2006 DIAMOND DRILL REPORT

SCHAFT CREEK PROPERTY

NORTHWESTERN BRITISH COLUMBIA

FOR

COPPER FOX METALS INC.

FINAL REPORT

BY

SHEENA EWANCHUK

DR. PETER FISCHER

WALTER HANYCH

MARCH 19, 2007

Table of Contents

Tables

Figures

Charts

Preface

This report, titled *2006 Diamond Drill Program Schaft Creek Property*, is a manuscript that documents the observations and acquired data that resulted from Copper Fox Metals' 2006 drill program. Some of the information presented in this report is derived from earlier property reports, that were made available to the authors by the company, and credit is acknowledged appropriately. However, no detailed effort was made to critique, summarize or compile previous findings.

The report is presented in digital form which includes a compact disc of the digital copy of the report in PDF format, and archived drill core photos in JPEG format. Any reproduction, duplication or alteration in whole or in part of the report, compact disc and its contents is not allowed without the expressed consent of Copper Fox Metals Inc.

Acknowledgements

The 2006 diamond drill program undertaken by Copper Fox Metals Inc. owes its successful completion to a number of individuals and organizations that worked together. Their contribution to the project, whether small or large, sometimes under difficult conditions, enabled the company to achieve its goals. We would like to acknowledge; Hytech Diamond Drilling, Lyncorp Diamond Drilling, CJL Enterprises, Talhtan Northern Exploration Services, Quantum Helicopters, Tsyata Air Services, Northern Thunderbird Air, IPL Laboratories and Albert Dejong.

1.0 Summary

The Schaft Creek copper-molybdenum-gold deposit located in northwestern British Columbia, was subjected to diamond drill testing between 1968 to 1981, by Hecla Mining Inc. and Tech Corporation. The culmination of this drilling resulted in the delineation of a resource that has been recently re-stated at a CuEq cut-off of 0.25% amounting to 1,149-million tons of indicated and 608-million tons of inferred material, (AMCL, September 2004). In 2005, Copper Fox Metals Inc., the present operator, completed a 3,160-meter PQ core drilling program consisting of 15-holes. The validation drilling, a portion of a larger scheduled program, confirmed the earlier results from 1968-1981, more specifically with respect to the assay results. With the continuation of the validation program in 2006, Copper Fox Metals Inc. completed drilling of 42-holes: 25 PQ holes with 5,300m and 17 HQ holes with 3,707m of drilling. The objective of the 2006 program was two-fold, based on core diameter. One objective was to complete the twinning of historical holes carried on from the 2005 program, with the intent to confirm the integrity of the archival data base and provide a sufficient amount of core material for floatation tests. The other objective was in-fill drilling of resource blocks, which was accomplished by boring HQ-size core. No new exploration drilling was added to the previous data base. The 2006 program included further upgrading of the camp facilities and the beginning of extensive environmental base line work.

Geologically the Schaft Creek deposit is situated within the Triassic Stuhini volcanics, in faulted contact with the Stikine Assemblage. It is located at the eastern contact of a large, late-Triassic, felsic batholith, the Hickman. Regional faulting is intense throughout the deposit. The property geology is dominated by andesitic volcanics, including flows, volcanoclastics, tuffs and in the northern portion of the deposit, granodiorite of the Hickman batholith. These lithologies are cut by relatively narrow felsic intrusive porphyry dykes.

The deposit is classified as a porphyry copper deposit. This large, low grade deposit is intrusive related, exhibiting intrusive and hydrothermal breccia zones. An extensive stockwork mineralization exists, formed by a shallowly emplaced magma chamber of intermediate composition.

Copper-molybdenum-gold-silver mineralization at Schaft Creek is divided into three zones: the Liard Main Zone, the West Breccia Zone and the Paramount Zone. Currently, the defined dimensions of the three zones are: Liard 1,000 x 700 x 300-meters; West Breccia 500 x 100 x 300-meters; Paramount 700 x 200 x 500-meters. Combined, these zones have a length exceeding 1,400-meters, a width of 200 to 700-meters and a depth of 300 to 500-meters.

The sampling protocol entailed continuous assay sampling of one quarter of the PQ core along 3.05-meter intervals, beginning at bedrock and ending at the bottom of the hole. Semi-continuous metallurgical samples, determined by historical grade intercepts, were collected from half of the PQ core. In-fill HQ assay samples were obtained from half of the core along 3.05-meter intervals for the entire length of the hole.

Observations on lithology document the relative abundance of host rock types and their descriptions. Various andesitic volcanic rocks constitute the most abundant host rocks for mineralization, whereas felsic intrusive rocks, intrusive and hydrothermal breccias are much less prevalent. Petrographic and photographic observations and documentation attempt to demonstrate the great variety and complexity of alteration, vein stockworks, deformation and faulting.

Stockwork and veins are the principal ore bearing features in the Liard Main Zone. Whereas, in the West Breccia and Paramount Zones, complex igneous and hydrothermal breccia mineralization predominates as the ore type, with various emphasis of either igneous or hydrothermal features. Chalcopyrite, pyrite, bornite and molybdenite are almost exclusively the ore minerals in all three zones in order of relative abundance, with variations of their relative abundances within each zone.

Drill hole summaries highlight the geology and mineralization of each hole. Metal distribution and metal ratios are illustrated using down hole profiles and scatter grams for the four elements analyzed: Cu, Mo, Au, Ag. The resulting patterns show a complex distribution of metals and several mineralizing events, with various metal ratios.

The statistical summary of metal values from the 2005-2006 programs shows an average for the West Breccia Zone of 0.295% Cu, 0.016 % Mo, 0.149 g/t Au and 1.64 g/t Ag. The Liard Zone has an average of 0.351 % Cu, 0.016 % Mo, 0.251 g/t Au and 1.185 g/t Ag. The Paramount Zone has an average of 0.264% Cu, 0.021% Mo, 0.154 g/t Au and 1.18 g/t Ag. These averages are similar or slightly higher than grades for the calculated reserves. Scatter plots of the average metal values for each hole show a good correlation between Cu and Ag, Au and Ag, a crude correlation between Cu and Au, and no correlation between Cu and Mo.

As is expected from a vein/stockwork dominated deposit, metal profiles in fixed 3.05 m sample intervals, show strong spikes, with overall consistent trends. The scatter grams of Cu vs. Ag and Au vs. Ag both show varieties in patterns from hole to hole, with an overall moderate to good correlation. The scatter-grams of Cu vs Au for each hole show a wide variation between holes; including random scatter, good correlation and, most commonly, a poor, scattered trend. This is interpreted as indicating a complex, multistage geological history, metal fractionation and succession of veins and hydrothermal events. Cu vs Mo scatter grams also show a variety of patterns, most commonly a poor correlation but not entirely random. This suggests that at least two populations exist.

An evolving, very incomplete, geological model suggests a multi phase, magmatic-hydrothermal history related to one or several apophyses stemming from a Hickman batholith linked cupola. The Paramount Zone is thought to represent the deepest, hottest level, the Liard Zone the mid level and the West Breccia Zone the shallow level of the epizone.

Strong structural modification as a result of; block faulting, rotation, thrusting, subsidence and uplifting are considered to explain the poorly understood, complex, geological features. The boundaries of the deposit are generally not well defined. Apart from the flat lying bowl shape of the Liard Zone, further drilling is required to establish hard boundaries in order to determine the ultimate pit design.

The Schaft Creek property is a world class porphyry deposit, hosting significant grades and tonnages amenable to bulk extraction methods. Supported by the current, prevailing high metal prices, the economics of exploiting this deposit are very favourable.

2.0 Introduction and Terms of Reference

The Schaft Creek porphyry copper-molybdenum-gold-silver deposit, located in northwestern British Columbia, was explored and drilled extensively from 1968 to 1981. This deposit was also drilled in the summer of 2005 and 2006 by Copper Fox Metals Inc., the present operator. Copper Fox Metals Inc. is a Calgary based junior resource company trading on the TSX Ventures Exchange under the symbol CUU-TSX. Mr. Guillermo Salazar is the current president.

The deposit, owned by Teck-Cominco, is the subject of an option agreement initiated by Mr. G. Salazar dated January 1, 2002, the terms of which are to acquire 100% of Teck-Cominco's defined 'Direct Holding'. This is a 70% direct participating interest in the Schaft Creek property, by incurring $5-million in expenditures, as defined on or before December 31, 2006, and aggregate expenditures of $15-million on or before December 31, 2011. Teck-Cominco's has a defined 'Indirect Holding', of 23.4% carried interest through its 78% shareholding in Liard Copper Mines Ltd., the latter holding a 30% carried interest in the property. Additional conditions include the completion of a positive bankable feasibility study, as defined, and delivering of a Feasibility Notice to Teck-Cominco.

The program conducted by Copper Fox Metals Inc. from June to mid November, 2006, consisted of upgrading an existing old camp site, locating collars of previously drilled holes and completing a 5,300-meter PQ-core and 3,709-meter HQ-core drill program. The PQ portion of this drill program was designed to 'twin selected historical holes in order to validate historical drill results, confirm the integrity of an archival data base generated from the results of 230-diamond drill holes totaling approximately 62,000-meters of core with thousands of assays, and to supply a sufficient amount of rock required for floatation testing'. The HQ portion of the program was intended to fill in some of the existing gaps in the ore-blocks of the deposit.

The results of this program were very encouraging, leading to further evaluation of the deposit with a short term goal of arriving at a production decision in the near future.

The authors of this report were retained as independent consultants/contract-geologists to supervise and manage Copper Fox's 2006 diamond drill program at its Schaft Creek property. The following report is based on field information and data personally collected by the authors as well as data and reports provided by the company.

The authors of this report have exercised due care and diligence in reporting and compiling the findings from the program, and as best as could be ascertained information contributed to the report by qualified second parties. The authors of this report believe that the information supplied by others is accurate and factual, but have not verified its accuracy.

The authors of this report do not hold any interest, direct or indirect, in the securities of Copper Fox Metals Inc., nor do they expect to receive any.

3.0 DISCLAIMER

The authors of this report are not qualified to comment on the legal agreements between Copper Fox Metals Inc. and its vendors. Any information regarding option requirements is of a general nature and was extracted from information supplied by the company. There is no reason to believe that the information is inaccurate. The status of mining claims were not corroborated as it was not the consultants' mandate as expressed by Copper Fox Metals Inc., but this information is available as public information and resides in the offices of the British Columbia Ministry of Energy and Mines. Land title searches to the extent that would require the services of paralegal or legal authority were not conducted.

4.0 Property Location and Description

The Schaft Creek property is situated in northwestern British Columbia, approximately 60-kilometers south of the village of Telegraph Creek, within the upper source regions of Schaft Creek, which drains northerly into Mess Creek and onwards into the Stikine River. Located within the Boundary Range of the Coast Mountains, the elevation of the valley at the Schaft Creek camp site is 866-meters with nearby mountains exceeding 2,400-meters. The property lies in proximity to the southwest corner of Mount Edziza Provincial Park, and is located 45-kilometers due west of Highway 37.

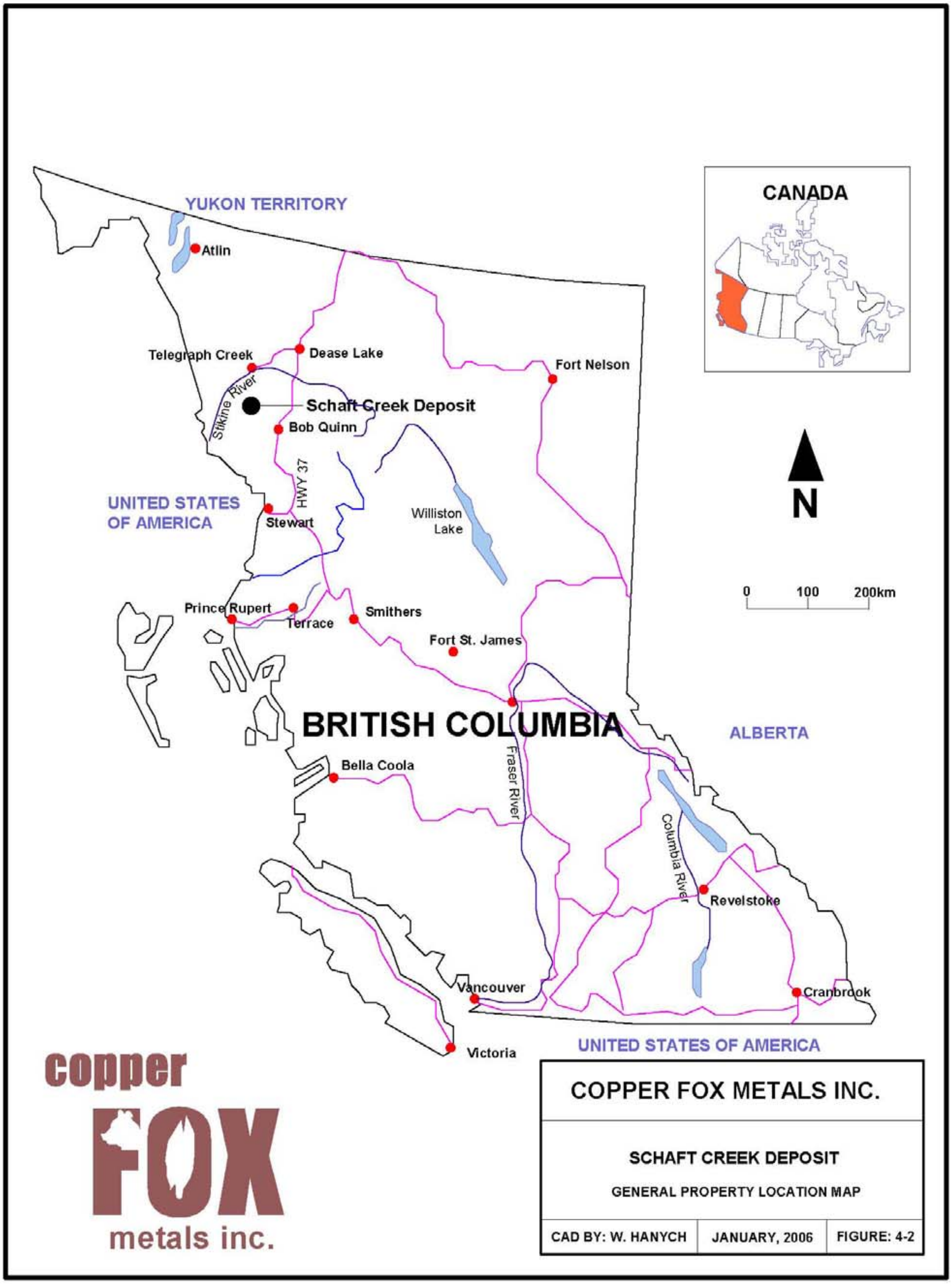
Referenced to Energy, Mines and Resource Canada topographic sheet 104G, Telegraph Creek, the geographic co-ordinate at the camp site is 57^{o}21' north latitude, 130^{o} 59' west longitude. In terms of UTM co-ordinate, NAD 27, the location is Zone 9, 378700m E, 6358600m N. The actual deposit is situated 2-kilometers east of the camp. See figures 4-1 and 5-2.

The Schaft Creek property consists of 12-contiguous claims staked in accordance with British Columbia Energy Mines and Resources regulations. The claims encompass an area totalling approximately 10,371-hectares. The deposit is situated on claims 514603 and 514637, straddling the south and north boundaries respectively. The claims are tabulated below, see also figure 5-1.

Fig 4-1: View of the Schaft Creek deposit on Mount Lacasse, facing east, with the camp in the foreround and Schaft Creek on the left of the image.

Table 4-1: List of claims and area

Claim Number	Size in Hectares
514595	1658.0
514596	1560.2
514598	1423.2
514603	1301.9
514637	1284.5
514721	1178.9
514723	135.1
514724	488.3
514725	317.6
514728	444.1
515035	383.8
515036	195.5
Total	10371.1


CANADA
YUKON TERRITORY
Atlin
Telegraph Creek
Dease Lake
Fort Nelson
Stikine River
Schaft Creek Deposit
Bob Quinn
HWY 37
UNITED STATES OF AMERICA
Stewart
Williston Lake
N
0
100
200km
Prince Rupert
Terrace
Smithers
Fort St. James
BRITISH COLUMBIA
ALBERTA
Bella Coola
Fraser River
Columbia River
Revelstoke
Vancouver
Cranbrook
Victoria
UNITED STATES OF AMERICA
copper FOX metals inc.
COPPER FOX METALS INC.
SCHAFT CREEK DEPOSIT
GENERAL PROPERTY LOCATION MAP
CAD BY: W. HANYCH
JANUARY, 2006
FIGURE: 4-2

5.0 Accessibility, Infrastructure Climate and Physiography

1.1 Accessibility

The Schaft Creek property is best accessed by helicopter from Bob Quinn, a small outpost located 80-kilometers southeast of the property on Highway 37. Bob Quinn serves as a base for several helicopter companies. The Burrage airstrip, situated 37-kilometers east of Schaft Creek, located on Highway 37 also provides a means of access by helicopter and fixed wing, although its use is not sanctioned by the government and there is no supporting infrastructure for aircrafts at this location. Alternatively, fixed wing aircraft can be chartered from Smithers, B.C. and fly directly to the Schaft Creek camp, utilizing either of the two gravel airstrips that exist at the camp.

1.2 Infrastructure

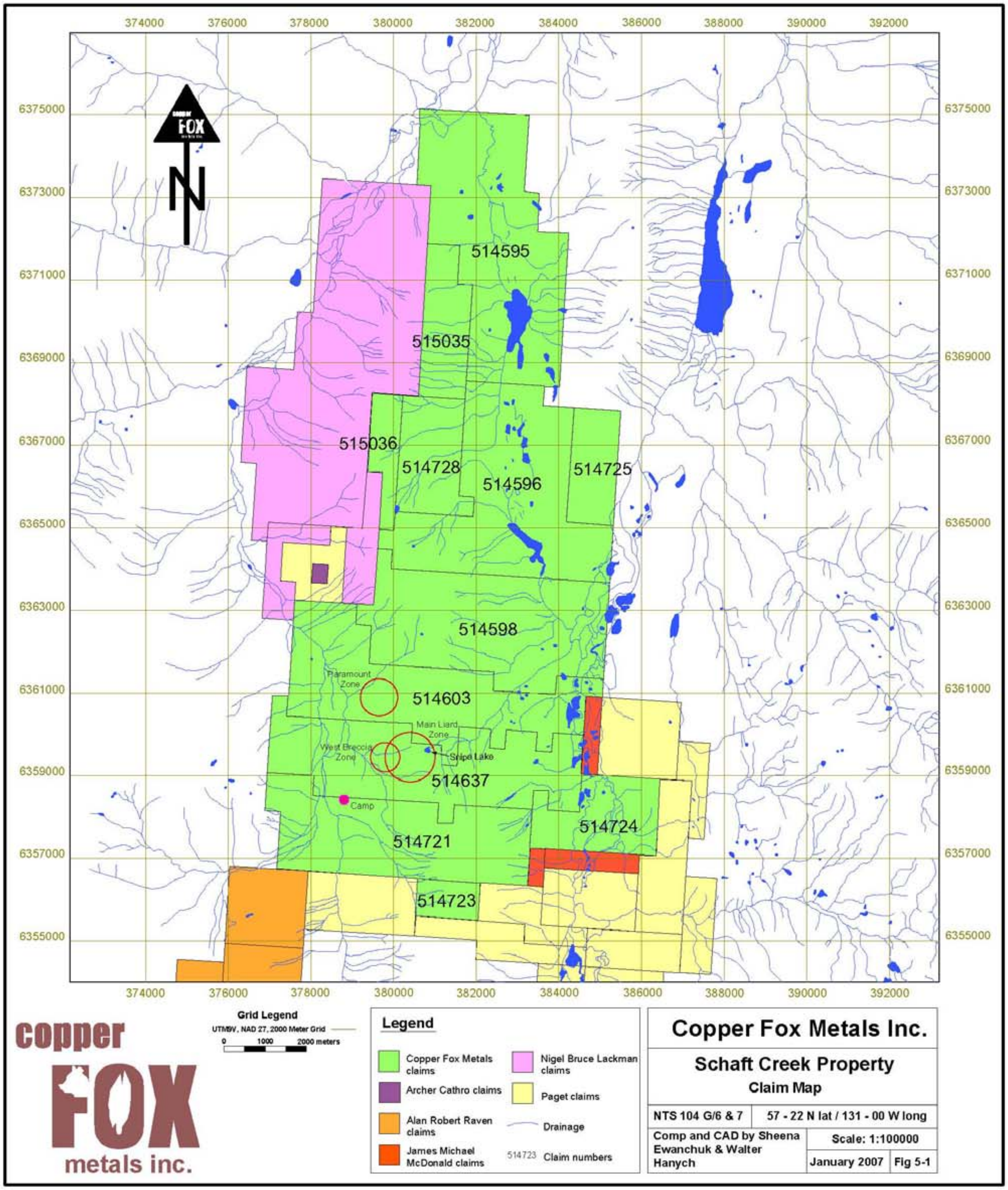
Infrastructure is all but non-existent in the immediate project area. An old, overgrown and now frequently flooded bull dozer trail exists on the east side of the broad Schaft Creek valley heading north to Telegraph Creek. The local network of re-established drill roads exists only in a 3 x 3-kilometer area and totals approximately 10-kilometers of gravel and mud trails, 4-meters in width.

1.3 Climate

The climate at the camp site is alpine, warm in the summer (10^oC to 28^oC) and cold during the winter (-10^oC to -20^oC). The valley bottom at Schaft Creek is snow free from approximately early May through late October. Annual precipitation is said to be low in the immediate project area. Wind velocities during the summer can be high and incessant in duration.

1.4 Physiography

Physiographically, the Schaft Creek valley area is the up-stream extension of the Telegraph Creek Lowlands. The immediate area of the Schaft Creek property is approximately 3 x 3-kilometers in size rising rapidly eastward from the valley bottom to near-tree line elevation at the saddle in the vicinity of Snipe Lake, and towards Mess Creek to the east. The surrounding mountain terrain to the south and west of the deposit is steep and rugged, rising to > 2,000-meters from the valley floor to snow capped mountain peaks and ice fields within a few kilometers of the camp. To the east, the terrain drops from the Snipe Lake saddle to Mess Creek. The terrain to the north of the deposit is the west-facing slope of Mount Lacasse, 2,200-meters above sea level. The broad, 1-kilometer wide, north-south trending valley of Schaft Creek to the west of the camp site is a braided stream plain made up of thick, glaciofluvial and fluvial deposits. The gradient of Schaft Creek up-stream of the camp site is fairly steep, causing high water velocities and strong erosional forces rapidly changing the multiple creek channels during early summer melting and run-off.


374000
376000
378000
380000
382000
384000
386000
388000
390000
392000
6375000
6373000
6371000
6369000
6367000
6365000
6363000
6361000
6359000
6357000
6355000
FOX
N
514595
515035
515036
514728
514596
514725
514598
Paramount Zone
514603
Main Liard Zone
West Breccia Zone
Snipe Lake
514637
Camp
514721
514724
514723
copper FOX metals inc.
Grid Legend
UTM9V, NAD 27, 2000 Meter Grid
0
1000
2000 meters
Legend
Copper Fox Metals claims
Archer Cathro claims
Alan Robert Raven claims
James Michael McDonald claims
Nigel Bruce Lackman claims
Paget claims
Drainage
514723 Claim numbers
Copper Fox Metals Inc.
Schaft Creek Property
Claim Map
NTS 104 G/6 & 7
57 - 22 N lat / 131 - 00 W long
Comp and CAD by Sheena Ewanchuk & Walter Hanych
Scale: 1:100000
January 2007
Fig 5-1

6.0 History

Schaft Creek was the subject of intense and extensive exploration since mineralization was first discovered on the property in 1957. The culmination of this exploration lead Teck Corp. to commission a pre-feasibility study which included condemnation drilling in the early 1980's. Prevailing economic conditions for the next 20-years prevented the deposit from advancing. Realizing its potential, Mr. G. Salazar, acquired the right to secure a significant ownership of the property in 2002 and subsequently incorporated it into the holdings of Copper Fox Metals Inc. in 2005. Copper Fox Metals Inc. then raised the necessary funding to undertake the 2005 program.

The history of the property is summarized below:

- 1957, discovery at Galore Creek spurred exploration northward into the Schaft Creek-Mess Creek areas, leading to the discovery of mineralization at Schaft Creek.
- Area staked in 1957 for the BIK Syndicate; subsequently completed 3,000 feet of hand trenching.
- 1965, mapping, IP survey and 3-holes were drilled by Silver Standard Mines Ltd., totalling 2,063-feet.
- 1966, Liard Copper Mines Ltd. was formed to consolidate area land holdings.
- 1966, Asarco options the property; a 4,000-foot airstrip was constructed, a camp was built and 24-holes were drilled, totalling 11,000-feet.
- 1967, in mid spring of the year, a D6 cat walked from Telegraph Creek. A second 4,000-foot airstrip was built and construction of the camp continued. Asarco initially drills 2-holes and continues to complete 22-additional holes for a program total of 24-holes, amounting to 11,000-feet. Paramount Mining drills 1-hole.
- 1968, Asarco drops option and Hecla Mining acquires the properties. The airstrip was extended to 5,280-feet.
- 1968, Hecla drills 9-holes, totalling 13,095-feet. 3 of the holes were drilled in the Paramount Zone.
- 1969, Hecla drills 9-holes, totalling 15,501-feet.
- 1970, Hecla drills 26-holes, totalling 32,575-feet. 5 of the holes were drilled in the Paramount Zone.
- 1971, Hecla drills 25-holes, totalling 22,053-feet. 3 of the holes were drilled in the Paramount Zone.
- Total Hecla footage; 83,224-feet, of which 8,610-feet were drilled on the Paramount Property and 74,614-feet were drilled on the Schaft Creek Property.
- 1972-1977, Hecla drilled 35-holes, totalling 38,386-feet.
- 1977, 104-holes drilled on the properties held by Hecla, totalling 113,000-feet. A reserve of 505 mt with 0.38% Cu and 0.039% MoS_2 delineated.
- Between 1978 and 1979, Helca Mining forfeits option and Teck Corp. acquires the property.
- 1980, Teck Corp. drilled 47,615-feet, in 45-holes, between mid May to mid November. The drill sites were prepared with a D6 Caterpillar bulldozer. Assaying of core on 10-foot sample intervals, by Afton Mines Ltd. in Kamloops.
- 1981, between June and September, Teck Corp. drilled 33,315-feet, in 73-holes, and 3,503-feet of condemnation drilling for a tailings pond and mill sites.
- Resource expanded to a global estimate of 1bt with 0.30% Cu and 0.034% MoS_2.
- Total property drilling is 197,500-feet, in 230-holes.

7.0 Exploration

7.1 Past Exploration Summary

The Schaft Creek deposit was staked in 1957, as prospecting of the area extended north after the discoveries in 1955 in the Galore Creek area. Originally the ground was held by the BIK Syndicate, whereupon Liard Copper Mines Ltd. was formed to explore the property. Silver Standard Mines Ltd. drilled three holes on the property before it was acquired in 1966 by American Smelting and Refining Company (Asarco). By 1968, Asarco dropped their option and Hecla Mines obtained the property; between 1968 and 1977, 104-diamond drill holes were completed by the company. Hecla forfeited its option in 1979 and Teck Corp. acquired the property. Teck Corp. drilled 129-holes, then shelved the project in 1981. Mr. G. Salazar obtained the property in 2002, through an option agreement with Teck Corp. and vended it into a private numbered company. In 2005, the Schaft Creek property was incorporated into the holdings of Copper Fox Metals Inc. which completed a campaign of 15-diamond drill holes during the summer of that year. In 2006, Copper Fox Metals Inc. continued with its program of in-fill and validation drilling and completed 9,007-meters of drilling.

7.2 Recent Exploration Summary

The 2005 diamond drill campaign conducted by Copper Fox Metals Inc. ended with the completion of 15-PQ diamond drill holes, totaling 3,160-meters. During the period from August 11th to September 30th, a total of 1,089 core samples were collected and submitted for assaying and 782 core metallurgical samples were collected. The 782 core samples collected for a metallurgical bulk sample represent a total combined weight exceeding 39,000 pounds.

The 2006 diamond drill campaign ended with the completion of 42-holes, totaling 9,007-meters of drilling. Of this total, 5,300-meters included 25-PQ holes and 3,707-meters included 17-HQ holes. During the period from July 12th to October 23rd, a total of 2,107 samples were submitted for assaying, and 896 samples were collected for the metallurgical composite sample. The total of the metallurgical samples collected represents a combined weight of 44,800 pounds.

The two campaigns produced a total of 3,196-assay samples, 1,678-metallurgical samples and 12,167-meters of core.

8.0 2006 Exploration Program

8.1 Introduction

Field preparation for the 2006 program began on May 30th, while diamond drilling commenced on July 10th. The drill equipment was airlifted by a Bell 205 and a Chinook helicopter transported construction materials, Kubotas and a D5 dozer from Burrage Creek and Bob Quinn to the camp in the initial airlift. Coring commenced on July 10th, and the drill program was terminated on October 23rd, after having completed 42-holes totalling 9,007-meters. The Lyncorp drill was stored on the property in the eastern quanset hut. The two Hytech drills were mobilized off the property on October 26th.

8.2 Program Objectives

The 2006 drill program, designed by Associated Mining Consultants Ltd. (AMCL) and G. Salazar to twin historical drill holes, had a three-fold purpose: to confirm the integrity of the archival data base derived from earlier drilling, to check the assay results in this data base and to provide a sufficient amount of higher grade material for floatation tests. Time constraints allowed the completion of 9,007 meters of drilling in 42-holes, coming very close to completing the original validation program of 43-holes and exceding the original planned meterage of 5,053-meters. Due to the limitations of the drill to bore large diameter shallow, angled holes, three of the planned shallow dipping holes had to be re-positioned and in fact did not twin their historical counterpart, but rather intercepted the zone at a steeper angle in the immediate intersection of interest. Two of the original PQ-holes were down-graded to HQ-holes, while two of the HQ-holes were up-graded to PQ-holes.

8.3 Field Protocol

The field protocol established for the 2006 program was the same as that for the 2005 program, but with the addition of in-fill drilling which recovered HQ-diameter core. The program's protocols are as outlined below.

PQ (8.3-centimerter diameter) Core Protocol:

- 25-archival holes were selected to be 'twinned' in order to validate a large, archival data base. The old collars were established by GPS-mapping of old drill roads, spotting casings and matching the resulting co-ordinate points with archival drill plans.
- New 'twin' holes were drilled within a few meters from old casings with the same azimuth, dip and length. Only a few holes had to be drilled from new locations, due to equipment limitations.
- Inclined holes were down-hole surveyed by Reflex instrument. Normally in holes less than 100-meters in length, a reading was taken just beyond the bedrock interface and near the bottom of the hole. Deeper holes had additional readings taken at mid-points between bedrock and the bottom.
- All PQ and Hytech's allocation of HQ-holes were cored using metric rods (1.5-meter and 3.0-meter lengths), while Lyncorp's allocation of HQ-holes were cored utilizing imperial length rods of 10-feet.
- All new core was photographed and the photos digitally archived. Core recovery was noted and RQD (rock quality designation) measurements were recorded as the cumulative length of intact core greater than two times its diameter (16-centimeters within a core run). Sample numbers were assigned along 3.05-meter intervals for the entire core length for assay samples, as well as for metallurgical samples (MET), using the same fixed 3.05-meter intervals. MET samples however, were taken only along AMCL's pre-defined ore intervals, utilizing the old data base.
- The core was sawed twice: the whole core was cut in half, and then one of the halved sections was halved once more, resulting in one half and two quarter sections of core.
- The core was logged before sampling in metric units, recorded first in tabular form, employing historical lithological codes and nomenclature with strict adherence to 3.05-meter sample runs, and secondly in descriptive format, respecting lithologic breaks.
- The core was sampled using; a) the ¼ sections for assay samples, b) the ½ sections for metallurgical samples. Both assay and metallurgical samples were placed in separate, numbered plastic pails with security lids.
- ¼ of the core is stored on site as reference material in the original, labeled core trays.
- All core data were entered by the geologists, Ewanchuk, Fischer, Hanych and Scott, into Excel spread sheets. Assay samples were shipped to IPL Lab in Vancouver, B.C., using bonded trucking firms, locked containers, observing all security precautions to maintain a continuous, intact 'chain of custody'.
- MET samples were shipped to Process Research Associates Lab in Vancouver, B.C., adhering to the same chain of custody as for the assay samples.

HQ (6.0-centimeter diameter) Core Protocol

- The treatment of HQ-size core was similar to PQ-size core with the exception that no metallurgical samples were obtained from it. Therefore, this core only required one cut that produced two halves. One half was sent for assay analysis, while the other half was retained for archiving.

8.4 Drill Program

Hytech Diamond Drilling Ltd. of Smithers, B.C., was contracted to undertake the drilling of the PQ portion of the program as well as a segment of the HQ-portion. Lyncorp International Ltd. Of Calgary, Alberta was also commissioned to complete a portion of the HQ-program. Helicopter air-support for the program was provided by Quantum Helicopters Ltd, of Terrace B.C, while fixed wing air support was supplied by Northern Thunderbird Air, of Prince George B.C. and Tsayta Air Ltd. of Fort St. James, B.C.

A total of 42-holes were completed, 17-HQ-holes and 25-PQ-holes, totalling 9007.6-meters. Hytech drilled 34-holes: 25-PQ-holes and 9-HQ-holes; while Lyncorp drilled 8-HQ holes. The survey data for the holes are summarized below.

8.4.1 Terminology and Limitations

Terminology

The geological terminology employed for data compilation used the historical rock codes designed by Teck and earlier workers. The current log format strictly adhered to historical nomenclature and only deviated when it became more practical to use other relevant terms, (see Table 8-1, List of Lithological Terms and Codes). Commonly accepted geological terminology was applied to describe observations of the drill core. The petrographic terminology employed is essentially that used by Moorehouse (1959) and Heinrich (1965).

Table 8-1: Lithological terms and codes

Code	Lithology	Code	Lithology
OVER	Overburden	DIOR	Diorite
ANDS	Andesite, fine grained	ANAU	Augite-phyric andesite
ANPF	Andesite, plagioclase-phyric	PPFQ	Feldspar-quartz porphyry
ANLP	Andesite, lapilli	ANAP	Augite-plagioclase phyric andesite
ANTF	Andesite, tuff	PNBX	Pneumatolytic breccia
BRIG	Breccia, intrusive	PPPL	Feldspar porphyry
BRIV	Volcanic intrusive breccia	TOBR	Tourmaline breccia
ANXX	Alteration zone	GRDR	Granodiorite
BRXX	Undifferentiated breccia	Faul	Fault
D/BS	Diabase/Mafic dyke	SHER	Shear
HVBX	Hydrothermal breccia	VEIN	Vein
OTHR	Other		

Limitations

Limitations that were imposed on the project by constrained resources, pre-defined objectives and available time were manifold. Some of these are listed below.

- The project is a development program of a publicly listed company and as such has to limit its funding of research-oriented endeavors. The company is funding a Masters Thesis program at the University of Alberta, in Edmonton under the supervision of Dr. J. Richards for J.Scott.
- The majority of this technical report is limited to reporting on the 2006 drill campaign. However, it includes results from the 2005 program. Historical information will be included in a follow up report.
- The 2006 PQ-drilling program ‘twinned’ historic drill holes for the purpose of comparing historic assay results (Cu, Mo, Au,Ag) for validation. For this reason, fixed 3.05-meter sample lengths were utilized so as to match the 10-foot intervals historically used on the property. Therefore, assay results routinely reflect a mixture of signatures of host rocks, alterations and veins.

- Fixed 3.05-meter sample lengths were also utilized for the in-fill HQ-drilling portion of the program for the same reason as previously mentioned; therefore, assay results from this core also reflect a mixture of signatures of host rocks, alterations and veins.
- Assays performed include copper, molybdenum, gold (two assay tons) and silver.
- Multi-element analysis was performed on the samples, but the results are not included in this report.
- The classification and description of the alteration of host rocks was almost entirely based on visual assessment.
- None of the 2006 drill holes produced oriented drill core; therefore, almost all structural observations are ambiguous.

8.4.2 Diamond Drill Hole Summary

Table 8-2: 2006 Diamond drill hole summary table

CUU	Core	Twin	Old	UTM NAD 27		Az	Dip	Elev	Length	Casing	Date	Date
ID	Size	Hole ID	Collar	Northing	Easting			Meters	Meters	Located	Started	Finished
06CF249	PQWL	AS20	AS20	6359750	379743	90	-55	901.0	153	yes	Jul 12	Jul 13
06CF250	PQWL	AS23	AS23	6359742	379832	90	-55	908.6	86	no	Jul 14	Jul 15
06CF251	PQWL	T98	T98	6359602	380038	0	-90	951.6	102	no	Jul 22	Jul 26
06CF252	PQWL	N/A	T179	6359680	379855	0	-90	907.5	78	no	Jul 15	Jul 16
06CF253	PQWL	AS18	AS18	6359433	379690	90	-55	883.0	116	yes	Jul 10	Jul 12
06CF254	PQWL	T135	T135	6359455	379902	0	-90	916.4	107	no	Jul 16	Jul 17
06CF255	PQWL	N/A	H50	6359574	380248	90	-69	1002.5	303	yes	Jul 26	Aug 01
06CF256	PQWL	N/A	T169	6359508	380378	0	-90	1037.4	303	no	Aug 11	Aug 14
06CF257	PQWL	T133	T133	6359435	380355	0	-90	1028.6	276	yes	Aug 05	Aug 08
06CF258	PQWL	N/A	H47	6359263	380318	90	-65	1001.5	243	yes	Aug 01	Aug 04
06CF259	PQWL	T183	T183	6359670	380528	0	-90	1128.2	312	no	Sep 14	Sep 19
06CF260	PQWL	T194	T194	6359893	380430	0	-90	1137.4	168	no	Sep 19	Sep 21
06CF261	PQWL	N/A	H32	6359440	380718	270	-65	1162.4	213	no	Sep 21	Sep 25
06CF262	PQWL	N/A	H45	6359273	380640	270	-75	1124.3	225	yes	Sep 26	Sep 30
06CF263	HQWL	NA	H72	6359370	380420	90	-45	1051.8	213	yes	Oct 14	Oct 16
06CF264	PQWL	N/A	C243	6359370	380420	90	-65	1051.8	268	yes	Oct 10	Oct 14
06CF265	PQWL	N/A	C243	6359370	380420	270	-60	1051.8	255	yes	Oct 16	Oct 20
06CF266	HQWL	NA	C245	6359365	380513	90	-60	1092.1	122	yes	Sep 22	Sep 24
06CF267	HQWL	NA	C245	6359365	380513	270	-60	1092.1	90	yes	Sep 24	Sep 25
06CF268	PQWL	NA	SO-2	6359433	380558	270	-75	1122.2	213	yes	Sep 30	Oct 4
06CF269	PQWL	H86	H86	6359282	380442	90	-50	1036.8	201	yes	Oct 4	Oct 9
06CF270	HQWL	NA	T220	6359045	380445	270	-60	1038.2	228	no	Oct 14	Oct 18
06CF271	HQWL	NA	T220	6359045	380445	90	-60	1038.2	213	no	Oct 19	Oct 23
06CF272	HQWL	NA	C247	6359585	380335	45	-60	1028.6	303	no	Sep 29	Oct 1
06CF273	HQWL	NA	C247	6359585	380335	45	-80	1028.6	303	no	Sep 25	Sep 28
06CF274	HQWL	NA	T155	6359528	380295	90	-60	1007.7	303	no	Oct 2	Oct 5
06CF275	HQWL	NA	T155	6359528	380295	270	-60	1007.7	336	no	Oct 5	Oct 11
06CF276	HQWL	NA	H101	6359600	380115	90	-60	971.6	350	yes	Oct 11	Oct 14
06CF277	HQWL	NA	H101	6359600	380115	270	-60	n/a	336	yes	Oct 14	Oct 17
06CF278	HQWL	NA	H83-50S	6359320	380063	0	-90	946.8	153	no	Oct 10	Oct 13
06CF279	HQWL	NA	H37	6359278	379930	270	-60	921.9	168	no	Oct 6	Oct 10
06CF280	HQWL	NA	T160-50S	6359313	379918	0	-90	918.9	183	no	Oct 4	Oct 6
06CF281	HQWL	NA	H97	6359223	379853	0	-90	910.2	168	yes	Oct 1	Oct 4
06CF282	HQWL	NA	T157-50W	6359453	379788	0	-90	899.6	120	no	Sep 29	Sep 30

06CF283	HQWL	NA	A18+50N	6359483	379690	0	-90	881.7	120	no	Sep 26	Sep 28
06CF284	PQWL	NA	AS-12	6359445	380110	90	-80	n/a	274	yes	Jul 17	Jul 21
06CF285	PQWL	NA	T133	6359435	380355	90	-70	1028.6	291	yes	Aug 08	Aug 11
06CF286	PQWL	T203	T203	6360683	379558	0	-90	960.3	213	no	Sep 02	Sep 06
06CF287	PQWL	N/A	T203	6360683	379558	90	-60	960.3	243	no	Sep 06	Sep 10
06CF288	PQWL	T204	T204	6360693	379415	0	-90	929.6	183	no	Aug 29	Sep 01
06CF289	PQWL	T206	T206	6360847	379429	0	-90	958.4	183	no	Sep 11	Sep 14
06CF290	PQWL	NA	T124	6360988	379645	90	-70	1052.4	291	no	Aug 14	Aug 29
2006 totals									9009			

9.0 Geological Setting

9.1 Regional Geological Overview (by James Scott)

The Schaft Creek porphyry Cu-Mo-Au-Ag deposit is one of a number of porphyry deposits of similar age and affinity distributed throughout the Canadian Cordillera. The Canadian Cordillera is comprised of a number of disparate tectonic terranes that have been accreted to the western margin of North America. These terranes are organized into a number of superterranes based upon a common assemblage prior to accretion to the craton (Monger, 1989). Five superterranes exist in the Canadian Cordillera, the most important of which with respect to porphyry copper formation is the Intermontane belt.

The Intermontane belt includes three terranes which are known to host significant porphyry copper mineralization. East to west, these are the Quesnellia, Cache Creek, and Stikina terranes. These terranes were amalgamated prior to accretion to ancestral North America, an event which is believed to have occurred sometime during the mid to late Jurassic (McMillan, 1992). The majority of porphyry mineralization in these terranes occurred prior to the major accretionary event, and many of these pre-accretionary deposits are associated with island arc settings.

The Schaft Creek deposit is located in the Stikina terrane, which is the westernmost and most aerially extensive terrane of the Intermontane belt. A large number of porphyry copper deposits occur in this terrane, particularly in the north-central portion. The Stikina terrane is composed of Devonian to Jurassic arc-related volcanic and sedimentary rocks with coeval plutons (McMillan et al., 1995). The Stikina terrane is the largest of the allochthonous terranes and bears a unique pre-Jurassic geological history, paleontological, and paleomagnetic signature (Logan et al., 2000), all indicating an origin spatially separated from the paleomargin of North America (Gabrielse and Yorath, 1991). The terrane was amalgamated with the Cache Creek, Quesnellia, and Slide Mountain terranes at some time prior to final accretion with the North American craton (McMillan, 1992). The terrane is made up of a number of assemblages, two of the most significant of which are the Stikine group of Devonian to Permian age, and the Stuhini group of Triassic age (McMillan et al., 1995; Brown et al., 1996; Logan et al., 2000).

Besides the Schaft Creek deposit, other significant deposits within the Stikina terrane include the Red-Chris, Galore, Kerr, Kemess, and Huckleberry deposits. The Kemess deposit is calc-alkaline in affinity and has been dated at ~202Ma (Rebagliati et al., 1995). Published dates for Red-Chris, Kerr, Galore Creek, and Schaft Creek are ~210 Ma, ~197 Ma, ~210 Ma, and ~220 Ma respectively (Newell and Peatfield, 1995; Ditson et al., 1995; Enns et al., 1995; Logan et al., 2000), although new geochronological data with respect to the Schaft Creek deposit is currently in preparation. This close clustering both spatially and temporally indicates very favourable local conditions for porphyry copper formation at this time prior to the accretion of Stikina to western North America.

The Schaft Creek deposit is hosted within the intermediate rocks of the Stuhini group. This group is comprised of a package of volcanic and sedimentary rocks that becomes dominated by sedimentary rocks eastward, a trend which is consistent with the presence of a westerly volcanic arc (Logan et al., 2000). The Mess Lake facies hosts the Schaft Creek deposit and includes the most westerly volcanic rocks of the Stuhini group, which are predominantly made up of basaltic andesitic to andesitic volcanic flows and subaerial tuffs, representing a proximal volcanic facies (Brown et al., 1996; Logan et al., 2000). The rocks of the Mess Lake facies unconformably overlie Stikine Assemblage limestones of Lower Permian age to the northwest, and are unconformably overlain by Lower Jurassic conglomerates both to the west of Mess Creek and at their eastern margin (Logan et al., 2000). To the west, the rocks of the Mess Lake facies are bounded by the Hickman batholith. To the south, they are in fault contact with Paleozoic rocks of various affinities (Logan et al., 2000).

The Hickman batholith is a complexly-zoned intrusive body associated with the Middle to Late Triassic Stikine plutonic suite (Brown et al., 1996; Logan et al., 2000). Historical work indicated the presence of a cross-cutting intrusive body believed to be associated with the Three Sisters plutonic suite. This was the Yehiniko intrusive described by Brown et al. (1996) and Logan et al. (2000); however, recent U-Pb zircon dating supports a single zoned Triassic-aged intrusive rather than two distinct intrusive bodies (Scott and Richards, in prep). It is believed that it is this body which provided the mineralizing fluids that formed the Schaft Creek deposit.

9.2 Property Geology

The Schaft Creek deposit is in part situated in the valley of Schaft Creek and in part along the western slope of Mount Lacasse. The deposit is bounded to the west by the Hickman batholith and to the east by volcanic rocks of the Mess Lake facies. The valley floor exposes the Stuhini group volcanics and conforms to the contact zone of these volcanics with the east margin of the Hickman batholith. Topography within the valley floor is very subdued and largely covered by glacio-fluvial gravels. Bedrock exposures are very scarce in the lower elevations of the valley floor.

The deposit is hosted by north striking, steep, easterly dipping volcanic rocks comprised of a package of: andesitic pyroclastics ranging from tuff to breccia tuff; and aphanitic to augite-feldpar-phyric andesite. The deposit is elongated in a general north-south direction, as a result of being modified by regional stress regimes and has been structurally transformed by post formation faulting.

Narrow, discontinuous feldspar porphyry and quartz feldspar porphyry dykes, genetically related to the Hickman batholith, intrude the volcanic package, occupying structural planes of weakness, (Salazar, 1973, Seraphim, 1967). The orientation of the mineralizing structures, originally related to local stress fields, is associated with the emplacement of the batholith. Potassic alteration envelopes are associated with the dykes. Besides the genetic association of the dykes with the Hickman batholith, the batholith is also considered to be the source of the magmatic-hydrothermal fluids, which ultimately formed the mineralized breccias, veins and stockworks of the deposit.

Although the deposit is spatially related to the Hickman batholith, its exact position with respect to the batholith remains uncertain. The draping of the host volcanic rocks along the intrusion’s eastern margin suggests that the deposit flanks the contact zone, but is related to one or more apohpyses stemming from the main body of the Hickman batholith. This relationship is further complicated by structural modification associated with accretionary tectonics.

Three geologically distinct, but not necessarily disparate, spatially separate zones, representing distinct porphyry environments constitute the Schaft Creek deposit. The largest of these zones is the Main zone, which is characterized by syn-intrusive poly-phase quartz-carbonate veins and stockworks, and mineralized with variable amounts of chalcopyrite, bornite and molybdenite and late fracture molybdenite.

The second largest zone is the Paramount zone, which is characterized by; primary sulphide mineralization associated with an intrusive breccia phase, containing chalcopyrite, bornite and molybdenite; quartz-carbonate stockworks; and late fracture molybdenite mineralization. This zone represents a deeper cupola environment.

The smallest of the zones is the West Breccia zone. It is characterized by quartz tourmaline veining, pyrite and a hydrothermal breccia. This zone represents a low temperature epizonal environment. Feldspar porphyry, in part, propogated a fault and breccia network which allowed the introduction of hydrothermal fluids and a volatile phase. Eventually a breccia-pipe was created by this process.

Collectively, these zones contain an estimated indicated resource of 1,149-million tons at 0.25% CuEq cut-off, grading 0.268% Cu, 0.029% MoS_2, 0.0054 opt Au and 0.0504 opt Ag, (AMCL September 2004).

10.0 Deposit Type

10.1 Definition

Porphyry copper deposits are large, low grade, intrusion related deposits which provide the major portion of the world's copper and molybdenum and to a minor degree gold. The deposits are formed by a shallow magma chamber of hydrous, intermediate composition at depths of < 5-kilometers.When the magma crystallizes, fluids are released; the fluids' movement upwards through overlying rocks results in hydrothermal alteration and deposition of sulphide minerals both as disseminations and as stockwork mineralization. There is a clear spatial and genetic association between the intrusion and the alteration zones at a regional and local scale.

The defining characteristics that distinguish porphyry deposits are (Kirkham and Sinclair, 1996):

- Large size.
- Widespread alteration.
- Structurally controlled ore minerals superimposed on pre-existing host rocks.
- Distinctive metal associations.
- Spatial, temporal, and genetic relationships to porphyritic intrusions.

The Schaft Creek deposit possesses all of these salient features and based on its economic mineral content is considered to be a porphyry copper-molybdenum-gold deposit.

10.2 Geological Model

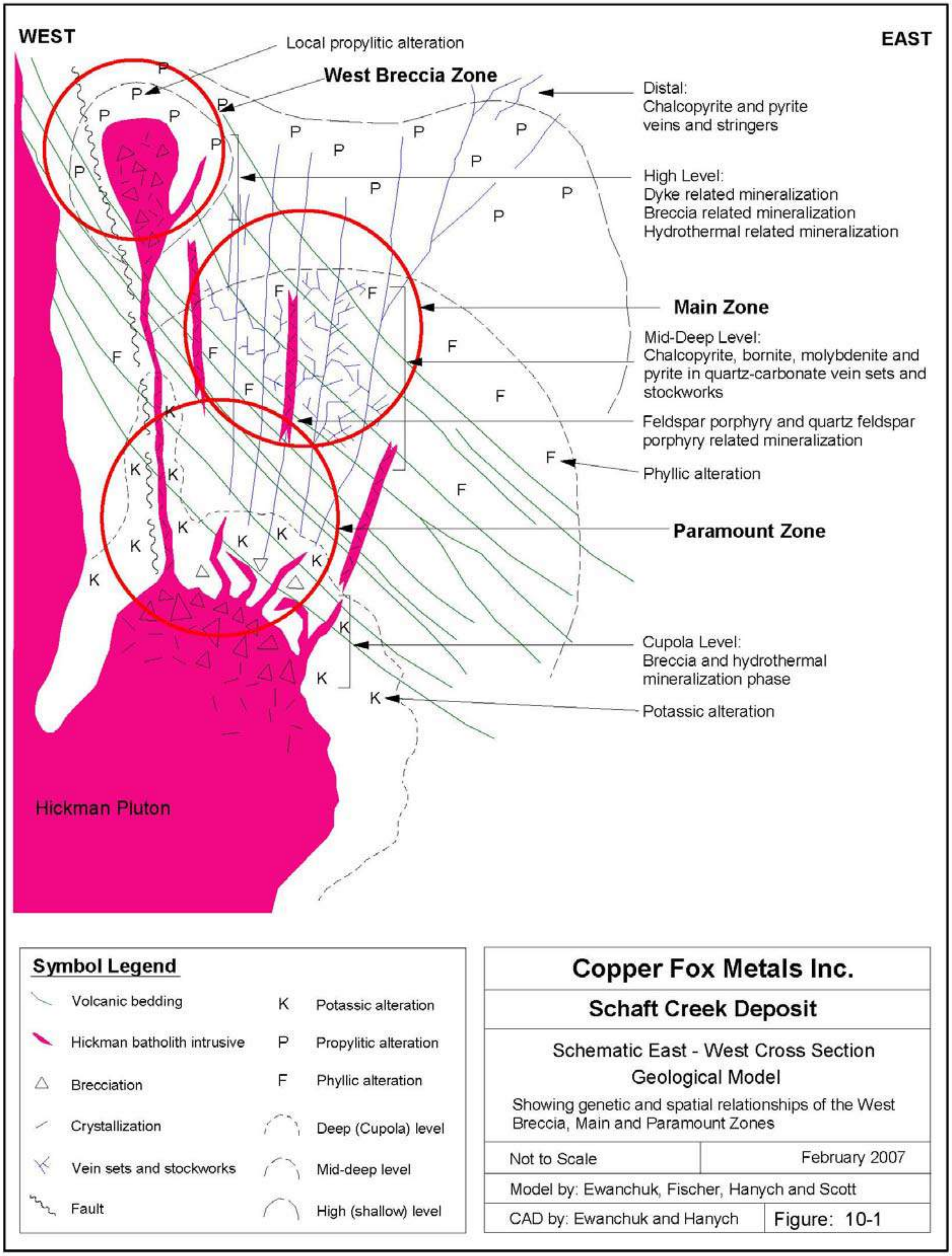
The Schaft Creek deposit is, a complex, low grade porphyry system, consisting of three distinct, structurally modified zones, genetically related to the Hickman batholith. The three zones appear to be associated with a multi-phase magmatic-hydrothermal system related to either; one northerly plunging apophyse, or; several temporally discrete, smaller dykes and apophyses, stemming from a cupola(s) linked to the main body of the Hickman batholith. Dykes and sheeted veins are controlled by a regional fracture pattern, while mineralized stockworks, crackle veins and breccias are related to high local overpressure. Disseminated mineralization is associated with dykes and their accompanying alteration envelopes.

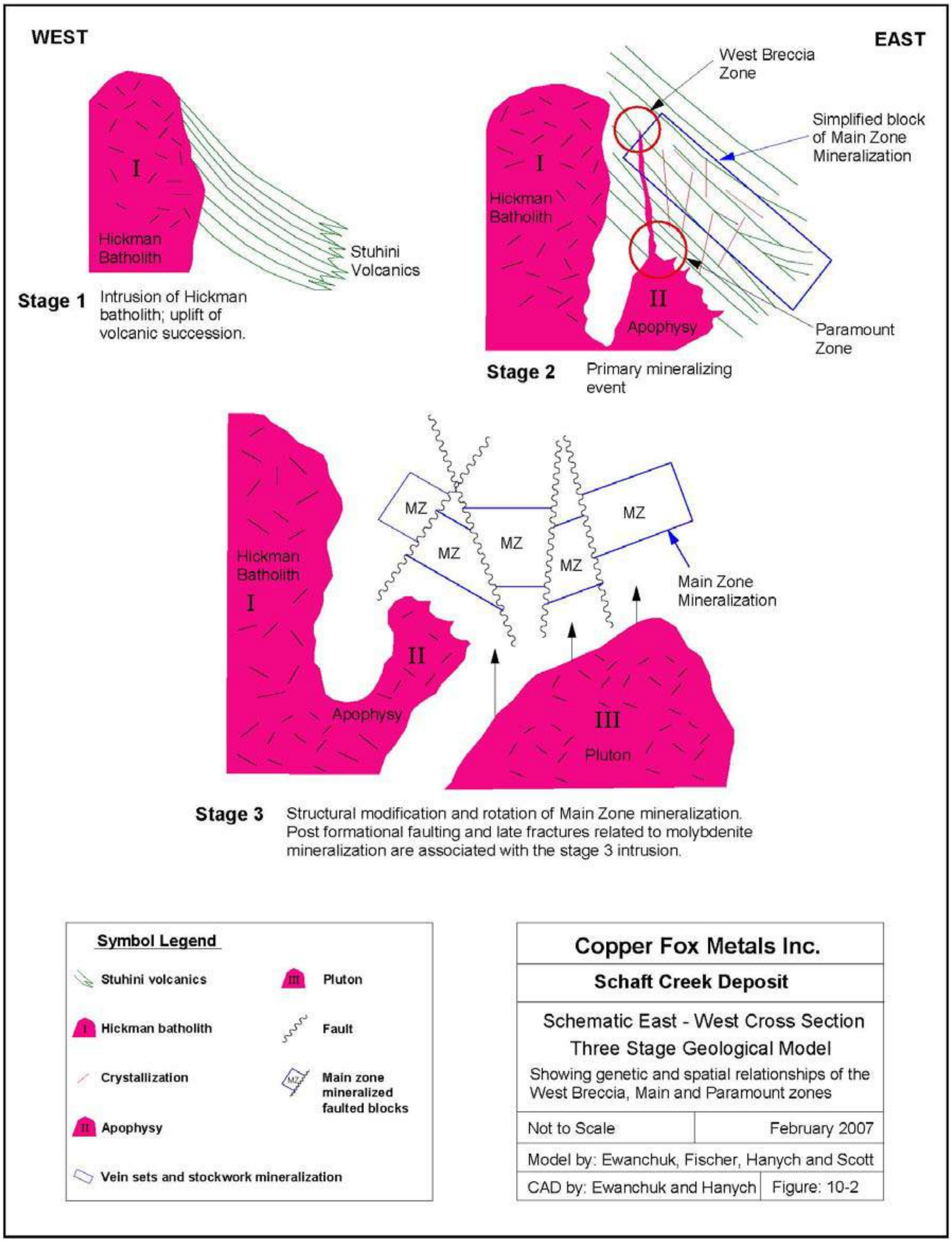
The Paramount zone, which is the most northerly of the three, represents the deeper portion of the epizone of the porphyry. Characterisitc of this zone suggesting proximity to the cupola are; extensive igneous brecciation of the earlier feldspar porphyry intrusion, primary igneous zoned sulphides associated with the breccia matrix; and a higher abundance of chalcopyrite and molybdenite mineralization.

The Main zone represents the mid level of the epizonal environment of the porphyry and is largely structurally controlled. In this zone: quartz-carbonate veins; sheeted veins; and stockworks, mineralized with chalcopyrite, bornite and molybdenite, were generated by a multi-phase overpressure event resulting from increasing hydrothermal fluid pressures, stemming from the Hickman batholith. This multi-phase event produced several generations of veining, representing different thermal regimes, overprinting alteration, fracturing and faulting within the host volcanic rocks. Hydrothermal fluids preferentially formed veins and stockworks along shallow and steeply dipping planes of weakness within a homoclinal volcanic succession, dominated by a regional easterly dip. Later, post formational overpressure and upward doming associated with a postulated, additional intrusive phase of the Hickman batholith structurally modified the Main zone, producing a pseudo-synclinal mineralized cross-section. Late stage mineralization associated with this event is reflected by fracture associated molybdenite. Concomitant with all the events, feldspar porphyry dykes intruded into the volcanic pile.

The West Breccia zone occurs immediately west of the Main zone and represents a high level epizonal environment to the deposit. A poly-phase system commencing with the intrusion of feldspar porphyry along a pre-existing plane of weakness, initiated a rapidly expanding hydrothermal phase and then continued to self propagate more fractures. Eventually, both phases contributed to the formation of a breccia pipe. This breccia pipe features low temperature mineral assemblages, which are exhibited by propylylitic alteration and high pyrite content. The boron-rich nature of the volatiles in this zone is reflected by the presence of tourmaline in quartz veins. Ascending solutions affected the wall rock of this zone to varying degrees and the complexity of the system is highlighted by the overprinting of the following alterations; potassic, epidote, chloritic, silicic and hematitic. A very limited, late, high pressure gas and fluid event is evident my mm to dm wide, flow-textured pneumatolytic breccia veins and dikes.

In summary, the Schaft Creek deposit is a large, multi-phase, complex, porphyry system, genetically related to the Hickman batholith. The individual zones represent differing levels within the porphyry and correspond with increasing depth in the following order; the West Breccia zone occupies the high level, the Main zone occupies the medium level and the Paramount zone the deepest level. All of the zones have been structurally controlled, with the earliest mineralizing event strongly influenced by syn-intrusive fracturing and faulting; while, post formational faulting associated with accretionary tectonics modified the deposit considerably.


WEST
EAST
Local propylitic alteration
West Breccia Zone
Distal:
Chalcopyrite and pyrite veins and stringers
High Level:
Dyke related mineralization
Breccia related mineralization
Hydrothermal related mineralization
Main Zone
Mid-Deep Level:
Chalcopyrite, bornite, molybdenite and pyrite in quartz-carbonate vein sets and stockworks
Feldspar porphyry and quartz feldspar porphyry related mineralization
Phyllic alteration
Paramount Zone
Cupola Level:
Breccia and hydrothermal mineralization phase
Potassic alteration
Hickman Pluton
P
F
K
Symbol Legend
Volcanic bedding
Hickman batholith intrusive
Brecciation
Crystallization
Vein sets and stockworks
Fault
K Potassic alteration
P Propylitic alteration
F Phyllic alteration
Deep (Cupola) level
Mid-deep level
High (shallow) level
Copper Fox Metals Inc.
Schaft Creek Deposit
Schematic East - West Cross Section
Geological Model
Showing genetic and spatial relationships of the West Breccia, Main and Paramount Zones
Not to Scale
February 2007
Model by: Ewanchuk, Fischer, Hanych and Scott
CAD by: Ewanchuk and Hanych
Figure: 10-1



Copper Fox Metals Inc.

Schaft Creek Deposit

Schematic East - West Cross Section

Three Stage Geological Model

Showing genetic and spatial relationships of the West Breccia, Main and Paramount zones

Not to Scale | February 2007

Model by: Ewanchuk, Fischer, Hanych and Scott

CAD by: Ewanchuk and Hanych | Figure: 10-2

11.0 Mineralized Zones

11.1 Associated Occurrences

Within a 20-kilometer north-south trend, marginal to the eastern contacts of the Yehiniko and Hickman Plutons, in addition to the Schaft Creek deposit, 6-mineral showings occur (see Table 11-1, Summary of Mineral Occurrences Proximal to Schaft Creek).

Table 11-1. Summary of mineral occurrences proximal to schaft creek
Ref: Brown, D.A. 1996, The Stikine Project: Geology of Western Telegraph Creek Map Area. Bulletin 95, Energy and Mineral Division, British Columbia., p 101.

Minfile No.	Name	NTS Map	UTM: East, North	Minerals	Description
104G63	Late	104G/06	378850E, 6368000N	cp,bn,py	Sheared contact of the Yehiniko pluton with Stuhini volcanics.
104G78	Arc, Post	104G/06	376800E, 6366000N	cp,bn,cc,py	Mineralization within purple volcanics of the Stuhini along shears within the Yehiniko pluton.
104G30,31,32	Nabs 13, 21, 30	104G/06	378600E, 6362500N	cp,bn	Chloritized quartz monzonite of the Yehiniko pluton at contact with the Stuhini volcanics.
104G37	Hicks	104G/06	379400E, 6356200N	bn,cp,mo,py	Mineralization in the Stuhini volcanics near the east margin of the Hickman pluton.

11.2 Styles of Mineralization

The deposit is defined by three distinct zones that appear to be semi-continuous, and are related genetically. The source of the mineralizing fluids stems from one or several cupolas associated with the Hickman batholith. The Paramount zone is considered to be at the deepest level of the porphyry system, while the Main zone and the West Breccia zone represent higher levels. Two of these zones, are dominated by breccia facies, namely, the West Breccia zone and the Paramount zone; while the third, the Main zone, is characterized by stockworks and structurally controlled vein systems. In decreasing order of abundance, for the deposit as a whole, the following sulphide minerals occur, chalcopyrite (50.0%), pyrite (22.8%), bornite (14.2%) and molybdenite (13.0%).

11.3 Description of Mineralized Zones

11.3.1 Main Zone

The Main zone has currently defined dimensions of 1,000-meters x 700-meters x 300-meters depth. It has a 20-degree northerly plunge and is U-shaped in cross section, with the west boundary dipping 45^o east and the east boundary dipping 80^o west, (Linder 1975). Fracture, vein, sheeted vein and stockwork-controlled mineralization is hosted mainly by andesite flows and fragmentals. This zone reportedly contains 546,000,000 tonnes of mineralized rock and presently hosts the largest volume of mineralized material. Chalcopyrite is the dominant sulphide, followed by bornite, pyrite and molybdenite (see Table 11-4).

The overall geometry of the zone in cross section, defined by metal distribution, is bowl or “U”-shape. This suggests modification by late structural events. Initially, steep, easterly dipping, volcanic successions influenced the distribution of upwardly migrating hydrothermal solutions that originated from an apophysys of the Hickman batholith. Subsequent to this, the lower portion of the zone was block faulted and rotated westerly by an ascending intrusion related to a later phase of the Hickman batholith.

Higher gold values are associated with higher temperatures and bornite mineralization; whereas, phyllic overprinting reflects lower temperatures, producing the pyrite-chalcopyrite association.

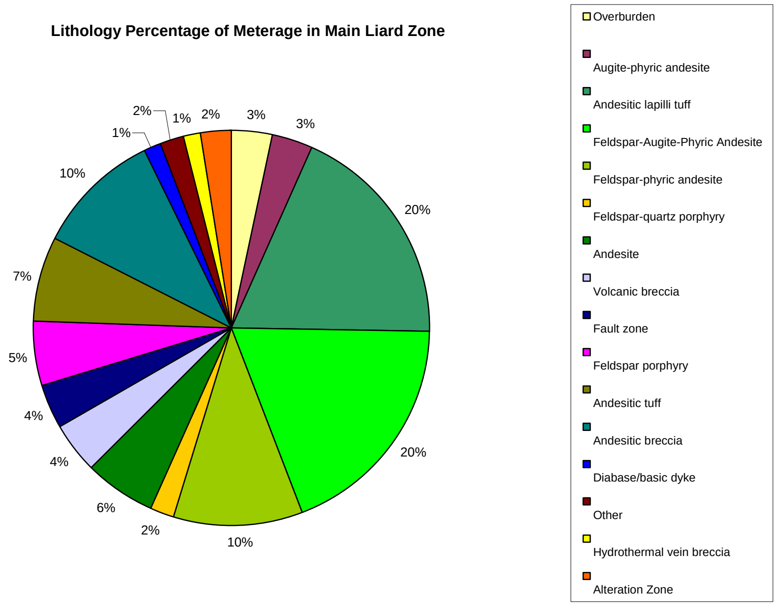
Summary of Megascopic Features

- The alteration characteristics in the Liard Zone are different from those in the West-Breccia and Paramount Zones. In the Liard Zone, alteration is associated with veins and stockworks.
- The sequence of alterations in the Liard Zone is not uniform, but multi-sequential.
- Assigning sulphide species to specific alteration phases has not yet been determined. Weak alteration is most common, while moderate or strong alteration is rare.
- Phyllic alteration is the most widespread, potassic alteration is next in abundance, while propylitic and epidote alteration are the least least common. Weak magnetite alteration is widespread.
- Silicification is strong in several areas.
- Potassic alteration is invariably associated with feldspar porphyry dykes and common as cenitmeter to decimeter halos around quartz veins.
- Overprinting of several alteration types is very common. Alteration of only one type is rare.

Summary of Microscopic Features

- Weak alteration of feldspar is common. In most cases the crystal outlines and internal twinning of plagioclase are preserved, although in part obscured by very fine grained, dusty sericite.
- Ferromagnesian phenocrysts (augite) are invariably entirely altered and replaced by mostly chlorite, accessory leucoxene, opaques and carbonate.
- Quartz-sericite as < 1mm stringers and veinlets, with mm to cm spacing, are associated with traces of sulphides and are common in most andesitic volcanics.
- Biotite is rare but has been observed.
- Carbonate alteration is generally insignificant, restricted to < 1mm patches and associated with small quartz grains.
- Silicification is generally restricted to quartz stockworks and their immediate envelopes.

Chart 11-1: Percentage of lithology types in meterage within the Main Liard Zone



11.3.2 West Breccia Zone

The West Breccia Zone has currently defined dimensions of 500-meters x 100-meters x > 300-meters depth, and lies immediately west of the Main Zone, (Spilsbury, 1982). Mineralization is contained within a fault controlled tourmaline and sulphide rich hydrothermal breccia, and feldspar porphyry. The zone reportedly contains 39,000,000 tonnes of mineralized rock. Chalcopyrite is the dominant sulphide, followed by pyrite, bornite and molybdenite.

The breccia of the zone exhibit multi-phase brecciation, heating and sulphide mineralization. Initially, an early phase of ghost-like brecciation of a fine grained felsic rock deposited fine sulphide disseminations, resulting in a polygonal pattern. Subsequent to this, an igneous phase brecciated the protolith and formed a matrix of fine grained, flow oriented lath-like feldspar rock. This was followed by a hydrothermal breccia phase that precipitated coarse sulphides, chalcopyrite and molybdenite. The last event was another hydrothermal phase that is sulphide deficient but rich in tourmaline and quartz. The margins of the zone exhibit late phase, metal deficient, intense, pervasive sericitic and carbonate alterations.

Summary of Megascopic Features

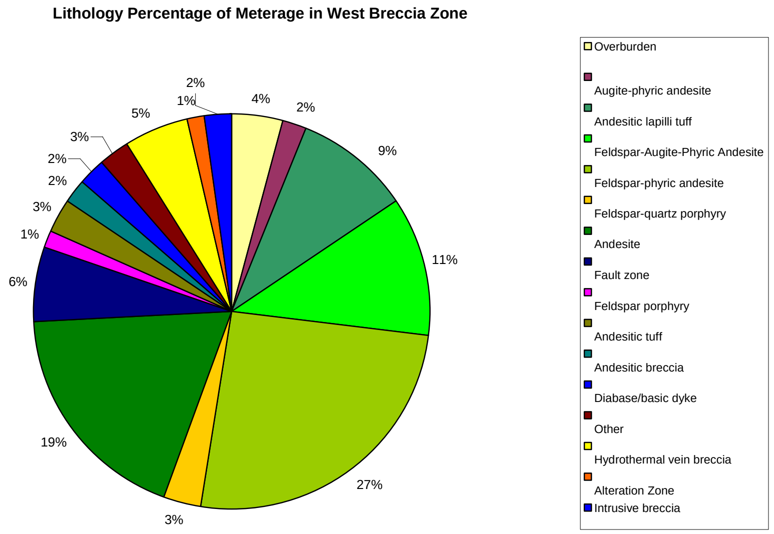
- The breccia is characterized by weak potassic alteration. Microscopic observations show a considerable, higher temperature overprint and recrystallization.
- Generally low alteration of feldspar is typical. Fine grained feldpars form an intrusive felsic rock, interpreted to be in part recrystallized. There are only trace amounts of sericite, no chlorite and almost no phyllic alteration.

Summary of Microscopic Features

- The tourmaline breccia is an igneous and hydrothermal, sulphide rich rock with a complex, multi-stage igneous and thermal history.
- The fine grained igneous matrix of the breccia exhibits a strongly flow oriented, fine grained, igneous, plagioclase rock. Depending on the composition of the plagioclase, the rock can be classified as either an albitite or an anorthosite.
- A multi-stage system is suggested, beginning with a ghost breccia, associated with linear discolouration and alteration, as well as sulphide impregnation. This is follwed

by a sulphide rich, felsic breccia and finally, permeation by a hydrothermal phase along diffuse, linear zones containing chlorite, tourmaline, minor quartz and accessory sulphides.

Chart 11-2: Percentage of lithology types in meterage within the West Breccia Zone



11.3.3 Paramount Zone

The Paramount Zone, is the most northerly of the zones and has currently defined dimensions of 700-meters x 200-meters x 500-meter depth, (Spilsbury, 1982). This east-dipping zone, (Spilsbury, 1982), is situated north of the Main Zone. The mineralization is contained in an intrusive breccia within altered andesite and granodiorite. This zone reportedly contains 182,000,000 tonnes of mineralized rock. Chalcopyrite is the dominant sulphide, followed by molybdenite, pyrite and bornite.

The zone is characterized by a large volume of granodiorite, exhibiting a complex multi-phase intrusive, thermal and metasomatic history. The early granodiorite was brecciated by an overpressure event that intruded feldspar-quartz porphyry, which formed the matrix of the breccia. Subsequently, concentrically zoned sulphides exhibiting a core of pyrite, and successively rimmed by chalcopyrite and molybdenite were deposited by a hydrothermal fluid along with disseminated sulphides. This hydrothermal fluid metasomatically replaced potassic feldspar with plagiocalse feldspar. The recrystallization of feldspar produced a fine grained, hornfelsic, mosaic rock. Late pervasive silica flooding introduced and remobilized sulphides, forming quartz veins high in pyrite, chalcopyrite and molybdenite. In comparison to the other zones, the feldspars exhibit little to no alteration and are remarkably fresh. The fine grained mosaic texture of the matrix feldspar is interpreted to be a result of high temperature thermal metamorphism.

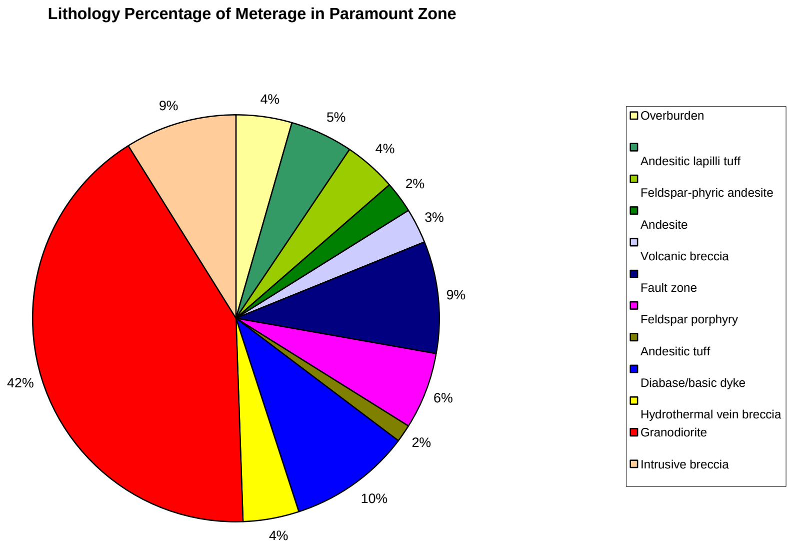
Summary of Megascopic Features

- Recrystallization and metasomatism of older rock types in the breccia, namely, granodiorite and the feldspar porphyry breccia matrix, to a very fine grained, mosaic textured, hornfelsic-feldspathic rock. This indicates substantially higher temperatures than those needed for sericite, chlorite, and epidote alteration.
- Quartz flooding is locally strong, quartz makes up 70% of the granodiorite and is associated with minor sericite and 1-2 % disseminated chalcopyrite. The original texture of the granodiorite is largely obliterated by quartz flooding.

Summary of Microscopic Features

- The mosaic textured, very fine grained feldspars are 50 to 200 microns and occur to some degree as interlocking, anhedral grains characteristic of a rock that has been subjected to a thermal metamorphic event.
- Small feldspar phenocrysts, 0.1 – 0.3 mm, with a subhedral or broken shape are considered secondary.
- Fine grained, hornfelsic feldspar is almost totally fresh, not subjected to the ubiquitous sericite-chlorite-epidote-alteration of the other zones.
- Some plagioclase phenocrysts display a distinct, 100–200 micron core of perthite or microcline and are considered to be relics of metasomatized granodiorite.
- The overall compostion of many of these breccia samples is that of an anorthosite or an albitite, depending on the composition of the plagioclase.
- In places, several percent of disseminated fine grained chalcopyrite (100 – 500 microns) are associated with the metamorphic, hornfelsic, recystallized fabric.

Chart 11-3: Percentage of lithology types in meterage within the Paramount Zone



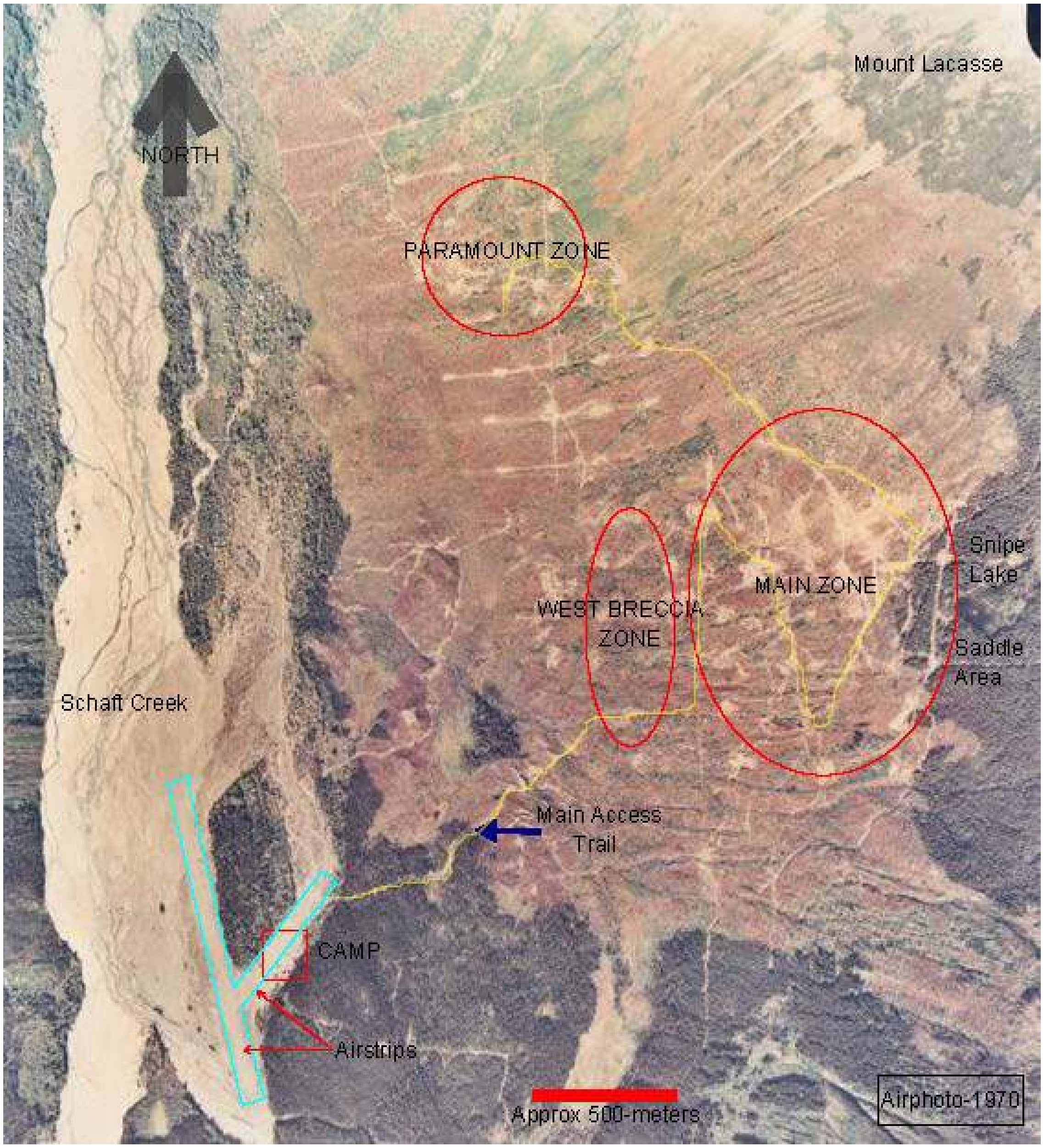


Figure 11-1: Airphoto, circa 1970, of the Schaft Creek deposit area.

11.4 Observations

11.4.1 Lithology

Introduction

In terms of the deposit as whole, 17-rock types were observed and recorded. The most common rock type observed is andesitic lapilli tuff, representing 16% of the total rock types. The majority of the rock types are characteristic of a volcano-sedimentary basin, representing 67% of the total rocks observed. Felsic intrusive rocks genetically related to the Hickman batholith constitute 13% of the total. The degree and intensity of faulting and to a lesser extent shearing, represented by 5.0% of the total rock types, reflects a tectonic setting that structurally modified the basin and the deposit's gross geometry (see chart 11-4).

Chart 11-4: Pie chart of lithologies as a percentage of the total meterage in the Schaft Creek deposit.

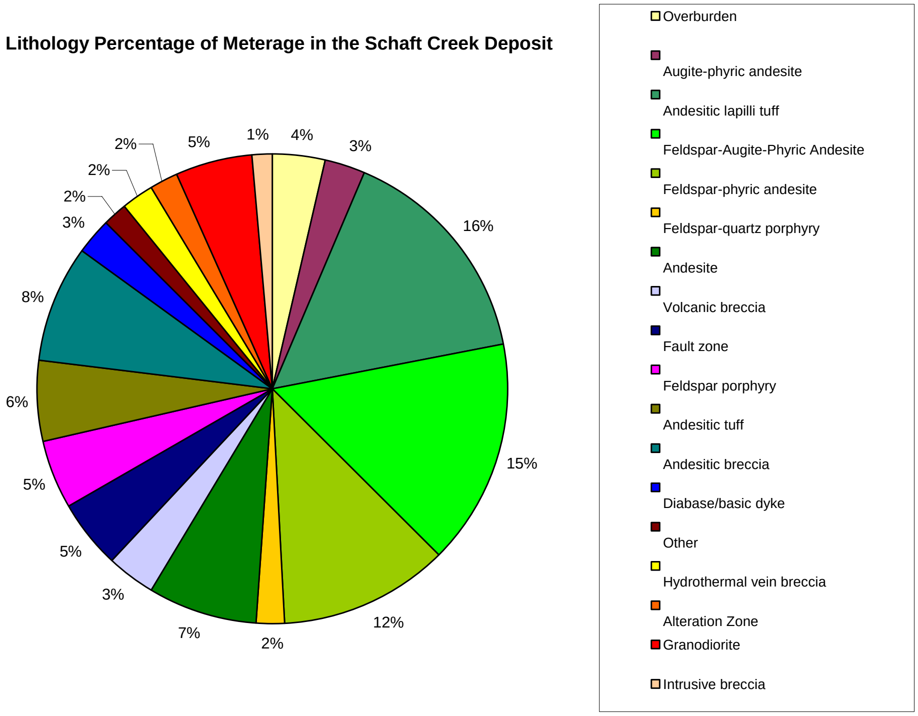


Table 11-2. Legend and table of lithologies, in order of decreasing abundance.

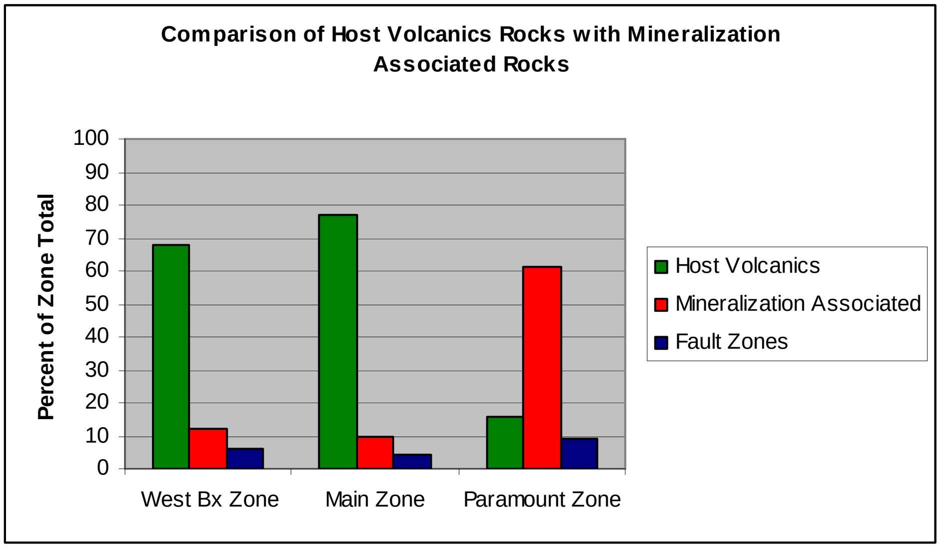
ANLP	Andesitic Lapilli Tuff	16.0%	BRVL	Volcani Breccia	4.0%
ANAP	Feldspar-Augite Phyric Andesite	16.0%	ANAU	Augite-Phyric Andesite	3.0%
ANPF	Feldspar-Phyric andesite	12.0%	D/BS	Basic Dyke	3.0%
ANBX	Andesitic Breccia	8.0%	HVBX	Hydrothermal Vein Breccia	2.0%
ANDS	Andesite	8.0%	ANXX	Alteration Zone	2.0%
ANTF	Andesitic Tuff	6.0%	OTHR	Other	2.0%
GRDR	Granodiorite	5.0%	PPFQ	Feldspar Quartz Porphyry	2.0%
SHER/FAUL	Fault Zone	5.0%	BRIG	Intrusive Breccia	1.0%
PPPL	Feldspar Porphyry	5.0%			

These percentages vary considerably on a zone basis. The chart below summarizes gross lithologies with respect to: host volcanics (i.e. andesite, feldspar-phyric andesite, andesitic lapilli tuff, volcanic breccia, etc.); mineralization related lithologies (i.e. feldspar porphyry, quartz-feldspar porphyry, hydrothermal vein breccia, intrusive breccia, alteration zone, granodiorite) and fault zones.

Mineralization related lithologies for the West Breccia and Main Zones amount to 12% and 10% respectively; while the host volcanics for these zones amount to 68% and 77% respectively. These observations are in sharp contrast to the Paramount Zone where mineralization related lithologies represent 61% of the total and host volcanics represent 16% of the total. These differences between the West Breccia and Main Zones with the Paramount Zone demonstrates the distal or high level environment of the former zones in comparison to the proximal or lower level intrusive related environment of the Paramount Zone. Despite the Main zone hosting 10% of the mineralization related lithologies, it contains the largest mineral reserve of the deposit, reflecting a uniform distribution of metals within a large volume of genetically unrelated rocks.

Interestingly, the degree of post formational faulting is reflected by the amount of observed fault zones; 6% and 4% for the West Breccia Zone and Main Zone respectively and 9% for the Paramount Zone.

Chart 11-5: Zone comparison bar graph of host lithologies to mineralization and fault lithologies.



Historic rock codes were used as much as possible in this report, but several changes or simplifications were also applied. A short description of lithologies follows. The sequence of description of lithologies is according to their relative abundances.

11.4.1.1 Andesitic Volcanic Rocks - ANAU, ANLP, ANAP, ANPF, ANDS, ANTF, BRVL, ANBX

The most abundant rock types at Schaft Creek are andesitic volcanics, which constitute 73% of the 2006 core. Their individual features are summarized in Table 11-3, which lists rock codes, full rock name, distinguishing lithological characteristics and percent of total 2006 drilled meterage.

Most andesitic volcanic rocks are fine grained, generally porphyritic, weakly altered, massive and competent. Imposed fabric is uncommon. They range in color but are generally medium green-gray, to pink, tan or light green.

Table 11-3: Summary of the megascopic features of andesitic volcanic rocks encountered in 2006.

Distinguishing Megascopic Features of Andesitic Volcanic Rocks			
Rock Code	**% of 2006 meters**	**Lithologic Name**	**Distinguishing Megascopic Features**
ANAU	2.8	Augite-Phyric Andesite	5-10%, 0.5-2 mm, dark green grey grains in a fine grained groundmass, representing altered augite phenocrysts totally replaced by chlorite.
ANLP	15.6	Andesitic Lapilli Tuff	1 mm to 2 cm andesitic volcanic, rounded and subangular clasts in variable amounts of fine grained tuff matrix. Volcanic clasts are either mono-lithologic or hetero-lithologic.
ANAP	15.4	Feldspar-Augite Phyric Andesite	10-30% feldspar phenocrysts and 1-5% altered pyroxene phenocrysts in a fine grained igneous groundmass.
ANPF	11.9	Feldspar-Phyric Andesite	10-40% light gray, boxy feldspar phenocrysts in a fine grained, igneous groundmass, with minor chlorite.
ANDS	7.4	Andesite	Fine grained to aphanitic, massive, generally rare feldspar and altered augite phenocrysts.
ANTF	5.6	Andesitic Tuff	Fine grained to very fine grained, commonly cm-bedded tuffaceous sediment. Color generally tan to light gray. Composition is feldspathic with trace fe-mags.
BRVL	3.4	Volcanic Breccia	Closely packed with little matrix, 2->20 cm, heterolithologic, angular and rounded clasts.
ANBX	10.9	Andesite Lapilli Breccia	30-50% subrounded heterolithic, andesitic breccia. Chlorite dominated matrix. Clast size is 1 mm to >10 cm.

Common Microscopic features

Compositionally and mineralogically the rocks are andesitic. They are dominated by plagioclase and contain a few percent chlorite and minor quartz. Accessory minerals are generally secondary and are related to alteration, namely, sericite, chlorite, carbonate, quartz, oxide (magnetite), sulphides and apatite.

Texturally the rocks are igneous, with the exception of the bedded tuff and volcanoclastics. Imposed fabric and brecciation are rarely seen. Andesitic flows are almost invariably porphyritic, while aphanitic lavas are very rare. The grain size of the groundmass is very fine, ranging from 20 -100 microns, while phenocrysts range from 0.2mm to over 2mm. The phenocryst population is dominated by sericite altered plagioclase. Few of the phenocrysts are chlorite pseudomorphing augite. Fresh pyroxene phenocrysts are never seen. The relative abundance of plagioclase phenocrysts varies strongly, ranging from 5-30%. Locally, however, plagioclase phenocrysts are closely packed, with very little groundmass rendering the impression of a diorite.

In lapilli-tuff-breccia, the amount of interclast matrix varies considerably, ranging from approximately half to almost nil. In the cases where it is nil, lithic clasts are separated from each other by thin seams of chlorite, carbonate, quartz and pyrite. Textures, grain size and cystallinities of individual clasts also vary considerably, from fine grained, to lath-like feldspar, to medium grained and equigranular.

Alteration in the volcanics is dominated by disseminated sericite, minor carbonate, chlorite, quartz, biotite and opaque minerals. Plagioclase phenocrysts generally exhibit the effects of alteration much more than the igneous groundmass. Strong alteration of the andesites is rare and usually manifests as phyllic overprinting of plagioclase. Biotite alteration in the order of 5% is scarce, and is invariably associated with minor carbonate, sericite, quartz and disseminated opaques.

Disseminated opaques, both oxides and sulphides, are present throughout the volcanic package. When sulphides occur as a component of an alteration assemblage, they are commonly associated with millimeter to centimeter patches of quartz-chlorite. Disseminated sulphides and oxides are generally very fine grained, on the order of 20-100 microns. Fine grained magnetite is an almost ubiquitous accessory in all andesitic rocks.

The intensities, compositions and styles of veins are strongly variable within andestic rocks; however, they are ubiquitous, both at the microscopic and the mesoscopic scale. Veins range from 50-microns to several centimeters in width and can vary in density from 3-5 per meter to over 100 per meter. In some cases, bornite rich veins, 0.1-0.2mm wide, attain densities of 100 per meter, representing intense micro-scale, copper sulphide stockworks.

11.4.1.2 Alteration Zone - ANXX

Alteration zone is a term used to describe a rock that has undergone severe alteration by one or more mineral assemblages, rendering the protolith unrecognizable. It is a term used for rocks that have been strongly silicified, carbonatized, sericitized or epidotized and variably deformed. It constitutes a minor rock type, represented by 2% of the 2006 core. Andesitic volcanic is the most common protolith but feldspar porphyry is also recognized. Quite commonly, a distinct fabric exists, including brecciation and shearing. Primary textures are commonly obscured or obliterated. This rock type is found in several drill holes. One thin section in 06CF270-160m of a rock classified as an alteration zone shows a weakly carbonate-chlorite altered, faulted, fine grained, igneous, volcanic rock. The fine grained, igneous texture in each volcanic clast is well preserved but the clasts are separated by mm-wide, sub-parallel mylonitic shear lines, marked by chlorite, pyrite and trace biotite.

11.4.1.3 Feldspar-Quartz-Porphyry - PPFQ and Feldspar Porphyry - PPF

Feldspar-quartz porphyry and feldspar porphyry are minor rock types making up 1.9 % and 4.7 %, respectively, of the 2006 core. The most common forms of feldspar-quartz porphyry are dykes and dykelets, ranging from centimeter to decameters in width. Not only does feldspar-quartz porphyry exhibit internal mineralization, most commonly occurring as disseminated chalcopyrite, it often displays centimeter to meter potassic alteration halos which contain disseminated copper sulphides.

Feldspar porphyry is more abundant than feldspar-quartz-porphyry and differs from it by the absence of quartz eyes. Both lithologies are generally assumed to be intrusive; however, petrographic observations reveal that based on the criteria of grain size and texture of the igneous groundmass, a distinction between intrusive and extrusive feldspar quartz porphyry and feldspar porphyry is not straightforward.

Like feldspar-quartz porphyry, feldspar porphyry dykes commonly exhibit chilled margins and red or pink, potassic alteration halos of centimeter to decimeter width. Locally, these contact margins are associated with hydrothermal quartz, chlorite and accessory sulphides.

Microscopically, these rocks are strongly porphyritic and range from fine to medium grained with a massive character. They are typically composed of 10-40% subhedral to euhedral plagioclase phenocrysts, rare chlorite metacryst pseudomorphs of pyroxene. They also consist of rare quartz eyes, contained in a variously fine grained, mosaic and lath-like textured, feldspathic groundmass, accompanied by accessory quartz, chlorite, sphene and 1-3% disseminated sulphides. The differences in groundmass crystallinities suggest different cooling histories.

Plagioclase phenocrysts and to a lesser extent the groundmass they are associated with, often display alteration by sericite, minor quartz, chlorite and carbonate, characteristic of the phyllic alteration assemblage. Along with silicification, this overprinting is evident in the phenocryst morphology of plagioclase, whereby relict plagioclase occurs in a fine grained mosaic groundmass, characterized by thermal metamorphism.

Accessory sulphides are present mostly as disseminations and as minor, hair line stringers. Disseminated chalcopyrite and pyrite, unrelated to alteration and veining, occurring within feldspar porphyry are considered primary in origin, not epigenetic.

11.4.1.4 Intrusive and Hydrothermal Breccias - INBX, BRIG, HVBX, TOBR, BRXX, CCBX

General

Intrusive and hydrothermal breccias constitute a group of breccias that occur mainly in the West Breccia and Paramount zones. Collectively they make up 3.8 % of the 2006 core. Intrusive breccia and igneous breccia feature igneous textures with only minor hydrothermal overprinting. Hydrothermal breccia and tourmaline breccia display both igneous breccia features and hydrothermal overprinting features, equally.

Although intrusive and hydrothermal breccias constitute a volumetrically small portion of the sulphide mineralized rock, they are significant for two resons: first, they are associated with higher copper molybdenum grades; and secondly, they are the igneous source from which related hydrothermal fluids ascended and formed the mineralization of the Main zone and to a lesser extent, the mineralization of the West Breccia zone.

The extent and attitude of the breccias are not well understood. Within the West Breccia zone, they appear to be fault controlled and restricted to a pipe-like body, 100-meters by 500-meters with a general north-south trend. In the Paramount zone, they appear to form several discrete zones on a scale of hundreds of meters, oriented northeast-southwest.

The breccias are made up of >80% of brecciated protolith, mainly granodiorite or andesitic volcanics, minor feldspar-quartz porphyry. A few percent of these brecciated protoliths have either an igneous or hydrothermal matrix, generally sulphide-bearing.

These two types of breccia are characterized by essentially the same features. They constitute 1.4% of the 2006 core. The brecciated host rocks are comprised of half granodiorite, half andesitic volcanics and occasionally medium grained feldspar porphyry with a fine grained, felsic, igneous matrix. The igneous breccia matrix that intruded the feldspar porphyry is a fine grained, felsic, feldspathic rock and depending on the nature of the plagioclase can be classified as either an albitite or an anorthosite. Plagioclase grains of the igneous matrix are almost totally fresh, with only traces of sericite.

Subsequent minor infilling of inter-clast space within the hydrothermal breccia matrix includes; carbonate and chalcopyrite; rare dark green chlorite-carbonate with locally 5-10% fine grained molybdenite; and rare tourmaline-epidote.

Hydrothermal Breccia - HVBX

Hydrothermal breccia makes up 2.3 % of the 2006 core. The main features are: intense quartz veining and stockwork; weakly chloritic and sericitic alteration of volcanics; and generally sharp boundaries between clasts and quartz veins. Potassic halos, centimeter in width, form around the quartz breccia clasts. Bornite occurs mainly within quartz veins with minor chalcopyrite, traces of molybdenite, and up to 2% magnetite altering to hematite.

Locally, there are epidote and chlorite alterations and sheeted quartz veins with a high level of molybdenite.

This breccia is found extensively in 06CF282. In this hole, feldspar porphyry is potassically altered and brecciated by strong chlorite-carbonate veining, exhibiting sericite-silica overprinting. Later epidote-sericite veining with trace chalcopyrite and a younger chlorite veining event cut the older alterations and veins. The feldspar porphyry is also hydrothermally brecciated by a pervasive magnetite-chlorite phase. The magnetite-chlorite pseudomorphs plagioclase feldspar.

Intrusive Breccia - BRXX

This intrusive breccia makes up <1 % of the 2006 core. It is characterized by feldspar porphyry as centimeter to meter wide dikes, which were brecciated by a quartz rich phase that contains a high proportion of chalcopyrite and magnetite.

Hydrothermal Tourmaline Breccia - TOBR

Hydrothermal tourmaline breccia makes up <1 % of the 2006 core and is included in “Other Lithologies” in the pie chart diagrams of rock types. This breccia is a late hydrothermal phase common in the West Breccia zone. It is characterized by quartz-chlorite-tourmaline veining mineralized with chalcopyrite and pyrite.

Hydrothermal, chlorite-dominated breccia - CCBX

High chlorite content breccias makes up <1 % of the 2006 core. This breccia is generated by a hydrothermal event, distinguished by its high chlorite-carbonate content and contains trace pyrite and chalcopyrite.

11.4.1.5 Granodiorite - GRDR

Granodiorite makes up 5.1 % of the 2006 core. Granodiorite is the host rock to a large part of the intrusive and hydrothermal breccias of the Paramount zone. Megascopically, granodiorite is a massive, medium grained, equigranular, felsic rock. Granodiorite is principally composed of plagioclase, minor potassic feldspar, minor interstitial chlorite and accessory interstitial quartz. It commonly displays weak potassic alteration with an overprinting of minor epidote-chlorite alteration. Locally, granodiorite displays metasomatism by the processes of silicification, sericitization and chloritization, which also often impart a distinct fabric. Common accessory sulphides are chalcopyrite and molybdenite, occurring in veins and as stringers and minor disseminations. Granodiorite is commonly strongly fractured, faulted and crushed.

Microscopically, granodiorite exhibits a variety of textural and compositional features. Texturally some of the feldspars show recrystallization, forming a fine grained felsic-hornfelsic mosaic. This texture is characterized by 1-2 mm fresh potassic feldspar grains, either perthite or microcline with 10% interstitial quartz. More often, granodiorite is texturally medium grained and equigranular. Silicification in the form of intense quartz flooding is the most common alteration affecting its gross composition. Sercitization, when present, invariably alters plagioclase and at high intensities, becomes feldspar destructive.

11.4.1.6 Diorite - DIOR

Diorite is a rare lithology and makes up <<1 % of the 2006 core and is classified with “Other Lithologies” in the lithology pie charts. It is a massive, medium grained, strongly magnetic, intermediate, intrusive rock made up of altered plagioclase and 20-30% ferromagnesian minerals, possibly pseudomorphs of pyroxene. The original ferromagnesian minerals have been replaced by chlorite, carbonate and magnetite.

11.4.1.7 Vein - VEIN

Rocks designated as “vein” constitute a minor, <<1% percentage of the 2006 core. In general, vein intervals are >80% quartz and carbonate material, sometimes incorporating wall rock material as brecccia fragments. Rarely, veins consist of pink, cream or green gypsum with carbonate. Core axis angles are quite variable ranging from high to subparallel. In the latter case, an unusually long segment of core can display considerable quartz-carbonate material.

11.4.1.8 Diabase/Basic Dykes - D/BS

Basic dykes are common minor lithologic units and make up 2.5 % of the 2006 core. They are decimeter to decameters in width, usually dipping steeply, but their trend is unknown from drilling. In rare outcrops, the trend of contacts between diabase dykes and volcanics is highly variable. Diabase dykes are massive, dark green gray, mostly feldspar-phyric and quite commonly have calcite filled vesicles. Where contacts are preserved they consistently show centimeter wide aphanitic chill margins. Accessory disseminated pyrite is rare, while late, thin carbonate veinlets are the only veins cutting the diabase dykes.

11.4.1.9 Late Porphyry Dyke - LPPF

Late porphyry dykes are rare and amount to <<1% of the 2006 core. They have been included in “Other Lithologies” in the pie charts. Texturally, they are very well preserved, strongly plagioclase-phyric, medium grained rock consisting of 30-40% subhedral to euhedral plagioclase phenocrysts and fine grained, greenish, felsic matrix. Contacts of these units are typically sharp and chilled.

11.4.1.10 Faults, Shears - FAUL, SHER

Faults and shears are ubiquitous and, as separate rock units, constitute 4.6% of the 2006 core. The 2006 usage of the term ‘fault’ is somewhat flexible. When applied to a narrow feature, decimeter to meter, it describes a narrow, steep, well delineated zone of structurally destroyed, clay rich gouge material. These zones indicate strong, relative movements between the adjoining sides. When used for intervals of decameters, the rock unit is likely to be strongly fractured or permeated by a high density of centimeter to decimeter spaced, millimeter wide faults, slips and shears. Trace to significant amounts of sulphides can be present, especially as painted surfaces or slickenside films. Apart from generally steep dips, no hard information on the strike and sense of movement is obtainable from non-oriented core.

11.4.1.11 Mylonite - MYLN

Mylonite represents <<1% of the 2006 core. These are narrow zones of highly comminuted rock with a strong fabric. From core axis angles of moderate to high, it is assumed that the mylonite zones have a presumed north-south trend and a moderate eastern dip. The mylonite intervals are closely associated with several diabase dykes. It is interpreted that the intrusion of younger dykes used a zone of structural weakness.

Mylonite is made up of a very fine grained, greenish groundmass with a generally strong flow fabric hosting 30-50%, 1-20mm, oriented, modified grains resulting in eye-shaped rock clasts. The clasts are typically composed of equal proportions of chlorite and quartz. The groundmass has a high abundance of chlorite and sericite and minor carbonate. Only trace sulphides occur in these zones.

11.4.1.12 Overburden - OVER

A contoured map of overburden derived from drill logs and defined along the Z-axis as the difference between the terrain surface and bedrock, with 10-meter contour intervals covering the deposit area was produced. The map exhibits a patchy pattern with a few consistent trends, likely the expression of faults. Overburden constitutes 3.6 % of the 2006 core.

The Main zone and the West Breccia zone are dominated by overburden in the 10 to 20-meter interval, while 50% of the Paramount zone is covered by overburden in the 30 to 40-meter interval. The upper portion of the steep northerly slope of the saddle towards Mount Lacasse has overburden of less than 5.0-meters.

The eastern portion of the Paramount zone exhibits a deep north trending 300-meter long depression with greater than 40-meter overburden. The West Breccia zone conversely is expressed by high bedrock topography as the overburden generally is less than 5-meters. At the Main zone overburden in the 10 to 20-meter range is oriented in a northwest-southeast trending direction, possibly reflecting regional structural features. In the southeastern section of the Main zone, a north to northeast trending basement linear topographic high (less than 5-meters of overburden), is juxtaposed to the east by a narrow 30 to 40-meter deep overburden trench, possibly revealing a strong fault structure.

11.4.2 Alteration

General

Alteration is the process of partial or total replacement of primary igneous silicate minerals by secondary, often hydrous, lower temperature minerals, i.e. chlorite, sericite, carbonate, epidote, hematite, magnetite, quartz, tourmaline and biotite. The term ‘pervasive’, is commonly used to describe core that exhibits significant alteration effects over a considerable amount of intervals. The term “alteration” can also describe milimeter to centimeter halos associated with veins, stockworks, crackle breccia and dykes.

The following alterations occur at Schaft Creek.

11.4.2.1 Potassic Alteration

Potassic alteration is a hydrothermal alteration characterized by the presence of potassium feldspar, minor sericite and to lesser extent biotite. The outstanding visual feature of this alteration is its pink to orange color. It forms pervasive zones as well as millimeter to decimeter halos associated with quartz-carbonate veins and feldspar porphyry. Commonly, disseminated chalcopyrite occurs with the persence of potassic alteration. This alteration is usually the earliest.

In plan view, the distribution of potassic alteration at Schaft Creek is atypical of a “normal” porphyry system in that it occurs as three disitinct linear zones 100 to 300-meters in width and 1,000 to 1,200-meters in length (Scott. J. in prep). This suggests that hydrothermal solutions and associated feldspar porphyry were channeled in a complex sytem of conduits controlled by north-south structures.

11.4.2.2 Phyllic Alteration

Phyllic alteration is a hydrothermal alteration, characterized by the assemblage quartz-sericite-pyrite. It occurs as a late overprinting, imparting a yellowish tinge to the rock. It is much more pervasive in its distribution but appears to have been controlled by the same ‘plumbing’ system as the potassic alteration. In plan view, it forms a linear, continuous zone, 200-300-meters in width, stemming from the Paramount zone in a general south direction. In the vicinity of the Main zone it curves northeastward forming a “U”-shape (Scott. J. in prep). Normally the phyllic zone is the next outward zone or layer in a “conventional” porphyry system.

11.4.2.3 Propylitic Alteration

Propylitic alteration is a low temperature, low pressure event, characterized by the assemblage of chlorite-epidote-carbonate and delineates the outer margins of a porphyry system. At Schaft Creek it forms an extensive zone hundreds of meters in width, loosely conforming, but extending well beyond the zones of potassic and phyllic alteration.

11.4.2.4 Epidote Alteration

Epidote alteration is locally abundant in the outer fringes of the West Breccia zone. It may overlap with the deposit scale propylitic zone.

11.4.2.5 Silicification

Silcification occurs as decimeter to decameter sections of quartz flooding and stockworks. Bornite and chalcopyrite mineralization in the form of disseminations and stringers are commonly associated with it. Silicification typically overprints the host rocks, imparting a hard glossy luster.

11.4.2.6 Hematite

Hematite alteration forms extensive zones, imparting a reddish tinge to the rocks. It is a late alteration, commonly affecting the volcanics. In the past, rocks that were recognized to be hematized were termed ‘Purple Volcanics’.

11.4.2.7 Supergene Alteration

Supergene alteration oxidized copper and iron minerals, forming malachite and limonite. Extensive areas in the vicinity of the Saddle contain fractures painted and disseminated with malachite. In drill core, open vuggy quartz veins and fractures exhibit the effects of oxidizing conditions up to 30-meter depths.

11.4.3 Veining

General

Veining and stockworks at Schaft Creek cover and area 1,400-meter long by 300-500-meter wide and form a complex system. Various terminologies are used to refer to, and describe, veining. Information on veining is derived from all three zones, the Main, West Breccia, and Paramount. As a sulphide carrying geological feature, veining is most prevalent in the Main Zone and less so in the two other zones. Veining at Schaft Creek has been recognized as a multiphase, complex, hydrothermal feature which was active during a long time interval and interspersed with deformation events. Considerably more work has to be done to sort out the age sequence and mineralogy of veins in the three zones. In the following, vein related features are summarized by zone, but many features are found in more than one zone and are not duplicated.

11.4.3.1 Liard/Main Zone

Veining in the Liard Zone is ubiquitous and abundant; it is the primary sulphide carrier. The largest ore reserve and the highest grades at Schaft Creek are the result of a high concentration of mineralized veins. Seven mineralized vein types have been recognized; veins sensu-stricto, stockwork, crackle-breccia, hairline, breccia, sheeted and stringer. Vein widths vary from less than 1/10-millimeter to greater than 20-centimeters. The most common widths are from 2 to 10-millimeters.

Mineralogy of the veins is variable but is dominated by quartz and carbonate in varying proportions, while the crystallinity of veins is mostly fine grained. Wider veins, 2 to

>10-centimeter display centers with 1 to 3-millimeter euhedral quartz and carbonate crystals, suggesting decompression. Ribbon veins are uncommon, but do occur, indicating continued distension of vein walls while gangue and minor sulphide minerals are being deposited.

The position of sulphides within veins varies; commonly sulphides occur in the centre but are also concentrated along a margin of a vein, possibly indicating topping direction during crystallization. Sulphide species are dominated by, in order of decreasing abundance, chalcopyrite, pyrite, bornite and molybdenite. Other minerals that have been observed include, sphalerite, galena, native copper and rarely cuprite. Malachite is most common in the oxidizing environment, usually associated with fractures.

The relative sulphide abundance in veins varies strongly. Most commonly, total sulphides range from 1-10%, the remaining balance is usually quartz, carbonate and chlorite. Chalcopyrite stringers, 0.5-2 mm wide, are widespread and most commonly occur as sub-parallel clusters, within the propylitic zone. Totally sulphide free veins are uncommon and restricted to late veins of carbonate and gypsum.

Vein density is generally in the order of 10-20 veins per meter; however, high densities ranging from 100-200 veins per meter do occur. At the other end of the spectrum, low densities ranging from 5-10 veins per meter are also present.

The orientation of veins is generally assumed to be random. Commonly, wider veins of 10 to 20-centimeters of quartz -carbonate, have steep to vertical orientations, relative to the core axis.

In summary the following veins have been recognized and arranged from early to late:

i. Early quartz veins with molybdenite and no carbonate.
ii. Early quartz veins with high bornite.
iii. Late quartz carbonate-veins with minor chlorite, containing cahlcopyrite, bornite and trace molybdenite. These are the most common veins.
iv. Late barren carbonate veins.
v. Late carbonate-gypsum veins.

11.4.3.2 West Breccia Zone

Veining in hydrothermal and intrusive breccias is much less prevalent than in andesitic volcanic rocks of the West Breccia zone. The veins are mineralogically composed of varying amounts of quartz-cabonate-chlorite. These veins are usually a late phase and sulphide poor. The dominant vein assemblage is mono-mineralic and usually carbonate, varying in widths from 1 to 3 milimeters and commonly vuggy. Rare quartz-molybdenite-chalcopyrite veins occur in breccia rocks, preferentially within a few meters of the contact with volcanic rocks.

11.4.3.3 Paramount Zone

Veining in the Paramount zone exhibits a spatial preference to granodiorite and is commonly associated with quartz flooding. Sulphide mineralized stockworks are rare. These veins often display diffuse wall boundaries and within the zone of flooding may contain millimeter to centimeter wide chalcopyrite and molybdenite stringers. Chlorite veinlets form a coalescing network resulting in a crackle breccia mineralized with molybdenite, chalcopyrite and tourmaline.

A summary of the significant features of veining are listed:

- Have variable densities, from millimeter to meter spacing.
- Have variable vein-widths, from <1/10 millimeter to 50 centimeters.
- Dips are generally steep, but horizontal dips also exist. Scattered, 1 mm wide, parallel chalcopyrite stringers commonly have a shallow dip relative to the horizontal.

- The strikes of major veins most likely conform with regional trends, stockworks and minor vein sets. They are porbably controlled by local stress fields, but may have concentrated along specific lithologic horizons, contacts or bedding planes.
- The Hickman batholith was the source of hydromagmatic and hydrothermal fluids from which the veins were generated.

11.4.4 Mineralization

Three distinct mineralized zones are recognized at Schaft Creek: the Liard Main Zone, the West Breccia Zone and the Paramount Zone. All three outline an elongated shape in the north-south direction. The Liard Zone has the shape of a shallow bowl; the West Breccia Zone is a north-south trending linear structure, with a funnel shape in cross section; and the Paramount Zone also has a strong north-south trend, is considered to be east dipping, and its boundary to the north is open.

Copper sulphide mineralogy is dominated by chalcopyrite and bornite, the most essential copper ore minerals, which occur in stockworks, as disseminations and in breccias. Less commonly, chalcopyrite is observed as very thin (10-100 micron), partial coatings on ubiquitous, decimeter spaced fractures and joints.

Molybdenite is also a critical sulphide component of the ore. It occurs as disseminated blebs and stringers in stockwork and veins and is quite common in the breccia zones. Quite often it forms thin coatings on slickensides and fractures.

Rare accessory ore minerals observed are sphalerite, galena, native copper and possibly tetrahedrite.

Stockwork and vein associated mineralization form the largest component of the ore. A wide range of widths of quartz-carbonate-sulphide veins exist; from 0.1 to 1.0 millimeter to the most common width of 1 to 10 millimeters, while rare 5 to 20 centimeter veins exist. 0.5 to 3 millimeter wide chalcopyrite stringers and crackle breccia veinlets of millimeter to centimeter spacing, 0.5 to 1 millimeter wide, randomly oriented, sulphide filled, distensional vein systems are also common sulphide bearing veins. The orientation of sulphide bearing veins is considered random, but with a preference for being steep dipping.

Medium to fine grained disseminated chalcopyrite, bornite and pyrite are a common type of mineralization associated with feldspar porphyry dykes and their centimeter to decimeter wide, potassic alteration halos. Disseminated sulphides also occur in the millimeter to centimeter potassic halos around veins.

Very fine disseminated sulphides of chalcopyrite and pyrite, 20 to 200 microns in size are observed in polished and thin section samples of weakly altered andesitic volcanic rocks. These sulphide grains are dipersed throughout the rock and are associated with <1 millimeter clusters of quartz-chlorite-sericite.

Very thin sulphide coatings on fractures are common. These coatings are commonly very thin chalcopyrite or minor molybdenite films. The estimated thicknesses of the coatings are in the order of 20-100 microns. This feature differs from molybdenite coated slickensides as it lacks striations.

Hydrothermal breccia matrix is the infilling of inter-clast space for hydrothermally deposited chlorite, carbonate, quartz, tourmaline and sulphides. This style of mineraliztion is an important but volumetrically smaller ore type in the West Breccia and Paramount Zones. Chalcopyrite, bornite, minor molybdenite and trace pyrite are the dominant sulphides and are genrally coarse grained, ranging from 1 to 10 millimeters.

The deposition of sulphides at Schaft Creek is the result of a complex poly-phase series of mineralizing events. To illustrate this complexity, the mineralization events, sulphide morphology and mineral associaions are presented below.

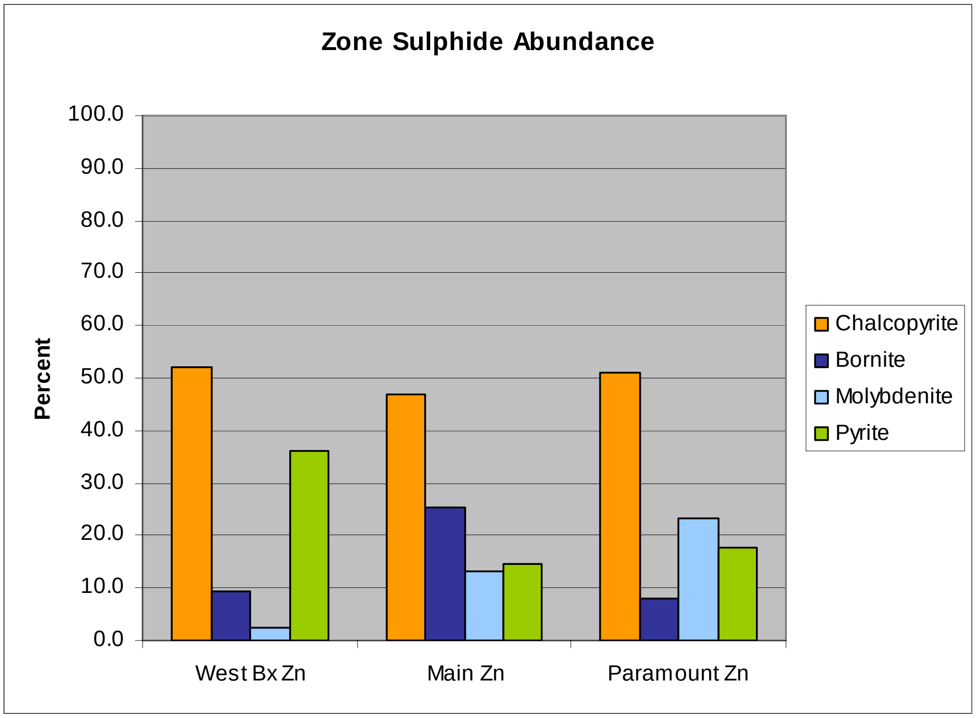
Zoned sulphides are common and are exhibited as bornite rimming chalcopyrite. Unusual, 3-centimeter tear-shaped zoned sulhides occur in the Paramount zone, where pyrite is observed to be mantled by chalcopyrite which is partially rimmed by moybdenite. It is unusual because a normal crystallization sequence and therefore zoning would be molybdenite-chalcopyrite-pyrite. Much of the sulphides in this zone have been remobilized into quartz veins, resulting from a silicification process and accompanied by re-crystallization of molybdenite into centimeter size, spongy, quartz-molybdenite patches. This zone also exhibits a hydrothermal event of carbonate-tourmaline-sulphide in-filling of the open space within the breccia, accompanied in part by centimeter chalcopyrite patches. Late carbonate-quartz veining and pyrite-magnetite veining cut the breccia.

Beyond the Paramount zone, feldspar porphyry dykes intruded the host volcanic pile, produced associated potassic alteration halos, and precipitated disseminated chalcopyrite internally as well as within the halos. Concomitantly or shortly thereafter, extensive hydrothermal solutions formed the stockwork and veins of the Main zone. Coincident with a polyphase veining event, deformation at a millimeter to centimeter scale successively off-set several early vein generations. Post feldspar porphyry intrusion veins of quartz-chalcopyrite-bornite-molybdenite occupied distensional features, followed by barren quartz veins. These both generated intense potassic halos. Late quartz-molybdenite veins cross-cut earlier veins, followed by a second generation of quartz veins with a high abundance of bornite, and crackle breccia with bornite. An ensuing hydrothermal event, accompanied by carbonate-chlorite and sulphide deposition, brecciated the volcanic pile. These events were also recognized by previous workers, Spilsbury 1982, Salazar 1973, Seraphin 1967. The latest event formed carbonate-hematite-chlorite veins, vuggy carbonate veins and gypsum veins.

Metal Profiles of the 2006 drill holes exhibit a variety of trends. Generally the profiles assume a bell curve, suggesting a mineralized horizon, but a decrease of values down hole is also evident. This gradational downward trend of values may reflect horizons that were rotated and vertically displaced. Vertical holes in the two breccia zones generally show no decrease of metal values down hole, an indication that the feeder system persists with depth.

While fixed interval sampling tends to obscure and mix different magmatic-hydrothermal ages; metal ratios of individual assays exhibit mutiple populations, suggesting more than one age of mineralization.

Chart 11-6: Summary of sulphide abundances in percentage for each zone.



11.4.5 Structure

The Schaft Creek deposit is spatially and genetically associated with the east contact of the Hickman batholith. The three zones that constitute the deposit occur within a north-south trending volcano-sedimentary package that was tilted to form a steep, easterly dipping succession, which controlled ascending hydrothermal solutions. Accretionary tectonics modified the succession by longitudinal block faulting and uplift, resulting in a bowl shaped mineralized zone, with respect to the Main zone.

The West Breccia zone is fault controlled, but is thought to connect with the Parmount zone via a fault feeder channel. Similar fine grained felsic igneous rocks occur in both zones, despite being separated by 1000-meters. The Main zone mineralization is controlled by syn-intrusive overpressure fractures and faults that propagated along bedding and lithologic discontinuties and also formed regional scale longitudinal faults. The ground preparation served to accomodate the intrusion of feldpar porphyry dykes, hydrothermal veins, stockworks, vein sets and sheeted veins.

The Paramount zone is the most proximal zone to the magmatic hydrothermal system, from which the mineralized solutions emanated. The Paramount zone is characterized by intrusive breccias, granodiorite and intense quartz flooding, associated with quartz veins hosted by the granodiorite.

Some of the salient structural features of the deposit as a whole are outlined below.

- The deposit is situated east of and in proximity to the contact of the Hickman batholith.
- The eastern limit of the mineralization is recognized as a series of strong faults.
- In part, the known western boundary of the mineralization at present coincides with the West Breccia zone.
- The volcanic succession has an approximate north-south strike.
- Intrusive felsic dykes form a generally north-south trending network.

A structural study, for pit wall stability, (Mann A., internal CUU Memo, June 27, 2006) of outcrops, concentrated on preferred orientation and intensity of joints and fractures. The joint pattern emerging from 53 stations, organized arbitrarily in 9 domains, displays multiple-populations. Within the Liard/Main Zone, joints are concentrated in a fan, oriented from 000°/50° west through the vertical to about 035°/50° east. A less pronounced joint direction striking approximately east-west with sub-vertical dip is also present. Mann suggests a possible connection between high joint intensity in the outcropping of the Main Zone and sulphide mineralized stockworks, both of which may have functioned as a 'plumbing system': "The conjugate fractures of the stockwork, which formed the plumbing system for ore forming fluids, are the source of massive heterogeneity and hence of concern in pit design" (Mann, A., 2006).

It is likely that mineralized stockworks and veinlets predate the formation of joints but successive vein generations were interspersed with periods of offsetting and deformation.

11.4.5.1 Fracturing and Faulting

Fracturing and faulting are ubiquitous and generally strong, in all zones. Structural features are listed below along with relevant attributes.

11.4.5.2 Fracturing

- Generally moderate to high density, commonly centimeter, occasionally decimeter spacing, results in low RQD numbers.
- Several, conjugate fracture directions.
- Steep and moderate dip angles relative to the core axis.

11.4.5.3 Microfaulting

- Microfaulting is defined as thin fractures that visibly offset a vein or other lithological feature in one core sample.
- Microfaulting is common, often occurring as groups of parallel, centimeter-spaced microfaults showing several enechelon off sets of a vein. Each off-set is 5-millimeters to 1-centimeter, which would add up to 5-centimeters over 10-centimeters, or 1-meter offset over 2-meters. If the same amount of deformtion is carried through in a consistent off-set, it can be extrapolated to tens of meters over 100-meters.

11.4.5.4 Slickensides

- Very common.
- Decimeter to meter spacing.
- Fairly random dips, including horizontal.
- Unknown strike.
- Striations are common, both in the vertical as well as in the horizontal component (relative to the horizontal plane).
- Commonly coated with either molybdenite or specular hematite.

11.4.5.5 Crushed zones

- Uncommon although exists in several holes, both in the Liard zone but especially in the Paramount zone.
- Occurs particularly in granodiorite, which is permeated by tens to >100 per meter of a random or weakly oriented, dense net of fractures, often lined with a thin clay film.
- Commonly dark gray and with a minor coating of molybdenite.
- Interpreted as the result of strong compression, with little to no lateral, translatory movement.
- Resulting in rubble, 1 to 5-cm size.

11.4.5.6 Faulting

- Faulting is common with spacing at meter to 10-meter intervals.
- Generally the dips are steep with variable strike, assumed to be preferentially north-south.
- Fault gouges are 1 cm to 20 cm wide, with comminuted rock particles and clay.
- Strongly fractured rock portion (30 – 50 fractures per meter) are commonly logged as ‘fault zones’.

11.4.5.7 Foliation, Shears

- Foliation is defined as a rock unit showing a distinct fabric or foliation, which is fairly rare.
- Foliated units are 1 to 10 meters wide, generally with steep dips and an unknown strike orientation.
- Foliation generally includes brecciation and an introduction of chlorite.
- Some foliated rock exhibits strongly oriented, eye-shaped relics (2x10mm) of a felsic protolith, enveloped by 1-mm wide, sub-parallel epidote-chlorite stringers. This is interpreted as an oriented, hydrothermally overprinted, barren assemblage.
- Minor, strongly foliated, feldspar porphyry, associated with several mylonite units, fault gouges and diabase dykes, indicates zones of structural weakness and strong deformation. This is associated with an epidote-chlorite-hematite breccia matrix and oriented quartz veins.

11.4.6 Zone Statistical Summary

The mean values for copper, molybdenum, gold and silver were calculated on a hole basis. This data is presented in the following table.

Table 11-4: Drill Hole Statistical Summary, 2005 and 2006.

Hole	Sample	Copper Values %			Molybdenum Values %			Gold Values g/t			Silver Values g/t		
Number	Count	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
West Breccia Zone													
05CF234	51	0.306	0.069	0.878	0.035	0.007	0.151	0.10	0.02	0.32	-	-	-
05CF235	50	0.526	0.054	2.306	0.072	0.001	2.524	0.14	0.01	1.41	-	-	-
06CF249	49	0.640	0.124	1.901	0.024	0.001	0.207	0.511	0.03	3.15	5.60	0.50	35.40
06CF250	26	0.285	0.129	0.528	0.018	0.004	0.102	0.280	0.03	0.98	1.40	0.50	3.10
06CF252	25	0.436	0.117	0.982	0.016	0.003	0.066	0.230	0.05	0.62	1.70	0.50	4.60
06CF253	37	0.616	0.120	3.101	0.015	0.001	0.125	0.110	0.02	0.38	2.10	0.50	10.10
06CF254	34	0.344	0.013	1.131	0.004	0.001	0.027	0.160	0.01	0.80	2.70	0.50	19.60
06CF279	52	0.073	0.005	0.342	0.002	0.001	0.022	0.030	0.01	0.16	0.60	0.50	1.70
06CF280	60	0.083	0.002	0.609	0.002	0.001	0.016	0.050	0.01	0.42	0.60	0.50	2.90
06CF281	53	0.096	0.001	0.454	0.003	0.000	0.034	0.060	0.01	0.42	0.70	0.50	4.90
06CF282	39	0.039	0.003	0.123	0.001	0.000	0.003	0.030	0.01	0.22	0.50	0.50	0.50
06CF283	39	0.094	0.025	0.231	0.002	0.009	0.010	0.080	0.02	0.90	0.50	0.50	0.70
Zone Average		*0.295*			*0.016*			*0.149*			*1.64*		
Main Zone													
05CF236	55	0.422	0.115	0.910	0.015	0.004	0.051	0.21	0.01	0.62	-	-	-
05CF237	16	0.594	0.177	1.004	0.008	0.001	0.048	0.46	0.07	1.02	-	-	-

05CF238	24	0.302	0.011	1.154	0.005	0.001	0.023	0.34	0.01	1.44	-	-	-
05CF239	66	0.542	0.123	1.304	0.022	0.001	0.132	0.41	0.01	2.88	-	-	-
05CF240	46	0.454	0.189	0.811	0.031	0.004	0.118	0.24	0.06	1.00	-	-	-
05CF241	79	0.511	0.122	1.501	0.022	0.001	0.254	0.31	0.03	0.83	-	-	-
05CF242	99	0.461	0.032	1.158	0.018	0.001	0.082	0.30	0.01	1.02	-	-	-
05CF243	89	0.468	0.101	0.899	0.036	0.001	0.517	0.50	0.04	2.63	-	-	-
05CF244	99	0.353	0.083	0.800	0.027	0.001	0.124	0.19	0.01	1.15	-	-	-
05CF245	34	0.470	0.139	1.021	0.016	0.001	0.059	0.21	0.03	0.63	-	-	-
05CF246	99	0.255	0.008	1.319	0.008	0.001	0.043	0.08	0.01	0.34	-	-	-
05CF247	94	0.267	0.032	0.789	0.019	0.001	0.206	0.19	0.01	0.75	-	-	-
05CF248	106	0.287	0.062	0.742	0.020	0.001	0.184	0.19	0.01	0.65	-	-	-
06CF251	30	0.461	0.010	1.099	0.007	0.001	0.036	0.740	0.01	2.25	3.00	0.50	7.00
06CF255	94	0.335	0.089	0.734	0.019	0.002	0.128	0.310	0.06	3.29	1.40	0.50	8.10
06CF256	99	0.357	0.041	1.422	0.026	0.001	0.179	0.330	0.02	1.76	1.30	0.50	10.90
06CF257	90	0.287	0.045	1.444	0.018	0.000	0.201	0.240	0.01	1.20	0.50	0.50	0.50
06CF258	75	0.450	0.059	1.395	0.010	0.000	0.099	0.190	0.01	0.77	1.20	0.50	5.10
06CF259	102	0.274	0.048	0.676	0.024	0.002	0.144	0.190	0.02	0.41	0.70	0.50	2.40
06CF260	54	0.421	0.121	1.111	0.011	0.004	0.033	0.240	0.07	0.63	1.00	0.50	4.50
06CF261	68	0.118	0.006	0.386	0.002	0.000	0.009	0.050	0.01	0.23	0.50	0.50	0.90
06CF262	72	0.184	0.002	0.597	0.003	0.000	0.016	0.070	0.01	0.19	0.50	0.50	1.50
06CF263	68	0.326	0.094	0.983	0.017	0.002	0.073	0.190	0.03	0.64	1.10	0.50	2.90
06CF264	87	0.383	0.114	0.710	0.028	0.004	0.141	0.210	0.03	0.71	1.40	0.50	4.10
06CF265	82	0.352	0.113	0.766	0.017	0.002	0.252	0.310	0.06	0.99	1.20	0.50	4.10
06CF266	40	0.381	0.044	1.061	0.013	0.003	0.078	0.180	0.02	1.18	0.80	0.50	2.30
06CF267	29	0.439	0.046	1.569	0.020	0.008	0.045	0.260	0.04	0.93	1.60	0.50	6.60
06CF268	68	0.301	0.141	1.004	0.015	0.001	0.071	0.140	0.03	0.50	0.60	0.50	1.60
06CF269	65	0.359	0.072	0.784	0.011	0.001	0.043	0.190	0.02	0.78	0.90	0.50	4.00
06CF270	70	0.264	0.004	0.823	0.013	0.000	0.052	0.150	0.01	0.67	1.10	0.50	5.40
06CF271	65	0.263	0.012	0.939	0.014	0.001	0.168	0.100	0.01	0.42	0.90	0.50	5.60
06CF272	98	0.282	0.009	0.774	0.016	0.001	0.083	0.020	0.01	0.08	0.90	0.50	5.50
06CF273	98	0.277	0.063	1.005	0.020	0.001	0.229	0.250	0.04	1.19	0.80	0.50	3.40
06CF274	94	0.290	0.072	0.775	0.018	0.002	0.075	0.330	0.01	2.26	0.90	0.50	2.90
06CF275	101	0.303	0.090	0.710	0.007	0.001	0.055	0.340	0.09	0.95	1.20	0.50	3.60
06CF276	114	0.285	0.080	1.208	0.019	0.001	0.397	0.260	0.04	1.58	1.90	0.50	26.30
06CF277	109	0.438	0.021	1.470	0.012	0.001	0.165	0.540	0.01	3.00	3.00	0.50	10.70
06CF278	48	0.271	0.048	0.658	0.013	0.002	0.050	0.130	0.01	0.43	1.20	0.50	6.70
06CF284	88	0.253	0.005	1.081	0.018	0.000	0.174	0.200	0.01	2.00	1.50	0.50	5.20
06CF285	95	0.303	0.030	0.792	0.019	0.001	0.094	0.250	0.01	1.10	0.90	0.50	4.00
Zone Average		*0.351*			*0.016*			*0.251*			*1.19*		
Paramount Zone													
06CF286	66	0.206	0.006	0.769	0.025	0.001	0.127	0.160	0.01	0.82	1.10	0.50	5.60
06CF287	77	0.348	0.011	1.538	0.025	0.001	0.123	0.130	0.01	0.93	1.30	0.50	5.80
06CF288	59	0.332	0.005	1.213	0.020	0.001	0.127	0.160	0.10	0.78	1.30	0.50	9.20
06CF289	59	0.208	0.002	0.947	0.014	0.001	0.205	0.160	0.01	0.82	1.00	0.50	4.10
06CF290	90	0.224	0.007	0.729	0.020	0.001	0.198	0.160	0.01	0.57	1.20	0.50	5.70
Zone Average		*0.264*			*0.021*			*0.154*			*1.18*		

11.4.7 Core Recovery and RQD

Routinely, core recovey and rock quality designations (RQD), were determined for each 3.05-meter core run. The RQD was determined by cumulatively adding intact core greater than 16-centimeters in length for PQ-core and greater than 12-centimeters for HQ-core, expressed as a percentage of the run. The intact lengths are derived as two different lengths; PQ-core diameter which is 8-centimeters and 6-centimeters for the HQ-core.

The results of these measurements are recorded in the table below and seperated on a zone basis.

Core recovery of holes drilled in all of the zones is excellent with the exception of two holes drilled in the Paramount zone. Core from the Paramount zone can be highly fractured, crumbly, and broken, displaying decimeters to decameters of gouge and rubble, and hence, the very low RQD value of 12.2% and lower recoveries averaging 78.6% for the zone. In comparison to the West Breccia and Main zones, which have recoveries of 95.9% and 96.4% respectively, the core recovery from the Paramount zone is substantially lower. However, like the Parmount zone, the RQD value for the West Breccia zone averaging at 28.2% and 35.1% for the Main zone, falls into the poor range.

RQD is a function of fracture and fault density, while recovery is the ability of the drilling process to extract core. The large diameter core allows for high recovery rates in generally moderate to highly fractured ground and through gouge zones. Low recoveries were experienced in sections of grit and rubble filled faults, where this material was washed out by the drilling process. Under extremely repetitive caving conditions, the drill string would freeze-up as the annulus collapsed in the grit and rubble sections, resulting in extremely slow drilling and and in abandoning of the hole in two instances.

Table 11-5: Estimates of RQD and core recovery.

Drill Hole ID	Hole RQD	RQD Rating	Core Recovery
West Breccia Zone			
05CF234	61.7	fair	98
05CF235	51.5	fair	94
06CF249	22.2	very poor	96
06CF250	19.1	very poor	95
06CF252	20.2	very poor	97
06CF253	27.0	poor	97
06CF254	28.3	poor	94
06CF279	15.2	very poor	95
06CF280	32.7	poor	97
06CF281	12.3	very poor	93
06CF282	29.9	poor	100
06CF283	18.4	very poor	95
Zone average	*28.2*	poor	*95.9*
Liard Main Zone			
05CF236	20.6	very poor	97
05CF237	32.3	poor	98
05CF238	31.4	poor	97
05CF239	43.2	poor	98
05CF240	24.3	very poor	98

05CF241	51.0	fair	98
05CF242	52.5	fair	98
05CF243	57.9	fair	95
05CF244	74.3	fair	98
05CF245	17.9	very poor	97
05CF246	40.7	poor	97
05CF247	74.8	fair	99
05CF248	59.4	fair	97
06CF251	28.8	poor	99
06CF255	35.4	poor	97
06CF256	35.8	poor	97
06CF257	38.6	poor	98
06CF258	32.2	poor	97
06CF259	22.3	very poor	93
06CF260	24.5	very poor	99
06CF261	28.4	poor	93
06CF262	19.9	very poor	96
06CF263	31.9	poor	99
06CF264	29.9	poor	98
06CF265	29.5	poor	99
06CF266	18.4	very poor	86
06CF267	16.0	very poor	90
06CF268	15.4	very poor	85
06CF269	18.3	very poor	91
06CF270	29.8	poor	100
06CF271	30.5	poor	99
06CF272	47.2	poor	96
06CF273	49.2	poor	96
06CF274	49.0	poor	100
06CF275	40.1	poor	96
06CF276	37.8	poor	99
06CF277	37.9	poor	97
06CF278	25.1	poor	99
06CF284	21.0	very poor	93
06CF285	29.1	poor	97
Zone average	*35.1*	poor	*96.4*
Paramount Zone			
06CF286	11.0	very poor	79
06CF287	18.0	very poor	85
06CF288	14.7	very poor	92
06CF289	15.0	very poor	90
06CF290	2.5	very poor	47
Zone average	*12.2*	very poor	*78.6*
RQD Rating			
0-25%	very poor	75-90%	good
25-50%	poor	90-100%	excellent
50-75%	fair		

11.5 Overburden Sampling

11.5.1 Introduction

The eastern portions of the Main zone and the Paramount zone are covered by overburden that has partially incorporated locally derived talus material. The bedrock exposures of this material along the west slope of Mount Lacasse exhibit malachite stained fractures. During the coring process, meter lengths of intact overburden with fragments of talus were recovered by the drilling. To determine to what extent this material is mineralized, the overburden from the 2005 and 2006 drilling was sampled and analyzed for Cu, Mo, Au, and Ag. Overburden includes glacial till, fluvio-glacial material, locally derived purple clay and local bedrock talus.

11.5.2 Sampling

Overburden material was collected in fixed 10-foot (3.05-meter) intervals. The amount of overburden material retrieved varies greatly for each drill hole. The best recovery of 50-90% is experienced with purple, clay-rich, consolidated, local, volcanic talus material intermixed with minor foreign boulders.

Coarse, boulder glacial till is comprised of centimeter to decimeter foreign material and a small proportion of fine grained sandy fractions. This till had a poor recovery, ranging from 10-30%.

Fine grained, sandy and clay-rich glacial material had the poorest recovery of 1-20%, as most of the fine grained material was washed away during the drilling process.

Consequently, with recovery rates of overburden spanning a large range, the assay results of low recovered portions is not representative. Assay results reflect only the chemical characteristics of the small, coarser fraction which was preserved; however, the exception to this is the purple, clay-rich talus.

In a few cases, the overburden sample immediately above bedrock contains a variable percentage of broken in-situ bedrock, mineralized with traces of sulphides or malachite and intermixed with overburden material.

11.5.3 Results

Overburden material, although representing a very heterogeneous sample population, is not entirely barren and not entirely below the detection limits for the metals tested. Mineralized broken bedrock understandably exhibits anomalous values for all the metals. Approximately, ¼ to ½ of all samples are foreign material, transported pebbles and boulders. These exhibit Cu values of >1,000 ppm and ¼ of the samples returned values of >0.1 g/t Au. Samples exhibiting anomalous molybdenum and silver values were the fewest. Of these, half a dozen samples had 100 ppm Mo, and half a dozen had >1.0 g/t Ag, with three samples between 3.0 and 12.0 g/t Ag.

Further work is recommended to determine the possible recovery of these metals from an economic perspective, and whether or not they are present as recoverable sulphides or tied-in with silicates.

Table 11-6: Summary of overburden samples for the 2005/2006 drill holes.

Lab #	Drill Hole	From	To	Length	Cu %	Mo %	Au g/t	Ag g/t	Overburden Description
2005									
127651	05CF234	25.00	30.00	5.00	0.20	0.00	0.01	0.00	Purple clay with mostly volcanic clasts.
127652	05CF234	30.00	40.00	10.00	0.01	0.00	0.00	0.00	Purple clay with mostly volcanic clasts.
127653	05CF234	40.00	43.00	3.00	0.01	0.00	0.00	0.00	Purple clay with mostly volcanic clasts.
127654	05CF235	25.00	30.00	5.00	0.02	0.00	0.02	0.00	Till boulders, no clay.
127655	05CF235	30.00	37.00	7.00	0.01	0.00	0.01	0.00	Purple clay with cm-dm pebbles
127656	05CF236	5.00	18.00	13.00	0.07	0.00	0.06	0.00	Till, heterolothic pebbles, boulders. No fine fraction.

127657	05CF237	12.00	18.00	6.00	0.35	0.04	0.69	1.80	Till, heterolothic pebbles, boulders. No fine fraction.
127658	05CF238	15.00	18.00	3.00	0.12	0.00	0.12	0.00	Boulders, rubble, FQP, pruple volcanics.
Lab #	**Drill Hole**	**From**	**To**	**Length**	**Cu %**	**Mo %**	**Au g/t**	**Ag g/t**	**Overburden Description**
127659	05CF239	6.00	10.00	4.00	0.01	0.00	0.01	0.00	Pebbles, no clay.
127660	05CF239	10.00	20.00	10.00	0.01	0.00	0.00	0.00	Pebbles, no clay.
127661	05CF239	20.00	30.00	10.00	0.01	0.00	0.00	0.00	Pebbles, no clay.
127662	05CF239	30.00	40.00	10.00	0.01	0.00	0.01	0.00	Purple clay with andesite pebbles.
127663	05CF239	40.00	50.00	10.00	0.01	0.00	0.00	0.00	Purple clay with pebbles.
127664	05CF239	50.00	53.00	3.00	0.03	0.00	0.02	0.00	Purple clay with andesite pebbles
127665	05CF240	19.50	20.00	0.50	0.02	0.00	0.01	0.00	Pebbles, no clay.
127666	05CF241	9.50	10.00	0.50	0.06	0.00	0.05	0.00	Pebbles, no clay.
127667	05CF242	15.00	16.00	1.00	0.12	0.00	0.14	0.00	Pebbles, no clay.
127668	05CF243	12.00	15.00	3.00	0.20	0.02	0.15	0.00	Pebbles, no clay.
127669	05CF244	9.50	10.00	0.50	0.15	0.00	0.07	0.00	Pebbles, no clay.
127670	05CF245	10.00	11.00	1.00	0.24	0.00	0.11	0.00	Pebbles, no clay.
127671	05CF246	10.00	11.50	1.50	0.44	0.00	0.14	0.08	Pebbles, no clay.
127672	05CF247	15.00	16.00	1.00	0.13	0.00	0.07	6.40	Pebbles and in part broken bedrock.
127673	05CF248	20.00	30.00	10.00	0.12	0.00	0.05	0.00	Pebbles with clay.
127674	05CF248	30.00	40.00	10.00	0.16	0.01	0.14	0.60	Till, pebbles, no clay.
127675	05CF248	40.00	50.00	10.00	0.18	0.01	0.14	0.80	Till, heterolthic boulders, pebbles.
127676	05CF248	50.00	60.00	10.00	0.27	0.00	0.15	0.80	Monolithologic boulders, broken bedrock.
127677	05CF248	60.00	70.00	10.00	0.30	0.01	0.31	1.20	Monolithologic boulders, broken bedrock.
2006									
127678	06CF249	0.00	3.80	3.80	0.09	0.01	0.00		Till, pebbles, no clay.
127679	06CF250	6.50	6.80	0.30	0.04	0.00	0.02	0.00	Till, pebbles, no clay.
127680	06CF251	0.00	3.00	3.00	0.06	0.00	0.12	2.90	Till, boulders, no clay.
127681	06CF251	3.00	6.00	3.00	0.07	0.00	0.07	0.00	Till, boulders, no clay.
127682	06CF251	6.00	9.00	3.00	0.09	0.00	0.02	0.00	Till, boulders, no clay.
127683	06CF251	9.00	12.15	3.15	0.10	0.00	0.36	0.05	Till, boulders, no clay.
127684	06CF252	4.00	4.60	0.60	0.06	0.00	0.02	0.00	Till, boulders and pebbles, no clay.
127685	06CF253	3.00	3.30	0.30	0.10	0.00	0.06	0.00	Till, boulders and pebbles, in part with pyrite.
127686	06CF254	4.00	5.90	1.90	0.03	0.00	0.02	0.00	Till, boulders and pebbles, no clay.
127687	06CF255	12.00	15.00	3.00	0.11	0.00	0.07	12.00	Till, boulders, pebbles, minor purple volcanics.
127688	06CF255	15.00	18.50	3.50	0.02	0.02	0.14	0.00	Till, boulders, pebbles, minor purple volcanics.
127689	06CF256	0.00	2.80	2.80	0.05	0.00	0.03	0.00	Fractured bedrock andesite.
127690	06CF257	0.00	3.00	3.00	0.22	0.00	0.10	1.10	Boulders, andesite, with cpy-bornite vein.
127691	06CF257	3.00	4.60	1.60	0.06	0.00	0.02	0.60	Boulders, in part bedrock.
127692	06CF258	3.00	6.00	3.00	0.01	0.00	0.01	0.00	Boulders with purple clay.
127693	06CF258	6.00	9.00	3.00	0.01	0.00	0.00	0.00	Boulders with purple clay.
127694	06CF258	9.00	12.00	3.00	0.01	0.00	0.00	0.00	Boulders with purple clay.
127695	06CF258	12.00	15.00	3.00	0.01	0.00	0.01	0.00	Boulders with purple clay.
127698	06CF259	0.00	1.50	1.50	0.25	0.00	0.22	0.00	Boulders, broken bedrock.
127699	06CF260	3.00	3.40	0.40	0.36	0.00	0.10	0.00	Boulders, broken bedrock.
127700	06CF261	2.80	3.00	0.20	0.30	0.00	0.03	0.00	Misc volcanic pebbles, broken bedorck.
127701	06CF262	2.00	5.40	3.40	0.02	0.00	0.03	0.00	Misc volcanic pebbles, broken bedorck and limonitic.
127706	06CF263	5.00	6.50	1.50	0.30	0.01	0.21	0.01	Purple volc boulders and broken bedrock.
127702	06CF264	4.70	5.70	1.00	0.09	0.01	0.06	0.01	Misc glacial pebbles, in part broken bedrock.
127705	06CF265	5.50	6.00	0.50	0.01	0.00	0.07	0.00	Glacial boulders, pebbles.
127703	06CF266	2.70	3.00	0.30	0.47	0.00	0.02	0.00	Broken bedrock.

127704	06CF267	4.00	5.30	1.30	0.60	0.01	0.35	0.01	Glacial till, pebbles, minor broken bedrock.
127707	06CF268	4.50	5.50	1.00	0.14	0.00	0.05	0.00	Broken bedrock.
127708	06CF269	4.50	4.70	0.20	0.04	0.01	0.05	0.01	Glacail boulders.
127709	06CF270	16.70	17.00	0.30	0.24	0.01	0.09	0.01	Glacial pebbles and broken bedrock.
127710	06CF271	18.10	18.20	0.10	NA	NA	NA	NA	Broken bedrock.
127711	06CF272	4.50	6.20	1.70	0.07	0.00	0.04	0.00	Till, broken bedrock.
127712	06CF273	5.00	5.60	0.60	0.05	0.00	0.04	0.00	1/2 till, 1/2 broken bedrock.
127713	06CF274	5.00	6.00	1.00	0.02	0.00	0.03	0.00	Mixed glacial boulders, pebbles.
127714	06CF274	6.00	9.00	3.00	0.02	0.00	0.03	0.00	Purple clay and boulders.
127715	06CF274	9.00	12.00	3.00	0.01	0.00	0.03	0.00	1/2 glacial boulders, 1/2 clay.
127716	06CF274	12.00	15.00	3.00	0.02	0.00	0.02	0.00	Glacial boulders, 1/10 gray clay.
127717	06CF274	15.00	18.30	3.30	0.07	0.00	0.06	0.00	Glacial boulders, 1/10 gray clay, 20cm limonitic clay.
127718	06CF275	5.00	9.00	4.00	0.09	0.00	0.06	0.00	1/2 glacial bouldes, 1/2 purple clay.
127719	06CF275	9.00	12.00	3.00	0.02	0.00	0.02	0.00	Glacial boulders, 1/10 gray clay.
127720	06CF275	12.00	15.00	3.00	0.01	0.00	0.05	0.00	1/2 glacial boulders, 1/2 gray clay.
127721	06CF275	15.00	18.00	3.00	0.03	0.00	0.06	0.00	Mixed glacial boulders, pebbles, no clay.
127722	06CF275	18.00	21.00	3.00	0.09	0.00	0.04	0.00	Glacial boulders, 20% gray clay.
127723	06CF275	21.00	24.00	3.00	0.04	0.00	0.03	0.00	Laarge glacial boulders, 1/10 gray clay.
127724	06CF275	24.00	27.40	3.40	0.02	0.01	0.14	0.01	1/2 glacial bloulders, 1/2 broken bed rock.
127725	06CF276	2.50	3.50	1.00	0.08	0.00	0.06	0.00	1/2 glacial boulders, 1/2 broken bed rock.
127726	06CF277	2.20	4.00	1.80	0.51	0.01	0.47	0.01	1/2 glacial boulders, 1/2 broken bed rock.
127727	06CF278	7.00	7.80	0.80	0.11	0.00	0.10	0.00	Glacial boulders and pebbles.
127728	06CF279	6.00	9.70	3.70	0.09	0.00	0.05	0.00	1/4 glacial pebbles, 3/4 broken bed rock, trace cp.
127729	06CF280	4.00	5.00	1.00	0.07	0.00	0.03	0.00	1/4 glacial pebbles, 3/4 broken bed rock.
127730	06CF281	6.60	6.80	0.20	0.01	0.00	0.01	0.00	1/2 glacial pebbles 1/2 broken bed rock.
127731	06CF282	3.00	4.00	1.00	0.01	0.00	0.00	0.00	1/2 glacial pebbles 1/2 broken bed rock.
127732	06CF283	2.40	2.60	0.20	0.13	0.00	0.04	0.00	Broken bedrock.
127696	06CF284	5.00	6.00	1.00	0.06	0.00	0.05	0.00	Till, boulders and pebbles, no clay.
127697	06CF285	3.00	3.50	0.50	0.01	0.00	0.05	2.70	Till, pebbles, fractured bedrock.
127733	06CF286	8.50	13.50	5.00	0.19	0.01	0.05	0.01	1/2 glacial boulders, 1/2 broken bed rock.
127734	06CF287	8.0	9.8	1.8	0.31	0.01	0.07	0.01	1/4 glacial boulders, 3/4 bed rock. Trace py, cp.
127735	06CF288	3.0	3.8	0.8	0.02	0.00	0.02	0.00	1/2 glacial boulders, 1/2 broken bed rock.
127736	06CF289	4.0	4.8	0.8	0.18	0.00	0.16	0.00	1/4 glacial boulders, 3/4 broken bed rock.
127737	06CF290	6.0	9.0	3.0	0.02	0.00	0.03	0.00	Glacial boulders, 1/10 gray clay.
127738	06CF290	9.0	12.0	3.0	0.01	0.00	0.01	0.00	Glacial boulders, 1/10 gray clay.
127739	06CF290	12.0	15.0	3.0	0.04	0.00	0.03	0.00	Glacial boulders, 1/10 purple clay.
127740	06CF290	15.0	19.0	4.0	0.05	0.00	0.03	0.00	3/4 glacial boulders, 1/4 broken bedrock, no clay.

11.6 Sampling Method and Approach

11.6.1 Sampling Method and Approach

As with the 2005 program, a sampling protocol conforming to Policy 43-101 requirements was implemented for the 2006 program. Great care was taken to ensure sample integrity, quality and chain of custody. PQ and HQ core were drilled for different purposes, therefore requiring different handling procedures. A summary of procedures employed in the 2006 program is as follows:

At Schaft Creek Camp

- All PQ core, for the purpose of twinning and verifying archival results and obtaining material for metallurgical testing, was sawed in half and one half quartered. As the core was broken, the rubble was scooped out and divided according to samples. Pieces larger than 10-cm were sawed. Continuous sampling for assay samples was done in fixed 3.05 m intervals, for the purpose of matching samples of previous archival sampling.

- For PQ core, assigning two sets of sample numbers for: a) Assays, taking ¼ of the core approximately 35 lbs, and b) 'Metallurgical' (MET) samples for selected intervals, taking ½ of the core, weighing 70 lbs. One quarter of the core is retained as a reference sample in the core boxes on site.
- For HQ core, no MET sampling was required. The core is sawed in half and one half is sampled for assay, while the other half is kept as a reference in the core box on site.
- Assay samples were placed in numbered 5-gallon plastic pails and MET samples in numbered 10-gallon pails, both with security lids. The sample tag for each pail is inserted into a small zip lock plastic bag and affixed to the inside of the pail's rim. Each sample pail carries a shipping tag fixed to the outside of the pail with the laboratory's address.
- Assay samples were shipped to International Plasma Labs Ltd. (IPL) in Richmond, B.C., and MET samples were sent to Process Research Assoc. Ltd (PRA) in Richmond, B.C. For this purpose both sample groups were air lifted to a strip at the road and stored in a locked Seacan container. At weekly intervals, a bonded trucking firm retrieves both sample groups and delivers them directly to the laboratories.

11.6.2 Sample Preparation, Analysis and Security

Sample Preparation, at IPL Labs

- Blind duplicates, standards and blanks are inserted, in the field, into the sample stream at a 40 sample interval, for quality control.
- Assay samples are analyzed for;
  a) Cu %, Mo %, Au g/t (2 AT), Ag g/t
  b) Multi element spectral analysis.
- Sample Preparation for Assay samples: A 4 to 5-kg portion of the core sample is crushed to 2 mm size and homogenized. A split of approximately 300 grams is pulverized to minus 150 mesh and homogenized by rolling.

11.6.3 Ore Grade Elements by Multi-Acid Digestion/ICP or AAS

- 0.25 to 1.0 grams of sample is weighed and transferred into a 150 ml beaker. HCl, HNO_3, $HClO_4$ and HF acid solutions are added and digested on a hot plate until dry. The sample is boiled again with 80 ml of 25% HCl for 10 minutes, cooled, bulked up to a fixed volume with distilled H_2O and thoroughly mixed.
- Cu, Mo and Ag are determined using an Inductively Coupled Plasma spectrophotometer. All elements are corrected for inter-element interference and all data are stored onto a computer diskette.
- Quality Control: The spectrophotometer is first calibrated using 3 known standards and a blank. The samples to be analyzed are then run in batches of 38 or fewer samples. Two tubes with an in-house standard and an acid blank are digested with the samples. A known standard with characteristics best matching the samples is chosen and inserted after every 15th sample. Every 20th sample is re-weighed and analyzed at the end of the batch. The blank used at the beginning of the run is analyzed again. The readings of the control samples are compared with the 'pre-rack known' to detect any calibration drift.

11.6.4 Fire Assay Gold Assay

- Duplicates of 50 grams (2 AT) are weighed into fusion pots together with various flux materials, including lead oxide. After thorough mixing of silver inquart, a thin borax layer is added.

- The sample is placed into a fire assay furnace at 2000 degrees Fahrenheit (°F) for 1h. Elemental lead, from lead oxide, collects the Au and Ag.
- After 1h fusion, the sample is poured into a conical cast iron mold. The Au- and Ag-bearing lead button/bead at the bottom is separated from the slag.
- The lead button is placed in a preheated cupel into the furnace for a second separation at 1650 °F. Lead is absorbed by the cupel, whereas gold and silver remain on the surface of the cupel.
- After 45 minutes of cupellation, the cupel is removed from the furnace and cooled. The dore bead containing the precious metals is transferred to a test tube (sample duplicates are combined) and dissolved in hot aqua regia.
- The Au in solution is determined with an AA spectrometer. The Au value in ppb or g/t is calculated by comparing the reading with that of a standard.
- Fire Assay Quality Control: Every group of 24 fusion pots contains 22 samples, one internal standard or blank, and a re-assay of every 20th sample. Samples with Au >1,000 ppb are automatically checked by fire assay/AA. Samples with Au >10,000 ppb are automatically checked by fire assay/gravimetric methods.

Figure 11-2: Sampling of PQ-core in quanset hut. Note roller system for moving heavy core boxes.

11.7 Data Verification

An essential component of the 2006 program was the continuation of the 2005 program, twinning historical drill holes to verify the reliability of the archival data base by duplicating the original assay intervals with new core samples along the same specified intervals. The data bases generated from the two sets of records were then statistically compared to provide a level of confidence in the incorporation of the historic results to future ore reserves and ore modeling. The documentation of this procedure was undertaken by D. Beauchamp PGeol and consultant to Copper Fox Metals Inc.; therefore it is not included in this report.

12.0 Mineral Resource and Mineral Reserve

A detailed analysis and review of the mineral reserve of the deposit at Schaft Creek is beyond the mandate of this report. Historical estimates are included below to provide a sense of scale of the deposit. A follow-up resource estimate by International Geological Consultants of Calgary and Surpac International is in progress.

Table 12-1. Summary of published mineral reserves.

Year	Company	Reference	Cu %	MoS_2 %	Tonnage
1973	Hecla Mining	Dolmage Campbell Associates	0.420	0.036	240 mt Schaft Creek
			0.329	0.048	100 mt Paramount Zone
1977	Teck Corporation	Internal, A. I. Betmanis	0.380	0.039	505 mt Schaft Creek Total
1980	Teck Corporation	Internal, A. I. Betmanis	0.300	0.034	1bt Schaft Creek Total
2003	955528 Alberta Ltd.	SEDAR, Giroux Consultants Ltd.	0.155	0.016	3.56 bt Schaft Creek Total

13.0 Site Facilities and Equipment

Original construction of the camp facilities at Schaft Creek commenced circa 1965 and in 1967 a D6 Cat bulldozer was walked to the site from Telegraph Creek. A 4,000 foot runway was constructed, for material handling and personnel transportation by fixed wing aircraft. In 1968 Hecla Mines Ltd. acquired the property, extended the runway to 5,280 feet and erected several new buildings.

During the interval from 1968 to 1981 when Hecla Mines and subsequently Teck Corp. aggressively explored the property, most of the site infrastructure was established. This included: two 30x150-foot Quanset style buildings; a fuel storage depot consisting of three 30-foot long, 10-foot diameter tanks (note: this size is estimated); two bunk houses; a kitchen and dining facility; mechanic's shop; generator shack; core shack; log assay shack; recreation hall; sleep cabins; office building; and a small, pre-fabricated cedar log cabin owned by a helicopter company. The airstrip system was extended to include two gravel strip runways, one oriented in a general north-south direction was established immediately west of the camp, adjacent to the eastern bank of Schaft Creek, while the second is oriented in a northeast-southwest direction and effectively bisects the camp compound.

The project was shelved by Teck Corp in 1982 and the camp site was abandoned. Precautions were taken to ensure the survivability of the buildings against weather and rodent damage. Nevertheless, the prolonged disuse took its toll on some of the structures and with the initiation of exploration in the summer of 2005, some of the structures were assessed for demolition.

During the 2005 program a band-aid approach was implemented to re-establish the camp for human occupation, as the main focus was on a general site clean-up. During 2006, the camp was re-built to accomodate in excess of 35-personnel.

Itemized below are the clean-up and construction activities that took place during the course of the 2006 program:

- General clean-up of the camp grounds and sorting of debris and refuse into metal and wood/burnable piles.
- Demolition and burning of the old recreation building.
- Construction of two bunkhouses accomodating 32-personnel in total.
- Construction of a new kitchen and dining facility with a 42-person capacity.
- Construction of a new shower and laundry facility attached to the lavatory building.
- Establishing a new office and first-aid facility by renovating last years core processing facility.
- Construction of a new 2-person bunkie.
- Constructing and modifying the southwest Quanset building into a core processing facility.
- Equipping the camp with two high-speed satellite internet systems.
- Relocation of an existing bunkouse for future use as a recreation facility.

Figure 13-1: Schaft Creek camp looking southwest, 2006. Below, **Fig 13-2:** Schaft Creek camp looking southeast, 2006.

14.0 Environmental

Prior to commencement of the 2005 program, Copper Fox Metals Inc. secured the necessary permits required by the Province of British Columbia. A fire permit was obtained for the company by CJL Enterprises of Smithers, B.C. and a work permit number MX-1-647 was issued to the company on July 5th. The company also posted the required $100,000 environmental bond.

15.0 Conclusion and Recommendations

15.1 Conclusions

Copper Fox Metals Inc. successfully completed a 42-hole drill program consisting of 25 PQ- holes, and 17 HQ-holes, totalling 9,007-meters between July and November 2006. This program was the extension of the 2005 program, which completed 15 PQ drill holes totaling 3,160-meters. In the 2006, program 27-holes were drilled in the Main zone, 10-holes in the West Breccia zone and 5-holes in the Paramount Zone. In summary, the following objectives were achieved:

- Twinned 27- historic drill holes.
- In-fill drilling.
- Obtained sufficient drill core material for floatation bench testing to establish metal recovery rates.
- Verified copper and molybdenum grades of twinned, historic drill holes.
- Established continuous gold and silver assays for the holes drilled.
- Established continuous multi-element spectral analyses for .

Metal values for each zone from 2006 data, derived from a calculated average of the drill holes, are similar to previous reserve figures: Main zone, Cu 0.351%, Mo 0.016%, Au 0.25 g/t, Ag 1.19 g/t; West Breccia zone, Cu 0.295%, Mo 0.016%, Au 0.149 g/t, Ag 1.64 g/t; and Paramount zone, Cu 0.264%, Mo 0.021%, 0.154%, Ag 1.18% .

The Schaft Creek deposit is a large, complex, poly-phase, porphyry deposit hosting low grade copper, molybdenum, gold and silver mineralization. Three zones are recognized; the Main zone, West Breccia zone and Paramount zone.The three zones appear to be associated with a multi-phase, magmatic-hydrothermal system related to either; one northerly plunging apophysis, or; several temporally discrete, smaller dykes and apophyses, stemming from a cupola linked to the main body of the Hickman batholith. Dykes and sheeted veins are controlled by a regional fracture pattern, while mineralized stockworks, crackle veins and breccias are related to high local overpressure. Disseminated mineralization is associated with dykes and their accompanying alteration envelopes.

The Main zone consists of strong stockworks, sheeted veins, and vein sets, in part structurally controlled and with a sufficient high density to form a remarkably consistent mineralized horizon(s). The horizon forms a flat lying, bowl-shaped body, hosted by andesitic volcanics. The bowl shaped horizon appears to have deep roots in a few portions.

In the West Breccia Zone, three stages of brecciation, igneous and hydrothermal events produced a complex, pipe-like body, containing copper, gold and molybdenum mineralization. The volatile component of this zone has been recognized by previous authors, (Spilsbury, 1982). Its boundaries are not well defined along strike, offering the potential to increase the ore zone in these directions.

The Paramount zone was the least drilled in 2006. The majority of this zone is hosted by brecciated granodiorite and may represent a proximal setting to a main cupola, stemming from the Hickman batholith. The granodiorite exhibits extensive and intense silica flooding, accompanied by chalcopyrite stringers. Of all the zones, it contains the highest molybdenite grades. Its northern and southern boundary remains open.

At a 1-kilometer scale, in plan, the coincidence of potassic alteration with copper and molybdenum mineralization has been recognized. Within the deposit area, this alteration defines a patchy, north-south trending pattern open to the north and possibly to the south and west.

The current geological model places the Paramount Zone in the deep, cupola-level of the breccia-hydrothermal system; while the Main Zone is in the mid to deep level stockwork, sheeted vein section; and the West Breccia Zone is a high level, dyke and breccia pipe environment of the porphyry.

The structural setting of the three zones to each other remains poorly understood. Structural work using oriented drill core is seen as one of the highest future priorities.

15.2 Recommendations

The following recommendations are listed below.

- Exploration drilling around all presently accepted limits of the three zones to establish hard boundaries.
- High priority definition drilling (HQ, NQ) of the intrusive and hydrothermal breccia zones, in particular; the area between the West Breccia zone and the Paramount zone; to the north of the Paramount zone; to the south and west of the West Breccia zone.
- Conduct a high definition airborne geophysical survey (EM, Mag).
- Induced Polarization survey over the three zones and in particular in the Schaft Creek valley, west of the deposit, and Mount Lacasse to the east and northeast of the deposit.
- Structural studies, using oriented drill core for several drill holes to obtain hard information on the attitudes of vein systems and structural features as well as vectors of movements along striations. This information will be valuable to unravel the paragenesis of the deposit and for engineering studies for pit slope stability.
- Evaluate the multi-element chemical data of 2006 and of future drilling.
- Use drill core from archival drill holes to obtain multi-element chemical data from the entire deposit area, to create a more complete understanding of metal distribution and alteration halos.
- Detailed surface mapping of the deposit area and Mount Lacasse.

References

Betamins, A. I, 1981. Report on Diamond Drilling on the Scahft Creek Properties, Liard Mining Division, British Columbia, *for* Teck Corporation, pp 7.

Brown, D.A., 1996. The Stikine Project: Geology of Western Telegraph Creek Map Area, Northwestern British Columbia, Bulletin 95, pp175.

Eckstrand, O.R, et al, 1995. The Geology of Canadian Mineral Deposit Types. Volume P-1. Ministry of Natural Resources, Geological Survey of Canada 8. p 421-495.

Fox, P.E., 1977. Summary Report, Liard Project 1976, Schaft Creek, Brirish Columbia, *for* Hecla Mining Company of Canada Limited, Vancouver, B.C., pp 5.

Gyfkins, C., Herrmann, W., Large, R., 2005. Altered Volcanic Rocks. A guide to description and interpretation. Centre of Ore Deposit Research, University of Tasmania, Australia, p.139-162.

Guilbert, J., et al, 1986. The Geology of Ore Deposits, p. 405-451.

Heinrich, E. W., 1965. Microscopic Identifications of Minerals. McGraw-Hill Book Company.

Lammie, A.R. Charles, 1966. Geolgical and Geophysical FReport on NABS 1-34, Mineral Claims, Schaft Creek Area, Liard Mining Division, British Columbia, *for* Paramount Mining Ltd., Vancouver, B.C., pp 24.

Lang, J., et. al., 2001. Regional and Systematic-Scale Controls on the Formation of Copper and/or Gold Magmatic-Hydrothermal Mineralization. Mineral Deposit Research Unit, University of British Columbia, Special Publication Number 2, pp.111.

Lentz, D. R., 1994. Alteration and Alteration Processes Associated With Ore-Forming Systems. Geological Association of Canada, Short Course Notes, Volume II, pp 467.

Logan, M. James, et al 1994. Geology and Mineral Deposits of the Galore Creek Area, Bulletin 92, Geological Surveys Branch British Columbia, Ministry of Energy Mines and Resources, pp 67.

Logan. M. James, et al. Geology of the Forrest Kerr-Mess Creek Area, Northwestern British Columbia, Bulletin 104, British Columbia Geological Survey, Ministry of Energy Mines and Resources, pp 123.

M^{C}Candlish, K. and Tan, G. 2004. Assessment Report, Schaft Creek, Event Number 321884. *For* Ministry of Energy and Mines, British Columbia. *By* Associated Mining Consultants Ltd and Process Research Associated Ltd.

Moorehouse, W.W., 1959: The Study of Rocks in Thin Section. Harper & Row, Publishers,

J.E. Scott, J.P. Richards, R.A. Creaser. In prep.Department of Earth and Atmospheric Sciences, University of Alberta, Edmonton, AB, T6G 2E3, G.S. SALAZAR, Copper Fox Metals Ltd., 650, 340 12th Ave S.W., Calgary, AB, T2R 1L5.

Spilsbury, T.W., 1995. The Schaft Creek copper-molybdenum-gold-silver porphyry deposit, northwestern British Columbia. *In* Porphyry Deposits of the Northwestern Cordillera of North America. *Edited by* T.G. Schroeter. Canadian Institute of Mining, Metallurgy and Petroleum, Special Volume 46, p. 239-246.

Spilsbury, T.W. 1982. A Study of the 1981 Drill Program on the Schaft Creek Porphyry Copper-Molybdenum Deposit. *An* independent project submitted to the Department of Geological Sciences *for* a Non-Research Master of Science Degree in Mineral Exploration, Queen’s University, pp. 61.

Thompson, A.J.B., et al, 1996. Atlas of Alteration. A Field and Petrographic Guide to Hydrothermal Alteration Minerals. Geological Association of Canada, Mineral Deposits Division, pp119.

Copper Fox Metals Inc.

Dr. Peter Fischer
Consulting Geologist
76 Athlone Crescent
Stratford, ON
N4Z 1H8

STATEMENT OF QUALIFICATION

I, Peter Fischer, of the town of Stratford, Province of Ontario, hereby declare that:

1. I am a consulting geologist working from my office at 76 Athlone Crescent, of the town of Stratford, Province of Ontario.
2. I hold the degrees of MSc (‘Diplomgeologe’) and Ph.D. (‘Dr. rer. Nat.’) from the ‘LMU’ (Ludwig-Maximilian Universitaet) in Munich, Germany.
3. I have practiced my profession for 38 years in the mining industries of Ontario, Quebec, Manitoba, Saskatchewan, British Columbia, the Northwest Territories (Canada), U.S.A, Africa and Germany.
4. I personally conducted and supervised, together with Walter Hanych of Collingwood, Ontario, and Sheena Ewanchuk of Edmonton, Alberta, the geological surveys herein reported and am responsible for part of the work.
5. I hold no interest whatsoever in the property nor do I anticipate receiving such interest.
6. I consent to the use of this co-authored report in submissions for regulatory and government requirements.

Date: March 19, 2007

Peter Fischer, Ph.D.
Consulting Geologist.

Copper Fox Metals Inc.

STATEMENT of QUALIFICATION

I, Walter Hanych of the town of Collingwood, Province of Ontario, do hereby declare that:

1. I am a geologist and reside at 235 11th Line, Collingwood, Ontario, L9Y 5G6. Telfax 705.445.6440.
2. I graduated from Laurentian University in 1979, with an Honors Degree, Bachelor of Science in Geology.
3. I have been practicing my profession since graduation, that I am in the process of applying for accreditation with the Association of Geoscientist of Ontario, and that I am a Fellow of the Geological Association of Canada.
4. I personally conducted and supervised, together with Dr. P. Fischer of Stratford, Ontario, and Sheena Ewanchuk of Edmonton, Alberta, the geological work, the results of which were compiled to generate this co-authored report on the 2006 Diamond Drill Program on the Schaft Creek Property, for Copper Fox Metals Inc. of Calgary, Alberta.
5. I have not received any interest, direct or indirect in the properties or securities of Copper Fox Metals Inc., nor do I anticipate receiving such interest.
6. I consent to the use of this co-authored report in submissions for regulatory and government requirements.

Walter Hanych

Collingwood, Ontario

March 19, 2007

Copper Fox Metals Inc.

STATEMENT of QUALIFICATION

I, Sheena Ewanchuk of the city of Edmonton, Province of Alberta, do hereby declare that:

1. I am a graduate geologist and reside at #8 -11219 103A Avenue, Edmonton, Alberta, T5K 2E4. Telephone: 780.642.9296.
2. I graduated from the University of Alberta in Edmonton, with an Honors Degree, Bachelor of Science in Geology, in 2006.
3. I am practicing my profession as a contract geologist.
4. I am a member in training with the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
5. I personally conducted and supervised, together with Dr. P. Fischer of Stratford, Ontario, and Walter Hanych of Collingwood, Ontario, the geological work, the results of which were compiled to generate this co-authored report on the 2006 Diamond Drill Program on the Schaft Creek Property, for Copper Fox Metals Inc. of Calgary, Alberta.
6. I have not received any interest, direct or indirect in the properties or securities of Copper Fox Metals Inc., nor do I anticipate receiving such interest.
7. I consent to the use of this co-authored report in submissions for regulatory and government requirements.

Sheena Ewanchuk

Sheena Ewanchuk
Geol.I.T.

Edmonton, Alberta

March 19, 2007