

SUMMARY REPORT  
Status and Resource Estimate  
Schaft Creek Property,  
Northwestern British Columbia

NTS 104G/035, 104G/036 and 104G/046  
Latitude 57 degrees 40' N  
Longitude 131 degrees 57' W

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## 0.0 SUMMARY

The report "Summary Report – Status and Resource Estimate, Schaft Creek Property, N.W. British Columbia", was prepared at the request of Mr. Guillermo Salazar S., President, 955528 Alberta Ltd., to

- (a) summarize the exploration history and technical aspects of the subject property
- (b) present a discussion of the mineral resource that has been identified, complete with consideration of the reliability of that resource calculation, and
- (c) suggest a program of work that would improve the metallurgical understanding, study the economics of the project and improve the confidence of drill hole information.

The Schaft Creek porphyry copper-molybdenum-gold deposit, located in the Liard District of Northwestern British Columbia, Canada, is a major, global scale, mineral resource. Hosted by mid-Mesozoic andesitic volcanic and volcanoclastic formations intruded by co-eval granodioritic plutons, it has been investigated since 1957 by prospecting, geological mapping, geophysical surveys and diamond and percussion drilling. A large volume of technical data, including assays and analyses and preliminary engineering studies, has been amassed.

It is believed that the presently known bodies of mineralization have been investigated sufficiently to enable credible resource calculations. Very large volumes of 'measured' and 'indicated' resources have been calculated using criteria compatible with 'Standard Definitions of Mineral Resources and Mineral Reserves' recommended by the Canadian Institute of Mining and Metallurgy. Tonnages of 'inferred' quality resources have been calculated and are presented in order to provide planning guidance for further confirmation by drilling or other means. Tonnages in the various categories have also been calculated over a range of 'copper equivalent' values using certain specified assumptions including metal prices and mine throughput. These volumes are entirely subjective based on metal prices that may or may not prevail in the future and which may vary independently of one another. As an example the following Table shows the grades and tonnages for the various resource classifications at a 0.40 % Cu Equivalent cutoff. This cutoff is chosen purely as an example and in no way implies an economic cutoff for this deposit.

	CuEQ Cutoff (%)	Tonnes>Cutoff (tonnes)	Grade>Cutoff				
			Cu (%)	MoS2 (%)	Au (g/t)	Ag (g/t)	CuEq (%)
<b>Measured</b>	<b>0.40</b>	<b>69,100,000</b>	<b>0.400</b>	<b>0.040</b>	<b>0.277</b>	<b>1.970</b>	<b>0.534</b>
<b>Indicated</b>	<b>0.40</b>	<b>262,900,000</b>	<b>0.388</b>	<b>0.045</b>	<b>0.264</b>	<b>2.159</b>	<b>0.526</b>
<b>Measured+ Indicated</b>	<b>0.40</b>	<b>332,000,000</b>	<b>0.391</b>	<b>0.044</b>	<b>0.267</b>	<b>2.119</b>	<b>0.528</b>
<b>Inferred</b>	<b>0.40</b>	<b>113,500,000</b>	<b>0.398</b>	<b>0.048</b>	<b>0.302</b>	<b>2.410</b>	<b>0.534</b>

Exploration of the Schaft Creek property has demonstrated the presence of a body of mineralization comparable to that of many economically viable mines. The possible viability of the deposit as a mine will be determined in due course by a comprehensive feasibility study that will include consideration of not only its geological character but also a mining plan, mineral processing details, social, transportation and power issues, markets, taxation policies, and financing options.

Recommendations have been made to a program consisting of metallurgical testing for both flotation and SX/EW, a scoping study to investigate the economics of the Schaft Creek deposit and drilling to collect a fresh bulk sample for metallurgical testing and to increase the confidence within the area where mining would commence. The program would be phased over two work seasons with Phase 1 estimated at \$350,000. The character of the property is of sufficient merit to justify this program. The program is endorsed and recommended.

## 1.0 INTRODUCTION AND TERMS OF REFERENCE

The report "Summary Report – Status and Resource Estimate, Schaft Creek Property, N.W. British Columbia", was prepared at the request of Mr. Guillermo Salazar S., President, 955528 Alberta Ltd., to

- (a) summarize the exploration history and technical aspects of the subject property
- (b) present a discussion of the mineral resource that has been identified, complete with consideration of the reliability of that resource calculation, and
- (c) suggest a program of work that would improve the metallurgical understanding, study the economics of the project and improve the confidence of drill hole information.

Mr. Guillermo Salazar, as discussed elsewhere in this report, has entered into an option agreement with TeckCominco Limited ('Teck') to acquire 100% of that company's interest in the Schaft Creek property and has informed the writers that this interest is being assigned to 955528 Alberta Limited.

The writers are Qualified Persons as defined by The Canadian Securities Administrators, an umbrella group of Canada's provincial and territorial securities regulators. They assumed that this report will be reviewed by prospective investors as a source of information and may contribute to such persons' investment decision making. It conforms to the requirements of National Instrument 43-101, Standards of Disclosure for Mineral Projects, and Policy Document 43-101.F1, Technical Report, as designed by The Canadian Securities Administrators

The writers were given full access to the data base compiled by Guillermo Salazar, 955528 Alberta Ltd., and by various previous owners/operators of the Schaft Creek property. Our resource estimates utilized assay data, including check assaying, obtained by Asarco (1966 and 1967), Hecla Mining Company (1969–1977) and Teck (now TeckCominco Ltd.) from approximately 60,200 metres of drilling. Information sources also included elaborate engineering and planning studies prepared by Hecla Mining Company (1970s) and Teck (1988) that included consideration of environmental factors, access, power supply, possible mining and processing operations.

One of the writers (EAO) was employed by Hecla Mining Company of Canada Limited during the period of that company's exploration work and at various times had a supervisory role in the completion of that work. He participated in the preparation of annual summary reports that compiled the technical details of the work and included measurements of volumes and metal contents of various mineral zones. Consequently, he is thoroughly familiar with Hecla's contributions to the project; however, he had no involvement with Teck's operations and studies and has relied wholly upon that company's data and reports in accounting for the more recent work. Wherever possible and appropriate he has made attribution to such sources.

Mr. Gary Giroux, M.A.Sc., P.Eng., prepared sections 14 to 17 of this report that pertain to the identification and measurement of mineral resources. He utilized the complete available data base and performed such tests and procedures as he judged adequate to ensure confidence in his output. He has been a consultant in geological engineering and mineral statistical studies for more than 25 years and has conducted studies for a large number of mining and engineering companies.

Mr. Giroux conducted a site visit to Schaft Creek on June 4-6, 2003 where he toured the property and examined the drill core stored at site.

## 2.0 DISCLAIMER

The authors of "Summary Report – Current Status and Resource Estimate, Schaft Creek Property, NW British Columbia" have relied upon diverse sources, including personal communications, published technical papers, internal company memoranda and project summaries, and preliminary engineering studies, in compiling this report. Where the opinions of other workers are included, the writers have endeavored to cite references appropriately but they are wholly responsible for the conclusions expressed.

It is believed that the presently known bodies of mineralization have been investigated sufficiently to enable resource calculations. Very large volumes of 'measured' and 'indicated' resources have been calculated using criteria compatible with 'Standard Definitions of Mineral Resources and Mineral Reserves' recommended by the Canadian Institute of Mining and Metallurgy. Additional volumes of 'inferred' quality resources have been calculated and are presented to provide planning guidance for further confirmation by drilling or other means.

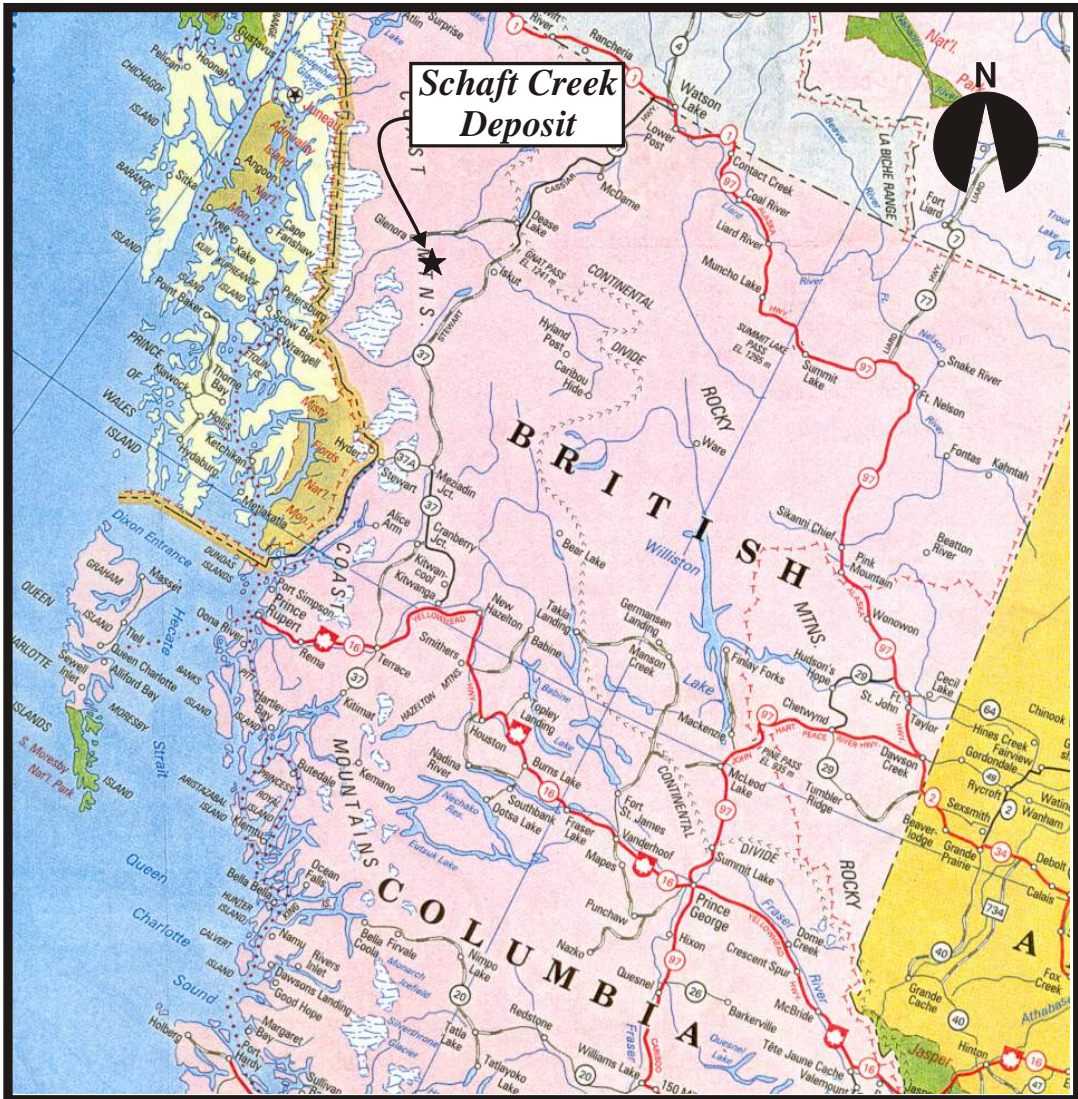
Using certain specified assumptions concerning possible 'copper equivalent' determinations, including metal prices and mine throughput, tonnages in the various categories have also been calculated over a range of copper equivalent values. The reader should be aware that these volumes are entirely subjective and are based on metal prices and other assumptions that, although reasonable at the present time, may or may not prevail in the future and may vary independently of one another. Data based solely on 'copper equivalent' assumptions should not be used in determining the possible value of the mineral deposit.

## 3.0 PROPERTY DESCRIPTION AND LOCATION

The Schaft Creek porphyry copper-gold-molybdenum property comprises 350 mineral claims and claim fractions with area in excess of 7,000 hectares. It is located in the valley of Schaft Creek in the Liard Mining Division of northwestern British Columbia, Canada (Figures 1, 2, and 3) and its geographic location is latitude 57 degrees 40' north, longitude 131 degrees 57' west.

The claims are detailed in Appendix 1. The property, when it was being explored by Hecla Mining Company of Canada Ltd., was subjected to a series of legal surveys to establish boundaries and to identify internal fractions, and is believed to have contiguity. Certain claims were later acquired by Teck as replacements of the earlier locations. Claims represent entitlement to minerals contained therein but do not convey surface rights. Claim titles (Appendix 1) have been searched in the electronic records of the Mining Recorder, Mineral Titles Branch, Ministry of Energy and Mines on May 3, 2004 and are believed to be accurate.

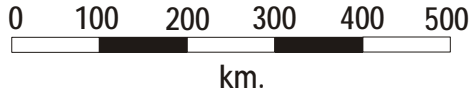
Claims have been given a common anniversary date of October 30<sup>th</sup> and may be renewed annually on or before that date by performance and recording of prescribed assessment work or by payment of appropriate cash in lieu of work. At present the value of required work or cash in lieu thereof, plus recording fees, is about \$75,000 annually. The writers have been informed by the principals of 955528 Alberta Ltd. that claims are in good standing until their October 30, 2004 anniversary.



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## Schaft Creek Deposit Location Map - Northwestern British Columbia

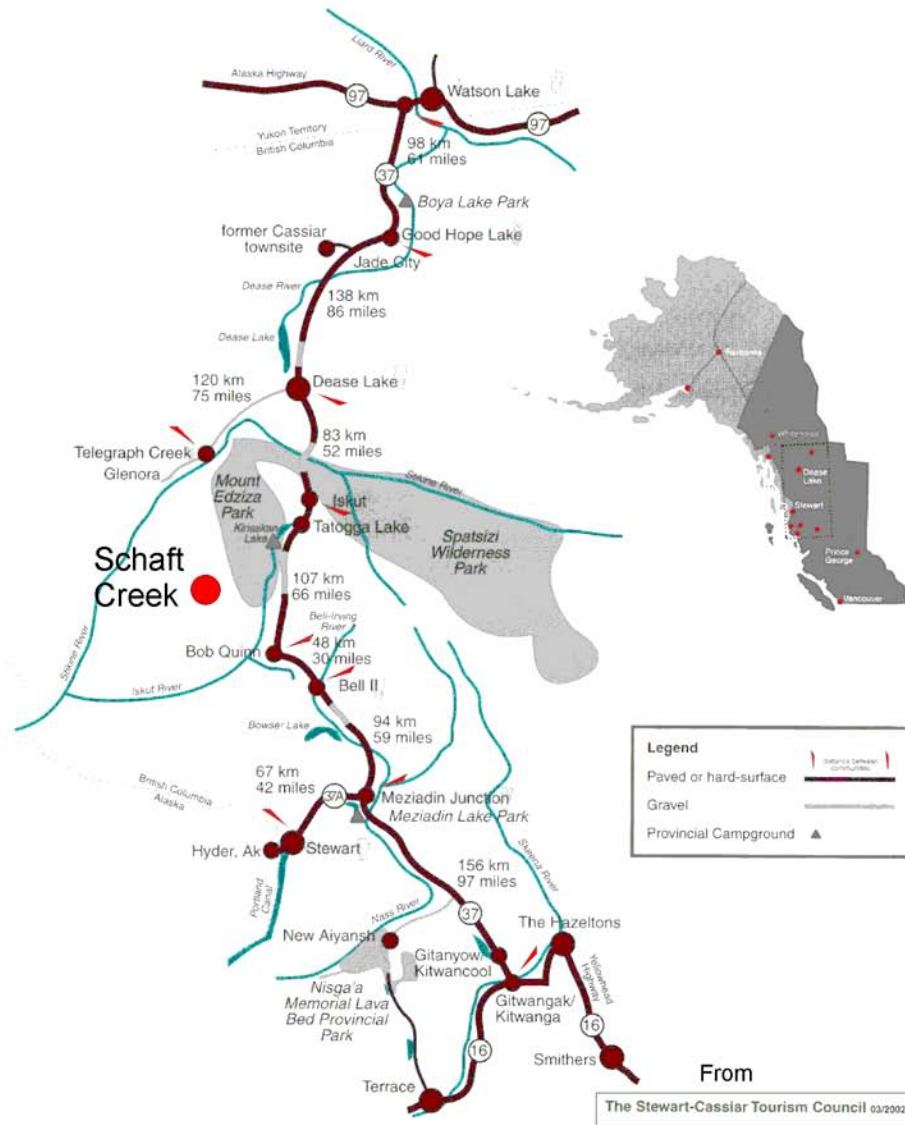
To Accompany a Report by Gary H. Giroux, MASc., P.Eng. & Erik A. Ostensoe, P.Geo. Dated June 2003



**Fig. 1**



# STEWART-CASSIAR

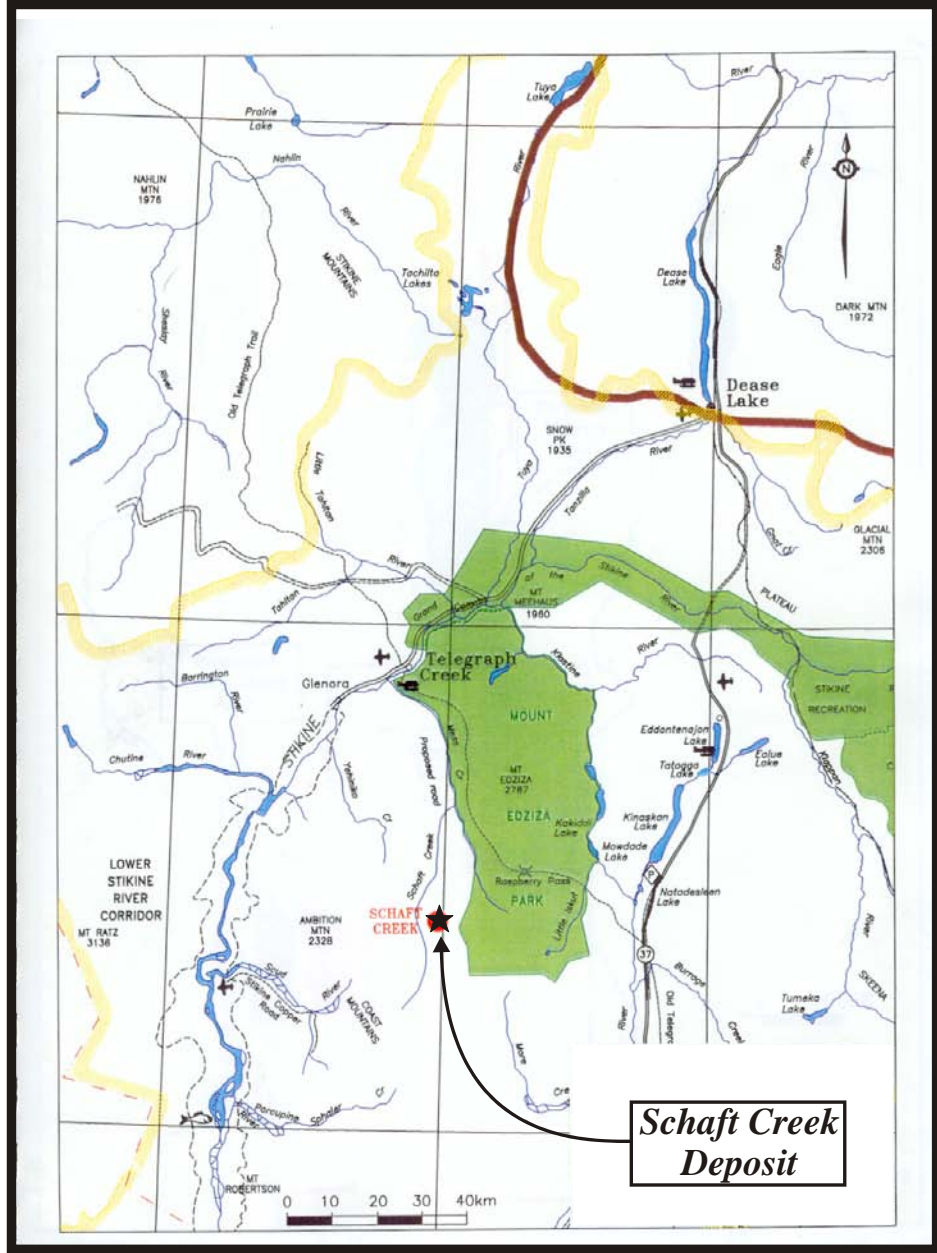


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**Schaft Creek Deposit  
Location Map - Stewart-Cassiar Highway**

To Accompany a Report by Gary H. Giroux, M.Sc., P.Eng. & Erik A. Ostensoe, P.Geo. Dated June 2003

**Fig. 2**



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## Schaft Creek Deposit Location Map - (After Teck Corporation; 1998)

To Accompany a Report by Gary H. Giroux, MASC., P.Eng. & Erik A. Ostensoe, P.Geo. Dated June 2003

**Fig. 3**

Figures 4 and 5 illustrates property and claim boundaries on adjoining map sheets 104G035-036 and 104G046 respectively. Figure 6 is an oblique photograph of the valley of Schaft Creek viewed from the south on which are plotted the locations of the campsite and the Liard and Paramount mineral zones. The high ridge located north of the Liard zone includes Mt. LaCasse, elevation 1,830 metres, and the camp is situated at about 800 metres elevation.

The Schaft Creek mineral deposit is now owned by TeckCominco, a major mining corporation with international operations that include exploration ventures, operating mines, and metallurgical plants. Salazar has an option by agreement dated January 1, 2002 to acquire 100% of TeckCominco's defined 'Direct Holding', which is a 70% direct participating interest in the Schaft Creek property, by incurring \$5,000,000 in expenditures as defined on or before December 31, 2006 and aggregate expenditures of \$15,000,000 on or before December 31, 2011, and TeckCominco's defined 'Indirect Holding', an indirect 23.4% carried interest through its 78% shareholding in Liard Copper Mines Ltd. who hold a 30% carried interest in the property, by incurring the above described \$5,000,000 in expenditures and completing a positive bankable feasibility study, as defined, and delivering a Feasibility Notice to TeckCominco.

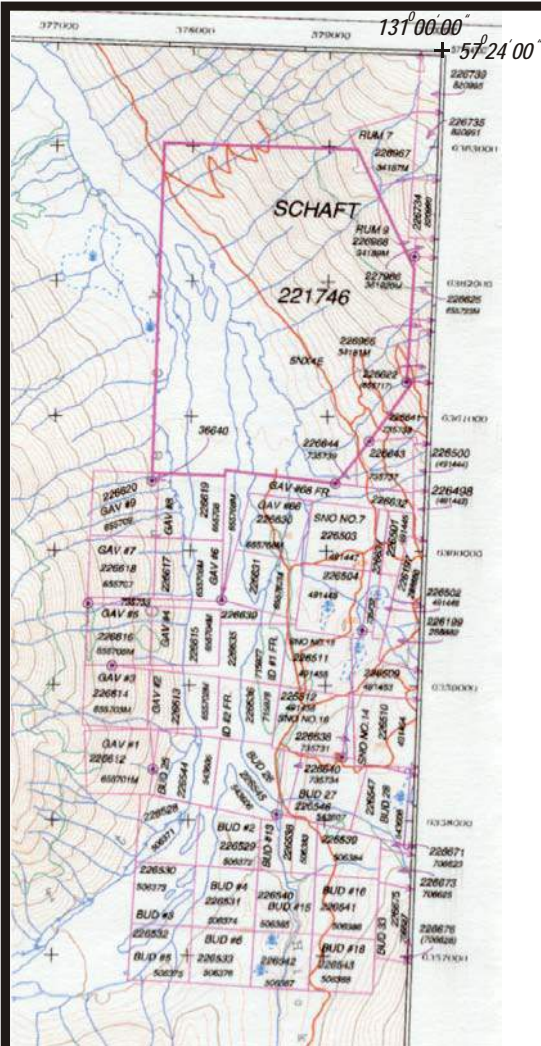
The option agreement has a time-limited back-in right exercisable by TeckCominco within 120 days of the delivery of the positive feasibility study. If the back-in right is not exercised, Salazar shall grant TeckCominco a 1% net smelter royalty or, if Salazar has assigned the option agreement to a public company whose shares are listed on a recognized stock exchange, shares of that company having a value of \$1,000,000.

The back-in right, if exercised, would enable TeckCominco to acquire, variously, 20%, 40%, or 75% interest in the property whereupon Salazar (or its assignee) would form with TeckCominco a joint venture in which each owner would own the property in proportion to their respective interests. The option agreement includes provisions for joint management and for dilution of interests in proportion to expenditures, including reversion of either party to a defined net profits royalty if that party's interest is diluted below a 20% interest in the joint venture.

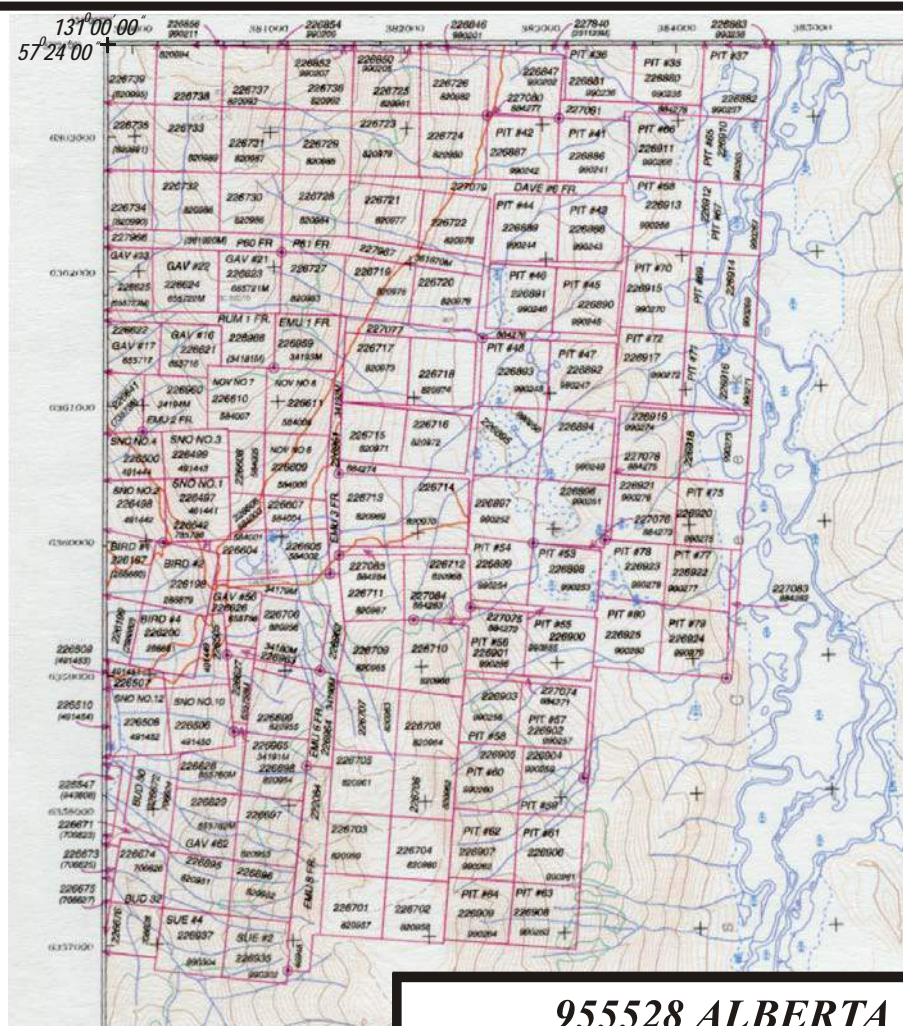
The optionor, Salazar, by entering into the option agreement, assumed, with certain defined exclusions, all existing environmental obligations and liabilities that may be attached to the Schaft Creek property. TeckCominco has protected itself against any claims from the BC Government regarding damages to the environment within the property under its "MX-General Permit", a province wide permit available to established mining operators in the province. Salazar and/or his assignees will need to replace Teck's bond with their own before exploration work recommences. The amount of that bond will be determined in due course by the Ministry.

The extent of current environmental liabilities is undetermined but is believed to be relatively insignificant, being confined to the aging buildings in the campsite. Much of the part of the property that was disrupted by access roads, bulldozer trenches and drill site construction was burned by an earlier wild fire in 1957 and the former roads and trenches have been naturally reclaimed as vegetation is regenerated.

Salazar or his assignees will be required to obtain an exploration permit prior to commencement of property work. That permit will be issued by the Ministry of Energy and Mines following consultation with all interested parties. The application and approval process will commence following formulation of an exploration strategy. Approval, because of the property's history and



Mineral Tiles  
Reference Map  
M104G035



Mineral Tiles  
Reference Map  
M104G036

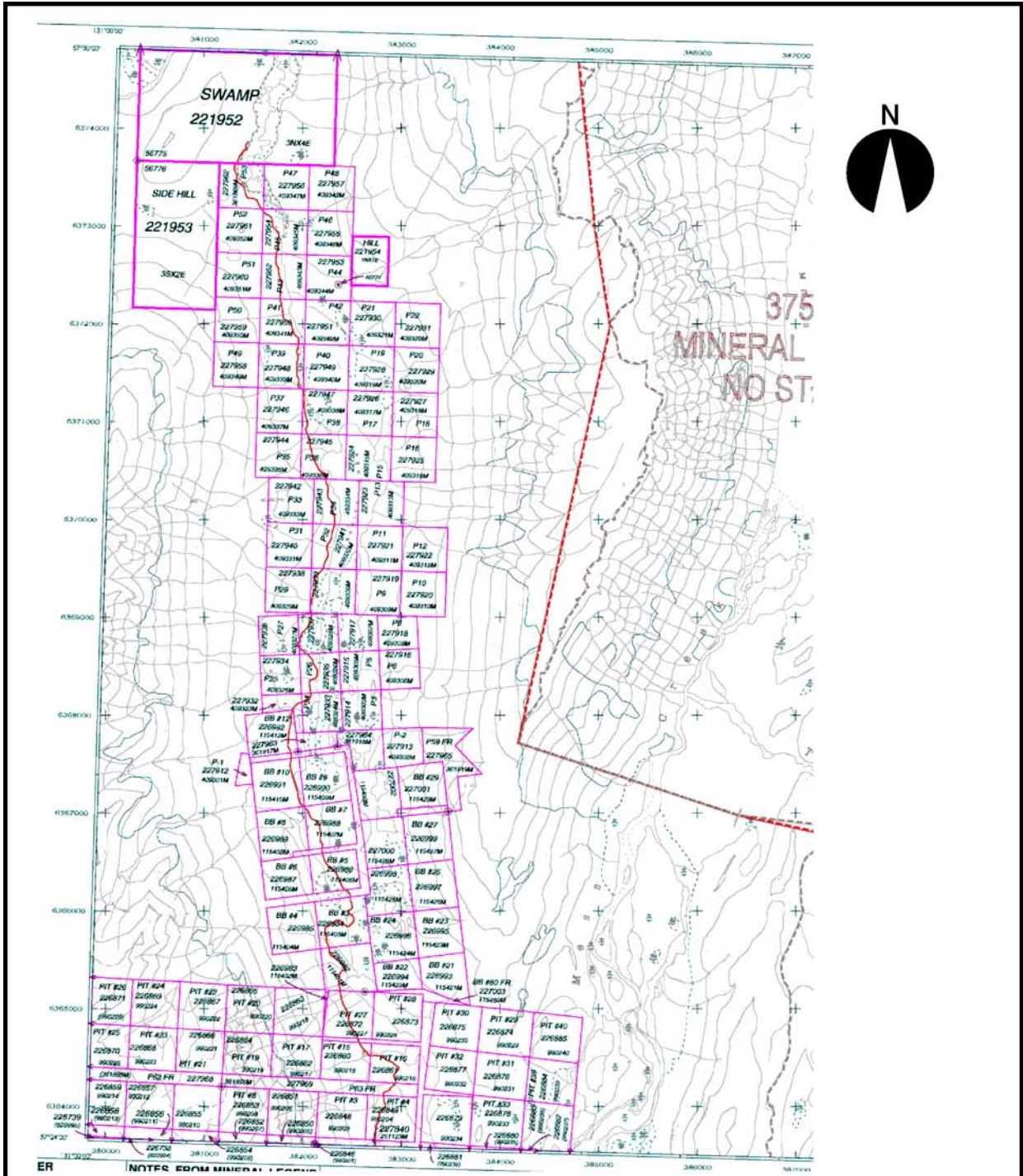
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*Schaft Creek Deposit*  
**Claim Map (Map Sheets Separated for Clarity)**

*To Accompany a Report by Gary H. Giroux, M.A.Sc., P.Eng. & Erik A. Ostenoe, P.GeO. Dated June 2003*

0    500    1000    1500    2000  
m.

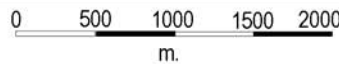
Fig. 4



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**Schaft Creek Deposit  
Claim Map 104G046**

To Accompany a Report by Gary H. Giroux  
M.A.Sc., P.Eng. & Erik A. Ostensoe, P.Geo. Dated  
June 2003



**Fig. 5**

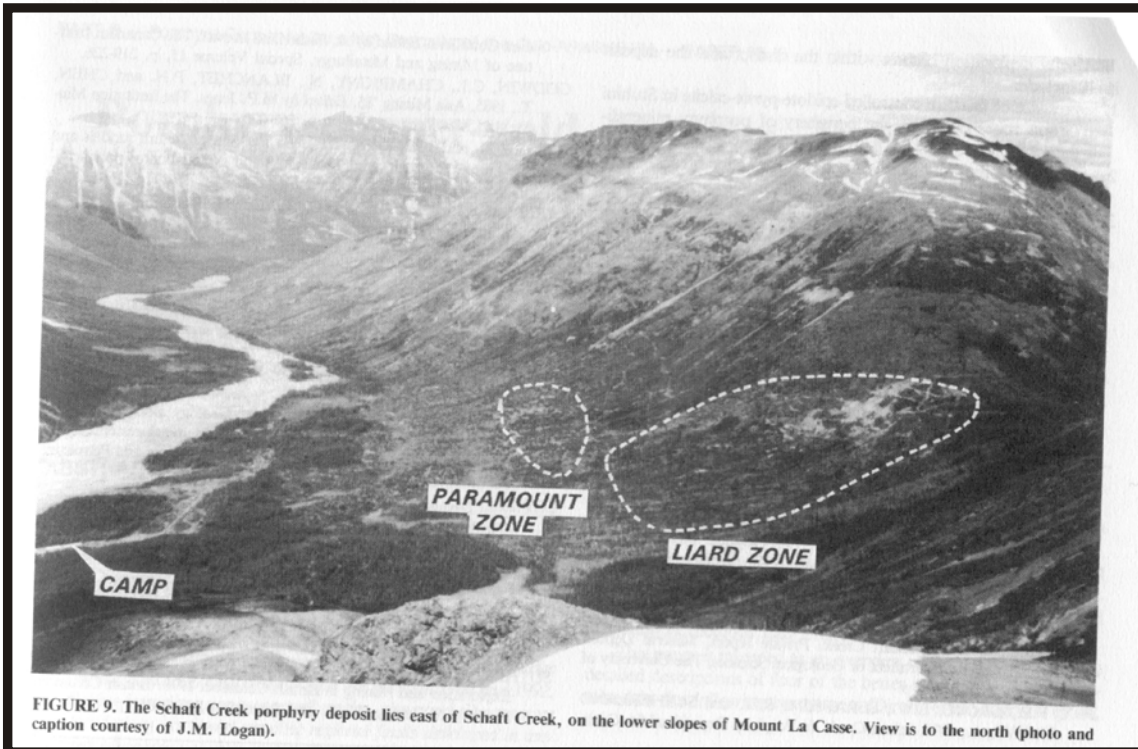


FIGURE 9. The Schaft Creek porphyry deposit lies east of Schaft Creek, on the lower slopes of Mount La Casse. View is to the north (photo and caption courtesy of J.M. Logan).

Photo Caption

“FIGURE 9. The Schaft Creek porphyry deposit lies east of Schaft Creek, on the lower slopes of Mount La Casse. View is to the north (photo and caption courtesy of J.M. Logan”

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***Schaft Creek Deposit  
Oblique Photograph - (After Spilsbury; 1995)***

To Accompany a Report by Gary H. Giroux, M.A.Sc., P.Eng. & Erik A. Ostensoe, P.Geo. Dated June, 2003

*(Not to Scale)*

**Fig. 6**

relatively advanced state of exploration, should be obtainable without delay.

The present conditions of the established infrastructure, including the airstrip and camp facilities, need to be assessed. In particular, the airstrip which is located on a gravel bar adjacent to Schaft Creek may require substantial amounts of improvement to enable use by freight aircraft.

#### 4.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Schaft Creek copper-gold-molybdenum property is located 61 km south of the village of Telegraph Creek, (population 300), 120 km southwest of Dease Lake (population 800), and 1,040 km north of Vancouver, B. C. (Figures 1, 2 and 3). It is situated in a mountain valley between elevations 840 and 1,200 metres. Nearby mountains rise to 2,000 metres; a low 'saddle' in the ridge that lies immediately east of the mineral zone has elevation 1,280 metres. Mt. Hickman, 13 km south, exceeds 2,400 metres.

The principal streams in the area, Schaft and Mess Creeks, flow northerly, merge about 33.5 km north of the property and a further 30 km to the north, join the Stikine River near Telegraph Creek.

Evergreen forests, largely balsam and northern fir, persist to 1,200 metres elevation. Poplar, willow and birch are found in proximity to streams and muskeg areas. The Schaft and Mess Creek valleys support small populations of bear, moose and fur-bearing animals, including beaver, martin, wolverine and fisher.

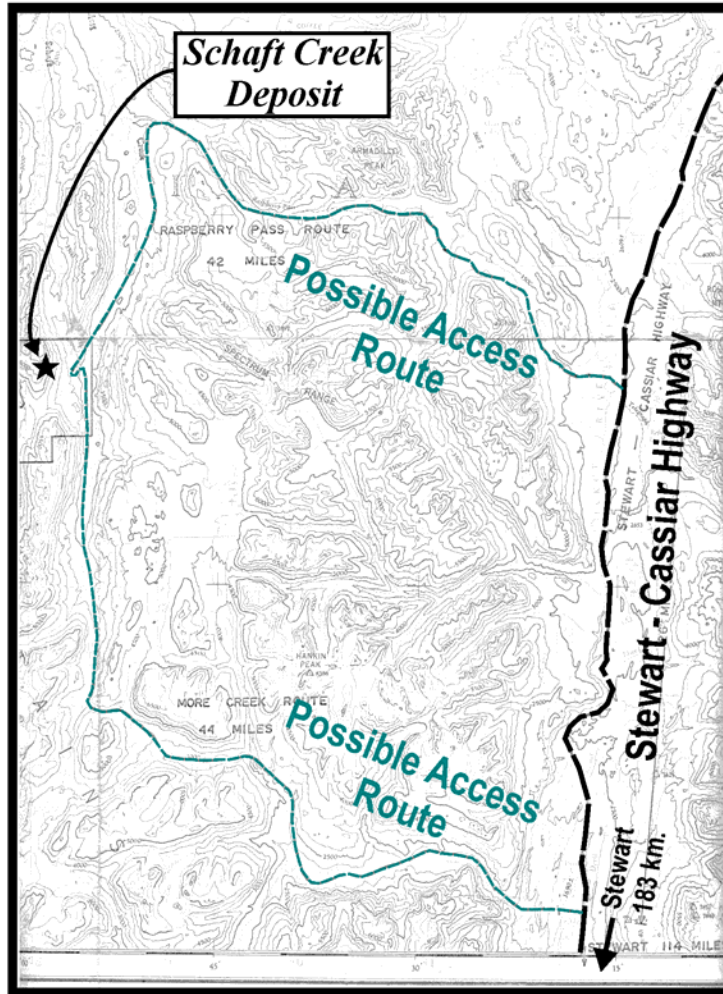
The Schaft Creek area experiences a moderate climate: winters are cold with one to two metres of snow; summers are warm. Annual precipitation is 50 cm, about equally as rain and snow. Exploration work in the past has largely been conducted in the months between May and November but more advanced work could readily be pursued on a year-round basis.

A 1,000 metre long airstrip lies adjacent to the Schaft Creek camp. Constructed by Asarco and Hecla in the 1960s, it is gravel surfaced and requires annual maintenance. It is suitable for use by various rugged 'bush planes' such as a deHaviland Otter, Caribou or DC-3 craft and provides the only practical means of delivering bulk freight to the property. A site visit on June 5, 2003 has determined the north end of the air strip has been washed out (see Plate 1) leaving 600 m of usable landing airstrip.

Helicopter service is normally available at Dease Lake, 120 km to the northeast and at Bob Quinn, 64 km to the southeast.

Hecla and Teck investigated possible overland access routes from various points on Highway 37, including (1) from Dease Lake via Telegraph Creek, (2) from Kinaskan Lake via Raspberry Pass through Mt. Edziza, and (3) from Eastmain Creek via More Creek and Mess Creek (Figure 7). Access to support a mining operation will have to be addressed in detail at the feasibility study stage of exploration/development. Access through the Raspberry Pass route is grand fathered by a B.C. Government Order in Council dated November, 1972.

Electrical power supply will be a vital component of any mining development at Schaft Creek. Several hydroelectric power generation sites have been identified in the general vicinity and coal,

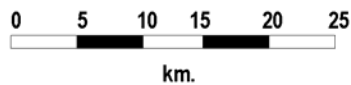


BaseMap Source: Telegraph Creek Topographic Sheet; Scale 1:250,000

## **955528 ALBERTA LTD.**

### ***Schaft Creek Deposit Possible Road Access Routes***

*To Accompany a Report by Gary H. Giroux, MASC., P.Eng. & Erik A. Ostensoe, P.Geo. Dated June 2003*



**Fig. 7**





Plate 1: Showing washed out north end of airstrip in foreground and camp with steel core sheds in middle right of photo.

natural gas and diesel options for thermal power generation are available. Coast Mountain Power is presently implementing their plan to develop a 100 GWh power plant at Forrest Kerr. Their plan includes connecting their power plant site, which is 75 km. South of Schaft Creek, to the B.C. Hydro Network at Meziadin Junction.

Several small communities, in particular Dease Lake, Telegraph Creek and Eddontenajon, offer traveler services and may be a future source of workers. The Tahltan native population has a long history of involvement in the mineral exploration industry and in recent years has developed a thriving business supplying transportation, construction and catering services to mining operations at competitive rates. Available education and health services are seriously inadequate to support an industrial operation.

Engineering studies by Hecla and Teck have addressed topics related to possible mining operations, including sources of power (transmission line delivery, local hydroelectric generation, thermal generation), water supply, infrastructure including labour supply and accommodation, medical and educational facilities, and shipping services including trucking of supplies and product to rail or shipping facilities. Plant sites, tailings and waste rock storage areas have been identified. More detailed studies will be required when mine development planning is in progress.

## 5.0 HISTORY

The Schaft Creek copper-gold-molybdenum prospect was located in 1957 by prospector Nick Bird who was employed by BIK Syndicate, a consortium of Silver Standard Mines Ltd., McIntyre Porcupine Mines Limited, Kerr Addison Mines Ltd. (now Noranda Inc.) and Dalhousie Oil Ltd. under the direct supervision of Wm. St. Clair Dunn. The syndicate prospectors found copper and molybdenum mineralization in the area immediately north of the present camp and in the 'Saddle' pass of the low mountain range that lies east of the camp.

BIK Syndicate employees subsequently employed simple tools to trench several sites to expose further mineralization for sampling purposes. Substantial copper values were found and the molybdenum mineralization was recognized. Three BQWL-sized diamond drill holes were drilled to moderate depths: one hole encountered barren dyke material and cores from two holes, when sampled, returned sufficient copper values to encourage further work. The prospecting syndicate was re-organized in 1966 into Liard Copper Mines Ltd. in order to recognize the respective interests of its members; Silver Standard Mines Limited, with a 66% interest, was the manager. ASARCO in 1966 obtained an option to explore the Liard Copper Mines Ltd. ground, carried out geological and induced polarization surveys and drilled 10,939 feet in 24 holes (Jeffrey, 1966). The option, despite encouraging drill results, was not maintained and in 1968 Hecla Mining Company of Canada Limited, a subsidiary of Hecla Mining Company of Wallace, Idaho, entered an option agreement to earn a 75% property interest and, with Hecla Operating Company as its agent, commenced drilling and other exploration work.

Hecla, in the period 1968 through 1977, completed 34,500 metres of BQ and NQ-size core drilling, 6,500 metres of percussion drilling, comprehensive induced polarization and resistivity surveys, geological mapping, both detailed and reconnaissance, petrographic studies, and air photography, and commenced engineering studies related to development of a large open pit copper-gold-molybdenum mine. Property work ceased in 1977 and in 1978 Hecla sold its interest to Teck Corporation.

Hecla annually prepared comprehensive summary reports that compiled details of its work and proposed the following season's program. Copies were provided to Liard Copper Mines Ltd. to ensure a steady flow of information from the operator to the underlying owners. One of the writers (EAO) was employed by Hecla while that company was the operator and is familiar with the methods used in preparing estimates of mineral resources.

Hecla reported the following estimate of mineral resources after completion of the 1977 program of work:

*"Drill indicated reserves of approximately 357 million tonnes averaging 0.33% Cu and 0.029% MoS<sub>2</sub> with a 0.30% Cu cut-off grade, and a waste to ore ratio of 0.734 to 1 were defined by Hecla" (Salazar and Hay, 2002, p. 8).*

Note - While Hecla quoted this estimate as a reserve, under 43-101 guidelines this estimate would be classed a resource.

The writers believe that the Hecla data appropriately presented an accurate estimate of the mineral resource identified at the Schaft Creek property as of the completion of that company's work. That company applied reasonable interpretations of geological and geophysical data as determined by its employees and consultants despite their sometimes divergent and seemingly irreconcilable opinions and interpretations (references: Linder, 1975, Fox, Grove, Seraphim, Sutherland Brown, 1976). The above-cited mineral resource estimate is offered as an artifact and has been superceded by not only the extensive programs of work conducted in the ensuing quarter century by Teck but by that company's technical investigations and its re-evaluation of the entire and substantially enlarged data package.

Teck, in 1980, commenced a program of exploration and drilling designed to confirm and expand Hecla's work. A total of 26,000 metres of drilling NQ and HQ core was completed by 1981. Teck then undertook an engineering study to determine the feasibility of mine development. Further data reviews were completed by Western Copper Holdings in 1988 and Teck in 1993. The property has

been on a 'hold' basis since that time and in 2002, Salazar obtained an option to acquire 100% of Teck's interest.

There has been no production of mineral products from the Schaft Creek property.

## 6.0 GEOLOGICAL SETTING

### 6.1 Introduction

The Schaft Creek copper-gold-molybdenum property is located in the northern part of the Intermontane Belt of the Canadian Cordillera. It is part of the northwesterly trending suite of porphyry-style mineral deposits that extends in Canada from the Copper Mountain/Ingerbelle deposit near the southern International Boundary to Casino in west-central Yukon. Globally, such deposits typically exhibit a few characteristics in common and many variations (McMillan, 1991, Lowell, J. D. and Guilbert, J. M., 1970).

The following observations are taken from a 1991 discussion by W.J. McMillan of the British Columbia Geological Survey Branch:

*"No one criterion adequately defines a porphyry deposit."*

*"The mineralization is widely dispersed in porphyritic intrusives or adjacent country rocks."*

*"Grades are generally low and the deposits are mined by bulk tonnage, low unit cost methods."*

*"The tie to intrusive rocks is both spatial and genetic."*

*"Most of the intrusives related to porphyry coppers are calc alkalic to alkalic, epizonal and porphyritic."*

*"Typical porphyries are granodiorite to granite or diorite to syenite."*

*"Intrusives with porphyry molybdenum deposits tend to be calc alkalic and felsic."*

*"Multiple intrusions are characteristic and mineralizing events are related to specific intrusive episodes."*

*"Dyke swarms and breccia pipes typically accompany mineralization; frequently the breccias are milled."*

*"Both the intrusions and the country rock are strongly and pervasively fractured."*

*"Much of the mineralization is on fractures, although disseminations can be important."*

*"Alteration is widespread and zoned, although it varies in type and intensiveness and extensiveness of development."*

*"In some areas, supergene alteration and enrichment are important factors in the deposit's economic viability."*

*"Size is an important part of the definition: the deposit must be at least 20 million tonnes of at least 0.1 per cent copper to be classed as a porphyry copper" (McMillan, 1991).*

The writers are in agreement with McMillan and observe that Cordilleran porphyries, not all of which have economic potential, are usually large (i.e. more than 50 M tonnes) and low grade (i.e. less than 1% contained copper, less than 1% molybdenum, less than 1 gram/tonne gold). Typically, they are hosted by Mesozoic and younger formations or crystalline rocks and are accompanied by characteristic somewhat concentrically zoned alteration packages (inner potassic, with quartz, biotite and potash feldspar, enveloped by a phyllic zone that carries sericite and quartz, and more distal propylitic, with epidote, chlorite and albite). [McMillan (1991) noted that alteration zones are usually imperfectly developed or preserved due to the dynamics of hydrothermal systems.] Total

sulphide content is usually slight, from 1 to 5%, largely comprising pyrite, chalcopyrite, molybdenite, and bornite or some combination thereof. Proximal major tectonic structures frequently can be identified but their relationship to mineralizing events is seldom clearly defined.

## 6.2 Regional Geology

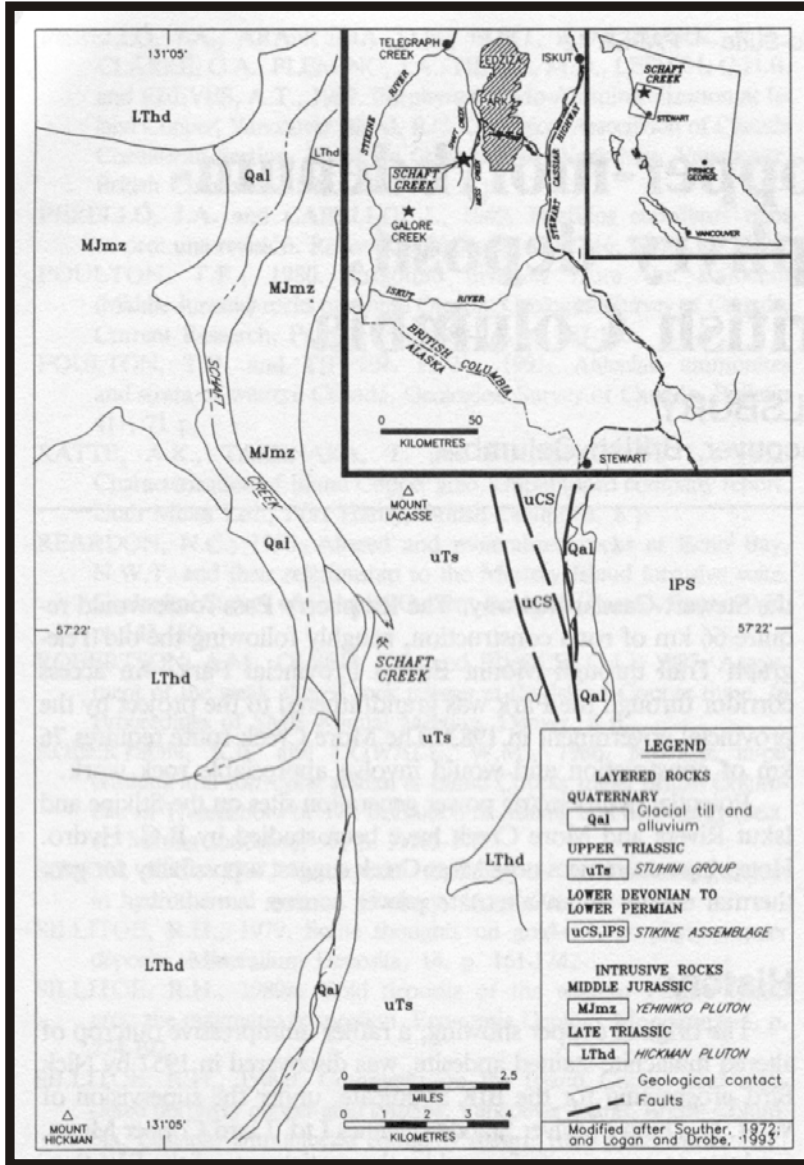
The Schaft Creek deposit is located immediately east of the Coast Plutonic Complex (Douglas, RJW, 1970) in allocthonous (accreted) Stikinia terrain of the northern portion of the Intermontane Belt (or Superterrane) of the Canadian Cordillera. It lies west of the Spectrum Range-Mount Edziza edifice of Cenozoic and Recent age volcanic extrusions and is close to the north side of Mt. Hickman, a monolithic calc-alkaline intrusion with an Alaskan-type mafic-ultramafic core (Hammack, J.L. and Nixon, G.T, et al., 1990). Host rocks to the mineralization are variously members of the Triassic age Stuhini formation and intermediate (?) intrusive rocks (Figure 8).

Regionally, Stuhini and overlying 'Hazelton' formation rocks and their equivalents are distributed along the west side of the full length of the Intermontane Belt. A regional unconformity separates these formations in the Iskut and Stikine River areas. Souther in Tulsequah Map Area (NTS 104K) 200 km northwest of Schaft Creek followed nomenclature proposed by Kerr (1948) and assigned clastic sedimentary rocks of Upper Triassic age to the King Salmon Group and volcanic members, to the Stuhini Group. In the northwestern part of that area, he found the latter unit to be "...*mainly subaerial flows, pyroclastic rocks, and their sedimentary derivatives...*" (Souther, 1971, p. 20)", apparently similar to Schaft Creek area formations.

Coast Intrusions of granitic to granodioritic composition are extensively present in the areas immediately northwest and south of the Schaft Creek location. Schaft Creek mineral zones are closely related to quartz feldspar porphyry dykes and breccias that are presumed to have genetic affinities to the principal Coast plutons. Uranium-potassium dating of the latter places them, at 220 Ma (Logan, J.M. and Drobe, J.R., 1992), among the older Cordilleran porphyry deposits. Dark dense basaltic dykes that clearly post-date mineralizing events are found in the 'Saddle' area, close to the east side of the bodies.

Regional metamorphism is weakly developed to a chlorite-epidote grade and pyrite is sparsely present.

A structural graben that has been identified in the valley of Mess Creek, five km east of the mineralized area, separates the Schaft Creek area from the brightly coloured Spectrum Range-Mt. Edziza complex of Tertiary and Recent andesitic and basaltic extrusive rocks. Other regional structural features include an enigmatic disconformity that passes through the 'Saddle' and appears to be a limiting factor in capping the mineralization and is accompanied by a colour shift, from primarily green alteration to stratigraphically higher purple-red colouration.



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### *Schaft Creek Deposit - Regional Geological Map (Modified After Souther; 1972 and Logan & Drobe; 1993)*

To Accompany a Report by Gary H. Giroux, M.A.Sc., P.Eng. & Erik A. Ostensoe, P.Geo. Dated June 2003

**Fig. 8**

### 6.3 Regional Metallogeny

Northwestern British Columbia is relatively under-explored in terms of its mineral potential due to its remoteness, the general lack of infrastructure, and the prevalence of volcanic cover and extensive glacial drift and ice cover. The Intermontane Belt is, however, host to most of British Columbia's base metal deposits, including several in the Smithers-Babine area that have been mined and exhausted and others that await development.

The Schaft Creek area lies 38 km northeast of the Galore Creek porphyry district where a major copper deposit has been explored; the Red-Chris porphyry copper-gold deposit is located 83 km northeast, and the Eskay Creek mine, one of the world's richest gold-silver deposits, is 96 km south.

### 6.4 Local and Property Geology

The Schaft Creek copper-gold-molybdenum deposit is hosted principally by Upper Triassic age volcanoclastic rocks that have been variously altered and disrupted by emplacement of feldspar porphyry dykes and, possibly, sills and by several northwest-trending faults. Augite porphyry basalt is present in proximity to the west of the deposit area and also in the Liard mineral zone but its relationship to mineralization has not been determined. The mineralized area is, arguably, in fault contact, or disconformably or unconformably overlain by unmineralized, comparatively unaltered and undisturbed purple weathering andesitic volcanic rocks. Geological mapping at surface, aided by diamond drill core information, has failed to reveal any strong overall pattern of stratigraphic or petrologic controls to mineralization.

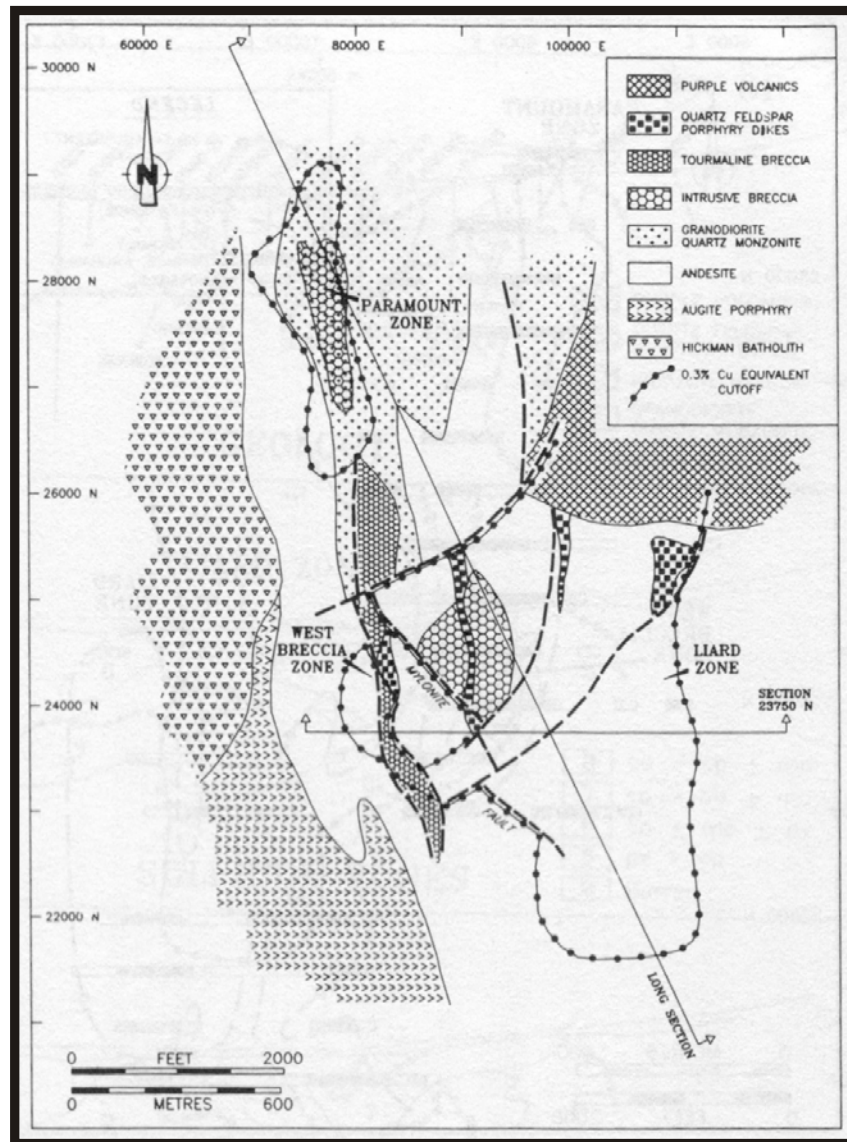
Spilsbury (1995), on the basis of Teck's work combined with that of Asarco and Hecla, presented the currently definitive review of the Schaft Creek deposit. His capsule description is quoted in full:

*"The deposit consists of three distinct but connected zones: (a) the Liard (Main) zone hosted mainly by andesite flows and epiclastic rocks; (b) the West Breccia zone, a fault-bounded tourmaline-sulphide matrix breccia; and (c) the Paramount zone, an intrusive breccia in altered andesite, granodiorite and quartz monzonite"* (Spilsbury, 1995, p. 240).

Figure 9 of this report, Geological plan map, is a copy of Spilsbury's Figure 2.

## 7.0 DEPOSIT TYPE

The Schaft Creek copper-gold-molybdenum deposit is widely acknowledged as being a porphyry deposit as defined and discussed in Section 6.1 of this report. Three mineral zones, the Liard, West Breccia and Paramount Zones, are hosted by modified hydrothermally altered andesitic volcanic rocks, felsic porphyritic dykes, and complex breccias and are distinguished one from another by sulphide mineral species and alteration mineral suites. Exploration by mapping, geophysical surveys and drilling techniques has investigated the property to moderate depths that might be reached by a future mining operation. Little exploration effort has been directed to expanding the already considerable resources into areas of sadly adverse stripping ratios, such as in particular, the Liard zone northeasterly into the 'Saddle' area and southeasterly beneath the



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## Schaft Creek Deposit Geological Plan Map - (After Spilsbury; 1995)

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**Fig. 9**

unnamed ridge. The possible existence of additional occurrences along the valley of fault controlled breccia similar to the West Breccia zone, and the conjectural northerly continuation of the Paramount zone offer challenging possibilities.

## 8.0 MINERALIZATION

Spilsbury's (1995) description of "...three distinct but connected zones..." on the Schaft Creek property is paraphrased in the following paragraphs:

1. The broad, northerly plunging Liard, or Main, zone extends 1,000 metres in a northerly direction, 700 metres east-west, and has average thickness of 300 metres. A pyrite halo surrounds chalcopyrite, bornite and molybdenite mineralization in altered and faulted andesite. The zone has a low grade phyllic core and to the northwest is progressively down dropped on faults.
2. The West Breccia zone exhibits tourmaline, silicification and sericitization and is controlled by north-trending faults. It has length 500 metres, averages 100 metres in width and has been drilled to depths greater than 300 metres. Pyrite is the principal sulphide mineral, with lesser quantities of chalcopyrite and molybdenite. Copper and molybdenum contents are erratic but often high.
3. The Paramount zone of intrusive breccia occurs in granodiorite and quartz monzonite and has dimensions 700 metres length, 200 metres width and +500 metres thickness. Exploration to the north has been constrained by practical considerations: rapidly increasing thicknesses of overlying apparently barren purple volcanic rocks challenge drilling methods and mitigate against practical conceptual open pit designs. Pyrite, bornite and chalcopyrite are present in equal proportions and molybdenite values exceed those found in the other two zones.

## 9.0 EXPLORATION

The Schaft Creek copper-gold-molybdenum property has been explored by prospecting, geological mapping and related petrographic studies, geophysical surveys (principally induced polarization surveys), and core and percussion drilling techniques. Geochemical soil sampling surveys in the drilled area are frustrated by thick till and alluvial layers that confuse and mask responses.

Prospector Nick Bird employed by BIK Syndicate in 1957 discovered copper mineralization that became the Schaft Creek property and explored the occurrences using hand tools to excavate narrow trenches on outcrop in the Saddle area. Three small diameter core holes were then drilled in the vicinity of the 'Saddle' and revealed the presence of primary and secondary copper sulphides and molybdenite. Asarco in 1966-67 resumed exploration drilling, followed in 1968 by Hecla Mining Company of Canada Limited. Hecla, in addition to increasing the total core drilling to 34,500 metres in 104 holes and percussion drilling 6,500 metres, established a grid of cut lines for mapping and geophysical surveys and conducted low level air photography. Induced polarization surveys revealed the distribution of sulphides, in particular the pyritic halo, which proved to be a reliable tool for predicting trends of mineral zones. Teck, starting in 1980, drilled an additional 25,700 metres, conducted further geophysical studies, and completed elaborate comprehensive engineering reviews.



Geological mapping by BC Department of Mines, Hecla and Teck personnel supplemented drill hole information.

The property work has been focused in the mineralized area that is believed to be readily accessible in a standard porphyry mine. Possible extensions in the 'Saddle' area and northerly from the West Breccia zone are obscured respectively by unmineralized purple volcanic rock formations and deep fluvial gravel deposits.

Exploration for additional tonnages and/or mineral zones is likely to be delayed until mining operations are underway. Drilling for metallurgical samples and for condemnation purposes will be required as part of pre-feasibility studies.

## 10.0 DRILLING

The various operators that have worked on the Schaft Creek property have employed BQ, NQ and HQ-size coring tools and standard percussion drilling techniques. 230 core holes with total length 60,200 metres and percussion holes with total length 6,500 metres have been completed. Cores were measured to determine recovery and then were examined in detail, logged for geological information, scanned for possible features of interest to mine planning engineers, and split in halves, with one half being submitted to full service commercial and corporate assay laboratories for copper and molybdenum, and frequently for gold and silver, determinations. The remaining half core was retained and stored on the property in weather-proof metal clad buildings. Portions of these have been used for metallurgical testing and check assaying by the previous operators.

Geological information was recorded by qualified geologists on standard core logging forms or, in the case of Teck, by Geolog techniques, and transferred to vertical geological sections that illustrated the holes in profile along with rock types, alteration type and intensity and mineralization type and intensity. Separate assay sections that illustrated copper and molybdenum contents were also prepared.

Assay data was checked for reliability and reproducibility by re-submission to the original laboratory, and by submission to a second, and occasionally a third, laboratory. Simple statistical exercises were performed to determine a level of confidence in the data.

Core recovery has been in general satisfactory for purposes of determining metal contents of the apparent mineral zones.

## 11.0 SAMPLING METHOD AND APPROACH

### 11.1 Introduction

The Schaft Creek copper-gold-molybdenum deposit has been sampled by a series of diamond drilling campaigns and one program of percussion drilling.

### 11.2 Sampling - Hecla Operating Company

Hecla Operating Company completed 34,500 metres of BQ- and NQ-sized diamond drilling in about 104 holes, and 6,500 metres of percussion drilling. All cores were processed at the camp by qualified geologists with experience in exploration for porphyry-type deposits.

All holes were started with a tri-cone drill bit to drill through the overburden and more weathered bedrock; a diamond drill bit was used when competent rock was encountered.

Core was transported to the camp area where it was washed, measured and examined in cursory fashion, then logged in detail, with details of rock type, types and intensities of alteration, and mineralization and fracture intensity, and any notable or enigmatic features, being recorded on forms designed for the purpose. Selected portions of cores were treated with acids to reveal the extent of feldspathic alteration and carbonate content.

The first sample interval was taken to the nearest ten foot interval of hole depth. All other sample intervals were then measured in ten foot of hole depth. The geologist designated core intervals for sampling purposes and recorded the sample intervals relative to a sample number.

Almost without exception, all core was split in ten-foot sections using a conventional mechanical 'Longyear'-type core splitter. Each sample was placed in a stout plastic sample bag, along with a numbered identifying paper tag. Samples were placed in jute sacks and forwarded by air freight to a full service analytical laboratory in North Vancouver, B. C. Core samples were moved without delay from camp to laboratory in order to expedite the data gathering process.

Core recoveries were monitored carefully as a means of maintaining confidence in the drilling contractor and, on occasion, company personnel offered useful suggestions regarding drilling practices. Contractors routinely used soaps and cutting oil additives in the drilling fluids to ensure optimum performance and were cautioned against using lubricants that included any molybdenum-bearing components. Core recoveries usually were in the range of 88% to 93%.

Use of a mechanical "Longyear"-type anvil and chisel splitter had long been the standard means of core sampling in mineral exploration. Small unconscious inconsistencies may have been introduced by particular individuals but, given the nature of the mineralization, were likely to have been balanced. Breaking characteristics of the rock were less easily controlled, with a tendency for some materials, such as quartz and calcite stringers, and sulphide veinlets, to break or pulverize more readily than country rock.

All core samples were routinely assayed for copper and molybdenite (MoS<sub>2</sub>) contents. 'Blind' duplicate samples and check assaying procedures were employed to determine the reproducibility of assay laboratory results. Some pulp samples were submitted to other laboratories as a quality control.

Gold and silver determinations by fire assay methods were obtained for a small percentage of the samples.

Each year the laboratory performance was reviewed. It was believed that results obtained were sufficiently accurate, on the basis of reproducibility, for the purposes required.

Drill core is currently stored in two steel storage sheds on site and on covered core racks outside. The core was examined during a site visit on June 5, 2003 and found to be in good shape. Plate 2 shows Hecla drill core stored within the aluminum sheds while Plate 3 shows the Teck drill core stored outside. Core racks are constructed of re-bar and two-by-fours well braced at the ends for support.



Plate 2 : Picture of Core Shed at Schaft Creek with holes stored sorted by Hole Number



Plate 3: Teck Drill Core stored on outside racks

### 11.3 Sampling - Teck Explorations Limited

Teck Explorations Ltd. conducted geological, geophysical and drilling campaigns totaling 25,700 metres in 126 holes, in 1980 and 1981 (Betmanis, 1981, 1982). They employed sampling methods similar to those of Hecla (see above) and samples were delivered to both a not-at-arms-length and a commercial analytical laboratory. They employed routines of check assaying to ensure quality control and it is believed that results obtained were of acceptably high accuracy.

### 12.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Hecla's half-core samples were delivered to a fully accredited analytical laboratory for copper and molybdenum determinations. Samples were catalogued, sorted and dried at the lab prior to being crushed to -2 mesh in a standard jaw crusher and then passed through a secondary cone crusher that yielded material of -8 mesh size. Crushed material was passed repeatedly through a stainless Jones "riffle" to yield a manageable sized sample (about 1/16 of the original sample with weight of 150-250 gms) that was then pulverized to -60 mesh in a "ring" mill (i.e. floating "hockey puck" type). The sample was then rolled 150 times to thoroughly mix the sulphides (Brown, 1969).

A two gram sample of the pulverized material was digested and assayed for total copper and total molybdenum using standard atomic absorption methods. Crushing and pulverizing equipment was cleaned between samples using brushes and compressed air blasts. Reject material was preserved for possible future use in replicate analyses, submission to other laboratories for quality control purposes, or for preparation of composite samples.

Gold determinations were obtained in the early years of Hecla's work using standard fire assay techniques and then, as techniques were perfected, by atomic absorption methods.

Security concerns, at the time of Hecla's work, were minimal. Core sampling operations were at all times conducted in an area of the camp designated for that purpose. Split samples were placed in plastic bags that were in turn stored in sacks, and shipped at the earliest opportunity by air freight to the laboratory. The laboratory processed samples immediately in areas that were dedicated for that purpose and generally inaccessible except to employees in the course of their duties.

Hecla was unaware of any cases of deliberate or inadvertent contamination or confusion of samples and had no reason to believe that the results as reported were in any way unreliable. Nonetheless, on an annual basis, check assaying was carried out by submitting duplicate samples, by requesting repeated determinations from particular samples, and by submitting pulp samples to other accredited laboratories.

Teck's core samples were prepared in the field using routines similar to those employed by Hecla. The assay laboratory attached to the Afton mine and smelter complex at Kamloops, B. C. was employed for metal determinations. That operation was a not-at-arms-length affiliate of Teck but was an industry standard facility staffed by registered assayers. Teck also carried out programs of check assaying to maintain confidence in the results.

Samples were sent to the Afton mine laboratory, then pulverized to pulps, assayed for copper and molybdenite and analysed by atomic absorption techniques for silver. Beads obtained from the same pulps were sent to the University of British Columbia for gold determination by neutron activation.

## 13.0 DATA VERIFICATION

### 13.1 Hecla Operating Company

Hecla employed a variety of methods of data verification. In addition to standard drill hole collar surveys and in-hole acid bottle tests, deviations of certain drill holes were measured by utilizing gyro multi-shot instrument packages adapted from then-current oil field survey techniques. *"Results indicate probably insignificant deviations amounting to only a few degrees in bearing and inclination..."* (memorandum P.I. Conley to H.E. Harper, October 6, 1971).

Programs of check assaying involved repeated analyses of pulverized material, submission of replicate samples from "rejects" (the coarse-crushed core), and submission of pulp samples to "outside" laboratories known to have competence in treating samples of porphyry-type mineralization.

Analytical data were compiled by qualified geologists who entered the assays into the core "logs" and other records and prepared summaries of mineralized and barren sections by appropriately grouping the assays.

Annual compilations of exploration data were prepared for submission to management and to the property vendors. Estimates of volumes of possibly mineable material were calculated from the raw analytical data combined with interpretation of geological features, including structures, rock types, alteration and mineralization. Volumes were calculated by measuring the volumes of a myriad of polygons constructed around individual drill holes as depicted on (a) East-West vertical sections and (b) horizontal sections. Calculations were performed manually by at least two geologists.

## 13.2 Teck Explorations Limited

Teck Exploration employed industry standard methods of core data processing with the added feature of Geolog\* core logging procedures that enabled a degree of standardization of identification and notation of subtleties of rock types, mineralization, alteration and fracturing. [\*Geolog is a proprietary computer adaptable logging system capable of retrieving and computer plotting of the numerous variables recorded by the geologists (Betmanis, 1981)].

Core was split and 10 foot (3.28 metre) intervals were forwarded to the assay laboratory at the Afton Mine at Kamloops for copper and molybdenite determinations. Samples with more than about 0.2% copper were assayed by an outside lab. for gold and silver. Half cores were retained at the Schaft Creek site for possible future reference and metallurgical sample purposes.

Following completion of 1981 drilling, Teck forwarded sixty-six pulp samples that had been prepared at the Afton laboratory to a second accredited, fully arm's length, commercial assay laboratory for check assaying for copper, molybdenite, gold and silver. Copper and molybdenite analyses were found to compare favourably (Betmanis, op cit.) with check copper values 0.2% higher, with average variation between checks of +/- 2.3% or +/- 0.008% copper, and check molybdenite values 2.1% lower, with average variation of +/- 7.2% or +/- 0.003% MoS<sub>2</sub>. Gold assays (by neutron activation technique) were 12.8% higher and silver check assays were 4.4% less than those obtained by another "outside" lab. using fire assaying methods.

## 13.3 Check Sampling Results

Within the Schaft Creek data base three sets of duplicate sampling programs were found.

### 1969 Hecla Re-Assays

The first available check on assays was reported in a Summary Report by Hecla in 1969 (McKinney and Stelck, 1969) where original Chemex assays for Cu and MoS<sub>2</sub> were reassayed at Chemex, Bondar-Clegg and Coast Eldridge Laboratories, all commercial laboratories operating out of offices in Vancouver, British Columbia at the time. Original Chemex assays for gold and silver were checked at Bondar-Clegg Laboratory. All comparisons are presented as scatter plots in Appendix 2.

The results for copper show good correlation coefficients namely: Chemex-Chemex of 0.932, Chemex-Bondar-Clegg of 0.921 and Chemex-Coast Eldridge of 0.930. For Cu values below 1% all labs are in excellent agreement with no analytical bias present. Values greater than 1% Cu show a slight overestimation on Cu for the original Chemex assays relative to each set of checks.

Results for molybdenum are shown in Appendix 2. Again in each case the correlation coefficients are very good: Chemex-Chemex of 0.982, Chemex-Bondar-Clegg of 0.935 and Chemex-Coast Eldridge of 0.976. For MoS<sub>2</sub> values below 0.1 % the agreement in each case is excellent with no indication of analytical bias. Values above 0.1% MoS<sub>2</sub> show a slight bias with the Original Chemex values overestimating MoS<sub>2</sub> relative to the three separate checks.

Check samples for gold between Chemex and Bondar-Clegg while having an excellent correlation coefficient of 0.993 show an analytical bias with Bondar-Clegg overestimating gold relative to the original Chemex analysis. The average grade of 54 samples was 0.014 g/t at Bondar-Clegg as compared to 0.009 g/t at Chemex (see Appendix 3).

Check samples for silver completed at Chemex and Bondar-Clegg had a correlation coefficient of 0.942. Values below 0.25 g/t Ag show no analytical bias with the four samples above 0.25 g/t Ag reporting higher assays at Chemex (see Appendix 3).

#### 1980 Teck Re-Assays

In 1980 Teck sent 118 pulps with variable copper and molybdenum content to General Testing Laboratories for check analysis of Cu, MoS<sub>2</sub>, Au and Ag (Betmanis, 1980). The results are shown on a series of scatter plots in Appendix 4.

The plot for copper shows good agreement with a correlation coefficient of 0.993 and no indication of analytical bias (samples lie equally on either side of an equal value line).

The plot for MoS<sub>2</sub> shows a good correlation coefficient of 0.966 with one obvious outlier. Again there is no indication of analytical bias with samples scattered on both sides of an equal value line.

The scatter plot for gold shows a good correlation coefficient of 0.924 with no indication of analytical bias. Silver, on the other hand, has a pronounced analytical bias with 115 of the 117 samples assayed higher at General Testing. This was explained by Betmanis as the difference between an atomic adsorption analysis at Afton versus a fire assay at General Testing. The AA result would only detect the dissolvable silver.

#### October 1980 Teck Re-sample Program

In 1980 Teck completed a second check sampling program with a total of 54 samples of diamond drill core, original assayed by Hecla at Chemex. Four duplicate pulps were prepared from a 1000 gm pulp and were delivered as follows: one to Chemex Labs Ltd. North Vancouver, one to Bondar-Clegg & Co. Ltd. Vancouver and one to Southwestern Assayers & Chemists Inc. Tucson, Arizona. The fourth pulp was held in reserve pending any problems. All three laboratories used standard atomic absorption methods to measure Cu and MoS<sub>2</sub>. The results of each check are compared to the original and are shown in scatter plots in Appendix 5.

Results for copper showed excellent agreement with correlation coefficients over 0.92 in all cases. Below a 1% Cu value there is no indication of any bias with points equally distributed about an equal value line. Above 1% Cu there appears to be a slight bias with the Original Chemex assay higher than the three checks.

Results for MoS<sub>2</sub> show good agreement with no indication of any bias.

In the opinion of the authors the sampling, sample preparation, security and analytical procedures at Schaft Creek have been adequate and meet the Standards set out in NI 43-101. The QA-QC program conducted is an adequate verification of the data with good reproduction of results and no significant bias indicated.

## 14.0 DATA ANALYSIS

### 14.1 Data Verification

The ACCESS data base containing drill hole coordinates, down-hole surveys, assays, geology, alteration, mineralization information was supplied by Teck on a CD. A listing of all drill holes used in this study is included as Appendix 6. Spots checks on drill hole coordinates were checked against a McElhanney Survey (Matthews, 1981) and found to be accurate. Spot checks of assays were made as follows:

#### Hecla Summary Report 1970 - (Hecla, 1970)

- Drill holes H69CH046 to H70CH066 were checked with no errors found
- Cu values less than 0.01 were changed to 0.005% Cu
- MoS<sub>2</sub> values less than 0.001 were changed to 0.001 % MoS<sub>2</sub>

#### Hecla Summary Report 1974 - (Hecla, 1974)

- Drill holes H72CH098 to H72CH103 were checked with no errors found
- Cu values less than 0.01 were changed to 0.005% Cu
- MoS<sub>2</sub> values less than 0.001 were changed to 0.001 % MoS<sub>2</sub>

#### Teck Assessment Report 8832 - (Betmanis, 1980) and Original Assay Sheets

- Drill holes T80CH104 to T80CH149 were checked with the following errors found:
  - A number of drill holes in the data base were found to be corrupted in the following manner. Copper assays were either missing if above .100 or changed by 1 order of magnitude if below 0.1 % Cu. Errors in holes T80CH104, T80CH118, T80CH121, T80CH124 and T80CH132 were identified and corrected from assay sheets in the Assessment Report. Similar errors in holes T80CH136 and T80CH141 were identified and corrected from original assay sheets from Afton Mines Ltd. (N.P.L.) assay lab. Hole T80CH138 from 60-70 was edited from 0.349 to 0.359 %Cu
  - Hole T80CH142 Interval 310-320 inserted into data base from assay sheet
  - Hole T80CH145 Sample from 300-310 inserted into data base from assay sheet
  - Hole T80CH145 Sample from 1230-1240 edited Cu from 0.165 in data base to 1.165 from original assay sheet
  - Hole T80CH145 Sample from 1550-1560 assays repeated incorrectly in Sample 1560-1570, while Sample from 1610-1620 missing. Errors corrected from original assay sheets.
  - Hole T80CH146 from 710-720 was reported as 0.340 instead of 0.034 % MoS<sub>2</sub> and was corrected from the original assay sheet.
  - Hole T80CH148 was missing assay from 200-210 which was added from original assay sheet. Also MoS<sub>2</sub> assay for interval 760-770 was corrected from 0.020 to 0.022 % MoS<sub>2</sub>

#### Teck Assessment Report 9920 (Betmanis, 1981)

- Drill holes T81CH150 to T81CH216 were checked with the following errors found:
  - T81CH153 - from 270-280 the Cu value should have been 0.035 instead of 0.038 %
  - T81CH165 - was a duplicate of T81CH164 and the proper assays were entered
  - T81CH166 - was a duplicate of T81CH165 and the proper assays were entered



## 14.2 Drill Hole Assays

Assays were taken approximately every 10 ft. (3.05 m) and coded for geology. The geologic codes were as follows:

- 10 - overburden
- 1 - tourmaline breccia
- 2 - diorite
- 3 - intrusive breccia
- 4 - andesite
- 5 - quartz feldspar porphyry
- 6 - granodiorite - quartz monzonite

There were only a few samples coded diorite so these were combined with the andesite units. Overburden was not assayed. Breccia units 1 and 3 were also combined. The statistics for the remaining 4 geologic domains are presented in Table 1.

**TABLE 1: STATISTICS FOR ASSAYS - SCHAFT CREEK**

DOMAIN	Variable	Number	Mean	S.D.	Minimum	Maximum	C.V.
1-3	Cu	1762	0.299	0.289	0.004	3.950	0.96
1-3	Mo	1763	0.036	0.055	0.001	0.980	1.54
1-3	Au	1199	0.0056	0.008	0.0001	0.089	1.37
1-3	Ag	1194	0.072	0.059	0.005	0.850	0.83
2-4	Cu	13180	0.233	0.211	0.001	2.750	0.91
2-4	Mo	13071	0.021	0.036	0.001	0.790	1.71
2-4	Au	5269	0.006	0.010	0.0001	0.608	1.68
2-4	Ag	5235	0.049	0.037	0.005	0.608	0.75
5	Cu	989	0.205	0.270	0.001	4.100	1.32
5	Mo	984	0.024	0.058	0.001	0.800	2.40
5	Au	298	0.006	0.004	0.0001	0.034	0.75
5	Ag	301	0.041	0.026	0.005	0.165	0.63
6	Cu	1699	0.153	0.164	0.001	1.666	1.07
6	Mo	1702	0.019	0.033	0.001	0.439	1.72
6	Au	561	0.005	0.015	0.0001	0.316	3.35
6	Ag	549	0.050	0.037	0.009	0.295	0.73

**Note:** C.V. stands for Coefficient of Variation (Standard Deviation/Mean) and is a measure of sample variability. S.D. stands for Standard Deviation.

### 14.3 Assay Capping

Each variable within each domain was examined statistically to determine if capping was required and if so at what level. This was accomplished by producing histograms and lognormal cumulative probability plots which are shown in Appendix 7.

The procedure used is explained in a paper by Dr. A.J. Sinclair titled Applications of probability graphs in mineral exploration (Sinclair, 1976). In short the cumulative distribution of a single normal distribution will plot as a straight line on probability paper while a single lognormal distribution will plot as a straight line on lognormal probability paper. Overlapping populations will plot as curves separated by inflection points. Sinclair proposed a method of separating out these overlapping populations using a technique called partitioning. In 1993 a computer program called P-RES was made available to partition probability plots interactively on a computer (Bentzen and Sinclair, 1993). A screen dump from this program is shown for Domain 1 Copper as Figure 10 and for all variables in Appendix 7.

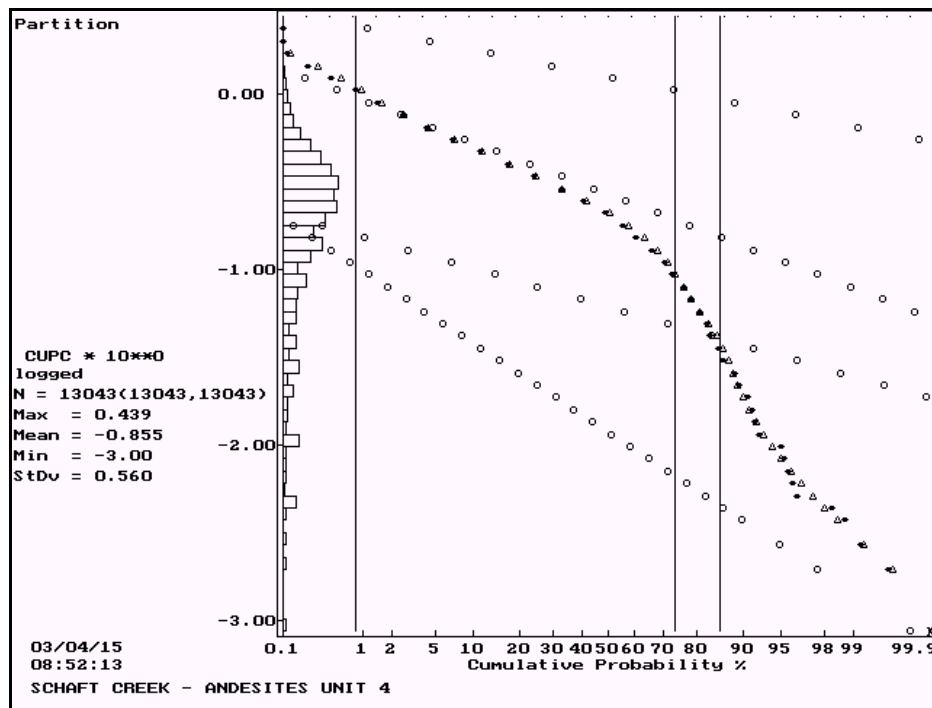


Figure 10: Lognormal Cumulative Frequency Plot for Cu in Andesites

For each variable in each domain the grade distribution was represented by a series of overlapping lognormal populations. The upper most population was evaluated to determine if it represented a mineralized population or simply random erratic high values that would require capping.

For example, copper values in Domain 4 (Andesites and Diorite) were positively skewed and were transformed to log values. The histogram for log transformed copper values shown in Figure 10 shows a number of overlapping lognormal populations.

The black asterisks show the data distribution, the vertical lines show the inflection points that

separate the data into individual populations, the open circles show the individual populations that have been separated out and finally the open triangles show how the model interpreted fits the real data. The lognormal histogram is shown along the y-axis.

In this case for copper in Domain 4 four overlapping lognormal populations have been identified with the following parameters.

- Population 1 - Mean of 1.24 % Cu representing 0.8 % of the data or 104 samples
- Population 2 - Mean of 0.77 % Cu representing 72.9 % of the data or 9508 samples
- Population 3 - Mean of 0.13 % Cu representing 11.9 % of the data or 1552 samples
- Population 4 - Mean of 0.007 % Cu representing 14.4% of the data or 1879 samples

A threshold was chosen to cap the upper population at a level of 2 standard deviations past the mean of Population 1. In this case for copper in Domain 4 a level of 2.17 % Cu was chosen to cap 5 samples in population 1.

A similar approach was taken for Cu, MoS<sub>2</sub> and Au within each Domain with the results summarized below in Table . Silver values did not require capping.

Table 2 : Summary of Capping Levels and Number of samples Capped.

Domain	Cu (%)		MOS <sub>2</sub> (%)		Au (oz/t)	
	Cap Level	Number	Cap Level	Number	Cap Level	Number
Domain 1-3	2.2	3	0.52	3	0.053	3
Domain 4	2.17	5	0.76	1	0.075	1
Domain 5	2.17	4	0.44	5	0.026	2
Domain 6	1.2	3	0.89	0	0.04	2

## 14.4 Compositing

Uniform  $20 \pm 10$  ft. composites were produced that honoured the geologic domain boundaries. The statistics for the composites are shown in Table 3.

**TABLE 3: STATISTICS FOR 20 FOOT COMPOSITES - SCHAFT CREEK**

DOMAIN	Variable	Number	Mean	S.D.	Minimum	Maximum	C.V.
1-3	Cu	951	0.308	0.256	0.006	2.164	0.83
1-3	MoS2	951	0.036	0.044	0.001	0.445	1.22
1-3	Au	645	0.006	0.006	0.0001	0.042	1.13
1-3	Ag	638	0.072	0.050	0.005	0.467	0.70
4	Cu	6638	0.232	0.189	0.001	2.001	0.82
4	MoS2	6599	0.021	0.029	0.001	0.469	1.37
4	Au	2824	0.006	0.005	0.0001	0.041	0.87
4	Ag	2808	0.049	0.032	0.005	0.360	0.65
5	Cu	462	0.177	0.136	0.001	0.752	0.77
5	MoS2	461	0.020	0.040	0.001	0.394	1.95
5	Au	163	0.006	0.004	0.0001	0.026	0.69
5	Ag	166	0.042	0.025	0.005	0.166	0.59
6	Cu	882	0.154	0.144	0.001	1.009	0.93
6	MoS2	883	0.019	0.027	0.001	0.293	1.41
6	Au	316	0.004	0.004	0.0001	0.028	1.16
6	Ag	311	0.051	0.036	0.011	0.295	0.70

**Note:** C.V. stands for Coefficient of Variation (Standard Deviation/Mean) and is a measure of sample variability. S.D. stands for Standard Deviation.

## 15.0 SPACIAL VARIABILITY

### 15.1 Introduction

In nature, the grade or value of a particular sample in three dimensional space is expected to be affected by its position and its relationship with its neighbors, (ie. mineralization is not usually random and is influenced by such things as rock porosity, fracturing, distance from source etc.) The fundamental principal behind geostatistics, developed by George Matheron, takes this dependence into account and is known as the theory of regionalized variables. The procedure or tool to quantify both the amount and direction of this dependence is called the semivariogram.

A semivariogram is the fundamental autocorrelation tool of geostatistical procedures. It is defined as half of the mean squared difference of a variable for values separated by a distance h as given by the formula:

$$C(h) = \frac{\sum_{i=1}^n (x_i - (x_{i+h}))^2}{2n}$$

where,  $C(h)$  is the semivariogram

$x_i$  is the value at location  $i$   
 $x_{i+h}$  is the value at a distance  $h$  from  $i$   
 and  $n$  is the number of  $x_i - (x_{i+h})$  pairs

Gamma ( $h$ ) is a 3-dimensional function, commonly dependent on direction within a deposit which can also differ from one geological environment to another. An experimental semivariogram is determined from a set of experimental data (e.g. assay values at known locations) and is shown graphically as a plot of gamma ( $h$ ) versus  $h$  (lag or sample spacing). For practical applications a smooth mathematical model is fitted to the normally saw-toothed graph of an experimental semivariogram. The most common form of mathematical model in general is the spherical or Matheron Model given by the formula:

$$\begin{aligned}
 \gamma(h) &= C_0 + C_1 (1.5 h/a - .5 h^3 / a^3) \quad \text{for } h \leq a \\
 &= C_0 + C_1 \quad \text{for } h > a
 \end{aligned}$$

where  $C_0$  is the nugget effect  
 $C_1$  is the structural component  
 $C_0 + C_1$  is the sill  
 $a$  is the range (or influence of samples)  
 and  $h$  is the lag or sample spacing

In many cases where the value of  $\gamma(h)$  increases systematically with grade it is convenient to determine a relative semivariogram in which  $\gamma(h)/m^2$  is plotted versus  $h$ , where  $m$  is the mean value of all samples used to determine an experimental semivariogram. In this way two (or more) semivariograms determined for different data sets (with different mean values) become more-or-less equivalent.

## 15.2 Schaft Creek Variography

Relative semivariograms were produced for each variable in each of the three geologic domains. If the data has different ranges in different directions it is termed anisotropic. To test for anisotropy relative semivariograms are produced first, in the 4 main directions within the horizontal plane; Azimuth  $90^\circ$ ,  $0^\circ$ ,  $45^\circ$  and  $135^\circ$ . These are evaluated and the two longest ranges determined. Relative semivariograms are then produced in Azimuths between the two longest ranges to establish the direction of maximum continuity. Once this direction is determined, the vertical plane that contains the longest range is evaluated. Relative semivariograms are produced in this vertical plane to determine the direction of maximum continuity.

For Domains 1-3 and 6 there was insufficient data to establish anisotropy, so a single isotropic nested spherical model was fit to each variable in each domain. The results are summarized below in Table 4. The term nested model signifies that both a short and a long range structure are present and have been modeled.

Domain 4 which consists of andesites and Domain 5 quartz feldspar porphyries, which were combined since their grade distributions were very similar, showed anisotropic structures for Cu,  $MoS_2$ , and Au. An isotropic nested spherical model was fit to Ag. All parameters are summarized in Table 4.

**TABLE 4 : SUMMARY OF SEMIVARIOGRAM PARAMETERS**

DOMAIN	Variable	Azimuth	Dip	Nugget Effect	Short Structure	Short Range	Long Structure	Long Range
Unit 1-3	Cu	Omni Directional		0.200	0.600	100 ft.	0.60	400 ft.
	MoS2	Omni Directional		0.800	0.600	60 ft.	1.80	280 ft.
	Au	Omni Directional		0.400	0.900	100 ft.	0.80	600 ft.
	Ag	Omni Directional		0.300	0.400	100 ft.	0.40	600 ft.
Unit 4	Cu	345	-45.000	0.100	0.550	220 ft.	0.25	800 ft.
		75	0.000	0.100	0.550	220 ft.	0.25	300 ft.
		165	-45.000	0.100	0.550	220 ft.	0.25	300 ft.
	MoS2	315	-45.000	0.400	2.000	200 ft.	0.60	800 ft.
		45	0.000	0.400	2.000	120 ft.	0.60	200 ft.
		135	-45.000	0.400	2.000	120 ft.	0.60	200 ft.
	Au	60	-45.000	0.100	0.700	180 ft.	0.30	600 ft.
		150	0.000	0.100	0.700	150 ft.	0.30	600 ft.
		240	-45.000	0.100	0.700	100 ft.	0.30	500 ft.
	Ag	Omni Directional		0.100	0.280	50 ft.	0.50	500 ft.
	Unit 6	Cu	Omni Directional		0.400	0.400	60 ft.	0.80
MoS2		Omni Directional		1.000	1.500	50 ft.	2.30	240 ft.
Au		Omni Directional		0.500	0.850	100 ft.	1.20	600 ft.
Ag		Omni Directional		0.200	0.400	150 ft.	0.80	600 ft.

16.0 BLOCK MODEL INTERPOLATION

16.1 Geologic Model

A three dimensional geologic model was developed in the 1980's by Teck using GEMCOM's PC-Mine program. The model has the following parameters.

**TABLE 5 : BLOCK MODEL LIMITS**

	Minimum	Maximum	Number of Blocks	Size of Block
Easting	4,000 E	14,000 E	100	100 ft.
Northing	19,000 N	31,000 N	120	100 ft.
Elevation	6140	980	129	40 ft.

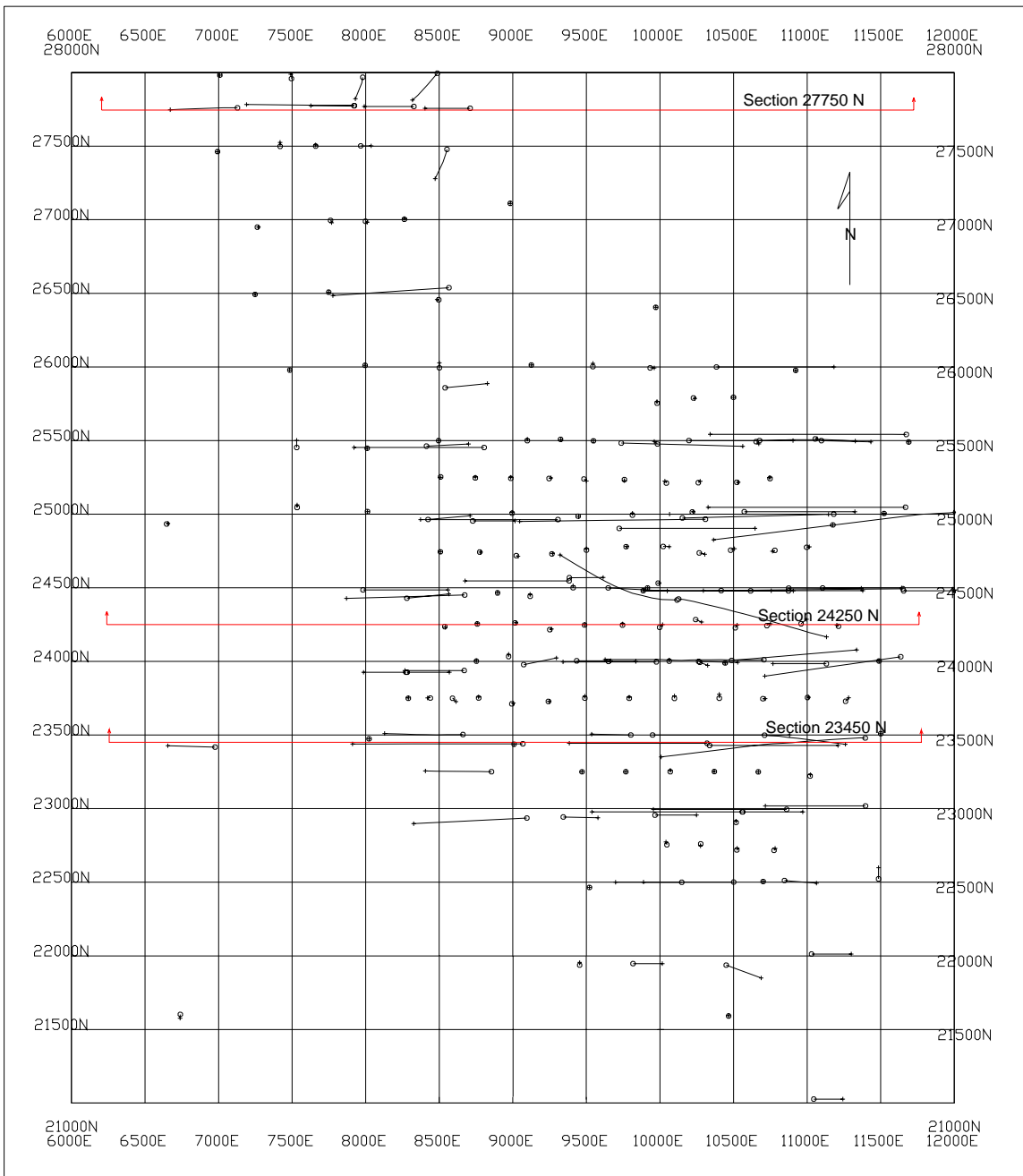
Blocks below the topographic surface were coded as follows:

- 10 - overburden
- 1 - tourmaline breccia
- 2 - diorite
- 3 - intrusive breccia

- 4 - andesite
- 5 - quartz feldspar porphyry
- 6 - granodiorite - quartz monzonite
- 7 - undifferentiated

This model was edited during this resource estimation to better fit the drill hole geology as described in the provided drill logs. Blocks coded Unit 10 for overburden were ignored in the resource estimate. Blocks coded 1 and 3 were estimated using the Domain 1-3 semivariogram model and composites. Blocks coded 2, 4, 5 or 7 were estimated using the Domain 4 semivariogram model and composites coded 4 and 5. Blocks coded as 6 for granodiorite-quartz monzonite were estimated using the domain 6 semivariogram model and composites coded 6.

Examples for three east-west (north looking) cross sections are included showing geologic blocks colour coded. The cross section locations along with location of drill holes are shown on a Plan View (Figure 11). Cross sections 23450 N, 24250 N and 27750 N are presented as Figures 12 to 14.

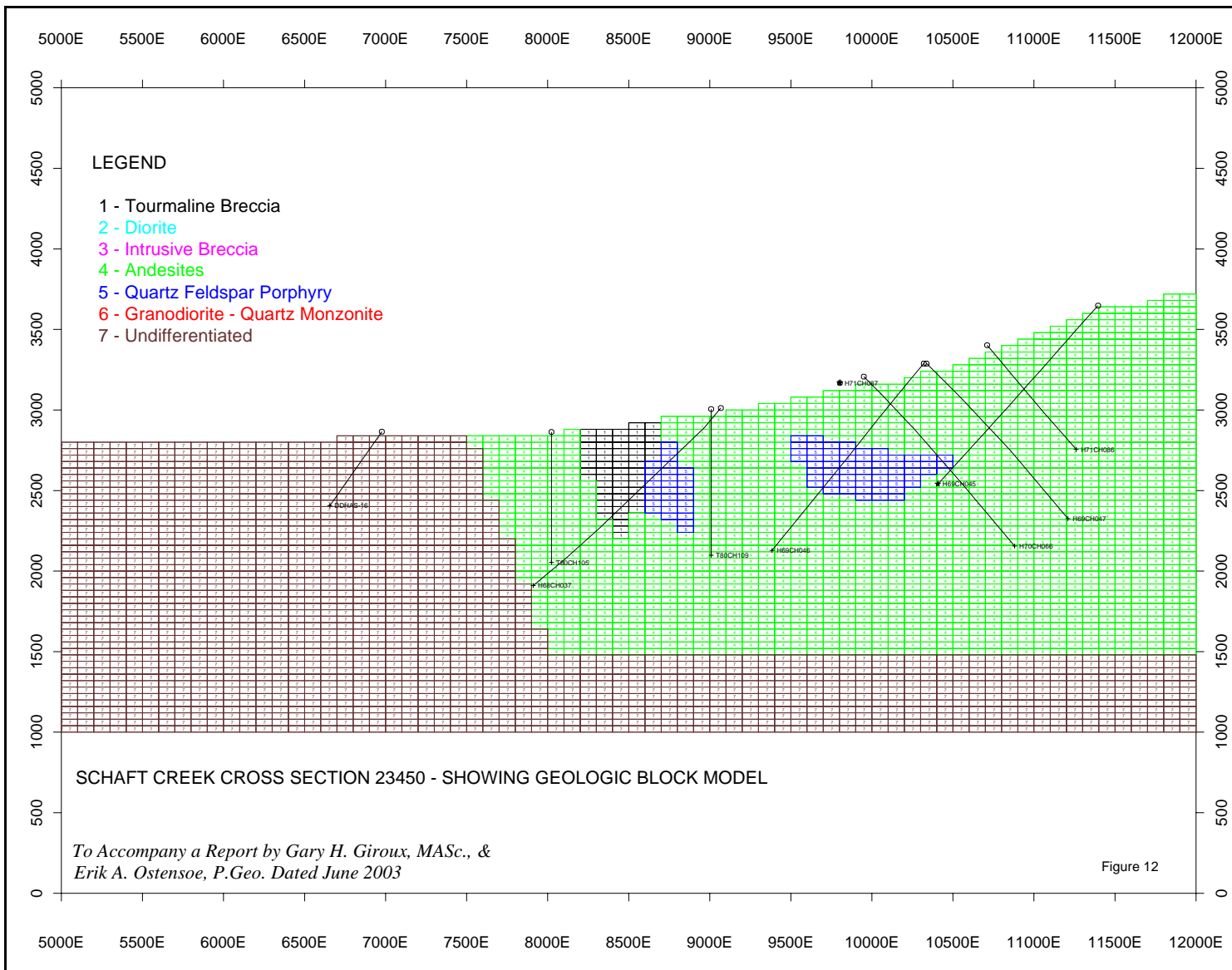


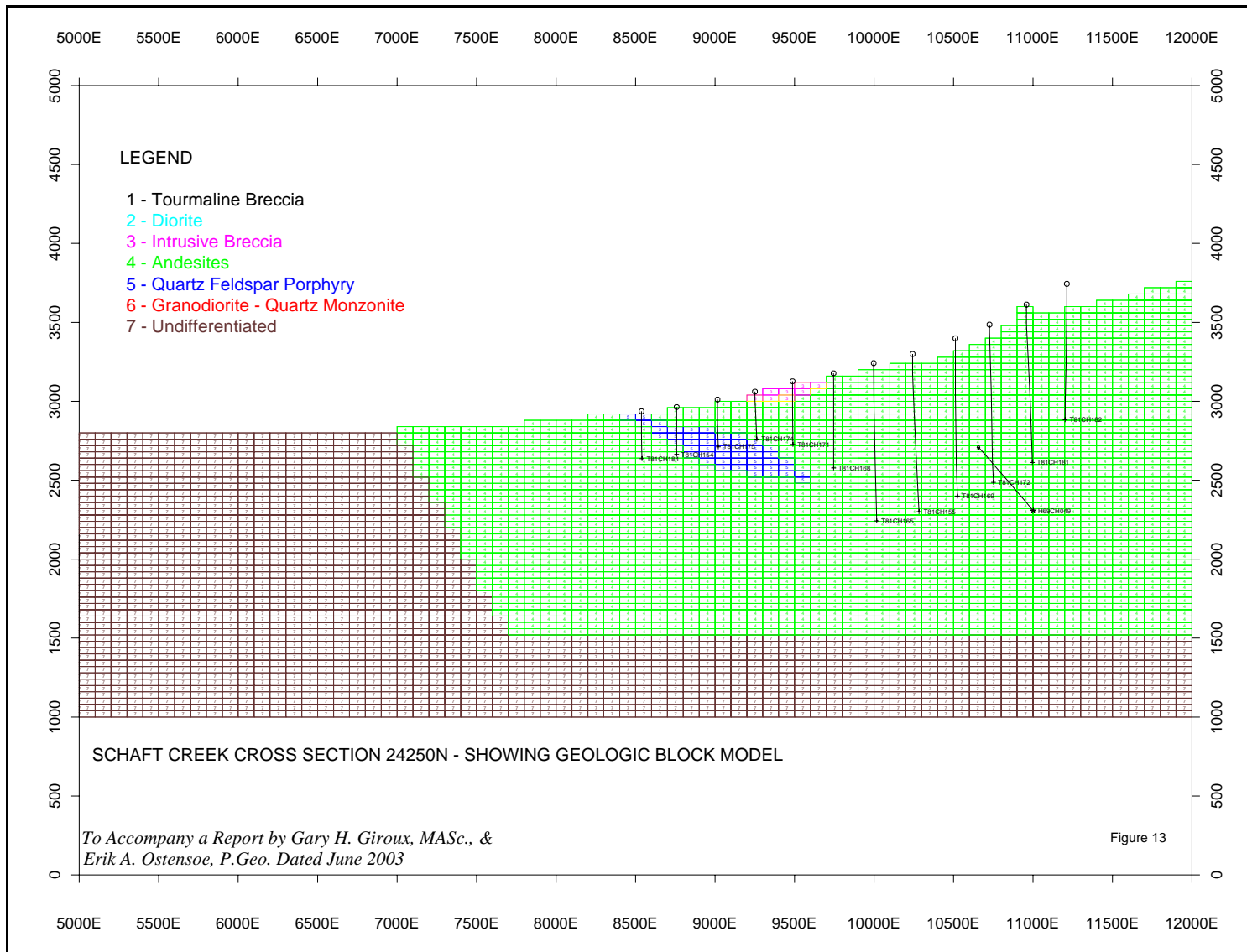
**Schaft Creek Plan View**  
**Showing drill hole and Cross Section Locations**

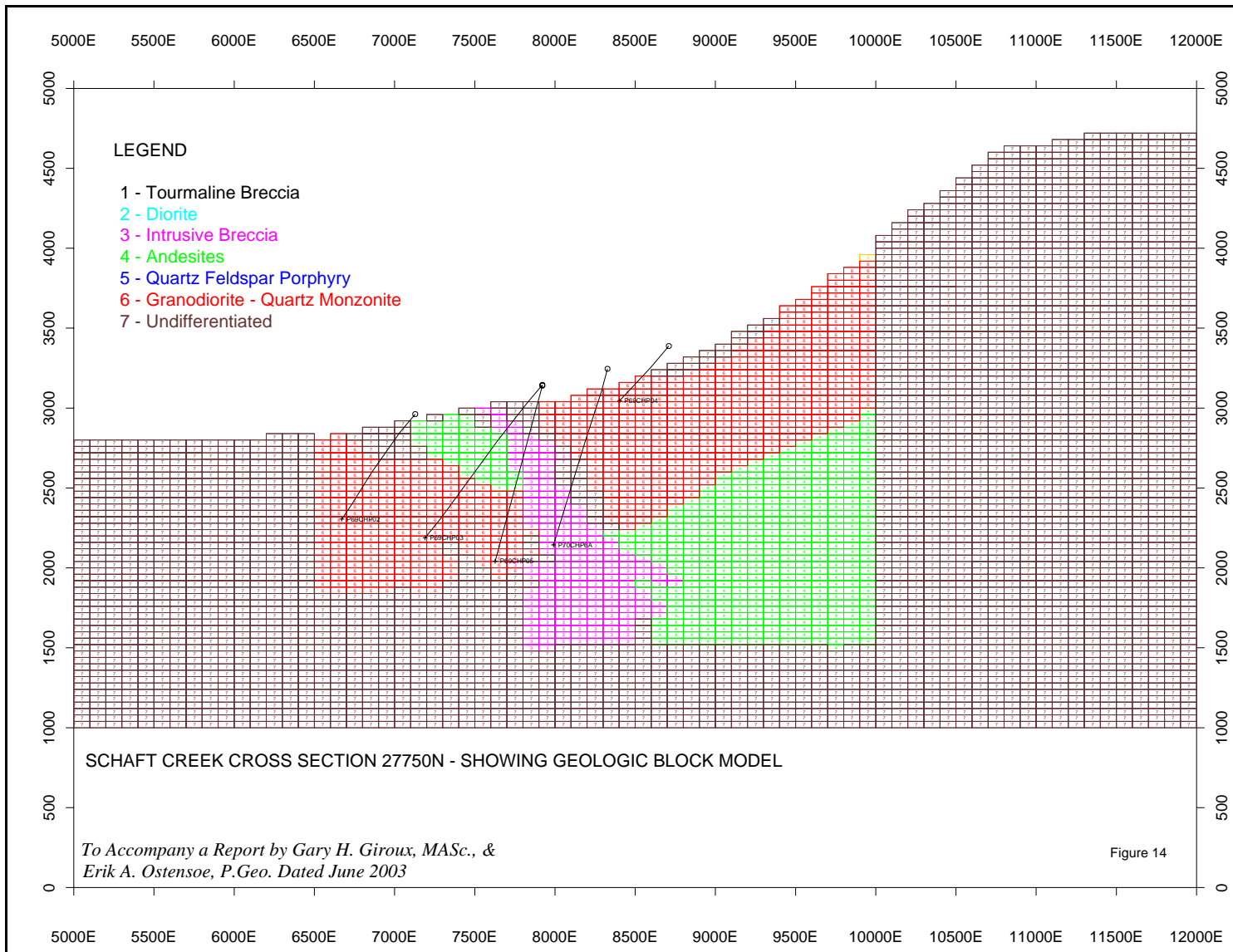
*To Accompany a Report by Gary H. Giroux, MASC., & Erik A. Ostensoe, P.Geo. Dated June 2003*

**Figure 11**









## 16.2 Introduction to Kriging

Kriging, commonly referred to as BLUE (best, linear, unbiased estimator), is a method of determining a weighted average in such a way that the geostatistical estimation variance of the weighted average is minimized. For each block (or point) to be estimated the method involves the solution of a set of linear equations in which unknowns are sample weighting factors (that sum to one) and known coefficients are variances and covariances determined from the semivariogram model. There are (n+1) equations to solve if there are n samples requiring weighting factors. The general form of kriging equations for the specific case of 3 samples for which weighting factors are required, is as follows:

$$\begin{array}{rcccccc} \lambda_1 C(s_1, s_1) & + & \lambda_2 C(s_1, s_2) & + & \lambda_3 C(s_1, s_3) & + & : & = & C(s_1, B) \\ \lambda_1 C(s_2, s_1) & + & \lambda_2 C(s_2, s_2) & + & \lambda_3 C(s_2, s_3) & + & : & = & C(s_2, B) \\ \lambda_1 C(s_3, s_1) & + & \lambda_2 C(s_3, s_2) & + & \lambda_3 C(s_3, s_3) & + & : & = & C(s_3, B) \\ \lambda_1 & + & \lambda_2 & + & \lambda_3 & + & : & = & 1 \end{array}$$

where,  $\lambda_i$  is the weight for sample  $s_i$   
 $C(s_i, s_j)$  is the semivariogram value between sample  $s_i$  and sample  $s_j$   
 $C(s_i, B)$  is the mean semivariogram value between samples and B (the block to be estimated)  
 $:$  is the Lagrange multiplier, a factor that enters the solution of the equation because of the mathematical methodology involved.

In practice, a general block kriging procedure is as follows:

- (1) A data file is searched to locate all data within a predetermined, arbitrary distance from the block to be estimated. The distance is normally set so that a practical number of samples will be obtained (say 5 to 20) for each block estimate.
- (2) Semivariogram values (or covariances and variances) are then determined for all sample pairs to provide the matrix of coefficients on the left hand side of the kriging equations (i.e. all the  $C(s_i, s_j)$ ).
- (3) Sample to block semivariogram values ( $C(s_i, B)$ ) (or covariances) are calculated for each sample to provide values for the right hand side of the kriging equations.
- (4) Kriging equations are solved for the weighting factors using an appropriate solution procedure.
- (5) A kriged block estimate is then determined as follows:

$$\lambda_1 s_1 + \lambda_2 s_2 + \lambda_3 s_3 = -k$$

where,  $\lambda_i$  is the weighting factor for sample value  $s_i$   
and  $-k$  is the kriging estimator

- (6) A kriging error (variance) is determined from the formula:

$$F^2 = \lambda_1 C(s_1, B) + \lambda_2 C(s_2, B) + \lambda_3 C(s_3, B) - : C(B, B)$$

where  $F^2$  is the kriging variance  
 $C(s_i, B)$  is the sample to block covariance  
 $:$  is the Lagrange multiplier  
and  $C(B, B)$  is the average point to point covariance for all points within block B. This is a constant for a given semivariogram model and a constant block size.

(7) The procedure from 1 to 6 above is repeated successively for each block to be estimated.

### 16.3 Search Strategy

The blocks were estimated using ordinary kriging with the following search procedure:

- Ordinary kriging was attempted on blocks using composites with the same domain code
- A minimum of 4 composites and maximum of 16 composites were required to estimate a block. If more than 16 were found within the search ellipse the closest 16 were selected.
- Three passes were made through the data with a varying search ellipse:
- Pass 1 looked for composites within an ellipse centered on the block with dimensions equal to one third of the range of the semivariogram in each direction.
- Pass 2 was completed on blocks not estimated in Pass 1 using an ellipse with dimensions equal to two thirds the range of the semivariogram in each direction.
- Pass 3 was completed on those blocks not estimated by Pass 1 or 2 using an ellipse equal to the full range of the semivariogram in each direction.
- Separate estimates were made for Cu, MoS<sub>2</sub>, Au and Ag.
- Blocks with fewer than the minimum 4 composites within an ellipse equal to the full range of the semivariogram were not estimated.

### 16.4 Results

A total of 117,820 blocks, 100 x 100 x 40 ft. in dimension, were estimated by ordinary kriging. The unclassified results are shown in a grade-tonnage Table 6 below. Tonnage was calculated using a specific gravity of 2.67 (based on a ten sample tabulation included in a study of assay procedures (Brown, 1969)).

Schaft Creek is a multi-element deposit, and as a result a copper equivalent value was calculated based on the estimated grades in each block for Cu, MoS<sub>2</sub>, Au and Ag. This copper equivalent value was based on the following assumptions:

Cu price of \$0.75 US / lb and an expected recovery of 91%  
MoS<sub>2</sub> price of \$2.50 US / lb and an expected recovery of 63%  
Au price of \$325 US / oz and an expected recovery of 76%  
Ag price of \$ 4.50 US / oz and an expected recovery of 80%

**Note:** Estimates of recoveries were taken from US Bureau of Mines tables (1995) for estimated recoveries from Flotation.

Calculations are net of all losses and insurances calculations. Since all prices are in US dollars the calculation for copper equivalent is not dependant on US / Canadian exchange rates.

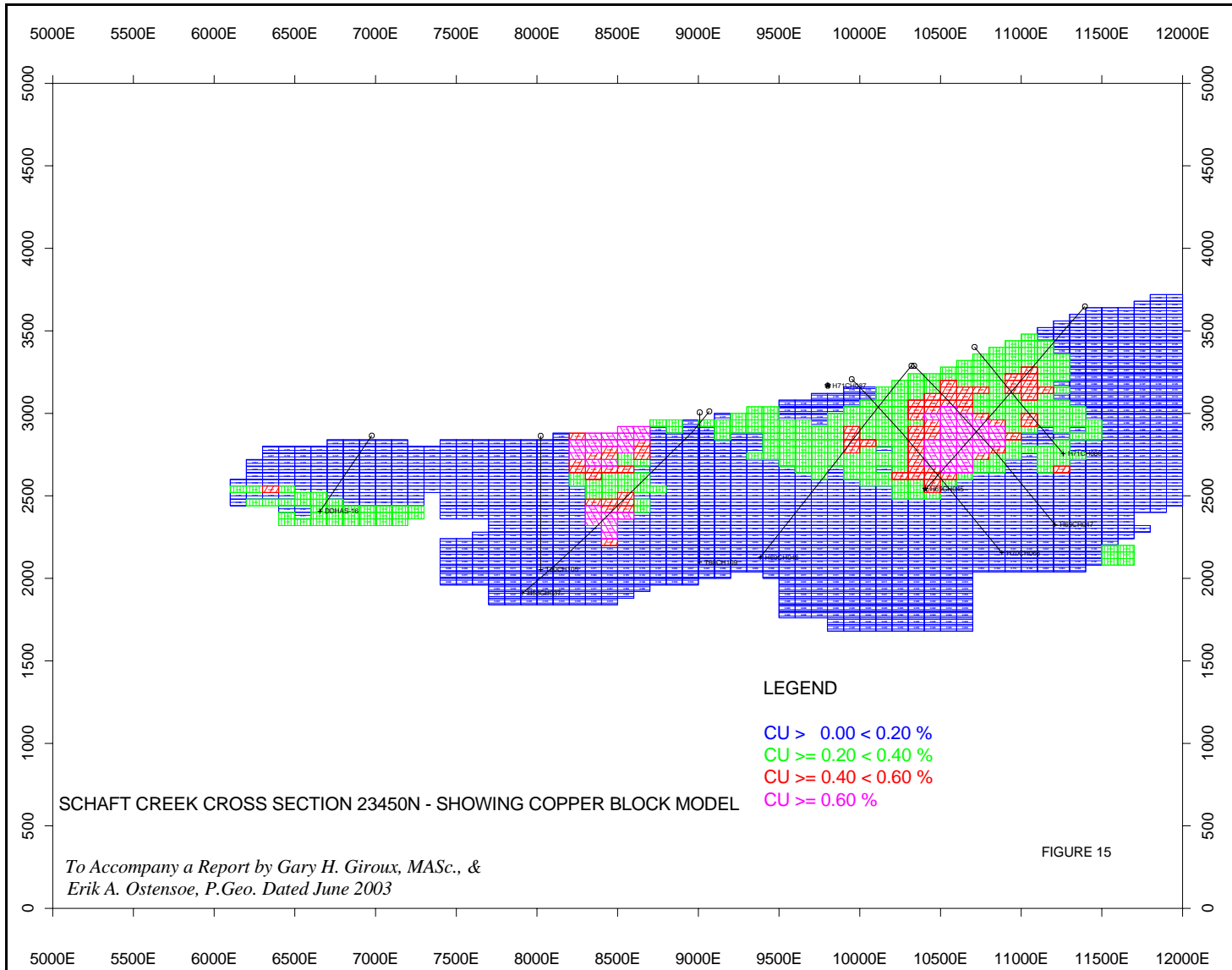
The equation for Cu Equivalent is as follows:

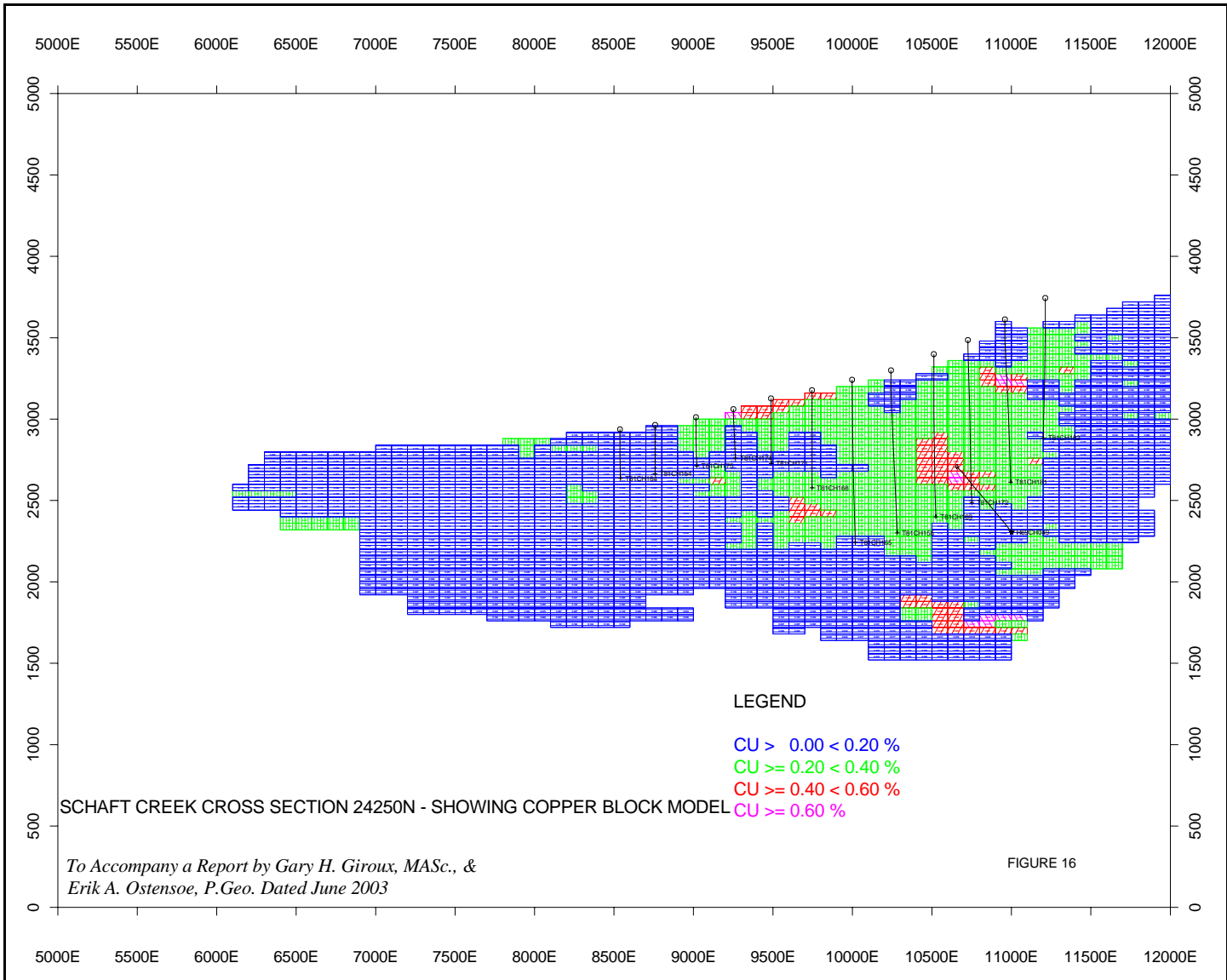
$$\text{CuEq} = (\text{Cu}\% \times 0.84) + (\text{MoS}_2 \% \times 1.947) + (\text{Au (g/t)} \times 0.44) + (\text{Ag (g/t)} \times 0.0063)$$

The results for copper are shown on cross sections 23450 N, 24250 N and 27750 N as Figures 16, 17 and 18 respectively. At the scale presented it is very difficult to read individual grades so blocks are colour coded and hatched to simply show the overall grade distribution for copper.

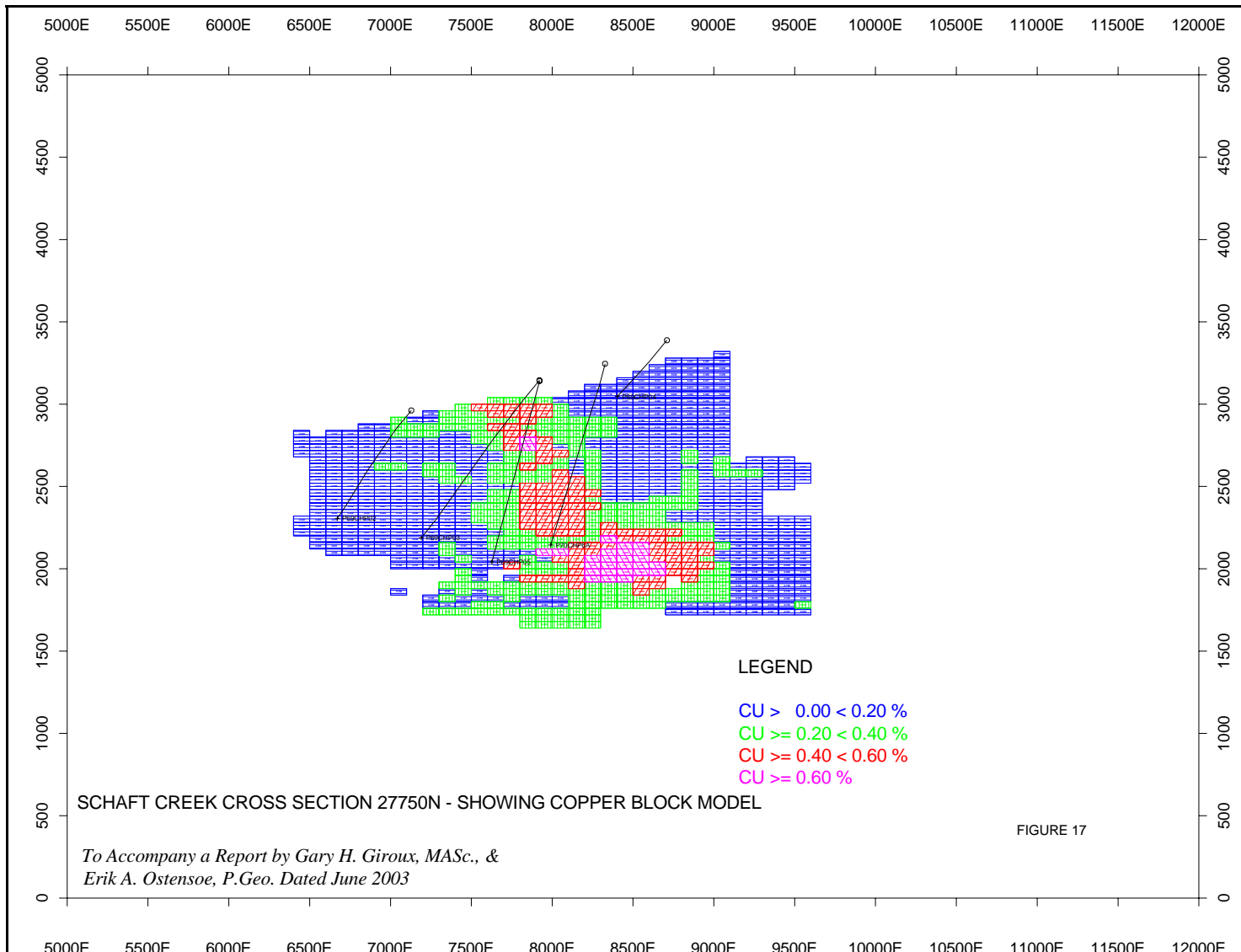
**TABLE 6: SCHAFT CREEK PROJECT GRADE-TONNAGE All Blocks Unclassified**

CuEQ Cutoff (%)	Tonnes>Cutoff (tonnes)	Grade>Cutoff				
		Cu (%)	MoS2 (%)	Au (g/t)	Ag (g/t)	CuEq (%)
0.00	3,563,600,000	0.155	0.016	0.14	1.63	0.202
0.10	2,345,600,000	0.216	0.023	0.16	1.68	0.285
0.15	1,936,100,000	0.241	0.027	0.17	1.71	0.319
0.20	1,524,100,000	0.269	0.030	0.19	1.76	0.357
0.25	1,158,200,000	0.299	0.034	0.21	1.84	0.400
0.30	880,900,000	0.327	0.037	0.23	1.92	0.439
<b>0.35</b>	<b>634,000,000</b>	<b>0.359</b>	<b>0.041</b>	<b>0.25</b>	<b>2.04</b>	<b>0.483</b>
0.40	445,500,000	0.392	0.045	0.28	2.18	0.530
<b>0.45</b>	<b>304,200,000</b>	<b>0.427</b>	<b>0.049</b>	<b>0.30</b>	<b>2.35</b>	<b>0.579</b>
0.50	209,000,000	0.460	0.054	0.33	2.51	0.626
<b>0.55</b>	<b>138,600,000</b>	<b>0.495</b>	<b>0.060</b>	<b>0.35</b>	<b>2.67</b>	<b>0.679</b>
0.60	96,600,000	0.526	0.065	0.38	2.83	0.724
0.65	63,400,000	0.562	0.071	0.40	3.01	0.777
0.70	44,300,000	0.595	0.075	0.43	3.13	0.822
0.75	30,100,000	0.629	0.080	0.45	3.19	0.868
0.80	20,000,000	0.668	0.083	0.49	3.36	0.915
0.85	13,200,000	0.704	0.086	0.50	3.48	0.961
0.90	8,300,000	0.765	0.089	0.50	3.59	1.013
0.95	4,800,000	0.837	0.100	0.47	3.91	1.079
1.00	3,000,000	0.894	0.115	0.47	4.19	1.146









## 17.0 CLASSIFICATION OF RESOURCES

### 17.1 Introduction

Based on the study herein reported, delineated mineralization of the Schaft Creek Deposit is classified as a resource according to the following definition from National Instrument 43-101:

*“In this Instrument, the terms “mineral resource”, “inferred mineral resource”, “indicated mineral resource” and “measured mineral resource” have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted by CIM Council on August 20, 2000, as those definitions may be amended from time to time by the Canadian Institute of Mining, Metallurgy and Petroleum.”*

*“A Mineral Resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.”*

The terms Measured, Indicated and Inferred are defined as follows:

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

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

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

### 17.2 Results

Geologic continuity has been demonstrated over the years of drilling at Schaft Creek with geologic contacts changing slightly after each drill campaign. Grade continuity can be demonstrated by semi-variograms for each geologic domain. Classification into measured/indicated/inferred resource categories at Schaft Creek was done by a combination of methods.

Copper is the most important mineral at Schaft Creek so the classification was completed using

copper results. Each estimated block was first assigned a code of 1 to 3 based on the search criteria for copper. Blocks estimated during pass 1 with the search ellipse dimensions equal to 1/3 of the semivariogram range were assigned a code of 1. Blocks estimated during pass 2 with a search ellipse dimension of 2/3 the semivariogram range were coded 2 and the remainder of the blocks estimated using the full range of the semivariogram were coded 3.

The second stage of classifying the resource involved the use of the relative estimation error for each block. During the kriging procedure a kriging variance is calculated for each block. The square root of the variance is the standard estimation error and by dividing this number by the kriged grade a relative estimation error for each block can be established. This number takes into account the amount of data used to estimate the block and the location of this data relative to any anisotropy, that may be present. The relative estimation errors for copper are presented as histograms in Figure 18 for the three domains used for kriging.

Using the breaks for measured/indicated/inferred taken from the histograms, the following rules were applied to determine classification:

- Measured - if estimated in Pass 1 and classed 'measured' from Histogram
- Indicated - if estimated in Pass 1 or 2 and classed 'indicated' from Histogram
- Inferred - for all other blocks not classified

Based on this classification procedure the results are tabulated in the following Tables 7 to 10 for the measured, indicated, measured plus indicated and inferred resource respectively.

Cross sections 23450 N, 24250 N and 27750 N are again included to show the distribution of measured, indicated and inferred blocks in Figures 19, 20 and 21.

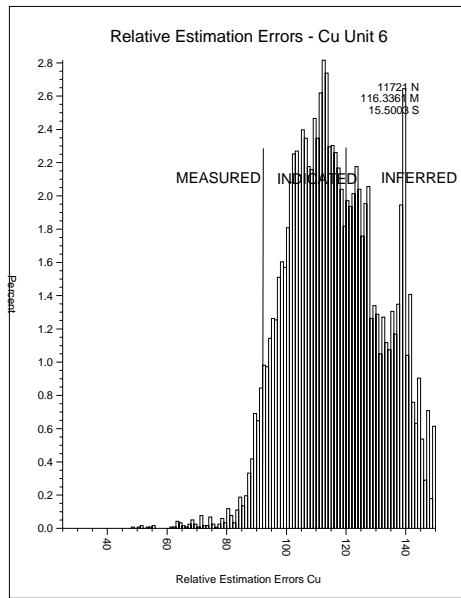
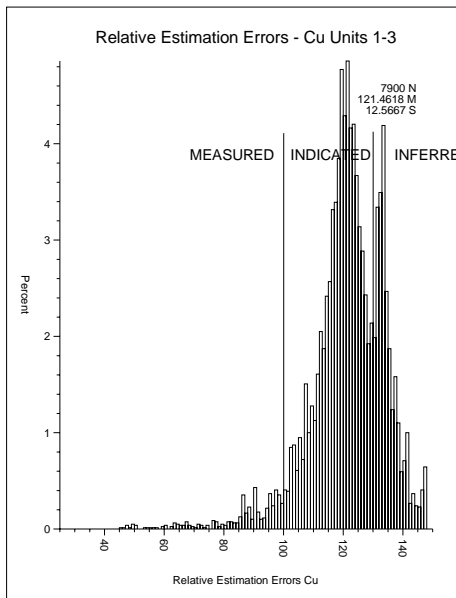
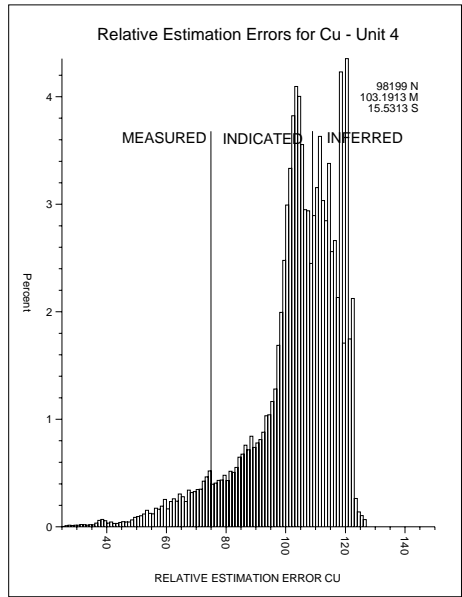


Figure 18: Histograms for Relative Estimation Errors in Cu for Units 4, 1-3 and 6

**TABLE 7: SCHAFT CREEK PROJECT GRADE-TONNAGE - Classed Measured**

CuEQ Cutoff (%)	Tonnes>Cutoff (tonnes)	Grade>Cutoff				
		Cu (%)	MoS2 (%)	Au (g/t)	Ag (g/t)	CuEq (%)
0.00	230,900,000	0.232	0.022	0.19	1.70	0.314
0.10	200,700,000	0.262	0.025	0.20	1.72	0.353
0.15	182,600,000	0.279	0.027	0.21	1.73	0.375
0.20	163,100,000	0.298	0.029	0.22	1.74	0.399
0.25	140,300,000	0.318	0.031	0.23	1.78	0.427
0.30	116,600,000	0.342	0.034	0.24	1.83	0.458
<b>0.35</b>	<b>91,800,000</b>	<b>0.370</b>	<b>0.037</b>	<b>0.26</b>	<b>1.89</b>	<b>0.495</b>
0.40	69,100,000	0.400	0.040	0.28	1.97	0.534
<b>0.45</b>	<b>47,400,000</b>	<b>0.439</b>	<b>0.045</b>	<b>0.30</b>	<b>2.11</b>	<b>0.584</b>
0.50	32,800,000	0.476	0.050	0.32	2.22	0.634
<b>0.55</b>	<b>22,500,000</b>	<b>0.516</b>	<b>0.055</b>	<b>0.34</b>	<b>2.35</b>	<b>0.685</b>
0.60	15,300,000	0.555	0.062	0.35	2.44	0.737
0.65	10,600,000	0.591	0.069	0.37	2.50	0.786
0.70	7,500,000	0.632	0.075	0.37	2.50	0.832
0.75	5,100,000	0.674	0.082	0.38	2.44	0.882
0.80	3,600,000	0.697	0.093	0.39	2.41	0.927
0.85	2,500,000	0.741	0.100	0.39	2.35	0.972
0.90	1,800,000	0.776	0.105	0.39	2.38	1.008
0.95	1,200,000	0.824	0.115	0.37	2.28	1.056
1.00	700,000	0.817	0.140	0.40	2.40	1.113

**TABLE 8: SCHAFT CREEK PROJECT GRADE-TONNAGE - Classed Indicated**

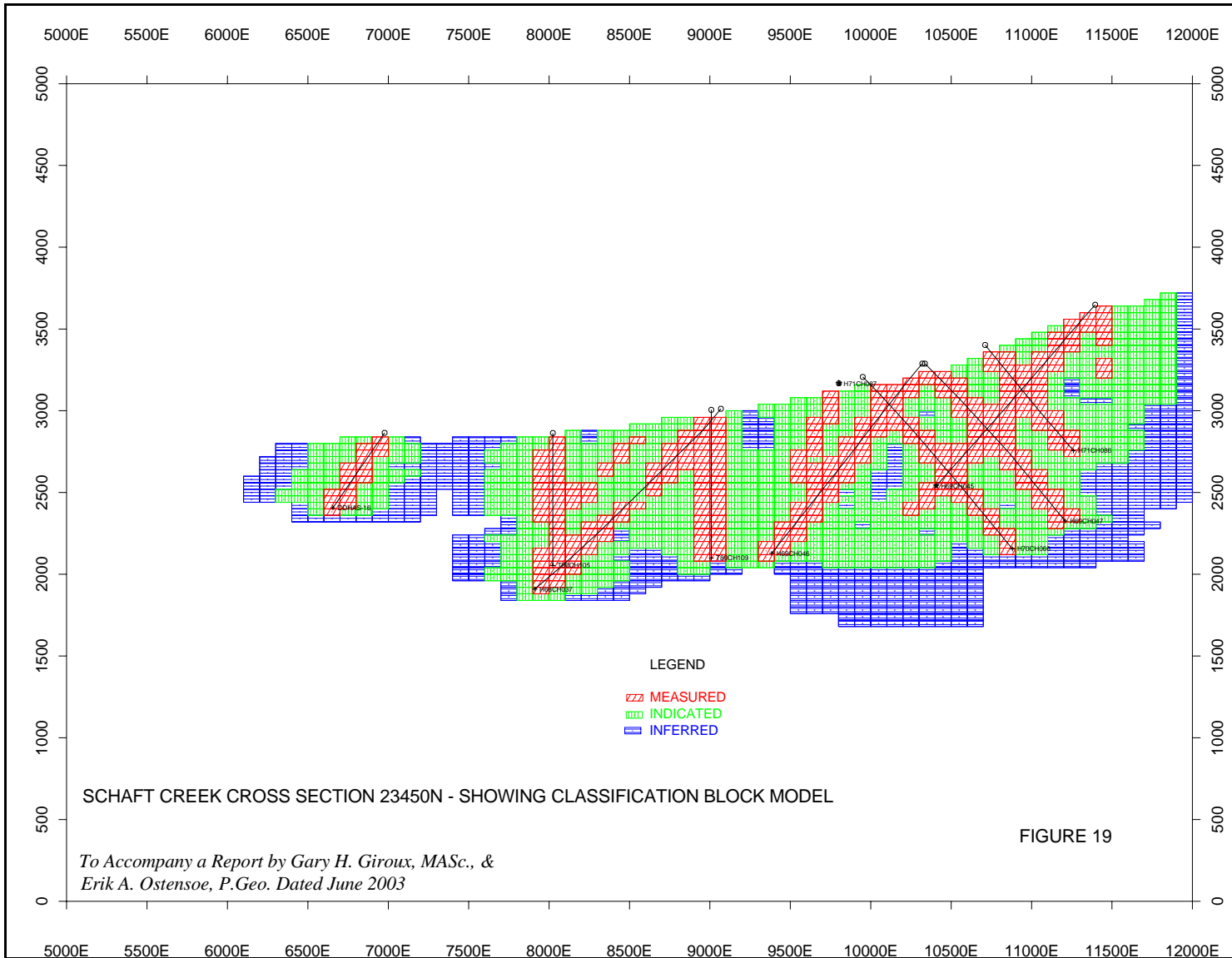
CuEQ Cutoff (%)	Tonnes>Cutoff (tonnes)	Grade>Cutoff				
		Cu (%)	MoS2 (%)	Au (g/t)	Ag (g/t)	CuEQ (%)
0.00	1,495,400,000	0.186	0.019	0.15	1.67	0.249
0.10	1,175,800,000	0.225	0.024	0.16	1.70	0.302
0.15	1,008,200,000	0.248	0.026	0.17	1.73	0.332
0.20	827,900,000	0.273	0.030	0.19	1.77	0.366
0.25	658,700,000	0.299	0.033	0.21	1.83	0.402
0.30	509,300,000	0.326	0.037	0.22	1.91	0.439
<b>0.35</b>	<b>373,000,000</b>	<b>0.356</b>	<b>0.041</b>	<b>0.24</b>	<b>2.02</b>	<b>0.481</b>
0.40	262,900,000	0.388	0.045	0.26	2.16	0.526
<b>0.45</b>	<b>178,600,000</b>	<b>0.422</b>	<b>0.050</b>	<b>0.29</b>	<b>2.34</b>	<b>0.575</b>
0.50	119,400,000	0.458	0.055	0.32	2.51	0.625
<b>0.55</b>	<b>80,500,000</b>	<b>0.490</b>	<b>0.061</b>	<b>0.34</b>	<b>2.66</b>	<b>0.674</b>
0.60	55,400,000	0.520	0.067	0.36	2.82	0.720
0.65	35,200,000	0.560	0.074	0.38	3.02	0.775
0.70	24,380,000	0.594	0.079	0.40	3.10	0.821
0.75	16,120,000	0.633	0.086	0.42	3.20	0.871
0.80	10,770,000	0.674	0.090	0.45	3.38	0.919
0.85	7,380,000	0.715	0.091	0.47	3.47	0.962
0.90	4,330,000	0.789	0.096	0.46	3.71	1.026
0.95	2,510,000	0.861	0.104	0.48	4.23	1.100
1.00	1,600,000	0.936	0.118	0.48	4.51	1.173

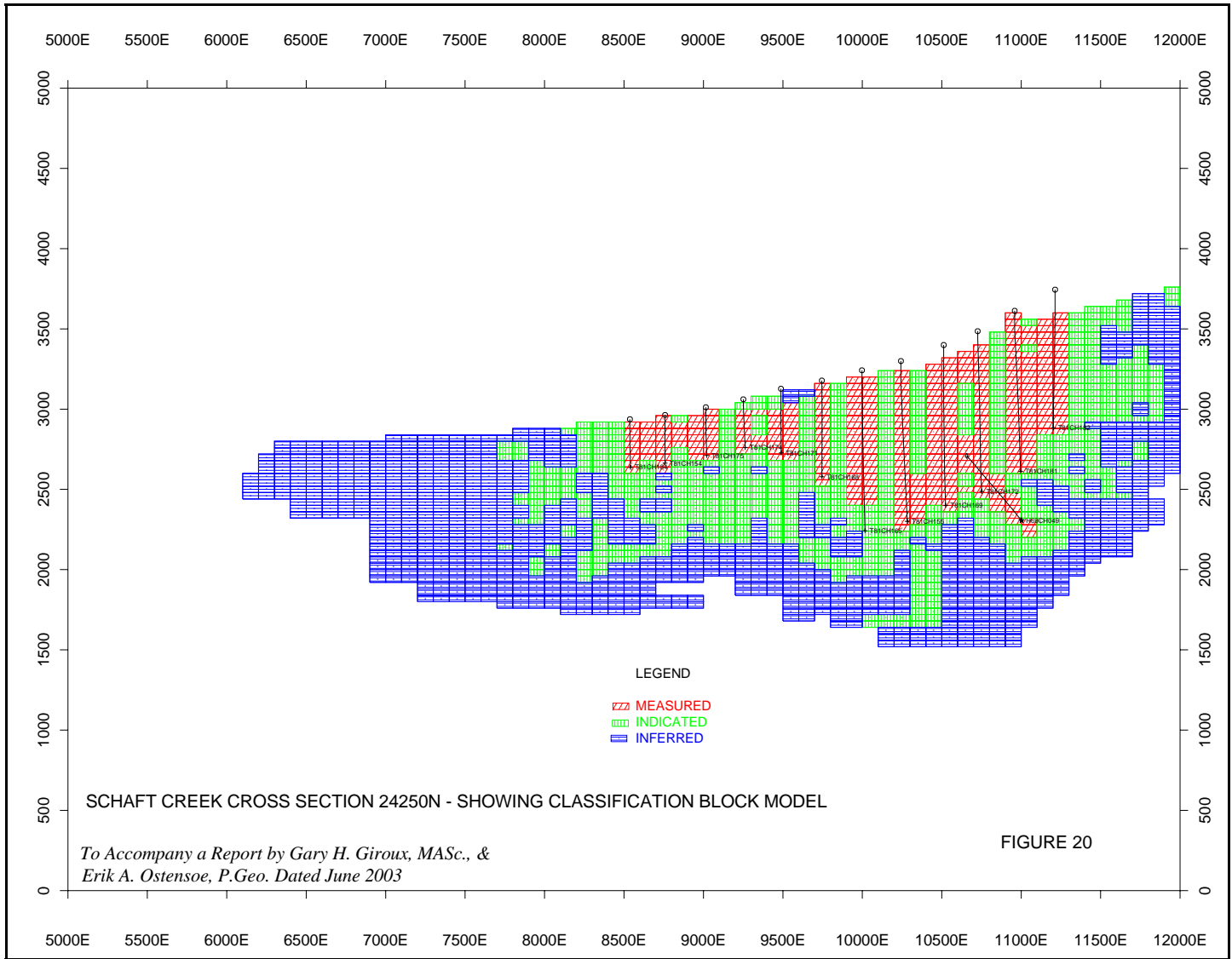
**TABLE 9: SCHAFT CREEK PROJECT GRADE-TONNAGE - Classed Measured plus Indicated**

CuEQ Cutoff (%)	Tonnes>Cutoff (tonnes)	Grade>Cutoff				
		Cu (%)	MoS2 (%)	Au (g/t)	Ag (g/t)	CuEq (%)
0.00	1,726,200,000	0.192	0.020	0.16	1.67	0.258
0.10	1,376,400,000	0.231	0.024	0.17	1.71	0.310
0.15	1,190,800,000	0.252	0.027	0.18	1.73	0.338
0.20	991,000,000	0.277	0.030	0.19	1.77	0.371
0.25	799,000,000	0.302	0.033	0.21	1.82	0.406
0.30	625,900,000	0.329	0.036	0.23	1.89	0.443
<b>0.35</b>	<b>464,700,000</b>	<b>0.359</b>	<b>0.040</b>	<b>0.25</b>	<b>1.99</b>	<b>0.484</b>
0.40	332,000,000	0.391	0.044	0.27	2.12	0.528
<b>0.45</b>	<b>226,000,000</b>	<b>0.425</b>	<b>0.049</b>	<b>0.29</b>	<b>2.29</b>	<b>0.577</b>
0.50	152,300,000	0.461	0.054	0.32	2.45	0.627
<b>0.55</b>	<b>103,000,000</b>	<b>0.496</b>	<b>0.060</b>	<b>0.34</b>	<b>2.59</b>	<b>0.677</b>
0.60	70,700,000	0.527	0.066	0.36	2.74	0.723
0.65	45,800,000	0.567	0.073	0.38	2.89	0.778
0.70	31,900,000	0.603	0.078	0.40	2.95	0.823
0.75	21,200,000	0.643	0.085	0.41	3.01	0.874
0.80	14,400,000	0.680	0.091	0.43	3.13	0.921
0.85	9,900,000	0.722	0.093	0.44	3.18	0.965
0.90	6,200,000	0.785	0.099	0.44	3.30	1.021
0.95	3,700,000	0.849	0.108	0.44	3.58	1.086
1.00	2,300,000	0.899	0.125	0.46	3.77	1.155

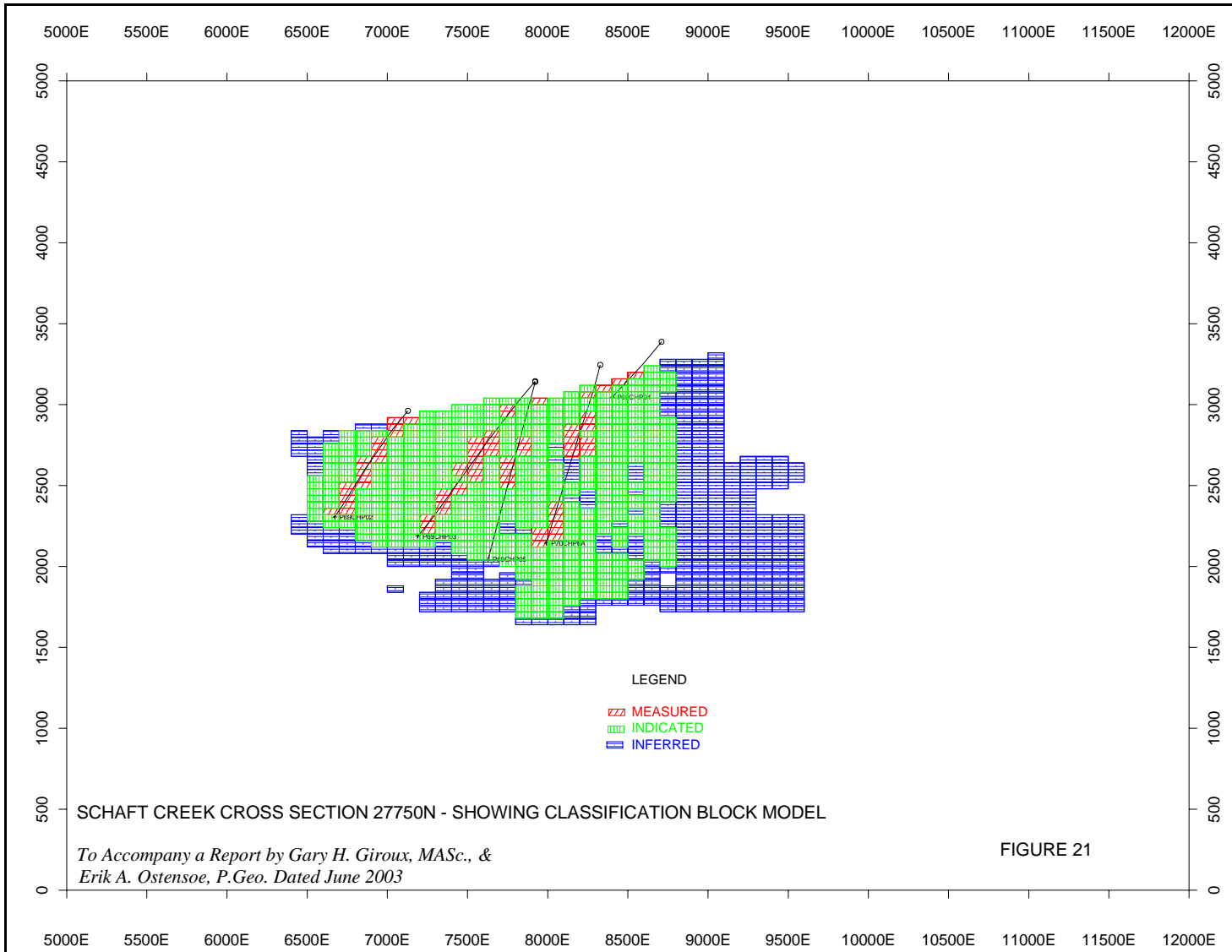
**TABLE 10: SCHAFT CREEK PROJECT GRADE-TONNAGE - Classed Inferred**

CuEQ Cutoff (%)	Tonnes>Cutoff (tonnes)	Grade>Cutoff				
		Cu (%)	MoS2 (%)	Au (g/t)	Ag (g/t)	CuEq (%)
0.00	1,837,400,000	0.121	0.013	0.12	1.56	0.151
0.10	969,400,000	0.196	0.023	0.14	1.62	0.249
0.15	745,400,000	0.223	0.027	0.15	1.66	0.287
0.20	533,200,000	0.254	0.032	0.17	1.76	0.332
0.25	359,300,000	0.291	0.037	0.20	1.87	0.384
0.30	255,000,000	0.324	0.041	0.22	1.99	0.429
<b>0.35</b>	<b>169,300,000</b>	<b>0.358</b>	<b>0.045</b>	<b>0.26</b>	<b>2.19</b>	<b>0.481</b>
0.40	113,500,000	0.398	0.048	0.30	2.41	0.534
<b>0.45</b>	<b>78,200,000</b>	<b>0.431</b>	<b>0.051</b>	<b>0.34</b>	<b>2.57</b>	<b>0.584</b>
0.50	56,700,000	0.455	0.055	0.38	2.73	0.625
<b>0.55</b>	<b>35,600,000</b>	<b>0.495</b>	<b>0.060</b>	<b>0.40</b>	<b>2.91</b>	<b>0.684</b>
0.60	25,900,000	0.522	0.062	0.43	3.12	0.726
0.65	17,600,000	0.548	0.066	0.47	3.33	0.774
0.70	12,400,000	0.576	0.066	0.51	3.59	0.817
0.75	8,800,000	0.597	0.067	0.56	3.62	0.855
0.80	5,600,000	0.635	0.062	0.62	3.97	0.901
0.85	3,330,000	0.651	0.064	0.65	4.32	0.950
0.90	2,180,000	0.708	0.063	0.65	4.36	0.990
0.95	1,120,000	0.799	0.077	0.57	4.86	1.056
1.00	670,000	0.875	0.081	0.51	5.33	1.115









## 18.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Hecla Operating Company carried out preliminary mineral processing and metallurgical tests on core sample material from the Schaft Creek deposit. Wright Engineers Limited (now a unit of Fluor Daniel) was commissioned by Hecla Operating Company in 1970 to produce a Preliminary Feasibility Study to establish capital and operating costs and economics of development of a producing mine with capacity 50,000 short tons per day. Flow sheet and bench design parameters were based on two laboratory bench tests and a grinding test performed by recognized engineering and mining organizations. Conceptual flowsheets were prepared that appear to have demonstrated that in certain circumstances the orebodies could sustain a conventional open-pit mine and mill operation. Various economic models were investigated using then-current cost and metal price estimates: these have been rendered moot by the passage of time and by advances in mining technologies.

Wright Engineers in their Summary reported that test work had established the feasibility of producing an 85% copper recovery and an 80% molybdenite recovery to a 25% copper bulk concentrate grade (Wright Engineers, 1970). They reported that insufficient test work had been performed to adequately determine the feasibility of separating copper and molybdenite but that preliminary tests indicated that such a separation would be feasible. They also reported that rhenium had been detected in a low grade molybdenite concentrate and that it might prove to be of economic interest.

Wright Engineers Limited in 1978 reviewed and updated their 1970 study to include data from additional drilling and metallurgical test work and to review and revise costs. They, at that time, recommended that a 400 ton metallurgical bulk sample should be obtained and tested and that autogenous grinding should be tested (Wright Engineers, 1978).

A bulk flotation flowsheet was prepared on the basis of the earlier test work: a conventional rod mill - ball mill grinding circuit is followed by bulk rougher flotation, with three stages of cleaning. After regrinding the rougher concentrate and molybdenite is then separated from the bulk concentrate and upgraded by 12 stages of cleaning (Wright Engineers, 1978).

The authors of this report are geologists rather than mining engineers and thus are not competent to evaluate or comment on the content and conclusions contained in the engineering studies. They believe that although useful the studies are now at least partly obsolete and that any further studies should reflect prevailing conditions without undue reference to the earlier work and that entirely new cash flow projections are required.

## 19.0 INTERPRETATION AND CONCLUSIONS

The Schaft Creek porphyry-style copper-molybdenum-gold deposit, located in northwestern British Columbia, has been explored by application of geological and geophysical techniques and by 60,200 metres of diamond drilling and 6,500 metres of percussion drilling. It is situated in the northern Intermontane physiographic belt in Stikinia terrane and is hosted by a complex of intermediate (andesitic and trachytic) volcanic and volcano-sedimentary rocks that has been intruded and mineralized by 'acidic' (granodioritic to syenitic) crystalline plutons of Middle Mesozoic age.

The deposit comprises three separate and somewhat distinct zones: Main Liard, West Breccia, and Paramount. Different geologists have mapped many variations in rock types but for the purposes of this Summary Report and for convenience in data processing, certain mappable units were

combined so that four domains were defined and semivariograms and composites were calculated for each domain. Kriging methods (as described in the Report) were employed to integrate assay information and geological parameters and biases in not only estimating the volumes and grades of the deposit but also in calculating the reliability of those estimates. The product is a tabulation (Tables 7-10) of measured, indicated, measured plus indicated and inferred resources with copper, molybdenum, gold and silver values, and also copper equivalent (as defined in the text) values calculated at copper-equivalent cut-off grades from 0.0% to 1.00% CuEq.

The authors of this Summary Report on the Schaft Creek deposit recognize that a very large data base is available. Modeling studies carried out as a preliminary to kriging procedures revealed several areas of weakness in that data base. While none are critical to present calculations, it is recommended that further drilling be undertaken to resolve those areas prior to commencement of economic studies. Depending upon which Cu Eq. values are appropriate for use in further economic studies of the deposit, it may be desirable to carry out a program of additional more closely spaced drill holes in order to increase the resource tonnages in the 'measured' and 'indicated' categories, particularly in areas likely to be accessed in the critical early stages of a future mining operation.

## 20.0 OTHER RELEVANT DATA AND INFORMATION

On June 5, 2003 Mining Consultant E.W. Beresford, P.Eng. conducted a site visit to the Schaft Creek exploration camp and surrounding drill sites to determine the environmental and reclamation requirements for clean-up and removal. A detailed inventory was taken of the camp buildings, structures, drill cores and miscellaneous items on site (Beresford, 2003).

The property is presently covered under Teck Corporation's general exploration reclamation security bond and permit MX-Gen-01. Any further exploration activity using the current camp conducted by others would require additional bonding unless Teck Corporation indemnifies the new operator.

The conclusions presented by Beresford are as follows:

- the present Schaft Creek camp is a low risk environmental liability that can be fully demobilized and reclaimed for an estimated total budget cost of approximately \$70,000
- access to the camp for clean-up and removal could be accomplished by a Jet Ranger 206 helicopter.
- the drill sites and exploration roads are re-vegetated and natural vegetation has grown in since completion of drilling activity in 1982 and require no further restoration work.

Beresford estimates the reclamation security bonding for a new operator/owner of the Schaft Creek property would initially be no more than \$50,000 for the Phase 1 program. Upon successful completion of Phase 1, the security bond should be reduced to \$20,000 and the remaining \$30,000 released to the operator for good corporate performance.

## 21.0 RECOMMENDATIONS

Based on the resource reported and the amount of previous work completed at Schaft Creek the following recommendations are made.

- Metallurgical tests on existing drill core to determine a preliminary estimate of recoveries using flotation test work. Tests to include chemical analysis to reconfirm the laboratory procedures followed by the previous workers, mineralogy and petrography, tests on rougher flotation, cleaner flotation, locked cycle test, concentrate analysis, leaching amenability and column tests. It is recommended that two samples should be prepared for testing purposes: one from run of mine material and one higher grade sample.
- Metallurgical tests on existing drill core to determine a preliminary estimate of recoveries using hydrometallurgical technologies such as solvent extraction/electro-winning ('SX/EW') techniques and others. A total of four tests are recommended on various higher grade areas of the property.
- The resource calculated in the block model reported should be passed along to an engineering firm for input into an economic scoping study. The purpose of this study would be to determine preliminary project economics and a production/process scope and alternatives. The study would include a review of the resource estimate, geologic model, and metallurgical test program and procedures with the aim of developing a preliminary process flowsheet. A preliminary mine plan would be developed and infrastructure requirements for mining and processing established. Capital and operating cost estimates should be developed to create a financial model.
- Based on the results of the preliminary mine plan the starter pits and 'pay-back' pit limits would be evaluated and the need for in-fill drilling investigated. The aim would be to maximize the amount of measured-indicated resource in the area to be mined during the first few years of production. Allowance for 10,000 m of in-fill drilling is recommended.
- Finally the permitting process should be started including environmental and socio-economic studies.

This program would take about two field seasons to complete at the estimated cost of \$2.355 million. A budget has been prepared and split into 3 phases. Phase 1 would be completed in the first year. Phases 2 and 3, while dependant on the results of Phase 1, are scheduled for completion in the second year. The character of the property is of sufficient merit to justify this program. The program is endorsed and recommended.

## 22.0 COST ESTIMATE

<b>Phase 1</b>	<b>(Can)\$</b>
Report on Social License Establishment .....	11,000
Scoping Study .....	86,000
To include review of mineral resource, design a preliminary mining plan, evaluate metallurgical test work and produce process flowsheets, evaluate infrastructure and process facilities, review regulatory, government, environmental and community issues which may impact project development, produce an operating cost estimate and a financial model, conduct a project risk assessment and recommend future developments	
Collection of Metallurgical samples .....	60,000
Review of Geological Model .....	30,000
Metallurgical Test Valuation Study .....	8,000
Core Logging .....	15,000
Permitting. ....	10,000
Preliminary Engineering .....	50,000
Miscellaneous (15%) .....	40,500
Administration (approx. 10%) .....	39,500
 Total Estimated Costs Phase 1	 <b>\$350,000</b>
 <b>Phase 2</b>	 <b>(Can)\$</b>
Review of Geology and Resource Evaluation .....	104,000
Floatation and Hydrometallurgical Tests .....	230,000
Bonding .....	200,000
Miscellaneous (15%) .....	80,100
Administration (approx. 14%) .....	85,900
 Total Estimated Costs Phase 2	 <b>\$700,000</b>
 <b>Phase 3</b>	 <b>(Can)\$</b>
Drilling PQ core for Metallurgical samples - 10,000 m @ \$65.00/m .....	650,000
Drilling Indirect Costs \$50.00/m .....	500,000
Miscellaneous (15%) .....	172,500
Administration (approx. 10%) .....	137,500
 Total Estimated Costs Phase 3	 <b>\$1,460,000</b>
 TOTAL 3 PHASES	 <b>\$2,510,000</b>

## 23.0 CERTIFICATES

### 23.1 Gary H. Giroux, P.Eng. MASc.

I, G.H. Giroux, of 982 Broadview Drive, North Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geological engineer with an office at #513 - 675 West Hastings Street, Vancouver, British Columbia.
- 2) I am a graduate of the University of British Columbia in 1970 with a B.A. Sc. and in 1984 with a M.A. Sc., both in Geological Engineering.
- 3) I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 4) I have practised my profession continuously since 1970.
- 5) I have read the definition of 'qualified person' set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in draft National Policy 43-101.
- 6) This report is based on a study of the data and literature available on the Schaft Creek Project. I am responsible for the resource estimations completed in Vancouver during 2003. A site visit and examination of drill core was made on June 5, 2003.
- 7) I have had no prior involvement with the property.
- 8) I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the Technical Report.
- 9) I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.
- 10) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 11) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public files on their websites accessible by the public.

Dated this 20th day of May, 2004

"G.H. Giroux"

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G. H. Giroux, P.Eng., MASc.  
Giroux Consultants Ltd.

23.2 ERIK A. OSTENSOE, P. Geo.

4306 West 3rd Avenue, Vancouver, B.C., V6R 1M7.

I, Erik A. Ostensoe, P. Geo., certify that

1. I am a consulting geologist with office and residence in Vancouver, B.C., Canada
2. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (Member no. 18727)
3. I graduated from the University of British Columbia, Vancouver, B. C. in 1960 with a Bachelor of Science degree in Honours Geology, and that I completed course requirements for a Master of Science degree at Queen's University, Kingston, Ontario
4. I have worked for more than forty years in the mining and mineral exploration industries in most parts of western North America and, to a lesser extent, overseas, as an employee of major companies, as a consultant to junior and other companies, and as self-employed geologist
5. I am, as a result of my experience and professional qualifications, a Qualified Person as defined in National Instrument 43-101
6. I was employed in the period 1967 through 1978 as a geologist and exploration supervisor by Hecla Mining Company of Canada Limited with varying degrees of responsibility while that company explored the Schaft Creek porphyry copper-molybdenum-gold property that is the subject of the accompanying report and, consequently, I am personally familiar with the property and the work that was done in that period
7. I, with Gary H. Giroux, P. Eng., co-authored the accompanying report 'SUMMARY REPORT, Current Status and Resource Estimate, Schaft Creek Property, Northwestern British Columbia' on the basis of my personal familiarity with the subject property, a review of pertinent technical literature, and information contained in a large number of public and private documents, including many prepared by and for Hecla Mining Company of Canada and Teck Corporation (now TeckCominco Ltd.)
8. Sections of the accompanying report concerned with mineral resource information contain much information that is outside of my training, knowledge and competence and are wholly the responsibility of my co-author, Gary H. Giroux, P. Eng.
9. All sources of information included in this report are acknowledged appropriately in the text and in the References section
10. I am not aware of any material fact or material change with respect to the subject matter of this report that is not reflected in this report, the omission to disclose which would make this report misleading
11. When the original report was finished on June 30, 2003, I had no interest, direct or indirect, in the Schaft Creek property that is the subject of this report, nor in the securities of 955528 Alberta Ltd., nor in any nearby mineral properties, and was independent of 955528 Alberta Ltd. in accordance with the application of Section 1.5 of National Instrument 43-101. On October 30, 2003, I acquired a total of 50,000 shares of 955528 Alberta Ltd. at a price of \$0.10/share in a private placement transaction
12. I have read National Instrument 43-101 and Form 43-101F1 and the accompanying technical report has been prepared in compliance with that instrument and form
13. I consent to the use of this report, in whole or in part, by 955528 Alberta Ltd. provided that quotations are not modified or otherwise taken out of context.

Signed and sealed at Vancouver, British Columbia, the 20th day of May, 2004.

"E.A. Ostensoe"

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Erik A. Ostensoe, P. Geo., Qualified Person

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APPENDIX 1  
CLAIM INFORMATION

Tenure #	Claim Name	Map #	Status	Units	Tag #
226982	BB #1	104G046	Good Standing 2004.10.30	1	115401M
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226994	BB #22	104G046	Good Standing 2004.10.30	1	115422M
226995	BB #23	104G046	Good Standing 2004.10.30	1	115423M
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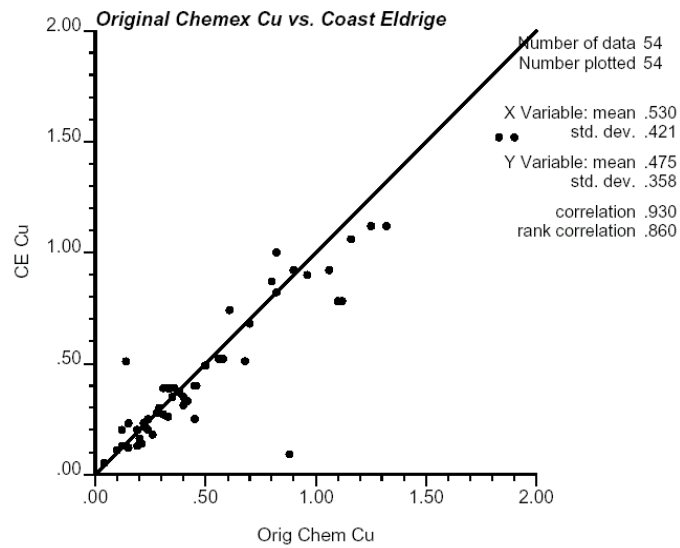
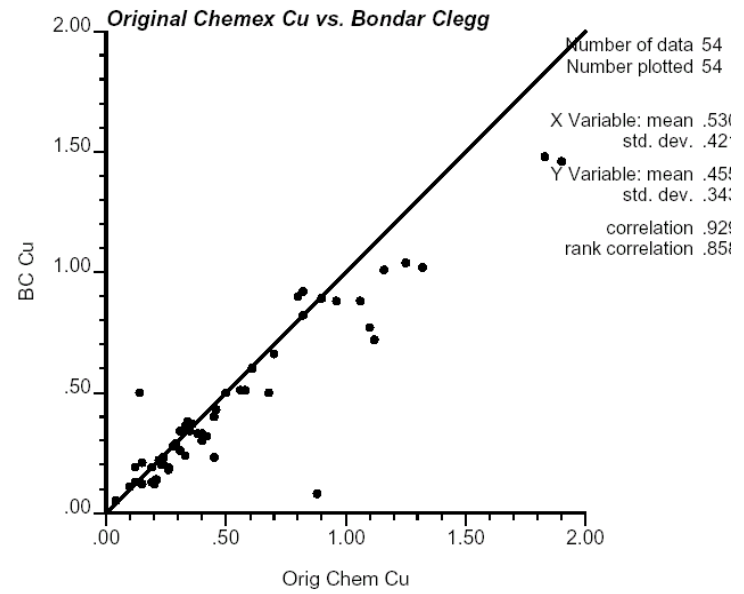
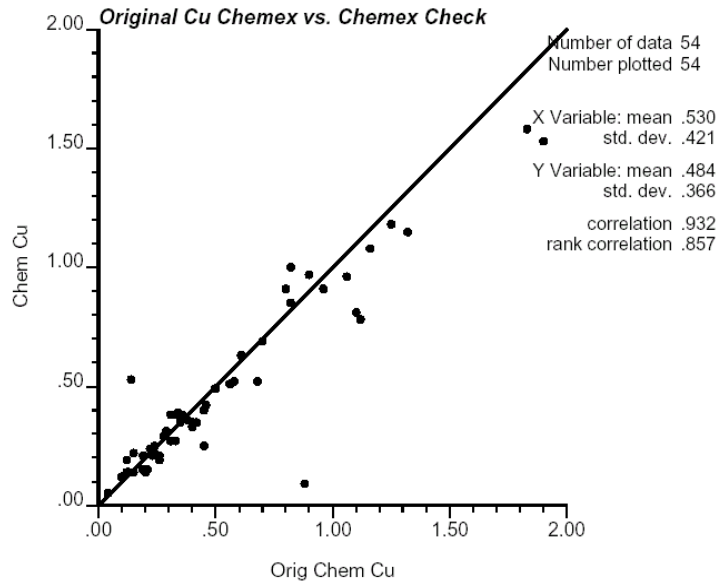
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226898	PIT #53	104G036	Good Standing 2004.10.30	1	990253
226899	PIT #54	104G036	Good Standing 2004.10.30	1	990254
226900	PIT #55	104G036	Good Standing 2004.10.30	1	990255
226901	PIT #56	104G036	Good Standing 2004.10.30	1	990256
226902	PIT #57	104G036	Good Standing 2004.10.30	1	990257
226903	PIT #58	104G036	Good Standing 2004.10.30	1	990258
226904	PIT #59	104G036	Good Standing 2004.10.30	1	990259
226851	PIT #6	104G046	Good Standing 2004.10.30	1	990206
226905	PIT #60	104G036	Good Standing 2004.10.30	1	990260
226906	PIT #61	104G036	Good Standing 2004.10.30	1	990261
226907	PIT #62	104G036	Good Standing 2004.10.30	1	990262
226908	PIT #63	104G036	Good Standing 2004.10.30	1	990263
226909	PIT #64	104G036	Good Standing 2004.10.30	1	990264
226910	PIT #65	104G036	Good Standing 2004.10.30	1	990265
226911	PIT #66	104G036	Good Standing 2004.10.30	1	990266
226912	PIT #67	104G036	Good Standing 2004.10.30	1	990267
226913	PIT #68	104G036	Good Standing 2004.10.30	1	990268
226914	PIT #69	104G036	Good Standing 2004.10.30	1	990269
226852	PIT #7	104G036	Good Standing 2004.10.30	1	990207
226915	PIT #70	104G036	Good Standing 2004.10.30	1	990270
226916	PIT #71	104G036	Good Standing 2004.10.30	1	990271
226917	PIT #72	104G036	Good Standing 2004.10.30	1	990272
226918	PIT #73	104G036	Good Standing 2004.10.30	1	990273
226919	PIT #74	104G036	Good Standing 2004.10.30	1	990274
226920	PIT #75	104G036	Good Standing 2004.10.30	1	990275
226921	PIT #76	104G036	Good Standing 2004.10.30	1	990276
226922	PIT #77	104G036	Good Standing 2004.10.30	1	990277
226923	PIT #78	104G036	Good Standing 2004.10.30	1	990278
226924	PIT #79	104G036	Good Standing 2004.10.30	1	990279
226853	PIT #8	104G046	Good Standing 2004.10.30	1	990208
226925	PIT #80	104G036	Good Standing 2004.10.30	1	990280
226854	PIT #9	104G036	Good Standing 2004.10.30	1	990209
226966	RUM 1 FR.	104G035	Good Standing 2004.10.30	1	34181M
226967	RUM 7	104G035	Good Standing 2004.10.30	1	34187M
226968	RUM 9	104G035	Good Standing 2004.10.30	1	34189M
221746	SCHAFT	104G035	Good Standing 2004.10.30	20	36640
221953	SIDE HILL	104G046	Good Standing 2004.10.30	6	56776

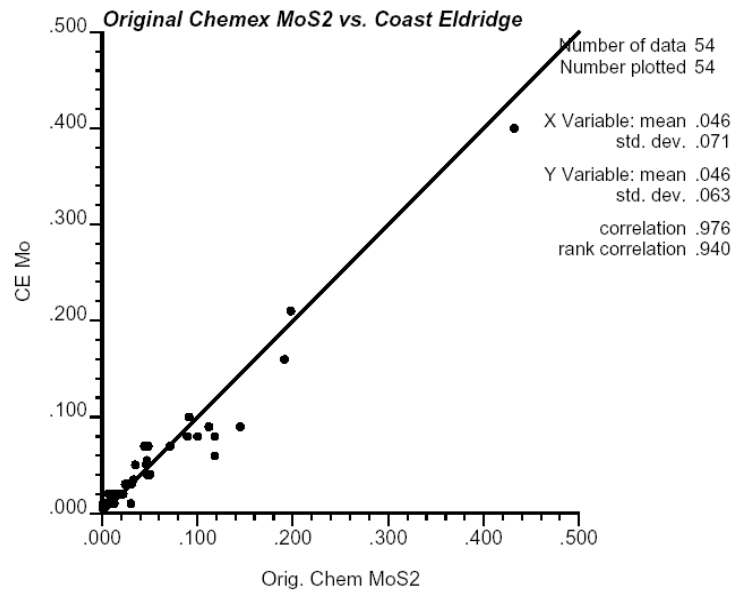
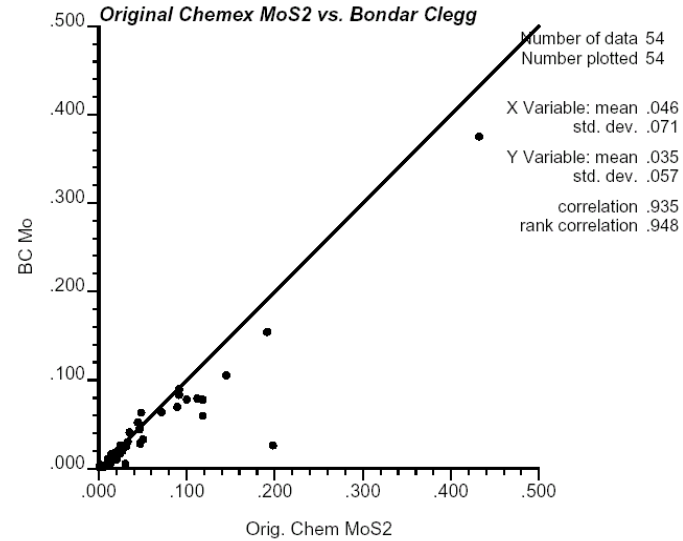
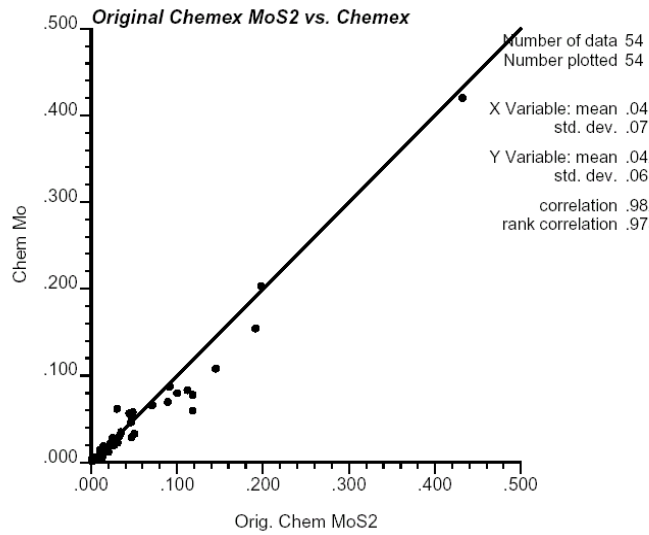
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226508	SNO NO.12	104G036	Good Standing 2004.10.30	1	491452
226509	SNO NO.13	104G035	Good Standing 2004.10.30	1	491453
226510	SNO NO.14	104G035	Good Standing 2004.10.30	1	491454
226511	SNO NO.15	104G035	Good Standing 2004.10.30	1	491455
226512	SNO NO.16	104G035	Good Standing 2004.10.30	1	491456
226498	SNO NO.2	104G036	Good Standing 2004.10.30	1	491442
226499	SNO NO.3	104G036	Good Standing 2004.10.30	1	491443
226500	SNO NO.4	104G036	Good Standing 2004.10.30	1	491444
226501	SNO NO.5	104G035	Good Standing 2004.10.30	1	491445
226502	SNO NO.6	104G035	Good Standing 2004.10.30	1	491446
226503	SNO NO.7	104G035	Good Standing 2004.10.30	1	491447
226504	SNO NO.8	104G035	Good Standing 2004.10.30	1	491448
226505	SNO NO.9	104G036	Good Standing 2004.10.30	1	491449
226935	SUE #2	104G036	Good Standing 2004.10.30	1	990302
226937	SUE #4	104G036	Good Standing 2004.10.30	1	990304
221952	SWAMP	104G046	Good Standing 2004.10.30	12	56775
226695	VON NO. 1 M.C.	104G036	Good Standing 2004.10.30	1	820951
226704	VON NO. 10 M.C.	104G036	Good Standing 2004.10.30	1	820960
226705	VON NO. 11 M.C.	104G036	Good Standing 2004.10.30	1	820961
226706	VON NO. 12 M.C.	104G036	Good Standing 2004.10.30	1	820962
226707	VON NO. 13 M.C.	104G036	Good Standing 2004.10.30	1	820963
226708	VON NO. 14 M.C.	104G036	Good Standing 2004.10.30	1	820964
226709	VON NO. 15 M.C.	104G036	Good Standing 2004.10.30	1	820965
226710	VON NO. 16 M.C.	104G036	Good Standing 2004.10.30	1	820966
226711	VON NO. 17 M.C.	104G036	Good Standing 2004.10.30	1	820967
226712	VON NO. 18 M.C.	104G036	Good Standing 2004.10.30	1	820968
226713	VON NO. 19 M.C.	104G036	Good Standing 2004.10.30	1	820969
226696	VON NO. 2 M.C.	104G036	Good Standing 2004.10.30	1	820952
226714	VON NO. 20 M.C.	104G036	Good Standing 2004.10.30	1	820970
226715	VON NO. 21 M.C.	104G036	Good Standing 2004.10.30	1	820971
226716	VON NO. 22 M.C.	104G036	Good Standing 2004.10.30	1	820972
226717	VON NO. 23 M.C.	104G036	Good Standing 2004.10.30	1	820973
226718	VON NO. 24 M.C.	104G036	Good Standing 2004.10.30	1	820974
226719	VON NO. 25 M.C.	104G036	Good Standing 2004.10.30	1	820975
226720	VON NO. 26 M.C.	104G036	Good Standing 2004.10.30	1	820976
226721	VON NO. 27 M.C.	104G036	Good Standing 2004.10.30	1	820977
226722	VON NO. 28 M.C.	104G036	Good Standing 2004.10.30	1	820978
226723	VON NO. 29 M.C.	104G036	Good Standing 2004.10.30	1	820979
226697	VON NO. 3 M.C.	104G036	Good Standing 2004.10.30	1	820953
226724	VON NO. 30 M.C.	104G036	Good Standing 2004.10.30	1	820980
226725	VON NO. 31 M.C.	104G036	Good Standing 2004.10.30	1	820981
226726	VON NO. 32 M.C.	104G036	Good Standing 2004.10.30	1	820982
226727	VON NO. 33 M.C.	104G036	Good Standing 2004.10.30	1	820983
226728	VON NO. 34 M.C.	104G036	Good Standing 2004.10.30	1	820984
226729	VON NO. 35 M.C.	104G036	Good Standing 2004.10.30	1	820985
226730	VON NO. 36 M.C.	104G036	Good Standing 2004.10.30	1	820986
226731	VON NO. 37 M.C.	104G036	Good Standing 2004.10.30	1	820987
226732	VON NO. 38 M.C.	104G036	Good Standing 2004.10.30	1	820988

226733	VON NO. 39 M.C.	104G036	Good Standing 2004.10.30	1	820989
226698	VON NO. 4 M.C.	104G036	Good Standing 2004.10.30	1	820954
226734	VON NO. 40 M.C.	104G035	Good Standing 2004.10.30	1	820990
226735	VON NO. 41 M.C.	104G035	Good Standing 2004.10.30	1	820991
226736	VON NO. 42 M.C.	104G036	Good Standing 2004.10.30	1	820992
226737	VON NO. 43 M.C.	104G036	Good Standing 2004.10.30	1	820993
226738	VON NO. 44 M.C.	104G036	Good Standing 2004.10.30	1	820994
226739	VON NO. 45 M.C.	104G035	Good Standing 2004.10.30	1	820995
226699	VON NO. 5 M.C.	104G036	Good Standing 2004.10.30	1	820955
226700	VON NO. 6 M.C.	104G036	Good Standing 2004.10.30	1	820956
226701	VON NO. 7 M.C.	104G036	Good Standing 2004.10.30	1	820957
226702	VON NO. 8 M.C.	104G036	Good Standing 2004.10.30	1	820958
226703	VON NO. 9 M.C.	104G036	Good Standing 2004.10.30	1	820959
TOTAL NUMBER OF UNITS				<u>350</u>	

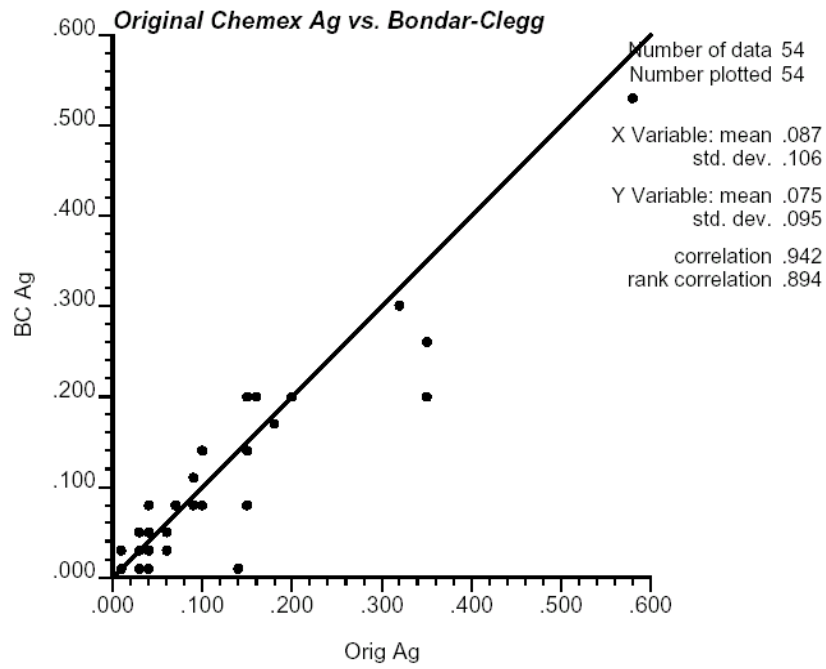
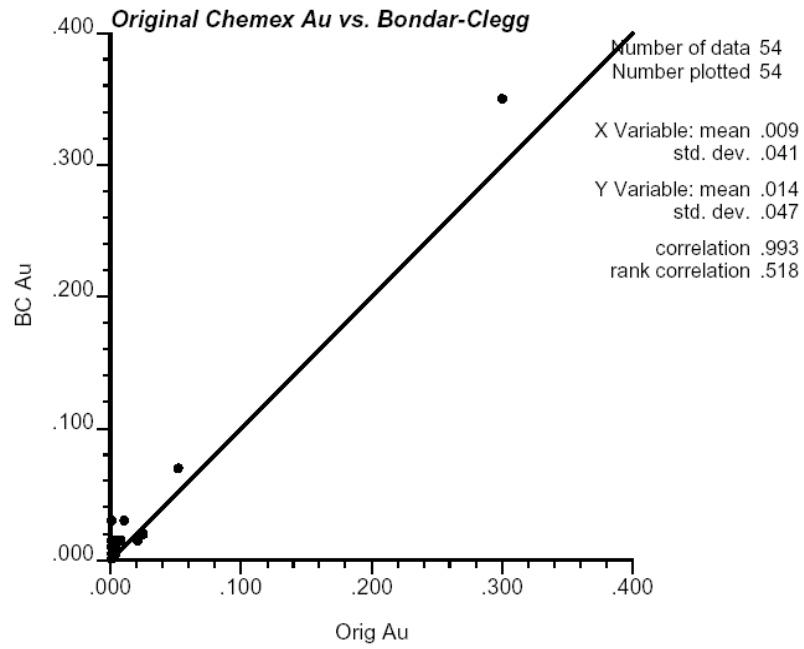


APPENDIX 2  
SCATTER PLOTS FOR CHECK ASSAYS  
CU AND MOS2 ORIGINAL CHEMEX ASSAYS  
COMPARED TO CHECKS AT CHEMEX, BONDAR-CLEGG  
AND COAST ELDRIDGE

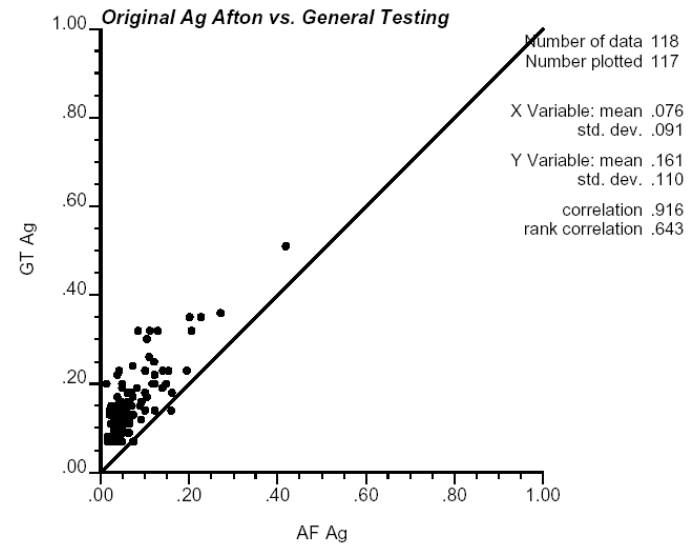
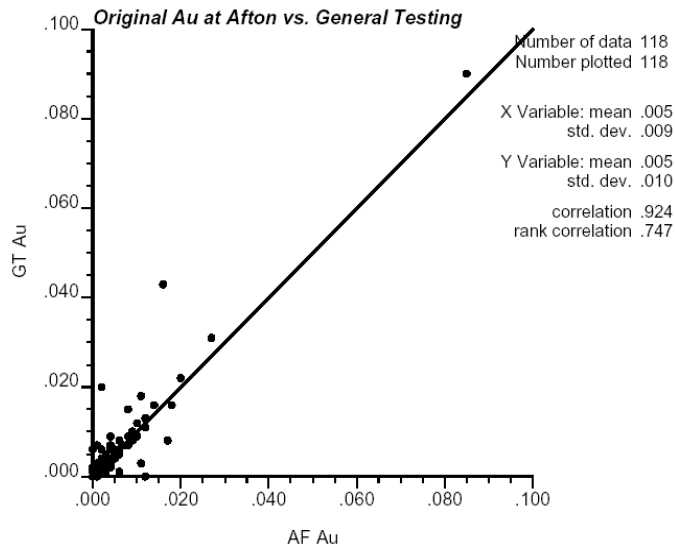
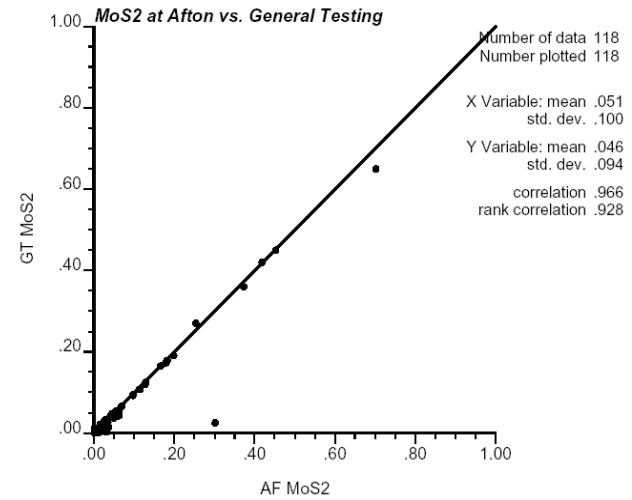
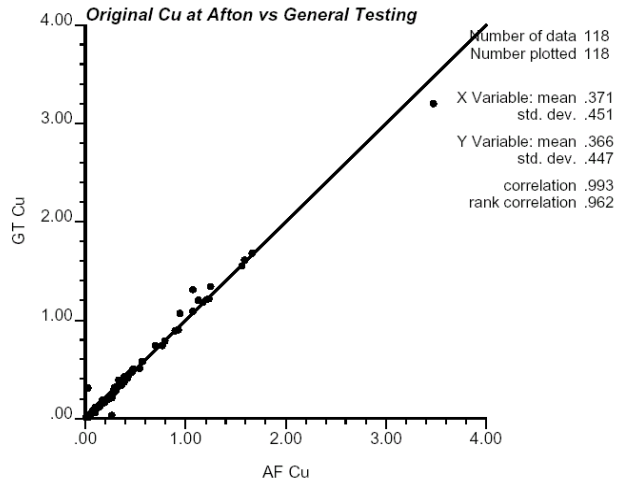




APPENDIX 3  
SCATTER PLOTS FOR CHECK ASSAYS  
AU AND AG ORIGINAL CHEMEX ASSAYS  
COMPARED TO CHECKS AT BONDAR-CLEGG

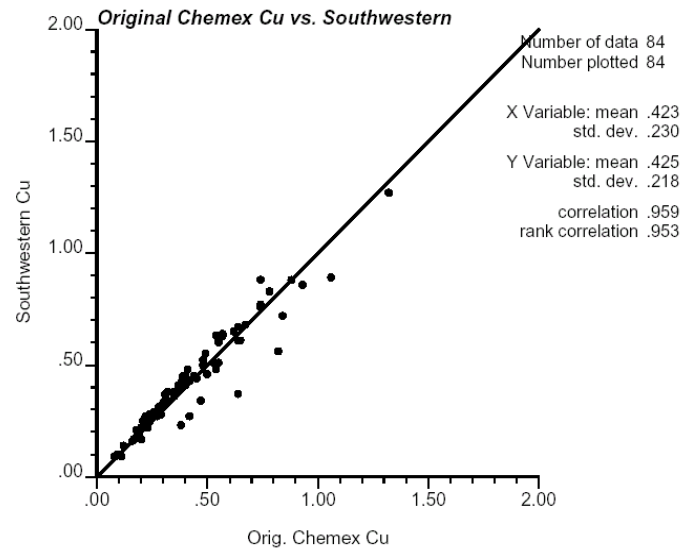
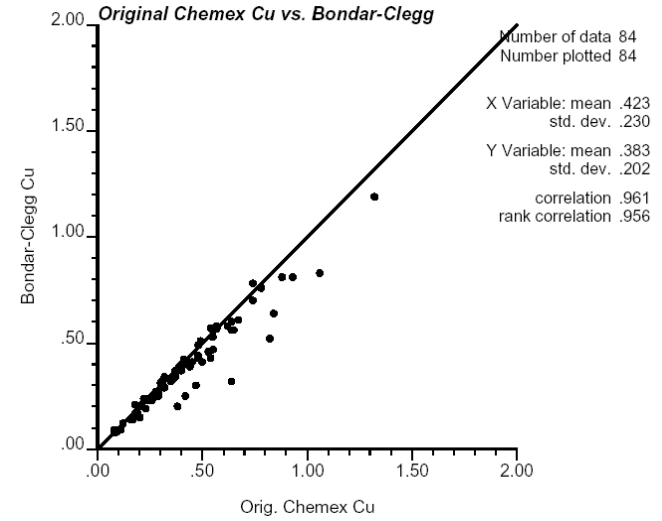
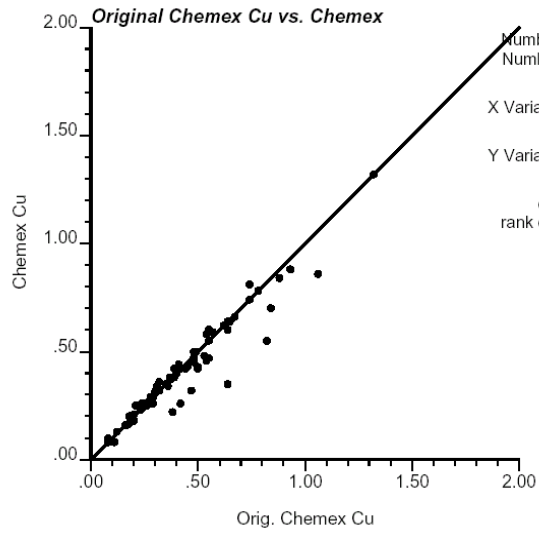


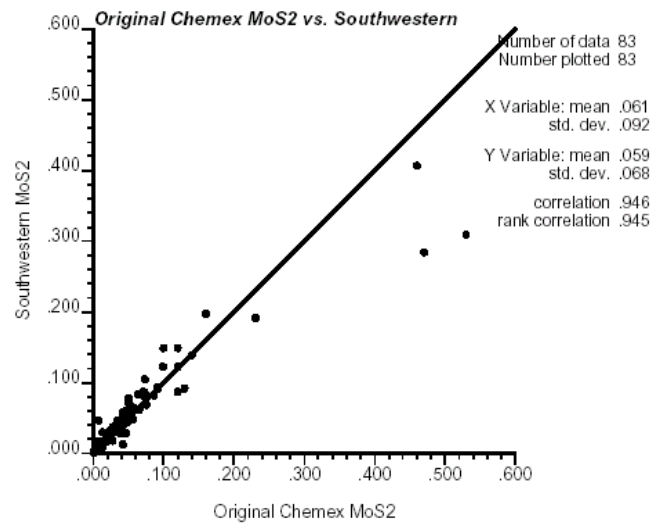
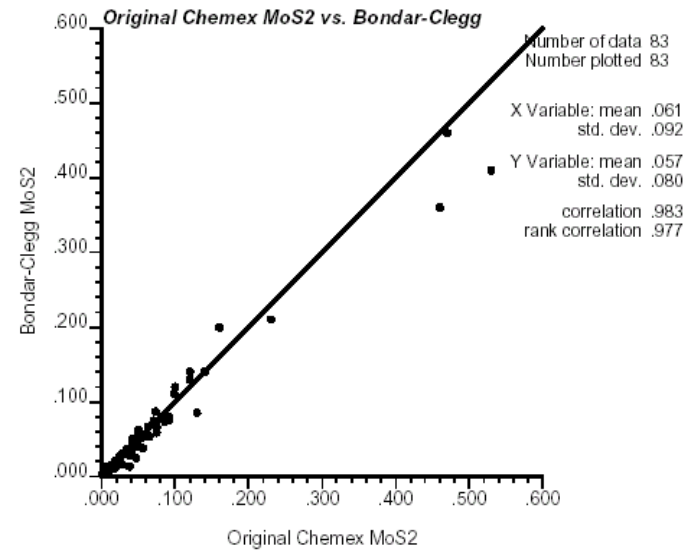
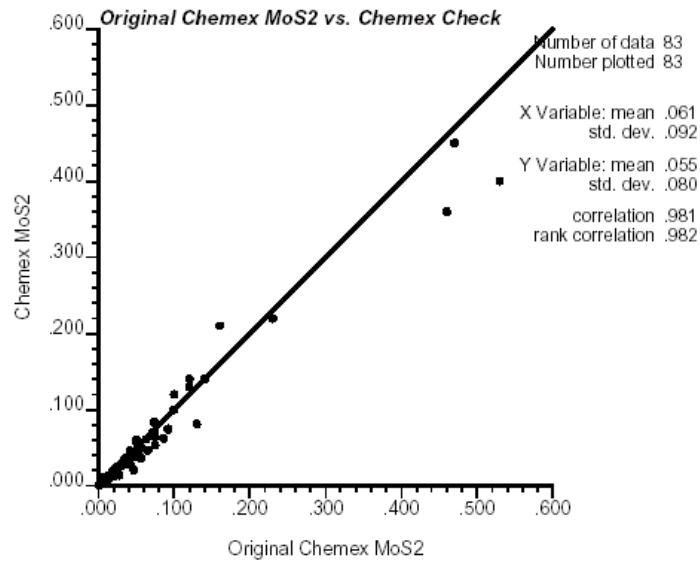
APPENDIX 4  
SCATTER PLOTS FOR CHECK ASSAYS  
CU, MOS2, AU AND AG ORIGINAL AFTON ASSAYS  
COMPARED TO CHECKS AT GENERAL TESTING



APPENDIX 5  
SCATTER PLOTS FOR CHECK ASSAYS  
CU AND MOS2 ORIGINAL CHEMEX ASSAYS  
COMPARED TO CHECKS AT CHEMEX, BONDAR-CLEGG  
AND SOUTHWESTERN







APPENDIX 6  
LISTING OF ALL DRILL HOLES USED IN RESOURCE ESTIMATE

HOLE	EASTING	NORTHING	ELEVATION	HOLE LENGTH (ft)
A66CHA22	8539.80	25858.20	3024.30	504.00
DDHAS-04	9966.00	22956.00	3184.00	492.00
DDHAS-05	9343.00	22943.00	3054.00	411.00
DDHAS-06	10450.00	21937.00	3309.00	507.00
DDHAS-07	9817.00	21947.00	3135.00	398.00
DDHAS-08	9895.00	20963.00	3165.00	374.00
DDHAS-09	10469.00	20982.00	3372.00	376.00
DDHAS-10	11045.00	21027.00	3561.00	395.00
DDHAS-11	10263.00	23999.00	3288.00	462.00
DDHAS-12	9650.00	24000.00	3137.00	323.00
DDHAS-13	9074.00	23978.00	3022.00	395.00
DDHAS-14	10616.00	24479.00	3454.00	506.00
DDHAS-15	11030.00	22012.00	3515.00	470.00
DDHAS-16	6977.00	23418.00	2865.00	560.00
DDHAS-17	6885.00	19953.00	3018.00	460.00
DDHAS-18	8282.00	23926.00	2891.00	500.00
DDHAS-19	8274.00	23926.00	2891.00	502.00
DDHAS-20	8424.00	24964.00	2952.00	500.00
DDHAS-21	8413.00	25462.00	2962.00	500.00
DDHAS-23	8728.00	24954.00	2975.00	500.00
DDHAS-24	8280.00	24429.00	2913.00	500.00
DDHAS-25	9384.00	24568.00	3117.00	401.00
DDHAS-26	9434.00	24004.00	3078.00	402.00
DDHSS-01	11175.00	24927.00	3816.00	623.00
DDHSS-02	11131.00	23984.00	3676.00	726.00
DDHSS-03	10561.00	22978.00	3353.00	714.00
H68CH030	9975.40	23996.70	3178.80	1000.00
H68CH031	8670.00	23937.80	2946.00	660.00
H68CH032	11636.40	24031.70	3809.00	1600.00
H68CH033	11396.70	23018.50	3609.00	1200.00
H68CH034	9306.70	24963.40	3121.70	1600.00
H68CH035	10309.20	24965.30	3396.30	1847.00
H68CH036	11669.00	25047.00	3848.40	2002.00
H68CH037	9068.20	23440.00	3012.20	1600.00
H69CH038	10560.90	22977.90	3352.80	1589.00
H69CH039	9095.70	22936.00	3021.50	1187.00
H69CH040	11651.10	24493.10	3803.80	2110.00
H69CH041	8673.20	24451.00	2911.50	1275.00
H69CH042	12319.40	25047.80	3841.30	2992.00
H69CH043	10706.60	24011.00	3441.60	1611.00
H69CH044	11673.90	25541.70	3989.40	2095.00
H69CH045	11395.40	23479.40	3648.00	2060.00
H69CH046	10320.00	23444.00	3288.20	1491.00
H69CH047	10337.00	23429.00	3288.20	1300.00
H69CH048	10152.00	24974.00	3370.80	1526.00
H69CH049	10127.00	24424.00	3278.00	1534.00
H69CH050	10116.00	24417.00	3278.00	1301.00
H69CH051	10487.00	24007.00	3360.50	1200.00
H69CH052	9737.00	25483.00	3301.00	1200.00
H69CH053	8805.00	25453.00	3044.00	1251.00

H70CH054	8566.30	26538.00	3097.20	1165.00
H70CH055	9723.00	24903.00	3227.50	1533.00
H70CH056	9383.00	24547.00	3115.00	1001.00
H70CH057	10416.00	24481.00	3360.50	1400.00
H70CH058	10573.00	25017.00	3499.80	1101.00
H70CH059	9886.00	24480.00	3230.10	1552.00
H70CH060	10063.00	24002.00	3238.40	1507.00
H70CH061	10197.00	25500.00	3496.80	1000.00
H70CH062	10861.00	22995.00	3440.30	1355.00
H70CH063	10873.00	24479.00	3565.30	1516.00
H70CH064	10501.00	22501.00	3311.10	1046.00
H70CH065	11181.00	25000.00	3821.00	1696.00
H70CH066	9950.00	23500.00	3207.00	1405.00
H71CH067	10148.03	22499.89	3232.25	756.00
H71CH068	10098.41	23749.08	3237.60	954.00
H71CH069	10875.00	24498.00	3565.30	1000.00
H71CH070	10403.13	23749.73	3312.90	1000.00
H71CH071	10677.00	25500.00	3724.20	1092.00
H71CH072	10699.42	23746.25	3446.09	1018.00
H71CH073	10383.76	25999.51	3746.50	1577.00
H71CH074	9790.91	23749.53	3130.40	832.00
H71CH075	11105.58	24498.97	3717.20	903.00
H71CH076	10668.23	23249.52	3403.70	887.00
H71CH077	10369.59	23251.79	3316.30	850.00
H71CH078	10070.24	23250.77	3206.10	777.00
H71CH079	9768.18	23250.31	3146.50	688.00
H71CH080	8263.00	27002.65	3087.60	1337.00
H71CH081	9470.37	23249.94	3088.66	400.00
H71CH082	10701.00	22505.00	3368.26	721.00
H71CH083	9489.46	23750.32	3070.35	837.00
H71CH084	11002.33	23754.37	3577.80	1078.00
H71CH085	10846.00	22512.00	3399.60	647.00
H71CH086	10711.00	23499.00	3401.90	851.00
H71CH087	9802.00	23500.00	3167.52	629.00
H71CH088	11097.00	25499.00	3937.60	531.00
H71CH089	8661.00	23503.00	2945.37	756.00
H72CH090	8289.79	23749.40	2875.78	636.00
H72CH091	8439.38	23750.85	2908.65	886.00
H72CH092	8590.05	23749.88	2926.38	953.00
H72CH093	9548.00	25498.00	3259.00	1182.00
H72CH094	9327.81	19000.10	3156.81	997.00
H72CH095	10004.00	18998.00	3264.00	714.00
H72CH096	9544.28	26002.51	3332.24	1511.00
H72CH097	8855.25	23250.43	2981.40	733.00
H72CH098	9409.72	24499.63	3122.53	1043.00
H72CH099	9915.73	24499.06	3233.99	95.50
H72CH100	9812.78	24993.74	3258.38	1470.00
H72CH101	9647.93	24499.08	3181.35	1230.00
H72CH102	9098.53	25499.15	3123.00	1474.00
H74CH103	9125.68	26012.78	3202.12	1750.00
H77CH104	8982.30	27110.70	3314.00	2113.00
P69CHP02	7128.60	27760.00	2961.90	801.00
P69CHP03	7921.50	27774.50	3145.00	1205.00
P69CHP04	8710.00	27756.70	3388.50	460.00
P69CHP05	7921.60	27774.40	3140.00	1137.00

P70CHP07	8077.40	28495.10	3349.40	1567.00
P70CHP08	7966.40	27501.35	3110.70	1161.00
P70CHP09	7660.08	27499.65	3034.80	932.00
P70CHP6A	8327.60	27768.90	3245.50	1152.00
P71CHP10	7761.23	26995.74	2998.00	594.00
P72CHP11	7418.76	27498.30	2993.31	584.00
T80CH105	8023.19	23474.00	2863.60	810.00
T80CH106	9454.09	21936.95	3075.20	681.00
T80CH107	9520.41	22464.76	3082.40	787.00
T80CH108	10466.58	21591.05	3326.00	580.00
T80CH109	9008.41	23438.01	3005.60	907.00
T80CH110	10517.03	22906.18	3337.00	1000.00
T80CH111	11485.75	22522.53	3662.80	1166.00
T80CH112	7981.82	24485.39	2868.00	890.00
T80CH113	8495.28	25498.96	2979.70	1400.00
T80CH114	11500.57	23509.32	3708.80	580.00
T80CH115	8011.86	25017.53	2900.60	1070.00
T80CH116	11489.09	24002.60	3788.60	1095.00
T80CH117	8500.55	25994.11	3034.10	1477.00
T80CH118	7024.79	29007.99	3179.40	956.00
T80CH119	11656.13	24479.45	3841.40	811.00
T80CH120	7996.04	26010.62	2956.20	1207.00
T80CH121	7583.62	28509.43	3206.50	1073.00
T80CH122	11522.87	25004.62	3837.80	314.00
T80CH123	7748.96	26507.63	2969.10	1057.00
T80CH124	7990.39	29012.31	3447.90	1285.00
T80CH125	11690.54	25490.42	3968.80	1363.00
T80CH126	7533.79	25045.18	2859.00	987.00
T80CH127	8009.90	25447.69	2925.60	1237.00
T80CH128	10922.42	25976.65	4032.40	1191.00
T80CH129	7531.38	25453.06	2876.00	1097.00
T80CH130	8550.66	28506.54	3551.00	400.00
T80CH131	7484.00	25979.27	2888.90	1088.50
T80CH132	8029.70	28489.30	3352.10	1947.00
T80CH133	10442.94	23989.22	3366.70	1030.00
T80CH134	7248.39	26492.92	2897.10	1009.00
T80CH135	8971.33	24032.81	3000.70	697.00
T80CH136	6993.20	27462.14	2910.00	726.00
T80CH137	9117.59	24441.93	3039.00	800.00
T80CH138	7008.47	27981.82	2965.80	826.00
T80CH139	8487.19	27994.98	3362.20	1565.00
T80CH140	9982.66	25476.60	3431.40	1537.00
T80CH141	7070.31	28458.15	3070.40	827.00
T80CH142	7495.27	27958.32	3069.00	1297.00
T80CH143	9933.32	25993.49	3556.50	1602.00
T80CH144	7263.26	26949.47	2922.40	870.00
T80CH145	8483.00	28965.78	3649.10	1640.00
T80CH146	7979.92	27967.49	3201.50	1545.00
T80CH147	9971.75	26405.24	3669.20	503.00
T80CH148	8552.60	27477.70	3267.60	1392.50
T80CH149	8497.00	26456.00	3092.90	1196.00
T81CH150	8896.30	24465.18	2990.20	300.00
T81CH151	8745.03	25245.87	3000.90	300.00
T81CH152	9500.38	24756.49	3160.50	350.00
T81CH153	8986.28	25243.10	3059.20	300.00

T81CH154	8758.29	24254.03	2963.60	300.00
T81CH155	10242.72	24284.02	3299.90	1000.00
T81CH156	8995.65	25006.25	3043.80	300.00
T81CH157	8752.62	24001.91	2963.80	300.00
T81CH158	8767.83	23752.02	2969.40	300.00
T81CH159	9246.60	25242.19	3132.20	300.00
T81CH160	8992.98	23711.08	3005.10	300.00
T81CH161	9483.11	25239.03	3204.80	300.00
T81CH162	9769.66	24779.30	3236.80	450.00
T81CH163	9241.75	23728.03	3050.80	300.00
T81CH164	10270.85	23993.37	3287.90	1000.00
T81CH165	9997.83	24230.85	3242.00	1000.00
T81CH166	10021.78	24780.70	3302.90	800.00
T81CH167	10266.80	24736.58	3362.60	580.00
T81CH168	9745.38	24246.67	3178.00	600.00
T81CH169	10512.01	24227.98	3399.30	1000.00
T81CH170	9987.80	24531.45	3260.50	600.00
T81CH171	9487.63	24246.82	3127.00	400.00
T81CH172	10726.41	24243.12	3485.90	1000.00
T81CH173	10781.15	24754.27	3558.90	857.00
T81CH174	9251.16	24215.59	3061.50	301.00
T81CH175	9015.54	24261.41	3011.70	300.00
T81CH176	10480.30	24755.56	3437.90	694.00
T81CH177	9265.70	24730.34	3089.80	300.00
T81CH178	9023.53	24718.19	3029.60	300.00
T81CH179	8774.65	24742.48	2971.60	300.00
T81CH180	8507.20	24744.18	2946.60	300.00
T81CH181	10959.15	24255.53	3612.80	1002.00
T81CH182	11213.30	24238.57	3744.40	861.00
T81CH183	10996.69	24775.20	3693.70	1000.00
T81CH184	8537.49	24236.33	2936.90	300.00
T81CH185	8509.38	25253.44	2966.40	300.00
T81CH186	10747.99	25241.88	3683.20	700.00
T81CH187	10522.27	25216.75	3578.20	600.00
T81CH188	10260.70	25213.86	3450.20	450.00
T81CH189	10043.42	25211.23	3366.80	400.00
T81CH190	10219.53	25014.49	3406.80	500.00
T81CH191	9758.01	25234.89	3278.40	300.00
T81CH192	11260.96	23729.19	3681.20	681.00
T81CH193	11020.04	23221.41	3522.40	576.00
T81CH194	10653.93	25492.31	3724.50	491.00
T81CH195	9443.97	24986.18	3166.60	300.00
T81CH196	9980.19	25753.51	3508.90	300.00
T81CH197	10227.09	25789.03	3641.00	350.00
T81CH198	10499.31	25793.65	3785.30	500.00
T81CH199	11054.93	25511.36	3936.40	500.00
T81CH200	9324.57	25507.94	3189.50	347.00
T81CH201	7998.89	26989.16	3054.50	400.00
T81CH202	8287.72	28513.83	3449.20	292.00
T81CH203	7731.65	28002.31	3144.80	400.00
T81CH204	7264.15	28023.52	3044.20	400.00
T81CH205	6851.94	29473.82	3213.90	300.00
T81CH206	7296.70	28528.31	3138.10	400.00
T81CH207	7147.11	29480.88	3326.70	380.00
T81CH208	7244.54	28977.64	3217.90	310.00

T81CH209	7799.96	28514.38	3265.90	300.00
T81CH210	7497.91	28972.91	3280.40	400.00
T81CH211	7415.99	29481.55	3407.40	400.00
T81CH212	6989.83	30039.88	3396.10	395.00
T81CH213	7766.16	28990.89	3361.00	400.00
T81CH214	7977.80	30057.41	3816.30	387.00
T81CH215	7530.72	30076.44	3624.30	400.00
T81CH216	7999.53	29490.95	3607.60	308.00
T81CH217	6647.42	24933.54	2812.90	300.00
T81CH218	6740.24	21602.33	2886.50	300.00
T81CH219	8728.89	20560.74	3065.90	300.00
T81CH220	10775.08	22716.48	3398.50	300.00
T81CH221	10522.30	22718.94	3324.50	300.00
T81CH222	10276.81	22760.83	3266.60	298.00
T81CH223	10047.00	22754.58	3203.50	300.00

APPENDIX 7  
LOGNORMAL CUMULATIVE FREQUENCY PLOTS FOR  
CU, MOS2 AND AU IN THE GEOLOGIC DOMAINS



