Report on the Evaluation of the Gem Quality of Sapphires
on the

Taseko Property

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VANCOUVER, B.C.

Great Quest Metals Ltd.

Vancouver, BC

Clinton Mining Division, BC

NTS 920/3W

Latitude 51°05', Longitude 123°24'W

WILLIS W. OSBORNE, M.Sc., FGAC

October 8, 1999

TABLE OF CONTENTS

LIST OF FIGURES

SUMMARY

Property - The Taseko Property is located 225 km north of Vancouver in southwestern British Columbia along the eastern flank of the Coast Range. The property consists of 108 units and is in the Clinton Mining Division. Access is by four-wheel drive vehicle from Williams Lake (270 km) through the town of Hanceville, south to Taseko Lakes, then east along Taseko River.

History - Gold was discovered at the Taylor-Windfall mine in the 1920's. The area in and around the Taseko Property was actively explored between 1969 - 1976 as a porphyry copper-molybdenum target, and again in 1985, for its epithermal gold potential. Geochemical, geophysical and drilling programs were carried out during these periods. From 1988 through 1991 a new phase of geochemical, prospecting and drilling was implemented by Westpine Metals Ltd., the present owner of the property, and associated companies. A small program of mapping, whole-rock analysis and diamond drilling was completed in 1993.

Property Geology - The property occurs along an east-west contact between Cretaceous-age granitic intrusives of the Coast Plutonic Complex to the south and a thick sequence of volcanic strata of the Taylor Creek Formation to the north and west. An intense alteration zone up to 3 km in width occurs within the volcanic assemblage north of and adjacent to intrusive rock.

The main showing occurs in the Empress area where copper-gold mineralization is found in intensely altered volcanic rock. A pre-feasibility study of the Empress, using a cut-off of 0.40% cooper (not copper equivalent) showed in situ resources to be 11,078,000 tons of 0.61% copper and 0.023 opt gold. The East Zone, 3,300 feet east of the Empress, is similar to the Empress, but only three holes have been drilled into it. The Buzzer and Rowbottom zones consist of chalcopyrite and molybdenite which is disseminated and in vugs in granitic rock.

1999 Program & Results - The study of sapphires from the Taseko Property and the possible gem quality of these sapphires was completed in 1999. The study was started in 1996, continued in 1997 and completed this year.

In the 1999 study, concentrates from 9 samples collected in 1997 were screened and further processed using gravity concentration and high intensity magnetic separation to concentrate the corundum. The final concentrate was then examined by microscope, and the grains were sorted on the basis of their colour and transparency by Ms. C. Germain and Dr. B. Klein.

Although many grains of sapphire were identified, the study concluded that the crystals studied do not meet the criteria for gem quality crystals. No further work is recommended on the sapphires at this time.

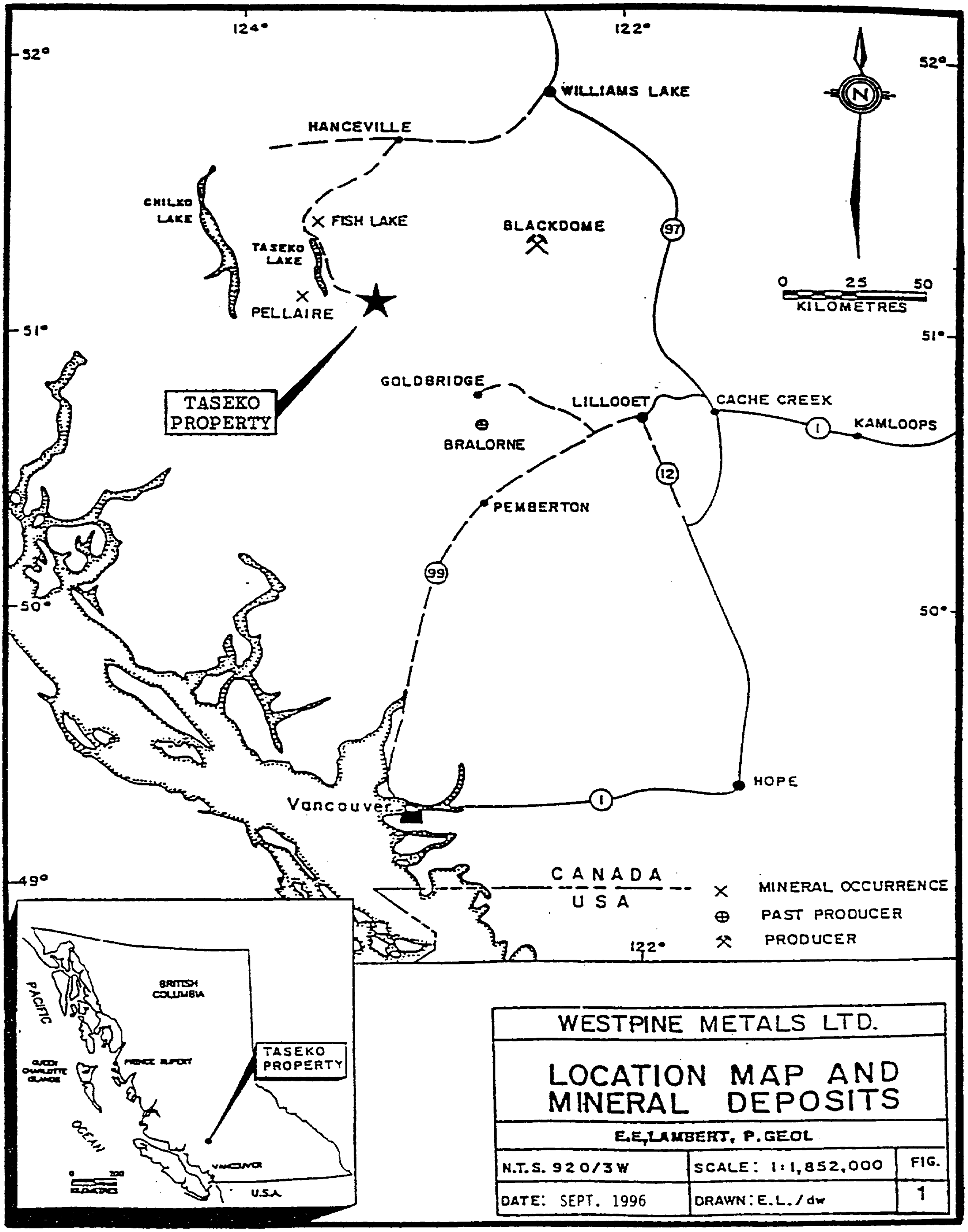
INTRODUCTION

Program – Concentrates of nine samples collected in 1997 were further processed to isolate corundum and especially the sapphire variety of corundum. Sapphires from the final concentrate were studied by microscope and sorted by Dr. Bern Klein and Ms. Caroline German to determine their gem quality.

Location - The Taseko Property is located 225 km north of Vancouver, British Columbia, in the Clinton Mining Division (Figure 1). It lies 10 km southeast of the southern end of Upper Taseko Lake along the Taseko River, at 51°05' latitude and 123°24' west longitude, NTS Map 92O/3W.

Access - The property can be reached by road from Williams Lake (270 km) or by helicopter from Gold Bridge (48 km), Pemberton (100 km), Lillooet (120 km) or Williams Lake (215 km). Access to the property from Williams Lake is via Route 20 west to Hanceville on paved roads, southwesterly along dirt roads to the Taseko Lakes, then southeasterly along the Taseko River to the claim area. Four-wheel drive vehicles are necessary for sections of the road south of Hanceville, and approximate travel time from Williams Lake is 6 hours. At the present time there is no bridge over the Taseko River for access to the southern portion of the property. The river can be forded in the vicinity of Granite Creek by a 4WD truck during low water levels, but it is risky when water level rises during spring runoff and after major rain storms. A second crossing exists near Battlement Creek and is the preferred crossing during high water. The property contains a network of old mining roads in various stages of overgrowth which provides easy access to trenches, drill sites and mineralized showings in the area.

Physiography - Physiography of the claims area consists of a broad, U-shaped valley occupied by the Taseko River and its numerous tributaries. Elevation on the property ranges from 4,900' (1,500 m) in the valley to 7700' (2350 m) at mountain crests. At lower elevations the terrain is covered by lodgepole pine trees, with balsam fir and white pine occurring at higher elevations. Glacial cover consists of morainal deposits and glacial drift that appear to be relatively thin but extensive (typical depth is 3-8 m). Rock exposures are scarce and generally confined to creeks and peaks on ridges.


124°
122°
52°
51°
50°
49°
WILLIAMS LAKE
HANCEVILLE
CHILKO LAKE
FISH LAKE
TASEKO LAKE
PELLAIRE
BLACKDOME
97
0 25 50
KILOMETRES
TASEKO PROPERTY
GOLDBRIDGE
BRALORNE
LILLOOET
CACHE CREEK
KAMLOOPS
1
12
PEMBERTON
99
HOPE
Vancouver
CANADA
USA
MINERAL OCCURRENCE
PAST PRODUCER
PRODUCER
BRITISH COLUMBIA
PACIFIC
OCEAN
PRINCE RUPERT
TASEKO PROPERTY
VANCOUVER
U.S.A.
WESTPINE METALS LTD.
LOCATION MAP AND MINERAL DEPOSITS
E.E. LAMBERT, P.GEOL
N.T.S. 92 O/3 W
SCALE: 1:1,852,000
FIG. 1
DATE: SEPT. 1996
DRAWN: E.L./dw

CLAIMS INFORMATION

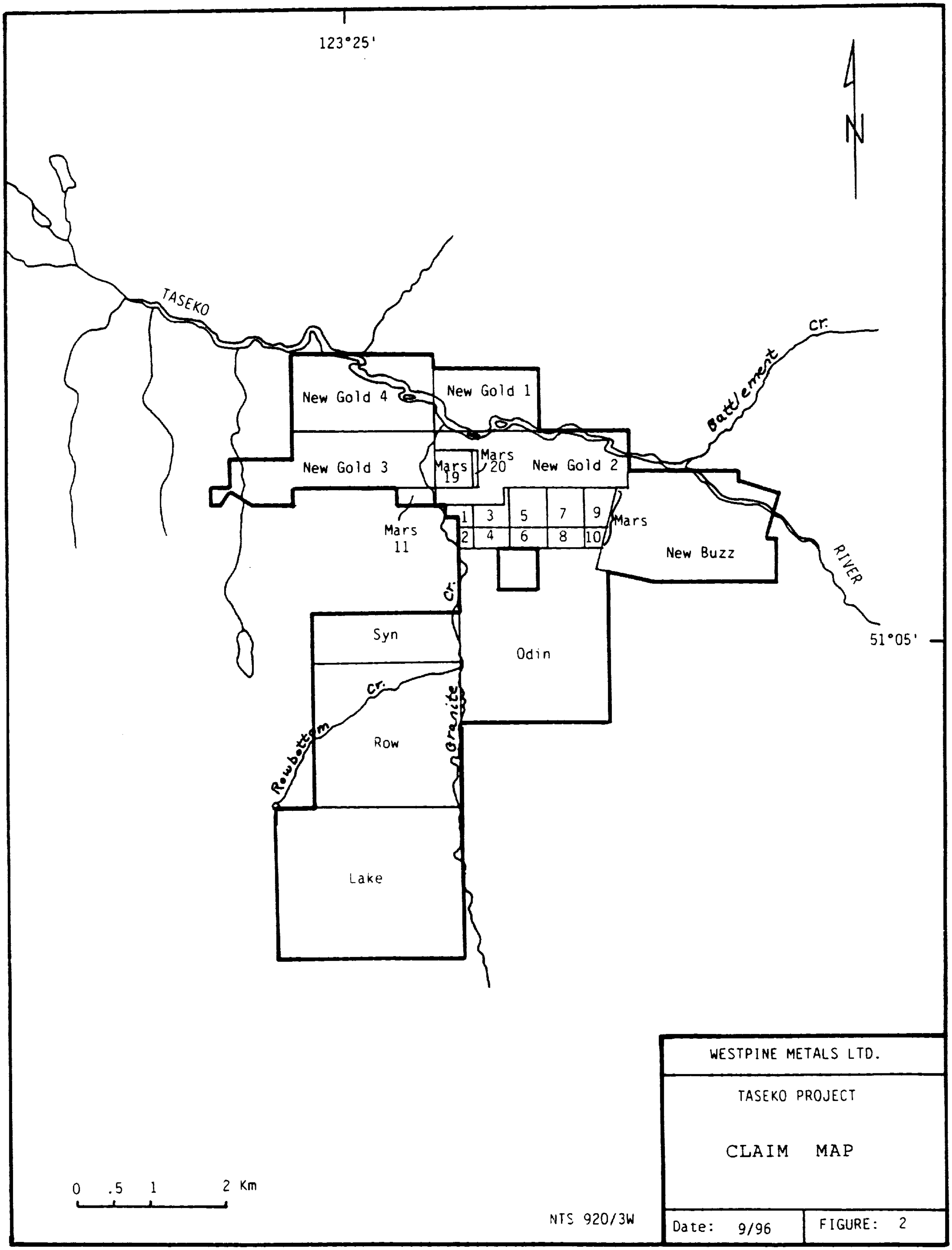
The property is comprised of 8 four-post and 13 two-post mineral claims totaling 108 units held by Great Quest Metals Ltd. From 1989 to July 2, 1998 the Property was held under the name of Westpine Metals Ltd., but on July 3, 1998, the name was changed to Great Quest Metals Ltd. The claims are as follows (Figure 2):

Claim Name	Units	Record #	Expiry Date
New Gold 1	6	208506	Sep. 24, 2004
New Gold 2	10	208503	Aug. 30, 2004
New Gold 3	12	208502	Sep. 12, 2004
New Gold 4	8	208507	Sep. 24, 2004
New Buzz	15	208505	Sep. 26, 2004
Mars 1	1	208579	Oct. 21, 2004
Mars 2	1	208580	Oct. 21, 2004
Mars 3	1	208581	Oct. 21, 2004
Mars 4	1	208582	Oct. 21, 2004
Mars 5	1	208583	Oct. 21, 2004
Mars 6	1	208584	Oct. 21, 2004
Mars 7	1	208585	Oct. 21, 2004
Mars 8	1	208586	Oct. 21, 2004
Mars 9	1	208587	Oct. 21, 2004
Mars 10	1	208588	Oct. 21, 2004
Mars 11	1	208589	Oct. 21, 2004
Mars 19	1	208590	Oct. 21, 2000
Mars 20	1	208591	Oct. 21, 2000
Row	16	208791	Aug. 14, 2000
Syn	8	208601	Nov. 4, 2004
Odin	20	209156	Jul. 13, 2000

PROPERTY HISTORY

Between 1909 and 1920, many large, bog-iron deposits were discovered by prospectors in the Taseko Lakes area. Gold was discovered at the Taylor-Windfall mine in the 1920's, followed by the discovery of copper-gold porphyry mineralization in the vicinity of the current Taseko Property, in 1922. From 1930 - 1969, sporadic exploration for copper-gold mineralization was conducted in the Taseko River basin by numerous companies. Activity increased between 1969 - 1976 when the area was investigated for its porphyry copper-molybdenum potential by Scurry Rainbow Oils Ltd., Sumitomo Metals Mining Canada Ltd., and Quintana Minerals Corp. In the mid-1980's, Westmin Resources Limited and Esso Minerals Canada explored for epithermal gold-silver mineralization in the Taylor Windfall area, which also included a program of surface mapping and geophysical surveys on part of the Taseko Property.

Alpine Exploration Corporation and Westley Mines Limited optioned the Taseko Property from New World Mines Development Ltd. in 1988 after Scurry Rainbow allowed the claims to expire. A small exploration program was implemented that field season, then in early 1989 the two companies vended their interest in the property to Westpine Metals Ltd. The property was then optioned to ASARCO Exploration Company of Canada Limited in 1990 and 1991. ASARCO funded approximately one million dollars of exploration in search of copper-gold porphyry systems but dropped the option in 1992. Westpine has continued to conduct small drilling, geophysical and sampling programs to the present. In 1998 the name of Westpine Metals Ltd. was changed to Great Quest Metals Ltd. In 1996, 1997 and 1999, Great Quest has been studying the occurrence of sapphires in an attempt to ascertain their gem quality.



123°25'
N
TASEKO
RIVER
Battlement cr.
New Gold 4
New Gold 1
New Gold 3
New Gold 2
Mars 19
Mars 20
Mars 11
Mars
1
2
3
4
5
6
7
8
9
10
New Buzz
Cr.
Syn
Odin
Rowbottom Cr.
Granite
Row
Lake
51°05'
0 .5 1 2 Km
NTS 920/3W
WESTPINE METALS LTD.
TASEKO PROJECT
CLAIM MAP
Date: 9/96
FIGURE: 2

REGIONAL GEOLOGIC SETTING AND MINERALIZATION

Regional Geology

The Taseko Property occurs on the northeastern margin of the Coast Plutonic Complex (CPC), as mapped by Tipper (1969, 1978), Glover and Schiarizza (1987), Glover et al. (1986) and McLaren and Rouse (1989). Granitic magma of the CPC intruded Middle Jurassic to Upper Cretaceous sedimentary and volcanic strata that had accumulated within the Tyaughton basin. Coarse clastic sedimentary rocks, which dominate the axial regions of the trough, interfinger with volcanic lithologic in the Taseko to Chilko Lake area (McLaren and Rouse). The volcanic rock includes three main groups: intermediate to felsic pyroclastics and flows correlative with the late-Lower Cretaceous Taylor Creek Group; conglomerates, sandstones, argillite and volcanic flows of the Upper Cretaceous Silverquick Formation; and a thick succession of massive volcanic breccias, agglomerate, tuffs and basic flows of the Upper Cretaceous Powell Creek Formation (Figure 3).

Intrusive rocks in the Taseko area include quartz diorite to quartz monzonite. An extensive, advanced argillic alteration zone exists at the contact between the CPC intrusives and adjacent volcanic - sedimentary strata, and can be traced for over 18 km in an east-west direction.

Extensive thrust faulting of Late Cretaceous age has been documented in rocks adjacent to the CPC. The Tyaughton basin underwent west-vergent thrusting from ca 100 Ma to 90 Ma, closely followed by east-vergent thrusting (Rusmore and Woodsworth, 1991). As much as 100 km of crustal shortening occurred across the basin. The youngest structural patterns that dominate the area are strike-slip faults that developed in Early Tertiary, which include the Yalakom and Tchaikazan faults. The Tchaikazan fault has been interpreted as trending east-southeast along the Taseko River valley (Glover, et al., 1986).

Significant mineral deposits in the region east of the Coast Ranges and within 100 km of the Taseko Property include Blackdome, Bralorne, and Fish Lake (see Figure 1).

PROPERTY GEOLOGY

Geology

The Taseko Property and surrounding area has been mapped in detail by a number of company and government geologists (see References). Because of an extensive blanket of glacial till covering most areas below treeline, outcrops are sparse and geologic mapping has been confined to exposures in creeks and the upper parts of ridges and mountain tops. A wealth of information exists, however, in diamond drill core which totals over 11,000 m (37,000 ft) to date.

The property is underlain mainly by the Late Lower Cretaceous Taylor Creek Formation and late Cretaceous to Tertiary quartz monzonite, granodiorite and quartz diorite of the Coast Plutonic Complex (Figure 3). The contact between the intrusive and volcanic rock is not exposed but is inferred from drilling and geophysics to trend roughly east-west across the property. The contact dips steeply to the north then becomes sub-horizontal at a depth of 100 to 200 m for a distance of at least 640 metres. This sub-horizontal, granitic "bench" has been defined by drill holes to extend at least 1480 m east and 2800 m west of the Empress area.

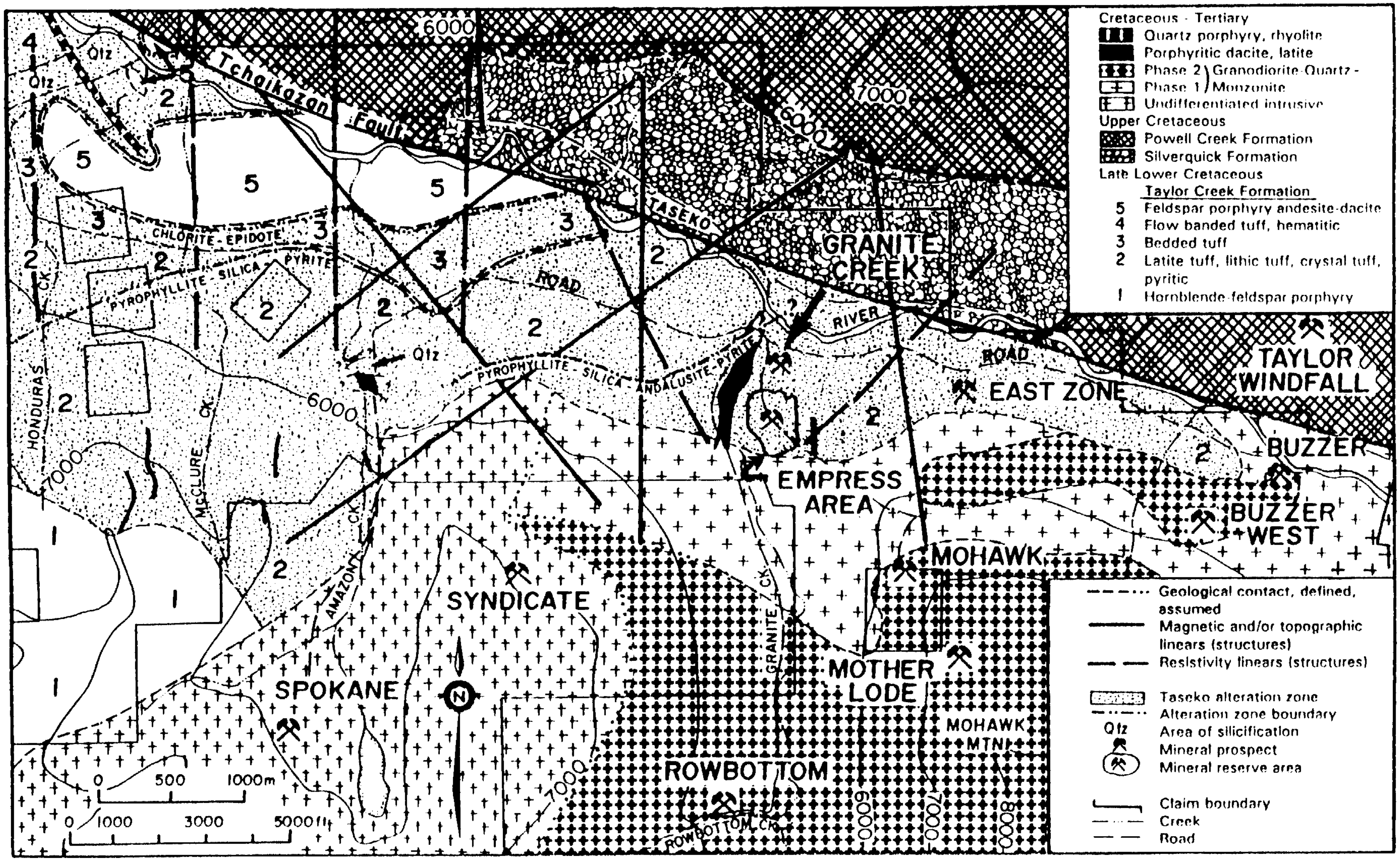


FIGURE 3: Geological Map of the Taseko Property and surrounding area (From Osborne and Allen, 1995).

The Taylor Creek Formation consists of 5 units within the Taseko area. Osborne and Allen (1994) differentiated six types of intrusive rock within the batholithic complex exposed on the property, including varieties of quartz diorite, granodiorite and quartz monzorite. Quartz monzonite-granodiorite is thought to underlie much of the area beneath the alteration zone. North of the Taseko River the Upper Cretaceous Silverquick Formation, mainly chest-pebble conglomerate, sandstone and argillite, and the Powell Creek Formation, mainly volcanic breccia and tuff, occur.

Breccia pipes and andesite to felsic dikes and stocks that postdate the batholith and alteration occur within the plutonic and volcanic units. Dike trends closely match those of prominent joint sets in the area: NW-SE and NE-SW. Faults exposed in outcrop generally trend northwesterly (Allen, 1991), and fault zones in drill core are common.

Structure

The main structural element on the Taseko are on the Tchaikazan which goes along the Taseko River. This fault has not been identified in field work in the area.

Evidence for other faults comes from field work, geophysical information and drill core. West of Amazon creek faults are fairly common and trend mainly northwesterly. Geophysical information from a Dighem Survey was interpreted by Windels (1991). He concluded that major northerly - trending resistivity linears dominate west of Amazon creek, whereas east of Amazon creek there is one northeasterly and one northwesterly linear. The major magnetic linears are north, northeasterly and northwesterly.

Many examples of brecciation and gouge were seen in drill core.

Alteration

A large portion of the Taseko Property covers the 3 km wide alteration zone within the volcanic rocks north of the batholith (see Figure 3). Rocks within this zone have undergone silicification and propylitic, argillic and aluminosilicate alteration. A description of alteration of surface outcrops is found in Allen's (1991) report, and the remainder of this report will concentrate on alteration seen in drill core.

Alteration of rock seen in most drill holes is so intense that determination of original lithologies is difficult if not impossible. In these strongly altered zones, the degree of alteration and mineral variety is very diverse, often changing over short distances (sometimes only tens of centimetres), which results in a very complex suite of rock types. For this reason many units have been divided and labelled according to the dominant minerals present rather than by protolith (see descriptions below). Enough drilling has been completed in adjacent, less altered areas to indicate that these intensely altered lithologies were most likely original volcanic rocks. One of the main reasons for suspecting this is the preservation of volcanic textures, which include breccias, compositional banding, and porphyritic features.

Overall, the most pervasive type of alteration observed from drilling is a fine grained overprint of quartz and a pale green mica. The green mica occurs locally within the Empress area as coarse clusters and has been identified by x-ray diffraction to be pyrophyllite. Staining of numerous pieces of core from this area showed only minor potassium, which suggests that pyrophyllite is prevalent here. It is not known, however, whether all of the green mica seen throughout the property is pyrophyllite, or if some of it is instead sericite. Pyrophyllite-bearing rocks appear to be an advanced argillic alteration assemblage. Alunite has also been identified in this assemblage from surface outcrops (Bradford, 1985).

sericite, apatite, and bastnaesite (a mineral identified by x-ray analysis containing the rare-earth elements lanthanum and cerium). Gypsum, quartz, calcite and white or green clay are common as fracture fillings.

Some totally altered rock units have a consistent mineralogy and are repeatedly encountered in drill holes. The following is a description of these units:

(1) **QAS**[1]: QUARTZ-ANDALUSITE-PYROPHYLLITE ROCK: this rock is characterized by a mainly equigranular texture composed of these three minerals in varying proportions. Additional minerals in QAS include finely disseminated magnetite, clots of chlorite, specks of clay, and gypsum veining (locally up to 1 m in width). It is assumed that QAS represents an altered tuffaceous unit, probably crystal-rich and mafic in original composition.

(2) **PQSA**: PLAGIOCLASE-QUARTZ-PYROPHYLLITE-ANDALUSITE ROCK: rocks of this unit are the most complex mineralogically of any on the property due to multiple interconnected textures and wide diversity of mineral assemblages. It is presumed at this point that the complexity is a result of multiple episodes of fracturing of the QAS unit with additional alteration imposed from subsequent hydrothermal activity. The mineralogy of PQSA consists of plagioclase (which is white, green or pink in colour) and quartz that appear to have been introduced along fractures in QAS. Associated minerals include pyrophyllite, andalusite, magnetite, chlorite, carbonate, corundum, and clay (commonly an alteration product of plagioclase).

(3) **QR**: QUARTZ ROCK: QR is presently thought to represent intense silicification. Typical mineralogy consists of over 90% quartz with the remaining 10% being comprised of one or more of the following minerals: interstitial pyrophyllite, clay, magnetite, chlorite, carbonate, rutile, or sphene. The quartz in QR frequently occurs as fine to coarse surrounded grains with a texture resembling quartzite. Numerous volcanic features are perfectly preserved by the quartz and include breccias, compositional banding and welded-tuff textures.

(4) **QM**: QUARTZ-MAGNETITE ROCK: this unit is very similar to QR, but contains greater than 5% magnetite. Chlorite, hematite and sulphides are common in this unit. Magnetite constitutes 10 to 20% by volume of the rock and is locally massive, reaching 50 to 75%. It occurs interstitial to quartz grains or as fracture fillings. Intervals on the order of tens of meters of brecciated QR healed by a magnetite matrix are common. QM is typically the deepest altered unit intersected in drill holes, situated below quartz rock and above quartz diorite.

In addition to these units, vugs are common and contain coarse-grained minerals (>1 cm in size) of white quartz (often as terminated crystals), plagioclase, calcite, books of chlorite, euhedral magnetite and pyrite and gobs of chalcopyrite. Other, more rare minerals are molybdenite, apatite, sphene and rutile.

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[1]Note: S stands for pyrophyllite.

Mineralization

Prior to 1991, copper-gold mineralization was known to occur in four localities on the Taseko Property, historically referred to as the Empress, Buzzer, Rowbottom and Mother Lode Showings (Figure 3). In 1991, two new zones were discovered through drilling and are referred to as the Granite Creek Zone and East Zone.

Empress Showing: this is the main mineralized zone discovered to date on the property. Here, sulphides of pyrite and chalcopyrite and, more rarely, molybdenite, pyrrhotite, bornite and native copper, are typically disseminated or in fractures within intensely altered, alumino-silicate units. Microscopic examination of gravity concentrates of mineralized core indicates the additional presence of trace galena, spalerite and free gold (Harris, 1988). In situ resources are currently estimated to be 11,078,000 tonnes grading 0.61% Cu and 0.023 oz/t AU (using a cutoff of 0.4% Cu - not copper-equivalent). A study by James Askew Associates, Inc. of Englewood, Colorado (1991) calculated 9,502,000 tonnes of mineable reserves in an open pit operation grading 0.582% Cu and 0.754 g/t Au.

East Zone: this zone is located 1000 m east of the Empress Showing and has been defined by three holes to date. Here, copper-gold mineralization occurs over significant widths within altered volcanic strata. The geological setting is similar to that found in the Empress area.

Buzzer, Rowbottom, Motherlode and Granite Creek Zones: these zones occur within the intrusive rock of the batholith. Mineralization typically consists of pyrite, chalcopyrite, molybdenite and microscopic gold, either disseminated or as replacements of mafic minerals. Another recently discovered zone, the Buzzer West Zone, consists of chalcopyrite and molybdenite in intrusive rock.

1999 PROGRAM

The study of corundum, especially the sapphire variety of corundum, which occurs on the Taseko Property started in 1996 and was conducted by Great Quest in collaboration with the Geological Survey Branch of the BC Ministry of Employment and Investment. The study had two phases:

Phase I

a) Visit the property, examine core samples and take samples of core, rock and stream sediments.
b) Identify the composition and proportion of heavy minerals from samples through the use of a scanning electron microscope or chemical analysis.

Phase II

a) Return to the property, collect larger samples of unconsolidated material and concentrate the samples on site.
b) Study the coarse heavy mineral concentrate using jigs and/or heavy liquids in combination with a microscope examination.
c) Document extracted corundum through personnel of the Geological Survey and further evaluate the findings by two important experts.

In 1996 the property was visited, core was examined for corundum and samples were taken. This was reported by E. Lambert (1996). In 1997 heavy mineral concentrates from the 1996 samples were studied by means of a scanning electron microscope and chemically analyzed. In addition, nine larger samples of unconsolidated material were collected on the property and concentrated on site. This was reported by Osborne (1997).

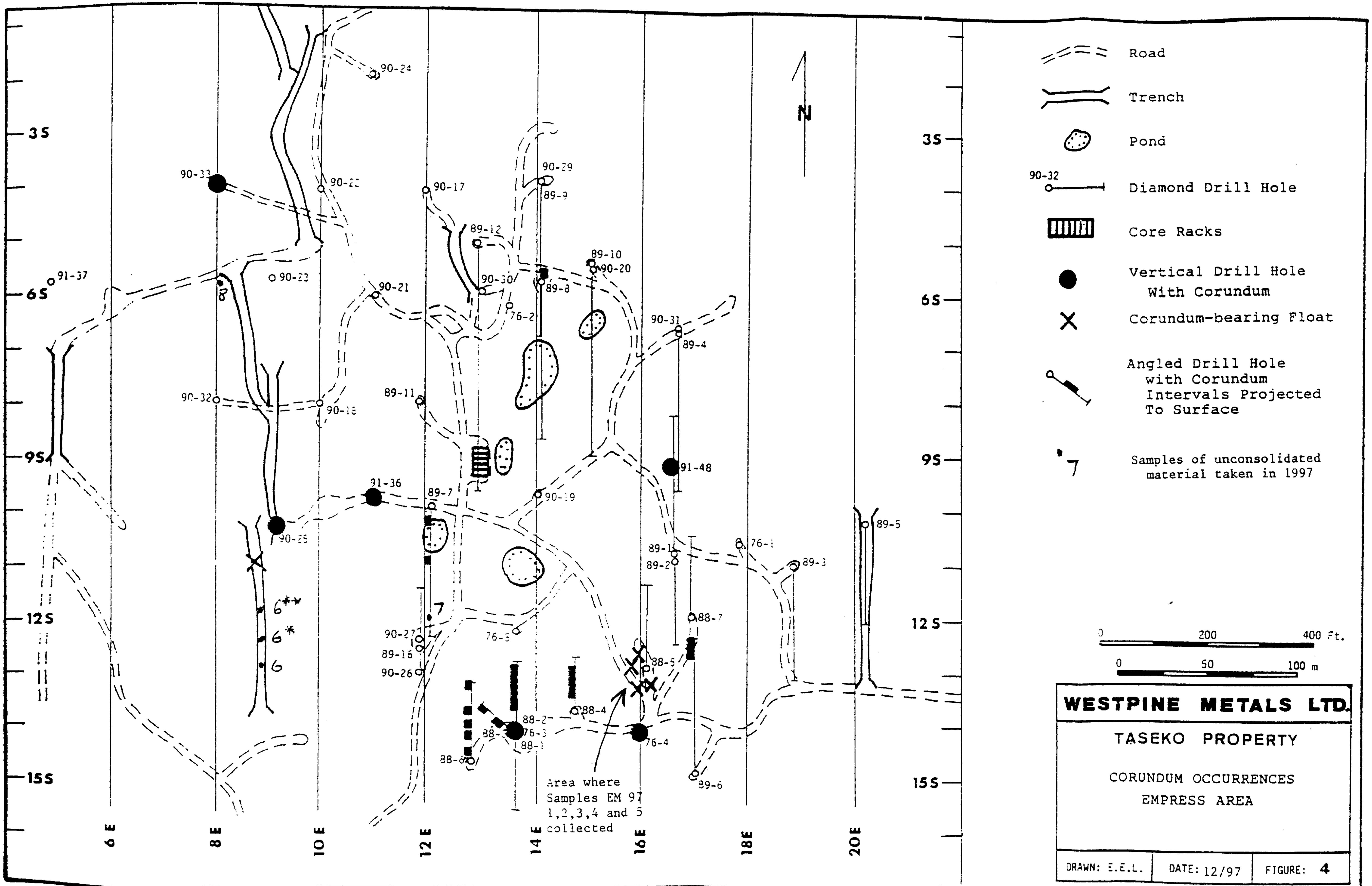
In 1999 the nine samples were sent to International Metallurgical and Environmental Inc. for processing. The samples, listed below, were taken in the Empress area (for location of samples, see Figure 4).

List of Samples

Sample Identification	Weight (kg)
EM97-1	15
EM97-2	7
EM97-3	7
EM97-4	5
EM97-6	4.5
EM97-6*	6
EM97-6**	6
EM97-8	6
EM97-9	6

The samples were screened to remove oversize grains (6 mm) and panned to wash out fines and low density minerals. A listing of the samples and their approximate weights is presented in the above table. The samples were processed further using screening, gravity concentration (shaking table, heavy liquids) and high intensity magnetic separation to concentrate the corundum.

The samples were screened at 1 mm (14 mesh) and 0.5 mm (28 mesh) and the fractions will be weighed. The +1 mm fraction was upgraded using heavy liquid separation to separate the low density minerals from the high density fraction (containing the corundum). High intensity magnetic separation was used to produce a non-magnetic corundum concentrate.


Road
Trench
Pond
90-32
Diamond Drill Hole
Core Racks
Vertical Drill Hole With Corundum
Corundum-bearing Float
Angled Drill Hole with Corundum Intervals Projected To Surface
Samples of unconsolidated material taken in 1997
N
0 200 400 Ft.
0 50 100 m
WESTPINE METALS LTD.
TASEKO PROPERTY
CORUNDUM OCCURRENCES
EMPRESS AREA
DRAWN: E.E.L.
DATE: 12/97
FIGURE: 4
3S
6S
9S
12S
15S
6E
8E
10E
12E
14E
16E
18E
20E
Area where Samples EM 97 1,2,3,4 and 5 collected
90-24
90-33
90-22
90-17
90-29
89-9
89-12
89-10
90-20
91-37
90-23
90-21
90-30
89-8
76-2
90-31
89-4
89-11
90-32
90-18
91-48
91-36
89-7
90-19
90-25
89-5
76-1
89-3
88-7
90-27
89-16
90-26
76-5
88-5
88-4
88-2
76-3
88-1
76-4
88-6
89-6

The corundum concentrates were then sent to Dr. Bern Klein and Caroline Germain where they were examined by a microscope and the grains were sorted on the basis of their colour and transparency.

A report on the Mineralogical Evaluation on Taseko Corundum by Caroline Germain, M.Sc and Bern Klein, Ph.D follows as an addendum to this report. The Germain-Klein report forms the basis for this report and presents the information in much more detail.

RESULTS

The Klein-Germain reports shows the results of the study in three tables (please refer to the Klein-Germain report). It shows the weight distribution of the corundum in the two fractions, the colour of the corundum grains and the number of corundum grains, all for each of the samples.

As far as the quality of the corundum is concerned, it is low. The colour is inconsistent in terms of shades of blue and the colouration of the crystals is often broken by white areas. The transparency of the sapphires is hard to determine. The authors conclude this section by saying the uniformity and lightness of the colour and good transparency is critical for marketing of gem quality sapphires. The crystals present in the samples do not meet this criteria and thus are not gem quality crystals.

They continue in a discussion of heat treating and its pluses and minuses, but they conclude that even if it did work, the sapphires in this study are two small to be of any value as gemstones.

It might be added that much larger sapphires have been seen in core and in rock samples. Lambert (1996) documents one sapphire crystal up to 2 centimetres long and another with a width of 0.8 centimetres. The samples which formed the basis for this study constituted soil from areas where sapphires were known to occur.

RECOMMENDATIONS

Because of the poor quality of the sapphires examined in this study, the Company plans no more work on the sapphires at this time.

STATEMENT OF COSTS

Metallurgical Test Work	$ 2,200
Grain sorting and Microscopic Exam	1,125
Gem Quality Assessment	400
Supervision and Reporting	625
Miscellaneous Expenses	100
Management	300

$ 4,750.00

REFERENCES

Austin, Gordon T., 1993, Gemstones; U.S. Department of the Interior, Bureau of Mines

Allen, D.G., 1991, Geological and Geochemical Report on the Taseko Alteration Zone; private report for ASARCO Exploration Company of Canada, Ltd. and Westpine Metals Ltd.

Bacon Donaldson & Associates Ltd., 1991, Alpine Gold/Copper Ore Preliminary Metallurgical Testwork Progress Report #1; private report for Alpine Metals Ltd.

Crossland, F.J., 1920, Taseko Valley Iron-Ore Deposits: in Annual Report of the Minister of Mines 1920, British Columbia.

Glover, J.K., Schiarizza, P., Unhoefer, P., and Garver, J., 1986, Geology of the Warner Pass area, NTS 92O/3; B.C.G.S. Open File map 1987/3.

_____________, and Schiarizza, P., 1987. Geology and mineral potential of the Warner Pass map sheet; in Geological Fieldwork 1986, BC Ministry of Energy, Mines and Petroleum Resources, Paper 1987-1, pp. 157-169

Hawthorn, Gary W., 1988, Progress Report #1, Laboratory Metallurgical Testing, Taseko Gold/Copper Property; report for Westley Mines Ltd.

Harris, J., 1988, Petrographic Report of selected core samples from DDH 76-3; report for Westley Mines Ltd.

James Askew Associates, Inc., 1991, ASARCO Incorporated, Taseko Project - British Columbia, Canada, Pre-Feasibility Study; report for ASARCO Inc.

Lambert, E.E., 1988, Report on the 1988 Exploration Program of the Taseko Property; Alpine Exploration Corp. Assessment Report #18,921.

_____________, 1989a, Geology, Geochemistry and Mineralization of the Taseko Property; prospectus report for Westpine Metals Ltd.

_____________, 1989b, Geochemical and Diamond Drilling Program of the Taseko Property; Westpine Metals Ltd. Assessment Report #19,350.

_____________, 1991a, 1990 Diamond Drilling Program of the Taseko Property; Westpine Metals Ltd. Assessment Report, presently unpublished.

_____________, 1991b, 1991 Diamond Drilling Program of the Taseko Property; Westpine Metals Ltd. Assessment Report, presently unpublished.

_____________, 1996, Report on the 1996 Corundum Exploration Program of the Taseko Property; Westpine Metals Ltd. Assessment Report, presently unpublished.

Livingstone, K.W., 1976, Geology and Drilling, Granite Creek Project; unpublished 1"=400' map for Quintana Minerals Corporation.

McLaren, G.P. and Rouse, J.N., 1989, Geology and mineral occurrences in the vicinity of Taseko Lakes; in Geological Fieldwork 1988, BC Ministry of Energy , Mines and Petroleum Resources, Paper 1989-1, pp. 153-158.

McMillan, W.J., 1976, Granite Creek Property, 92O/3W; B.C. Ministry of Energy, Mines and Petroleum Resources, Geology in British Columbia, Geological Fieldwork 1976, pp. 67-84.

Madeisky, H.E., 1994, Lithogeochemical data analysis - Taseko porphyry copper-gold project, central British Columbia; unpublished Westpine Metals Ltd. company report.

Melnyk, W.D. and R.M. Britton, 1986, Geological, Geochemical and Geophysical Report on the Babbling Brook No.1, Flapjack No. 1&2, Taseko 34, Taseko 36 to 66, Taseko 72-89, Taseko 144-146, Perfect Day and Old & Rare 3; Esso Resources Canada Ltd. Assessment Report #15,676.

___________, Britton, R.M. and H. Marsden, 1986, Geological, Geochemical and Geophysical Report on the Tyaughton Trough Projects; Esso Resources Canada Ltd. Assess. Report #15,755.

Nakashima, K., 1970, Report on the Geology of the Property of Scurry Rainbow Oil Ltd., Taseko Lake Area; unpublished company report.

Osborne, W.W. and Allen, D.G., 1994, 1993-1994 exploration program on the Taseko property; Westpine Metals Ltd., MEMPR Assessment Report #23,361.

_________________________, 1995, The Taseko Copper-Gold-Molybdenum Deposits, Central British Columbia; in Porphyry Deposits of the Northwestern Cordillera of North America, CIM Special Volume 46, pp. 441-450.

Osborne, W.W., 1997, Report on the 1997 Corundum Exploration Program on the Taseko property; Westpine Metals Ltd., Assessment Report, presently unpublished.

Peatfield, G.R., 1991, Mineral Inventory Calculation for the Lower North Zone, Taseko Property; Consulting report for Westpine Metals Ltd.

Rusmore, M.E. and Woodsworth, G.J., 1991, Coast Plutonic Complex: A Mid-Cretaceous Contractional Orogen; Economic Geology, 19, pp. 941-944.

Tipper, H.W., 1969, Mesozoic and Cenozoic Geology of the Northeast Part of Mount Waddington Map Area (92N), Coast District; B.C., Geological Survey of Canada, Paper 68-33.

___________, 1978, Taseko Lakes (92O) Map Area; 1"=4 miles Open File Map 534, Geological Survey of Canada.

Uchida, K., Nakashima, K., Shibuya, A., Robert, I., Aoki, K., 1970, Geological survey, Taseko property; 1"=1000' map for Sumitomo Metal Mining Canada Ltd.

Wolfhard, M.R., 1976, Granite Creek Project 1976 Work; unpublished Quintana Minerals Corporation report.

STATEMENT OF QUALIFICATIONS

I, Willis W. Osborne of 905 - 2324 West First Avenue, Vancouver, British Columbia, hereby certify that:

1. I am a Fellow of the Geological Association of Canada.

2. I have a B.Sc. in geology from the University of Minnesota (1961) and a M.Sc. in geology from the University of British Columbia (1966).

3. I have practiced as a geologist full and part-time since 1963 in Canada and the United States. Since 1980 I have managed small companies involved in mineral exploration as well as being involved in the geological mapping and interpretation etc. of the projects.

4. I am the President of Great Quest Metals Ltd. as well as acting as a Director. I directly and indirectly own 1,147,047 shares as well as holding an option on 80,000 shares and warrants to purchase up to 844,545 shares.

5. I have been responsible for managing the program on the Taseko Property from 1988 through 1999. My management style is a hands-on approach. This report is based on all of the data available on the Taseko Property as well as the experience picked-up over the years on the project.

October 8, 1999

Willis W. Osborne
M.Sc., FGAC

<u>ADDENDUM</u>

September 7, 1999 Report on Mineralogical Evaluation of Taseko Corundum by Caroline Germain and Bern Klein

Mineralogical Evaluation of
Taseko Corundum

Prepared for: **Great Quest Metals**
900 – 475 Howe Street
Vancouver, B.C.
V6C 2B3

Attention: **Mr. Bill Osborne**

Prepared by: **International Metallurgical and Environmental Inc.**
1686 West 75th Avenue
Vancouver, B.C.
V6P 6G2

Caroline Germain, M.Sc.

Bern Klein, Ph.D.
Consulting Metallurgist

September 7, 1999

Table of Contents

1. Summary

Nine surface samples from the Taseko property in north central British Columbia were received and processed to concentrate the corundum. Concentrates were examined with a microscope to hand sort and characterize the corundum grains from gangue minerals.

Processing involved screening, magnetic separation and heavy liquid separation to concentrate the corundum in +1.0 mm and -1.0 +0.5 mm heavy non-magnetic products. The +1.0 mm products were hand sorted to separate the corundum from the gangue minerals. The weight distributions of the +1.0 mm corundum for each sample are as follows:

Sample No.	Corundum Wt. % +1.0 mm
97-1	2.14
97-2	1.64
97-3	1.50
97-4	2.60
97-6	0.24
97-6*	0.22
97-6**	0.01
97-8	0.19
97-9	0.40

The samples contained corundums and some sapphires of hexagonal tapering prismatic form. The sapphires were somewhat fragmented as a result of irregular parting along one crystallographic plane. The corundum grains vary in colour from black to blue and the sapphires are dark to royal blue. Due to uneven colour distribution within the sapphires and their deep blue tones, they are not gem quality.

Heat treatment of the crystals may offer a solution to improve their quality. However, even with successful heat treatment, the sapphire crystals are too small (<½ carat) to be of value. If larger corundum crystals are found on the property, they could have a good value if heat treated.

2. Introduction

A study was conducted for Great Quest Metals to characterize the corundum with from the Taseko Property located in north central British Columbia. The study was conducted on nine surface samples which were subjected to screening,, gravity concentration and magnetic separation to concentrate the corundum for microscopic examination.

3. Results and Discussion
3.1 Concentration of Corundum

Nine surface samples were collected from the Taseko property. The samples were screened to remove oversize (6 mm) and panned to wash out fines and low density minerals prior to shipping to International Metallurgical and Environmental Inc. A listing of the samples that were received and their respective weights is shown in Table 1. The samples were processed further using screening, gravity concentration (shaking table, heavy liquids) and high intensity magnetic separation to concentrate the corundum. Corundum is non-magnetic and has a S.G. of >3.2 causing it to be reported to the non-magnetic high S.G. product.

Table 1. List of Samples Received

Sample Identification	Weight (kg)
EM97-1	15
EM97-2	7
EM97-3	7
EM97-4	5
EM97-6	4.5
EM97-6*	6
EM97-6**	6
EM97-8	6
EM97-9	6

The samples were screened at 1.0 mm (14 mesh) and 0.5 mm (28 mesh) and the fractions were weighed. The +1 mm and -1.0 +0.5 mm fractions were processed to produce nonmagnetic heavy mineral fractions, which are referred to as corundum concentrates. The -1.0 +0.5 mm fractions were processed with an Eriez dry high intensity magnetic separator to recover the nonmagnetic corundum fraction. The +1.0 mm and non-magnetic -1.0 +0.5 mm fractions were then subjected to heavy liquid separation using the dense liquid lithium metatungstate with a S.G. of 3.0. All products were collected and weighed. For the -1.0 +0.5 mm fractions, the concentrates weighed between 15.9 g and 238 g and for the +1.0 mm fractions the concentrates weighed between 66.7 g and 786.9g. The +1.0 mm concentrate products were then hand sorted to separate corundum grains from the gangue minerals. Concentrate weights and distributions are presented in the Appendix and the weight percentages are summarized in Table 2.

Table 2. Concentrate and corundum weight distributions.

Sample No.	Concentrate Wt. %	
	+1.0 mm	-1.0 +0.5 mm
97-1	6.4	2.0
97-2	4.0	1.2
97-3	6.9	2.0
97-4	4.8	1.4
97-6	2.0	0.9
97-6*	2.9	0.4
97-6**	1.8	0.7
97-8	9.5	0.5
97-9	7.6	2.0

3.2 Mineralogical Characterization

The +1.0 mm corundum concentrates were examined with a microscope to sort and characterize the corundum grains. The corundum minerals present in the all the samples exhibit a hexagonal tapering prismatic form. However a major proportion of the grains are fragmented as a result of intense irregular parting along the a/b crystallographic plane, resulting in 'slices' of corundum crystals. The colour of the corundum grains present in the samples varies from black, dark to royal blue, and rarely white. The crystals are opaque to translucent. The mineralogical and crystallographic information is summarized in Table 3. For quantitative assessment, the samples were riffled and the sub-samples were examined (Table 4). Most of the corundum grains in the samples are corundum, however some samples contain blue sapphire crystals (e.g. 97-1, 97-3, and 97-4).

Table 3. Mineralogical characterization of +1.0 mm corundum concentrates.

Sample No.	Colour	Grain Size (mm)					
		c axis			a/b axis		
		min	max	ave	Min	max	Ave
97-1	Black, dark to royal blue	2	3	1-1.5	0.5	3	1.5
97-2	Black to dark blue	1	4	2	0.5	2	2
97-3	Black, dark to royal blue	0.5	5	1.5	0.5	3	1.5
97-4	Black, dark to royal blue	0.75	3	1.5	0.5	4	1
97-6	Black to dark blue	0.5	2	0.75	0.5	1	0.5
97-6*	Black to dark blue	0.5	3	0.5-1	0.5	1	0.5
97-6**	Black to dark blue	1	3	1	0.5	1	0.5
97-8	Black to dark blue	1	1	1	1	1	1
97-9	Dark to royal blue	1	2	1.5	1	1.5	1.25

Table 4. Quantitative assessment of corundum concentrates.

Sample No.	Number Corundum Grains	Corundum Wt (g)	Gangue Wt (g)	Corundum Wt %
97-1	201	4.33	13.06	33.15
97-2	277	6.80	16.43	41.39
97-3	473	8.08	37.05	21.81
97-4	196	7.38	13.64	54.11
97-6	117	1.77	15.01	11.79
97-6*	12	1.02	13.22	7.72
97-6**	8	0.11	14.17	0.78
97-8	5	0.17	8.60	1.98
97-9	45	0.57	10.83	5.26

Note that the corundum weight and the corundum weight % are not truly accurate because some of the corundum crystals were hosted by gangue minerals. Due to the fact that there were relatively few gangue-hosted corundum crystals, the estimate is a good approximation (with corundum concentrates containing excessively large gangue crystals).

3.3 Gem Quality Assessment of Sapphires

In order to classify or to grade gemstones, we refer to the three basic components of colour – hue, tone, and intensity – and the two minor components – evenness (colour zoning) and pleochroism (doubly-refracting stones only).

The blue sapphires present in sample 97-1, 97-3, and 97-4 are royal to light blue and some show white areas. The colouring of the crystals is inconsistent in terms of shades of blue, and the coloration of the crystals is often broken by white areas thought to represent iron-deficient zones. The transparency of the sapphire samples is hard to determine due to the dark blue colouring of the crystals. For these reasons, the sapphires are not gem quality.

Uniformity and lightness of the colour and good transparency is critical for marketing of gem quality sapphires. The crystals present in the samples do not meet these criteria and thus are not gem quality crystals. However, heat treatment of the corundum can improve the quality of the crystals. Heat treatment achieves the following:

- removes the silk or develops asterism;
- lightens dark blue hues, or can add blue colours specifically for whitish-yellow gueda sapphire;
- induces valuable red, blue, yellow-brown and green hues in sapphire rough;

Therefore, heat treatment of the corundum crystals could improve the overall colour and transparency. Two types of heat treatment are available:

1. Simple heat treatment

Simple heat treatment consists of heating the crystal to 1600°C in an oxidizing atmosphere over a few hours, allowing the iron within the crystal to oxidize to the ferric sate. Ferrous iron and titanium is thought to give the deep blue colour of the sapphire.

However, heat-treated sapphire with this method can be identified under microscope by the following features:

- unusual absence of silk;
- colour banding that appears to have become diffused;
- stress fractures surrounding somewhat melted mineral inclusions;
- exploded 'liquid' inclusions.

2. Heat treatment with surface diffusion

Alternatively, heat treatment with surface diffusion is used to redistribute or improve the colour of natural corundum. The treatment is performed on performed or polished pale-coloured sapphires, at high temperatures for prolonged periods of time, embedded in alumina containing suitable salts of colouring elements such as titanium, iron, chromium or nickel. Surface-diffusion-coated sapphires can be detected by immersing in di-iodomethane and examining in diffuse transmitted light for evidence of:

- a thin blue coating, up to 0.4 mm thickness, that coats a pale coloured sapphire seed;
- localised surface blotchiness where patches of the diffused coating have been removed during necessary re-polishing;
- bleeding of the blue coating into surface-reaching defects in the seed;
- accentuated edges, due to the presence of a double layer of synthetic corundum on these edges.

Gem quality sapphires on the market are not smaller than ½ carat due to the low pricing of small sapphire gemstones (½ to <1 carat). Even if the corundum present in the samples were successfully heat treated to gem quality crystals, they are too small to be of any value as gemstones. Unfortunately, due to the availability of synthetic corundum as abrasive, it would be difficult to justify the extraction of the corundum from the samples.

A summary of the AIGS (Asian Institute of Gemological Sciences) sapphire classification system is described in the Appendix (Hughes, R. W. (1990)).

Appendix

INTERNATIONAL METALLURGICAL AND ENVIRONMENTAL INC.

SAMPLE RECEIVING LOG REPORT

Project: Great Quest Metals

Date received: April 23, 1999

Received by: Brian

Page: __1__ of 1____

Count	Identification	Wet	Dry	Sample Description	Weight (kg)
1	EM 97-1	X		Brown sandlike samples in plastic bags	14.3704
2	EM 97-2	X		Brown sandlike samples in plastic bags	5.6507
3	EM 97-3	X		Brown sandlike samples in plastic bags	5.6668
4	EM 97-4	X		Brown sandlike samples in plastic bags	4.2959
5	EM 97-6	X		Brown sandlike samples in plastic bags	3.9133
6	EM 97-6*	X		Brown sandlike samples in plastic bags	4.6104
7	EM 97-6**	X		Brown sandlike samples in plastic bags	4.6848
8	EM 97-8	X		Brown sandlike samples in plastic bags	4.5533
9	EM 97-9	X		Brown sandlike samples in plastic bags	5.1883
10					
11					52.9339
12	Sample EM 97-1 was received				
13	on May 21, 1999				
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International Metallurgical and Environmental Inc

Heavy Liquid Separation Test Report

Project: Great Quest Metals **Date:** 12-May-99
Sample: Plus 14 mesh fractions
Liquid: Lithium Meta-Tungstate (S.G. = 3.0)

Sample No.	Floats (g)	Sinks (g)	Total Weight (g)	Floats (%)	Sinks (%)	Total (%)
97 - 1	3,391.7	786.9	4,178.6	81.2	18.8	100.0
97 - 2	1,295.3	184.3	1,479.6	87.5	12.5	100.0
97 - 3	1,583.9	330.4	1,914.3	82.7	17.3	100.0
97 - 4	1,422.3	174.4	1,596.7	89.1	10.9	100.0
97 - 6**	1,090.1	75.0	1,165.1	93.6	6.4	100.0
97 - 6*	1,000.5	114.1	1,114.6	89.8	10.2	100.0
97 - 6	1,035.2	66.7	1,101.9	93.9	6.1	100.0
97 - 8	902.3	353.6	1,255.9	71.8	28.2	100.0
97 - 9	837.8	323.5	1,161.3	72.1	27.9	100.0

Samples 97-8 & 97-9
Higher than average mass losses due to attempted magnetic separation

International Metallurgical and Environmental Inc

Heavy Liquid Separation Test Report

Project: Great Quest Metals
Sample: Minus 14 mesh plus 28 mesh fractions
Liquid: Lithium Meta-Tungstate (S.G. = 3.0)

Date: 12-May-99

Sample No.	Floats (g)	Sinks (g)	Total Weight (g)	Floats (%)	Sinks (%)	Total (%)
97 - 1	2,533.1	238.0	2,771.1	91.4	8.6	100.0
97 - 2	802.3	53.8	856.1	93.7	6.3	100.0
97 - 3	927.3	95.3	1,022.6	90.7	9.3	100.0
97 - 4	652.4	50.5	702.9	92.8	7.2	100.0
97 - 6**	710.4	26.9	737.3	96.4	3.6	100.0
97 - 6*	623.8	15.9	639.7	97.5	2.5	100.0
97 - 6	690.1	28.4	718.5	96.0	4.0	100.0
97 - 8	514.4	20.2	534.6	96.2	3.8	100.0
97 - 9	690.2	85.3	775.5	89.0	11.0	100.0

Samples 97-1 Removed an additional 40 g of -28# material from non-magnetics

International Metallurgical and Environmental Inc

Magnetic Separation Test Report

Project: Great Quest Metals
Sample: Minus 14 mesh plus 28 mesh fractions

Date: 4-May-99

Sample No.	Magnetics (g)	Non Magnetics (g)	Total Weight (g)	Magnetics (%)	Non Magnetics (%)	Total (%)
97 - 1	278.7	2,817.3	3,096.0	9.0	91.0	100.0
97 - 2	135.1	863.5	998.6	13.5	86.5	100.0
97 - 3	73.0	1,032.7	1,105.7	6.6	93.4	100.0
97 - 4	102.2	705.8	808.0	12.6	87.4	100.0
97 - 6**	124.5	740.1	864.6	14.4	85.6	100.0
97 - 6*	125.7	642.1	767.8	16.4	83.6	100.0
97 - 6	78.8	724.9	803.7	9.8	90.2	100.0
97 - 8	258.9	535.7	794.6	32.6	67.4	100.0
97 - 9	188.7	780.8	969.5	19.5	80.5	100.0

International Metallurgical and Environmental Inc

As Received Size Distribution

Project: Great Quest Metals

Date: 3-May-99

Sample No.	+ 14 # (g)	- 14 +28 # (g)	- 28 # (g)	Total Weight (g)	+ 14 # (%)	- 14 +28 # (%)	- 28 # (%)	Total (%)
97 - 1	4,208.8	3,102.1	4,971.5	12,282.4	34.3	25.3	40.5	100.0
97 - 2	1,488.7	1,000.6	2,189.2	4,678.5	31.8	21.4	46.8	100.0
97 - 3	1,917.6	1,108.2	1,796.5	4,822.3	39.8	23.0	37.3	100.0
97 - 4	1,600.0	810.6	1,222.3	3,632.9	44.0	22.3	33.6	100.0
97 - 6**	1,167.8	866.9	2,019.0	4,053.7	28.8	21.4	49.8	100.0
97 - 6*	1,118.3	770.2	2,029.3	3,917.8	28.5	19.7	51.8	100.0
97 - 6	1,104.6	806.2	1,399.8	3,310.6	33.4	24.4	42.3	100.0
97 - 8	1,278.2	801.4	1,717.1	3,796.7	33.7	21.1	45.2	100.0
97 - 9	1,181.5	974.8	2,203.2	4,359.5	27.1	22.4	50.5	100.0
Total	15,065.5	10,241.0	19,547.9	44,854.4				

Blue Sapphire Classification

Classification of blue sapphires by the AIGS (Asian Institute of Gemological Sciences) is as follow (Hughes, R. W. (1990)):

Type A

1. Hue position is a rich 'royal blue', almost verging to the violet and deeper than type C.
2. Often appears very dark or black where extinction occurs.
3. This colour completely lacks the 'inkness' of type D.
4. Origin is mainly Burma, Sri Lanka or Pailin (Cambodia).

Type B

1. Hue position is a deep blue similar to types A or D but slightly milky or silky.
2. May display strong colour zoning.
3. Usually filled with minute particle or silk clouds, making the stone appear slightly sleepy or foggy.
4. Usual origin is Bo Ploi (Kanchanaburi, Thailand) or Kashmir.

Type C

1. Hue position is a pure 'cornflower-blue' colour of lighter tones than type A.
2. Strong colour zoning often present.
3. Usual origin is Sri Lanka, but many may also come from Yogo Gulch (Montana, USA) or Burma.

Type D

1. Hue position is an 'inky blue' with very dark tones (70-100%).
2. Often shows slight greenish overtones.
3. Hexagonal colour banding often visible.
4. Shows strong iron lines (451.5, 460 and 470nm) in the spectroscope. This produces less transmission in the blue, creating the inkness in the colour.
5. Usual origin is Australia, Thailand (Chanthaburi), Pailin (Cambodia) or Nigeria.

Hughes, R. W. (1990) Corundum. Butterworths Gem Books. Ed. Peter G. Read. Mineralogical Analysis