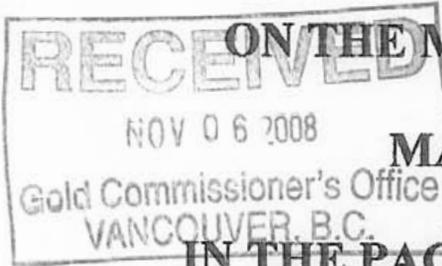


**2007-2008 PROSPECTING REPORT**



**ON THE MAMQUAM 4 CLAIM OF THE  
MAMQUAM PROSPECT  
IN THE PACIFIC RANGES OF THE COAST  
MOUNTAINS, 92 G/10**

**NEW WESTMINSTER MINING DIVISION**

**122 DEGREES 55 MINUTES 58 SECONDS WEST**

**49 DEGREES 38 MINUTES 45 SECONDS NORTH**

**CLAIMS: MAMQUAM 4**

**TENURE NUMBER: 539451**

**OWNER OPERATOR: KEN MACKENZIE**

**FMC# 116450**

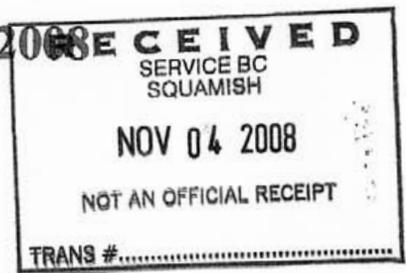
**AUTHOR: KEN MACKENZIE**

**SQUAMISH, B.C.**

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT  
30,303

**EVENT NUMBER: 4231869**

**NOVEMBER, 2008**



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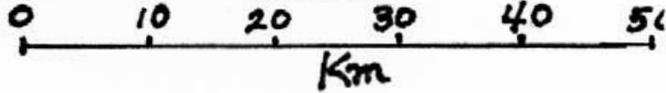
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# MAMQUAM PROSPECT

MAP #1

1:600,000



## MAMQUAM 4 INTRODUCTION

The Mamquam Prospect is located in the Pacific Ranges of the Coast Mountains near the headwaters of the Mamquam River. See Map #1 (the index map) for the location. The property can be accessed by road from Squamish. Drive south from Squamish on highway 99 to the Mamquam main logging road, which is reached just beyond a bridge over the Stawamus River near the base of the Stawamus Chief (a well-known rock climbing area). Turn left (east) off the highway and follow the main road, which is marked in miles rather than kilometers. Logging trucks or construction vehicles may be present on this road so drive carefully with your lights on and use a radio. The correct frequency is posted. At approximately 2 ½ miles the road crosses the Stawamus River, and continues on past a new run of the river electrical generating plant (mile 6 to 8). At mile 9 the road crosses a bridge over the Mamquam River and stays on the north side of the river until the headwaters are reached. At mile 15 the road narrows and becomes steep for a short section. I usually stop there and make more calls than usual on the radio to ensure there are no loaded logging trucks coming down that section of the road. There is a fork in the road at mile 15, but the right hand fork has been decommissioned and is cross-ditched so it is relatively easy to identify the main road that goes uphill to the left, which is the main route to the property.

The right hand fork can no longer be used to access the property because the bridge over the Mamquam was removed by the BC Forest Service near the beginning of August, 2008. This bridge was removed without warning and without consultation and has resulted in my experiencing severe access problems to the northeast corner of the Mamquam property.

When driving up the main road, at mile 18 the logging road again heads uphill to the left, but you should continue straight ahead onto a decommissioned, cross-ditched road that soon crosses the Mamquam River near its headwaters. The road is easily drivable with a four-wheel drive vehicle that has sufficient clearance. Continue on the main road that parallels and then crosses a branch of the Mamquam flowing from the southwest. Continue uphill until the road splits. One road continues straight ahead and

the other goes right (north). Both roads terminate at about the 3200-foot level on the property. Take the right fork and head north, roughly contouring around the mountain until a washout is reached. These roads are shown on Map #2 (the 1:50,000 index map), which shows the property in relationship to the Mamquam River, Raffuse Creek, Clarion Lake, the Stawamus River and the town of Squamish.

There are now three trails that begin from this north branch of the road. The first one is found at a low point in the road where a small creek flows through a culvert under the road. This trail descends downhill in the creek then leaves the creek to travel north along the edge of the logging slash until the forest is entered. The trail then continues downhill beside the small stream until the main creek is reached. The main creek can be easily crossed at this site and the trail ascends the other bank up a small gully next to a glacial till slope failure. Once the logging slash is reached, the trail continues along the edge of the forest until an old logging road is encountered. This road can be followed uphill (west) or downhill (east).

When heading uphill, the trail turns a corner and heads north, contouring around the mountain until near the end of the road the trail enters the logging slash to the west and ascends through a thick growth of blueberries and small trees until the forest is reached again. From this site the trail proceeds north and west a short distance and then descends the steep bank into the northeast creek.

If the downhill route is taken, the road heads east and later north until it connects with the trail coming from the mile 15 branch of the main road, which was documented in my previous report.

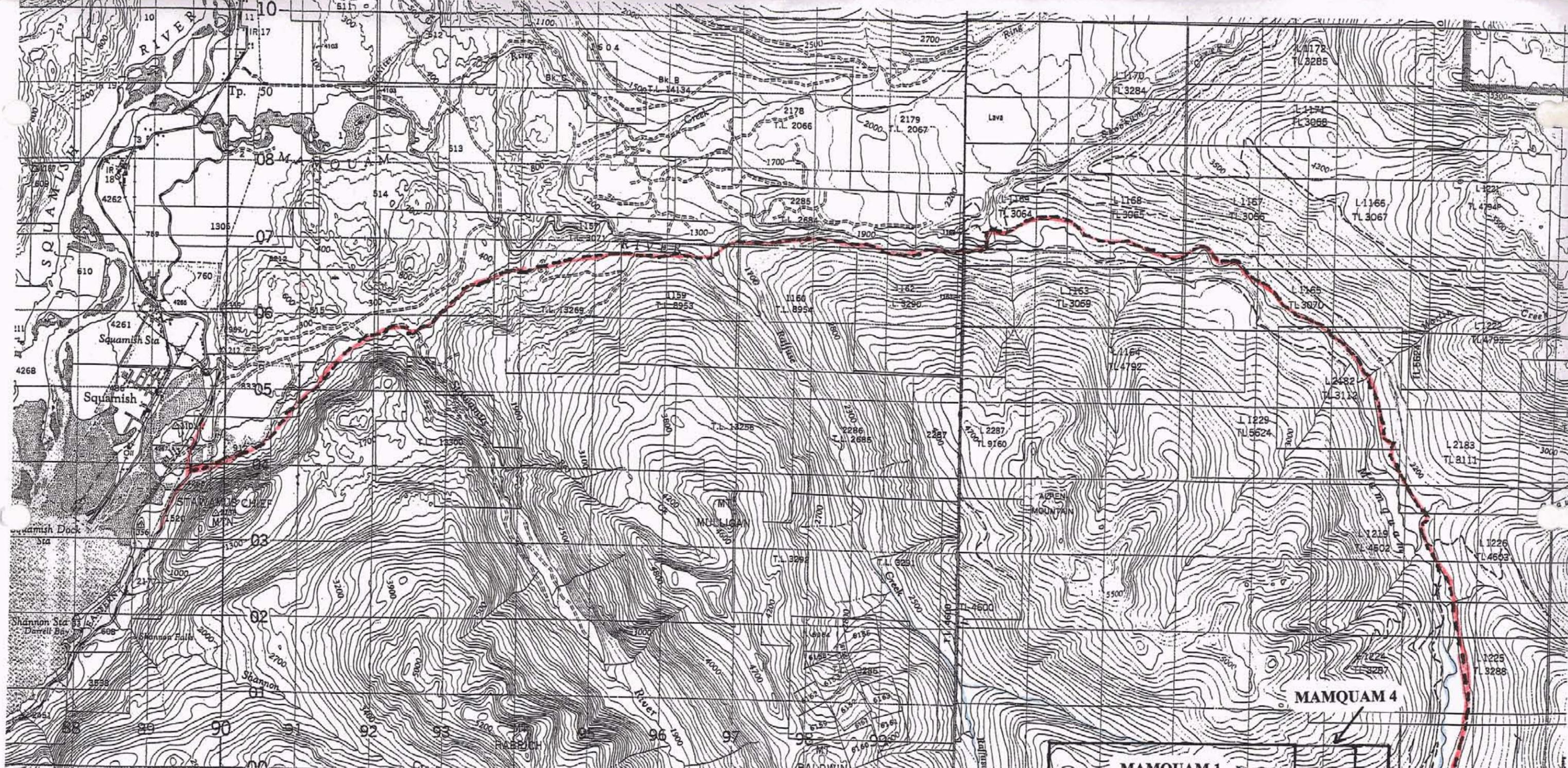
The other two trails were previously described in my 2005 prospecting report for the Mamquam 1 to 3 claims. These trails often follow the creeks, which usually provide the best rock exposure and the clearest way through the bush.

There are numerous deer and black bears, as well as a few cougars in the area, and the animals use the roads and trails regularly so caution is advised. This report covers the Mamquam 4 claim, which is part of the Mamquam Property. The tenure number for the Mamquam 4 claim is 539451. Most of the property is covered with soil or glacial till so rock outcrops are infrequent. As a result, prospecting has been mainly done by following the stream sediment geochemistry, examining creek beds, and outcrops in the creek banks. Outcrops on or near old logging roads have also been prospected.

There are two main rock types found on the property, Gambier Group metamorphosed volcanics that contain rhyolites, andesites, cherts, tuffs and

volcaniclastics, and intrusive rocks such as granodiorite and quartz diorite. To date the two areas of metamorphosed volcanic rocks previously identified have been found to be more extensive than previously thought. In addition, there are numerous rhyolite and some porphyry dykes in the area. These are the same rocks that are associated with the Britannia Mine. The model originally used was of a volcanogenic massive sulphide type of mineralization. This model still applies, and has been strengthened by the discovery of chalcopyrite in a highly silicified rock which was analyzed to contain 1½% Copper. In addition, other boulders that contain quartz veins, sphalerite and galena have been found so the model has been expanded to include a feeder zone. A porphyry copper source for the feeder zone and the massive sulphides was previously considered, and although still possible it appears less likely at this time.

To date no massive sulphide, feeder zone or porphyry copper deposit of commercial value has been identified on the Mamquam property.

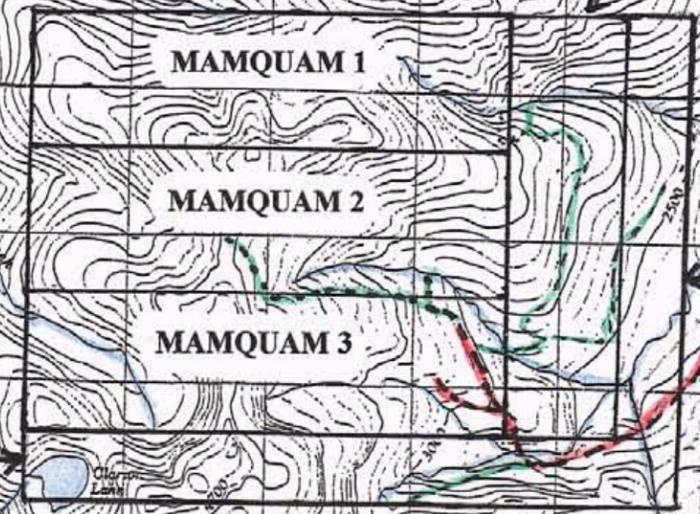


**MAMQUAM PROSPECT MAP #2**

**1:50,000**

**LEGEND**

- ROAD TRAIL
- BOUNDARY LINE CREEK
- LAKE
- CONTOUR INTERVAL = 100 FEET



MAMQUAM 5

MAMQUAM 4

MAMQUAM 5

7

## HISTORY OF THE MAMQUAM 4 CLAIM

A detailed history of the Mamquam prospect was documented in my 2005 and 2006 prospecting reports on the Mamquam 1 to 3 claims. Please refer to those reports for a more complete summary of the history of this property. This report on the history of the Mamquam 4 claim will mainly cover the history of this claim and the findings that led to the decision to stake this area.

The Mamquam prospect was discovered in 1979 using a dithizone field test and stream sediment analyses performed in commercial labs. The original model was a volcanogenic massive sulphide type of deposit similar to that found in the nearby Britannia Mine. The highest geochemical values found at that time surrounded hill 5000 and this area was thought to contain one or more massive sulphide lenses. This interpretation is still considered valid, but in 2005 and 2006, other types of mineralized rock were found on the property that indicated the presence of a feeder zone. In addition, chalcopyrite disseminated in quartz diorite intrusive rocks have been discovered, which could be associated with a porphyry copper or another massive sulphide lens.

The extensive gossan present in the main creek has been discussed in my previous reports, and another gossan can be seen from the road that leads to the property. This gossan is lower down in the valley and has two small streams running through it. Both streams form deep gullies in the gossan. I decided at the beginning of the 2006-prospecting season that this area, as well as the northeast creek should be investigated. Please see my previous report for the details.

The work done in 2006 and early 2007 confirmed that both areas showed promise. Chalcopyrite disseminated in andesites and in quartz diorite was found in the gullies, and significant gold values were found in the northeast creek and in one of its tributaries.

## SUMMARY OF WORK PERFORMED ON THE MAMQUAM 4 CLAIM IN 2007 TO 2008

Thursday, October 4, 2007

I drove the usual road to the headwaters of the Mamquam River, crossed the last bridge over the river and then carefully prospected the roads uphill until I reached the boundary of the Mamquam 4 claim. On the way up I found a small alteration zone just above the first switchback, which I sampled on the return trip (M 96). Significant results for M 96:

Al	2.82 %
Cu	107 ppm
Zn	105 ppm

Friday, October 5, 2007

After driving to the headwaters of the Mamquam River, I parked at the low spot in the road just before the major washout. The day was clear and cold with frost on the bushes. I descended the trail down the small creek and then passed through the logging slash to the mature forest. On the way I picked some blueberries, which were frozen, but still tasty.

I followed the usual route down the hillside, across the main creek and up the north bank until I reached the old logging roads as described in my previous reports. From that point I traveled uphill (west) and then north along the road until I reached a spur that joined the road from the west. I prospected this road as I hiked uphill and on the return trip, but did not find any outcrops or interesting mineralized float so no samples were taken.

After returning to the main road, I continued traveling north, prospecting the outcrops until I reached the second creek that forms the north gully. A sediment sample taken from this creek in 2006 was found to have a copper level of 217 ppm (sample M 32), and I was following up on this anomalous result. I carefully prospected this creek, and found some iron-stained bedrock under the south bank of the creek just above the sediment sample site, but I was unable to obtain a sample of this rock, because it was smooth and hard. As I continued upstream, I found silicified andesites that contained disseminated epidote, but no sulphides and further up there was a fractured, iron-stained outcrop of quartz diorite that was sampled (M 97). Quartz-epidote alteration was seen in this rock.

Significant results for M 97:

Ba	100	ppm
Mn	1375	ppm
Zn	190	ppm

Friday, October 12, 2007

Reka Lyne and I drove to mile 15, crossed the Mamquam River and parked at the usual site where the old logging road heads south, parallel to the Mamquam River. We hiked along the trail that had been cleared previously until we found the spur that travels southwest towards the northeast corner of the property. We crossed one small creek just before the property line and then crossed a larger creek that lies on the Mamquam 5 claim. The road ends just inside the Mamquam 4 claim line and an animal trail leads directly to the creek we wanted to explore. Once in the creek we found many pieces of rusty quartz diorite float that contained chalcopyrite and malachite staining. Malachite is rare in this area so finding it made the prospecting much easier. A sample of this rock float was taken for analysis (M 98).

Significant results for M 98:

Ba	110	ppm
Cu	438	ppm
Mo	104	ppm

A sediment sample was also taken from the creek at this site (M 99).

Significant results for M 99:

Au	0.011	ppm
Ba	110	ppm
Cd	1.5	ppm
Cu	94	ppm
Zn	127	ppm

Thursday, October 25, 2007

Richard Scott and I drove to mile 15, crossed the Mamquam and parked at the usual site. We hiked on the old logging roads to the same place that Reka and I had gone last week. We crossed the creek beyond the end of the road where samples M 98 and M 99 were obtained and we traversed west a short distance and then descended into the northeast creek. The logs in the creek were frozen solid, but the rocks were generally free of ice so we were able to hike upstream until we reached the next tributary that flows in from the northeast. We walked upstream until we were well above the northeast creek and then took a sediment sample (M 100).

Significant results for M 100:

Au	0.024	ppm
Ba	100	ppm
Cu	85	ppm
Zn	127	ppm

The rock float in the creek looked similar to that found in the tributary to the west. The iron-stained quartz diorite contained fractures with chalcopyrite and malachite staining and a sample was obtained (M 101).

Significant results for M 101:

Cu	824	ppm
Mo	22	ppm

On November 2, 2007, I took all the recently collected samples to ALS/Chemex in North Vancouver for analysis.

## **WORK PERFORMED IN 2008**

Next spring, work on the Mamquam claims began on April 30, 2008 when Drew Leathem and I drove up the Mamquam road. Over the winter a huge snowfall had occurred so we expected to find the road blocked with downed trees. To our surprise, the road had been plowed to mile nine and many trees had been broken off by the plow and pushed to the side of the road. Larger trees had been chain-sawed and removed from the road. Even the potholes were much improved which made the driving considerably easier. The plowing and clearing continued up the roads on the south side of the Mamquam River. However, our route continues over the nine-mile bridge onto the north side of the river. We drove just past the road up Skookum Creek where we ran into snow on the road. On our return we cleared small trees from the edges of the road. From what we had seen, it was clear that we needed a small, light chainsaw because hand cutting was going to be too slow and tiring. A chainsaw was purchased on May 1, 2008 and although it was used mainly in the Mamquam area, only one third of the price will be expensed to the Mamquam claims. One third will go to my Slim Creek claims and one third will be for personal use.

It was also clear that I needed an upgraded GPS so a new one was purchased on May 10, 2008. This is my third GPS, and is the only one that works well in the forest and in canyons. My previous GPS devices were virtually useless for prospecting in the bush and were frequently inaccurate in open areas.

The new GPS will be expensed the same way as the chainsaw. For the Mamquam claims, the equipment costs will also be prorated to the individual claims according to the number of cells in each claim. The Mamquam 4 claim has 12 cells out of a total of 70.

Beginning May 21, 2008 a number of trips were made to the Mamquam area clearing roads and trails of the huge numbers of trees that had come down over the winter. I have field notes of all these trips, but they make for very repetitive reading so I will just give the dates and a few milestones. On some of these days I was accompanied by Linda Kowalski, Reiner Schwartz, or Drew Leathem.

Work was performed on May 22, 26 and 28, with the partially cleared road drive-able to mile 15, over the Mamquam River and on to the parking spot on the south side of the Mamquam (on May 28, 2008). Trail clearing along the old logging road was performed on June 2, 12, July 2, 7, 10 and 16. Considerable work went into clearing these roads and trails, but the removal of the bridge over the Mamquam River with no warning meant that most of that work was wasted. If I had received adequate warning of the bridge removal then I could have re-arranged my schedule and accomplished more before the bridge was destroyed.

From mile 15, the main road climbs uphill and then runs parallel to the Mamquam River on the north and east side (see Map #2). Road work was performed on May 29, June 4, 11, 18, 30 and August 4, 2008. Some of these were partial days and have been expensed according to the number of hours worked, including travel time. In addition, some of the road and trail work only applies to the Mamquam four and five claims.

Monday, July 14, 2008

I drove to the end of the road in the upper Mamquam (about mile 19), parked at the low point before the washout, descended the small creek and then hiked down the trail to the main creek. I then crossed the creek and ascended the other side until I reached the logging road on the north side of the creek. I took the upper route, clearing trail until I reached north gully creek. The float in the creek was examined carefully, as was outcrop in the area. Once more I tried to obtain a sample from the rusty rock under the bank on the south side, but I was unable to break some off. A sediment sample was taken from the creek above the road (M 103) in order to check

the previous copper anomaly found at this site (M 32). The GPS reading was:

0505009 E  
5499557 N (+/- 30 feet)

Significant results for M 103:

Au	0.016	ppm
As	11	ppm
Ba	140	ppm
Cu	188	ppm
Mn	1995	ppm
Zn	318	ppm

The high copper level previously found was confirmed (within a reasonable margin of error), but the other results differ significantly. The differences may come from sampling different places in the creek, or they may have resulted from different methods of processing the samples in the lab. Sample M 32 was crushed, split and pulverized, then the whole sample was treated and analysed. Sample 103 was dried and sieved. Only the -180 um fraction was treated and analysed.

A comparison of the two samples shows significant differences. All results are in parts per million (ppm).

	Au	As	Ba	Cu	Mn	Zn
M 32	<0.005	<2	70	217	1045	162
M 103	0.016	11	140	188	1995	318

In the future I will specify that all soil and sediment samples be dried, sieved, treated and analysed so that standard comparisons can be made.

Tuesday, August 5, 2008

Reiner Schwartz and I drove to the low spot just before the end of the road, hiked downhill, crossed the main creek and reached the old logging roads on the other side. We followed our trail uphill and then north across the slope until we reached the northeast creek. We prospected carefully up-stream until we found a small tributary flowing from the northwest. We collected a sediment sample (M 105) from a site well above the northeast creek.

The GPS reading was:

0504752 E  
5500145 N (+/- 23 feet)

Significant results for M 105:

Au	0.078	ppm
Ag	0.9	ppm
Cu	164	ppm
Zn	146	ppm

We also prospected the float in the creek and gathered two samples (M 106 and M 107).

M 106 was a fine-grained intrusive that contained small amounts of pyrite and minor chalcopyrite.

The GPS reading was the same as sample M 105 (within the given error).

Significant results for M 106:

Au	0.017	ppm
Ba	100	ppm
Cu	72	ppm
Zn	91	ppm

M 107 was a piece of quartz-vein with occasional flecks of pyrite, found close to the same sites as M 105 and M 106.

Significant results for M 107:

Au	0.088	ppm
----	-------	-----

Friday, August 15, 2008

I drove to North Vancouver and delivered fifteen samples to ALS/Chemex. Four of these samples were from the Mamquam 4 claim, and all expenses have been prorated accordingly.



# MAMQUAM CLAIMS

1:20,000

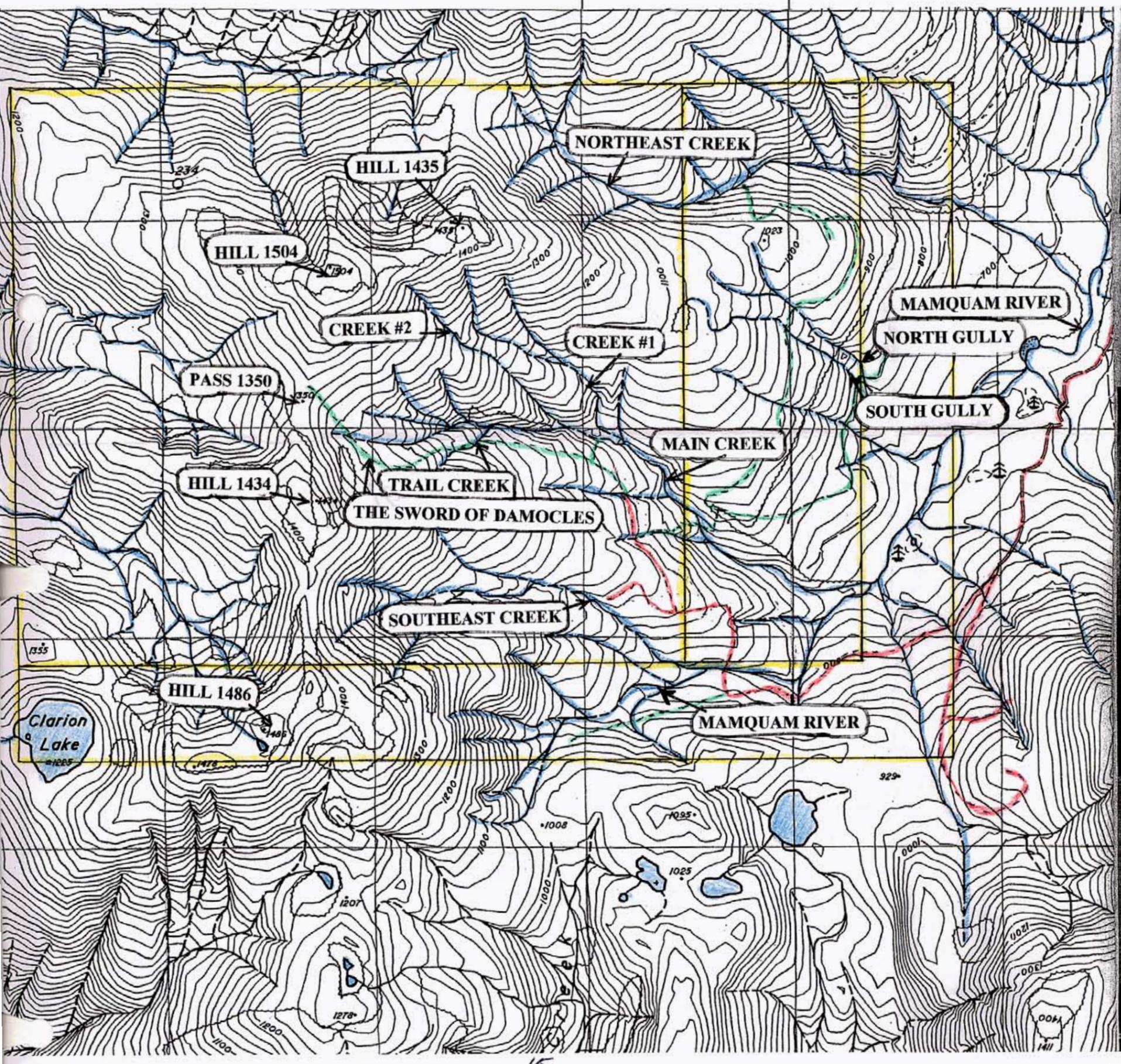
MAP # 3

## PLACE NAMES, ROADS AND TRAILS

### LEGEND

- ROAD  TRAIL  CREEK OR RIVER  LAKE   
BOUNDARY LINE  CONTOUR INTERVAL = 20 METERS

← 1 Km →





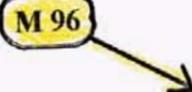
# MAMQUAM 4 CLAIM

1:20,000

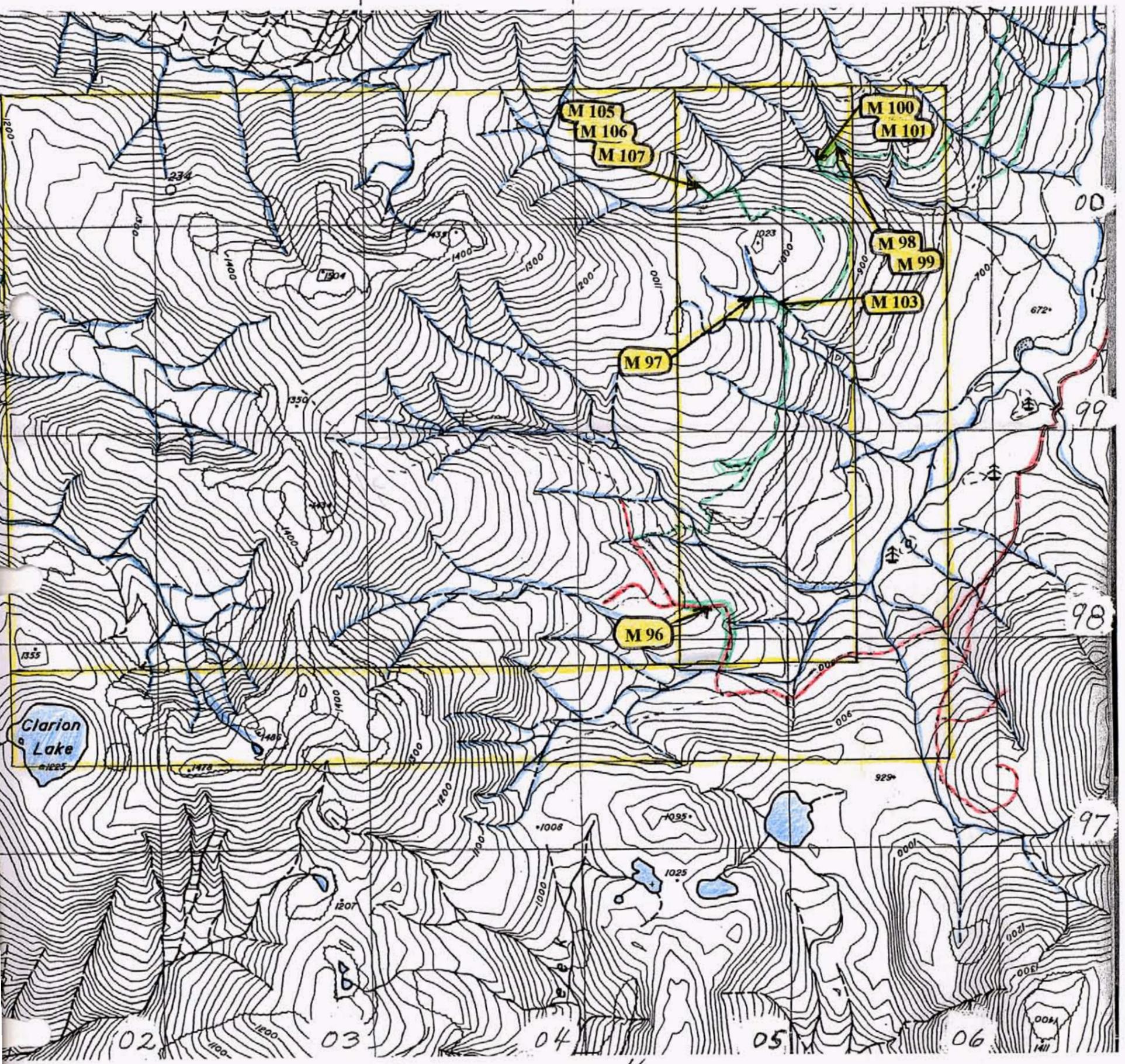
MAP # 4

## MAIN AREAS PROSPECTED IN 2007-2008, RELATED TRAVERSES AND SAMPLE SITES

### LEGEND:

- ROAD  TRAVERSE  CREEK  LAKE 
- MAIN AREA PROSPECTED  BOUNDARY LINE 
- CONTOUR INTERVAL = 20 METERS
- SAMPLE SITE 

← 1 Km →





# MAMQUAM 4 CLAIM

1:20,000

MAP # 5

## 2007-2008 SIGNIFICANT RESULTS AND THEIR LOCATIONS

### LEGEND:

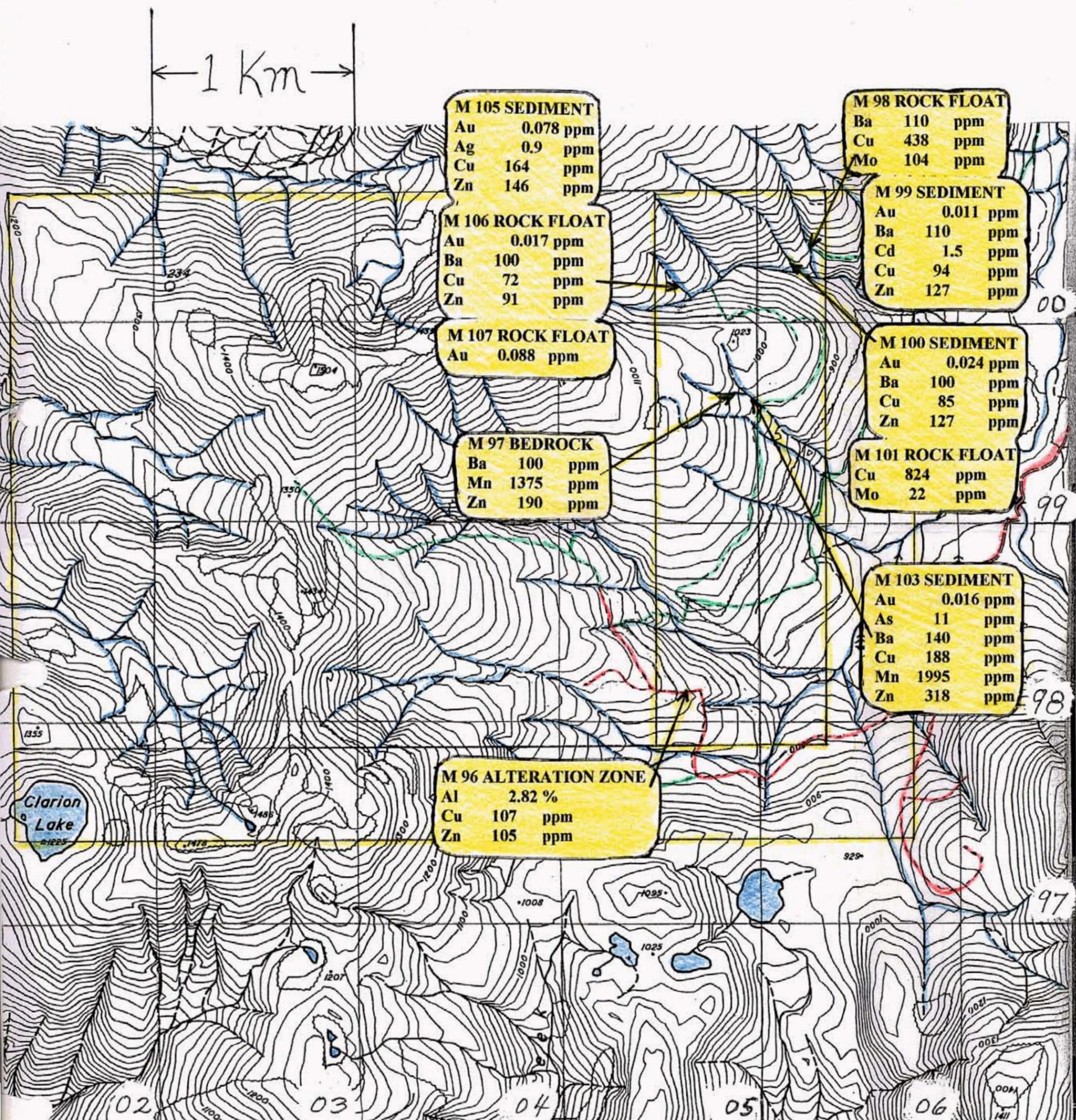
ROAD TRAIL CREEK LAKE

BOUNDARY LINE

CONTOUR INTERVAL = 20 METERS

SAMPLE SITE

M 99 SEDIMENT	
Au	0.011 ppm
Ba	110 ppm
Cd	1.5 ppm
Cu	94 ppm
Zn	127 ppm



Clarion Lake



# MAMQUAM 4 CLAIM

1:10,000

MAP # 6

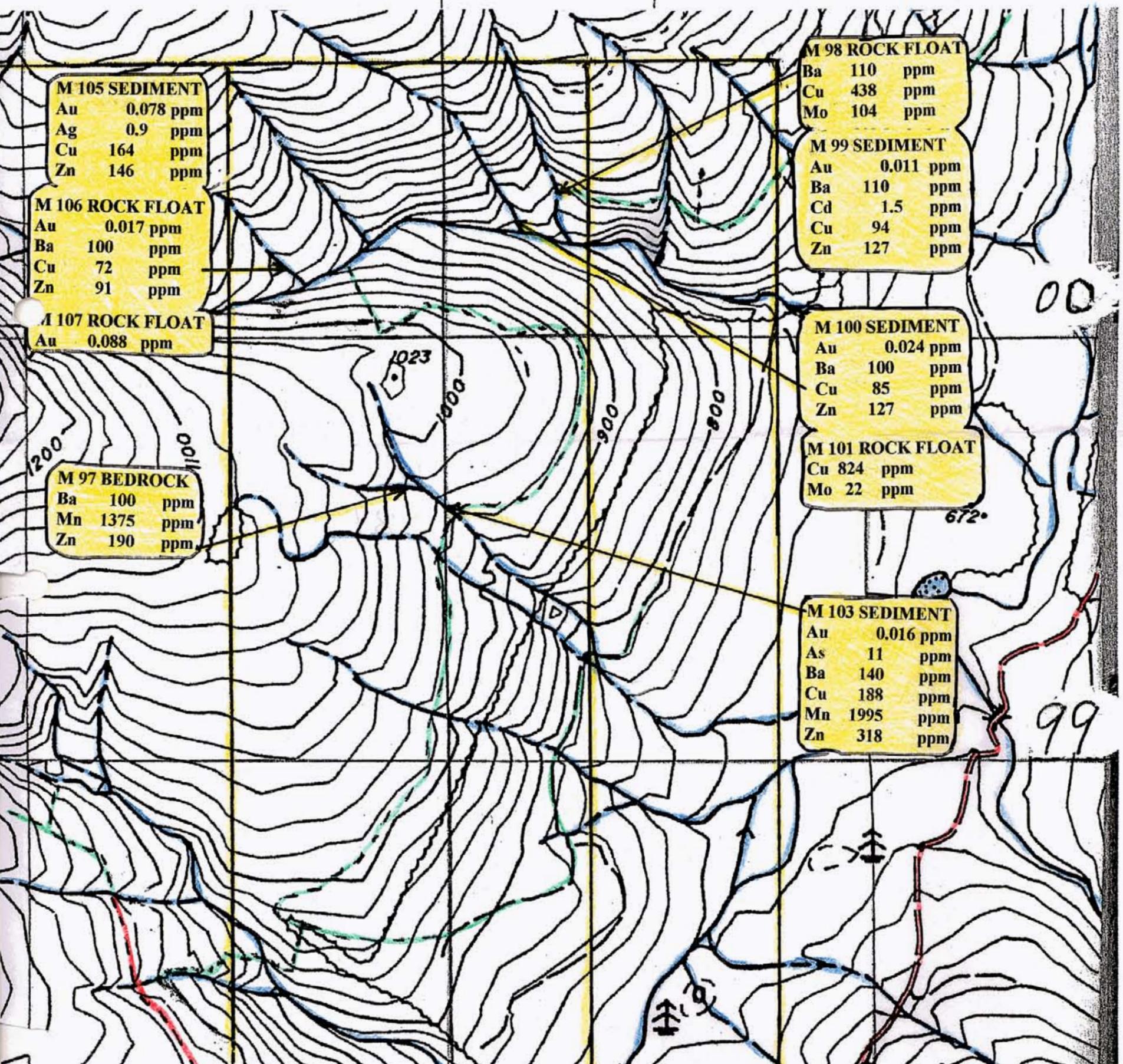
## DETAIL OF THE NORTH SECTION OF THE MAMQUAM 4 CLAIM 2007-2008 SIGNIFICANT RESULTS AND THEIR LOCATIONS

### LEGEND:

- ROAD  TRAIL  CREEK  LAKE 
- BOUNDARY LINE 
- CONTOUR INTERVAL = 20 METERS
- SAMPLE SITE

**M 101 ROCK FLOAT**  
Cu 824 ppm  
Mo 22 ppm

0 500  
500 metres



## APPENDIX A

### AUTHOR'S QUALIFICATIONS

K. R. MacKenzie, B.Sc., M.D.

Dr. MacKenzie is a retired physician who graduated from the University of British Columbia in 1963 with a B.Sc. in Chemistry and Mathematics. Geology 105 was taken as part of his undergraduate studies. He spent three summers working for the Geological Survey of Canada under Dr. J. O. Wheeler.

After graduating from U.B.C. in 1968 with a medical degree, Dr. MacKenzie has continued to prospect as a hobby.

Recent reading by the author includes:

The Rocks and Minerals of the World by C. Sorrell and G. Sandstrom.

Exploration and Mining Geology by William C. Peters.

Ore Deposits by C.F. Park, Jr. and R. A. MacDiarmid

A Field Guide to Rocks and Minerals by Pough

The Geochemistry of Gold and its Deposits by R. W. Boyle

Case Histories of Mineral Discoveries, Volume 3, Porphyry Copper, Molybdenum, and Gold Deposits, Volcanogenic Deposits (Massive Sulphides), and Deposits in Layered Rock by V. F. Hollister, Editor.

Porphyry Copper and Molybdenum Deposits West-Central B.C. by N.C. Carter.

Geology of the Porphyry Copper Deposits of the Western Hemisphere by Victor F. Hollister.

Atlas of Alteration by A.J.B. Thompson and J.F.H. Thompson, Editors.

ORE MINERAL ATLAS by Dan Marshall, C.D. Anglin and Hamid Mumin.

PORPHYRY DEPOSITS OF THE CANADIAN CORDILLERA  
EDITOR: A. Sutherland Brown

THE GEOLOGY OF ORE DEPOSITS by John M. Guilbert and Charles F. Park, Jr.

GEOCHEMISTRY OF HYDROTHERMAL ORE DEPOSITS  
by H. L. Barnes

**MAMQUAM-4 PROSPECTING REPORT  
ITEMIZED COST STATEMENT  
FOR 2007-2008**

**SCHEDULE**

FOOD COSTS/PERSON/DAY	\$10
VEHICLE TO MAMQUAM	\$60
PROSPECTORS/DAY	\$400

**PROSPECTING EXPENSES**

VEHICLE	6 TRIPS @ \$60	\$540
PROSPECTORS	9 DAYS @ \$400	\$3,600
FOOD	9 DAYS @ \$10	\$90

**PRORATED ROAD AND TRAIL CLEARING EXPENSES**

VEHICLE	6.83 TRIPS @ \$60	\$409.80
PROSPECTORS	8.83 DAYS @ \$400	\$3,533.32
FOOD	8.83 DAYS @ \$10	\$88.33

**OTHER EXPENSES**

1/3 GPS (PRORATED FOR 12/70 CELLS)		\$21.76
1/3 CHAINSAW (PRORATED FOR 12/70 CELLS)		\$16.49
ANALYSES	27-NOV-2007 4 @ \$35.40	\$141.61
ANALYSES	27-NOV-2007 2 @ \$32.33	\$64.66
ANALYSES	18-SEP-2008 2 @ \$28.99	\$57.99
ANALYSES	8-SEP-2008 2 @ \$32.42	\$64.84

**SAMPLES TO ALS/CHEMEX-NORTH VANCOUVER**

2 TRIPS PRO-RATED FOR THE NUMBER OF SAMPLES:

PROSPECTOR	2 DAYS @ \$400 * 10/32	\$250.00
VEHICLE	2 TRIPS @ \$25.2 * 10/32	\$15.75

<b>TOTAL</b>	<b>\$8894.55</b>
--------------	------------------

**APPENDIX B**

**ANALYSIS RESULTS FOR ALL SAMPLES**

**COLLECTED ON THE MAMQUAM 4**

**CLAIM BETWEEN AUGUST 16, 2007 AND**

**AUGUST 15, 2008**



# ALS Chemex

EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS Canada Ltd.

212 Brooksbank Avenue

North Vancouver BC V7J 2C1

Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

TO: MACKENZIE, KEN

PO BOX 641

GARIBALDI HIGHLANDS BC V0N 1T0

Page: 1

Finalized on 27-NOV-2007

This copy reported on 30-NOV-2007

Account: MACKEN

## CERTIFICATE VA07129863

Project: MAMQUAM

P.O. No.:

This report is for 12 Rock samples submitted to our lab in Vancouver, BC, Canada on 7-NOV-2007.

The following have access to data associated with this certificate:

KEN MACKENZIE

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP41	35 Element Aqua Regia ICP-AES	ICP-AES
Au-AA23	Au 30g FA-AA finish	AAS

To: MACKENZIE, KEN  
PO BOX 641  
GARIBALDI HIGHLANDS BC V0N 1T0

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Lawrence Ng, Laboratory Manager - Vancouver

23.



# ALS Chemex

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GARIBALDI HIGHLANDS BC V0N 1T0

Page: 2 - A

Total Pages: 2 (A - C)

Finalized Date: 27-NOV-2007

Account: MACKEN

Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA07129863

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg	Au-AA23 Au ppm	ME-ICP41 Ag ppm	ME-ICP41 Al %	ME-ICP41 As ppm	ME-ICP41 B ppm	ME-ICP41 Ba ppm	ME-ICP41 Be ppm	ME-ICP41 Bi ppm	ME-ICP41 Ca %	ME-ICP41 Cd ppm	ME-ICP41 Co ppm	ME-ICP41 Cr ppm	ME-ICP41 Cu ppm	ME-ICP41 Fe %
		0.02	0.005	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01

M-96	0.44	<0.005	<0.2	2.82	5	<10	30	<0.5	2	0.22	<0.5	15	10	107	3.21
M-97	0.66	<0.005	0.2	1.94	<2	<10	100	<0.5	2	0.31	<0.5	12	5	22	3.21
M-98	0.60	<0.005	0.4	1.03	<2	<10	110	<0.5	<2	0.15	<0.5	8	4	438	2.85
M-101	0.60	<0.005	0.8	0.85	<2	<10	70	<0.5	<2	0.26	<0.5	7	4	824	1.58

24.



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Finalized Date: 27-NOV-2007

Account: MACKEN

Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA07129863

Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
Analyte	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr
Units	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
LOR	10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
Sample Description															
M-96	10	<1	0.13	10	1.53	969	<1	0.03	9	700	5	0.02	<2	5	27
M-97	10	<1	0.08	10	1.72	1375	1	0.05	5	800	<2	1.18	<2	4	21
M-98	<10	<1	0.22	<10	0.57	276	104	0.05	3	700	5	1.80	<2	1	8
M-101	<10	<1	0.09	<10	0.68	259	22	0.04	2	300	<2	0.90	<2	1	11

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## CERTIFICATE OF ANALYSIS VA07129863

Sample Description	Method Analyte Units LOR	ME-ICP41 Th ppm 20	ME-ICP41 Ti % 0.01	ME-ICP41 Tl ppm 10	ME-ICP41 U ppm 10	ME-ICP41 V ppm 1	ME-ICP41 W ppm 10	ME-ICP41 Zn ppm 2
M-96		<20	0.03	<10	<10	55	<10	105
M-97		<20	0.01	<10	<10	42	<10	190
M-98		<20	0.01	<10	<10	8	<10	14
M-101		<20	<0.01	<10	<10	5	<10	29

26.



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Account: MACKEN

## CERTIFICATE VA07129864

Project: MAMQUAM

P.O. No.:

This report is for 5 Sediment samples submitted to our lab in Vancouver, BC, Canada on 7-NOV-2007.

The following have access to data associated with this certificate:

KEN MACKENZIE

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-32	Pulverize 1000g to 85% < 75 um
LOG-22	Sample login - Rcd w/o BarCode
BAG-01	Bulk Master for Storage

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP41	35 Element Aqua Regia ICP-AES	ICP-AES
Au-AA23	Au 30g FA-AA finish	AAS

To: MACKENZIE, KEN  
PO BOX 641  
GARIBALDI HIGHLANDS BC V0N 1T0

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Signature:

Lawrence Ng, Laboratory Manager - Vancouver

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Account: MACKEN

Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA07129864

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg	Au-AA23 Au ppm	ME-ICP41 Ag ppm	ME-ICP41 Al %	ME-ICP41 As ppm	ME-ICP41 B ppm	ME-ICP41 Ba ppm	ME-ICP41 Be ppm	ME-ICP41 Bi ppm	ME-ICP41 Ca %	ME-ICP41 Cd ppm	ME-ICP41 Co ppm	ME-ICP41 Cr ppm	ME-ICP41 Cu ppm	ME-ICP41 Fe %
M-99		0.68	0.011	0.3	1.30	<2	<10	110	<0.5	3	0.26	1.5	6	6	94	1.99
M-100		0.74	0.024	0.3	1.55	<2	<10	100	<0.5	2	0.34	0.7	8	10	85	2.25

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Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA07129864

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
Analyte	Units	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc
LOR		ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm

M-99		<10	<1	0.19	<10	0.90	542	2	0.05	3	650	15	0.21	<2	2	20
M-100		10	<1	0.16	<10	1.04	583	1	0.05	8	680	13	0.08	<2	2	23

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Finalized Date: 27-NOV-2007

Account: MACKEN

Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA07129864

Sample Description	Method	Analyte	Units	LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
					Th	Ti	Tl	U	V	W	Zn
					ppm	%	ppm	ppm	ppm	ppm	ppm
					20	0.01	10	10	1	10	2

M-99	<20	0.06	<10	<10	32	<10	127
M-100	<20	0.04	<10	<10	32	<10	127

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18-SEP-2008

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Account: MACKEN

## CERTIFICATE VA08116504

Project: MAMQUAM

P.O. No.:

This report is for 13 Soil samples submitted to our lab in Vancouver, BC, Canada on 18-AUG-2008.

The following have access to data associated with this certificate:

KEN MACKENZIE

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
SCR-41	Screen to -180um and save both

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-AA23	Au 30g FA-AA finish	AAS
ME-ICP41	35 Element Aqua Regia ICP-AES	ICP-AES

To: MACKENZIE, KEN  
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Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA08116504

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	AU-AA23 Au ppm 0.005	ME-JCP41 Ag ppm 0.2	ME-JCP41 Al % 0.01	ME-JCP41 As ppm 2	ME-JCP41 B ppm 10	ME-JCP41 Ba ppm 10	ME-JCP41 Be ppm 0.5	ME-JCP41 Bi ppm 2	ME-JCP41 Ca % 0.01	ME-JCP41 Cd ppm 0.5	ME-JCP41 Co ppm 1	ME-JCP41 Cr ppm 1	ME-JCP41 Cu ppm 1	ME-JCP41 Fe % 0.01
M-103		0.42	0.016	<0.2	2.39	11	<10	140	0.5	<2	0.39	0.9	14	10	188	3.95
M-105		0.54	0.078	0.9	0.88	5	<10	60	<0.5	<2	0.49	1.7	19	6	164	4.27

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Finalized Date: 18-SEP-2008

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Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA08116504

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
	Analyte	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr
Units		ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
LOR		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
M-103		10	<1	0.06	10	1.58	1995	2	<0.01	7	970	23	0.11	<2	4	25
M-105		<10	<1	0.05	<10	0.66	477	1	0.02	10	1040	42	2.61	<2	1	21

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Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA08116504

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Th	Ti	Tl	U	V	W	Zn
		ppm	%	ppm	ppm	ppm	ppm	ppm
		20	0.01	10	10	1	10	
M-103		<20	0.02	<10	<10	63	<10	
M-105		<20	0.04	<10	<10	35	<10	

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## CERTIFICATE VA08116505

Project: MAMQUAM

P.O. No.:

This report is for 2 Rock samples submitted to our lab in Vancouver, BC, Canada on 18-AUG-2008.

The following have access to data associated with this certificate:

KEN MACKENZIE

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um

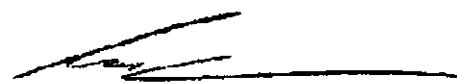
## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP41	35 Element Aqua Regia ICP-AES	ICP-AES
Au-AA23	Au 30g FA-AA finish	AAS

To: MACKENZIE, KEN  
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GARIBALDI HIGHLANDS BC V0N 1T0

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Signature:

  
Colin Ramshaw, Vancouver Laboratory Manager



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Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA08116505

Sample Description	Method Analyte Units LOR	WEI-21	Au-AA23	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Recvd WL	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe
		kg	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
		0.02	0.005	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
M-106		0.58	0.017	0.3	1.27	2	<10	100	<0.5	<2	1.63	<0.5	8	7	72	2.46
M-107		0.58	0.088	0.3	0.35	<2	<10	40	<0.5	8	0.49	<0.5	2	8	12	0.80

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Account: MACKEN

Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA08116505

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
	Analyte	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr
Units		ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
LOR		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
M-106		<10	<1	0.29	<10	0.76	765	2	0.07	3	840	4	1.75	<2	2	46
M-107		<10	<1	0.11	<10	0.20	186	<1	0.02	1	170	3	0.23	<2	<1	9

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Account: MACKEN

Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA08116505

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
	Analyte	Th	Ti	Ti	U	V	W	Zn
Units		ppm	%	ppm	ppm	ppm	ppm	ppm
LOR		20	0.01	10	10	1	10	2
M-106		<20	0.05	<10	<10	28	<10	91
M-107		<20	0.01	<10	<10	5	<10	23

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