GEOLOGICAL AND GEOCHEMICAL REPORT

KWOIEK MINERAL CLAIMS

KAMLOOPS MINING DIVISION

KWOIEK CREEK, LYTTON, B.C.

NTS 92I/4E

LATITUDE 50°06'N LONGITUDE 121°43'W

CLAIMS KWOIEK #1 - #4

DATES OF WORK: Sept 1, 1981 - Sept. 28, 1982

Owner Gordon G. Richards

Operator JMT Services Corp.

by W. A. Howell, B.Sc.
J.S. Christie, Ph.D.

December 23, 1982

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INTRODUCTION

Silt samples collected during a prospecting programme in the area were highly anomalous for gold and arsenic along the lower slopes of the ground covered by the claim block. Claims were staked in late August of 1981. Further silting and soil sampling was done in the fall of 1981 and 1982. A total of 135 samples were collected of which 92 were soil samples, 32 were rock samples and 11 were silt samples. The results of this work have indicated areas of anomalous gold geochemistry worthy of more detailed evaluation.

LOCATION AND ACCESS

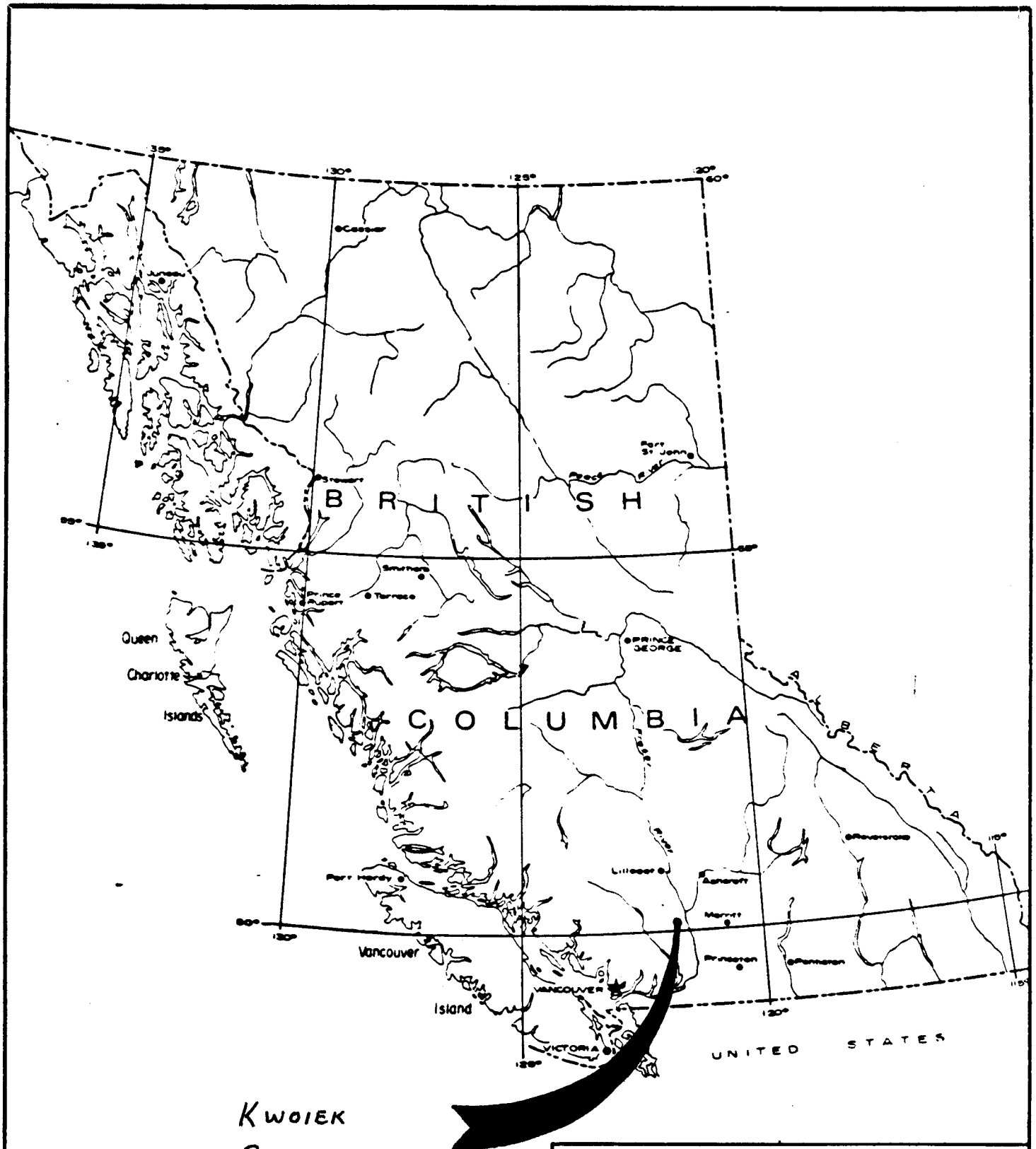
The claims are situated on the north facing slope of Pyramid Mountain east of Kwoiek Lake about 11 km west of the Fraser River. 18 km south west of Lytton. Access to the property can be made by two wheel drive vehicle along 50 km of good gravel logging road from North Bend which can be reached by an aerial ferry over the Fraser River one km north of Boston Bar. Access can also be made by four wheel drive vehicle from Lytton via a ferry 2 km north of town to the west bank of the Fraser River and then over 25 km of dirt road. Access through the claim block is excellent over secondary logging roads.

CLAIMS

The following four claims in the Kamloops Mining Division make up the property.

NAME	RECORD NO.	RECORD DATE	UNITS	OWNER
KWOIEK #1	3843	Sept. 28/81	12	Gordon G. Richards
KWOIEK #2	3844	Sept. 28/81	8	Gordon G. Richards
KWOIEK #3	3845	Sept. 28/81	20	Gordon G. Richards
KWOIEK #4	3846	Sept. 28/81	6	Gordon G. Richards

The owner of record is Gordon G. Richards, 6915 Lynas Lane, Richmond, B.C.



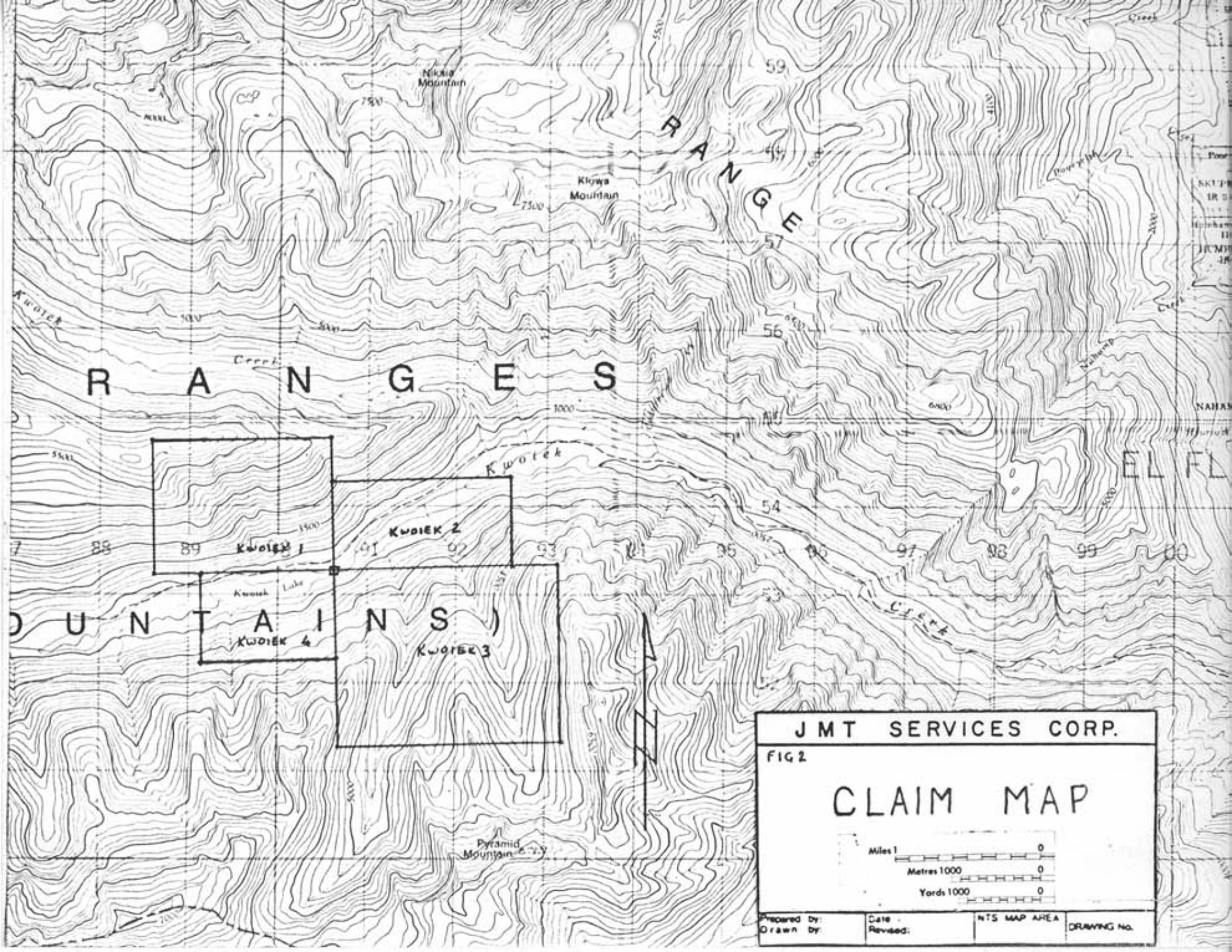
JMT SERVICES CORP.

PROPERTY LOCATION MAP

SCALE

Mile 1:136 0 136 Mile

Prepared by: Drawn by:	Date : Revised:	NTS MAP AREA	DRAWING No.


Nekas Mountain
Klewa Mountain
RANGE
RANGES
MOUNTAINS
Kwoiek
Creek
KWOIEK 1
KWOIEK 2
KWOIEK 3
KWOIEK 4
Kwoiek Lake
Pyramid Mountain
JMT SERVICES CORP.
FIG 2
CLAIM MAP
Miles 1 0
Metres 1000 0
Yards 1000 0
Prepared by:
Drawn by:
Date:
Revised:
NTS MAP AREA
DRAWING No.

GEOLOGY

J. W. Monger (1969) has described the regional geology S.E. of Kwoiek as follows: "The rocks are mainly dark grey, thinly laminated micaceous and graphitic phyllites with irregular finely crystalline quartzite layers oriented parallel to the phyllitic laminations...These rocks are intruded by Tertiary granitic rocks and evidence little contact metamorphism.....Cutting the phyllites are small serpentinite and talcose bodies alligned in a north-westernly direction. These probably represent the continuation of the serpentinite belt that is located south of Boston Bar...The age of the phyllitic rocks is unknown but lithologically they have more in common with Mesozoic than Paleozoic rocks in the northwest of the (Hope) map area. The relative homogeneity of the unit and the absence of metavolcanic rocks indicates that these rocks are probably Mesozoic rather than Poleozoic". To the southeast of the claims, on the east side of the Fraser Rive "The Jurassic Ladner Group...consists of uniformly laminated phyllite, whereas the paleozoic Hozameen to the southeast comprises volcanic rocks, chert and argillite."

The above description applies to the belt of rocks as it appears to the south of the claims on the Hope map sheet but is in agreement with the description by Duffel & McTaggert (1952) who studied the continuation of the rocks to the northwest in the Ashcroft map area.

Duffel & McTaggert note that "under the microscope, the phyllite is seen to consist of a series of thin subparallel layers composed of sericite and opaque argillaceous matter, probably graphitic, separating and surrounding impure lenticles of quartz, minor albite, and a little tourmaline".....From Kwoiek Creek north, the belt is composed largely of dark amphibole schists interbedded with some mica schists, quartzites, and marble".

Within the claim area the regional description of the rocks applies very well the phyllites are locally silicified and cut by quartz-carbonate altered shear zones, they often are somewhat bleached and become talcose. A few strong quartz veins and diabase dykes also cut the phyllites on a north westerly trend. Foliation trends are to the north west and are steeply dipping to the north east. The fracture zones, quartz veins and dykes all appear subparallel with that trend.

Geological mapping is not at a sufficient stage as to present a meaningful

map at this time. For this reason, a geologic map is not included with this report.

GEOCHEMISTRY

During 1981, a base of slope soil reconnaissance programme was undertaken on the claims. The results of this "first pass' are included with the 1982 data. The collection and sampling methods and techniques were similar for both 1981 and 1982 programmes. However, the 1981 geochemical results were determined by Chemex Labs, 212 Brooksbank Avenue, North Vancouver, B.C. while the 1982 geochemical results were made by U. S. Borax Research Corp., 412 Crescent Wy., Anaheim, California, U.S.A. 92801 (.U.S.B.R.C.)

Chemex determinations for gold were made using a fire assay preconcentration followed by neutron activation analysis. U.S.B.R.C. determination for gold were made using a HBr/Br digestion, solvent extraction followed by a standard atomic absorption finish. Both labs determined arsenic using a perchloric-nitric acid extraction followwed by a standard atomic absorption hydride finish.

Soil and silt samples were collected using a stainless steel spoon or scoop from either soil pits excavated approximately 10 to 40 cms to B horizon soils or from active silts.

The samples were tra .ferred to appropriately marked gussetted kraft sample bags and packaged for shipment to the lab.

Rock samples usually consisted of 3 to 5 pieces placed in an appropriately marked gussetted kraft sample bag. All samples were generally 300 to 500 grams in size. Larger samples were collected where coarse grained soils or silts were encountered.

The lower slopes of the Kwoiek Valley are covereed with a mantle of boulder clay till believed to be a few meters to a few tens of meteres thick. based on road cut exposures, and frequency of outcrop exposures. Despite the presence of the till blanket, several samples collected during the 1981 programme responded geochemically for gold.

Anomalous samples collected from till covered terrane, present several interpretative choices, foremost amongst them is whether the samples are reflecting local conditions or represent exotic transported material. The 1982 programme looked at rocks and soils uphill to the south of the earlier 1981 data. This was much facilitated by secondary logging roads providing good access and enhanced exposure to the area.

Results

The 1981 gold results varied from less than 1 ppb to 530 ppb. Values greater than 10 ppb are generally considered anomalous.

1981 arsenic results varied from 16 ppm to 870 ppm. Values greater than 25 to 30 ppm are generally considered anomalous.

The presence of arsenic and gold geochemical expressions, often coincident with each other, led to the impression that the values represent a valid expression of a local source.

The 1982 reconnaissance programme yielded gold results ranging from less than .02 ppm (lab lower detection limit) to 2.46 ppm; arsenic results ranged from less than 2 ppm to 5500 ppm.

These results are the first opportunity the writer has had to compare results from U.S.B.R.C. with the more familiar Chemex results. A larger sample population for comparision would be desirable as would several samples mutually analysed by the two labs. In the absence of this type of correlation. and after a general inspection of the results, it is felt that Au values over .03 ppm reported by U.S.B.R.C. are considered anomalous. Responses for arsenic and silver appear to be within expected ranges and direct correlation of results is expected.

Silver values are weakly anomalous in the southwestern and western portion of Kwoiek #3 claim and are coincident with anomalous gold and arsenic from the same area.

A separate map showing silver geochemistry is not presented at this time. Silver values are shown in Appendix III.

Several rock samples from silicified and or ankeritic altered areas have geochemically anomalous high gold values. In addition, a silt sample (B-1399) from the s.w. portion of Kwoiek #3, is significantly anomalous for gold. The source of the drainage is local, and in part, is covered by the same area as the anomalous gold-arsenic-silver anoamly.

CONCLUSIONS

Much of the property has yet to be examined geologically and geochemically.

The rocks and soils have been shown to host geochemically significant values in gold, silver and arsenic.

The lithologic affinities with known gold deposits to the s.e. (Carolyn

Mines, Ladner shales) should not be discounted. The rocks show evidence of strong n.w. structural deformation and shearing. The presence of which may have a bearing on the mineralization.

RECOMMENDATIONS

Further systematic geochemical sampling combined with geological mapping should be undertaken particularly south and south east of Kwoiek Lake in addition to further sampling and detailed mapping of the existing anomalous samples. Particular attention should be paid to the area of broad arsenic/ silver geochemistry evident in the s.w. portion of Kwoiek #3 claims.

Sporadic gold values north of Kwoiek Lake and in the lower valley downstream from the lake in the n.w. portion of Kwoiek #2 claim should be followed up with careful prospecting, mapping and geochemical reconnaissance keeping in mind the problems associated with masking tills in the lower valley sections.

Respectfully submitted

J. S. Christie, Ph.D.

W. A. Howell, B.Sc.

December 23, 1982

APPENDIX I

STATEMENT OF COSTS

TIME			
J. S. Christie	Sept 2, 4, 1982	2 days @ $225	$ 450.00
W.A. Howell	Sept 2, 4 1982	2 days @ $225	450.00
J. Mustard	Sept 1, 1981	1 day @ $125	125.00
C. Harivel	Sept 1, 1981	1 day @ $225	225.00
Meals	6 mandays @ $25.00		150.00
Camp			20.00
Truck	1981		150.00
	1982		150.00
Geochem	1981		577.50
	1982		1,054.00
Field supplies			100.00
Report, drafting, typing, reproductions			1,500.00
			$4,951.50

APPENDIX II

STATEMENT OF QUALIFICATIONS

I, WILLIAM A. HOWELL, do hereby certify that:

1. I am a professional geologist working in British Columbia and residing at 10611 Ainsworth Crescent, Richmond, B.C. V7A 3V5

2. I am a graduate of the University of British Columbia, Bachelor of Science (Geology) 1971.

3. I have been employed in the mineral exploration industry since 1967 and have practiced my profession as a geologist since 1971.

4. I am a member of the Geological Association of Canada.

5. This report is based on my personal knowledge of the district and the mapping and sampling done on the property.

W. A. Howell

W. A. Howell, B.Sc.

STATEMENT OF QUALIFICATIONS

I, James S. Christie of Vancouver, British Columbia do hereby certify that,

1. I am a Professional Geologist residing at 3921 West 31st Avenue, Vancouver, B.C. , V6S 1Y4

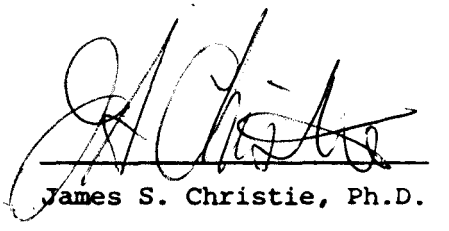
2. I am a graduate of the University of British Columbia B. Sc., Honours Geology - 1965; Ph.D. Geology - 1973

3. I have practised my profession as a mining exploration geologist, continuously since 1965.

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

5. I am a Member of the Geological Society of America.

6. This report is based on my personal knowledge of the district, and mapping of the geology at the property.



James S. Christie, Ph.D.

APPENDIX III

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER B C
CANADA V7J 2C1
TELEPHONE (604) 984-0221
TELEX 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : JMT SERVICES CORP:
8827 HUDSON ST:
VANCOUVER, B.C.
V6B 4N1

CERT. # : A8113762-002-A
INVOICE # : I8113762
DATE : 30-SEP-81
P.O. # : NONE
02-230

ATTN: VARR PRICE

KWOIEK

Sample description	Prep code	Pb ppm	Ag ppm	AS ppm	Au NAA ppb			
81 JM-708	201	4	0.1	30	4		--	--
81 JM-709	201	1	0.1	67	11		--	--
81 JM-710	201	1	0.1	210	117		--	--
81 JM-711	201	1	0.1	77	22		--	--
81 JM-712	201	1	0.1	90	9		--	--
81 JM-713	201	2	0.1	110	35		--	--
81 JM-714	201	1	0.2	235	6		--	--
81 JM-715	201	1	0.1	635	269		--	--
81 JM-716	201	1	0.1	110	3		--	--
81 JM-717	201	1	0.1	59	5		--	--
81 JM-718	201	1	0.1	16	1		--	--
81 JM-719	201	1	0.2	27	5		--	--
81 JM-720	201	2	0.2	120	47		--	--
81 JM-721	201	2	0.1	820	147		--	--
81 JM-722	201	1	0.1	16	24		--	--
81 JM-723	201	9	0.1	53	11		--	--
81 JM-724	201	11	0.1	870	10		--	--
81 JM-725	203	1	0.1	260	10	s.ft	--	--
81 JM-726	201	7	0.1	170	<1		--	--
81 JM-727	201	4	0.3	35	<1		--	--
81 JM-728	201	3	0.1	200	50		--	--

Certified by ..... Hart Buchan

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE (604) 984-0221
TELEX 043-52597

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CERTIFICATE OF ANALYSIS

TO : JMT SERVICES CORP.
8827 HUDSON ST.
VANCOUVER, B.C.
V6B 4N1

CERT. # : A8113762-001-A
INVOICE # : I8113762
DATE : 30-SEP-81
P.O. # : NONE
02-230

Kwoiek

ATTN: VARR PRICE

Sample description	Prep code	Pb ppm	Ag ppm	AS ppm	Au NAA ppb		
81 JM-697	201	4	0.1	17	6	--	--
81 JM-698	201	4	0.1	17	<1	--	--
81 JM-699	201	1	0.1	41	14	--	--
81 JM-700	201	1	0.1	19	2	--	--
81 JM-701	201	1	0.1	46	5	--	--
81 JM-702	201	1	0.1	45	523	--	--
81 JM-703	201	1	0.1	38	2	--	--
81 JM-704	201	1	0.1	30	2	--	--
81 JM-705	201	1	0.1	35	5	--	--
81 JM-706	201	1	0.1	22	2	--	--
81 JM-707	201	1	0.2	55	3	--	--

Kwoiek

Certified by .... Hart Bichler

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CERTIFICATE OF ANALYSIS

TO : JMT SERVICES CORP:
8827 HUDSON ST:
VANCOUVER, B.C.
V6B 4N1

CERT. # : A8112994-004-B
INVOICE # : I8112994
DATE : 09-SEP-31
P.O. # : NONE

KWOIEK

Sample description	Prep code	W ppm	AU-NAA ppb				
81H-922	201	1	4	--	--	--	--
81H-923	201	1	15	--	--	--	--
81H-924	201	1	8	--	--	--	--
81H-925	201	1	135	--	--	--	--
81H-926	201	1	10	--	--	--	--
81H-927	201	1	3	--	--	--	--
81H-929	201	1	19	--	--	--	--
81H-930	201	1	6	--	--	--	--

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NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE (604)984-0221
TELEX 043-52597

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CERTIFICATE OF ANALYSIS

SEP

TO : JMT SERVICES CORP:
8927 HUDSON ST:
VANCOUVER, B.C.
V6B 4N1

CERT. # : A8112994-003-B
INVOICE # : I8112994
DATE : 09-SEP-81
P.O. # : NONE

KWOIEK

Sample description	Prep code	W ppm	AU-NAA ppb				
81H-907	201	1	1	--	--	--	--
81H-908	201	1	1	--	--	--	--
81H-909	201	1	2	--	--	--	--
81H-910	201	1	<1	--	--	--	--
81H-911	201	1	<1	--	--	--	--
81H-912	203	1	3	--	--	--	--
81H-913	201	1	<1	--	--	--	--
81H-914	201	1	1	--	--	--	--
81H-915	203	1	170	--	--	--	--
81H-916	201	1	<1	--	--	--	--
81H-917	203	1	2	--	--	--	--
81H-918	201	1	1	--	--	--	--
81H-919	201	1	<1	--	--	--	--
81H-920	201	1	17	--	--	--	--
81H-921	203	1	29	--	--	--	--

KWOIEK

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by Hart Bichler

USBRC Geochemical Analysis --- NW82HA19 --- 5-NOV-82

Field Number	AU PPB	AG PPM	AS PPM
HA-82C-129	0.03	0.7	13.
HA-82C-132	0.03	0.2	8.
HA-82C-127	0.06	0.9	84.
HA-82C-128	0.06	1.5	345.
HA-82C-130	0.05	0.9	84.
HA-82C-131	1.55	7.5	2370.
HA-82C-133	0.06	1.1	180.
HA-82C-135	0.06	0.7	108.
HA-82C-137	0.05	0.8	100.
HA-82C-138	0.05	0.5	41.
HA-82C-139	0.05	0.4	21.
HA-82C-141	0.05	0.5	23.
HA-82C-142	0.03	0.7	4.
HA-82C-143	0.06	0.3	187.
HA-82C-144	0.05	1.2	102.
HA-82C-145	0.05	0.8	40.
HA-82C-146	0.05	0.5	31.

USBRC Geochemical Analysis --- NW82HA18 --- 5-NOV-82

Field Number	AU PPM	AG PPM	AS PPM
HA-82C-83	< 0.02	1.9	167.
HA-82C-84	0.08	2.8	232.
HA-82C-85	0.08	2.2	961.
HA-82C-86	0.11	2.2	458.
HA-82C-87	0.05	2.0	475.
HA-82C-88	0.09	2.6	734.
HA-82C-89	0.03	2.4	289.
HA-82C-90	0.03	2.1	305.
HA-82C-91	< 0.02	2.1	239.
HA-82C-92	< 0.02	2.4	485.
HA-82C-93	0.05	2.4	267.
HA-82C-94	< 0.02	2.8	614.
HA-82C-95	< 0.02	2.7	129.
HA-82C-96	< 0.02	3.4	50.
HA-82C-97	0.05	1.6	105.
HA-82C-98	0.03	1.7	101.
HA-82C-99	0.03	1.0	74.
HA-82C-111	0.03	1.2	57.
HA-82C-112	0.03	1.1	123.
HA-82C-113	0.03	1.3	29.
HA-82C-114	0.03	1.2	28.
HA-82C-115	0.03	1.0	28.
HA-82C-116	0.03	1.0	129.
HA-82C-117	0.03	1.7	56.
HA-82C-118	0.03	1.1	66.
HA-82C-119	0.09	1.1	191.
HA-82C-120	0.06	1.6	260.
HA-82C-121	0.06	1.3	138.
HA-82C-122	0.05	1.4	155.
HA-82C-123	0.03	2.1	64.
HA-82C-124	0.05	1.9	395.
HA-82C-125	0.18	0.9	1170.
HA-82C-126	0.05	1.8	377.

USBRC Geochemical Analysis --- NW82HA13 --- 27-OCT-82

Field Number	AU PPM	AG PPM	AS PPM
HA-82B-1400	< 0.02	0.7	130.
HA-82B-1401	< 0.02	0.5	18.
HA-82B-1398	2.46	5.0	3200.
HA-82B-1399	0.12	0.8	401.
HA-82B-1402	0.03	0.7	29.
HA-82B-1403	0.03	1.0	62.
HA-82B-1404	< 0.02	0.3	9.
HA-82B-1405	0.03	0.5	7.
HA-82B-1406	0.44	1.1	1210.
HA-82B-1407	0.03	0.6	315.
HA-82B-1408	0.06	0.7	587.
HA-82B-1409	0.03	1.0	223.
HA-82B-1410	< 0.02	0.4	30.
HA-82B-1411	0.03	0.8	4.
HA-82B-1412	< 0.02	0.4	28.
HA-82B-1413	0.03	0.3	18.
HA-82B-1414	< 0.02	0.4	19.
HA-82B-1415	< 0.02	1.1	31.
HA-82B-1416	< 0.02	0.9	2.
HA-82B-1417	< 0.02	0.9	< 2.
HA-82B-1418	0.03	0.8	30.
HA-82B-1419	0.11	0.6	9.
HA-82B-1420	0.05	1.3	25.
HA-82B-1421	< 0.02	0.7	20.
HA-82B-1422	0.31	1.4	546.
HA-82B-1423	0.06	1.2	69.
HA-82B-1424	0.08	1.6	302.
HA-82B-1425	0.03	0.5	120.
HA-82B-1426	0.06	0.9	89.
HA-82B-1427	0.03	0.5	49.
HA-82B-1428	0.06	0.9	234.

USBRC Geochemical Analysis --- NWB2HA12 --- 27-OCT-82

Field Number	AU PPM	AG PPM	AS PPM
HA-82B-1393	0.41	2.0	1040.
HA-82B-1394	< 0.02	0.7	63.
HA-82B-1395	0.03	1.8	113.
HA-82B-1396	0.03	1.5	93.
HA-82B-1397	1.08	4.8	5500.

KWOIEK PROPERTY

GOLD & ARSENIC GEOCHEMISTRY

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,873

- ○ Soil sample
- □ Silt sample
- △ Rock sample
- ○ C138 005/41 — Sample location number, Gold (Au) / Arsenic (As) ppm
- ○ JM 711 22/77 — Gold (Au), Arsenic (As) ppb

SCALE 1:5000
0 50 100 150 200 250

FIG.

J.M.T. SERVICES CORPORATION
8827 Hudson st, Vancouver, B.C.

4W 3N
0W 3N
0E 2N
4E 2N
4W 0N
3W 0S
0E 0N
4E 0N
5E 0S
3W 3S
3S 0W
0E 4S
5E 4S

KWOIEK 1 36713
KWOIEK 2 36714
KWOIEK 3 64884
KWOIEK 4 64885

KWOIEK LAKE