

ARIS SUMMARY SHEET

District Geologist, Smithers

Off Confidential: 89.02.17

ASSESSMENT REPORT 17069

MINING DIVISION: Omineca

PROPERTY: Gio
LOCATION: LAT 54 35 42 LONG 126 42 30
UTM 09 6051923 648059
NTS 093L10E

CLAIM(S): Gio 5
OPERATOR(S): CK & G Management
AUTHOR(S): Lewis, L.;Cavey, G.
REPORT YEAR: 1987, 28 Pages

COMMODITIES

SEARCHED FOR: Silver, Arsenic, Lead, Zinc, Copper

GEOLOGICAL

SUMMARY: Tuffaceous sediments of the Lower Jurassic Hazelton Group are intruded by feldspar porphyries. Disseminated pyrite has been observed on the property.

WORK

DONE: Geochemical
SOIL 50 sample(s) ;AG,AS,CU,PB,ZN

RELATED

REPORTS: 13228,14831,16000

LOG NO: 0219	RD.
ACTION:	
2/89	
FILE NO:	

GEOCHEMICAL REPORT
ON THE GIO 5 CLAIM FOR
C.K. & G. MANAGEMENT LTD.
NTS 93L/10E
OMINECA MINING DIVISION

LATITUDE 54°36'N
LONGITUDE 126°43'24"W

OWNER - OPERATOR: C.K. & G. MANAGEMENT LTD.
1158 POWELL STREET
VANCOUVER, B.C.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

FILMED

17,069

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VANCOUVER, B.C.

George Cavey
Linda Lewis
November 20, 1987

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SUMMARY

The GIO 5 mineral claim, owned by C.K. & G. Management Ltd., lies on the western flank of Grouse Mountain, near Smithers, B.C. The property adjoins, to the southwest, the Chance high grade silver-copper-gold prospect owned by Adriatic Resources Corp. It also lies within 3,000 metres west of the Copperhill zinc-copper-silver property owned by Ramm Ventures Ltd. and Teck Corp. Mineral reserves of 1,080,000 tonnes of low grade mineralization have been outlined on the Copperhill prospect, and recent work indicates a good potential to substantially increase these reserves.

A small program of geochemistry was carried out on the GIO 5 claims to extend the coverage from previous exploration. The results from the 1987 sampling, although statistically anomalous, are not high enough to warrant any further work in the area sampled.

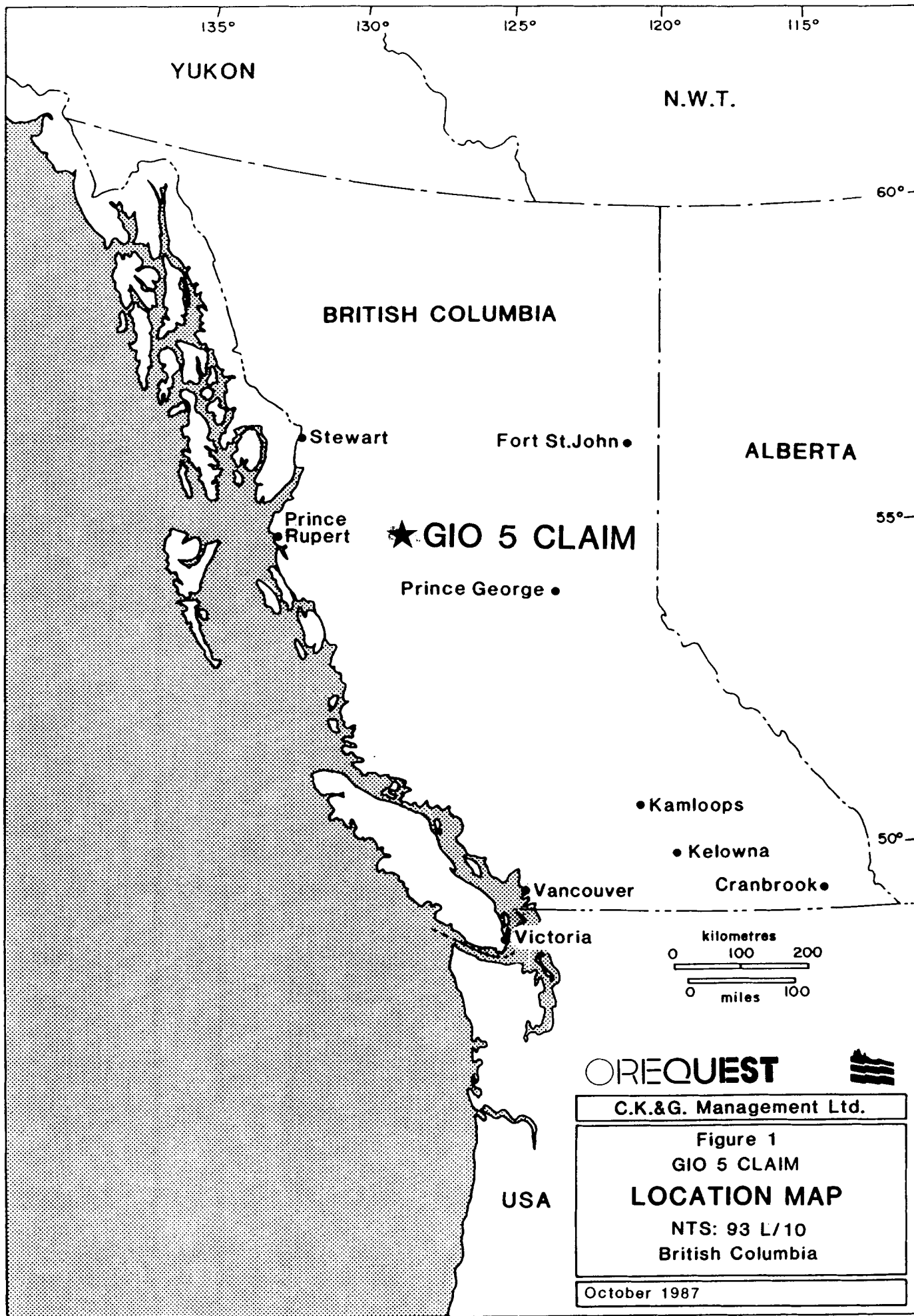


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INTRODUCTION

Field work on the GIO 5 claim silver, copper and zinc prospect was designed to locate potentially economic mineralization, with emphasis on economic occurrences in the area. Historically in the Houston area, silver, copper and zinc has occurred within the Cretaceous volcanogenic stratigraphy proximal to large Tertiary intrusives. The Equity Silver mine located 60 kilometers southwest of the property is a classic example of this type of deposit. Other important mineral occurrences in the immediate claim area are the Ramm Ventures-Teck property and the Chance claims owned by Adriatic Resources.

In looking for these types of deposits, geophysical techniques particularly electromagnetic, magnetic and I.P. surveys are useful. As well, soil and selective rock geochemical surveys help to locate specific anomalous targets, that can supplement the geological and geophysical survey data.

The primary objective of the 1987 preliminary program was to carry out further geochemical evaluations of the C.K. & G. Management Ltd. claim group and upon combining the past surveys, to determine the viability of further exploration on the property.

PROPERTY

LOCATION and ACCESS

The GIO 5 mineral claim is located on the western flank of Grouse Mountain, 32 kilometers southeast of the town of Smithers and 22 kilometers north-northwest of the town of Houston in north central British Columbia. The terrain is moderately to gently sloping westerly with elevations ranging from

3,500 to 4,100 feet (1,060 to 1,250 metres).

The Yellowhead Highway, connecting Smithers and Houston with points east and west, passes within 5.5 kilometers of the property. Access to the claim is by float plane to McQuarrie Lake which lies in the southeast corner of the claim group. Float planes are available in the Smithers area. Helicopter bases in Smithers and Houston provide alternate access to the claim group. Daily air service is available to Smithers from Prince George and Vancouver.

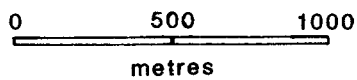
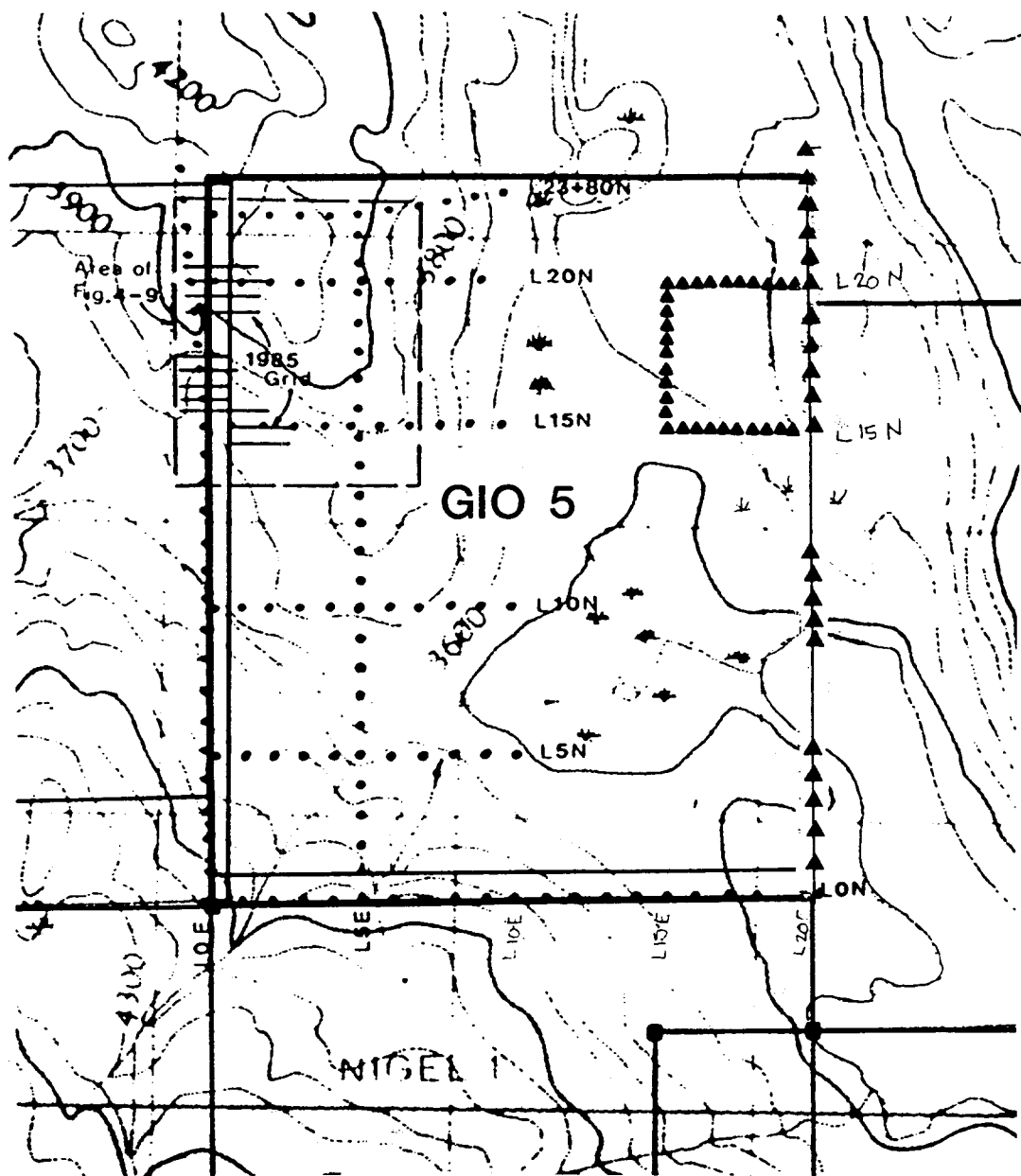
PROPERTY and CLAIM STATUS

The C.K. & G. Management Ltd. property consists of a 20 unit mineral claims which encompass approximately 500 hectares. The claim, staked in compliance of the British Columbia Mineral Act, are held in good standing according to the records registered with the Gold Commissioner and have a May 8, 1988 expiry date. Further work completed in 1987 will extend the expiry date one additional year.

The C.K. & G. Management Ltd. claim block (figure 2) is located on NTS 93L/10E claim sheet, British Columbia Ministry of Energy, Mines and Petroleum Resources, in the Omineca Mining Division of British Columbia.

The C.K. & G. Management's claims are as follows:

Record Number	Number of Units	Expiry Work Due Date
6179	20	May 8, 1989



- 1984 sample location
- ≡ 1985 sample grid
- ▲ 1987 sample location

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C.K.&G. Management Ltd.

Figure 2
GIO 5 CLAIM
**SOIL GEOCHEMISTRY
GRID**

NTS: 93 L/10
British Columbia

October 1987

PHYSIOGRAPHY and VEGETATION

The GIO 5 claim is within the central portion of the Intermontaine Belt. The claims are located on Grouse Mountain, a 5,300 foot mountain that rises 3,300 feet from the Buckley River Valley floor. The area consists of high mountains separated by large meandering river valleys. The Grouse Mountain area is covered with a moderate growth of second generation balsam, spruce, lodgepole pine, birch and poplar trees. Elevations on the property range from 3,500 feet to 4,100 feet. Small creeks, streams and swamps provide the main sources of water for any exploration. Large scale mining operations would utilize water from McQuarrie Lake in the southeast corner of the property.

HISTORY and PREVIOUS WORK

Mineral exploration activity in the Smithers-Houston area began as early as 1899 and by 1914 a large number of mineral occurrences had been located throughout the region. Development work on many of these prospects continued until the late 1920's and then sporadically to the present. The region has produced several significant mines including the Duthie, Cronin-Babine, Nadina and currently the Equity Silver Mine near Houston, B.C. Values for these deposits are principally in silver, with copper, lead, zinc and gold.

Interest in the Grouse Mountain area began in 1914 with the discovery of copper-zinc-silver mineralization near Coppermine Lake, now owned by Ramm Ventures. Previous work concentrated on the Ruby showing, approximately 3,200 metres southeast of the GIO 5 claim where extensive exploration and development occurred intermittently to the present day. Work on the Ruby included over 1,100 metres of crosscutting and drifting in two adits and over 8,400 metres of

diamond drilling to 1983. Published reserves from the Ruby zone are 360,000 tonnes of 0.38% copper, 4.23% zinc and 0.88 oz/ton silver with an additional 720,000 tonnes of lower grade material in extensions of this zone. Work, including diamond drilling, has been carried out by Teck Corp. of Vancouver under option from Ramm Ventures Ltd. and results suggest a good potential to substantially increase current reserves.

Development work has also been conducted on the Chance claims, where narrow high grade silver-copper-gold vein mineralization has been discovered. This adjoins the GIO 5 claim to the southwest. Grades to 312 oz/ton silver and up to 0.33 oz/ton gold and 4.0% copper have been reported in the past. Past work conducted by Adriatic Resources Corp. has confirmed these grades, extended the veins and indicated a potential for larger tonnage type deposits in the area.

The GIO 5 claim situated on the northern flank of Grouse Mountain, near Smithers, B.C., was staked of C.K. & G. Management in May 1984. It was subsequently optioned to Bellabon Resources Corporation in August 1984. Reconnaissance geological mapping and soil geochemistry in the west half of the claim was completed in September - October 1984. The property was reacquired in 1985 by C.K. & G. Management Ltd., and follow-up grid soil geochemistry and geological mapping were conducted in the northwestern area of the GIO 5 claim. Grid locations are illustrated in Figure 2. Assessment Report # 14831 by Robert Holland Goeservices Ltd., gives a detailed description of results, with recommendations to expand the current soil geochemistry and geological surveys

EXPLORATION FIELD WORK

Field work was carried out by OreQuest Consultants Ltd. under the supervision of Linda Lewis, Project Geologist. Direct supervision was provided by George Cavey, Consulting Geologist, OreQuest Consultants Ltd., Vancouver.

The primary objective of the preliminary exploration work was to further evaluate the C.K. & G. Management Ltd. property expanding the existing geochemical coverage.

Field work commenced August 31 and terminated September 10, 1987.

Exploration activities consisted of:

- (a) prospecting;
- (b) establishment of a flagged line grid;
- (c) geochemical soil sampling;

A small flagged line was established over the eastern portion of the claim area as shown in Figure 3. The sampling consists of one line (Line 20E) of soil samples with 50 metre station intervals and a second closed loop on line 15+00N, line 20N between lines 15E and 20E.

GEOLOGY

General Considerations

In the Equity Silver Mine, the deposits occur as table like zones within a window of Early Cretaceous rocks that are completely surrounded by a younger volcanic sequence and have been intruded by two later stage intrusive stocks. The economic minerals are chalcopyrite and tetrahedrite and are principally found within a narrow band of felsic pyroclastic-volcanic rocks forming two distinct and separate zones. The December 1983 published reserves for the mine were 21,410,000 tonnes of 0.33% copper, 118.5 grams per tonne silver (3.46 oz/ton), 1.00 grams per tonne gold (0.029 oz/ton) and 0.85% antimony.

The second deposit of interest is the Ramm Ventures ground 3 kilometers to the southeast of the C.K & G. claims. Here well mineralized sediments are underlain by volcanic breccias and massive volcanic flows. The zones have been intruded by later staged intrusive stocks. The published reserves have been discussed in the History section of this report.

Geophysical techniques have proven very successful in exploring on the Ramm Ventures' property. Drilling EM conductor in the past on the property has discovered that the conductors were caused by sulphide mineralization. Other geophysical tools, such as I.P., as well as geological and geochemical data all add and assist in properly evaluating these deposits.

Regional Geology

The Grouse Mountain area is underlain mainly by tuffaceous sediments, argillites, pyroclastics and flows of the Lower Jurassic-aged Hazelton Group.

These rocks are cut by numerous, generally north to northwest trending dikes ranging from a few metres to in excess of 200 metres wide. The dikes belong to four lithological types:

- (a) trachytoidal feldspar porphyry;
- (b) crowded feldspar porphyry;
- (c) biotite-feldspar porphyry;
- (d) lamprophyre.

These dikes appear to be related genetically and may stem from the same magma source. In addition to these dikes, two small stocks, compositionally similar to, but coarser grained than the biotite-feldspar porphyry have also been observed. Hornfelsing is common, but extremely variable within the Hazelton Group adjacent to the dikes and stocks.

EXPLORATION RESULTS

PROPERTY GEOLOGY

No detailed geology was carried out in 1987. The following discussion of the property geology is from Holland, 1986.

"The western half of the claim is largely underlain by massive to moderately fissile (cleavage?) maroon (biotite) tuffs with abundant gritty to sandy white fragments (unit A). Intruding these rocks in the southwestern corner of the property is a strongly silicified and altered stock (unit 3A) measuring at least 700 metres by 450 metres. Much of the original mineralogy and texture of this stock has been destroyed, however a similar, less altered intrusive body, located further south, is comprised of medium grained plagioclase - alkali feldspar - biotite - hornblende? - quartz with numerous plagioclase phenocrysts to 1 cm.

In the northwest corner of the claim, Unit A rocks commonly show localized weak to strong sericite - chlorite - carbonate - epidote alteration. Strongly silicified tuff outcroppings observed in this

area in 1984 were further investigated and shown to cover a zone at least 550 metres by 200 metres along the western claim boundary. Silicification ranges from weak to intense coarser grained textures, similar to Unit 3A to the south were noted at several sites, suggesting this zone is, in part, intrusive. Abundant very finely disseminated pyrite was noted at grid co-ordinates 19+70N, 1+68E but appears erratic in distribution. Fine rusted outpits were also observed at several other sites within the silicified zone."

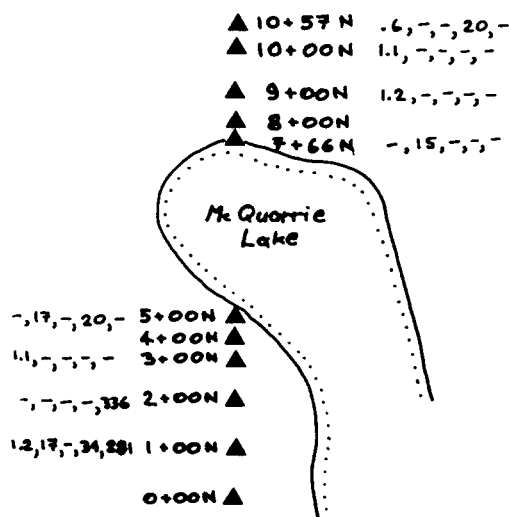
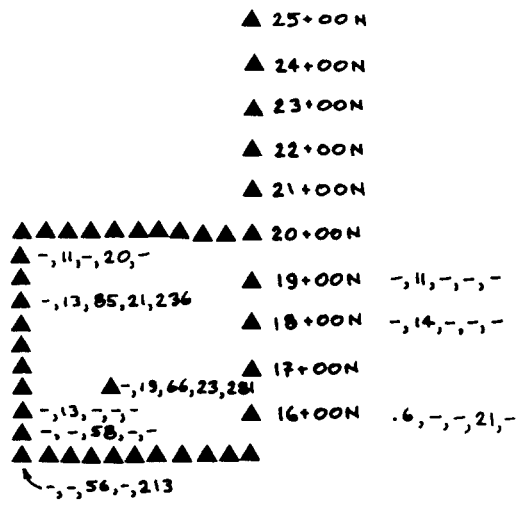
GEOCHEMISTRY

A total of 50 soil samples were collected within the GIO 5 grid area. Samples were taken as near as possible from the "B" horizon (15-25 centimeters depth), using a prospector's "grub hoe". An effort was made to avoid organic rich, leached or disturbed material. Each sample was stored in a labelled brown kraft soil bag and shipped to Vangeochem Labs Ltd. in Vancouver, for multi element I.C.P. analysis.

Careful visual examination of data for each element was used to define background, anomalous and highly anomalous populations as summarized below:

	Silver	Arsenic	Copper	Lead	Zinc
background	0.2	5	25	15	125
anomalous	0.5-1.0	10-15	50-75	20-25	200-3300
highly anomalous	+1.0	+15	+75	+25	+300

The results from the 1987 geochemical survey returned statistically anomalous values in arsenic, copper lead and zinc but the values are all lower than the results from previous sampling. The silver values from four samples



L15E L17E L20E

Ag (ppm), As (ppm), Cu (ppm), Pb (ppm), Zn (ppm)
 > 5 ppm > 10 ppm > 50 ppm > 20 ppm > 200 ppm
 only values > above values are plotted



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C.K.&G. Management Ltd.

Figure 3
 GIO 5 CLAIM
**SOIL GEOCHEMISTRY
 ANOMALIES**

NTS: 93 L/10
 British Columbia

October 1987

around McQuarrie Lake were statistically anomalous but within the realm of the old values and thus are of moderate interest. These silver results if coupled with results of other geochemical geophysical and geological surveys of past and present or future work may become of value but taken on their own merit are not worthy of follow up.

CONCLUSIONS AND RECOMMENDATIONS

The results of the 1987 geochemical soil sampling carried out in the eastern portion of the GIO 5 claim block returned statistically anomalous values in silver, arsenic, copper lead and zinc from a small population of samples. Although statistically anomalous, the results do not justify further exploration in this area. Further work should be based on the results of previous exploration programs.

COST STATEMENT - GIO 5

Field Personnel

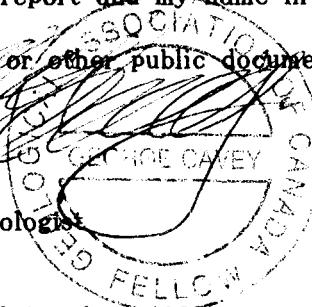
Linda Lewis - 6.5 days @ \$195/day	\$ 1,267.50
Aug. 31, Sept. 6, 7, 8, 9, 10 Oct 14 (1/2 day)	
Tom Lewis - 6.5 days @ \$190/day	1,235.00
Aug. 31, Sept. 4, 5, 6, 7, 8, 9 (1/2 day)	
George Cavey - 7 hrs. @ 50/hr	350.00
Mob/Demob	143.75
Camp Costs	338.28
Geochemical Analysis	432.09
Vehicle Rental - 5 days @ \$50/day	250.00
Drafting and Report	<u>75.00</u>
TOTAL	<u>\$ 4,091.62</u>

CERTIFICATE of QUALIFICATIONS

I, George Cavey, of 6891 Wiltshire Street, Vancouver, British Columbia hereby certify:

1. I am a graduate of the University of British Columbia (1976) and hold a BSc. degree in geology.
2. I am presently employed as a consulting geologist with OreQuest Consultants Ltd. of 404-595 Howe Street, Vancouver, British Columbia.
3. I have been employed in my profession by various mining companies since graduation.
4. I am a Fellow of the Geological Association of Canada.
5. I am a member of the Canadian Institute of Mining and Metallurgy.
6. The information contained in this report was obtained from direct supervision of the work done on the property and the materials listed in the Bibliography.
7. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property nor in the securities of C.K. & G. Ltd. or any of its subsidiaries.
8. I consent to and authorize the use of the attached report ~~and my name in the Company's Prospectus, Statement of Material Facts or other public document.~~

George Cavey
Consulting Geologist



DATED at Vancouver, British Columbia, this 16th day of October, 1987.

CERTIFICATE of QUALIFICATIONS

I, Linda L. Lewis, of Box 1744, Rossland, British Columbia hereby certify:

1. I am a graduate of the University of Regina, Saskatchewan (1987) with an Honours B.Sc. degree in geology.
2. I am presently employed as a consulting geologist with OreQuest Consultants Ltd. of 404-595 Howe Street, Vancouver, British Columbia.
3. I have been employed with the Geological Survey of Canada as a field geologist for two summers prior to graduation.
4. The information contained in this report is based on field work carried out during September, 1987, as well as public and property reports.
5. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property nor in the securities of C.K. & G. Management Ltd.
6. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts or other public document.

Linda Lewis
Consulting Geologist



BIBLIOGRAPHY

BOROVIC, I.

February 24, 1981: A Report on the Results of the 1980 Reconnaissance Geology and Geophysical Survey on the Grouse Mountain Copperhill Property, B.C., Assessment Report 9087.

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July 2, 1983: Geological Report on the Last Chance 1 and 2 Claims, unpublished report for Adriatic Resources Corp.

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1969: B.C. Department of Mines, Geology, Exploration and Mining in British Columbia, p. 142-148.

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1973: B.C. Department of Mines, Geology, Exploration and Mining in British Columbia, p. 334-338.

GEOLOGICAL SURVEY OF CANADA, Open File 351, 1976, Smithers, B.C., 93L.

HOLLAND, R.T.

December 6, 1982: Summary Report on the Last Chance 1 and 2 Mineral Claims, unpublished report.

May 1, 1986: Geochemical Report on the GIO 5 Mineral Claim for C.K. & G. Management Ltd., B.C. Assessment Report 14,831.

WALKER, J.T.

March 12, 1987: Report on the Airborne Geophysical Survey on the GIO 2, GIO 4, GIO 5 and GIO 6 Mineral Claims, Grouse Mountain Area, Houston, B.C.

APPENDIX A
ANALYTICAL RESULTS

MAIN OFFICE: 1521 PEMBERTON AVE. N.VANCOUVER B.C. V7P 2R3 PH:(604)986-5211 TELEX:04-352578
 BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH:(604)251-5656

ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.
 THIS LEACH IS PARTIAL FOR SM,MM,FE,CA,P,CR,PG,BA,PB,AL,NA,K,U,PT AND SR. AU AND PD DETECTION IS 3 PPM.
 IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -- NOT ANALYZED

COMPANY: OREQUEST CONSULTANTS
 ATTENTION: GEORGE CAVEY
 PROJECT: GIO CLAIMS

REPORT#: 871324PA
 JOB#: 871324
 INVOICE#: 871324NA

DATE RECEIVED: 87/9/14
 DATE COMPLETED: 87/10/02
 COPY SENT TO:

ANALYST *W. Kees*

SAMPLE NAME	AG PPM	AL %	AS PPM	AU PPM	BA PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	K %	MG %	MM PPM	MO PPM	NA %	NI PPM	P %	PB PPM	PD PPM	PT PPM	SB PPM	SM PPM	SR PPM	U PPM	V PPM	ZN PPM
L11+00 0+00H	.1	3.34	7	ND	301	ND	.39	1.6	12	20	69	4.13	.06	.70	2548	1	.21	22	.11	35	ND	ND	ND	1	27	ND	3	480
L11+00 0+50H	.1	1.88	10	ND	139	ND	.17	.1	9	14	21	3.25	.05	.62	760	2	.13	15	.03	23	ND	ND	5	2	13	ND	ND	240
L11+00 1+00H	.1	4.39	9	ND	484	ND	.79	.9	12	26	93	4.31	.09	.89	2492	1	.23	27	.09	33	ND	ND	ND	1	31	ND	ND	530
L11+00 1+50H	.1	3.08	8	ND	151	ND	.17	.1	11	19	73	3.93	.05	.66	559	1	.12	17	.05	21	ND	ND	4	3	15	ND	ND	179
L11+00 2+00H	.1	2.60	ND	ND	338	ND	.31	.1	15	15	65	3.08	.07	.46	5729	ND	.11	17	.07	32	ND	ND	ND	1	24	10	ND	212
L11+00 2+50H	.1	1.93	3	ND	107	ND	.21	.1	6	15	24	3.57	.05	.37	662	1	.10	8	.08	21	ND	ND	3	1	14	ND	ND	152
L11+00 3+00H	.1	4.34	15	ND	232	ND	.38	.1	17	32	98	4.96	.06	.96	1477	1	.19	32	.09	33	ND	ND	ND	ND	20	ND	ND	338
L11+00 3+50H	.1	2.06	ND	ND	128	ND	.21	.1	7	18	14	2.78	.04	.54	416	ND	.10	10	.06	12	ND	ND	ND	1	13	ND	ND	178
L11+00 4+00H	.1	2.56	ND	ND	393	ND	.53	1.3	14	24	41	3.66	.06	.58	2966	1	.14	16	.08	31	ND	ND	ND	1	21	4	ND	254
L11+00 4+50H	.1	2.62	5	ND	167	ND	.20	.1	12	24	25	3.61	.05	.74	647	1	.12	20	.05	15	ND	ND	ND	2	15	ND	ND	190
L11+00 5+00H	.1	1.96	6	ND	126	ND	.14	.4	9	17	20	3.54	.05	.44	665	1	.10	14	.04	20	ND	ND	5	1	13	ND	ND	144
L11+00 5+50H	.1	2.29	8	ND	233	ND	.54	1.2	12	19	46	3.54	.06	.55	2615	1	.14	21	.07	23	ND	ND	ND	1	30	ND	ND	272
L11+00 6+00H	.1	1.11	ND	ND	434	ND	1.65	7.7	10	11	77	2.39	.06	.32	6545	ND	.22	19	.18	35	ND	ND	ND	2	54	4	ND	582
L11+00 6+50H	.1	2.45	4	ND	481	ND	.73	.9	13	21	48	3.88	.06	.61	2871	1	.14	25	.10	24	ND	ND	ND	2	32	ND	ND	236
L11+00 7+00H	.1	2.00	ND	ND	211	4	.50	.4	10	19	37	3.47	.05	.48	1786	2	.12	14	.04	19	ND	ND	3	1	19	ND	ND	184
L11+00 7+50H	.1	2.27	3	ND	212	ND	.43	.2	13	19	39	3.92	.05	.51	2794	ND	.14	17	.05	17	ND	ND	3	1	24	4	ND	247
L11+00 8+00H	.1	1.79	ND	ND	178	ND	.45	.1	8	15	20	3.62	.06	.46	611	1	.11	11	.03	16	ND	ND	ND	1	18	ND	ND	170
L11+00 8+50H	.1	4.15	17	ND	396	4	.80	.7	17	25	141	5.30	.08	.74	2737	ND	.17	31	.10	29	ND	ND	ND	ND	26	ND	ND	259
L11+00 9+00H	.1	1.63	7	ND	232	ND	.47	3.0	11	15	24	3.40	.05	.45	3696	1	.16	13	.08	23	ND	ND	ND	ND	18	3	ND	337
L11+00 9+50H	.1	1.85	6	ND	241	ND	.35	.5	10	19	26	3.64	.06	.54	1439	1	.11	20	.05	18	ND	ND	3	1	15	ND	ND	182
L11+00 10+00H	.1	3.01	21	ND	208	ND	.27	.1	10	18	82	3.58	.05	.70	655	1	.12	18	.06	35	ND	ND	ND	2	19	ND	ND	207
L11+00 10+50H	.1	2.62	15	ND	124	ND	.19	.1	8	19	34	4.07	.05	.55	579	1	.13	18	.05	29	ND	ND	3	1	13	ND	ND	202
L11+00 11+00H	.1	1.74	6	ND	90	ND	.10	.1	6	14	17	3.38	.04	.37	334	1	.08	11	.04	17	ND	ND	ND	1	10	ND	ND	109
L11+00 11+50H	.1	1.87	10	ND	66	ND	.17	.1	11	19	40	3.69	.05	.65	456	1	.10	16	.02	15	ND	ND	3	1	11	ND	ND	124
L11+90 0+00H	.1	2.15	7	ND	101	ND	.16	.1	8	15	25	3.67	.06	.75	613	1	.13	17	.05	22	ND	ND	ND	ND	12	ND	ND	217
L11+90 0+50H	.1	3.30	26	ND	311	ND	.84	3.4	12	21	71	4.21	.09	.68	2957	1	.23	25	.08	35	ND	ND	ND	1	33	ND	ND	502
L11+90 1+00H	.1	1.70	ND	ND	101	ND	.16	.3	6	11	13	2.74	.04	.41	448	ND	.08	7	.04	15	ND	ND	ND	2	12	ND	ND	136
L11+90 1+50H	.1	1.88	ND	ND	133	ND	.40	.2	9	14	18	3.17	.05	.48	951	2	.12	9	.03	25	ND	ND	3	4	14	ND	ND	224
L11+90 2+00H	.1	1.46	ND	ND	74	ND	.18	.1	5	13	8	3.09	.04	.37	291	1	.10	8	.04	14	ND	ND	3	2	11	ND	ND	159
L11+90 2+50H	.1	1.59	3	ND	112	ND	.26	.3	8	16	17	3.04	.03	.49	563	1	.10	13	.03	17	ND	ND	ND	2	12	ND	ND	148
L11+90 3+00H	.1	2.51	ND	ND	134	ND	.22	.1	10	21	27	3.75	.05	.68	1164	1	.16	15	.07	24	ND	ND	ND	1	12	ND	ND	319
L11+90 3+50H	.1	2.14	ND	ND	115	ND	.19	.1	10	18	12	3.08	.04	.62	594	1	.10	14	.08	14	ND	ND	ND	1	12	ND	ND	155
L11+90 4+00H	.1	1.98	5	ND	71	ND	.13	.1	6	17	16	3.65	.05	.43	349	1	.10	13	.10	17	ND	ND	3	ND	9	ND	ND	124
L11+90 4+50H	.1	2.62	20	ND	191	ND	.68	.8	9	21	51	3.38	.06	.53	1131	1	.11	19	.04	15	ND	ND	ND	2	32	ND	ND	192
L11+90 5+00H	.1	1.47	ND	ND	71	ND	.17	.1	5	16	14	2.74	.04	.34	226	1	.07	10	.03	13	ND	ND	ND	2	14	ND	ND	88
L11+90 5+50H	.1	1.48	8	ND	103	3	.38	.6	8	18	20	3.35	.04	.57	692	1	.12	11	.04	18	ND	ND	3	1	20	ND	ND	187
L11+90 6+00H	.5	2.42	4	ND	268	3	.94	6.1	12	16	420	3.25	.08	.61	2262	1	.19	31	.14	31	ND	ND	ND	1	24	ND	ND	460
L11+90 6+50H	.1	2.59	9	ND	345	ND	1.38	5.6	22	14	287	4.91	.07	.50	5273	1	.23	15	.17	29	ND	ND	ND	1	31	ND	ND	456
L11+90 7+00H	.1	2.37	ND	ND	293	ND	.31	.2	12	21	41	3.96	.05	.70	1151	1	.13	21	.04	30	ND	ND	ND	1	13	ND	ND	291
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1

SAMPLE NAME	AG PPH	AL I	AS PPH	AU PPH	BA PPH	BI PPH	CA I	CD PPH	CO PPH	CR PPH	CU PPH	FE I	K I	HG I	HM PPH	MO PPH	NA I	NI PPH	P I	PB PPH	PD PPH	PT PPH	SB PPH	SM PPH	SR PPH	U PPH	V PPH	ZN PPH
L11+90 7+50N	.1	3.91	13	ND	529	ND	.50	.1	12	24	110	4.34	.08	.68	2963	5	.17	30	.07	39	ND	ND	ND	ND	22	ND	ND	342
L11+90 8+00N	.1	1.33	ND	ND	175	ND	.24	.1	7	13	13	2.94	.04	.30	624	2	.08	13	.04	22	ND	ND	ND	1	14	ND	ND	138
L11+90 8+50N	.1	1.82	6	ND	175	ND	.48	.2	10	16	31	3.53	.05	.46	896	1	.11	15	.03	17	ND	ND	ND	2	17	ND	ND	170
L11+90 9+00N	.1	2.71	25	ND	189	ND	.48	.1	11	22	60	4.39	.05	.76	675	2	.13	23	.04	18	ND	ND	ND	1	18	ND	ND	187
L11+90 9+50N	.1	2.59	29	ND	158	ND	.21	.1	10	19	32	4.38	.05	.56	650	2	.13	20	.05	37	ND	ND	3	2	13	ND	ND	201
L11+90 10+00N	.1	3.17	14	ND	159	ND	.15	.1	9	20	61	3.82	.05	.73	488	3	.12	25	.07	23	ND	ND	ND	ND	14	ND	ND	210
L11+90 10+50N	.1	2.27	4	ND	114	ND	.13	.1	8	15	25	3.61	.05	.50	432	1	.12	12	.04	19	ND	ND	ND	ND	13	ND	ND	210
L11+90 11+00N	.1	2.29	6	ND	207	ND	.61	.1	10	15	24	2.88	.06	.41	1847	2	.08	14	.04	18	ND	ND	ND	ND	26	ND	ND	144
L11+90 11+50N	.1	1.43	3	ND	73	ND	.19	.1	4	12	13	2.83	.04	.22	255	1	.06	11	.06	8	ND	ND	ND	ND	20	ND	ND	72
L15+00E 15+00N	.1	5.11	7	ND	402	ND	.70	.1	9	30	56	4.26	.08	.89	587	4	.13	37	.14	15	ND	ND	ND	1	58	ND	3	213
L15+00E 15+50N	.1	3.60	8	ND	314	3	.74	.5	10	23	58	3.68	.07	.71	1214	2	.10	33	.11	18	ND	ND	ND	1	66	ND	ND	166
L15+00E 16+00N	.1	3.48	13	ND	226	ND	.38	.1	10	26	48	4.02	.08	.74	958	2	.12	27	.07	18	ND	ND	ND	2	41	ND	ND	195
L15+00E 17+00N	.1	1.96	8	ND	109	ND	.26	.1	7	16	20	3.01	.05	.58	511	1	.08	16	.05	12	ND	ND	ND	2	25	ND	ND	112
L15+00E 17+50N	.1	2.04	ND	ND	145	ND	.38	.1	6	16	18	2.79	.06	.41	508	ND	.07	16	.05	9	ND	ND	ND	2	32	ND	ND	120
L15+00E 18+00N	.1	1.72	ND	ND	138	ND	.30	.1	3	12	22	2.15	.05	.28	201	1	.05	11	.04	11	ND	ND	ND	ND	34	ND	ND	86
L15+00E 18+50N	.1	4.88	13	ND	403	4	.84	.4	12	28	85	4.55	.10	.75	1910	3	.13	33	.12	21	ND	ND	ND	ND	95	ND	ND	236
L15+00E 19+00N	.1	1.25	ND	ND	119	ND	.26	.3	3	11	14	2.44	.05	.24	197	ND	.05	8	.03	8	ND	ND	ND	1	26	ND	4	79
L15+00E 19+50N	.1	3.78	11	ND	286	ND	.35	.1	11	23	43	4.29	.08	.68	1360	3	.12	26	.08	20	ND	ND	ND	1	41	ND	ND	189
L15+00N 0+50N	.1	.79	ND	ND	69	ND	.17	.1	3	8	8	2.01	.04	.10	196	ND	.04	3	.03	11	ND	ND	ND	2	16	ND	ND	49
L15+00N 1+00N	.1	1.69	7	ND	110	ND	.13	.1	7	14	19	2.88	.05	.38	462	1	.07	13	.04	17	ND	ND	ND	2	16	ND	ND	115
L15+00N 1+50N	.1	1.79	ND	ND	143	ND	.23	.1	8	15	22	2.89	.06	.36	802	ND	.08	21	.04	16	ND	ND	ND	ND	24	3	ND	139
L15+00N 2+00N	.1	1.97	5	ND	138	ND	.27	.1	7	16	25	3.07	.05	.51	621	ND	.08	17	.05	10	ND	ND	ND	ND	26	ND	5	145
L15+00N 2+50N	.1	2.07	ND	ND	178	ND	.27	.3	9	17	27	3.27	.06	.56	637	1	.08	19	.04	13	ND	ND	ND	1	27	ND	ND	132
L15+00N 3+00N	.1	1.18	5	ND	70	3	.18	.1	3	11	12	2.57	.05	.24	183	ND	.05	12	.06	12	ND	ND	ND	3	14	5	ND	70
L15+00N 3+50N	.1	1.25	ND	ND	199	3	.28	.1	5	12	20	2.55	.06	.29	367	ND	.06	10	.04	7	ND	ND	ND	1	25	5	ND	93
L15+00N 4+00N	.2	2.09	ND	ND	128	ND	.22	.1	6	16	21	2.80	.05	.55	439	ND	.07	17	.05	11	ND	ND	ND	2	22	3	ND	106
L15+00N 4+50N	.1	6.08	16	ND	501	ND	.65	.1	14	36	98	5.56	.10	1.07	1326	5	.17	44	.11	22	ND	ND	ND	ND	55	ND	ND	287
L17+00E 16+50N	.1	5.67	19	ND	369	ND	.51	.1	14	32	66	5.14	.10	.91	2669	4	.16	38	.12	23	ND	ND	ND	ND	49	ND	ND	281
L20+00E 0+00N	.1	2.48	9	ND	167	ND	.46	1.3	11	23	44	3.38	.08	.70	1565	2	.10	33	.05	19	ND	ND	ND	ND	37	ND	ND	181
L20+00E 1+00N	1.2	1.99	17	ND	175	ND	.92	2.5	7	14	43	2.83	.07	.33	356	3	.15	17	.07	34	ND	ND	ND	ND	75	ND	ND	281
L20+00E 2+00N	.1	2.95	7	ND	196	ND	.68	.1	8	21	31	2.97	.03	.68	341	1	.21	34	.12	14	ND	ND	ND	ND	64	ND	ND	336
L20+00E 3+00N	1.1	1.09	ND	ND	42	ND	.09	.1	4	7	5	.87	.06	.14	77	1	.01	6	.02	14	ND	ND	ND	ND	9	3	ND	26
L20+00E 4+00N	.3	2.45	17	ND	74	ND	.08	.1	7	20	18	4.13	.06	.33	322	2	.11	14	.09	20	ND	ND	3	ND	9	ND	ND	97
L20+00E 7+66N	.1	2.55	15	ND	127	3	.27	.1	11	21	22	3.61	.07	.73	681	2	.11	25	.04	19	ND	ND	ND	ND	25	ND	ND	114
L20+00E 8+00N	.1	2.80	ND	ND	194	ND	.28	.1	9	18	22	2.44	.03	.52	689	ND	.09	18	.09	13	ND	ND	ND	ND	31	ND	ND	99
L20+00E 9+00N	1.2	1.63	7	ND	59	ND	.12	.1	6	13	10	1.77	.07	.38	202	1	.02	14	.03	17	ND	ND	ND	ND	11	ND	ND	60
L20+00E 10+00N	1.1	1.34	ND	ND	52	3	.09	.1	5	10	7	1.41	.07	.32	144	2	.01	10	.02	16	ND	ND	ND	ND	10	7	ND	45
L20+00E 10+57N	.6	1.92	7	ND	152	3	.36	.1	9	17	16	2.72	.07	.59	648	3	.07	19	.04	20	ND	ND	ND	ND	43	ND	ND	95
L20+00E 15+00N	.6	1.63	4	ND	122	ND	.20	.1	8	14	19	2.35	.07	.40	316	1	.05	16	.04	21	ND	ND	ND	ND	24	3	ND	73
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1

SAMPLE NAME	AG PPH	AL I	AS PPH	AU PPH	BA PPH	BI PPH	CA I	CB PPH	CO PPH	CR PPH	CU PPH	FE I	K I	MG I	MN PPH	MO PPH	NA I	NI PPH	P I	PB PPH	PD PPH	PT PPH	SB PPH	SN PPH	SR PPH	U PPH	V PPH	ZN PPH
L20+00E 16+00N	.1	2.14	6	ND	227	ND	.69	.1	9	16	26	2.80	.05	.54	1272	1	.08	21	.05	12	ND	ND	3	2	70	ND	4	144
L20+00E 17+00N	.2	3.80	7	ND	318	ND	1.22	1.0	8	22	71	3.38	.08	.64	2040	2	.09	35	.12	9	ND	ND	ND	ND	194	ND	ND	141
L20+00E 18+00N	.1	1.88	14	ND	75	3	.18	.1	4	16	13	4.06	.05	.34	266	2	.09	8	.06	12	ND	ND	3	ND	18	ND	ND	98
L20+00E 19+00N	.1	1.80	11	ND	95	ND	.18	.1	8	16	14	3.14	.04	.51	388	1	.09	15	.02	11	ND	ND	ND	2	21	ND	3	148
L20+00E 20+00N	.1	1.25	4	ND	112	ND	.12	.1	5	11	10	2.27	.04	.19	801	ND	.05	8	.06	11	ND	ND	ND	1	13	3	ND	90
L20+00E 21+00N	.1	1.50	9	ND	100	ND	.11	.1	5	13	11	3.09	.04	.30	329	1	.07	12	.06	13	ND	ND	3	ND	12	ND	3	107
L20+00E 22+00N	.1	2.24	ND	ND	195	3	.15	.1	3	13	32	2.03	.04	.26	163	1	.04	12	.09	10	ND	ND	ND	ND	24	ND	ND	59
L20+00E 23+00N	.1	2.14	13	ND	57	ND	.12	.1	5	18	17	3.87	.05	.51	266	1	.09	14	.03	11	ND	ND	4	ND	13	ND	ND	90
L20+00E 24+00N	.1	1.20	ND	ND	60	ND	.08	.1	4	10	12	2.19	.04	.24	315	ND	.04	7	.03	7	ND	ND	ND	ND	11	ND	ND	46
L20+00E 25+00N	.1	.94	ND	ND	48	3	.11	.1	2	7	6	1.67	.03	.21	143	ND	.03	2	.01	6	ND	ND	ND	ND	14	3	3	38
L20+00N 0+50W	.1	1.00	ND	ND	42	ND	.11	.1	3	9	7	1.82	.03	.25	228	ND	.03	7	.03	8	ND	ND	3	ND	11	ND	ND	47
L20+00N 1+00W	.4	.65	ND	ND	26	ND	.05	.1	1	4	3	1.06	.03	.05	66	ND	.01	ND	.01	8	ND	ND	ND	1	9	3	ND	13
L20+00N 1+50W	.1	2.22	6	ND	107	3	.15	.1	4	13	18	2.47	.04	.36	254	ND	.06	13	.05	12	ND	ND	4	1	18	ND	ND	86
L20+00N 2+00W	.1	2.30	ND	ND	147	ND	.14	.1	4	14	27	2.49	.04	.36	213	1	.06	13	.05	11	ND	ND	ND	1	21	ND	ND	82
L20+00N 2+50W	.1	1.44	ND	ND	76	ND	.10	.1	3	10	12	1.86	.03	.28	193	ND	.04	6	.03	7	ND	ND	ND	ND	15	ND	ND	55
L20+00N 3+00W	.1	2.87	4	ND	130	ND	.17	.1	6	18	28	2.81	.04	.59	361	1	.07	17	.06	11	ND	ND	ND	ND	23	ND	ND	96
L20+00N 3+50W	.1	1.45	6	ND	147	ND	.22	.1	20	9	18	2.66	.05	.24	3108	1	.05	6	.07	16	ND	ND	3	ND	22	3	ND	56
L20+00N 4+00W	.1	3.12	8	ND	227	ND	.51	.1	9	18	47	3.02	.06	.49	982	1	.09	21	.07	12	ND	ND	3	ND	39	ND	ND	148
L20+00N 4+50W	.1	.75	ND	ND	48	5	.11	.1	2	8	6	1.94	.04	.08	125	ND	.03	3	.02	9	ND	ND	ND	ND	14	ND	ND	36
L20+00N 5+00W	.1	1.10	ND	ND	194	ND	.19	.1	3	10	16	2.45	.05	.14	352	ND	.05	5	.04	11	ND	ND	ND	1	26	ND	ND	70
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1

APPENDIX B
ANALYTICAL PROCEDURES



VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

October 22, 1987

TO:

OREQUEST CONSULTANTS LTD.
404 - 595 Howe Street
Vancouver, B.C. V6C 2T5

FROM:

Vangeochem Lab Limited
1521 Pemberton Avenue
North Vancouver, British Columbia
V7P 2S3

SUBJECT: Analytical procedure used to determine hot acid soluble for Cu, Pb, Mo, Zn and Ag in geochemical silt and soil samples.

1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

2. Method of Digestion

- (a) 0.50 gram portions of the minus 80-mesh samples were used. Samples were weighed out using an electronic balance.
- (b) Samples were heated in test tubes, on a sand bath in a Nitric and Perchloric concentrated acid solution (15% and 85% by volume respectively).
- (c) A minimum of 5000 ppm solution of $AlCO_3$ was added to each sample when Mo analyses were required. Digested samples were diluted with demineralized water to a



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1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

fixed volume. The samples were agitated to obtain a homogeneous solution.

3. Method of Analyses

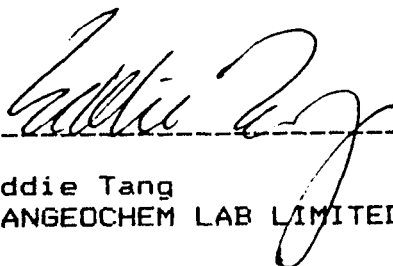
Cu, Pb, Zn, Mo and Ag concentrations were determined using a Techtron Atomic Absorption Spectrophotometer Model AA5 with their respective hollow cathode lamps. The digested samples were directly aspirated into an air and acetylene mixture flame. The results, in parts per million, were calculated by comparing them to a set of standards used to calibrate the atomic absorption units.

4. Background Correction

A hydrogen continuum lamp was used to correct the Ag background interferences.

5. Analysts

The analyses were supervised or determined by either Mr. Conway Chun or Mr. Eddie Tang, and, the laboratory staff.



Eddie Tang
VANGEOCHEM LAB LIMITED



VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

October 22, 1987

TO:

OREQUEST CONSULTANTS LTD.
404 - 595 Howe Street
Vancouver, B.C. V6C 2T5

FROM:

Vangeochem Lab Limited
1521 Pemberton Avenue
North Vancouver, British Columbia
V7P 2S3

SUBJECT: Analytical procedure used to determine hot acid soluble for 28 element scan by Inductively Coupled Plasma Spectrophotometry in geochemical silt and soil samples.

1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

2. Method of Digestion

- (a) 0.50 gram portions of the minus 80-mesh samples were used. Samples were weighed out using an electronic balance.
- (b) Samples were digested with a 5 ml solution of HCL:HNO3:H2O in the ratio of 3:1:2 in a 95 degree Celsius water bath for 90 minutes.
- (c) The digested samples are then removed from the bath and bulked up to 10 ml total volume with demineralized water and thoroughly mixed.



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NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

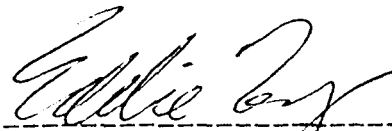
BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

3. Method of Analyses

The ICP analyses elements were determined by using a Jarrel-Ash ICAP model 9000 directly reading the spectrophotometric emissions. All major matrix and trace elements are interelement corrected. All data are subsequently stored onto disk.

4. Analysts

The analyses were supervised or determined by either Mr. Wade Reeves or Mr. Eddie Tang, and, the laboratory staff.



Eddie Tang
VANGEOCHEM LAB LIMITED