

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

**NEW WESTMINSTER MINING DIVISION**  
**122 DEGREES 57 MINUTES 36 SECONDS WEST**  
**49 DEGREES 39 MINUTES 0 SECONDS NORTH**

**CLAIMS: MAMQUAM 1-3**

**TENURE NUMBERS: 510555, 510559, 510564**

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**FMC# 116450**

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**SQUAMISH, B.C.**

**JUNE, 2006**

**EVENT NUMBER: 4078554**



28.441  
GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

*Ken Mackenzie*  
*June 28/06.*

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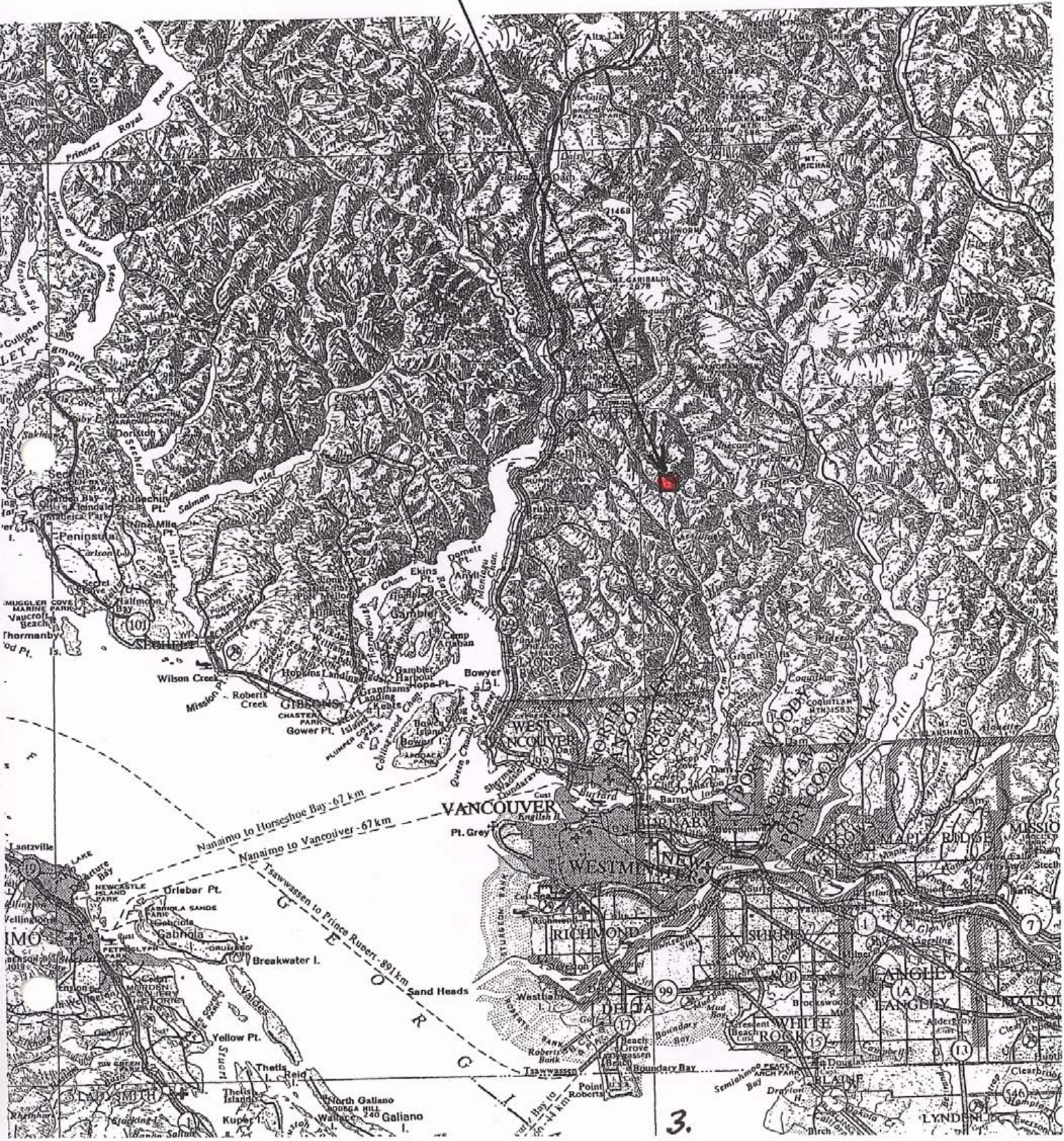
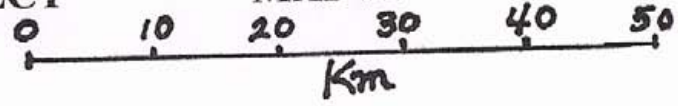




# MAMQUAM PROSPECT

MAP #1

1:600,000





# MAMQUAM PROSPECT

## 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. 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, which is where you park. 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. After crossing the washout, hike to the end of the road where two trails begin.

The first trail begins on the right side of the landing at the end of the road and it heads north and downhill until the main creek is reached. The

canyons formed around this creek are heavily iron stained and this gossan can be seen for many kilometers from the other side of the Mamquam valley or from the air. This trail is relatively short and is marked with blue tape. Once in the main creek, it is possible to walk in either direction and up at least two side creeks without difficulty even though the canyon walls are often very steep and slope failures are frequent. As a result, I avoid all the creek beds in this area during times of high water flow or heavy rains.

The second trail begins at the west end of the landing at the end of the road and it travels west and uphill through the logged area and into the forest. Orange flagging tape has been used to mark this route and to distinguish it from the trail that descends into the main creek (which is marked with blue tape). This trail leads to a small side creek that flows north into the main creek. I have called this creek "Trail Creek" because it becomes the trail in two places. Most of the Mamquam prospect is covered with soil, vegetation and trees so the creeks often provide the best rock exposure and the clearest way through the bush.

There are numerous deer and black bears in the area, and the animals use the trail regularly so caution is advised. One black bear has taken a dislike to my orange flagging and frequently tears the markers down (leaving claw marks on the trees where the flagging was placed). When I travel the trail, I replace the tapes, usually using the pieces that were ripped off by the bear. The next time I hike the trail, I usually find many pieces of flagging torn off the trees again, which I replace so the bear can remove them once more. The trail continues in and out of trail creek until the sub-alpine is reached where there are meadows and game trails to follow, mainly heading west until a col is reached at the 4500-foot level (1355 meters). This col is situated about half a kilometer south of the highest point on the property (5000 feet or 1500 meters), which I have called hill 5000.

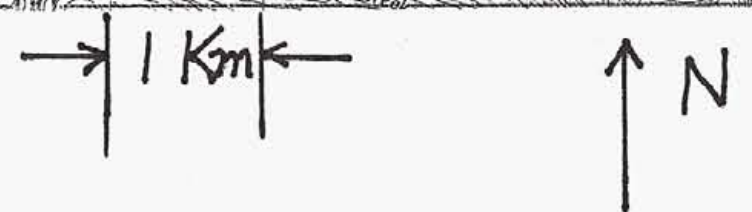
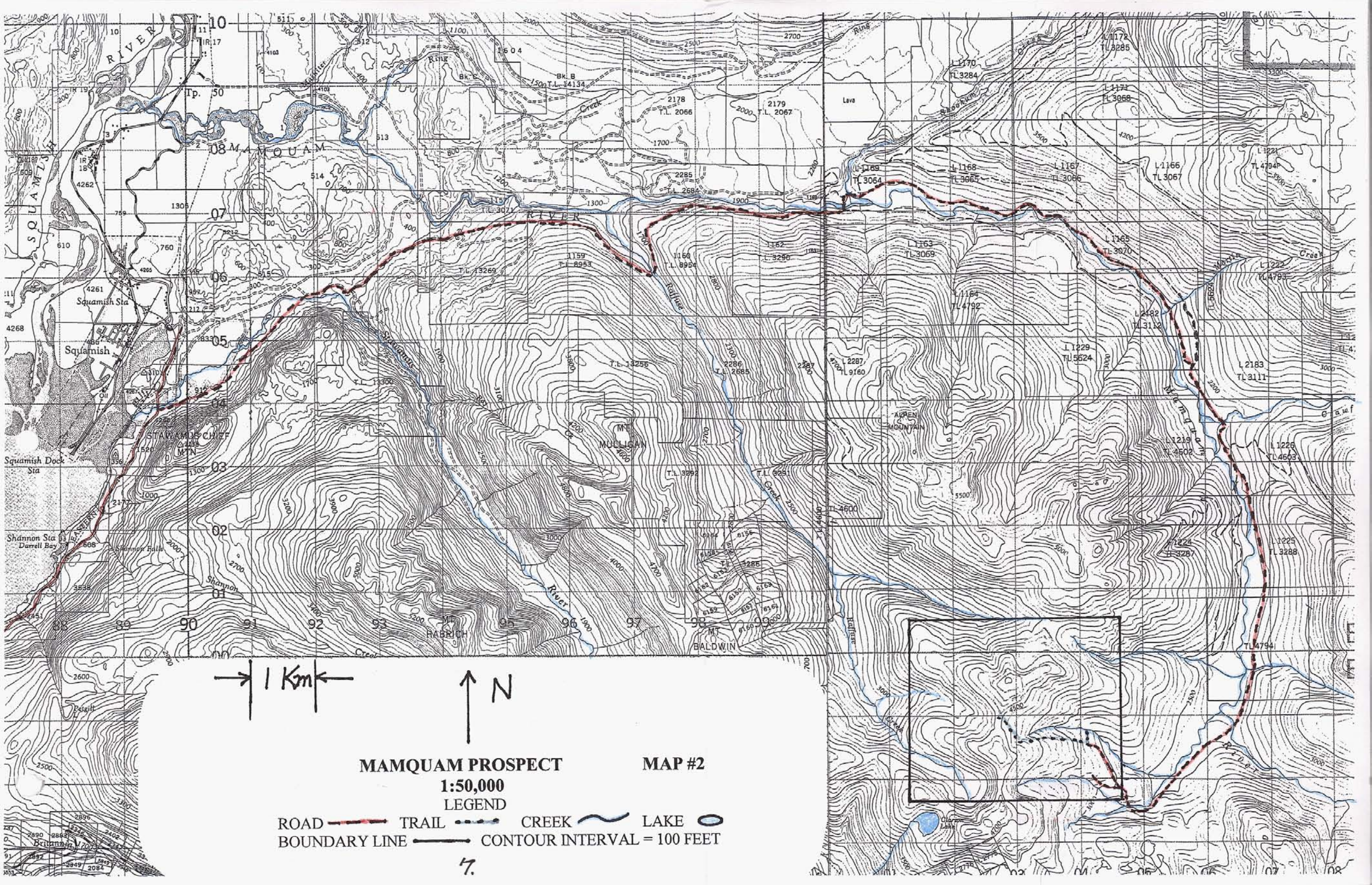
There are three claims that cover this prospect named Mamquam 1 to 3, and their tenure numbers are: 510555, 510559, 510564. Most of the property is covered with soil or glacial till so rock outcrops are infrequent. As a result, prospecting has been mainly done by following the stream sediment geochemistry, examining creek beds, and outcrops in the creek banks. Nearly all the mineralized rock found to date is float, for which no source has been identified.

There are two main rock types found on the property, Gambier Group metamorphosed volcanics that contain rhyolites, andesites, cherts, tuffs and volcanoclastics, and granodiorite (with some possible quartz diorite) intrusives. To date two areas of the metamorphosed volcanic rocks that appear to be roof pendants have been identified, and they overlie the

intrusive rocks. In addition, there are numerous rhyolite and some occasional porphyry dykes in the area. These are the same rocks that are associated with the Britannia Mine so the model originally used was of a volcanogenic massive sulphide type of mineralization. This model still applies, but now that some rock float containing disseminated chalcopyrite in silicified quartz diorite (which was analyzed to contain 1½% Copper) has been found, as well as other boulders that contain quartz veins and sphalerite, the model has been expanded to include a feeder zone and a possible porphyry copper deposit that has a relatively barren pyrite halo and a possible zinc-gold halo that shows up in stream sediments, rock float and soil samples.

Combined volcanogenic massive sulphide and porphyry copper deposits have been described in the literature, although not in the Coast Range Mountains. Nevertheless, the potential is present, and typical mines of this type are known to contain billions of pounds of copper. It should be emphasized, however, that most deposits are not that large, and do not become mines, so there is considerable risk in exploring these prospects. To date no massive sulphide, feeder zone or porphyry copper deposit of commercial value has been identified on the Mamquam prospect.





**MAMQUAM PROSPECT** **MAP #2**

**1:50,000**  
**LEGEND**

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



# HISTORY OF THE MAMQUAM PROSPECT

This prospect was originally discovered in 1979 by the author using a total heavy metal dithizone field test, which measures the total of zinc, copper and lead found in stream sediments or soil. I began testing stream sediments in the headwaters of the Mamquam River and anomalous results were ultimately traced to an area of Gambier Group metamorphosed volcanics on the highest point on the property (hill 5000). I also approached the area from the Raffuse Creek logging roads and found similar results on that side of the mountain, again following the high values to all four sides of hill 5000. Hill 5000 was assumed to contain one or more massive sulphide lenses that were the source of the high geochemical values found in the seeps, streams and soils surrounding the roof pendant. At that time I had confirmed the high dithizone test results with samples analyzed in commercial labs. I mapped some of the stream sediment samples that had been analyzed in laboratories. Although I had found many streams with high levels of copper, zinc or lead, only samples that were proven to have high levels of all three heavy metals are shown, because they simplify and summarize the findings. Samples that contained greater than 300 ppm copper and greater than 50 ppm lead and greater than 1000 ppm zinc were clustered around hill 5000. Map #3 shows the results that I obtained at that time. My interpretation was that the geology and the geochemistry of hill 5000 were consistent with a volcanogenic massive sulphide model and that hill 5000 was prospective for one or more massive sulphide lenses. In addition, two outcrops of banded black and white quartz were found, one on the east side and one on the south side of hill 5000.

Map #4 shows all gold analysis results found previously that are greater or equal to 0.1 ppm or 100 ppb (more will be added later in this report). The highest gold level identified was in some rock float from the north side of hill 5000 (sample site 1.) which contained 3.05 ppm gold, as well as 1.94 % lead and 50 ppm silver.

Further prospecting and geochemical surveys extended the prospective area considerably, with some soil sample grids and some creeks showing zinc and gold anomalies that appeared to be over intrusive granodiorite rocks. The highest gold result found in a soil sample that is clearly associated with intrusive rocks was 310 ppb or 0.31 ppm. The highest gold result found in stream sediments was 1.14 ppm (sample site 6 on Map #4).

Unfortunately, at that time most established mining companies were not interested, probably because the price of metals was falling. In addition, the



political situation in B.C. became hostile and difficult for the industry and a deep recession occurred in 1982. Mining exploration in B.C. virtually stopped as many companies moved their operations to South America. I had performed enough work to keep the property in good standing for the next ten years, but as there was no change in the situation, the claims were allowed to lapse.

The property was staked again in 2005 following a review of my previous work. The highly anomalous findings surrounding hill 5000 were interpreted as still consistent with a volcanogenic massive sulphide type of deposit, but lower levels of zinc, copper, silver and gold over the quartz diorite intrusive rocks formed a secondary anomaly that had not been recognized and adequately followed up previously. These geochemical findings were thought to be consistent with a possible feeder zone and/or a porphyry copper deposit that had a pyrite as well as a possible zinc/gold halo.

The intrusive rock certainly contains considerable pyrite over a large area that forms a gossan that is easily seen from the other side of the Mamquam River valley or from the air, and this gossan was one of the reasons I began testing the stream drainages in 1979.

Minor amounts of chalcopyrite were found associated with the pyrite in the intrusive rock and in places the pyrite forms veins or clots of massive pyrite, but in general the intrusive rocks in the gossan area appeared to be barren of economic minerals.

However, in 1980 a piece of float composed mainly of pyrite and chalcopyrite was found at the junction of two creeks in the gossan area and it was analyzed to contain 2.6% copper. This piece of float had the same appearance and similar geochemistry to the ore that was mined for many years in the Britannia mine. To date, the source of this rock has not been found. Other boulders with copper, zinc, lead, silver and gold have been found, but again no source has been identified.

The work previously performed on the Mamquam property in the 1970's and 1980's combined with my recent review of the literature on porphyry copper deposits, was instrumental in the decision to revisit this property using a new model.





MAP # 3

# MAMQUAM PROSPECT

1:25,000

## LOCATIONS OF GEOCHEMICAL ANALYSES OF SELECTED STREAM SEDIMENTS

SELECTION CRITERIA: COPPER > 300 PPM  
AND LEAD > 50 PPM AND ZINC > 1000 PPM

### LEGEND

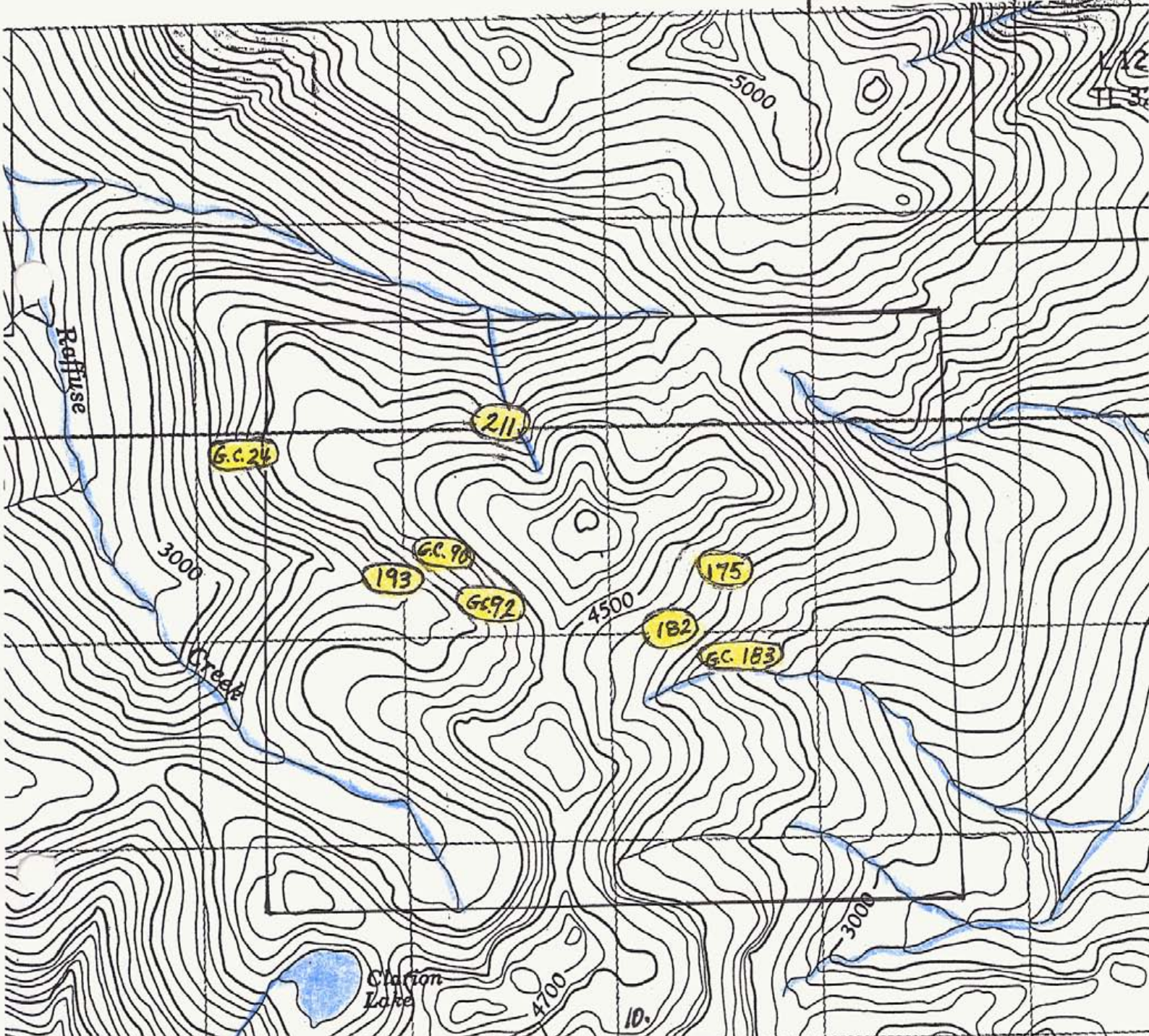
CREEK   
SAMPLE NUMBER

LAKE   
175

 GC 24

BOUNDARY LINE 

← 1 Km →





**STREAM SEDIMENT GEOCHEMISTRY RESULTS  
FOR THE SAMPLES SHOWN ON MAP #3**

CRITERIA: CU>300 PPM + PB>50 PPM + ZN>1000 PPM

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM
175	415	145	2000
182	610	107	2200
193	640	53	2100
211	600	180	3100
GC 24	360	144	1300
GC 90	1580	94	1440
GC 92	390	131	3500
GC 183	400	53	1310





MAP #4

**MAMQUAM PROSPECT**  
1:20,000

**LOCATIONS OF GOLD ANALYSES IN ROCKS,  
STREAM SEDIMENTS AND SOILS  
GREATER THAN OR EQUAL TO 0.1 PPM**

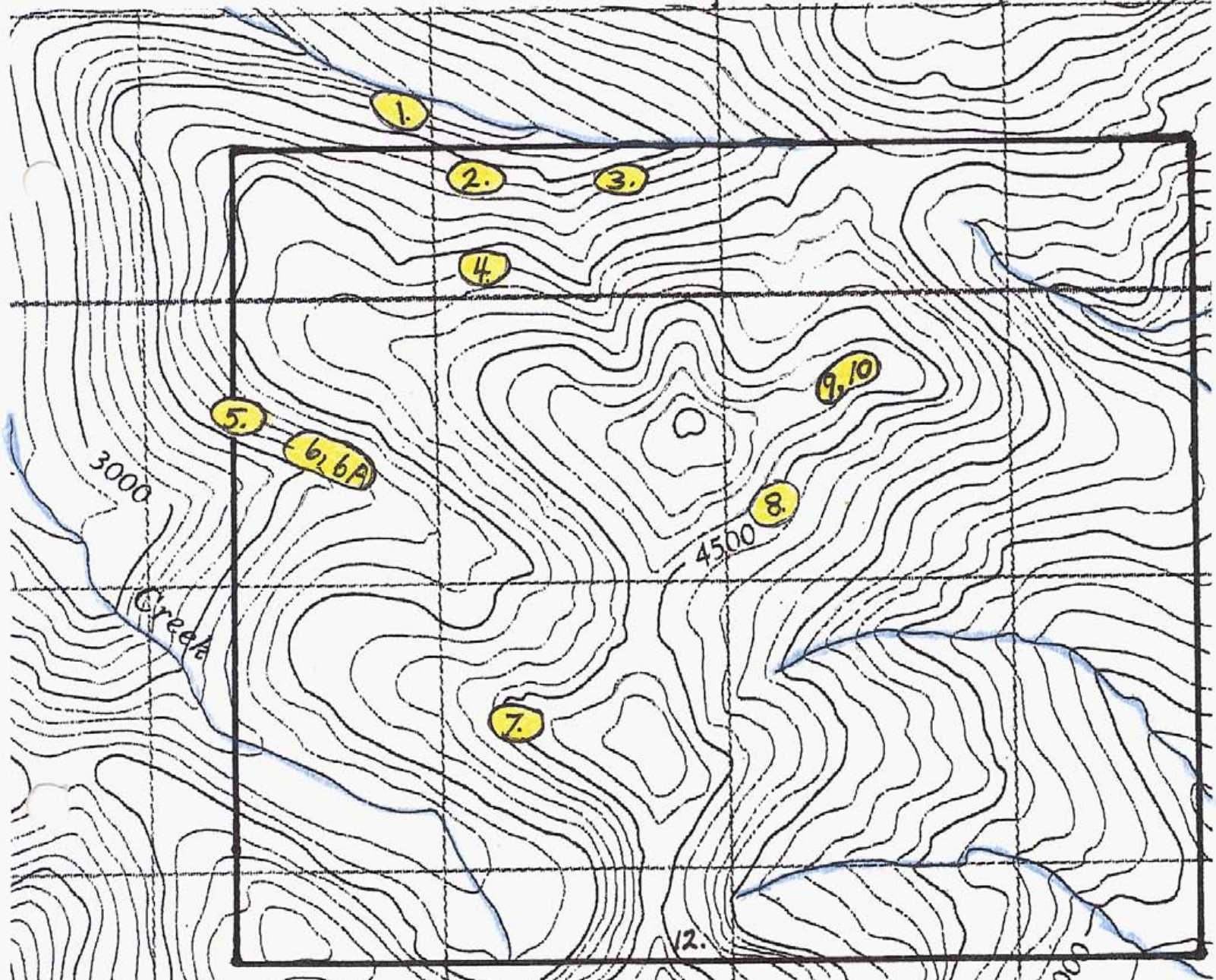
**LEGEND**

CREEK   
SAMPLE SITE

LAKE   
1.

BOUNDARY LINE 

← 1 Km →



**GOLD ANALYSIS RESULTS FOR THE SITES SHOWN ON  
MAP #4. CRITERIA: GOLD GREATER THAN OR EQUAL  
TO 0.1 PPM**

1. Rock float containing pyrite, galena, sphalerite and minor chalcopyrite in clots and lenses in quartz.

Cu	500 ppm
Zn	0.13 %
Pb	1.94 %
Ag	50 ppm
Au	3.05 ppm

2. Soil sample

Cu	39 ppm
Zn	109 ppm
Pb	33 ppm
Ag	0.6 ppm
Au	0.16 ppm

3. Stream sediment

Cu	40 ppm
Zn	203 ppm
Pb	34 ppm
Ag	0.0 ppm
Au	0.14 ppm

4. Soil sample

Cu	20 ppm
Zn	97 ppm
Pb	186 ppm
Ag	2.0 ppm
Au	0.13 ppm

5. Soil sample

Cu	16 ppm
Zn	64 ppm
Pb	21 ppm
Ag	0.0 ppm
Au	0.98 ppm



6. Stream sediment  
Cu 155 ppm  
Zn 1860 ppm  
Pb 29 ppm  
Ag 0.7 ppm  
Au 1.14 ppm

6A. Soil sample on the west bank of the same small stream approximately 3m above sample 6.

7. Soil sample  
Cu 179 ppm  
Zn 129 ppm  
Pb 15 ppm  
Ag 0.3 ppm  
Au 0.31 ppm

8. Soil sample  
Cu 42 ppm  
Zn 990 ppm  
Pb 19 ppm  
Ag 0.2 ppm  
Au 0.21 ppm

9. Rock with vuggy quartz veining and stockwork zone with disseminated pyrite.  
Cu 80 ppm  
Zn 59 ppm  
Pb 169 ppm  
Ag 1.3 ppm  
Au 0.18 ppm

10. Thin quartz veinlets with specs of galena, pyrite and minor sphalerite in pyritic silicious rhyolite tuff.  
Cu 820 ppm  
Zn 0.49 %  
Pb 1.06 %  
Ag 2.0 ppm  
Au 0.18 ppm

## SUMMARY OF WORK PERFORMED ON THE MAMQUAM PROSPECT IN 2005

All the prospecting trips made into the Mamquam property in 2005 were day trips. The end of the road as shown on Map #2 is over 40 Km from Squamish, which is close enough to allow daily access. Fortunately, 2005 was a year when very little snow fell in the high country and the valleys cleared of snow earlier than usual.

My first trip was May 7, 2005 when I drove to the end of the road nearest the main creek that drains the east side of the property. Before the end of the road is reached, there is a washout that blocks further 4x4 access. I used my GPS to obtain a position and an elevation, which I checked with my altimeter. Outcrops on this road were mainly intrusive granodiorites with some epidote in the fractures. Various dykes cut the granodiorites, including some large rhyolite dykes that are occasionally porphyritic and may contain pyrite.

From the parking spot I hiked to the end of the road, took another GPS position and elevation and found some granodiorite that contained large blebs and veinlets of pyrite. This rock weathers to a characteristic red colour and although no other minerals could be seen in it, a sample was taken for analysis (M-1). The analysis results showed 2.7 ppm Ag, 0.058 ppm Au, 1990 ppm Cu and 7.22% Iron. Other than the iron, these results were not expected, but they did ultimately lead to the possibility of the granodiorite rocks in this area hosting economic metals. The unusually high copper level could possibly be explained by the sample being collected at the end of the road where contamination from logging or from hunters leaving shells lying around had occurred, but I thought that the silver and gold analyses were less likely to result from this type of contamination, so the results were given tentative credibility.

I returned to my truck, and prospected up the left branch of the road that leads to the property. As expected, the rocks exposed in the road showed granodiorites with one large rhyolite dyke. I took another GPS reading and elevation at the end of this road and then traversed west following the creek that drains the southeast corner of the property. As I crossed the small side creeks, I checked for mineralized float, but did not find any. I continued the traverse to a measured elevation of about 4000 feet and took another GPS reading that placed me higher, at about 4400 feet. I rested at this point and then returned to the truck by the same route. On the way home I stopped at the bridge over the Mamquam at 2750 feet



elevation and took a stream sediment sample upstream from the bridge (M-2).

The zinc level was anomalous at 130 ppm and the gold level was slightly above the background at 0.011 ppm.

The second trip was made on Tuesday, May 10, 2005. Rick Price and I drove to the washout near the end of the road and then we hiked up the road to the end and climbed uphill through the logging slash and into the forest to the west. There was no snow in the open, but considerable snow under the trees so we marked the best route we could find that ran parallel to the main creek (west) for a future trail and prospected any rocks that were exposed. We ultimately came to a creek that flowed north into the main creek, which we followed downhill until we could enter a long linear depression that runs sub-parallel to the main creek. On the south side of this linear depression we found an exposure of granodiorite bedrock that contained a small malachite stain on a protected fracture surface. (Malachite does not develop easily on the rocks in this area and seldom shows on the surface. Occasionally it is found in protected fractures that are not exposed to weathering. Even rocks that contain significant levels of copper do not show malachite stains on the surface, including the pieces of float that showed results of 2.6 % and 1.5 % copper.) This small showing was flagged for possible future follow-up, but no sample was taken. No other significant mineralization was found in the linear depression so we climbed back to the top of the creek bank and descended to the end of the road. We then headed north down the steep bank into the main creek that drains the east side of the property. Once in the creek, we traveled downstream to the junction with creek #1, and then we slowly prospected upstream. The rock in this area is mainly granodiorite that contains pyrite. Occasionally some malachite staining is found, but it appears to be minor. The granodiorite is cut by various dykes, including light-coloured rhyolites, and dark brown or black basalt dykes, which appear to be the most recent. There are also fault lines or shears that contain white-coloured gouge up to 1/4 meter in width. Other than pyrite, no minerals can be seen in the gouge or the altered rocks on either side of these shears. The pyrite in the rocks produces considerable iron staining in the steep canyon walls that is part of the gossan mentioned earlier.

We continued prospecting upstream until we reached the junction with creek #2. Huge debris flows containing boulders, old logs, trees and tons of small sized material have come down both creeks to this junction and

below, making the footing treacherous, and emphasizing the danger of being in these creeks during times of high water flow or heavy rains. We continued prospecting a short distance up creek #2, found a large boulder of rhyolite (float in the middle of the stream at the top of the first waterfall) with minor malachite staining, but no visible chalcopyrite, so no sample was taken. We returned to our truck by climbing up the steep walled canyon where there were trees and bushes to pull ourselves up with, and soon reached the end of the road. At the truck we decided to sample the small creek that caused the washout in the road. This sample (M-4) was taken from a small pool well upstream from the road in order to minimize contamination. M-4 produced an anomalous zinc level of 132 ppm and a manganese level of 1170 ppm, but no other significant results.

My next six trips into the property involved gradually working my way up the slope (west) from the end of the north fork of the road, prospecting and working on the trail as the snow melted. Rock float on or near the surface was examined and any outcrop that was above the snow was prospected. No mineralized rocks were found and no samples were taken. I had taken the first batch of samples in to ALS/Chemex May 16, 2005 and the results were picked up by me on May 30<sup>th</sup>. These results caused me to reconsider some of my previous assumptions and to focus in on the intrusive rock and ultimately the area around trail creek. On Tuesday June 7, 2005 I hiked up the partially completed trail, to trail creek and carefully prospected it to a point above a double junction where I took a sediment sample. No significant rock float or outcrop was seen, but the sediment sample (M-5) returned a zinc level of 412 ppm (which is highly anomalous) as well as a manganese level of 1535 ppm.

On June 11, 2005 I returned to the area, but parked at the bridge over the Mamquam River at 2750 feet elevation. The day had started out cloudy, but by the time I reached my destination it was raining heavily. I hiked through thick wet bush to the junction of two creeks. The right branch drains most of the southeast corner of the property while the left branch drains the south side of the southeast corner. Rock float in both streams was examined, but nothing of significance was found in either one. Sediment samples were taken from both streams well above the junction in order to avoid possible backflow contamination during periods of high water. Sample M-6 was taken from the right branch and it returned an anomalous zinc level of 165 ppm. Sample M-7 was taken from the left branch of the creek and it returned a lower level of 128 ppm zinc. I



returned soaking wet to my vehicle and returned home, clearing some trees off the side of the road on the way.

On Sunday, June 12, 2005 I drove to my usual parking spot at the washout, hiked to the end of the road and descended the trail into the main creek. From there I carefully prospected the main creek upstream looking at fresh outcrop whenever possible. Once again I found mainly intrusive granodiorite with varying amounts of disseminated pyrite. I went up creek #2 to just below the first waterfall where there is a small mineralized alteration zone in the granodiorite, and obtained a 1-meter chip sample at right angles to the direction of the alteration zone. This sample (M-8) was taken because some of the mineralization appeared to be chalcopyrite. The copper analysis returned 377 ppm which is anomalous compared to other rocks in the area, but not very significant. The gold level of 0.012 ppm is above the background, but again not significantly higher.

I returned to the main creek and continued prospecting upstream, climbing around a small waterfall and above a black basalt dyke to sample site M-9 where I found more pyrite in the granodiorite. A 1-meter chip sample was taken at right angles to the strike of the mineralization. No significant results were found on analysis.

As one ascends the main creek, the main physical features used to identify positions are the waterfalls, major dykes and contacts. Sample site M-10 was a 1-meter chip sample taken from the granodiorite about 10 meters below the next waterfall, which descends in two cascades with a small widening of the stream between them. Both parts of this waterfall are steep and the rocks are slippery. I have climbed this waterfall alone in the past, but now I prefer to do it only when I have a companion present. The rock at M-10 contained pyrite, but no other sulphides were visible. The analysis confirmed this impression. No metals were higher than the background.

Just below the waterfall, there is a widening in the creek where a two-meter alteration zone cuts across the stream. The granodiorite is bleached, multiply fractured and pyritized. Sample M-11 is a 1-meter chip sample taken at right angles to the strike of the alteration zone. The levels of gold and silver were slightly above background at 0.015 ppm and 0.7 ppm, but none of the other metals showed significant results. As further progress was blocked by the waterfall, this was the highest point I could reach that day so I headed back downstream and climbed the trail to the road. It should be noted that this section of the creek has extremely high and steep walls that contain abundant disseminated pyrite (the

gossan). In many places, water seeps out of cracks in the rock onto the steep faces and leaves a white precipitate. Occasionally there is some faint malachite staining of the white material, but to date the source of these stains and precipitates is unknown.

My next trip was on Tuesday June 14, 2005. I parked at the usual place near the washout, hiked to the end of the road and followed the trail down into the main creek. From there I prospected downstream until I was in the vicinity of Creek #1. On the north side of the main creek about 15 meters above the junction with Creek #1 there is a major shear zone with altered granodiorite, pyrite and gouge. This altered area was sampled using a 1-meter chip sample running at right angles to the direction of the shear zone (M-12). The analyses were interpreted as being slightly elevated for silver 0.7 ppm, manganese 1700 ppm, barium 140 ppm and zinc 120 ppm. At the junction of the main creek with Creek #1, I found a small piece of rounded granodiorite float with chalcopyrite. This rock was not large enough to analyze so it was kept as a hand sample and as an example of what to search for. Slightly downstream from the junction of Creek #1 with the main creek (on the south bank of the main creek), there was another prominent shear zone that was approximately 2 meters wide. A 1-meter chip sample was obtained (M-13) which was reported to contain 6.4% iron, 0.012 ppm gold, and 0.6 ppm silver. The gold and silver are only marginally above the background, but the iron level is high, with most other samples from this area running around 3%. I also prospected up Creek #1. The granodiorite in this stream contained less pyrite and no indications of other minerals and the farther I traveled, the lower the pyrite content became until there was none visible in the rocks. No samples were taken from this area. I returned the way I had come and went home.

On Sunday, June 19, 2005, I followed the usual route into the main creek and ascended Creek #2 prospecting carefully all the exposed rocks available. At about an elevation of 3200 ft (using my altimeter), I found a bleb of chalcopyrite in the rock, which was removed for a hand sample. A 1-meter chip sample from this site was also obtained (M-14). The silver content was slightly above background at 0.5 ppm, the copper level was 111 ppm and the zinc level was 104 ppm.

On Tuesday, June 21, 2005, I again followed the usual route into the main creek, and ascended Creek #2 beyond the previous sample sites. I decided to sample according to elevation (using my altimeter), because the creek rises fairly steeply. At 3400 feet, I took a 1-meter chip sample of a light coloured intrusive rock just below a large black basalt dyke.



The rock contained finely disseminated pyrite, as well as possible chalcopyrite. A 1-meter chip sample (M-15) was obtained and analyzed. The gold content was 0.059 ppm, silver was 0.6 ppm, and the arsenic level was much higher than the background at 112 ppm (most samples have levels of 10 ppm or less). The cadmium level was also slightly higher than the background at 1.3 ppm and the zinc level was 193 ppm. I continued upstream to an elevation of 3600 feet where I obtained another 1-meter chip sample of an altered intrusive that contained finely disseminated pyrite (M-16). Other than a zinc level that was slightly above the background at 126 ppm, there were no significant results found at this site. I descended Creek #2 into the main creek and did more work on the trail leading to the end of the road. I usually do trail work while I'm traveling in or out of the areas being prospected. After a few trips, the trail becomes quite good and easy to follow.

On Saturday, June 25, 2005, Rick Price and I hiked into the main creek with the intention of climbing the waterfalls in the main creek and prospecting the main creek above this difficult section. Above Creek #2 in the main creek we took a sample of a mafic rich dark intrusive with visible pyrite. Again, it was a 1-meter chip sample (M-17) that was anomalous in copper at 914 ppm, but there were no other results higher than background. We passed by my previous sample sites, including sample M-11 taken from the base of the waterfalls and climbed the first waterfall. The creek widens slightly at this point and we could see some chalcopyrite with the pyrite in the rocks. Sample (M-18) was a 1-meter chip sample taken from the north side of the creek of this site. The analysis showed an anomalous copper level of 382 ppm, but nothing else of significance. The second waterfall was the more difficult one to climb, but we both made it up without much trouble. Using rubber boots with metal spiked soles we were able to find small cracks or ledges to hold onto the wet rocks. Regular climbing boots would have made this section extremely difficult and dangerous. Well above the waterfalls in a narrow part of the canyon we saw some chalcopyrite in the granodiorites (along with the ubiquitous pyrite), and took a sample (M-19), again a 1-meter chip sample from the south side of the main creek at an elevation of 3300 feet. The copper level was slightly elevated at 170 ppm, but nothing else was significant. Slightly upstream from this site, we found some small veins of massive sulphides in the granodiorites. A selected sample of the high sulphide (only pyrite could be seen) veins was collected to assess for associated metals (M-20). The silver level was anomalous at 4.2 ppm, as was copper at 3050 ppm, iron at 22.2%, and

lead at 111 ppm. Continuing up the main creek, we encountered a rhyolite dyke at about 3400 feet elevation, with some very fine disseminated sulphides and a small malachite stain. No sample was taken from this site. As we continued upstream, we found a huge landslide with giant blocks of rhyolite. Some of these loose blocks had quartz veining with minor chalcopyrite. Similar rock was found in place on the north side of the stream near the junction with trail creek, but no sample was taken. We continued past trail creek, but our progress was blocked by the next waterfall, which was too steep to climb. Instead, we climbed up the steep south wall of the canyon until we could exit and beat our way through the bush to the trail, the road and the vehicle.

On Thursday June 30, 2005, I attempted to sample the large creek draining the northwest corner of the property. I left the main Mamquam logging road at mile 15, crossed the Mamquam river and drove about 1 kilometer to an old logging road where I parked. The weather was rainy when I started out, and got worse as I progressed. The road was covered with alders, and willows so the going was slow and sodden. In places the road was flooded and after an hour, it became clear that nothing could be accomplished so I retreated back to the vehicle and did some work clearing small trees from the side of the road on the way home.

On Sunday, July 3, 2005, I prospected my way up beside, and in trail creek, checking float and outcrop that showed both granodiorites and rhyolites. The rhyolites are extensive and probably represent flows rather than dykes. Other than pyrite, no other sulphides were seen so no samples were taken.

Thursday, July 7, 2005 went very well as I continued prospecting and trail building up into the meadows in the headwaters of the main creek. The going was much easier with game trails to follow and many small streams to investigate. Ultimately I made it up to the col at about 4500 feet to the south of hill 5000. No Samples were taken.

On July 30, 2005, Rick Price and I again ascended the main creek to the big landslide and then we continued up trail creek. About 30 meters above the main creek we began finding rock float that contained quartz veins, pyrite, chalcopyrite and sphalerite. We thought these boulders may have come from the outcrops we could see above us, so we didn't sample them, but nothing similar could be found in the bedrock. We continued up trail creek and found more similar float in the creek, and as there were now no outcrops visible above us, we decided to sample one piece of float (M-21). M-21 was anomalous in the following metals: gold, 0.168 ppm, silver 2.9 ppm, arsenic 25 ppm, cadmium 27.1 ppm,



copper 1600 ppm, molybdenum 322 ppm, lead 70 ppm and zinc 4530 ppm. Although none of these analyses were high enough to be considered ore grade, they certainly showed that we were getting closer to something significant and that further prospecting in this area might produce rocks with higher values.

On August 13, 2005, Drew Leathem and I drove and hiked to the end of the road, used the partially completed trail to proceed uphill and west to trail creek, into the meadows and to the col to the south of hill 5000. We climbed hill 5000, prospecting the small streams and outcrops, and then descended down the west ridge looking for an outcrop of highly silicious rock that I had found in the early 1980's. Although we descended the ridge to the 3800-foot level, we did not find the outcrop and had to return by contouring across a steep side-hill back to the col. No mineralized rocks were found and no samples were taken. We did some trail clearing on the way down. It should be noted that the trail was extremely useful in providing easier access to the center of the property, and will continue to be improved as we make more prospecting trips into the center of the property and beyond.

On August 27, 2005, Drew Leathem and I hiked up the trail to where it joins trail creek in order to follow up on sample M-21. We had descended from the trail only a short distance to an area where loose rocks and till were exposed. The first rock we broke open showed a silicified intrusive rock with disseminated chalcopyrite and sphalerite. A hand sample was taken as well as one for analysis (M-22). The analysis results showed the following levels: gold, 0.063 ppm, silver 7.7 ppm, arsenic 26 ppm, cadmium 24.1 ppm, copper 1.49%, molybdenum 34 ppm, lead 74 ppm, zinc 3680 ppm. In addition, we found two other pieces of rock float nearby, one was a piece of green chert with obvious bedding and the other was a piece of silicified intrusive rock showing quartz flooding and disseminated sphalerite. A hand sample of this rock was taken, but it was not analyzed. Drew and I then walked downstream to the site where M-21 was collected. On the west bank of trail creek, a fairly large and angular piece of highly silicified rock was found that had split out along a massive sulphide vein. The only part of the rock that could be hammered loose was the vein material itself as no part of the silicified rock could be broken. This is clearly a selected sample and does not represent the true concentrations in the rock. Nevertheless, it is useful for the associations of the various metals present. The vein material was analyzed as sample M-23, and showed the following results: gold 0.978 ppm, silver 5.1 ppm, cadmium 289 ppm, copper 8130 ppm,

Iron, 7.49%, lead 1670 ppm, zinc 4.39%.

On September 18, 2005, Linda Kowalski and I hiked up the trail, to trail creek where sample M-22 had been found. We examined numerous rocks in the small slump and found another mineralized, silicified rock in which we could see pyrite, sphalerite and chalcopyrite. It appeared to be an altered intrusive with quartz flooding. A sample was taken as well as a hand specimen. Both were labeled M-24. The analysis results for sample M-24 were: gold 0.324 ppm, silver 1.1 ppm, arsenic 15 ppm, cadmium 9.4 ppm, copper 341 ppm, lead 86 ppm, zinc 1530 ppm. We also prospected trail creek below this site and searched for mineralized outcrops above the sluff. No mineralized outcrops were noted, but intrusive rock with the same colour as M-21 was found directly above the area. M-21 contains some light red feldspar that has not been found in any other mineralized rocks in the creek or slumps. The same light red feldspar is present in the intrusive rocks nearby although no pyrite or other sulphides have been found in the outcrops or surface float. I considered the possibility that this light red colour could represent potassic alteration, but on analysis the potassium level of the rock (M-21) was not elevated. It should also be noted that red jasper has been found here and in association with other mineralized areas on the property. A red jasper clast was previously found in a pyroclastic rock on hill 5000. Linda and I then traveled through the bush to the next slope failure to the east. The bank of the main creek is steeper here, and this slope failure is much larger than the small slump on trail creek. All the slope failures in this area are saturated with water and are therefore likely to move downhill at any time. Extreme caution should be used when working in the failures. We were there in a dry period so the danger was decreased somewhat. Within the slump, we found a large rounded boulder that showed quartz veining and considerable pyrite on the surface and within the rock. A sample was taken for analysis (M-25) and the results were: gold 0.085 ppm, silver 1.4 ppm, arsenic 362 ppm, cadmium 3.4 ppm, copper 65 ppm, iron 10.45%, molybdenum 152 ppm, lead 48 ppm, zinc 426 ppm. This large slope failure continues downhill and cuts across the west end of the linear depression that runs sub-parallel to the main creek, where it joins the lower part of trail creek near its junction with the main creek. The mineralized boulders that Rick and I found when we first ascended trail creek could have come from trail creek itself or from the slope failure.

My last trip into the Mamquam property was on Saturday September 24, 2005. Once again I hiked up the trail towards trail creek. There are more slope failures to the east of M-25 and I wanted to carefully prospect the next one. M-26 was found in the bottom of the second large slope failure and



was a very dark, heavy, altered intrusive rock that showed considerable weathering with rounded surfaces and deep holes where pyrite had weathered out. The broken rock showed clots of pyrite, sphalerite and galena. Analysis results for M-26 were: gold 0.015 ppm, silver 0.8 ppm, arsenic 23 ppm, cadmium 22 ppm, copper 91 ppm, iron 5.84%, magnesium was high at 3.13%, as was manganese at 2000 ppm, lead 2130 ppm, vanadium 61 ppm, and zinc 3270 ppm.

From this site I prospected downhill and found another weathered, rounded rock, which I sampled (M-27). It contained quartz veins with pyrite and sphalerite. The analysis of M-27 returned: gold 0.363 ppm, silver 4.2 ppm, arsenic 607 ppm, cadmium 35.6 ppm, copper 861 ppm, iron 9.5%, lead 426 ppm, antimony 45 ppm, and zinc 5230.

In summary, I set out at the beginning of the season in 2005 searching for evidence of a possible porphyry copper deposit in addition to the previously located volcanogenic massive sulphide prospects, and I was certainly successful in that regard. The discovery of chalcopyrite disseminated in altered silicified granodiorite that analyzed at 1.49% copper is significant (M-22). Associated with this rock is a large pyrite halo, which appears to be barren of economic metals (as expected). However, the frequent finding of rocks or boulders containing anomalous zinc, lead, arsenic, cadmium, gold and silver may be indicative of a zinc halo as well. Alternatively, these silicified rocks may represent a feeder zone. Feeder zones are also considered significant because they imply a source (which may be a porphyry copper) and a deposit (which may represent the volcanogenic massive sulphides). In addition to the low-grade zinc halo that surrounds some porphyry copper deposits, high-grade polymetallic veins may also exist as part of the system. Sample M-23 may be part of such a high-grade vein with zinc analyzed at 4.39% and gold at 0.978 ppm.

The stream sediment and soil anomalies of zinc and/or zinc and gold that were found this year and in the past, associated with granodiorite rocks, now look much more interesting and clearly require follow-up.





MAP #5

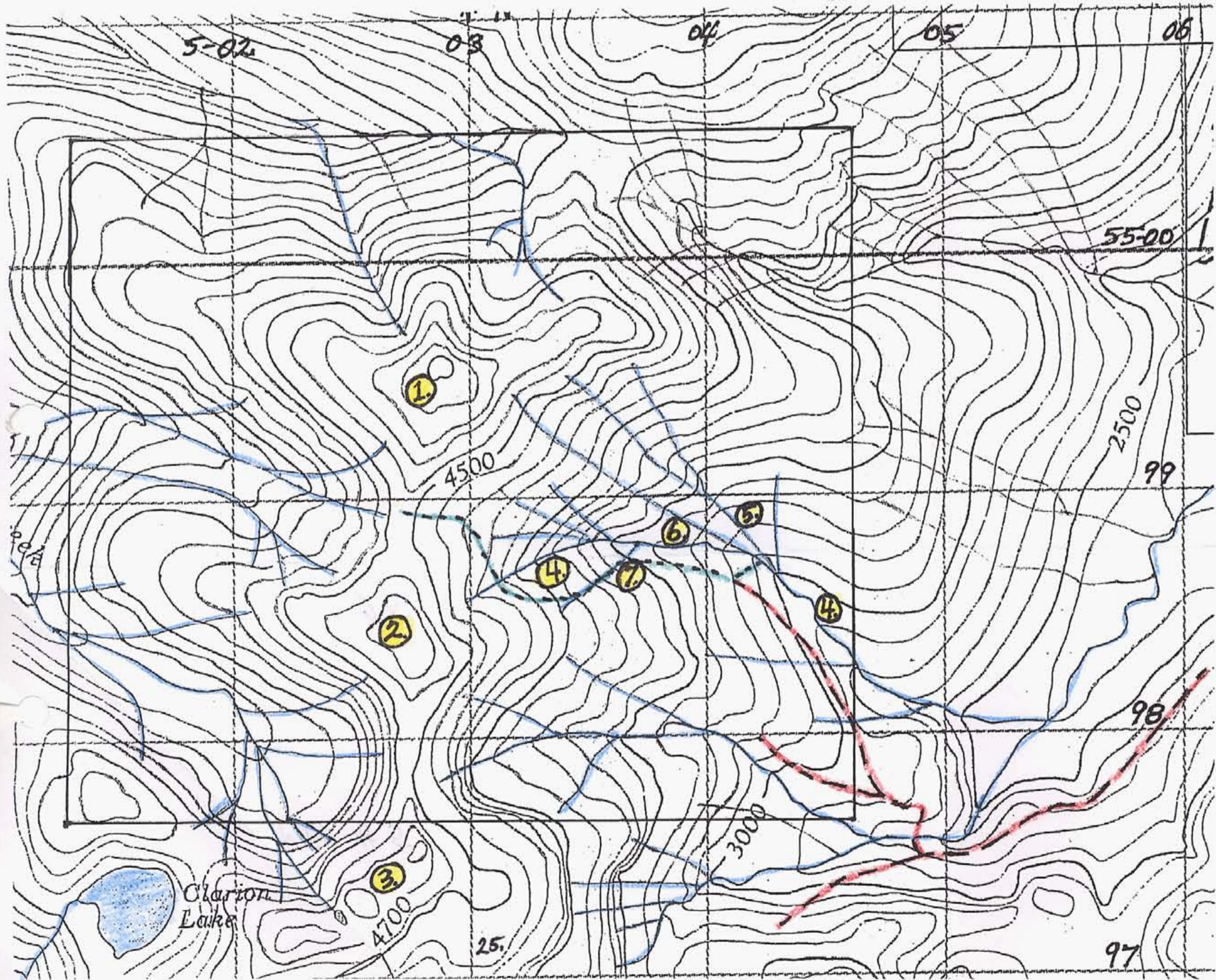
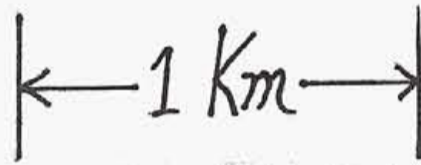
**MAMQUAM PROSPECT**  
**1:20,000**

**LEGEND**

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

**PLACE NAMES**

- |              |              |                |               |
|--------------|--------------|----------------|---------------|
| 1. HILL 5000 | 2. HILL 4700 | 3. RIDGE 4800  | 4. MAIN CREEK |
| 5. CREEK #1  | 6. CREEK #2  | 7. TRAIL CREEK |               |





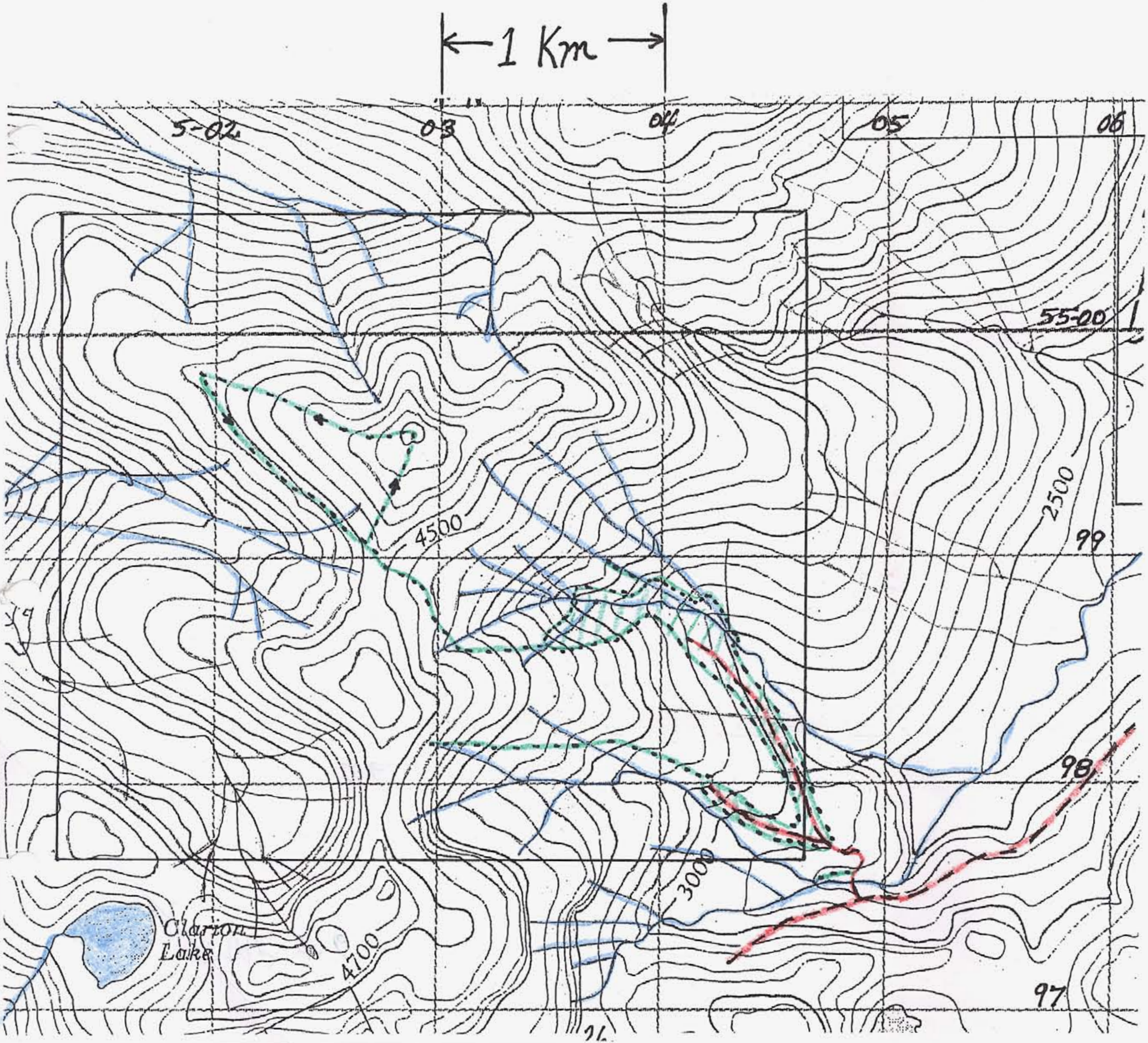
MAP #6



**MAMQUAM PROSPECT**  
1:20,000

**MAIN AREA PROSPECTED AND RELATED TRAVERSES**  
**LEGEND**

- ROAD CREEK
- MAIN AREA PROSPECTED LAKE
- CONTOUR INTERVAL = 100 FEET BOUNDARY LINE TRAVERSE





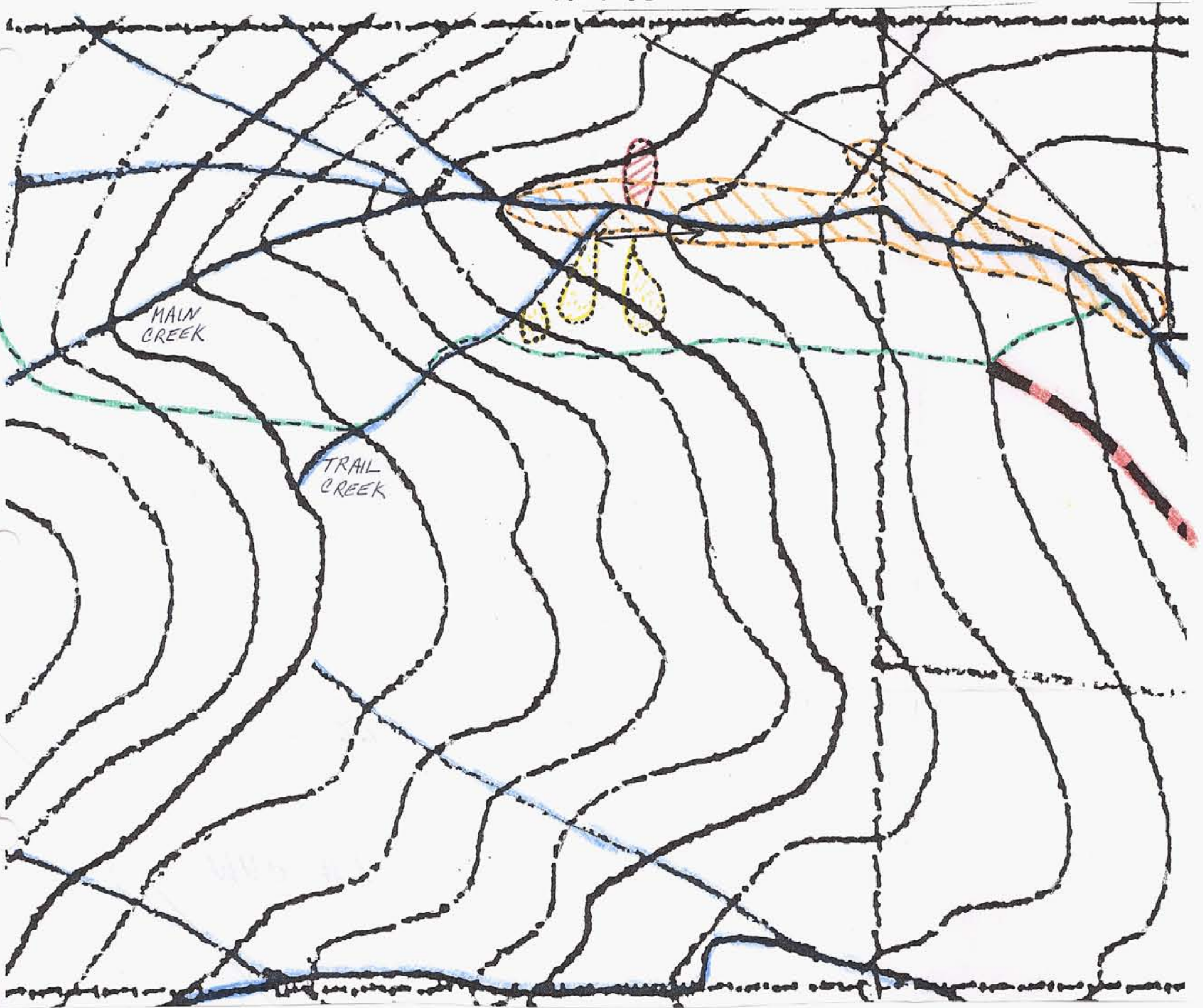
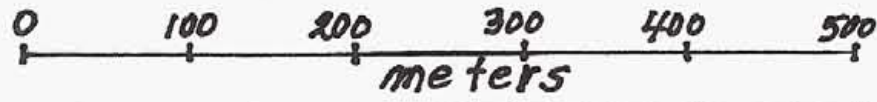
MAP # 7



MAMQUAM PROSPECT  
1:5,000

LEGEND

- ROAD  TRAIL  CREEK  GOSSAN    
GLACIAL TILL SLOPE FAILURES  ROCK SLOPE FAILURE   
CONTOUR INTERVAL = 100 FEET LINEAR DEPRESSION 



## ITEMIZED COST STATEMENT

### SCHEDULE

FOOD COSTS/PERSON/DAY	\$10
VEHICLE TO MAMQUAM	\$50
PROSPECTORS/DAY	\$400

### PROSPECTING EXPENSES

VEHICLE	22 DAYS @ \$50	\$1,100
PROSPECTORS	28 DAYS @ \$400	\$11,200
FOOD	28 DAYS @ \$10	\$280

### OTHER EXPENSES

ANALYSES	22-MAY-2005	\$119.52
ANALYSES	23-JUN-2005	\$294.16
ANALYSES	9-OCT-2005	\$224.54

**TOTAL** **\$13,218.22**



# 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.

**APPENDIX B**

**ANALYSIS RESULTS FOR ALL SAMPLES**

**COLLECTED ON THE MAMQUAM**

**PROSPECT IN 2005**



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Total # F : 2 (A - C)  
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Account: MACKEN

## CERTIFICATE OF ANALYSIS VA05038521

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	
		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
M1		0.70	0.058	2.7	0.34	2	<10	40	<0.5	<2	0.03	<0.5	20	1	1990	7.22
M2		0.96	0.011	0.3	1.60	<2	<10	70	<0.5	<2	0.26	<0.5	8	9	74	2.63
M4		0.66	0.005	0.3	1.61	<2	<10	80	<0.5	<2	0.24	<0.5	9	9	51	2.81

31.





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Account: MACKEN

## CERTIFICATE OF ANALYSIS VA05038521

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
M1		<10	<1	0.24	<10	0.05	20	45	<0.01	3	140	9	7.45	<2	1	1
M2		<10	<1	0.17	10	1.18	808	1	0.03	7	530	8	0.08	<2	3	18
M4		<10	<1	0.15	10	1.10	1170	2	0.02	9	510	11	0.08	<2	3	22

32.



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## CERTIFICATE OF ANALYSIS VA05038521

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Ti	Ti	U	V	W	Zn
		%	ppm	ppm	ppm	ppm	ppm
		0.01	10	10	1	10	2
M1		<0.01	<10	<10	5	<10	11
M2		0.02	<10	<10	40	<10	130
M4		0.01	<10	<10	38	<10	132

33.



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Total Pages: 2 (A - C)

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## CERTIFICATE OF ANALYSIS VA05047645

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
M-5		0.60	<0.005	0.3	1.86	10	<10	100	<0.5	<2	0.16	2.0	13	8	76	2.93
M-6		0.68	<0.005	<0.2	1.88	3	<10	100	<0.5	<2	0.31	<0.5	10	12	61	2.94
M-7		0.96	0.008	0.2	1.56	5	<10	80	<0.5	<2	0.23	<0.5	8	7	76	2.49
M-8		0.64	0.012	0.6	0.88	2	<10	80	<0.5	<2	0.12	<0.5	10	2	377	3.34
M-9		0.64	0.008	0.3	0.77	3	<10	70	<0.5	<2	0.15	<0.5	3	4	16	2.30
M-10		0.72	<0.005	<0.2	1.38	2	<10	80	<0.5	<2	0.36	<0.5	9	8	20	2.85
M-11		0.66	0.015	0.7	0.57	6	<10	30	<0.5	<2	0.58	<0.5	6	1	39	4.41
M-12		0.70	<0.005	0.7	0.66	11	<10	140	<0.5	<2	0.36	1.2	5	1	69	2.08
M-13		0.80	0.012	0.6	1.38	<2	<10	50	<0.5	<2	0.06	<0.5	15	3	70	6.40

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## CERTIFICATE OF ANALYSIS VA05047645

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
		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
M-5		10	<1	0.23	10	1.25	1535	2	0.04	7	410	30	0.08	<2	3	17
M-6		10	<1	0.24	10	1.28	908	1	0.05	12	560	13	0.03	<2	4	26
M-7		10	<1	0.23	10	1.00	721	2	0.04	7	480	13	0.08	2	3	19
M-8		<10	1	0.30	<10	0.38	129	4	0.06	2	490	11	3.24	<2	2	7
M-9		<10	<1	0.13	10	0.51	229	2	0.09	1	270	7	1.78	<2	1	10
M-10		<10	<1	0.26	10	1.30	351	1	0.06	9	710	15	2.25	<2	4	15
M-11		<10	<1	0.31	<10	0.34	163	1	0.03	1	530	14	4.50	<2	1	12
M-12		<10	<1	0.30	10	0.21	1700	6	0.04	<1	280	9	1.39	<2	1	14
M-13		<10	<1	0.25	<10	1.28	320	8	0.03	4	240	7	6.08	<2	2	4

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Project: MANQUAN

**CERTIFICATE OF ANALYSIS VA05047645**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Ti %	Ti ppm	U ppm	V ppm	W ppm	Zn ppm
		0.01	10	10	1	10	2
M-5		0.01	<10	<10	42	<10	412
M-6		0.03	<10	<10	50	<10	165
M-7		0.02	<10	<10	40	<10	128
M-8		<0.01	<10	<10	20	<10	36
M-9		<0.01	<10	<10	11	<10	46
M-10		0.01	<10	<10	43	<10	61
M-11		<0.01	<10	<10	8	<10	24
M-12		<0.01	<10	<10	5	<10	120
M-13		<0.01	<10	<10	23	<10	37

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Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA05051808

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-14		0.82	<0.005	0.5	0.58	7	<10	70	<0.5	<2	1.09	0.5	21	5	111	4.04
M-15		0.88	0.059	0.6	0.64	112	<10	80	<0.5	<2	2.06	1.3	13	19	46	3.77
M-16		0.78	0.005	<0.2	0.57	8	<10	50	<0.5	<2	1.19	0.6	13	4	24	4.45
M-17		0.64	<0.005	0.3	2.04	4	<10	90	<0.5	<2	1.00	<0.5	12	23	914	4.08
M-18		0.82	0.007	<0.2	1.51	<2	<10	80	<0.5	2	0.23	<0.5	9	9	382	4.16
M-19		0.74	0.008	0.2	0.81	7	<10	80	<0.5	<2	0.62	0.7	7	16	170	3.33
M-20		0.70	0.060	4.2	1.19	10	<10	10	<0.5	3	0.27	<0.5	16	<1	3050	22.2

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Project: MAMQUAM

**CERTIFICATE OF ANALYSIS VA05051808**

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
M-14		<10	<1	0.29	10	0.64	369	1	0.04	12	820	52	3.75	2	2	16
M-15		<10	<1	0.24	10	0.90	752	1	0.05	10	870	71	2.60	37	5	22
M-16		<10	<1	0.30	<10	0.45	676	4	0.01	9	880	19	3.28	<2	3	18
M-17		10	<1	0.17	10	1.79	896	1	0.05	10	770	16	1.22	<2	4	45
M-18		10	<1	0.25	10	1.47	423	1	0.05	8	700	11	2.73	2	3	6
M-19		<10	<1	0.21	10	0.63	401	5	0.06	5	630	27	1.85	2	2	12
M-20		10	<1	0.21	10	0.83	477	8	0.01	8	490	111	>10.0	<2	2	7

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Total Charges: 2 (A - C)  
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Account: MACKEN

Project: MAMQUAM

## CERTIFICATE OF ANALYSIS VA05051808

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Ti %	Ti ppm	U ppm	V ppm	W ppm	Zn ppm
		0.01	10	10	1	10	2
M-14		<0.01	<10	<10	18	<10	104
M-15		<0.01	<10	<10	43	<10	193
M-16		<0.01	<10	<10	24	<10	126
M-17		0.11	<10	<10	57	<10	81
M-18		<0.01	<10	<10	50	<10	50
M-19		<0.01	<10	<10	17	<10	85
M-20		<0.01	<10	<10	19	<10	63

39.



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## CERTIFICATE OF ANALYSIS VA05066774

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	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	
M-21	0.72	0.168	2.9	0.50	25	<10	30	<0.5	4	0.06	27.1	12	124	1600	3.67	

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## CERTIFICATE OF ANALYSIS VA05066774

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	ME-ICP41
Analyte	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	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-21	<10	<1	0.30	<10	0.07	65	322	<0.01	12	200	70	3.62	<2	2	5	

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23-AUG-2005  
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## CERTIFICATE OF ANALYSIS VA05066774

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	Cu-AA46
	Analyte	Ti	Ti	U	V	W	Zn	Cu
	Units	%	ppm	ppm	ppm	ppm	ppm	%
LOR		0.01	10	10	1	10	2	0.01
M-21		<0.01	<10	<10	10	<10	4530	

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Project: M

**CERTIFICATE OF ANALYSIS VA05083461**

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.	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-22		0.76	0.063	7.7	0.28	26	<10	10	<0.5	8	0.11	24.1	8	<1	>10000	4.30
M-23		0.62	0.978	5.1	0.35	5	<10	10	<0.5	<2	0.09	289	10	13	8130	7.49
M-24		0.70	0.324	1.1	0.23	15	<10	20	<0.5	<2	0.10	9.4	11	6	341	4.26
M-25		0.68	0.085	1.4	0.29	362	<10	10	<0.5	2	0.34	3.4	22	26	65	10.45
M-26		0.72	0.015	0.8	2.98	23	<10	40	<0.5	<2	0.17	22.0	27	23	91	5.84
M-27		1.02	0.363	4.2	0.41	607	<10	10	<0.5	2	0.13	35.6	22	30	861	9.50

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Project: M

## CERTIFICATE OF ANALYSIS VA05083461

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 LOR	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
M-22		<10	<1	0.19	<10	0.05	49	34	0.01	4	380	74	4.71	<2	1	17
M-23		<10	2	0.16	<10	0.12	87	3	0.02	5	370	1670	9.82	<2	1	4
M-24		<10	<1	0.15	<10	0.03	39	13	0.01	6	340	86	4.70	<2	1	6
M-25		<10	3	0.18	<10	0.21	225	152	0.01	14	270	48	>10.0	18	1	27
M-26		10	2	0.19	10	3.13	2000	5	0.01	22	670	2130	3.72	<2	5	6
M-27		<10	5	0.12	<10	0.37	316	50	<0.01	20	170	426	>10.0	45	1	5

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 Total Pages: 2 (A - C)  
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Project: M

**CERTIFICATE OF ANALYSIS VA05083461**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	Cu-AA46	Zn-AA46
		Ti %	Ti ppm	U ppm	V ppm	W ppm	Zn ppm	Cu %	Zn %
		0.01	10	10	1	10	2	0.01	0.01
M-22		<0.01	<10	<10	7	<10	3680	1.49	
M-23		<0.01	<10	<10	9	10	>10000		4.39
M-24		<0.01	<10	<10	5	<10	1530		
M-25		<0.01	10	<10	7	<10	426		
M-26		<0.01	<10	<10	61	<10	3270		
M-27		<0.01	20	<10	10	<10	5230		

45.

**APPENDIX C**

**SIGNIFICANT GEOCHEMICAL RESULTS**

**COLLECTED ON THE MAMQUAM PROSPECT IN**

**2005, WITH DETAILED MAPS SHOWING THE**

**SAMPLE LOCATIONS.**

## SIGNIFICANT GEOCHEMISTRY RESULTS FOR 2005

M1 Bedrock Au 0.058 ppm Ag 2.7 ppm Cu 1990.0 ppm	M2 Sediment Au 0.011 ppm Zn 130.0 ppm	M4 Sediment Zn 132.0 ppm	M5 Sediment Zn 412.0 ppm
M6 Sediment Zn 165.0 ppm	M7 Sediment Zn 128.0 ppm	M8 Bedrock Cu 377.0 ppm	M11 Alteration Zone Au 0.015 ppm Ag 0.7 ppm
M12 Alteration Zone Ag 0.7 ppm Ba 140.0 ppm Zn 120.0 ppm	M13 Alteration Zone Au 0.012 ppm Ag 0.6 ppm	M14 Bedrock Ag 0.5 ppm Cu 111.0 ppm Zn 104.0 ppm	M15 Bedrock Au 0.059 ppm Ag 0.6 ppm As 112.0 ppm Cd 1.3 ppm Zn 193.0 ppm
M16 Bedrock Zn 126.0 ppm	M17 Bedrock Cu 914.0 ppm	M18 Bedrock Cu 382.0 ppm	M19 Bedrock Cu 170.0 ppm
M20 Sulphide vein Ag 4.2 ppm Cu 3050.0 ppm Fe 22.2 % Pb 111.0 ppm	M21 Rock Float Au 0.168 ppm Ag 2.9 ppm As 25.0 ppm Cd 27.1 ppm Cu 1600.0 ppm Mo 322.0 ppm Pb 70.0 ppm Zn 4530.0 ppm	M22 Rock Float Au 0.063 ppm Ag 7.7 ppm As 26.0 ppm Cd 24.1 ppm Cu 1.49% Mo 34.0 ppm Pb 74.0 ppm Zn 3680.0 ppm	M23 Sulphide vein Au 0.978 ppm Ag 5.1 ppm Cd 289.0 ppm Cu 8130.0 ppm Pb 1670.0 ppm Zn 4.39%
M24 Rock Float Au 0.324 ppm Ag 1.1 ppm As 15.0 ppm Cd 9.4 ppm Cu 341.0 ppm Pb 86.0 ppm Zn 1530.0 ppm	M25 Rock Float Au 0.085 ppm Ag 1.4 ppm As 362.0 ppm Cd 3.4 ppm Cu 65.0 ppm Mo 152.0 ppm Pb 48.0 ppm Zn 426.0 ppm	M26 Rock Float Au 0.015 ppm Ag 0.8 ppm As 23.0 ppm Pb 2130.0 ppm Zn 3270.0 ppm	M27 Rock Float Au 0.363 ppm Ag 4.2 ppm As 607.0 ppm Cd 35.6 ppm Cu 861.0 ppm Pb 426.0 ppm Sb 45.0 ppm Zn 5230.0 ppm





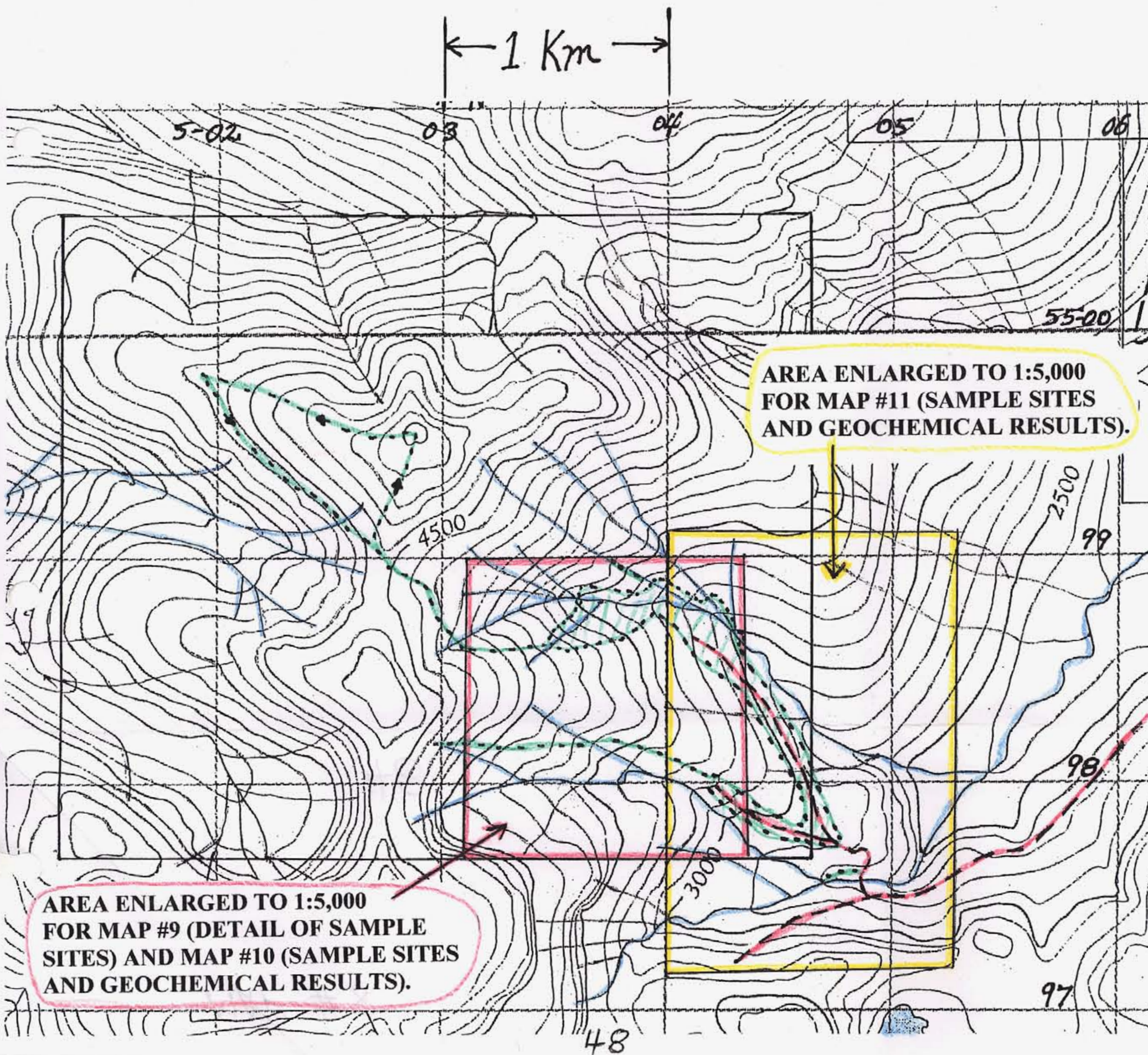
MAP #8

MAMQUAM PROSPECT  
1:20,000

MAIN AREA PROSPECTED AND RELATED TRAVERSES

LEGEND

- ROAD  CREEK   
MAIN AREA PROSPECTED  LAKE  TRAVERSE   
CONTOUR INTERVAL = 100 FEET BOUNDARY LINE 



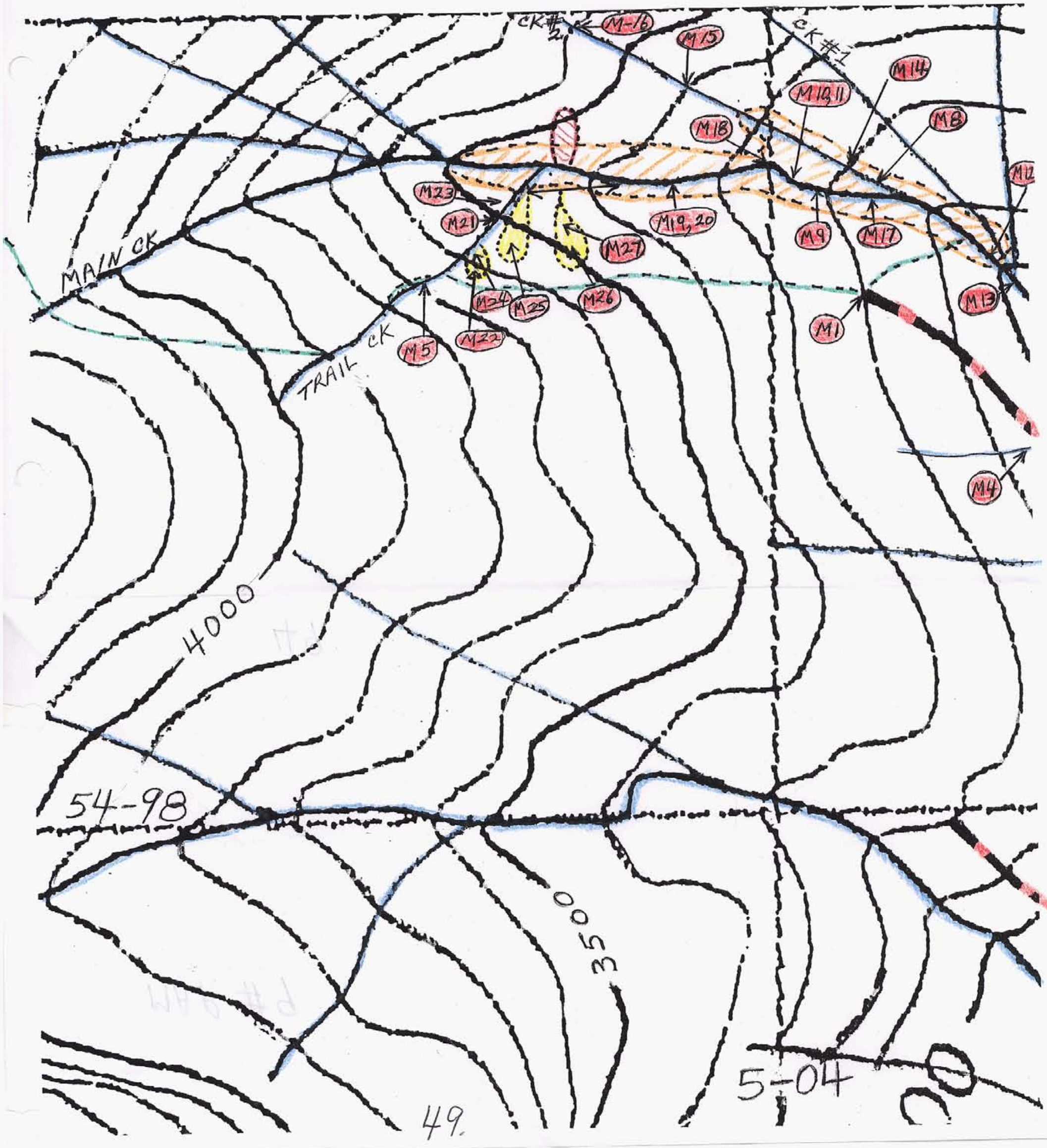
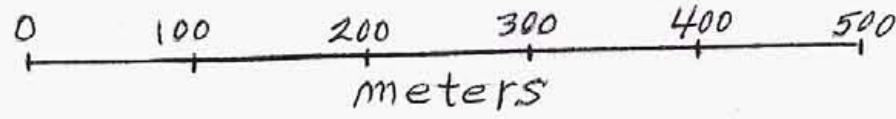




MAMQUAM PROSPECT  
1:5,000

LEGEND

- ROAD TRAIL
- GLACIAL TILL SLOPE FAILURES
- CONTOUR INTERVAL = 100 FEET
- CREEK
- GOSSAN
- ROCK SLOPE FAILURE
- SAMPLE SITE
- LINEAR DEPRESSION



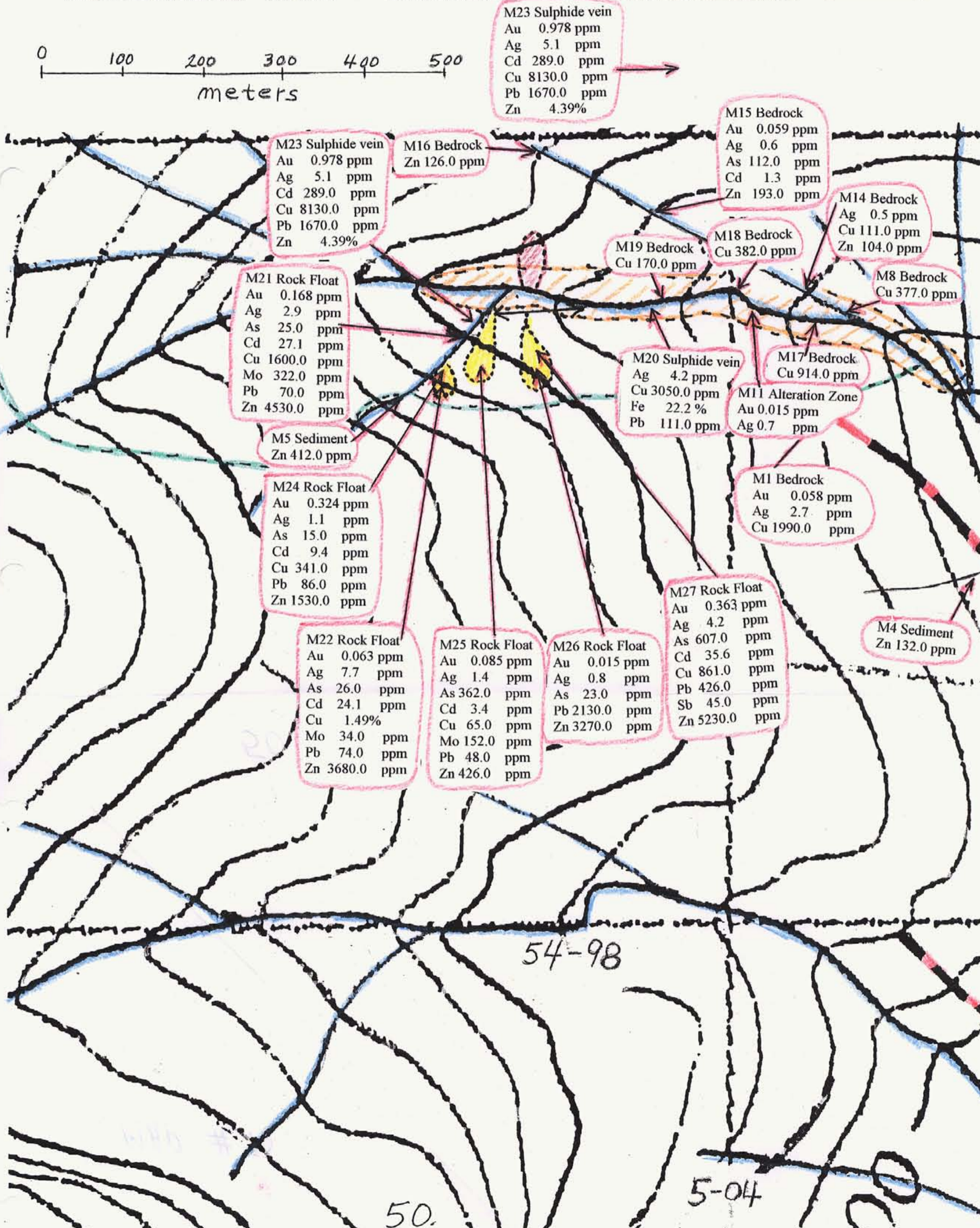
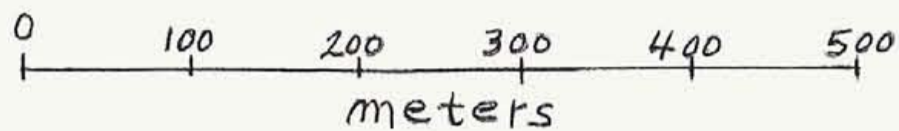




MAMQUAM PROSPECT: DETAIL OF THE MAIN CREEK, CREEK #2, AND TRAIL CREEK, WITH SAMPLE SITES AND SIGNIFICANT GEOCHEMISTRY RESULTS  
1:5,000

LEGEND

- ROAD
- TRAIL
- CREEK
- GOSSAN
- GLACIAL TILL SLOPE FAILURES
- ROCK SLOPE FAILURE
- CONTOUR INTERVAL = 100 FEET
- SAMPLE SITE
- LINEAR DEPRESSION







MAMQUAM PROSPECT  
1:5,000

DETAIL OF SOUTHEAST CORNER,  
SAMPLE SITES AND SIGNIFICANT  
GEOCHEMISTRY RESULTS

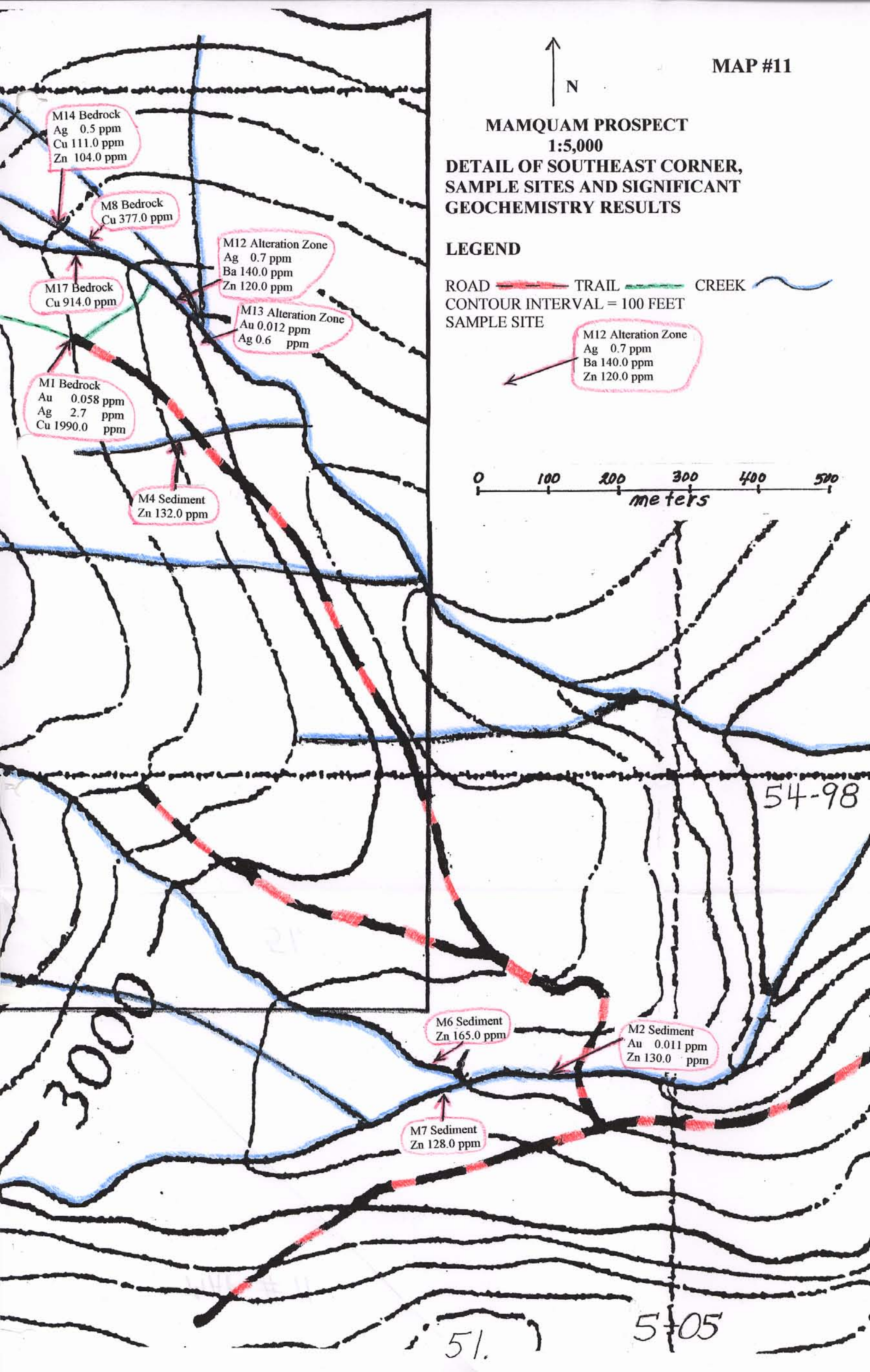
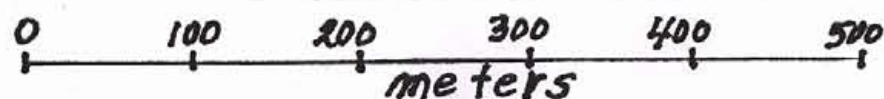
LEGEND

ROAD TRAIL CREEK

CONTOUR INTERVAL = 100 FEET

SAMPLE SITE

M12 Alteration Zone  
Ag 0.7 ppm  
Ba 140.0 ppm  
Zn 120.0 ppm



M14 Bedrock  
Ag 0.5 ppm  
Cu 111.0 ppm  
Zn 104.0 ppm

M8 Bedrock  
Cu 377.0 ppm

M12 Alteration Zone  
Ag 0.7 ppm  
Ba 140.0 ppm  
Zn 120.0 ppm

M17 Bedrock  
Cu 914.0 ppm

M13 Alteration Zone  
Au 0.012 ppm  
Ag 0.6 ppm

M1 Bedrock  
Au 0.058 ppm  
Ag 2.7 ppm  
Cu 1990.0 ppm

M4 Sediment  
Zn 132.0 ppm

M6 Sediment  
Zn 165.0 ppm

M2 Sediment  
Au 0.011 ppm  
Zn 130.0 ppm

M7 Sediment  
Zn 128.0 ppm

54-98

3000

51.

5-05