2007 PROSPECTING REPORT

BC Geological Survey Assessment Report 29949

1

ON THE

MAMQUAM 1-3 CLAIMS

IT THE FACIFIC NATURES OF THE CUAS	N	THE	P	ACIFIC	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, 51056

OWNER OPERATOR: KEN MACKENZIE

FMC# 116450

AUTHOR: KEN MACKENZIE

SQUAMISH, B.C.

MAY, 2008

EVENT NUMBER: 4207406RT



	ARAV	0	6	0.0	
	19241	2	Z	2008	
1.H and	Mino Lobistonia marche de				

MINEDAL TIT

TABLE OF CONTENTS

TITLE PAGE	PAGE 1
TABLE OF CONTENTS	PAGE 2
MAP #1 INDEX MAP	PAGE 3
INTRODUCTION	PAGE 4
MAP #2 INDEX MAP WITH ROADS	PAGE 7
HISTORY OF THE MAMQUAM PROSPECT	PAGE 8
SUMMARY OF WORK PERFORMED IN 2007	PAGE 9
MAP #3 PLACE NAMES, ROADS AND TRAILS	PAGE 15
MAP #4 AREAS PROSPECTED AND TRAVERSES	PAGE 16
MAP #5 SIGNIFICANT RESULTS	PAGE 17
ITEMIZED COST STATEMENT	PAGE 18
AUTHORS QUALIFICATIONS	PAGE 19
ANALYSIS RESULTS	PAGE 21





MAMQUAM 1-3 CLAIMS INTRODUCTION

The Mamquam 1-3 claims are 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 1/2 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.

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

report, and 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 in the area, and the animals use the roads and trails regularly so caution is advised.

There are three claims that cover this part of the Mamquam 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. Outcrops on or near old logging roads have also been prospected. Nearly all the mineralized rock found to 2005 was float, for which no source has been identified, but in 2006, low grade, finely disseminated chalcopyrite has been identified in various outcrops of quartz diorite, and these rocks may represent parts of the copper halo of a porphyry copper occurrence.

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 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 chalcopyrite in silicified quartz diorite (which was analyzed to contain $1\frac{1}{2}$ % 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, a possible zinc-gold halo and a low grade copper halo that shows up in stream sediments, rock float, soil samples and rock outcrops.

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 property.

It should be noted that I am now using a much more detailed 1:20,000 map that shows elevations in meters rather than in feet. As a result, some place names have been changed. The new names are shown on MAP # 3.



HISTORY OF THE MAMQUAM 1-3 CLAIMS

A detailed history of the Mamquam prospect was documented in my 2005 prospecting report. Please refer to that report for a more complete summary. This report on the history will be shorter and will provide only a brief description of the property to the end of 2006.

This 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 (this name refers to the elevation of the hill in feet, as shown on the 1:50,00 map. However, I am now using a 1:20,000 map that shows the elevations in meters and the new name is hill 1504). This area was thought to contain one or more massive sulphide lenses. This interpretation is still considered valid, but in 2005, other types of mineralized rock were found that indicated the presence of a feeder zone. In addition, chalcopyrite disseminated in quartz diorite intrusive rocks have been discovered and are now considered part of a copper halo that may indicate the presence of a porphyry copper.

The cluster of various sized pieces of rock float that appear to be part of a feeder zone found in or near trail creek contain copper, zinc, lead, gold and silver as well as other indicator metals.

The work performed in 2006 was based largely on this history, and included the discovery of more feeder zone material in the northeast creek area. The present model includes a porphyry copper source, one or more feeder zones and one or more massive sulphide lenses.

8.

SUMMARY OF WORK PERFORMED ON THE MAMQUAM 1-3 CLAIMS IN 2007

All the prospecting trips into the Mamquam property in 2007 were day trips. Although the end of the road as shown on Map # 2 is over 40 Km from Squamish, this is close enough to allow daily access. The road is severely potholed and is narrowing in many places as the trees grow on the shoulders and lean into the driving space. Each year work is required so that access to the claims can be maintained.

Sunday, May 13, 2007

I drove the Mamquam roads clearing small trees from both sides of the road. Fortunately other people had been along the road and had used a chainsaw to cut all the big trees that were blocking the road. I took the right fork at mile 15 and found the deep cross ditch to be deeper than last year. I added rocks to the lower end of the cut and then drove through, proceeding to the bridge over the Mamquam River, which also needed rocks to fill holes in the deck. I continued clearing small trees from the road to the parking spot, and then returned to the main road and continued clearing until I reached snow line at about mile 17. I returned to Squamish clearing small trees on the way, but noted that there were many more to be removed on future trips.

Tuesday, June 5, 2007

I drove the Mamquam roads again, clearing small trees and branches until I reached mile 19, where I was stopped by a large snow patch. The snow in this area is shaded by trees surrounding a creek and the road crosses a bridge that is just below a waterfall, so it's a particularly cold spot. Clear road could be seen beyond the snow patch but it was too big and too deep to drive through.

Friday, June 8, 2007

I returned to the same place (mile 19), clearing small trees and branches on the way. The snow patch was smaller, but still impassible. I noted that it would be gone soon and that we should be able to get closer to the claims within two weeks. However, I was not able to get to the Mamquam 1-3 claims until early July. During the rest of June, work was done on the Mamquam 4 and 5 claims that can be reached from mile 15 and also from the main road. Descriptions of this work will be included in following reports. Tuesday, July 3, 2007

Drew Leathem and I drove the main road, which was now completely clear of snow onto the Mamquam 1-3 claims. Road clearing was required so we could reach our usual parking spot at the end of the road. We then carefully prospected the road on our way back. Two samples were collected. The first was a sediment sample taken from the small stream that crosses the road at the low point (M 73). This is the same stream that we use as a trail to access the main creek and the old logging roads to the north. The sample was taken from the stream well above the road in order to reduce contamination. Significant results for M 73:

Ba	100	ppm
Mn	1105	ppm
Zn	101	ppm

The second sample (M 74) was obtained from some silicified andesites that bordered a black dyke. Disseminated chalcopyrite could be seen in the andesites and some rock with malachite stains was also found nearby. The silicified andesites contained fracture fillings of epidote, quartz and vugs.

Significant results for M 74:

Ag	1.3	ppm
Cu	1040	ppm
Mn	1740	ppm
Zn	144	ppm

More prospecting was done on the Mamquam 4 and 5 claims, but those results will be documented later in the appropriate reports.

Tuesday, July 31, 2007

I drove alone to the end of the road, hiked up the trail, to trail creek and rested at the Sword of Damocles. From here I left the trail and contoured northward around the mountain at an elevation of about 1240 meters. In the main creek I sampled a piece of silicified andesite that contained veins of red quartz as well as pyrite disseminated in the rock and in the fractures (M 81).

Significant results for M 81:

Mn	1810	ppm
Zn	277	ppm

I continued contouring around the mountain until I reached the first small creek that drains into the main creek, and continued downstream until I reached a waterfall. Just below the waterfall there is an area of exposed quartz-rich rock (likely altered intrusives) that contains disseminated chalcopyrite as well as pyrite and chalcopyrite in the fractures. A 30 cm chip sample was obtained (M 82).

Significant results for M 82:

Cu 1745 ppm

I continued prospecting downstream, finding similar altered intrusives that contained pyrite until I was close to the junction with the main creek (about 1140 meters). From here I contoured north until I could enter the next small creek. A sample was taken from some pyritized rock (M 83) that was essentially the same as that found in the previous small creek. Significant results for M 83:

Ba 110 ppm Cu 159 ppm

From this site I prospected upstream until I found another iron-stained outcrop at about the 1265-meter level. Sample M 84 was obtained from some fresh, quartz-rich rock that contained pyrite and possibly some chalcopyrite.

Significant results for M 84:

Au 0.033 ppm Cu 236 ppm

From here I contoured back into the meadows, found the trail and descended back to the road and my vehicle.

Tuesday, August 14, 2007

Michael MacKenzie and I drove to the end of the usual road, parked and then hiked up our access trail, to trail creek. We rested at the Sword of Damocles, walked through the meadows and then climbed up to pass 1350. From this spot we marked trail and did a bit of clearing, but there did not seem to be any really good route to take so we continued bushwhacking until we reached the open areas around hill 1504, which we climbed, prospecting all the exposed outcrops. We then carefully traversed back and forth on the east side of hill 1350 checking float and bedrock where it was exposed. Most of the hillside is composed of silicified andesites that occasionally contain some pyrite but generally no sulphides were seen. To the east and slightly south of the high point of hill 1504 (right on the edge of tree line at about 1460 meters) we did find some iron-stained, vuggy, silicified andesites that contained pyrite and possibly chalcopyrite so a sample (M 85) was taken. Significant results for M 85:

Au	0.0)37ppm
As	20	ppm
Ba	220	ppm
Cu	244	ppm
Mn	1195	ppm

We continued traversing back and forth across the hillside below and to the south of M 85, but we did not find anything else of interest so we returned by traversing southwest below hill 1504, hiked downhill through the underbrush and picked up our trail in pass 1350, which we followed back to our vehicle.

However, just as we emerged from the trees into the logging slash close to the end of the road, we saw a black bear slowly walking away from us about 75 meters down the trail. We had given the bear lots of warning with our loud air horn, but he did not run off and allowed us to see him (this is considered aggression in a black bear). We continued blowing the horn and shouting but the bear only progressed slowly, pretending to eat as he went until he disappeared over a small ridge. We did not want to use the bear banger unless it was absolutely necessary because we didn't want the bear getting familiar with that weapon as well. Michael and I slowly approached this area, ready to defend ourselves with bear spray and rock hammers. Fortunately, the bear was not in sight when we peered over the little ridge so we continued carefully down the trail, watching our backs until we reached the road and our vehicle. This is probably the bear that has been using the trail for the last two years. The bear has become habituated to our noise and our presence and is no longer intimidated easily, which means it has become more dangerous, particularly for a lone prospector or hiker.

Tuesday, August 21, 2007

Karl Ricker and I drove to the end of the road and parked at our usual site at mile 20. We hiked to the landing at the end of the road and then followed the trail downhill into the main creek. We then hiked upstream to creek #2, which we prospected for the rest of the day. We found some chalcopyrite in fractures but did not sample them. At about 1200 meters of elevation we found a rusty alteration zone on the south side of the creek that was sampled (M 86). There were no significant results for M 86.

We continued upstream a short distance where we found a small creek joining creek #2 from the west at about 1235 meters of elevation. At 1355 meters we found a piece of float that was similar to the float found in and near trail creek. It was guartz-rich with veins of galena, sphalerite and chalcopyrite. No sample was taken. We continued upstream to where the creek issues from the slope in a small spring. Small pieces of rock that contained chalcopyrite were found in the stream just below the spring. We continued climbing uphill until we found open meadows and passed the site of M 85 that Michael and I had sampled the week before. After climbing to the top of hill 1504, we descended south down the ridge towards pass 1350. Just above the pass we found the day bed of a black bear that was surrounded by a number of piles of fresh bear feces, which were the biggest either of us had seen. The diameter of well-formed bear droppings correlates well with the bear's size so this black bear was probably very big. Fortunately the bear heard us coming and had moved out of his day bed so no problems were encountered. In pass 1350 we found the trail down which we followed back to the road and our vehicle.

Wednesday, September 12, 2007

Drew Leathem and I drove to the end of the road, parked at our usual site and then hiked up our trail to the Sword of Damocles where we rested. We then continued up to pass 1350 and hill 1504. From hill 1504 we headed northeast and down hill to a low spot in the ridge at about 1410 meters of elevation. There are a number of quartz veins in this area as well as some high sulphide veins, one of which was sampled (M 93). Sample M 93 was taken from a high sulphide vein at the base of hill 1435. Significant results for M 93:

Au	0.208	ppm
Ag	12.3	ppm
Cđ	32	ppm
Cu	2120	ppm
Mo	68	ppm
Pb	621	ppm
Zn	4720	ppm

From this site we prospected the southeast slope of the ridge connecting hill 1435 and hill 1504, but found only barren silicified andesites, so we proceeded around the ridge to the south and into pass 1350 where we found our trail and returned downhill to our vehicle.

Tuesday, September 25, 2007

Drew Leathem and I drove to the end of the road and parked at our usual spot then continued up our trail, to trail creek. At about 1120 meters of elevation we left the trail and crossed a small ridge to the north and descended into the main creek above the junctions of two small creeks that join with the main creek. Near the junctions we found a high sulphide vein in the bedrock of the main creek that was sampled (M 94). Significant results for M 94:

Au	0.022	ppm
Cu	121	ppm
Fe	11.05	%

We then climbed up a small waterfall formed by a black dyke into the second creek where we found quartz-rich rock that contained sulphides disseminated in the rock and in the fractures. We obtained a sample (M 95). There were no significant results for M 95.

From here we traversed northeast around the mountain, crossed the next small creek and prospected along the edge of the canyon above the north bank of the main creek. A large porphyry dyke was found, but no sulphides could be seen and no sample was taken. No other mineralized rocks were found so we returned back the way we had come, climbed back over the small ridge between the main creek and trail creek and descended without difficulty to our truck.

MAMQUAM 1-3 CLAIMS

1:20,000

MAP # 3

PLACE NAMES, ROADS AND TRAILS

LEGEND







ITEMIZED COST STATEMENT FOR 2007

SCHEDULE

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

ROAD AND TRAIL CLEARING (PRO-RATED = 2 DAYS)

PROSPECTORS	2 DAYS @ \$400	\$800
VEHICLE	2 DAYS @ \$60	\$120
FOOD	2 DAYS @ \$10	\$20

PROSPECTING EXPENSES

PROSPECTORS	9 DAYS @ \$400	\$3,600
VEHICLE	9 DAYS @ \$60	\$540
FOOD	9 DAYS @ \$10	\$9 0

OTHER EXPENSES

ANALYSES	27-JUL-2007	2 @ \$32.55	\$65.10
ANALYSES	27-NOV-2007	9 @ \$ 34.50	\$310.50

SAMPLES TO ALS/CHEMEX-NORTH VANCOUVER

2 TRIPS PRO-RA	TED FOR THE NUMBER OF SAMPLES:	
PROSPECTOR	0.342 DAYS @ \$400	\$136.80
VEHICLE	2 TRIPS @ \$30	\$60

REPORT PREPARATION AND DELIVERY

6.75 DAYS @ \$400	\$2700
0.5 DAYS @ \$400	\$200
VEHICLE (a) \$40	\$40
TOTAL	\$8,682.40

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.

<u>Geology of the Porphyry Copper Deposits of the Western Hemisphere</u> by Victor F. Hollister. <u>Atlas of Alteration</u> 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

APPENDIX B

ANALYSIS RESULTS FOR ALL SAMPLES

COLLECTED ON THE MAMQUAM

1-3 CLAIMS IN 2007



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

D: MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1T0

Page: 1 Finalized Da...: 27-JUL-2007 This copy reported on 30-JUL-2007 Account: MACKEN

ICP-AES

	SAMPLE PREPARATION	
ALS CODE	DESCRIPTION	
/El-21 OG-22 UL-31 PL-21	Received Sample Weight Sample login - Rcd w/o BarCode Pulverize split to 85% <75 um Split sample - riffle splitter	
	S CODE EI-21 G-22 L-31 L-21 -S CODE -AA23	AA23 Au 30g FA-AA finish

ME-ICP41

10 17

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

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

Signature:

35 Element Aqua Regia ICP-AES

aurente (1)

Lawrence Ng, Laboratory Manager - Vancouver



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

D: MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1T0

Page: 2 - A Total # r ages: 2 (A - C) Finalized Date: 27-JUL-2007 Account: MACKEN

									CERTIFICATE OF ANALYSIS				VA07071934			
Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	Au-AA23 Au ppm 0.005	ME-ICP41 Ag ppm 0.2	ME-ICP41 AI % 0.01	ME-ICP41 As ppm 2	ME-ICP41 B ppm 10	ME-ICP41 Ba ppm 10	ME-ICP41 Be ppm 0.5	ME-ICP41 Bi ppm 2	ME-ICP41 Ca % 0.01	ME-ICP41 Cd ppm 0.5	ME-ICP41 Co ppm 1	ME-ICP41 Cr ppm 1	ME-ICP41 Cu ppm 1	ME-ICP41 Fe % 0.01
M-73		0.82	<0.005	0.2	1.65	7	<10	100	<0.5	<2	0.30	<0.5	10	14	25	2.73
												.•				
23																



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 VON 1T0

Page: 2 - B Total # r ages: 2 (A - C) Finalized Date: 27-JUL-2007 Account: MACKEN

									CERTIFICATE OF ANALYS			LYSIS	VA070			
Sample Description	Method Analyte Units LOR	ME-ICP41 Ga ppm 10	ME-ICP41 Hg ppm 1	ME-ICP41 K % 0.01	ME-ICP41 La ppm 10	ME-ICP41 Mg % 0.01	ME-ICP41 Mn ppm 5	ME-ICP41 Mo ppm 1	ME-ICP41 Na % 0.01	ME-ICP41 Ni ppm 1	ME-ICP41 P ppm 10	ME-ICP41 Pb ppm 2	ME-ICP41 S % 0.01	ME-ICP41 Sb ppm 2	ME-ICP41 Sc ppm 1	ME-ICP41 Sr ppm 1
M-73		<10	<1	0.10	<10	1.13	1105	1	0.01	7	590	3	0.09	<2	3	19
24																



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

D: MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1T0

Page: 2 - C Total # ، ، ، ، dges: 2 (A - C) Finalized Date: 27-JUL-2007 Account: MACKEN

CERTIFICATE OF ANALYSIS VA07071934

Sample Description	Method Analyte Units LOR	ME-ICP41 Th ppm 20	ME-ICP41 Ti % 0.01	ME-ICP41 Tl ppm 10	ME-ICP41 U ppm 10	ME-ICP41 V ppm 1	ME-ICP41 W ppm 10	ME-ICP4 Zn ppm 2
M-73		<20	0.01	<10	<10	37	<10	101
25.								



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

D: MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1TO

Page: 1 Finalized Daw: 27-JUL-2007 This copy reported on 30-JUL-2007 Account: MACKEN

CERTIFICATE VA07071935		SAMPLE PREPARATION	ł
	ALS CODE	DESCRIPTION	
Project: P.O. No.: This report is for 9 Rock samples submitted to our lab in Vancouver, BC, Canada or 9-JUL-2007. The following have access to data associated with this certificate:	WEI-21 LOG-22 CRU-31 SPL-21 PUL-31	Received Sample Weight Sample login - Rcd w/o BarCode Fine crushing - 70% <2mm Split sample - riffle splitter Pulverize split to 85% <75 um	
		ANALYTICAL PROCEDUR	ES
	ALS CODE	DESCRIPTION	INSTRUMENT
	ME-ICP41 Au-AA23	35 Element Aqua Regia ICP-AES Au 30g FA-AA finish	ICP-AES AAS

26

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

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

Signature:

aurance (1)

Lawrence Ng, Laboratory Manager - Vancouver



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

D: MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1T0

Page: 2 - A Total # , ages: 2 (A - C) Finalized Date: 27-JUL-2007 Account: MACKEN

CERTIFICATE OF ANALYSIS VA07071935

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	Au-AA23 Au ppm 0.005	ME-ICP41 Ag ppm 0.2	ME-ICP41 AI % 0.01	ME-ICP41 As ppm 2	ME-ICP41 B ppm 10	ME-ICP41 Ba ppm 10	ME-ICP41 Be ppm 0.5	ME-ICP41 Bi ppm 2	ME-ICP41 Ca % 0.01	ME-ICP41 Cd ppm 0.5	ME-ICP41 Co ppm 1	ME-ICP41 Cr ppm 1	ME-ICP41 Cu ppm 1	ME-ICP41 Fe % 0.01
M-74		0.76	0.007	1.3	2.59	<2	<10	10	<0.5	<2	0.55	<0.5	16	1	1040	4.40
24																



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

D: MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1T0

Page: 2 - B Total # . .ages: 2 (A - C) Finalized Date: 27-JUL-2007 Account: MACKEN

CERTIFICATE OF ANALYSIS VA07071935

Sample Description	Method Analyte Units LOR	ME-ICP41 Ga ppm 10	ME-ICP41 Hg ppm 1	ME-ICP41 K % 0.01	ME-ICP41 La ppm 10	ME-ICP41 Mg % 0.01	ME-ICP41 Mn ppm 5	ME-ICP41 Mo ppm 1	ME-ICP41 Na % 0.01	ME-ICP41 Ni ppm 1	ME-ICP41 P ppm 10	ME-ICP41 Pb ppm 2	ME-ICP41 S % 0.01	ME-ICP41 Sb ppm 2	ME-ICP41 Sc ppm 1	ME-ICP41 Sr ppm 1
M-74		10	<1	0.04	<10	2.10	1740	2	0.02	<1	1160	5	0.27	<2	4	30
28.																



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

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

CERTIFICATE OF ANALYSIS VA07071935

Page: 2 - C Total # r ages: 2 (A - C) Finalized Date: 27-JUL-2007 Account: MACKEN

Sample Description	Method Analyte Units LOR	ME-łCP41 Th ppm 20	ME-ICP41 Ti % 0.01	ME-ICP41 Ti ppm 10	ME-ICP41 U ppm 10	ME-ICP41 V ppm 1	ME-ICP41 W ppm 10	ME-ICP41 Zn ppm 2
M-74		<20	0.13	<10	<10	58	<10	144
2								
9.								



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

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

Page: 1 Finalized کے۔دe: 8-SEP-2007 This copy reported on 13-SEP-2007 Account: MACKEN

AAS

CERTIFICATE VA07089982]	SAMPLE PREPARATION						
	ALS CODE	DESCRIPTION						
Project: P.O. No.: This report is for 7 Rock samples submitted to our lab in Vancouver, BC, Canada on 14-AUG-2007. The following have access to data associated with this certificate:	WEI-21 LOG-22 CRU-31 SPL-21 PUL-31	Received Sample Weight Sample login - Rcd w/o BarCode Fine crushing - 70% <2mm Split sample - riffle splitter Pulverize split to 85% <75 um						
KEN MACKENZIE		ANALYTICAL PROCEDUR	ES					
	ALS CODE	DESCRIPTION	INSTRUMENT					
	ME-ICP41	35 Element Agua Regia ICP-AES	ICP-AES					

Au-AA23

30

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

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

Signature:

Au 30g FA-AA finish

aurence (1) Lawrence Ng, Laboratory Manager - Vancouver



EXCELLENCE IN ANALYTICAL CHEMISTRY ALS Canada Ltd.

0.70

0.033

212 Brooksbank Avenue North Vancouver BC V7J 2C1 Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

0.8

D: MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1T0

Page: 2 - A Total # ، ages: 2 (A - C) Finalized Date: 8-SEP-2007 Account: MACKEN

236

3.67

CERTIFICATE OF ANALYSIS VA07089982

<0.5

4

4

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	Au-AA23 Au ppm 0.005	ME-ICP41 Ag ppm 0.2	ME-ICP41 Ai % 0.01	ME-ICP41 As ppm 2	ME-ICP41 B ppm 10	ME-ICP41 Ba ppm 10	ME-ICP41 Be ppm 0.5	ME-ICP41 Bi ppm 2	ME-ICP41 Ca % 0.01	ME-ICP41 Cd ppm 0.5	ME-ICP41 Co ppm 1	ME-ICP41 Cr ppm 1	ME-ICP41 Cu ppm 1	ME-ICP41 Fe % 0.01
M-81		0.82	0.006	0.3	2.82	13	<10	60 70	<0.5	<2	0.52	1.6	22	10	38	9.47
M-82 M-83	· · · · · · · · · · · · · · · · · · ·	0.66	0.007	0.7	0.87	3 	<10	110	<0.5	<2 <2	0.29	0.6	3	5	1/45	2.02

60

<0.5

<2

0.02

<10

2

0.75

 $\frac{3}{2}$

M-84



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

D: MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1T0

Page: 2 - B Total # ، ages: 2 (A - C) Finalized Date: 8-SEP-2007 Account: MACKEN

CERTIFICATE OF ANALYSIS VA07089982

	Method Analyte	ME-ICP41 Ga	ME-ICP41 Hg	ME-ICP41 K	ME-ICP41 La	ME-ICP41 Mg	ME-ICP41 Mn	ME-ICP41 Mo	ME-ICP41 Na	ME-ICP41 Ni	ME-ICP41 P	ME-ICP41 Pb	ME-ICP41 S	ME-ICP41 Sb	ME-ICP41 Sc	ME-ICP41 Sr
Sample Description	Units LOR	ppm 10	ppm 1	% 0.01	ррт 10	% 0.01	ррт 5	ppm 1	% 0.01	ppm 1	ppm 10	ppm 2	% 0.01	ppm 2	ppm 1	ppm 1
M-81 M-82		10 <10	<1 <1	0.08	<10 10	2.15 1.03	1810 453	<1 7	0.04	26 11	830 930	14	5.37 2.99	3	6 2	14 8
M-83		<10	<1	0.24	10	0.74	435	<1	0.07	8	630	22	1.39	2	2	23
M-84		<10	<1	0.18	<10	0.48	103	6	0.04	3	410	4	1.65	3	2	3

32



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

V: MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1T0

Page: 2 - C Total # , ...ges: 2 (A - C) Finalized Date: 8-SEP-2007 Account: MACKEN

CERTIFICATE OF ANALYSIS VA07089982

Sample Description	Method	ME-ICP41						
	Analyte	Th	Ti	Ti	U	V	W	Zn
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm
	LOR	20	0.01	10	10	1	10	2
M-81		<20	0.01	<10	<10	130	<10	277
M-82		<20	<0.01	<10	<10	18	<10	61
M-83		<20	<0.01	<10	<10	20	<10	72
M-84		<20	<0.01	<10	<10	32	<10	18

 \mathcal{S}



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

Page: 1 Finalized Dave. 27-NOV-2007 This copy reported on 30-NOV-2007 Account: MACKEN

CERTIFICATE VA07129863		SAMPLE PREPARATION	1
	ALS CODE	DESCRIPTION	
Project: MAMQUAM P.O. No.: This report is for 12 Rock samples submitted to our lab in Vancouver, BC, Canada on 7-NOV-2007. The following have access to data associated with this certificate:	WEI-21 LOG-22 CRU-31 SPL-21 PUL-31	Received Sample Weight Sample login - Rcd w/o BarCode Fine crushing - 70% <2mm Split sample - riffle splitter Pulverize split to 85% <75 um	
KEN MACKENZIE		ANALYTICAL PROCEDUR	ES
	ALS CODE	DESCRIPTION	INSTRUMENT
	ME-ICP41 Au-AA23	35 Element Aqua Regia ICP-AES Au 30g FA-AA finish	ICP-AES AAS

48

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

Yaurence (1)

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

Signature: Lawrence Ng, Laboratory Manager - Vancouver



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 VON 1T0

Page: 2 - A Total # r ages: 2 (A - C) Finalized Date: 27-NOV-2007 Account: MACKEN

Project: MAMQUAM

CERTIFICATE	EOF	ANALYSIS	VA07129863

Sample Description	Method	WEI-21	Au-AA23	ME-ICP41	ME-ICP41	ME-łCP41	ME-ICP41									
	Analyte	Recvd Wt.	Au	Ag	AI	As	В	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe
	Units	kg	ppm	ppm	%	ppm	ррт	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-85		0.74	0.037	0.6	1.38	20	<10	220	<0.5	2	0.26	<0.5	15	8	244	2.87
M-86		0.56	0.013	0.3	0.30	7	<10	90	<0.5	3	0.13	<0.5	12	2	10	3.54
M-93		0.64	0.208	12.3	0.18	10	<10	30	<0.5	4	0.01	32.0	7	8	2120	4.09
M-94		0.60	0.022	0.8	1.20	4	<10	20	<0.5	5	0.29	<0.5	20	10	121	11.05
M-95		0.62	0.010	0.4	1.27	4	<10	70	<0.5	4	0.50	<0.5	10	15	17	4.66
35.																



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 VON 1T0

Page: 2 - B Total # r ages: 2 (A - C) Finalized Date: 27-NOV-2007 Account: MACKEN

Project: MAMQUAM

										CERTIF	ICATE	OF ANA	LYSIS	VA071	29863	
Sample Description	Method Analyte Units LOR	ME-ICP41 Ga ppm 10	ME-ICP41 Hg ppm 1	ME-ICP41 K % 0.01	ME-ICP41 La ppm 10	ME-ICP41 Mg % 0.01	ME-ICP41 Mn ppm 5	ME-ICP41 Mo ppm 1	ME-ICP41 Na % 0.01	ME-ICP41 Ni ppm 1	ME-ICP41 P ppm 10	ME-ICP41 Pb ppm 2	ME-ICP41 S % 0.01	ME-ICP41 Sb ppm 2	ME-ICP41 Sc ppm 1	ME-ICP41 Sr ppm 1
M-93 M-94 M-95		<10 <10 10	1 <1 <1	0.07 0.11 0.13	<10 10 10	0.06 1.19 1.30	57 324 516	68 1 	0.01 0.05 0.06	4 9 9	100 700 780	621 10 6	4.03 >10.0 4.45	<2 <2 <2	<1 3 4	2 12 19
36.																



EXCELLENCE IN ANALYTICAL CHEMISTRY ALS Canada Ltd.

212 Brooksbank Avenue North Vancouver BC V7J 2C1 Phone: 604 984 0221 Fax: 604 984 0218 www.aischemex.com

): MACKENZIE, KEN PO BOX 641 GARIBALDI HIGHLANDS BC VON 1T0

Page: 2 - C Total # r-ages: 2 (A - C) Finalized Date: 27-NOV-2007 Account: MACKEN

Project: MAMQUAM

CERTIFICATE OF ANALYSIS VA07129863

Samp	ple Description	Method Analyte Units LOR	ME-ICP41 Th ppm 20	ME-ICP41 Ti % 0.01	ME-ICP41 Tl ppm 10	ME-ICP41 U ppm 10	ME-ICP41 V ppm 1	ME-ICP41 W ppm 10	ME-ICP4 Zn ppm 2
M-93 M-94 M-96	3 4 5		<20 <20 <20	<0.01 <0.01 <0.01	<10 <10 <10	<10 <10 <10	6 34 46	<10 <10 <10	4720 69 64
	۸.								
	\$								