

**2008-2009 PROSPECTING REPORT
ON THE MAMQUAM 4 CLAIM OF THE**

MAMQUAM PROPERTY

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.

EVENT NUMBER: 4317351

NOVEMBER, 2009

**BC Geological Survey
Assessment Report
31177**

1.

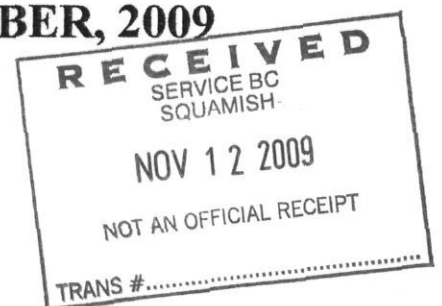


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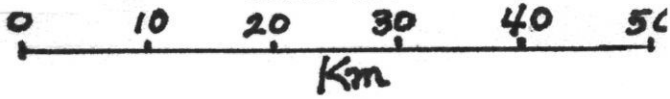
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MAMQUAM CLAIMS

MAP #1

1:600,000



MAMQUAM 4

INTRODUCTION

The Mamquam property 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 beside the creek and then crosses the creek, heading 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.

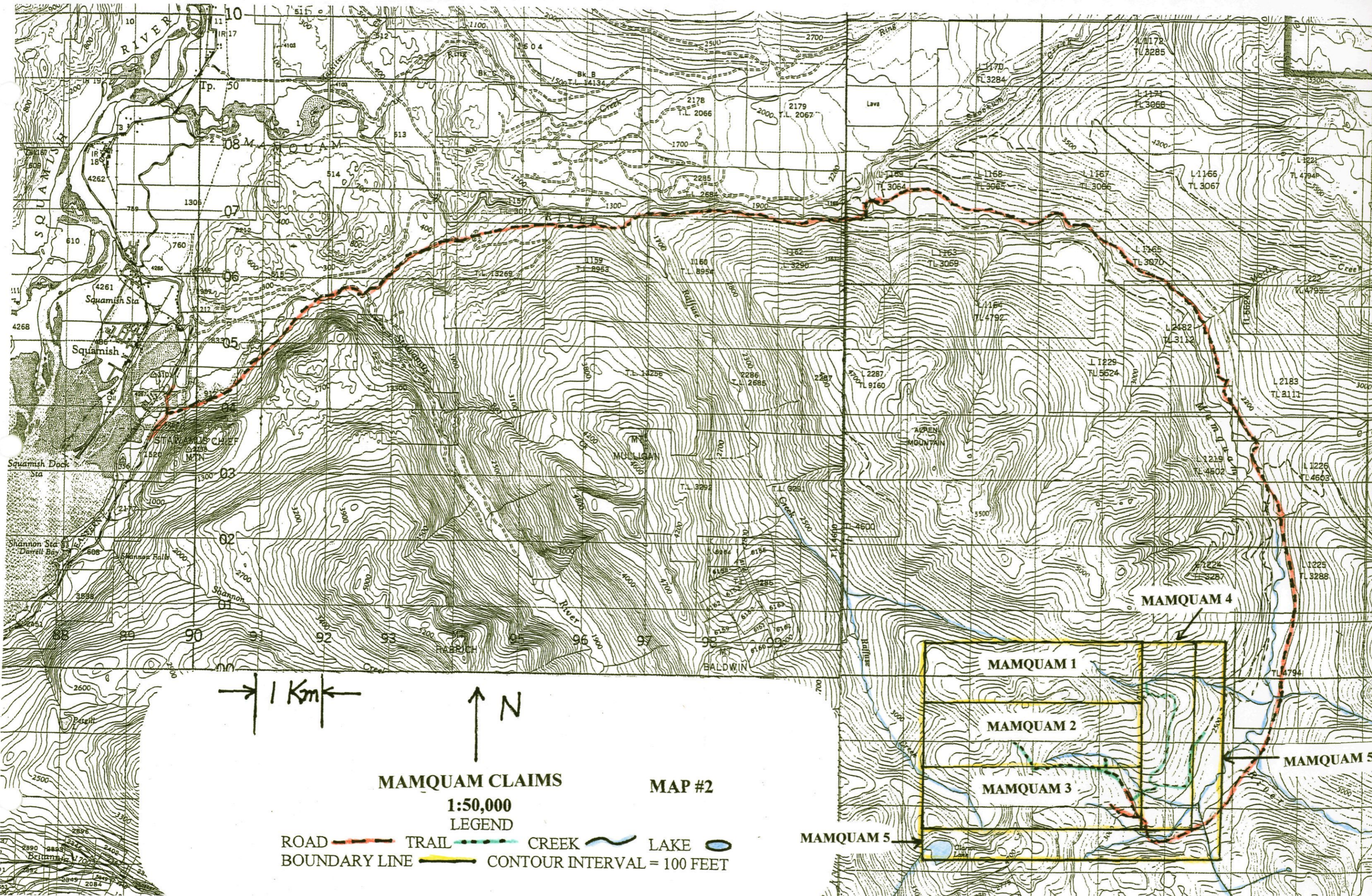
The other two trails were previously described in my 2005 prospecting report for the Mamquam 1 to 3 claims. These trails often follow the creeks, which usually provide the best rock exposure and the clearest way through the bush.

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.



→ 1 Km ←

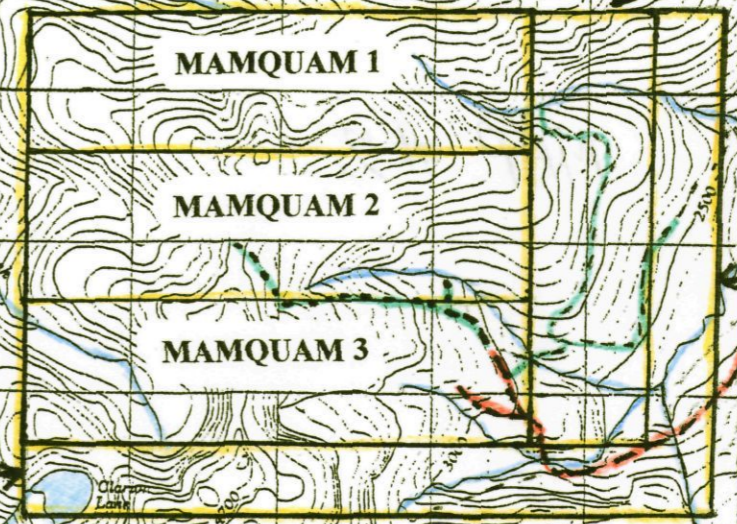
↑ N

MAMQUAM CLAIMS

MAP #2

**1:50,000
LEGEND**

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



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 (now called hill 1500) 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 2006-2007 prospecting 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 its tributaries.

SUMMARY OF WORK PERFORMED ON THE MAMQUAM 4 CLAIM IN 2008 TO 2009

Tuesday, August 19, 2008

I drove to the head of the trail that connects the old logging roads on both sides of the main creek, prospected along the road and cleared downed trees and bushes until I was close to the end of the road system where it began to rain heavily. I took shelter under a tarp until the worst was over and then returned clearing trail on the way back. No samples were taken.

Friday, August 22, 2008

Reiner Schwarz and I drove close to the end of the road and took the same trail, crossed the main creek and used the chainsaw and hand tools to clear the route. We made good time and reached the end of the road before noon. We decided to keep clearing trail down into the logging slash in order to provide a shorter route into the northeast creek. The hillside turned out to be steep and difficult but we progressed reasonably well. We found an area of outcrop in the middle of the logged area that was sampled (M 116). The rock was an unaltered intrusive with a small amount of pyrite and was collected at 0504950 E, 5500073 N.

Significant results for M 116:

Ba	400	ppm
Mn	1040	ppm
Zn	91	ppm

We then returned to our truck and drove home.

Tuesday, September 16, 2008

I drove to the low spot in the road and took the usual trail to the end of the road above the northeast creek. I took our original trail up through the logging slash and then down the steep hillside to the northeast creek. From there I hiked downstream to the first tributary which I ascended until I was stopped by a waterfall. I cleared a route up the east side of the creek close to a major slope failure until I was above the waterfall. I descended back into the creek and found a small pool at the base of another waterfall at 0504634 E, 5500380 N. On the east side of the creek there was a contact between silicified andesites and altered intrusives. Between the two rock types I found a dark altered rock that contained calcite veins. This rock was sampled (M 118).

Significant results for M 118:

Ag	2.1	ppm
As	13	ppm
Ba	160	ppm
Ca	18.6	%
Mn	2130	ppm
Sr	165	ppm
Zn	116	ppm

I also took a sediment sample (M 119) from the same place, but based on my reading, I decided to sample at the head of the gravel bar just below the waterfall, rather than from the side of the creek. The literature describes this as a good place to find heavy minerals or metals. The heavy materials tend to settle where the quartz pebbles are one inch or larger in diameter.

Significant results for M 119:

Au	0.371	ppm
Ag	0.8	ppm
Ba	330	ppm
Cd	1.2	ppm
Cu	177	ppm
Fe	4.39	%
Mg	1.41	%
Mn	1275	ppm
P	1270	ppm
Pb	37	ppm
Zn	154	ppm

These consistently high results convinced me to begin a systematic sediment survey of all creeks on the property where the samples would be taken from the head of a gravel bar close to the base of a waterfall or if no waterfall was available, from a gravel bar at the base of some rapids.

I then returned the way I had come until I reached the junction of this tributary with the northeast creek where I found a piece of piece of silicified andesite that contained quartz veins, chalcopryite, malachite and possible sphalerite (M 120).

Significant results for M 120:

Au	0.014	ppm
Ag	3.1	ppm
Cu	4200	ppm
Mo	303	ppm

On October 31, 2008 I took all the recently collected samples to ALS/Chemex in North Vancouver for analysis.

WORK PERFORMED IN 2009

On Tuesday, April 21, 2009 I prepared all my road and trail clearing equipment and drove up the Mamquam road. I managed to get to mile 7 before the road was blocked with snow. I slowly returned clearing trees from both sides of the road using hand tools or the chainsaw. The total time was about four hours.

I did more road clearing on April 28 and April 30, 2009.

By Monday May 4, 2009 I was able to reach mile 10 before the road was blocked with snow. Many small and some larger trees were down between mile 8 and mile 10.

More roadwork was done on May 6, 12, and 14, 2009. On May 14th I was able to drive beyond mile 17. This year there were a few places where washouts had extended partially into the road. I began filling these holes with rocks, hoping this would slow the rate of erosion and protect the road over the winter. Road clearing and hole filling was done on May 18, 2009 as well.

On May 20th Reiner Schwarz and I continued this work and managed to drive to mile 18 ½ where we reached the snow. I did more work on May 26, May 27 and June 9, 2009.

On June 9, 2009 I was able to drive to the end of the road, which was clear of snow. I parked at the low spot in the road and descended to the main creek. The creek was quite high due to melting snow so I did not try to cross. A large cedar tree had fallen down the slope and across the trail on the other side of the creek so I knew I had to bring the chainsaw to get past it. I returned up the trail clearing as I went and then bushed out a new route to the road so we would not have to travel in the small creek from the road to the edge of the logging slash.

Karl Ricker and I drove to the head of the trail to the northeast creek on June 10, 2009. We hiked down toward the main creek and at the edge of the forest we found a tree that had recently been torn by an animals sharp claws. The marks were about six feet off the ground and could have been made by a bear or a cougar. I have seen trees similarly clawed by grizzly bears, which they seem to use as territorial boundary markers. Whenever I've found these trees in the past, I've climbed the tree and using an ice axe scratched marks higher than the resident grizzly bear.

Just in case this tree was a similar marker, I used my rock hammer and a small hand saw to score the bark higher than the animal could reach, and then I urinated on the base of the tree. I assumed that marking the tree in that

way would send the animal a strong message that we were bigger and tougher and not to be trifled with. However, it's possible that I sent the wrong message.

The next morning (June 10, 2009) I returned to the same area. Just before I reached the parking spot near the trail to the northeast creek, there was a moderately large black bear on the road. I slowly drove toward the bear honking my horn and eventually the bear ran uphill and away from my intended route. I parked, descended the usual trail, past the marked tree and continued on the trail towards the northeast creek, which I worked on all day. I returned to the truck without incident, again passing the marked tree.

On Monday, June 15, 2009 Reiner and I followed the same route again, and parked at the low point where I sounded my truck horn a few times to warn the bears that we were in the area. After arranging our gear we descended from the road to the edge of the logging slash and then contoured around the hill toward the marked tree. Nearby, sitting behind a fallen tree was a large black bear. The bear was easily visible, not aggressive and certainly not frightened by our yells, whistles and waving. The bear watched us, but ignored our warnings.

Fortunately, I had the chainsaw with me so I started it up. In the past I've found that the sound and smell of the saw is enough to chase any bear away. However this bear would not move off. We walked slowly and carefully along the trail toward the bear, but we had to get quite close before the bear began to get the message. First the bear lay down behind the log, then it got up and began to eat bushes (a face saving activity that bears use just before they run off). We had gotten fairly close to the bear by then so it champed its jaws as a warning and finally ran away. As we descended the trail to the main creek, we found very fresh bear droppings on the trail and when we reached the main creek we could see that the bear had descended from the other side, crossed the creek and then dropped water on the lower part of trail. It appeared that the bear had run up this part of the trail, because we could see the wet footprints. The weather had been extremely hot and dry for days so the water trail left by the bear was very obvious.

We continued on, cleared a lot of trail and returned back to our truck without seeing any more of the bear.

Naturally, we can't know what the bear was thinking, but it seems likely that it heard our car horn and ran across the creek and up the trail in order to be in position near the marked tree. This was mating season, and it's the female bears that maintain a territory while the male bears wandering around looking for mates.

Our interpretation was that my marking the tree could have told the female bear that I was a male looking for a mate, and she was making herself obvious and available.

I'm sure there are other interpretations, but we thought this one to be the most likely.

I performed roadwork on the following days: June 18, 22, 23, 26, 2009.

On July 2, 2009 Reiner and I parked at the low spot, hiked downhill to the main creek passing the marked tree and then cleared trail to the end of the old logging road above the northeast creek. We extended the trail northwest into the logging slash. The work was difficult because the bush was very thick with small trees and blueberry bushes.

More roadwork was done by me on July 5th and 8th, 2009.

Reiner and I returned to the trail in the logging slash above the northeast creek on Friday, July 10, 2009. The day was very hot and the slope was steep, but we managed to clear more trail across the slope. There is still considerably more work to be done on this section of the trail.

Monday, August 3, 2009

I parked at the low point and hiked downhill into the main creek. I headed upstream to the first small waterfall where I took a sediment sample (M 140) from a gravel bar on the north side of the creek at 0504514E, 5498558N.

Significant results for M 140:

As	16	ppm
Ba	130	ppm
Cd	2.5	ppm
Cu	384	ppm
Fe	6.14	%
Mn	1720	ppm
Zn	463	ppm

From this site I continued prospecting upstream and soon passed over the west boundary of the Mamquam 4 claim. The work performed that day has been prorated according to the number of samples taken on each claim.

Wednesday, August 5, 2009

I returned to the northeast creek by the usual route and then hiked downstream to the first waterfall. A sediment sample (M 151) was taken from a small settlement pool part way down the falls at 0504882 E, 5500237 N.

Significant results for M 151:

Au	0.02	ppm
Ba	130	ppm
Cu	91	ppm
Pb	30	ppm
Zn	108	ppm

I returned upstream in the northeast creek until I was on the line 0504800 E and then climbed out of the creek heading north until I reached 5500200 N where I took a soil sample (M 152). The soil was light brown, "C" level, and about 25 cm deep. I had to remove some roots with a lopper in order to get a large enough hole to sample.

Significant results for M 152:

Au	0.051	ppm
Ba	70	ppm
Cu	233	ppm
Pb	38	ppm
Zn	104	ppm

I continued north on the same line, crossed the side creek and took another soil sample at 0504800 E, 5500300 N (M 153). The soil at this site was "A" level, dark brown about 20 cm deep and probably collected from an old rotten log that had become soil.

There were no significant results for M 153.

From here I headed back, crossed the northeast creek and climbed back to the logging road. Just above the north gully creek crossing there is an outcrop of rusty rock that I've been unable to sample because it's under the south bank and could not be reached with a hammer. I removed some roots and used a hammer and rock chisel to obtain enough rock for a sample (M 154) at 0505000 E, 5499555 N. In my Mamquam 4, 2007-2008 prospecting report, I discussed the two sediment samples taken from this creek. Both samples showed significant levels of barium, copper and zinc so I thought the source may have been the rusty outcrop. However, that did not turn out to be the case, as only the barium was anomalous.

Significant results for M 154:

Ba 130 ppm

I then hiked back to the truck and returned to Squamish.

On August 14, 2009, I transported all the Mamquam samples collected to date to ALS/Chemex in North Vancouver for analysis.



MAMQUAM CLAIMS

1:20,000

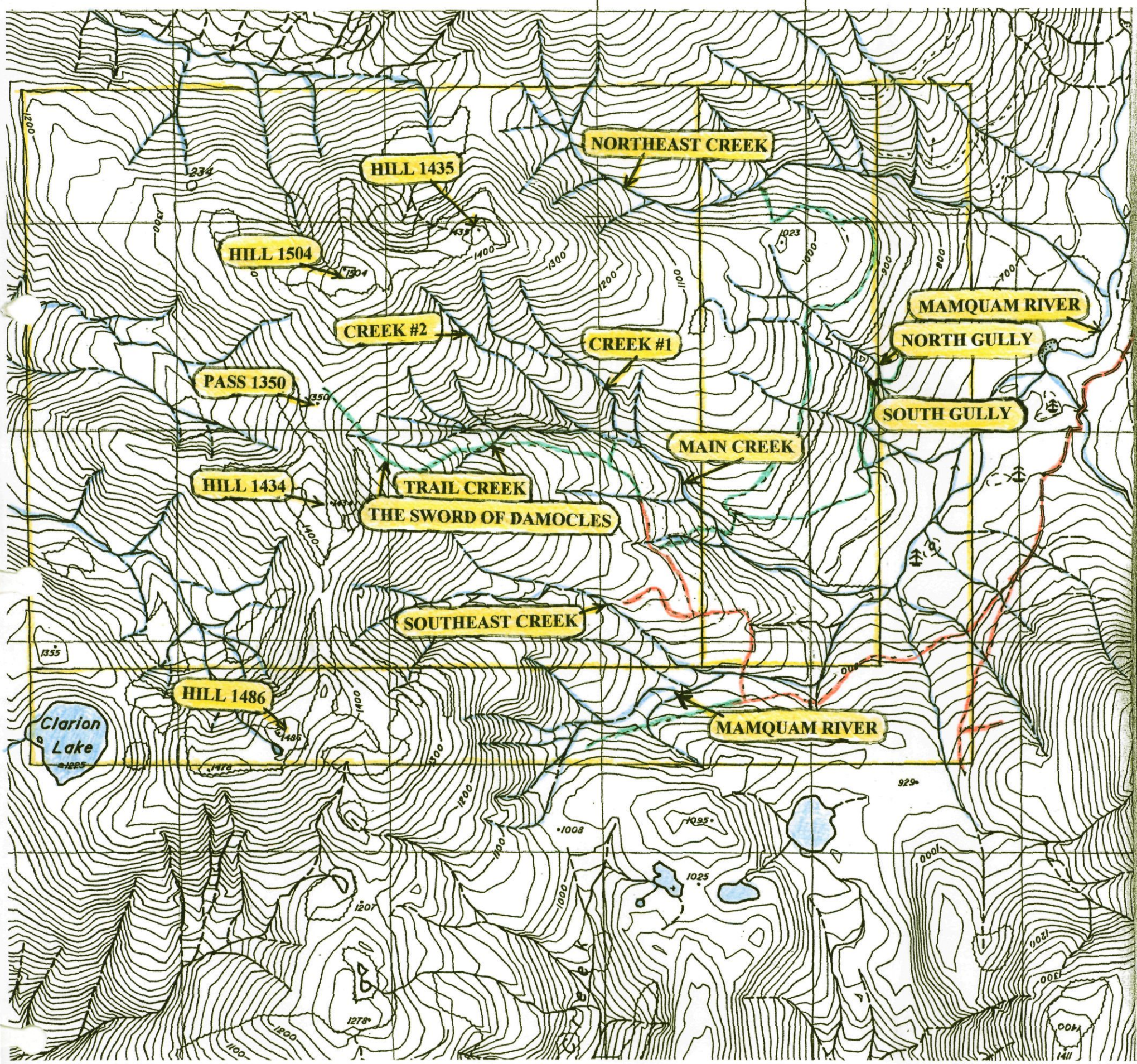
MAP # 3

PLACE NAMES, ROADS AND TRAILS

LEGEND

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

← 1 Km →












MAMQUAM 4 CLAIM

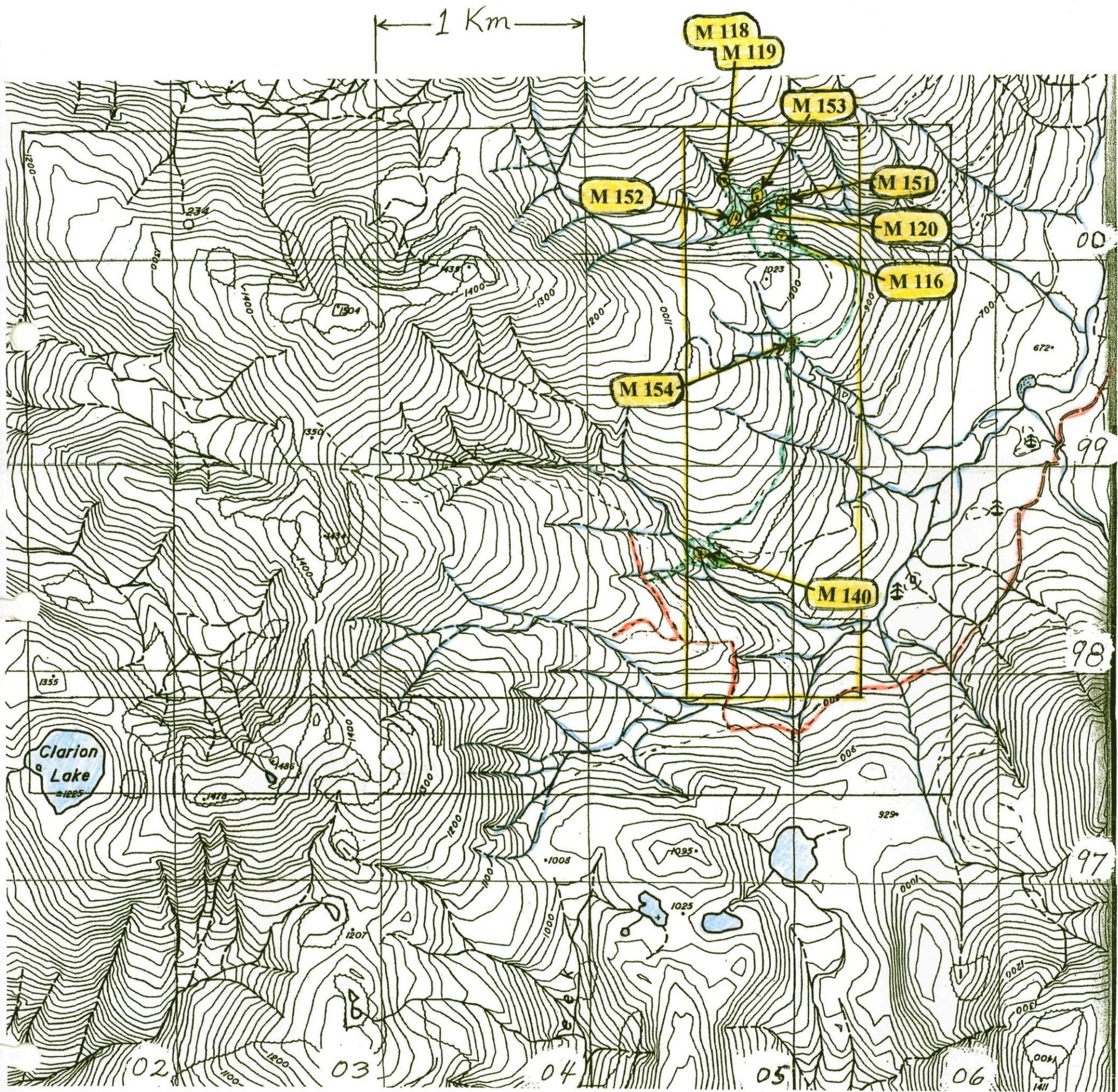
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MAP # 4

MAIN AREAS PROSPECTED IN 2008-2009, RELATED TRAVERSES AND SAMPLE SITES

LEGEND:

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





MAMQUAM 4 CLAIM

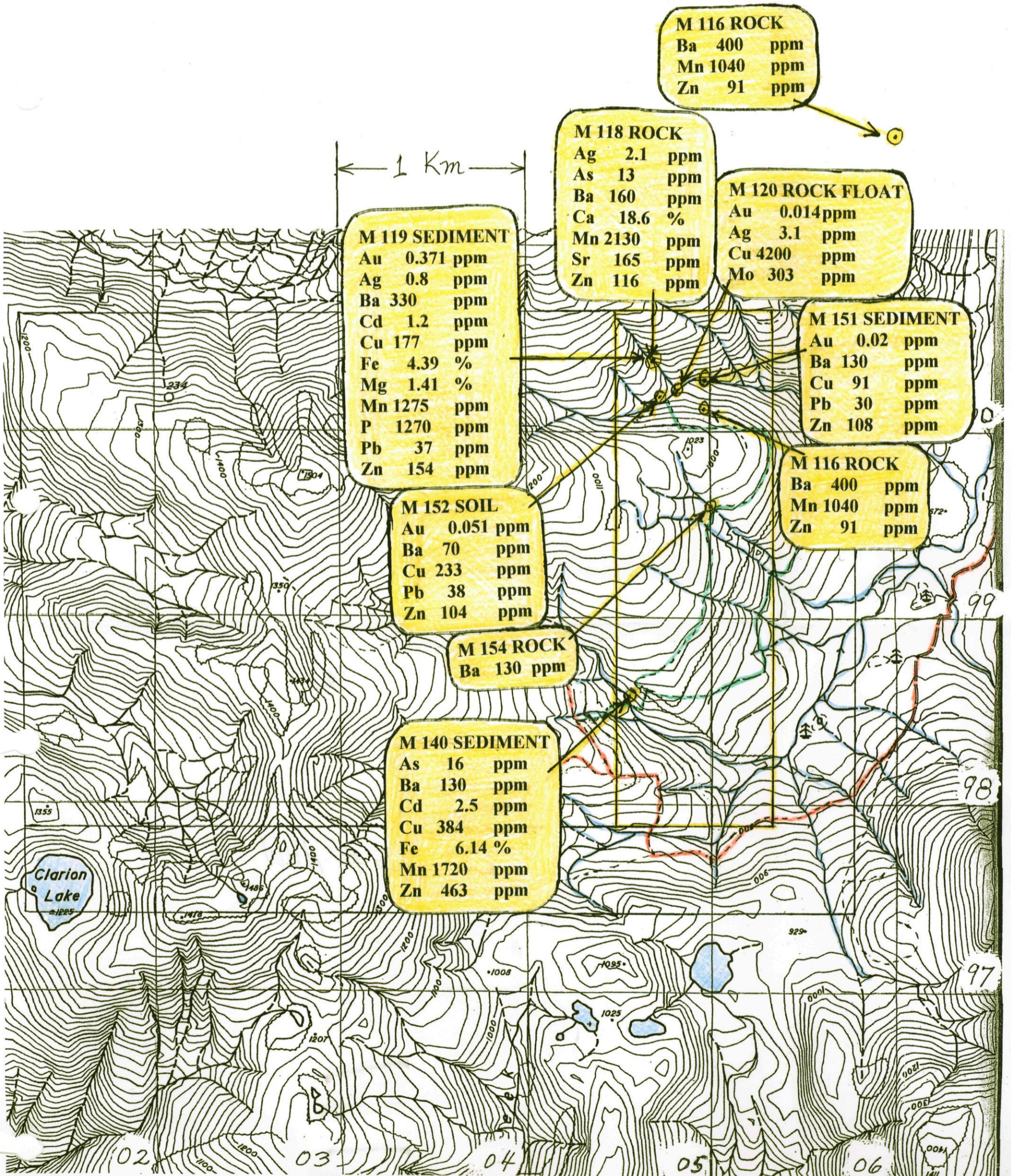
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MAP # 5

2008-2009 SIGNIFICANT RESULTS AND THEIR LOCATIONS

LEGEND:

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





MAMQUAM 4 CLAIM

1:10,000

MAP # 6

DETAIL OF THE NORTH SECTION OF THE MAMQUAM 4 CLAIM 2008-2009 SIGNIFICANT RESULTS AND THEIR LOCATIONS

LEGEND:

ROAD  TRAIL  CREEK  LAKE 

CLAIM BOUNDARY LINE 

CONTOUR INTERVAL = 20 METERS

SAMPLE SITE

M 120 ROCK FLOAT

Au 0.014ppm
Ag 3.1 ppm
Cu 4200 ppm
Mo 303 ppm

M 118 ROCK

Ag 2.1 ppm
As 13 ppm
Ba 160 ppm
Ca 18.6 %
Mn 2130 ppm
Sr 165 ppm
Zn 116 ppm

M 152 SOIL

Au 0.051 ppm
Ba 70 ppm
Cu 233 ppm
Pb 38 ppm
Zn 104 ppm

M 120 ROCK FLOAT

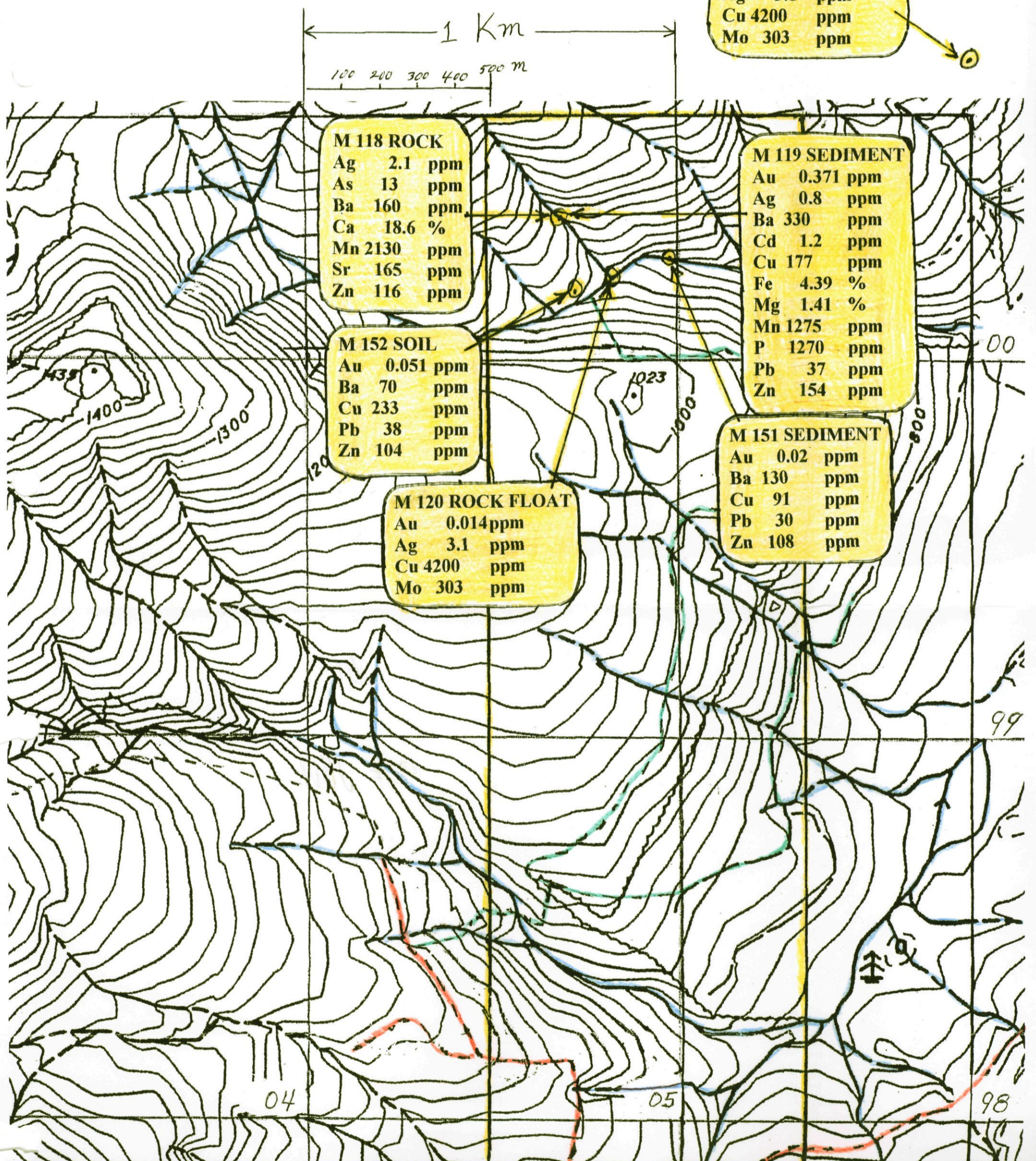
Au 0.014ppm
Ag 3.1 ppm
Cu 4200 ppm
Mo 303 ppm

M 119 SEDIMENT

Au 0.371 ppm
Ag 0.8 ppm
Ba 330 ppm
Cd 1.2 ppm
Cu 177 ppm
Fe 4.39 %
Mg 1.41 %
Mn 1275 ppm
P 1270 ppm
Pb 37 ppm
Zn 154 ppm

M 151 SEDIMENT

Au 0.02 ppm
Ba 130 ppm
Cu 91 ppm
Pb 30 ppm
Zn 108 ppm



**MAMQUAM-4 PROSPECTING REPORT
ITEMIZED COST STATEMENT
FOR 2008-2009**

SCHEDULE:

FOOD COSTS/PERSON/DAY	\$10
VEHICLE TO MAMQUAM	\$60
VEHICLE TO VANCOUVER	\$40
PROSPECTOR/DAY	\$400

PROSPECTING EXPENSES:

VEHICLE	3.94 TRIPS @ \$60	\$236.40
PROSPECTORS	5.25 DAYS @ \$400	\$2,100.00
FOOD	5.25 DAYS @ \$10	\$52.500

PRORATED ROAD AND TRAIL CLEARING EXPENSES:

VEHICLE	3.93 TRIPS @ \$60	\$236.40
PROSPECTORS	4.44 DAYS @ \$400	\$1,776.00
FOOD	4.44 DAYS @ \$10	\$44.40

PROSPECTING REPORT 2007-2008:

PREPARATION	4.43 DAYS @ \$400	\$1,772.00
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OTHER EXPENSES :

ANALYSES	4-NOV-2008	3 @ \$35.88	\$107.64
ANALYSES	4-NOV-2008	1 @ \$27.64	\$27.64
ANALYSES	17-AUG-2009	1 @ \$37.32	\$37.32
ANALYSES	17-AUG-2009	2 @ \$28.07	\$56.14
ANALYSES	17-AUG-2009	2 @ \$28.44	\$56.88
FILING FEE	13-AUG-2009		\$100.41
MISCELLANEOUS			\$14.70

SAMPLES TO ALS/CHEMEX-NORTH VANCOUVER:

2 TRIPS PRO-RATED FOR THE NUMBER OF SAMPLES:

PROSPECTOR	4-NOV-2008 @ \$400 * 4/13	\$122.80
VEHICLE	4-NOV-2008 @ \$40 * 4/13	\$12.28
PROSPECTOR	17-AUG-2009 @ \$400 * 5/28	\$71.20
VEHICLE	17-AUG-2009 @ \$40 * 5/28	\$7.12
TOTAL		\$6831.83

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

GEOCHEMISTRY by Arthur H. Brownlow

FIELD GEOPHYSICS by John Milsom

XXIV INTERNATIONAL GEOLOGICAL CONGRESS
COPPER AND MOLYBDENUM DEPOSITS OF THE WESTERN
CORDILLERA by C. S. Ney and A. Sutherland Brown

PRINCIPLES OF GEOCHEMICAL PROSPECTING
by H. E. Hawkes

GEOCHEMICAL EXPLORATION
by R. W. Boyle and J. I. Mcgerrigle

APPENDIX B

ANALYSIS RESULTS FOR ALL SAMPLES

COLLECTED ON THE MAMQUAM 4

CLAIM BETWEEN AUGUST 16, 2008

AND AUGUST 15, 2009



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

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

Page: 1
Finalized Date: NOV-2008
Account: MACKEN

CERTIFICATE VA08158242

Project: X, MAMQUAM
P.O. No.:
This report is for 9 Rock samples submitted to our lab in Vancouver, BC, Canada on 4-NOV-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

24

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

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Signature:


Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - B

Total #. 2 (A - C)

Finalized Date: 14-NOV-2008

Account: MACKEN

Project: X, MAMQUAM

CERTIFICATE OF ANALYSIS VA08158242

Sample Description	Method Analyte Units LOR	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
		Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm
M-116		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
M-118		10	<1	0.27	<10	1.08	2130	<1	<0.01	2	310	16	1.2	<2	1	165
M-120		<10	<1	0.06	<10	0.04	52	303	<0.01	1	60	9	1.19	<2	<1	1

26.



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Finalized Date: NOV-2008
This copy reported on: 4-NOV-2008
Account: MACKEN

CERTIFICATE VA08158243

Project: X, MAMQUAM
P.O. No.:
This report is for 4 Soil samples submitted to our lab in Vancouver, BC, Canada on 4-NOV-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

28.

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

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Signature:

Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - B

Total #, 2 (A - C)

Finalized Date: 9-NOV-2008

Account: MACKEN

Project: X, MAMQUAM

CERTIFICATE OF ANALYSIS VA08158243

Sample Description	Method Analyte Units LOR	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
		Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr
		ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
M-119		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
		10	1	0.10	10	1.41	1275	5	0.03	13	1270	37	0.17	<2	4	50

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Page: 2 - C

Total # 2 (A - C)

Finalized Date: 9-NOV-2008

Account: MACKEN

Project: X, MAMQUAM

CERTIFICATE OF ANALYSIS VA08158243

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
	Analyte	Th	Ti	Tl	U	V	W	Zn
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm
LOR		20	0.01	10	10	1	10	2
M-119		<20	0.03	<10	<10	55	<10	154
[REDACTED]								

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Page: 1
Finalized Date: 9-SEP-2009
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Account: MACKEN

CERTIFICATE VA09087583

Project: MAMQUAM

P.O. No.:

This report is for 8 Rock samples submitted to our lab in Vancouver, BC, Canada on 17-AUG-2009.

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
PUL-QC	Pulverizing QC Test
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

32.

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Signature:


Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - A

Total # r. : 2 (A - C)

Finalized Date: 2-SEP-2009

Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA09087583

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 Wt. kg	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
		0.02	0.005	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
M-154		0.60	0.008	0.3	0.91	<2	<10	130	<0.5	<2	0.26	<0.5	7	5	11	2.34

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Page: 2 - B

Total # r. : 2 (A - C)

Finalized Date: 2-SEP-2009

Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA09087583

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
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
M-154	<10	<1	0.20	10	0.65	597	7	0.03	3	480	12	1.32	<2	1	13

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Page: 2 - C

Total # Reports: 2 (A - C)

Finalized Date: 2-SEP-2009

Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA09087583

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
	Analyte	Th	Ti	Tl	U	V	W	Zn
Units		ppm	%	ppm	ppm	ppm	ppm	ppm
LOR		20	0.01	10	10	1	10	2
[REDACTED]								
[REDACTED]								
[REDACTED]								
[REDACTED]								
M-154		<20	<0.01	<10	<10	14	<10	96

35.



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Page: 1
Finalized Date: 9-SEP-2009
This copy reported on 9-SEP-2009
Account: MACKEN

CERTIFICATE VA09087584

Project: MAMQUAM

P.O. No.:

This report is for 12 Soil samples submitted to our lab in Vancouver, BC, Canada on 17-AUG-2009.

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
PO BOX 641
GARIBALDI HIGHLANDS BC V0N 1T0

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Signature: 

Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - A

Total # of Tests: 2 (A - C)

Finalized Date: 7-SEP-2009

Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA09087584

Method	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
Analyte	Recvd Wt.	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe
Units	kg	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
LOR	0.02	0.005	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
M-152	0.44	0.051	0.3	2.16	4	<10	70	<0.5	<2	0.12	<0.5	6	8	233	3.70
M-153	0.20	<0.005	0.2	0.35	<2	<10	50	<0.5	<2	0.05	<0.5	1	2	11	0.33

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Page: 2 - B

Total # results: 2 (A - C)

Finalized Date: 7-SEP-2009

Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA09087584

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	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	
Units		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	
[REDACTED]																
[REDACTED]																
[REDACTED]																
[REDACTED]																
[REDACTED]																
[REDACTED]																
[REDACTED]																
M-152		10	<1	0.05	<10	0.85	424	6	0.01	5	1070	38	0.02	<2	2	12
M-153		<10	<1	0.03	<10	0.04	15	1	0.01	2	480	19	0.11	3	<1	26

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Page: 2 - C
Total # Reports: 2 (A - C)
Finalized Date: 7-SEP-2009
Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA09087584

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
		20	0.01	10	10	1	10	2
		[REDACTED]						
		[REDACTED]						
		[REDACTED]						
		[REDACTED]						
M-152		<20	0.03	<10	<10	38	<10	104
M-153		<20	0.01	<10	<10	10	<10	29

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Page: 1

Finalized Date: SEP-2009

This copy reported on 9-SEP-2009

Account: MACKEN

CERTIFICATE VA09087585

Project: MAMQUAM

P.O. No.:

This report is for 8 Sediment samples submitted to our lab in Vancouver, BC, Canada on 17-AUG-2009.

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
PO BOX 641
GARIBALDI HIGHLANDS BC V0N 1T0

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Signature:


Colin Ramshaw, Vancouver Laboratory Manager

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Page: 2 - A

Total # of : 2 (A - C)

Finalized Date: 3-SEP-2009

Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA09087585

Method	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
Analyte	Recvd Wt.	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe
Units	kg	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
LOR															
Sample Description	0.02	0.005	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
M-140	0.50	0.009	0.7	1.62	16	<10	130	0.5	<2	0.44	2.5	30	10	384	6.14
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
M-151	0.56	0.020	<0.2	1.21	9	<10	130	<0.5	<2	0.38	1.0	11	8	91	2.87

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Page: 2 - B

Total # of Samples: 2 (A - C)

Finalized Date: 3-SEP-2009

Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA09087585

Sample Description	Method Analyte Units LOR	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	
		Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm
		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	
M-140		<10	<1	0.06	10	1.12	1720	7	0.04	18	910	26	2.02	<2	4	37
M-151		<10	<1	0.05	10	0.83	633	2	0.02	8	820	30	0.28	<2	2	25

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Page: 2 - C

Total # pages: 2 (A - C)

Finalized Date: 3-SEP-2009

Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA09087585

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	2
[REDACTED]								
M-140		<20	0.02	<10	<10	47	<10	483
[REDACTED]								
[REDACTED]								
M-151		<20	0.04	<10	<10	34	<10	108

43.