

**ASSESSMENT REPORT**

**DIAMOND DRILLING**

on

**Heather 3 CLAIM**

76499

June 11 - 18, 2002

Latitude 60°38.3'N, Longitude 135°5.5'W

NTS 105 D/11

**WHITEHORSE MINING DISTRICT  
YUKON TERRITORY**

094325

for

**Kluane Drilling Ltd.**

14 MacDonald Road

Whitehorse, Yukon

Y1A 4L1

by

Xiangdong Jiang, consulting geologist

December 31, 2002

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 \$ 15,000.

*M. B. K.*  
for Regional Manager, Exploration and  
Geological Services for Commissioner,  
of Yukon Territory.

Costs associated with this report have been  
approved in the amount of \$ 15,000.00  
for assessment credit under Certificate of  
Work No. QW27605

*H. Southwick*

Mining Recorder  
Whitehorse Mining District

## **Summary**

In the summer of 2002, Kluane Drilling Ltd. continued its exploration program on the Whitehorse Copper Belt. Two diamond drill holes totaling 388 ft (118.26m) were completed on the Heather 3 claim to the south of past producer Arctic Chief west open pit to test the extension of a previously drill indicated 39,000 tones at 1.34% Cu zone. ACH-2 intersected 21.5 ft (6.55m) of mineralized magnetite garnet skarn, including 7.2 ft (2.19m) with 1.41% Cu. Some late stage granodioritic dikes have displaced the mineralization. Further compilation of all existing data is recommended in order to better direct the exploration.

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## Introduction

In the summer of 2002, Kluane Drilling Ltd., based on data compilation on the Whitehorse copper belt, carried out diamond drilling on the Heather claims near the Arctic Chief pen pits. A total of 388 ft (118.26m) in two diamond drill holes were completed and 9 drill core samples were collected and analyzed for gold and copper and 34 additional elements by ALS Chemex in North Vancouver. The diamond drilling was done by Kluane Drilling Ltd. of Whitehorse, as owner operator.

## Property Location and Access

The Heather claims are part of a large claim group held by Kluane Drilling Ltd. Assessment credits from this report are used to apply to the following 16 claims in Table-1. The claim status and ownership are listed in Table – 1. The claims are located about 10 km south of Whitehorse City downtown, and to the west of Alaska Highway, with its center at about latitude 60° 38.3' N and longitude 135° 5.5' W on NTS sheets 105D/11 (Figure 1 and 2). The claims are situated to the south of the Arctic Chief open pits.

Table-1, Heather Claim Status

Claim Name	Grant Number	Number of Claims	Mining District	Ownership	New Expiry Date
Heather 1-4	76497 - 76500	4	Whitehorse	H. Coyne & Sons 100%	2009/01/01
GIN 21 – 28	YC08842 – YC08849	8	Whitehorse	H. Coyne & Sons 100%	2007/12/02
GIN 45 – 48	YC19492 – YC19495	4	Whitehorse	H. Coyne & Sons 100%	2007/06/11

Access to Heather claims is very convenient from Whitehorse City. Several roads lead to the claims including mainly the Whitehorse copper haul road. A number of trails exist on the property including the well cut Whitehorse Traverse Reference Line.

## Physiography, Climate and Vegetation

The Heather claims are below tree line, on a gentle slope west of Alaska Highway. The highest point on the property is about 1230 meters above sea level, while the lowest at about 750 meters above sea level. The climate is of interior continental, with annual precipitation of about 300 mm. The region has cold and long winters followed by warm summers. Snow free season starts from about mid-May to late September. Permafrost may exist as small patches on the steep north facing slopes. Most of the property is well treed by black spruce, willow and alder, etc. except in a few small swampy areas where low dense brush and moss are well developed. Outcrops on the Heather claims are sparse. Overburden depth varies from a few meters to several tens of meters.



Kluane Drilling Ltd.  
 Heather Claim Diamond Drilling 2002  
 Claim Map  
 Whitehorse Mining District  
 (105 D - 11)  
 1: 20,000

To Whitehorse 10 km

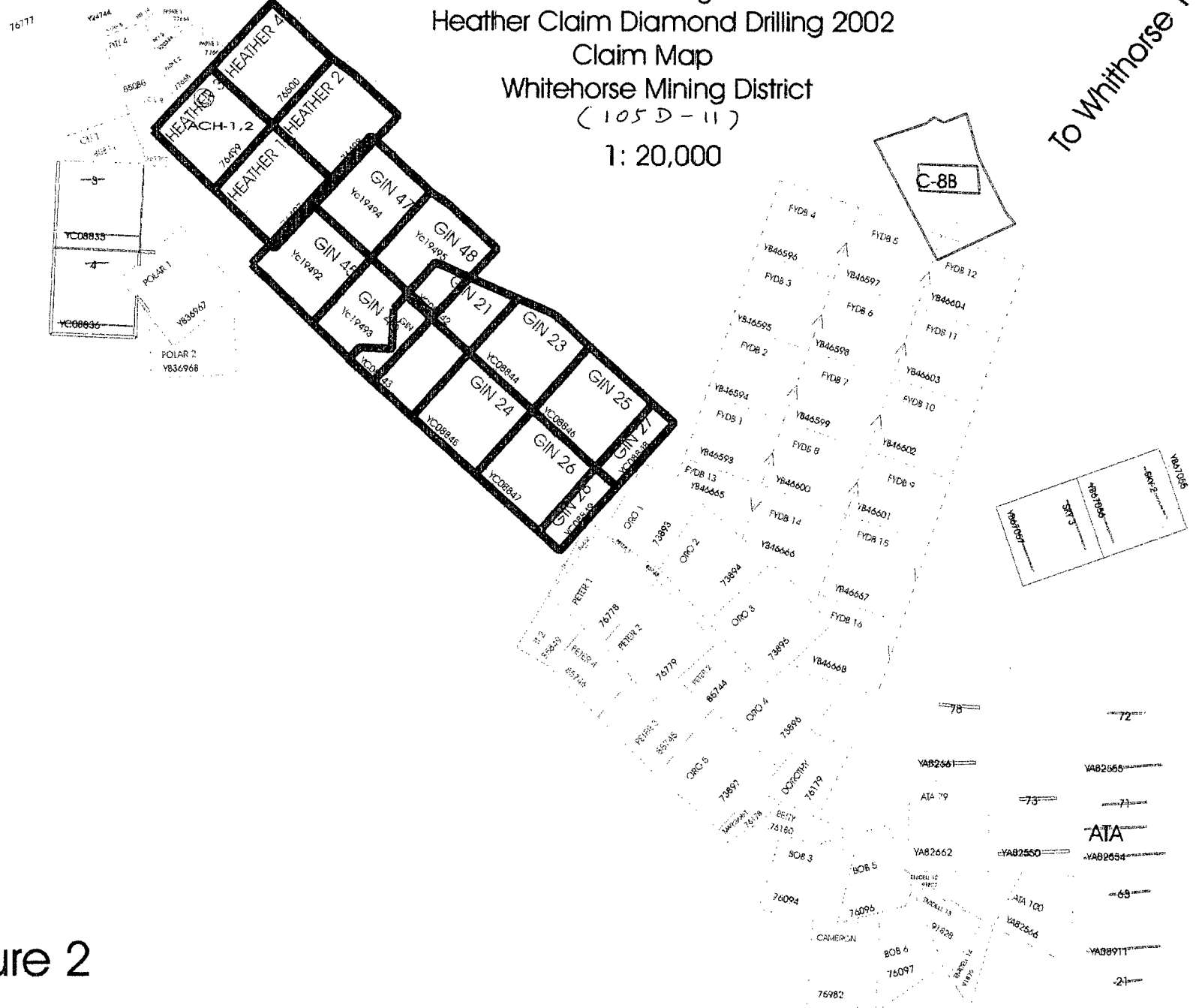


Figure 2

## **Previous Work**

There is great amount of work done on the Whitehorse Copper Belt over it's more than one hundred year history. Numerous publications are available today. From the first claim staked by Jack McIntyre on July 6<sup>th</sup>, 1898, the Whitehorse Copper Belt has seen quite a few booms and busts caused either by world copper prices or by infrastructure problems. Major companies that have worked on the belt include: Richmond Yukon Company worked in late 1920's; Noranda Mines worked in late 1940's; Hudson Bay Exploration and Development Company worked in 1950's and from late 1970's to 1990's; and Imperial Mines and Metals (later changed name to New Imperial Mines Ltd. in 1957) from 1950's to late 1970's. The Whitehorse Copper mining operations ceased at the end of 1982. The production for the 1967 - 1982 period included 267,490,930 pounds copper, 224,565 ounces gold and 2,837,631 ounces of silver from 11,017,738 tons of ore milled. Further exploration on the Copper Belt has been relatively dormant since 1982. Only minor amount of drilling, trenching and geophysics were conducted with no new economic discoveries.

## **Regional Geology**

The geological setting of the Whitehorse Copper Belt is well summarized by D. Tenney (1981): The Whitehorse Copper Belt is within the Whitehorse Trough, a subdivision of the Intermontane Belt. The trough trends northwestwards through south central Yukon and represents an island arc complex that ranges from upper Paleozoic through Jurassic in age. Within the Copper Belt, clastic and carbonate rocks of the upper Triassic Lewes River Group and clastic rocks of the Lower Jurassic Laberge Group are the dominant rock types. The copper bearing skarns occur over a length of about 32 km along the western side of a Cretaceous diorite batholith of the Coast Platonic Complex.

## **Property Geology**

The Heather claims are located in the southern part of the Whitehorse Copper Belt. Past producer Arctic Chief open pits sit right to the north of the claims. About two thirds of the property is underlain by sedimentary rocks of Upper Triassic Lewes River Group and Lower to Middle Jurassic Laberge Group. The rest is occupied by Mid Cretaceous Whitehorse Batholith. The Lewes River Group is composed of a mixture of calcareous and dolomitic siltstone, sandstone and mudstone; pyritic siltstone; sandstone, argillite, limestone, dolomite and fragmental rocks. The Laberge Group is consisted of poorly sorted greywacke and sandstone with interbedded argillite and siltstone (no calcareous units) (Watson, 1984). The Whitehorse Batholith is composed of grey, equigranular, medium to coarse grained, biotite - hornblende quartz monzonite to granodiorite

and hornblende diorite. There are a few late east west trending granodiorite porphyry dikes on the property, which cut the mineralization.

Mineralization on Heather claims are mainly of skarn style as iron-rich magnetite copper skarns developed in the Upper Triassic Lewes River Group limestones and clastic sedimentary rocks near contact with granodiorite. Other styles of mineralization reported on the Whitehorse Copper Belt include mainly porphyry Cu – (Au). However, so far there is no such economic deposit found on the belt.

## **2002 Diamond Drilling Program**

In the summer of 2002, two diamond drill holes totaling 388 ft (118.26m) were completed on Heather 3 claim including ACH-1 and 2 on L94+50N / 5120E (see Figure 3). Drilling started on June 13, 2002 and finished by June 18, 2002. Kluane Drilling Ltd. as owner operator completed the diamond drilling. Core recoveries were above 95%. Ground disturbance was kept to minimal.

The objective of this program is to drill test the extension of mineralization from Arctic Chief west pit. Previous drilling by Whitehorse Copper Mines Ltd. outlined 39,000 tones ore at 1.34% Cu to the south of the pit. Also there is an associated moderate chargeability anomaly.

**ACH-1** was drilled to the west (270°) at –51 degrees. However, the drill hole was all in the late granodiorite dike down to 118 feet. The hole was shut down and the drill rig was turned 25 degrees to northwest and drilled ACH-2.

**ACH-2** was drilled on the same spot as ACH-1, but with azimuth of 295°. This hole intersected 21.5 ft (6.55m) of mineralized magnetite garnet skarn, including 7.2 ft (2.19m) with 1.41% Cu. The mineralization has been obviously displaced by the late granodioritic dikes in this area. (Table-2 for drill logs and Figure 4 for drill hole section.)

A total of 9 half split (sawed) NQ sized drill core samples were taken and shipped to ALS Chemex in North Vancouver for analysis. For each sample, Fire Assay (30 grams) followed by Atomic Absorption method was used for gold analysis followed by standard nitric-aqua regia digestion for 34 element ICP scan; and four acid total digestion for over limit copper samples from above ICP method. Analytical assay certificates are attached in Appendix 1.

2002 Arctic Chief Property Diamond Drill Log ACH - 1			Hole #:	<b>ACH - 1</b>	Elevation:	2850 - 290			
Date Started:	June 13, 2002		Date Finished:	June 14, 2002	Final Depth:	118 feet			
Grid location:	L94+50N / 5120E		Inclination:	-51	Azimuth:	270			
Core Size:	NQ		Drill Rig:	Long Year 38	Logged By:	XD Jiang			
Core Stored At:	14 MacDonald Road, Whitehorse, YT. (Kluane Drilling Ltd's back yard)								
Drilling Contractor:	KLUANE DRILLING LTD., 14 MacDonald Road, Whitehorse, Y.T. Y1A 4L2								
Location:	On Heather 3 claim, about 420 m northwst of Heather 3 claim #1 post, and about 60 m to the east of the Whitehorse Traverse Line.								
Samples:	Only one sample taken, no significant mineralization.								
Footage									
From (ft)	To (ft)	Width (ft)	Sample #	Description	Au ppb	Cu %	Ag ppm	Mo ppm	Bi ppm
0.0	2.5	2.5		Overburden					
2.5	118.0	115.5		<b>Porphyritic Granodiorite</b> , light grey, porphyritic, several mm sized white feldspar phenocrysts 25-30% in fine to medium grained granodioritic to dioritic matrix. trace disseminated Py and magnetite. The feldspars are weakly sercitized and normaly have dark green chloritic inclusions. Hole was shut down at 118 ft, because it seems the drilling is right along this dike. The drill was turned 25 degrees to 295 on the same site and started the new hole ACH-2.					
95.5	97.7	2.2	10296	trace to 1% disseminated Py in and near a fracture at 96.5 ft @ 40 CA with calcitic and mafic in-filled materials, with also a 2-3 inch bleached felsic halo.	<5	0.01	<2	3	<2
118.0				<b>END OF HOLE.</b>					

2002 Arctic Chief Property Diamond Drill Log ACH - 2			Hole #:	<b>ACH - 2</b>		Elevation:	2850 - 290		
Date Started:	June 15, 2002		Date Finished:	June 18, 2002		Final Depth:	270 feet		
Grid location:	L94+50N / 5120E		Inclination:	-51		Azimuth:	295		
Core Size:	NQ		Drill Rig:	Long Year 38		Logged By:	XD Jiang		
Core Stored At:	14 MacDonald Road, Whitehorse, YT. (Kluane Drilling Ltd's back yard)								
Drilling Contractor:	KLUANE DRILLING LTD., 14 MacDonald Road, Whitehorse, Y.T. Y1A 4L2								
Location:	On Heather 3 claim, about 420 m northwst of Heather 3 claim #1 post, and about 60 m to the east of the Whitehorse Traverse Line.								
Note:	Mineralized magnetite-garnet skarn from 101 - 122.5ft, estimated 0.5% to 1% Cu.								
Samples:	10297 - 10304								
Footage			Sample #	Description	Au ppb	Cu %	Ag ppm	Mo ppm	Bi ppm
From (ft)	To (ft)	Width (ft)							
0.0	2.5	2.5		Overburden					
2.5	101.0	98.5		<b>Porphyritic Granodiorite (Feldspar Porphyry) Dike</b> , light grey, porphyritic, several mm sized white feldspar phenocrysts 25-30% in fine to medium grained granodioritic to dioritic matrix. trace disseminated Py and magnetite. The feldspars are weakly sericitized and normally have dark green chloritic inclusions. Lower end from 88 ft down is finer to vfg chilled margin, with less feldspar phenocrysts and the color is darker grey. Lower contact broken but looks at about 15 CA.					
101.0	122.5	21.5		<b>Mineralized Magnetite Garnet Skarn</b> , dark grey to brown and greenish brown, medium to very coarse grained, 104.3 - 111.5 is massive to local weakly banded magnetite, the rest is garnet skarn dominant with patches of magnetite, some garnet is megacrystic and zoned. The interval is scattered with Cpy patches, blobs to fine stringers, local with Bor. Lower contact is sharp at about 15 CA.					
101.0	104.3	3.3	10297	garnet epidote skarn with about 1% Cpy at lower end.	<5	0.0932	<0.2		1 <2
104.3	109.0	4.7	10298	massive magnetite skarn with about 2% Cpy local patches, trace Bor.	15	0.318	0.2	<1	<2
109.0	111.5	2.5	10299	massive magnetite skarn with trace to 1% Cpy trace valeriite(?) and trace Bor.	10	0.0858	<0.2	<1	<2
111.5	115.3	3.8	10300	garnet magnetite skarn, 30% magnetite patches, 1% Cpy blobs.	30	0.299	1.6	<1	<2
115.3	118.9	3.6	10301	massive garnet skarn with 3-5% Cpy patches and blobs and minor disseminated and fine veinlets Cpy, minor magnetite.	70	1.97	6.4		1 <2

Table 3

## 2002 Heather Claim Diamond Drill Log - ACH-2

2 of 2

Footage			Sample #	Description	Au ppb	Cu %	Ag ppm	Mo ppm	Bi ppm
From (ft)	To (ft)	Width (ft)							
118.9	122.5	3.6	10302	garnet diopside skam, with 1-2% Cpy veinlets and disseminated Cpy.	60	0.844	2.8	2	<2
<b>122.5</b>	<b>126.3</b>	<b>3.8</b>		<b>Mafic Dike</b> , dark grey, very fine grained, moderately fractured with minor calcitic fillings. Lower contact broken.					
<b>126.3</b>	<b>189.0</b>	<b>62.7</b>		<b>Garnet Skam</b> , light brown to local greenish brown, coarse grained, massive to local well fractured, Ep along fractures and patches common, so are calcitic stringers. Local bleached. Two qtz veinlets (3 inch at 175 ft and 1 inch at 182.5 ft) at 55 CA with minor chlorite and calcite and trace Py Cpy. Over all occasional magnetite and hematite, trace Cpy. Lower contact sharp at about 60 CA.					
126.3	130.0	3.7	10303	massive garnet skam with 2-3% calcitic chloritic veinlets and trace to 0.5% disseminated Py Cpy.	5	0.0739	0.2	3	<2
130.0	133.0	3.0	10304	massive garnet skam with 5-7% calcitic chloritic veinlets and trace to 0.5% disseminated Py Cpy.	10	0.0377	<0.2	2	<2
<b>189.0</b>	<b>195.0</b>	<b>6.0</b>		<b>Impure Sandstone</b> , medium to dark greenish grey, fine to coarse grained, skarnified, conglomeratic, with 2-3 mm scattered feldspar and quartz grains, Ep and Chl altered. Lower contact sharp with a quartz vein at about 60 CA.					
<b>195.0</b>	<b>199.5</b>	<b>4.5</b>		<b>Altered Granodiorite</b> , light grey to light greenish grey, medium grained, bleached, Ep and Chl altered, minor Gar near top. Minor pink thulite patches in the middle. Lower contact broken, at about 35 CA. At the very top is a 0.5 ft white qtz vein with minor Chl and calcite.					
<b>199.5</b>	<b>270.0</b>	<b>70.5</b>		<b>Porphyritic Granodiorite (Feldspar Porphyry) Dike</b> , same composition as the beginning of this hole, another dike, no mineralization, regionally it is post mineralization. Drilled down to 270 ft still in it, hole was shut down.					
<b>270.0</b>				<b>End of Hole.</b>					

Figure 3  
Drill Hole Location and  
Geology Map

Scale: 1"=400 ft  
(1 to 4800)

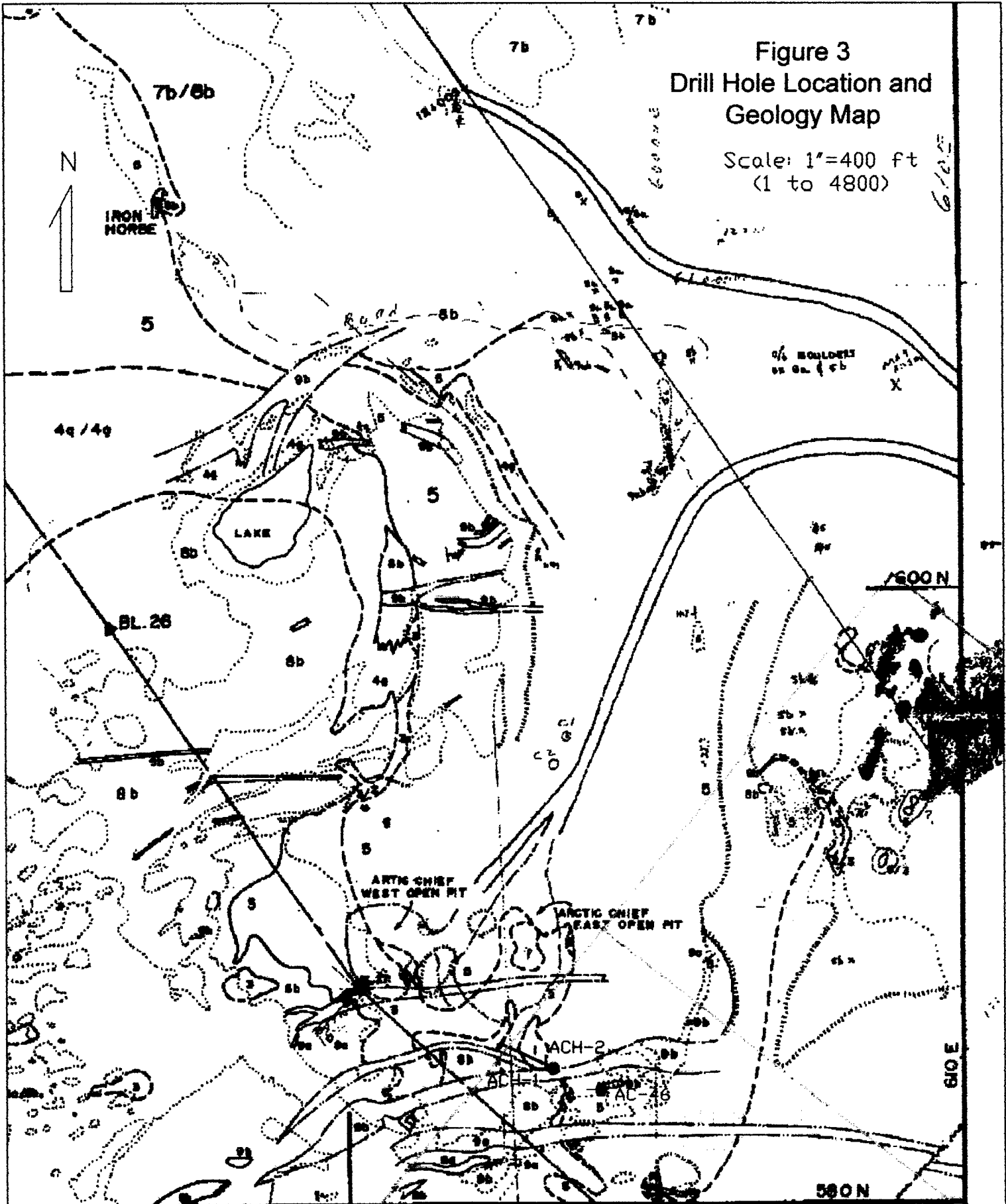


Figure 3

- Old Drill Hole
- 2002 Drill Hole

**NEW IMPERIAL MINES LTD.**

WINTERHORN, Y.T.

2,000'

## GEOLOGICAL LEGEND

### CENOZOIC

#### QUATERNARY

##### PLEISTOCENE & RECENT

**Q** ALLUVIUM, GLACIAL DRIFT

**10** MILES CANYON BASALT

#### POST CRETACEOUS

##### INTRUSIVE DYKE or SILLS

**9** 9A - ACIDIC - GRANITIC, APLITE, FELSITE,  
- MAY PREDATE SKARN  
9B - BASIC - ANDESITE, DIORITE, POST-ORE

### MESOZOIC

#### CRETACEOUS - COAST INTRUSIONS

**8** DIORITE - 8a ALTERED  
8b UNALTERED

**7** 7a GRAN., 7b GRANOD., 7m QZT. MONZ.,

#### LOWER JURASSIC & LATER

**6** LABERGE GROUP

#### UPPER TRIASSIC

##### LEWES RIVER GROUP (METAMORPHOSED)

**5** 5 - LIMESTONE and/or DOLOMITE  
5B - CARB. LIMESTONE

**4** 4a QUARTZITE, 4g GREYWACKE, 4k ARKOSE,

**3** SKARN - 3a ACT, 3c CHL, 3d DIOP, 3e EPID,  
3g GARNET, 3s SERP, 3t TREM, 3f FELD,

**2** SKARN - BORN, CHALCO, Cu OXIDES / 2a ACT, 2c CHL,  
2d DIOP, 2e EPID, 2g GARNET, 2s SERP, 2t TREM, 2f FELD.

**1** MAGNETITE - SKARN / SERP &/or DIOP, MAG 10-60%,  
BORN, CHALCO, Cu OXIDES

1,900'

1,800' LEVEL

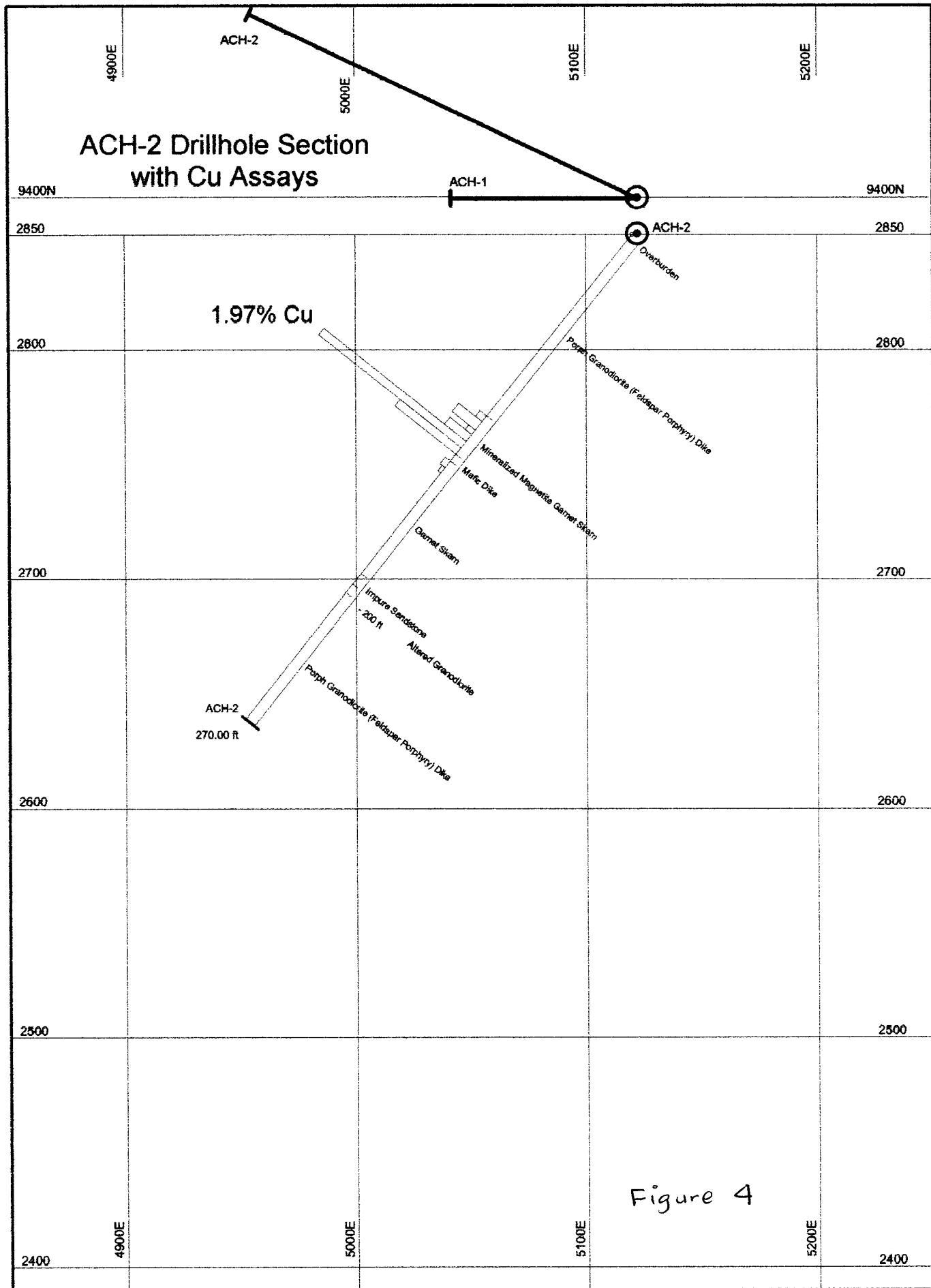


Figure 4

## **Conclusions and Recommendations**

The drilling result for this year has shown no significant break through in looking for both skarn and intrusive hosted Cu-Au mineralization. However, due to limited time frame, the data compilation is incomplete. There are lots of data available at the Yukon Archive. It is recommended that an overall regional geology, structure, mineralization and geophysical data map be compiled in digital format in order to better direct future exploration. The Grafton – Arctic Chief area should be studied more carefully to see if there is possible intrusive hosted Au-Cu mineralization.

## Statement of Costs

### 1. Field Work Personnel

Xiangdong Jiang, consulting geologist	
June 12 – June 21, 2002, 10 days @ \$250/day	\$2,500.00
J. Coyne, June 12-13, 2002, 2 days @ \$240/day	\$480.00

### 2. Diamond Drilling

Two drill holes, 388 ft (118.26m) @ \$25.00 / ft	\$9,700.00
Mob, demob and site preparation	\$2,500.00

### 3. Assay and other

Assay, ALS Chemex, 9 samples	\$315.00
Truck for geologist, 10 days @ \$60/day	\$600.00
Field work supplies	\$155.45

### 4. Report and Drafting

Copy and drafting	\$217.69
Report writing	\$750.00

Sub-Total: \$17218.14

GST (7% of above) \$1205.27

**Total Assessment Value \$18,423.41**

## Statement Of Qualifications

I, Xiangdong Jiang, residing at #8 – 10238 155A Street, Surrey, B.C. V3R 0V8, hereby certify that:

1. I am an independent consulting geologist with office at the above address.
2. I studied for four years at Changchun Geological University and graduated in 1982 with a Bachelor of Science degree, major in Mineral Geology and Exploration.
3. I have been practicing in my profession for over 18 years as contract geologist and as independent consultant with major and junior mining companies working in Canada and overseas.
4. I do not have any financial interest in the property described in this report or in any other properties held by the same owners, nor do I expect to receive any interest in the properties either directly or indirectly.
5. This report is based on field work performed by myself and data from other reliable sources.
6. I consent to the use of this report by Kluane Drilling Ltd., provided that no portion is used out of context.

Dated on this 31<sup>st</sup> day of December, 2002, in Surrey, British Columbia.



Xiangdong Jiang, B.Sc.  
Consulting Geologist

Mailing address as above.  
Tel: (604) 585-0880  
Fax: (604) 585-0890  
E-mail: xiangdongjiang@yahoo.com

## References

- Kindle, E.D., 1963 Copper and Iron Resources, Whitehorse Copper Belt, Yukon Territory; Geological Survey of Canada, Paper 63-41.
- Tenney, D., 1981 The Whitehorse Copper Belt: Mining, Exploration and Geology (1967-1980): Dept. Indian and Northern Affairs, Geology Section, Yukon, Bulletin 1, 29 p.
- Watson, P.H., 1984 The Whitehorse Copper Belt – A Compilation; Exploration and Geological Services Division – Yukon, Indian and Northern Affairs, Canada, Open File, 1:25,000 scale map with marginal notes.
- Meinert, L.D., 1986 Gold in Skarns of the Whitehorse Copper Belt, Southern Yukon; in Yukon Geology, Vol. 1, Exploration and Geological Services Division, Yukon, Indian and Northern Affairs, Canada, p. 19-43.
- Yukon Archives, in July, 1999, Hudson Bay Exploration and Development Co. donated more than 40 boxes and map tubes of data on Whitehorse Copper Belt to Yukon Archives.
- Jiang, X.D. 2000 and 2001 Diamond Drilling on HAT Claims, assessment reports

**Appendix 1**

**Analytical Data and Assay Certificates**



# 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

To: KLUANE DRILLING LTD.

14 MACDONALD RD.  
 WHITEHORSE, YT  
 Y1A 4L2

A0218693

Comments: ATTN: XD JIANG CC: JIM COYNE

**CERTIFICATE**

**A0218693**

(RHA) - KLUANE DRILLING LTD.

Project: HAT  
 P.O. #:

Samples submitted to our lab in Vancouver, BC  
 This report was printed on 30-DEC-2002.

## SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
PUL-31	54	Pulv. <250g to >85%/-75 micron
STO-21	54	Reject Storage-First 90 Days
LOG-22	54	Samples received without barcode
CRU-31	54	Crush to 70% minus 2mm
SPL-21	54	Splitting Charge
229	54	ICP - AQ Digestion charge

\* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

## ANALYTICAL PROCEDURES 1 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
WEI-21	54	Weight of received sample	BALANCE	0.01	1000.0
Au-AA23	54	Au-AA23 : Au ppb: Fuse 30 grams	FA-AAS	5	10000
Ag-ICP41	54	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
Al-ICP41	54	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
As-ICP41	54	As ppm: 32 element, soil & rock	ICP-AES	2	10000
B-ICP41	54	B ppm: 32 element, rock & soil	ICP-AES	10	10000
Ba-ICP41	54	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
Be-ICP41	54	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
Bi-ICP41	54	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
Ca-ICP41	54	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
Cd-ICP41	54	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
Co-ICP41	54	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
Cr-ICP41	54	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
Cu-ICP41	54	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
Fe-ICP41	54	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
Ga-ICP41	54	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
Hg-ICP41	54	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
K-ICP41	54	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
La-ICP41	54	La ppm: 32 element, soil & rock	ICP-AES	10	10000
Mg-ICP41	54	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
Mn-ICP41	54	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
Mo-ICP41	54	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
Na-ICP41	54	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
Ni-ICP41	54	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
P-ICP41	54	P ppm: 32 element, soil & rock	ICP-AES	10	10000
Pb-ICP41	54	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
S-ICP41	54	S %: 32 element, rock & soil	ICP-AES	0.01	10.00
Sb-ICP41	54	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
Sc-ICP41	54	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
Sr-ICP41	54	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
Ti-ICP41	54	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
Tl-ICP41	54	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
U-ICP41	54	U ppm: 32 element, soil & rock	ICP-AES	10	10000
V-ICP41	54	V ppm: 32 element, soil & rock	ICP-AES	1	10000



# 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

To: KLUANE DRILLING LTD.

14 MACDONALD RD.  
 WHITEHORSE, YT  
 Y1A 4L2

A0218693

Comments: ATTN: XD JIANG CC: JIM COYNE

**CERTIFICATE** **A0218693**

(RHA) - KLUANE DRILLING LTD.

Project: HAT  
 P.O. #:

Samples submitted to our lab in Vancouver, BC  
 This report was printed on 30-DEC-2002.

SAMPLE PREPARATION		
METHOD CODE	NUMBER SAMPLES	DESCRIPTION
PUL-31	54	Pulv. <250g to >85%/-75 micron
STO-21	54	Reject Storage-First 90 Days
LOG-22	54	Samples received without barcode
CRU-31	54	Crush to 70% minus 2mm
SPL-21	54	Splitting Charge
229	54	ICP - AQ Digestion charge

\* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

ANALYTICAL PROCEDURES 2 of 2					
METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
W-ICP41	54	W ppm: 32 element, soil & rock	ICP-AES	10	10000
Zn-ICP41	54	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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Project: HAT  
 Comments: ATTN: XD JIANG CC: JIM COYNE

Page Number :2-A  
 Total Pages :2  
 Certificate Date: 03-JUL-2002  
 Invoice No. : 10218693  
 P.O. Number :  
 Account : RHA

## CERTIFICATE OF ANALYSIS A0218693

SAMPLE	PREP CODE	Weight Kg	Au ppb FA+AA	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm
10291	94139402	2.92	5	< 0.2	2.07	6	< 10	220	< 0.5	< 2	1.57	< 0.5	17	70	514	4.08	< 10	< 1	0.09	< 10
10292	94139402	2.90	20	0.4	1.09	2	< 10	90	< 0.5	< 2	2.45	< 0.5	11	57	1975	1.93	< 10	< 1	0.05	< 10
10293	94139402	2.60	35	1.0	1.38	2	< 10	30	< 0.5	< 2	1.58	< 0.5	20	34	5780	2.81	< 10	< 1	0.05	< 10
10294	94139402	2.06	40	1.4	2.21	8	< 10	40	< 0.5	< 2	1.77	< 0.5	25	95	7370	2.91	< 10	< 1	0.07	< 10
10295	94139402	2.30	55	1.6	1.42	6	< 10	40	< 0.5	< 2	1.59	< 0.5	17	36	8650	2.47	< 10	< 1	0.09	< 10
10296	94139402	1.48	< 5	< 0.2	1.84	< 2	< 10	50	< 0.5	< 2	3.23	< 0.5	13	12	52	4.27	< 10	< 1	0.18	10
10297	94139402	2.78	< 5	< 0.2	0.32	18	< 10	< 10	< 0.5	< 2	5.74	< 0.5	2	15	932	3.68	< 10	< 1	< 0.01	< 10
10298	94139402	5.70	15	0.2	0.12	2	< 10	< 10	< 0.5	< 2	1.31	6.5	45	10	3180	>15.00	10	< 1	< 0.01	< 10
10299	94139402	2.82	10	< 0.2	0.14	< 2	< 10	< 10	< 0.5	< 2	1.93	5.5	42	11	858	>15.00	10	< 1	< 0.01	< 10
10300	94139402	3.96	30	1.6	0.38	10	< 10	< 10	< 0.5	< 2	7.02	3.0	18	23	2990	>15.00	< 10	< 1	< 0.01	< 10
10301	94139402	2.90	70	6.4	0.46	16	< 10	< 10	< 0.5	< 2	8.33	0.5	9	29	>10000	8.03	< 10	< 1	< 0.01	< 10
10302	94139402	3.00	60	2.8	0.48	14	< 10	< 10	< 0.5	< 2	7.22	< 0.5	6	22	8440	4.89	< 10	< 1	< 0.01	< 10
10303	94139402	2.92	5	0.2	0.21	10	< 10	< 10	< 0.5	< 2	7.14	< 0.5	1	16	739	5.14	< 10	< 1	< 0.01	< 10
10304	94139402	2.70	10	< 0.2	0.52	8	< 10	< 10	< 0.5	< 2	7.76	< 0.5	2	17	377	4.55	< 10	< 1	< 0.01	< 10

CERTIFICATION: \_\_\_\_\_\*



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14 MACDONALD RD.  
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Project : HAT  
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Page Number :2-B  
 Total Pages :2  
 Certificate Date: 03-JUL-2002  
 Invoice No. : I0218693  
 P.O. Number :  
 Account : RHA

CERTIFICATE OF ANALYSIS	A0218693
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SAMPLE	PREP CODE	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
10291	94139402	1.39	895	3	0.14	28	1170	2	0.52	< 2	5	395	0.06	< 10	< 10	104	< 10	46
10292	94139402	0.91	465	2	0.08	18	1020	8	0.24	< 2	2	137	0.06	< 10	< 10	59	< 10	30
10293	94139402	0.69	210	63	0.14	26	1480	2	1.41	< 2	1	88	0.07	< 10	< 10	42	< 10	54
10294	94139402	0.95	260	8	0.22	75	1460	< 2	1.39	< 2	1	120	0.07	< 10	< 10	47	< 10	64
10295	94139402	0.83	150	17	0.12	22	1300	2	1.26	< 2	2	59	0.08	< 10	< 10	59	< 10	40
10296	94139402	1.22	635	3	0.07	5	2200	2	0.07	< 2	6	170	0.04	< 10	< 10	92	< 10	60
10297	94139402	0.36	500	1	< 0.01	5	880	< 2	0.10	< 2	< 1	21	< 0.01	< 10	< 10	11	10	20
10298	94139402	0.22	630	< 1	0.01	97	740	96	0.34	< 2	< 1	4	< 0.01	< 10	< 10	19	50	198
10299	94139402	0.18	650	< 1	< 0.01	67	120	< 2	0.10	< 2	< 1	3	< 0.01	< 10	< 10	17	40	44
10300	94139402	0.10	< 5	< 1	< 0.01	42	420	< 2	< 0.01	< 2	< 1	4	< 0.01	< 10	10	< 1	20	34
10301	94139402	0.13	530	1	< 0.01	7	260	< 2	1.61	< 2	< 1	6	< 0.01	< 10	10	20	10	48
10302	94139402	0.40	< 5	2	0.01	6	900	< 2	1.04	< 2	< 1	20	0.02	< 10	10	19	< 10	24
10303	94139402	0.16	< 5	3	< 0.01	1	40	< 2	0.13	< 2	< 1	8	< 0.01	< 10	10	5	40	8
10304	94139402	0.24	< 5	2	< 0.01	4	50	4	0.19	< 2	< 1	14	< 0.01	< 10	10	13	< 10	10

CERTIFICATION: \_\_\_\_\_ \*



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To: KLUANE DRILLING LTD.

14 MACDONALD RD.  
 WHITEHORSE, YT  
 Y1A 4L2

A0219278

Comments: ATTN: XD JIANG CC: JIM COYNE

**CERTIFICATE**

**A0219278**

(RHA) - KLUANE DRILLING LTD.

Project: HAT  
 P.O. #:

Samples submitted to our lab in Vancouver, BC  
 This report was printed on 30-DEC-2002.

## SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
212	9	Overlimit pulp, to be found

## ANALYTICAL PROCEDURES

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
Cu-AA62	9	Cu %: HNO3-HClO4-HF-HCl dig'n	AAS	0.01	50.0



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Page Number : 1  
 Total Pages : 1  
 Certificate Date: 08-JUL-2002  
 Invoice No. : 10219278  
 P.O. Number :  
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<b>CERTIFICATE OF ANALYSIS</b>	<b>A0219278</b>
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SAMPLE	PREP CODE	Cu %									
10254	212 --	1.66									
10256	212 --	1.71									
10276	212 --	1.84									
10278	212 --	1.47									
10281	212 --	1.07									
10282	212 --	1.03									
10286	212 --	1.08									
10288	212 --	1.40									
10301	212 --	1.97									

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