

**ASSESSMENT REPORT**

describing

**GEOLOGICAL AND LOGISTICAL EVALUATION**

on the

**AT 1-4 CLAIMS**  
YB91866-YB91869

NTS 105F/9  
Latitude 61°32'N and Longitude 132°09'W

in the

Watson Lake Mining District  
Yukon Territory

Prepared by  
Archer, Cathro & Associates (1981) Limited

W. Douglas Eaton, B.A., B.Sc.  
December, 2000

This report has been examined by  
the Geological Evaluation Unit  
under Section 53 (4) Yukon Quartz  
Mining Act and is allowed as  
representation work in the amount  
of \$ 1200.00.

*M. B. K.*

*for* Regional Manager, Exploration and  
Geological Services for Commissioner,  
Yukon Territory.

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## INTRODUCTION

This report describes results of a property examination conducted by the author on June 21, 2000. The purpose of the trip was to determine whether or not the previously defined showings might be suitable for small scale, high grade production of silver rich mineralization. Specific concerns involved mineability (wallrock competence, vein orientation and local topography), sortability (grade variability, vein textures and mineralogy) and logistical limitations (access, campsite and water).

At the time of the visit, unseasonably late snow drifts filled most of the trenches reportedly containing the best mineralization, thus preventing thorough geological evaluation. However, the trip was not completely futile because some vein material was collected and analyzed to establish minor element contents and valuable information was obtained regarding logistics and mineability.

Appendix I contains the Author's Statement of Qualifications.

## PROPERTY AND LOCATION

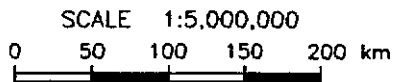
The AT 1-4 claims are located some 180 km northeast of Whitehorse at latitude 61°32'N and longitude 132°09'W on NTS map sheet 105F/9 (Figure 1). They are registered with the Watson Lake Mining Recorder in the name of Archer, Cathro & Associates (1981) Limited which holds them on behalf of a private syndicate. Claim locations are shown on Figure 2 while registration data are listed below.

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date*</u>
AT 1-4	YB91866-YB91869	February 4, 2007

\*Expiry dates include 2000 work filed for assessment credit but not yet accepted.

FIGURE 1  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

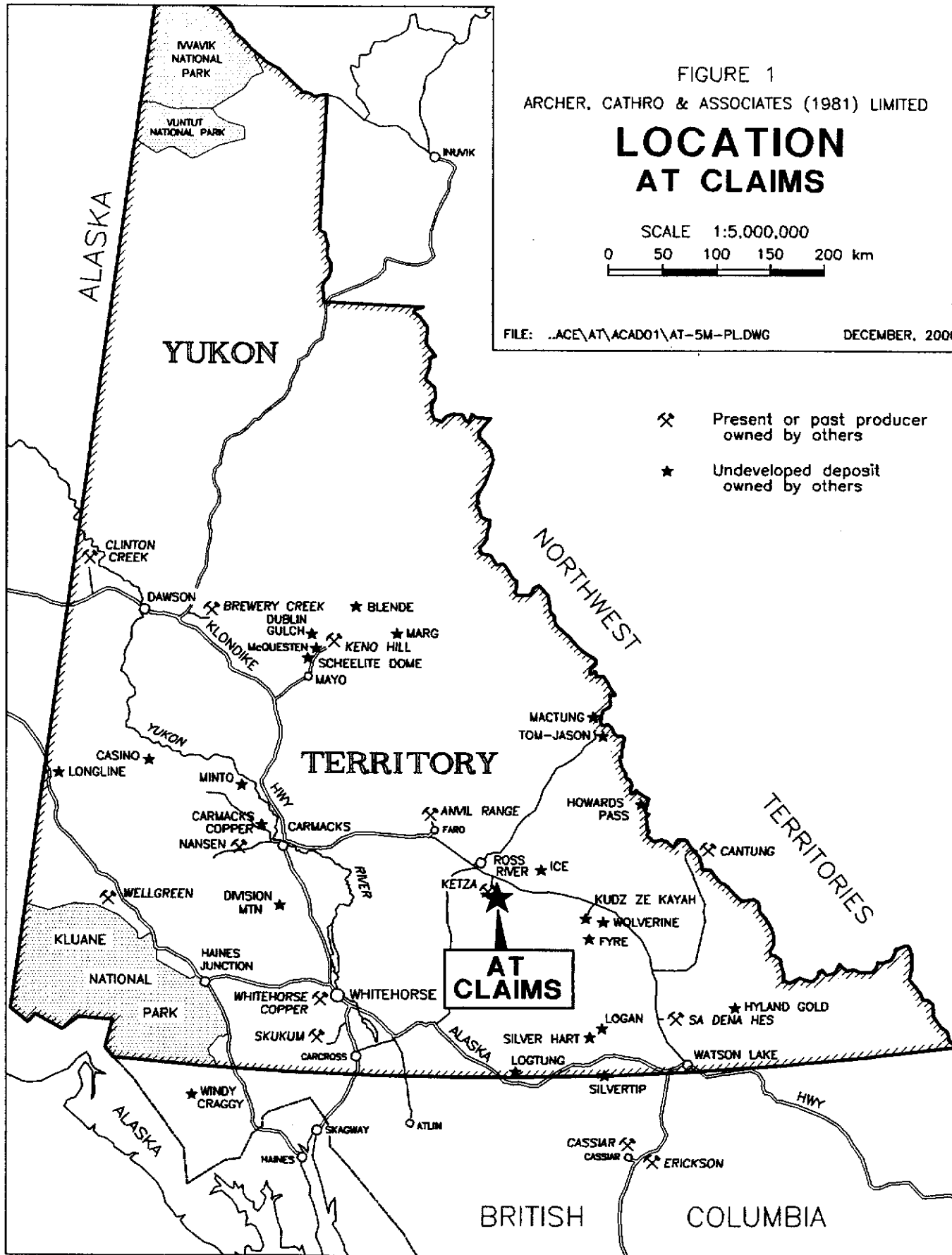
# LOCATION AT CLAIMS

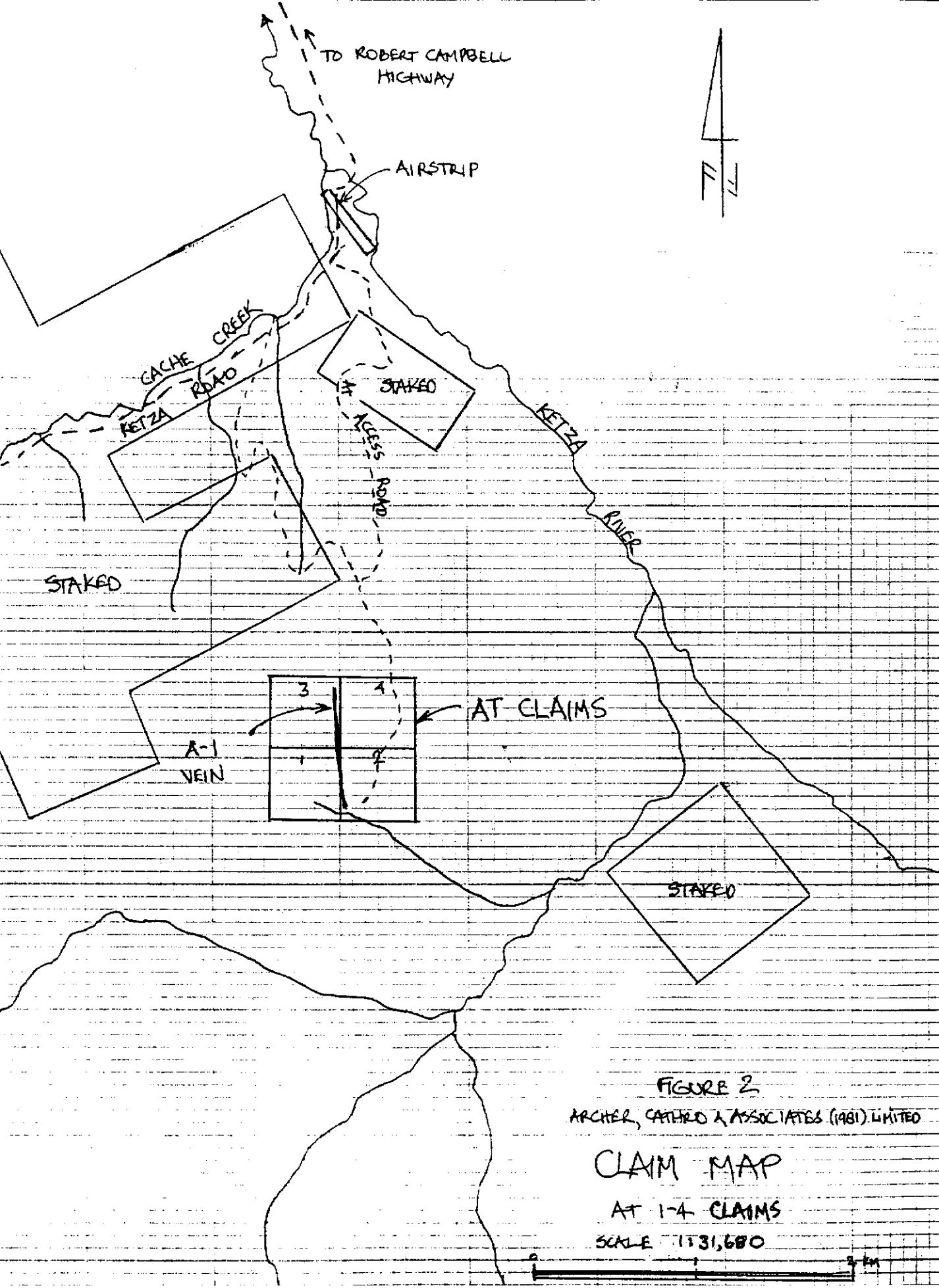


FILE: ..ACE\AT\ACAD01\AT-5M-PL.DWG

DECEMBER, 2000

- ⌘ Present or past producer owned by others
- ★ Undeveloped deposit owned by others





## PREVIOUS WORK

The first recorded staking in the area was done in 1954 by Prospector Airways on behalf of a syndicate which included Noranda and Kerr Addison. This syndicate trenched in 1955.

The area was restaked in 1961 by G. Dickson and again in 1965 by a joint venture between Stump Mines and Silver Key Mines. The joint venture conducted grid soil sampling and bulldozer trenching in 1966, drilled 5 holes totalling 289.6 m in 1967 and completed more than 427 m of underground development in 1968-69. The underground development included crosscutting, drifting and raising from an upper adit (about 37 m below surface), plus about 36 m of crosscutting on an uncompleted lower adit (about 46 m below the upper workings). Silver Key changed its name to Nordev Resources in 1972, then optioned the Stump interest in 1974 and conducted a pre-feasibility study in 1975 before dropping the claims.

H. Regeher and associates restaked the property and performed bulldozer trenching in 1976. Late that year they formed Iona Silver Mines which conducted more trenching in 1977-78, completed the lower crosscut in 1979 and advanced the lower adit another 66.8 m in 1980. Iona's claims were optioned in 1985 to Canamax Resources which performed geophysical and geochemical surveys later that year and drilled 4 holes totalling 1692.2 m in 1987 before dropping the option.

The main mineral occurrence in the area is the A-1 Vein which was discovered by soil sampling in 1966. Various generations of trenching trace it over an 850 m strike length, the best 247 m of which averaged 853.6 g/t silver and 22.2% lead over a width of 1.2 m. The vein strikes north, dips 60° west and cuts Cambro-Ordovician, thin bedded silty limestone. Mineralization consists of fine grained galena and pyrite with minor sphalerite, tetrahedrite and arsenopyrite in a carbonate gangue.

Drifting on the vein from the upper adit developed a 202 m long zone grading 329.1 g/t silver and 7.5% lead over a 1.2 m width. A raise driven from the drift to within 3 m of surface averaged 582.8 g/t silver and 16.5% lead over an average width of 1.4 m for a height of 40 m. Based on this work, plus trench and drill results, Nordev reported a proven reserve of 36,280 tonnes grading 353.1 g/t silver and 8.4% lead.

The vein appears to weaken to depth and along strike. It was cut by the lower adit, some 251 m from the portal, where it is 1.5 m wide but returned low assays. The 1987 drilling did not intersect significant mineralization.

## **LOGISTICS**

### **Access**

The AT claims are accessible by an approximately 4 km long, four-wheel drive road that extends south from the Ketz Road (Figure 2). This two-lane haulage road links the dormant Ketz Gold Mine to the Robert Campbell Highway at a point approximately 36 km by road southeast of Ross River. From the turnoff onto the AT access road to the highway is about 30 km. The Ketz Road is in excellent condition except for a 200 m stretch where the Ketz River is eroding into the road bed.

The Robert Campbell Highway is part of the main Yukon road network and is maintained by the territorial government year round. It provides access to the seaport at Skagway in Alaska by first travelling west to Carmacks, then south on the Klondike Highway through Whitehorse to Skagway (Figure 1). Alternatively, Watson Lake and the Alaska Highway can be reached by travelling southeast along the Robert Campbell Highway.



Total road distance from the AT claims to Skagway is about 500 km and to the Cominco smelter at Trail, B.C. is approximately 2800 km.

The AT access road at the time of the property visit was deeply eroded in some stretches (particularly on a steep north facing side hill) and was very wet and partially snow covered at higher elevations near the main workings. Once dry and levelled the road would provide easy access for four-wheel drive vehicles. Large two-wheel drive trucks (such as dump trucks) should be able to climb up the road provided they can maintain traction in loosely compacted areas.

A gravel airstrip suitable for small airplanes is located at the junction of the AT access road and the Ketz Road.

### **Campsite and Water**

Immediately downhill to the east of the adits and the main trench exposures there is a large flat area that, with minimal levelling, would provide ample space for a small, high grade mining or exploration camp. Water could be pumped up to this site from a creek about 300 m to the south but access to the creek is limited by steep canyon walls. Due to snow drifts, flow rates from the adits were not determined and water quality of any discharge is not known.

An alternative, probably preferable, campsite would be on the banks of Ketz River near the junction of the access road and Ketz Road. This area is well treed, quite flat and would provide abundant, easily accessible, water. The camp should not be located on Cache Creek, a tributary of the Ketz River which drain the Ketz Mine workings including the tailings dam.

## PROSPECTING AND GEOLOGICAL EVALUATION

As previously mentioned, snow cover prevented a thorough examination of the old workings. In spite of this, a number of observations can still be made as follows.

1. Although the vein dips into a hill, it is steep and the slope of the hill is relatively shallow for at least 100 m into the hanging wall, which means that topography will not seriously effect the shipping ratio.
2. The limestone wallrocks appear to be relatively competent, allowing for steep pit walls, but they likely will have to be blasted.
3. The vein contacts, where exposed, are sharp which should minimize dilution and facilitate hand sorting of ore from waste.
4. The vein minerals are fine grained and intergrown which would make visual grade determination somewhat unreliable and limit the effectiveness of hand sorting to increase grade.
5. Where mineral banding was observed in vein specimens, the rocks tended to break randomly, not along the bands, again limiting the probable effectiveness of hand sorting.
6. The best mineralized parts of the vein have reported thickness and grade continuity that suggest excellent potential for rapid production of relatively large tonnages.
7. Unfortunately, run-of-mine grades would be unlikely to exceed 40% lead with about 1400 g/t silver.
8. Although the mineralization could be milled in a small custom facility to produce a higher grade concentrate, the fine grained nature of the mineralization would likely result in some metal loss and the galena concentrate would probably be capped at about 2800 g/t silver by the inherent silver-to-lead ratios of the mineralization.

9. Chips were collected from a number of well mineralized vein fragments and sent to ALS Chemex Labs Ltd. in North Vancouver, B.C. where they were assayed for silver, lead and zinc and analyzed for 30 elements using the Induced Coupled Plasma technique. The Certificate of Analysis is in Appendix II. It shows 2060 g/t silver and 56.6% lead with relatively low antimony (2590 ppm), copper (3340) and arsenic (470 ppm). There were no other detrimental elements present that would likely result in smelter penalties. The zinc content was negligible, only 50 ppm.

### CONCLUSIONS

The AT claims host a significant tonnage of silver-lead mineralization that is well suited for small scale open pit mining. Unfortunately, at the current prices the expected value of hand sorted mineralization or milled concentrates will not return a significant profit after paying on site costs plus trucking and smelting.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED



W.D. Eaton, B.A., B.Sc.

**APPENDIX I**

**AUTHOR'S STATEMENT OF QUALIFICATIONS**

## STATEMENT OF QUALIFICATIONS

I, W. Douglas Eaton, geologist, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia and residential address in North Vancouver, British Columbia, do hereby declare that:

1. I graduated from the University of British Columbia in 1980 with a B.Sc. majoring in Geological Sciences.
2. From 1971 to present, I have been actively engaged in mineral exploration in Yukon Territory, Northwest Territories and British Columbia and on June 1, 1981, I became a partner in Archer, Cathro & Associates (1981) Limited.
3. I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.



W. Douglas Eaton, B.A., B.Sc.

**APPENDIX II**  
**CERTIFICATE OF ANALYSIS**



# ALS Chemex

Aurora Laboratory Services Ltd.  
 Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

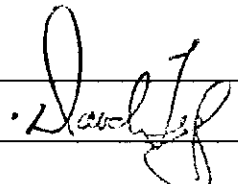
Client: ARCHER CATHRO & ASSOC. (1981) LTD.  
 BOX 4127, 2054 SECOND AVE.  
 WHITEHORSE, YT  
 Y1A 3S9

Page Number : 1-A  
 Total : 1  
 Certificate Date: 18-JUL-2000  
 Invoice No. : 10022249  
 P.O. Number :  
 Account : F

Project : AT CLAIMS  
 Comments:

## CERTIFICATE OF ANALYSIS A0022249

SAMPLE	PREP CODE	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm
BB 32999	208 226	>200	0.04	470	60	< 5	< 10	0.16	5	5	< 10	3340	9.23	10	< 0.01	0.38	5870	5	0.03	15

CERTIFICATION: 



# ALS Chemex

Aurora Laboratory Services Ltd.  
 Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

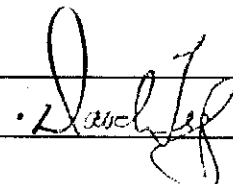
ARCHER CATHRO & ASSOC. (1981) LTD.  
 BOX 4127, 2054 SECOND AVE.  
 WHITEHORSE, YT  
 Y1A 3S9

Page : 1-B  
 Total : 1  
 Certificate Date: 18-JUL-2000  
 Invoice No. : I0022249  
 P.O. Number :  
 Account : F

Project : AT CLAIMS  
 Comments:

**CERTIFICATE OF ANALYSIS**      **A0022249**

SAMPLE	PREP CODE	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm	Ag g/t	FA %	Pb %	Zn %
BB 32999	208 226	< 100	>50000	2590	< 5	20	< 0.01	< 20	< 20	< 20	140	50	2060	56.6	< 0.01	

CERTIFICATION: 



094153

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

Box 4127, Whitehorse, Yukon Y1A 3S9

Telephone: (867) 667-4415

Fax: (867) 667-4622

AFFIDAVIT

I, Joan Mariacher, of VANCOUVER, B.C. make oath and say:



That to the best of my knowledge the attached Statement of Expenditures for exploration work on the AT 1-4 mineral claims on Claim Sheet 105 F/9 is accurate.

Joan Mariacher  
Joan Mariacher

Sworn before me at VANCOUVER, B.C.

this 14TH day of

DECEMBER, 2000

C. C.  
Notary, Yukon Territory

**AT 1-4 MINERAL CLAIMS  
Statement of Expenditures  
December 4, 2000**

**Labour**

A. Archer - geologist - December - 1 hr @ \$66/hr .....	\$ 70.62
D. Eaton - geologist - June -11 hrs, Dec. - 4 hrs, total - 15 hrs @ 60/hr .....	963.00
M. Cooke - Dec. - 3 hrs @ \$39.15/hr .....	125.67
J. Mariacher - Nov. - 1 hr @ \$44.45/hr .....	<u>47.56</u>
	<b>\$1,206.85</b>

**Expenses**

Field room and board - 1-3/8 days @ \$115/day.....	169.19
ALS Chemex Labs .....	<u>36.07</u>
	<b>\$ 205.26</b>
<b>TOTAL</b>	<b><u>\$1,412.11</u></b>

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

In Account With

Project

A.M. ARCHER HOLDINGS

Date

JUNE 30, 2000

LABOUR				
Field	D. EATON - 3.67 HRS AT 60/HRL	AT CLS	220.00	
Office	M. Cooke -	hrs at \$39.15/hr		
Accounting and Expediting	J. Mariacher -	hrs at \$49.45/hr		
	A. Gelling -	hrs at \$48.40/hr		220.00
<b>OTHER SERVICES</b>				
Room & Board in Whitehorse		days at \$80/day		
Field equipment from AC stock				
Printing		Photocopies @ .25		
Rentals from AC				
Drafting		hrs at \$38.40/hr		
<b>EXPENSES</b>				
Petty Cash	1.76	AT CLS	1.76	
Telephone				
HODGEN'S PHOTO -		AT CLS	2.70	4.46
				224.46
<b>MANAGEMENT 6% on Expenses on Field A/C</b>				
GST (R100247667) 7% on	224.46			15.71
E=GST exempt				240.17

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

In Account With

Project *CARVEST HOLDINGS*  
 Date *JUNE 30, 2000*

<b>LABOUR</b>			
Field	<i>D. EATON - 3.67 Hrs AT 60/HR</i>	<i>AT CUS</i>	<i>220.00</i>
Office	<i>M. Cooke -</i>	<i>hrs at \$39.15/hr</i>	
Accounting and Expediting	<i>J. Mariacher -</i>	<i>hrs at \$49.45/hr</i>	
	<i>A. Gelling -</i>	<i>hrs at \$48.40/hr</i>	<i>220.00</i>
<b>OTHER SERVICES</b>			
	<i>Room &amp; Board in Whitehorse</i>	<i>days at \$80/day</i>	
	<i>Field equipment from AC stock</i>		
	<i>Printing</i>	<i>Photocopies @ .25</i>	
	<i>Rentals from AC</i>		
Drafting	<i>hrs at \$38.40/hr</i>		
<b>EXPENSES</b>			
	<i>Petty Cash 1.77</i>	<i>AT CUS</i>	<i>1.77</i>
	<i>Telephone</i>		
	<i>NOUGEN'S PHOTO - AT CUS</i>		<i>2.70</i>
			<i>4.47</i>
			<i>224.47</i>
<b>MANAGEMENT 6% on Expenses on Field A/C</b>			
GST (R100247667) 7% on	<i>224.47</i>		<i>15.71</i>
			<i>240.18</i>

E=GST exempt

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

In Account With

Project *ECEE MONEY*  
 Date *JUNE 30, 2000*

LABOUR			
Field	<i>D. EATON - 3.67 HR AT 60/HR</i>	<i>220.00</i>	
Office	<i>M. Cooke - hrs at \$39.15/hr</i>		
Accounting and Expediting	<i>J. Mariacher - hrs at \$49.45/hr</i> <i>A. Gelling - hrs at \$48.40/hr</i>		<i>220.00</i>
<b>OTHER SERVICES</b>			
Room & Board in Whitehorse	<i>days at \$80/day</i>		
Field equipment from AC stock			
Printing	<i>Photocopies @ .25</i>		
Rentals from AC			
Drafting	<i>hrs at \$38.40/hr</i>		
<b>EXPENSES</b>			
Petty Cash	<i>1.77 cv AT CLS</i>	<i>1.77</i>	
Telephone	<i>MOORE'S PHOTO - AT CLS</i>	<i>2.69</i>	<i>4.46</i>
			<i>224.46</i>
<b>MANAGEMENT 6% on Expenses on Field A/C</b>			
GST (R100247667) 7% on	<i>224.46</i>		<i>15.71</i>
E=GST exempt			<i>240.17</i>



# ALS Chemex

Aurora Laboratory Services Ltd.  
 Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
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 PHONE: 604-984-0221

To: ARCHER CATHRO & ASSOC. (1981) LTD.

BOX 4127, 2054 SECOND AVE.  
 WHITEHORSE, YT  
 Y1A 3S9

INVOICE NUMBER

I 0 0 2 2 2 4 9

### BILLING INFORMATION

Date: 31-JUL-2000  
 Project: AT CLAIMS  
 P.O. No.:  
 Account: F

Comments:

Billing: For analysis performed on  
 Certificate A0022249

Terms: Payment due on receipt of invoice  
 1.25% per month (15% per annum)  
 charged on overdue accounts

Please Remit Payments to:

**ALS CHEMEX**  
 212 Brooksbank Ave.,  
 North Vancouver, B.C.  
 Canada V7J 2C1

# OF SAMPLES	ANALYSED FOR CODE - DESCRIPTION	UNIT PRICE	SAMPLE PRICE	AMOUNT
1	208 - Assay ring to approx 150 mesh	2.60		
	A-30 ICP Package	11.25		
	0-3 Kg crush and split	2.60		
	384 - Ag FA g/t	11.00		
	312 - Pb %	8.75		
	316 - Zn %	8.75	44.95	44.95
Total Cost \$				44.95
Client Discount ( 25%) \$				-11.24
Net Cost \$				33.71
(Reg# R100938885 ) GST \$				2.36
<b>TOTAL PAYABLE (CDN) \$</b>				<b>36.07</b>

*Handwritten notes:*  
 PMA - 11.24  
 CMAA - 11.24  
 ECEE - 11.24  
 2.36  
 36.07  
 J.M. Long 2/1/00  
 #99184