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Geological Report

on the

KAM-1 Mineral Claim

Tenure Number 311165

Duffey Lake, B.C.

Lillooet Mining Division, British Columbia

NTS 92J/8W

Latitude 122° 16' Longitude 50° 26'

by

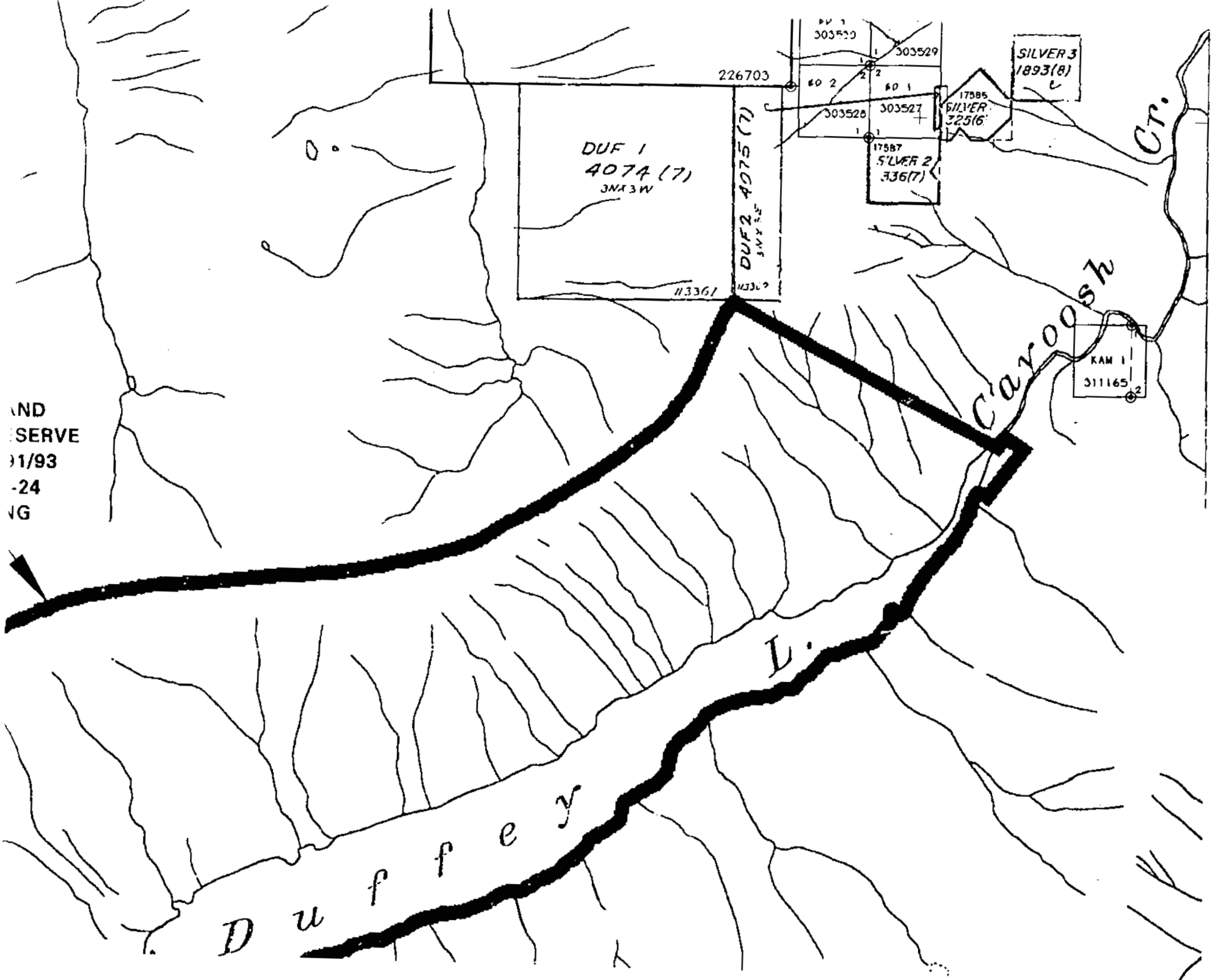
A. James Macdonald  
Owner

October, 12, 1993

SUB-RECORDER RECORDED
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W. J. G.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

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### Introduction

The KAM-1 property is located approximately 40 km southwest of Lillooet (Figure 1) and one kilometre northeast of Duffey Lake. The property is accessed from Vancouver via Highway 99 to Pemberton, and thereafter via the Duffey Lake road connecting Pemberton with Lillooet. The Duffey Lake road crosses the northwest corner of the property. Blowdown Creek passes to the northeast of the property into Cayoosh Creek which drains Duffey Lake.

The property consists of a single unit two-post claim, staked on July 15 1992. The area covered by the claim is moderate to rugged, with elevations from approximately 1110 m to approximately 1500 m, and is relatively heavily vegetated with balsam, spruce and fir.

Outcrop is scarce throughout the bulk of the property; however, excellent exposures are afforded by road cuts along the south side of the Duffey Lake Road. A single sample (grab; MGS-92-107) taken from one of these road cuts returned an assay of 45600 ppb Au, 108.8 ppm Ag, 453 ppm Mo, 85 ppm Cu (ACME Analytical Laboratories Ltd., Geochemical Analysis Certificate, 92-1563), prompting staking of the claim.

Work in 1993 consisted of geological mapping and rock sampling; a total of 12 samples were collected and submitted for geochemical analysis and assay.

### Summary and Conclusions

The KAM-1 claim is located within rocks interpreted to be a southeasterly extension of the Triassic to Permian Hurley and Bridge River groups, and thereby prospective for precious metal mineralization. Preliminary assays within a restricted portion of the property indicate the presence of gold at significant, but non-economic quantities.

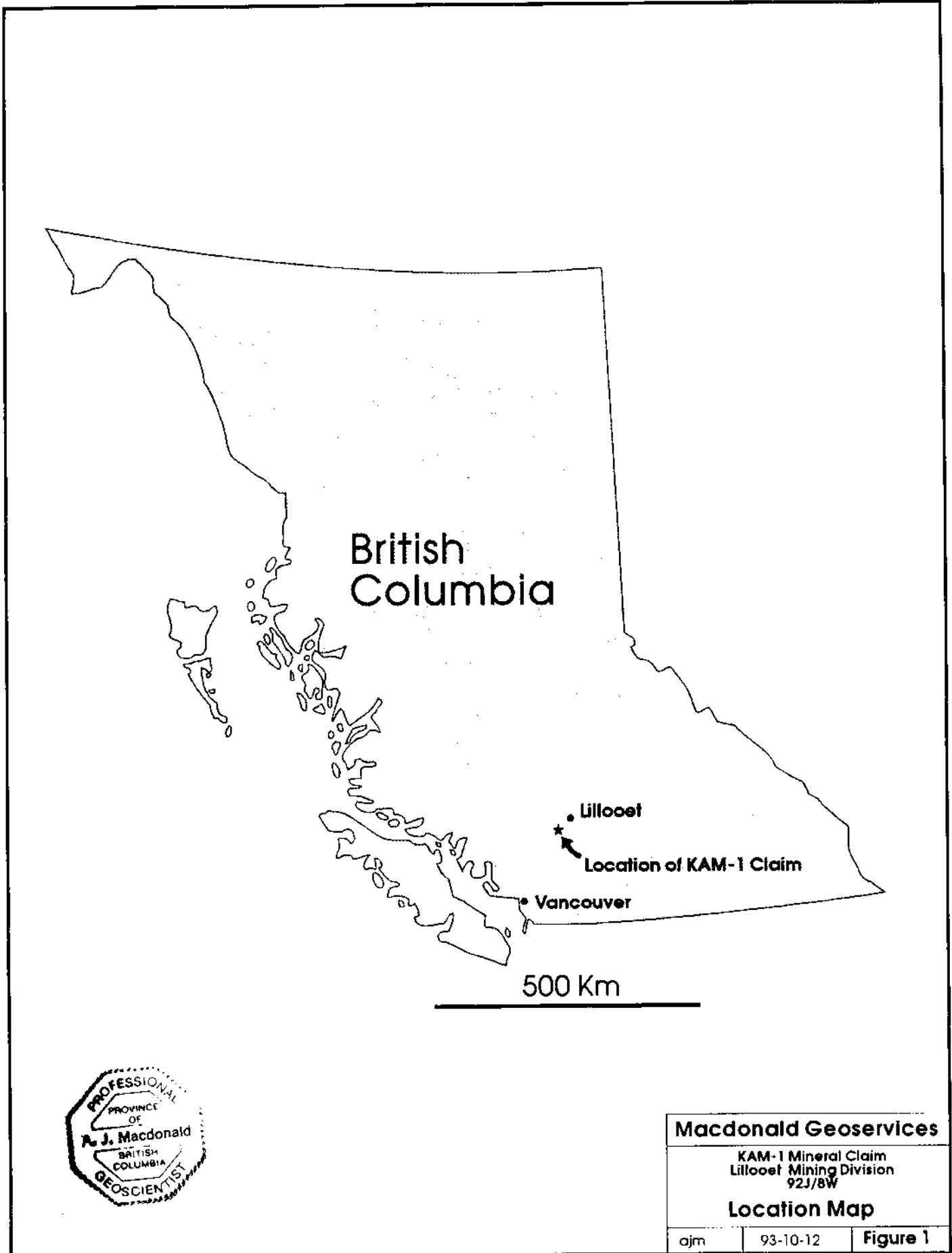
Additional surface prospecting is warranted to determine whether areas of enhanced gold grades are present on the KAM-1 claim.

### History

Little geologic work is recorded in the area covered presently by the KAM-1 claim, a portion of which was staked previously as the T#1, T#2 and KW claims. In 1981, Kennedy Resources Inc. of Vancouver conducted an induced polarization survey of the KW claim coincident with previously recorded VLF-EM, magnetic and geochemical (copper) anomalies (Anderson, 1981).

Minor underground exploration has been carried out on the Hurley vein, approximately two kilometres to the northwest, probably in the early 1900s; records are absent. Scattered molybdenite showings to the southeast of Cayoosh Creek have been the focus of limited exploration and small-scale mining, e.g. (a) the Index property, at the headwaters of molybdenite creek, (b) the Spray-Towinock Creek showing.

The geology of the area has been compiled by the Federal Survey (Woodsworth, 1977).



### Geology

The Duffey Lake area is in the vicinity of the boundary between the Coast Plutonic Complex and the Intermontane Belt (refer for example to Monger et al., 1972, and Monger, 1993). The interpreted boundary between the Coast Plutonic Complex and the Intermontane Belt is considered to be the trace of the Yalakom and Fraser fault systems, to the east of the property. Portions of the Coast Plutonic Complex contain roof pendants of supracrustal material, which in the immediate vicinity of the KAM-1 property are interpreted to comprise deformed sediments and volcanic rocks that are equivalents of the Triassic Hurley and Bridge River groups (Woodsworth, 1977), correlative with units that host mineralization at the Bralorne and Pioneer mines 50 km to the northwest.

Rocks exposed in a road cut on the KAM-1 property (Figure 2) are dominantly mica (biotite) schists, almost certainly derived from a sedimentary precursor lithology. Principal fabric in the schist strikes generally northwards and dips steeply to the east. The metasediments are intruded locally by felsic plutons (quartz diorite to biotite granodiorite) of unknown age, except that they do not exhibit the prominent penetrative fabric seen in the schists and are therefore younger than at least the bulk of the local strain development.

The schists are intruded locally by dikes of (a) fine grained felsic (aplite) material and (b) fine to medium grained, biotite-bearing (?) lamprophyre; dikes are typically less than one metre in width.

### Mineralization





Sulphide-bearing mineralization on the KAM-1 property comprises quartz veins and vein swarms striking generally northeasterly with steep southeasterly dips; individual veins are typically 5-10 cm in width, locally up to 25 cm; vein swarms, within biotite schist, reach widths typically 2-3 metres and locally in excess of 5 metres. Veins are often coincident with locally more deformed (sheared) schist; i.e. there is an apparent correlation between vein location and most intense fabric development.

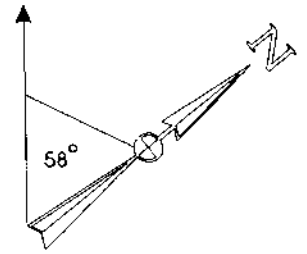
Veins are dominated by quartz, minor feldspar and trace muscovite, with accessory (<5%) sulphide, comprising variable quantities of pyrite, pyrrhotite, chalcopyrite, galena and molybdenite. Host schists are altered in the vicinity of veins to a buff colour (secondary ?carbonate or ?feldspar); biotite is also developed locally.

### Fieldwork

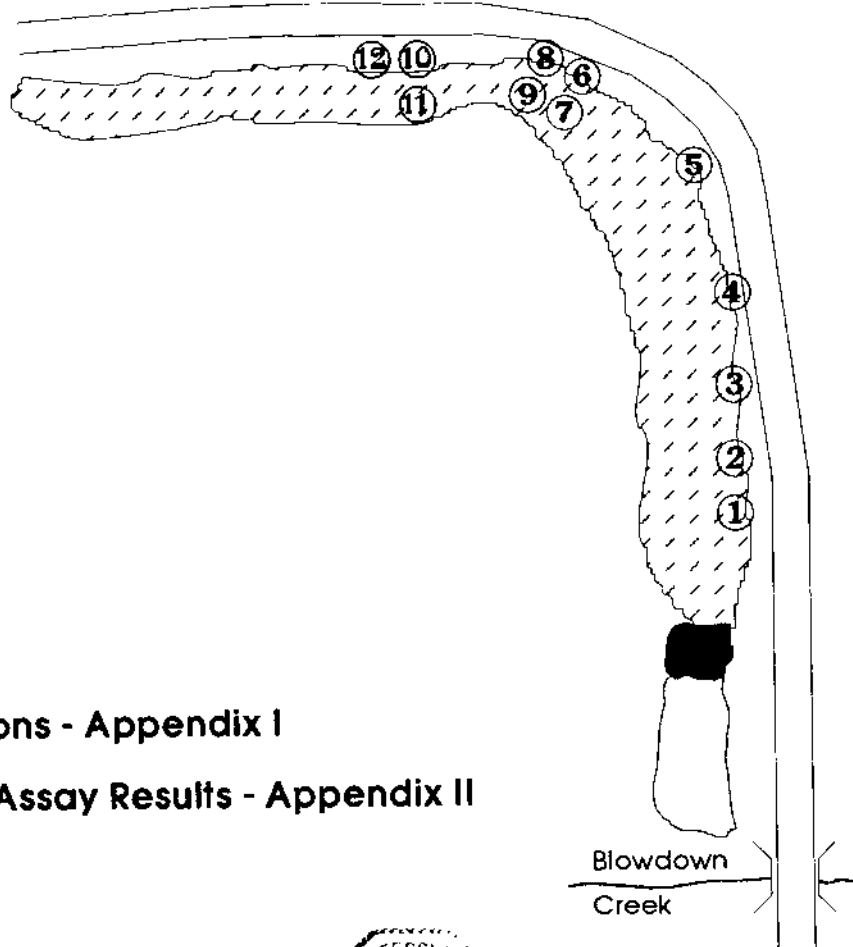
One day (July 3, 1993) was spent on the KAM-1 property for the purposes of conducting work to be filed for assessment. Approximately 630 metres of road cut were mapped (Figure 2) and sampled by the writer and an assistant.

### Legend

-  Biotite schist
-  Aplite
-  Biotite granodiorite
-  Sample Number



Duffey Lake Road



Sample Descriptions - Appendix I

32 Element ICP & Assay Results - Appendix II

100 metres



**Macdonald Geoservices**

KAM-1 Mineral Claim  
Lillooet Mining Division  
92J/8W

**Geology and Sample Locations**

ajm	93-10-12	Figure 2
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Assay Results

Appendices I and II give a listing of 12 samples taken from the road cuts on the south side of the Duffey Lake road that passes through the KAM-1 property, a brief description of each sample, and 32 element chemical analyses provided by Acme Analytical Laboratories Ltd. of Vancouver, B.C. A 0.5 gram aliquot from each sample was digested with 3 ml 3:1:2 HCl:HNO<sub>3</sub>:H<sub>2</sub>O at 95°C for one hour and diluted to 10 ml with water prior to analysis by ICP. In addition, each sample was assayed for gold by acid leach and atomic absorption from a 10 g aliquot.

In brief, elements of potential economic interest show the following ranges:

Element	Minimum*	Maximum*	Range*
Mo	9	768	759
Cu	11	539	528
Pb	<2	13	11
Zn	4	149	145
Ag	0.1	5	4.9
Au [ppb]	2	420	418

\* : ppm, except where noted otherwise



**References**

- Anderson, J.M., 1981: Geophysical Report on an Induced Polarization Surey over the KW Claim, Duffey Lake Area, Lillooet Mining Division, British Columbia; Mineral Resources Assessment Report 9996, 10 pages plus 2 diagrams, 1 map.
- Monger, J.W.H., 1993: Canadian Cordilleran Tectonics: from Geosynclines to Crustal Collage; Canadian Journal of Earth Sciences; Volume 30, No.2, p. 209-231.
- Monger, J.W.H., Souther, J.G., and Gabrielse, H., 1972: Evolution of the Canadian Cordillera: A Plate Tectonic Model; American Journal of Science, v. 272, p. 577-602.
- Woodsworth, G.J. 1977: Geology, Pemberton (92J) Map Area; Geological Survey of Canada, Open File 482.

Statement of Costs

The following expenses were incurred during or related to fieldwork conducted on the KAM-1 mineral claim on July 3, 1993.

Fieldwork

One geologist, one day, @ \$300/day	\$300.00	
One assistant, one day, @ \$200/day	200.00	
Mobilization to and from Vancouver, 380 km, @ 25¢/km	<u>95.00</u>	
	<u>\$595.00</u>	\$595.00

Food

2 persons, one day, @ \$40/person/day		\$80.00
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Geochemical Analyses

12 samples, @ \$13.90 per sample + GST (\$11.68)		\$178.48
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Report Writing

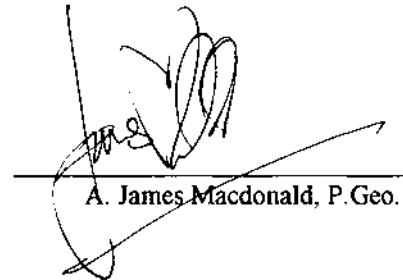
Typing, drafting and photocopying		<u>\$150.00</u>
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\$1,003.48

Statement of Qualification

I, A. James Macdonald, hereby certify:

1. That I am Sole Proprietor, Macdonald Geoservices, of 402-345 West 10th Avenue, Vancouver, British Columbia, V5Y 1S2.
2. That I am a graduate from Oxford University (1976) with a B.A. (Hons.) in Geology.
3. That I am a graduate from the University of Toronto (1978) with an M.Sc. in Economic Geology.
4. That I am a graduate from the University of Toronto (1983) with a Ph.D. in Economic Geology.
5. That I have practiced my profession continuously since graduation.
6. That I am a member of the Association of Professional Engineers and Geoscientists of British Columbia.
7. That the information contained in this report is based on work conducted personally or supervised by me directly.
8. That I own a 100% interest in the KAM-1 mineral claim.



A. James Macdonald, P. Geo.



Appendix I : Sample Descriptions - KAM-1 Property, July 3, 1993

Sample #	Location on Sample line (m)	Brief Description
KAM-93-1	84.5	chip sample across 25 cm qz vein, trace py; coarse white mica along fractures
KAM-93-2	97	5-10 cm qz vein in sheared schist; tr py
KAM-93-3	113	two 5 cm qz veins, locally vuggy; tr py; sample includes silicified schist wallrock
KAM-93-4	130	8 cm qz vein, massive f.g. py along fractures; within 20 cm shear zone
KAM-93-5	160	10 cm qz vein, locally fdsp and drusy qz
KAM-93-6	204	30 cm qz vein w. 5% py + po > cp, mo, ga; plus unidentified spherical red mineral associated w. mo
KAM-93-7	202-204	2 m chip sample in hanging wall of vein sample KAM-93-6; bi schist w. minor qz veinlets up to 7 cm wide, <1% py, po, cp, mo
KAM-93-8	204.5-207	2.5 m chip sample in footwall of vein sample KAM-93-6; bi schist w. minor qz veinlets, tr. sulphides
KAM-93-9	207-209	2 m chip sample; similar to samples 7, 8; altered bi schist, buff coloured
KAM-93-10	224-227	3 m chip sample, bi schist, qz veinlets; tr py, po, mo ± cp
KAM-93-11	227-229	2 m sample, bi schist, qz veinlets; tr py, po, mo ± cp
KAM-93-12	229-231	2 m chip sampe, bi schist, qz veinlets; tr py, po, mo ± cp

abbreviations: qz: quartz  
 fdsp: feldspar  
 bi: biotite  
 py: pyrite  
 po: pyrrhotite  
 cp: chalcopyrite  
 mo: molybdenite  
 tr: trace  
 f.g.: fine grained

**Appendix II**

**Geochemical Analysis Certificate File #93-2405**



## GEOCHEMICAL ANALYSIS CERTIFICATE



MacDonald Geoservices File # 93-2405

402 - 345 West 10th Ave, Vancouver BC V5Y 1S2 Submitted by: A. James MacDonald

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Tl	Hg	Au*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	ppm	ppm	ppm	ppb
KAM-93-1	24	11	5	4	.1	10	1	77	.40	5	<5	<2	<2	5	.4	2	<2	<2	.10	.009	<2	48	.01	13	<.01	4	.03	.01	.01	1	<5	<1	6
KAM-93-2	66	25	8	56	2.9	18	7	686	3.24	1891	<5	<2	2	23	<.2	6	<2	5	.13	.024	9	31	.02	778	<.01	7	.22	.01	.13	3	<5	<1	300
KAM-93-3	9	16	12	67	5.0	16	6	357	2.18	2305	<5	<2	<2	114	<.2	7	<2	2	1.38	.015	3	10	.37	58	<.01	6	.19	.01	.14	<1	<5	<1	420
KAM-93-4	9	14	13	79	2.2	10	3	213	1.32	1270	<5	<2	<2	14	.4	8	<2	2	.07	.006	2	11	.02	28	<.01	7	.13	.01	.08	2	<5	<1	370
KAM-93-5	97	20	6	31	3.0	18	5	290	1.66	1555	<5	<2	<2	18	<.2	4	<2	3	.12	.027	4	70	.01	752	<.01	7	.18	<.01	.13	2	<5	<1	140
KAM-93-6	768	539	<2	11	1.1	14	8	120	7.90	40	<5	<2	<2	4	<.2	<2	3	<2	.41	.004	<2	10	.03	12	<.01	3	.12	<.01	.02	2	<5	<1	10
KAM-93-7	133	70	3	122	.2	80	16	571	4.48	7	<5	<2	2	27	<.2	<2	<2	78	.61	.048	6	122	1.76	168	.14	2	2.50	.10	1.45	<1	<5	<1	7
KAM-93-8	337	84	2	149	.2	62	15	530	4.54	9	<5	<2	2	22	<.2	<2	<2	74	.50	.051	5	100	1.61	142	.15	2	2.26	.08	1.38	<1	<5	<1	5
KAM-93-9	104	67	5	103	.1	73	15	470	4.25	<2	<5	<2	2	16	<.2	<2	<2	70	.39	.047	3	101	1.70	162	.15	<2	2.28	.07	1.41	1	<5	3	5
RE KAM-93-9	104	68	3	101	.1	71	15	471	4.20	6	<5	<2	2	17	<.2	<2	<2	69	.39	.046	3	102	1.68	161	.17	<2	2.27	.07	1.39	1	<5	1	4
KAM-93-10	184	97	6	131	.2	72	14	477	4.45	<2	<5	<2	2	11	<.2	<2	<2	58	.30	.056	5	86	1.58	115	.13	<2	2.01	.05	1.00	<1	<5	2	2
KAM-93-11	62	87	3	87	.2	50	13	436	4.30	3	<5	<2	<2	11	<.2	<2	<2	64	.28	.052	3	92	1.35	126	.19	<2	1.88	.06	1.49	<1	<5	1	2
KAM-93-12	153	90	3	97	.3	48	12	423	3.80	6	<5	<2	2	22	.3	<2	<2	62	.45	.042	4	63	1.15	112	.15	<2	1.91	.11	1.23	1	<5	<1	2
STANDARD C/AU-R	18	61	38	128	6.8	65	30	1025	3.96	41	16	8	36	51	17.6	14	18	56	.50	.086	37	60	.89	189	.09	32	1.88	.06	.14	11	<5	2	520

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB

- SAMPLE TYPE: ROCK AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 10 1993

DATE REPORT MAILED:

Sept 15/93.

SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS