

GEOLOGICAL SURVEY BRANCH ASSESSMENT REPORTS

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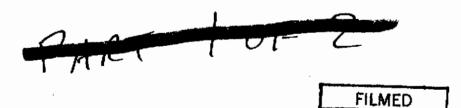
# **PROSPECTING**,

# **GEOLOGICAL REPORT**

# **ON THE**

# **QUILL PROPERTY**

Quill, M.R. Claims Skeena Mining Division Northwestern British Columbia NTS 104B/7, 8 56° 25' North Latitude, 130° 30' West Longitude



Prepared for: Allan R. St. James (owner, operator) Prepared by: Allan R. St. James, B.Sc.

> NOVEMBER, 1995 GEOLOGICAL SURVEY BRANCH ASSESSMENT REPORT

Submitted for Assessment Purposes: June 17, 1996



## PROSPECTING, GEOLOGICAL REPORT ON THE QUILL PROPERTY

## TABLE OF CONTENTS

#### PAGE

Following

	SUMMARY	Forward
1.0	INTRODUCTION	1
2.0	LOCATION, ACCESS AND TOPOGRAPHY	1
3.0	CLAIM GROUP	2
4.0	AREA HISTORY	2
5.0	REGIONAL GEOLOGY	3
6.0	PROPERTY GEOLOGY	3
7.0	MINERALIZATION	4
8.0	CONCLUSIONS AND RECOMMENDATIONS	5
9.0	ITEMIZED COST STATEMENT	6

## LIST OF FIGURES

		Page
Figure 1	Property Location Map	1
Figure 2	Mineral Occurances in northwest BC	2

## APPENDICES

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Appendix IBibliographyAppendix IISample Description FormsAppendix IIIAssay CertificatesAppendix IVAnalytical ProceduresAppendix VStatement of Qualifications

## <u>SUMMARY</u>

High grade gold/copper mineralization occurs on the Quill Property, 24 km south of the Eskay Creek Mine in West Central British Columbia. Boulders found at the Q-Zone showing contained up to 70% sulphides and yielded assays up to 1.868 oz/ton gold and 6.3% copper. All samples of mineralized float collected from this zone during field work by the author assayed over 0.500 oz/ton gold.

This work confirmed results obtained in 1990 by Pamicon Developments Ltd. working for the previous property holder.

The boulders were found at the base of a small snow chute at 4,500 feet AMSL and additional large blocks of mineralized quartz vein were uncovered as the snow receded. The size and angularity of the float material suggests a proximal source and the geological setting and the high grades encountered in the area make this a very attractive exploration target. A follow-up program of mapping, trenching, soil sampling and magnetic and VLF-EM surveying is recommended.

# **Quill Property**

## **1.0** INTRODUCTION

The Quill Claim was staked in June, 1995 to cover an area containing high grade gold and copper mineralization in float samples. The large size and angularity of some of the blocks indicates a nearby source of the float. An additional claim, the M.R., was staked in August, 1995 to cover another copper showing on McQuillan Ridge.

The high grade gold/copper showing and several other areas were sampled during the summer of 1995. Previous work in the area by Pamicon Developments Ltd. (summer, 1990) also indicated several areas of mineralization. In addition, stream sediment samples were taken during the staking/prospecting field trip in June, 1995. Several of these yielded anomalous gold, silver or copper values. Follow-up work is warranted on several areas of the property; but especially the area containing float samples with high gold and copper values which is referred to as the "Q-Zone".

## 2.0 LOCATION, ACCESS AND TOPOGRAPHY

The Quill Property is located within the Skeena Mining Division approximately 65 kilometres northwest of Stewart in northwestern British Columbia, (see Figure 1). The NTS topographic sheets 104 B/7, 8 cover the area.

The property lies approximately 24 kilometres south of the Eskay Creek Mine. It is located on McQuillan Ridge between the South Unuk River and Unuk River, (see photo 1). Access is via helicopter from Stewart, Bob Quinn Lake on Highway 37 (65 kilometres to the northeast) or the Eskay Creek Mine Road, Km 45 Camp (35 kilometres to the north).

The property is situated at elevations between 3,000 and 5,600 feet above sea level with the prime target of the area, the Q-Zone, located at an elevation of approximately 4,500 feet, (see photo 2). Areas below the treeline (approximately 4,000 feet) are steeper with less outcrop. Above the treeline exposure is extensive and slopes are generally moderate except for near drainage systems and the higher sections of McQuillam Ridge.

The construction of a road to connect to the Eskay Creek Road is a possibility; the most difficult topographic area would likely be the lower section of McQuillan Ridge

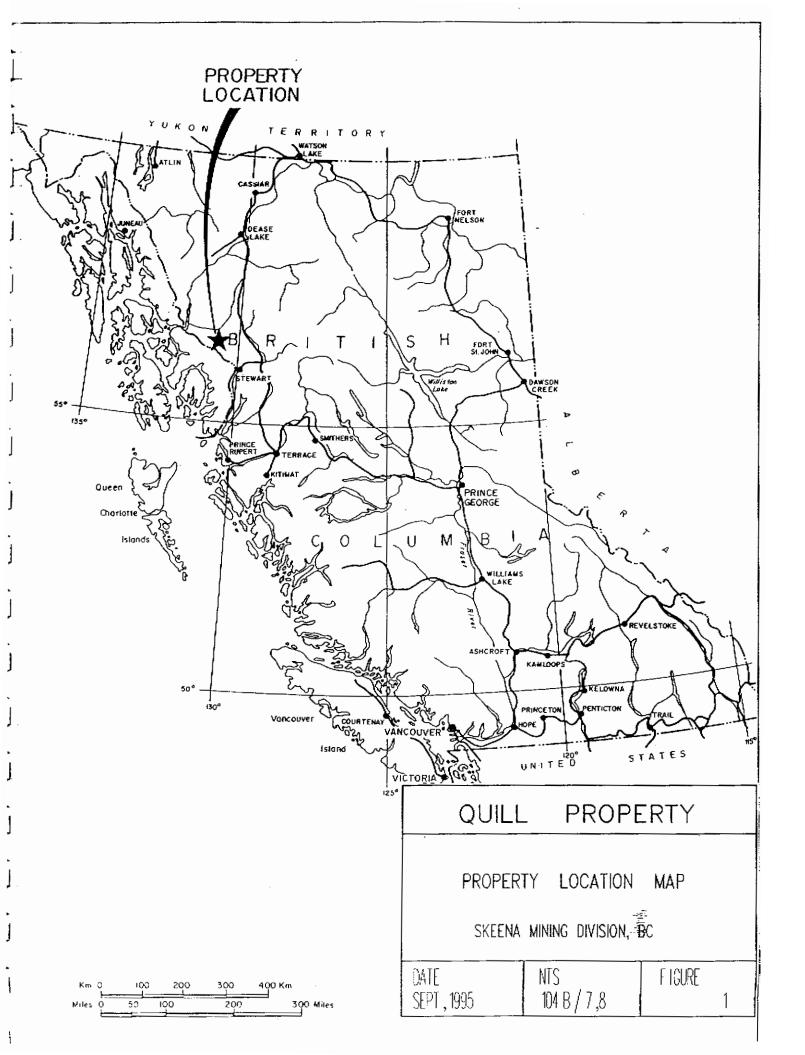




Photo L. McQuillan Ridge (looking south, June).



Photo 2. Q-Zone Area (looking southeast, June).

(west side) between elevations of 2,500 and 1,000 feet. Near the Q-Zone showing, there exists a 320 metre long (25 metre wide) gently-sloped area that could be utilized as a fixed-wing landing site, (see photos 3,4).

## 3.0 CLAIM GROUP

The Quill Property consists of two claim groups covering a total of 38 units. There appears to be no conflicting claims in the area. The following is a list of claims held by the company:

Claim Name	Tenure No.	No. of Units	Expiry Date
Quill	337650	20	July 1, 1996
M.R.	339222	18	August 19, 1996

## 4.0 AREA HISTORY

This area of northwestern B.C. (roughly north of Stewart, south of Mount Edziza Park and west of Highway 37; see Figure 2) contains and contained many major mineral producers.

In the early 1900's, the Silbak-Premier Mine near Stewart produced more than 2.5 million tonnes grading 16.8 g/tonne gold and 409.5 g/tonne silver. The Granduc Mine, located 22 kilometres to the southeast of the property, was discovered in 1951 and had published reserves of 24 million tonnes grading 1.55% copper.

Current operating mines in the area include the Eskay Creek Mine, located 24 kilometres to the north of the Quill, (300 tonnes/day; pre-production reserves were 1.09 million tonnes grading 65.14 g/tonne gold and 2,949 g/tonne silver) and the Snip Mine, located 50 kilometres to the northwest of the Quill Property (470 tonnes/day, pre-production reserves were in excess of 1 million tonnes grading approximately 30 g/tonne). Westmin Resources currently operates a mill near Stewart and custom mills gold-bearing ores from mines in the area.

The Johnny Mountain Mine, another high grade gold mine located near the Snip Mine has been in production recently (350 tonnes/day grading 17 g/tonne gold). Pre-production reserves were 686,000 tonnes at g/ton. Two of the most significant properties in the area



Photos 3, 4 Level area near Q-Zone. Area approximately 320 metres long, 25 metres wide, bearing 224 degrees (August)



Researched and compiled by: L. Jones, L. Duffet, G. Payie and D. Jakobsen

The Iskut River map area is situated in the northwest part of the province and contains 382 documented mineral occurrences. The map sheet straddles the northwest trending boundary between the Coast and Intermontane tectonic belts and is within the Boundary Ranges physiographic region. The map area is one of the most intensely explored in the province.

The map area is underlain by the Paleozoic Stikine assemblage, the Triassic Stuhini Group and the Upper Triassic-Lower Jurassic Hazelton Group. These have been intruded by the Late Triassic-Early Jurassic Texas Creek Plutonic Suite, Eocene Hyder Plutonic Suite and younger Miocene? lamprophyre dikes. Mineralization appears to be associated with Hazelton Group volcanic rocks and related coeval intrusions. Exploration has focused on goldenriched porphyry copper deposits, polymetallic massive sulphide deposits (volcanogenic and scafloor hydrothermal) and epithermal precious metal veins.

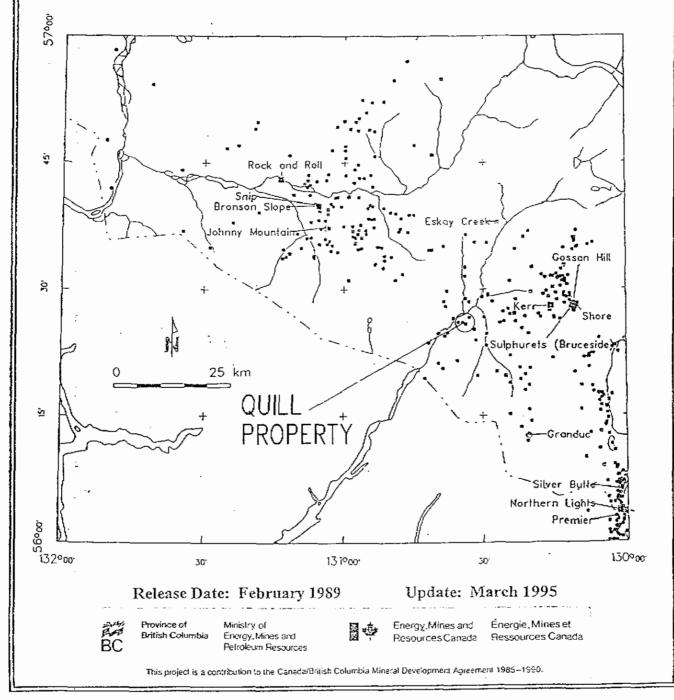


Figure 2. Mineral occurrences in northwest British Columbia

northeast of the Quill Property, (the West Zone at Sulphurets has reserves of 750,000 tonnes grading 15.4 g/tonne and 647 g/tonne silver) and Kenrich Mining's Corey Property, located approximately 4 kilometres to the north-northwest of the Quill Property. Kenrich is currently (1995) spending approximately \$1.5 million on a drilling/exploration program and have encountered significant mineralization (1.140 oz/ton gold over 3.3 feet in a trenching program). Some of the showings on the Corey Property exhibit characteristics similar to the Eskay Creek Mine; i.e. similar alteration, mineralization and association with rhyolite, mudstone and basalt rock units.

## 5.0 REGIONAL GEOLOGY

Northwest trending Upper Triassic and Lower Jurassic (Hazelton and Stuhini Group) assemblages of volcanic and sedimentary rocks underlie the area. These are intruded by felsic to intermediate intrusives (Coast Plutonic Complex) from the west.

The Hazelton Group contains various assemblages of volcanics and sediments:

Age	Sequence Name	General Rock Types
Mid. Jurassic	Salmon River	siltstone, sandstone, congl.
Lower Jurassic	Mount Dilworth	felsic volcanics
Lower Jurassic	Betty Creek	pyroclastic volcanics, sediments
L. Jurassic-U. Triassic	Unuk River	intermediate volcanics, sediments

The Upper Triassic Stuhini Group consists of a volcano sedimentary sequence of siltstones, shales, wackes with some limestone units and mafic to intermediate volcanics and volcaniclastics.

## 6.0 PROPERTY GEOLOGY

Geology in the area of the claims consists of Jurassic (Hazelton) and Triassic (Stuhini) volcanic and sedimentary rock assemblages. These rocks are mainly andesitic flows and tuffs and siltstones, wackes and limestone. They are intruded by the Unuk River diorite/quartz diorite formation from the west and the younger Coast Plutonic complex (mainly granodiorite) from the south.

Major faults and extensive localized shear zones occur within the property.

The intrusives in the Quill area are mainly of a diorite/quartz diorite composition. Major faulting occurs within the property with extensive localized shear zones.

## 7.0 MINERALIZATION

The most significant showing on the property is the Q-Zone. This zone (see photos 5, 6) is located near the centre of the Quill Claim and contains abundant float containing high grade gold with copper mineralization in a quartz vein system. The sulphide mineralization is often massive with up to 60-70% chalcopyrite/pyrite in some of the specimens (see photos 7, 8).

The following results were obtained from a sampling program conducted during June/July, 1995:

Sample Number	Gold (g/tonne)	Gold (oz/t)	Silver (g/tonne)	Silver (oz/t)	Copper (%)
AD-40	64.05	1.868	45.8	1.34	6.33
AD-41	33.07	0.965	5.3	0.15	0.02
AD-42	20.73	0.605	13.0	0.38	3.04
AD-43	37.57	1.096	13.6	0.40	2.40

The Q-Zone is called the Golden Jade by Pamicon and similar results were obtained in this area by them (1990):

Sample Number	Gold (g/tonne)	Gold (oz/t)	Silver (g/tonne)	Silver (oz/t)	Copper (%)
43559	9.80	0.286	1.0	0.03	-
43560	31.81	0.928	12.5	0.36	1.83
43563	30.78	0.898	12.7	0.37	2.91
43564	44.98	1.312	37.0	1.08	6.47

The large, angular blocks of mineralized material (see photos 9, 10) located by both the 1990 and 1995 sampling programs in the zone indicate a near-by source.

Pamicon geologists also collected a grab sample (#43565) from the Q-Zone area that contained massive chalcopyrite/pyrite mineralization that ran 10.15% copper, 42.0 ppm silver and 120 ppb gold.

The showing occurs near the intrusive (quartz diorite) contact with the volcano sedimentary rocks. A relatively shallow snow/ice chute occurs immediately to the southeast (uphill) of the showing (see photos 9, 10).



Photo 5. Q-Zone (looking east). Quartz vein float occurs near base of snow chute (right centre of photo).



Photo 6. Q-Zone (looking northwest). Blocks of mineralized quartz vein occur near the stream (August).



Photo 7. Massive chalcopyrite/pyrite (dark green) in quartz vein float: Q-Zone.



Photo 8. Chalcopyrite/pyrite in quartz vein and brecciated intrusive (diorite) host rock: Q-Zone.



Photos 9,10 Q-Zone. Area of quartz vein float (F) and alteration zone (A): extensive pyrite, silica, shearing, breeclation (August).

Another area of gold mineralization, Windy Tarn, was encountered nearby by Pamicon geologists. They reported the outcrops to be located approximately 450 metres to the north of the Q-Zone and mineralization consists of a quartz vein breccia hosted by diorite. The vein was traced for 25 metres, varying in width from 10 centimeters to 2 metres. Pamicon's best sample from the zone ran 0.478 oz/t gold (no width was given for this sample).

The Amethyst Zone located on the eastern boundary of the Quill Claim contained several mineralized samples that were collected over an area roughly 500 x 200 metres. These samples contained significant silver, lead and zinc values in float samples, e.g. 8.61 oz/t silver, 11.80% lead and 324 ppm zinc. The mineralization here is described by Pamicon (1990) as associated with brecciated galena, amethyst and jasper.

Several additional significant showings occur on the property (e.g. AD-21 which assayed 22.90 oz/ton silver) and anomalous copper, gold and silver values were encountered in some of the stream sediment samples (see maps 1, 2).

Extensive zones of shearing, pyritization and limonite-staining occur throughout the property. Most yielded low or trace metal values.

### **8.0 CONCLUSIONS AND RECOMMENDATIONS**

Work on the Q-Zone has confirmed the presence of high grade gold mineralization in a chalcopyrite, pyrite-bearing quartz vein system. The size and angular shape of blocks of mineralized rock strongly indicate a proximal source.

Detailed mapping and sampling of the extensively altered (pyritized, silicified), brecciated and sheared country rocks in the area of the Q-Zone should be completed. Trenching would likely reveal additional information on the nature and source of the mineralization. Geophysics would also likely be extremely useful because of the high chalcopyrite content of the quartz vein.

The additional gold, silver and copper showings located on the claims should be prospected and resampled to determine if they warrant further work. Follow-up prospecting and sampling, including soil sampling, should also be conducted on the area of anomalous stream sediment samples.

## 9.0 ITEMIZED COST STATEMENT

The following pages contain an itemized cost statement for prospecting, geological and geochemical work completed on the Quill and M.R. Claims during the months of June, July and August, 1995. It also includes analytical and report preparation costs incurred subsequent to completion of the field work. The geochemical report by Mr. John H. Adams is being submitted as a separate report for assessment purposes.

The total expenditures being claimed for assessment purposes for 1995 is \$20,054.06.

#### QUILL PROPERTY, B.C. : ITEMIZED COST 5 ... EMENT FOR ASSESSMENT WORK 1995

DATE	CO./PERSON	DESCRIPTION	RATE	NUMBER	AMOUNT	GST	PST	TOTAL	Rept.Prep.	Equipmt.	Lab	Hotel	Food	Personnel
												=		
8-Apr-95	B.C. Mines	maps			59.02	5.47	6,16	70.65						
29-May-95	Crown Publ.	reports			58.00	4.06	1.40	63.46						
2-Jun-95	Three Vets	field gear			118.47	8.29	8.29	135.05		135.05				·········
6-Jun-95	Norman Wade	air photos			8.03	0.56	0.56	9.15	9.15					······
7-Jun-95	Vancal Repro.	reprod.			39.55	2.77	2.77	45.09						1
		field gear			120.00	8,40	8.40	136.80		136.80				
		field gear			11.25	0.79	0.79	12.83		12.83				
		groceries			361.35	4.10	1.80	367.25					367.25	
			67.00/day	1	67.00	4.69	5.36	77.05	; ·····			77.05		
		tools			102.50	7.18	7.18	116.86	· · · · · · · · · · · · · · · · · · ·	116.86				
		meals			24.19	1.69	0.00	25.88					25.88	
	King Ed. Hotel	meals			18.46	0.00	0.00	18.48	5				18.46	
	King Ed. Hotel	meals	·····		10.24	0.00	0.00	10.24	· · · · · · · · · · · · · · · · · · ·				10.24	
	King Ed. Hotel	meal			22.38	0.00	0.00	22.38					22.38	
22-Jun-95		propane			16.00	0.98	0.00	16.98		16.98				
	Bell 2 Station	meals			29.69	0.00	0.00	29.69					29.69	
		map prints			7.50	0.53	0.53	8.56		<u>†</u>		····		
	Vancal Repro.	reproduction			113.05	7.91	7.91	128.87		<u>†</u> †				
	Ironwood Systems	radio rent	42.50/wk	4 weeks	255.00	17.85	17.85	290,70		290.70				
	Slumber Lodge	hotel	115.50/day	1	115.50	7.35	0.00	122.85				122.85		
	Alpen Rest.	meals		·	66.11	414	1.02	71.27		t			71.27	
	Smitty's Rest.	meals			22.20	0.00	0.00	22.20		<u>├</u> ────┤			22.20	
13.400-95	MinEn Labs	analysis:Au,Cu	9.25/sed.	30		19.43	0.00	296.93			296.93			
	MinEn Labs	analy:Au,Ag,Cu	14.34/rock	35		35.12	0.00	536.87		<u>  </u>	536.87			
	Deakin Equip.	field gear	1 1.0 110011		137,15	9.61	6.87	153.63		153.63				<u>↓</u>
17-Aug-95		grocerles	<u> </u>		133.56		1.53	137.84					137.84	t
	5 Bell 2 Crossing	hotel	93.21/day	1	93.21	0.00	0.00	93.21				93.21	107.04	{
	Bell 2 Crossing	meals		· ····	33.00		0.00	33.00					33.00	
17. Aug-05	ICG Propane	propane			9.90	0.69	0.69	11.25		11.28				
18-Aug-9	Bell 2	meals		·	20.00		0.00	20.00					20.00	
	5 Slumber Lodge	hotel	60.50	1	60.50	3.85	0.00	64.35		<u>├</u> ───-}		64.35	10,00	t
	5 Smitty's Rest.	meals		· ·	17.23	0.00		17.2		<u>}</u> }		0 1.00	17.23	.t
	5 MinEn Labs	analysis:ICP	6.25	1			0.00	6.6		<u>├</u>	6.69			+
	5 MinEn Labs	analysis:Ag	6.50		the second se	5.01	0.00	76,51		╞╼──┤	76.51			h
21-414 09	5 Copperside Foods	food		<u> </u>	30.00		0.00	30.00		<u>†</u>	. 0.01		30.00	
	5 Ironwood Comm.	radio charge			10.70		0.00	10.70		10.70				
20. 4.1.0	5 Allan St. James	prospecting	250.00/day	5			0.00	1250.00		14.14				1250.0
	5 MinEn Labs	analy.:Au,Ag,Cu	17.75/rock	7				132.9		<u> </u>	132,95			+
	5 VanCal Reprod.	map reprod.		<u>  '</u>	26.25		1.84	29.9			102,90			
	5 VanCal Reprod.	map reprod.			24.12		1.69	and the second se						
	5 OVO Blueprint	prints			9.94	0.70		11.34						

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#### QUILL PROPERTY, B.C. : ITEMIZED COST & ... EMENT FOR ASSESSMENT WORK 1995

(a) A star a sta star a sta

27-Sep-95	London Drug	photos:report		··· ··· i	18.88	1.32	1.32	21.52	21.52					
		typing;report	28.00/hr	10.25	287.00	20.09	0.00	307.09						307.0
4-Oct-95		map prints			42.12	2.95	2.95	48.02	48.02					
			0.10/copy	434	43.40	3.04	0.00	46.44	46.44		~ ~			
	London Drug	photos:report			18.72	1.31	1.31	21.34	21.34					
		typing	28.00/hr	3.5	98.00	6.86	0.00	104.86						104.6
		typing	28.00/hr	0.5	14.00	0.98	0.00	14.98						14.9
5-Feb-96		drafting:report			850.00	59.50	0.00	909.50						909.5
5-Feb-96	Alejandro Herrera	field hand	100/day	6	600.00	0.00	0.00	600.00						600.0
	Ironwood Systems	radio rent	42.50/wk	2	85.00	5.95	5.95	96.90		96.90				
29-Feb-96	Allan St. James	report prep.	250.00/day	12	3000.00	0.00	0.00	3000.00						3000.0
10-Jan-96	John Adams	geochem.report	350.00/day	8	2800.00	0.00	0.00	2800.00						2800.0
				TOTAL	12339.42	278.58	94.87	12712.88	531.87	981.73	1049.95	357.46	805.44	8966.4
	· ·													
	SUMMARY : EXPL	ORATION COST	S (excluding tra	ansportati	on)									
	TYPE EXPEND.		AMOUNT											
	A)Report prep.		531.87											
	B)Equipment		961.73											
	C)Lab		1049.95	·······										
	D)Hotel		357.46											
	E)Food		805.44											
	F)Personnel		8966.43											
		TOTALS	12712.88											
TRANS	PORTATION COST	rs												
21-Jun-95	Cnd.Alr:St.James	air fare:Smithers			310.00	27.70	23.64	361.34						
21-Jun-95	Cnd Alr:Adams	air fare:Smithers			310.00	27.70	23.64	361.34						
21-Jun-95	Cdn Alr:Herrera	air fare:Smithers			310.00	27.70	23.64	361.34						•
21-Jun-95	Cdn Air	overweight fee			15.00	0.00	0.00	15.00			1			
21-Jun-95	Chevron	fuel			30.50	0.00	0.00	30.50						
21-Jun-95	Tilden, Smithers	car rental	69/d + 30/km	13	1031.08	70.82	70.82	1172.72						
30-Jun-95	Van.Island Helic.	helicopter + fuel	695.00/hr.	1.8 hrs.	1439.15	100.74	0.00	1539.89						
	Van.Island Hello.	hellc.+ fuel	695.00/hr	2.6 hrs.	2159.14	151.14	0.00	2310.28						
17-Aug-95	Cdn.Air:St. James	fare:Smithers			319.00	28.33	24.31	371.64						
17-Aug-95		excess bag.			50.00	3.50	0.00	53.50						
17-Aug-95	Cdn Air:Herrera	fare:Smithers	•		319.00	28.33	24.31	371.64						
3-Aug-95	Petro Canada	fuel			33.00	0.00	0.00	33.00			· · · · · ·			
21-Aug-95	Cdn Airlines	excess bag			50.00	3.50	0.00	53.50						
21-Aug-95	Cdn Airlines	change ticket	1		150.00	10.50	0.00	160.50						
04 Aug 05	Smithers Truck	truck rental	65/d + .24/mi	4	563.12	39.00	35.64	637.76						
ZI-Aug-so														
	Northern Mt. Helic.	flight + fuel	696.00/hr	1.1	886.38	62.05	0.00	948.43					1	

#### QUILL PROPERTY, B.C. : ITEMIZED COST St. .. EMENT FOR ASSESSMENT WORK 1995

	SUMMARY : TRAN	ISPORTATION CO	OSTS						]		
	METHOD	TOTAL COST	% Allowed	X Explor.	\$ Allowed			{			
	A)Air +vehicle	3983.78	20.00	2542,576	2542.58						
	B)Helicopter	4798.60	50.00	6356.44	4798.60	 	 				
			TOTALS		7341.18						
PHYSICAL	COSTS + ALLOW	ABLE TRANSPOR	TATION COST	'S =	20054.06						
									 <b>_</b>		
TOTAL EXP	PENDITURES BEING	<b>3 CLAIMED FOR</b>	ASSESSMENT	3	20054.06						1

# **APPENDIX I**

## **Bibliography**

- Alldrick, D. J., Britton, J. M., Webster, I.C.L. and Russell, C.W.P. (1989): Geology and Mineral Deposits of the Unuk River, B.C. Ministry of Energy, Mines and Petroleum Resources, Open File Report 1989-10.
- Curtis, K. M., Todoruk, S.L., and Ikona, C. K. (1991): Summary Geological Redport on the Lisa 1, Mikey 1, Jade 1, Jumbo 1 and Ralphus Claims, Pamicon Developments Ltd.
- Grove, E.W., Geology and Mineral Deposits of the Unuk River Salmon river Amyox Area, B.C. Ministry of Energy, Mines and Petroleum Resources, Bulletin 63.
- Jones, L. L. Duffet, G. Payie and D. Jakobsen (1995): Minfile Map 104B Iskut River.

Kenrich Mining Corp.: News Releases, Company brochures (1995)

Shcroeter, Tom G. (1995): British Columbia Mining Development and Exploration 1994 Highlights, Information Circular 1995-1.

# APPENDIX II

SAMPLE DESCRIPTION FORMS CO-ORDINATES OF SAMPLES ASSAY RESULTS

#### QUILL CLAIM BLOCK

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#### ROCK SAMPLE DESCRIPTIONS AND ANALYSIS

SAMPLE NO.	TYPE	COORDINATES - UTM	DESCRIPTION	Au ppb	Cu ppm	Ag ppm	Au g/t	Au oz/t	Ag g/t	Ag oz/t	Cu %	Pb %
AD-1	Outcrop	6254800N 405956E	Quartz diorke with dissern, pyrite									
AD-2	Outcrop	6254530N 405910E	Quartz diorite with pyrite dissem, and as fracture filling	5	18					T		
AD-3	Outcrop	6254332N 405760E	Lamprophyre									
AD-4	Float	6254285N 425737E	Quartz diorite with massive pyrite pod	10	424				1			
AD-5	Float	6254285N 425737E	Quartz diorite with pyrite dissern, and as fracture filling	30	380		1					
AD-6	Outcrop	6254306N 405745E	Quartz diorite; aftered , no visible pyrite	5	16							
AD-7	Float	6254285N 425737E	Marble	40	42							
AD-8	Outcrop	6254306N 405745E	Quartz diorite; pyritic, silicified, from narrow shear zone							1		
AD-9	Outcrop	6254306N 405745E	Same as AD-8					Ī				
AD-10	Float	6254146N 405548E	Quartz dionite with dissem, pyrite				1	T				
AD-11	Float	6254174N 405567E	Quartz diorite with pyrite in fractures					1				-
AD-12	Float	6254248N 405643E	Quartz vein; small cobble	2410	89			1				
AD-13	Outcrop	6254400N 405912E	Quartz diorite; silicified, pyritic							1		
AD-14	Float	6254477N 405933E	Quartz diorite (7); very fine grained; abun, dissem, pyrite				-					
AD-15	Float	6255305N 406777E	Quartz vein in limonitic host	55	2450		1		1			
AD-16	Float	6255305N 406777E	Quartz veinlet with galena in small cobble	-			-	1			-	t
AD-17	Float	6255305N 408777E	Quartz yein with massive Fe and Mn oxides	25	75			1		<b></b>		1
AD-18	Float	6254438N 406782E	Hornfels; dark grey; cut by quartz vein		<u> </u>		3		1	1		1
AD-19	Float	6254438N 406782E	Homfels; limonitic banded sediments						1			t —
AD-20	Outcrop	6254950N 406580E	Homfels (?); 4" fracture zone with abun. pyrite	-			1	1	1			1
AD-21	Float	6254970N 406555E	Quartz-ankerite vein with cpy, malachite and galena				0.95	0.028	78	5 22.9	0.564	0.24
AD-22	Float	6254793N 406260E	Quartz vein; vuggy with abun, pyrite and limonite	50	1045	·····	-			1	1	1
AD-23	Outcrop	6254965N 406074E	Quartz diorite cut by quartz veinlets 1/4 to 1° wide		1	1			+	+		+
AD-24	Float	6255152N 406023E	Quartz vein	5	77			-			1	+
AD-25	Float	6254970N 406580E	Quartz vein with pyrite, cpy	75			-			+		1
AD-26	Float	6254950N 405374E	Quartz vein with limonite									
AD-27	Float	6254950N 405374E	Quartz vein with massive pyrite, cpy	1020	9900				1	1		1
AD-28	Outcrop	6253558N 405223E	Quartz ankerite vein	5			-		-	+		
AD-29	Float	6254770N 406853E	Sandstone;buff; baked;pyrite in fractures	20			+			-		
AD-30	Float	6252905N 406340E	Quartz ankerite vein; specularite	20			+				1	t
AD-31	Float	6252905N 406340E	Homfels(?); very fine grained, with qtz, py and malachite	35	1880	1		1			1	1
AD-32	Outcrop	6252920N 406012E	Quartz calcite vein in mafic voic.		1			1	-			1
AD-33	Outcrop	6252920N 405527E	Quartz calcite vein in andesite porphyry	5	47				1		1	-
AD-34	Outcrop	6253283N 405243E	Quartz vein 4 to12" wide; breccia fragments	5	42			1			1	-
AD-35	Outcrop	6253306N 405253E	Quartz vein; ilmonitic with sandstone fragments; minor py.	5			1	1				+
AD-36	Float	6253144N 404882E	Quartz vein with breccia fragments	-	1	**	0.0	2 0.00	1 5.	7 0.17	0.007	1
AD-37	Outcrop	6253283N 405243E	Quartz diorite with quartz and pyrite									
AD-38	Outcrop	6254100N 405697E	Quartz diorite with massive pyrite pod		36	1				-		
AD-39	Float	6254100N 405747E	Calcite vein in diorite; pink; 2" wide; with cpy and py	10						+		
AD-40	Float	6254033N 405762E	Quartz vein with massive py and cpy; some malachite		1		64.0	5 1,86	8 45.	8 1.3	8.3	3
AD-41	Float	6254033N 405762E	Quartz vein; chlor, frags, of quartz diorite, 50% py and cpy				33.0					
AD-42	Float	6254033N 405762E	Quartz vein; cpy, py and malachite; frags of quartz diorite		1		20.7					
AD-42	Float	6254033N 405762E	Quartz vein; brecciated; massive py and cpy; intrusive frags.				37.5				_	
AD-44	Float	6253958N 405865E	Quartz diorite; siliceous; massive and f.g. pyrite; epidote	10	527	/		·				·
AD-44	Float	6254930N 405917E	Quartz dionte, sinceous, massive and i.g. pyrice, epicote Quartz dionte(7); goesan; fractured; med. to fine grained py	25			-					

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#### ROCK SAMPLE DESCRIPTIONS AND ANALYSIS

SAMPLE NO.	TYPE	COORDINATES - UTM	DESCRIPTION	Au ppb	Cu ppm	Ag ppm	Au g/t	Au oz/t	Ag g/t	Ag oz/t	Cu %	Pb %
AD-46	Float	6252905N 404881E	Quartz ankerite vein; specularite; abundant limonite	5	12							
AD-47	No sample				1					1		
AD-48	No sample									_		
AD-49	Outcrop	6254012N 405804E	Quartz vein in quartz diorite; 2 to 6" wide; tr. py and lim.	5	49		1					
AD-50	Outcrop	6254070N 405842E	Quartz dionte; silicified and fractured; <1% med, grained py.	5	134							
AD-51	Outcrop	6253930N 406022E	Quartz calcite vein system in diorite; Az. 058 .25 to 3" wide	5	27			<u> </u>				
AD-52	Float	6254145N 405860E	Brecciated conglom.; cherty(?) clasts; goethite	5	10			Γ			1	
AD-60	Float	6254205N 405595E	Quartz vein with ebun, malachite and cpy on morraine	1			0.18	0.005	2.3	0.07	0.19	0.01
AL-01	Outcrop		Quartz diorite; 1-2 cm gossanous veinlets; chip across .5 m	2	75	1.8						
AL-02	Float		Quartz vein; chloritized; 5-10% carbonate	4	4	0.6					1	
AL-03	Outcrop (?)		Quartz diorite; silicified; chloritic; 15-20% pyrite; sheared	10	82	1.7						
AL-04	Outcrop		Altered volcanic (silic.); sheared; 10-15% pyrite veinlets	5	20	1.6						
AL-05	Float		Quartz diorite; silic/chlor.; py velnlets; malachite in fracs.	167	4990	12.7	1					
AL-06	Float		Quartz; fractured with 20% fine grained pyrite	1	71	1						
AL-07	Óutcrop		Quartz dionte; with f.g. mafic bands; silic. seric.; pyrite	3	123	2	2	1		T		

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## STREAM SEDIMENT SAMPLE LOCATIONS AND ANALYSIS

AMPLE NUMBER	LOCATION COORDINATES - UTM	VOLUME	Au ppb	Ag ppm	Cu ppm
ST-1	6254087N 405352E	1 cu ft/sec	20		132
ST-2	6254110N 405414E	1 cu ft/sec	10		116
ST-3	6254290N 405630E	4 cu ft/sec	70		123
ST-4	6254265N 405620E	4 cu ft/sec	35		126
ST-5	6254725N 406200E	4 cu fl/sec	5		8400
ST-6	6254970N 406648E	1 cu ft/sec	15		267
ST-7	6254578N 406454E	2 cu ft/sec	10		144
ST-8	6255082N 405740E	5 cu ft/sec	80		679
ST-9	6255100N 405594E	1 cu ft/sec	15		173
ST-10	6254986N 405275E	1 cu ft/sec	55		9280
ST-11	6254975N 405290E	1 cu ft/sec	15		911
ST-12	6254925N 405265E	2 cu ft/sec	15		96
ST-13	6253100N 405350E	1 cu ft/sec	15	1.6	108
ST-14	6253310N 405273E	1 cu ft/sec	15	1.2	74
ST-15	6255463N 405620E	1 cu ft/sec	10		185
ST-16	6255415N 405618E	1 cu ft/sec	5		128
ST-17	6255400N 405550E	6 cu ft/sec	35		784
ST-18	6255405N 405305E	5 cuft/sec	10		103
ST-19	6255322N 406312E	0.4 cu ft/sec	10		44
ST-20	6253903N 405208E	7 cu ft/sec	10	1.3	80
ST-21	6253640N 405350E	6 cu ft/sec	15		145
ST-22	6253518N 405293E	4 cu ft/sec	75	1.2	81
ST-24	6253475N 404918E	2 cu ft/sec	5		
ST-25	6253330N 404860E	1.5 cu ft/sec	10		
ST-26	6253118N 404850E	5.5 cu ft/sec	5	1.4	
ST-27	6253160N 404843E	10 cu ft/sec	55	1	
ST-28	6252878N 404812E	11 cu ft/sec	5		8
ST-29	6253780N 405463E	5 cu ft/sec	20	1.6	193
ST-30	6254708N 405756E	2.5 cu ft/sec	15		8
ST-31	6254026N 405820E	2.5 cu ft/sec	5		206

# **APPENDIX III**

## **ASSAY CERTIFICATES**



SPECIALISTS IN MINERAL ENVIRONMENTS CHEMISTS + ASSAYERS + ANALYSTS + GEOCHEMISTS

## Geochemical Analysis Certificate

EN VIRONMENTS LABORATORIES (DIVISION OF ASSAVERS CORP.) VANCOUVER OFFICE: 8282 SHERBROOKE STREET VANCOUVER, B.C. CANADA V5X 4E8 TELEPHONE (604) 327-3436 FAX (604) 327-3423

SMITHERS LAB: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

### 5S-0045-RG1

Company:	ST JAMES CONSULTANTS
Project:	M.R.
Attn:	Allan St.James

Date: JUL-13-95 copy 1. St.James Consultants, Vancouver, B.C.

We hereby certify the following Geochemical Analysis of 24 ROCK samples submitted JUL-04-95 by A. St. James.

Sample Number	Au WET PPB	CU PPM	
AD-2	5	18	
AD-4	10	424	
AD-5	30	380	
AD-6	5	16	
AD-7	40	42	
AD-12	2410	89	
AD-15	55	2450	
AD-17	25	75	
AD-22	50	1045	
AD-24	5	77	
AD-25	75	9750	
AD-27	1020	9900	
AD-28	5	12	
AD-29	20	33	
AD-30	20	. 19	
AD-31	35	1880	
AD-33	5 5	47	
AD-34	5	42	
AD-35	5 5	641	
AD-38	5	36	
AD-39	10	5420	
AD-44	10	527	
AD-45	25	94	
AD-46	5	12	



SPECIALISTS IN MINERAL ENVIRONMENTS CHEMISTS + ASSAYERS + ANALYSTS + GEOCHEMISTS

VANCOUVER OFFICE: VARTUGUYER OFFICE: 8282 SHERBROOKE STREET VANCOLIVER, B.C. CANADA V5X 468 TELEPHONE (604) 327-3436 FAX (604) 327-3423

SMITHERS LAB: 5176 TATLOW ROAD 5176 TATLOW ROAD 5MITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

# Geochemical Analysis Certificate

5S-0045-RG2

Company:	ST JAMES CONSULTANTS
Project:	M.R.
Atta:	Allan St. James

LABORATORIES

(DIVISION OF ASSAYERS CORP.)

Date: JUL-13-95 copy 1. St.James Consultants, Vancouver, B.C.

We hereby certify the following Geochemical Analysis of 4 ROCK samples submitted JUL-04-95 by A. St. James.

Sample Number	AU WET PPB	CU PPM	
AD-49	5	49	
AD-50	5	134	
AD-51	5	27	
AD-52	5	10	

Certified by



(DIVISION OF ASSAYERS CORP.) SPECIALISTS IN MINERAL ENVIRONMENTS CHEMISTS - ASSAYERS - AMALYSTS - GEOCHEMISTS VANCOUVER OFFICE: 8282 SHERBROOKE STREET VANCOLIVER, B.C. CANADA V5X 4E8 TELEPHONE (604) 327-3436 FAX (604) 327-3423

SMITHERS LAB: 5176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

## Assay Certificate

5S-0045-RA1

ST JAMES CONSULTANTS Company: Project: M.R. Allan St.James Attn:

LABORATORIES

Date: JUL-13-95 copy 1. St.James Consultants, Vancouver, B.C.

We hereby certify the following Assay of 7 rock samples submitted JUL-04-95 by A. St. James.

Sample Number	Au-Fire g/tonne	Au-Fire oz/ton	Ag g/tonne	Ag oz/ton	Cu %	Pb %	
AD-21	.95	.028	785.0	22.90	.564	.24	
AD-36	.02	.001	5.7	.17	.007		
AD-40	64.05	1.868	45.8	1.34	6.330		
AD-41	33.07	.965	5.3	. 15	.021		
AD-42	20.73	.605	13.0	. 38	3.040		
AD-43	37.57	1.096	13.6	.40	2.400		
AD-60	. 18	.005	2.3	.07	. 190	.01	

Certified by



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## Geochemical Analysis Certificate

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**EN VIRONMENTS** LABORATORIES

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SMITHERS LAB: 5176 TALLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

## 5S-0046-SG1

Company:	ST JAMES CONSULTANTS
Project:	M.R.
Attn:	Allan St.James

Date: JUL-21-95 copy 1. St.James Consultants, Vancouver, B.C.

We hereby certify the following Geochemical Analysis of 24 STREAM SEDIMENT samples submitted JUL-04-95 by A. St. James.

Sample Number	AU WET PPB	AG PFM	CU PPM	
ST-1	20		132	
ST-2	10		116	
ST-3	70		123	
ST-4	35		126	
ST-5	5		8400	
ST-6	15		267	
ST-7	10		144	
ST-8	80		679	
ST-9	15		173	
ST-10	55		9280	
ST-11	15		911	
ST-12	15		96	
ST-13	15	1.6	108	
ST-14	15	1.2	74	
ST-15	10		185	
ST-16	5		128	
ST-17	35		784	
ST-18	10		103	
ST-19	10		44	
ST-20	10	1.3	80	
ST-21	15	1.9	145	
ST-22	75	1.2	81	
ST-24	5	1.8	96	
ST-25	10		85	

11 Certified by





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SMITHERS LAB: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

# Geochemical Analysis Certificate

## 5V-0342-RG1

Company:	ST.JAMES CONSULTANTS
Project:	QUILL
Attn:	ALLAN ST.JAMES

Date: AUG-29-95

Copy 1. St. James Consultants, Vancouver, B.C.

We hereby certify the following Geochemical Analysis of 7 ROCK samples submitted AUG-24-95 by ALLAN ST.JAMES.

Sample Number	Au-fire PPB	Ag P <b>FM</b>	Cu P <b>R</b> M	
AL-01	2	1.8	75	
AL-02	4	.6	4	
AL-03	10	1.7	82	
AL-04	5	1.6	20	
AL-05	167	12.7	4990	
AL-06	1	1.0	71	
AL-07	3	2.0	123	

# **APPENDIX IV**

# **ANALYTICAL PROCEDURES**



FRAL

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SMITHERS LAB: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

## ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK: PROCEDURE FOR GEOCHEM Ag, Cu, Pb, Zn

After drying the samples at 65 C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer or ring mill pulverizer.

0.5 gram of the sample is digested for 2 hours with an aqua regia mixture.

After cooling samples are diluted to standard volume. The solutions are analyzed by AA.



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VANCOUVER OFFICE: 8282 SHERBROOKE STREET VANCOUVER, B.C. CANADA V5X 4EB TELEPHONE (604) 327-3436 FAX (604) 327-3423

SMITHERS LAB: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

## PROCEDURE FOR Au GEOCHEM FIRE ASSAY

Samples are dried @ 65 C and when dry the Rock & Core samples are crushed on a jaw crusher. The 1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to 1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 gram sub-sample. This sub-sample is then pulverized on a ring pulverizer to 95% - 150 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

Soil and stream sediment samples are screened to - 80 mesh for analysis.

The samples are fluxed, a silver inquart added and mixed. The assays are fused in batches of 24 assays along with a natural standard and a blank. This batch of 26 assays is carried through the whole procedure as a set. After cupellation the precious metal beads are transferred into new glassware, dissolved with aqua regia solution, diluted to volume and mixed.

These resulting solutions are analyzed on an atomic absorption spectrometer using a suitable standard set. The natural standard fused along with this set must be within 2 standard deviations of its known or the whole set is re-assayed.

10% of all assay per page are rechecked, then reported in PPB. The detection limit is 1 PPB.



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SMITHERS LAB: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

#### ASSAY PROCEDURE FOR Au FIRE ASSAY

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Samples are fire assayed using one assay ton sample weight. The samples are fluxed, a silver inquart added and mixed. The assays are fused in batches of 24 assays along with a natural standard and a blank. This batch of 26 assays is carried through the whole procedure as a set. After cupellation the proious metal beads are transferred into new glassware, dissolved, diluted to volume and mixed.

These aqua regia solutions are analyzed on an atomic absorption spectrometer using a suitable standard set. The natural standard fused along with this set must be within 2 standard deviations of its known or the whole set is re-assayed. Likewise the blank must be less than 0.015 g/tonne.

The top 10% of all assay per page are recheck and reported in duplicate along with the standard and blank.



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(DIVISION OF ASSAYERS CORP.1"

VANCOUVER OFFICE: 8282 SHERBROOKE STREET VANCOUVER, B.C. CANADA V5X 468 TELEPHONE (604) 327-3436 FAX (604) 327-3423

SMITHERS LAB: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

## ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK: **GEOCHEMICAL ANALYSIS FOR WET GOLD**

10.00 grams of sample is weighed into porcelain crucibles and cindered @ 800 C for 3 hours. Samples are then tranferred to beakers and digested using aqua regia, diluted to volume and mixed

Further oxidation and treatment of 75% of the above solution is then extracted for gold by Methyl Iso-butlyl Ketone

The MIBK solutions are analyzed on an atomic absorption spectrometer using a suitable standard set



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(DIVISION OF ASSAYERS CORP.)

VANCOUVER OFFICE: VANCOUVER, BC. CANADA V5X 4E8 TELEPHONE (604) 327-3436 FAX (604) 327-3423

SMITHERS LAB: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

## ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK: PROCEDURE FOR SAMPLE PREPARATION

The soil and stream sediment samples are dried at 60 Celsius. The sample is a.) then screened by 80 mesh sieve to obtain the -80 mesh fraction for analysis.

b.) The rock and core samples are dried at 60 Celsius and when dry are crushed in a jaw crusher. The 1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to -1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 gram sub-sample. This sub-sample is then pulverized on a ring pulverizer to 95% minus 150 mesh rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.



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ABORATORIES

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VANCOUVER OFFICE: 8282 SHERBROOKE STREET VANCOUVER, B.C. CANADA V5X 4E8 TELEPHONE (604) 327-3436 FAX (604) 327-3423

SMITHERS LAB: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TEL (604) 847-3004 FAX (604) 847-3005

#### Ag, Cu, Pb, Zn, Ni, AND Co ASSAY PROCEDURE

Samples are dried @ 95 C and when dry are crushed on a jaw crusher. The -1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to -1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 gram sub-sample. This sub-sample is then pulverized in a ring pulverizer to 95% minus 140 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

A 0.200 to 2.000 gram sub-sample is weighed from the pulp bag for analysis. Each batch of 70 assays has a natural standard and a reagent blank included. The samples are digested using a HNO<sub>3</sub> - KClO<sub>3</sub> mixture and when reaction subsides, HCl is added before it is placed on a hotplate to digest. After digestion is complete the flasks are cooled, diluted to volume and mixed.

The resulting solutions are analyzed on an atomic absorption spectrometer using the appropriate standard sets. The natural standard digested along with this set must be within 2 standard deviations of it's known or the whole set is re-assayed. If any of the assays are >1% they are re-assayed at a lower weight. 10% of samples are assayed in duplicate.

# **APPENDIX V**

# STATEMENT OF QUALIFICATIONS

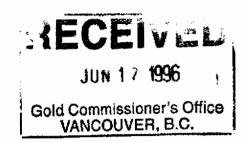
## STATEMENT OF QUALIFICATIONS

#### I, ALLAN R. ST. JAMES, DO HEREBY CERTIFY THAT:

- I have been a resident of British Columbia since 1996.
- I am a graduate of Carleton University in Geology (B.Sc. 1971)
- I have been employed as a geologist for approximately 22 years.
- I am the owner of the Quill and M.R. Claims located in the Skeena Mining Division, British Columbia and visited the property two times during the months of June, July and August, 1995.

MAY 22, 1996

Allan R. St. James



<b>GEOLOGICAL</b>	SUBVEY	BRANCH
ASSESSM	ENT REF	ORTS

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JUL 2.5 1996

## **REPORT ON**

## STREAM SEDIMENT GEOCHEMISTRY

## **OF THE**

## **QUILL CLAIMS**

Skeena Mining Division Northwestern British Columbia NTS 104B/7, 8 56° 25' North Latitude, 130° 30' West Longitude

TARLEOF

Prepared for: St. James Consultants Prepared by: John H. Adams.

## NOVEMBER, 1995

GEOLOGICAL SURVEY BRANCH ASSESSMENT REPORT

Submitted for Assessment Purposes: June 17, 1996

### **TABLE OF CONTENTS**

Summary	
1.0 Introduction	
2.0 Location and Access	
3.0 Property	
4.0 History	
4.1 Regional Production	
4 2 Property History	
5.0 Regional Geology	
6.0 Property Geology	
7.0 Area Mineralization 5	
8.0 Geochemistry	)
8.1 Anomalous Area 1	
8.2 Anomalous Area 2	1
8.3 Anomalous Area 3	2
8.4 Anomalous Area 4	3
8.5 Anomalous Area 5	3
8.6 Anomalous Area 6	
8.7 Other Areas of Interest	4
9.0 Conclusions and Recommendations	1
Bibliography	6
Certificate	7

### LIST OF FIGURES

Figure 1	Property Location Map	2
Figure 2	Claim Map and Area Showings	3
Figure 3	Stream Sediment Sample Field Data and Analytical results	8
Figure 4	Summary Statistics and Frequency Histograms for Gold	9
Figure 5	Summary Statistics and Frequency Histograms for Copper	10
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M	ap	1 Geological and Ge	eochemical Compliation		In Poo	cket	
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### APPENDICES

Appendix 1 Laboratory Procedures Appendix 2 Analytical Certificates

#### SUMMARY

Stream sediment geochemistry has outlined six copper/gold, gold or copper anomalies on the Quill claims in the Skeena Mining Division northwestern British Columbia. The anomalies either staddle the contact between Stuhini sediments and Jurassic quartz diorite intrusive or occur within the intrusive. Anomalies number 1 and 2 are considered first class and contain known showings indicating vein-type gold and base metal mineralization. The mineralization at Anomaly 1 bears similarities to the SNIP vein deposit 85 kilometres to the northwest.

Anomalies 1 and 2 warrant detailed soil sampling, geological mapping, prospecting, trenching and ground magnetic and VLF-EM surveys. The remaining anomalies warrant detailed soil sampling and prospecting

#### **1.0 INTRODUCTION**

This report presents and interprets results of a stream sediment sampling program on the Quill Claims portion of the Quill Property during June and July of 1995. Recommendations for follow-up work are made.

#### 2.0 LOCATION AND ACCESS

The property is located in the Skeena Mining Division 65 kilometres northwest of Stewart in Northwestern British Columbia (figure 1) and is covered by NTS topographic sheets 104 B/7 and B8.

The property lies on McQuillan Ridge at the junction of the Unuk and South Unuk Rivers, 24 kilometres south of the Eskay Creek Mine. Property elevations range from 3,000 to 5,600 feet above mean sea level. Slopes above the tree line (4,000 feet) are moderate and outcrop exposure is extensive; areas below the tree line are steeper with less outcrop.

Access may be gained via helicopter from the Eskay Creek mine road, Kilometre-45 Camp (35 kilometres to the North), Bob Quinn Lake on Highway 37, (65 kilometres to the northeast) or from the town of Stewart (65 kilometres to the Southeast).

#### **3.0 PROPERTY**

The Quill Property is comprised two claim groups covering 38 units. Claim filing information is as follows:

Claim Name	n Name Tenure No. No. of Units		Expiry Date
Quill	337650	20	July 1, 1996
M.R.	339222	18	August 19, 1996

This report describes and interprets only work carried out on the 20 units of the Quill Claims, tenure number 337650. The entire claim group is shown on figure 2.

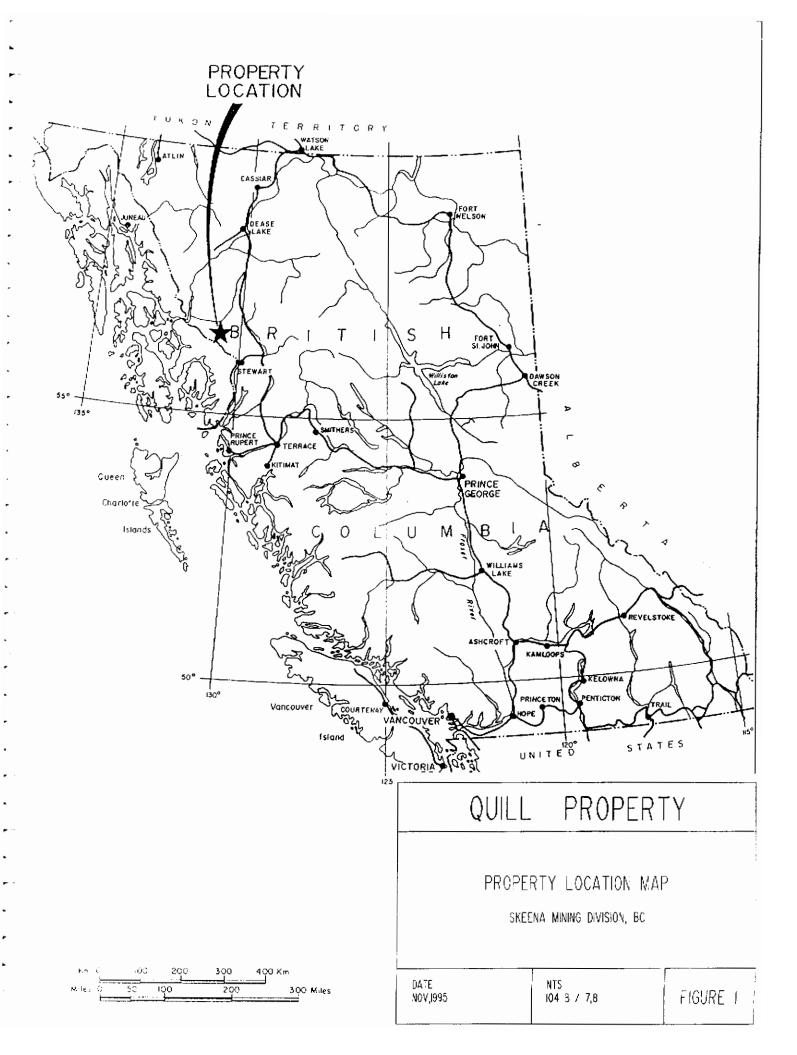
#### 4.0 HISTORY

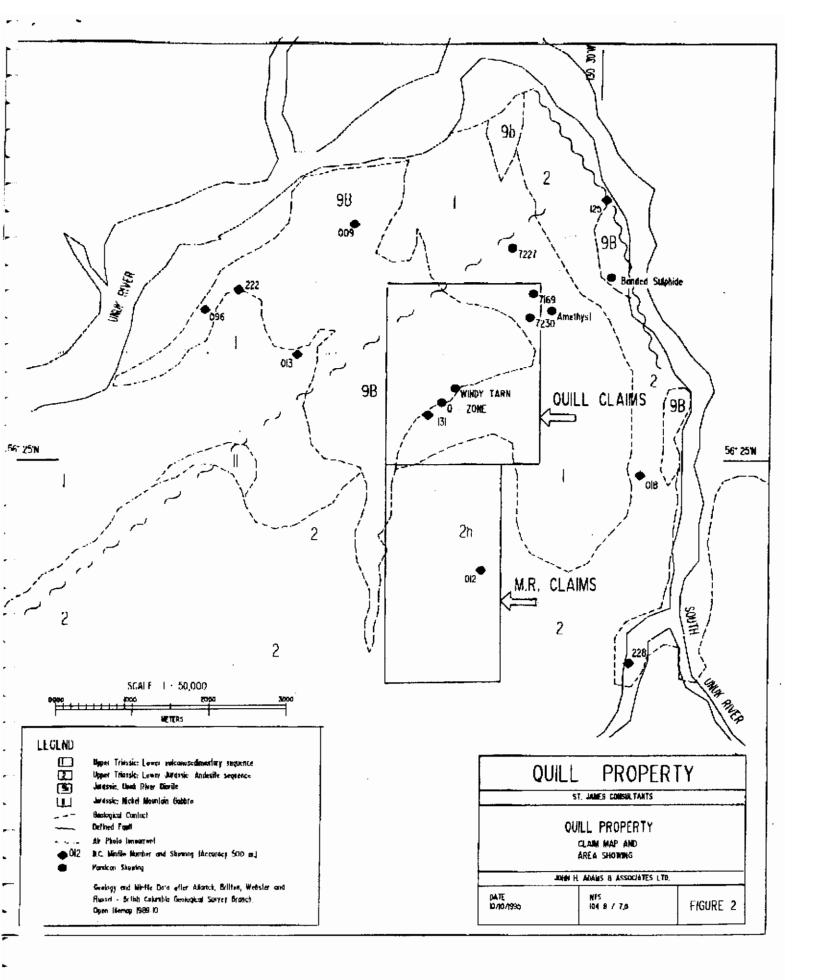
#### 4.1 REGIONAL PRODUCTION

Several significant mineral producers of gold, gold-silver and copper occur in the vicinity of the Quill Claim group. These can be divided into past, present and potential producers as follows:

#### Past producers:

1. The Silbak-Premier Mine near Stewart produced more than 2.5 million tonnes grading 16.8 g/tonne gold and 409.5 g/tonne silver in the early 1900's.





2. The Granduc Mine with published reserves of 24 million tonnes grading 1.55% copper is located 22 kilometres southeast of the Property.

#### Current producers:

- 1. The Eskay Creek Mine, located 24 kilometres north of the Quill claims produces 300 tonnes per day with pre-production reserves of 1.09 million tonnes grading 65.14 g/tonne gold and 2,949 g/tonne silver.
- 2. The Snip Mine, located 50 kilometres to the northwest of the Quill property produces 470 tonnes per day with pre-production reserves in excess of 1 million tonnes grading approximately 30 g/tonne gold.
- 3. The Johnny Mountain Mine located near the Snip Mine, produces 350 tonnes per day with preproduction reserves of 686,000 tonnes grading 17 g/tonne gold.

#### **Exploration-stage properties:**

- 1. The Sulphurets Property is located 12 kilometres to the northeast of the Quill property. The West Zone has reserves of 750,000 tonnes grading 15.4 g/tonne silver.
- 2. The Corey Property of Kenrich Mining, 4 kilometres north-northwest of the Quill Property has committed \$1.5 million in drilling/exploration in 1995. Trenching has yielded 1.140 oz./ton gold over 3.3 feet.

#### 4.2 PREVIOUS WORK ON THE PROPERTY

In 1981 Allen and MacQuarrie reported on Geological, Geophysical and Geochemical surveys on the South Unuk River Property.

In 1988, E.R. Kurchkowski reported on field work in the immediate vicinity of the Quill Claim Group for South Unuk Gold Corp. The work, involving geological mapping and rock and stream sediment sampling, covered all but the southern-most part of the Quill Claims.

Pan concentrates taken in 1988 in sandbars on the rivers indicated gold was from distal sources. Samples from low elevations of tributary creeks in the area yielded a few anomalous gold values (80 to 120 ppb). Subsequent geological traverses identified glacial till deposits upstream of the anomalous samples thus indicating gold from these samples may have been from a distal source thus rendering these samples unreliable indicators of proximal gold sources. Streams were not panned at higher elevations due to the lack of sediment. A number of anomalous gold samples were taken below the Chris and Anne Showing (1200 metres to the north-northeast of the Quill claims).

In 1990, Pamicon Developments Ltd. completed follow-up rock and soil sampling programs on the South Unuk Gold Corp Property (Curtis, K.M. et al, 1991). The Golden Jade, Windy Tarn, 7169 and 7230 showings were discovered in the area now covered by the Quill claims. A total of 251 soil samples were taken mainly on the eastern part of the South Unuk Gold Corp property in the general vicinity of the Chris and Anne showing. Portions of these soil sample lines which impinged on the Quill claims are

shown on Map 1(in pocket). No significant soil anomalies occurred on the Quill Claims.

In June and July 1995, A. St. James Prospected the Quill claims and located the Golden Jade Showing (Q-zone) and collected mineralized float samples from the vicinity of the 7169 and 7230 showings (St. James, A., 1995). Several mineralized or geochemically anomalous float samples from other areas of the Quill claims were also found.

#### 5.0 REGIONAL GEOLOGY

The property is underlain by northwest trending Upper Triassic and Lower Jurassic volcanic and sedimentary rocks of the Hazelton and Stuhini groups. These are intruded by felsic to intermediate intrusives of the Coast Plutonic Complex.

The Hazelton Group is comprised of various assemblages of volcanics and sediments including siltstones, sandstones and conglomerates; felsic and intermediate volcanics and pyroclastics.

The Upper Triassic Stuhini Group is comprised of a volcano-sedimentary sequence of siltstones, shales, wackes with some limestone units and mafic to intermediate volcanics and volcaniclastics.

#### 6.0 PROPERTY GEOLOGY

The contact between the Coast Plutonic intrusives and the volcanosedimentary Stuhini Group and Hazelton Group (Unuk River Formation) rocks pass through the central part of the Quill Claim Group (see map 1). The geology of the property has not been mapped in detail. The geology on map 1 has been compiled by provincial geologists on a regional scale. During the current field program the general position of contacts shown on the maps was found to be approximately correct. Granodiorite to diorite intrusives underlie the northwestern and western portions of the Quill Claim Group. Andesite and hornfels were commonly observed near the western contact of the intrusive complex in the central portions of the claims. Conglomerate, shales and minor limestone was observed in float on the eastern portions of the claims. In the southern part of the claim group, large areas of exposed , dark-green mafic volcanics were widespread above the 5000 foot contour that defines the uppermost portion of McQuillan Ridge. Rare lamprophyre dikes were noted in hornfels near the intrusive in the central part of the claim group.

#### 7.0 AREA MINERALIZATION

Sixteen Showings have been documented within 3 kilometres of the Quill property (figure 2). Six of these occur at or near contacts of the Unuk River Diorite with Stuhini Formation sediments and volcanics. Five of the showings occur on the Quill claims. Following is a description of the 16 showings within 3 kilometres of the Quill claims.

SHOWING NAME	MINFILE NUMBER	LOCATION (UTM)	туре	DESCRIPTION
Har, Jim,Mmax	104B - 009	6256500N 404475E	Cu, Fe	Skarn in limestone near diorite contact
McQuillan	104B - 012	6251500N 406000E	Cu, Fe	Igneous contact; andesite & diorite dyke
Max, Granduc Iron	104B - 013	6255100N 403600E	Fe, Cu	Skarn (garnet, diopside) in hornfels
Unuk Jumbo	104B - 018	6252900N 408300E	Cu, Au	In Sedimentary Cataclastite
Unuk River	104B - 096	6255500N 402000E	Cu	Skarn; igneous contact
Chris, Anne	104B - 125	6256500N 407550E	Сц, Fe	Skarn; diopside-magnetite., hornfels
Cebuck Creek, Max	104B - 222	6255450N 402900E	Au, Ag	Igneous contact; vein;
GC	104B - 228	6250300N 408200E	Cu	In Sedimentary Cataclastite
Fred, Dan *	104B - 231	6253895N 405465E	Cu, Au	In diorite at faulted contact
7169 Showing *	-	6255175N 406750E	Au, Cu	Quartz vein
7227 Showing	-	6256210N 406220E	Cu, Ag	Quartz vein in andesite
7230 Showing *	-	6254880N 406725E	Ag, Pb, Zn	Ankerite in shear zone within andesite
Amethyst Showing	-	6255060N 406975E	Ag, Pb, Zn	Cherty-jasperoid material
Windy tarn Showing *	-	6254210N 405760E	Au	Quartz vein breccia in diorite
Golden Jade Showing *		6254075N 405750E	Au, Cu, Ag	Quartz vein breccia
Banded Sulphide Showing	-	6255735N 407880E	Cu	Shear zone; magnetic high

\* Showings which occur on Quill Claims

#### **8.0 GEOCHEMISTRY**

A reconnaissance stream sediment sampling program was completed over the Quill Claims in June and July of 1995. A total of 30 silt samples were gathered from active stream beds on the northern, western and central portions of the Quill claims. No significant active drainage was found on the Eastern flank of the claim group and the southern portion of the claims was largely covered with snow during field work in early July. Map 1 shows the distribution of stream sediment samples. A prospecting program carried out at the same time is documented in a report by A. St. James *Geological Report on the Quill Property*.

At the time that samples were collected, there was still some snow cover in most of the stream valleys. Samples were taken at every significant stream encountered during prospecting traverses. Samples were collected in wet strength gusseted kraft paper bags. Samples were partially dried in the field and delivered to Mineral Environments Laboratories in Smithers. Here samples were dried and sieved. The minus 80 mesh fraction was analyzed for gold by atomic absorption after aqua regia digestion and MIBK extraction All samples were analyzed for copper by conventional atomic absorption with aqua regia digestion. Eleven selected samples were also analyzed for silver by the same method. Appendix 1 contains details of laboratory procedures.

Figure 3 tabulates data for all stream sediment samples. Results are plotted on map 1 and statistical analysis of gold and copper values are presented in figures 4 and 5.

A total of six anomalous areas were outlined and are shown on map 1. The anomalous areas are described as follows:

#### 8.1 ANOMALOUS AREA 1

A large cone-shaped anomaly encompasses the Q-zone gold-copper showing and the Windy Tarn gold showing in the central part of the claims. The stream sediment anomaly is defined by three samples; two with elevated gold and copper values below the Q-zone showing and one with elevated copper above it. Anomalous stream sediment samples are summarized as follows:

SAMPLE #	LOCATION (UTM)	VOL. (cu/ft/sec)	Au (ppb)	Ag (ppm)	Си (ррт)
ST-3	6254290N 405630E	4	70		123
ST-4	6254265N 405620E	4	35		126
ST-31	6254026N 405820E	2.5	5		206

#### STREAM SEDIMENT SAMPLES IN ANOMALOUS AREA 1

The Q-zone consists of large angular blocks of mineralized quartz vein material with massive sulphides with up to 60-70% chalcopyrite/pyrite. Samples from large mineralized blocks at the Q-zone showing were sampled by St. James in 1995 and yielded the following:

Q-ZONE MINERALIZED ROCK SAMPLES (St. James, 1995)

SAMPLE NUMBER	SAMPLE TYPE	DESCRIPTION	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)	Cu (%)
AD-39	Float	Calcite vein in diorite, 2" wide, cpy and py	.01				.542
AD-40	Float	Quartz vein with massive py, cpy and mal.	64.05	1.868	45.8	1.34	6.33
AD-41	Float	Quartz vein; chloritic, 50% py and cpy	33.07	0.965	5.3	0.15	0.021
AD-42	Float	Quartz vein; frags qtz diorite, py,cpy, mal.	20.73	0.605	13	0.38	3.04
AD-43	Float	Quartz vein; gossan, fractured, py	37.57	1.096	13.6	0.4	2.4

Samples from the Windy Tarn Showing collected by Pamicon Developments Ltd. (1991) were of quartz-

### QUILL CLAIM BLOCK

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#### STREAM-SEDIMENT ANALYTICAL AND FIELD DATA

Cu ppm	Ag ppm	Au ppb	VOLUME	LOCATION COORDINATES - UTM	SAMPLE NUMBER
132		20	1 cu ft/sec	6254087N 405352E	ST-1
116		10	1 cu ft/sec	6254110N 405414E	ST-2
123		70	4 cu ft/sec	6254290N 405630E	ST-3
126		35	4 cu ft/sec	6254265N 405620E	ST-4
8400		5	4 cu ft/sec	6254725N 406200E	ST-5
267		15	1 cu ft/sec	6254970N 406648E	ST-6
144		10	2 cu ft/sec	6254578N 406454E	ST-7
679		80	5 cu ft/sec	6255082N 405740E	ST-8
173		15	1 cu ft/sec	6255100N 405594E	ST-9
9280		55	1 cu ft/sec	6254986N 405275E	ST-10
911		15	1 cu ft/sec	6254975N 405290E	ST-11
96		15	2 cu ft/sec	6254925N 405265E	ST-12
108	1,6	15	1 cu ft/sec	6253100N 405350E	ST-13
74	1.2	15	1 cu ft/sec	6253310N 405273E	ST-14
185		10	1 cu ft/sec	6255463N 405620E	ST-15
128		5	1 cu ft/sec	6255415N 405618E	ST-16
784		35	6 cu ft/sec	6255400N 405550E	ST-17
103		10	5 cu ft/sec	6255405N 405305E	ST-18
44		10	0.4 cu ft/sec	6255322N 406312E	ST-19
80	1.3	10	7 cu ft/sec	6253903N 405208E	ST-20
145	1.9	15	6 cu ft/sec	6253640N 405350E	ST-21
81	1.2	75	4 cu ft/sec	6253518N 405293E	ST-22
96	1.8	5	2 cu ft/sec	6253475N 404918E	ST-24
85	1.3	10	1.5 cu ft/sec	6253330N 404860E	ST-25
- 74	1.4	5	5.5 cu ft/sec	6253118N 404850E	ST-26
79	1.4	55	10 cu ft/sec	6253160N 404843E	ST-27
89	1.5	5	11 cu ft/sec	6252878N 404812E	ST-28
193	1.6	20	5 cu ft/sec	6253780N 405463E	ST-29
87		15	2.5 cu ft/sec	6254708N 405756E	ST-30
206		5	2.5 cu ft/sec	6254026N 405820E	ST-31

Field work - July 1995

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Figure 3

### Summary Statistics and Frequency Histograms for Gold

#### -80 Mesh Stream Sediment Samples

SUMMARY STATIS	SUMMARY STATISTICS				
Au ppb					
Меап	22.16666667				
Standard Error	4.030653617				
Median	15				
Mode	15				
Standard Deviation	22.07679908				
Sample Variance	487.3850575				
Kurtosis	1.535611322				
Skewness	1.64625922				
Range	75				
Minimum	5				
Maximum	80				
Sum	665				
Count	30				
Confidence Level(95.000%)	7.899924226				

Interval	Freq.	Cum.%
5	6	20.00%
10	7	43.33%
15	8	70.00%
20	2	76.67%
25	0	76.67%
30	0	76.67%
35	2	83.33%
40	0	83.33%
45	0	83.33%
50	0	83.33%
55	2	90.00%
60	0	90.00%
65	0	90.00%
70	1	93.33%
75	1	96.67%
80	1	100.00%
More	0	100.00%

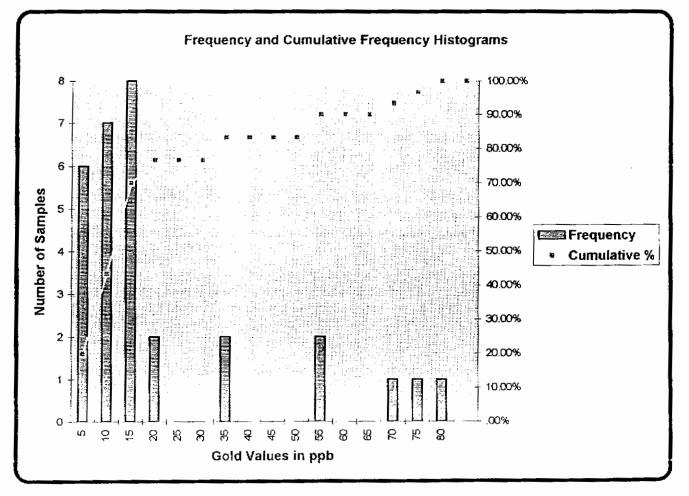


Figure 4

#### Summary Statistics and Frequency Histograms for Copper

#### -80 Mesh Stream Sediments

Summary Statistics						
Си ррп	Cu ppm					
Mean	769.6					
Standard Error	402.9291618					
Median	124.5					
Mode	96					
Standard Deviation	2206.93391					
Sample Variance	4870557.283					
Kurtosis	12.11263121					
Skewness	3.621786126					
Range	9236					
Minimum	44					
Maximum	9280					
Sum	23088					
Count	30					
Conf. Level(95.00%)	789.7254761					

Interval Freq.

More

Cum. %

.00%

.00%

3.33% 16.67%

36.67%

46.67%

60.00%

66.67%

70.00%

76.67%

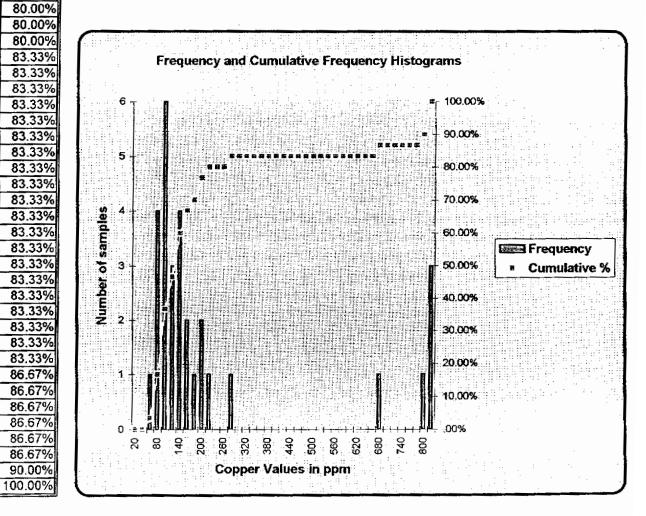


Figure 5

vein breccia within diorite. Veining was traced over 25 metres and ranged in width from 10 to 200 cm. This showing was not visited during the current program. Results from Pamicon field work are as follows:

SAMPLE NUMBER	SAMPLE TYPE	DESCRIPTION	Au (ppb)	Au (oz/t)	Ag (ppm)	Cu (ppm)	Рb (ррт)
7168	Grab	Quartz Breccia; py, cpy	1880		0.2	131	<2
7182	Grab	Diorite-Quartz Breccia; py		0.478	1.4	105	3
7184	Grab	Diorite-Quartz Breccia; py		0.060	<0.1	16	<2

WINDY TARN MINERALIZED ROCK SAMPLES (Pamicon Developments, 1991)

Two isolated rock samples, 7165 (Pamicon, 1991) and AL-05 (St James, 1995) located south of the Q-zone but within Anomaly 1 yielded the following:

SAMPLE NUMBER	SAMPLE TYPE	DESCRIPTION	Au (ppb)	Ag (ppm)	Cu (ppm)	РЬ (ррш)	Zn (ppm)
7165	Grab	Tuff (?) with quartz vein with sphalerite	10	1.4	120	3563	5235
AL-03	Outcrop ?	Quarts diorite; silicified. chlor.,15-20% py	10	1.7	82		

Both the Q-zone and the Windy Tarn showings are near the contact between quartz diorite intrusive and Stuhini volcanics/sediments which passes through the northern third of the anomaly.

#### 8.2 ANOMALOUS AREA 2

This large Au-Cu-Pb-Zn anomaly in the northeast corner of the claims is comprised of two stream sediment samples yielding anomalous copper. It also encompasses seven anomalous rock samples including Pamicon's 7169 and 7230 Showings. Pamicon describes the showings as occurring in quartz and ankerite veins. The contact between diorite and Stuhini volcanics and sediments is characterized by a gossanous zone of pyritic hornfels which occupies the central part of the anomalous area. The stream sediment samples are described as follows::

SAMPLE #	LOCATION (UTM)	VOL. (cu/ft/sec)	Au (ppb)	Ag (ppm)	Си (ррт)
ST-5	6254725N 406200E	4	5		8400
ST-6	6254970N 406648E	1	15		267

The site of ST-5 is at the top of a break in slope where an area of the stream bed, 5 metres,

is covered by abundant cobbles coated with a distinctive turquoise precipitate stain. The stream bed upstream from ST-5 to ST-7 was snow covered at the time of sampling.

Anomalous rock samples collected by both St James and Pamicon are shown on map 1. They display various metal associations including copper, gold-copper, copper-silver-lead-zinc, lead-zinc-copper-silver-gold, silver-lead-copper-gold and are described as follows:

SAMPLE NUMBER	SAMPLE TYPE	DESCRIPTION	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
AD-22	Float	Quartz vein; in diorite, abun. py. and lim.	50		1045		
7162	Outcrop?	Metased ?, mass. py, 5m wide x 25m long	n.đ.	0.4	569	<29	45
7154	Grab	Volcanic; bleached, silicified, py	10	0.2	891	2	58
7169	Grab	Quartz vein 15-20 cm wide, 40 cm long, cpy	2450	1.0	914	<2	64
7207	Grab	Quartz vein, 090/70S; epidote, cpy, mal.	n.d.	1.2	980	126	714
7229	Grab	Quartz-carb. shear; gn, py, .2m wide	40	>50	219	207	137
7230	Grab	Quartz-carb. vein mal, cpy, tt, gn: .2mwide	540	>50	7275	>20000	>20000
AD-15	Float	Quartz vein; limonite	55		2450		
AD-21	Float	Quartz-carb. vein; cpy, malachite, galena	950	785000	5640	2400	
AD-25	Float	Quartz vein with py, cpy	75		9750		

#### 8.3 ANOMALOUS AREA 3

This copper-gold anomaly in the north central portion of the Quill claims is comprised of three stream sediment samples in the same northwest drainage. Stream sediment data are as follows:

SAMPLE #	LOCATION (UTM)	VOL. (cu/ft/sec)	Au (ppb)	Ag (ppm)	Cu (ppm)
ST-8	6255082N 405740E	5	80		679
ST-17	6255400N 405550E	6	35		784
ST-15	6255463N 405620E	1	10		185

STREAM SEDIMENT SAMPLES IN ANOMALOUS AREA 3

Pamicon rock sample number 7204, from outcrop within the anomaly, yielded 508 ppm copper, 1.9 ppm silver, 107 ppm lead, 178 ppm zinc and non-detectable gold. The sample was described as silicified diorite with 5 to 7% pyrite. The anomaly lies within an eastern salient of the diorite intrusive. A major northwest trending fault defines the valley occupied by the central anomalous stream which also contains ST-5 of Anomaly 2.

#### **8.4 ANOMALOUS AREA 4**

This small anomalous area in the northwestern corner of the claims is comprised of two stream sediment samples; one with anomalous copper and gold and the other with anomalous copper; and two rock samples; one with anomalous copper and gold and one with anomalous copper. The sediment samples are from two short streams with high gradients draining the steep west slope of the claims. The area is entirely within the diorite intrusive. St. James' rock sample AD-27 with anomalous gold and silver occurs on a talus slope above sediment sample ST-11. Pamicon sample 7203 with anomalous copper was found at the top of the slope in a flatter area.

SAMPLE #	LOCATION (UTM)	VOL. (cu/ft/sec)	Аи (ррb)	Ag (ppm)	Cu (ppm)
ST-10	6254986N 405275E	1	55		9280
ST-11	6254975N 405290E	1	15		911

Stream sediment sample results are as follows:

Rock sample data are as follows:

SAMPLE NUMBER	SAMPLE TYPE	DESCRIPTION	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
AD-27	Float	Quartz vein; in diorite, mass. py. and cpy	1020		9900		
7203	Outcrop ?	Felsic tuff? cpy, mal and py; in silic. zone	30	1.6	663	<2	40

#### **8.5 ANOMALOUS AREA 5**

This small gold anomaly in the southwest part of the claims is defined a single stream sediment sample. ST-22 yielded 75 ppb gold, and 1.2 ppm silver. The contact between the diorite intrusive and Stuhini volcanics and sediments passes through the anomaly.

#### 8,6 ANOMALOUS AREA 6

This gold anomaly is comprised of one anomalous stream sediment sample in the extreme south-western corner of the claims. The contact between the diorite intrusive and Stuhini volcanics and sediments passes through the anomaly. ST-27 yielded an anomalous value of 55 ppb gold.

#### 8.7 OTHER AREAS OF INTEREST

Several rock samples collected over a broad area in the south eastern quarter of the claims yielded anomalous copper. This area has poorly developed drainage and only one brief prospecting traverse

was made through the area during the current program. Five samples by Pamicon and one by St. James yielded the following results:

SAMPLE NUMBER	SAMPLE TYPE	DESCRIPTION	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Za (ppm)
AD-31	Float	Quartz vein; in diorite, mass. py. and cpy	35	_	1880		
7164	Grab	Quartz vein, 15 cm wide; epidote and cpy	n.d.	⊲0.1	238	<2	52
7208	Grab	Hornfels (sediment); 3% py, tr. malachite	50	1.5	1953		
7210	Grab	Hornfels (andesite); massive pyrite	40	5.8	3820		
43566	Chip	Felsic tuff? cpy, tnal and py; in silic. zone	20	50.0	- 1055	94	301

Sample AD-31 reported by St. James was a float sample of hornfels and quartz taken from an area underlain by Hazelton mafic volcanics. The four remaining samples were taken from outcrops in an area underlain by Stuhini volcanics and sediments.

#### 9.0 CONCLUSIONS AND RECOMMENDATIONS

Stream sediment geochemistry detected four previously known showings on the property and four new prospective areas.

Anomalies 1 and 2 are considered first class and warrant detailed follow-up. The four remaining anomalies require prospecting and soil sampling.

 Anomaly 1 is a gold-copper anomaly which encompasses the Q-zone and Windy Tarn showings and straddles the contact between Stuhini sediments and quartz diorite intrusive. The size and number of mineralized blocks at the Q-zone showing indicate a near-by vein-type occurrence of significant width. The situation bears similarities to the SNIP deposit, 85 km to the WNW where vein type-gold deposits are associated with shears hosted in Stuhini Formation greywackes near the contact of a Jurassic quartzdiorite intrusive.

Anomaly 1 should be soil sampled at 25 metres intervals on lines as indicated on Map 1. A total of 213 samples are recommended and should be analyzed for gold, copper, lead, zinc and molybdenum. prospecting, geological mapping, trenching and ground magnetic and VLF-EM surveys.

2. Anomaly 2 is a copper anomaly which encompasses the 7169 and 7230 showings and 8 rock samples which yielded copper, lead, zinc, silver and gold mineralization. The anomaly straddles a zone of hornfels at the contact between Stuhini sediments and Jurassicquartz diorite intrusive.

A total of 270 soil samples should be collected at 25 metre intervals on lines as shown on Map 1 and analyzed for gold, copper, lead, zinc, and molybdenum. This should be followed by detailed prospecting, geological mapping, trenching and ground magnetic and VLF-EM surveys.

- 3. Anomaly 3 is a copper-gold anomaly underlain by quartz diorite and is bisected by a northwest trending fault. A total of 148 oil samples should be collected as shown on Map 1 and analyzed for gold, copper and molybdenum. This should be followed by thorough prospecting.
- 4. Anomaly 4 is a small gold copper anomaly underlain by quartz diorite. Thirty soil samples should be taken as shown on Map 1 and analyzed for gold, copper and molybdenum. This should be followed by thorough prospecting.
- 5. Anomalies 5 and 6 are small gold anomalies which straddle the contact between Stuhini sediments and Jurassic quartz diorite. A total of 54 soil samples should be collected over these anomalies and analyzed for gold, copper and molybdenum; followed by thorough prospecting.

#### BIBLIOGRAPHY

Alldrick, D.J., Britton, J.M., Webster, I.C.L. and Russell, C.W.P. (1989); Geology and Mineral Deposits of the Unuk River, B.C. Ministry of Energy, Mines and Petroleum Resources, Open File Report 1989-10

Curtis, K.M., Todoruk, S. L. and Ikona, C, K. (1991): Summary Geological Report on the Lisa 1, Mikey 1, Jade 1, Jumbo 1, and Ralphus Claims, Pamicon Developments Ltd. for South Unuk Minerals Corp.

Grove, E.W., Geology and Mineral Deposits of the Unuk River - Salmon River - Amyox Area, B.C. Ministry of Energy, Mines and Petroleum Resources, Bulletin 63.

Jones, L. L., Duffet, G, Payie, B. and Jakobsen, D (1995): Minfile Map 104B, Iskut River.

Scott, D. (1994): SNIP SNIP Hooray; in Canadian Mining Journal, Vol. 115 No.4, August 1994, p. 17-25

#### CERTIFICATE

This is to certify that:

I have been a resident of Kemptville, province of Ontario since 1971 and have been a consulting and contracting geologist since 1979.

I am a graduate of Carleton University (B.Sc. 1971) in Geology.

I am a fellow of the Geological Association of Canada (1982); a member of the Association of Exploration Geochemists (1984); and a member of the Canadian Institute of Mining and Metallurgy (1981).

I have worked intermittently in British Columbia since 1969 and spent 8 days working on the Quill Property.

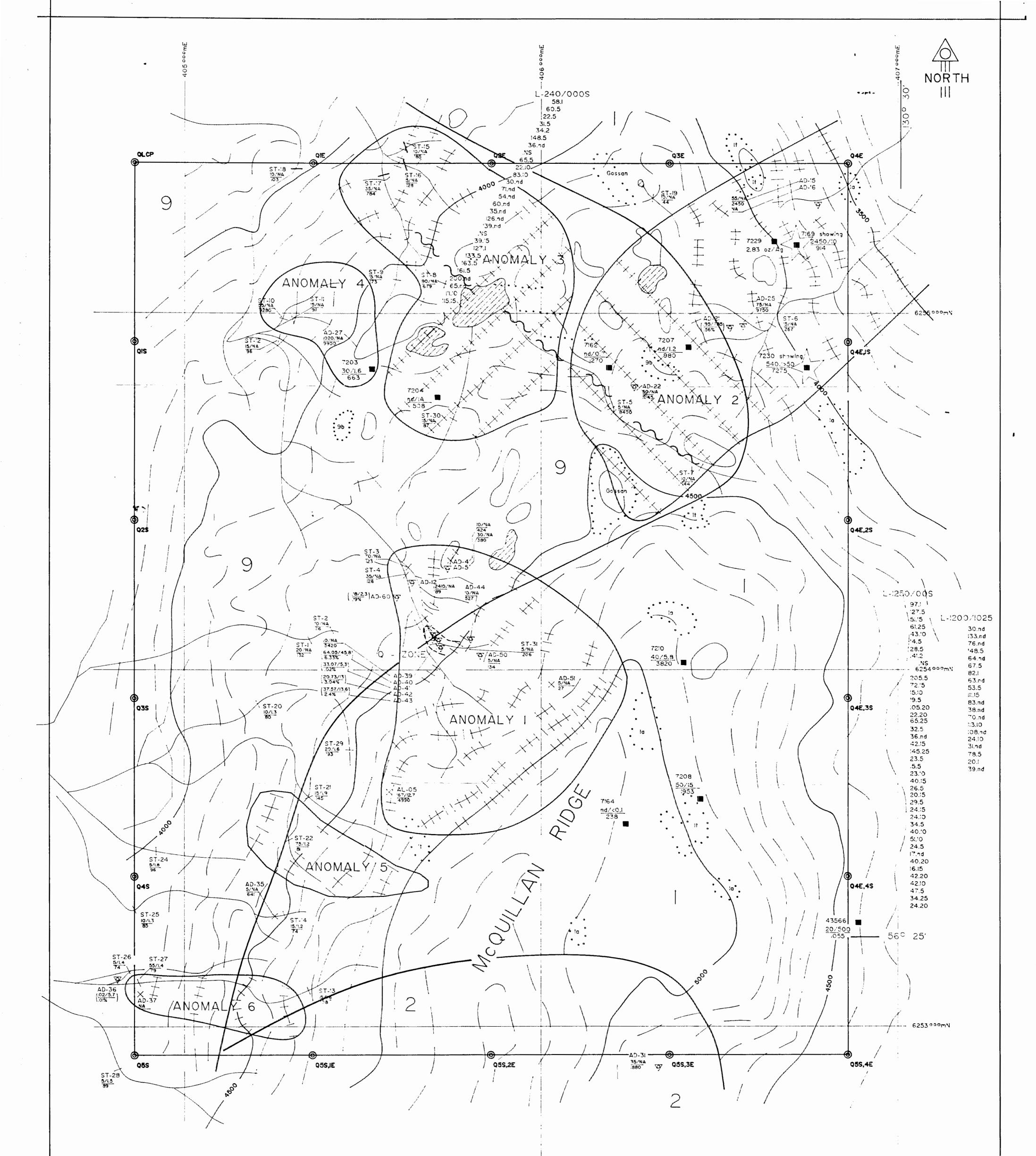
This report is based on the author's 26 years experience in exploration, on a comprehensive study of assessment records and on geological maps and reports published for the area of interest by the British Columbia Department of Mines and Petroleum Resources and the Geological Survey of Canada.

I have disclosed in this report all relevant material which, to the best of my knowledge, might have a bearing on the viability of the project or recommendations.

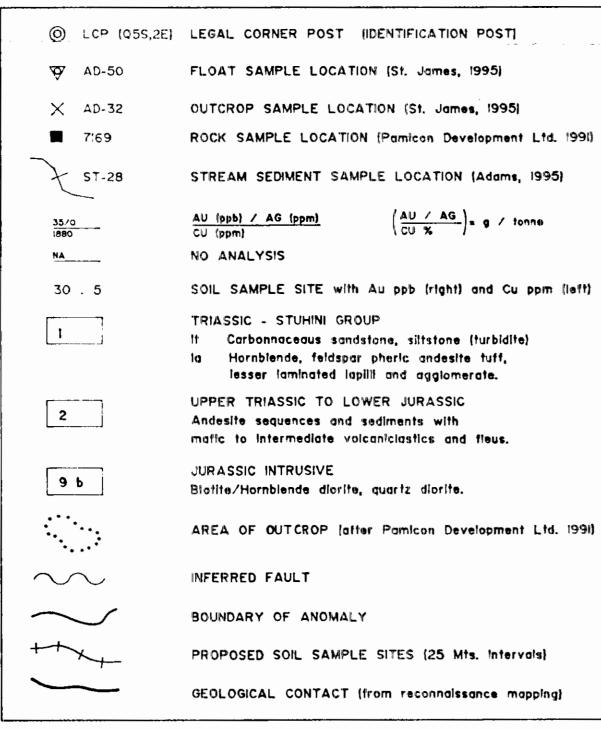
November 8, 1995

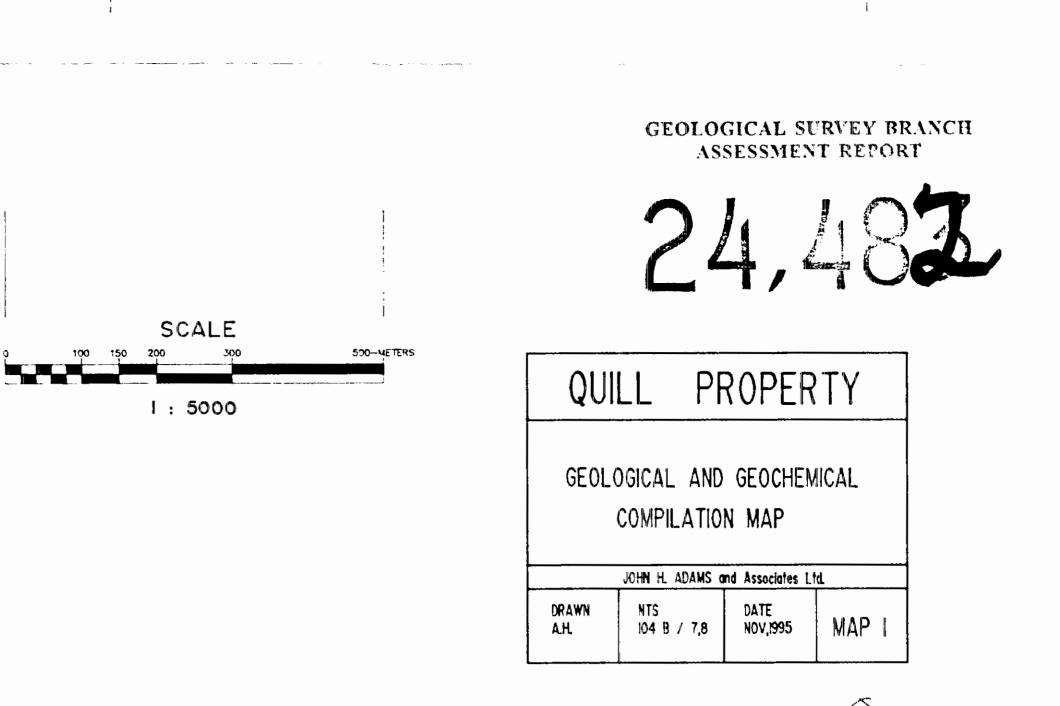
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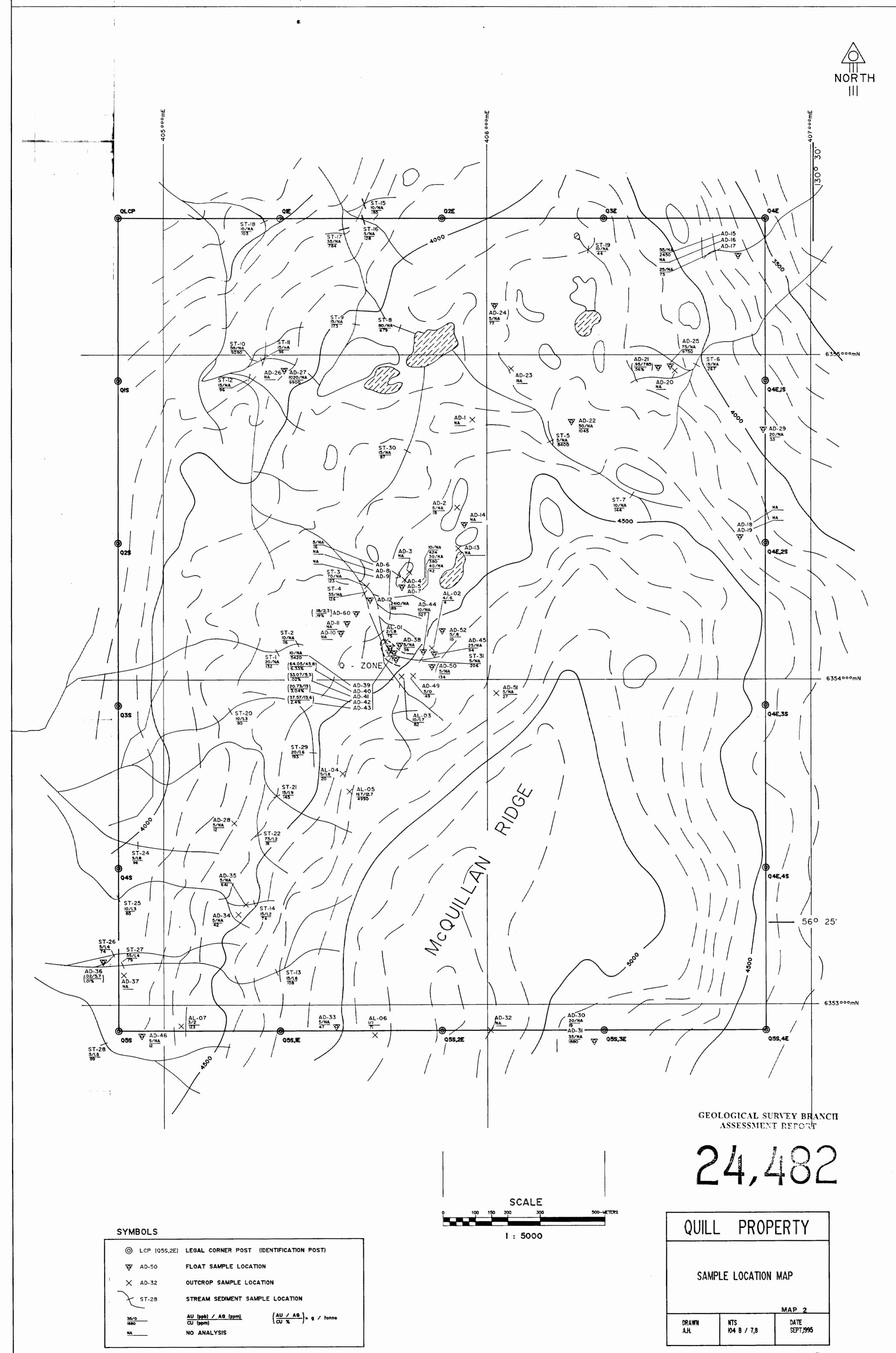
John H. Adams Geologist Kemptville, Ontario



## SYMBOLS



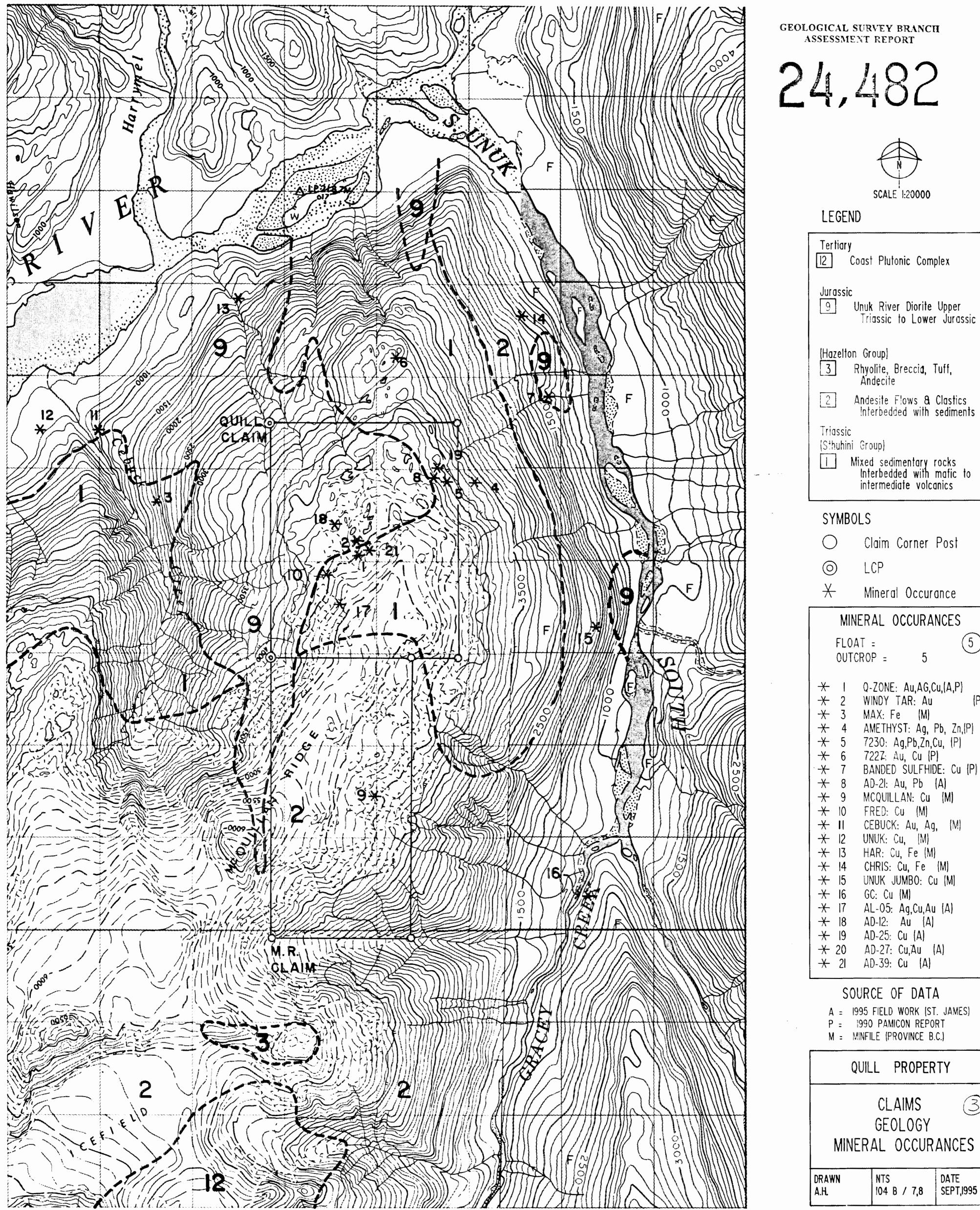




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SYMBOLS				
$\bigcirc$	Claim Corner Post			
$\bigcirc$	LCP			
X	Mineral Occurance			
MINE	ERAL OCCURANCES			
FLOA OUTC	T = 5 ROP = 5			
* * * * * * * * * * * * * * * * * * *	7230: Ag,Pb,Zn,Cu, (P) 7227: Au, Cu (P) BANDED SULFHIDE: Cu (P) AD-21: Au, Pb (A) MCQUILLAN: Cu (M) FRED: Cu (M) CEBUCK: Au, Ag, (M) UNUK: Cu, (M) HAR: Cu, Fe (M) CHRIS: Cu, Fe (M) UNUK JUMBO: Cu (M) GC: Cu (M) AL-05: Ag,Cu,Au (A)			
A = 19 P = 15	JRCE OF DATA 95 FIELD WORK (ST. JAMES) 990 PAMICON REPORT NFILE (PROVINCE B.C.)			
QI	UILL PROPERTY			

