305	-1238	-11	360	-51	251.76
FE-98-37	1311	-1125	-5	360	-46	111	G-94-45	2355	-1214	-12	358	-50	193.85
FE-98-38	1322	-1095	-5	90	-48	299.3	G-94-46	2358	-1309	-11	360	-52	297.5
FE-98-39	1368	-1226	-6	360	-51	186	G-94-47	2317	-1384	-10	360	-50	400.2
FE-98-40	1368	-1183	-6	360	-52	150	G-94-48	1593	-1216	-7	360	-50	138.99
FE-98-41	1368	-1148	-6	360	-52	109.6	G-94-49	1697	-1215	-8	360	-51.5	164.29
FE-98-42	1403	-1209	-7	360	-47	231	G-94-50	1748	-1227	-8	356	-50	163.37
FE-98-43	1403	-1159	-6	360	-46	210	G-94-51	1449	-1335	-7	360	-50	396.24
FE-98-44	1403	-1104	-6	360	-45	108	G-94-52	1537	-1309	-7	360	-50	364.54
FE-98-45	1400	-1125	-6	90	-48	216	G-94-53	1498	-1310	-7	360	-50	358.44
FE-98-46	1348	-1115	-7	360	-45	135	G-94-54	2055	-1196	-8	2	-50	178.61
FE-99-47	1412	-1138	-6	360	-45	45	G-94-55	1567	-1232	-7	360	-50	108.51
FE-99-48	1405	-1120	-6	360	-45	45	G-94-56	1645	-1230	-7	360	-50	154.23
FE-99-49	1395	-1146	-6	360	-45	45	G-94-57	1494	-1195	-7	360	-45.5	279.2
FE-99-50	1390	-1113	-6	360	-45	45	G-94-58	1493	-1135	-7	358	-45	215.19
FE-99-51	1377	-1125	-6	360	-55	45	G-94-59	1443	-1136	-7	360	-75	231.65
FE-99-52	1380	-1103	-6	360	-45	45	G-94-60	1646	-1318	-7	360	-52	341
FE-99-53	1365	-1095	-5	360	-45	50	G-94-61	1699	-1354	-7	360	-53	395
FE-99-54	1350	-1090	-5	360	-45	50	G-94-62	2354	-1359	-11	360	-52	371
FE-99-55	1335	-1078	-5	360	-45	30	G-94-63	2058	-1354	-9	360	-50	370
FE-99-56	1335	-1065	-4	360	-45	85	G-94-64	1502	-1475	-7	360	-50	500
FE-99-57	1350	-1150	-7	360	-45	150	G-94-65	1806	-1600	-8	355	-55	617

Table 8. Drill hole collar locations and lengths. (2 of 2)

HOLE-ID	X	Y	Z	Az	DIP	LENGTH	HOLE-ID	X	Y	Z	Az	DIP	LENGTH
G-94-66	2014	-945	-8	185	-65.5	798.75	G-96-142	1521	-1263	-6	360	-50	317
G-94-67	2010	-1446	-9	360	-55	95	G-96-143	1650	-1197	-7	360	-51	156
G-94-68	1514	-968	-6	180	-52	506	G-96-144	1437	-1203	-6	360	-50	303
G-94-69	1690	-955	-7	180	-55	673	G-96-145	1426	-1140	-6	360	-50	235
G-94-70	2410	-1425	-11	360	-57	452	G-96-146	1467	-1341	-6	360	-51	392.3
G-94-71	1549	-961	-7	182	-55	578	G-96-147	1463	-1017	-6	360	-45	84
G-94-72	1603	-883	-7	183	-56	764	G-96-148	1518	-1017	-6	360	-45	87
G-94-73	1503	-874	-6	179	-57	721	G-96-149	1454	-1590	-6	360	-56	231
G-94-74	1905	-832	-8	183	-57	858	G-96-149A	1454	-1590	-6	360	-60	360
G-94-75	1792	-1015	-8	176	-58	293	G-96-149B	1455	-1593	-7	360	-60	679.05
G-94-75B	1792	-1015	-8	176	-58	496	G-96-150	1440	-1370	-6	360	-53	399
G-94-76	2033	-953	-8	180	-55	550.5	G-96-151	1633	-1554	-6	360	-55	575
G-95-100	3365	-1994	-3	20	-50	249	G-96-152	1643	-1331	-6	360	-55	321
G-95-101	3207	-2059	-3	20	-50	237	G-96-153	1755	-1341	-8	360	-53	310
G-95-102	3023	-1665	-3	20	-50	243	G-96-154	1655	-1283	-7	360	-53	255
G-95-103	1545	-1010	-7	360	-45	135.1	G-96-155	1652	-1585	-6	360	-58	634.5
G-95-104	1594	-1032	-7	360	-45	123	G-96-156	1470	-1487	-6	360	-54	567.2
G-95-105	2110	-1173	-9	273	-55	141	G-96-157	1579	-1505	-6	360	-55	469.35
G-95-106	2122	-1093	-9	270	-55	183	G-96-158	1496	-1355	-6	360	-49	93
G-95-107	2150	-1280	-9	357	-53.5	276	G-96-158A	1496	-1355	-6	360	-51	426.4
G-95-108	3337	-2069	-3	20	-51.5	174	G-96-159	1474	-1394	-6	360	-52	501
G-95-109	3437	-2026	-3	20	-52	323	G-96-160	1426	-1254	-6	360	-50	310.7
G-95-77	2140	-1319	-9	360	-52	90	G-96-161	1583	-1379	-6	360	-55	434.6
G-95-77A	2140	-1319	-9	360	-54	332	G-96-162	1538	-1334	-6	360	-55	391.5
G-95-78	1859	-1510	-9	360	-60	575	G-96-163	1504	-1321	-7	360	-52	52
G-95-79	1789	-1201	-9	360	-45	101	G-96-163A	1504	-1321	-7	360	-54	422.8
G-95-80	1837	-1200	-9	360	-47	105	G-96-164	1465	-1246	-6	360	-52	42
G-95-81	1887	-1204	-9	360	-47	116	G-96-164A	1465	-1246	-6	360	-53	334.65
G-95-82	1939	-1190	-9	360	-47	110	G-96-165	1448	-1202	-6	360	-49	261
G-95-83	1990	-1185	-9	360	-46.5	110	G-96-166	2022	-1567	-8	360	-65	795.15
G-95-84	1441	-1120	-7	358	-45	267.61	G-96-167	1545	-1499	-6	357	-65	754.5
G-95-85	1441	-1011	-6	355	-45	154.2	G-96-168	1429	-1076	-5	0	-90	151.7
G-95-86	1441	-1060	-6	358	-45	178.2	G-97-169	1421	-1104	-6	90	-46	156
G-95-87	1496	-1075	-7	360	-45	200.56	G-98-170	1602	-1501	-6	360	-63	558
G-95-88	1496	-1005	-6	360	-45	142.65	G-98-171	1719	-1491	-7	360	-63	575.5
G-95-89	1549	-1100	-7	360	-45	81.69	G-98-172	1775	-1564	-7	360	-70	804.2
G-95-90	1594	-1180	-7	360	-49	182.27	G-98-173	1600	-1530	-6	360	-65	611.2
G-95-91	1598	-1139	-7	360	-49	145.4	G-98-174	1674	-1436	-7	360	-63	66
G-95-92	1647	-1170	-8	358	-50	160.93	G-98-174A	1674	-1436	-7	360	-65	528
G-95-93	1647	-1120	-8	358	-50	124.36	G-98-175	2144	-1383	-9	360	-60	492.3
G-95-94	1696	-1150	-8	358	-49	154.84	G-98-176	2495	-1447	-10	360	-63	654
G-95-95	1438	-973	-6	360	-45	84.73	G-98-177	1625	-1570	-8	360	-78	246
G-95-96	1522	-1219	-7	360	-50	309	G-98-177A	1625	-1570	-8	360	-78	198
G-95-97	1470	-1175	-7	360	-48	298.09	G-98-177B	1625	-1570	-8	360	-78	1331.8
G-95-98	3303	-1620	-3	12	-50	164	G-98-178	1820	-1583	-9	360	-77	108
G-95-99	3343	-1805	-3	20	-50	216	G-98-179	1421	-1284	-6	360	-48	228
G-96-110	1733	-1390	-7	360	-53	352	G-98-180	1431	-1156	-6	360	-52	150
G-96-111	1957	-1279	-8	360	-53	267	G-98-181	1430	-1088	-6	360	-48	111
G-96-112	1989	-1378	-8	360	-53	357	G-98-182	1450	-1090	-6	360	-44	100.15
G-96-113	1630	-1285	-8	360	-51	61.5	G-98-183	1455	-1136	-6	360	-45	162
G-96-113A	1631	-1285	-8	360	-51	213	G-98-184	1455	-1263	-6	360	-46	251.1
G-96-114	1449	-1403	-7	360	-53	474.1	G-98-185	1449	-1090	-6	90	-44	144
G-96-115	2286	-1296	-9	360	-53	260.5	G-98-186	1455	-1136	-6	90	-45	140
G-96-116	2078	-1225	-8	360	-50	218	G-98-187	1623	-1230	-7	360	-52	164.9
G-96-117	2118	-1272	-8	360	-52	270	G-98-188	1623	-1163	-7	360	-51	105
G-96-118	2328	-1346	-10	360	-53	341	G-98-189	1575	-1166	-7	360	-50	141
G-96-119	2375	-1307	-11	360	-53	282	G-98-190	1602	-1234	-7	360	-51	177
G-96-120	2337	-1271	-10	360	-52	276	G-98-191	1535	-1241	-7	360	-50	275.4
G-96-121	1530	-1494	-6	360	-53	422.2	G-98-192	1525	-1185	-7	360	-46	231
G-96-122	2095	-1265	-8	356	-52	251	G-98-193	1505	-1268	-6	360	-50	252
G-96-123	2053	-1224	-8	360	-50	220	G-98-194	1505	-1163	-7	360	-45	147
G-96-124	2106	-1220	-9	360	-50	171	G-98-195	1491	-1130	-7	90	-46	105
G-96-125	2041	-1195	-8	360	-51	191	G-98-196	1486	-1100	-7	90	-46	120
G-96-126	2071	-1194	-8	360	-55	194	G-98-197	1475	-1230	-7	360	-50	135
G-96-127	1719	-1343	-7	360	-52	261	G-98-198	1480	-1203	-7	360	-48	177
G-96-128	1669	-1324	-7	360	-55	235	G-98-199	1480	-1142	-7	360	-47	120
G-96-129	1692	-1399	-7	360	-53	317	G-98-200	1470	-1108	-7	360	-44	90
G-96-130	1701	-1329	-6	360	-50	228	G-98-201	1441	-1164	-7	90	-48	126
G-96-131	1699	-1254	-7	360	-50	165	G-98-202	1424	-1147	-6	90	-48	141
G-96-132	1512	-1496	-6	360	-53	133	G-98-203	1475	-1147	-7	90	-46	85.5
G-96-132A	1512	-1506	-6	360	-55	490	G-98-204	1525	-1150	-7	360	-45	162
G-96-133	1446	-1303	-6	356	-50	380	G-99-205	1455	-1113	-7	360	-45	45
G-96-134	1479	-1283	-6	360	-51	365	G-99-206	1435	-1138	-6	360	-45	45
G-96-135	1848	-1480	-8	360	-55	456	G-99-207	1425	-1113	-6	360	-45	65
G-96-136	1570	-1258	-6	360	-52	145	G-99-208	1425	-1128	-6	360	-45	45
G-96-137	1615	-1257	-6	360	-50	189	G-99-209	1440	-1103	-6	360	-45	45
G-96-138	1589	-1293	-6	360	-50	300	G-99-210	1430	-1066	-6	360	-45	55
G-96-139	1762	-1391	-7	360	-53	315	G-99-211	1440	-1075	-6	360	-45	45
G-96-140	1619	-1318	-6	360	-53	254	G-99-212	1889	-916	-8	330	-50	350
G-96-141	1677	-1290	-6	360	-55	235	GU-1	1842	-926	-8	180	-50	209.7
							GU-2	2205	-897	-10	180	-50	211.5

Table 9. List of mineralized intervals within the mineralized envelopes. (1 of 2)

Hole Name	From	To	Length	Au (g/t)	Cut Au (g/t)	Hole Name	From	To	Length	Au (g/t)	Cut Au (g/t)
FE-86-03	96.93	363.65	266.72	0.79	0.72	G-93-1	64.5	320.39	255.89	0.92	0.92
FE-86-04	5.18	47.24	42.06	0.51	0.51	G-93-2	230.57	468.81	238.24	0.95	0.95
FE-88-04	19.5	94.34	74.84	0.59	0.59	G-94-01	128.67	306.4	177.73	0.49	0.49
FE-88-05	95.71	259.63	163.92	0.67	0.67	G-94-05	132.5	178.82	46.32	0.71	0.71
FE-88-07	14.94	171.3	156.36	0.61	0.61	G-94-07	147.34	214.88	67.54	0.64	0.64
FE-88-10	132.59	402.34	269.75	1.47	1.47	G-94-08	108.09	379.97	271.88	1.52	1.52
FE-88-11	15.24	106.98	91.74	0.36	0.36	G-94-09	192.84	258.86	66.02	0.37	0.37
FE-88-12	19.2	87.14	67.94	0.23	0.23	G-94-10	143.7	195.96	52.26	0.91	0.91
FE-88-13	106.38	210.92	104.54	0.19	0.19	G-94-12	171.84	207.34	35.5	0.81	0.81
FE-88-14	40.84	191.41	150.57	0.48	0.48	G-94-15	121.5	177.49	55.99	2.66	2.37
FE-93-01	256.78	476.08	219.3	1.11	1.11	G-94-16	227.79	293.42	65.63	1.69	1.69
FE-93-02	601.16	687.27	86.11	0.47	0.47	G-94-18	288.62	396	107.38	0.63	0.63
FE-94-01	45.18	307	261.82	0.87	0.87	G-94-19	315.17	350.8	35.63	1.05	1.05
FE-94-02	322.81	525.69	202.88	0.44	0.44	G-94-20	300.81	353.18	52.37	1.2	1.2
FE-94-03	55.6	311.35	255.75	0.57	0.57	G-94-21	105.31	300.66	195.35	0.48	0.48
FE-94-04	14.02	166.42	152.4	0.46	0.46	G-94-27	81.2	167	85.8	1.01	1.01
FE-94-05	16.61	253.3	236.69	0.83	0.83	G-94-28	128.05	176.46	48.41	0.22	0.22
FE-94-06	142.36	369.71	227.35	0.53	0.53	G-94-29	234.05	266.58	32.53	1.57	1.57
FE-94-07	9.87	15.85	5.98	1.3	1.3	G-94-30	91.96	138.69	46.73	0.38	0.38
FE-94-07A	10.36	257.12	246.76	0.74	0.74	G-94-31A	122.91	183.21	60.3	0.69	0.69
FE-94-08	229	415.13	186.13	0.31	0.31	G-94-32	57.89	97	39.11	0.23	0.23
FE-94-09	4	444	440	0.84	0.83	G-94-33	197.5	243.42	45.92	0.82	0.82
FE-95-10	11.63	170.2	158.57	0.62	0.62	G-94-34	137.27	164.38	27.11	0.23	0.23
FE-95-11	10	104.1	94.1	0.5	0.5	G-94-35	77.3	112.64	35.34	0.6	0.6
FE-95-12	12.72	54.28	41.56	0.64	0.64	G-94-36A	235.38	309.14	73.76	0.53	0.53
FE-95-13	13	103.95	90.95	0.86	0.86	G-94-37	46.25	324.61	278.36	1.38	1.32
FE-95-14	13	219.75	206.75	0.6	0.6	G-94-38	16.22	178.31	162.09	1.85	1.46
FE-95-15	90.2	279	188.8	0.67	0.67	G-94-39	46.95	81.08	34.13	0.28	0.28
FE-95-16	13.5	141	127.5	0.26	0.26	G-94-40	110.93	141.44	30.51	0.43	0.43
FE-95-17	144.05	201	56.95	0.36	0.36	G-94-41A	185.31	246.1	60.79	0.51	0.51
FE-95-18	18	52.55	34.55	0.06	0.06	G-94-42	21.6	150.45	128.85	0.42	0.42
FE-95-19	231	333.9	102.9	0.64	0.62	G-94-43	71.56	220.95	149.39	0.51	0.51
FE-95-20	243	321	78	0.23	0.23	G-94-44	110.71	171.47	60.76	0.51	0.51
FE-95-22	13.5	374.5	361	0.92	0.92	G-94-45	81.78	145.73	63.95	0.56	0.56
FE-96-23	11	152.45	141.45	0.54	0.54	G-94-46	200.7	251.34	50.64	1.63	1.63
FE-96-24	10	94.5	84.5	0.46	0.46	G-94-47	287.25	362.26	75.01	0.51	0.51
FE-96-25B	190.25	411	220.75	0.63	0.63	G-94-48	92.49	138.99	46.5	0.83	0.83
FE-96-26	10.2	269.9	259.7	1.28	1.27	G-94-51	165.98	396.24	230.26	0.94	0.94
FE-96-27	10.35	269.9	259.55	1.58	1.47	G-94-52	157.38	364.54	207.16	0.89	0.87
FE-97-28	16.25	41.75	25.5	0.08	0.08	G-94-53	145.56	358.44	212.88	0.77	0.77
FE-97-28A	17.1	304.6	287.5	1.23	1.23	G-94-54	60.62	114.46	53.84	9.88	3.61
FE-97-29	10.85	186	175.15	0.99	0.99	G-94-56	63.95	146.58	82.63	0.56	0.56
FE-97-30	15.5	39	23.5	0.37	0.37	G-94-57	28.44	257.04	228.6	0.88	0.88
FE-97-30A	18	221.7	203.7	0.65	0.65	G-94-58	17.5	210.59	193.09	0.48	0.48
FE-97-31	35	289.15	254.15	1.63	1.63	G-94-59	12.94	231.65	218.71	1.56	1.56
FE-97-32	12.75	159	146.25	1.07	1.07	G-94-60	146	233	87	1.58	1.42
FE-97-33	13.6	324.8	311.2	0.89	0.89	G-94-61	195.5	269	73.5	2.82	1.48
FE-98-34	13.65	261	247.35	1.46	1.44	G-94-62	276	348.6	72.6	1.55	1.15
FE-98-35	66	252	186	0.55	0.55	G-94-63	275.75	306.7	30.95	0.66	0.66
FE-98-36	12.75	177	164.25	0.56	0.56	G-94-64	326.8	500	173.2	0.86	0.86
FE-98-37	15.8	111	95.2	0.29	0.29	G-94-65	494.8	567.5	72.7	1.03	1.03
FE-98-38	10.5	299.3	288.8	1.13	0.99	G-94-66	684.2	798.75	114.55	0.85	0.85
FE-98-39	35	186	151	1.38	1.38	G-94-68	99.7	506	406.3	1.04	1.04
FE-98-40	14	150	136	0.78	0.78	G-94-69	517.8	631	113.2	0.67	0.67
FE-98-41	9	109.6	100.6	0.88	0.88	G-94-71	150.45	544.75	394.3	0.58	0.58
FE-98-42	19.9	231	211.1	1.11	1.11	G-94-72	561.5	732	170.5	0.52	0.52
FE-98-43	18.75	210	191.25	1.02	1.02	G-94-73	233.35	678.65	445.3	0.65	0.65
FE-98-44	9.6	108	98.4	0.74	0.74	G-94-74	719.85	858	138.15	0.84	0.84
FE-98-45	12.6	216	203.4	1.22	1.22	G-94-75B	376.9	485.95	109.05	0.93	0.93
FE-98-46	12	135	123	0.56	0.56	G-94-76	357.95	550.5	192.55	0.36	0.36
FE-99-47	9	45	36	0.95	0.95	G-95-105	89	98.8	9.8	0.56	0.56
FE-99-48	12	45	33	1.2	1.2	G-95-107	196.75	240.7	43.95	0.52	0.52
FE-99-49	12.45	45	32.55	0.83	0.83	G-95-77A	236.66	280.75	44.09	0.2	0.2
FE-99-50	7.6	45	37.4	2.46	2.46	G-95-78	424.5	524.45	99.95	0.84	0.84
FE-99-51	11	45	34	1.18	1.18	G-95-82	56	107	51	0.25	0.25
FE-99-52	7.2	45	37.8	1.05	1.05	G-95-83	48.5	99.8	51.3	0.37	0.37
FE-99-53	8	50	42	0.46	0.46	G-95-84	12	186.5	174.5	0.93	0.93
FE-99-54	11	50	39	1.13	1.13	G-95-85	6.1	49.3	43.2	1.12	1.12
FE-99-55	12.5	30	17.5	0.72	0.72	G-95-86	9.6	112.15	102.55	0.42	0.42
FE-99-56	12.9	85	72.1	0.6	0.6	G-95-87	9	67.95	58.95	0.17	0.17
FE-99-57	10.5	150	139.5	0.56	0.56	G-95-89	16	68.75	52.75	0.13	0.13
FE-99-58	8	50	42	1.4	1.4	G-95-90	54.8	119.2	64.4	0.48	0.48
FE-99-59	9.5	50	40.5	0.72	0.72	G-95-91	22	74.2	52.2	0.99	0.99
G-9	322.2	367.2	45	0.99	0.99	G-95-92	28.45	96.08	67.63	0.84	0.84

Table 9. List of mineralized intervals within the mineralized envelopes. (2 of 2)

Hole Name	From	To	Length	Au (g/t)	Cut Au (g/t)	Hole Name	From	To	Length	Au (g/t)	Cut Au (g/t)
G-95-93	22	39	17	0.28	0.28	G-98-180	17.1	150	132.9	1.05	1.05
G-95-96	74.8	262.75	187.95	0.91	0.91	G-98-181	8.25	111	102.75	1.15	1.15
G-95-97	15.2	258.4	243.2	0.82	0.82	G-98-182	10	100.15	90.15	1.09	1.08
G-96-110	251.5	296.4	44.9	0.81	0.81	G-98-183	16.6	162	145.4	0.88	0.88
G-96-111	173.65	205.9	32.25	0.37	0.37	G-98-184	77.25	251.1	173.85	1.45	1.45
G-96-113A	146.5	205.5	59	1.23	1.23	G-98-179	102.75	228	125.25	0.86	0.86
G-96-114	265	474.1	209.1	0.81	0.81	G-98-185	10	144	134	0.37	0.37
G-96-115	179.5	248.5	69	0.48	0.48	G-98-186	15.4	140	124.6	0.69	0.69
G-96-116	98.6	143.42	44.82	1.59	1.59	G-98-187	105	151.5	46.5	0.84	0.84
G-96-117	180.25	219	38.75	0.23	0.23	G-98-188	34.35	98.65	64.3	1.78	1.68
G-96-118	250.98	322	71.02	0.39	0.39	G-98-189	38.85	141	102.15	0.99	0.88
G-96-119	205.25	260.65	55.4	0.75	0.75	G-98-190	109.7	166.6	56.9	0.73	0.73
G-96-120	168.2	219.86	51.66	0.65	0.65	G-98-191	87	275.4	188.4	1.04	0.99
G-96-121	333.5	422	88.5	0.66	0.66	G-98-192	43.1	223.5	180.4	0.64	0.64
G-96-122	170.95	210.2	39.25	0.3	0.3	G-98-193	105.8	252	146.2	0.79	0.79
G-96-123	90.7	149.5	58.8	0.72	0.72	G-98-194	17.3	147	129.7	0.66	0.66
G-96-124	94	138.85	44.85	0.16	0.16	G-98-195	15.7	105	89.3	0.48	0.48
G-96-125	61.8	115.12	53.32	1.02	1.02	G-98-196	14.7	120	105.3	1.18	1.17
G-96-126	63	122	59	0.41	0.41	G-98-197	55.6	135	79.4	2.43	2.43
G-96-127	195	230.8	35.8	2.32	2.32	G-98-198	28.3	177	148.7	1.51	1.51
G-96-128	170.5	213.2	42.7	1.48	1.48	G-98-199	12	120	108	0.56	0.56
G-96-129	253.15	287.3	34.15	0.54	0.54	G-98-200	13.75	90	76.25	0.8	0.8
G-96-130	164.4	203.35	38.95	1.33	1.33	G-98-201	18.8	126	107.2	0.98	0.98
G-96-132A	361	490	129	0.35	0.35	G-98-202	19.25	141	121.75	1.06	1.06
G-96-133	133	380	247	1.39	1.39	G-98-203	18	85.5	67.5	0.38	0.38
G-96-134	123.15	365	241.85	0.89	0.89	G-98-204	17.2	162	144.8	0.64	0.64
G-96-135	340.5	388.95	48.45	0.78	0.78	G-99-205	11.5	45	33.5	0.71	0.71
G-96-137	130.8	187.63	56.83	0.56	0.56	G-99-206	14.8	45	30.2	1.25	1.25
G-96-138	157	226.25	69.25	2.39	1.14	G-99-207	10	65	55	0.76	0.76
G-96-139	247.5	268.5	21	1.92	1.92	G-99-208	12.75	45	32.25	1.13	1.13
G-96-140	180.6	238.57	57.97	0.71	0.71	G-99-209	9.5	45	35.5	0.93	0.93
G-96-141	125.1	189.4	64.3	1.9	1.9	G-99-210	8	55	47	0.56	0.56
G-96-142	112	317	205	0.7	0.7	G-99-211	9.5	45	35.5	0.97	0.97
G-96-143	36	122.55	86.55	0.34	0.34	G-94-01	50.09	97.85	47.76	2.5	2.5
G-96-144	20	303	283	1.38	1.38	G-94-21	59.18	90.27	31.09	0.78	0.78
G-96-145	12.8	232.7	219.9	1.29	1.29	G-94-43	31.33	56.14	24.81	0.75	0.75
G-96-146	179	392.3	213.3	1.17	1.17	G-94-48	24.85	54.51	29.66	0.94	0.94
G-96-147	8	60	52	1.33	1.17	G-94-52	122.88	132.09	9.21	0.38	0.38
G-96-149B	532.5	667.5	135	0.64	0.64	G-94-55	30.86	69.65	38.79	2.86	2.86
G-96-150	222	399	177	0.66	0.66	G-95-96	21.4	62.3	40.9	1.1	1.1
G-96-151	372.8	523.7	150.9	0.88	0.88	G-96-113A	96	131	35	4.62	4.62
G-96-152	189.7	243.21	53.51	0.65	0.65	G-96-136	60	99	39	0.83	0.83
G-96-153	202.5	219.75	17.25	0.92	0.92	G-96-137	70.25	100.67	30.42	5.16	5.04
G-96-154	112.5	189.4	76.9	1.76	1.76	G-96-138	96.4	130.09	33.69	0.49	0.49
G-96-155	475.85	527.67	51.82	0.82	0.82	G-96-140	158.7	169.07	10.37	1.06	1.06
G-96-156	348.3	556.5	208.2	0.73	0.73	G-96-142	63.05	87.05	24	0.45	0.45
G-96-157	362.23	469.35	107.12	0.73	0.73	G-98-187	46.5	67.75	21.25	1.01	1.01
G-96-158A	197.65	426.4	228.75	0.77	0.77	G-98-190	27	75	48	3.67	2.54
G-96-159	239.1	469.5	230.4	1.09	1.09	G-98-191	39	79.7	40.7	0.46	0.46
G-96-160	69	310.7	241.7	1.14	1.14	G-98-192	25.15	35.4	10.25	0.78	0.78
G-96-161	249	434.6	185.6	0.61	0.38	G-94-01	107.09	117.1	10.01	0.6	0.6
G-96-162	195	391.5	196.5	0.76	0.76	G-94-09	163.42	184.14	20.72	0.36	0.36
G-96-163A	168.82	415.5	246.68	0.7	0.7	G-94-18	271.25	277.06	5.81	0.36	0.36
G-96-164A	75	334.65	259.65	1.43	1.43	G-94-48	67.53	80.28	12.75	0.24	0.24
G-96-165	20	261	241	1.13	1.13	G-94-55	82.62	89.95	7.33	0.46	0.46
G-96-166	541.5	657.7	116.2	0.41	0.41	G-95-90	26.1	37	10.9	0.36	0.36
G-96-167	409.5	579	169.5	0.94	0.94	G-96-136	107.4	115.78	8.38	0.5	0.5
G-96-168	6.6	151.7	145.1	1.43	1.41	G-96-137	106.6	124.35	17.75	0.24	0.24
G-97-169	9.8	156	146.2	1.41	1.41	G-96-138	138.3	152.5	14.2	1.11	1.11
G-98-170	378	516.2	138.2	0.93	0.93	G-96-157	330	347.35	17.35	0.72	0.72
G-98-171	420	493.5	73.5	1.11	1.11	G-96-161	227.3	241.33	14.03	0.52	0.52
G-98-172	596.1	695.45	99.35	0.86	0.86	G-98-190	85.6	97.5	11.9	0.28	0.28
G-98-173	465	611.2	146.2	0.63	0.63	FG-11-01	113	190.8	77.8	1.49	1.49
G-98-174A	355.5	406.7	51.2	1.1	1.1	FG-11-02	67.7	331.8	264.1	1.19	1.19
G-98-175	376.35	445.5	69.15	0.46	0.46	FG-11-03	78	355	277	1.23	1.23
G-98-177B	811.5	935.65	124.15	0.31	0.31	FG-11-04	75	347	272	1.51	1.51

11- Sample Preparation, Analyses and Security

A master assay table has been compiled by Lake Shore Gold from various historical records. The only data used in the resource estimation was from this database. The August 25, 2011 version lists data for 41,204 assay intervals with location, HoleID, from, to, sample number, lab name, assay certificate number and date and a variety of assay results (check, repeat, duplicate) for the corresponding intervals. Lake Shore Gold undertook a program of verification of the database with the assay certificates: assay by assay. This was done to ensure that the most reliable method of analysis was selected given the value of the sample (e.g. gravimetric for samples with >3g/t Au). This process doubled as a verification of the database. Scans of paper drill logs and assay certificates are available for verification of data in that table.

Over the years, samples from drill holes over the Fenn-Gib property have been assayed at several commercial laboratories. They are by order of assay volume:

- Spectrolab with 24,874 assay intervals in holes FE86-02 to 04, FE88-04 to 14, FE94-01 to FE97-33, G-9, G93-1, and G94-1 to G97-169. Assay certificates date from August 1994 to August 1997. Most assays are from fire assay with AA finish; there are also 1,749 samples analyzed by fire assay with gravimetric finish, and 24 from screen metallica.
- Swastika with 8,679 assay intervals in holes FE88-07 to FE94-07A, G93-1 to G94-59 and G02-213 to 217. Assay certificates are dated from August 1988 to May 1994 and April-May 2002. Almost all values are from fire assay with AA finish with just 23 by screen metallica.
- Chimitec with 6,550 assay intervals in holes FE98-34 to FE99-59, G94-09 and G98-170 to G98-212. Assay certificates date from February 1998 to March 1999. Most of the final gold values are from fire assay with AA finish; 421 of them from fire assay with gravimetric finish.
- Accurassay with 254 assay intervals in holes FE86-01 to 04. Assay certificates are dated from July 1986. All values are from fire assay with AA finish (including a very high 59.2g/t)
- Technical Service Laboratories (TSL) with 84 assay intervals in holes FE86-02 and 04. Assay certificates date from August 1986. All values are from fire assay with AA finish.
- Bourlamaque with 43 assay intervals in hole FE86-04. Assay certificates date from July 1986. All values are from fire assay with AA finish capped to 1 g/t (actual values for those 5 samples above 1g/t are coming from an “extra pulp” duplicate).

Hence, samples from the early 1986 holes on the Fenn sector have been assayed by Accurassay, TSL and Bourlamaque, then Swatiska (up to 1994) and Spectrolab (up to 1997) took over while samples from the last holes of 1998 and 1999 were assayed at Chimitec. Swastika did the assaying of samples from the Barrick holes of 2002.

- In addition to the above, we have 720 assay intervals with no identified lab nor an assay certificate including 33 intervals in hole FE-88-16 with no assay value at all.

Due to the historical nature of the data it is exceedingly difficult to analyse the QAQC methodology used by the various companies that drilled on the property over the years. It appears that the principal method used to ensure the data quality was by the use of pulp duplicates that were usually sent to other independent laboratories. This is discussed further in Section 12.1. SGS Geostat and

Lake Shore Gold undertook a resampling and drill twin program to validate the historical data. This is discussed in detail in Section 12.2.

It appears that no certified standards or blanks were used to evaluate the accuracy or contamination effects for the data collected. The assay data was almost completely produced from known laboratories in the 1990s which had their internal controls. The main laboratories are still in operation today. The verification and validation work completed by Lake Shore Gold and SGS Geostat did not highlight any issues with bias or errors (discussed in section 12). It is the opinion of SGS Geostat that the sampling and analyses methods used by the previous exploration companies is adequate for the use in a resource estimate in accordance to NI 43-101 guidelines.

12- Data Verification

The resource estimate reported herein was derived from Au assays of BQ or NQ core drilled primarily in the 1990s by Pangea. A verification process was initiated by Lake Shore Gold and SGS Geostat to provide assurance in the quality of the existing data. Approximately 10% of data provided by Lake Shore Gold was cross-checked with scanned laboratory certificates. There were no discrepancies amongst the data that was verified.

12.1 Historical QA/QC

It appears that the principal method used to ensure the data quality was by the use of pulp duplicates that were usually sent to other independent laboratories. This check data was verified visually to ensure that there were no obvious biases or an unacceptable spread (Figure 18). Save for the limited dataset (0.6% of total database) from Accurassay there was no significant bias discernable. Without certified standards it is impossible to verify the accuracy of the methods; it is just as likely that “Assayers” was underestimating compared to “Accurassay” and vice-versa.

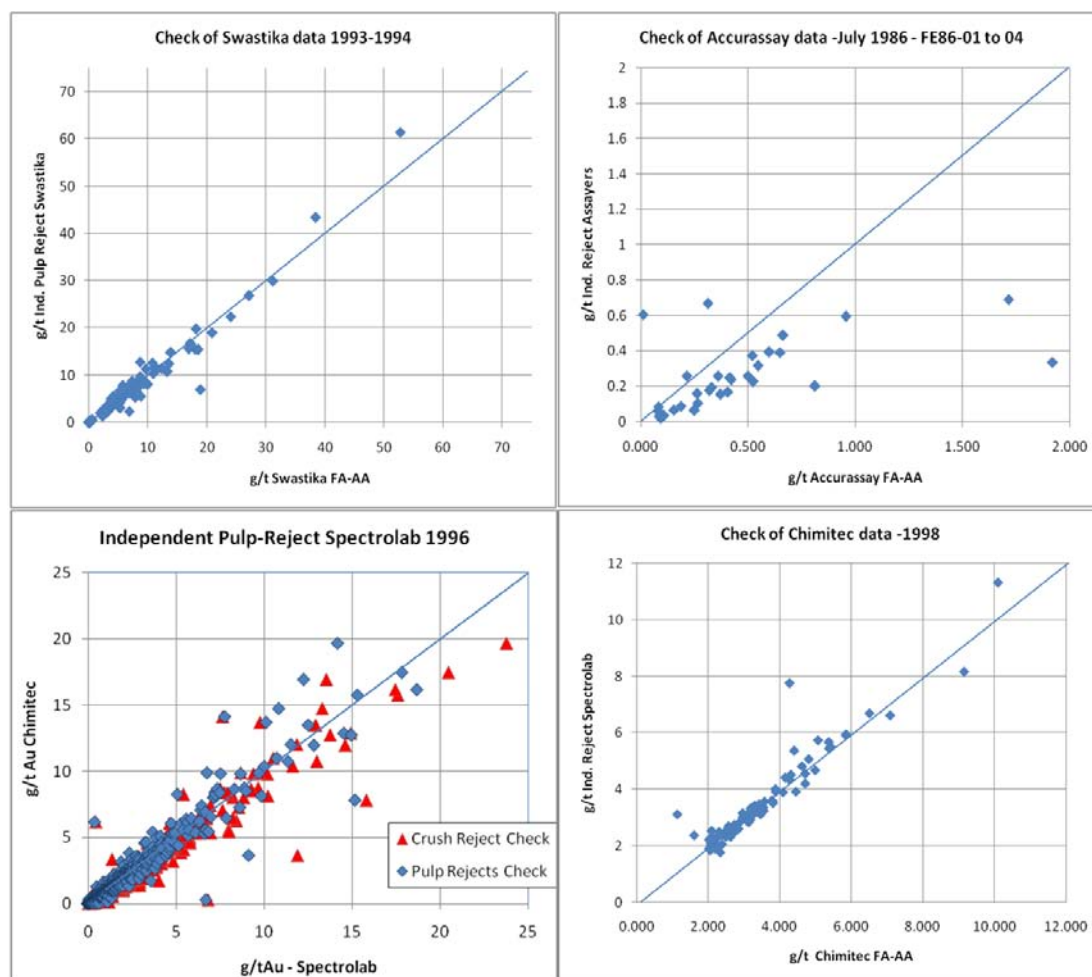


Figure 18. Scatter diagrams comparing pulp duplicates on historic data (crusher reject in red). Data in the upper right diagram represents 0.6% of the total data used in the resource estimate.

12.2 Check Sampling of Historical Core

In late August of 2011, Lake Shore Gold re-sampled a selection of remaining half cores from Fenn-Gib drilling of years 1986 to 1998. All together 223 assay intervals totaling 277.1m (interval length from 0.22m to 3.92m and averaging 1.24m i.e. mostly 1m and 1.5m intervals) have been re-sampled. Re-sampled holes are mostly BQ (177 intervals totaling 229.1m) with a few NQ holes (46 intervals totaling 54.3m).

The field check samples were sent to the ALS Mineral preparation lab in Timmins and then sent ALS Minerals lab in North Vancouver for assaying. For most samples, assay grade is by fire assay with AA finish except for 18 samples, generally high grade, with a final value derived from fire assay with a gravimetric finish. Most of original assays for the same samples were from Spectrolab (180) with some from Swastika (20) and Chimitec (5) and the balance (18) from an unidentified laboratory.

New data range from 0.001 to 14.57 g/t with a mean of 1.21 g/t and a coefficient of variation of 224% while the corresponding historic data range from 0.003 to 31.7 g/t with a mean of 1.12 g/t and a coefficient of variation of 292%. Statistical testing (sign test and T-test of paired data) shows that the difference of the two mean grades is not significant given the variability of each set and the correlation of old and new data ($R = 0.90$ for log grades). In other words, old assay data is confirmed by new assay data. Mean absolute grade difference between old and new value for the same interval is about 40% (Figure 19).

The density value used in previous resource estimations was 2.8t/m³. This value was derived from bulk density measurements on metallurgic samples. To validate this value Lake Shore Gold measured the density on check samples which provided average of 2.73t/m³ and a range from 2.22 t/m³ to 3.47t/m³ (n:646, “weight in air → weight in water” method). SGS Géostat independently measured check samples which provided an average of 2.82t/m³ with a range of 2.72 to 2.92 (n:46, “weight in air / volume displacement” method). This does not represent an exhaustive measure of density; however it does confirm that the 2.8t/m³ is valid and acceptable to be used for a NI 43-101 compliant resource estimate.

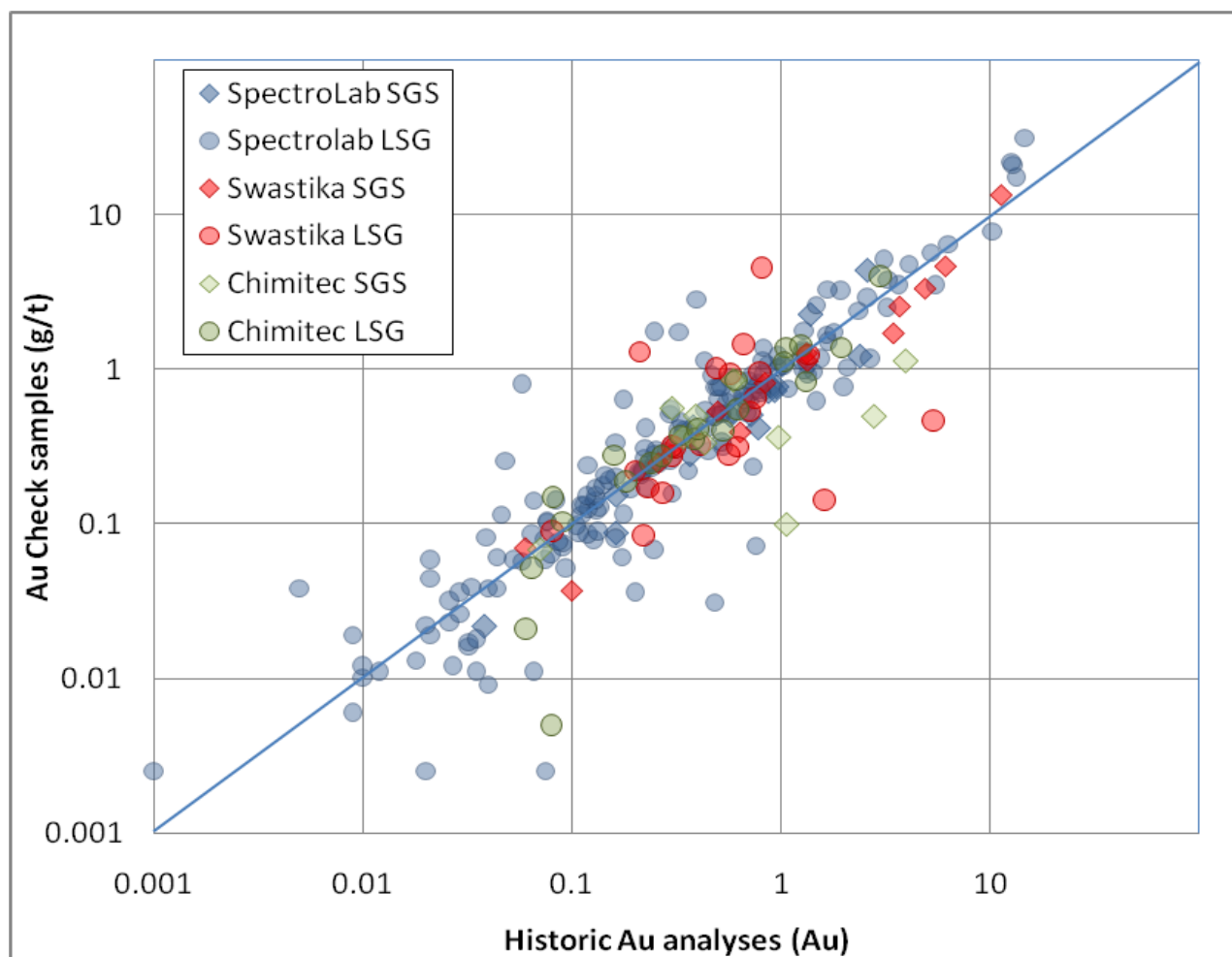


Figure 19. Scatter diagram of original and resampled values from core, sorted by original lab and check sampling program.

12.3 Lake Shore Gold Twin Hole Drilling Program

In late August and September of 2011, LSG drilled three NQ core holes twinning three historical holes on the Gibb sector from 1993 to 1998. Details are the following :

- hole FG-11-01 (400m) dipping 53° to N on section 1650E and twinning hole G-96-154 (255m)
- hole FG-11-02 (398m) dipping 50° to N on section 1500E and twinning hole G-93-1 (395m)
- hole FG-11-03 (450m) dipping 46° to N on section 1450E and twinning hole G-98-184 (251m)

At the same time, Lake Shore Gold drilled a validation NQ core hole FG-11-04 (650m) on section 1400E but that hole is not actually a twin; although there are several historical holes around to compare with.

Half cores from the twin holes were sent to the ALS Minerals lab in North Vancouver for preparation and assaying. After crushing and grinding to 70% less than 2mm, a split is pulverized to 85% less than 75 microns. Fire assaying of gold is made on a 30g split of that pulp. Most of the 1,420 samples (totalling 1462.5m – most samples are either 1m or 1.5m long), were analyzed by fire assay is with an AA finish except 11, generally high grade samples, where the final grade is from a duplicate of fire assay with gravimetric finish.

Plots comparing assay data in the new hole and assay data in its historic twin hole at the same depth are on Figure 20. As a general rule, the three twin holes encounter the Main Zone mineralization, or MZ1 (see below) at the same location as the original holes but on a local scale, grade differences of individual assay intervals at about the same depth can be quite high. A similar comparison can be made with drill holes on sections (Figure 21).

A more detailed statistical comparison of assay data in new and old drill holes involves (1) the compositing (with the usual 5m down-hole composites) of capped assay interval data within the limits of intercepts with the Main Zone, and (2) the pairing of composites in the old and new hole at the same depth. This results in 16 pairs in FG-11-01, 52 pairs in FG-11-02 and 35 pairs in FG-11-03. Figure 22 shows the correlation plot of those pairs. Although the correlation is weak ($R=0.38$), both a sign test and a T-test of paired data show that the difference between the mean composite grade of 1.31g/t in the new holes and 1.21 g/t in the old holes is not significant. In other words, assay data in the three twin holes confirm the grade of assay data in the old holes, at least in the Main Zone.

The check sampling and twinning programs have also illustrated the presence of silver in the Fenn-Gib deposit. Preliminary estimates suggest that gold to silver ratios approach 2:1. Further analyses will be necessary to show that the silver is consistently present and with a distribution similar to the gold.

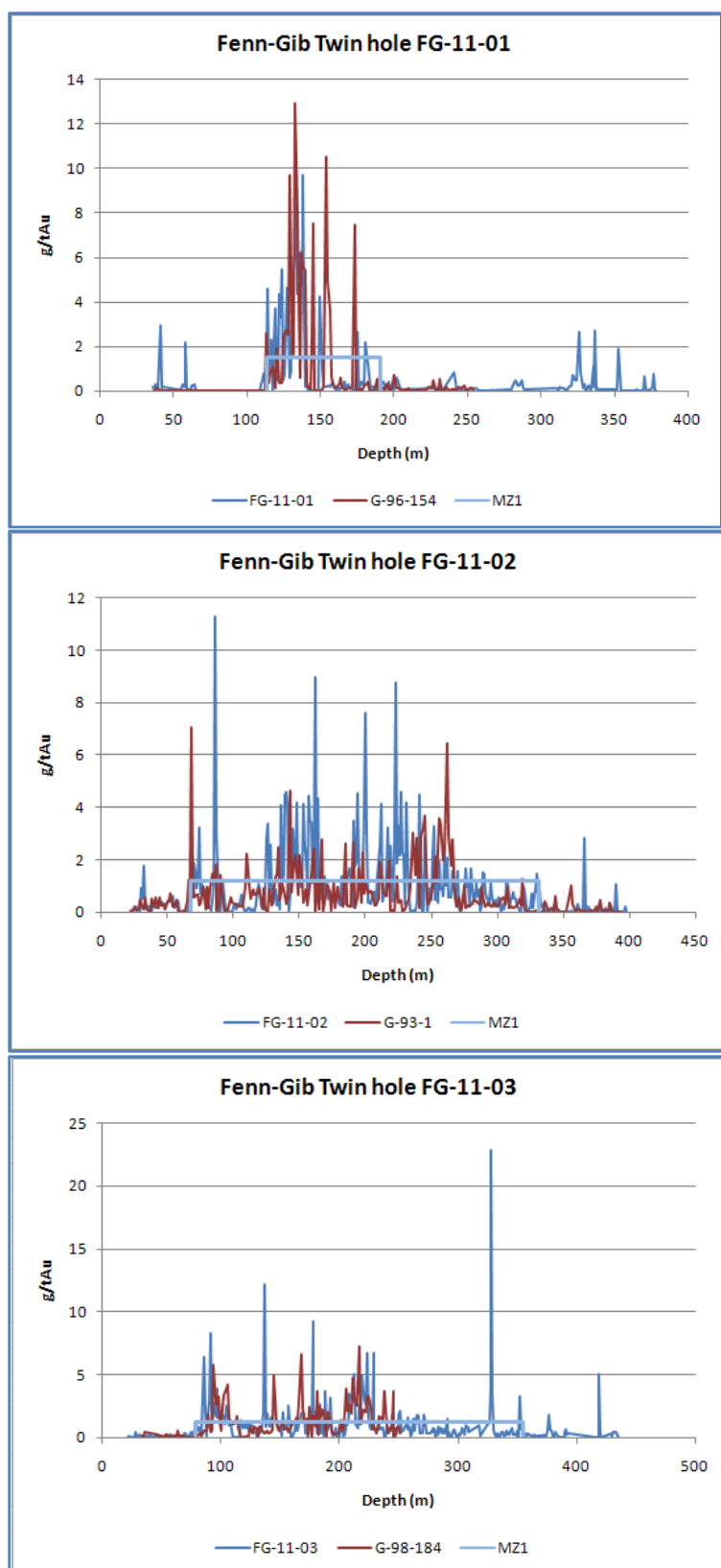


Figure 20. Assay data with depth in twin drill holes.

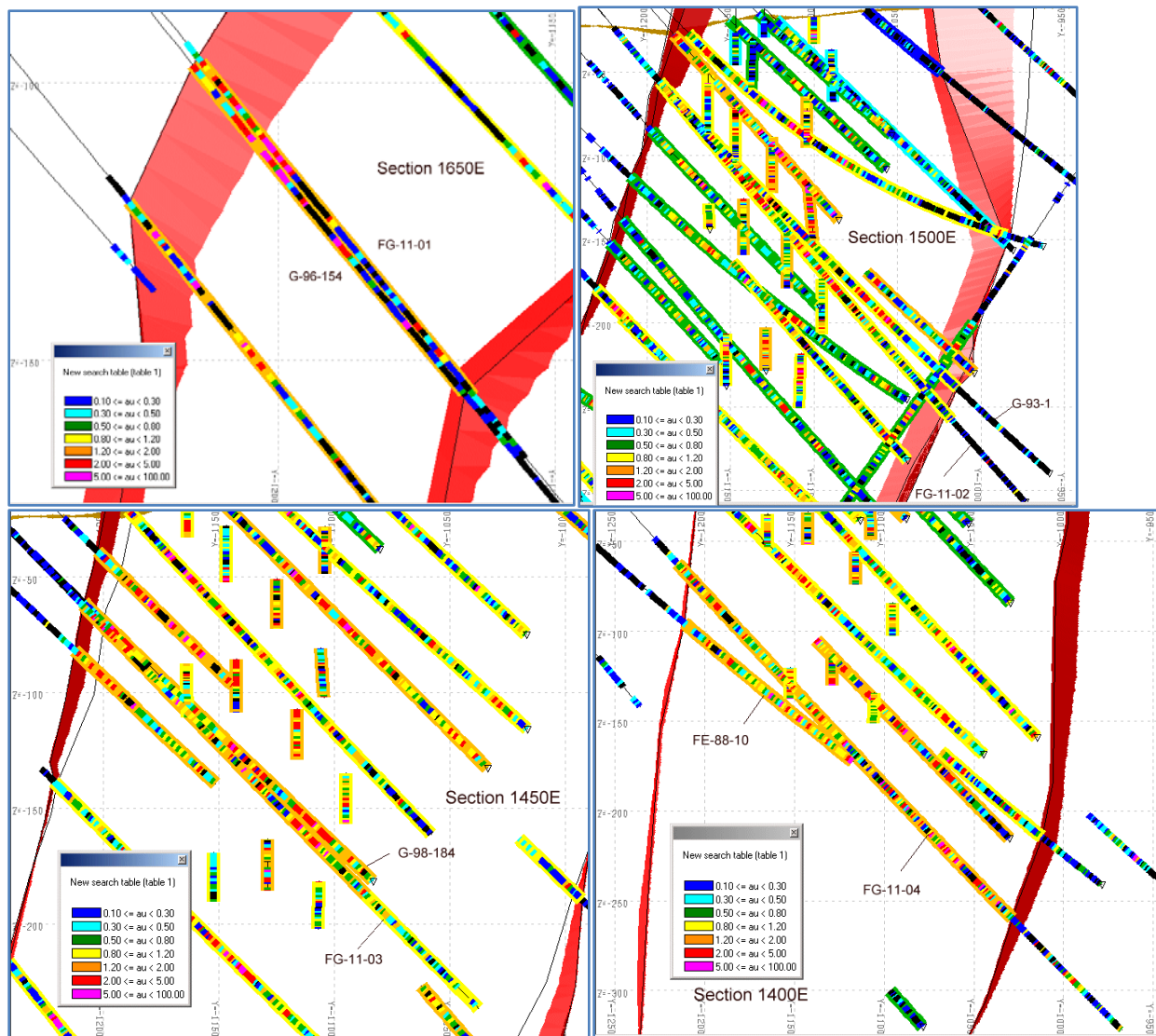


Figure 21. Assay data of twin and validation drill holes in sections.

The interpreted limits of the Main Zone solid within the section corridor is shown in red.

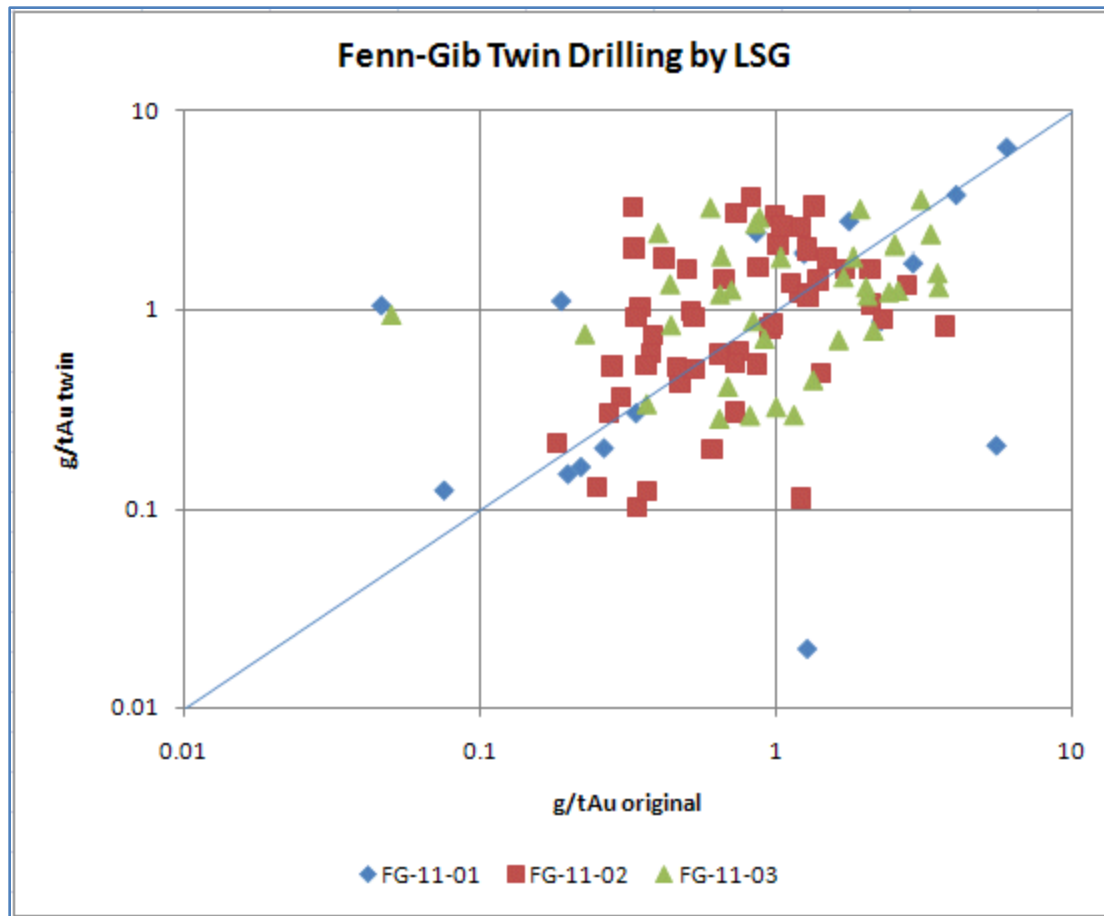


Figure 22. Correlation plot of composite grade at the same depth in twin holes.

Each datapoint represents a 5m composite in the Main Zone at about the same depth in a drill hole and its twin.

13- Mineral Processing and Metallurgical Testing

The Fenn-Gib project is not currently considered as an advanced project according to the CIM definitions; nonetheless there is already a body of metallurgical work completed on the Deposit. Four separate series of tests were completed at Lakefield Research Limited (now SGS) from 1995 to 1997. Unfortunately, the tests were focused on a higher head grade and are not particularly representative of the resource estimation reported herein. These tests are considered valid given the parameters used. Commentary provided is in part a summary of a review by Lake Shore Gold metallurgist Mark Melanson and SGS Geostat mining engineer Gilbert Rousseau.

It is not possible to draw a firm conclusion on a likely gold recovery for the material in question given a modern flowsheet. One of the issues is that similar processes brought about significantly different results. Another major issue is that most of the tests were done with the head grades much higher than what is currently estimated. An inconsistent grinding makes drawing conclusions difficult, although there is an overall trend towards better recovery with a finer grind.

Flotation of sulphides followed by regrinding of this concentrate gave variable results. In general, recoveries were lower than a simple fine grind. Nonetheless, there was one dramatic increase in recovery with flotation, and that was on Bulk 2: 79.8 % with leaching flotation tail vs. whole ore leaching result of 69.3 %. This sample had a head grade of 1.11g/t which is the most similar to the estimation reported herein. Treating the ore with a gravity separation is not tested but should be considered.

There are no known deleterious elements in the Fenn-Gib deposit. Previous reports do not mention any; and available data does not suggest any potential issues.

Table 10. Results of historic metallurgical test.

Sample	Head Grade (g/t)	Grind passing 200 mesh	Grind passing 400 mesh	Recovery (%)
Low	1.63	81.5		87.5
Medium	2.83	80.9		86
High	4.73	83.1		83.4
Bulk 1	1.93	85.1	-	86
Bulk 2	1.11	84.3	-	69.3
Bulk 2B (regrind of floated)	1.11	-	96.9	79.8
Bulk 3	29.4	83.3	-	97.7
Bulk 4	5.42	80.6	-	93.4
Bulk 5	4.02	81.6	-	83.8
Bulk 6	6.15	79.6	-	86.5
Zone 1	6.56	84.7	-	93
Zone 1 (regrind)	6.72	95.9	-	94.9
Zone 2	6.56	85.6	-	90.4
Zone 2 (regrind)	6.92	90.7	-	92.5
Zone 3	11.3	92.8	-	97.6
Zone 3 (regrind)	13.4	94.3	-	98.2
Zone 2a	5.72	91.7	-	87.1
Zone 2a	5.74	95.8	-	88.7
Main Zone	5.18	90.9	-	89.2
Main Zone	5.63	93.9	-	90.4

14- Mineral Resource Estimates

The resources reported herein are derived from a computerized resource block model. The construction of that model starts with drill hole data, which serve as the basis for the definition of 3D mineralized envelopes with resources limited to the material inside those envelopes. The next step is the selection of drill hole data within the mineralized envelopes in the form of fixed length composites and then the interpolation of the grade of blocks on a regular grid and filling the mineralized envelopes from the grade of composites in the same envelopes. All the interpolated blocks below the overburden/bedrock contact surface make up the mineral resources and they are classified according to proximity to composites and corresponding precision/confidence level.

14.1 Drill Hole and Sample Data

Sample data used in the construction of the proposed resource model was in drill hole database tables received from Lake Shore Gold Corp. on June 14, 2010. The assay table was further verified using lab certificates and an updated version was received on August 25, 2008. Data tables used for resource estimation are :

- A drill hole collar table with collar coordinates and length of 319 holes totaling 86,016.5m. Hole numbers are prefixed FE or G depending whether they are on Fenn or Gib property. The 81 Fenn holes range from FE-86-01 to FE-99-59 with 4 holes in 1986 (Lacana), 11 holes in 1988 (Corona) and 66 holes from 1993 to 1999 (Normina, Pangea and St Andrew). The 238 Gib holes range from G-78-8 to G-02-217 with one old hole (G-78-8 by Cominco), 230 holes from 1993 to 1999 (Normina, Pangea and St Andrew), 5 holes in 2002 (Barrick) and 2 GU fairly old holes by Canadian Johns Manville in 1953-54. In the local reference system, collar coordinates range from 1093E, 2175S, -11.8Z to 4250E, 500S, 0Z i.e. they cover an area of about 3.2 x 1.7km. Hole length varies from 30m to 936m with two short (aborted) holes (FE-94-07 of 16m and G-94-41 of 5m) and one very deep hole of 1332m (G-98-177B)
- A drill hole orientation/deviation table with 2,281 entries (hole name, depth, azimuth, dip). Most drill holes (279) are drilled to the north (from N330 to N20) with a dip of 45-50° (from 78 to 44°). 18 holes are drilled to the east with a dip from 44 to 49°. 16 holes are drilled to the south (hence in the dip of the main mineralized zone) with a 55-60° dip. 3 holes are vertical or nearly vertical and 2 holes are drilled to west with a 55° dip. Drill hole deviation is generally measured at 30m intervals. Dip deviation is available in all holes and azimuth deviation in part of the holes.
- A drill hole assay table with a gold grade for 41,089 assay intervals (hole name, from-to and corresponding length in meters, Au grade in g/t and a sample number) in 309 holes with known coordinates (we have 82 assay intervals, mostly zero grade, in four old holes with no coordinates i.e. FE-88-15+16 and FE-89-17+18 and we do not have any assay interval in 12 holes with known coordinates, including the two very old GU holes). Assay length ranges from 0.1m to 3.9m with an average of 1.24m and a most common length (33%) of 1.5m (total length of assay intervals is 51,029m i.e. 59% of total meterage). Gold values range from 0 to 249.8 g/t with an uncapped weighted average of 0.62 g/t. As described in the section of this report on sample assaying, those gold values are mostly the result of a fire assay with an AA finish. When available, it is preferentially from a screen metallics analysis or a fire assay with gravimetric finish. Assays are mostly from Spectrolab (60%), Swastika (21%) and

Chimitec (16%) with a few from Accurassay, Bourlamaque and TSL. Unlike data in the first assay table received in June 2011, those of the last table received at the end of August 2011 are not weighted averages of original and possibly several check, duplicate or repeat values for the same interval.

- A drill hole litho table with description of 7,400 geological intervals (hole name, from-to, litho code). Length of intervals varies from 0.05 to 252m for a total of 81,889.5m i.e. 95% of total hole meterage. Besides O/B for overburden (the depth of which varies from 3.1 to 63m with an average of 26m in the 302 holes where it is recorded), the litho code of intervals is based on a numerical scale from 1 to 14 with the most important units being 1-3 = mafic and ultramafic volcanic and intrusives of the Kidd-Munro assemblage, 5 = sediments of the Hoyle assemblage and 8 = syenitic intrusives.

As illustrated on Figure 23, drill holes are generally on north-south sections from 1150E to 2400E in the so-called Main Zone with 20 scattered holes (including the 5 Barrick holes of 2002) to the east in the so-called Deformation Zone and 4 holes to the north. Spacing between N-S drill sections is 25m or less from 1200E to 1900E and then 50m from 1900E to 2400E (with closer spaced sections around 2100E and 2350E). The 18 holes dipping to east are on 5 E-W sections at about 20m spacing between 1300E and 1550E. The 2 holes dipping to west are on the east side. Apart from small inconsistencies in the litho codes (O/B or OVB instead of O/B), we have not found any problem (orphan or overriding intervals) in the data tables supplied.

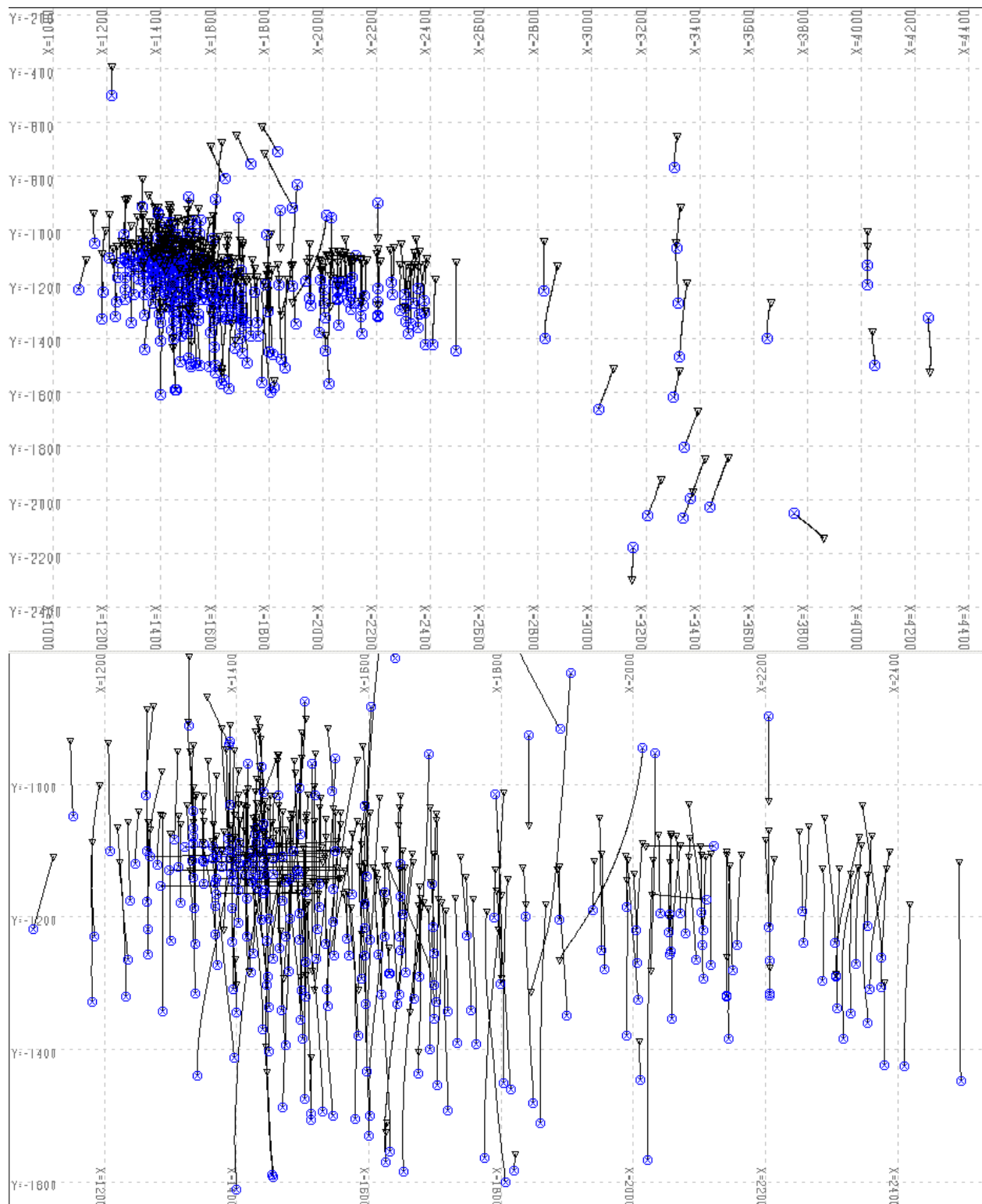


Figure 23. Map of Fenn-Gib drill holes.

Top : all 319 holes. Bottom : the 295 holes in proximity to the Fenn-Gib Deposit.

14.2 Mineralized Domains

The main mineralized domain, thereafter dubbed MZ (Mineralized Zone) is an E-W trending and strongly dipping (from 65° to vertical) to south broad zone with a higher than usual concentration of samples with good grades. The MZ encompasses mineralization that has been described as the Main Zone and the Deformation Zone by previous exploration companies. A low cut-off of 0.3 g/t is usually used to define the limits of the MZ in the drill holes although some intercepts might be defined at a lower cut-off for sake of geometrical consistency on the same section.

The MZ goes to the surface on all sections from 1175E to 2400E except for a gap between 1675E and 1900E with no real mineralized intercepts in the top holes on those sections. Except for that gap, the MZ domain is limited by an overburden-bedrock contact surface defined by Lake Shore Gold geologists. We checked that this surface goes through the recorded bottom of overburden in all drill holes. At depth, the MZ can be defined in all the bottom holes on sections (including the deep G-98-177B on section 1650E with an intercept at a depth around 850m). Limits of the mineralized domain are set 50m below the mineralized intercept of those bottom holes on sections 1175E, 1225E, 1300E, 1425E, 1575E, 1575E, 1650E, 1800E, 1850E, 1900E, 2050E, 2150E, 2200E, 2350E and 2400E with a smooth transition of the bottom limit between those sections.

A few selected drill sections (at 150m E-W spacing) with the interpreted outline of the MZ on the sections as well as the trace of Lake Shore Gold litho model are on Figure 24 and Figure 25. On most sections, the hangingwall of the MZ (on the south side) corresponds to the sediments/volcanics contact with very little mineralization in the sediments on the south side. As already noted in past reports, the MZ mineralization is associated with the syenitic intrusives in the volcanics. However, the geometry of those syenitic bodies seems rather complex. There is a definite change in the morphology of mineralized pods within the MZ domain between east and west with a limit at about 1900E : on the west side, we seem to have several equi-dimensional pods across a fairly thick domain while on the east side, those pods seem more elongated along dip and strike and within a narrower domain.

The MZ domain is actually modeled as three separate solids that join at 2050E. Total volume of the domain below the overburden/bedrock contact surface is 51.1 million m³ (Figure 26). This is equivalent to a tonnage of 143.2Mt with a fixed bulk density of 2.8 t/m³. In addition to the MZ domain, we have modeled through mineralized solids two small satellite bodies which can be delineated on a few adjacent drill sections and close to the surface. They are dubbed MZ2 (to the south of MZ on sections 1525E to 1625E) and MZ3 (between MZ and MZ2 on sections 1575E and 1600E). Mineralized volumes of the two solids below the overburden/bedrock contact surface are 311,740m³ for MZ2 and 159,900m³ for MZ3 (Figure 26).

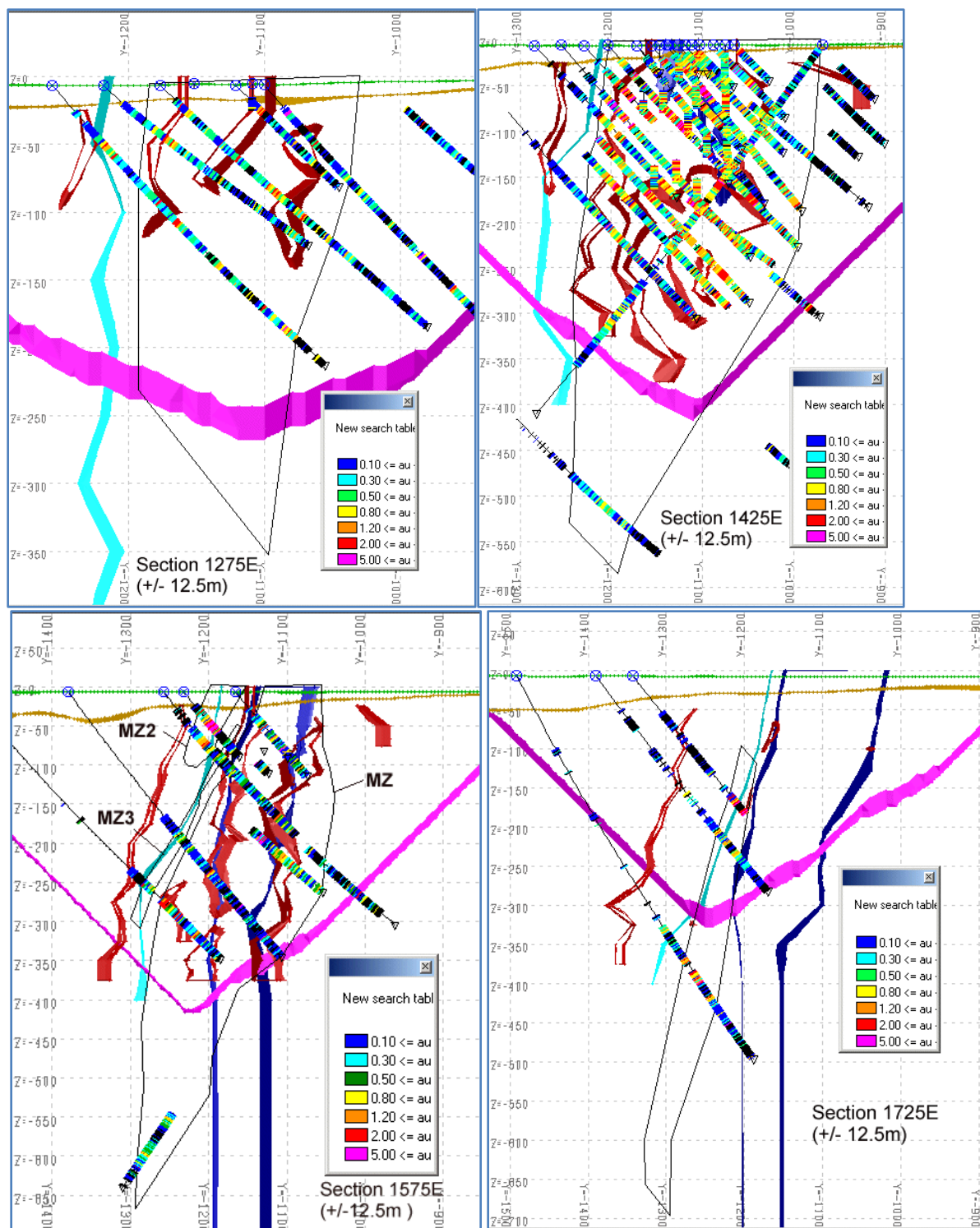


Figure 24. Drill sections with interpreted limits of MZ mineralized domain.

Polygonal limit in black = limit of MZ on section (as well as MZ2 and MZ3 on section 1575E). Surfaces and solids: green = topo (LSG), light brown = overburden-bedrock (LSG), pink = optimal pit with maximum 45° slope, light blue = sediments (south)/volcanics(north) (LSG), dark blue = gabbro (LSG), dark brown = syenitic intrusive (LSG)

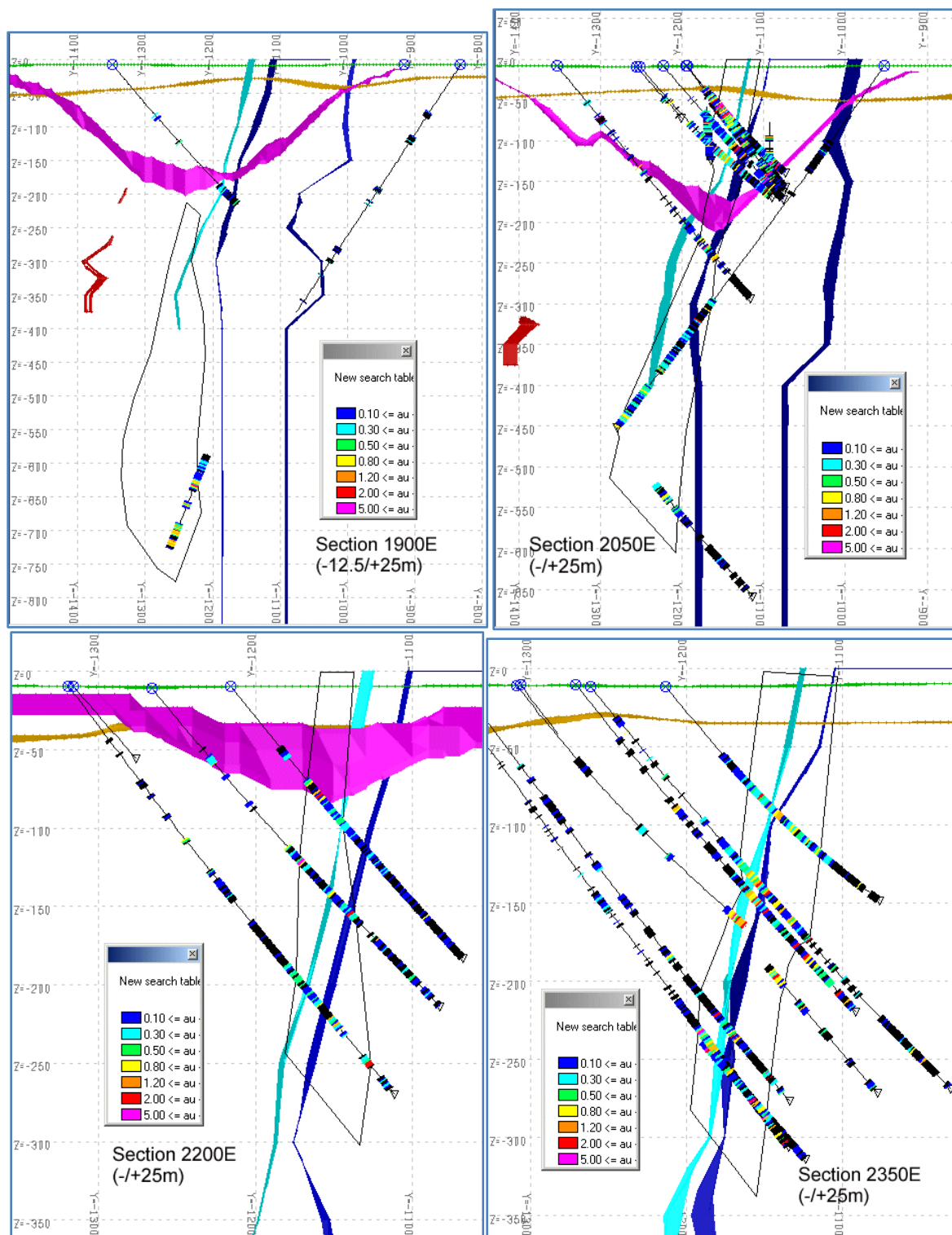


Figure 25. Drill sections with interpreted limits of MZ mineralized domain.

Polygonal limit in black = limit of MZ on section. Surfaces and solids: green = topo (LSG), light brown = overburden-bedrock (LSG), pink = optimal pit with maximum 45° slope, light blue = sediments (south)/volcanic (north) (LSG), dark blue = gabbro (LSG), dark brown = syenitic intrusive (LSG)

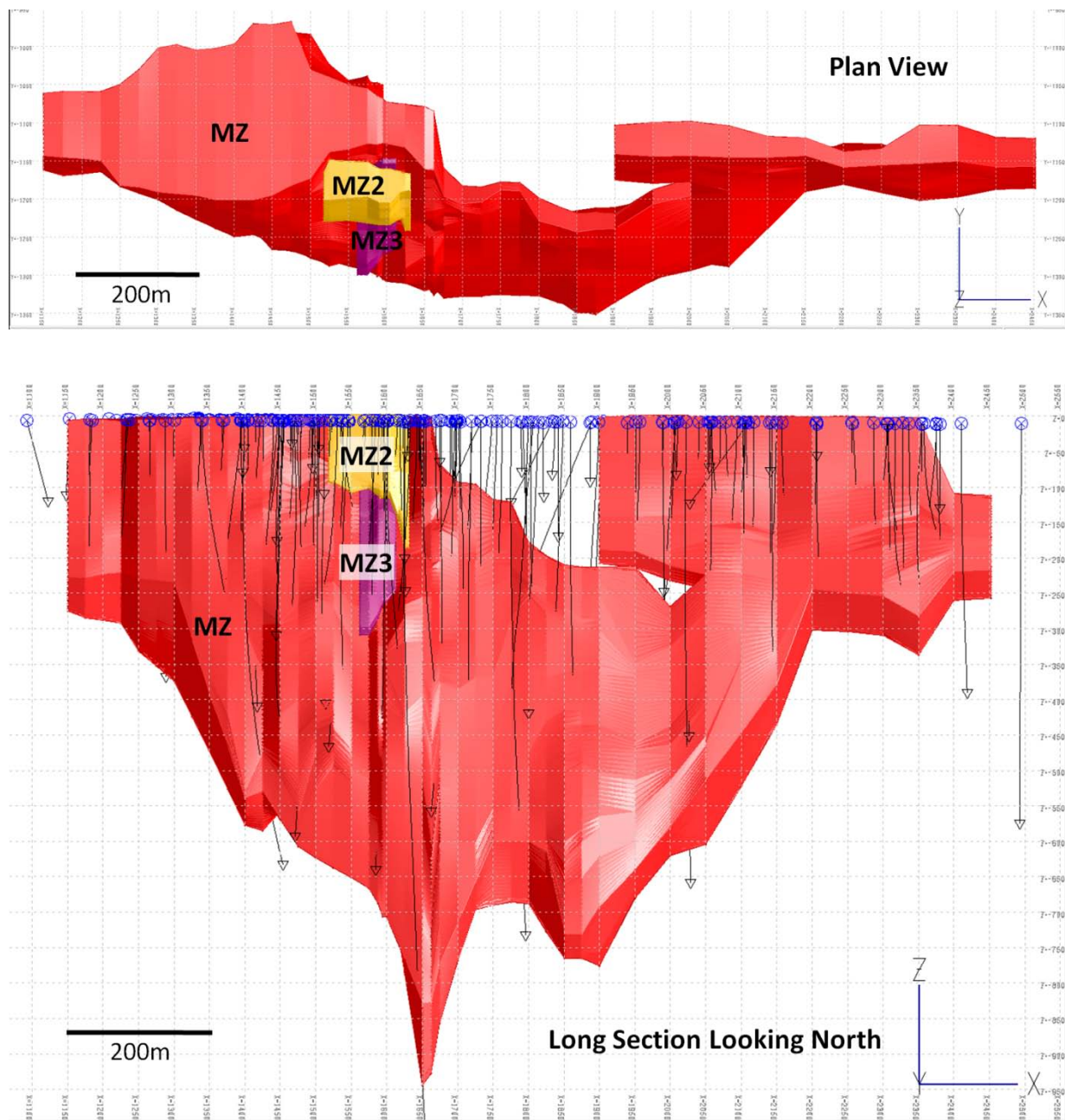


Figure 26. Views of MZ mineralized solids.

14.3 Mineralized Intercepts and Capping

Altogether, there are 247 intercepts of the interpreted MZ produced from the same number of drill holes (Table 9). Length of those intercepts varies from 6m to 445m with an average of 121m. Along those intercepts, there are 23,206 assay intervals (56% of total) with a length from 0.1 to 3.9m (and averaging 1.25 m) and a gold grade from 0 to 249.8 g/t with a (uncapped) weighted average of 0.90 g/t. The cumulative frequency curve of the gold values of the original assay intervals (Figure 27) suggests a natural gap between 17 and 27 g/t with a corresponding capping limit at 25 g/t Au. This limit caps 26 intervals (0.1% of total) and 3.3% of the gold overall, amongst those intervals. It is a mild capping (Fenn-Gib is not a deposit with many high grade outlier samples) although a little more severe than previously used limits: around 30 g/t with a gold loss of only 2.8%.

The same cap limit of 25 g/t has been applied to sample data in the other satellite domains: MZ2 and MZ3, as well as in the background material. In MZ2, there are 17 intercepts intersecting the solid from 17 drill holes. Length of those intercepts varies from 9 to 48m with an average of 30m. Along those intercepts, we have 386 assay intervals with a gold grade from 0 to 56.8 g/t and averaging 1.88 g/t. Capping to 25 g/t affects 2 samples with a gold loss of 5.5% (average capped grade is down to 1.78 g/t). In MZ3, we have 12 intercepts with a length from 6 to 21m and averaging 12.6m. The 128 samples in those intercepts have a gold assay value from 0.02 to 3.64 g/t and averaging 0.48 g/t. None of them is capped. In the background material (below overburden/bedrock, outside of MZ, MZ2 and MZ3 and within block matrix limits – see below), we have the remaining 16,880 assay intervals with gold grades ranging from 0 to 49.96 g/t and averaging 0.21 g/t. In that background material, we have three intervals above the 25 g/t limit with respective grades of 26.19g/t (over 1.5m in G96-117 on section 2100E isolated in HW 30m away from MZ), 43.11 g/t (over 1.35m, in G-94-69 on section 1700E, isolated in FW about 120m away from MZ) and 49.96 g/t (over 1.53m, in FE-88-03 on section 1275E, isolated in some FW mineralization about 70m away from MZ). Given that we are dealing with a low grade material with a few isolated high grade intervals, we lower the cap limit from 25 g/t to 10 g/t. It affects 10 samples and generates a gold loss of 4.1% similar to the loss that we have in the MZ and MZ2 zones.

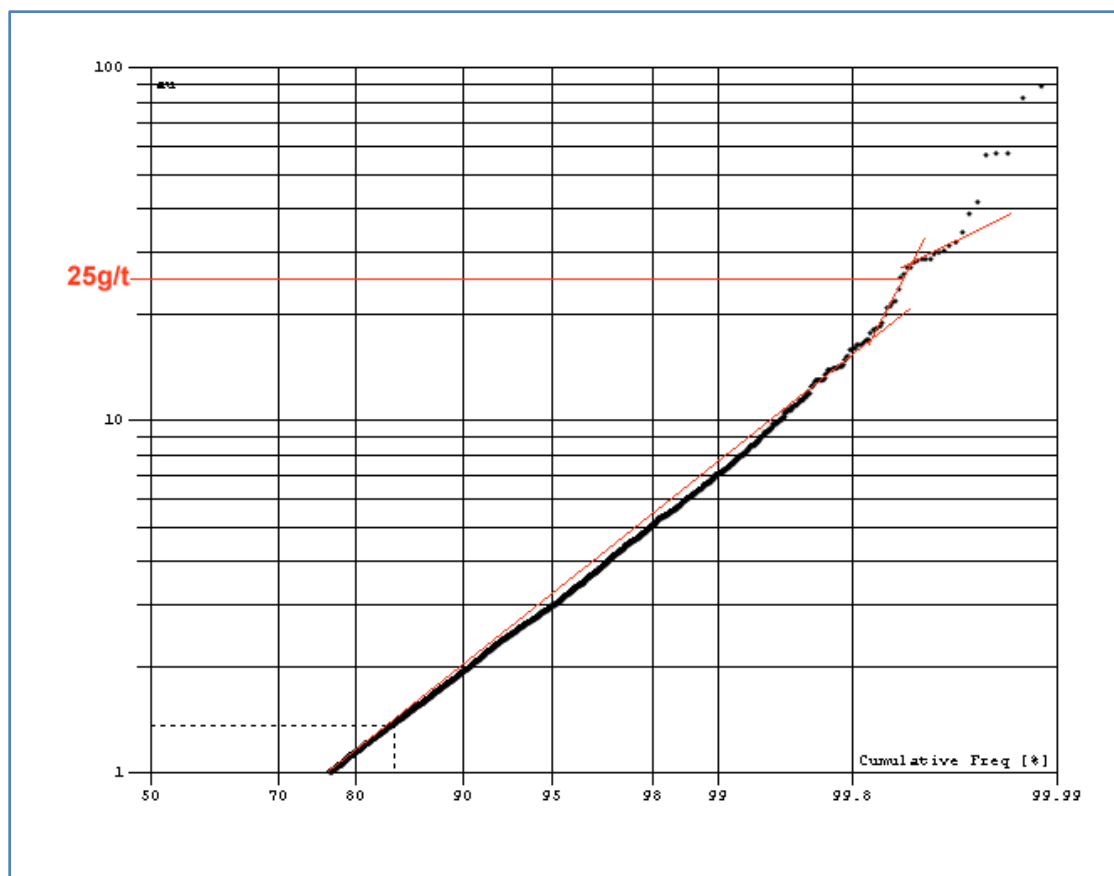


Figure 27. Cumulative frequency curve of the Au grade of intervals in MZ.

14.4 Compositing, Statistical Analysis and Variography

Since original assay intervals do not have the same length, we need to standardize that length by re-compositing those assay intervals before we can use their grade in the interpolation of the average grade of nearby blocks. Given that those blocks are at least 5m (previous models use 5x5x5m cubes but we would favour 10x5x10m blocks), we use 5m down-hole composites within mineralized intercepts. By selecting a composite with a length similar to that of mineralized block intercepts, we have some expectation that the grade dilution originating from the block size will be reflected in the grade of samples used to interpolate the grade of blocks.

In each drill hole and each domain cut by the drill hole, compositing starts at the top of the mineralized intercept in that hole. A composite is kept if its computed grade is derived from capped assay data over at least 2.5m of its length. Gaps are assumed to be waste and assigned a default zero grade.

In the MZ domain, 5,991 composites are calculated with a capped grade from 0 to 13.2g/t and averaging 0.85 g/t. The capping lowered the average grade from 0.9g/t to 0.87g/t; and compositing with zero grade gaps further lowered the average grade to 0.85 g/t. Despite capping and compositing, grade variability remains relatively high with a coefficient of variation of 120%.

Actually, the grade variability of composites is higher on the east side of the domain than on the west side. East of 1900E, we just have 497 composites with grade ranging from 0 to 13.2 g/t, an average of 0.71 g/t and a coefficient of variation of 188%. West of 1900E, we have 5,494 composites with grade ranging from 0 to 11.2g/t, an average of 0.86 g/t and a coefficient of variation of 114%. In both sectors, the grade distributions (of non zero data) are close to lognormal (Figure 28).

Variograms (actually 1-correlograms) of the capped grade of 5m composites are computed in the west and east sectors of MZ separately. In the west sector with most composites, the average variogram (top of Figure 29) is characterized by a nugget effect of 30%, a primary (50% of sill) short range (12m) structure and a secondary (20% of sill) long range (100m) structure. Variograms along several directions of the horizontal plane (bottom of Figure 29) do not show a consistent anisotropy pattern i.e. a direction of best continuity perpendicular to the direction of worst continuity with variograms along intermediate directions in between. Variograms along several directions of the N-S vertical section plane (Top of Figure 30) show the best continuity along vertical followed by the dip of 70° to S, then the dip of 50° to N of drill holes and finally the horizontal NS. Variograms along several directions of the E-W vertical long section plane (Bottom of Figure 30) again show the best continuity along vertical, followed by a plunge to east and the horizontal EW as well as plunge to west at the top. A model which can accommodate most of those directional variograms is the sum of a nugget effect of 30% plus a principal (50% magnitude) spherical component of short ranges (maximum = 30m, intermediate = short = 15m) plus a secondary (20% magnitude) spherical component of long ranges (maximum = 150m, intermediate = short = 75m). Maximum ranges are along the direction dipping 80° to south while intermediate and short are along any direction of the perpendicular sub-horizontal plane.

Directional variograms from composites on the east side are much more erratic given that they are derived from less than 10% the same number of composites. A variogram of log data (Top of Figure 31) tend to indicate a best continuity along the 70° dip to south as well as the horizontal EW strike. The model of variogram for raw data (Bottom of Figure 31) is derived from the variogram model of log data.

No specific variogram models have been computed for composites in the two satellite domains MZ2 and MZ3 (too little composites in both) as well as the background material (grade is erratic since it was not possible to define specific mineralized domains in the background). In MZ2, we have 104 composites with grade from 0 to 10.5 g/t. The average is 1.70 g/t and coefficient of variation is 144%. In MZ3, we just have 30 composites with grade from 0.11 to 1.3 g/t and averaging 0.48 g/t. In the background material, we have 8,995 composites with grade from 0 to 4.2 g/t and averaging 0.10 g/t. For that material, the large difference between the mean grade of composites (0.09 g/t) and the mean grade of samples after capping (0.20 g/t) is explained by the padding of sample gaps with zero grade intervals.

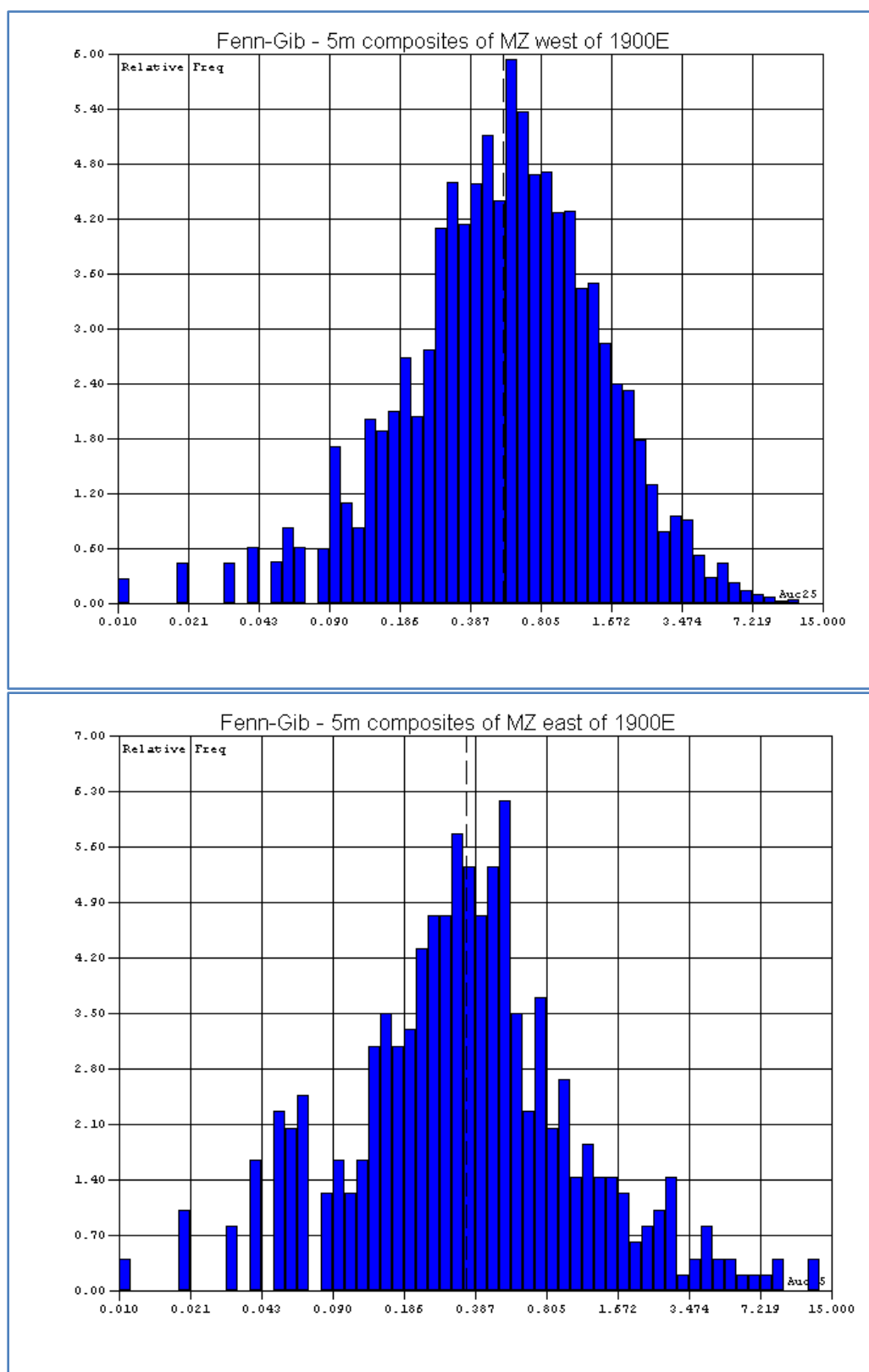


Figure 28. Histograms of the capped grade of 5m composites in the west and east of MZ.

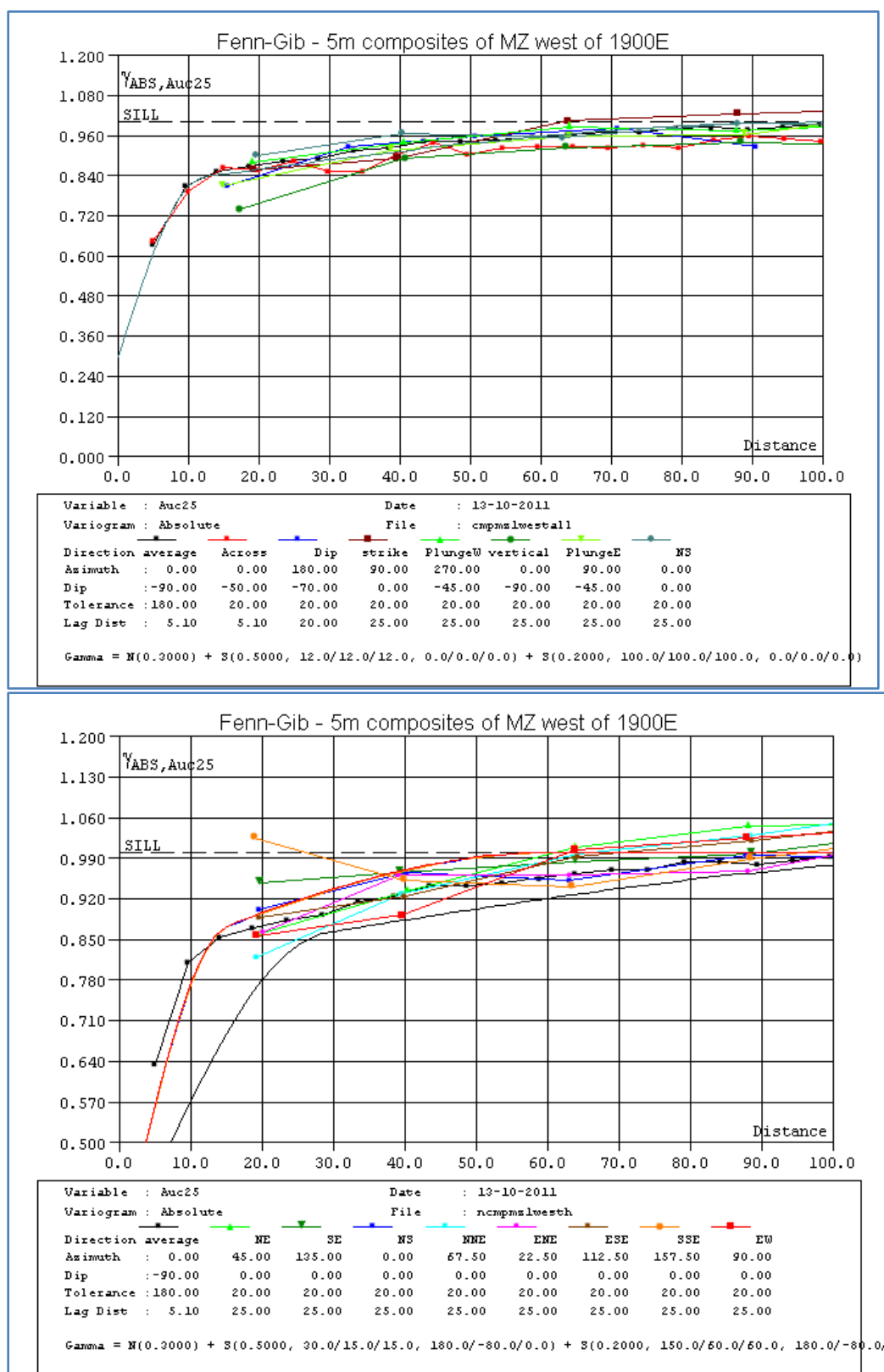


Figure 29. Variograms of 5m composites of MZ west of 1900E (1 of 2).

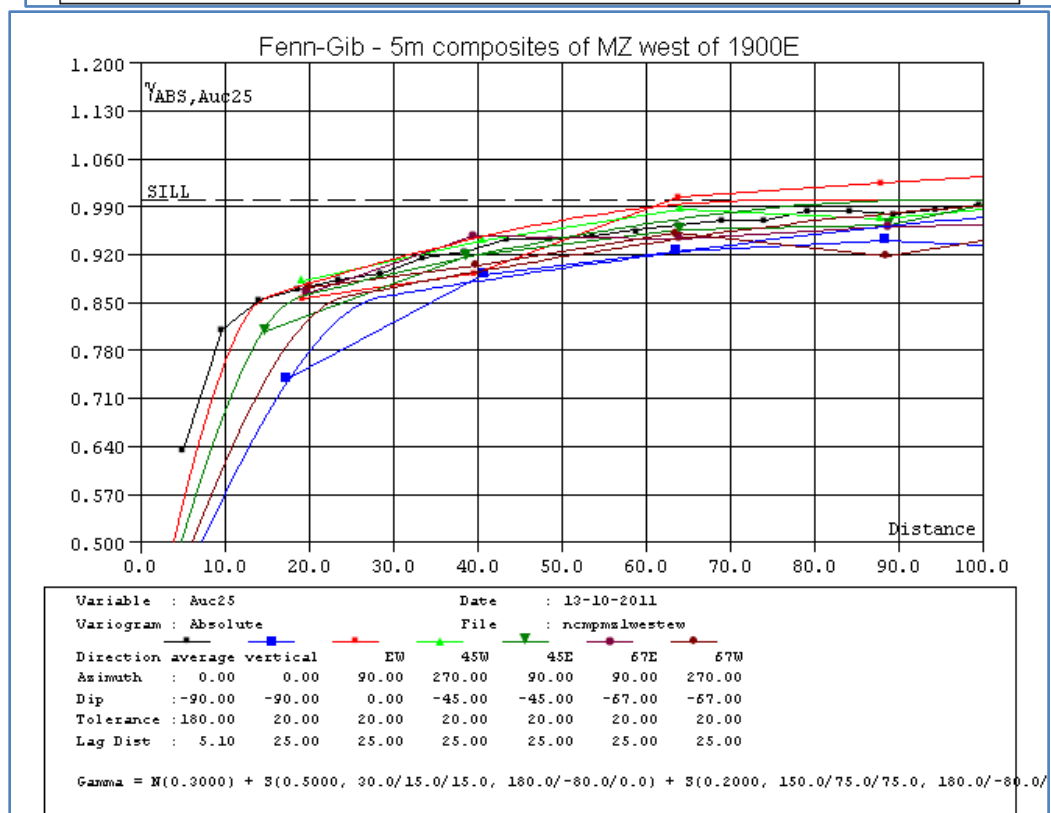
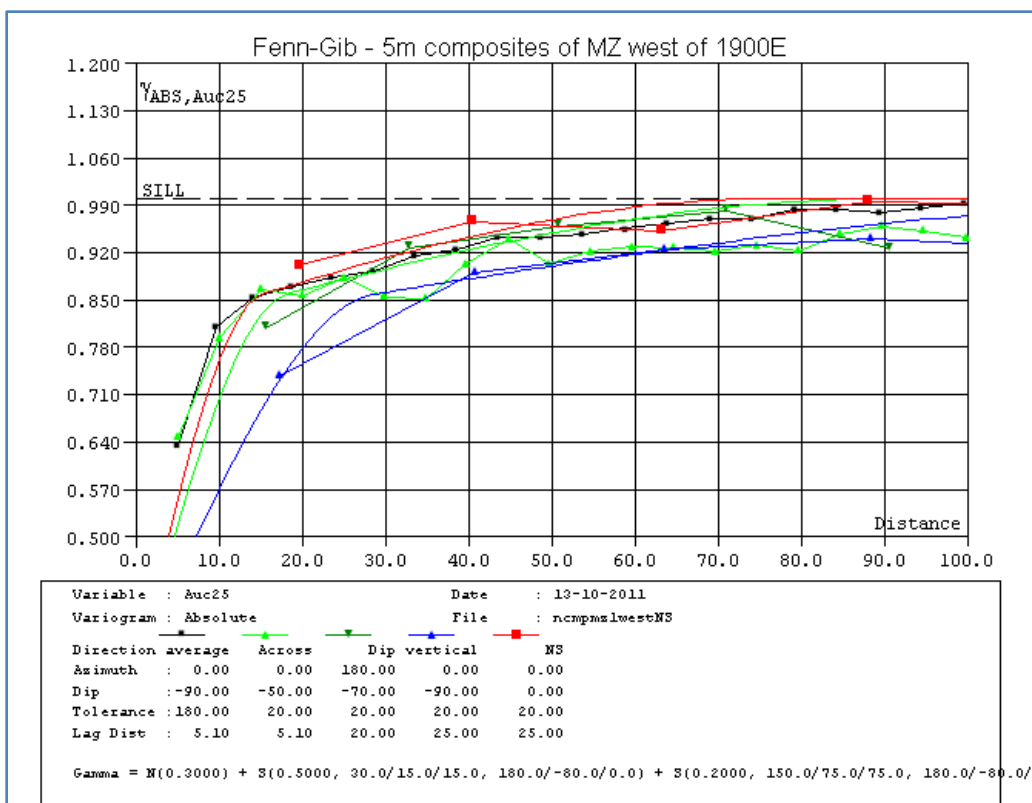


Figure 30. Variograms of 5m composites of MZ west of 1900E (2 of 2).

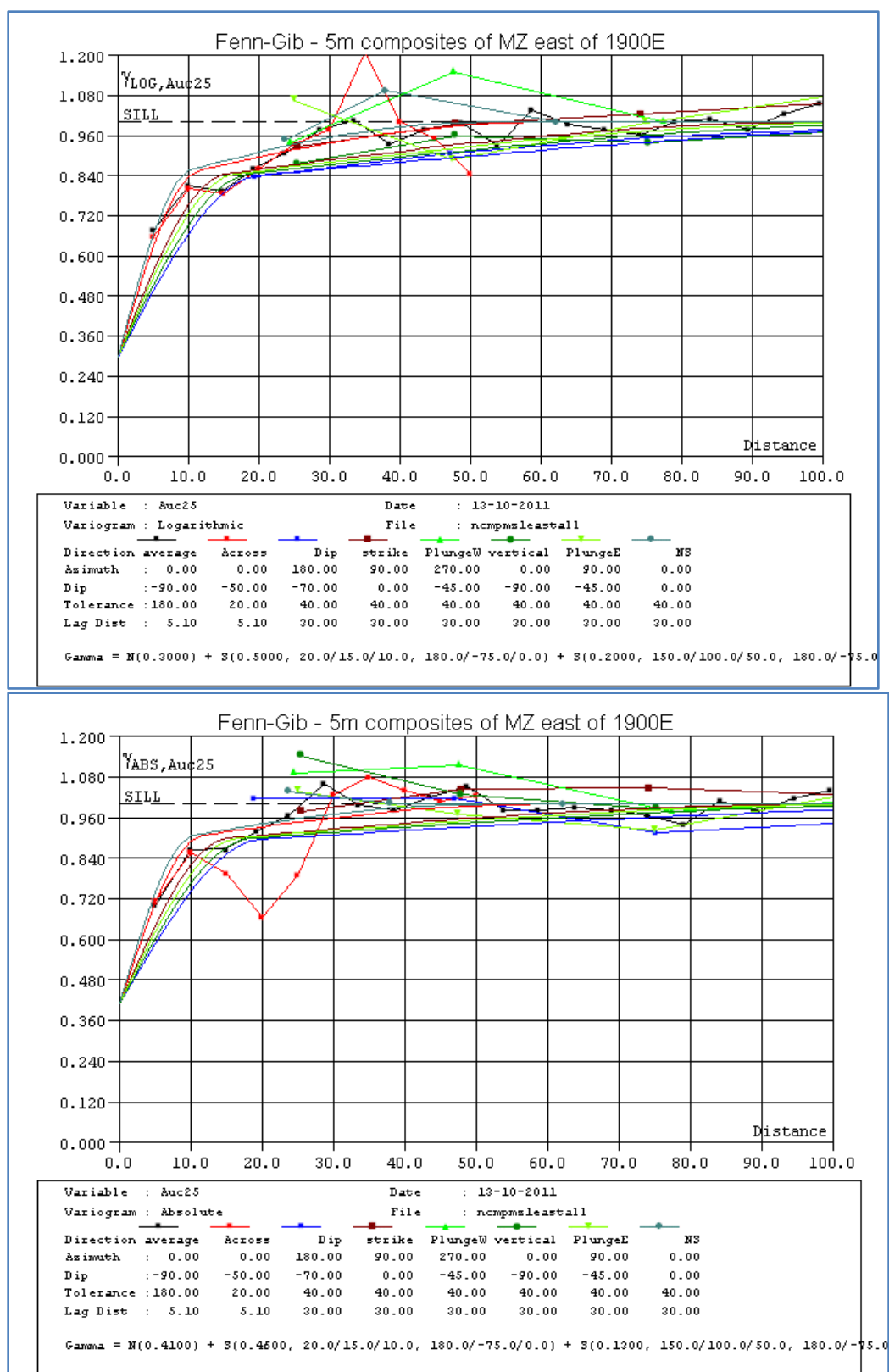


Figure 31. Variograms of 5m composites of MZ east of 1900E.

14.5 Block Grade Interpolation

The solids of the MZ mineralized domain are filled by small blocks on a regular grid. As previously indicated, we prefer to use blocks 10x5x10m rather than the 5m cubes from some previous models. The vertical 10m is a more likely bench height than 5m and the 10m E-W corresponds to about half the minimum spacing of about 25m between drill hole sections. At this stage and given the subjectivity of domain limit definition, we do not feel that it is worth using partial blocks i.e. computing the fraction of the solids in each block. Hence a block is considered within the MZ mineralized domain if its center is inside the wireframe. Partial blocks percentages are only estimated at the top when cut by the overburden/bedrock surface. Altogether, 103,124 blocks occur within the MZ domain. They are spread over 130 10m-long columns from 1150E to 2450E, 76 5m-wide rows from 1345S to 970S and 100 benches from -930Z to 0Z.

The interpolation of the average gold grade of each block is accomplished by ordinary kriging from the capped grade of the 5,991 5m composites in the MZ domain. The 82,303 blocks of the west sector are kriged using the variogram model derived from composites in that sector and similarly for the 20,821 blocks of the east sector (see previous section). Composites in the west sector were used to interpolate blocks in the east sector and vice-versa.

In each sector, blocks are kriged in up to four runs (three in the east sector) after relaxing minimum search conditions from one run to the next until all blocks are interpolated. In the west sector with most blocks and composites, the first run uses a rather small ellipsoid with radii equal to short ranges (30x15x15m) and orientation corresponding to the anisotropy axes of the variogram model (hence the 30m radius is along the direction dipping 80° to the N180 and the 15m radius is along any direction of the perpendicular sub-horizontal plane). In that ellipsoid, we need at least 5 composites in at least 3 drill holes (maximum number of composites from the same hole is 2) for block interpolation to proceed. The maximum number of composites used for interpolation per block is 10. Blocks which are not interpolated in a given run can be interpolated in subsequent runs with ellipsoids of increasing size (60x30x30m, 120x60x60m and 240x120x120m) but the same orientation and the same minimum of 5 composites in at least three drill holes except the last run which allows a minimum of 3 composites in at least 2 drill holes. Maximum number of composites increases to 15, 20 and 25. A last run with the same 240x120x120m ellipsoid and a minimum of 2 composites from the same hole is necessary to interpolate the last 261 blocks in the domain.

In the east sector with a lower density of composites, the first run uses a 75x50x25m ellipsoid with the 75m long radius along the dip of 75° to south and the 50m intermediate radius along the horizontal E-W. Interpolation goes ahead if at least 3 composites occur in at least 2 holes (maximum number of composites from the same hole is 2) within the ellipsoid. The maximum number of composites used for interpolation per block is 10. Ellipsoids of the two subsequent runs are 150x100x50m and 240x160x80m respectively with the same orientation and the same minimum number of composites while the maximum number of composites is increased to 15 and 20. As indicated by Table 11, most of the blocks are interpolated in runs 2 and 3 in the west sector and the corresponding runs 1 and 2 in the east sector. As expected, variability of block estimates decreases in the last runs (more dilution when interpolation is done from composites far from a given block).

Block grade estimates of selected N-S cross sections in the west sector and selected benches are on Figure 32 and Figure 33 respectively.

In the satellite zones MZ2 and MZ3, block grade interpolation from composites is by simple inverse distance with the same search conditions as in the west part of the MZ.

In the background material, interpolation is by simple nearest-neighbor from composites using a 30x30x10m ellipsoid dipping 75° to the south. In other words, a block is given the grade of the closest composite up to a distance of 30m in a plane dipping 75° to south.

Table 11. Statistics of block grade interpolation runs.

Zone	Sector	# blocks	# comp	run	# blocks	MinAuC	MaxAuc	MeanAuC	CVAuc
						G/t	g/t	g/t	%
MZ	West	82,303	5,991	1	6837	0.05	5.41	1	60.3
				2	26,701	0.03	5.23	0.76	56.5
				3	31,656	0.05	3.86	0.65	52.2
				4	16,848	0.12	1.76	0.69	34
				5	261	0.22	0.34	0.31	5.3
				All	82303	0.03	5.41	0.72	54.6
MZ	East	20,821	5,991	1	8,447	0.03	4.75	0.64	71.7
				2	8,964	0	2.77	0.57	64.2
				3	3,410	0.11	1.77	0.68	34.2
					20,821	0	4.75	0.62	63.7
MZ	All	103,124				0	5.41	0.7	56.6
MZ2		684	104	All		0.16	6.95	1.74	86.1
MZ3		321	30	All		0.25	0.87	0.55	20.5
BK		117,358	8995	All		0	4.02	0.11	214.2
All		221,487	15,120			0	5.41	0.40	115.6

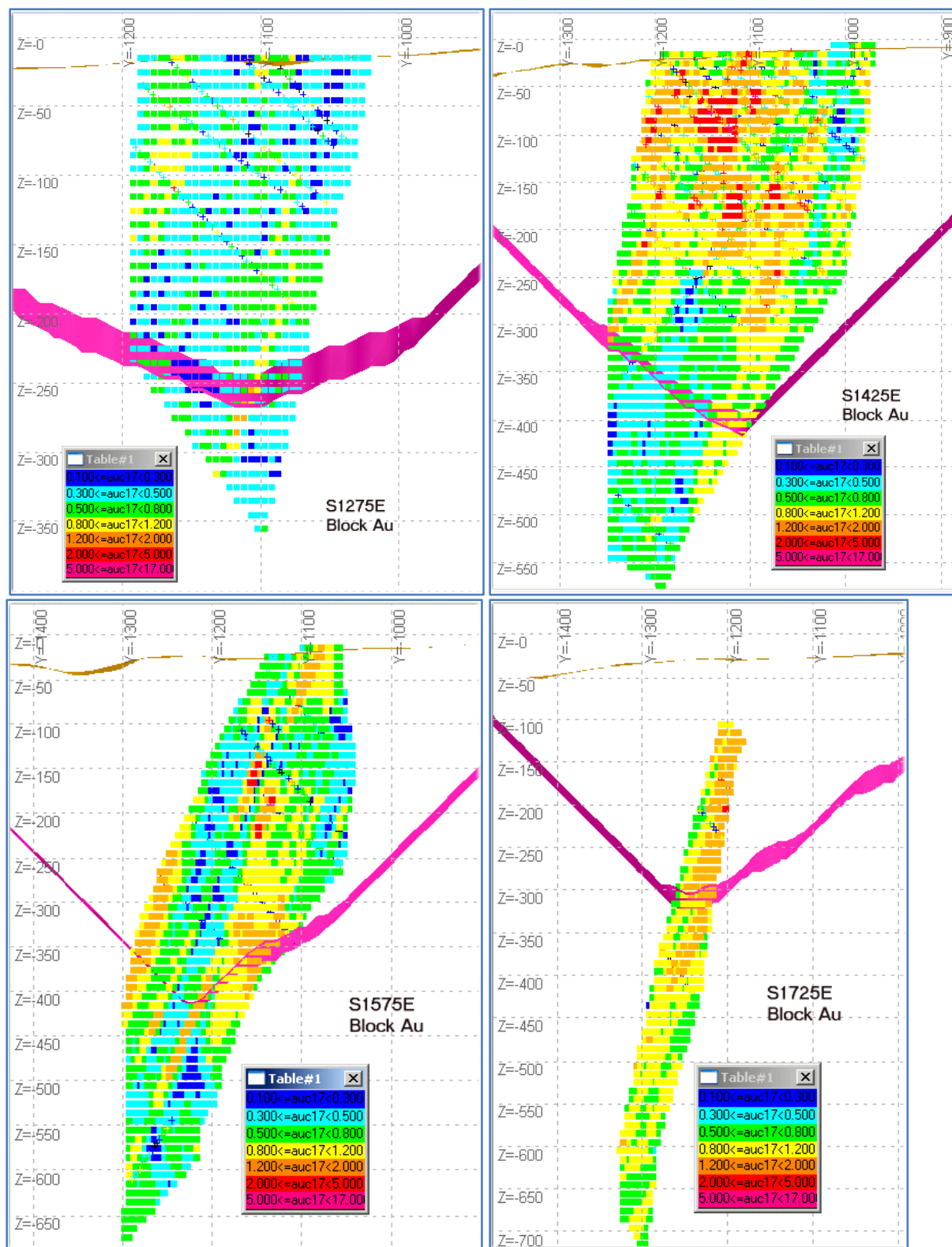


Figure 32. Selected NS cross sections with block grade estimates in MZ domain.

Surfaces = overburden-bedrock (brown) - Whittle pit with 45° maximum pit slope angle (pink) + = 5m composites in MZ

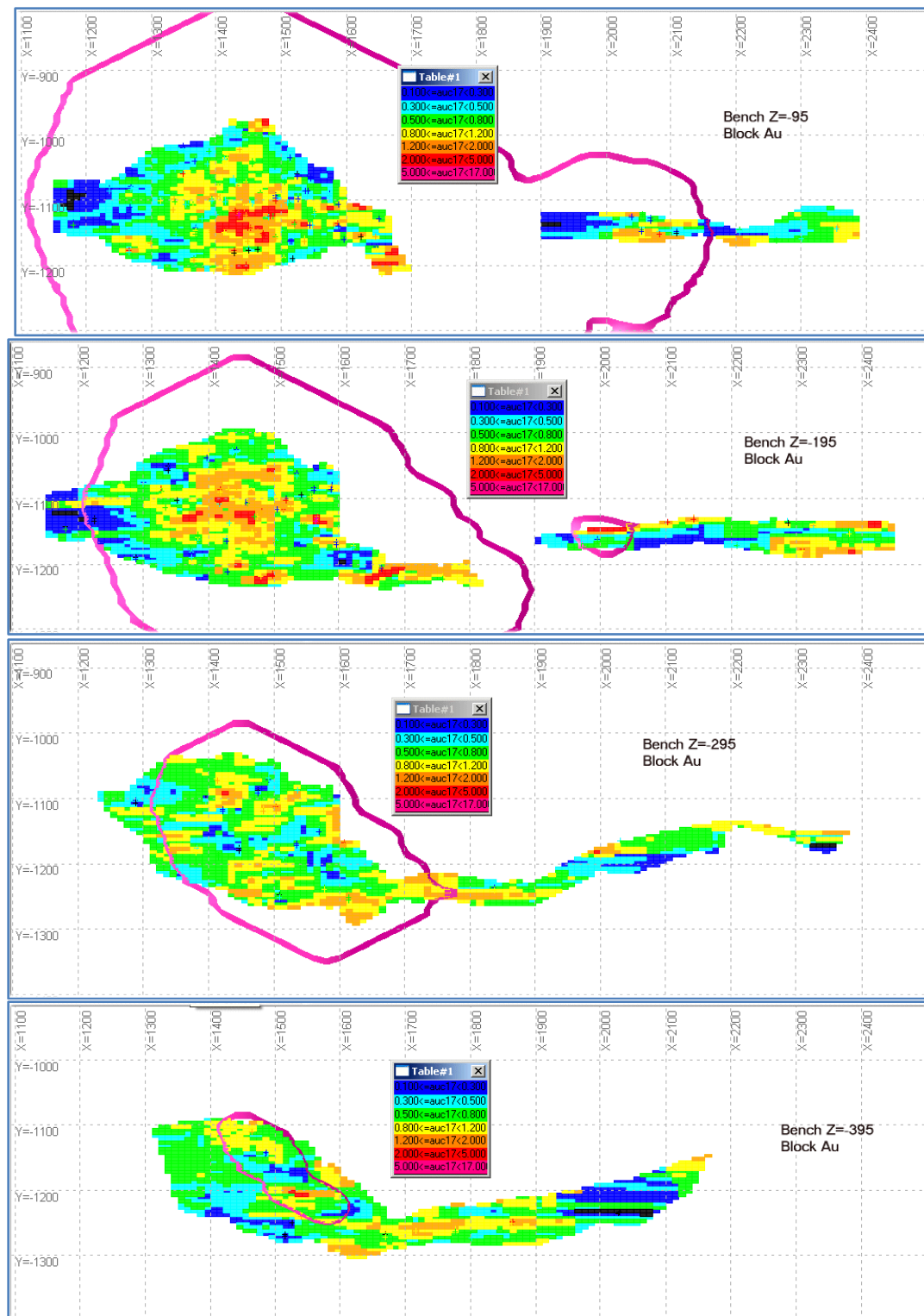


Figure 33. Selected 10m benches with block grade estimates in MZ domain.

Surfaces = overburden-bedrock (brown) - Whittle pit with maximum 45° pit slope angle (pink) + = 5m composites in MZ

14.6 Validation of Estimated Block Grade

Most resource model validation techniques are based on the idea that block grade estimates should match available composite grades in the same sector. A first approach is just to examine sections or benches with both block estimates and composites (with the same colour code according to grade) and make sure that they visually match (Figure 32, Figure 33). In the case of Fenn-Gib, the difficulty is that we may have a fairly significant grade difference between composites and blocks at about the same place because of the significant nugget effect of composite grades.

14.6.1 Comparison of Composite and Block Estimate at the Same Position

Another approach is to look at the correlation of composite grade and block grade estimate of the block in the same zone which holds the center point of the composite (correlation plots on Figure 34 and correlation statistics on Table 12). As expected, the correlation of the grade of a composite and the estimated grade of the 10x5x10m block containing the composite is far from perfect (R around 0.8) with a good deal of smoothing in the block grade estimates. What is important however is the good agreement between average composite grade and average estimated block grade at the same position e.g. 0.84 g/t and 0.85 g/t for the 5,897 composites of MZ inside a block in the same position.

Table 12. Statistics of comparison between composite and blocks that contain composites.

Domain	Number	Mean g/t Au		Correlation
		Composite	Block	
MZ	5897	0.84	0.85	0.77
MZ2	92	1.86	1.83	0.73
MZ3	25	0.52	0.52	0.82
BK	6907	0.11	0.11	0.84

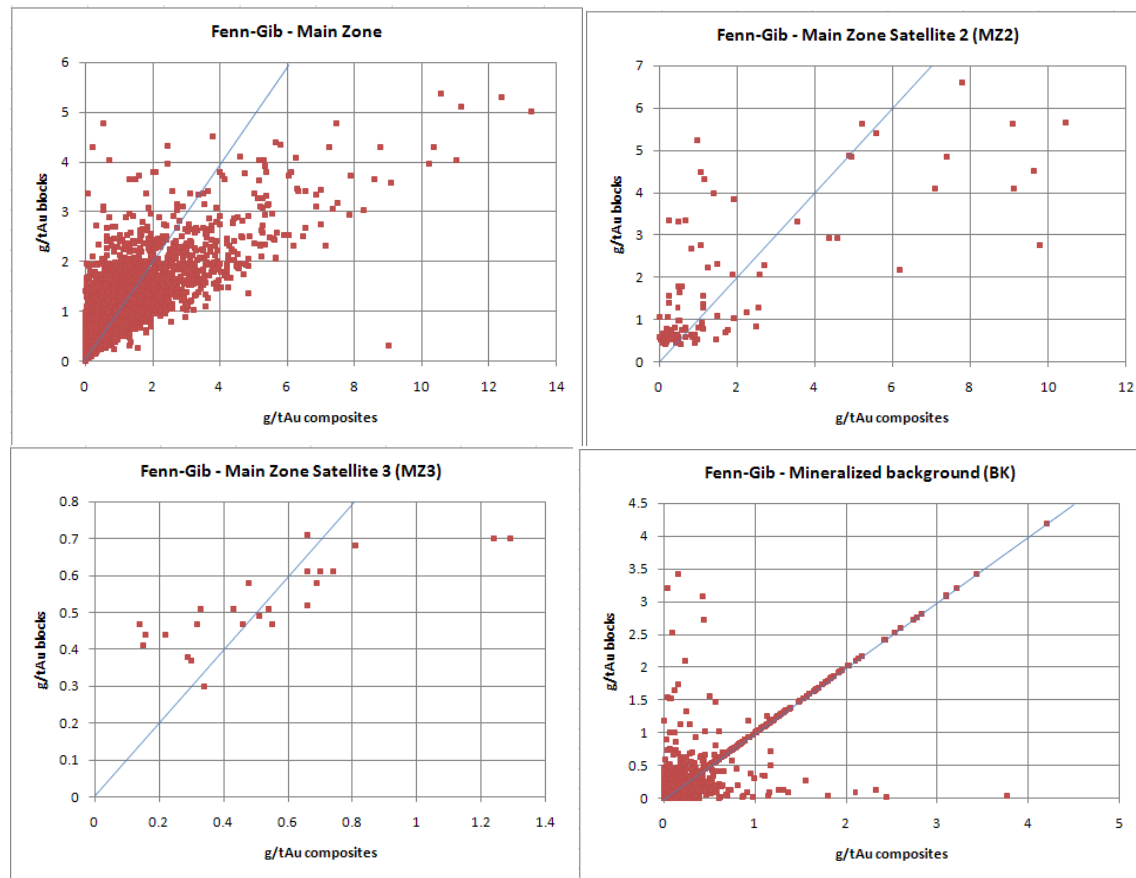


Figure 34. Correlation plots of estimated block grade and composite grade within that block.

14.6.2 Comparison of Validation Hole and Block Estimate at the Same Position

As described in section 12 of this report, Lake Shore Gold drilled four validation holes in the summer of 2011. Three of those holes were twinning historical holes from 1993 to 1998 and the comparison of assay data in the new and old hole of those twins is detailed in section 12. The fourth validation hole, FG-11-04 was drilled on section 1400E with the purpose of comparing the grade of its samples with the grade estimate of blocks intersected by the drill hole.

Figure 35 shows the N-S section with the trace of FG-11-04 in the Mineralized Zone after compositing assay interval data into the usual 5m composites. Obviously, the well mineralized Main Zone predicted by the current resource model is confirmed by the assay data in the validation hole. A more detailed comparison involving the 53 5m composites of FG-11-04 in MZ and current grade estimates of blocks containing the center of composites (Figure 36) shows a good agreement between the two in the top half of the MZ; but shows much more deviation in the bottom half where it looks like the block model failed to predict some of the fairly high grades encountered in the validation hole. Actually, the correlation is almost nil ($R=0.03$) but statistical tests (T-test of paired data and sign test) show that the average composite grade of 1.52g/t is not significantly different from the average block grade estimate of 1.31 g/t.

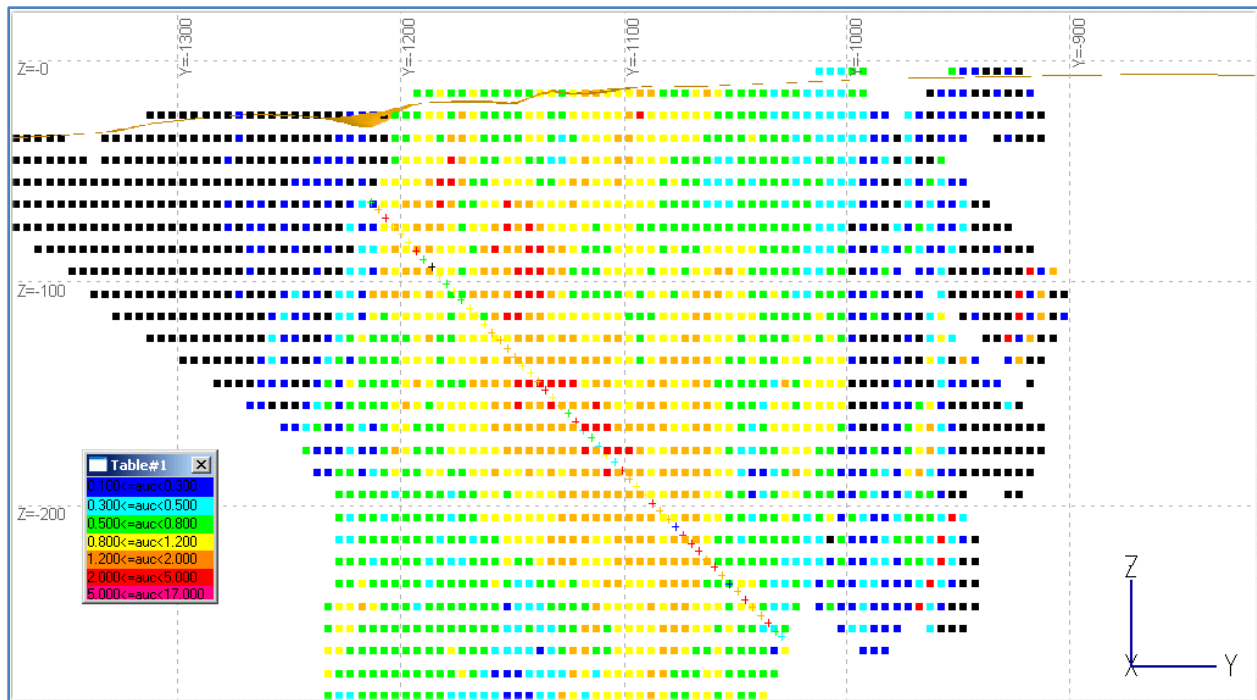


Figure 35. N-S section with 5m composites of FG-11-04 in MZ and block estimates.

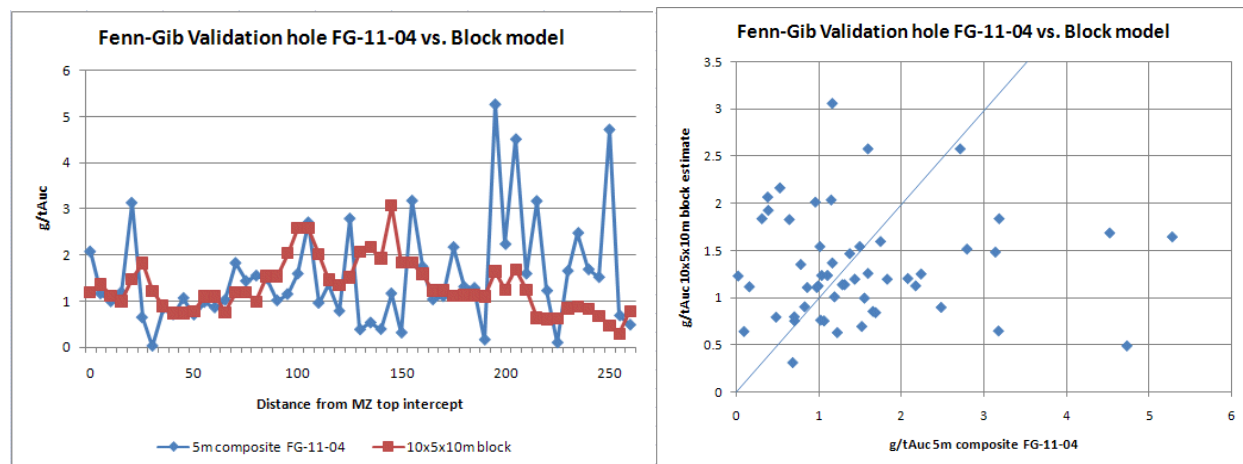


Figure 36. MZ composites in FG-11-04 vs. block grade estimate at the same place.

14.7 Block Grade Dilution

In the previous section, we have checked the consistency of block grade estimates and composite grades at about the same position. Since we will apply cut-off grades to the block estimates in order to get resources above a cut-off, we also need to check that those block estimates have the right variability i.e. they have at least the dilution than one can expect with the grade of 10x5x10m blocks.

The idea is to try and infer from the grade histogram of available composites in any domain the likely grade histogram of 10x5x10m blocks in the same domain. The first step is to define a so-called “declustered” set of composites. Raw composites tend to be clustered with more sample data in higher grade sectors. Hence the histogram of all composites in a domain is biased with too many high values. A simple way to “decluster” the composites is to run a nearest-neighbor (NN) estimation of blocks. By this way, in sectors with a low density of composites, the grade of each available composite is assigned to a large number of blocks around while in sectors with a high density of composites, only a few blocks are given the grade of each composite. In the end, the histogram of those NN block estimates is representative of the true distribution of composite grades.

For the purpose of this analysis, we have restricted the NN interpolation to blocks of the Main Zone West ultimately classified as indicated resources (see next section). Table 13 compares: (1) The kriged grade statistics of those reference blocks (2) The grade statistics of declustered composites (Nearest Neighbor estimates in reference blocks). As expected, they show the same mean but a much higher dispersion for composites.

Various “change of support” techniques allow inferring the histogram of the grade of blocks of any given size and shape from the histogram of the grade of declustered composites. First, they should have the same mean and second, the dispersion or variability of block grades is less than that of composite grades. This reduction of grade variance from composites to blocks is a function of the variogram of composite grades. More specifically, the predicted grade variance of blocks is the grade variance of composites minus the average value of the variogram function within a block which is generally provided by a kriging program. In the west part of the Main Zone where most of the indicated resources are located, the average value of the standardized variogram (with a sill forced to 1) in a 10x10x5m block is 0.535. This means that the predicted variance of the grade of those blocks is $F = 1 - 0.535 = 0.465$ that of declustered composites or the ratio of coefficients of variation for blocks and composites is $(0.465)^{0.5} = 0.682$. In other words, we expect that the coefficient of variation of true block grades is: $115.9 \times 0.682 = 79.1\%$

Once we have the mean (from NN estimates) and variance (from F factor) of the distribution of block grades, the shape of the distribution with that mean and variance depends of the “change-of-support” method being used. The third column of Table 13 lists the statistics of block grade distribution from the so-called “indirect lognormal correction” (ILC) methods.

Given this model for block grade distribution, we can compare the proportion and average grade of blocks above any given cut-off given by this model to the predicted resources above the same cut-off with the proposed kriged block grade (bottom of Table 13 at the 0.35 g/t Au cut-off). As expected, we can see some dilution with the kriged block values. At the 0.35 g/t cut-off, the 90.4% kriged blocks at 0.87 g/t compares to 79.8% real blocks at 0.96 g/t i.e. a 10.2% grade dilution. This dilution could easily account for (1) the inability to extract any single 10x5x10m block with a real grade above cut-off (2) the inability to recognize the real grade of blocks (hence decide with a 100% confidence that they are above or below the cut-off) (3) the physical dilution at the contact between blocks above and below the cut-off. In other words, there is no need to add much dilution to the kriged block values when moving from resources to reserves.

Table 13. Statistics of kriged and “true” block grades.

	Kriged g/tAu	NN g/tAu	Block g/tAu	%Dilution
Number	35,985	35,985	35,985	
Minimum	0.03	0	0.02	
Mean	0.81	0.81	0.81	
Maximum	5.51	11.18	6.23	
%Coeff. Var.	58.8	115.9	79.1	
%above 0.35g/tAu	90.4	66.3	79.8	+11.8%
%Au above 0.35 g/tAu	96.9	92.8	94.3	+2.7%
g/tAu above 0.35 g/tAu	0.87	1.14	0.96	-10.2%

Reference blocks are those of the Main Zone West classified as indicated and with more than 50% volume below the overburden/ topo surface. Declustered composite grades are actually NN estimates in the reference blocks. Note that the average kriged grade of reference blocks coincide with the average NN estimate of the same blocks but the dispersion of NN (=declustered composites) grades is much higher than that of the kriged estimates for the same blocks (a coefficient of variation of 115.9% for declustered composites vs. 58.8% for kriged blocks). The histogram of true block grade (third column) is derived from the NN histogram by the so-called “indirect lognormal” change-of-support method. Its mean is the same as that of the kriged and NN histogram but its variability (coefficient of variation of 79.1%) is somewhere between that of kriged grades and that of NN grades. Tonnage and grade dilution are computed by difference between kriged block recoveries and true block recoveries.

14.8 Block Resource Categorization and Mineral Inventory

In MZ, resources of each block are categorized according to the density of drill hole sample data available around the block. In Fenn-Gib, we can recognize three basic drill hole densities : (1) in the core of the top west sector, we have zones with a very high drill hole density i.e. N-S drill sections at 25m or less and a spacing between holes on sections of 25m or less plus some drill holes on close-spaced E-W drill sections. Assuming that the grade of drill hole samples can be confirmed by re-assaying of some remaining half ores and given the grade continuity of 5m composites in the west sector, we think that block resources in those zones can be classified in the measured category (2) around those zones of high drilling density in the west sector and in two places of the east sector, we have drill holes on N-S sections at a spacing between 25 and 50m with the same type of spacing between holes on the same section, We think that block resources in those zones merit an indicated classification (3) elsewhere but mostly at depth in the two sectors, the spacing between drill sections or between holes on the same section is more than 50m and the estimated resources of blocks in those areas would be in the inferred category.

One way to recognize the DH density around a block is to use search ellipsoids of given size and orientation and require a minimum number of drill holes crossing those ellipsoids. For the measured category and its corresponding DH grid of less than 25x25m, we use a 25x25x5m ellipsoid with the circular section of 25m in the vertical E-W long section plane going through the center of the block and we need have at least 4 composites in at least 4 different holes (maximum of one composite in the same hole). It should be noted that composites used for the resource classification are not just the 5m composites in the Main Zone but all possible 5m composites below the overburden portion of each hole. This is to avoid border effects close to the limits of the MZ domain. In the end, only 2180 blocks (about 3Mt) can be found in that category. For the indicated category and its corresponding DH grid of less than 50x50m, we use a 50x50x10m ellipsoid with the same

orientation and we require a minimum of 3 composites in 3 different holes inside the ellipsoid. About 38,300 blocks meet these conditions (about 54Mt).

Results of that automatic block resource categorization on a few selected NS cross section in the west sector as well as a few benches are shown on **Figure 37** and Figure 38 respectively. As illustrated by those sections and benches, the problem with a purely automatic classification with search criteria applied to individual blocks irrespective of the status of neighbour blocks is a somewhat undesirable salt and pepper or spotted dog pattern with patches of indicated or measured blocks within a background of inferred blocks. This is not easy to work with in mine planning or production scheduling when block resources have to be converted into reserves. The final resource classification of blocks is based on smoothed outlines set around blocks automatically classified as indicated or measured. Those outlines are also consistent from one bench to the next. Given the small number of blocks automatically classified as measured and their scattered nature throughout the Main Zone, no measured resource is kept in the final classification. Therefore the final resource comprises only indicated and inferred resources.

Given the high density of drill holes intersecting the two satellite bodies MZ2 and MZ3, all their resources are classified as indicated.

Obviously, all resources in blocks of the background material are in the inferred category. Table 14 is a summary of the estimated mineral inventory at the 0.35 g/t cut-off (see next section for an explanation of that particular cut-off). That cut-off is directly applied to the estimated grade of the 10x5x10m resource blocks. Blocks are classified according to zone and resource category. Conversion of volumes into tonnage uses the same fixed density of 2.8t/m³ as before. From the table, it appears that 90% of the estimated metal is in the Mineralized Zone (MZ) with very little in the two satellites and the balance (8%) in the background domain. Overall proportion of metal in the indicated category is 42%.

Table 14. Mineral inventory (not the resources reported herein: see section 14.9).

Cut-off	Zone	Category	Tonnage	Grade	Metal
(g/t Au)			(Mt)	(g/tAu)	(MozAu)
0.35	MZ1	M+I	49.5	0.87	1.39
0.35	MZ1	Inferred	72.4	0.74	1.72
0.35	MZ1	All	121.9	0.79	3.10
0.35	MZ2	M+I	0.9	1.80	0.05
0.35	MZ3	M+I	0.4	0.56	0.01
0.35	BK	Inferred	11.5	0.75	0.28
0.35	All	M+I	50.8	0.88	1.44
0.35	All	Inferred	83.8	0.74	1.99
0.35	All	All	134.6	0.79	3.44

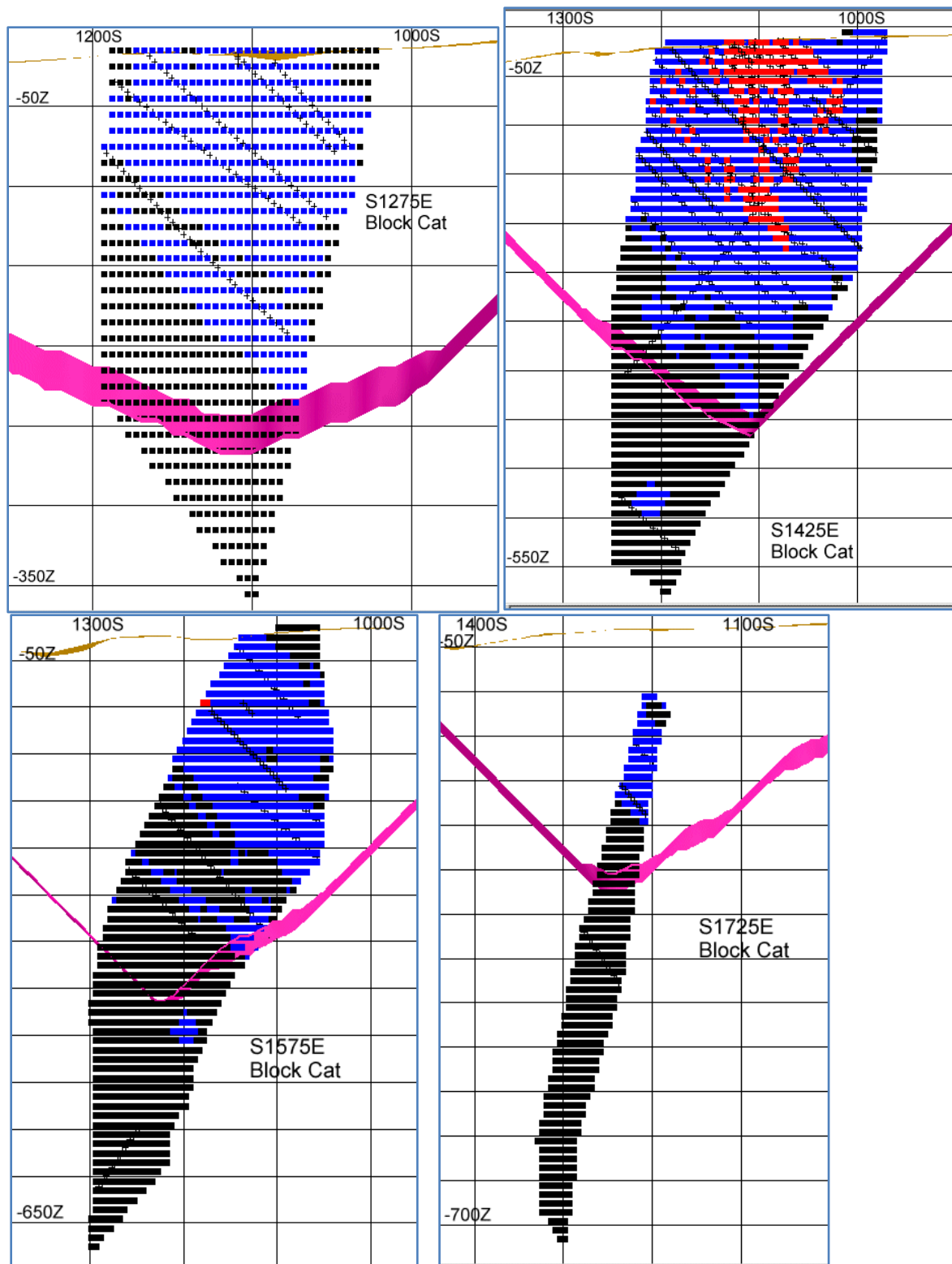


Figure 37. Selected NS cross sections with block resource automatic categorization in MZ.

Red=measured, Blue=indicated, Black=inferred. Surfaces = overburden-bedrock (brown) - Whittle pit with 45° maximum slope (pink) + = 5m composites in MZ

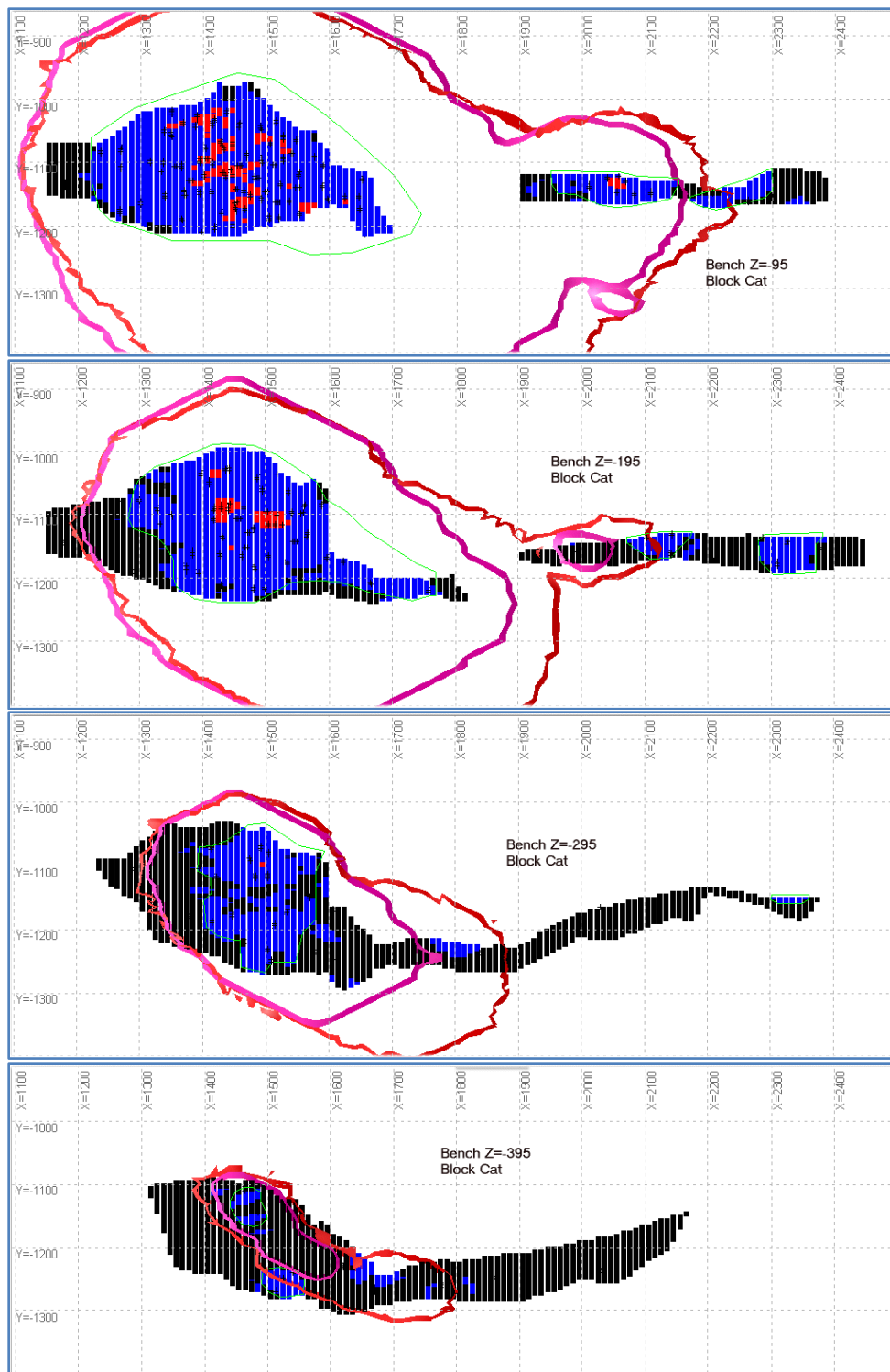


Figure 38. Selected 10m benches with block resource categorization in MZ.

Automatic classification of blocks: red=measured, blue=indicated, black=inferred. Final classification: green contour is limit between indicated and inferred in bench. Surfaces = Whittle pit with 45° maximum pit slope angles (pink) - Whittle pit with 50° maximum pit angle (red) + 5m composites in MZ

14.9 Estimated Resources

Estimated resources are derived from the estimated mineral inventory by optimizing a pit from that inventory and then applying a low economic cut-off to blocks inside the pit and a high economic cut-off to blocks below the pit. Table 15 lists the parameters of the pit optimization using Whittle software. The optimization considers both the indicated and inferred blocks. Conversion of volumes into tonnage uses the same fixed density of 2.8t/m³. This density was used in previous resources estimates and was based on measurements taken from metallurgical samples. Top view of the optimized pit shell is on Figure 39. The optimized shell is actually made of three “sub-pits” with the most important one, on the west side, being more robust to gold price. Table 16 describes the volumetric characteristics of the optimum pit shell. Note the stripping ratio of 2.8 at the marginal cut-off of 0.35g/t and rising to 3.9 if the cut-off is increased to 0.5g/t. Table 17 shows estimated in-pit resources at the cut-off of 0.5g/t. It also shows below-pit resources at a high cut-off of 1.5g/t which approximates the necessary cut-off for some underground mining. Table 18 shows the sensitivity of in-pit resources to the cut-off.

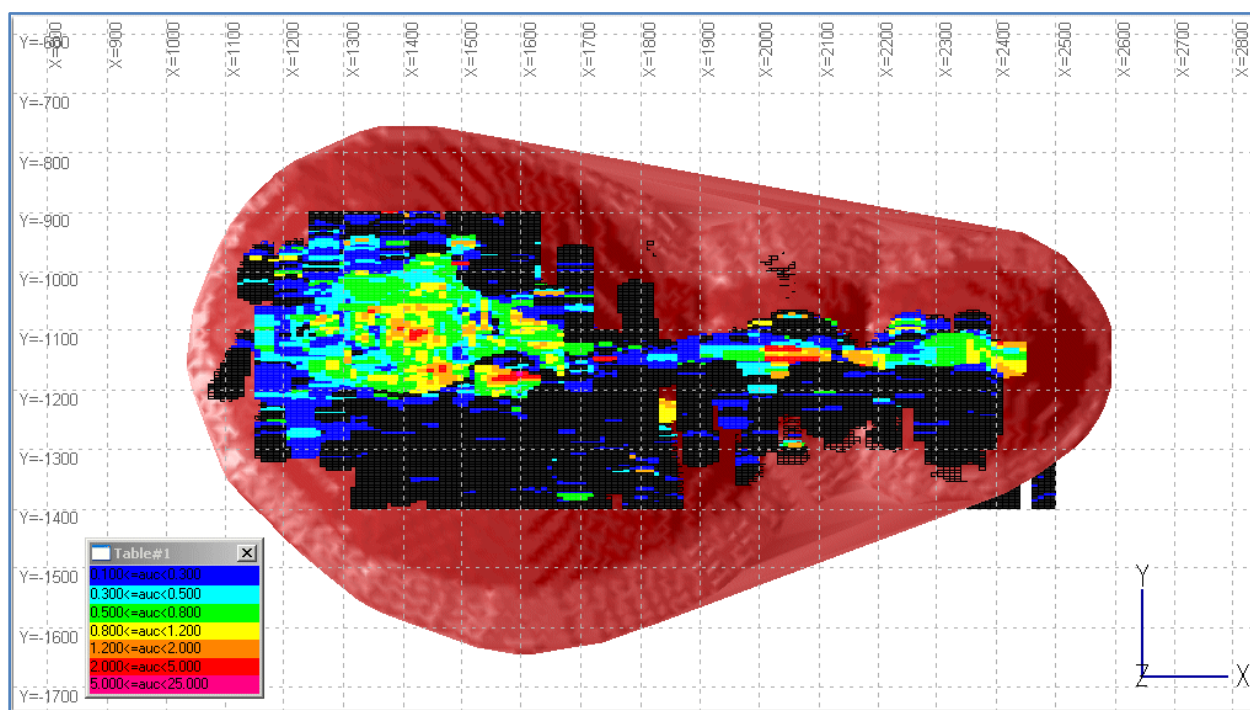


Figure 39. Optimized pit shell for resource delineation.

Table 15. Parameters for pit optimization.

Parameter	Unit	Value
Gold price	US\$/oz	1190
Royalties	%	0.0%
Selling cost	US\$/oz	0
Net gold price	US\$/g	38.26
Processing cost	US\$/t milled	10
G&A	US\$/t milled	1
Recovery	%	85.0%
Cut-off grade	g/tAu	0.35
Mining cost overburden	US\$/t mined	2.5
Mining cost waste	US\$/t mined	1.5
Mining cost ore	US\$/t mined	2
Max pit slope overburden	°	25
Max pit slope bedrock	°	50
Density overburden	t/m ³	2
Density bedrock	t/m ³	2.8

Table 16. Characteristics of the optimized pit.

Parameter	Unit	Value
Pit volume	Mm ³	122.2
Volume bedrock in pit	Mm ³	104.6
Tonnage rock in pit	Mt	276.6
Volume overburden in pit	Mm ³	17.6
Tonnage overburden in pit	Mt	35.3
Depth of pit bottom	m	-460
Tonnage milled (at 0.35 g/t cut-off)	Mt	82.5
Grade milled (at 0.35 g/t cut-off)	g/tAu	0.84
Metal to the mill (at 0.35 g/t cut-off)	Moz	2.22
Strip ratio (at 0.35 g/t cut-off)		2.78
Tonnage milled (at 0.5 g/t cut-off)	Mt	64.1
Grade milled (at 0.5 g/t cut-off)	g/tAu	0.95
Metal to the mill (at 0.5 g/t cut-off)	Moz	2.0
Strip ratio (at 0.5 g/t cut-off)		3.87

Table 17. Summary of estimated resources.

Cut-off (g/t Au)	Zone	Pit	Category	Tonnage (Mt)	Grade (g/tAu)	Metal (MozAu)
0.5	All	LG1190nj	Indicated	40.8	0.99	1.30
0.5	All	LG1190nj	Inferred	23.3	0.90	0.67
1.5	All	below	Indicated	0.04	1.86	0.002
1.5	All	below	Inferred	1.2	1.90	0.08
Combined	All	All	Indicated	40.8	0.99	1.30
Combined	All	All	Inferred	24.5	0.95	0.75

The rounded sum may slightly differ from the sum of rounded components in that sum.

Table 18. Sensitivity of in-pit resources to cut-off. The base case is 0.5g/t cut-off.

Cut-off (g/t Au)	Zone	Pit	Category	Tonnage (Mt)	Grade (g/tAu)	Metal (MozAu)
0.35	All	LG1190nj	All	82.5	0.84	2.22
0.4	All	LG1190nj	All	76.5	0.87	2.15
0.45	All	LG1190nj	All	69.9	0.91	2.06
0.5	All	LG1190nj	All	64.1	0.95	1.97
0.55	All	LG1190nj	All	57.9	1.00	1.86
0.6	All	LG1190nj	All	51.8	1.05	1.75

15- Adjacent Properties

The Fenn-Gib Property is surrounded by claims or leases held by other exploration companies (Figure 40). The most active of the neighboring companies is Constantine Metal Resources Ltd. (Constantine) and Moneta Porcupine Mines Inc (Moneta).

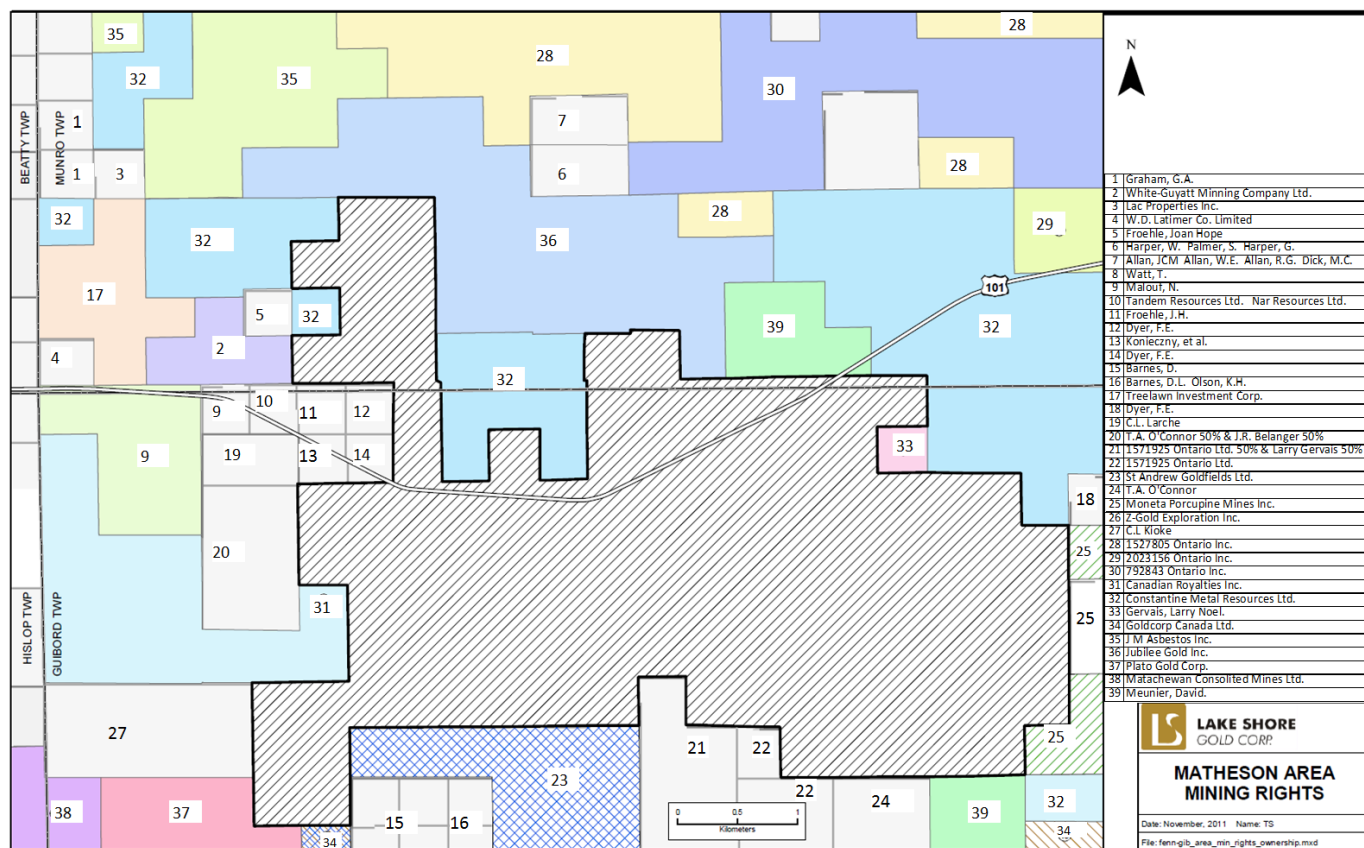


Figure 40. Map showing the position of claims surrounding the Fenn-Gib Property.

The following description of the adjacent Constantine property is taken from the Constantine website and the authors of this technical report have not been able to verify the information. The information is not necessarily indicative of the mineralization on the property that is the subject of this technical report. Constantine has recently completed a drill campaign on the Munro-Croesus Gold Project which focussed on the area immediately surrounding the historic Croesus Mine. This mine site is famous for hosting extremely high grade gold samples (up to 387,771 g/t of Au) within the metavolcanic rocks in a structure that strikes perpendicular to the fault related to the Fenn-Gib deposit. Recent drill results include 13.29 g/t Au over 1.78 meters (see red star on Figure 41). No resource or reserves are reported on this property. Constantine intends on exploring the apparent Fenn-Gib trend: “The western strike extension of the Fenn-Gib deposit located immediately adjacent to the Munro Croesus property is an obvious high priority target that has not yet been tested. The deposit is localized along the Pipestone Fault on a major sediment-volcanic contact that projects through the Munro Croesus property. A VTEM airborne geophysical survey flown by Constantine in 2008, clearly defines the Fenn-Gib deposit horizon and its extension onto the adjacent Munro-Croesus claims.” (Constantine Press Release September 20th 2011).

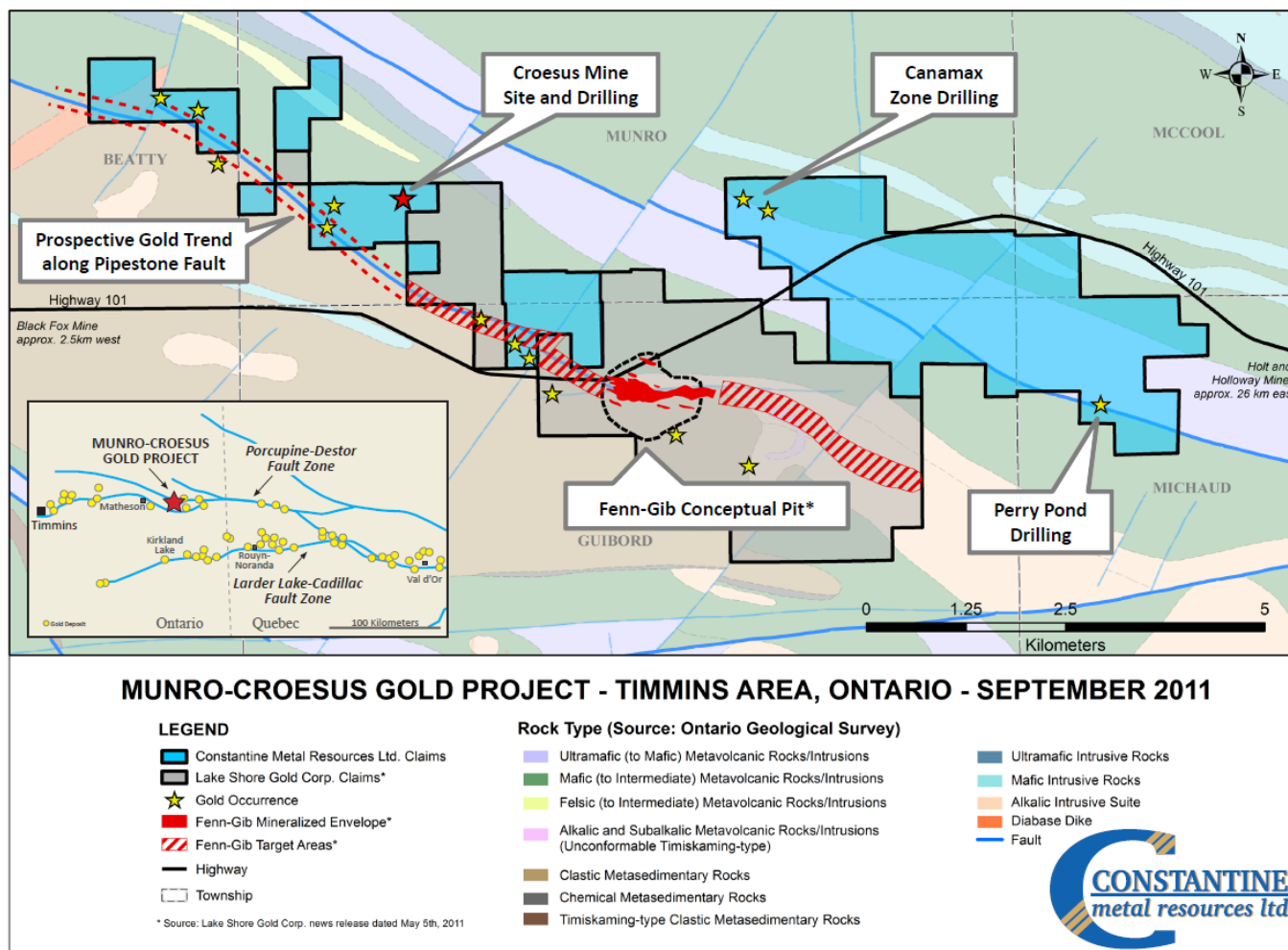


Figure 41. Map of Constantine Metal Resources Ltd. Property position with respect to that of Fenn-Gib Property.

Source: Constantine website.

The following description of the adjacent Moneta property is taken from the Moneta website and the authors of this technical report have not been able to verify the information. The information is not necessarily indicative of the mineralization on the property that is the subject of this technical report. The property hosts several gold deposits that have NI 43-101 resource estimates (Table 19). Although they are likely both associated with the Destor-Porcupine Fault Zone, the Fenn-Gibb deposits and those on the Golden Highway Property are not at the same geological contact, nor are they on the same splay of this fault system (Figure 43). “The Golden Highway Project includes Timiskaming sediments along banded iron formation with associated mafic to ultramafic volcanics that define 12 km of the Destor Porcupine Fault Zone in Michaud Township near Timmins, Ontario. Gold mineralization occurs in quartz and quartz-carbonate stockworks and discrete vein zones, all with variable ankerite, hematite and sericite alteration.” (Moneta press release dated December 1, 2011).

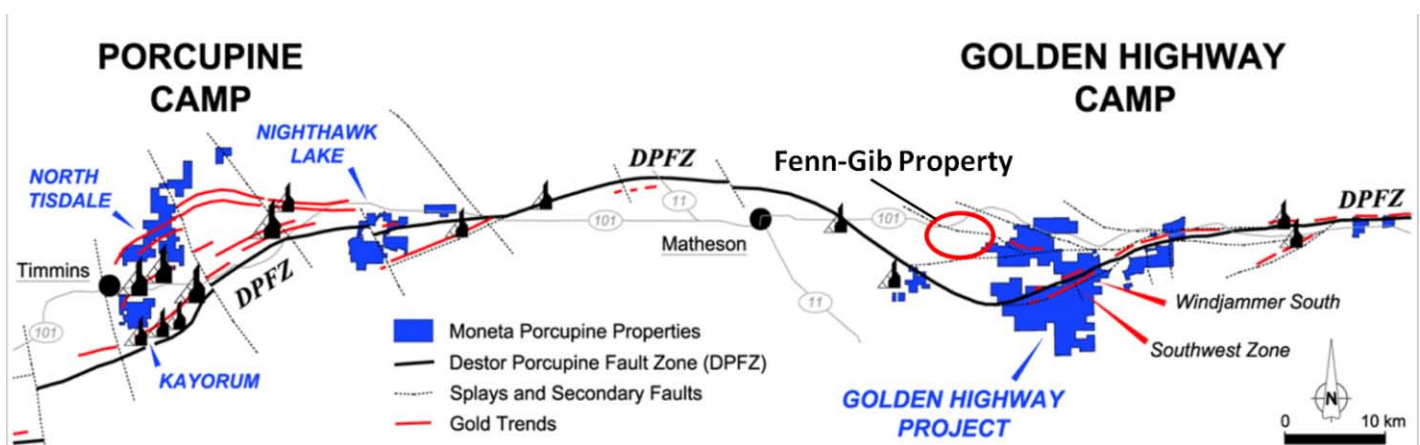


Figure 42. Map of Moneta Porcupine Mines Inc. showing the properties and mineral occurrences with respect to the Fenn-Gibb Property (red oval).

Source: Moneta website. Annotation of Fenn-Gibb deposit location by authors of this report.

Table 19. Table of resource estimates on the Moneta Golden Highway property. Source: Moneta website.

TABLE 1: MINERAL RESOURCE ESTIMATE			(1), (2), (3), (4), (5), (6), (7), (8), (9), (10)		
Category	Location	Cutoff Grade (g/t)	Tonnes	Au (g/t)	Au (oz)
Indicated					
Windjammer South Southwest Zone 55 Zone	In Pit	0.35	16,177,400	0.86	445,800
	In Pit	0.35	10,708,300	0.97	333,300
	In Pit	0.35	5,997,800	1.15	222,600
			32,883,500	0.95	1,001,600
Windjammer South Southwest Zone 55 Zone	Out of Pit	2.0	36,200	3.06	3,600
	Out of Pit	2.0	556,200	3.41	61,100
	Out of Pit	2.0	56,300	2.65	4,800
			648,600	3.33	69,400
TOTAL INDICATED			33,532,100	1.00	1,071,100
Inferred					
Windjammer South Southwest Zone 55 Zone	In Pit	0.35	16,766,400	0.79	427,500
	In Pit	0.35	20,455,300	1.17	766,300
	In Pit	0.35	3,417,900	0.78	86,200
			40,639,600	0.98	1,280,000
Windjammer South Southwest Zone 55 Zone	Out of Pit	2.0	76,900	2.72	6,700
	Out of Pit	2.0	6,980,800	3.43	770,400
	Out of Pit	2.0	139,100	2.83	12,700
			7,196,800	3.41	789,700
TOTAL INFERRED			47,836,400	1.35	2,069,700

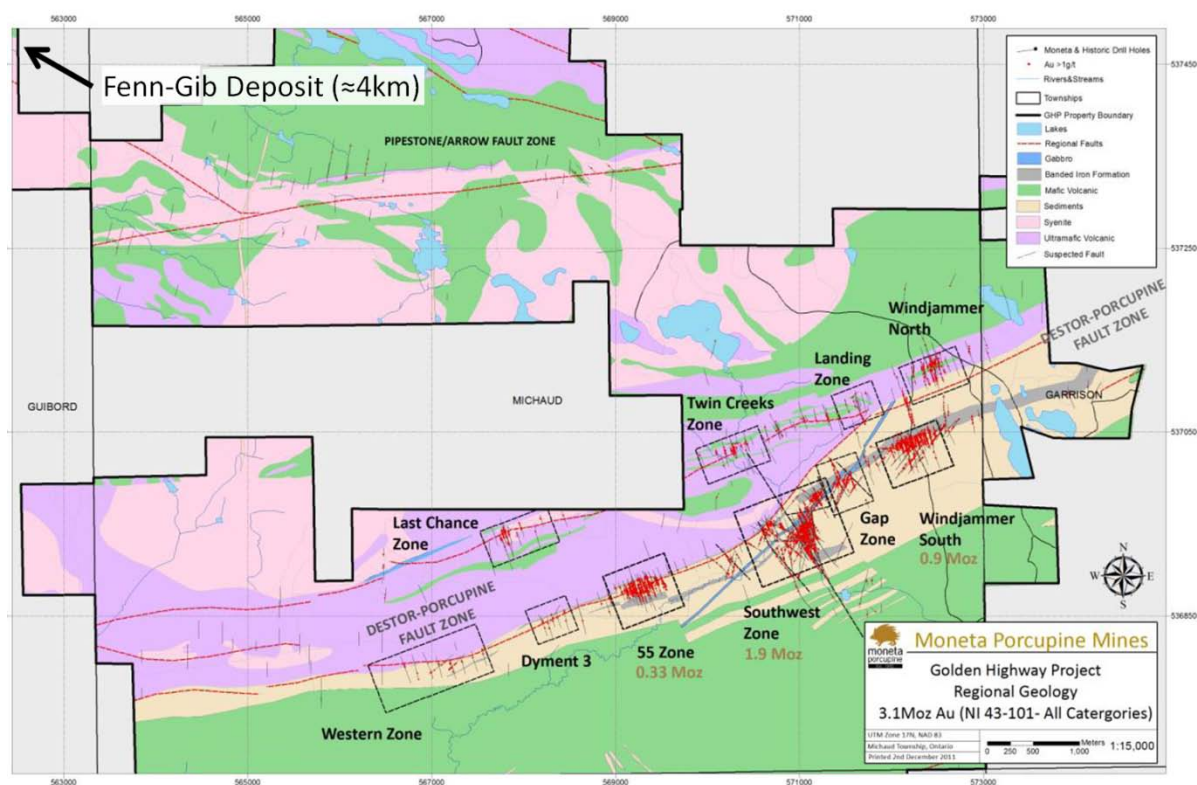


Figure 43. Geological map of the Moneta Golden Highway property showing the disposition of zones comprising the mineral resource. Source: Moneta website.

Annotation of Fenn-Gib deposit location by authors of this report.

16- Other Relevant Data and Information

No additional information is necessary to make this technical report more transparent or understandable.

17- Interpretation and Conclusions

SGS Geostat validated the exploration processes and drill core sampling procedures used by previous exploration companies as part of an independent verification program. This included a visit of the Fenn-Gib Property in October of 2011, a review of historic QAQC data, a review of a resampling and drill hole twinning campaigns. This report only covers results obtained from work completed prior to November 17th 2011. SGS Geostat concluded that the historical data was collected according to conventional industry standards and conforms to generally accepted best practices of the time they were collected. The authors also reviewed the practices used by Lake Shore Gold to collect geological and assay data, and feel that the protocols and methodology used by Lake Shore Gold is appropriate, and data produced thereof, will be suitable for the estimation of NI 43-101 compliant mineral resources.

Lake Shore Gold successfully purchased the Fenn-Gib Property and validated the available data to outline a new resource estimate for the Fenn-Gib deposit that conforms to standards set out by NI 43-101. This was accomplished in less than 6 months. The mineralization is associated with disseminated pyrite within or proximal to a deformation zone injected by intermediate to felsic intrusions related to a splay of the Destor-Porcupine Deformation system.

Table 20. Summary of the Fenn-Gib Resource Estimate.

Category	Type	Cut off grade (g/t)	Tonnes (Mt)	Grade (g/t)	Ounces (millions)
Indicated	In Pit	0.5	40.8	0.99	1.3
Inferred	In Pit	0.5	23.3	0.9	0.67
Inferred	Out of Pit	1.5	1.2	1.9	0.08
Inferred	Total		24.5	0.95	0.75

Historically the Fenn-Gib deposit was considered a candidate for a small open-pit or underground mining opportunity depending on the party executing the economic assessment. The important rise in gold prices has swung the pendulum clearly in the direction of a rather large open-pit mining scenario. The main reason for this is the large volume of material that is between 0.5g/t and 1.5g/t that was not previously considered economically extractable. This change in economics and perception means that there are unexplored opportunities within the Fenn-Gibb property. In particular, isolated zones of gold mineralization within the preliminary pit shell should be addressed as well as more regional targets that were previously considered inconsequential. This exploration upside, the identification of accompanying silver mineralization and the potential to increase gold recoveries make this project particularly interesting from an economic point of view.

18- Recommendations

SGS Geostat considers that the potential to further develop the resources for the Fenn-Gib deposit are very good. The authors recommend that Lake Shore Gold work aggressively towards illustrating the economic viability of the deposit through a Preliminary Economic Assessment. A summary of the proposed work, including a preliminary budget is shown in Table 21. The recommendations outlined below are separated in two phases; the second phase should be undertaken regardless of the outcome of the first. The first phase is related to a localized drilling program, metallurgical tests and studies related to a Preliminary Economic Assessment (PEA). The second phase comprises delineation drilling, a small regional exploration campaign and production of the PEA.

Table 21. Recommended future work and estimated cost.

Phase 1

Activity	Description	Estimated Cost (CAD)
Drilling	≈50,000m @ 150\$/m Includes drill contractor, labour, assays	\$ 7,500,000.00
Overburden Drilling	≈200m @ 110\$/m, Determine overburden depth in east	\$ 20,000.00
Other Drilling Costs	Miscellaneous, road building, upgrade on-site facilities, Office Administration, surveying historic drill collars with DGPS	\$ 450,000.00
Resampling	Au & Ag on ≈10,000 meters of un sampled core	\$ 220,000.00
Line-cutting and Geophysics	≈20 kms IP and Mag, compile old geophysics, line cutting to refurbish existing grids and establish new grids (≈120km)	\$ 300,000.00
Soil Sampling	≈2500 samples of MMI (orientation survey & along strike of the Pit area)	\$ 200,000.00
Trenching	A few trenches to test north of the deposit	\$ 75,000.00
Compilation	1 year for a geologist to compile historic work	\$ 100,000.00
Engineering Studies	Geotechnical study to assess pit slopes	\$ 40,000.00
Environmental Study	To study the impact of diverting Little Pike River System	\$ 40,000.00
Metallurgical and Mineralogical Work	1 metallurgical sample and 5 samples for Qemscan	\$ 55,000.00
Total		\$ 9,000,000.00

Phase 2

Activity	Description	Estimated Cost (CAD)
Drilling	50,000m @ 150\$/m; Upgrade portion resource from Inferred to Indicated. Small regional campaign	\$ 7,500,000.00
Other Drilling Costs	Miscellaneous, Office Administration	\$ 350,000.00
Preliminary Economic Assessment	Other studies and drafting of report	\$ 150,000.00
Total		\$ 8,000,000.00

18.1 Phase 1

Lake Shore Gold has held the property for less than 6 months; and has since added to the property through acquisition. This property has had many generations of geophysics and drilling; some of which has not yet been integrated into a central database or Geographic Information System (GIS). For example, drilling completed by Cominco and all drilling the Richmond Minerals claims (south west corner) are not available digitally. A compilation of the data is a key step for the exploration on the property going forward. This is especially true considering that cut-off grades for Au in open pit mines have changed so drastically and a compilation could reveal significant drill results that were previously considered inconsequential.

The compilation process should include a transformation from the current mine grid to a UTM grid which is more universal. Additionally, all drill collars should be located in the field with a differential GPS unit to reduce the inherent error that occurs when drill holes are located with respect to an exploration grid. It should also include a review and refinement of the geological model, in particular a review of the nomenclature of intrusive rocks within the deformation zone. Linking of the intrusive units within and between sections is exceedingly difficult within the current geological model.

During the check sampling program and analyses of the database it was noted that several sections of core were not sampled; some of these were either sulphide bearing or affected by alteration. These drill sections should be sampled and assayed for Au and Ag. This sampling program should include density measurements in all units to enable the modeling of the density within the different geological units. This is particularly important due to the presence of multiple rock types (from ultramafic rocks to sedimentary rocks) and variable amounts of sulphide.

The next stage of exploration within the Fenn-Gib property should focus on enhancing the value of the Fenn-Gib deposit within and proximal to the preliminary optimized pit (Figure 44). The total Phase 1 exploration program should be on the order of 50,000m and should focus on these four points:

- A. Of particular impact to the project is the mineralization within the volcanic rocks north of the deformation zone. This area has potential to generate pockets of ore grade material that would enhance the economics of the project. The potential was highlighted by a drill hole completed by Lake Shore Gold as part of the verification process. FE-11-04 intersected 2.17g/t Au over 36m (453-489m downhole) and 2.40g/t over 20m (631-651m downhole). This mineralization is well within the basaltic footwall to the deformation zone.
- B. East and west strike extensions of the mineralized envelope and current pit shell.
- C. There is a gap in mineralization in the shallow part of the center of the mineralization. The limited number of drill holes in this area may not have penetrated far enough to the north to intersect the mineralization.
- D. Key targets at depth should include information gaps occurring mainly between 300m and 460m below surface.

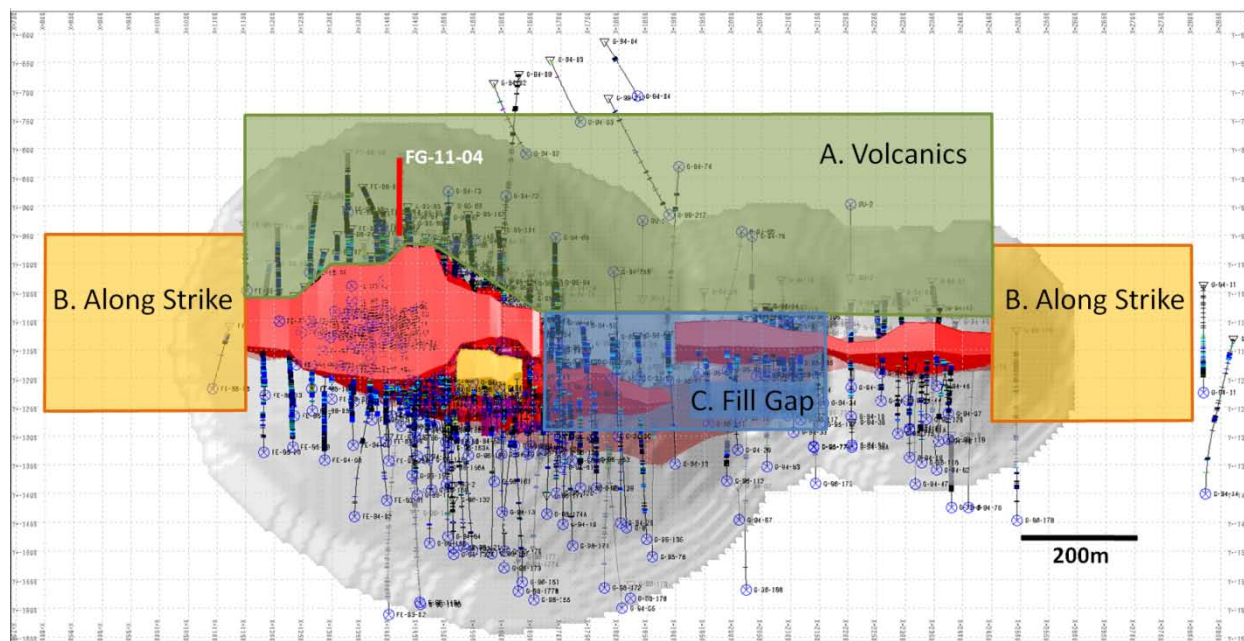


Figure 44. Map showing the Fenn-Gib deposit, optimized pit shell and recommended zones for additional exploration.

The position of drill hole FG-11-04 is shown as a red line where it extends past the optimized pit shell.

Although several metallurgical tests have been completed in the past, these were mainly focused on the higher grade gold mineralization. Also, the results from these studies gave rather inconsistent results. It is therefore considered very important to pursue a single metallurgical test concurrent with a limited suite of mineralogical samples to be analyzed by Qemscan. The material necessary for the metallurgical tests should be on the order of 50kg and should be sufficient to test the potential gold recovery. The metallurgical tests should be conceived to mimic the conceptual flowsheet in Figure 45. The sample should be representative of the ore body as a whole and include a mix of low grade and high grade materials in proportions to be congruent with the overall grade of the resource reported herein. Five or so core samples should be selected within the Fenn-Gib deposit for analyses via Qemscan to assess the occurrence and distribution of gold within it.

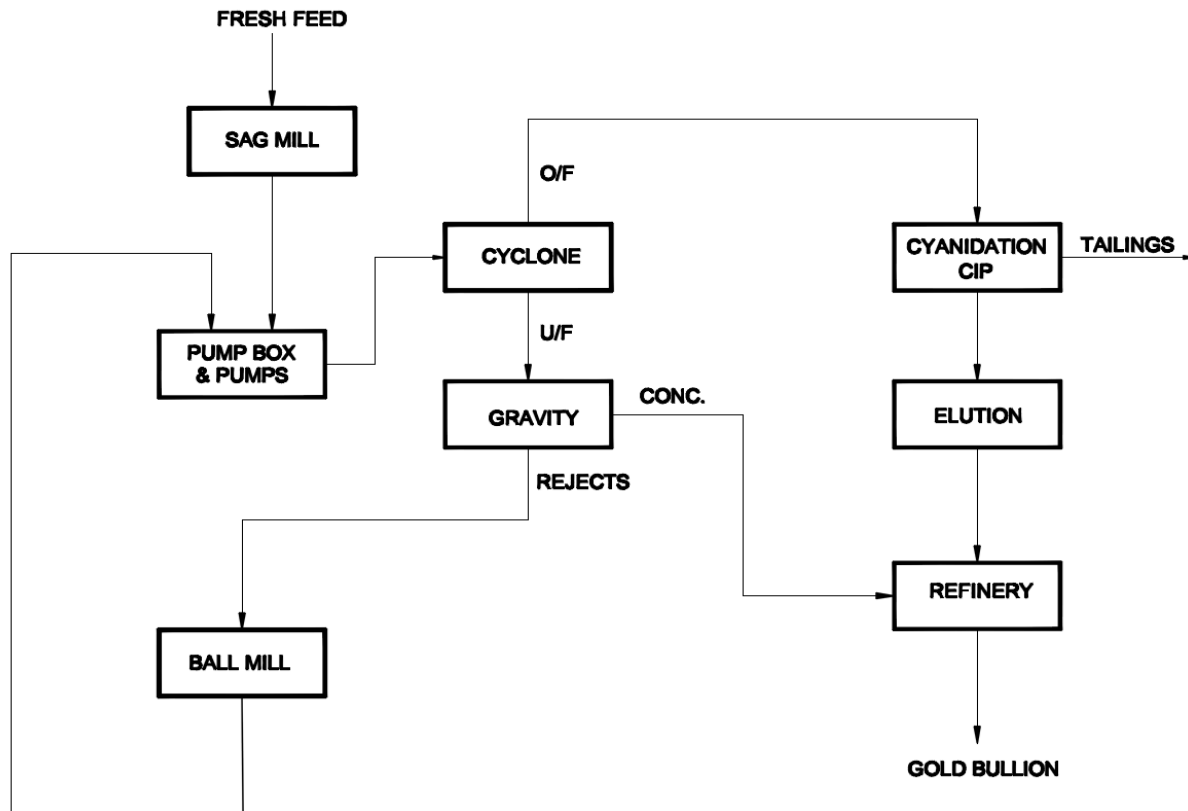


Figure 45. Conceptual flowsheet that should be used as a reference for metallurgical tests.

An environmental and engineering study should be initiated to assess the impact of diverting the Little Pike River and draining Guibord Lake. Although these water bodies are rather shallow, they partially lie within the optimized pit outlines and require study, planning and permitting before production of the eastern part of the pit can be considered. Additionally, Highway 101 and a power-line falls within the conceptual pit design and its impact will have to be assessed. Geotechnical studies should be undertaken to ascertain slope angles in the pit designs. The gold mineralization is at the contact between two rock types that could have significantly different rock stability properties.

A few drill holes should be positioned in the north-east portion of the Fenn-Gib deposit to better ascertain the depth of overburden in this area. The wireframe model is poorly supported in this area and any changes in the model will have an impact on future open pit optimizations.

Orientation soil geochemical surveys should be undertaken over the Fenn-Gib deposit. One to three lines of Mobile Metal Ion (MMI) samples could be undertaken over the deposit to assess its efficacy at indentifying the gold mineralization or rock alteration related to it. Following compilation and calibration of data, a selection of grids should be undertaken over local and regional targets guided by geological and geophysical information.

At least six generations of ground geophysics have been completed on the Fenn-Gib Property. Most of these comprise Induced Polarization (IP) and ground magnetic surveys. These methods are considered appropriate for exploration for gold due to their efficacy at detecting weakly disseminated sulphide mineralization. There are several array geometries that can be used and it is

expected that a dipole-dipole array would be most effective due to the vertical dip and shallowness of targets as well as irregularities that are expected in overburden depth. If the quality of the historic IP data is in question Lake Shore Gold may elect to run test lines over the Fenn-Gib deposits to with multiple methods to test the relative effectiveness of the array geometries. Additional IP surveying should be undertaken over the key geological domains (around syenitic intrusions, at the contact between the Hoyle and Munro formations).

The property does not lie within any specific First Nations reserve or other land status requiring special permitting. These stakeholders hold traditional treaty rights to hunt, fish, trap and harvest the land. Lake Shore Gold has initiated discussions with local First Nations Communities to inform them of the development plan and discuss any specific issues that may exist. Lake Shore Gold should continue to have open and transparent discussions with all the local stakeholders to ensure a smooth transition to an eventual development of the project.

18.2 Phase 2

The Fenn-Gib Project contains sufficient resources and is sufficiently robust to warrant a Preliminary Economic Assessment. The studies initiated in Phase 1 of the recommendations should greatly enhance the level of information and value of the project.

SGS Geostat feel that potential for additional open-pit mine mineralization located on the Fenn-Gib property is very good and should be addressed by a separate regional drill campaign. This work was separated from the first phase to allow for sufficient time for compilation and analyses of available data. Overlaying of geological, structural, geophysical, soil sampling information in a GIS should be used to rank regional targets.

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Certificate of Qualified Person

- a) I, Guy Desharnais Ph.D. P.Geo. am currently working as a geologist with SGS Canada Inc. Geostat at 10 Blvd. Seigneurie East, Suite 203, Blainville Quebec, Canada, JVC 3V5;
- b) This certificate concerns the technical report “Fenn-Gib Resource Estimate Technical Report” which is effective November 17th, 2011;
- c) I have a B.Sc. honours degree from the geology department of the University of Manitoba and I received a Ph.D. in 2004 from the same university. I have worked on several technical reports regarding resource estimations and exploration of gold. I am a registered member of the Ordre Géologues du Québec (#1141). I am a “Qualified Person” as defined in the National Instrument 43-101;
- d) I visited the property between October 19th and October 22nd of 2011;
- e) I am responsible for the sections 1-11, 13 and 15-19 of this technical report.
- f) I am an independent of the issuer as defined in section 1.5 of the NI 43-101.
- g) I have had no prior involvement with the Fenn-Gib Property;
- h) I have read the National Instrument 43-101 and this technical report; and it has been prepared in compliance with this Instrument; and
- i) As of November 17th, 2011, to the best of my knowledge, information, and belief, sections 1-11, 13 and 15-19 of this technical report, contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Signed and dated this 23th day of December, 2011 in Blainville Québec.



Guy Desharnais Ph.D., P.Geo.
SGS Canada Inc.

I, Michel Dagbert, Eng., do hereby certify that:

- 1) I am senior geostatistician with SGS Canada Inc. - Geostat with an office at 10 Blvd Seigneurie East, Suite 203, Blainville, Quebec, Canada, J7C 3V5;
- 2) This certificate concerns the technical report "Fenn-Gib Resource Estimate Technical Report" which is effective November 17th, 2011;
- 3) I am a graduate from Paris School of Mines in 1971 and McGill University in 1972.
- 4) I am a registered member of the Professional Engineers of Quebec. I have worked as a geostatistician continuously since my graduation from university;
- 5) I have read the definition of "qualified person" set out in the National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be an independent qualified person for the purposes of NI 43-101;
- 6) I am the author of sections 12 and 14 of this Technical Report;
- 7) I have not visited the site;
- 8) I have no personal knowledge as of the date of this certificate of any material fact or change, which is not reflected in this report;
- 9) Neither I, nor any affiliated entity of mine, is at present, under an agreement, arrangement or understanding or expects to become, an insider, associate, affiliated entity or employee of Lake Shore Gold Corp., or any associated or affiliated entities;
- 10) Neither I, nor any affiliated entity of mine, own, directly or indirectly, nor expect to receive, any interest in the properties or securities of Lake Shore Gold Corp., or any associated or affiliated companies;
- 11) Neither I, nor any affiliated entity of mine, have earned the majority of our income during the preceding three years from Lake Shore Gold Corp., or any associated or affiliated companies
- 12) I have read NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with NI 43-101 and Form 43-101F1; and have prepared the report in conformity with generally accepted Canadian mining industry practice, and as of the date of the certificate, 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.



Michel Dagbert, Eng.,
Senior geostatistician
SGS Canada Inc. – Geostat
Blainville, Qc, Canada, December 23, 2011