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A DATA COMPILATION AND
GEOLOGICAL/GEOSTATISTICAL EVALUATION OF THE
OK COPPER - MOLYBDENUM PROSPECT
Powell River, British Columbia

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By

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S U M M A R Y

INTRODUCTION

The OK copper-molybdenum property located approximately 100 km north of Vancouver, B.C., is held under option by CanQuest Resource Corporation.

The property consists of 143 mining units within 8 contiguous mineral claims in the Vancouver Mining Division (NTS reference map 92 K/2E). The claims are bounded to the north and west by navigable inlets of the Strait of Georgia, and are easily accessible via 20 km of well-maintained logging road which runs northwest off Highway 101 some 8 km north of Powell River, B.C.

In the period between its discovery in 1965 and the end of 1974, five major mining companies conducted reconnaissance and localized exploration programs on the claims. However, the property has never been subjected to a comprehensive, integrated exploration program, nor has the cumulative data from the drilling, geochemical, and geophysical exploration been compiled in a standard form to provide guidance for such a program.

The authors were retained in 1989 by CanQuest Resource Corporation to collect, update and assess all the historical data, and to assess/refine a 1982 geostatistical reserve estimate employing the new compilation.

GEOLOGY

The central portion of the property is situated on an upland plateau-like surface some 800 m above sea level. Country rocks are granitic rocks of the Coast Plutonic Complex which are of mid-Cretaceous age. These have been intruded by a probable mid-Tertiary multiple phase complex which hosts copper and molybdenum mineralization. Principal intrusive phases include a peripheral granodiorite, the main mineralized host, and a central, essentially barren quartz-feldspar-porphyry dyke-like body. Several mineralized phases are evident, and an intrusive (hydrothermal) breccia occurs in the southern part of the property. Post-mineral basic dyke swarms are numerous and present a potential internal dilution problem.

DRILLING RESULTS

The drilling component of the earlier exploration programs produced over 13500 m of drill core and cuttings from 81 diamond and 12 percussion drill holes. Analysis of the results indicates a number of zones over a 5 km northerly trend which in aggregate contain several hundred million tonnes of copper-molybdenum mineralization grading in excess of 0.3% Cu and 0.02% MoS₂. It is evident that the drilling did not delimit the zones laterally or at depth, and that the drilled zones do not represent the entire tonnage potential of the property.

DRILLING DATA COMPILATION

Compilation of the drilling data consisted of creating a computer drill hole database, importing the original ASCII file data into the database, editing the database, and entering into the database missing drill holes and drill hole information elsewhere available. After a final edit was completed, a drill hole location plan and over 30 cross-sections were plotted to display the drill hole data.

The database contains drill hole information stored within four separate tables: general identification, survey, lithology, and assay tables. All information stored within these database tables can be printed out and/or exported in ASCII file form.

ORE RESERVES

A geostatistical appraisal of the ore potential of the drilled zones was conducted in August, 1982 by Geostat Systems International (GSI). In the opinion of the authors, GSI performed the study in compliance with the best industry standards for geostatistical reserve estimation, including the incorporation of geological controls where possible for extrapolating extensions of ore zones, and considering all barren dyke intervals less than 10m as zero grade.

Using the GSI work as a base, and incorporating the current understanding of the ore continuity, the authors of this report calculate the proven plus probable reserves recoverable by a selective open pit mining operation to be as follows:

<u>CUT-OFF GRADE</u> <u>(% Cu Equiv.)</u>	<u>TONNAGE</u> <u>(tonnes)</u>	<u>CU</u> <u>(%)</u>	<u>MoS₂</u> <u>(%)</u>
0.2	228,400,000	0.32	0.020
0.3	155,000,000	0.39	0.024
0.4	104,900,000	0.46	0.028
0.5	72,000,000	0.54	0.033
0.6	50,300,000	0.61	0.037

Notes: * The copper equivalent grades in the GSI report were

derived as "Cu + 8 MoS₂" which was left intact for the purposes of this study. Current copper equivalent calculations would employ approximately "Cu + 4 MoS₂".

- * Selective mining units of 10m x 10m x 15m were assumed by GSI.
- * The authors consider that 70% of the foregoing reserves are in the proven category.

FURTHER ORE POTENTIAL

Potential additions fall into three categories:

- (1) At depth and laterally in the drilled zones;
- (2) Higher grade mineralization in hydrothermal breccias which were discovered subsequent to the 1965-74 period, and which are now being investigated; and
- (3) Other mineralized zones not yet explored on the extensive property.

OTHER ECONOMIC MINERALS

Silver has been measured in economic amounts in the hydrothermal breccias.

Gold is present in the intrusive complex; unfortunately, none of the original core was assayed for its gold content. A 2ft chip sample taken in 1985 from a sample (breccia/vein ?) 350m east of North Lake assayed 0.28 oz gold per ton and 0.96 oz silver per ton.

RECOMMENDATIONS

The authors recommend a two-stage program as follows:

- (1) a) Aerial topographic surveying.
b) Geologic mapping.
c) Geophysical surveying.
- (2) a) Stripping and trenching.
b) Diamond and percussion drilling.

The estimated budget for the programs is in the order of \$1.5 million.

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1.0 INTRODUCTION

The OK copper-molybdenum property, approximately 100 km northwest of Vancouver, British Columbia, is held under option by CanQuest Resource Corporation. The property consists of eight contiguous mineral claims in the Vancouver Mining Division (NTS reference map 92K/2E).

The authors have been retained by CanQuest Resource Corporation to collect, update and assess all the historical data, and to assess/refine a 1982 geostatistical reserve estimate employing the new compilation.

This report is based on: an examination of the property by Neil Froc on June 10, 1989; personal involvement by Neil Froc in two exploration programs during 1981 and 1985; and on substantial records of earlier works made available to the authors by CanQuest.

2.0 INFORMATION SUPPLIED

The following information was made available to the authors:

- * Various property reports, listed in the "References",
- * Numerous cross-sections and plan views of exploration results,
- * Drill logs from the following years:
 - 1966-67 Noranda Exploration Co. Ltd.
 - 1968 ASARCO Exploration Co. of Can.
 - 1970 Falconbridge Nickel Mines Ltd.
 - 1971 Duval International Corporation
 - 1972 Granite Mountain Mines
 - 1974 Western Mines Ltd.
 - 1977 Western Mines Ltd.
 - 1979 Aquarius Resources Ltd.
- * Drill hole data in computer form (incomplete)

3.0 LOCATION AND ACCESS

The OK property is located 24 km north-northwest of the municipality of Powell River (Figure 3-1). Powell River is approximately 100 km northwest of Vancouver and has an area population of over 20,000. It is readily accessible by provincial ferry service and regularly scheduled airline service.

The property includes an area of 3575 hectares bounded on the north and west by Theodosia and Okeover Inlets. The geographic centre of the property is at latitude 50°02' North and longitude 124°39' West in National Topographic map area 92K/2E.

Access to the property from Powell River is by 28 km of combined paved highway and well maintained logging roads. Secondary access to the northern-most extremity of the property is by boat from the government wharfs at Okeover Inlet or by float plane into Theodosia Inlet. The north end of the property is being actively logged from a logging camp stationed at Theodosia Inlet.

4.0 PROPERTY

The OK property consists of 143 mining units within 8 contiguous mineral claims in the Vancouver Mining District (Figure 4-1). The claims are contained in two groups as follows:

<u>Group</u>	<u>Mineral Claim</u>	<u>Rec.No.</u>	<u>Expiry Date</u>
OK 1	OK A (20 units)	923	June 17, 1999
	OK B (20 units)	924	June 17, 1997
	OK C (20 units)	925	June 17, 2001
	OK F (15 units)	928	June 17, 1993
	OK G (20 units)	929	June 17, 1993
OK 2	OK D (18 units)	926	June 17, 1993
	OK E (10 units)	927	June 17, 1993
	OK H (20 units)	1253	Sept.15, 1993

'INSERT FIGURE 3-1'

5.0 HISTORY OF THE PROPERTY

Since the initial discovery by R. Mickle in 1965, several companies have conducted exploration programs on the property. In chronological order these companies include: Noranda Mines Ltd., ASARCO Exploration Company of Canada Ltd., Falconbridge Nickel Mines Ltd., Duval International Corporation, Granite Mountain Mines, Sierra Empire, Western Mines Ltd., Aquarius Resources Ltd., and Rhyolite Resources Inc.

The extent of the exploration work completed by each of the above companies has been summarized as follows:

- 1965 Mickle and Boylan
Reconnaissance prospecting; stream sediment sampling; and claim staking.
- The discovery showings consisted of widespread copper-mineralization in creek bottoms in the Claim Lake and Lizard Lake areas.
- 1966-67 Noranda Mines Ltd.
Diamond drilling - 15 holes
(8,429 ft or 2569 m)
- Reconnaissance geological and geochemical (copper, molybdenum) surveying.
- Exploration was mainly carried out over the central and southern portions of the property.
- 1967-68 ASARCO Exploration Co. of Can. Ltd.
Diamond drilling - 8 holes
(3,290 ft or 1003 m)
- Reconnaissance geological and geophysical (I.P.) surveying.
- 1969-70 Falconbridge Nickel Mines Ltd.
Diamond drilling - 6 holes
(1,996 ft or 608 m)
- Geological, geochemical (Cu, Mo, Ag, Co, Fe, Mn, CxCu, CxMo), and geophysical (SP, magnetic, EM-16) surveying; and minor soil profile trenching.

'INSERT FIGURE 4-1'

- 1971 Duval International Corporation
Percussion drilling - 12 holes
(2,380 ft or 725 m)
- 1972 Granite Mountain Mines
Diamond drilling - 22 holes
(14,031 ft or 4277 m)
- Staking; line cutting; prospecting; geological, geochemical (Cu), and geophysical (I.P.) surveying.
- 1973 Sierra Empire
Diamond drilling - 4 holes
(2,092 ft or 638 m)
- 1974 Western Mines Ltd.
Diamond drilling - 22 holes
(12,695 ft or 3869 m)
- 1977 Western Mines Ltd.
Diamond drilling - 3 holes
(1,995 ft or 608 m)
- Geological mapping and limited soil sampling. Work carried out concentrated on exploring the northwestern portion of the OK property.
- 1979-80 Aquarius Resources Ltd.
Diamond drilling - 3 holes
(205 m)
- Trenching and limited sampling; local detailed geochemical (Cu, Mo, Ag) and geophysical (magnetometer) surveying.
- 1981-82 Aquarius Resources Ltd.
- Claim re-staking; trenching; road and drill collar surveying; detailed geological mapping; geochemical (Cu, Mo, Ag) and geophysical (I.P.) surveying.
- 1985 Rhyolite Resources Inc.
Limited geological mapping; geochemical

surveying; rock chip sampling of breccia occurrences.

6.0 GEOLOGY

6.1 REGIONAL GEOLOGY

The OK copper-molybdenum prospect is situated near the western margin of the Coast Plutonic Complex of southwestern British Columbia. The complex is approximately 90 km wide and extends along the entire coastline of British Columbia.

Rocks within the complex are predominantly granitic with numerous small roof pendant occurrences of metamorphosed sediments and volcanics. In the vicinity of the deposit they include granodiorites, quartz diorites and more basic diorites and gabbros, with screens of intermediate to basic volcanic rocks reported. K-Ar radiometric ages of similar granitic rocks in southwestern B.C. range from early to mid-Cretaceous.

The OK intrusive complex intrudes the Coast Plutonic Complex and it has been suggested that this intrusive complex is related to a collapsed caldera structure. This is indicated by two large sub-circular structures; the East Redonda Island to the north and part of the Powell Lake to the east.

6.2 LOCAL GEOLOGY

The OK claims are underlain by diorite-gabbro rocks of the Coast Plutonic Complex. The diorite-gabbro rocks, outcropping on the northwestern and eastern margins of the property, have been intruded by multiple intrusive phases (the OK intrusive complex). The OK complex is elongate in a northerly direction measuring approximately 3.6 by 2.3 km.

At least six separate intrusive phases have been noted within the complex by Carter (1984) near the south end of the property. The age of the complex has not been identified but can reasonably be assumed to be mid-Tertiary or younger, similar to mineralized intrusions on Vancouver Island (Island Copper, Catface).

The two main intrusive phases within the complex are shown on Figure 6-1 (see map insert), modified from Meyer et al, 1976. An earlier granodiorite, variably altered, is intruded by a large, northerly trending dyke-like body of quartz-feldspar porphyry. The quartz-feldspar porphyry is essentially barren of sulphides whereas the

granodiorite hosts widespread disseminated sulphides composed of pyrite, chalcopyrite and molybdenite (Cardinal, 1983).

The minor intrusive phases include hornblende diorites which occur as north-northeasterly trending dykes up to 3m wide. These dykes occur as swarms following north-northeast striking faults which cut both the Coast Plutonic Complex and the OK intrusive complex. The youngest intrusive phase consists of discontinuous fine-grained andesite/dacite dykes of variable orientation. Lamprophyre dykes have also been noted, but are rare.

Several breccia zones have been identified along the complete length of the OK complex (see Figure 6-1). Of particular significance are the intrusive (hydrothermal) breccias near the south end of the property. The extent and attitude of this breccia zone is uncertain but has been traced for 100m with an estimated width of at least 10m. The core of the breccia zone is intensely mineralized, containing chalcopyrite, bornite, pyrite and molybdenite. It is reasonable to believe that more of these hydrothermal breccia zones exist throughout the OK complex, based on characteristics of most porphyry deposits.

6.2.1 Lithology

The lithologic units occurring on the OK property have been grouped into four main categories. In increasing order of age they include the following:

- Dykes,
- Quartz-Feldspar Porphyry,
- Granodiorite, and
- Coast Range Diorite-Gabbro.

The oldest rocks outcropping on the OK claims are hornblende diorite and gabbro of the Coast Plutonic Complex. The gabbro (a hornblende gneiss) apparently grades into a hornblende diorite as the distance from the granodiorite contact increases (Meyer et al, 1973). The gneissic texture in the gabbro is extremely variable over several inches, though the composition is very uniform consisting of approximately 35% amphibole and 65% plagioclase with the occasional quartz grain replacing plagioclase.

Outcrops of gabbro are large and frequent on the northwest and eastern boundaries of the claims.

The granodiorite intrudes the diorite-gabbro complex. The actual contact is indistinct due to intense shearing and subsequent chloritization. The granodiorite is a medium grained, potassium feldspar rich leucocratic rock (Meyer et al, 1973). It is relatively uniform in composition and is characterized by: 3-10% mafics (biotite and chlorite), quartz stockworking, and hydrothermal alteration of feldspars to sericite, scapolite and carbonate assemblages.

The quartz-feldspar porphyry intrudes the central portion of the granodiorite and forms an irregular long dyke-like mass up to 600 m wide. It is characteristically white to pink, coarse grained, and leucocratic with small amounts of biotite-chlorite present. Large, tightly packed subhedral zoned oligoclase and subhedral to euhedral quartz eyes up to 2.5 cm in diameter form a crowded porphyry texture. Minor fine grained anhedral quartz, plagioclase and potash feldspar fill the narrow grain boundaries between the coarse oligoclase and quartz phenocrysts (Meyer et al, 1976).

The dyke swarms which cut the granodiorite and quartz-feldspar porphyry consist predominantly of fine-grained to porphyritic hornblende diorites. The porphyritic diorites are commonly medium grained consisting of up to 50% large (1-2 mm) white plagioclase feldspar phenocrysts in a dark green matrix. The occurrence of hornblende phenocrysts up to 2 mm in size is common, particularly on the southern portion of the property. The finer grained diorite dykes have no feldspar phenocrysts and are more siliceous.

Cross-cutting and intruding the hornblend diorites are andesite/dacite dykes. They are very fine grained and occasionally contain up to 20% feldspar phenocrysts, 1-2 mm in size, which are commonly replaced by epidote.

Rare lamprophyry dykes have also been noted on the property. They are all hornblende rich with a fine to medium grained mafic matrix.

The dykes are more resistant to weathering than any other lithology and therefore constitute the majority of rock outcrop in many areas.

6.2.2 Structure

The OK intrusive complex intruded a general north-

south zone of weakness along the western flank of the Coast Plutonic Complex. Several generations of north-northeast striking faults occur on the property and cut both the Coast Plutonic and the OK intrusive complexes. The majority of the faults clearly post-date the mineralization and provide conduits for post-mineral basic dyke swarms.

6.2.3 Alteration and Mineralization

The majority of the following section has been taken from Carter (1984) who provides an excellent summation of the OK deposit alteration and mineralization.

Aquarius Resources (Cardinal, 1983) undertook an alteration mapping program on the southern half of the property. Results indicate moderate to strong sericite and kaolinite (phyllic-argillic) alteration centered on the breccia zone and south of Claim Lake. Elsewhere on the property, there is little evidence of the classic potassic-phyllic-argillic-propylitic outward alteration zoning common to porphyry deposits. This could be due to a variety of factors, including host rock lithologies and style of intrusion.

Meyer et al (1976) describe a strong quartz-sericite alteration in the quartz-feldspar porphyry or leucocratic central dyke which decreases in intensity outward to predominantly chlorite-epidote alteration in the bordering granodiorite.

Economic mineralization on the OK property consists of pyrite, chalcopyrite and molybdenite with lesser bornite, sphalerite and magnetite. Principal sulfide minerals occur in a stockwork of quartz veinlets which have a predominant east to northeast trend, and molybdenite commonly coats fractures.

The greatest degree of quartz stockwork development is within the central or late phase quartz-feldspar porphyry although this rock type is largely devoid of sulfide mineralization. Best copper-molybdenum mineralization is hosted by granodiorite adjacent to the quartz-feldspar porphyry dyke, suggesting that this phase is probably the mineralizer. Pyrite is generally associated with chalcopyrite and molybdenite within the centre of the main mineralized zones. The concentration of pyrite increases around the peripheral of the main copper-molybdenum zones.

Seven mineralized zones have been explored over a northerly trend of 5 km (see Figure 6-2 in the map insert). All of these, including the southern-most breccia zone, have been tested by some degree by diamond drilling.

Most of these zones contain large tonnages of low grade copper-molybdenum mineralization with the exception of the south breccia zone which has demonstrably higher copper grades with some silver. Predominant mineralization consists of chalcopyrite, bornite, pyrite and lesser molybdenite which occupy interstices between breccia fragments.

To the knowledge of the authors, no testing of the rocks for gold has been done within any of the drilled mineralized zones. Gold mineralization does exist on the property as discovered in a 2 ft chip sample collected in 1985, 350 m east of North Lake, which assayed 0.28 oz/ton gold and 0.96 oz/ton silver.

7.0 PREVIOUS EXPLORATION

7.1 GEOCHEMISTRY

Prior to the work carried out by Aquarius Resources, geochemical surveying was completed on grids ranging from 35 x 130 metres to 70 x 260 metres, and on local streams and creeks. The surveying consisted of stream sediment sampling, soil profile trenching and soil sampling. From the surveys at least 15 anomalous copper and/or molybdenum zones were identified.

In 1981 and 1982 Aquarius Resources conducted extensive soil sampling and provided excellent coverage of most of the grid area. The approximate area of coverage was 1.2 x 5.5 kilometers with grid line spacing of 200 ft (60 m) and samples taken every 100 ft (30 m) along the grid lines. In all, over 4300 samples were analyzed for copper, silver and molybdenum. Some of the samples were also analyzed for gold.

Statistical analysis was conducted by Giroux of Montgomery Consultants Ltd. on the soil samples collected and analyzed in 1981. The summary statistics consisted of the following:

ELEMENT	MEAN (ppm)	STD DEV (ppm)	SAMPLES
Cu	122.7	265.4	1728
Ag	0.86	0.39	1728
Mo	17.5	31.7	1728
Au	.0027	.0037685	

Histograms and log normal distribution plots were also plotted to separate out sample populations. The following values represent the population limits in ppm:

<u>ELEMENT</u>	<u>RANGE</u>	<u>POPULATION</u>
Copper	0 - 35	C (background)
	36 - 259	B + C
	260 - 799	B
	800 or >	A
Molybdenum	0 - 3	D (background)
	4 - 17	B + C
	18 - 26	B
	27 - 69	A + B
	70 or >	A
Silver	0 - 0.51	C (background)
	0.52 - 1.11	B + C
	1.12 - 1.31	B
	1.32 - 1.51	A + B
	1.52 or >	A

Copper values in population A were considered anomalous, with population B either reflecting a halo around high values or a change in background values of a different rock type.

Molybdenum values greater than 27 ppm, and silver values greater than 1.32 ppm were considered anomalous.

For the 685 gold values, only one value of 30 ppb was considered anomalous.

The areas of anomalous soil values from all the geochemical surveys carried out on the OK claims have been plotted on Figure 6-2. It is important to note that all the areas with copper values greater than 260 ppm were considered of interest and plotted as anomalous.

7.2 GEOPHYSICS

Portions of the property have been tested by various geophysical survey methods. These methods include: magnetics, self-potential, VLF-EM, and induced polarization (IP). Of these only the IP appeared to be a useful exploration tool, identifying areas of increased sulphide concentration. Although the magnetic and VLF-EM surveys appeared to be of limited value for the detection of sulfide mineralization, future use should still be considered for identifying fault structures and dykes.

The IP survey conducted by Aquarius Resources (Cardinal, 1983) on the southern portion of the grid area showed anomalous chargeability and resistivity values crudely correlating with moderate to strong alteration zones centered on the south breccia zone.

7.3 TRENCHING AND STRIPPING

Very limited trenching and stripping has been done on the OK claims. The only significant program of both stripping and trenching was carried out on the southern portion of the claims in 1981 by Aquarius Resources. A total of nine backhoe trenches and over 600m of stripping were completed. The trenches varied from 22.9 to 62.5 m in length with an average width and depth of 2.4 m and 1.5 m respectively. The stripping varied from 27.4 to 122 m in length with widths ranging from 4.5 to 46.0 m.

7.4 DIAMOND AND PERCUSSION DRILLING

Nine drilling programs were conducted resulting in over 13,500 m of drill core and cuttings from 93 drill holes: 81 diamond and 12 percussion drill holes (see Figure 7-2 in map insert). The following table summarizes the drilling completed on the OK claims.

Noranda Exploration Co. Ltd. - 1966 - AQ

<u>DDH</u>	<u>LOCATION</u>	<u>AZIM</u>	<u>Dip</u>	<u>Length (ft)</u>
66-01	64+00N-46+00E	245°	-45°	524
66-02	64+00N-46+00E	65°	-45°	500
66-03	57+95N-54+44E	65°	-45°	506
66-04	57+95N-54+40E	245°	-45°	500
66-05	76+00N-47+00E	245°	-45°	501
66-06	106+00N-53+00E	65°	-45°	507

66-07	127+80N-55+00E	245°	-45°	500
66-08	132+00N-67+00E	65°	-45°	506
66-09	132+00N-67+50E	245°	-45°	506
66-10	68+00N-47+00E	245°	-45°	606
66-11	60+00N-47+00E	245°	-45°	662
66-12	56+00N-46+00E	245°	-45°	666
66-13	56+00N-56+10E	65°	-45°	626
66-14	126+00N-63+00E	65°	-45°	785
66-15	36+00N-60+30E	245°	-45°	534

ASARCO Exploration Co. of Canada - 1967-68 - AQ

<u>DDH</u>	<u>LOCATION</u>	<u>AZIM</u>	<u>Dip</u>	<u>Length (ft)</u>
68-01	28+00N-67+50E	245°	-45°	507
68-02	36+00N-68+00E	245°	-45°	500
68-03	68+00N-76+00E	245°	-45°	500
68-04	132+00N-60+00E	245°	-45°	500
68-05	124+20N-69+00E	245°	-45°	494
68-06	36+00N-62+34E	245°	-45°	400
68-07	48+00N-62+50E	245°	-45°	388

Falconbridge Nickel Mines Ltd. - 1970 - AQ

<u>DDH</u>	<u>LOCATION</u>	<u>AZIM</u>	<u>Dip</u>	<u>Length (ft)</u>
70-01	135+00N-67+25E	245°	-37°	402
70-02	135+00N-67+25E	65°	-37°	400
70-03	162+00N-81+00E	245°	-37°	391
70-04	162+00N-81+00E	65°	-37°	401
70-06	82+00N-46+75E	245°	-35°	402

Duval International Corporation - 1971 - Percussion

<u>DDH</u>	<u>LOCATION</u>	<u>AZIM</u>	<u>Dip</u>	<u>Length (ft)</u>
71-01	68+00N-62+00E	0°	-90°	200
71-02	76+00N-68+00E	0°	-90°	200
71-03	72+00N-79+00E	0°	-90°	200

71-04	88+00N-67+00E	0°	-90°	200
71-05	80+00N-56+00E	0°	-90°	200
71-06	63+00N-68+00E	0°	-90°	200
71-07	83+00N-71+00E	0°	-90°	200
71-08	84+00N-54+00E	0°	-90°	200
71-09	86+30N-47+40E	0°	-90°	200
71-10	130+00N-72+00E	0°	-90°	200
71-11	133+00N-74+00E	0°	-90°	190
71-12	136+10N-75+60E	0°	-90°	200

Granite Mountain Mines - 1972 - NQ

<u>DDH</u>	<u>LOCATION</u>	<u>AZIM</u>	<u>Dip</u>	<u>Length (ft)</u>
72-01	36+00N-58+50E	0°	-90°	410
72-02	36+00N-54+00E	0°	-90°	438
72-03	124+20N-70+94E	0°	-90°	526
72-04	32+00N-58+00E	0°	-90°	402
72-05	42+00N-61+00E	0°	-90°	318
72-06	122+50N-73+76E	245°	-45°	787
72-07	170+00N-76+00E	65°	-45	356
72-08	170+00N-76+00E	245°	-45°	360
72-09	116+00N-75+00E	245°	-45°	457
72-10	128+00N-72+64E	245°	-45°	772
72-11	128+00N-77+00E	245°	-45°	936
72-12	132+00N-76+30E	245°	-45°	958
72-13	132+00N-83+48E	245°	-45°	1190
72-14	124+00N-73+76E	245°	-45°	704
72-15	152+00N-84+00E	245°	-45°	846
72-16	128+00N-70+30E	245°	-45°	536
72-17	136+15N-76+20E	245°	-45°	676
72-18	112+00N-81+00E	65°	-45°	556
72-19	12+00N-50+00E	245°	-45°	500
72-20	112+00N-71+20E	245°	-45°	706
72-21	12+00N-57+50E	245°	-45°	500
72-22	84+00N-63+00E	245°	-45°	731

Sierra Empire - 1973 - NQ?

<u>DDH</u>	<u>LOCATION</u>	<u>AZIM</u>	<u>Dip</u>	<u>Length (ft)</u>
73-01	126+00N-74+50E	245°	-45°	767
73-02	174+00N-80+00E	65°	-45°	207
73-03	126+00N-72+50E	245°	-45°	694
73-04	126+00N-70+50E	245°	-45°	418

Western Mines Ltd. - 1974 - BQ

<u>DDH</u>	<u>LOCATION</u>	<u>AZIM</u>	<u>Dip</u>	<u>Length (ft)</u>
74-01	68+30N-53+00E	245°	-45°	542
74-02	68+00N-50+00E	245°	-45°	546
74-03	76+00N-51+45E	245°	-45°	567
74-04	76+00N-54+00E	245°	-45°	509
74-05	76+00N-56+00E	245°	-45°	577
74-06	84+00N-54+50E	245°	-45°	537
74-07	84+00N-50+00E	245°	-45°	667
74-08	95+64N-55+00E	245°	-45°	620
74-09	95+64N-55+00E	65°	-45°	547
74-10	96+00N-58+80E	65°	-45°	547
74-11	92+00N-50+10E	245°	-45°	507
74-12	99+90N-56+20E	65°	-45°	496
74-13	99+60N-59+00E	65°	-45°	547
74-14	104+00N-55+75E	65°	-45°	527
74-15	102+60N-69+40E	245°	-45°	427
74-16	104+70N-72+75E	245°	-45°	577
74-17	108+00N-72+70E	245°	-45°	557
74-18	115+60N-57+00E	245°	-45°	504
74-19	164+00N-69+20E	245°	-45°	697
74-20	35+90N-61+64E	245°	-45°	767
74-21	35+18N-65+20E	245°	-45°	986
74-22	39+90N-65+33E	245°	-45°	447

Western Mines Ltd. - 1977 - NQ?

<u>DDH</u>	<u>LOCATION</u>	<u>AZIM</u>	<u>Dip</u>	<u>Length (ft)</u>
77-01	181+70N-69+70E	67°	-45°	645
77-02	188+00N-78+00E	247°	-43°	605
77-03	190+00N-70+20E	67°	-45°	745

Aquarius Resources Ltd. - 1979 - NQ

<u>DDH</u>	<u>LOCATION</u>	<u>AZIM</u>	<u>Dip</u>	<u>Length (ft)</u>
79-01	21+85N-69+80E	0°	-90°	176
79-02	21+85N-69+80E	310°	-45°	178
79-03	21+75N-69+40E	1°	-45°	304

The drill core size ranged from AQ to NQ with average recoveries estimated in excess of 95%. However, very little of the drill core remains for future reference, as most of the pre-1979 core was vandalized by local logging companies. The salvaged and the 1979 drill core is stored at Powell River.

Compilation of the drilling data consisted of creating a computer drill hole database, importing the original ASCII file data into the database, editing the database, and entering into the database missing drill holes and drill hole information. After a final edit was completed, a drill hole location plan and over 30 cross-sections were plotted to display the drill hole data.

The database contains drill hole information stored within four separate tables: general identification, survey, lithology, and assay tables. All information stored within these database tables can be printed out and/or exported in ASCII file form.

8.0 POTENTIAL RESERVE ESTIMATE

A geostatistical appraisal of the ore potential of the drilled zones was conducted in August, 1982 by Geostat Systems International Inc. (GSI) for Aquarius Resources Ltd., both of Vancouver, B.C. The authors were retained in 1989 by CanQuest Resource Corporation to assess/refine the 1982 geostatistical reserve estimate.

8.1 CONTENT AND METHODOLOGY OF THE 1982 REPORT

The work by GSI was provided by CanQuest Resource Corporation in the form of a 30 page signed original report, copies of which are kept on file at CanQuest's office. The data made available to GSI in 1982 consisted of locations and assay values of 84 drill holes, and geological plan views and cross sections of the ore zone.

8.1.1 Database and Composites

The drill hole data used by GSI were key punched and coded into a computer file, then plotted onto plans and sections for editing. GSI's report includes a statistical description of the data file as well as examples of sectional displays.

The data were then composited over regular 15m benches, and elementary statistics of the composited data were derived. Particular care was given to "de-clustering" the data, in order to derive more representative estimates of the mean grades. The frequency distributions of the copper and molybdenum grades and their inter-correlations were also studied.

8.1.2 Variography

The variograms of the log-transformed Cu and MoS₂ grades were computed and studied in detail, then modeled for use in logarithmic variance calculations for the estimation of the ore reserves recoverable by a selective open-pit mining operation.

8.1.3 Contouring of Mineralized Zones

This section concerns the estimation of the in-situ tonnage of ore in the deposit. Since detailed geologic contours for the mineralized rock units were not provided, automatic contouring of the mineralized zones was performed by a versatile and powerful computer program developed by GSI.

This program builds the mineralized areas from a series of equal 100m x 100m x 15m blocks classified as mineralized or non-mineralized according to a series of criteria applied to the composited data inside and around each block. The criteria are detailed in the report.

The search for data around the block was performed within 200 m from the block centroid vertically, and within a 100 m and a 200 m radius horizontally, so that two different tonnage estimates corresponding to these two extrapolation distances were calculated. These in-situ tonnages were then respectively called "drill-indicated" and "geologic potential".

Finally, the overburden-bedrock contact surface was estimated by kriging from the drill hole data, and all blocks above the surface deleted from the ore inventory. The main geological boundaries were equally taken into account. The proportion of barren dyke material separable by a mining operation was also estimated, and the tonnages decreased accordingly.

8.1.4 Ore Grades and Mine Recovery

Logarithmic methods were used to derive meaningful estimates of the in-situ ore grade (Sichel's estimators) and confidence intervals for these grades. For these grade calculations, missing assays and unassayed dyke intervals not separable by a mining operation were accounted for as zero grades.

Using the modeled variograms and the "log normal shortcut" geostatistical method, realistic estimates of the ore reserves to be produced at various cut-off grades were derived. For this exercise, selective mining of 10 m x 10 m x 15 m mining units was assumed. The cut-off grades used were in Copper Equivalent calculated as $Cu + 8 MoS_2$. Grade-tonnage curves were prepared for both the 100 m and the 200 m extrapolations.

8.2 ASSESSMENT AND VALIDATION

The work performed by GSI was found to be well above industry standards, and performed with exceptional care for details. The database was up-to-date and complete with the methodology used for calculating the reserves acceptable by present standards. The conclusions drawn are still valid.

8.2.1 Validation of Drill Hole Data

It was not possible to determine with precision which data was available to GSI since it was found

that their database used had been destroyed. The only clues to which data GSI actually used are to be found entirely in their report.

To this end, the data description provided by GSI in their report was studied in detail and compared wherever possible with the data provided by CanQuest. The comparison showed the databases were most likely the same. The similarity between the two sets of data also serves as a confirmation that it is probably impossible to further improve on the given data within the present database.

A comparative statistical description of the two data sets is provided within the table on the next page to support this conclusion. The following notes apply to the table:

- (1) in both data sets, some intervals, especially unsampled intervals, were split or lumped in arbitrary ways when going from paper data to the computer file, so that some of these figures cannot be matched with precision.
- (2) The maximum values between brackets are those obtained when obvious outliers are visually cut off the histogram tails in the present database. It is not known whether the very few residual outliers are errors, or whether GSI had them as well and discarded them from the calculations.
- (3) The means between brackets are the only ones to be compared to GSI's. In GSI's report, unsampled values were conservatively replaced with zero values. In our database, they were not. Assuming (from GSI) approximately 366 ($303 + 63 = 366$) zeros for dyke and overburden samples, the bracketed values are our estimate of what the means would be if an equivalent number of missing values were replaced with zeros.

COMPARATIVE DATABASE STATISTICS BETWEEN 1982 AND 1989

	GSI	PRESENT DATABASE
No. of Holes	84	93 - 9 (with no data) = 84
No. of Samples	3677	3786 (1)
No. of Dyke Samples	303	not calculated (1)
No. of Overb. Samples	63	not calculated (1)
No. of Missing Values	? (1)	%Cu : 555 %MoS ₂ : 920
Average % Cu	0.154	0.170 [0.153] (3)
Average % MoS ₂	0.009	0.0097 [0.0086] (3)
Range of % Cu Values	0.-1.80	0. - 6.0 [1.80] (2)
Range of % MoS ₂ Values	0.-0.072	0. - 0.72 [0.072] (2)
No. of zeros for % Cu	43	43
No. of zeros for %MoS ₂	265	320 (1)

8.2.2 Assessment of Variograms Interpretation

The recalculation of the variograms was not warranted since the variogram analysis performed by GSI is more than sufficient for the purpose of the GSI study. However, some reservations and comments must be made in order to pinpoint possible areas of future improvements to the reserve estimates.

The variograms were calculated on log-transformed grades, and it is felt that variograms derived from the raw data will better reflect the geometrical/geological features of the grade variability.

The modelization of the variograms could be improved. The authors believe the horizontal variograms would be better fit to spherical models with greater anisotropy factors. It is also apparent from examining the variograms of MoS₂, that sampling problems may have existed. Finally, variograms show a marked drift for MoS₂ in the N-S direction, i.e. a definite pattern of increase/decrease in grade in that direction which could have a bearing on the molybdenum potential of the property.

The overall conclusions of the variography are correct but not clearly stated. The low vertical variability along with the higher horizontal variability with large ranges interestingly confirms the porphyry structure of the mineralization, as it points to the existence of concentric lateral gradations of the grades with a definite vertical structure. Because of the absence of vertical variability, the authors concur with GSI's conclusion that further sampling could beneficially include a proportion of surface trenching or short rotary holes.

No conclusion was drawn from the study of the ranges of the variograms. However, the average horizontal range being close to 300 m, an extrapolation distance of 150 m seems reasonable for calculation of the drill-indicated recoverable reserves, whereas the 200 m radius seems appropriate for in-situ reserves. This concurs with the geologic opinion of the authors about the appropriate grade projection distance. The 100 m radius is still appropriate to define proven reserves.

8.2.3 Assessment of Reserves Statements

The methods used by GSI for in-situ grade and tonnage estimations, and for selective mining reserves are appropriate, proven methods. GSI has a particular expertise in applying them since they were involved directly in their development and acceptance by the industry. Altogether, the reserves statements arrived at by GSI are to be trusted as good estimates. It is felt however that some ambiguity exists in the way the results are presented. The authors recommend adopting a 200 m projection radius for in-situ reserves, a 100 m radius for proven reserves and a more conservative 150 m radius for proven plus probable. In such case, GSI's results are to be modified as follows:

IN-SITU GEOLOGICAL RESERVES:

454 million tonnes @ 0.239 %Cu and 0.015 %MoS₂

RECOVERABLE RESERVES:

<u>CUT-OFF GRADE</u> <u>(% Cu Equiv.)</u>	<u>TONNAGE</u> <u>(tonnes)</u>	<u>CU</u> <u>(%)</u>	<u>MoS₂</u> <u>(%)</u>
0.2	228,400,000	0.32	0.020
0.3	155,000,000	0.39	0.024
0.4	104,900,000	0.46	0.028
0.5	72,000,000	0.54	0.033
0.6	50,300,000	0.61	0.037

Notes: * The copper equivalent grades in the GSI report were derived as "Cu + 8 MoS₂" which was left intact for the purposes of this study. Current copper equivalent calculations would employ approximately "Cu + 4 MoS₂".

* Open-pit selective mining units of 10 m x 10 m x 15 m were assumed by GSI.

* The authors of the present report consider that 70% of the foregoing reserves are in the proven category.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The OK claims have an excellent potential for expansion of reserves and discovery of new zones of mineralization.

The recently discovered hydrothermal breccia zone near the south end of the property indicates the presence of localized higher grade mineralization within the OK intrusive complex. It is reasonable to believe that more of these hydrothermal breccia zones exist throughout the OK complex, based on characteristics of most porphyry deposits. Previous exploration efforts were concentrated on identifying large tonnages of low grade copper-molybdenum mineralization.

Significant exploration effort should be concentrated on better defining the geometry of the known hydrothermal breccia zone; identifying possible extensions of this zone to the northwest and the southeast; exploring other areas of known tectonic breccias (for possible hydrothermal origin); and on identifying new breccia zones.

The full extent of most of the tested mineralized zones remains to be properly defined or tested. They appear open at depth with their lateral boundaries poorly defined, and virtually untested for precious metals content. Unfortunately, most of the drill core from the previous drilling programs has been vandalized making sample re-analysis for precious metals almost impossible.

The post-mineral dyke swarms within these zones also remain to be precisely defined. These dyke swarms may present a dilution problem, therefore efforts should be made to define their precise location, configuration, and extent.

Initial identification of the boundaries of the known mineralized zones and the internal dyke swarms should be attempted by geophysical surveying. Further IP surveying could be conducted for defining zones of increased sulfide concentrations and either magnetics or VLF-EM carried out for locating dykes swarms and identifying/redefining major fault structures. The above geophysical exploration should be followed up by stripping, trenching, and diamond and percussion drilling.

Compilation of existing geochemical survey data suggests that a number of areas elsewhere on the claims require further investigation. These include the northern or Theodosia zone which was subjected to only limited drilling by Western Mines. It may be significant that some of the highest copper soil geochemical values were obtained

in this area.

Considerable "clear-cut" logging has been completed since the last major exploration program was carried out on the property. All the fresh clear-cut areas on the property and adjacent to the property should therefore be investigated. The outcrop exposed on the property as a result of the clear-cut logging should be geologically mapped in detail. It is important to note that the southern breccia zone was initially discovered as a direct result of clear-cut logging.

Due to the present limited topographical control on the property, an aerial topographical survey is recommended across the full extent of the claims.

10.0 COST ESTIMATE

Significant expenditures are required to adequately assess the potential of the OK property.

Existing infrastructures include good road access to most areas of the property and a centrally located trailer camp which could be rehabilitated. Most of the necessary goods and services are available in Powell River.

The authors recommend an initial program consisting of an aerial topographic survey across the full extent of the property; further detailed mapping of the south breccia zone and all new clear-cuts; geological mapping, sampling, and/or localized geophysics in areas of known and favorable breccia occurrences; and geophysics across known mineralized zones.

The follow-up program would include stripping, trenching, sampling, and diamond and percussion drilling to further define and test the zones of known mineralization and to test additional zones which exhibit potential for hosting additional mineralization.

Anticipated costs are included as follows:

Initial Program

Aerial topographic survey	\$ 60,000
Additional geological mapping, sampling, and data compilation 2 months @ \$8,000/month	\$ 16,000
Localized geophysics including fieldwork, reblazing lines, additional line cutting, analysis, and interpretation. 10 line miles @ \$2,200/mile	\$ 22,000
Additional induced polarization survey including fieldwork, reblazing lines, additional line cutting, analysis, and interpretation. 25 line miles @ \$2,000/mile	\$ 50,000
Geological/Geophysical consulting	\$ 15,000
Camp costs (2 months)	\$ 40,000
Transportation/Communication	\$ 5,000

SUBTOTAL	\$ 208,000
Contingencies @ 15%	\$ 31,200

INITIAL PROGRAM TOTAL	\$ 239,200
	=====

Follow-Up Program

Stripping, trenching, and road building	\$ 50,000
Percussion drilling 5000 m @ \$80/m	\$ 400,000
Diamond drilling 5000 m @ \$100/m	\$ 500,000
Supervision	\$ 40,000
Assaying	\$ 50,000
Camp costs (4 months)	\$ 80,000
Geological/Geostatistical Consulting.....	\$ 30,000
Transportation/Communication	\$ 10,000

SUBTOTAL	\$1,160,000
Contingencies @ 15%	\$ 174,000

FOLLOW-UP TOTAL	\$1,334,000
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The overall total for both the initial and the follow-up programs is approximately \$1.58 million.

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CERTIFICATES

I, NEIL V. FROC, of Sardis, British Columbia, do certify that:

- 1) I am a geological engineer registered with the Association of Professional Engineers of British Columbia since February of 1989.
- 2) I am a graduate of the University of Saskatchewan with a Bachelor of Engineering Degree (1986), and the Northern Alberta Institute of Technology with an Earth Sciences Diploma (1981).
- 3) Since 1980, I have been actively involved in the Canadian mining industry as a geological assistant/technologist, geologist and as a geological engineer.
- 4) This report, prepared at the request of CanQuest Resource Corporation, is based on an examination of the property on June 10, 1989, personal involvement during two exploration programs during 1981 and 1985, and on published and unpublished information provided by CanQuest Resource Corporation.
- 5) I hold no interest in the OK property or in CanQuest Resource Corporation.

Vancouver, B.C.
October 28, 1989

Neil V. Froc, P.Eng.

CERTIFICATE

I, DOMINIQUE M. FRANCOIS-BONGARCON, of Vancouver, British Columbia, do certify that:

- 1) I am a graduate of the Nancy School of Mines (France) with a Mining Engineering Degree (1974), and hold a Doctorate in Mining Engineering/Geostatistics from the University of Nancy, for a research performed at the Paris School of Mines in France (1978).
- 2) Since 1973, I have been actively involved internationally in the mining industry as a consultant in mining engineering and geostatistics.
- 3) My contribution to this report, prepared at the request of CanQuest Resource Corporation, is based on published and unpublished information provided to me by CanQuest Resource Corporation.
- 4) I hold no interest in the OK property or in CanQuest Resource Corporation.

Vancouver, B.C.
October 28, 1989

Dominique M. Francois-Bongarcon, Ph.D.