TECHNICAL REPORT

on the

UNDERGROUND DEVELOPMENT AND BULK SAMPLE PROGRAM TIRIGANIAQ GOLD DEPOSIT MELIADINE WEST PROPERTY NUNAVUT, CANADA

FOR

COMAPLEX MINERALS CORP.

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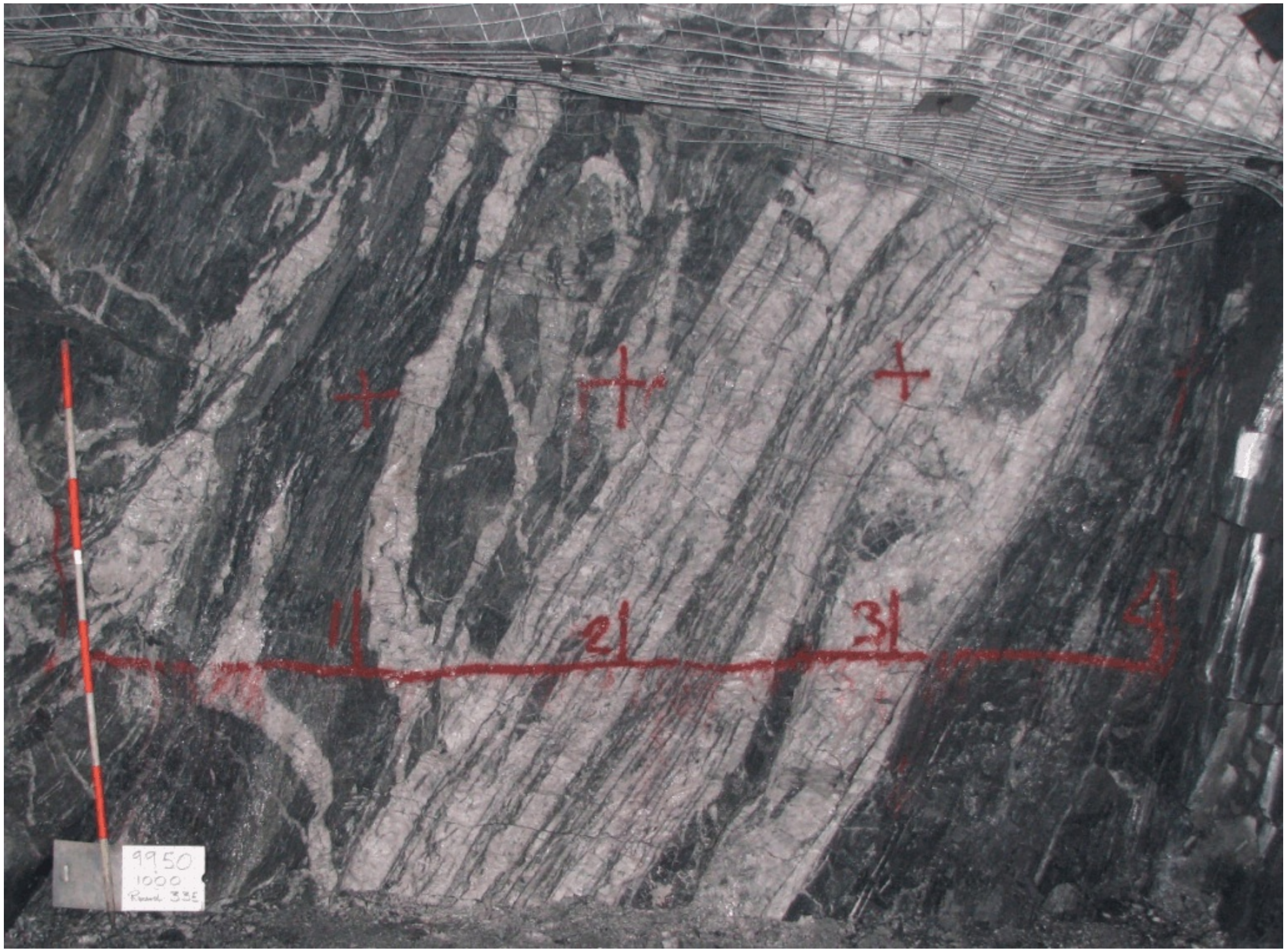

Photograph of the east face of round 33 E on the 1000 Lode on the 9950 level, looking east. The bulk sample gold grade of this round was 15.2 grams per tonne. The distances marked on the face are metres.

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1. SUMMARY

The Tiriganiaq gold deposit is located near Rankin Inlet on the West Coast of Hudson Bay in Nunavut Territory, Northern Canada and is owned 78% by Comaplex Minerals Corp. (Comaplex) of Calgary, Alberta, and 22% by a wholly-owned subsidiary of Resource Capital Fund III L.P. of Denver, Colorado.

The Tiriganiaq gold deposit was discovered in 1993 and has been the subject of many surface exploration programs, predominantly by diamond drilling, as well as metallurgical testwork and mining studies. The results of these programs are reflected in a number of mineral resource estimates, the latest of which was issued by Snowden Mining Industry Consultants Inc. (Snowden) in January 2008. This estimate anticipated open-pit mining above an elevation of 9900 (local datum, 170 metres below surface), and underground mining below, and is summarized as follows:

Category	**Cut-Off Grade** (g/t Au)	**Tonnes** ('000)	**Contained Gold** (g/t)	('000 ounces)
Mineral Resource above 9900 m elevation (potential open-pit mining)				
Indicated	2.5	6 136	6.4	1 258
Inferred	2.5	1 622	4.1	216
Mineral Resource below 9900 m elevation (potential underground mining)				
Indicated	6.5	1 510	10.9	530
Inferred	6.5	3 261	11.2	1 169

The estimate of nearly 1.8 million ounces of gold in the indicated category, and a further approximately 1.4 million ounces of gold in the inferred category, show Tiriganiaq to be a substantial gold deposit of potential economic significance.

Gold mineralization at Tiriganiaq is hosted by a quartz-vein dominated gold system in a strongly deformed and partly sheared package of overturned Archaean meta-sediments comprising greywacke, argillite, siltstone and iron formation. The deposit occurs at or within a few tens of metres of the structurally lowest part of the meta-sedimentary package, structurally above the faulted and sheared contact with a thick package of intermediate meta-volcanic rocks. The deposit has been traced over a distance of 1.5 kilometres and is comprised of multiple lodes of mineralization. Gold mineralization is partly controlled by a dominant shear fabric that strikes east-west and dips to the north at 60º, parallel with the attitude of the sediments. Potentially economic mineralization occurs in shoots that are of a more local extent within the lodes.

Of the gold contained in the indicated mineral resources in the January 2008 estimate, approximately three-quarters occurs in what is known as the 1000 and 1100 Lodes. The 1000 Lode is a quartz-vein dominated shear structure at the contact between the meta-sediments and the volcanic rocks. The 1100 Lode is an iron-formation-hosted lode some 40 metres structurally above the sediment/volcanic contact, where gold deposition is related to quartz-vein development and replacement of the original magnetite in the iron formation by pyrrhotite and arsenopyrite. Intercalated meta-sediments are irregularly mineralized.

The knowledge base for the Tiriganiaq deposit had by 2007 reached the stage where physical evidence for some key geological, mineral reserve and mining parameters, unavailable from core drilling, was required as a basis for a subsequent feasibility study. Comaplex therefore undertook an underground development and bulk sample program that started in the latter part of 2007 and extended into the autumn of 2008.

Comaplex engaged the services of Strathcona Mineral Services Limited (Strathcona) to provide technical input into the bulk sample program. Strathcona had prior involvement in the Tiriganiaq project in 2003 in connection with the transaction between Comaplex and WMC International Limited (WMC) by which Comaplex increased its interest in the Tiriganiaq project from 22% to 78%. Subsequently, Strathcona produced a technical report on the Tiriganiaq deposit in March 2005 in which the mineralization was evaluated as a basis for a possible underground mining operation.

The involvement of Strathcona in the bulk sample program started with the monitoring in 2007 of the sample tower design and fabrication constructed for the purpose. Other Strathcona input related to the choice of underground sampling methods and the bulk sampling and bulk sample assaying protocols. Finally, Strathcona was engaged to supervise the initial operation of the sample tower to assure its proper functioning, and to participate in assembling this report.

The Tiriganiaq underground and bulk sample program targeted parts of the 1000 and 1100 Lodes at depths of 70 (“10 000" level) and 120 (“9950" level) metres below the surface, respectively. The program thus exposed areas representing the gold mineralization with the largest contribution to the January 2008 Tiriganiaq estimated resources. While development of the 1000 Lode took place on both levels, the 1100 Lode was developed on the 10 000 level only. For the lode intervals covered by the underground development, the program allowed the assessment of gold grade continuity, gold grade consistency and distribution, and the evaluation of related mining properties by means of geological mapping, underground chip and channel sampling, and geotechnical observations. Bulk sampling of the rock from the underground development established its gold grade within tight precision limits.

The development and bulk sampling work completed, and the bulk sample grades obtained by the program are summarized below.

Summary of Underground Development and Bulk Sample Program

Level	Opening	Length (metres)	Tonnage Sampled	Number of Bulk Samples	Gold Grade (g/t)	Estimated Total Error (g/t)
Main Ramp		974	Not Sampled			
10 000	1100 Lode Drift	164	9 433	111	6.8	± 0.2
	1000 Lode Drift	34	1 006	20	1.8	± 0.2
	Cross Cuts	96	2 974	40	1.9	± 0.1
	Raises	59	773	11	8.0	± 0.6
9 950	Access Cross Cut	77	3 843	16	0.7	± 0.1
	1000 Lode Drift	204	6 943	109	13.2	± 0.3
	940 Raise	20	152	2	16.7	± 2.5
	Raise By-Pass & Sump Access	14	397	2	1.5	± 0.2
Totals		**1 642**	**25 522**	**311**	**6.9**	

g/t = grams per tonne

The geology and mineralization of each face in the drifts, and the walls of the cross-cuts, were mapped in detail, and a photograph taken. Chip-panel and channel samples were collected, using identical sample demarcations, with channel samples taken only every second face, due to the large amount of additional time required. In total, nearly 2000 chip-panel samples and almost 1000 channel samples were collected during the program.

Bulk sampling was undertaken round-by-round for drift ore, and for three (sometimes four) combined rounds of raise ore, to produce roughly comparable lot sizes. The mass of individual rounds ranged from 43 to more than 200 tonnes, depending on the size of the opening, and averaged approximately 80 tonnes for the overall program.

After transport of the broken material to surface, the entire sample was crushed to 95% passing 2.5 cm by two-stage crushing in a dedicated crushing plant. The bulk sampling was accomplished with a sample tower constructed for the purpose which was fed directly from the crushing plant at a nominal rate of 60 tonnes per hour. A primary and a secondary splitter, each with an opening of 7.5 cm and located on the two upper decks of the tower, collected successive sub-samples by cutting across the sample stream in free fall at a combined sample ratio of 0.80%. A cone crusher on the third sample tower deck reduced the particle size of the remaining sample to 95% passing 0.5 cm, and a rotary splitter subsequently produced two 30-kilogram field samples which together represent 0.06% of the sample tower input.

Subsequent sample preparation and assaying of the two field samples was undertaken under contract at SGS Lakefield. After drying, each sample was crushed to 95% passing 840 µm and a 2000-gram sub-sample split out by rotary splitter ("Cut A"). This was pulverized to 95% passing 105 µm and a screened metallics assay performed, screening at 105 µm, with the oversize (nominally 100 g) assayed to extinction, while one-assay-ton duplicate fire assays with gravimetric finish were performed on the undersize. A second 2000-gram sub-sample ("Cut B") was also produced but not regularly assayed.

A rigorous quality control program was undertaken during the course of the bulk sample program. A key item was the determination of the precision for each of the sample reduction/comminution steps of the bulk sample protocol, involving a large amount of duplicate sampling and assaying. This started with repeating entire rounds through the sample tower and ended with the systematic duplicate sampling of the minus-105 µm fraction at SGS Lakefield. The duplicate sample results at each of the comminution/sample reduction steps are summarized below.

Summary of All Duplicate Sampling Results

	Crush Size (cm)	**Number of Pairs**	**Percentage of Total**	**Average Gold Grades** (g/t)	
				Initial Samples	Duplicate Samples
Whole Rounds	2.54	17	6%	10.9	10.4
Rotary Rejects	0.50	14	5%	9.3	9.7
Field Samples	0.50	343	100%	7.9	8.0
Laboratory Cuts	0.08	67	20%	8.4	8.6
Minus 106 µ	0.01	702	100%	5.1	5.1

The results of the duplicate sampling, augmented by calculation of the fundamental sample error for each sample and for the larger tonnages, have allowed the estimation of the error interval that can be assigned to the tonnages sampled and are shown in the last column of the table on page 3.

A program of assaying of standard reference materials and a limited amount of check assaying indicate the bulk sample assay results reported by SGS Lakefield to be accurate. Similarly, the analytical work of the laboratory providing the underground chip and channel sample assay results was also found to be reliable and accurate.

The conclusions from the Tiriganiaq underground development and bulk sample program are summarized below:

1. The Tiriganiaq underground development and bulk sampling program has been successful in verifying the existence of gold mineralization in the geological environment, at the location and generally with the grades as predicted by the January 2008 resource estimate, which was based on surface drilling only.

2. As was indicated by the surface drilling, the gold grade continuity in the drifts following the two main lodes is good, provided a sufficiently low gold cut-off grade is used at which the continuity is determined. After removal of the dilution included in the bulk sample results, this cut-off gold grade was 10 g/t for the 1000 Lode development, while for the 1100 Lode development the value was 6 g/t. In both cases, the cut-off grade is at a level of 50% to 60% of the average bulk sample grade. Grade continuity will be increasingly lost as the cut-off grade is raised above these values.

   The gold grade continuity of the intervening mineralization between the main lodes, of considerable importance for the upper part of the deposit that may be mined by open-pit, was only partially investigated by the three cross cuts and requires detailed (underground) drilling on a tight pattern.

3. The results of detailed underground sampling and geological mapping have shown that the different lithological units within the two main lodes have greatly varying gold-grade populations which require separate statistical analysis and individual capping levels for high-outlier gold values. While the lithologies carrying the majority of the gold in the two lodes – the quartz veins in both lodes, and the mineralized iron formation additionally in the 1100 Lode – have “well-behaved” gold populations that require only limited capping, the other lithologies are very heterogeneous and require severe capping.

4. Variography using the underground sampling and bulk assay sampling data, has indicated relatively short ranges of 15 metres and 25 metres along strike of the 1100 and 1000 Lodes, respectively. Drilling with a spacing approaching these intervals in the strike direction will be required to determine feasibility-level resource grades. The required sectional drill density is expected to be of a similar magnitude. The variograms developed from the bulk sampling grade information were shorter than those used for the resource grade interpolation.

5. Repeat sampling by both underground sampling methods (channel and chip-panel sampling) shows a high variance between repeat samples, averaging ±30% to ±40% for a typical individual sample pair. This will present a challenge for grade-control sampling in parts of the deposit that are near cut-off grade but can be partly be overcome by taking larger and more frequent samples, both during underground and open-pit mining.

Despite the high variance of individual samples, the capped channel sample gold grades, on the whole, were confirmed by the bulk sample grades , while the capped chip-panel sample grades were biased high, 23% and 11% for the 1100 and 1000 Lodes, respectively.

6. Individual drill-hole intersections, which match the channel samples in terms of mass and sample continuity, will have a similar degree of uncertainty.

7. The location predicted by the Tiriganiaq block model of the domain boundaries of the two main lodes subjected to underground development and bulk sampling was reliable, and the mineralized width predicted by the domain boundaries was verified by the underground development within reasonable limits.

8. The bulk densities determined for rock from the two drifts along the main lodes have confirmed the bulk density figures used to convert resource volume into resource tonnage.

9. For the case of the 1100 Lode, which has a sufficient number of surface drill-hole intersections after in-fill drilling in the summer of 2008, the bulk sampling has confirmed the gold grade predicted by an updated resource estimate, which otherwise employed the same parameters and methodology as the January 2008 estimate.

10. For the case of the 1000 Lode, with an insufficient amount of drilling in the area of the bulk sample, the resource estimate predicts a gold content that is 25% higher than what is in the actual bulk sample. This result is understandable in light of the large variance attached to the relatively few drill-hole intersections available around the 1000 Lode development, each with a large grade variance, and can only be improved with additional drilling.

11. The methodology employed for the January 2008 resource estimate included the use of mostly uncapped assay composites as a basis for multiple indicator kriging and ordinary kriging. The detailed underground information on the gold comportment within the two main lodes allows an alternative resource estimation approach that relies on the capping of high outlier gold values by lithology. After capping, a simpler grade interpolation method may be suitable. For a feasibility-level resource estimate, both methods should be employed as checks on each other.

12. The observations with respect to gold-grade continuity along the two main lodes have shown that the choice of a cut-off during resource estimation needs to be in harmony with the local inherent grade continuity, and each mineralized zone is expected to have its own cut-off grade above which grade continuity is present.

13. To aid in future resource estimates, the bulk sample area offers the opportunity to experiment with a variety of estimation and grade interpolation parameters before the next resource estimate for the Tiriganiaq deposit is completed. This includes the use of minimum mining widths for narrow zones, depending on the mining method contemplated.

14. For detailed mine planning for a possible future underground mining operation at Tiriganiaq, the dilution experience during the development of the 1000 and 1100 Lodes should be considered, taking into consideration the size of the mining equipment used or to be used. The actual dilution during the underground development and bulk sample program was 60% at an average gold grade of approximately 1 g/t for the 1000 Lode and 33% at an average gold grade of approximately 0.6 g/t for the 1100 Lode.

15. Geotechnical observations during the bulk sample program have not indicated any great concerns that would impede open-pit or underground mining.

2. INTRODUCTION AND TERMS OF REFERENCE

2.1 Background

The Tiriganiaq gold deposit is located on the Meliadine West property near Rankin Inlet on the west coast of Hudson Bay in Nunavut Territory. The Meliadine West property is owned 78% by Comaplex Minerals Corp. (Comaplex), based in Calgary, Alberta, and 22% by Meliadine Resources Limited, a private company owned 100% by Resource Capital Fund III L.P. of Denver, Colorado.

The Tiriganiaq gold deposit was discovered in 1993 by Comaplex while working on a joint venture exploration program with Asamera Minerals Inc., with the latter having previously found the first gold mineralization on the Meliadine West property. Cumberland Resources Ltd., acquired the 50% interest in the joint venture held by Asamera. In 1995 Western Mining Corporation, based in Perth, Australia, committed to doing further exploration on the Meliadine West property to earn a 56% interest, and their work involving extensive surface drilling was responsible for outlining the Tiriganiaq deposit. In 2003 the 56% interest in Meliadine West earned by Western Mining Corporation was acquired by Comaplex bringing their total interest to 78% with Cumberland Resources having the remaining 22%.

The results of prior exploration programs on Meliadine West have been documented in a number of reports, many of which include estimates of mineral resources. The last of these was a technical report by Snowden Mining Industry Consultants Inc. (Snowden) issued in January 2008 (Snowden 2008 Report), which provides an updated estimate of the Tiriganiaq mineral resources following the 2007 surface drilling program.

A historical summary of exploration and ownership changes for the Meliadine West property is provided in the 2005 report by Strathcona Mineral Services (Strathcona 2005 Report) and is repeated in the Snowden 2008 Report.

2.2 Purpose of the Tiriganiaq Development and Bulk Sampling Program

After many years of surface exploration programs by diamond drilling, the Tiriganiaq deposit had in 2007 reached the stage where tangible evidence for some key geological and mining parameters had to be acquired in preparation and as a basis for a subsequent feasibility study. As a result, Comaplex undertook an underground development and bulk sampling program that started in the latter part of 2007 and extended into the autumn of 2008. The program targeted two of the main mineralized zones of the deposit at a depth of 70 and 120 metres, with the following objectives as stated in the Comaplex 2007 Annual Report:

- To expose, along strike, the dominant gold mineralization to assess its grade, continuity, consistency, and related mining properties by mapping and chip/channel sampling;
- To collect representative samples of the mineralization and reliably determine their bulk gold grade.

The comparison of the results of this program with the newest resource estimate would allow the estimate to be critically evaluated, and the experience gained from the program would flow into future resource estimates.

2.3 Terms of Reference

With letter dated January 15, 2007, Doug Dumka of Comaplex requested Strathcona to provide input into an underground bulk sampling program at the Tiriganiaq gold deposit in 2008. This input would initially concentrate on the design of a sample tower to *"...meet the needs of the project and more specifically the ore types expected from the Bulk Sample"* (Dumka 2007, page 1). Also included in the terms of reference were the following items:

- To monitor the sample tower fabrication process; Henrik Thalenhorst of Strathcona travelled to the manufacturer, Gorf Contracting Limited in South Porcupine near Timmins, Ontario four times in 2007 (on April 5, July 13, August 20 to 21, and September 4);
- To provide input into the underground sampling procedures;
- To provide input into the sample preparation and assaying protocols and procedures for the bulk sampling program;
- To supervise the initial operation of the sample tower to assure its proper functioning; Henrik Thalenhorst travelled to the Tiriganiaq site twice for this purpose in early 2008, from March 27 to 30 (at this time, the crushing plant was not operational, so the sample tower could not be run) and from April 7 to 10;

- To review the progress of the overall program; for this purpose, a third visit was made during which the available program documentation was reviewed, the accessible underground openings were visited and drill core from the two zones being sampled was observed. This visit took place from August 12 to 14, together with Warwick Board of Snowden, the principal author of the Snowden 2008 Report; and
- To be the lead author in a technical report to NI 43-101 standards describing the bulk sampling program and its results.

The Strathcona scope of work was restricted to the items identified above. The next estimate of the Tiriganiaq mineral resources will again be undertaken by Snowden and will incorporate the bulk sample results and the surface drilling program undertaken in 2008.

Strathcona has had ongoing involvement in the Tiriganiaq project, having advised Comaplex in 2003 in connection with the transaction between Comaplex and Western Mining Corporation referred to above in **Section 2.1**. Subsequently, Strathcona produced a technical report on the Tiriganiaq deposit in March 2005 in which the mineralization was evaluated in light of a possible underground mining operation (Strathcona 2005 Report).

Since many items that are part of a technical report conforming to the requirements of NI 43-101 have been adequately described in either the Strathcona 2005 Report or the Snowden 2008 Report, we will refer to the two reports, or quote from them, where no changes have occurred.

2.4 Sources of Information

The technical information on which this report is based was acquired, over the course of several months, by technical personnel in the employ of, or under contract to, Comaplex and under the direct supervision of Doug Dumka, one of the co-authors of this report. This information has been reviewed by the authors of this report

2.5 Report Contributions

The table below sets out the contributions by the three co-authors to this report. Mark Balog is responsible for sections of a corporate nature, Doug Dumka for some of the detailed technical descriptions of the underground program, and Henrik Thalenhorst for all items relating to the bulk sampling program and for the review of the assay information.

Report Contributions by the Three Authors

	Report Sections Authored
Mark Balog	4, 5, 6, 16 and 17
Doug Dumka	7, 8, 9.1, 9.2, 10, 11, 18 and 19
Henrik Thalenhorst	1, 2, 3, 9.3, 12, 13, 14, 15, 20, 21 and 22

3. RELIANCE ON OTHER EXPERTS

The authors have relied on Dr. Warwick Board., P. Geo., of Snowden Mining Industry Consultants Inc., who has determined, from the January 2008 resource estimate and from an updated estimate incorporating the results of additional surface holes drilled in the area of the bulk sample, the mineralized widths and grades predicted by that estimate for the two main drifts excavated during the underground development program. The predicted and actual widths and gold grades as determined by the bulk sampling program are compared with these predictions in **Section 15.5**.

4. PROPERTY DESCRIPTION AND LOCATION

The Tiriganiaq gold deposit is located within the Meliadine West property, and there have been no material changes since the Snowden 2008 Report was issued, to which the reader is referred for details.

However, there have been minor changes with respect to the land use permits whose current status is summarized in **Table 1**.

Table 1 Meliadine West Property, Current Land Use Permits

Licence Number	Explanation	Issued By*	Expiry
KVL 100B195	Meliadine Prospecting	KIA	31 October, 2009
KVL302C268	NTI Parcel Drilling, including Tiriganiaq	KIA	01 July, 2009
KVLCL102168	Commercial Lease	KIA	30 June, 2011
KVRW98F149	Meliadine Lake Right of Way	KIA	30 April, 2009
KVRW07F02	Overland Right of Way	KIA	26 October, 2009
N2007C0041	CWM Claims Drilling	INAC	13 April, 2010
N2006V0012	CWM Claims Winter Road	INAC	27 June, 2009
2008QP0038	Quarrying Meliadine Lake	INAC	13 April, 2009
N2007Q0040	Land Use Permit, Quarrying	INAC	13 April, 2009
2BB-MEL0709	Water License	NWB	31 July, 2009

*KIA = Kivalliq Inuit Association. The KIA is a regional, government-sponsored Inuit organization which represents the interests of the local Inuit and administers land use and fuel storage on Inuit-owned land.

NTI = Nunavut Tunngavik Incorporated. NTI is a private Inuit organization which receives funding from the Federal Government to monitor the economic, social and cultural well-being through the implementation of the Nunavut Land Claim Agreement.

CWM = Name of the claim block to the north and east of the Meliadine East Block of claims

INAC = Indian and Northern Affairs Canada.

NWB = Nunavut Water Board

5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES AND PHYSIOGRAPHY

There have been no material changes in these topics relative to the Meliadine West property since March 2005. The reader is referred to the Strathcona 2005 Report for details.

6. HISTORY

6.1 Ownership History

There have been no changes with respect to the ownership history of the Meliadine West property since January 2008. The reader is referred to the Snowden 2008 and Strathcona 2005 Reports for details.

6.2 Exploration History

The exploration history of the Tirignaniaq deposit and the surrounding area for the years 1987 to 2007 has been described in the Strathcona 2005 Report and repeated in Table 6.1 of the Snowden 2008 Report, to which the reader is referred. For 2008, the following additional information is offered:

2008	Comaplex completes 79 drill holes on the Meliadine West property, of which 90% were in the Tiriganiaq Zone and 8.5% completed in the F Zone. The underground development and bulk sample program was completed at the end of August 2008 with a total of 974 metres of ramp development, 402 metres of drifting on the 1000 and 1100 Lodes, 187 metres of cross-cuts and service excavations, and 79 metres of raises.

6.3 Previous Mineral Resource Estimates

The Snowden 2008 Report presented a summary of earlier resource estimates, to which the reader is referred. The latest estimate of mineral resources for the Tiriganiaq project was undertaken by Snowden and is presented in the Snowden 2008 Report, for two potential mining scenarios: open-pit mining above elevation 9900 metres (170 metres below surface), and underground mining below. The cut-off grades chosen for the two mining cases were 2.5 g/t and 6.5 g/t gold, respectively (Snowden 2008, page 85), and the results are summarized in **Table 2**.

Table 2 Tiriganiaq Resource Estimate January 2008

Category	Cut-Off Grade (g/t Au)	Tonnes ('000)	Grade (g/t Au)	Contained Gold ('000 ounces)
Mineral Resource above 9900 m elevation (potential open-pit mining)				
Indicated	2.5	6 136	6.4	1 258
Inferred	2.5	1 622	4.1	216
Mineral Resource below 9900 m elevation (potential underground mining)				
Indicated	6.5	1 510	10.9	530
Inferred	6.5	3 261	11.2	1 169

Note: there are no measured mineral resources in the January 2008 estimate.

It was one of the important tasks of the underground bulk sampling program to provide information as to the suitability of both mining methods for the different types of mineralization at Tiriganiaq.

7. GEOLOGICAL SETTING

The following are summary excerpts from the Snowden 2008 Report, to which the reader is referred for additional details.

The Meliadine West property is located in the northern portion of the Archaean Rankin Inlet Greenstone Belt of the northern Canadian Shield. Supracrustal rocks consist of a poly-deformed and metamorphosed sequence of Neo-Archaean (ca. 2663 Ma) mafic volcanic rocks, felsic pyroclastic rocks, sedimentary rocks and gabbro sills, most of which have undergone both Archaean and Proterozoic deformation.

The Meliadine trend is defined by northwest trending stratigraphy and a major fault zone known as the Pyke Fault, a several-kilometre-wide high-strain zone characterized by multiple foliations and regionally important shear zones.

The stratigraphic sequence in the deposit area strikes east-west and dips to the north at an average of 60º. Facing directions suggest the sequence is overturned. All rocks in the deposit area are lower to middle greenschist facies in metamorphic grade. The stratigraphic sequence from north (oldest) to south (youngest) is as follows:

The **Sam Formation** is at least one thousand metres thick and consists of clastic turbidite sediments of variable grey-coloured greywacke-mudstone beds of centimetre to decimetre thickness. The **Upper Oxide Iron Formation** varies in thickness from 25 to 50 metres and is a diverse package of iron-rich rocks that include centimetre to decimetre scale beds of magnetite, chert, chloritic mudstone, and greywacke. The upper contact with the structurally overlying, but stratigraphically older Sam Formation is occupied by a distinct, laterally consistent iron formation referred to, on a regional scale, as the "Upper Oxide Iron Formation". This unit is easily recognized and traceable across the property due to its high magnetic susceptibility and is an important host rock for gold mineralization both locally and regionally. The **Tiriganiaq Formation**, a finely laminated to thinly bedded siltstone unit up to 20 metres thick, commonly has acquired a yellowish grey colour due to increasing hydrothermal sericite alteration in mineralized zones at or near the Lower Fault (see below). A thin unit of **Graphitic Argillite** occurs sporadically at the volcanic-sedimentary contact in the Tiriganiaq Formation and commonly underlies 1000 Lode mineralization described in **Section 9.2.1**. The Lower Fault occupies this position of obvious stratigraphic weakness. The **Wesmeg Formation** forms the structural footwall to all of the previous units. It consists of chlorite-rich massive to pillowed basalts hosting rare interflow sediments.

The **Lower Fault** separates the Wesmeg and Tiriganiaq Formations and is interpreted as a basal detachment surface of uncertain age. It is characterized by intense late (Proterozoic) shearing that decreases laterally away from the contact surface in both directions, but is more developed in the structural hangingwall. Thrust-reactivated listric faults are interpreted to detach from the Lower Fault into the structurally overlying Tiriganiaq and Sam Formations, resulting in the local structural repetition of the stratigraphy in the Tiriganiaq Deposit. The stacked package exhibits a variable plunge, but averages approximately 13° to the west.

Gabbro dykes and sills of several ages are recognized on the Meliadine West property. The oldest gabbro bodies are equigranular intrusions and sills within the Wesmeg Formation volcanics and are interpreted as syn-volcanic feeders to the overlying basaltic pile. The youngest gabbros are late syn- to post-deformation dykes that commonly cross-cut the axial planes of Proterozoic F2 folds in the Sam Formation and postdate the major deformation affecting the Tiriganiaq Deposit.

8. DEPOSIT TYPE

The Tiriganiaq deposit is a mesothermal vein-dominated gold occurrence hosted predominantly in iron formation and fine grained sediments. It has similarities to other iron formation-hosted gold deposits such as Lupin (in the Northwest Territories) , Homestake (South Dakota) and Musselwhite (Ontario). Gold mineralization in the Tiriganiaq deposit has a strong correlation to shearing and quartz veining. Mineralized lodes are hosted in quartz-vein stockworks, laminated quartz veins, and variably sulphidized iron formation in complexly folded and sheared iron formation rocks, sedimentary rocks, and volcanic rocks in or near the volcanic-sedimentary contact.

9. MINERALIZATION

9.1 General Description of the Tiriganiaq Gold Mineralization

The nomenclature of mineralized zones at Tiriganiaq is numerical with the zone identifiers increasing from south to north (from structural footwall to structural hanging wall). The 1000 zone is thus structurally deeper than the 1250 zone.

The following general description is quoted from the Snowden 2008 Report:

> *"Gold mineralization in the Tiriganiaq Deposit is hosted in the Upper Oxide Iron Formation, clastic sedimentary, and mafic volcanic rocks. It is associated with sulphidized (pyrrhotite and arsenopyrite) iron formation and quartz veins with an alteration assemblage of ankerite, sericite, chlorite, and quartz.*
>
> *Gold mineralization was interpreted into lodes defined by the presence of shearing, elevated levels of quartz veining, lithological and/or structural contacts, coarse arsenopyrite, gold tenor and continuity. Known structural trends, dominantly shearing (oriented core structural measurements), were used to define the lode orientations.*
>
> *There are five dominant lodes that host the gold mineralization in the Tiriganiaq Deposit. ... Lode geometries, in general, fall into two basic categories:*
>
> ***Layer-parallel lodes:*** *Lodes in which a penetrative, late, bedding parallel shear system is the dominant control (e.g. 1000, 1025, 1050, 1075, and 1100 lodes). Two of the lodes, the 1000 and 1100, host significant high grade gold concentrations over substantial widths. Geology, grade, alteration, mineralization, and strength of structure of these two lodes are moderately consistent and predictable .... The overall orientation of mineralization in these two lodes suggests a moderate east plunge, but mineralization of economic interest is restricted to shoots of smaller size that appear to have a slight west plunge within the overall body of lower grade mineralization. The 1025, 1050, and 1075 lodes may also follow this pattern.*

The bulk sampling program explored parts of the 1000 and 1100 Lodes, while some of the mineralization attributed to the 1025, 1050 and 1075 Lodes was exposed in the bulk sampling cross cuts.

> ***Plunging and non layer-parallel lodes:*** *Lodes hosting gold in multiple, sub-parallel, west plunging shear structures are the main control in the 1150 and 1250 lodes. These interpreted fold structures are related to reactivated listric faulting and fold repetition of the Upper Oxide Iron Formation .... Multiple mineralized shears cut through the closure position and the overall package plunges to the west at 9º to 15º. Gold grades appear to be higher and more continuous from section to section where the shears cut the thicker iron formation in the nose of these folds."*

Mineralization occurring in plunging and non layer-parallel lodes was not investigated by the bulk sampling program.

9.2 Mineralization Exposed by the Underground Program

The general arrangement of the various mineralized zones in the area of the underground bulk sampling program is shown in **Figure 1**[1].

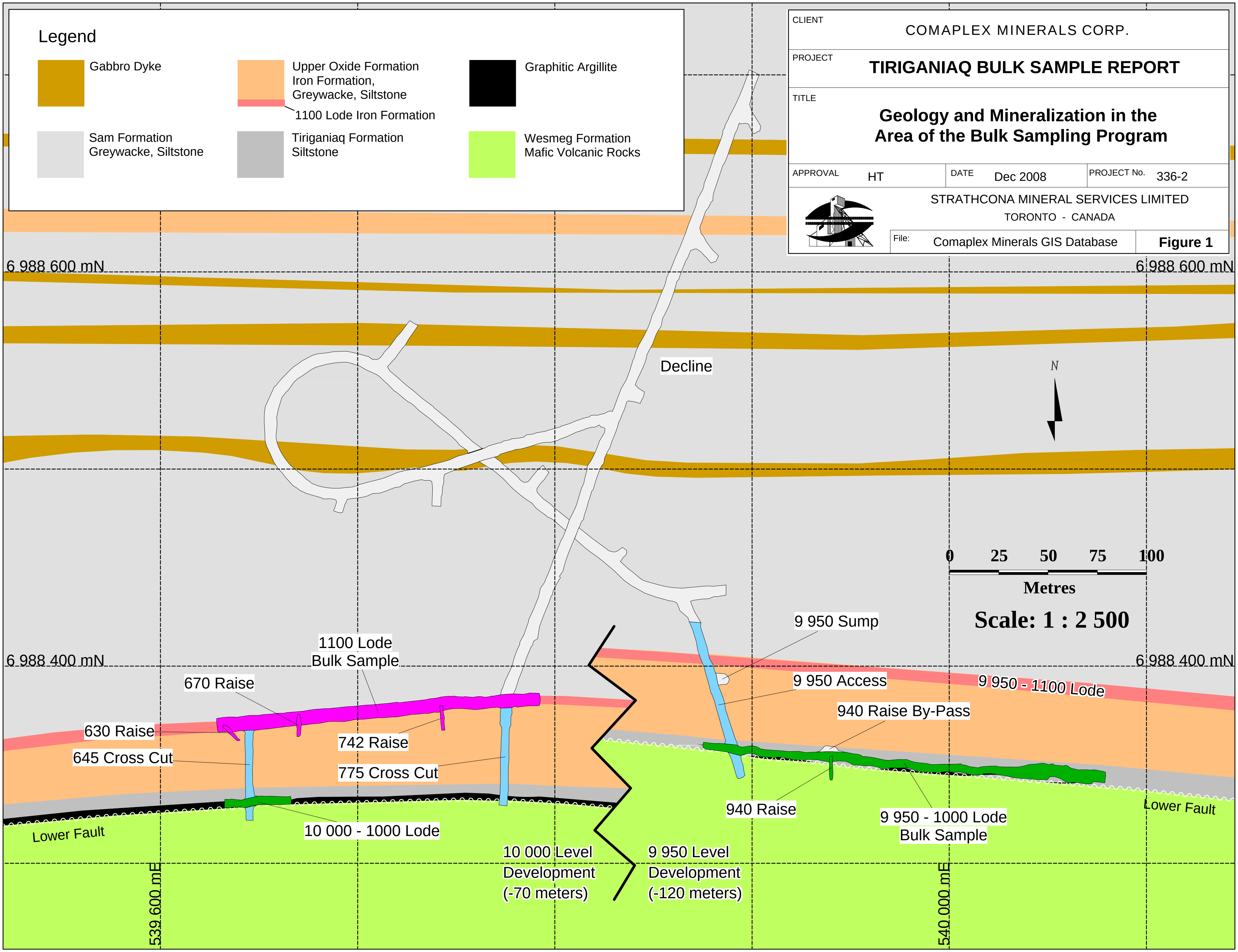
The following notes summarize the geological observations made during the underground development program and the geology of the lodes as mapped.

9.2.1 The 1000 Lode

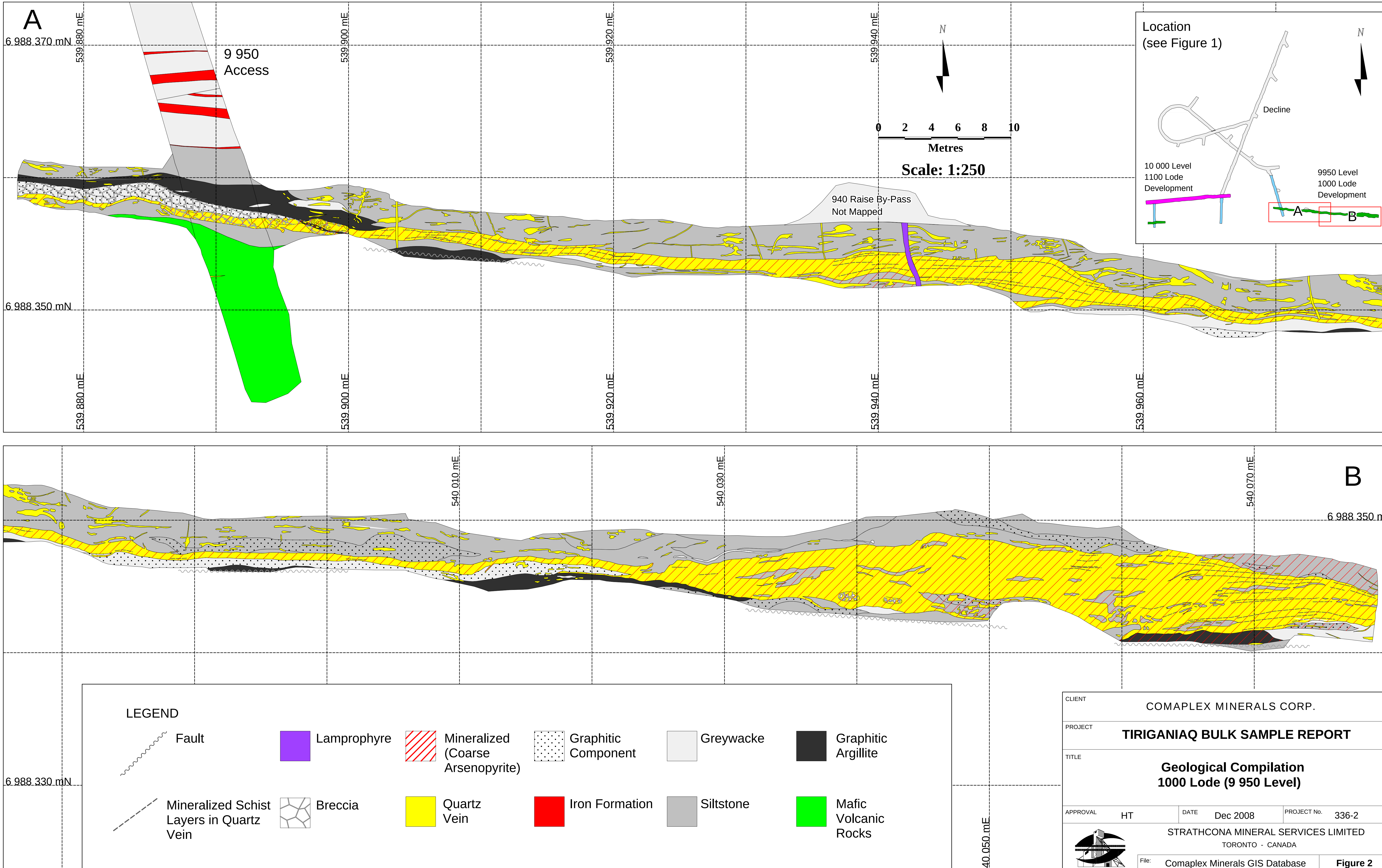
The 1000 Lode was developed for 34 metres on the 10 000 level, in what was known to be a poorly mineralized portion of the zone, and for 205 metres on the 9950 level, indicated by surface drilling to have excellent gold grade. Detailed underground mapping undertaken during the bulk sampling program along the 1000 Lode on the 9950 level is shown in **Figure 2** and on the 10 000 level in **Figure 3**. The general aspects of the 1000 Lode have been described in the Snowden 2008 Report on page 37 as follows:

> *"The 1000 Lode is narrow, shear-hosted, and controlled by the nearby Lower Fault. The lode is centred on a semi-continuous laminated to anastomosing quartz-vein system which varies from centimetres to several metres in thickness and is hosted in strongly sericitized greywackes and siltstones.*

[1] The coordinate system on all maps in this report is UTM NAD83, Zone 15



Legend
Gabbro Dyke
Upper Oxide Formation Iron Formation, Greywacke, Siltstone
1100 Lode Iron Formation
Graphitic Argillite
Sam Formation Greywacke, Siltstone
Tiriganiaq Formation Siltstone
Wesmeg Formation Mafic Volcanic Rocks
CLIENT
COMAPLEX MINERALS CORP.
PROJECT
TIRIGANIAQ BULK SAMPLE REPORT
TITLE
Geology and Mineralization in the Area of the Bulk Sampling Program
APPROVAL
HT
DATE
Dec 2008
PROJECT No.
336-2
STRATHCONA MINERAL SERVICES LIMITED
TORONTO - CANADA
File:
Comaplex Minerals GIS Database
Figure 1
6 988 600 mN
6 988 600 mN
Decline
N
0
25
50
75
100
Metres
Scale: 1 : 2 500
9 950 Sump
6 988 400 mN
6 988 400 mN
1100 Lode Bulk Sample
670 Raise
9 950 Access
9 950 - 1100 Lode
940 Raise By-Pass
630 Raise
742 Raise
645 Cross Cut
775 Cross Cut
940 Raise
Lower Fault
10 000 - 1000 Lode
9 950 - 1000 Lode Bulk Sample
Lower Fault
10 000 Level Development (-70 meters)
9 950 Level Development (-120 meters)
539 600 mE
540 000 mE


A
B
9 950
Access
940 Raise By-Pass
Not Mapped
N
0 2 4 6 8 10
Metres
Scale: 1:250
6 988 370 mN
6 988 350 mN
6 988 330 mN
539 880 mE
539 900 mE
539 920 mE
539 940 mE
539 960 mE
540 010 mE
540 030 mE
540 050 mE
540 070 mE
Location
(see Figure 1)
Decline
10 000 Level
1100 Lode
Development
9950 Level
1000 Lode
Development
LEGEND
Fault
Lamprophyre
Mineralized (Coarse Arsenopyrite)
Graphitic Component
Greywacke
Graphitic Argillite
Mineralized Schist Layers in Quartz Vein
Breccia
Quartz Vein
Iron Formation
Siltstone
Mafic Volcanic Rocks
CLIENT
COMAPLEX MINERALS CORP.
PROJECT
TIRIGANIAQ BULK SAMPLE REPORT
TITLE
Geological Compilation
1000 Lode (9 950 Level)
APPROVAL
HT
DATE
Dec 2008
PROJECT No.
336-2
STRATHCONA MINERAL SERVICES LIMITED
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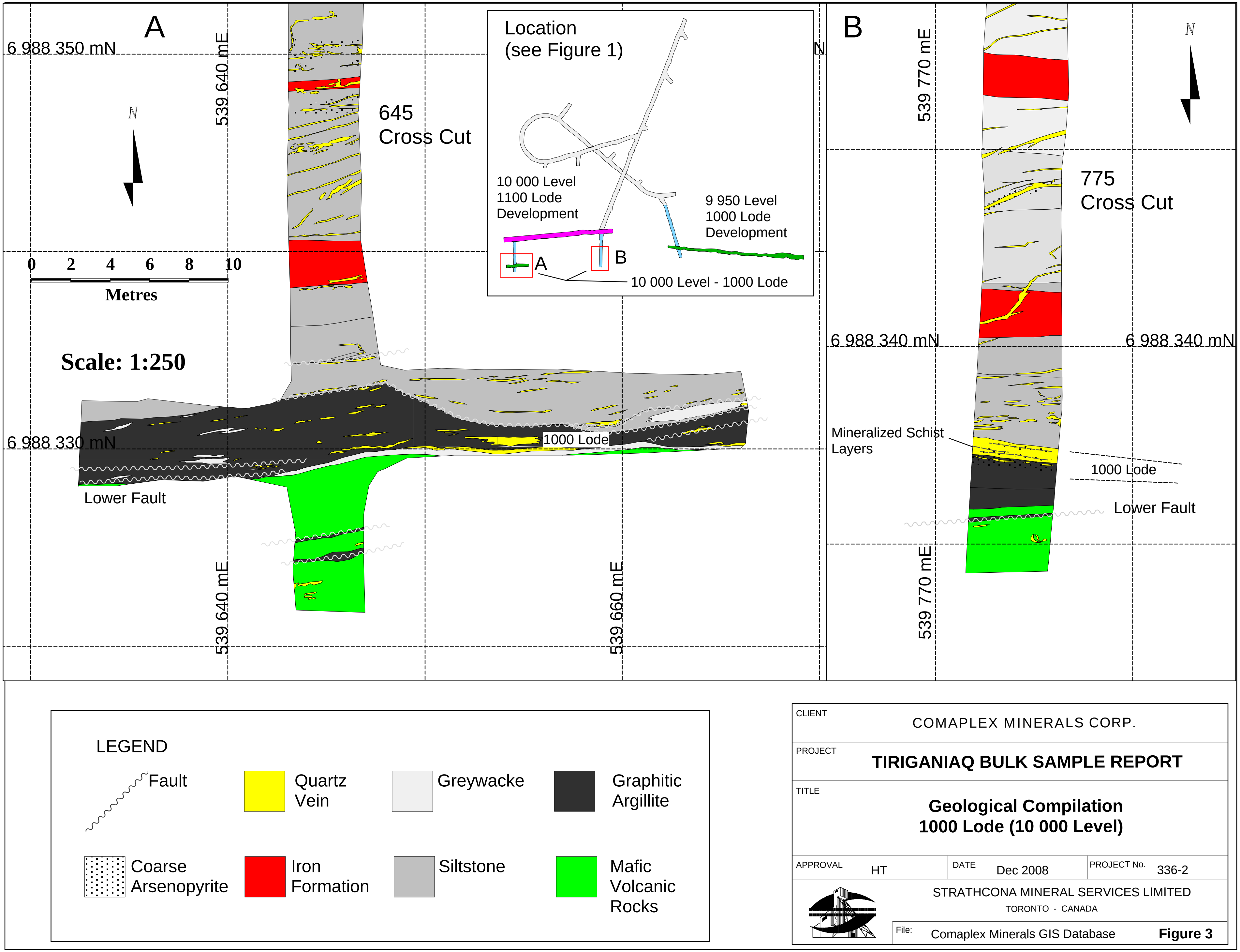
File:
Comaplex Minerals GIS Database
Figure 2


A
6 988 350 mN
539 640 mE
N
0 2 4 6 8 10
Metres
Scale: 1:250
645
Cross Cut
6 988 330 mN
1000 Lode
Lower Fault
539 640 mE
539 660 mE
Location
(see Figure 1)
10 000 Level
1100 Lode
Development
9 950 Level
1000 Lode
Development
A
B
10 000 Level - 1000 Lode
B
539 770 mE
N
775
Cross Cut
6 988 340 mN
6 988 340 mN
Mineralized Schist
Layers
1000 Lode
Lower Fault
539 770 mE
LEGEND
Fault
Quartz Vein
Greywacke
Graphitic Argillite
Coarse Arsenopyrite
Iron Formation
Siltstone
Mafic Volcanic Rocks
CLIENT
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PROJECT
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TITLE
Geological Compilation
1000 Lode (10 000 Level)
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Figure 3

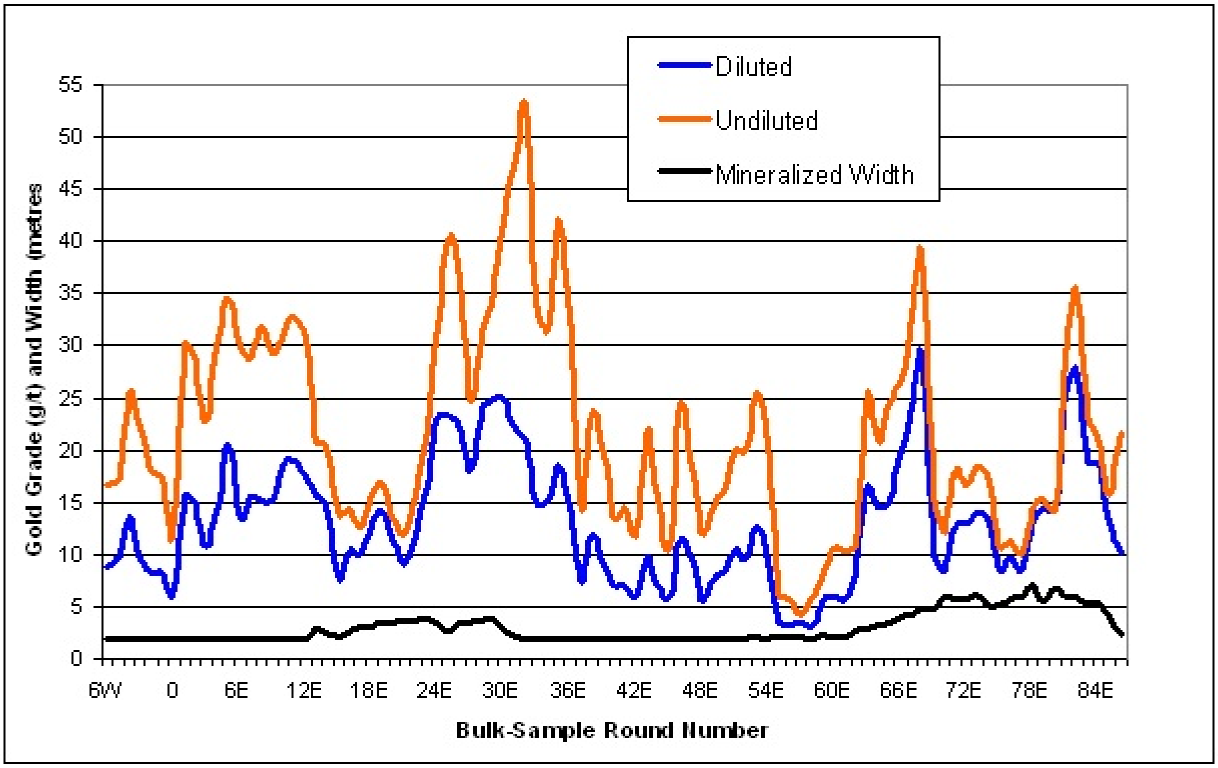
> *The 1000 Lode ... averages less than 2 m in true width and dips at 60˚ to the north. Slight flexures (less than 10˚) in the dip orientation of the lode surface and associated thickening appear to be an important control on the internal distribution of mineralization. .....*
>
> *As elsewhere in the Tiriganiaq Deposit the more auriferous sections within the lode are associated with strongly developed coarse arsenopyrite concentrations and visible gold. ... The zones of best mineralization ... tend to be coincident with continuous laminated quartz veining. This observation has allowed for the creation of a high confidence, high grade sub-domain within the 1000 Lode that comprises predominantly laminated quartz veining and immediately proximal high intensity, but more irregular, quartz veining.*"

There are two such high-grade sub-domains. The 1001 is distinguished by the presence of laminated quartz veining, while the 1002 sub-domain is defined by the presence of non-laminated quartz veining. Only one of the two can be present in any given location. Drifting along the 1000 Lode on the 9950 level has shown that a clear distinction between the two types of quartz veining is often not possible, and future resource estimates may combine the two into one sub-domain, that would carry the high-grade mineralization within the 1000 Lode.

Detailed mapping and sampling of all of the mining faces during the bulk sampling program confirms the presence of a continuous quartz vein which carries the majority of the gold in the 1000 Lode and would have been assigned to the 1001 sub-domain. Secondary, less continuous and intermittent quartz veining, dominantly on the hangingwall of the main vein, may represent an older mineralizing event, which carries occasional elevated gold values (see **Frontispiece**). Also intermittent is quartz-vein mineralization in the footwall of the main vein and extending into the mafic volcanic rocks in the structural footwall, and may be responsible for occasional high-grade intersections in the volcanic rocks referred to as the 950 zone by earlier operators.

Figure 4 provides a visual representation of the original (diluted) and undiluted bulk sample gold grades along the entire 1000 lode drift on the 9950 level. The undiluted grade was calculated according to the principles described in **Section 15.5.1**. Note that a minimum horizontal width of 1.8 metres was observed in this process. The two areas of increased vein width (Sections 13 E to 31 E and 62 E to the end of the actual development at 86 E) are evident. However, since extremely high gold values in this system tend to occur along the two contacts of the quartz vein, any large increase in its width tends to lower the overall gold grade in these areas. Overall, the undiluted grade continuity above 10 g/t gold is excellent, with one eleven-metre interval exception, from bulk-sample rounds 55 E to 59 E.

Figure 4 Bulk Sample Gold Grade, 1000 Lode (9950 Level)

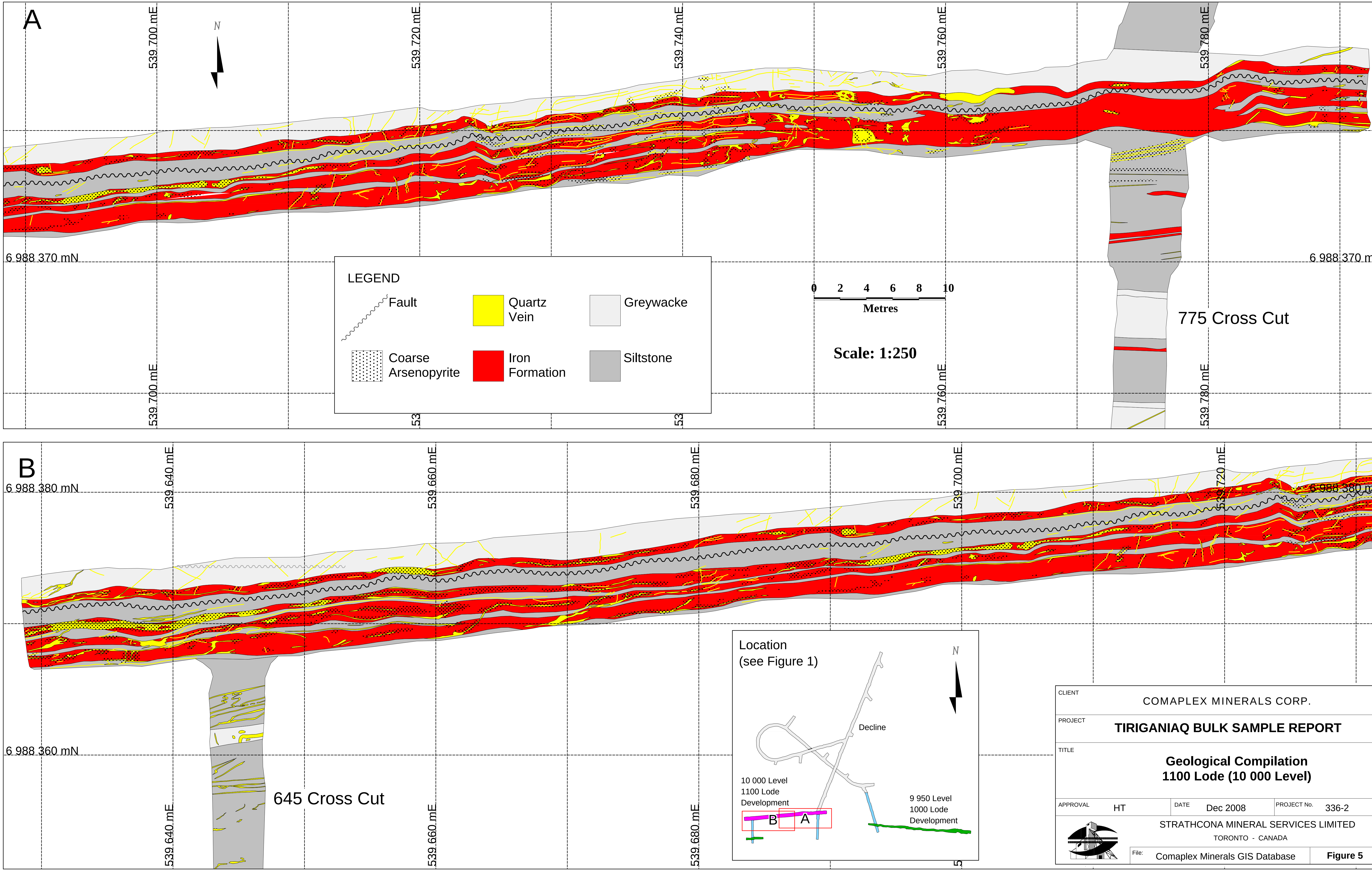


The segment of the 1000 Lode explored on the 10 000 level shows discontinuous and disrupted quartz-vein development and is therefore low-grade with an average bulk sample gold grade of 2.0 g/t over 4.2 metres for the exposed length of 34 metres.

9.2.2 The 1100 Lode

The 1100 Lode was developed for 165 metres on the 10 000 level, in an area indicated by surface drilling to exhibit mineralization of approximately average gold grade for the lode. **Figure 5** shows the compilation of the detailed underground face mapping undertaken during the bulk sampling program. The 9950 Access Cross-Cut intersected a low-grade part of the 1100 Lode, with one cross-cut round yielding a bulk sample gold grade of 2.7 g/t. The general aspects of the 1100 Lode have been described in the Snowden 2008 Report:

> "[T]*he 1100 Lode consists of several thick, banded chert-magnetite units with variable silicate layers interbedded with several narrow siltstone and greywacke beds. The lode varies from 4 m to 12 m in true thickness, generally becoming thinner down dip. Much of the thickening is attributed to structural repetition of the iron formation through local isoclinal folding and/or thrust repeats.*



CLIENT	COMAPLEX MINERALS CORP.
PROJECT	TIRIGANIAQ BULK SAMPLE REPORT
TITLE	**Geological Compilation 1100 Lode (10 000 Level)**
APPROVAL: HT	DATE: Dec 2008 — PROJECT No. 336-2
	STRATHCONA MINERAL SERVICES LIMITED TORONTO - CANADA
File: Comaplex Minerals GIS Database	**Figure 5**

> *Economic concentrations of gold mineralization can encompass the entire lode but are commonly restricted to arsenopyrite-rich concentrations in narrow shears at the hangingwall and footwall contacts of the Upper Oxide Iron Formation. A poor understanding of the controls on the shearing (possibly a combination of cross cutting and bedding parallel shearing) within the larger iron formation unit, and therefore on gold distribution, has made the selective definition of discrete higher grade portions of the 1100 Lode difficult. For comparative purposes, the 1100 Lode was subdomained into an upper narrow iron formation and sediment unit and a lower slightly thicker iron formation unit to weigh the possibility of increasing the grade by selectively mining narrower portions of the overall zone. Whilst this modeling process indicated that the domain could, theoretically, be subdivided into higher and lower grade parts, additional confirmation of the orientation of the shears controlling the gold in this zone through underground development is required. Consequently the lode in this study encompasses the whole iron formation package resulting in more dilution and lower overall grade compared with the 1000 Lode.*"

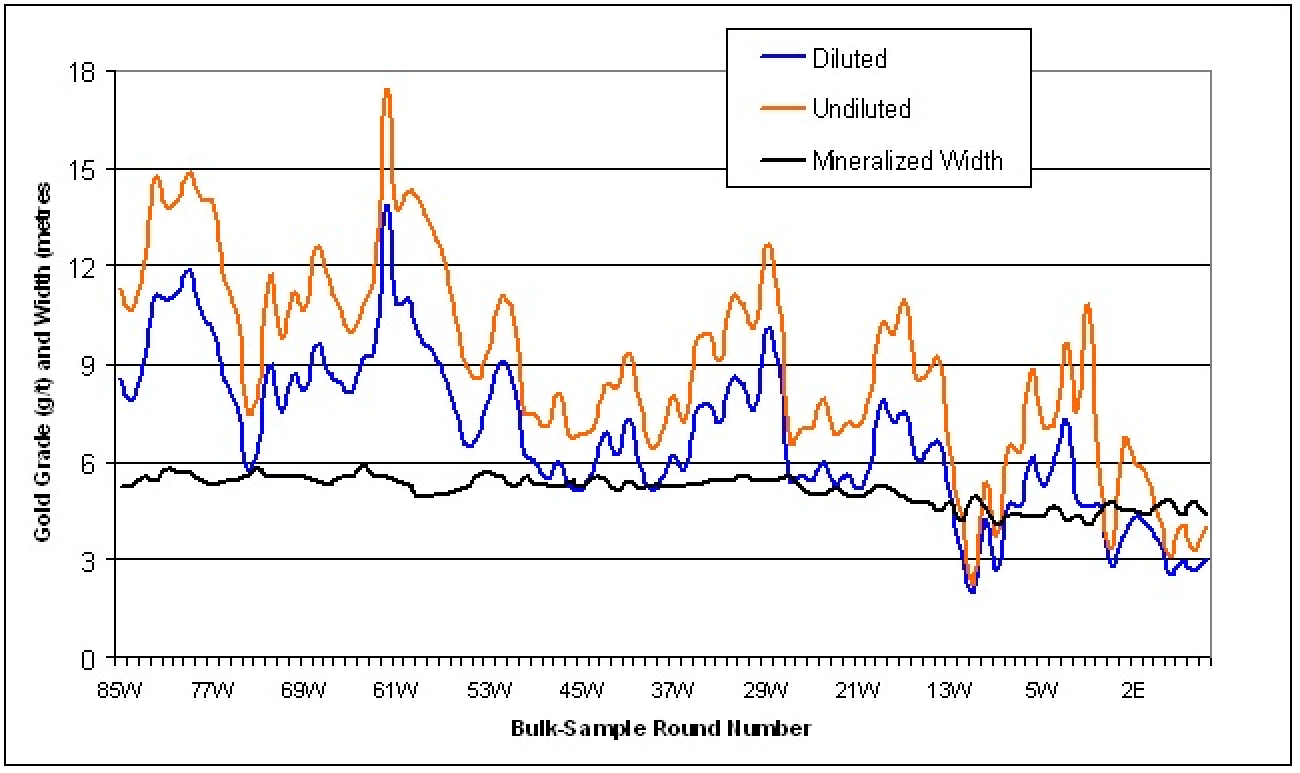
Observations made during the detailed mapping and sampling of the 1100 Lode drift indicate three loci for gold mineralization.

- The principal mode of gold occurrence is controlled by bedding-parallel shearing and introduction of quartz and arsenopyrite replacing the primary iron formation bands, with occasional visible gold.
- The second mode of gold occurrence is the often partial replacement of the iron formation bands by fine to medium-grained pyrrhotite, with rare fine visible gold.
- The third style relates to late thin fractures that cut across the stratigraphy dipping south at a shallow angle and are locally quartz bearing. Where these fractures cut the iron formation, selvages of coarse arsenopyrite develop in the iron formation bands, extending up to 30 cm from a fracture. These veinlets carry occasional visible gold in both the iron formation and the sediments.

Being tightly controlled by the stratigraphy, the undiluted horizontal width of the 1100 Lode developed on the 10 000 level is remarkably constant, averaging 5.1 metres, and with a range of 4.1 to 5.9 metres. Sub-dividing this part of the 1100 Lode for selective mining is not an option given the narrow width of the sediment intervals between the three main iron formation bands.

While the different lithologies making up the 1100 Lode have remarkably different gold grade populations as described in **Section 9.3**, the undiluted gold grade, calculated according to the description in **Section 15.5.1**, has good continuity above 6 g/t from round 13 W westward as shown in **Figure 6**, with an average undiluted gold grade of 9.6 g/t. Any attempt at raising the cut-off grade substantially above the level of 6 g/t would result in a quick loss of grade continuity. For example, about one-half of the tonnage to the west of round 13 W is below a cut-off grade of 9 g/t.

Figure 6 Bulk Sample Gold Grade, 1100 Lode (10 000 Level)



9.2.3 Intervening Mineralization

Located stratigraphically and structurally between the 1000 and 1100 Lodes, lodes identified as 1025, 1050, and 1075 have been interpreted to occur in parts of the Tiriganiaq deposit. Low-grade resource blocks exist in the area covered by the three cross-cuts of the bulk sampling program. These lodes are generally moderately narrow, sub-parallel, discontinuous zones of shear-controlled gold mineralization hosted in both sericitized clastic sediments and thin discontinuous iron formations oriented parallel to the adjacent main lodes. It was observed that the gold grades in this environment can vary significantly from drill hole to drill hole. The controls on the localization of gold in these lodes had remained uncertain in the absence of underground exposure and detailed sampling.

The gold grade of the intervening mineralization is generally lower than in the 1000 and 1100 Lodes, but this mineralization could play an important role in the upper part of the Tiriganiaq deposit by providing low-grade mill feed from a potential open-pit operation. While not the primary target of the underground and bulk sampling program, the entire interval between the 1100 and 1000 lodes was exposed by three cross-cuts. Mapping of the cross-cuts indicates that the gold mineralization is mainly associated with arsenopyrite and pyrite in narrow quartz veins that are parallel to the foliation and bedding of the host rocks.

9.3 Gold Comportment

The different lithological components of the two main lodes have greatly varying gold population statistics. **Table 3** presents a summary of all chip-panel assay results from chip sampling described in **Section 12.3** by lode and by lithology. While the channel sample assays were excluded from this summary as they cover only about one-half of the mineralized faces sampled, they show a very similar gold-grade pattern.

Table 3 Basic Gold Grade Statistics by Rock Type*

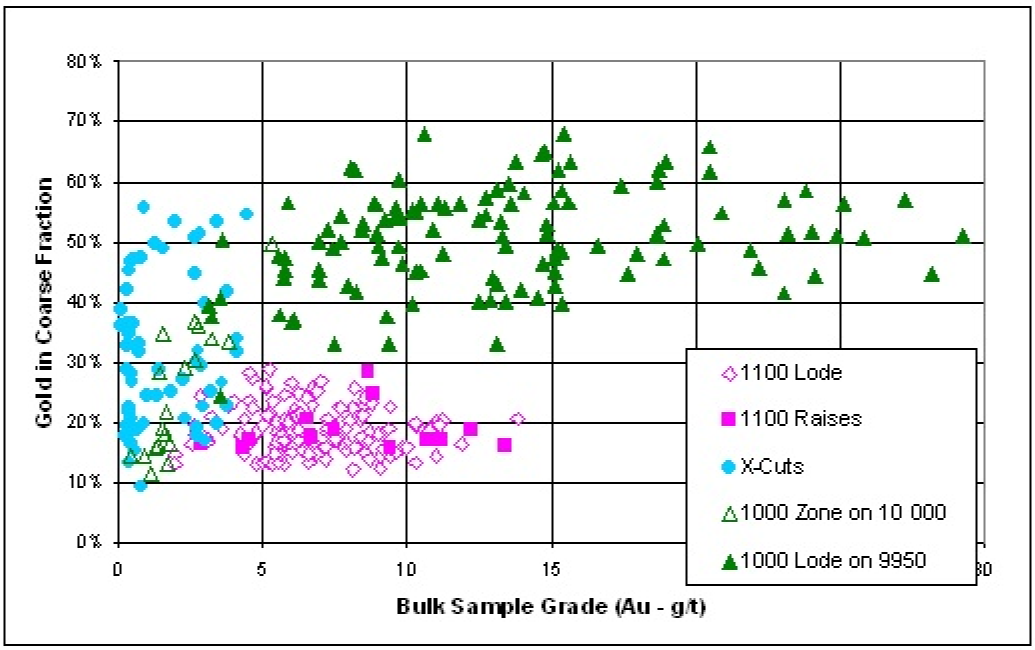
Lithology	Number of Samples	Mean Gold Grade (g/t)	Coefficient of Variation
1000 Lode (9950 Level)			
Sericitized Sediment	134	3.8	3.3
Graphitic Sediment	60	4.0	3.1
Mineralized Sediment	49	7.3	3.4
Sediment (quartz-ankerite altered)	56	9.3	2.8
Volcanic Rocks	35	4.8	3.2
Quartz Vein	239	33.7	1.5
1100 Lode			
Shoulder Sediments	197	0.7	2.3
Sediments within Lode	241	2.2	3.0
Iron Formation, “unmineralized”	126	5.4	1.4
Iron Formation, “mineralized”	343	18.0	0.9
Quartz Vein	43	28.5	0.6

*From chip sampling of panels in face of each drift round

This information sheds light on the continuity of the gold mineralization, which is good from a statistical point of view for the main mineralized units – the quartz veins in both lodes, and both types of iron formation in the 1100 Lode. In contrast, the adjoining lithologies have generally erratic gold grade distributions (as expressed by their very high coefficients of variation), which will present challenges during resource grade estimation. This information also strongly suggests that for reliable gold grade modelling, each individual unit should be considered separately. A more thorough treatment of the assay statistics of the underground sampling is presented in **Section 15.2.1**.

The assay protocol for the field samples from the bulk sampling program included screened metallics assaying as described in **Section 13.1**. This data can be used to calculate the proportion of coarse gold above 105 micrometers (μm) as a proportion of the total gold contained in each sample, and this data is graphically shown in **Figure 7**.

Figure 7 Proportion of Coarse Gold (Screened Metallics Assays)



The two main lodes plot as two distinctly separate populations, with the coarse gold contributing 50% and 20% to the total gold content in the 1000 and 1100 lodes, respectively. The cross cuts span the gap. It is interesting to note that the low-grade part of the 1000 Lode on the 10 000 level is closer in this respect to the 1100 Lode data than to its high-grade counterpart on the 9950 level.

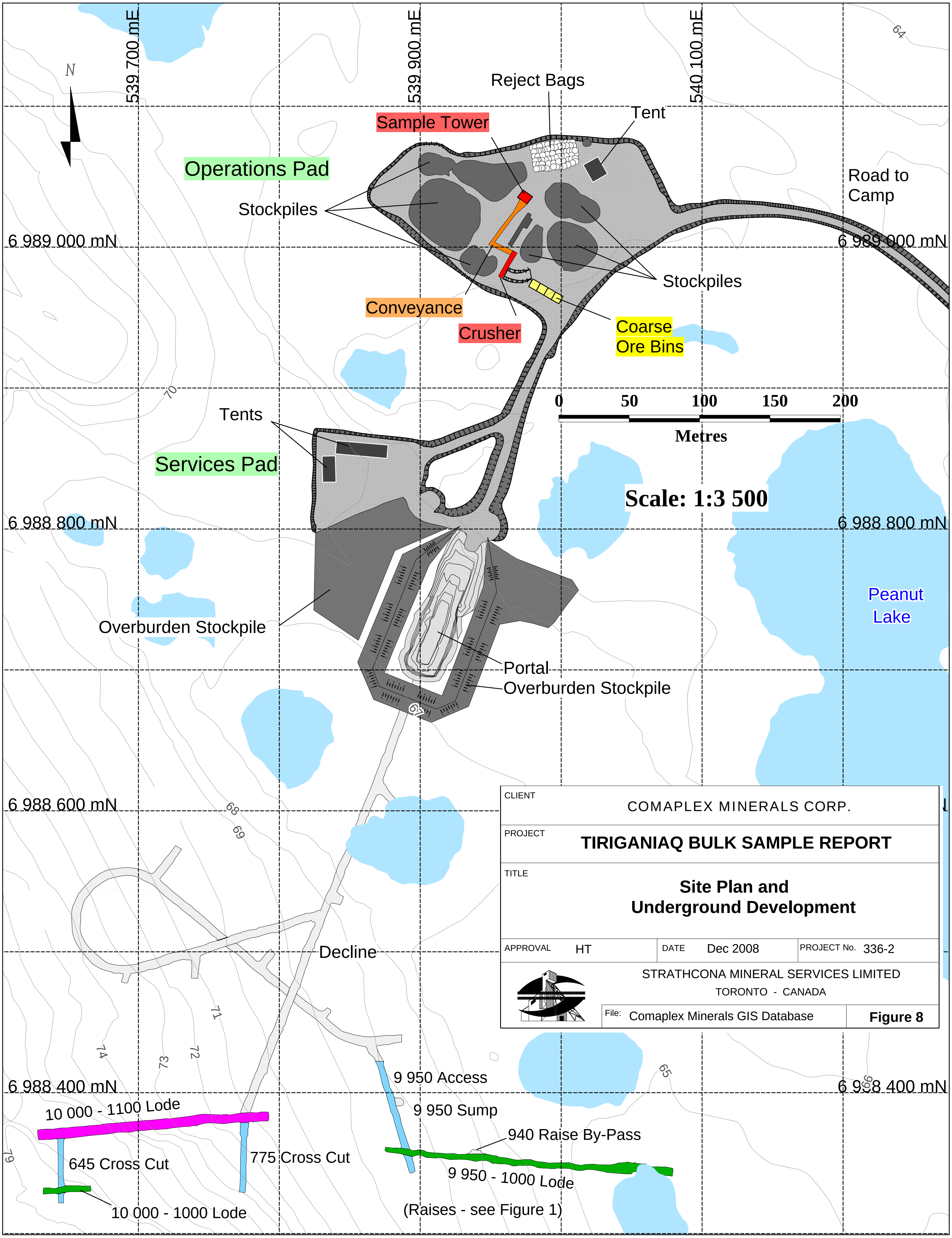
10. EXPLORATION

Following receipt of all necessary permits, portal excavation of the access ramp into the deposit by contractor Nuna Logistics Ltd. of Edmonton, Alberta, started in early August of 2007 and the overall program was completed on October 5, 2007. **Photograph 1** is an aerial shot of the decline portal. The underground development was carried out under contract by The Redpath Group (Redpath), a division of Deilmann-Haniel International Mining and Tunnelling GmbH of Germany. The first blast was taken on October 7, 2007, bulk sampling started in May 2008 after the first mineralized zone had been reached, and the development program was completed on August 27, 2008. **Table 4** summarizes the underground program carried out, which is also shown on **Figure 8**.

Table 4 Underground Development and Sampling Completed

Level	Opening	Nominal Size width x height (metres)	Length (metres)	Bulk Sampling		Underground Sampling	
				Tonnes	Number of Samples	Chip-Panel Samples	Channel Samples
Main Ramp		5 x 6	974	No Sample			
10 000	1100 Lode Drift	6 x 2.7	164	9 433	111	865	443
	1000 Lode Drift	4 x 2.7	34	1 006	20	83	42
	645 X-Cut	4 x 2.7	46	1 295	20	98	95
	775 X-Cut	4 x 2.7	50	1 678	20	101	101
	630 Raise	1.5 x 2.2	21	312	5	31	3
	670 Raise	1.5 x 2	19	219	3	29	0
	742 Raise	1.5 x 2.2	19	242	3	25	0
9 950	Access X-Cut	4 x 5	77	3 843	16	147	30
	1000 Lode Drift	4 x 2.8	204	6 943	109	573	248
	940 Raise	1.5 x 2	20	152	2	27	0
	Raise By-Pass/Slash	3 x 2.8	8	157	1	No Samples	
	Sump Access	5 x 6	6	240	1	No Samples	
Totals			**1 642**	**25 522**	**311**	**1 979**	**962**

Photograph 1 Aerial View of the Decline Portal



CLIENT	COMAPLEX MINERALS CORP.	
PROJECT	**TIRIGANIAQ BULK SAMPLE REPORT**	
TITLE	**Site Plan and Underground Development**	
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Figure 8

The 10 000 level is at a depth of 70 metres, while the 9950 level is 120 metres below the surface. In **Table 4**, ramp and cross-cut rounds crossing the main lodes were sampled and are reported with the respective drifts. The tonnage figures include two clean-up samples from the 1100 Lode Drift and one clean-up sample from the 1000 Lode drift. The number of bulk samples includes the repeat samples shown in **Table 8** in **Section 14.3.1**, and the number of chip-panel and channel samples include all of the respective repeat samples.

11. DRILLING

To increase the data density in the area of the underground program for the 1000 and 1100 Lodes, additional surface drilling was completed in late summer of 2008, after completion of the drifting on the 10 000 level. A total of four surface diamond drill holes with an aggregate length of 723 metres were completed for the 1000 Lode and eight surface diamond drill holes with an aggregate length of 1182 metres were completed for the 1100 Lode. This drilling was completed by the same contractor and used the same procedures as described in detail in the Snowden 2008 Report.

12. SAMPLING METHOD AND APPROACH

The sampling method and approach pertaining to the historical exploration programs conducted at Tiriganiaq, particularly diamond drilling, have been discussed in the Snowden 2008 Report to which the reader is referred. The following refers specifically to the bulk sampling program and the underground channel and chip-panel sampling undertaken in conjunction with the bulk sampling program.

12.1 General Notes on the Bulk Sampling Program

The underground bulk sampling program was designed by Comaplex to evaluate parts of the two major mineralized lodes at Tiriganiaq, the 1000 and the 1100 Lodes described in **Section 9**, by drifting on each of the two for 150 to 200 metres. Additionally, cross cutting between the two zones would expose some of the intervening mineralization, and raising would investigate the lode mineralization in the third dimension. The broken material would be transported to surface, crushed, put through a sample tower and subsequently assayed at an independent laboratory for the determination of its gold grade. **Photograph 2** provides a view of the surface facilities used for the bulk sampling.

Systematic channel and chip-panel sampling of the faces or walls exposed by mining was to be an integral part of the bulk sampling program. The detailed sampling would provide information on the comportment of the gold within the lodes. The face and wall sampling was also to serve as a test of two main sampling methods to establish a sampling protocol for grade control in a future mining operation at Tiriganiaq.

Bulk sampling in the field was undertaken round-by-round for drift ore, and for three (sometimes four) combined rounds of raise ore, to produce roughly comparable lot sizes. Depending on the size of the opening, the mass of an individual round ranged from 43 to more than 200 tonnes, averaging 92 tonnes for the 1100 drift on the 10 000 level and 74 tonnes for the 1000 lode drift on the 9950 level. Tonnages exceeding 140 tonnes were produced from ramp rounds with its large size, and from wide sections in the 1000 lode.

The field sampling was accomplished with a sample tower constructed for the purpose by Gorf Manufacturing Company Limited of South Porcupine, Ontario, and shipped to the site in late 2007.

Photograph 2 Crushing Plant and Sample Tower Arrangement

The crushing plant is at the right, with the "control tower" for the crusher operator who would also observe the sample tower feed belt hopper to prevent overflowing in case of a tonnage imbalance between crushing plant and sample tower. The charging conveyor and the sample tower are partly or completely enclosed. The door into the sample tower is approximately two metres high.

12.2 Mining

The underground mining was carried out under contract by J.S. Redpath Ltd. of North Bay, Ontario using the following standard mining equipment: one MTI two-boom electric-hydraulic drill jumbo, one EJC-210 6-yard scooptram, one ST-3.5 3.5-yard scooptram, a two-boom rubber tired pneumatic longtom for the narrower drifts, and an EJC 415 haulage truck with a 15-tonne capacity. Mining was carried out continuously on two twelve-hour shifts except for occasional stoppages when travel between the camp and the mining area became impossible due to adverse winter weather conditions.

The permafrost required the use of brine for drilling in the ramps but was not necessary for the raises and the 9950 1000 lode development resulting in significant cost savings. The backs of the all openings were secured by rock bolting and the installation of wiremesh, and no serious ground problems were encountered. Local wedging and slipping was noted, however. The permafrost was a positive factor as it tended to hold the rock together. On surface near the boxcut for the decline, thawing of the active layer in the summer resulted in extra work to contain the slimes created.

12.3 Geological Mapping, Chip-Panel and Channel Sampling

The geology and mineralization of each face exposed by mining was mapped in detail, and a photograph taken. Items recorded were lithologies, the location, character and intensity of the observable mineralization, and structural features such as bedding planes, foliation, veins and faults. The geological maps and photographs of two typical faces, one in each of the major lodes explored by the bulk sampling program, are shown in **Figures 9** and **10**[2].

The faces of the drifts and the walls of the cross-cuts and raises were sampled using two methods, chip-panel and channel samples. In each case, the sample width was restricted to recognizable geological or mineralization features. Samples were generally from 0.5 metres to one metre long, with few exceptions, implementing the same protocol as used during core sampling. Both types of samples had masses of 4 to 6 kg, averaging about 5 kg.

Chip-panel samples were taken on each face. A chip-panel was sampled up and down across the sample width, collecting individual pieces two to four centimetres in diameter over a vertical distance of 1.5 metres. Because they took a much longer time to collect, **channel** samples were taken only every other face. The channel had a triangular cross section and was sawed with a pneumatic saw using a diamond-impregnated blade. The sample was removed with hammer and moil onto a tarpaulin spread out at the bottom of the face.

---

[2] Round 1100-30 W in **Figure 9** had a bulk sample grade of 7.6 g/t gold, and round 9950-1000-19 E in **Figure 10** had a bulk sample grade of 15.2 g/t gold.

Figure 9: West Face of Round 1100-30 W

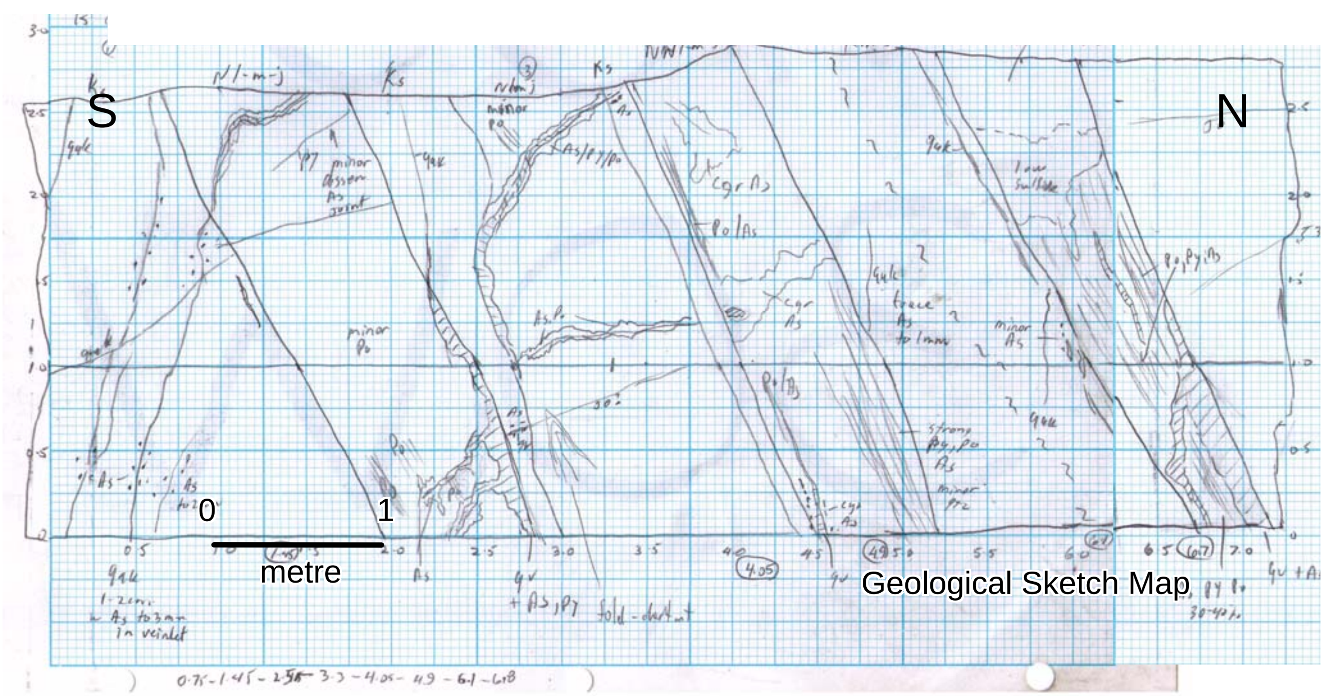


Figure 10: East Face of Round 9950-1000-19E

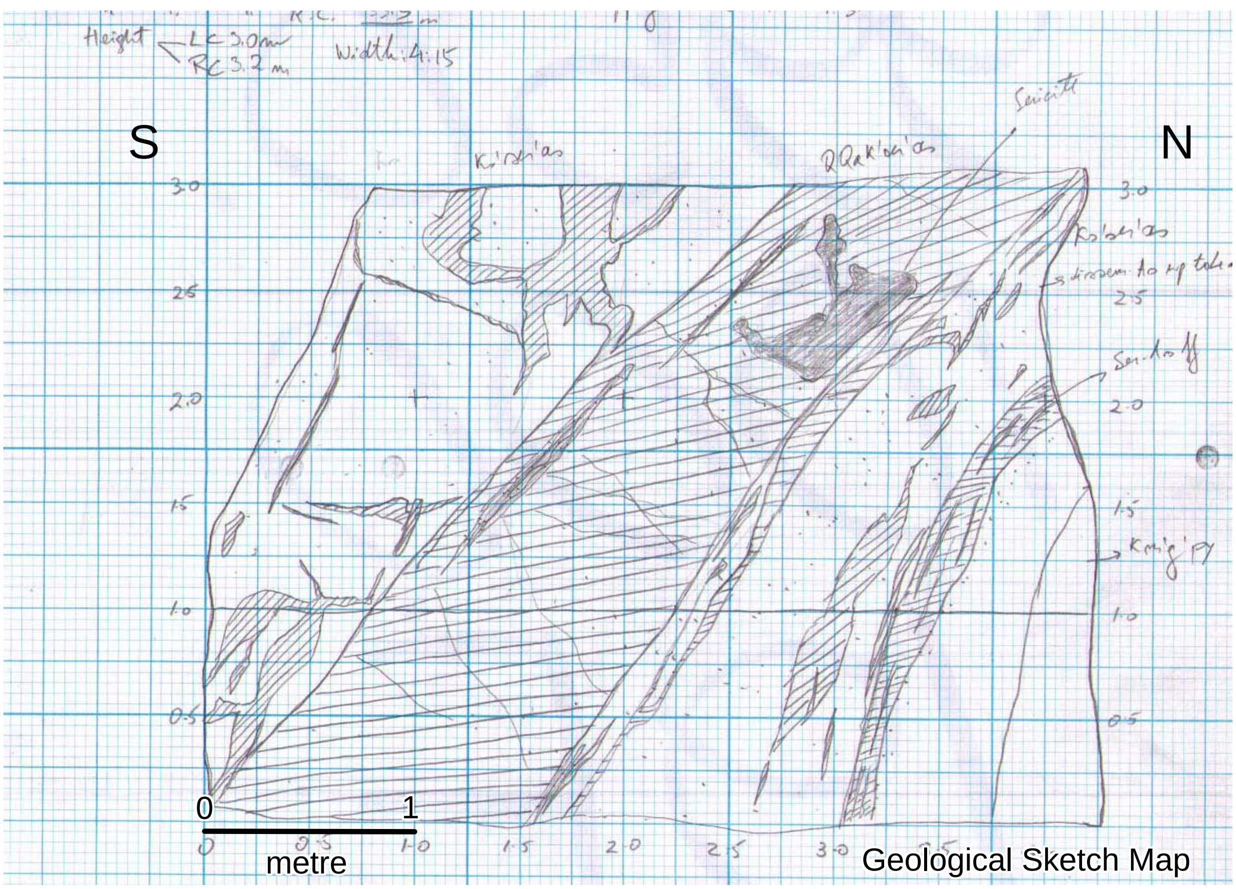


Table 5 provides the statistics for the underground sampling completed. The figures include the repeat sampling described in **Section 14.7.1**.

Table 5 Underground Chip-Panel and Channel Sampling Completed

Level	Opening	Sample Type	Number of Samples	Sampled Length (metres)	Individual Sample Length (metres) Average	SD
10 000	1100 Lode Drift	Chip-Panel	865	606	0.70	0.19
		Channel	443	313	0.71	0.20
	1000 Lode Drift	Chip-Panel	83	61	0.74	0.18
		Channel	42	31	0.74	0.17
	Cross-Cuts	Chip-Panel	199	191	0.96	0.13
		Channel	196	190	0.97	0.13
	Raises	Chip-Panel	85	57	0.67	0.19
		Channel	3	2	0.63	
9 950	Access X-Cut	Chip-Panel	147	140	0.95	0.13
		Channel	30	25	0.83	0.19
	1000 Lode Drift	Chip-Panel	573	415	0.77	0.20
		Channel	248	177	0.76	0.20
	940 Raise	Chip-Panel	27	22	0.80	0.18
		Channel	0			
Totals		**Chip-Panel**	**1 979**	**1 492**	**0.75**	
		Channel	**962**	**737**	**0.77**	

SD = standard deviation.

12.4 Crushing

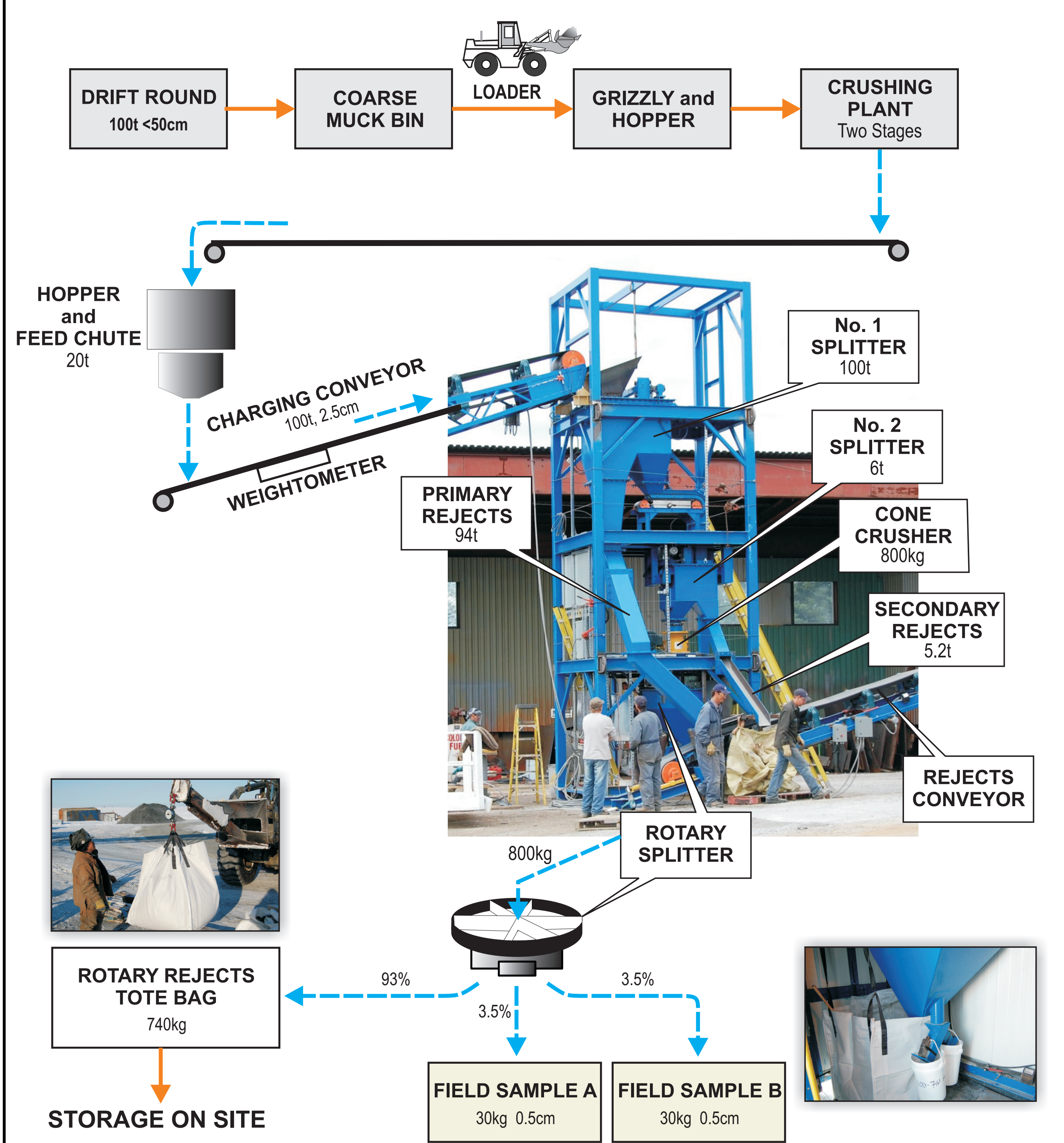
After blasting underground, each round was transported to surface by the underground contractor and stored in one or two of five bins to avoid cross-contamination with other rounds. The rock was then transported by front-end loader to the crushing plant owned and operated under contract by Nuna Logistics Ltd. The entire round was jaw-crushed to 15 cm (six inches). Following jaw crushing and removal of tramp iron by magnet, the jaw crusher product was screened on a 2.5-centimetre (cm) screen, with the oversize reporting to a cone crusher for reduction to 95% passing 2.5 cm. The cone crusher re-circulated its output back onto the 2.5-cm screen.

12.5 Bulk Sampling

The bulk sampling flowsheet incorporated into the sample tower is shown in **Figure 11**, for a nominal round of 100 tonnes, and a brief description follows.

The screen undersize produced by the crushing plant was conveyed directly to the 20-tonne hopper above the sample tower charge belt. A second, smaller magnet was positioned above the feed belt to remove any small pieces of tramp iron that might have been missed by the magnet at the crushing plant. This second magnet was positioned in such a way as to minimize removal of magnetite contained in the ore, with very little magnetite actually removed. The belt is equipped with a Milltronics MSI belt scale (weightometer).

Ore was fed into the sample tower at a nominal rate of approximately 60 tonnes per hour. However, the actual operational throughput varied, in part considerably, depending on the moisture content of the material (which, when high, necessitated sometimes frequent cleaning of the chutes and the tower cone crusher), the operating conditions, and any maintenance issues. A primary and a secondary splitter, each with an opening of 7.5 cm, collected successive sub-samples by cutting across the sample stream in free fall (**Figure 12**). The cutter motors are equipped with delays that allow the adjustment of the sample ratio at each cutter to a certain extent. Cutter No. 1 was set with a delay of 2 seconds and ran at 12.2 strokes per minute, while Cutter No. 2 was run with a delay of 1.5 seconds, at 13.1 strokes per minute. While resting, the two cutters were entirely outside of the sample stream. The sample rates for the two cutters were 6% and 13.4%, respectively, for a combined sample ratio of 0.80% or nominally 800 kilograms (kg) per 100-tonne charge. The rejects, representing 99.2% of the total, were collected via two chutes onto the reject belt that is also equipped with a Milltronics MS belt scale. The coarse rejects of the bulk sampling program are stored in four piles at the site (**Figure 8**).



Legend:

Conveyor transfer

Loader/truck transfer

Chute transfer

CLIENT	**Comaplex Minerals Corp.**
PROJECT	**Tiriganiaq Bulk Sample**
TITLE	**Field Sampling Flowsheet**

APPROVAL	DATE	PROJECT No.
H.T.	November 2008	336-2

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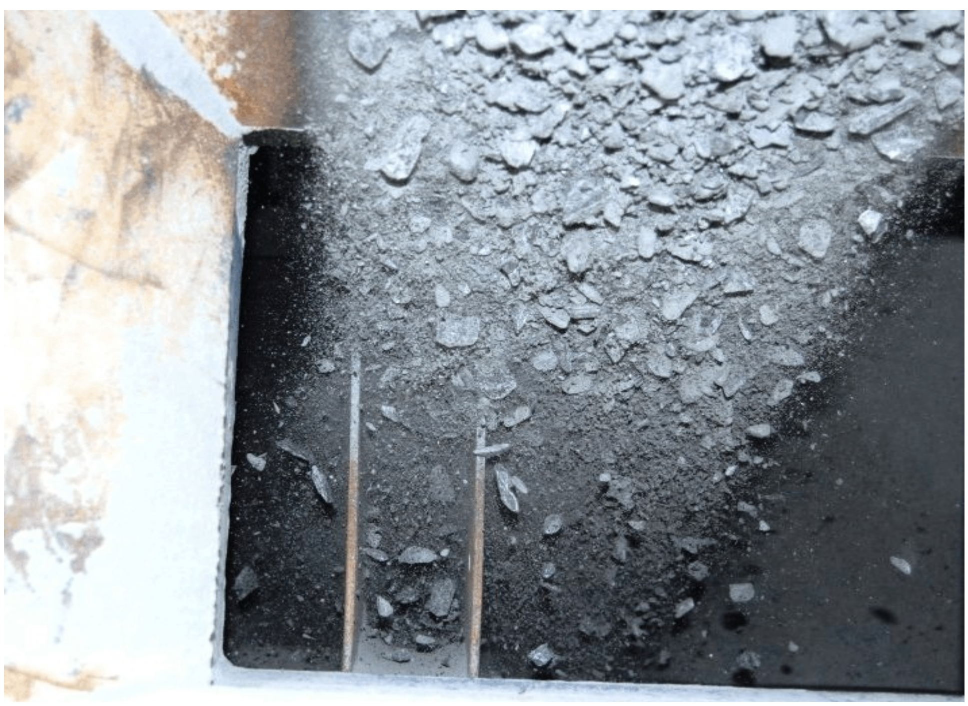
File: FieldSampling_Flowsheet.cdr

Figure 11

Figure 12 Material Flow into Number 1 Splitter

Side view of flow into the sample tower



Flow into first splitter (view from above)

The 800-kg sample produced by the primary and secondary splitters was gravity fed into a cone crusher on the tower for tertiary size reduction to 95% passing 0.5 cm. Following cone crushing, two field samples were collected in parallel by rotary splitter which rotated at a fixed rate of 35 revolutions per minute. The splitter arm openings were set at 5.1 cm in the centre, such that each would collect 3.5% of the cone crusher product. The rotary rejects (a nominal 740 kg) were collected in a tote bag for storage on site as a reference sample. The overall sample ratio of the tower was 60 kg (combined in two separate, parallel samples) from 100 tonnes, or 0.06%.

The two field samples of nominally 30 kg each from each round were collected in separate 20-litre plastic pails, labelled, securely closed and shipped to the SGS Lakefield assay facility in Lakefield, Ontario for sample preparation and assaying, as described in **Section 13.1**.

12.6 Drill-Core Sampling and Logging

The core obtained from the in-fill drilling program around the underground openings was logged and sampled in the same manner as described in Section 12 of the Snowden 2008 Report.

12.7 Program Documentation

During the course of the program geological plans and bulk sample plans at scales ranging from 1:250 to 1:5 000 were produced as well as survey files in Autocad 3D and MapInfo formats. The relevant information during bulk sampling was entered for each round by the tower operator in a field book and subsequently captured in a spreadsheet. The data for the two rounds depicted in **Figures 9** and **10** is shown in **Appendix I**.

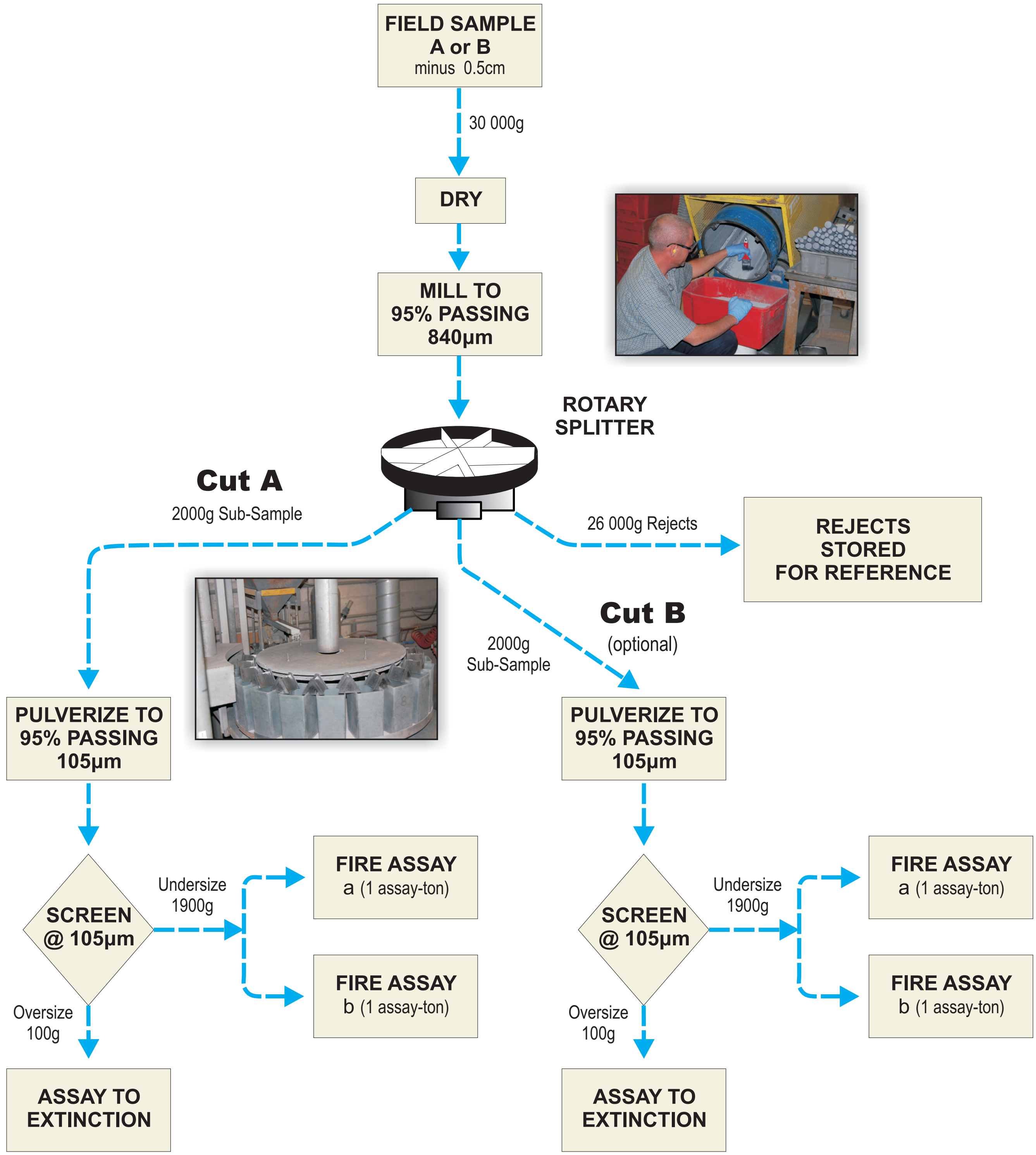
13. SAMPLE PREPARATION, ANALYSES AND SECURITY

13.1 Bulk Samples

Each of the two field samples identified as Sample A and Sample B were collected in separate 20-litre plastic pails with a capacity to hold up to 35 kg of sample. A few extra-large rounds required more than one pail for each of Samples A and B. The pail identification referred to the round number sampled (e.g., 9950-1000-19 E – round 19 going east on the 9950 level 1000 lode development), the sample identifier (A or B), and the pail number for that sample (usually 1). This identification (e.g., 9950-1000-19 E-1A) was written on a sample tag inside the pail on top of the sample, and clearly marked on the outside of the pail. The sample pails were then closed with tightly fitting lids, secured on pallets and shipped to SGS Lakefield for further processing, including a manifest listing the samples of a shipment. **Photograph 3** shows a shipment of sample pails as received at SGS Lakefield.

Photograph 3 Sample Pails as Received at SGS Lakefield

The sample preparation and assaying protocol was developed in cooperation with SGS Lakefield and is shown in **Figure 13**.



CLIENT	**Comaplex Minerals Corp.**
PROJECT	**Tiriganiaq Bulk Sample**
TITLE	**Sample Preparation and Assay Flowsheet**

APPROVAL	DATE	PROJECT No.
H.T.	November 2008	336-2

STRATHCONA MINERAL SERVICES LIMITED
TORONTO - CANADA

File: Sampling_Flowsheet.cdr | **Figure 13**

After drying, the field samples were crushed to 95% passing 840 µm and two 2000-gram (g) sub-samples were split out by rotary splitter, identified as Cut A and Cut B. One of these (Cut A) was pulverized to 95% passing 105 µm and a screened metallics assay performed. This consisted of screening at 105 µm, with the oversize (nominally 100 g) assayed to extinction, while one assay-ton duplicate fire assays with gravimetric finish were performed on the undersize.

The other sub-sample (Cut B) is being stored at SGS Lakefield for future reference, as are two types of rejects from sub-sample Cut A – 23 kg of minus 840 µm field sample and 1900 grams of minus 105 µm sub-sample. In the early part of the program both Cuts A and B were assayed to ascertain the precision of the laboratory procedure, as discussed in **Section 14.3.3**. This was discontinued after it was found that the results of the two cuts were within the error predicted by the sample error calculation discussed in **Section 14.6.2**.

13.2 Underground (Channel and Chip-Panel) and Drill-Core Samples

The channel and chip-panel samples collected from the underground openings and the core from the drill-holes in the vicinity of the underground openings were subjected to the same security, sample preparation and analysis protocols as is used for drill core at Tiriganiaq. This is described in detail in the Snowden 2008 Report and is briefly summarized as follows:

Gold analysis of these samples was undertaken at TSL Laboratories in Saskatoon, Saskatchewan (TSL). After receipt and logging in of the samples at the laboratory, the samples were dried overnight and weighed. Each sample was crushed in a standard laboratory jaw crusher to 90% passing 1.7 mm (10 mesh). A one-kilogram sub-sample was split from the crushed material and pulverized to 95% passing 105 µm (150 mesh). A two assay-ton aliquot (58.3 g) was assayed using standard fire assay (FA) techniques with a gravimetric finish. Coarse rejects and remaining pulps are stored at the laboratory.

14. DATA VERIFICATION

14.1 Survey of Underground Openings

Day-to-day surveying for line and grade control was done by J.S.Redpath personnel using a Leica TCR-703 Total Station. An as-built Autocad 3D drawing was produced on a regular basis to provide mapping templates and to monitor the progress of the project.

At the end of the program, an independent survey check was carried out by Sub-Arctic Surveys, a surveying contractor based in Yellowknife. No serious discrepancies with the Redpath survey were noted.

As well, a detailed three-dimensional scan survey using a Leica Scan Station 2 3-D Laser Scanner was conducted by Challenger Geomatics Ltd of Calgary to provide an accurate determination of the excavated volumes. This volume was used together with the tonnages provided by the weightometer on the sample tower to confirm the bulk density of the different ore types for the 1000 and 1100 lode mineralization as noted in **Section 15.3**.

14.2 Quality Control during Field Sampling Program

14.2.1 Material Handling

A flagging system was used to track the flow of the broken material from the face underground to the underground muck bays, to the coarse ore bins on surface, into the crushing plant and onto the sample tower feed belt. Each round was accompanied by two flags on which the round identification was written. If only one flag was present, the material was in the process of being transported. Both flags at the same place meant that the entire round was at that location. The system was designed to prevent the mixing of material from different rounds and generally worked well. There was only one instance of a mix-up between partial tonnages from two samples (round 9950-1100 5 E and 630 Raise round 3) involving a total of 31.7 tonnes.

14.2.2 Material Flow through the Sample Tower

The material flow into the sample tower was controlled by an adjustable gate at the bottom of the feed belt hopper, which was set to a feed rate of about 60 tonnes per hour of continuous operation. The shape of the material on the belt was such that only about one-half of the 50-cm wide feed belt was actually occupied, and there was thus no spillage at the entry point into the sample tower. The distance of the upper part of the feed belt from the sample tower was adjusted so that the material entered the top cutter in free, unobstructed flow as shown in the upper photograph of **Figure 12**.

Due to the intermittent action of the first cutter, the bin collecting the sample produced by it receives a pulsating amount of material. A gate at the bottom of the bin was used to control the flow out of the bin onto the small belt feeding the second cutter. The setting of this gate proved somewhat difficult. If the gate opening was too small, the material in the bin would back up and eventually spill out of the bin. If the gate opening was too large, the feed into the No. 2 cutter would be intermittent and pulsating, which would have jeopardized the integrity of the sample produced by the No. 2 cutter. After some trial and error, a reasonable compromise setting was found during the early testing of the tower in the field.

Given the lack of a receiving bin, the flow of the No. 2 cutter output into the cone crusher on the sample tower was direct and uneven, leading to a discontinuous feed into the rotary splitter below.

High moisture is detrimental to the proper functioning of the splitters on the sample tower. While most of the rounds sampled were not overly moist, there were several occurrences when frequent cleaning of the cone crusher and of the rotary splitter were required.

It is with this background of operational challenges, particularly in the cone crusher/rotary splitter segment of the sample tower, that much of the duplicate sampling in the field was conducted, as described in detail in **Section 14.3**.

14.2.3 Particle Size

The sampling/sample preparation protocol, and the calculation of the fundamental sample error as presented in **Section 14.6.2**, are based on certain particle sizes being achieved during the two field sampling and the two sample preparation comminution steps. The protocol specified the following crush sizes:

Crushing Plant Output	95% passing 2.5 cm
Sample Tower Cone Crusher Output	95% passing 0.5 cm
Laboratory Rod Mill Output	95% passing 840 μm
Laboratory Pulverization	95% passing 105 μm

The crush sizes are part of the data input into the sample error calculation described in **Section 14.6.2**, and the crush sizes of the various sub-samples were routinely monitored through the field sampling and laboratory sample preparation stages.

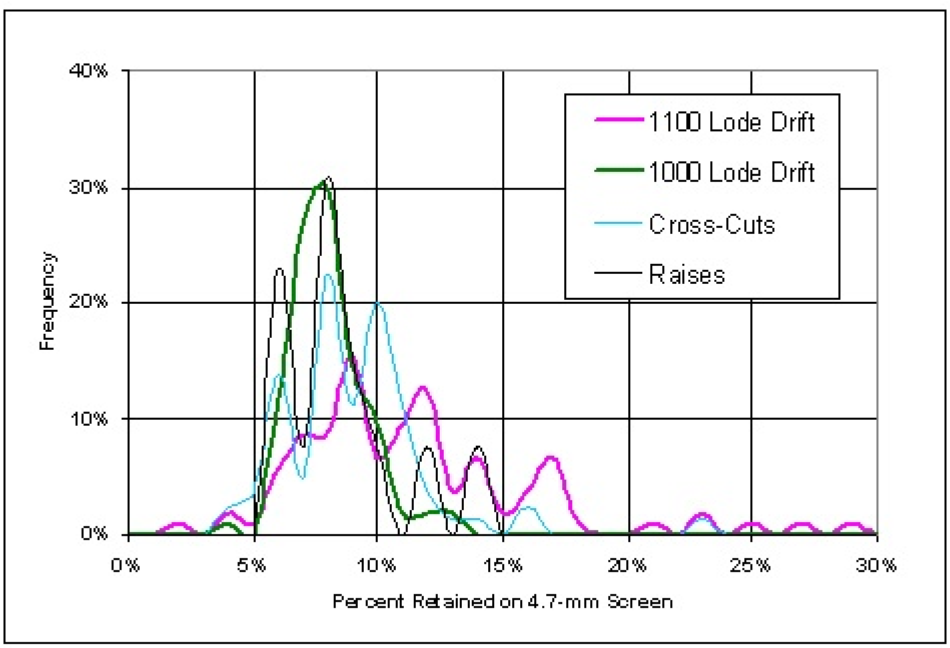
The particle size of the **crushing plant** output was determined by the 2.5-cm screen through which the entire material had to pass before being conveyed to the sample tower, as described in **Section 12.4**. The screen was checked daily for holes with none reported, and the crushed product checked visually. Since many crushed particles have a somewhat platy overall shape, a portion of the crushing plant output exceeded the 2.5-cm size in at least one dimension, passing through the screen opening diagonally. The proportion of material with at least one dimension >2.5 cm is estimated not to exceed 5 or 10%.

The **sample tower cone crusher** output was systematically checked by screening, as shown on the two sample data sheets in **Appendix I**. The results are summarized in **Table 6** and depicted in **Figure 14**.

Table 6 Cone Crusher Output – Percent Retained on 0.47 cm Screen

Opening	Bulk Sample (tonnes)	Percent Retained on 0.47 cm
1100 Lode Drift	9 417	10.9%
1000 Lode Drift (9 950 Level)	6 943	7.5%
1000 Lode Drift (10 000 Level)	996	10.1%
Cross-Cuts including miscellane-ous excavations	7 213	8.0%
All Raises	941	8.0%

Figure 14 Cone Crusher Output – Percent Retained on 0.47 cm Screen



The amount of material retained on the 0.47-cm screen was larger than the 5% specified in the sample protocol for all material types sampled, and we estimate that the effective cone crusher product was 95% passing 0.6 cm. The cone crusher could not be set to a smaller opening that would have achieved the desired grain-size reduction since the often moist and sometimes wet samples would simply not pass through, with the crusher plugging up and requiring frequent cleaning even with the actual opening. Due to wear, the shell of the sample tower cone crusher was replaced four times during the bulk sampling program.

Different ore types behaved differently during cone crushing, with the iron-formation hosted 1100 ore type being more resistant in general, and showing a higher degree of dispersion and a larger proportion of coarser particles. This is likely due to the combination of relatively soft (and less strongly mineralized) meta-sediments and relatively hard, strongly mineralized iron formation in this material.

As will be discussed in **Section 14.3.1**, a program of repeat sampling of the rotary rejects (nominally 800 kg, see **Figure 11**) was undertaken, with the original rejects re-introduced into the cone crusher. This test included all six samples that were originally very coarse (more than 20% of the sample mass retained on the 0.47-cm screen). After this second pass through the cone crusher, all of these samples showed a consistent proportion of 5% retained on the 0.47-cm screen, compared to 24% for the originals. The six samples averaged 5.6 and 5.6 g/t gold for the initial and the duplicate samples, respectively, with no change of the standard deviation. There was thus no noticeable gold-grade bias between the first and the repeat samples, which indicates that the incomplete crushing did not affect the sample results to a noticeable degree.

The compliance of the rod mill product at SGS Lakefield with the design of the sample preparation protocol (95% passing 840 µm) was checked by SGS on Cuts B of 12 field samples. The average was 97% passing, but individual samples ranged from 99.8% to less than 91%. The influence of this relatively small deviation from the protocol on the sample error described in **Section 14.6.2** is small.

The pulverization step at SGS Lakefield was intended to result in 5% of the sample mass to be >105 µm, as described in **Section 13.1** and shown in **Figure 13**. The overall average achieved was a little lower than design at 4.1% retained on the 105-µm screen. The individual samples fluctuate somewhat, and the total population has a standard deviation of 1.0% (absolute). This is considered acceptable.

14.2.4 Sample Ratios

The sample ratios of the various steps of the sampling process were calculated from the following measurements:

- The mass of the material into the sample tower was determined by the charge belt weightometer. After initial calibration by a manufacturer's technician in the field, the weightometer was internally re-set to zero once a week, and re-calibrated twice or three times during the program by running a one-tonne mass over the belt, the weight of which had been determined from weighing with the hanging scale used for the reject bulk bags. The sample tower feed tonnages as determined by the charge belt weightometer are verified by the results of the bulk density calculation for the two main lode excavations presented in **Section 15.3**.
- The mass of the field rotary splitter rejects was determined in the field with a hanging scale (see inset photograph in **Figure 11**);
- The mass of Field Samples A and B was determined at SGS Lakefield, after drying;
- The reject belt weightometer did not provide reliable data, with a fairly systematic (but not constant) high bias of 2 to 4% compared to the sample tower feed belt readings. While this provided a general check on the input tonnage, it did not allow the use of the reject belt tonnage to be used for the material balance of a round. The mass of the rejects was therefore calculated by subtracting the masses of the rotary rejects and the two sample pails from the charge belt weightometer reading.

The settings on the sample tower are described in **Section 12.5** above and are compared with what was actually achieved in **Table 7**.

Table 7 Sample Ratios Achieved

Level	Opening	Sample Ratio Cutters 1 & 2	Sample Ratio Field Sample A	Sample Ratio Field Sample B	Overall Field Sample Ratio
10 000	1100 Lode Drift	0.80%	4.0%	3.5%	0.059%
	1000 Lode Drift	0.79%	4.1%	3.2%	0.058%
	X-Cuts	0.77%	3.8%	2.8%	0.051%
	Raises	0.85%	3.8%	2.9%	0.057%
9 950	Access X-Cut	0.77%	4.4%	3.3%	0.059%
	1000 Lode Drift	0.88%	3.7%	2.8%	0.057%
	940 Raise	0.83%	3.5%	1.8%	0.044%
Overall Program		**0.82%**	**3.9%**	**3.2%**	**0.058%**
Design (see **Section 12.5**)		**0.80%**	**3.5%**	**3.5%**	**0.057%**

Note that the very large Field Samples A and B derived from the low-grade 9950 Access Cross-Cut were riffled to more manageable weights prior to shipment for assay. The original weights before riffling are reflected in **Table 7**, while the lower shipped weights are considered in the sample error calculation in **Section 14.6.2**.

The sample ratios in **Table 7** are not entirely accurate since the sample ratio for cutters 1 & 2 was determined on moist material, while the two parallel field samples were weighed after drying. Notwithstanding the very moist rounds, the moisture content of the material in the field is estimated to be in the range of 3 to 5% on average, and the actual overall field sample ratio on a dry basis is therefore a little higher than the 0.058% shown in **Table 7**.

It is obvious that the rotary splitter on the sample tower below the cone crusher did not provide an even split between Field Samples A and B. While the sample ratio of the two samples together is as planned, Sample A is consistently higher than design, and Sample B consistently lower than design, roughly by an equal proportion. The total nearly matches the design sample ratio of 7%. The reason for this uneven performance is not known, but has not resulted in a noticeable bias of the gold grade of the two sets of field samples, as discussed in **Section 14.3.2**. Moreover, the calculation of the gold grade of a particular round uses the assay results of both field samples.

14.3 Precision of Bulk Sample Assays

The principal approach to data verification for the Tiriganiaq underground bulk sample program has been the collection and assaying of duplicate samples at nearly every step of the sampling and sample preparation flowsheets shown in **Figures 11** and **13**.

14.3.1 Duplicate Round and Duplicate Rotary Reject Samples

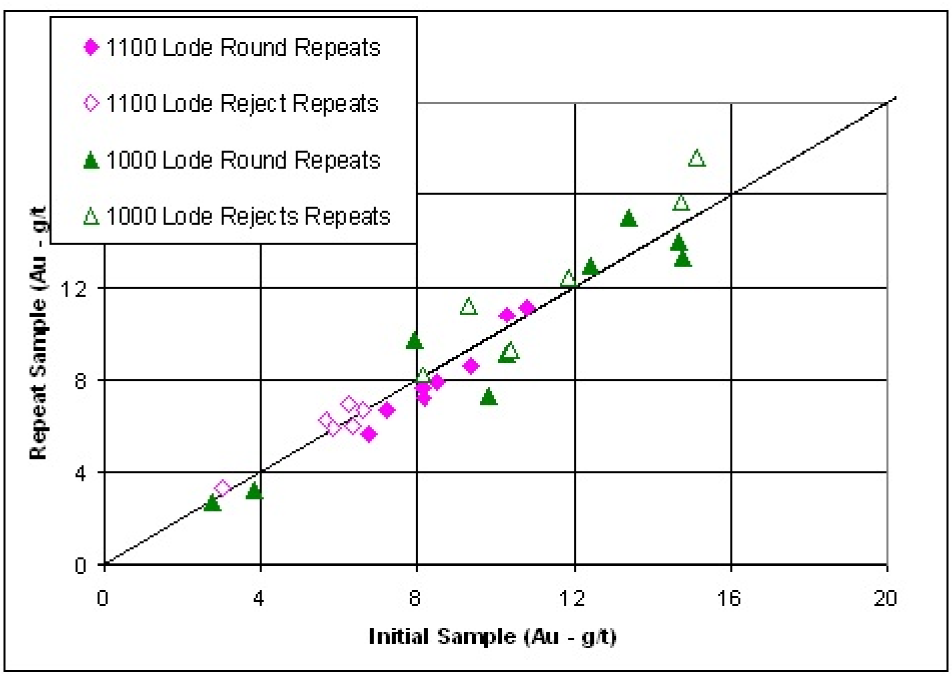
Repeat sampling was undertaken on material from 31 different rounds representing more than 10% of the 280 bulk samples. This consisted of re-sampling 17 rounds through the sample tower, repeating all of the sampling and crushing steps, and 14 rounds of which the rotary rejects were re-sampled through the sample tower cone crusher and rotary splitter. The results are compiled in **Table 8** and shown in **Figure 15**. Note that all of the average gold grades are unweighted, simple means of the relevant assay data.

There is no bias between the original and the duplicate sampling results, with the differences for individual groups being within the variances predicted by the sample error discussed in **Section 14.6.2**.

Table 8 Summary of Duplicate Round and Rotary Reject Sample Results

Opening	Type of Repeat Sample	Number of Pairs	Average Gold Grades (g/t) Initial Samples	Repeat Samples
1100 Lode Drift	Round	8	8.6	8.2
	Reject	6	5.6	5.9
1000 Lode Drift (10 000)	Round	1	3.8	3.2
	Reject	1	2.8	2.6
1000 Lode Drift (9950)	Round	8	13.9	13.6
	Reject	7	13.4	14.1
All	**Round**	**17**	**10.9**	**10.4**
	Reject	**14**	**9.3**	**9.7**
Total		**31**	**10.2**	**10.1**

Figure 15 Gold Assay Results, Duplicate Rounds and Duplicate Rotary Rejects



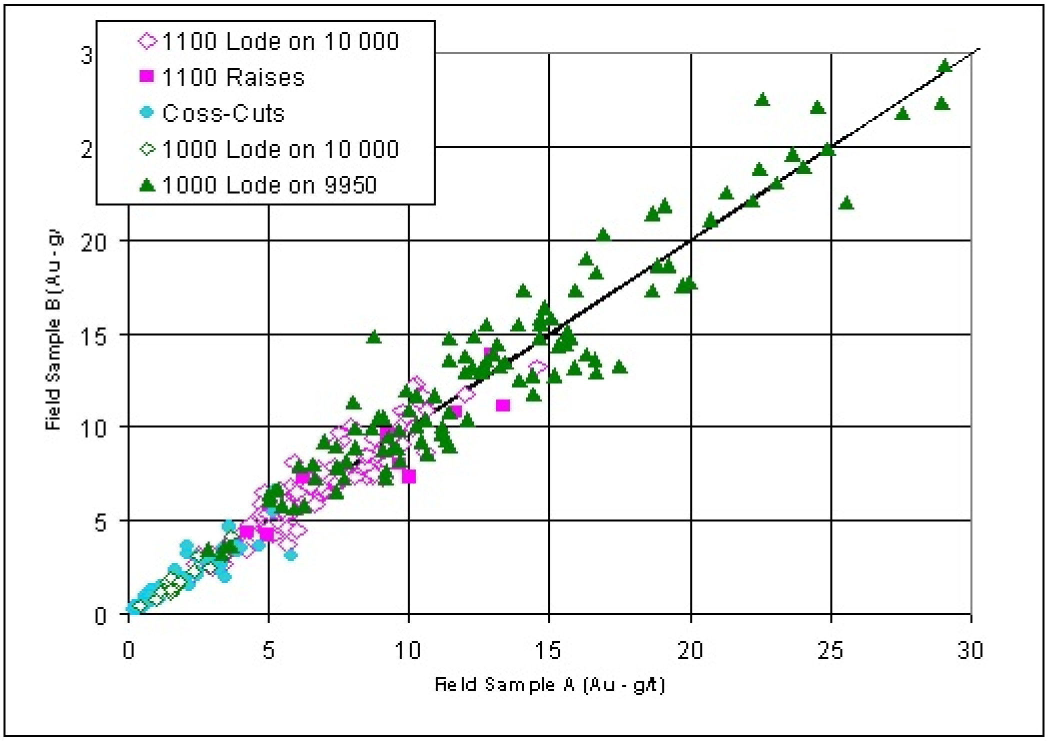
14.3.2 Duplicate Field Samples

As indicated above and shown in the bulk sample flowsheet (**Figure 11**), two field samples identified as Sample A and Sample B were produced from each round sampled in the field and their gold grade determined separately. The data summarized in **Table 9** and shown in **Figure 16** includes the duplicate field samples of the repeat round and rotary reject sampling discussed in **Section 14.3.1**. The average gold grades are weighted by tonnage.

Table 9 Summary of Duplicate Field Sample Results

Level and Opening		Number of Pairs	Samples A		Samples B	
			Mass (kg)	Average Gold Grade (g/t)	Mass (kg)	Average Gold Grade (g/t)
10000	1100 Lode Drift	112	3 245	6.9	2 858	6.9
	1000 Lode Drift	20	366	1.8	281	1.8
	Cross Cuts	40	896	1.9	674	1.9
	Raises	10	244	8.5	188	7.9
9950	Access Cross Cut	18	537	0.9	536	0.9
	1000 Lode Drift	109	2 616	13.1	2 000	13.4
	940 Raise	2	45	15.7	23	17.7
Totals		**311**	**7 948**	**6.8**	**6 559**	**6.9**

Figure 16 Gold Assay Results, Duplicate Field Samples



It is again obvious from the data in **Table 9** that the rotary splitter below the cone crusher on the sample tower did not provide an even split for the two Field Samples A and B, with sample B having a consistently lower mass. However, the comparative assay results demonstrate that no assay bias was introduced. The larger gold assay variances in this data set are mostly caused by differing gold contents of the plus 105 µm fractions produced for the metallics screen assay.

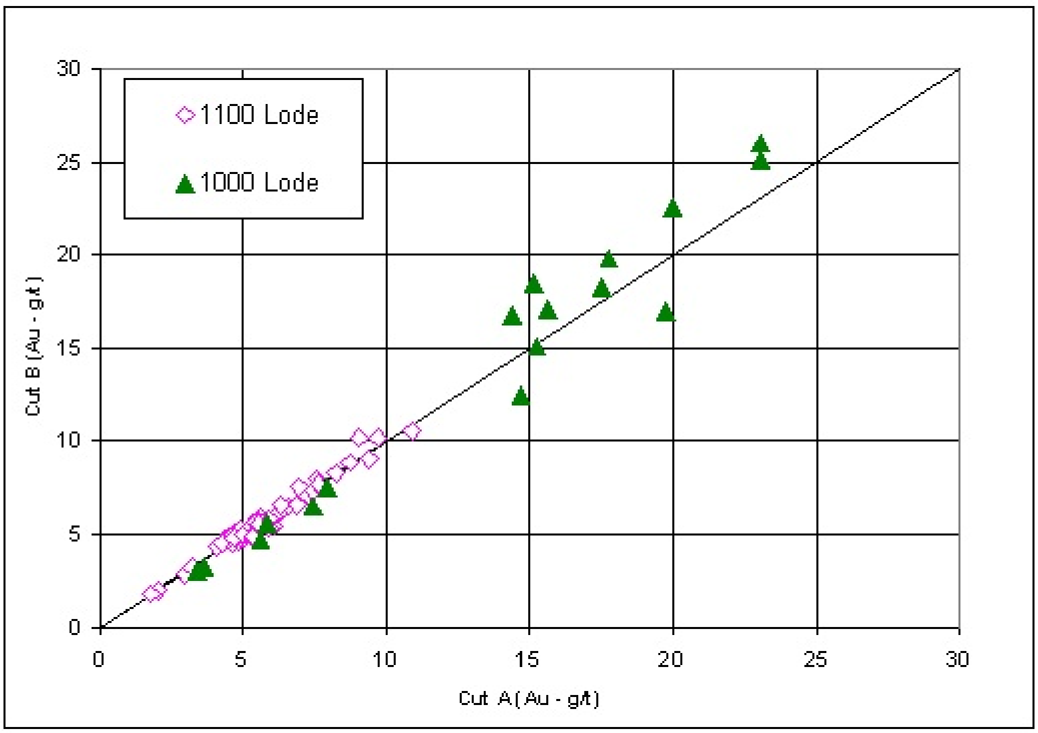
14.3.3 Duplicate Cuts after Laboratory Milling

Duplicate cuts of 2000 grams after fine crushing from 25 early samples from the 1100 lode drift were taken at SGS Lakefield to monitor the precision of the sample preparation protocol (**Figure 13**). After reviewing the results for 50 pairs (two from each round, Samples A and B), it was obvious that such duplication was not required for the remainder of the program. However, a small number of duplicate cuts were later taken from some of the 1000-lode field samples to verify the ongoing performance of the laboratory. The results are compiled in **Table 10**, and **Figure 17** shows a scattergram of the information. The two sets of results match very closely.

Table 10 Summary of Duplicate Cut Results

Level and Opening		Number of Pairs	Average Gold Grades (g/t)	
			Cut A	Cut B
10000	1100 Lode Drift	50	6.7	6.7
9950	1000 Lode Drift	17	13.5	14.1
Totals		**67**	**8.4**	**8.6**

Figure 17 Gold Assay Results, Duplicate Cuts



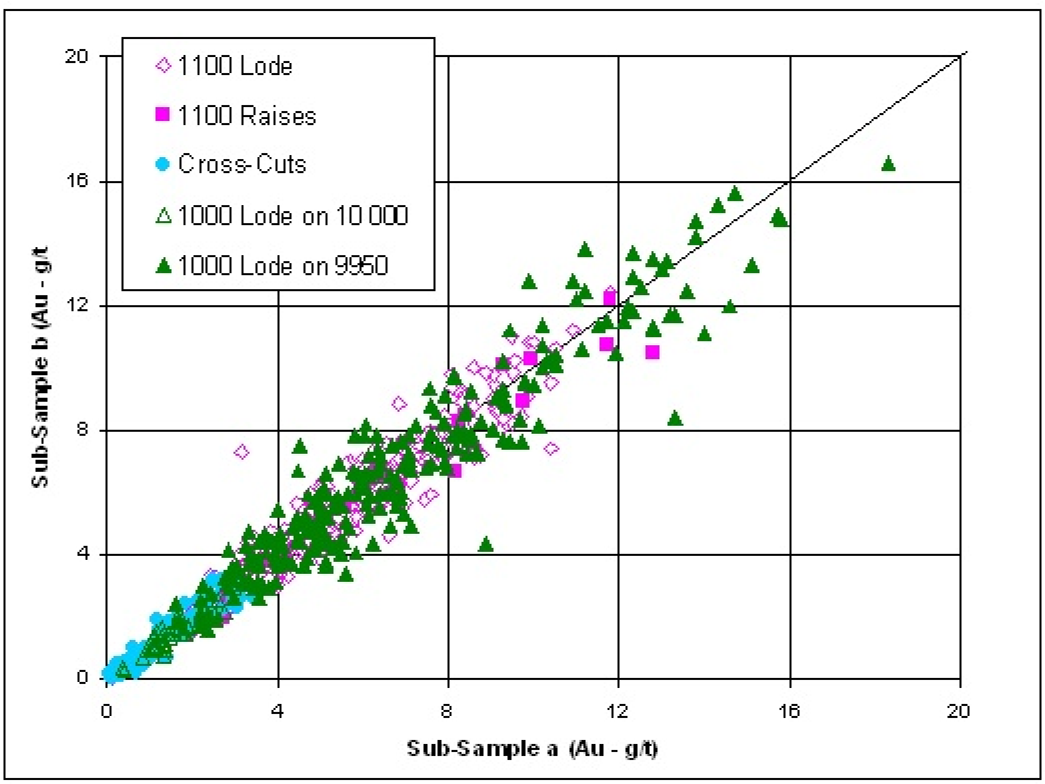
14.3.4 Duplicate Minus 105-μm Samples

As is customary in screened metallics assaying, two one assay-ton sub-samples (aliquots) of the minus 105-micron fraction from each sample were assayed for gold at SGS Lakefield. The results are summarized by underground opening in **Table 11** and shown graphically in **Figure 18**.

Table 11 Summary of Duplicate Minus 105-μm Results

Level and Opening		Number of Pairs	Average Gold Grades (g/t)	
			Sub-Samples a)	Sub-Samples b)
10000	1100 Lode Drift	278	5.63	5.65
	1000 Lode Drift	40	1.79	1.71
	Cross Cuts	82	1.36	1.35
	Raises	22	7.07	6.79
9 950	Access Cross-Cut	37	0.64	0.60
	1000 Lode Drift	239	6.88	6.81
	940 Raise	4	8.54	8.76
Totals		**702**	**5.14**	**5.11**

Figure 18 Gold Assay Results of Duplicate Minus 105-μm Sub-Samples



There is a certain incidence of coarse gold in the minus 105-μm data, particularly for the 1000 lode samples. Following a similar experience with another bulk sampling project, where gold spindles were created during pulverization that traversed the 105-μm screen lengthwise, something similar may be happening with the free gold particles from the 1000 lode of the Tiriganiaq project. However, positive mineralogical proof for this hypothesis is unavailable.

14.3.5 Conclusions on Duplicate Sampling and Assaying

The results of the duplicate sampling on the level of whole rounds, rotary split rejects, field samples, of the finely-crushed 2000-gram sub-samples and of minus 105-μm sub-samples as presented in **Tables 8** to **11**, are summarized in **Table 12**.

Table 12 Summary of Duplicate Sampling Results

	Crush Size (cm)	**Number of Pairs**	**Percent of Total**	**Average Gold Grades** (g/t)	
				Initial Samples	Duplicate Samples
Rounds	2.54	17	6%	10.9	10.4
Rotary Rejects	0.60	14	5%	9.3	9.7
Field Samples	0.60	311	100%	6.8	6.9
Laboratory Cuts	0.08	67	20%	8.4	8.6
Minus 105 μm	0.01	702	100%	5.1	5.1

The duplicate data demonstrates that the bulk sampling assay results have good precision, with no bias. The average gold grades are within 3% of each other for the smaller duplicate populations, and even closer for the larger duplicate populations. The inherent gold grade variability of the duplicate sample results as shown in **Figures 15** to **18** is due to sampling errors introduced during field sampling and sample preparation, and this will be discussed in **Section 14.6**. The calculation of the results of the bulk sampling program as reported in **Section 15.1** uses the means of all available duplicate assay data.

14.4 Accuracy of Bulk Sample Assays

The accuracy of the gold assays produced by SGS Lakefield for the Tiriganiaq bulk samples was tested by the insertion of lab-internal and lab-external reference materials into the sample stream, and by duplicate assaying of A and B field sample cuts from 20 rounds at a second laboratory.

14.4.1 Internal and External Standards Performance at SGS Lakefield

Two groups of commercial standard reference materials were inserted by Lakefield personnel into the Tiriganiaq bulk sample stream. One of the two were standards the certified gold values of which were known to the laboratory ("internal standards"). The other group had been sent to Lakefield by Comaplex staff ahead of the first date of Tiriganiaq samples arriving there, and the certified values of these were unknown to the laboratory ("external standards").

The internal standards were added at an average rate of 2.2 per 24 samples, with a range of 1.1 to 16 per 24 samples. The external standards were added at an average rate of 1.1 per 24 samples (range of zero to 2.7). There was at least one standard (internal or external) in each batch of 24 samples, and on average there were more than three. SGS Lakefield have provided the results of the reference material assays. **Table 13** tabulates the results.

Table 13 Summary of SGS Lakefield Standard Results

Standard	Number of Assays	Gold Grade (g/t)		Failures		
		Accepted	Achieved	High	Low	Rate
Internal Standards						
Ox J 64	82	2.37	2.39	0	1	1%
Ox P 61	72	14.92	15.10	1	0	1%
Ox K 48	13	3.56	3.54	0	1	8%
SP 37	13	18.14	18.33	0	0	0%
SQ 18	3	30.49	30.65	0	0	0%
Ox C 58	1	0.20	0.21	0	0	0%
External Standards						
GS-1	8	5.07	4.93	0	0	0%
GS-2 A	1	2.04	2.16	0	0	0%
GS-2 B	22	2.03	2.02	0	0	0%
GS-4	6	3.45	3.40	0	0	0%
GS-5 A	1	5.10	5.11	0	0	0%
GS-5 D	22	5.06	5.05	0	1	5%
GS-6	7	9.99	9.93	0	0	0%
GS-10	2	0.82	0.76	0	0	0%
GS-15 A	34	14.83	14.48	0	2	6%
Totals	**287**	**8.51**	**8.52**	**1**	**5**	**2%**

The overall assessment of the data in **Table 13** is that SGS Lakefield has performed well in terms of the accuracy of the assaying process.

The failure of a single standard is defined as the assay result being outside of the certified mean (provided on the specification sheets for the individual standards) plus or minus three standard deviations. In about half of the batches in which failures occurred, only one standard failed, with one or two others being acceptable. In light of the satisfactory overall performance, we have requested the repeat of only three batches the results of which have been incorporated into the bulk sample database. The performance figures in **Table 13** are before these repeat assays.

14.4.2 Check Assaying

To verify the accuracy of the assaying process at SGS Lakefield, the laboratory doing the routine assaying of samples from by the bulk sampling program, a total of 40 duplicate cuts of 2000 g each were produced from field samples after comminution to 95% passing 0.8 cm. The duplicate cuts were from Samples A and B from 20 bulk sample rounds, ten each from the drift on the 1100 and the 1000 lodes, respectively. The samples were selected to be representative of both lodes, and spanned the duration of the bulk sampling program.

The duplicate samples were shipped to TSL Laboratories in Saskatoon, the laboratory that assays all of the drill core and underground samples for the Tiriganiaq project, and subjected to the same sample preparation and assaying protocol as followed by SGS Lakefield. This consisted of pulverizing the entire 2000 g to 95% passing 105 µm, followed by a metallics screen analysis screening at 105 µm, assaying the coarse fraction to extinction and determining the gold content of two, one assay-ton sub-samples of the minus 105 µm fraction by fire assay with a gravimetric finish.

The results of this check assaying program are summarized in **Table 14**:

Table 14 Summary of TSL Check Assay Results

Sample Origin	**Number of Samples**	**SGS Lakefield Results** (g/t)			**TSL Laboratories Results** (g/t)		
		Samples A	Samples B	Mean	Samples A	Samples B	Mean
1100 Lode	10	7.0	7.5	7.2	6.8	7.3	7.1
1000 Lode	10	13.8	13.6	13.7	12.7	12.8	12.8
Totals	**20**	**10.4**	**10.5**	**10.5**	**9.7**	**10.1**	**9.9**

The samples from the 1100 Lode match well. While the TSL assay results for the samples from the 1000 Lode are lower than those reported by SGS Lakefield, the pair variances are within the bounds of what the sample error predicts (for more detail, see **Section 14.6.2**). Moreover, one of the TSL results from the 1000 Lode has an anomalously low plus 105-µm result; disregarding this one sample, the means of the SGS and TSL results for the remaining nine 1000-Lode samples are 13.2 and 12.6 g/t gold, respectively. We conclude that the TSL results provide sufficient evidence for the veracity of the original SGS Lakefield assay results.

14.5 Contamination and Gold Loss

Given the large tonnages involved, contamination during field activities between rounds is generally not an issue for bulk sampling programs. In addition, the temporary storage bays underground, the coarse muck bins on surface, the crushing plant and the sample tower were as thoroughly cleaned as was possible after each round had been removed or sampled. While between-round contamination in the field has likely occurred to some extent, this would have been restricted to individual rounds and would not affect the average grade of the underground openings sampled.

A form of "negative contamination" would be the loss of gold as fines into that part of the blasted rock that cannot be completely collected during mining. For this reason, a clean-up campaign was conducted on the 1100 and 1000 lode drifts after mining had been completed. If the clean-up material was substantially enriched in gold compared to the average grade of the drift, then "negative contamination" by a partial loss of gold would be suspected. **Table 15** compares the gold grade of the clean-up samples with that of the average drift grade:

Table 15 Gold Grade of Clean-Ups

	Drift Results		Clean-Up Results	
	Tonnes	Gold Grade (g/t)	Tonnes	Gold Grade (g/t)
1100 Lode Drift	9 417	6.8	19.7	5.9
1000 Lode Drift	6 943	13.1	10.5	13.2

There is no indication that gold has been lost during the mining from the blasted material and left behind in the drifts.

It had been the intent to include pails with crushed barren rock with the regular field samples in the sample stream. This would have tested the entire sample preparation protocol shown in **Figure 13** for possible contamination. Preparation of the barren material from an intrusive dike encountered in the ramp below the 10 000 level was not completed until relatively late in the program, and pails with this material were not included in the sample stream until after round 57 W of the 1100 Lode drift had been completed and sent for assay. From the beginning, the blank results were unusually high, returning gold values from 0.06 to 1.0 g/t. In September 2008, check assaying of smaller samples from the same material at TSL Laboratories confirmed this general level of gold concentration, which thus was inherent in the “barren” dike. The assaying of further blanks at SGS Lakefield was subsequently discontinued.

The sample preparation protocol at SGS Lakefield included the insertion of inert and barren cleaning sand into the laboratory rod mill and into the pulverizer after every tenth sample. The total number of bulk samples assayed at SGS Lakefield was 311 (**Table 4**), and thus 62 such cleaning sand samples were inserted, of which 37 or more than one-half were analysed by a simple one assay-ton fire assay. The results are tabulated in **Table 16**.

Table 16 Gold Grade of Cleaning Sands

Cleaning Sands following Rod Milling (g/t)			Cleaning Sands following Pulverization (g/t)		
≤0.02	0.02 to 0.10	>0/10	≤0.02	0.02 to 0.10	>0.10
12	6	0	5	13	1

The results indicate that the cleaning sands were generally barren or had very little gold that would have originated from a crushed or pulverized sample. As expected, pulverization leads to slightly more contamination of the cleaning sands compared to the crushing. The one failure >0.10 g/t gold actually had a gold value of 0.58 g/t and is totally out of line with the rest of the results. Re-assaying was not possible since all of the sample had been used up during the initial assay, and this one failure must therefore stand as unexplained. If real, which appears doubtful, this failure would indicate that contamination may have been a problem during pulverization in perhaps 5% of the cases. It is concluded that some contamination as a result of the pulverization process may have occurred, but is of minor overall importance for the results of the bulk sampling program.

An average of 1.5 blanks were added per 24 samples at SGS Lakefield to the assay trays. The blanks were standard flux material, so that the blanks verify not only the absence of gold in the flux, but also detect any cross-contamination between samples during the fire assaying process. Of the 115 blanks added, 99 reported at less than the detection limit of 0.02 g/t, five reported at the level of the detection limit, and one reported at 0.03 g/t. There was no discernable contamination during assaying at SGS Lakefield. However, the nonexistence of contamination during sample preparation at SGS Lakefield could not be confirmed due to the unfortunate gold content of the field “blanks”.

14.6 Reliability of the Bulk Sample Results

14.6.1 Introduction

A sample will never have completely the same composition as the lot from which it originates. The question thus becomes: What is the variance of the bulk sample results, how much does the *measured* gold grade deviate from the *real* gold grade, which remains unknown?

The process of sampling is subject to several errors, which have been extensively discussed in the literature (e.g., Pitard, 1993). They are:

- The fundamental sample error, which is due to the irregular distribution of (gold) values in the particles of the broken material subjected to sampling;
- The grouping and segregation error, which results from incomplete mixing or homogenization, particular when sampling materials with more than one distinct bulk density population;
- The continuous selection error, which is encountered during the sampling of flowing particulate material and is dependent on the number of sample increments taken during the sampling process; and
- Operating errors, which are due to the faulty design or operation of the sampling equipment, or to the negligence or incompetence of the operating personnel.

The various sampling errors are discussed below.

14.6.2 The Fundamental Sample Error

The performance of a sampling protocol is expressed by the Fundamental Sample Error (FSE) for which Pierre Gy has developed the theoretical and practical foundation. Gy's formula, which calculates the sample variance ςFSE^2 of a sample, was re-stated by François-Bongarçon (1998):

$$\varsigma FSE^2 = C \times d_N^3 \, (1/M_s - 1/M_l) \qquad (1)$$

In formula (1)

C is the sampling constant;

d_N is the diameter of the largest particle (defined as 5% of the sample retained as oversize on a screen); and

M_s is the mass of the sample taken from M_l, the mass of the lot.

The sampling constant C is constituted by the following components:

$$C = c \times f \times g \times l \qquad (2)$$

In formula (2):

- c is the mineralogical factor which is calculated by dividing the density of the mineral in which the element of interest resides by the concentration or grade (expressed as a fraction) of the element. In the Tiriganiaq case, we have assumed the mineral to be pure native gold with a density of 19.3. The grade is that determined for each sample as a result of the bulk sampling program and typically falls in the range of 1 g/t to 25 g/t. For a typical sample with a grade of 10 g/t the mineralogical factor computes to 1 930 000;
- f is the so-called shape factor which is meant to take into account the deviation of the shape of a typical native gold grain from a sphere. The shape factor is an approximate number but is generally in the range of 0.3 to 0.5 (François-Bongarçon, 1998), and we have assumed a value of 0.4 for the Tiriganiaq project;
- g is the granulometry factor, which takes into account that all particles of a sample do not have the same size. According to Pitard, 1993, this factor is approximately 0.25 for non-calibrated materials such as created during crushing, which is the figure we have used; and
- l is the liberation factor, which in turn is calculated as

$$l = (d_l/d_N)^b \qquad (3)$$

The item d_l in equation (3) is the particle size at which the gold is liberated from the gangue, and each deposit (or zone within a deposit) tends to have its own value. The factor b was introduced by François-Bongarçon to rectify a practical shortcoming in the sample error formula originally proposed by Gy and this factor *"... is never far from 1.5, which can be used by default when no calibration work is available."* (François-Bongarçon, 1998, page 153). The sample error increases with increasing liberation size, and its effect on the FSE is particularly pronounced for precious metals.

The liberation size of gold in the two Tiriganiaq lodes has been investigated by SGS Lakefield on composite samples from the 1000 and 1100 lodes used for metallurgical testwork (Lakefield 2007a, Lakefield 2007b). This work has identified the maximum size of gold particles at 520 by 340 µm and 430 by 360 µm for the 1000 and 1100 Lode composites, respectively. These are the gold particle sizes at which gold would be expected to start liberating. The gold particle sizes observed at Lakefield corroborate the observations by Fee (2000), who dissolved Tiriganiaq samples (the source by lode is not given) after crushing to approximately 0.5 cm (the top grain size of the field sample of the bulk sampling program) to expose pristine gold particles. Of 357 gold grains, only 12 or 3.4% were larger than 500 µm. Geostat International Systems Inc. (Geostat) in 2000, having reviewed the assay variance experienced at the project, postulated a liberation size of 140 µm based on the available drill core assay data. Again, no break-down by lode is given.

The FSE is the square root of the sample variance, usually expressed as a percentage. The numerical evaluation of the sample error of a particular sample protocol is accomplished by calculating the sample error for each sample reduction step according to Gy's formula. The FSE for all sample reduction steps of a sample protocol (in the Tiriganiaq case the complete field sampling, sample preparation and pulverization protocol as described in **Sections 12.5** and **13.1**) is expressed by the square root of the sums of the squared individual errors (or individual variances). This calculation means that the largest individual error determines to a dominant degree the total error. It is therefore practical to attempt to have similar FSE values for each of the individual steps of a particular sample protocol.

The size of the FSE is proportional to the concentration of the material being evaluated and would – obviously – become zero for a 100% pure substance. Gold and other precious metals, because of their very low concentrations, tend to have considerably higher FSE values than base metals.

It is important to recognize that the calculated FSE is only achieved in practice under perfect operating conditions, i.e, never. However, the FSE calculation allows the direct and objective comparison of different sampling protocols, and provides a guide to the size of the overall error of a sampling program.

We have good control of most of the items needed to calculate the FSE of the Tiriganiaq bulk sampling program. However, we still have no reliable physical evidence for the actual liberation size. We have therefore taken the approach of using the observed gold grade difference between individual duplicate pairs, and of the mean grades, of the Field Samples A and B, and of the minus 105- µm sub-samples, to estimate the liberation size by back-calculation for each of the various ore sources sampled. This process constitutes an estimate of the liberation size, since the calculation assumes the calculated mean grade of a sample pair to be its true value, which in reality is not the case. However, for the mean gold grades of the many duplicate samples of both types, and in the demonstrated absence of a bias, the mean grades will be very close to the actual grade. The results of this assessment are summarized in **Table 17**.

Table 17 Estimated Liberation Size

Level and Opening		**Estimated Gold Liberations Size** (µm)
10000	1100 Lode Drift	65
	1000 Lode Drift	30
	Cross Cuts	30
	Raises	80
9 950	Access Cross-Cut	30
	1000 Lode Drift including 940 Raise	150

We note that the liberation size values estimated in this fashion are comparable in a general way to the 140 µm postulated by Geostat. The relative size of the various values also corresponds to expectations based on visual observations that indicate the liberation size in the 1000 Lode to be larger than in the 1100 Lode.

To reflect the slightly coarser than planned product of the sample tower cone crusher product as described in **Section 14.2.3**, we have increased the size of this material for the FSE calculation from 0.5 to 0.7 cm, which has only a small influence on the size of the sample error.

14.6.3 Other Sampling Errors

The **Grouping and Segregation Error** (GSE) results from incomplete mixing or homogenization of the lot to be sampled, and from the segregation of materials with sufficiently large differences in bulk density during the sampling process. This latter consideration would apply to the 1100 Lode material which consists of generally low-grade meta-sediments (see **Table 3**) with a bulk density of around 2.8 grams per cubic centimetre (g/cm^3), and the generally well-mineralized iron formation with a bulk density of around 3.5 g/cm^3. In the other materials sampled this difference is much lower. According to Pitard (1993), the GSE is minimized under the following conditions:

- The number of increments making up the sample is maximized and should be > 30. The number of actual sampling increments for a nominal 100-tonne one-round bulk sample that took a nominal 1.6 hours to complete for each of the five sampling stages was substantially higher:

  Cutter 1: At 12.2 increments per minute, nearly 1200 increments were produced per round sampled;

  Cutter 2: The cutter was set at 13.1 sample increments per minute, thus there were 1250 increments per round sampled;

  Rotary splitter on the sample rotated at 35 revolutions per minute, 3400 increments per round sampled. In reality, this figure would have been somewhat smaller because of the sometimes intermittent flow of the cone crusher output.

  Rotary splitter at SGS Lakefield: From 120 to 200 increments were needed to split out one 2000-gram sub-sample from the nominally 30-kg field samples.

  The final one-kilogram charge after pulverization was riffled from the field sample.

- The sampling equipment must be designed to collect a representative sample even if segregation is occurring, as is the case to some extent at the discharge of the sample tower feed belt into the first cutter, as is evident from the side view in **Figure 12**. The cutter design is such that the entire material stream is sampled. Furthermore, all cutter openings on the sample tower and at the SGS Lakefield laboratory are at least three times the largest particle size of the material being sampled at each step of the sampling protocol.

If the GSE had been large during the Tiriganiaq bulk sampling program, then the variance of the duplicate rounds and rotary reject samples would have been expected to be larger for the 1100 Lode with its two different bulk density materials than for the 1000 Lode samples. All of the duplicate sample results shown in **Figures 15** to **18** and in the associated **Tables 8** to **11** indicate this not to be the case.

The **Continuous Selection Error** (CSE), also called integration error, is encountered during the sampling of flowing particulate material and is also dependent on the number of sample increments taken during the sampling process. Pitard (1993) recommends at least 30, or better 50 sampling increments to keep the CSE low, and this condition has been satisfied by the large number of sampling increments used during the Tiriganiaq bulk sampling program.

Finally, there are **Operating Errors**, which may be due to the faulty design or operation of the sampling equipment, or to the negligence or incompetence of the operating personnel. The involvement of humans will always result in errors, and the Tiriganiaq program was no exception. The sample tower was usually operated by an employee on loan from Gorf, the tower manufacturer, who was familiar with the tower and received additional on-the-job training during the early part of the sampling program. It was made clear that if there were errors or difficulties, that these should be recorded in the daily Sample Information Sheets, two of which are reproduced in **Appendix I**. Most of the entries relate to wet material which inevitably led to the plugging of the cone crusher and some or all of the transfer chutes necessitating an interruption in the sampling process to remove the sticky material. Other remarks in the Sample Information Sheets relate to interruptions of the sampling process to tighten the opening of the cone crusher following coarse granulometry results (see Section **14.2.3**). In five cases, the sample tower feed belt was left running while the sampling equipment was shut down, and this resulted in a small volume (perhaps one or two tonnes) not having been sampled.

There was one instance were part-tonnages of two rounds were mixed, affecting the samples from 1100 5 E and 630 Raise No. 3. All three were bulk sampled, and for this report the tonnage of the mixed material (31.7 tonnes at a gold grade of 7.5 g/t) was re-distributed to the individual constituent rounds using their bulk sample gold grades for apportioning.

Overall, handling wet rock was the difficulty most often encountered, and a conscientious effort was made to clean out all chutes and the cone crusher as often as necessary.

14.6.4 Conclusions

The results of the QA/QC program described in **Sections 14.2** and **14.4** show that the assay information on the Tiriganiaq bulk samples is both precise and accurate, without a bias. Using the gold liberation figures shown in **Table 17**, the theoretical sample error FSE for an average round and the total tonnage in each opening is summarized in **Table 18**.

Table 18 Estimated Fundamental Sample Error of Bulk Sampling Program

Level and Opening		Average Gold Grade (g/t)	Single Round[3]		Total Opening	
			Tonnes	FSE (g/t)	Tonnes	FSE (g/t)
10 000	1100 Lode Drift	6.8	93	± 0.7	9 417	± 0.1
	1000 Lode Drift	1.8	55	± 0.2	954	± 0.1
	Cross Cuts	1.9	74	± 0.3	3 026	± 0.03
	Raises	8.0	72	± 0.9	789	± 0.3
9 950	Access Cross-Cut	0.7	240	± 0.2	3 843	± 0.03
	1000 Lode Drift	13.2	72	± 2.0	6 943	± 0.2
	940 Raise	16.7	76	± 2.3	152	± 1.3

Note that the FSE for an individual sample and for larger tonnages is based on the combined assays of the two duplicate field samples.

The additional errors described in **Section 14.6.3** would have the effect of increasing the fundamental error values reported in **Table 18** to some extent, but **the overall errors for the 1100 and 1000 lode drifts would not be expected to surpass ±0.2 g/t and ±0.4 g/t, respectively.** The results of the duplicate sampling summarized in **Table 12** are in agreement with these overall sample errors for the Tiriganiaq bulk sampling program. The operational difficulties (mainly with wet samples) and occasional cases of a few tonnes not having been sampled during cleaning operations would not be expected to have a noticeably negative effect on the reliability of the overall bulk sampling program.

[3] The reader is reminded that the raise "rounds" are composites made up of three to four smaller, individual rounds.

14.7 Reliability of the Underground and Drill-Hole Sample Results

Standard quality control procedures were maintained for the 2734 underground channel and chip-panel samples and the twelve drill-core samples from the in-fill drilling around the underground development assayed at TSL Laboratories in Saskatoon as described in **Section 13.2**. Three control samples were added in the field – one certified standard, one rock blank and one channel or chip-panel repeat sample at a frequency rate of 7% each. Four control samples were added by the laboratory – one certified standard, one blank, one coarse reject duplicate and one pulp duplicate at rates of 5% to 6% in each case. On average, there was one control sample for every 2½ actual samples.

14.7.1 Precision

The precision of the laboratory sample preparation and assaying process is reflected by the results of the reject and pulp duplicate results, which are compiled in **Table 19**.

Table 19 Summary of Duplicate Reject and Pulp Assay Results, TSL Laboratories

Sample Type	Number of Pairs	Average Gold Grades (g/t)	
		Initial Sample	Duplicate Sample
Coarse Reject Repeats			
Channel and Chip-Panel Samples	161	12.4	12.3
Drill-Hole Samples	58	1.0	1.0
Totals	**219**	**9.4**	**9.3**
Pulp Repeats			
Channel and Chip-Panel Samples	193	24.1	23.9
Drill-Hole Samples	62	5.5	5.6
Totals	**255**	**19.6**	**19.4**

The precision of the TSL assays is good, and individual pair variances of the pulp repeats (6%) are of a similar magnitude as those experienced at SGS Lakefield for the minus 105-µm assays (4% and 11% for the 1100 and 1000 Lodes, respectively).

14.7.2 Accuracy

A variety of commercially available standard reference materials was added to the sample stream in the field (external standards), or by the laboratory as part of their own quality control process. The results for both underground and drill-hole samples are compiled in **Table 20**.

Table 20 Summary of TSL Standard Assay Results

Standard	Number of Assays	Gold Grade (g/t)		Failures		
		Accepted	Achieved	High	Low	Rate
Internal Standards						
GS-2 C	53	2.06	2.07	0	0	0%
GS-3 C	10	3.58	3.47	0	0	0%
GS-5 C	2	4.74	4.96	0	0	0%
GS-5 D	86	5.06	5.03	0	0	0%
GS-15 A	10	14.83	14.76	0	0	0%
GS-30 A	9	35.25	35.05	0	0	0%
External Standards						
GS-2 B	51	2.03	2.02	0	0	0%
GS-2 C	27	2.06	2.04	0	0	0%
GS-3-D	40	5.06	4.98	0	0	0%
GS-5 D	43	5.06	4.98	1	3	9%
GS-6 P 5	9	6.74	6.49	0	0	0%
GS-15 A	52	14.83	14.39	0	3	6%
GS-P 5 B	1	0.44	0.45	0	0	0%
Totals	**393**	**6.95**	**6.83**	**1**	**6**	**2%**

The overall performance of the laboratory, based on the standard reference assay results, is satisfactory.

As was the case for the SGS Lakefield laboratory, the failure of a single standard is defined as the assay result being outside of the certified mean plus or minus three standard deviations, as provided on the specification sheets for the individual standards. Comaplex have requested the repeat of all batches containing failed standard assays, and these new results have been incorporated into the underground and drill-hole assay database. The figures in **Table 20** are before the repeat assays.

14.7.3 Contamination

The possible occurrence of contamination has been checked with the addition of external blanks in the field by Comaplex staff (rock blanks for the underground samples and core blanks for the drill-core samples), and by the insertion of blank materials at the laboratory that were added before crushing and therefore tested the entire sample preparation stage (internal blanks). The results are summarized in **Table 21**.

Table 21 Summary of Blank Assay Results

	Number of Assays	Accepted Gold Grade = <0.03 g/t Achieved			
		<0.03	<0.03 to 0.14	≥0.15 (Failure)	Failure Rate
External Blanks	216	195	7	7	3.2%
Internal Blanks	198	198	0	0	0.0%
Totals	**414**	**393**	**7**	**7**	**1.7%**

The seven blank failures have been investigated by re-assaying of a second cut of the original pulps. Four of the failures were caused by mis-labelling of samples (i.e., there was no contamination), while the other three were actual cases of contamination. The mixed sample numbers have been resolved, and the re-assays, which had no further contamination as evidenced by new blanks added, were accommodated in the assay database. The figures in **Table 21** are before corrective action had been taken.

14.7.4 Conclusions

The assay results of duplicate reject and pulp sub-samples have shown excellent repeatability (precision) of the results. The pulp results in particular have essentially the identical pair variance as the minus 105-µm results from SGS Lakefield, despite that fact that the metallics screen method used at SGS Lakefield had removed the coarse gold from the sample. The use of 50-gram aliquots at TSL Laboratories is beneficial in this regard.

It is worth noting and somewhat disturbing that failures on standards and blanks only occurred on materials that were submitted from the outside. Even if the assay results on the internal blanks and standards are disregarded, the failure rate remains acceptable (<5%), with the problematic sample batches having been re-assayed.

15. EVALUATION OF THE BULK SAMPLING PROGRAM

The results of the Tiriganiaq bulk sampling program are used to evaluate the two methods of underground sampling, to address the reliability of the January 2008 resource estimate, and to derive some general conclusions with respect to mining questions.

15.1 Summary of Bulk Sample Results

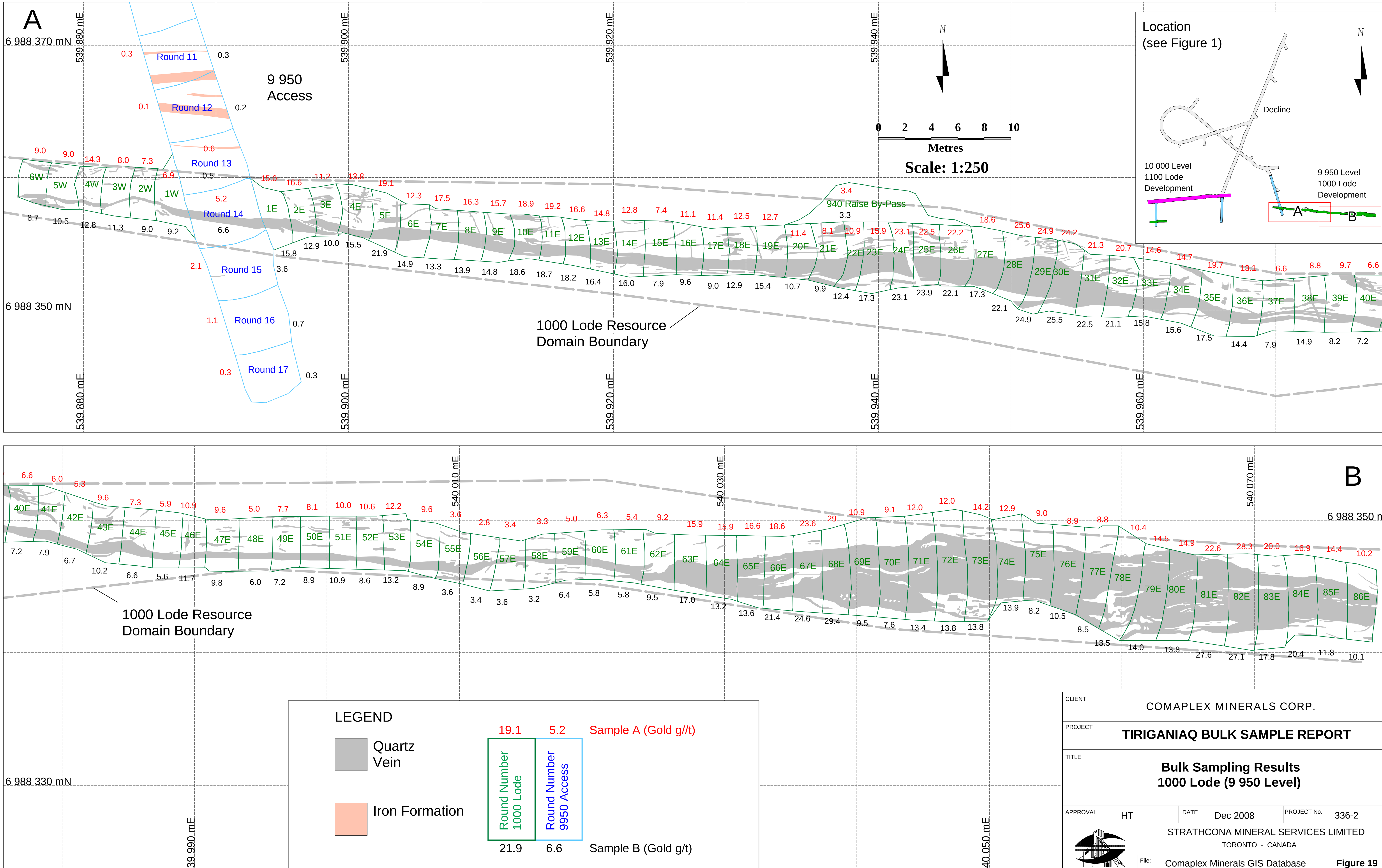
The detailed round-by-round information of the bulk sampling results can be obtained as a spreadsheet from Comaplex upon request. The tonnages excavated and their weighted average gold grades are compiled and summarized in the following table. Note that those rounds of the 645 and 775 cross-cuts that crossed the 1100 and 1000 Lodes are reported as part of the lodes.

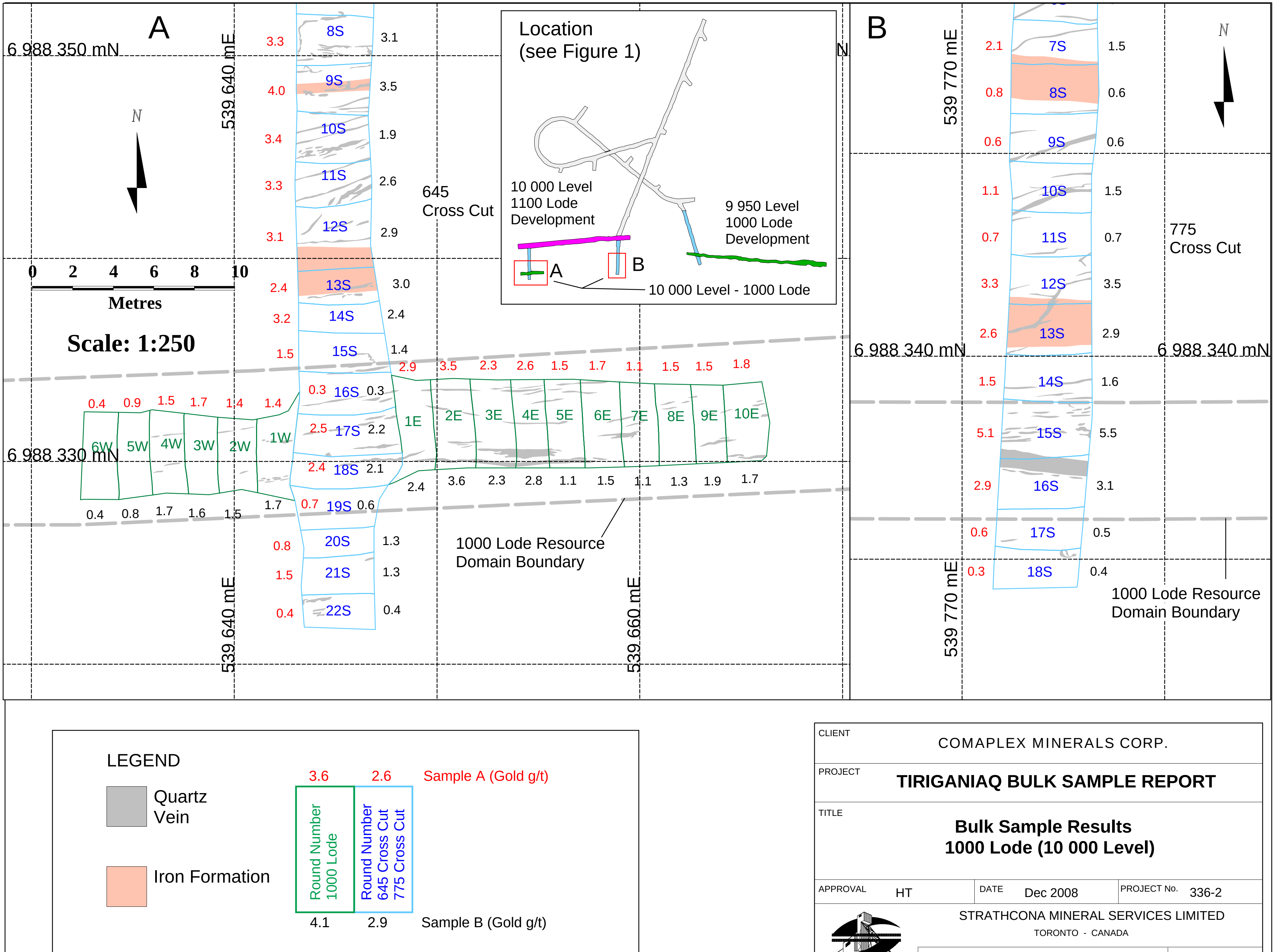
Table 22 Summary of Bulk Sampling Program

Level	Opening	Tonnes Mined and Sampled	Weighted Gold Grade (g/t)			Estimated Total Error (g/t)
			Field Sample A	Field Sample B	Average	
10000	1100 Lode Drift	9 433	6.8	6.8	6.8	± 0.2
	1000 Lode Drift	1 006	1.8	1.8	1.8	± 0.2
	Cross Cuts	2 974	1.9	1.9	1.9	± 0.1
	Raises	773	8.2	7.8	8.0	± 0.6
9950	Access Cross Cut	3 843	0.7	0.7	0.7	± 0.1
	1000 Lode Drift	6 943	13.0	13.4	13.2	± 0.3
	940 Raise	152	15.7	17.7	16.7	± 2.5
	Sump & Raise By-Pass	397	1.5	1.5	1.5	± 0.2
Totals		**25 522**	**6.8**	**6.9**	**6.9**	

Note that the one partially mixed round (1100 5 E and 630 Raise No. 3) was re-distributed to its constituent rounds using their actual bulk sample grades, as described in **Section 14.6.3**.

Figures 19 and **20** below show the detailed results for the drifts along the 1000 Lode on the 9950 and 10 000 levels, respectively, while **Figure 21** presents the same information for the 1100 Lode on the 10 000 level. As pointed out in **Section 14.6**, the sample error for each round is in the order of ±10% to ±15%.


A
B
9 950 Access
Round 11
Round 12
Round 13
Round 14
Round 15
Round 16
Round 17
940 Raise By-Pass
1000 Lode Resource Domain Boundary
Metres
0 2 4 6 8 10
Scale: 1:250
N
Location (see Figure 1)
Decline
10 000 Level 1100 Lode Development
9 950 Level 1000 Lode Development
6 988 370 mN
6 988 350 mN
6 988 330 mN
539 880 mE
539 900 mE
539 920 mE
539 940 mE
539 960 mE
539 990 mE
540 010 mE
540 030 mE
540 050 mE
540 070 mE
LEGEND
Quartz Vein
Iron Formation
Round Number 1000 Lode
Round Number 9950 Access
19.1 5.2 Sample A (Gold g/t)
21.9 6.6 Sample B (Gold g/t)
CLIENT COMAPLEX MINERALS CORP.
PROJECT TIRIGANIAQ BULK SAMPLE REPORT
TITLE Bulk Sampling Results 1000 Lode (9 950 Level)
APPROVAL HT
DATE Dec 2008
PROJECT No. 336-2
STRATHCONA MINERAL SERVICES LIMITED
TORONTO - CANADA
File: Comaplex Minerals GIS Database
Figure 19



CLIENT
COMAPLEX MINERALS CORP.

PROJECT
TIRIGANIAQ BULK SAMPLE REPORT

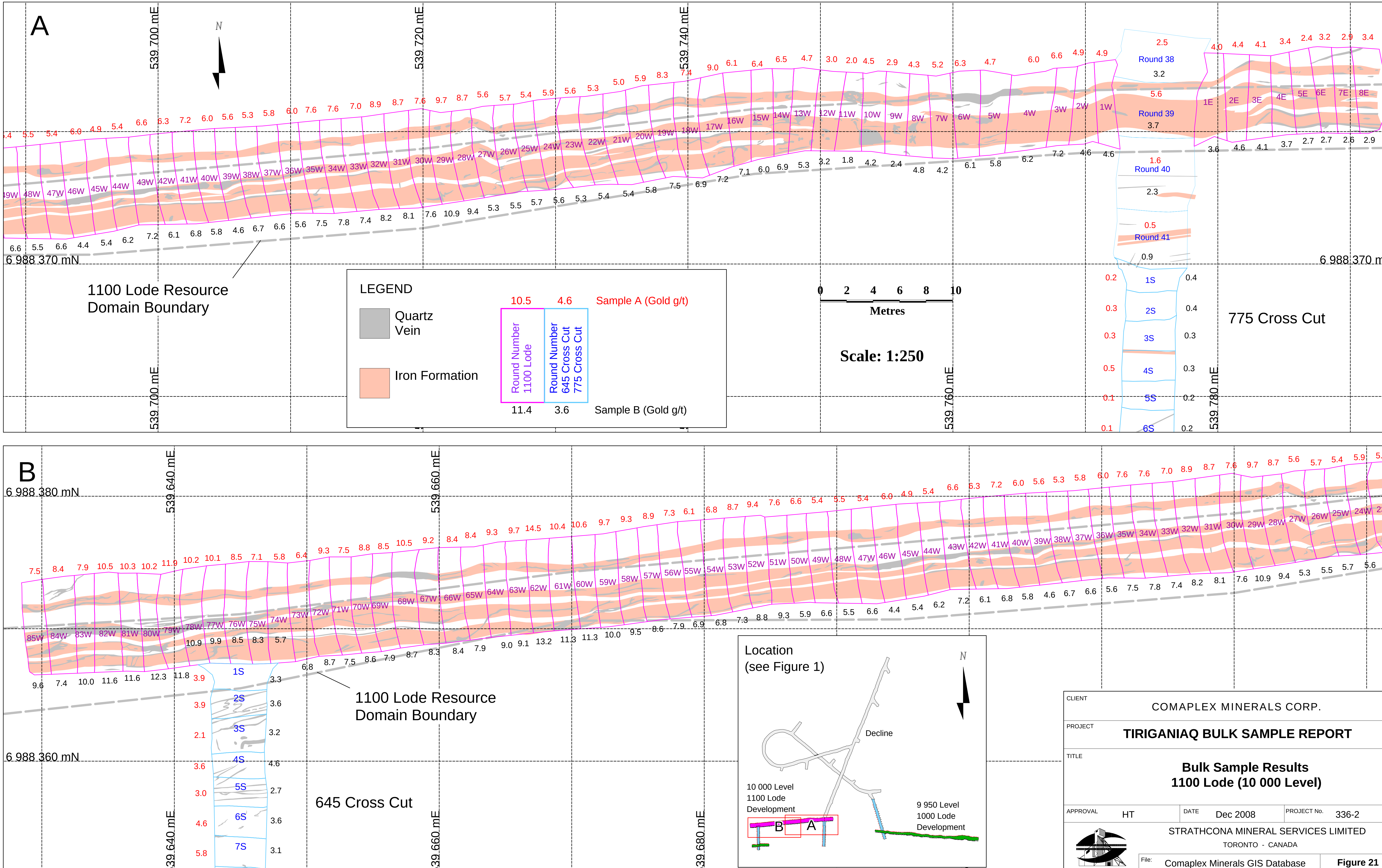
TITLE
Bulk Sample Results
1000 Lode (10 000 Level)

APPROVAL	HT	DATE	Dec 2008	PROJECT No.	336-2

STRATHCONA MINERAL SERVICES LIMITED
TORONTO - CANADA

File: Comaplex Minerals GIS Database

Figure 20


A
N
539 700 mE
539 720 mE
539 740 mE
539 760 mE
539 780 mE
6 988 370 mN
1100 Lode Resource Domain Boundary
Round 38
Round 39
Round 40
Round 41
775 Cross Cut
LEGEND
Quartz Vein
Iron Formation
10.5
4.6
Sample A (Gold g/t)
Round Number 1100 Lode
Round Number 645 Cross Cut 775 Cross Cut
11.4
3.6
Sample B (Gold g/t)
0 2 4 6 8 10
Metres
Scale: 1:250
B
6 988 380 mN
6 988 360 mN
539 640 mE
539 660 mE
539 680 mE
1100 Lode Resource Domain Boundary
645 Cross Cut
Location (see Figure 1)
Decline
10 000 Level 1100 Lode Development
9 950 Level 1000 Lode Development
CLIENT
COMAPLEX MINERALS CORP.
PROJECT
TIRIGANIAQ BULK SAMPLE REPORT
TITLE
Bulk Sample Results
1100 Lode (10 000 Level)
APPROVAL HT
DATE Dec 2008
PROJECT No. 336-2
STRATHCONA MINERAL SERVICES LIMITED
TORONTO - CANADA
File: Comaplex Minerals GIS Database
Figure 21

15.2 Underground Sampling

As described in **Section 12.3**, all underground faces were sampled with chip-panel samples, and about 50% of the faces were additionally sampled with channel samples, using the same sample demarcations. The comparison of the underground sampling results – between the two sample types, and against the bulk sample grades – allows conclusions to be drawn with respect to the routine underground grade-control sampling in a future mining operation, and its expected precision and accuracy. The results of the underground sampling evaluation are also transferable to the drill-core samples for which particularly the channel samples are a good model since they closely resemble the core samples in physical continuity, size and representativeness.

15.2.1 Statistics of Underground Sample Assay Results

It is important to remember that each of the two main lodes and the intervening mineralization at Tiriganiaq have greatly varying gold assay populations as summarized in **Table 3** in **Section 9.3**. Successful resource grade estimation and underground grade control need to take this into account.

We have evaluated the gold-grade statistics of the underground chip-panel and channel assays for each of the two major lodes and their raises, separately for the various lithological units that are part of the lodes, or occur along their shoulders and are therefore important as dilution during mining. Since the frequency distributions of the two types of underground samples was almost identical, they were evaluated together. Based on this information, values for top cuts (capping) can be selected to restrict the influence of high, outlier assays. The analysis was undertaken on un-composited samples since the sample length is reasonably constant, as demonstrated in **Table 5**. The pertinent information for the 1000 and 1100 Lodes and for the intervening mineralization encountered in the cross-cuts is summarized in **Table 23**. Note that the average grades of the original, uncapped populations for all assays from both underground sample types are somewhat different from those of **Table 3** where only the chip-panel sample data were presented.

The figures in **Table 23** reinforce the earlier statement that the gold populations constituting the two main lodes and the intervening mineralization are strongly heterogeneous.

Table 23 Gold Grade Statistics and Top Cuts of Underground Sample Assays*

Lithology	Number of Samples	Length Sampled (metres)	Original Assays			Top Cut (Cap)		Capped Assays		
			Gold Grade (g/t)	SD (g/t)	CV	Gold Grade (g/t)	Number Capped	Gold Grade (g/t)	SD (g/t)	CV
1001 Domain of 1000 Lode (9950 Level)										
Sediment (sericitic)	83	57	6.5	16.0	2.5	30	3	5.2	7.5	1.4
Sediment (graphitic)	27	20	8.8	16.8	1.9	25	2	6.4	8.2	1.3
Sediment, mineralized	51	34	7.8	24.8	3.2	25	2	4.7	5.9	1.3
Sediment (quartz-ankerite)	43	32	13.7	29.2	2.1	30	4	8.4	8.9	1.1
Shoulder Volcanics[4]	49	38	3.7	13.3	3.6	10	4	1.8	2.7	1.5
Quartz Veins	336	287	33.2	46.4	1.4	165	7	31.1	36.9	1.2
1100 Lode and Raises										
Sediments outside Lode	298	163	0.9	2.8	3.1	5	13	0.6	1.2	2.0
Sediments within Lode	354	260	1.9	5.8	3.1	10	17	1.2	2.4	1.9
Iron Formation, “unmineralized”	206	163	4.7	7.0	1.5	20	10	4.3	5.6	1.3
Iron Formation, “mineralized”	482	355	17.5	16.8	1.0	90	1	17.4	16.3	0.9
Quartz Veins	56	36	31.6	22.7	0.7	90	1	31.1	21.0	0.7

* From chip sampling of panels and channel samples in face of each round

[4] The volcanic rocks are almost completely outside of the 1001 Domain

Table 23 (continued) **Gold Grade Statistics and Top Cuts of Underground Sample Assays**

Lithology	**Number of Samples**	**Length Sampled** (metres)	**Original Assays**			**Top Cut** (Cap)		**Capped Assays**		
			Gold Grade (g/t)	**SD** (g/t)	**CV**	**Gold Grade** (g/t)	**Number Capped**	**Gold Grade** (g/t)	**SD** (g/t)	**CV**
Cross-Cuts										
Sediments	284	270	1.0	2.6	2.5	6	11	0.8	1.5	1.9
Sediments, Mineralized	69	64	5.9	7.1	1.2	30	1	5.8	6.8	1.2
Volcanic Rocks	64	63	0.2	0.7	3.1	2	3	0.2	0.4	2.4
Iron Formation	54	51	1.6	2.3	1.4	7	2	1.5	2.0	1.3
Quartz Veins	10	9	24.9	23.8	1.0	90	0	24.9	23.8	1.0

SD = standard deviation; CV = coefficient of variation

No meaningful statistical analysis was possible for the few quartz-vein samples in the cross-cut assay population, and the capping value developed for the 1100 lode is proposed, given the general similarity of the gold grades in both environments.

It is interesting to note that the units contributing most to the grade of the two main lodes (the mineralized iron formation within the 1100 Lode, and the quartz veins for both lodes), have very good gold statistics and require little capping. The difficulties reside in the sediments and in the volcanics which tend to have gold-grade populations with high coefficients of variation and require substantial top cutting. While the gold-grade statistics of the channel and chip-panel samples are not sufficiently different to allow separate analysis, the capping of the chip-panel samples tends to have a more severe effect compared to the channel samples. This is expressed as a larger proportion of chip-panel sample assays falling above the chosen caps, and a larger reduction of the average gold grade as a result of capping.

15.2.2 Repeat Chip-Panel and Channel Sampling Results

Individual chip-panel and channel samples were systematically repeated at a rate of 5%. The chip-panel samples were simply taken a second time, while the channel samples were repeated by sawing a second channel immediately above the first sample, utilizing the top of the original channel cut as the bottom cut for the repeat sample. **Table 24** gives a summary of all sample pairs whose mean grade was >0.1 g/t gold (disregarding 32 low-grade repeat samples), and **Figure 22** is a scatter graph of the data. The average grades shown in **Table 24** were calculated using the top cuts shown in **Table 23**.

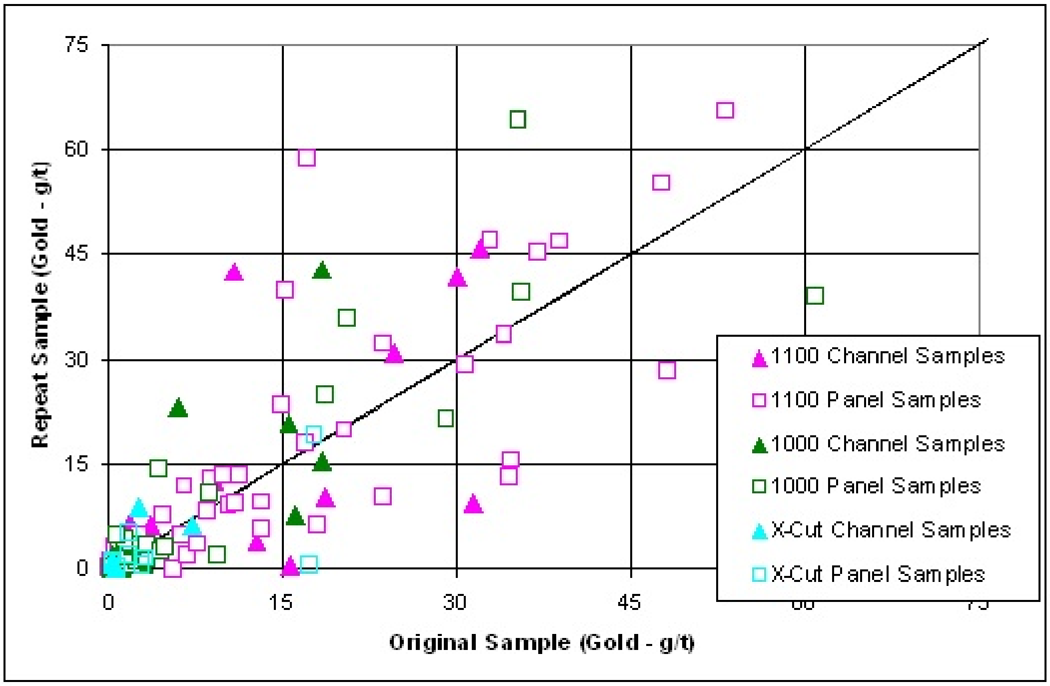
Table 24 Repeat Assay Results >0.1 g/t Au, Capped Chip-Panel and Channel Samples

Sample Type	Opening	Number of Pairs	Average Gold Grades (g/t)	
			Original Sample	Repeat Sample
Chip-Panel	1100 Lode Drift & Raises	45	14.9	15.0
	1000 Lode and Raises	37	10.3	9.3
	Cross-Cuts	10	4.9	3.3
All Chip-Panel Samples		**92**	**11.9**	**11.4**
Channel	1100 Lode Drift & Raises	18	10.4	12.4
	1000 Lode and Raises	15	11.1	16.1
	Cross-Cuts	5	2.2	2.9
All Channel Samples		**38**	**9.6**	**12.6**

The large difference of the average channel sample grades in **Table 24** is interpreted to be due to chance rather than to indicate a bias, given the small number of sample pairs.

It is apparent from **Figure 22** that a single sample, regardless of the type, has very poor precision, with the chip-panel samples being slightly more repeatable than the channel samples.

Figure 22 Gold Assay Results, Repeat Underground Sampling



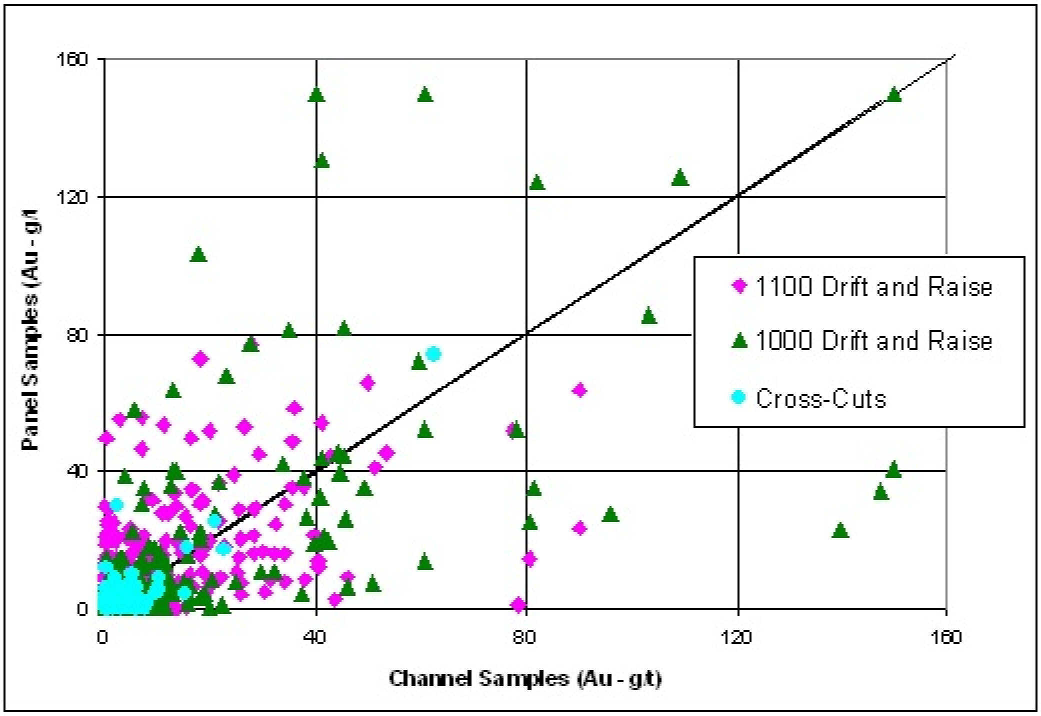
15.2.3 Comparison of Capped Chip-Panel and Channel Sampling Results

A comparison of the capped channel and chip-panel samples taken along the same underground exposures and covering the same sampling intervals is compiled in **Table 25**, and the individual data points are shown in **Figure 23** as a scatter graph. Again, the low-grade population (pair mean grade <0.1 g/t gold) is omitted.

Table 25 Comparison of Capped Channel and Chip-Panel Assay Results >0.1 g/t Au

Opening	Number of Pairs	Average Gold Grades (g/t)	
		Channel Samples	Chip-Panel Samples
1100 Lode on 10 000	340	8.4	10.0
1000 Lode on 9 950	220	15.0	15.0
Cross-Cuts	114	3.1	3.3
	674	**9.7**	**10.5**

Figure 23 Comparison of Capped Channel and Chip-Panel Assay Results



As was the case for the repeat sampling, there is a great lack of repeatability shown by the individual pairs. While there is no discernable bias between the two sample types for the 1000 Lode and cross-cut samples, the chip-panel sample appears to be biased high (or the channel sample biased low) in the case of the 1100 Lode data.

15.2.4 Comparison of Bulk and Underground Sampling Results

The bulk sample results for individual rounds, while themselves affected by a variance (sampling error) of ±10% to ±15% (see **Table 18**), have a much greater precision than the underground samples. They are, for the purpose of this discussion, presumed to represent the true grade of each round. In case repeat rounds or rotary reject results were available, that information was included in the calculation of the average bulk-sample grade for those rounds. The gold assay results of the bulk samples and the two underground sampling methods are compared in **Table 26** separately for those rounds for which both channel and chip-panel sample results are available and for all rounds with chip-panel sample data, and **Figure 24** shows the data for the two main lodes as a scatter graph. All of the average grades are simple means of all rounds of an underground opening (treating every round equal), while the average channel and chip-panel sample grades for each round are length-weighted using the capped gold assays according to **Table 23**. The underground sampling results were taken from the face at the beginning of each round. In calculating the channel sample and chip-panel sample results for some faces of the 1000 Lode drift on the 9950 level, that part of the face that had not been sampled was assigned a grade of 0.5 g/t gold. The condition of incomplete sampling does not exist in the other excavations.

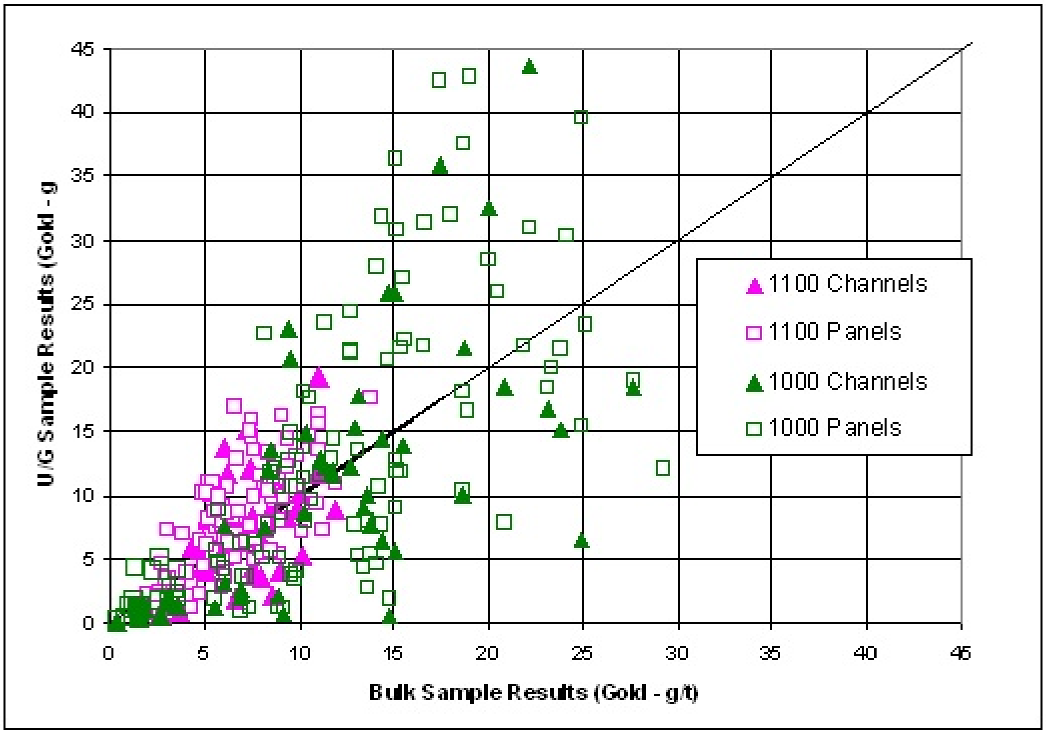
Table 26 Comparison of Bulk Sample and Capped Underground Sample Gold Grades

Opening	Number of Faces Sampled	Average Gold Grades (g/t)		
		Bulk Samples	Channel Samples	Chip-Panel Samples
Bulk Samples with Channel and Chip-Panel Sample Information				
1100 Lode on 10 000	47	6.9	6.9	8.3
1000 Lode on 9 950	43	13.1	12.9	14.1
1000 Lode on 10 000	8	1.8	0.8	1.8
Cross-Cuts	42	1.9	2.1	2.2
	140	**7.0**	**7.0**	**7.9**
All Bulk Samples with Chip-Panel Sample Information[5]				
1100 Lode on 10 000	91	7.0		8.6
1000 Lode on 9 950	92	13.2		14.6
1000 Lode on 10 000	16	1.7		1.8
Cross Cuts	56	1.6		1.3
	255	**7.7**		**8.7**

Note that the data of the upper part of **Table 25** are included in the data in the lower part.

[5] The simple average grades in this table may be slightly different from the average gold grades in **Table 22**, which are tonnage-weighted.

Figure 24 Bulk Sample vs. Capped Underground Sample Assay Results



Note that the cross-cut results have been omitted from **Figure 24**.

15.2.5 Conclusions

As summarized in **Table 23**, the detailed underground sampling shows that each of the several different rock types forming the two main lodes has a distinct gold-grade population, imparting a large degree of gold grade heterogeneity on the two lodes as a whole. **Each of the constituent gold-assay populations requires its own capping level for high outlier gold assays**. Any attempt at capping using values for the entire population of a particular lode will not give satisfactory results, since this approach would not be able to take into account the changing proportions of the various assay populations.

Of the two types of sampling undertaken, the capped channel samples have good accuracy as measured against the bulk sampling results, as is apparent from the data in **Table 26**, and the top cuts introduced in **Table 23** work well. The capped chip-panel samples, in contrast, are biased high, particularly for the 1100 Lode. The reason for the bias and its different level for the two lodes is not clear, but may be caused by a higher-than-representative proportion of gold-bearing sulphide material being collected involuntarily during panel sampling. The statistical analysis of the available data for the two sample types does not support the application of separate capping levels for the in this regard very similar channel and chip-panel sample populations.

All observations with respect to the repeatability of the underground channel and chip-panel samples show that a single sample has very poor precision. While the lack of precision is not a concern for grade control during mining in high-grade portions of the two lodes (but will make mine-mill reconciliation ineffective for small tonnages), difficulties will arise when the grade of a lode approaches the cut-off grade. Full-face duplicate sampling (with subsequent averaging of the individual results) is an approach that should be used in such cases to reduce the impact of this problem.

Drill-core samples (on which the January 2008 Tiriganiaq resource estimate is based) will tend to show the same poor precision in representing true local gold grades as the underground samples. Given the similarity of the underground channel and drill-core samples, it is suggested that the application of population-specific capping levels as presented in **Table 23** to the drill-core assay data will result in capped assay values that can be used with confidence for resource estimation.

15.3 Bulk Density

The detailed survey of the drifts along the two main lodes as described in **Section 14.1**, together with the tonnage determinations on the sample tower weightometer, allow the average bulk density of the excavated materials to be calculated. The relevant data, which exclude the difficult geometries of the cross-cuts through the two main lodes, are in **Table 27**.

Table 27 Bulk Density Calculation for the 1000 and 1100 Lode Excavations

Opening	Rounds Included	Volume (m^3)	Tonnes	Bulk Density (t/m^3)
1000 Lode Drift	6 W to 1 W 1 E to 86 E	2 382	6 726	2.82
1100 Lode Drift	8 E to 1 E 1 W to 85 W	2 845	8 842	3.11

Warwick Board of Snowden has advised that the average of the bulk densities applied for the January 2008 resource statement were 2.80 t/m^3 for the 1000 Lode and 3.05 t/m^3 for the 1100 Lode. Both figures have been confirmed by the density figures obtained from the bulk sample data.

15.4 Drill-Spacing Required for Feasibility-Level Resource Estimates

The round-by-round bulk sample and chip-panel sample information can be used to construct semi-variograms along the two drifts following the 1000 and 1100 Lodes. **Figure 25** shows the results for the undiluted data, separately for the bulk and the chip-panel assays, which are available for each round. The process of removing the dilution included in the bulk sample data is described in **Section 15.5.1** below.

The two charts in **Figure 25** have in common the high nugget effect of the chip-panel assays compared to the bulk sample assays, due to the poor precision of the chip-panel samples described in **Section 15.2**. Both sets of variograms exhibit a short range of continuity of 15 metres and 25 metres for the 1100 and the 1000 Lodes, respectively[6]. The short range is indicated by the point of first flattening of the variograms following the initial slope. Drilling with such a spacing in the strike direction will be required to determine feasibility-level resource grades. The second, long range indicated for the 1100 Lode is of no practical importance in this context.

No similarly detailed information is currently available for the drill spacing required on section, but is likely to be of a similar magnitude as that found for the strike direction.

15.5 Comparison with Block Model

An important aspect of the underground bulk sampling program was a comparison with the prediction by the January 2008 block model for the volume and gold grade actually mined and bulk sampled. **Figures 26** and **27** show the location of the underground development along the 1000 and 1100 Lodes in longitudinal section for the two lodes. The figures depict the grade-thickness contours of the drill-hole data used for the January 2008 resource estimate. The bulk sample results have been transformed into grade-thickness figures as well with the exception of the raises which do not expose the full width of the two lodes.

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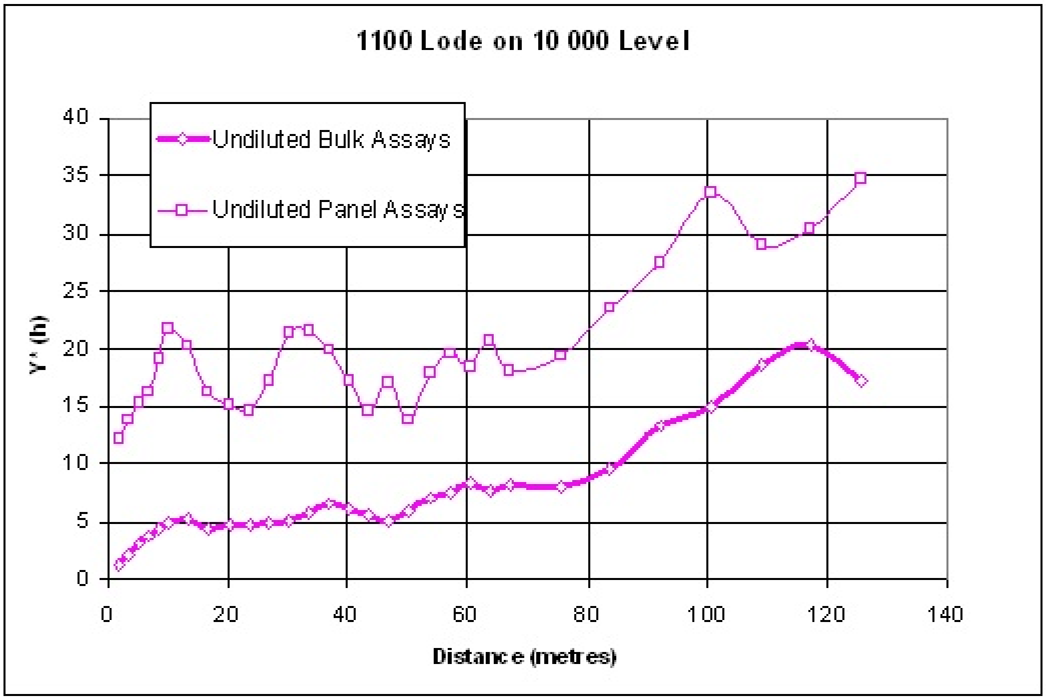
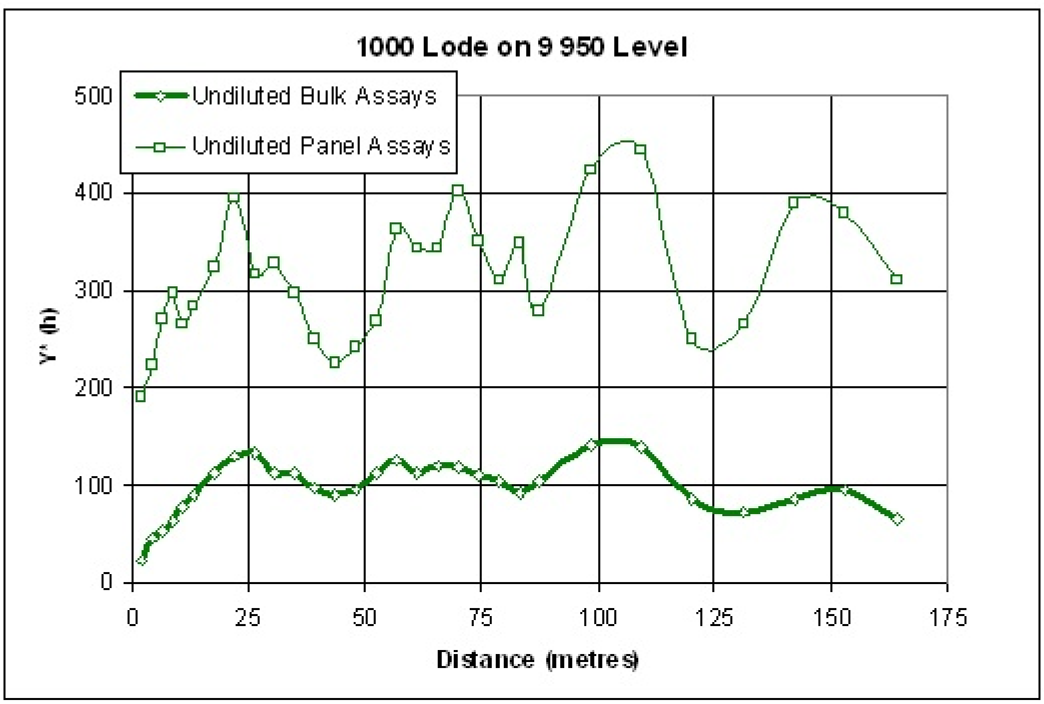
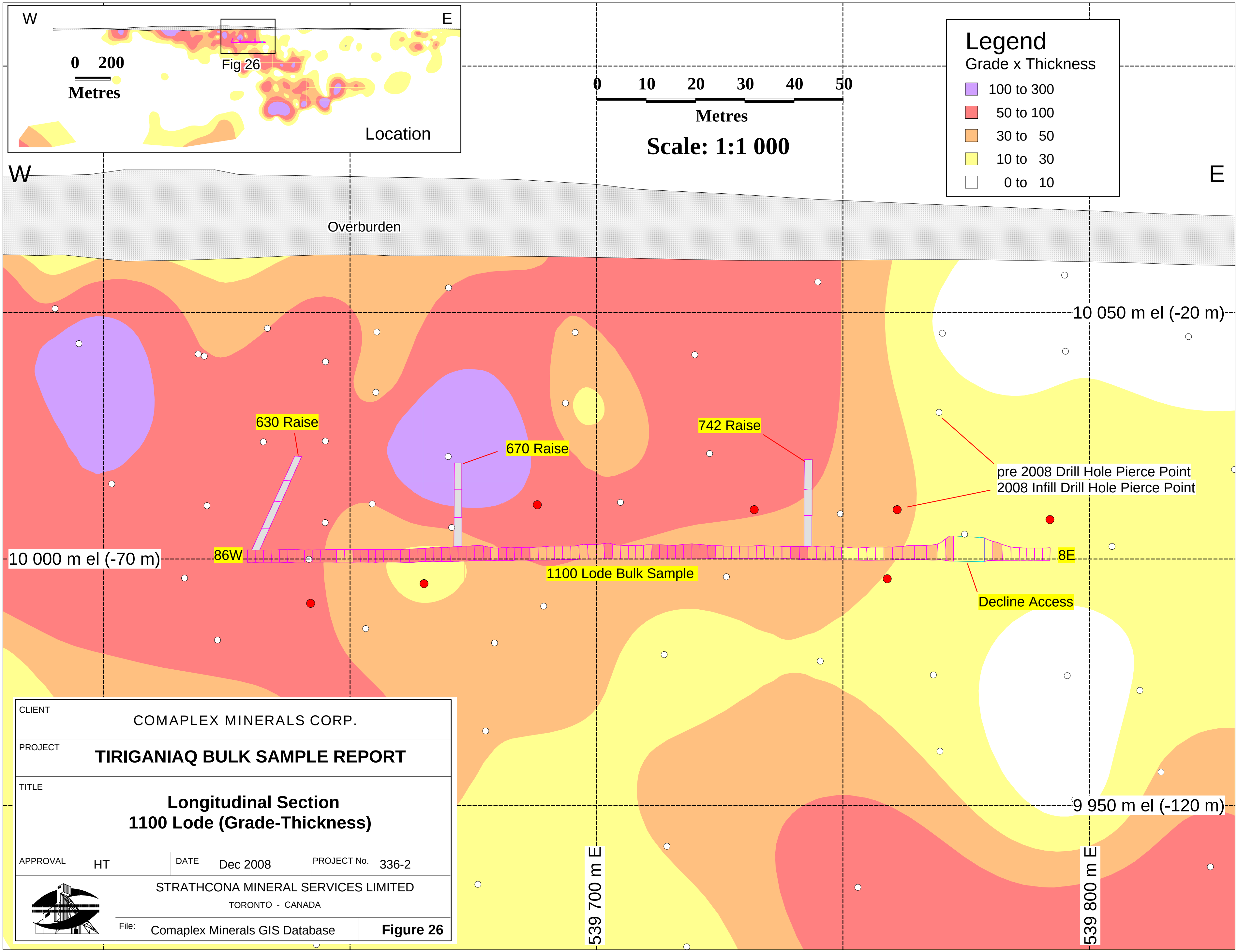
[6] Warwick Board of Snowden has completed an independent assessment of the variography of undiluted bulk sample assay data (Board, 2009) and has interpreted even shorter ranges of 11 metres for the 1000 Lode and 16 to 18 metres for the 1000 Lode.

Figure 25 Semi-Variograms along Bulk Sample Drifts







W
E
0 200
Metres
Fig 26
Location
0 10 20 30 40 50
Metres
Scale: 1:1 000
Legend
Grade x Thickness
100 to 300
50 to 100
30 to 50
10 to 30
0 to 10
W
E
Overburden
10 050 m el (-20 m)
630 Raise
670 Raise
742 Raise
pre 2008 Drill Hole Pierce Point
2008 Infill Drill Hole Pierce Point
10 000 m el (-70 m)
86W
8E
1100 Lode Bulk Sample
Decline Access
9 950 m el (-120 m)
539 700 m E
539 800 m E
CLIENT
COMAPLEX MINERALS CORP.
PROJECT
TIRIGANIAQ BULK SAMPLE REPORT
TITLE
Longitudinal Section
1100 Lode (Grade-Thickness)
APPROVAL HT
DATE Dec 2008
PROJECT No. 336-2
STRATHCONA MINERAL SERVICES LIMITED
TORONTO - CANADA
File: Comaplex Minerals GIS Database
Figure 26

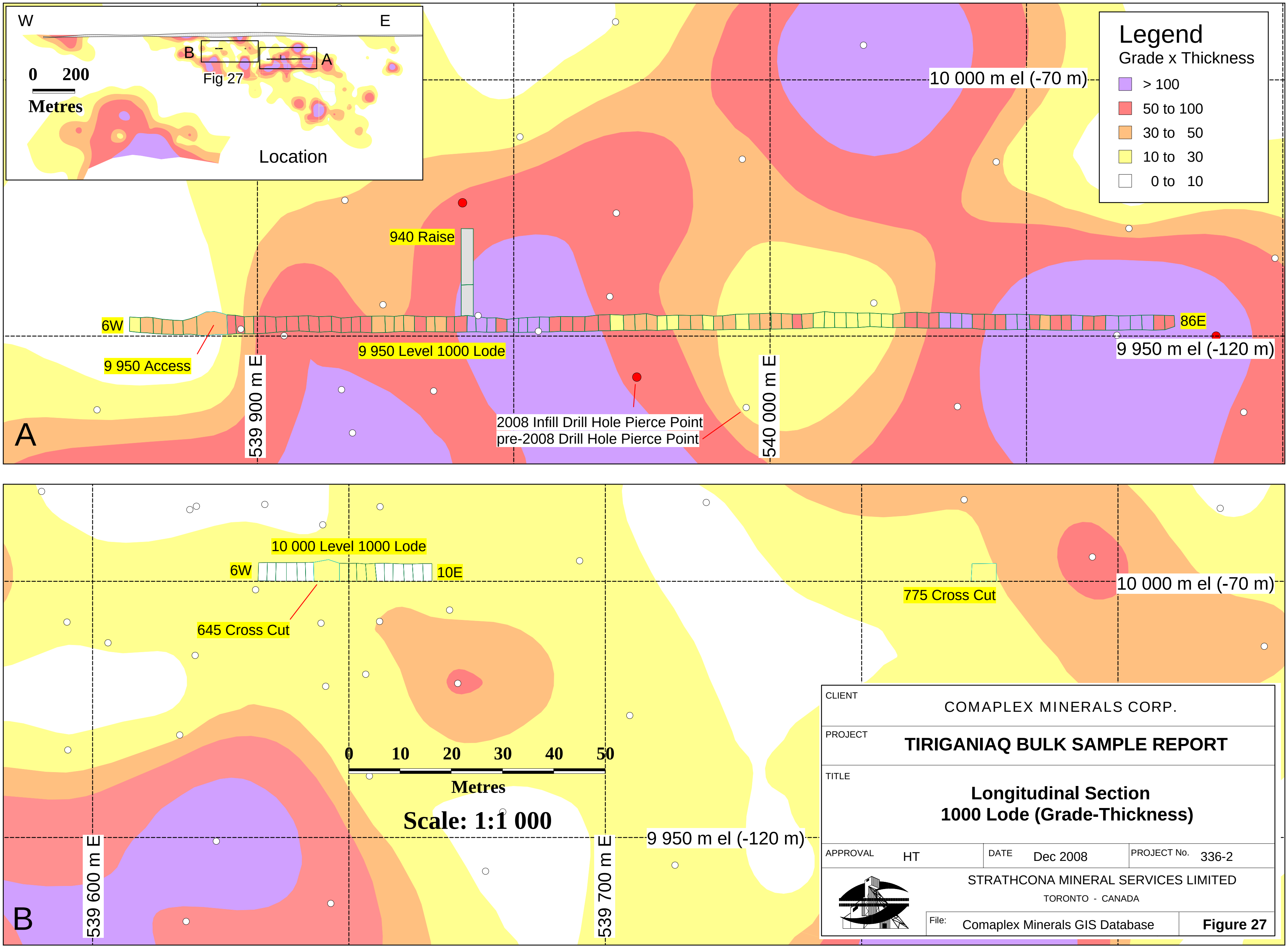

W
E
0 200
Metres
B
A
Fig 27
Location
Legend
Grade x Thickness
> 100
50 to 100
30 to 50
10 to 30
0 to 10
10 000 m el (-70 m)
940 Raise
6W
86E
9 950 Access
9 950 Level 1000 Lode
9 950 m el (-120 m)
539 900 m E
540 000 m E
2008 Infill Drill Hole Pierce Point
pre-2008 Drill Hole Pierce Point
A
10 000 Level 1000 Lode
6W
10E
645 Cross Cut
775 Cross Cut
10 000 m el (-70 m)
0 10 20 30 40 50
Metres
Scale: 1:1 000
9 950 m el (-120 m)
539 600 m E
539 700 m E
B
CLIENT
COMAPLEX MINERALS CORP.
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Figure 27

15.5.1 Dilution Included in the Bulk Sample Grade

The comparison between the bulk sample results and the resource estimate for the 1000 and 1100 Lodes needs to be done on undiluted mineralization, to match the parameters applied during resource estimation. By their nature, the three cross-cuts outside of the two lodes do not contain any dilution. Dilution for the 1100 and 1000 Lodes was removed for each round separately, using the geological information for each face described in **Section 12.3**, and the detailed underground sampling information.

- For the 1100 Lode on the 10 000 level, the location of the upper and lower iron formations was determined from the face maps, and the outside waste removed mathematically, using the average capped gold grade of 0.6 g/t of all shoulder assays (refer to **Table 23**). The overall dilution removed amounted to 33% by volume for the entire 1100 Lode drift. This calculation was checked by subtracting the ore volumes as measured on the faces from the total drift volume as surveyed by Challenger. The value of 27% dilution by volume calculated in this fashion provides confirmation for the figure arrived at by the round-by-round process. The 1100 Lode bulk sample gold grades are 7.0 g/t and 9.1 g/t for the diluted and undiluted tonnages, respectively.
- For the 1000 Lode drift on the 9950 level, a minimum horizontal width of 1.8 metres was observed during the process of dilution removal. Where required to maintain the minimum width, low-grade material was preferentially added to the 1001 Domain along its hangingwall. The overall dilution amounted to 60% by volume. Most of the dilution had been sampled and carried an average capped gold grade of 1.25 g/t based on the chip-panel samples. A grade of 0.5 g/t gold was arbitrarily assigned to that part of the waste that had not been sampled. The diluted and undiluted gold grades are 13.5 g/t and 21.1 g/t, respectively.

15.5.2 Lode Mineralization

The gold grades and widths of the lode mineralization are compared based on the average width of the undiluted lode domains and the gold grade estimated (for the resources) or documented (for the bulk samples). Warwick Board of Snowden has provided the relevant figures for the resource estimate using the January 2008 block model and an updated model which includes the information obtained from the additional surface drilling around the underground openings in the summer of 2008. The two block model estimates and the undiluted bulk sample results are compared in **Table 28**.

Table 28 Block Model and Undiluted Bulk Sample Results (1000 & 1100 Lodes)

Lode & Opening	Block Model				Undiluted Bulk Sample	
	Drill-Holes Available	Drill-Hole Spacing (metres)	Domain Width (metres)	Gold Grade (g/t)	Domain Width (metres)	Gold Grade (g/t)
January 2008 Block Model						
1100 on 10 000	13	20 to 30	5.4	10.0	5.2	9.0
1000 on 9 950	9	10 to 50	2.9	27.5	2.9	20.9
Updated Block Model						
1100 on 10 000	20	15 to 30	5.4	8.6	5.2	9.0
1000 on 9 950	11	10 to 50	2.9	27.3	2.9	20.9

The following comments are offered with respect to the information provided in **Table 28**.

1. The number of available drill holes and their spacing reflects the conditions within a distance of fifteen metres from both development drifts, the approximate distance for the short range of continuity indicated by the bulk-sample assay data. The intercepts in the 1100 Lode area are reasonably evenly distributed. The intercepts on the 1000 Lode cluster in the western part of the bulk sample drift with a spacing of ten to twenty metres, while the coverage in the remainder of the bulk sample drift is more open, with an average drill-hole spacing of about 40 metres.

2. The gold grade estimate of the 1100 Lode bulk sample by the January 2008 block model was initially 10% higher than the bulk sample grade, but the additional drilling has brought the predicted grade into line with what was found by the bulk sample.

3. The two block model estimates for the 1000 Lode in **Table 28** show little difference, reflecting the fact that only two additional holes within the 15-metre distance from the opening could be drilled to augment the drill coverage available for the January 2008 resource estimate. Both estimates over-state the contained gold for the bulk sample (calculated as domain width times average grade) by about 25%. Taking into account the large variances attached to single drill-hole intersections as outlined in **Section 15.2.5**, the difference between bulk sample results and block model predictions for the 1000 Lode is not surprising. It is expected that in-fill drilling (particularly in the poorly-drilled central and eastern parts of the drift as shown on **Figure 27**) to the density indicated to be required by the variogram ranges, would result in a more accurate estimate for the gold contained in the 1000 Lode bulk sample.

15.5.3 Intervening Mineralization

The intervening mineralization is important for the upper part of the Tiriganiaq deposit potentially mineable by open-pit, to which it would contribute mill feed incremental to the main lodes. The January 2008 block model has been reviewed for the area of the bulk sampling with respect to resource blocks assigned to either of the three intervening lodes, the 1025, 1050 or 1075, which are described in more detail in **Section 9.2.3**. For each of the three cross cuts, Snowden has produced a percentage figure of mineralized and barren/less mineralized rock. **Table 29** compares this prediction with the corresponding bulk sample results. Note that the bulk sample results reported in **Table 29** are strictly on a statistical basis, i.e., without regard to location.

Table 29 Block Model and Bulk Sampling Results (Intervening Lodes)

Opening	**Length** (metres)	**Block Model**		**Bulk Sample**	
		Percent with elevated Grade	Gold (g/t)	Percent with elevated Grade	Gold (g/t)
645 Cross-Cut	32.9	38	3.9	47	3.9
775 Cross-Cut	41.7	36	2.0	38	2.1
9950 Access Cross-Cut	55.9	17	1.6	15	1.7
Totals/Average	**130.5**	**28**	**2.6**	**30**	**2.6**

On a statistical basis, the bulk sample results confirm the January 2008 block model projections. However, the continuity of above-average grade mineralization in the intervening lodes is recognized to be poorer than for the main lodes and should be assessed critically and cautiously in future resource estimates. On-strike development, closely-spaced drilling, or both, are required to determine realistic continuity ranges for the intervening mineralization.

15.6 Mining Considerations

To confirm and add to work done in previous years based solely on drill core, a geotechnical study was conducted by Golder Associates Ltd. of Vancouver (Golder) during the bulk sampling program. This involved the geotechnical mapping of the exposed underground workings and the logging of four holes drilled in the area of the proposed open pit. Preliminary observations and testing of drill core show no unexpected geotechnical issues. A report by Golder including geotechnical recommendations for both open-pit and underground mine design is expected to be available in early February 2009.

16. ADJACENT PROPERTIES

No significant changes have occurred with respect to this item from what has been discussed in the Snowden 2008 Report to which the reader is referred.

17. MINERAL PROCESSING AND METALLURGICAL TESTING

The results of metallurgical testwork related to the Tiriganiaq gold deposit was presented by John Goode, Consulting Metallurgical Engineer, in Section 16 of the Snowden 2008 Report, to which the reader is referred. No additional metallurgical testwork has been undertaken.

18. MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

The latest estimate of the Tiriganiaq mineral resources was the subject of the Snowden 2008 Report and is summarized in **Section 6.3** above. No new mineral reserves have been estimated for the project but Comaplex advise that Snowden will be engaged again to produce an updated estimate of the Tiriganiaq mineral resources taking into account the results of the 2008 bulk sampling and surface diamond drilling programs, with a completion date during the first quarter of 2009. We also understand that the Vancouver office of Micon International Limited is currently conducting a Preliminary Economic Assessment (PEA - “Scoping Study”) for the Meliadine project on behalf of Comaplex, which will integrate additional mineral resources from smaller deposits such as the nearby F-Zone and the Discovery Deposit into a common mine plan. The Discovery Deposit has been described in Pincock, Allen and Holt (2008), which is available on Sedar. The F-Zone Deposit is described in the PEA, which is scheduled to be available on Sedar in February, 2009.

19. OTHER RELEVANT DATA AND INFORMATION

The authors are not aware of any other data or information necessary to make this report understandable and not misleading.

20. INTERPRETATION AND CONCLUSIONS

Comaplex Minerals Corp. is the 78% owner and operator of the Meliadine West mineral property on which the Tiriganiaq gold deposit is located. Following many years of surface exploration, mainly by diamond drilling, Comaplex in 2007 and 2008 has completed an underground development and bulk sampling program at depths of 70 to 120 metres to provide direct access into part of the deposit, concentrating on the two main mineralized zones identified as the 1000 and the 1100 Lodes. The purpose of the program was:

- To fully expose the two zones along strike for a meaningful distance and in the process investigate their gold grade, gold grade continuity and gold comportment by geological mapping and detailed underground sampling;
- To partly investigate the same factors in the third dimension by raising;
- To process representative bulk samples of the mineralization and reliably determine their gold grade to permit comparison with underground chip-panel and channel sampling, and to allow a comparison with the existing resource estimate completed in January 2008 for the openings.

The experiences and insights gained from the program would flow into future resource estimates, and into an ongoing scoping study which is currently based on the January 2008 resource estimate.

20.1 General Statement

The Tiriganiaq underground development and bulk sampling program has been successful in verifying the existence of gold mineralization in the geological environment, at the location and generally in the intensities as predicted by the January 2008 resource estimate, which was based on surface drilling only.

The more detailed conclusions below are drawn with the recognition that the Tiriganiaq underground development and bulk sampling program only explored a small part of the overall deposit, but the geological setting of the areas exposed in the underground program is considered to be representative of what is likely to be encountered in further exposure of the 1000 and 1100 Lodes, with gold grades and mineralization widths the main variables. The observations and conclusions based on the completed underground program are pertinent because they are based on detailed data and observation previously unattainable, representing another step on the way to a more complete understanding of this gold deposit.

20.2 Bulk Sample Gold Assay Results and their Reliability

The total development completed for the Tiriganiaq underground development and bulk sampling program was 1642 metres, of which 974 were for the ramp accessing the deposit and which was not sampled. Of the remaining 668 metres, 402 metres or 60% were within the two main lodes, 173 metres or 26% were in cross-cuts exposing the mineralization between the two lodes, 79 metres or 12% were in raises, and the remainder was for a raise by-pass and a sump, both on the 9950 level. The total material bulk sampled amounted to more than 25 500 tonnes with an average grade of 6.9 g/t gold, sub-divided into more than 300 individual samples. Nearly every one of these samples represented one underground round except for the raises which were sampled as three- or four-round composites.

A rigorous quality control program was conducted during the bulk sampling program. The results of duplicate sampling at every sample reduction/comminution step and the evaluation of the fundamental sample error indicate that the gold grade of an individual round from the two main lodes has a variance (error) of ±10% to ±15% depending on the lode and the gold grade of the round. The overall gold grades determined for the two lodes are precise to within ±0.2 g/t to ±0.4 g/t. The insertion of standard reference materials both external and internal to the laboratory that undertook the assaying of the field samples, and some limited check assaying at a second laboratory, indicate the assays for the bulk samples to be accurate.

20.3 Grade Continuity

Physical continuity of the two main lodes in the underground drifts excavated as part of the bulk sampling program was excellent, and following the lodes during mining did not present any difficulties. For those segments of possible economic grade, gold grade continuity based on the bulk sampling assay results is good as long as the cut-off grade is sufficiently low. For the 1100 Lode drift, good gold-grade continuity of the undiluted mineralization is achieved above 6 g/t, and for the 1000 Lode the same is true above 10 g/t. These two grades are natural cut-off grades at a level of 50% to 60% of the average undiluted bulk sample grades for the areas subjected to bulk sampling, and it is postulated that similar relationships may exist in other parts of the Tiriganiaq deposit. Raising the cut-off grade significantly above the natural cut-off grade will result in a certain loss of grade continuity.

The gold grade continuity of the intervening mineralization between the main lodes could not be fully investigated, since it was exposed in only three cross cuts. Detailed (underground) drilling on a tight pattern (say 10 metres or less) is required to address this question. The grade continuity in the intervening mineralization (or the lack thereof) is of importance for the upper part of the deposit that may be mined by open-pit, with the intervening mineralization contributing to a more favourable waste-to-ore ratio.

20.4 Gold Comportment, Gold-Grade Populations and Grade Capping

An important aspect of the underground development and bulk sampling program was the determination of the gold comportment within the two main lodes, and in the intervening mineralization. The detailed underground sampling and geological mapping have shown that the various lithological units within the two main lodes have greatly varying gold grade populations which require separate statistical analysis and need individual capping levels for high-outlier gold values. While the lithologies carrying the majority of the gold in the two lodes – the quartz veins in both lodes, and the mineralized iron formation additionally in the 1100 Lode – have "well-behaved" gold populations that require only limited capping, the other lithologies are very heterogeneous and require severe capping. The capping levels developed as part of the bulk sample evaluation and as presented in **Table 23** appear to be a good starting point to address this question.

The Snowden 2008 Report had recognized "*...the presence of multiple, mixed grade populations in these* [the 1000, 1025 and 1100] *domains*" - Board et al., 2008, page 80) and used multiple indicator kriging (MIK) for the gold-grade interpolation in these domains. The use of the MIK method provided the justification to use uncapped composite gold assay data for the grade interpolation in the 1100 Lode by assigning interpolation distances that become shorter with increasing gold grades. For the gold-grade interpolation in the 1001 sub-domain described in **Section 9.2.1**, the location for the high-grade mineralization within the 1000 Lode in the area of the bulk sample, ordinary kriging (OK) was employed also using uncapped composite assays. "*No top cuts were deemed necessary in Domains 1001 and 1253 because of low coefficients of variation (CV) displayed by the gold data and a lack of significant extreme grades*." (Board et al., 2008, page 74).

The documentation of separate gold populations within the two lodes subjected to the underground development and bulk sample program offers the possibility of verifying the MIK/OK resource estimation approach with a method that treats each of the natural gold grade populations on its own merits.

20.5 Drill-Hole Density for Feasibility-Level Studies

Variography using the underground sampling and bulk sampling data has indicated relatively short ranges of nor more than 15 metres and 25 metres for the strike direction of the 1100 and 1000 Lodes, respectively. Drilling with a spacing approaching these figures in the strike direction will be required to determine feasibility-level resource grades. No detailed information is currently available for the drill spacing required on section, but is likely to be of a similar magnitude as that found for the strike direction.

The January 2008 resource estimate used ranges that varied from 25 to 50 metres for the higher MIK cut-off grades in the 1100 Lode, and 50 metres for the 1001 domain (Tables 17.3 and 17.4

of the Snowden 2008 Report). Both sets of distances appear high based on the bulk sampling results presented in **Section 15.4**, which raises the possibility that individual high-grade intercepts may have been projected too far.

20.6 Grade Control Sampling

The bulk sampling program tested two types of underground sampling, channel sampling and chip-panel sampling. Every face was chip-panel sampled, but only every second face was channel sampled, due to the relatively large amount of extra time required and associated stand-by costs for the mining contractor.

Repeat sampling by both underground sampling methods (channel and chip-panel sampling) shows a high variance between repeat samples, averaging ±30% to ±40% for a typical individual sample pair. This leads to large initial nuggets in the variograms developed using the underground sampling data and will be difficult to overcome in any future grade-control sampling.

Disregarding the high variance of individual samples, the capped channel sample assays turned out to give the more accurate overall grades, while the capped chip-panel sampling assays were biased high, particularly in the 1100 Lode. Since channel sampling is not practical as a routine sampling method in an operating underground mine, chip-panel sampling will likely be the choice, but will be affected by this bias. The size of the bias can monitored by ongoing careful mine-mill reconciliation which, over time, will further refine the initial bias factors for this sampling method as deduced from the bulk sampling program – 23% and 11% for the 1100 and 1000 Lodes, respectively (**Table 26**).

The high gold grade variance of individual channel and chip-panel samples represents a serious challenge to grade-control sampling in those parts of the deposit that are near cut-off grade. A partial solution is to take larger and more frequent samples, and this can be accomplished as follows:

- For underground sampling, repeat sampling (but separate sample preparation and assaying) of each sample interval will provide somewhat more reliable data, after averaging of the two assay results. It will also be important to ensure that every available face (or both walls of cross-cuts) are sampled. Geological and structural information such as plunge lines and the general familiarity of the mine geologist with the Tiriganiaq mineralization will also help with this question;
- For open-pit grade control, relatively tightly-spaced reverse circulation (RC) inclined drilling to the south would ensure a good sample to start with, as compared to blasthole samples which are generally poor samples, particularly in gold deposits with a nugget effect. A drill-hole spacing of perhaps one-half the variogram ranges both along strike and dip would be

a good starting point, to be adjusted as experience is gained. The sample protocol for the RC samples would repeat the sample protocol for the field samples of the bulk sampling program as shown in **Figure 13**.

20.7 Considerations for Future Resource Estimates

The location predicted by the Tiriganiaq block model of the domain boundaries of the two main lodes subjected to underground development and bulk sampling was reliable. The widths of the wireframes used for resource estimation were shown to be reasonably accurate.

The bulk densities determined for the material excavated from the two drifts along the main lodes (**Section 15.3**) have confirmed the bulk density figures used to convert resource volume into resource tonnage.

The observations with respect to gold-grade continuity along the two main lodes have shown that the choice of a cut-off during resource estimation needs to be in harmony with the inherent grade continuity of each mineralized zone, otherwise grade continuity will be lost.

The variograms developed from the bulk sampling grade information have indicated that the variogram ranges of continuity previously used for the resource grade interpolation were larger than appropriate.

The bulk sampling gold grades have generally been of a similar magnitude as projected by the January 2008 resource estimate. The bulk sampling, however, has shown that resource estimation at the feasibility-study level will need a drill-hole spacing of from 15 to 25 metres, substantially denser than is currently available for most of the deposit.

The process of grade interpolation using uncapped assay composites as a basis for multiple indicator and ordinary kriging has stood the test of bulk sampling **in areas with a sufficient amount of drilling**. For future Tiriganiaq resource estimates, the kriging results can and should be corroborated by a second estimation method that uses lithology-specific capping followed by inverse-distance gold-grade interpolation.

20.8 Dilution Provisions for Future Underground Development Headings

For detailed mine planning for a future underground mining operation at Tiriganiaq, the dilution experience during the development of the 1000 and 1100 Lodes can be applied to all underground drifts and sub-drifts, taking into consideration the size of the mining equipment to be used. The dilution factors are 60% at an average gold grade of approximately 1 g/t for the 1000 Lode and 33% at an average gold grade of approximately 0.6 g/t for the 1100 Lode.

21. RECOMMENDATIONS

The following recommendations flow directly from the observations and conclusions drawn from the Tiriganiaq underground development and bulk sampling program, and most of them relate to future resource estimation.

1. The detailed logging information of the drill holes should continue to be used to delineate the mineralized domains for resource estimation. This has proven to be realistic and reliable;

2. To reflect the reality of mining in future resource estimates, and to satisfy the requirements that a mineral resource have "*reasonable prospects for economic extraction*" as stated in the CIM Definitions Standards on Mineral Resources and Mineral Reserves, the concept of an appropriate minimum horizontal width for narrow mineralized zones such as parts of the 1000 Lode should be considered. The minimum width may be different for open-pit and underground mining methods;

3. For a feasibility-level mineral resource estimate, the drill-hole spacing should be in a range of 15 to 25 metres for the main lodes, possibly tighter for the intervening mineralization. The program of in-fill drilling for the 1000 Lode bulk sample area should be completed to this density, and a new reconciliation of an updated resource model with the bulk sample results undertaken;

4. The resource estimation process needs to take into account the natural cut-off grades above which grade continuity is present in the various mineralized lodes. Where economic conditions dictate a cut-off grade that is relatively close to the average gold grade, continuity is likely compromised, and such mineralization should not be included in the resource estimate or should be down-graded to the inferred category until positive proof of grade continuity at the chosen cut-off grade is available;

5. As a corollary to the previous recommendation, a detailed (underground) drill program should be undertaken to test the grade continuity of the mineralization that occurs between

the two main lodes in the area of the bulk sample. Until this has been completed and identified a reliable drill-hole spacing for this mineralization, resource blocks for the intervening mineralization should be estimated with caution and assigned to the inferred category in areas with insufficient drill density;

6. The variogram information developed from the surface drill-hole intersections should be critically evaluated in light of the short variogram ranges derived from the bulk sampling information;

7. Future resource estimates should consider the introduction of capping by lithology within each of the main lodes, as a method of verification of the grade interpolation of largely uncapped composites using multiple indicator kriging or ordinary kriging;

8. To achieve the recommendation made in point 7, the database for the capping of high outlier gold assays created from the detailed underground sampling should be enlarged to include all of the existing drill-hole intersections within the deposit. Tests should be undertaken to determine whether different areas of the same lodes within the overall deposit have different gold-grade population statistics; and

9. Future estimates of reserves mineable by underground methods should take into account the dilution experience for mine development during the bulk sampling program.

22. REFERENCES

There is a comprehensive listing of references in the Snowden 2008 Report to which the following additions are made:

Board, W. S., 2009

Comments to Henrik Thalenhorst – Variography of the bulk sample and panel grade data. Unpublished e-mail dated January 21, 2009.

Board, W. S., Dumka, D., Balog, M. & Goode, J. R., 2008

Comaplex Minerals Corp., Tiriganiaq Gold Deposit, Nunavut – Resource Update. Technical report by Snowden Mining Industry Consultants Inc. dated January 2008, available on SEDAR

Dumka, D., 2007

Letter of Engagement to Strathcona Mineral Services Limited dated January 15, 2007 and transmitted by email.

Dumka, D., Balog, M. & Thalenhorst, H., 2005

Technical report on the Tiriganiaq Gold Deposit, Meliadine West Property, Nunavut, Canada for Comaplex Minerals Corp. by Strathcona Mineral Services Limited dated March 30, 2005, available on SEDAR

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Preliminary Analysis of Gold Grain Sizes and Shapes in both Tiriganiaq and Wesmeg Deposits. Work undertaken as part of an M. Sc. thesis at Laurentian University, Sudbury, dated August 30, 2000.

François-Bongarçon, D., 1998

Extension to the Demonstration of Gy's Formula. Explo. Mining Geol., Vol 7, Nos 1 and 2. Pp 149-154, 1998.

Geostat Systems International, Inc., 2000

Improved Sample Preparation Protocol for Meliadine Gold Project. Part 1. Unpublished draft report dated October, 2000

Pincock, Allen & Holt, 2008

Technical Report for the Meliadine East Project, Prepared for Meliadine Resources Ltd. On Behalf of the Meliadine East Joint Venture. Report No. 80517 dated January 15, 2008 and available on SEDAR.

Pitard, F., 1993

Pierre Gy's Sampling Theory and Sampling Practice. Heterogeneity, Sampling Correctness, and Statistical Process Control. Second Edition, Boca Raton (USA), CRC Press, 488 pp.

SGS Lakefiel Research Limited, 2007a

Mineralogical investigation of gold particles in six Mozley Concentrate Samples prepared for Metallurgical Operations. Project 11166-002, MI5014-FEB07, dated February 20, 2007. Also submitted by Lakefield was a spreadsheet on gravity separation balances of the same sample. This was the 1100 Lode composite.

SGS Lakefield Research Limited, 2007b

Mineralogical investigation of gold particles In four Mozley Concentrate Samples, prepared for Comaplex Minerals Corp. Project 11166-002, MI5014-MAR07, dated March 26, 2007. Also submitted by Lakefield was a spreadsheet on gravity separation balances of the same sample. This was the 1000 Lode composite.

SGS Lakefield Research Limited, 2008

Spreadsheet including the detailed assay results of the Tiriganiaq bulk samples dated December 12, 2008.

23. DATE AND SIGNATURE PAGE

This report entitled Technical Report on the Underground Development and Bulk Sample Program, Tiriganiaq Gold Deposit, Meliadine West Property, Nunavut, Canada dated January 23, 2009 has been prepared for Comaplex Minerals Corp. by Mark Balog, P. Geol., Doug Dumka, P. Geo. and Henrik Thalenhorst, P. Geo., each of whom are qualified persons as defined by NI 43-101.

Signed, sealed and submitted on January 23, 2009.

Report Sections 4, 5, 6, 16 and 17 have been prepared by Mark Balog, P. Geol.

Mark Balog, P. Geol.

Report Sections 7, 8, 9.1, 9.2, 10, 11, 18 and 19 have been prepared by Doug Dumka,, P. Geo.

Doug Dumka, P. Geo.

Report Sections 1, 2 and 3, 9.3, 12, 13, 14, 15, 20, 21 and 22 have been prepared by Henrik Thalenhorst, P. Geo.

Henrik Thalenhorst, P. Geo.

CERTIFICATES OF QUALIFICATION

CERTIFICATE OF QUALIFIED PERSON

I, Mark Balog, Chief Operating Officer, of Comaplex Minerals Corp. Suite 901, 1015 – 4th St. S.W. Calgary Alberta T2R 1J4 do hereby certify that:

1. I am a graduate of the University of Calgary having obtained the degree of Bachelor of Science in Geology in 1982.

2. I am registered and in good standing as a Professional Geologist with the Association of Professional Engineers, Geologist, Geophysicists of Alberta (APEGGA).

3. I have been continuously employed as a geologist since graduation in 1982.

4. I am a co-author of the report entitled Technical Report on the Underground Development and Bulk Sample Program, Tiriganiaq Gold Deposit, Meliadine West Property, Nunavut, Canada for Comaplex Minerals Corp. dated January 23, 2009.

5. I have visited the Meliadine project nine times during 2007 and 2008 to review the sample tower operation and the underground bulk sample and surface diamond drilling programs.

6. As to the date of the certificate, to the best of my knowledge, information and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to make the Technical report not misleading.

7. I am currently employed with Comaplex Minerals Corp. and therefore am not independent of Comaplex as per the requirements of National Instrument 43-101.

8. National Instrument 43-101 and Form 43-101F1 amended as of December 30, 2005 have been read and the Technical Report has been prepared in accordance with the requirements specified therein.

Dated at Calgary, Alberta, this 23rd day of January, 2009

PROFESSIONAL GEOLOGIST ALBERTA
Mark J. Balog

Mark Balog P. Geol.
Comaplex Minerals Corp.

CERTIFICATE OF QUALIFIED PERSON

I, Douglas Dumka, Chief Geologist, Comaplex Minerals Corp, 901- 1015 4th St. SW, Calgary, Alberta, T2R 1J4 do hereby certify that:

1. I am a co-author of the technical report titled Technical Report on the Underground Development and Bulk Sample Program Tiriganiaq Gold Deposit Meliadine West property Nunavut, Canada for Comaplex Minerals Corp. and dated January 23, 2009.

2. I graduated from Memorial University with a B.Sc. in Applied Sciences – Geology in 1980. I am a registered member of the Association of Professional Geoscientists of Ontario (No. 176). I have practiced my profession as geologist continuously since graduation, and with Comaplex Minerals Corp since May 2005.

3. I have read the definition of “qualified person” set out in National Instrument 43-101 (“the Instrument”) and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements of a “qualified person” for the purposes of the Instrument.

4. As Chief Geologist of Comaplex Minerals Corp. I directly supervised on site the under-ground development and bulk sample activities from February to September, 2008.

5. I am Chief Geologist for Comaplex Minerals Corp. and therefore not independent of the issuer.

6. As to the date of the certificate, to the best of my knowledge, information and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to make the Technical report not misleading.

7. I have read the Instrument and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Dated at Calgary, Alberta this 23rd day of January, 2009.

PROFESSIONAL GEOSCIENTISTS
DOUGLAS A. DUMKA
PRACTISING MEMBER
0176
ONTARIO

Douglas Dumka, P.Geo

CERTIFICATE OF QUALIFIED PERSON

I, Henrik Thalenhorst, Vice President and Senior Geologist, Strathcona Mineral Services Limited, 12th Floor, 20 Toronto Street, Toronto, Ontario, M5C 2B8 do hereby certify that:

1. I graduated from the University of Munich, Germany with a Ph.D. in Economic Geology in 1968;

   I am a registered member in good standing of the Association of Professional Geoscientists of Ontario, Registration No. 0172;

   I have practised my profession as a geologist continuously since graduation in 1968, and with Strathcona Mineral Services Limited since January 1986;

   and therefore meet the requirements of National Instrument 43-101 for designation as a Qualified Person.
2. I am the lead author of the report entitled Technical Report on the Underground Development and Bulk Sample Program, Tiriganiaq Gold Deposit, Meliadine West Property, Nunavut, Canada for Comaplex Minerals Corp. dated January 23, 2009 (the Technical Report).
3. I have visited the Tiriganiaq project in Nunavut from March 27 to 30 of 2008 and from April 7 to 10 of 2008 to supervise the initial operation of the sample tower and to assure its proper functioning. I visited the project again from August 12 to 14 of 2008 to review the project, visit the accessible underground openings, and to observe drill-core of the two zones being sampled.
4. As of the date of this 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 this Technical Report not misleading.
5. I am independent of Comaplex Minerals Corp. in accordance with the requirements of National Instrument 43-101.
6. National Instrument 43-101 and Form 43-101F1 amended as of December 30, 2005 have been read and the Technical Report has been prepared in accordance with the requirements specified therein.

Dated at Toronto, Ontario this 23rd day of January, 2009

Henrik Thalenhorst

Strathcona Mineral Services Limited

APPENDIX I

Bulk Sampling Data Sheets for Rounds 1100-30 W and 9950-1000-19 E

Sample ID	1100 30W	Date Sampled	02/05/08	Sample start time	13:45
				Sample stop time	16:25

Tower Settings

	strokes/min	Opening	
Primary Splitter	12.2	N/A	
Secondary Splitter	13.1	N/A	
Cone Crusher Opening		0.47	cm
Rotary Splitter		5.1	cm at centre

Expired time 2:40

Weightometers	tonnes
Feed Belt	91.17
Reject Belt	93.37

Average feed rate (tph) 34.1

Rejects into LGSP / HGSTP **90.4**

Bagged Rejects	Mass (kg)		Sample Ratio
Reject Bag	660		
Reject Sample	9	Expected	0.74%
Total Rotary Rejects	**669**	Actual	0.73%

Observations dry muck; cone set same as 27W

Samples	No. of pails	Pail 1 (g)	Pail 2 (g)	**Total** (g)	Sample Ratio
Sample A	1	32,997		**32,997**	0.036%
Sample B	1	25,246		**25,246**	0.028%
				58,243	**0.064%**
				Expected	0.057%
Rejects Hand Sample	1	8,566			

Granulometry for 1100 30W

Sub Sample	>4.7 mm (g)	2.4 to 4.7 (g)	1.2 to 2.4 (g)	<1.2 (g)	**Total (g)**
	Rotary Splitter Rejects				
1	86.4	819.8	526.1	526.9	**1,959**
2	137.1	921.1	640.8	563.9	**2,263**
3	126.5	1019.0	593.3	499.4	**2,238**
4	129.0	965.7	528.1	464.6	**2,087**
5					**0**
6					**0**
7					**0**
8					**0**
9					**0**
10					**0**
11					**0**
12					**0**
13					**0**
14					**0**
15					**0**
16					**0**
17					**0**
18					**0**
19					**0**
20					**0**
21					**0**
22					**0**
23					**0**
24					**0**
25					**0**
Totals	**479.0**	**3,725.6**	**2,288.3**	**2,054.8**	**8,548**
Percentages	5.6%	43.6%	26.8%	24.0%	
Sample loss during sieving					18

Sample ID	**9950-19E**	Date Sampled	26/07/08	Sample start time	8:00		
				Sample stop time	11:05		
Tower Settings							
		strokes/mir	Opening				
	Primary Splitter	12.2	N/A				
	Secondary Splitter	13.1	N/A				
	Cone Crusher Opening		0.47	cm			
	Rotary Splitter		5.1	cm at centre			
				Expired time	3:05		
Weightometers	tonnes						
Feed Belt	70.92			Average feed rate (tph	22.9		
Reject Belt	65			Rejects into	LGSP	**70.3**	
					HGSTP		

Bagged Rejects	Mass (kg)		Sample Ratio	
Reject Bag	520			
Reject Sample	29	Expected	0.74%	
Total Rotary Rejects	**549**	Actual	0.77%	
Observations				

1a	1b	2a	2b
3457.1	3300.1	2935.1	3506.5
2786.3	3292.6	4088.3	3917.4
2718.1	3980.9	4262.8	4165.8
3793.9	3870.2	4365.3	4414.8
3261	3968.8	4387.2	3643.8
3086.6	3887.4	1976	
4910.6	4447.4		
24013.6	26747.4	22014.7	19648.3

Samples	No. of pails	Pail 1 (g)	Pail 2 (g)	**Total** (g)	Sample Ratio
Sample A	1	25,900		**25,900**	0.037%
Sample B	1	16,600		**16,600**	0.023%
				42,500	**0.060%**
				Expected	0.057%
Rejects Hand Sample	1	29,499			

Granulometry for 9950-19E

Rotary Splitter Rejects

Sub Sample	>4.7 mm (g)	2.4 to 4.7 (g)	1.2 to 2.4 (g)	<1.2 (g)	**Total (g)**
1	14.0	312.2	399.7	372.8	**1,099**
2	103.6	326.9	253.2	264.8	**949**
3	21.9	318.7	383.1	328.0	**1,052**
4	8.5	199.1	270.8	223.0	**701**
5	129.0	315.8	268.6	347.6	**1,061**
6	132.9	328.5	272.8	357.1	**1,091**
7	252.2	329.9	217.4	306.5	**1,106**
8	68.0	292.0	265.8	334.4	**960**
9	79.2	272.5	306.3	457.2	**1,115**
10	97.8	307.1	238.7	360.7	**1,004**
11	147.5	310.2	216.2	319.6	**994**
12	82.8	322.0	310.4	453.4	**1,169**
13	63.5	295.0	243.9	396.2	**999**
14	54.2	276.2	250.0	455.9	**1,036**
15	33.8	295.2	265.9	437.5	**1,032**
16	177.8	339.0	285.5	480.1	**1,282**
17	47.8	333.7	292.4	487.5	**1,161**
18	38.8	328.8	274.0	284.9	**927**
19	170.8	286.7	203.1	360.1	**1,021**
20					**0**
21					**0**
22					**0**
23					**0**
24					**0**
25					**0**
Totals	**1,724.1**	**5,789.5**	**5,217.8**	**7,027.3**	**19,759**
Percentages	8.7%	29.3%	26.4%	35.6%	
Sample loss during sieving					9,740