

MAP NO.: ASSESSMENT REPORT
115F 15 PROSPECTUS
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 093156
MINING DISTRICT: WHITEHORSE
TYPE OF WORK: Geology, Geophysics
GEOCHEMISRTY

REPORT FILED UNDER: MENDOCINO RESOURCES LIMITED

DATE PERFORMED: AUG 13 - SEPT 9, 1993

DATE FILED: FEB 3, 1994

LOCATION: LAT.: 61°58'N

AREA: WHITE RIVER

LONG.: 140°41'W

VALUE \$: 6,925

CLAIM NAME & NO.: ARN 1-8 (YB06323-330), ARN 9-14 (YB27511-516), ARN 15-18 (YB38261-264)

WORK DONE BY: H. COPELAND; R.C. CARNE; J. PAYNE; ARCHER CATHRO & ASSOCIATES (1981) LTD.

WORK DONE FOR: MENDOCINO RESOURCES LIMITED

DATE TO GOOD STANDING:

REMARKS: 152 SOIL SAMPLES AND 5.1 LINEKM OF MAG AND VLF WAS
COMPLETED ON THE COPPER GOLD SKARNS.



TRANSMITTAL FORM

M.R. file no.
R.M.M.R. file no.
Date forwarded 3 Feb '94

From ► Mining Recorder at: **Whitehorse**

To ► Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action are:

☐ NEW APPLICATION FOR PLACER LEASE TO PROSPECT	Name	
☐ RENEWAL APPLICATION PLACER LEASE TO PROSPECT	Name	Lease no.
☐ AFFIDAVIT OF EXPENDITURE ON PLACER LEASE	Name	Lease no.
☐ SECURITY DEPOSIT		
☐ FINANCIAL ABILITY		
☐ ASSIGNMENT OF PLACER LEASE NO.	From	To
☐ GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT.	Owner	
☐ DIAMOND DRILL LOGS	Claims	Claim sheet no.
☒ QUARTZ ASSESSMENT REPORT	Claims ARN 1-8, 9-14, 15-18	Claim sheet no. 115-F-15
	Type of report G, GC, GP	Submitted by Archer, Cathro + Assoc.
	Cls. work performed on ARN 1-8, 9-14, 15-18	\$ req. for ren. application 6,925.00

H Southwick
Signature

REPLY ACTION

Date returned

1093156

Signature

ARCHER, CATHRO
& ASSOCIATES (1981) LIMITED
CONSULTING GEOLOGICAL ENGINEERS

093156

1016 - 510 WEST HASTINGS STREET, VANCOUVER, B.C. V6B 1L8 TEL (604) 688 - 2568 • FAX (604) 688 - 2578

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT

on the

ARN PROPERTY

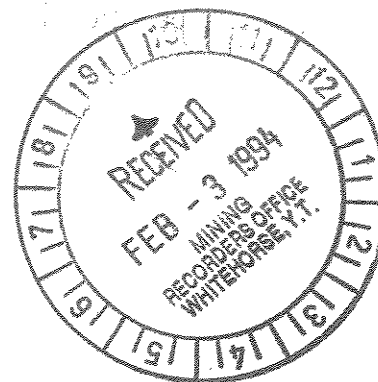
Arn 1-8 YB06323-YB06330
9-14 YB27511-YB27516
15-18 YB38261-YB38264

NTS 115F/15

Latitude 61°58'N; Longitude 140°41'W

for

MENDOCINO RESOURCES LTD.



H. Copland, P.Geo.

R. Carne, P.Geo.

J. Payne, Ph.D.

DECEMBER, 1993

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SUMMARY AND RECOMMENDATIONS

The Arn 1-18 claims cover a series of gold- and copper-rich skarns that have formed along the contacts of Upper Triassic Nikolai greenstones and Chitistone/Nizina limestone with granodiorite to diorite of the Cretaceous Kluane Range Intrusions. A program of mapping, trenching, chip sampling, geophysics and soil geochemistry conducted in 1993 identified targets for further exploration. Skarn mineralogy consists of calc-silicates, garnet, epidote, magnetite, pyrrhotite, pyrite and chalcopyrite. Continuous chip sample values range up to 79.2 g/t gold and 0.18% copper over 3 m and 1.83% copper with 2.3 g/t gold over 6 m. Most of the mineralized skarn is fractured and recessive so that the best assays are usually obtained from grab or chip samples taken from talus-filled hollows on the relatively steep mountain slope. Average assays from talus chip samples over one such 36 square metre area are 1.23% copper and 1.25 g/t gold. Gold and copper soil geochemistry, combined with results of magnetometer and VLF-EM surveys, indicate mineralization is much more widespread than the limited bedrock exposures. A program of hand blast trenching and diamond drilling to determine the full extent of the mineralized skarns is recommended for 1994.

A budget for proposed 1994 exploration is given on the following page.

PROPOSED 1994 BUDGET
ARN PROPERTY

PHASE ONE

Diamond Drilling - 700 m @ \$150/m	\$105,000
Helicopter - 40 hrs @ \$750/hr (including fuel)	30,000
Labour	20,000
Room and Board	14,200
Assays	7,800
Assessment	5,000
Travel, Freight	3,000
Truck Rental, Fuel	2,500
Office	2,500
Management	10,000
	<u>\$200,000</u>
Plus 7% GST .	<u>14,000</u>
	<u>\$214,000</u>

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED



H. Copland, P.Geo.



R.C. Carne, P.Geo.



J. Payne, Ph.D.

INTRODUCTION

The Arn 1-18 claims were explored in 1993 by Mendocino Resources Ltd. under an option agreement with Acne Joint Venture. The property covers a series of gold-copper skarns near the headwaters of Miles Creek in southwestern Yukon. Over the period August 13 to September 9, 1993, a program of geological mapping, rock sampling, geophysics (magnetometer and VLF-EM) and soil geochemistry was conducted.

PROPERTY, LOCATION AND ACCESS

The Arn property lies just north of Mount Taylor at the headwaters of Miles Creek on NTS 115F/15 at latitude 61°58'N and longitude 140°41'W (Figure 1). The claims are approximately 7 km from the Alaska Highway, about 5 km west of the White River. Accommodation, food and fuel are available at the nearby White River Lodge or in Beaver Creek, 50 km to the northwest. Access to the property in 1993 was via helicopter from White River Lodge. A number of horse trails connect the area with the Alaska Highway but there is no road access.

The property consists of 18 contiguous claims (Figure 2) recorded in the Whitehorse Mining District as listed below.

<u>Claim</u>	<u>Grant Number</u>	<u>Expiry Date*</u>
Arn 1-8	YB06323-YB06330	March 31, 1998
9-14	YB27511-YB27516	March 31, 1998
15-18	YB38261-YB38264	March 31, 1998

*upon acceptance of this report.

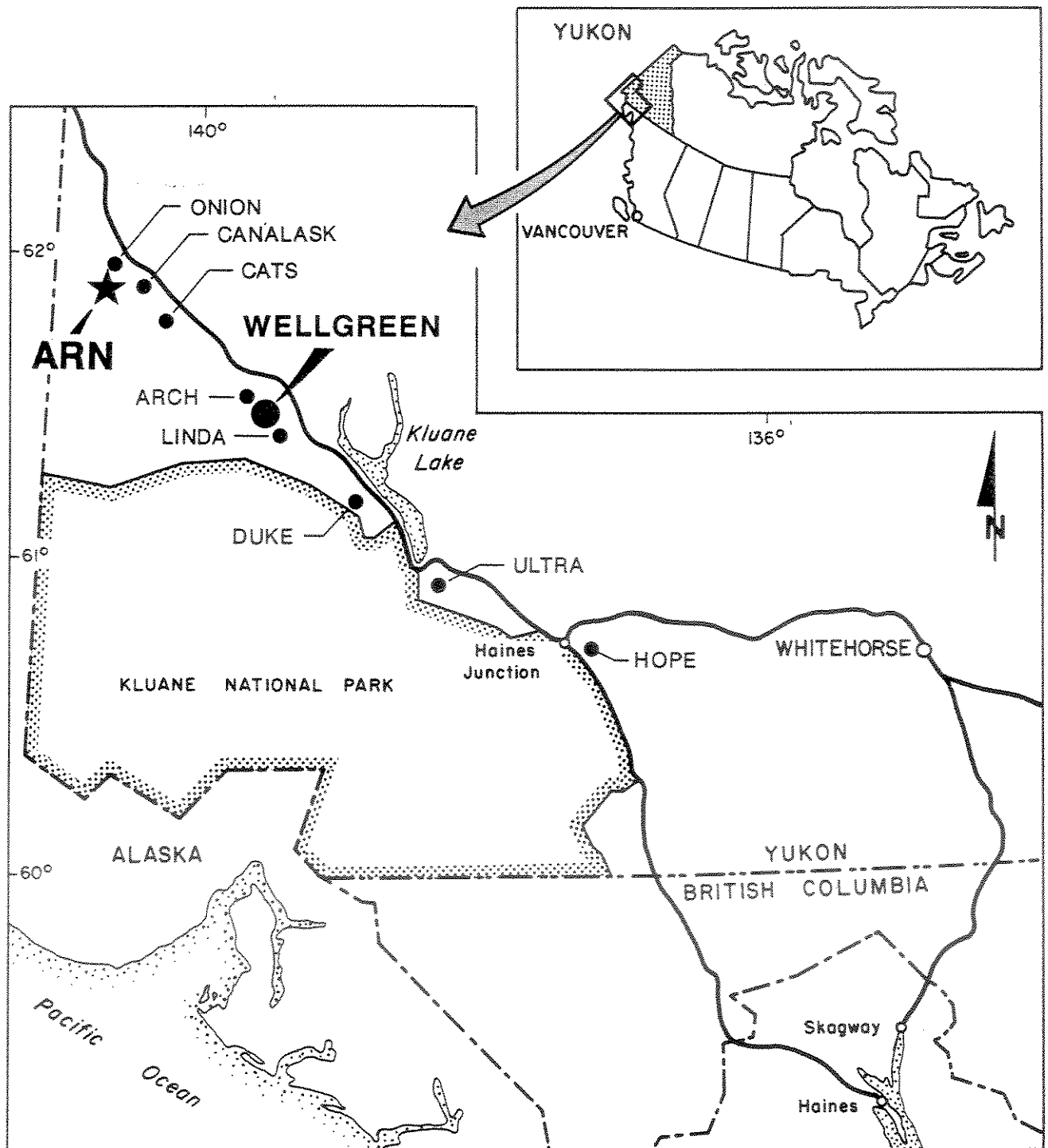


Figure 1

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

LOCATION

ARN PROPERTY

YUKON, CANADA

MENDOCINO RESOURCES LTD.

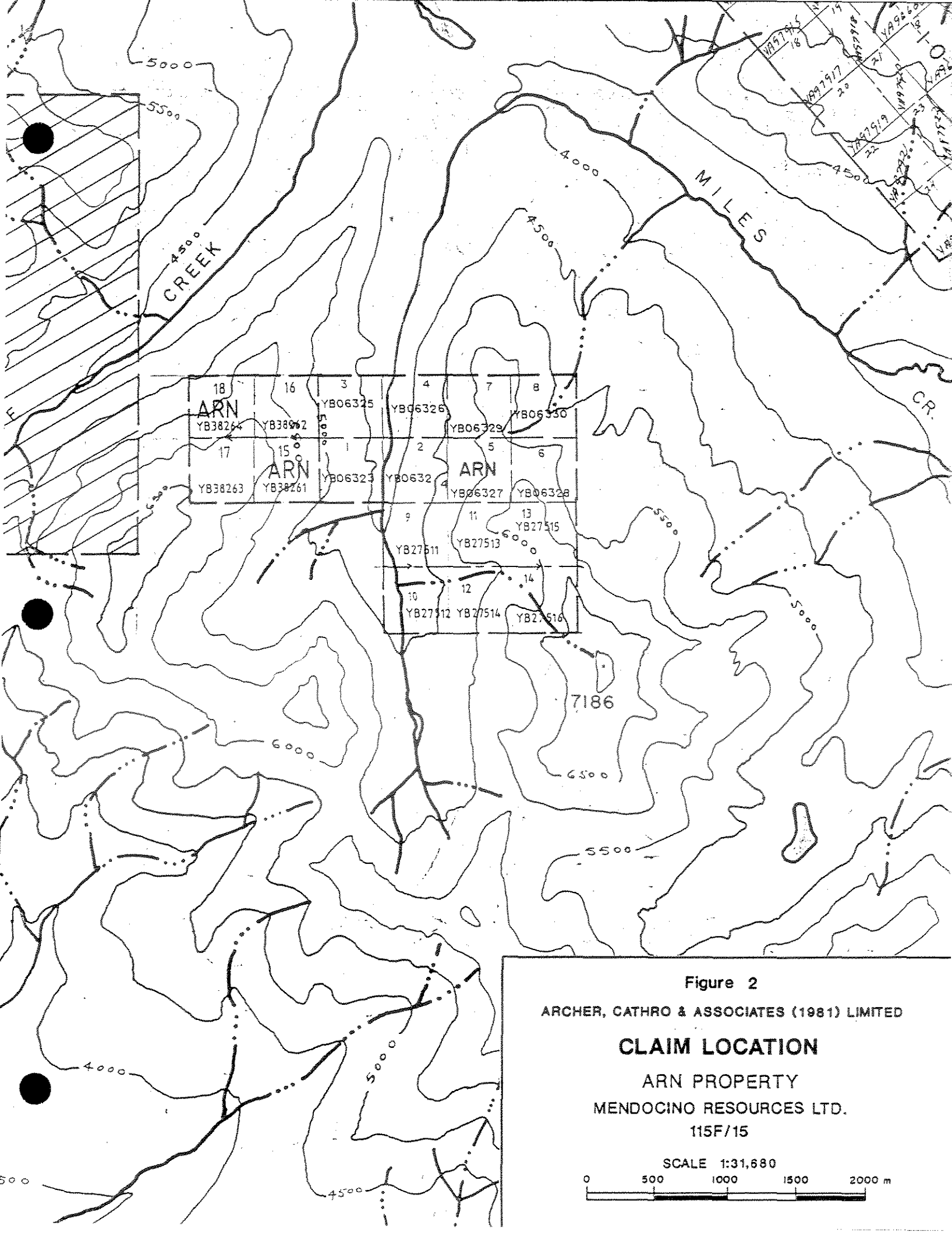


Figure 2

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

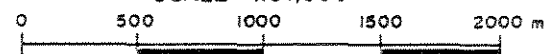
CLAIM LOCATION

ARN PROPERTY

MENDOCINO RESOURCES LTD.

115F/15

SCALE 1:31,680



TOPOGRAPHY AND VEGETATION

The claims straddle the upper reaches of Miles Creek just above treeline. Thick patches of alder and willow occupy the creek valley. These give way to sub-alpine and alpine vegetation in the upper elevations. Numerous ice fields shown on government topographic maps are, in fact, moraines or rock glaciers which occupy the upper cirques. Elevations on the claims vary from 1300 m along Miles Creek to 1800 m on the southwest boundary of the property.

HISTORY

The area was initially staked as a copper prospect in 1970 by a syndicate composed of Imperial Oil, Bow Valley Industries Ltd. and Canadian Industrial Gas and Oil. The property was restaked by NAT Joint Venture (Chevron Canada Ltd. and Armco Mineral Exploration Co.) in 1980 on the basis of anomalous gold in stream sediments. Prospecting in the following two years turned up skarn float assaying up to 7 g/t gold. The companies dropped the claims when it was determined the target did not represent a large open pittable deposit. In July 1987 the Arn 1-8 claims were staked by Kluane Joint Venture (All-North Resources Ltd. and Chevron). In 1988 the joint venture conducted geological, geochemical and geophysical surveys. Acne Joint Venture bought out the Chevron and All-North interests in the property and subsequently optioned the claims to Mendocino Resources Ltd. of Vancouver, B.C.

1993 WORK PROGRAM

In 1993 a new picketed grid was established on the property which was better orientated to the known mineralization than previous grids. The following work was conducted during 1993.

August 13 to 20 - grid establishment and soil sampling.

August 20-24, September 5-9 - geological mapping and sampling.

August 24-26 - geophysics (magnetometer and VLF-EM).

The following personnel and contractors were involved: Rob Carne, senior geologist; Hugh Copland, geologist; Greg Duso, geologist; Bruce Bark, field assistant; Nick Coopey, field assistant; Mike Power, Amerok Geophysics, geophysical consultant; and, John Payne, Vancouver Petrographics, geological consultant.

GEOLOGY

The Arn claim block lies just southwest of the Shakhwak-Denali Fault system, a major northwest-trending right-lateral fault that extends from British Columbia into Alaska (Figure 3). The fault marks a major terrane boundary separating Wrangellia Terrane from Nisling Terrane to the north.

The property (Figures 4a and 4 b) is underlain by Early to Middle Mesozoic volcanic and sedimentary rocks which generally are gently to moderately dipping to the east or northeast. These are intruded by a major Cretaceous dyke swarm of porphyritic to non-porphyritic andesite, diorite and latite dykes. Skarns were formed in all rock types and are concentrated along the contact between limestone and intrusive rocks. They are dominated by garnet with less abundant epidote, hornblende, pyrrhotite with minor clinopyroxene, pyrite, chalcopyrite and native gold. Tertiary andesite dykes were emplaced along tension fractures and minor faults. The rocks were offset along the Arn Fault, a major east-west structure, possibly associated in origin with the Shakhwak Fault. The amount of offset is uncertain but probably the north side has moved down and to the west a few tens of metres relative to the south side.

STRATIGRAPHY

Nikolai Volcanic Rocks (Unit 1)

The Nikolai volcanic rocks, the oldest rocks on the property, are exposed in the Miles Creek Valley on its western slope south of Arn Fault. They were examined only briefly in this study and only at the top of the interval. The dominant rock type consists of dark green, amygdaloidal to massive basalt flows of undetermined thickness. Amygdaloidal flows contain up to 40% amygdules, mainly filled with calcite and chlorite. Rocks south of Taylor Creek are of uncertain origin. Previously, they were mapped as belonging to the Nikolai Group but some sedimentary features and their structural position suggest that they are

part of the Dezadeash Formation. Some of the massive flows are similar in lithology to some of the Cretaceous non-porphyrific andesite/basalt dykes.

Chitistone/Nizina Limestone (Unit 2)

The Chitistone/Nizina Limestone occurs stratigraphically above the Nikolai volcanic rocks. On the property and regionally, the unit is discontinuous and averages less than 30 m in thickness. In places it consists of extremely fine to very fine-grained, light to medium grey, slightly recrystallized limestone in which bedding is poorly to well preserved (Unit 2a). Locally, alternating beds of different shades of grey are prominent. Commonly near contacts of intrusive dykes and plugs, limestone is recrystallized moderately to strongly, to medium- to coarse-grained marble (Unit 2b). In such areas, bedding is unrecognizable.

Dezadeash Formation (Unit 3)

The Dezadeash Formation consists mainly of a sequence of thin-bedded, siliceous mudstone to siltstone, alternating with fine sandstone (Unit 3a). Colours vary widely between adjacent beds in various shades of white, cream and pale green to dark green and black. Numerous examples of graded beds indicate tops are to the east and northeast.

At the north end of the property, the lower part of the section consists of thin, massive andesite to basalt flows or sills (Unit 3b) containing minor interlayers of sedimentary rocks similar to those in the upper part of the section. Texturally some of the flows are similar to some of the rocks of the Nikolai Group and the andesite dykes.

STRUCTURE OF THE STRATIFORM ROCKS

Regionally, the stratified rocks dip gently to moderately with dips rarely exceeding 40°. In much of the property south of Arn Fault, rocks strike northeast to east and dip 10 to 30° to the east. To the north of Arn Fault and east of Miles Creek, the strike of bedding planes is warped moderately to

strongly, to east-southeast and dips steepen to 60 to 80° to the north. Farther north, near the northeast corner of the property, rocks dip 50° northeast. On the ridge south of Taylor Creek, rocks of uncertain age (Dezadeash Formation or Nikolai Group) strike northeast and dip moderately southeast.

CRETACEOUS INTRUSIVE ROCKS (UNITS 4, 5)

Cretaceous intrusive rocks include a major dyke swarm of mainly andesite to diorite composition and several larger diorite intrusions. Most dykes trend from 120 to 160° and dip steeply to the southwest. Age relations commonly are uncertain between different types of intrusions and various lithologic types may have been intruded at more than one time. In a few places, diorite intrusions appear to truncate andesite dykes.

Felsite dykes (Unit 5a) are non-porphyritic to slightly porphyritic (mainly plagioclase) and have a pale cream to green colour. In several places, abundant dykes and sills intrude the Chitistone/Nizina limestone. These are predominantly of very fine-grained latite/andesite. One such dyke swarm occurs north of Arn Fault west of Miles Creek.

Andesite dykes are of three main types. The most distinctive is a plagioclase-hornblende porphyritic dyke (Unit 5c) containing up to 20% phenocrysts averaging 0.5 to 1.2 cm long. In some dykes, hornblende forms distinctive radiating twins of three interlocking crystals. A second variety contains 3 to 5% plagioclase phenocrysts, mainly less than 2 mm in size. With decreasing grain size and abundance of phenocrysts, both types grade into slightly porphyritic to non-porphyritic andesite (Unit 5b). Most of these dykes have a medium to dark green groundmass. A few dykes are of basaltic andesite (Unit 5d). These have a dark green colour and a higher content of mafic minerals.

Diorite (Unit 4) forms dykes ranging from a few metres to several tens of metres thick and larger intrusions up to a few hundred metres across. The dykes occur mainly east of Miles Creek and are parallel to the andesite dykes. A large body of diorite occurs on the lower slopes on the west side of Miles Creek north of Arn Fault and another occurs on the ridge northwest of Taylor Peak. Many diorite bodies have a finer grained border zone (Unit 4b) and a coarser grained core (Unit 4a). Many smaller sills are of the finer grained variety.

Locally, east of Miles Creek is an intrusion breccia containing fragments of andesite dykes and Nikolai volcanic rocks intruded by wispy dykelets and interstitial patches of very fine to fine-grained diorite (Unit 4bi). A few very fine grained diorite dykes contain minor phenocrysts of plagioclase and hornblende (Unit 4c) and their texture grades into that of Unit 5c.

SKARN (UNIT 6)

Skarn deposits range from less than a metre to a few tens of metres across and are lensey to irregular in outline. Almost all (on a regional and property scale) occur in and near the Chitistone limestone. Some follow bedding plane contacts between the Nikolai Group and the overlying Chitistone/Nizina limestone and others occur below Cretaceous andesite sills which intrude the limestone. Several irregular pods and lenses occur in the upper part of the Nikolai volcanic rocks and in the lower part of the Dezadeash Formation. Irregular pods and lenses of skarn occur in the intrusive rocks.

Skarn shows a wide variety of compositions and textures. Most skarns are dominated by one of the following assemblages: 1) garnet-(magnetite); 2) epidote-calcite; 3) magnetite/amphibole; 4) pyrrhotite-rich pods and lenses.

Garnet-rich skarn contains 60 to 90% garnet in places showing well developed euhedral crystals up to a few mm across. Mainly interstitial to garnet are patches of one or more of the following minerals: magnetite, clinopyroxene, calcite, hornblende/actinolite/tremolite and quartz. Some samples contain minor to moderately abundant pyrrhotite. Garnet-rich skarn generally is massive but locally is interbanded coarsely with magnetite-rich skarn.

Magnetite-amphibole-rich skarn ranges widely in composition between the two main end-members. Amphibole-rich skarns commonly are banded and contain calcite-rich patches and lenses parallel to bedding. A few samples contain minor interstitial pyrite.

Epidote-rich skarns were formed from limestone and contain abundant recrystallized, medium to coarse-grained calcite. Quartz and actinolite are locally abundant.

Pyrrhotite-rich skarns form moderately abundant pods and lenses averaging 0.5 to 5 m in size commonly scattered through andesite dykes and diorite near the limestone. They weather easily to limonite gossan. Intergrown with pyrrhotite are minor to moderately abundant magnetite and actinolite and minor garnet, epidote and chalcopryite. The skarns are remarkably clean of deleterious metals such as arsenic and mercury. Mineralized skarns are further described in a following section.

Locally, skarn which has formed from porphyritic andesite dyke contains moderately abundant patches of pyrite and minor chalcopryite.

Skarn-related veinlets range widely in composition. They contain one or more of the following minerals in approximate order of decreasing abundance: calcite, quartz, tremolite/actinolite, K-feldspar, epidote, scapolite and chalcopyrite. Late veinlets in some sulphide-bearing skarns are of limonite and hematite.

Detailed thin-section petrography was done on fourteen samples of skarn (Appendix II).

TERTIARY(?) INTRUSIVE ROCKS (UNIT 7)

A few aphanitic to slightly porphyritic andesite dykes, generally less than 2 m wide, cut the older rocks, including some of the skarn deposits. Several of the dykes are intruded along minor faults. They are compositionally similar to some of the Cretaceous andesite dykes.

All dykes dip steeply, mainly to the southwest. Many of those of Units 5 and 7 have a well developed joint set parallel to margins of the dyke and some have one or two other orthogonal joint sets.

LATE STRUCTURES

The main fault on the property is the east-west trending Arn Fault which cuts across the northern part of the area. It truncates the Chitistone/Nizina limestone and may offset it by a few hundreds of metres left-laterally. Part of the uncertainty of the offset is because of the large diorite intrusion west of Miles Creek. This fault may be related to the regional Shawkak Fault along Shawkak Trench, a few tens of kilometres northeast of the property.

Numerous small faults were mapped throughout the property and many more probably underlie talus-covered gullies.

MINERALIZATION

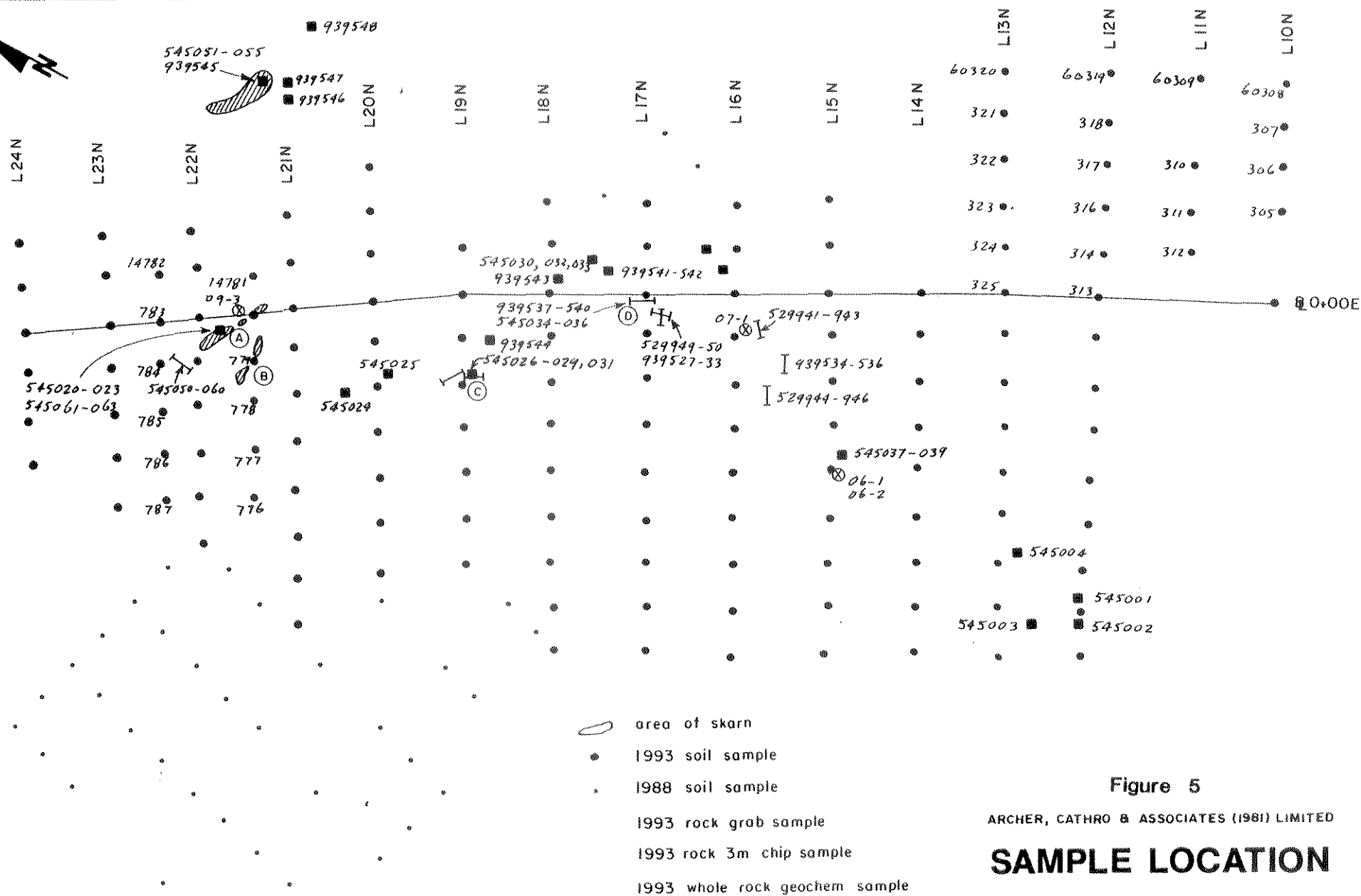
Four main skarn zones have been identified on the property. These are located on Figure 5 and briefly described below.

Skarn A

This skarn is located between L21+50N and L22N just south of the baseline (Figure 6). The northwest-trending zone has developed in calcareous tuffs adjacent to a prominent gully running up the mountain slopes. The linear zone is approximately 30 m long and 5 m wide. It is covered by overburden/talus at both ends. A small hand trench put in 50 m along strike to the northwest encountered skarn mineralization. Copper values are generally low, the highest being 0.18% over 3 m. This same sample (Arn-2) had the highest gold value on the property (79.2 g/t over 3 m). The skarn at this point is highly fractured and limonitic with abundant pyrrhotite. A sample adjacent to Arn-2 assayed 12.2 g/t gold and 0.12% copper over 3 m. Gold values over the remainder of the skarn were low, averaging less than 0.5 g/t.

Skarn B

This zone, which is located near L21+50N about 50 m west of the baseline, is the largest and best mineralized skarn on the property. Detailed assays are given on Figure 7. As exposed on surface, the skarn is approximately 36 m long and averages 10 m wide. This zone could be an extension of Skarn A across a talus-filled gully. Semi-massive pods of magnetite, pyrrhotite, pyrite and chalcopyrite occur throughout the altered zone. A relatively fresh andesite-basalt occurs at the top of the zone which grades quickly downward to a highly fractured, recessive limonitic hornfels zone where the best values occur. A 6 m section in this zone averages 1.83% copper and 2.28 g/t gold. A 36 sq m area of subcrop and talus in this area returned an average assay of 1.23% copper and 1.25 g/t gold. Average grades over the remainder of the skarn are about 0.2% copper



N.B. samples are designated by their grid coordinates unless shown otherwise.

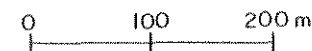
Figure 5

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

SAMPLE LOCATION

ARN PROPERTY

MENDOCINO RESOURCES LTD.



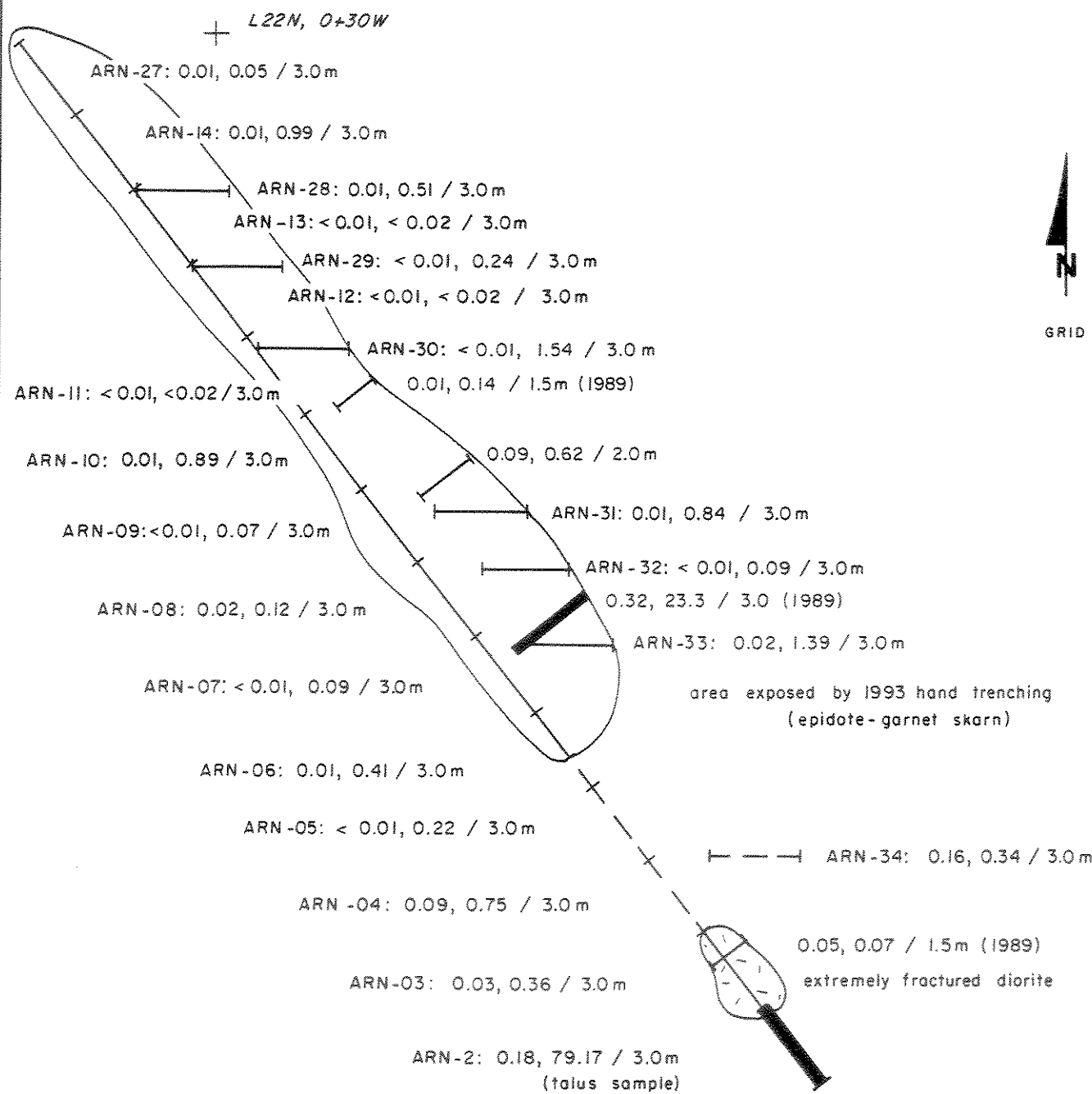


Figure 6

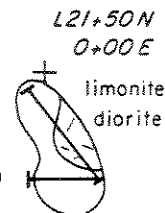
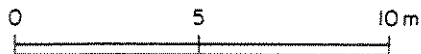
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

SKARN A

ARN PROPERTY

MENDOCINO RESOURCES LTD.

SCALE 1:200



ARN-02: 0.02, 0.02 / 3.0m

ARN-36: 0.04, 0.07 / 2.0m

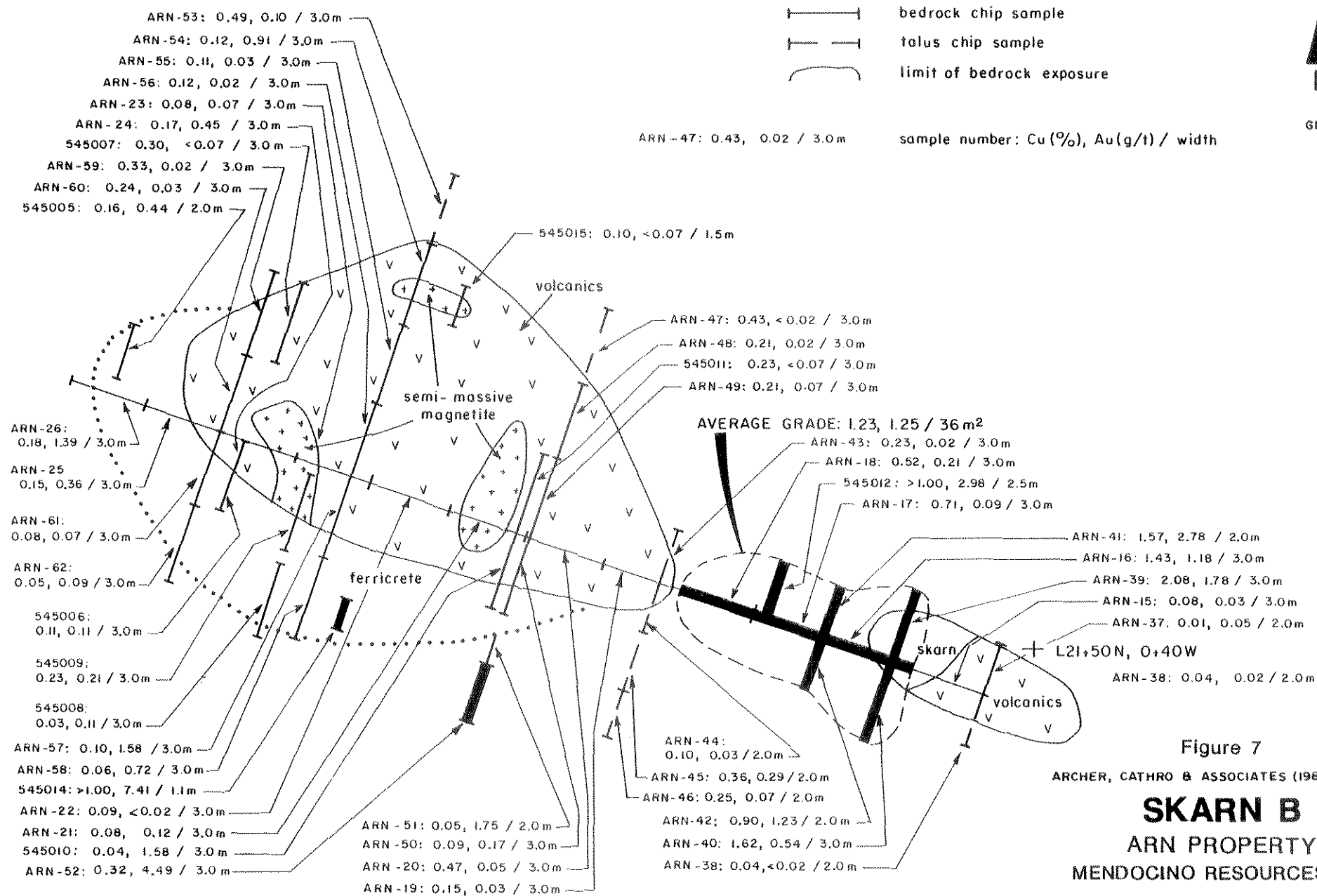


Figure 7

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

SKARN B
 ARN PROPERTY
 MENDOCINO RESOURCES LTD.

SCALE 1:200
 0 5 10m

and 0.8 g/t gold. Best single gold value was 4.49 g/t over 3 m in a section of ferricrete developed adjacent to and downslope of the main outcrop.

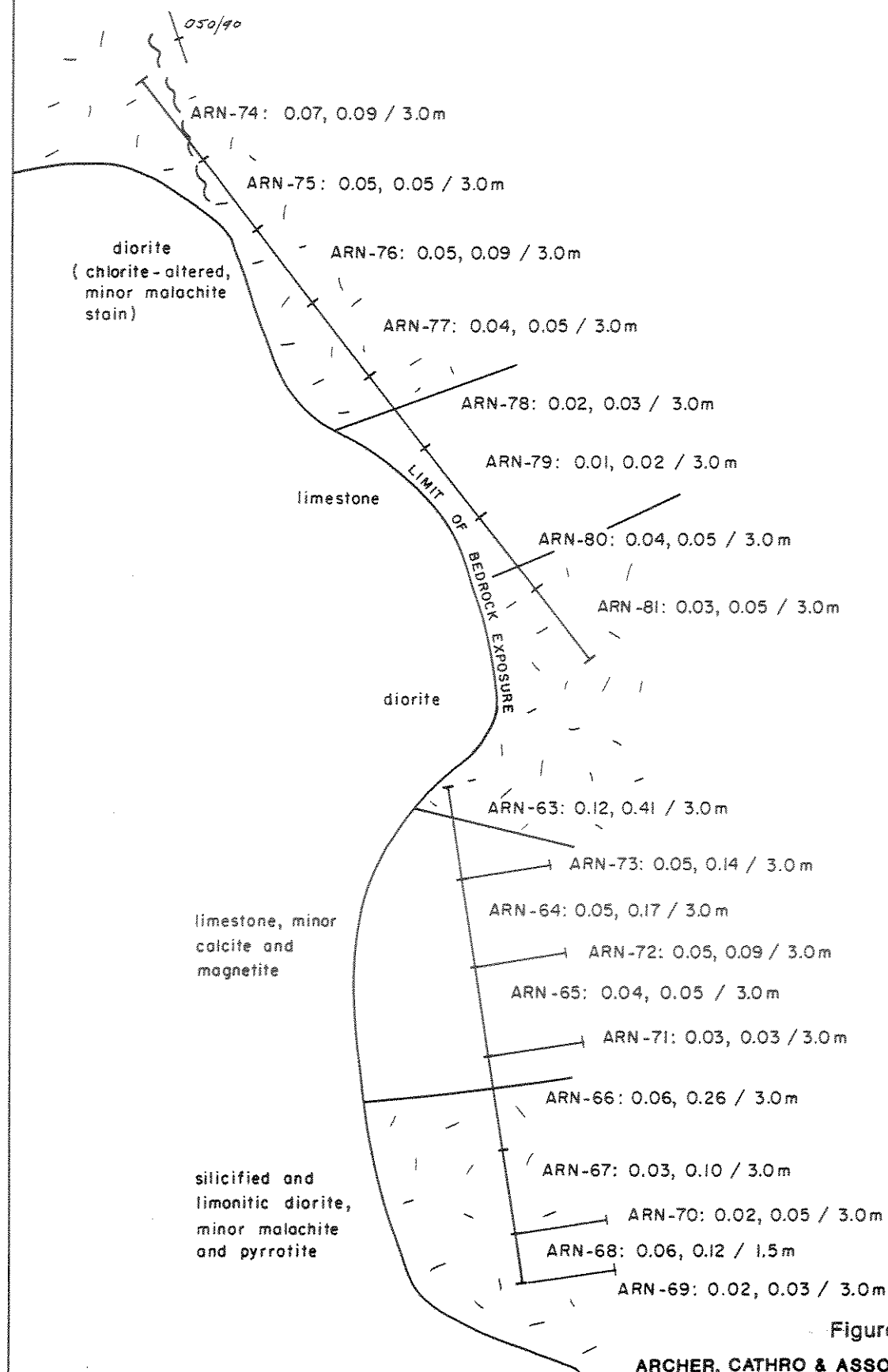
Skarn C

This skarn consists of a series of small zones adjacent to the large body of limestone located near L19N, 1+00W. Detailed assays are given on Figure 8. In one area, the mineralization is related to a northeast-trending fault zone cutting diorite and limestone. Pods of coarse-grained calcite and magnetite have developed locally. The majority of the mineralized skarn consists of intensely silicified and limonitic zones of fine-grained pyrrhotite with minor patches of azurite and malachite. Results were disappointing, averaging only 0.05% copper and 0.16 g/t gold over several areas sampled.

Skarn D

This area consists of a number of small mineralized zones located just west of the baseline between L15N and L18N. Locations of chip samples are given on Figure 5. The zones occur primarily in Nikolai basalt with small associated pods of limestone. They are characterized by intense fracturing, silicification, chloritic and argillic alteration with fine-grained pyrrhotite and minor malachite. Best values obtained from these areas were 3.29 g/t gold over 3 m with an adjacent sample assaying 0.13% copper over 3 m. In general, values ranged less than 0.06% copper and 0.13 g/t gold.

A couple of other small isolated zones exist on the property but not on the grid. A zone halfway up the slope on the west side of Miles Creek and another upslope of Skarn A were similar in appearance to the Skarn D mineralization. They returned only anomalous copper and gold values.



ARN-67: 0.03, 0.10 / 3.0m
sample no.: Cu(%), Au(g/t) / width

Figure 8
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

SKARN C
ARN PROPERTY
MENDOCINO RESOURCES LTD.

SCALE 1:200
0 5 10m

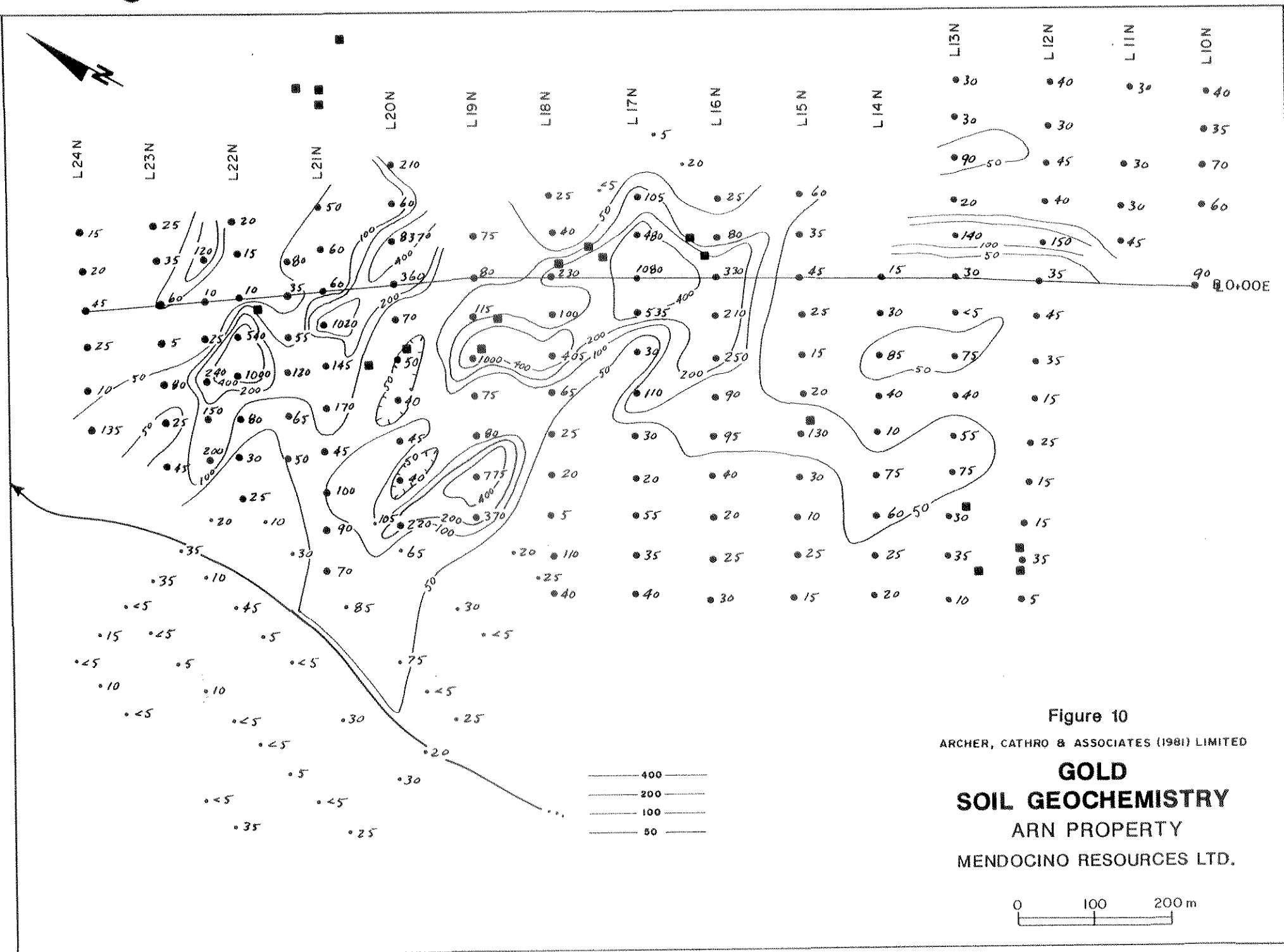
GEOCHEMISTRY

Procedure

A total of 152 soil samples was collected along the grid at 50 m intervals along lines 100 m apart. This density was increased to lines 50 m apart over Skarns A and B. The samples were collected with the use of a mattock from B horizon material where possible. Due to steep slopes with little soil development, C horizon material and talus fines were collected in some areas. Samples were collected in standard kraft soil bags and sent to Chemex Labs Ltd. in North Vancouver, B.C. for preparation and analyses by 32 element ICP and gold. Sample locations are given on Figure 5.

Results

Copper and gold results are compiled with older data on Figures 9 and 10. Complete 1993 ICP results are given in Appendix III. Copper and gold anomalies correlate well with each other. Gold values range up to 8370 ppb with several sites over 100 ppb. Copper values peak at 4420 ppm with the majority of values over 200 ppm. Known mineralized skarns are reflected very well by northwest-trending gold and copper anomalies. One gold and copper anomaly at the lower ends of L19N and L20N is not associated with any presently known skarn in an area partially covered with alluvial material from Miles Creek.



GEOPHYSICAL SURVEY

Procedure

A total of 5.1 line-kilometres of grid was covered using an Omni Plus proton precision magnetometer and VLF receiver. Temporal variations in the magnetic field did not exceed 5.0 nT over two minutes for the length of the survey. The VLF survey was conducted using the Jim Creek transmitter which is orientated at 175° to the claim area.

Results

Magnetometer results are shown on Figure 11 and Fraser filtered VLF-EM results are summarized on Figure 12. Magnetometer data show a high over Skarns A and B where magnetite has been mapped. This high trends easterly and is coincident with the gold and copper geochemical anomalies. A large, less intense, magnetometer anomaly occurs in the vicinity of Skarn D. This feature also correlates well with anomalous geochemical values.

The filtered VLF data shows a good association with magnetometer data and geochemistry in the vicinity of Skarns A and B. A second strong anomaly that occurs just southwest of Skarn D may be partially enhanced by topography. The unexplained geochemical anomaly at the bottom of L19N and L20N correlates with a moderate strength south-trending VLF anomaly.



LEGEND

- 7** Tertiary
Andesite dike
- 6** Cretaceous
Skarn
6a garnet, garnet-(magnetite)
6b magnetite, amphibole-magnetite
6c epidote-(calcite)
6d pyrrhotite-bearing
6e pyrite-bearing
- 5** Andesite-(Latite) dike swarm
5a felsic, intermediate
5b andesite, aphanitic to slightly porphyritic
5c hornblende-plagioclase phyrlic andesite
5d basalt, andesitic basalt
- 4** Diorite
4a medium to fine grained
4b fine to very fine grained
4bi intrusion breccia, fragments of Units 1 and 5 in groundmass of Unit 4b
- Jurassic-Cretaceous**
- 3** Dezadeash Formation
3a interbedded mudstone, siltstone, sandstone
3b andesite to basalt flows, sills
- Upper Triassic/Jurassic**
- 2** Chittistone/Nizina Limestone
2a limestone, in part well bedded
2b marble
- 1** Nikolai Volcanic Rocks
1, 1a andesite to basalt flows, (amygdaloidal flows)
1b strongly amygdaloidal basalt flow
1c bedded meta-sedimentary rocks, skarny
- h** (1h,3ah) rocks hornfelsed along contacts of Units 4, 5

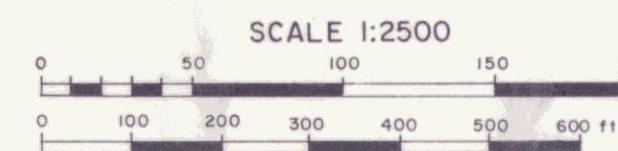
SYMBOLS

- outcrop boundary
outcrop seen at a distance but not visited
geological contact: defined; approximate
bedding
flow banding (in dike)
fault: major, minor
joint
contour in feet (interval 100 feet)
small creek or gully
grid

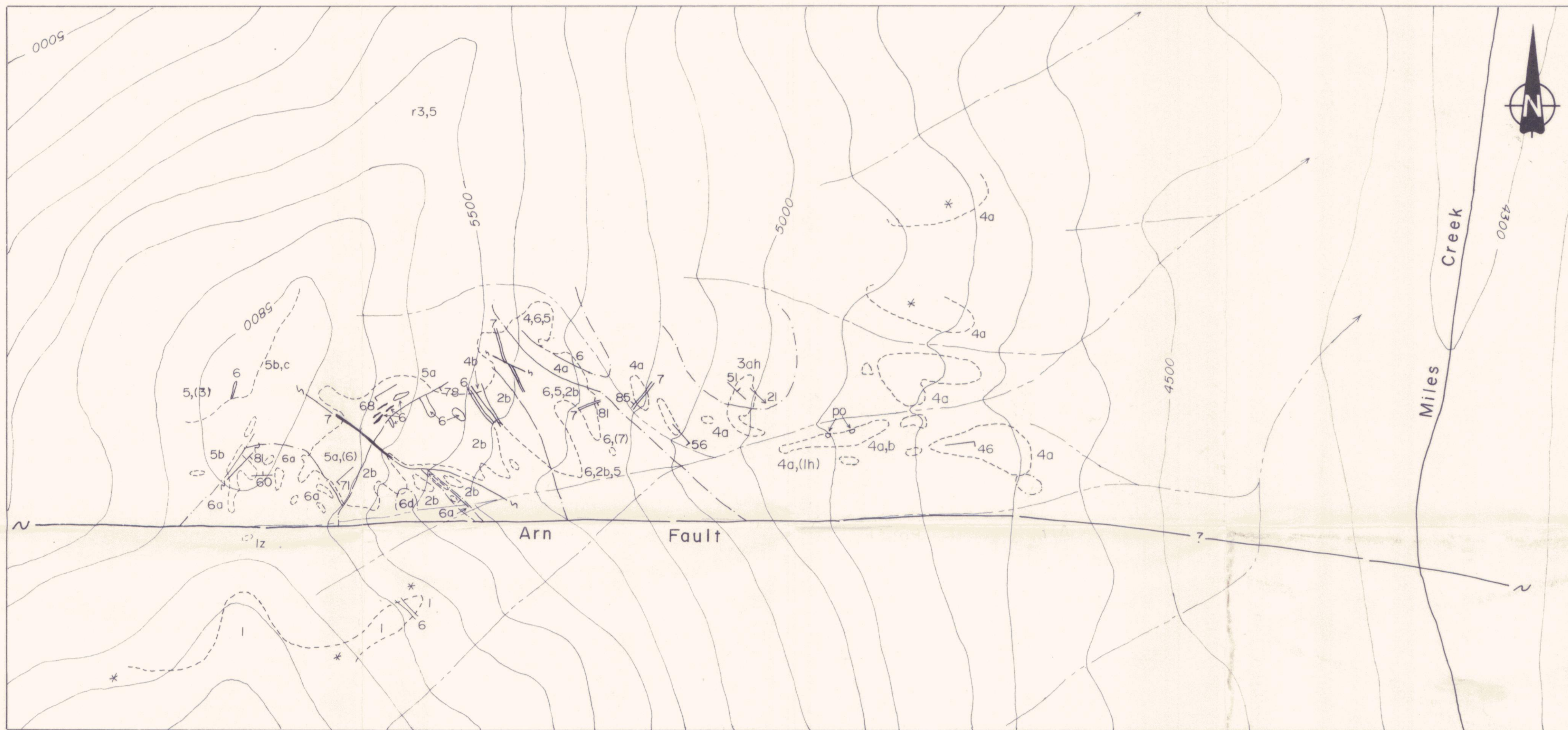
Figure 4b

Figure 4a

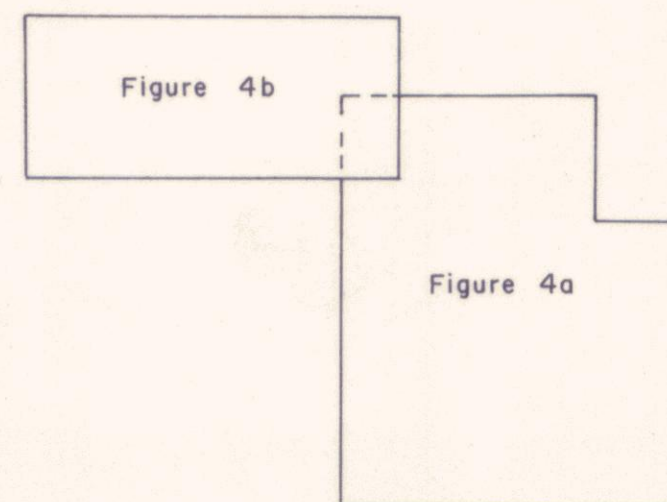
Figure 4a
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
PROPERTY GEOLOGY
ARN PROPERTY
MENDOCINO RESOURCES LTD.



To accompany report dated

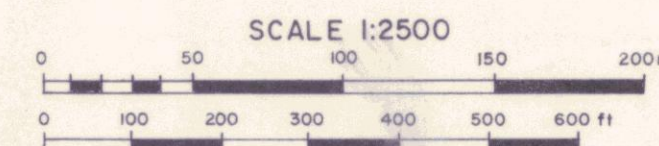


See adjoining map, Figure 4a, for LEGEND and SYMBOLS



093156

Figure 4b
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
PROPERTY GEOLOGY
 ARN PROPERTY
 MENDOCINO RESOURCES LTD.



To accompany report dated

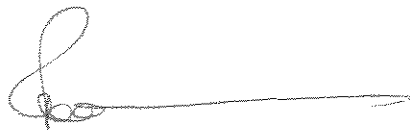
490

APPENDIX I
STATEMENTS OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Robert C. Carne, geologist, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia and residential address in Burnaby, British Columbia, hereby certify that:

1. I graduated from the University of British Columbia in 1974 with a B.Sc. and in 1979 with an M.Sc. majoring in Geological Sciences.
2. I am a Professional Geoscientist registered with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (registration number 19868).
3. From 1974 to present, I have been actively engaged as a geologist in mineral exploration in British Columbia and Yukon Territory and on June 1, 1981 became a partner of Archer, Cathro & Associates (1981) Limited.
4. I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.



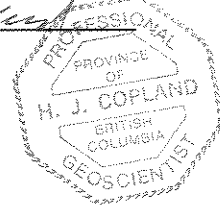
Robert C. Carne, M.Sc., P.Geo.

STATEMENT OF QUALIFICATIONS

I, Hugh Copland with business address in Whitehorse, Yukon Territory and residential address on the South Klondike Highway, Yukon Territory, do hereby declare that:

1. I graduated from the University of British Columbia in 1982 with a B.Sc. (Honours) in Geological Sciences.
2. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia.
3. I have been actively involved as a geologist in mineral exploration in the Cordillera since 1982.
3. I have participated in the field work performed on the property reported herein.


Hugh Copland, P.Geo.



STATEMENT OF QUALIFICATIONS

I, John Payne, geologist, with business and residential address in North Vancouver, British Columbia, hereby certify that:

1. I am a graduate of Queen's University, Kingston, Ontario in 1961 with a B.Sc. in Geological Engineering and a graduate of McMaster University, Hamilton, Ontario in 1966 with a PhD. in Geochemistry.
2. I am a Fellow of the Geological Association of Canada.
3. From 1967 to the present, I have been actively engaged as a geologist in mineral exploration in British Columbia and Yukon Territory and have been doing so on a consulting basis.
4. I have carried out geological mapping and interpretation in the field work reported herein.


John G. Payne, PhD.

APPENDIX II
PETROGRAPHIC REPORT



Vancouver Petrographics Ltd.

8080 GLOVER ROAD, LANGLEY, B.C. V3A 4P9
PHONE (604) 888-1323 • FAX (604) 888-3642

Report for: Rob Carne,
Archer Cathro & Associates, (1981)
1010 - 520 West Hastings Street,
VANCOUVER, B.C.,

Job 930644
October 1993

Property: ARN

Samples: Skarn samples
69, 79, 90, 102a, 102b, 103, 105a, 106b, 106c, 107, 111,
112a, 112b, 126

Summary:

Skarns vary widely in composition and texture. Most common types are rich in one or more of garnet, magnetite, and amphibole. Less abundant types contain abundant epidote or pyrrhotite. Minor types contain moderately abundant pyrite. Chalcopyrite occurs locally with Fe-sulfides. No precious-metal minerals were identified.

In a few thin sections, some primary textures are preserved to indicate that the host rock was limestone or a slightly porphyritic andesite dike. In many of the thin sections, original textures were destroyed; however, field relations indicate the nature of the relationship of the skarn to the surrounding host rocks.

Skarn-related veinlets are dominated by calcite and amphibole, with less abundant ones of K-feldspar, quartz, pyrite, scapolite, and sericite. Late veinlets of limonite/hematite cut some sulfide-bearing skarns.

Samples are grouped as follows:

A: Garnet-rich Skarn (Unit 6a)

Sample ARN-90 is a zoned skarn. Much of the sample is dominated by garnet with interstitial calcite and minor magnetite, actinolite/hornblende and quartz (Unit 6a). In this zone, magnetite is concentrated in a few irregular lenses up to a few mm across. At one end is a magnetite-rich zone with interstitial patches of actinolite (Unit 6b).

Sample ARN-103 is a massive skarn dominated by extremely fine to medium grained garnet with interstitial seams and patches of pyrrhotite and minor pyrite and chalcopyrite. Clinopyroxene is concentrated in a few patches and is disseminated in garnet grains. Late veinlets are of hematite.

Sample ARN-111 is dominated by garnet containing moderately abundant inclusions of calcite, with interstitial patches of tremolite. Veins and veinlets are dominated by calcite with much less tremolite.

B: Magnetite-Amphibole Rich Skarn (Unit 6b)

Sample ARN-102b is a massive magnetite-rich skarn with minor interstitial patches of actinolite, calcite, and an unknown silicate, possibly an Fe-rich amphibole.

Sample ARN-106a contains disseminated grains of hornblende and magnetite and minor clusters of specular hematite intergrown with medium to very coarse, interstitial calcite grains. The host rock was limestone.

Sample ARN-106b is a zoned skarn. At one end of the section is a hornblende-rich skarn with minor interstitial calcite. A zone a few mm across in the centre is dominated by calcite with minor actinolite. At the other end the rock contains porphyroblasts of actinolite in a groundmass of calcite-(actinolite), with a large patch of pyrite.

Sample ARN 112a contains euhedral to subhedral magnetite grains with interstitial patches of tremolite/actinolite grains (many of which have cores of clinopyroxene) and calcite. A few veinlets are of calcite.

C: Epidotized Marble (Unit 6c)

Sample ARN-69 is a medium grained recrystallized marble which was replaced strongly by patches of fine to medium grained epidote, very fine to fine grained quartz, and minor sericite.

Sample ARN-126 is a medium grained skarn dominated by epidote and actinolite, with interstitial patches of calcite and quartz. Sphene forms disseminated grains.

D: Pyrrhotite-Magnetite-Amphibole Skarn (Unit 6d)

Sample ARN 102a is a very fine to fine grained intergrowth of pyrrhotite, magnetite, and tremolite, with interstitial patches of actinolite, plagioclase, and minor garnet, quartz, and epidote.

E: Actinolite-Calcite-Pyrite Skarn (Unit 6e)

Sample ARN-106c is dominated by actinolite-(tremolite) and calcite, with abundant clusters of magnetite. Pyrite and minor pyrrhotite form irregular patches interstitial to actinolite and magnetite.

F: Skarnified Andesite Dikes (Unit 5bh)

Sample ARN-79 contains phenocrysts of actinolite and minor plagioclase in a groundmass of very fine grained plagioclase and actinolite. A set of parallel veinlets are dominated by K-feldspar and actinolite, with minor lenses of epidote-chalcopyrite. A few broader veins contain abundant quartz and have envelopes rich in K-feldspar and lesser tremolite/actinolite.

Sample ARN 107 contains phenocrysts(?) of plagioclase in a variable groundmass of fine to extremely fine grained amphibole (tremolite/actinolite) and plagioclase. Textures suggest that the host rock was a porphyritic andesite dike. Pyrite, hematite, and minor chalcopyrite form irregular patches intergrown with silicates. A veinlet of quartz-chalcopyrite has an envelope halo containing abundant chalcopyrite.

Sample ARN-112b is a hornfelsed andesite dike containing minor phenocrysts of clinopyroxene, actinolite, and plagioclase in a recrystallized groundmass dominated by plagioclase with less abundant clinopyroxene and biotite, and minor quartz, actinolite and ilmenite. The groundmass is banded slightly. A massive sulfide lens dominated by pyrrhotite is associated with a layer dominated by plagioclase which is coarser grained than normal. Veinlets are dominated by scapolite with minor Mineral X.

John G. Payne
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Sample ARN-69Epidotized Marble (Unit 6c)

The sample is a medium grained recrystallized marble which was replaced strongly by patches of fine to medium grained epidote, very fine to fine grained quartz, and minor sericite.

epidote	50-55%
calcite	30-35
quartz	10-12
sericite	3- 5
sphene	0.5
apatite	minor

Epidote forms subhedral to euhedral grains averaging 0.5-2 mm in size. Pleochroism is from pale to light greenish yellow. A few patches up to a few mm across are of very fine grained epidote and extremely fine to very fine grained quartz.

Calcite forms anhedral grains averaging 0.5-3 mm in size; many coarser grains are interstitial to subhedral to euhedral epidote.

Quartz forms interstitial grains averaging 0.2-0.5 mm in size. A few patches are of interlocking grains averaging 0.02-0.05 mm in size. Some of these are intergrown with epidote (see above).

Sericite forms patches up to 2 mm in size of extremely fine grained aggregates. Some of these are intergrown intimately with very fine to fine grained calcite and epidote. Against some of these, quartz forms euhedrally terminated grains up to 0.3 mm long.

Sphene forms anhedral grains averaging 0.1-0.3 mm in size and a few grains up to 0.6 mm long. It is altered slightly to leucoxene.

Apatite forms subhedral to euhedral grains averaging 0.05-0.07 mm in size.

A few epidote grains are brecciated moderately along braided zones up to 0.2 mm wide.

Sericite forms a few veinlets which contain angular fragments of epidote grains. Some of these are associated with zones of brecciation of epidote. Associated with one of these is an interstitial patch 1.7 mm in size of muscovite grains averaging 0.1-0.2 mm in size.

Sample ARN-79**Porphyritic Andesite Dike (Unit 5c); Fine Set
of Veinlets of K-feldspar-Tremolite/Actinolite-
Quartz-(Epidote-Chalcopyrite)**

Phenocrysts of actinolite and minor plagioclase are set in a groundmass of very fine grained plagioclase and actinolite. A set of parallel veinlets are dominated by K-feldspar and, actinolite, with minor lenses of epidote-chalcopyrite. A few broader veins contain abundant quartz and have envelopes rich in K-feldspar and lesser tremolite/actinolite.

phenocrysts	
tremolite/actinolite	7- 8%
plagioclase	0.5
groundmass	
plagioclase	50-55
actinolite	20-25
epidote	1- 2
magnetite	0.5
sphene	0.2
biotite	minor
chlorite	trace
veinlets	
actinolite	2
K-feldspar	2
quartz	2
epidote	0.2
chalcopyrite	minor

Tremolite/actinolite forms subhedral phenocrysts and clusters of phenocrysts averaging 1-1.5 mm in grain size, and a few up to 2.5 mm long. Many larger grains have a ragged core of pale green tremolite surrounded by a thin to thick, irregular rim of light green tremolite/actinolite. Associated with some phenocrysts and clusters of phenocrysts are interstitial patches of tremolite/actinolite grains averaging 0.02-0.05 mm in size. A few are replaced moderately by very fine to fine grained K-feldspar which is intergrown with ragged relics of tremolite/actinolite.

Plagioclase forms minor subhedral, prismatic phenocrysts averaging 0.7-1.2 mm long. Alteration is slight to sericite.

The groundmass is dominated by subhedral, plagioclase grains averaging 0.1-0.15 mm in size with interstitial patches of anhedral tremolite/actinolite grains averaging 0.05-0.1 mm in size. Magnetite is concentrated in bands up to 0.2 mm wide parallel to the veinlets as aggregates of anhedral grains averaging 0.02-0.05 mm in size. Sphene forms disseminated, anhedral grains averaging 0.02-0.05 mm in size. Biotite forms disseminated, equant flakes averaging 0.03-0.05 mm in size; pleochroism is from pale to light brown. Chlorite forms interstitial, very pale green grains averaging 0.07-0.15 mm in size.

(continued)

Several veinlets averaging 0.1-0.2 mm wide are of very fine grained K-feldspar and patches of tremolite/actinolite.

One vein up to 2.5 mm wide has a core dominated by fine grained quartz and a rim 0.8 mm wide dominated by very fine to fine grained quartz with prismatic grains of tremolite/actinolite, commonly oriented perpendicular to vein walls. Bordering the vein is a zone up to 0.7 mm wide of very fine grained K-feldspar and less abundant tremolite/actinolite.

One vein up to 1 mm wide is of fine to medium grained K-feldspar with lenses up to 2.5 mm long and 1 mm wide dominated by fine grained epidote with disseminated patches of chalcopyrite averaging 0.05-0.2 mm in size. A few grains of chalcopyrite are replaced strongly along their grain borders by red-brown hematite.

Sample ARN-90

**Zoned Skarn: Garnet-(Calcite) (Unit 6a) and
Magnetite-(Actinolite) (Unit 6b);
Veinlet of Ankerite**

Much of the sample is dominated by medium to coarse grained garnet with interstitial calcite and minor magnetite, actinolite/hornblende and quartz. In this zone, magnetite is concentrated in a few irregular lenses up to a few mm across. At one end is a magnetite-rich zone with interstitial patches of actinolite. At one side is a veinlet of ankerite.

garnet	65-70%
magnetite	15-20
calcite	7-10
actinolite/hornblende	3- 4
quartz	0.5
chalcopryrite	minor
pyrite	trace
pyrrhotite	trace

Garnet forms equant, anhedral to euhedral grains averaging 0.5-2.5 mm in size. Many have a broad isotropic core and a thin to moderately wide anisotropic rim. Some grains contain clusters of a few to many equant grains of magnetite averaging 0.015-0.025 mm in size.

Interstitial to garnet are generally mono-mineralic patches of calcite, actinolite/hornblende and magnetite. Calcite forms medium to coarse grains. Actinolite/hornblende forms some patches of very fine grained aggregates and others of subhedral prismatic grains up to 0.8 mm in size. Pleochroism is from light yellowish green to medium/dark green. Many coarser amphibole grains are replaced slightly to moderately by quartz and limonite. Magnetite forms anhedral grains averaging 0.5-2 mm in size. Quartz forms a few interstitial grains up to 1 mm in size. One grain contains an inclusion of chalcopryrite 0.015 mm in size. Quartz forms a few grains averaging 0.07-0.2 mm in size bordering large calcite crystals; these quartz grains have euhedral prismatic terminations against the calcite grain.

Chalcopryrite forms a few grains up to 0.1 mm in size in calcite or quartz. Grains commonly have a thin rim of hematite.

Pyrite forms a few grains up to 0.1 mm in size which are altered strongly to hematite. Pyrrhotite forms minor interstitial grains up to 0.04 mm in size.

The magnetite-rich zone is dominated by dense aggregates of equant grains of magnetite averaging 0.05-0.25 mm in size.

Minor interstitial patches are of actinolite, calcite, and quartz. Actinolite also forms a few patches up to 2.5 mm in size of interlocking, ragged prismatic grains averaging 0.2-0.5 mm in size. These contain clusters of magnetite grains averaging 0.02-0.05 mm in size. Pleochroism of actinolite is from pale to light/medium green.

At one side of the sample is a vein up to 0.9 mm wide of very fine grained ankerite.

Sample ARN 102aPyrrhotite-Magnetite-Amphibole-Plagioclase-
(Garnet-Quartz-Epidote) Skarn

The sample is a very fine to fine grained intergrowth of pyrrhotite, magnetite, and tremolite, with interstitial patches of actinolite, plagioclase, and minor garnet, quartz, and epidote.

pyrrhotite	40-45%
magnetite	17-20
actinolite	8-10
plagioclase	8-10
tremolite	7- 8
garnet	3- 4
epidote	3- 4
quartz	1- 2
chalcopyrite	0.2

Pyrrhotite forms interstitial patches averaging 0.2-1.5 mm in size. Borders against silicates generally are rounded. Alteration is slight to moderate along grain borders and fractures to secondary Fe-sulfides and dusty non-reflective material.

Magnetite is concentrated in patches averaging 0.1-0.3 mm in size and locally up to 0.8 mm long of extremely fine to very grains intergrown intimately with pyrrhotite. A few coarser equant grains average 0.15-0.3 mm in size.

Garnet forms very fine to extremely fine grained aggregates.

Tremolite forms colorless, anhedral to subhedral, prismatic grains averaging 0.3-0.7 mm in length. Actinolite forms patches averaging 0.1-0.5 mm in size of extremely fine to very fine grained aggregates. Pleochroism is from light to medium green to slightly bluish green.

Plagioclase forms interstitial patches of very fine to locally medium grains; alteration is very slight to sericite.

Epidote forms very irregular patches averaging 0.3-0.7 mm in size. Many of these contain inclusions of chalcopyrite averaging 0.03-0.1 mm in size. Epidote(?) also forms cryptocrystalline aggregates associated with interstitial actinolite.

Quartz forms patches up to 0.6 mm in size of slightly interlocking grains averaging 0.02-0.03 mm in size.

Sample ARN-102b Magnetite Skarn (Unit 6b)

The sample is a massive magnetite-rich skarn with minor interstitial patches of actinolite, calcite, and an unknown silicate, possibly an Fe-rich amphibole.

magnetite	95-97%
actinolite	2- 3
calcite	1- 2
Mineral X	0.5
sphene	trace

Magnetite forms anhedral, equant grains averaging 0.2-0.5 mm in size. Adjacent to interstitial patches of calcite or actinolite, magnetite has euhedral grain terminations.

Actinolite/hornblende is concentrated in interstitial patches up to 2 mm across as subhedral, prismatic grains averaging 0.5-1.5 mm in size. Pleochroism is from pale/light to light/medium green to bluish green. Some patches are stained light to medium orange by limonite.

Calcite forms interstitial patches up to several mm across of grains up to a few mm across.

A few interstitial patches up to 0.5 mm in size are of Mineral X, possibly an Fe-rich amphibole. It is pleochroic from light/medium reddish brown to dark brown/opaque.

Sphene forms a few ragged patches up to 0.2 mm in size in calcite.

Sample ARN-103Garnet-Pyrrhotite-Clinopyroxene Skarn;
Veins of Hematite

The sample is a massive skarn dominated by extremely fine to medium grained garnet with interstitial seams and patches of pyrrhotite and minor pyrite and chalcopyrite. Clinopyroxene is concentrated in a few patches and is disseminated in garnet grains. Late veinlets are of hematite.

garnet	60-65%
pyrrhotite	25-28
clinopyroxene	7- 8
pyrite	0.7
chalcopyrite	0.2
veinlets	
hematite	4- 5

Garnet forms equant, subhedral to anhedral grains with normal to anomalous extinction in finely developed growth zones. Grains average 0.1-0.5 mm in size.

Clinopyroxene forms equant to prismatic grains averaging 0.02-0.03 mm in size; these are concentrated in a few clusters up to 2 mm across and are disseminated in garnet or pyrrhotite. A few patches are of grains averaging 0.1-0.3 mm in size. A few elongate prismatic grains up to 0.6 mm in size are enclosed by pyrrhotite.

Pyrrhotite forms irregular, interstitial patches up to several mm across. Most grains are altered moderately from grain borders and fractures to secondary Fe sulfide and dusty non-reflective material.

Chalcopyrite forms wispy interstitial seams and patches, mainly associated with pyrrhotite.

Pyrite forms a few equant grains and clusters of extremely fine grains up to 0.4 mm across and a few veinlike lenses up to 0.3 mm wide of very fine grained aggregates.

Late veins up to 2.5 mm wide and interstitial patches are of finely banded, red-brown hematite. Some have lensy cavities in their cores.

Sample ARN-106a

Actinolite-Calcite-Magnetite Skarn

The sample contains disseminated grains of hornblende and magnetite and minor clusters of specular hematite intergrown with medium to very coarse, interstitial calcite grains.

calcite	60-65%
hornblende	20-25
magnetite	10-12
hematite	1- 2
biotite	minor
spene	trace
pyrite/hematite	0.1

Calcite forms grains averaging 1-3 mm in size; these contain minor to abundant inclusions of hornblende.

Hornblende forms dense to open clusters of acicular to elongate prismatic grains averaging 0.1-0.2 mm in length, and a few elongate prismatic grains up to 0.6 mm long. Pleochroism is from light to dark green.

Magnetite forms equant, anhedral grains averaging 0.05-0.2 mm in size.

Specular hematite forms subradiating to en echelon clusters up to 2 mm long of platy grains averaging 0.2-0.4 mm long.

Biotite forms equant flakes averaging 0.05-0.07 mm in size; pleochroism is from light to medium brown.

Sphene forms a few very irregular to subhedral grains averaging 0.1-0.4 mm in size.

A few patches up to 2 mm across consist of very fine grained pyrite. In some patches it is altered moderately to strongly to hematite.

Sample ARN-106bZoned Skarn: Hornblende-(Calcite-Pyrite) and
Calcite-Actinolite-(Pyrite)

At one end of the section, Zone A is a hornblende-rich skarn with minor interstitial calcite. Zone B, a few mm across in the centre, is dominated by calcite with minor actinolite. At the other end, Zone C contains porphyroblasts of actinolite in a groundmass of calcite-(actinolite), with a large patch of pyrite.

	Zone A	Zone B	Zone C
hornblende	75-80%	-	-
calcite	15-20	88-90	65-70
tremolite/actinolite	-	10-12	20-25
pyrite	-	-	7- 8
epidote	-	0.2	-
chalcopyrite	-	-	minor
ilmenite	-	-	trace
apatite	-	-	0.1
veinlets			
1) calcite	minor		
2) limonite/hematite	1		

In the Zone A, hornblende forms anhedral to euhedral, prismatic to acicular grains averaging 0.5-2 mm long and a few prismatic grains up to 4 mm long. Pleochroism is from light yellowish green to medium/dark green.

Calcite forms interstitial medium to very coarse grains, most of which contain abundant grains of hornblende.

In Zone B, coarse to very coarse grains of calcite contain minor to abundant grains of actinolite averaging 0.05-0.25 mm long. In one part of the zone, epidote forms angular grains averaging 0.05-0.1 mm in size.

Zone C is moderately similar to Zone B, with more abundant actinolite. Pyrite forms clusters up to several mm across of anhedral grains averaging 0.05-0.3 mm in size. Many contain abundant parallel fractures, along which the grains were altered moderately to patches of hematite. Adjacent to some of these patches are discontinuous veinlets up to 0.05 mm wide of similar pyrite. Pyrite also forms equant grains averaging 0.01 mm in size mainly disseminated in actinolite. Chalcopyrite forms equant to irregular grains up to 0.2 mm in size; many have a thin rim of red-brown hematite.

Ilmenite forms a few elongate grains up to 0.2 mm long.

Apatite forms euhedral, prismatic grains up to 0.15 mm long. It is concentrated in clusters of grains averaging 0.02-0.05 mm in size in coarse calcite grains in Zones B and C.

Calcite forms a few discontinuous veinlets averaging 0.02-0.03 mm wide.

Numerous veinlets averaging 0.01 mm wide are of orange-red limonite/hematite.

Sample ARN-106c**Actinolite-Calcite-Magnetite-Pyrite-Pyrrhotite
Skarn**

The skarn is dominated by actinolite-(tremolite) and calcite, with abundant clusters of magnetite. Pyrite and minor pyrrhotite form irregular patches interstitial to actinolite and magnetite.

actinolite	35-40%	sphene	0.2%
calcite	35-40	specular hematite	0.1
magnetite	15-17	apatite	minor
pyrite	3- 4	epidote	minor
tremolite	3- 4	chalcopryite	trace
pyrrhotite	0.7		
hematite/limonite	0.3		

Actinolite forms aggregates of feathery, in part subradiating, prismatic grains averaging 0.1-0.5 mm in length, and a few subhedral prismatic grains up to 1.5 mm long. Pleochroism is from pale yellowish green to light/medium, slightly bluish green. Many coarser grains are zoned, with patches (mainly in cores of grains) of colorless tremolite surrounded by zones actinolite.

Calcite forms interstitial grains up to a few mm across containing minor to abundant inclusions of prismatic to acicular actinolite.

Magnetite is concentrated in clusters up to a few mm across in which it forms anhedral, equant grains averaging 0.05-0.3 mm in size and locally up to 0.7 mm, mainly enclosed in patches of actinolite.

Pyrite and minor pyrrhotite form irregular, very fine grained patches up to a few mm across interstitial to clusters of magnetite grains and locally in calcite grains. Pyrite forms several patches up to 1.5 mm in size of very fine grains interstitial to prismatic actinolite grains. One of these patches contains minor chalcopryite. One sulfide patch 2 mm across is dominated by pyrrhotite with lesser extremely fine grained pyrite; pyrrhotite is altered strongly to secondary Fe-sulfide and non-reflective opaque. Some pyrite patches are altered moderately to strongly to deep orange/red hematite.

Specular hematite forms a few clusters of tabular grains averaging 0.2-0.3 mm long and equant grains averaging 0.05-0.15 mm in size.

Sphene forms a few subhedral grains averaging 0.1-0.3 mm in size.

Epidote forms a few anhedral grains up to 0.5 mm in size.

Apatite forms a few subhedral, equant grains averaging 0.015-0.03 mm in size enclosed in coarse calcite grains.

Sample ARN 107Amphibole-Plagioclase-Pyrite Skarn;
Quartz-Chalcopyrite Veinlet

The skarn contains phenocrysts(?) of plagioclase in a variable groundmass of fine to extremely fine grained amphibole (tremolite/actinolite) and plagioclase. Textures suggest that the host rock was a porphyritic andesite dike. Pyrite, hematite, and minor chalcopyrite form irregular patches intergrown with silicates. A veinlet of quartz-chalcopyrite has an envelope halo containing abundant chalcopyrite.

phenocrysts			
plagioclase	8-10%		
groundmass			
tremolite/actinolite	60-65	specular hematite	0.2%
plagioclase	20-25	chalcopyrite	0.1
pyrite	5- 7	quartz	minor
hematite/limonite	1- 2	ankerite	trace
veinlet			
quartz-chalcopyrite	minor		

Plagioclase forms a few subhedral prismatic phenocrysts up to 1.5 mm long. It also forms clusters averaging 0.7-2 mm across of anhedral grains averaging 0.3-0.7 mm in grain size. These may represent recrystallized phenocrysts. Some are overgrown by minor to abundant, anhedral to subhedral, prismatic grains and patches of pale to light green slightly pleochroic amphibole.

The groundmass varies moderately in texture. Some patches consist of intimate intergrowths of plagioclase and amphibole averaging 0.03-0.08 mm in grain size. Some are dominated by anhedral, equant grains of plagioclase averaging 0.1-0.4 mm in size intergrown with minor to moderately abundant ragged amphibole grains averaging 0.03-0.07 mm in size. Some are dominated by dense intergrowths of amphibole averaging 0.005-0.01 mm in grain size. Several irregular patches are dominated by ragged prismatic grains of amphibole averaging 0.2-0.7 mm in length.

Quartz forms a very few interstitial grains up to 0.8 mm in size; these contain moderately abundant acicular to elongate prismatic grains of tremolite/actinolite up to 0.4 mm long.

Pyrite is concentrated in irregular patches up to 3 mm in size of aggregates of grains averaging 0.03-0.1 mm in size intergrown intimately with silicates. Associated with several patches of pyrite are interstitial areas up to 0.3 mm across of deep orange/red hematite/limonite. Adjacent to these, pyrite commonly is slightly coarser than normal (0.1-0.2 mm) and commonly has euhedral crystal outlines. A few pyrite grains contain one or two angular inclusions of pyrrhotite averaging 0.01-0.015 mm across. Pyrite grains are corroded slightly due to surface weathering.

Specular hematite forms scattered tabular grains averaging 0.3-0.5 mm long and a few up to 1.2 mm long.

Ankerite forms minor, very irregular grains averaging 0.1-0.2 mm in size interstitial to actinolite.

A discontinuous veinlet up to 0.1 mm wide is of very fine grained quartz and chalcopyrite. Much of the chalcopyrite in the rock occurs in irregular patches up to 1.5 mm across bordering the veinlet; in these it is intergrown intimately with silicates.

Sample ARN-111Garnet-(Calcite-Tremolite) Skarn;
Veins of Calcite-Tremolite

The sample is dominated by garnet containing moderately abundant inclusions of calcite, with interstitial patches of tremolite. Veins and veinlets are dominated by calcite with much less tremolite.

garnet	80-85%
clinopyroxene	5- 7
calcite	2- 3
tremolite/actinolite	2- 3
epidote/clinozoisite	minor
veinlets	
calcite	4- 5
tremolite	2- 3
garnet	1

Garnet forms a massive aggregate of grains of normal extinction averaging 0.05-0.15 mm in size. Many contain subhedral to anhedral inclusions of clinopyroxene averaging 0.03-0.08 mm long. Clinopyroxene is concentrated in a few patches up to 1.7 mm across of grains averaging 0.05-0.1 mm in size. Some clinopyroxene is replaced by calcite. Epidote/clinozoisite forms equant grains averaging 0.2-0.5 mm in size.

One equant patch 1 mm across is dominated by fine to medium grained tremolite.

Garnet was granulated moderately to strongly in numerous irregular veinlets and patches, and was replaced in the matrix of these by extremely fine to very fine grained intergrowths of calcite and pale to light green tremolite/actinolite.

Veins and veinlets averaging 0.1-1 mm wide and associated replacement patches up to a few mm across are of very fine to medium grained calcite and much less very fine to fine grained tremolite. A few veinlets and lensy patches are of prismatic aggregates of tremolite grains averaging 0.1-0.2 mm in size. Locally garnet forms lenses up to 1.2 mm long, commonly on margins of veins; these are free of calcite/tremolite inclusions, and may represent recrystallized garnet.

Sample ARN 112a

Magnetite-Tremolite/Actinolite-
(Clinopyroxene-Calcite) Skarn
Veinlets of Calcite

The sample contains euhedral to subhedral magnetite grains with interstitial patches of tremolite/actinolite grains (many of which have cores of clinopyroxene) and calcite. A few veinlets are of calcite.

magnetite	40-45%
tremolite/actinolite	45-50
clinopyroxene/ankerite	5- 7
calcite	4- 5
apatite	0.3
sphene	trace
chalcopyrite	trace
pyrrhotite	trace
veinlets	
calcite	0.1

Magnetite forms clusters of anhedral to subhedral, equant grains averaging 0.2-0.5 mm in size.

Clinopyroxene forms ragged patches averaging 0.05-0.15 mm in size in cores of many tremolite/actinolite grains. It is altered slightly to strongly to ankerite, which is stained slightly to moderately by light orange limonite.

Tremolite/actinolite forms ragged prismatic grains averaging 0.1-0.3 mm in size. Many contain cores of clinopyroxene, whose textures suggest that it may have formed in part by replacement of clinopyroxene. Pleochroism of tremolite/actinolite is mainly from pale to light green; a few grains of actinolite are pleochroic from light to medium green.

Calcite forms interstitial grains averaging 0.5-1 mm in size, commonly containing abundant acicular to prismatic actinolite grains. It also forms a few patches up to 2 mm in size of very fine to fine grained aggregates with slightly interlocking grain borders.

Apatite forms disseminated, subhedral prismatic grains averaging 0.07-0.15 mm long.

Sphene forms a few euhedral grains up to 0.08 mm in size.

Chalcopyrite and lesser pyrrhotite form a few inclusions in magnetite averaging 0.01-0.02 mm in size.

Calcite forms a discontinuous, braided veinlet averaging 0.02-0.03 mm wide.

Sample ARN-112b Hornfelsed Slightly Porphyritic Andesite Dike;
(Unit 5bh); Lens of Pyrrhotite-(Chalcopyrite-Pyrite-
Clinopyroxene); Veinlets of Scapolite-(Mineral X)

Minor phenocrysts of clinopyroxene, actinolite, and plagioclase are set in a recrystallized groundmass dominated by plagioclase with less abundant clinopyroxene and biotite, and minor quartz, actinolite and ilmenite. The groundmass is banded slightly. A massive sulfide lens dominated by pyrrhotite is associated with a layer dominated by plagioclase which is coarser grained than normal. Veinlets are dominated by scapolite with minor Mineral X.

phenocrysts		sulfide lens	
clinopyroxene	2- 3%	pyrrhotite	2- 3%
actinolite	2- 3	pyrite	0.2
plagioclase	1- 2	chalcopyrite	0.1
groundmass			
plagioclase	60-65		
clinopyroxene	12-15		
biotite	7- 8		
hornblende	1- 2		
quartz	1		
ilmenite	1		
apatite	0.2		
pyrite	0.2		
veinlets, replacement patches			
scapolite	1- 2		
Mineral X	0.1		

Actinolite forms ragged phenocrysts averaging 0.7-1 mm in size. Pleochroism is from light to medium brownish green.

Biotite forms a few ragged phenocrysts up to 1 mm long. Pleochroism is from light to medium greenish brown.

Plagioclase forms ragged phenocrysts averaging 0.5-0.7 mm in size. Alteration is strong to extremely fine grained sericite.

In the groundmass, plagioclase forms anhedral, slightly interlocking grains averaging 0.03-0.07 mm in size, with a few from 0.1-0.15 mm long. Alteration varies strongly from fresh in some layers to moderate to sericite in others.

Clinopyroxene forms equant grains averaging 0.02-0.03 mm in size, and a few grains averaging 0.07-0.1 mm in size.

Quartz forms grains averaging 0.03-0.05 mm in size.

Biotite forms ragged flakes averaging 0.03-0.1 mm in size. Pleochroism is from light to dark brown. A few grains are altered completely to pseudomorphic chlorite.

Actinolite forms ragged grains averaging 0.05-0.07 mm in size. Pleochroism is from light to medium green.

Apatite forms abundant, euhedral prismatic grains averaging 0.02-0.05 mm long.

Ilmenite forms disseminated patches averaging 0.05-0.15 mm in size.

Pyrite forms subhedral to euhedral grains averaging 0.03-0.08 mm in size and a few ragged patches up to 0.5 mm long. Chalcopyrite forms minor patches up to 0.05 mm in size.

(continued)

A massive sulfide lens 1 cm long and up to 2.5 mm wide is dominated by medium to coarse grained pyrrhotite with much less abundant pyrite and chalcopyrite. Chalcopyrite forms patches up to 0.4 mm across. Pyrrhotite is altered slightly in patches to secondary Fe-sulfides and dusty non-reflective material. Pyrite is concentrated along the margin of the patch as aggregates up to 0.5 mm across of very fine, anhedral to subhedral grains. The lens contains rounded grains of clinopyroxene(?) averaging 0.1-0.2 mm in size.

It is cut by coarse fractures along which sulfides are replaced by banded veinlets with borders of cryptocrystalline siderite(?) and cores of extremely fine grained actinolite(?).

The sulfide-rich lens is contained in a lens dominated by equant plagioclase grains averaging 0.05-0.1 mm in size with scattered, anhedral grains of clinopyroxene averaging 0.1-0.3 mm in size. This lens grades outwards into the finer grained plagioclase-rich groundmass.

A few veinlets from 0.02-0.4 mm wide are dominated by extremely fine to fine grained scapolite. Scapolite also forms a few irregular replacement patches up to 1.5 mm in size of extremely fine grained aggregates. A few patches are of an Mineral X with the following properties: cluster of subparallel, elongate prismatic grains with R.I. 1.58-1.60, birefringence 0.015, extinction about 45 degrees to cleavage, hardness 4.

Sample ARN-126

Epidote-Actinolite-(Quartz-Calcite) Skarn;
Calcite Veinlets

The sample is a medium grained skarn dominated by epidote and actinolite, with interstitial patches of calcite and quartz. Sphene forms disseminated grains. A few veinlets are of calcite.

epidote	60-65%
actinolite	20-25
calcite	5- 7
quartz	2- 3
sphene	1
veinlets	
calcite	minor

Epidote forms anhedral to subhedral grains averaging 0.5-1.5 mm in size. Against interstitial calcite it commonly has euhedral terminations, and within calcite patches it forms euhedral grains. In several patches, grain borders are very irregular against minor to moderately abundant, interstitial quartz grains.

Actinolite forms disseminated grains averaging 1-1.5 mm in size. Pleochroism is from pale to medium green to slightly bluish green. A few grains are replaced slightly to moderately by quartz or calcite.

Calcite and quartz form interstitial patches of grains averaging 0.2-0.7 mm in size, and locally up to 2.5 mm across.

Sphene forms anhedral grains averaging 0.07-0.12 mm in size and a few ragged grains up to 1.7 mm across.

Calcite forms a few veinlets up to 0.02 mm wide cutting epidote grains.

APPENDIX III
ANALYTICAL CERTIFICATES



Chemex Labs Ltd.

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ARCHER CATHRO & ASSOC. (1981) LTD.

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ARCHER CATHRO & ASSOC. (1981) LTD.

Project: ARN
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 14-SEP-93.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	8	Assay ring to approx 150 mesh
274	8	0-15 lb crush and split
233	8	Assay AQ ICP 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

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
398	8	Au oz/T: 1/2 assay ton	FA-AAS	0.002	20.00
2118	8	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2119	8	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	8	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	8	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	8	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	8	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	8	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	8	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	8	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	8	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	8	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	8	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	8	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	8	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	8	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	8	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	8	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	8	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	8	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	8	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	8	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	8	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	8	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	8	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	8	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	8	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	8	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	8	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	8	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	8	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	8	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	8	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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CERTIFICATE OF ANALYSIS

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SAMPLE DESCRIPTION	PREP CODE	Au oz/T	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
545056	208 274	< 0.002	0.4	0.91	< 2	10	< 0.5	< 2	1.47	< 0.5	9	24	539	>15.00	< 10	< 1	0.06	20	0.21	725
545057	208 274	< 0.002	0.2	4.14	24	30	< 0.5	< 2	5.72	< 0.5	17	34	485	4.36	10	< 1	0.17	30	0.75	770
545058	208 274	< 0.002	0.8	2.54	14	< 10	< 0.5	< 2	11.30	< 0.5	9	64	364	8.59	< 10	< 1	0.03	< 10	0.23	1935
545059	208 274	< 0.002	2.6	0.66	6	< 10	< 0.5	< 2	1.65	< 0.5	7	21	176	>15.00	< 10	< 1	0.04	20	0.20	565
545060	208 274	< 0.002	3.0	1.04	36	10	< 0.5	< 2	2.44	0.5	20	100	484	>15.00	< 10	< 1	0.06	40	1.13	6960
545061	208 274	0.146	43.4	0.74	18	< 10	< 0.5	< 2	2.75	8.0	286	35	>10000	>15.00	< 10	< 1	< 0.01	20	0.11	645
545062	208 274	< 0.002	2.8	0.54	16	10	< 0.5	< 2	3.41	< 0.5	12	50	150	>15.00	< 10	< 1	< 0.01	50	1.84	7470
545063	208 274	0.004	4.4	0.72	18	< 10	< 0.5	< 2	9.02	< 0.5	16	32	5710	8.64	< 10	< 1	0.03	10	0.31	1155

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SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
545056	208 274	< 1	0.03	15	500	10	< 2	3	14	0.11	< 10	< 10	51	< 10	120
545057	208 274	4	0.12	9	1260	14	6	4	85	0.21	< 10	< 10	108	< 10	62
545058	208 274	< 1	0.02	10	870	8	4	5	21	0.11	< 10	< 10	72	< 10	34
545059	208 274	< 1	0.03	24	800	< 2	< 2	2	11	0.17	< 10	< 10	94	< 10	72
545060	208 274	< 1	0.02	83	370	< 2	< 2	78	19	< 0.01	< 10	< 10	351	< 10	812
545061	208 274	< 1	0.01	143	1430	< 2	2	3	4	0.01	< 10	< 10	18	< 10	1145
545062	208 274	< 1	0.03	59	960	< 2	2	57	20	< 0.01	< 10	< 10	210	< 10	278
545063	208 274	< 1	0.03	14	1180	< 2	4	2	68	0.04	< 10	< 10	20	< 10	132

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Project: ARN
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Samples submitted to our lab in Vancouver, BC.
This report was printed on 11-SEP-93.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	12	Dry, sieve to -80 mesh
229	12	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

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	12	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
2118	12	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2119	12	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	12	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	12	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	12	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	12	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	12	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	12	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	12	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	12	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	12	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	12	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	12	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	12	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	12	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	12	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	12	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	12	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	12	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	12	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	12	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	12	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	12	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	12	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	12	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	12	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	12	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	12	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	12	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	12	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	12	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	12	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
14776	201	229	50	< 0.2	2.89	14	60	< 0.5	< 2	0.81	< 0.5	37	84	329	6.65	< 10	< 1	0.07	< 10	1.51	705
14777	201	229	65	0.2	3.48	14	80	< 0.5	< 2	0.92	< 0.5	60	67	670	7.31	< 10	< 1	0.07	10	1.32	970
14778	201	229	120	< 0.2	2.88	14	60	< 0.5	< 2	0.81	< 0.5	37	53	318	5.63	< 10	< 1	0.07	< 10	1.05	645
14779	201	229	55	< 0.2	2.53	18	60	< 0.5	< 2	1.08	< 0.5	33	53	361	5.46	< 10	< 1	0.08	< 10	1.07	735
14780	201	229	35	0.2	2.09	16	10	< 0.5	< 2	2.38	< 0.5	35	4	670	6.96	< 10	< 1	0.03	20	0.56	1015
14781	201	229	80	< 0.2	3.95	12	40	< 0.5	< 2	2.27	< 0.5	27	51	232	5.56	< 10	< 1	0.08	10	1.55	950
14782	201	229	120	< 0.2	2.71	20	40	< 0.5	< 2	1.20	< 0.5	30	54	126	4.36	< 10	< 1	0.06	< 10	1.31	850
14783	201	229	10	< 0.2	2.59	16	60	< 0.5	2	0.95	< 0.5	26	46	115	5.73	< 10	< 1	0.09	10	1.34	1040
14784	201	229	25	0.2	2.79	16	40	< 0.5	2	2.01	< 0.5	20	45	184	4.17	< 10	< 1	0.09	10	1.08	565
14785	201	229	240	0.2	2.84	16	80	< 0.5	< 2	1.28	< 0.5	26	54	295	6.22	< 10	< 1	0.06	< 10	1.07	925
14786	201	229	150	< 0.2	2.72	12	60	< 0.5	< 2	1.51	< 0.5	25	54	240	4.99	< 10	< 1	0.05	< 10	1.18	670
14787	201	229	200	0.2	3.01	22	80	< 0.5	2	0.91	< 0.5	31	72	349	6.30	< 10	< 1	0.09	< 10	1.23	760

CERTIFICATION:



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Account :

CERTIFICATE OF ANALYSIS

A9320624

SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
14776	201 229	< 1	0.02	58	740	8	< 2	13	48	0.08	< 10	< 10	141	< 10	68
14777	201 229	< 1	0.03	59	930	12	< 2	10	51	0.11	< 10	< 10	111	< 10	70
14778	201 229	< 1	0.02	44	920	4	< 2	4	54	0.06	< 10	< 10	107	< 10	58
14779	201 229	1	0.02	65	700	4	< 2	7	80	0.04	< 10	< 10	106	< 10	58
14780	201 229	< 1	0.02	26	780	20	2	13	86	< 0.01	< 10	< 10	95	< 10	54
14781	201 229	1	0.02	37	850	14	< 2	15	103	0.04	< 10	< 10	126	10	82
14782	201 229	< 1	0.01	70	630	2	< 2	8	56	0.10	< 10	< 10	95	< 10	54
14783	201 229	< 1	0.01	32	550	4	< 2	13	40	0.19	< 10	< 10	143	< 10	64
14784	201 229	< 1	0.03	37	890	8	2	10	83	0.08	< 10	< 10	95	< 10	58
14785	201 229	< 1	0.02	41	1020	4	< 2	7	63	0.07	< 10	< 10	98	< 10	64
14786	201 229	< 1	0.03	46	570	6	< 2	10	75	0.07	< 10	< 10	101	< 10	54
14787	201 229	< 1	0.02	57	790	12	< 2	14	61	0.05	< 10	< 10	130	< 10	68

CERTIFICATION:



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
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PHONE: 604-984-0221

ARCHER CATHRO & ASSOC. (1981) LTD.

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

A9320500

Comments:

CERTIFICATE

A9320500

ARCHER CATHRO & ASSOC. (1981) LTD.

Project: ARN
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 14-SEP-93.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	54	Assay ring to approx 150 mesh
274	54	0-15 lb crush and split
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

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
398	54	Au oz/T: 1/2 assay ton	FA-AAS	0.002	20.00
2118	54	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2119	54	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	54	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	54	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	54	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	54	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	54	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	54	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	54	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	54	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	54	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	54	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	54	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	54	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	54	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	54	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	54	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	54	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	54	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	54	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	54	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	54	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	54	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	54	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	54	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	54	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	54	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	54	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	54	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	54	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	54	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	54	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project: ARN
Comments:

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Certificate Date: 14-SEP-93
Invoice No.: 19320500
P.O. Number:
Account: F

CERTIFICATE OF ANALYSIS

A9320500

SAMPLE	PREP CODE	Au oz/T	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
545000	-- --	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.
545001	208 274	0.010	< 0.2	4.16	< 2	140	< 0.5	< 2	3.39	< 0.5	25	108	312	12.15	20	< 1	0.66	< 10	0.59	1675
545002	208 274	0.004	0.4	1.16	8	10	< 0.5	< 2	2.39	< 0.5	36	92	495	4.63	< 10	< 1	0.09	< 10	0.28	635
545003	208 274	< 0.002	< 0.2	3.30	< 2	30	< 0.5	< 2	3.22	< 0.5	40	128	426	7.21	10	< 1	0.43	< 10	0.93	975
545004	208 274	0.029	< 0.2	1.04	< 2	< 10	< 0.5	< 2	7.11	< 0.5	28	58	460	12.65	< 10	< 1	< 0.01	< 10	0.13	2070
545005	208 274	0.013	0.4	0.79	< 2	10	< 0.5	< 2	0.74	1.5	12	49	1580	>15.00	10	< 1	0.14	< 10	0.21	360
545006	208 274	0.003	< 0.2	0.57	< 2	< 10	< 0.5	< 2	0.39	1.5	14	34	1070	>15.00	20	< 1	0.08	< 10	0.21	380
545007	208 274	< 0.002	< 0.2	1.83	< 2	10	< 0.5	< 2	3.44	< 0.5	43	41	2960	>15.00	10	< 1	0.17	< 10	0.50	1320
545008	208 274	0.003	< 0.2	2.62	< 2	10	< 0.5	< 2	1.76	< 0.5	7	42	301	6.16	< 10	< 1	0.08	10	0.75	275
545009	208 274	0.006	0.4	1.64	< 2	< 10	< 0.5	< 2	1.79	< 0.5	45	43	2340	>15.00	20	5	0.13	< 10	0.30	720
545010	208 274	0.046	1.2	1.20	< 2	< 10	< 0.5	< 2	1.96	1.5	7	36	398	>15.00	20	< 1	0.10	< 10	0.13	535
545011	208 274	< 0.002	< 0.2	1.30	< 2	10	< 0.5	< 2	1.78	1.0	47	20	2320	>15.00	10	1	0.16	< 10	0.42	1125
545012	208 274	0.087	52.6	0.37	< 2	< 10	< 0.5	< 2	9.30	5.0	147	40	>10000	>15.00	10	< 1	0.07	< 10	0.05	915
545013	208 274	0.085	32.4	0.52	< 2	< 10	< 0.5	< 2	10.00	4.5	134	33	>10000	>15.00	< 10	< 1	< 0.01	< 10	0.08	865
545014	208 274	0.216	4.0	0.32	< 2	< 10	< 0.5	< 2	2.16	3.5	292	32	>10000	>15.00	20	< 1	0.08	< 10	0.15	155
545015	208 274	< 0.002	< 0.2	0.55	< 2	< 10	< 0.5	< 2	1.33	2.0	30	40	1005	>15.00	20	< 1	0.10	< 10	0.19	805
545016	208 274	< 0.002	< 0.2	2.75	< 2	10	< 0.5	< 2	5.59	< 0.5	39	29	342	10.35	10	< 1	0.36	< 10	0.81	1560
545017	208 274	< 0.002	< 0.2	2.65	< 2	< 10	< 0.5	< 2	1.63	< 0.5	32	55	963	8.51	10	< 1	0.20	10	0.92	1105
545018	208 274	< 0.002	< 0.2	5.57	< 2	20	< 0.5	< 2	4.40	< 0.5	8	55	752	1.27	< 10	< 1	0.18	< 10	0.51	205
545019	208 274	< 0.002	< 0.2	2.00	< 2	< 10	< 0.5	< 2	9.27	0.5	47	124	4740	5.57	< 10	< 1	0.02	< 10	0.45	1440
545020	208 274	< 0.002	< 0.2	1.77	< 2	< 10	< 0.5	< 2	>15.00	< 0.5	4	63	88	3.66	< 10	< 1	0.01	< 10	0.17	1425
545021	208 274	0.033	< 0.2	0.42	< 2	10	< 0.5	< 2	5.94	3.0	8	60	58	>15.00	30	< 1	0.13	< 10	0.15	1145
545022	208 274	1.354	0.8	0.18	< 2	< 10	< 0.5	< 2	5.97	6.5	310	34	4700	>15.00	10	6	0.08	< 10	0.09	650
545023	208 274	0.018	< 0.2	1.32	< 2	< 10	< 0.5	< 2	>15.00	< 0.5	9	82	77	10.70	< 10	< 1	< 0.01	< 10	0.24	1475
545024	208 274	0.015	< 0.2	1.13	< 2	< 10	< 0.5	< 2	7.12	< 0.5	10	86	964	2.13	< 10	< 1	0.14	< 10	0.88	755
545025	208 274	0.002	0.2	0.95	< 2	< 10	< 0.5	< 2	5.63	< 0.5	9	100	43	3.18	< 10	< 1	< 0.01	< 10	0.10	835
545026	208 274	0.014	0.2	1.01	4	< 10	< 0.5	< 2	>15.00	< 0.5	2	111	547	12.45	< 10	< 1	< 0.01	< 10	0.16	1505
545027	208 274	0.002	< 0.2	1.09	4	< 10	< 0.5	< 2	>15.00	< 0.5	1	113	62	14.05	< 10	< 1	0.01	< 10	0.12	1725
545028	208 274	0.010	0.8	1.01	6	< 10	< 0.5	< 2	>15.00	< 0.5	22	53	1710	10.05	< 10	< 1	0.01	< 10	0.17	1370
545029	208 274	0.005	1.0	1.76	4	< 10	< 0.5	< 2	>15.00	< 0.5	5	137	1235	6.76	< 10	< 1	< 0.01	< 10	0.11	1820
545030	208 274	< 0.002	0.2	1.14	14	< 10	< 0.5	< 2	>15.00	< 0.5	17	54	316	6.01	< 10	< 1	0.03	< 10	0.21	1015
545031	208 274	0.017	4.6	0.86	< 2	10	< 0.5	< 2	7.54	< 0.5	15	69	6990	6.21	< 10	< 1	0.07	< 10	0.24	990
545032	208 274	< 0.002	< 0.2	0.07	< 2	< 10	< 0.5	< 2	2.99	3.5	191	20	2790	>15.00	20	< 1	0.09	< 10	0.04	355
545033	208 274	0.051	< 0.2	1.01	< 2	10	< 0.5	< 2	1.17	2.0	151	43	793	>15.00	10	< 1	0.08	< 10	0.15	445
545034	208 274	< 0.002	0.2	1.70	< 2	< 10	< 0.5	< 2	>15.00	< 0.5	5	72	54	5.32	< 10	< 1	< 0.01	< 10	0.24	1225
545035	208 274	0.005	0.4	0.37	< 2	< 10	< 0.5	6	13.15	2.5	167	47	1450	>15.00	< 10	1	0.08	< 10	0.08	1070
545036	208 274	0.009	< 0.2	0.09	< 2	< 10	< 0.5	< 2	9.58	4.0	205	61	3420	>15.00	20	< 1	0.07	< 10	0.03	1320
545037	208 274	0.007	5.8	3.17	< 2	10	< 0.5	< 2	8.48	1.0	39	150	7120	4.20	< 10	< 1	0.06	< 10	0.12	815
545038	208 274	0.006	2.0	0.50	< 2	< 10	< 0.5	< 2	>15.00	0.5	27	48	3770	2.59	< 10	< 1	0.02	< 10	0.08	675
545039	208 274	0.005	6.2	0.87	22	< 10	< 0.5	< 2	>15.00	0.5	20	26	>10000	1.06	< 10	< 1	0.04	< 10	0.12	495

CERTIFICATION:



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

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

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project: ARN
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Total Pages : 2
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CERTIFICATE OF ANALYSIS

A9320500

SAMPLE	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
545000	-- --	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.	miss.
545001	208 274	< 1	0.34	38	1010	4	< 2	23	72	0.26	< 10	< 10	236	10	100
545002	208 274	1	0.05	66	400	2	2	9	45	0.33	< 10	< 10	109	< 10	174
545003	208 274	< 1	0.43	37	520	< 2	< 2	20	79	0.34	< 10	< 10	187	10	76
545004	208 274	< 1	< 0.01	9	1720	4	< 2	2	31	0.09	< 10	< 10	29	10	34
545005	208 274	4	0.07	2	1060	48	16	6	8	0.14	< 10	< 10	88	< 10	30
545006	208 274	< 1	0.03	2	910	64	4	3	2	0.04	< 10	< 10	44	< 10	30
545007	208 274	1	0.11	11	830	< 2	< 2	4	28	0.07	< 10	< 10	60	< 10	118
545008	208 274	< 1	0.17	12	1330	2	< 2	4	85	0.14	< 10	< 10	86	< 10	28
545009	208 274	8	0.09	10	3120	30	8	3	35	0.06	< 10	< 10	77	< 10	48
545010	208 274	4	0.09	< 1	1140	50	12	2	30	0.04	< 10	< 10	46	< 10	24
545011	208 274	6	0.08	13	820	30	4	2	15	0.04	< 10	< 10	49	< 10	96
545012	208 274	< 1	0.03	46	1300	18	4	3	23	0.01	< 10	< 10	34	< 10	560
545013	208 274	< 1	< 0.01	50	1360	< 2	< 2	4	25	0.02	< 10	< 10	18	40	490
545014	208 274	< 1	0.02	82	570	40	16	4	1	< 0.01	< 10	< 10	19	< 10	42
545015	208 274	< 1	0.04	11	700	48	6	2	8	0.02	< 10	< 10	54	< 10	82
545016	208 274	5	0.22	8	480	< 2	2	3	37	0.06	< 10	< 10	55	10	76
545017	208 274	2	0.12	8	1410	< 2	< 2	5	15	0.14	< 10	< 10	61	< 10	70
545018	208 274	< 1	0.36	12	1030	< 2	4	4	236	0.10	< 10	< 10	35	< 10	24
545019	208 274	< 1	0.02	14	880	< 2	< 2	8	19	0.07	< 10	< 10	40	10	92
545020	208 274	< 1	< 0.01	1	740	< 2	< 2	3	27	0.04	< 10	< 10	30	10	30
545021	208 274	5	0.04	< 1	2830	46	12	3	37	0.02	< 10	20	44	< 10	30
545022	208 274	3	0.02	199	360	16	4	1	12	0.01	< 10	< 10	8	< 10	86
545023	208 274	< 1	< 0.01	3	980	< 2	< 2	5	34	0.06	< 10	< 10	40	30	28
545024	208 274	< 1	0.01	12	420	< 2	2	6	83	< 0.01	< 10	< 10	35	< 10	26
545025	208 274	< 1	0.01	8	210	< 2	< 2	3	21	0.03	< 10	< 10	146	< 10	6
545026	208 274	< 1	< 0.01	6	720	< 2	2	3	1	0.01	< 10	< 10	31	20	26
545027	208 274	< 1	< 0.01	7	570	< 2	< 2	3	13	0.01	< 10	< 10	24	20	36
545028	208 274	7	0.04	16	480	2	2	1	34	0.01	< 10	< 10	18	10	52
545029	208 274	< 1	< 0.01	16	580	< 2	< 2	12	16	0.07	< 10	< 10	80	10	42
545030	208 274	< 1	0.02	9	130	< 2	2	2	39	0.08	< 10	< 10	30	10	20
545031	208 274	< 1	0.04	11	650	4	< 2	2	25	0.06	< 10	< 10	49	10	98
545032	208 274	< 1	0.03	14	200	34	12	3	14	< 0.01	< 10	< 10	20	< 10	30
545033	208 274	2	0.04	14	260	22	4	1	28	0.05	< 10	< 10	41	< 10	20
545034	208 274	< 1	< 0.01	4	270	< 2	2	2	39	0.03	< 10	< 10	25	10	26
545035	208 274	< 1	0.03	96	100	36	14	2	49	0.01	< 10	< 10	24	< 10	26
545036	208 274	1	0.02	115	80	50	10	2	6	< 0.01	< 10	< 10	20	< 10	56
545037	208 274	3	0.17	55	360	2	< 2	16	113	0.33	< 10	< 10	144	10	200
545038	208 274	< 1	0.01	31	370	2	2	4	75	0.15	< 10	< 10	38	< 10	114
545039	208 274	2	0.10	17	260	6	2	3	68	0.12	< 10	< 10	25	10	44

CERTIFICATION:



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CERTIFICATE OF ANALYSIS

A9320500

SAMPLE	PREP CODE	Au oz/T	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
545040	208 274	0.010	0.6	1.65	4	< 10	< 0.5	2	1.17	1.5	212	60	4500	>15.00	10	< 1	0.02	< 10	0.20	260
545041	208 274	< 0.002	0.4	2.00	6	< 10	< 0.5	< 2	13.15	< 0.5	3	80	65	4.99	< 10	< 1	< 0.01	< 10	0.11	1500
545042	208 274	< 0.002	< 0.2	0.70	< 2	< 10	< 0.5	2	4.65	0.5	86	53	869	13.95	< 10	< 1	0.06	< 10	0.40	875
545043	208 274	0.002	0.2	0.53	< 2	< 10	< 0.5	2	9.81	< 0.5	31	80	357	4.40	< 10	< 1	< 0.01	< 10	0.20	735
545044	208 274	< 0.002	0.2	1.57	< 2	< 10	< 0.5	< 2	3.64	1.0	20	29	267	4.31	< 10	< 1	< 0.01	< 10	0.72	775
545045	208 274	< 0.002	0.2	0.76	< 2	< 10	< 0.5	< 2	3.86	< 0.5	5	36	50	1.34	< 10	< 1	< 0.01	< 10	0.33	430
545046	208 274	0.004	0.2	2.65	2	< 10	< 0.5	4	9.30	< 0.5	7	76	130	5.47	< 10	< 1	< 0.01	< 10	1.86	1410
545047	208 274	< 0.002	0.4	0.63	< 2	< 10	< 0.5	2	12.50	< 0.5	9	29	77	2.04	< 10	< 1	0.01	< 10	0.29	965
545048	208 274	< 0.002	1.0	3.32	4	< 10	< 0.5	< 2	6.99	< 0.5	33	30	764	4.11	< 10	< 1	0.06	< 10	0.46	1565
545049	208 274	0.006	< 0.2	0.68	< 2	< 10	< 0.5	< 2	7.34	< 0.5	19	31	191	2.96	< 10	< 1	< 0.01	< 10	0.29	620
545051	208 274	0.272	0.2	1.03	14	< 10	< 0.5	4	0.41	< 0.5	94	27	2430	>15.00	< 10	< 1	0.03	< 10	0.31	450
545052	208 274	0.008	< 0.2	1.09	16	10	< 0.5	< 2	2.89	< 0.5	18	53	181	>15.00	< 10	< 1	0.10	< 10	0.24	945
545053	208 274	0.022	< 0.2	0.77	8	< 10	< 0.5	< 2	4.83	< 0.5	42	36	481	>15.00	< 10	< 1	0.06	< 10	0.27	1015
545054	208 274	0.068	< 0.2	0.41	< 2	< 10	< 0.5	< 2	3.84	< 0.5	43	19	421	>15.00	< 10	< 1	0.05	< 10	0.13	1095
545055	208 274	0.045	< 0.2	1.51	6	10	< 0.5	4	4.88	< 0.5	18	31	255	13.20	10	< 1	0.16	< 10	0.42	1035

CERTIFICATION:

Hart Bickler



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

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

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project : ARN
Comments:

Page Number : 2-B
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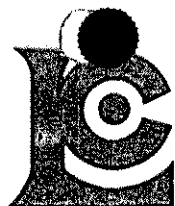
CERTIFICATE OF ANALYSIS

A9320500

SAMPLE	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
545040	208 274	< 1	0.02	119	320	16	< 2	4	33	0.08	< 10	< 10	59	< 10	36
545041	208 274	< 1	< 0.01	2	30	< 2	4	7	25	0.06	< 10	< 10	43	40	6
545042	208 274	< 1	0.04	23	340	2	2	3	29	0.11	< 10	< 10	34	40	20
545043	208 274	< 1	< 0.01	18	70	< 2	< 2	2	65	0.10	< 10	< 10	13	40	10
545044	208 274	< 1	0.01	3	970	12	< 2	1	61	0.05	< 10	< 10	23	20	46
545045	208 274	< 1	0.01	5	770	< 2	< 2	1	61	0.05	< 10	10	22	< 10	14
545046	208 274	< 1	< 0.01	12	150	2	2	4	45	0.01	< 10	< 10	66	30	50
545047	208 274	< 1	0.01	16	760	< 2	< 2	1	74	0.04	< 10	< 10	20	10	10
545048	208 274	< 1	0.07	11	840	6	< 2	7	83	0.09	< 10	< 10	91	30	50
545049	208 274	< 1	< 0.01	10	90	< 2	< 2	< 1	71	0.04	< 10	< 10	14	10	12
545051	208 274	< 1	0.03	24	440	8	< 2	2	3	0.02	< 10	< 10	53	< 10	36
545052	208 274	< 1	0.08	2	940	14	2	5	27	0.07	< 10	< 10	147	40	26
545053	208 274	< 1	0.06	10	1110	14	< 2	3	33	0.08	< 10	< 10	115	80	28
545054	208 274	< 1	0.04	8	430	6	6	2	34	0.04	< 10	< 10	76	60	26
545055	208 274	< 1	0.12	7	1050	< 2	< 2	3	36	0.09	< 10	< 10	83	60	32

CERTIFICATION:

[Signature]



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221

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

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

A9320499

Comments:

CERTIFICATE

A9320499

ARCHER CATHRO & ASSOC. (1981) LTD.

Project: ARN

P.O. #:

Samples submitted to our lab in Vancouver, BC.

This report was printed on 13-SEP-93.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	140	Dry, sieve to -80 mesh
229	140	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

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	140	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
2118	140	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2119	140	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	140	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	140	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	140	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	140	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	140	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	140	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	140	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	140	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	140	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	140	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	140	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	140	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	140	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	140	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	140	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	140	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	140	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	140	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	140	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	140	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	140	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	140	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	140	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	140	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	140	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	140	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	140	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	140	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	140	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	140	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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CERTIFICATE OF ANALYSIS

A9320499

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
H60305	201	229	90	< 0.2	3.64	< 2	130	< 0.5	< 2	1.23	1.0	40	38	242	5.89	< 10	< 1	0.13	< 10	1.44	520
H60306	201	229	70	< 0.2	3.83	< 2	90	< 0.5	2	1.89	0.5	33	46	219	5.27	< 10	< 1	0.16	< 10	1.62	580
H60307	201	229	35	0.2	3.33	10	90	< 0.5	2	1.51	0.5	39	63	258	5.96	< 10	< 1	0.21	< 10	1.66	610
H60308	201	229	40	< 0.2	3.21	4	120	< 0.5	< 2	1.18	0.5	47	63	327	6.14	< 10	< 1	0.22	< 10	1.65	930
H60309	201	229	30	< 0.2	3.17	< 2	110	< 0.5	2	0.78	0.5	10	12	77	9.19	10	< 1	0.28	< 10	1.69	510
H60310	201	229	30	< 0.2	4.22	12	190	< 0.5	< 2	1.28	0.5	43	50	288	7.39	< 10	< 1	0.28	< 10	1.62	720
H60311	201	229	30	< 0.2	3.87	< 2	190	< 0.5	6	1.20	1.0	53	44	214	7.16	< 10	< 1	0.39	< 10	1.62	720
H60312	201	229	45	0.2	2.92	< 2	160	< 0.5	< 2	0.57	1.0	60	33	277	5.14	< 10	< 1	0.09	< 10	1.01	630
H60313	201	229	35	0.2	3.44	12	110	< 0.5	< 2	1.49	1.0	63	38	215	6.12	< 10	< 1	0.19	< 10	1.29	1150
H60314	201	229	150	0.6	3.06	14	110	< 0.5	< 2	1.27	1.0	83	34	343	7.20	< 10	< 1	0.16	10	1.12	990
H60315	201	229	60	< 0.2	3.53	< 2	70	< 0.5	< 2	1.86	0.5	30	31	138	4.20	< 10	< 1	0.10	< 10	1.27	535
H60316	201	229	40	< 0.2	3.59	< 2	180	< 0.5	< 2	1.09	1.0	56	67	243	6.25	< 10	< 1	0.33	< 10	1.89	815
H60317	201	229	45	< 0.2	3.82	4	170	< 0.5	2	0.81	1.0	54	59	212	6.42	< 10	< 1	0.25	< 10	1.45	775
H60318	201	229	30	< 0.2	3.71	8	230	< 0.5	< 2	0.99	0.5	55	70	217	5.90	< 10	< 1	0.40	< 10	1.80	830
H60319	201	229	40	< 0.2	3.23	< 2	300	< 0.5	< 2	0.51	0.5	43	74	325	8.15	< 10	< 1	0.78	< 10	1.92	965
H60320	201	229	30	< 0.2	3.08	< 2	260	< 0.5	< 2	0.42	0.5	27	52	243	7.03	< 10	< 1	0.58	10	1.24	410
H60321	201	229	30	< 0.2	3.84	< 2	80	< 0.5	< 2	1.27	1.0	59	36	174	6.52	< 10	< 1	0.12	10	1.81	900
H60322	201	229	90	< 0.2	2.98	< 2	100	< 0.5	2	0.72	1.0	33	34	270	9.76	< 10	< 1	0.08	< 10	0.99	495
H60323	201	229	20	< 0.2	4.34	6	150	< 0.5	< 2	0.93	0.5	57	58	265	6.46	< 10	< 1	0.57	< 10	1.82	650
H60324	201	229	140	< 0.2	3.36	< 2	80	< 0.5	2	1.42	1.0	52	54	165	4.61	< 10	< 1	0.12	< 10	1.27	940
H60325	201	229	30	0.6	3.70	14	130	< 0.5	< 2	1.20	1.5	108	42	327	6.23	< 10	< 1	0.16	< 10	1.42	3300
L12N 0150W	201	229	45	0.4	3.78	6	110	< 0.5	< 2	1.39	0.5	39	40	209	5.11	< 10	< 1	0.18	10	1.37	1100
L12N 1100W	201	229	35	0.2	4.81	6	170	< 0.5	< 2	1.69	0.5	38	52	214	5.12	< 10	< 1	0.34	10	1.62	1035
L12N 1150W	201	229	15	< 0.2	4.15	10	140	< 0.5	< 2	0.93	0.5	51	38	163	5.06	< 10	< 1	0.09	< 10	1.12	835
L12N 2100W	201	229	25	0.2	4.17	12	110	< 0.5	< 2	1.82	0.5	35	32	135	4.00	10	< 1	0.11	< 10	1.09	895
L12N 2150W	201	229	15	< 0.2	3.83	12	100	< 0.5	< 2	1.06	1.0	30	54	141	4.47	< 10	< 1	0.15	< 10	1.41	925
L12N 3100W	201	229	15	< 0.2	2.07	2	120	< 0.5	< 2	0.67	0.5	17	32	64	3.22	< 10	< 1	0.08	< 10	0.71	545
L12N 3150W	201	229	35	< 0.2	2.85	2	130	< 0.5	< 2	1.34	1.0	34	53	234	4.85	< 10	< 1	0.14	< 10	1.34	870
L12N 4100W	201	229	5	0.2	2.36	< 2	170	< 0.5	< 2	1.43	1.0	29	48	91	4.30	< 10	< 1	0.16	< 10	1.00	1200
L13N 0150W	201	229	< 5	< 0.2	1.78	4	150	< 0.5	< 2	0.54	0.5	17	36	58	3.89	< 10	< 1	0.08	< 10	0.62	575
L13N 1100W	201	229	75	< 0.2	3.56	4	150	< 0.5	< 2	0.90	1.0	46	34	149	4.52	< 10	< 1	0.27	< 10	1.30	825
L13N 1150W	201	229	40	0.2	4.34	2	120	< 0.5	2	1.59	1.0	51	39	301	5.71	10	< 1	0.14	< 10	1.19	1025
L13N 2100W	201	229	55	< 0.2	4.57	< 2	140	< 0.5	< 2	2.29	1.0	39	39	232	5.29	10	< 1	0.20	< 10	1.14	870
L13N 2150W	201	229	75	< 0.2	4.26	< 2	130	< 0.5	< 2	2.14	1.0	39	41	254	5.23	< 10	< 1	0.19	< 10	1.23	850
L13N 3100W	201	229	30	0.2	3.70	12	90	< 0.5	< 2	1.82	1.0	34	53	138	3.89	< 10	< 1	0.12	< 10	1.45	935
L13N 3150W	201	229	35	< 0.2	4.27	6	30	< 0.5	< 2	2.54	0.5	38	114	187	5.50	10	< 1	0.11	< 10	1.74	2050
L13N 4100W	201	229	10	< 0.2	2.72	14	80	< 0.5	< 2	1.67	0.5	27	33	115	3.32	< 10	< 1	0.08	< 10	0.92	725
L14N 0100W	201	229	15	< 0.2	3.75	< 2	80	< 0.5	< 2	1.91	0.5	48	40	178	4.94	< 10	< 1	0.21	< 10	1.28	980
L14N 0150W	201	229	30	0.2	4.04	40	100	< 0.5	< 2	1.96	2.5	57	60	208	5.83	10	< 1	0.30	< 10	1.51	1080
L14N 1100W	201	229	85	0.2	4.03	12	90	< 0.5	< 2	1.63	1.0	67	46	317	5.62	< 10	< 1	0.17	10	1.44	965

CERTIFICATION:



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
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CERTIFICATE OF ANALYSIS

A9320499

SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
H60305	201 229	2	0.10	41	930	10	4	6	160	0.16	< 10	< 10	171	10	64
H60306	201 229	1	0.08	37	1130	10	< 2	7	195	0.22	< 10	< 10	170	10	66
H60307	201 229	1	0.10	40	990	2	2	7	181	0.20	< 10	< 10	211	10	66
H60308	201 229	1	0.08	46	890	2	2	9	172	0.20	< 10	< 10	186	10	72
H60309	201 229	1	0.09	9	1810	4	2	13	115	0.16	< 10	< 10	173	10	32
H60310	201 229	7	0.04	47	1130	12	< 2	12	113	0.18	< 10	< 10	143	10	76
H60311	201 229	4	0.06	40	1090	4	2	10	260	0.20	< 10	< 10	134	10	58
H60312	201 229	3	0.05	52	790	8	4	5	110	0.12	< 10	< 10	91	< 10	88
H60313	201 229	2	0.06	45	890	14	2	8	254	0.13	< 10	< 10	109	10	66
H60314	201 229	3	0.05	50	1100	8	2	7	237	0.11	< 10	< 10	87	< 10	62
H60315	201 229	< 1	0.06	31	1030	6	2	5	175	0.09	< 10	< 10	125	10	48
H60316	201 229	3	0.04	60	1000	12	2	10	161	0.19	< 10	< 10	136	10	56
H60317	201 229	3	0.06	55	1260	6	< 2	10	216	0.12	< 10	< 10	117	10	56
H60318	201 229	3	0.05	72	1250	4	< 2	11	146	0.22	< 10	< 10	138	10	70
H60319	201 229	4	0.02	44	1260	8	< 2	18	49	0.39	< 10	< 10	189	10	66
H60320	201 229	2	0.09	35	1420	4	4	9	133	0.25	< 10	< 10	142	< 10	42
H60321	201 229	1	0.07	52	1200	8	2	9	263	0.12	< 10	< 10	140	10	84
H60322	201 229	4	0.04	35	1430	6	2	6	77	0.14	< 10	< 10	109	< 10	60
H60323	201 229	1	0.11	81	940	< 2	< 2	5	91	0.18	< 10	< 10	143	10	86
H60324	201 229	2	0.06	45	1000	6	2	7	346	0.09	< 10	< 10	101	10	62
H60325	201 229	1	0.04	79	1180	12	< 2	9	176	0.14	< 10	< 10	121	10	112
L12N 0+50W	201 229	2	0.06	42	1270	16	< 2	8	233	0.16	< 10	< 10	121	10	84
L12N 1+00W	201 229	2	0.09	51	970	8	4	8	345	0.16	< 10	< 10	111	10	86
L12N 1+50W	201 229	2	0.03	46	1030	6	< 2	5	241	0.09	< 10	< 10	97	10	78
L12N 2+00W	201 229	1	0.03	38	930	10	2	6	150	0.09	< 10	< 10	87	< 10	102
L12N 2+50W	201 229	2	0.05	48	740	16	< 2	7	233	0.15	< 10	< 10	105	< 10	80
L12N 3+00W	201 229	1	0.02	30	1960	6	2	3	50	0.03	< 10	< 10	72	< 10	58
L12N 3+50W	201 229	< 1	0.06	52	970	6	< 2	7	84	0.17	< 10	< 10	116	10	94
L12N 4+00W	201 229	1	0.03	37	2320	10	< 2	4	79	0.07	< 10	< 10	101	10	76
L13N 0+50W	201 229	2	0.03	24	1230	8	2	4	55	0.10	< 10	< 10	94	< 10	54
L13N 1+00W	201 229	1	0.03	50	1250	8	< 2	5	99	0.12	< 10	< 10	92	10	80
L13N 1+50W	201 229	1	0.07	53	850	6	< 2	8	303	0.16	< 10	< 10	108	10	80
L13N 2+00W	201 229	1	0.08	39	990	18	2	7	484	0.17	< 10	< 10	98	10	82
L13N 2+50W	201 229	2	0.08	44	950	16	2	7	332	0.15	< 10	< 10	97	10	98
L13N 3+00W	201 229	2	0.06	58	900	6	4	7	123	0.11	< 10	< 10	87	10	84
L13N 3+50W	201 229	1	0.04	72	670	14	< 2	22	113	0.06	< 10	< 10	147	< 10	108
L13N 4+00W	201 229	< 1	0.03	31	1080	12	4	6	92	0.03	< 10	< 10	74	< 10	58
L14N 0+00W	201 229	1	0.05	45	810	6	< 2	9	219	0.08	< 10	< 10	96	< 10	60
L14N 0+50W	201 229	2	0.06	46	1060	26	4	11	241	0.13	< 10	< 10	124	10	170
L14N 1+00W	201 229	2	0.06	59	1080	12	2	10	133	0.11	< 10	< 10	104	10	80

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CERTIFICATE OF ANALYSIS

A9320499

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
1.14N 1:50W	201 229	40	0.4	4.17	16	80	< 0.5	< 2	1.87	< 0.5	69	40	375	5.63	10	< 1	0.33	10	1.17	1215
1.14N 2:00W	201 229	10	0.2	3.44	8	90	< 0.5	< 2	1.82	< 0.5	23	61	112	3.85	10	< 1	0.24	10	1.55	1095
1.14N 2:50W	201 229	75	0.2	2.18	6	80	< 0.5	2	>15.00	< 0.5	18	55	86	2.37	< 10	< 1	0.14	40	1.16	575
1.14N 3:00W	201 229	60	< 0.2	1.31	2	20	< 0.5	4	>15.00	< 0.5	16	31	89	1.69	< 10	< 1	0.06	50	0.60	625
1.14N 3:50W	201 229	25	0.2	3.32	2	70	< 0.5	< 2	4.01	0.5	43	46	315	4.67	10	< 1	0.16	< 10	0.98	1205
1.14N 4:00W	201 229	20	0.2	4.05	34	80	< 0.5	< 2	1.76	< 0.5	42	38	269	5.06	10	< 1	0.13	10	1.17	835
1.15N 0:00HL	201 229	45	0.2	3.63	6	80	< 0.5	< 2	1.68	< 0.5	32	88	178	5.29	10	< 1	0.18	10	2.06	735
1.15N 0:50E	201 229	35	0.2	3.64	12	90	< 0.5	< 2	1.87	< 0.5	35	64	219	4.59	10	< 1	0.21	10	1.56	905
1.15N 1:00E	201 229	60	0.2	3.06	2	100	< 0.5	< 2	0.36	< 0.5	29	123	303	6.57	< 10	< 1	0.42	< 10	2.51	420
1.15N 0:50W	201 229	25	0.2	3.40	18	80	< 0.5	< 2	1.50	1.5	43	52	181	4.74	10	< 1	0.26	10	1.21	890
1.15N 1:00W	201 229	15	0.4	3.25	6	190	< 0.5	< 2	0.51	< 0.5	36	50	306	6.45	10	< 1	0.35	10	1.69	435
1.15N 1:50W	201 229	20	0.4	4.53	10	60	< 0.5	< 2	2.32	< 0.5	52	251	178	5.89	10	< 1	0.08	10	3.95	1060
1.15N 2:00W	201 229	130	< 0.2	3.94	8	80	< 0.5	< 2	1.79	< 0.5	29	85	167	4.20	10	< 1	0.16	10	1.52	715
1.15N 2:50W	201 229	30	1.2	1.72	18	40	< 0.5	< 2	>15.00	< 0.5	38	41	1235	3.13	< 10	< 1	0.16	50	0.95	695
1.15N 3:00W	201 229	10	0.4	3.50	8	20	< 0.5	< 2	2.76	< 0.5	51	48	290	6.45	10	< 1	0.11	< 10	1.52	1150
1.15N 3:50W	201 229	25	0.4	2.54	18	90	< 0.5	< 2	1.10	0.5	26	53	172	3.93	< 10	< 1	0.07	10	1.12	695
1.15N 4:00W	201 229	15	0.4	2.29	10	110	< 0.5	< 2	1.23	0.5	23	48	117	3.53	< 10	< 1	0.07	10	1.00	715
1.16N 0:00E	201 229	330	1.0	3.26	16	110	< 0.5	< 2	1.66	< 0.5	30	62	309	6.52	10	< 1	0.14	10	1.40	910
1.16N 0:50E	201 229	80	0.8	4.27	< 2	60	< 0.5	< 2	2.06	< 0.5	28	56	254	5.29	10	< 1	0.12	10	1.32	710
1.16N 1:00E	201 229	25	0.4	1.82	10	110	< 0.5	< 2	0.51	< 0.5	14	32	103	3.94	< 10	< 1	0.06	10	0.63	430
1.16N 0:50W	201 229	210	0.6	4.31	8	110	< 0.5	< 2	2.96	1.0	68	94	1865	5.86	10	< 1	0.07	10	2.03	2260
1.16N 1:00W	201 229	250	1.8	3.42	42	130	< 0.5	< 2	0.77	< 0.5	84	84	1805	11.75	< 10	< 1	0.46	10	1.60	710
1.16N 1:50W	201 229	90	0.6	2.20	20	110	< 0.5	< 2	0.58	< 0.5	29	73	282	5.54	< 10	< 1	0.26	< 10	1.42	530
1.16N 2:00W	201 229	95	0.8	2.50	12	60	< 0.5	< 2	1.63	< 0.5	37	96	379	6.18	< 10	< 1	0.10	< 10	1.87	530
1.16N 2:50W	201 229	40	1.0	4.23	42	30	< 0.5	< 2	2.41	< 0.5	35	133	382	5.71	< 10	< 1	0.09	< 10	2.39	700
1.16N 3:00W	201 229	20	0.4	2.96	2	70	< 0.5	< 2	1.07	< 0.5	31	158	105	5.99	< 10	< 1	0.45	< 10	3.12	315
1.16N 3:50W	201 229	25	0.2	2.44	14	30	< 0.5	< 2	2.72	< 0.5	27	65	178	3.34	< 10	< 1	0.08	< 10	1.29	460
1.16N 4:00W	201 229	30	0.4	2.95	20	40	< 0.5	< 2	6.02	1.5	35	86	186	4.15	< 10	< 1	0.09	< 10	1.61	725
1.17N 0:00E	201 229	1080	1.4	1.42	56	< 10	< 0.5	< 2	1.02	1.5	91	21	1345	>15.00	< 10	< 1	0.09	< 10	0.38	540
1.17N 0:50E	201 229	480	0.6	2.39	20	100	< 0.5	< 2	0.86	< 0.5	33	42	227	5.34	< 10	< 1	0.05	10	0.86	700
1.17N 1:00E	201 229	105	0.6	3.26	20	100	< 0.5	< 2	1.32	< 0.5	31	35	305	5.67	< 10	< 1	0.08	10	0.93	785
1.17N 0:50W	201 229	535	1.8	2.41	12	40	< 0.5	< 2	1.95	< 0.5	36	85	852	>15.00	< 10	< 1	0.12	10	0.80	540
1.17N 1:00W	201 229	30	1.2	4.18	12	90	< 0.5	< 2	2.28	< 0.5	37	27	463	6.82	10	< 1	0.19	10	1.68	2170
1.17N 1:50W	201 229	110	0.8	2.83	20	70	< 0.5	< 2	1.15	< 0.5	46	97	560	7.29	< 10	< 1	0.26	10	1.82	615
1.17N 2:00W	201 229	30	0.2	3.43	2	140	< 0.5	< 2	0.31	< 0.5	33	79	340	7.09	< 10	< 1	0.80	< 10	2.36	395
1.17N 2:50W	201 229	20	0.4	2.69	10	120	< 0.5	< 2	0.50	< 0.5	40	71	189	5.56	< 10	< 1	0.43	10	1.91	565
1.17N 3:00W	201 229	55	0.8	3.56	28	110	< 0.5	< 2	1.18	< 0.5	53	104	565	7.21	< 10	< 1	0.42	10	3.05	690
1.17N 3:50W	201 229	35	0.6	3.46	14	100	< 0.5	< 2	1.31	< 0.5	40	76	218	4.88	< 10	< 1	0.17	10	1.77	815
1.17N 4:00W	201 229	40	0.4	2.99	8	80	< 0.5	< 2	1.37	< 0.5	29	72	161	4.73	< 10	< 1	0.12	10	1.45	630
1.18N 0:00E	201 229	230	1.4	2.15	22	90	< 0.5	< 2	0.87	< 0.5	24	41	313	7.50	< 10	< 1	0.04	10	0.83	545

CERTIFICATION:



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212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

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CERTIFICATE OF ANALYSIS

A9320499

SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
L14N 1+50W	201 229	1	0.07	68	820	4	4	8	196	0.12	< 10	< 10	87	< 10	92
L14N 2+00W	201 229	< 1	0.07	38	730	< 2	2	10	247	0.10	< 10	< 10	93	< 10	66
L14N 2+50W	201 229	< 1	0.08	47	680	2	2	4	308	0.09	< 10	< 10	53	< 10	78
L14N 3+00W	201 229	< 1	0.02	24	370	2	< 2	2	117	0.04	< 10	< 10	32	< 10	38
L14N 3+50W	201 229	< 1	0.07	58	660	4	< 2	10	111	0.12	< 10	< 10	100	< 10	92
L14N 4+00W	201 229	1	0.05	50	610	6	< 2	8	89	0.10	< 10	< 10	96	< 10	78
L15N 0+00BL	201 229	1	0.07	83	790	2	< 2	6	194	0.14	< 10	< 10	93	< 10	74
L15N 0+50E	201 229	2	0.06	55	780	6	< 2	8	203	0.15	< 10	< 10	100	< 10	88
L15N 1+00E	201 229	1	0.01	52	400	< 2	< 2	9	20	0.24	< 10	< 10	171	< 10	60
L15N 0+50W	201 229	1	0.04	35	740	16	< 2	9	189	0.09	< 10	< 10	92	< 10	158
L15N 1+00W	201 229	3	0.04	55	740	< 2	< 2	9	107	0.15	< 10	< 10	112	< 10	68
L15N 1+50W	201 229	1	0.03	195	760	< 2	< 2	17	163	0.14	< 10	< 10	131	< 10	82
L15N 2+00W	201 229	< 1	0.06	51	720	< 2	< 2	8	165	0.12	< 10	< 10	90	< 10	68
L15N 2+50W	201 229	1	0.06	53	370	2	< 2	3	134	0.09	< 10	< 10	49	< 10	120
L15N 3+00W	201 229	1	0.03	63	790	6	< 2	16	98	0.17	< 10	< 10	142	< 10	100
L15N 3+50W	201 229	1	0.06	48	530	12	< 2	7	66	0.12	< 10	< 10	82	< 10	106
L15N 4+00W	201 229	1	0.04	41	630	8	< 2	6	53	0.07	< 10	< 10	70	< 10	94
L16N 0+00E	201 229	2	0.05	47	850	2	< 2	8	127	0.13	< 10	< 10	102	< 10	80
L16N 0+50E	201 229	1	0.03	34	830	2	2	9	166	0.13	< 10	< 10	131	< 10	62
L16N 1+00E	201 229	2	0.02	22	800	6	< 2	3	44	0.07	< 10	< 10	77	< 10	62
L16N 0+50W	201 229	< 1	0.02	55	1090	< 2	< 2	20	69	0.07	< 10	< 10	180	< 10	148
L16N 1+00W	201 229	< 1	0.07	78	680	< 2	< 2	10	115	0.21	< 10	< 10	151	< 10	76
L16N 1+50W	201 229	1	0.03	40	700	4	< 2	6	37	0.17	< 10	< 10	117	< 10	64
L16N 2+00W	201 229	< 1	0.04	50	420	2	< 2	8	38	0.16	< 10	< 10	131	< 10	50
L16N 2+50W	201 229	1	0.03	83	660	2	4	14	83	0.13	< 10	< 10	124	< 10	80
L16N 3+00W	201 229	< 1	0.02	51	410	2	< 2	13	41	0.26	< 10	< 10	219	< 10	62
L16N 3+50W	201 229	1	0.02	50	740	4	< 2	7	77	0.07	< 10	< 10	73	< 10	50
L16N 4+00W	201 229	1	0.04	62	660	26	< 2	9	96	0.12	< 10	< 10	96	< 10	144
L17N 0+00E	201 229	3	0.04	21	1210	66	2	4	45	0.08	< 10	< 10	74	< 10	36
L17N 0+50E	201 229	2	0.02	37	900	8	2	4	55	0.07	< 10	< 10	84	< 10	72
L17N 1+00E	201 229	1	0.04	37	940	4	2	7	117	0.09	< 10	< 10	97	< 10	74
L17N 0+50W	201 229	2	0.03	28	1040	10	< 2	8	61	0.20	< 10	< 10	143	< 10	54
L17N 1+00W	201 229	< 1	0.01	24	710	< 2	< 2	19	114	0.10	< 10	< 10	186	< 10	100
L17N 1+50W	201 229	1	0.04	68	660	6	< 2	9	76	0.16	< 10	< 10	130	< 10	72
L17N 2+00W	201 229	1	0.03	65	730	< 2	< 2	7	29	0.30	< 10	< 10	164	< 10	66
L17N 2+50W	201 229	1	0.03	43	710	2	< 2	6	31	0.20	< 10	< 10	143	< 10	80
L17N 3+00W	201 229	1	0.02	71	560	2	4	12	35	0.29	< 10	< 10	190	< 10	84
L17N 3+50W	201 229	< 1	0.06	69	600	4	< 2	8	128	0.14	< 10	< 10	100	< 10	86
L17N 4+00W	201 229	1	0.06	53	650	6	< 2	7	81	0.13	< 10	< 10	97	< 10	62
L18N 0+00E	201 229	1	0.02	31	890	6	< 2	5	49	0.08	< 10	< 10	92	< 10	70

CERTIFICATION:



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

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

P.O. BOX 4127
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Y1A 3S9

Project: ARN

Comments:

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Certificate Date 13-SEP-93

Invoice No. I-9320499

P.O. Number :

Account :

CERTIFICATE OF ANALYSIS

A9320499

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Hf %	Mn ppm
L18N 0+50E	201 229	40	0.4	1.45	10	80	< 0.5	< 2	0.41	< 0.5	12	21	93	3.58	< 10	< 1	0.03	< 10	0.49	375
L18N 1+00E	201 229	25	0.4	2.17	8	130	< 0.5	< 2	0.68	< 0.5	18	40	88	4.25	< 10	< 1	0.06	10	0.79	790
L18N 0+50W	201 229	100	0.4	2.70	12	40	< 0.5	< 2	1.19	< 0.5	50	60	584	8.21	10	< 1	0.08	10	1.87	920
L18N 1+00W	201 229	405	0.6	2.48	22	90	< 0.5	< 2	0.96	< 0.5	40	88	403	6.92	< 10	< 1	0.16	10	2.28	680
L18N 1+50W	201 229	65	0.2	2.81	16	110	< 0.5	< 2	0.96	< 0.5	34	103	301	5.68	10	< 1	0.32	10	2.49	575
L18N 2+00W	201 229	25	0.2	2.28	4	120	< 0.5	< 2	0.54	< 0.5	27	90	127	5.00	10	< 1	0.40	10	1.86	540
L18N 2+50W	201 229	20	0.4	3.18	10	80	< 0.5	< 2	0.85	< 0.5	32	174	249	6.82	10	< 1	0.34	10	3.61	640
L18N 3+00W	201 229	5	0.2	2.59	8	80	< 0.5	< 2	0.59	< 0.5	26	136	125	5.26	< 10	< 1	0.44	< 10	2.84	475
L18N 3+50W	201 229	110	0.4	2.56	16	80	< 0.5	< 2	1.02	< 0.5	36	84	280	5.44	< 10	< 1	0.32	10	1.97	485
L18N 4+00W	201 229	40	0.4	2.86	22	80	< 0.5	< 2	1.36	< 0.5	37	72	226	4.89	10	< 1	0.16	10	1.73	635
L19N 0+00E	201 229	80	0.4	2.28	14	80	< 0.5	< 2	0.99	< 0.5	58	35	613	6.60	< 10	< 1	0.07	10	0.78	1005
L19N 0+50E	201 229	75	0.2	3.01	12	100	< 0.5	< 2	0.98	< 0.5	36	28	215	4.55	< 10	< 1	0.06	10	0.67	535
L19N 0+50W	201 229	115	0.2	0.72	8	50	< 0.5	< 2	15.00	< 0.5	11	16	85	1.84	10	< 1	0.06	40	0.35	795
L19N 1+00W	201 229	1000	3.2	0.61	< 2	40	< 0.5	< 2	1.26	1.0	11	31	837	15.00	< 10	< 1	0.16	< 10	0.29	290
L19N 1+50W	201 229	75	0.4	2.14	6	110	< 0.5	< 2	0.87	< 0.5	26	36	213	4.64	< 10	< 1	0.08	10	0.88	695
L19N 2+00W	201 229	80	0.8	3.65	14	120	< 0.5	< 2	1.57	< 0.5	28	25	283	5.00	< 10	< 1	0.10	10	0.98	670
L19N 2+50W	201 229	775	1.0	2.88	18	80	< 0.5	< 2	1.46	< 0.5	39	81	604	7.83	< 10	< 1	0.16	10	1.62	685
L19N 3+00W	201 229	270	1.0	2.51	14	70	< 0.5	< 2	1.29	< 0.5	37	65	505	6.65	< 10	< 1	0.15	10	1.34	655
L20N 0+00E	201 229	360	0.6	3.89	6	40	< 0.5	< 2	1.44	2.5	141	64	802	11.65	< 10	< 1	0.13	< 10	0.70	1225
L20N 0+50E	201 229	8370	0.8	3.88	36	40	< 0.5	< 2	1.28	< 0.5	131	56	804	10.95	< 10	< 1	0.08	10	0.66	1145
L20N 1+00E	201 229	60	0.6	3.28	6	90	< 0.5	< 2	1.75	< 0.5	36	27	285	5.51	10	< 1	0.07	10	0.82	915
L20N 1+50E	201 229	210	0.8	3.29	14	40	< 0.5	< 2	2.01	< 0.5	27	33	258	4.32	< 10	< 1	0.12	10	1.14	605
L20N 0+50W	201 229	70	0.6	2.04	< 2	100	< 0.5	< 2	0.47	< 0.5	27	42	248	4.81	< 10	< 1	0.23	10	1.14	490
L20N 1+00W	201 229	50	0.4	2.93	8	90	< 0.5	< 2	0.38	< 0.5	42	21	351	7.56	< 10	< 1	0.51	10	1.97	375
L20N 1+50W	201 229	40	0.4	2.22	< 2	140	< 0.5	< 2	1.03	< 0.5	27	60	172	4.56	< 10	< 1	0.31	10	1.40	485
L20N 2+00W	201 229	145	0.4	1.87	< 2	90	< 0.5	< 2	1.34	< 0.5	26	34	302	3.87	< 10	< 1	0.05	10	0.87	445
L20N 2+50W	201 229	40	0.4	1.68	< 2	110	< 0.5	< 2	0.84	< 0.5	19	37	146	3.45	< 10	< 1	0.05	10	0.74	500
L20N 3+00W	201 229	220	1.4	2.78	2	60	< 0.5	< 2	1.34	< 0.5	36	74	452	6.92	< 10	< 1	0.14	10	1.61	610
L21N 0+00E	201 229	60	0.4	1.68	8	50	< 0.5	< 2	1.65	< 0.5	25	27	207	4.14	< 10	< 1	0.10	10	0.60	750
L21N 0+50E	201 229	60	0.6	1.84	10	90	< 0.5	< 2	0.68	< 0.5	20	37	130	4.01	< 10	< 1	0.05	10	0.65	585
L21N 1+00E	201 229	50	< 0.2	2.94	< 2	60	< 0.5	< 2	1.72	< 0.5	28	45	248	4.36	< 10	< 1	0.17	10	1.24	635
L21N 0+50W	201 229	1020	1.6	3.23	30	20	< 0.5	< 2	1.91	< 0.5	163	62	4420	13.70	10	< 1	0.14	10	0.78	2150
L21N 1+00W	201 229	145	< 0.2	2.86	2	60	< 0.5	< 2	1.09	< 0.5	41	60	517	8.24	< 10	< 1	0.06	10	0.96	650
L21N 1+50W	201 229	170	0.2	3.65	4	40	< 0.5	< 2	1.17	< 0.5	79	87	866	8.50	10	< 1	0.17	10	1.38	970
L21N 2+00W	201 229	95	0.2	2.99	12	100	< 0.5	< 2	1.04	< 0.5	42	50	353	6.48	10	< 1	0.09	10	1.07	770
L21N 2+50W	201 229	100	< 0.2	1.52	< 2	100	< 0.5	< 2	1.54	< 0.5	21	37	281	3.71	< 10	< 1	0.06	10	0.79	545
L21N 3+00W	201 229	90	< 0.2	2.24	2	90	< 0.5	< 2	1.20	< 0.5	29	42	412	4.28	< 10	< 1	0.07	10	1.09	610
L21N 3+50W	201 229	70	< 0.2	1.43	< 2	30	< 0.5	< 2	2.06	< 0.5	8	21	137	1.99	< 10	< 1	0.03	10	0.44	245
L22N 0+00E	201 229	10	0.2	2.44	8	90	< 0.5	< 2	1.21	< 0.5	29	50	329	4.55	10	< 1	0.08	10	1.22	690
L22N 0+50E	201 229	15	< 0.2	2.74	10	40	< 0.5	< 2	1.56	< 0.5	23	40	132	4.64	10	< 1	0.07	10	0.86	850

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P.O. Number :
Account :

CERTIFICATE OF ANALYSIS

A9320499

SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
L18N 0+50E	201 229	1	0.03	16	640	4	< 2	2	27	0.07	< 10	< 10	58	< 10	62
L18N 1+00E	201 229	2	0.02	29	1150	6	< 2	4	51	0.06	< 10	< 10	87	< 10	84
L18N 0+50W	201 229	< 1	0.01	48	550	4	< 2	13	40	0.16	< 10	< 10	166	< 10	74
L18N 1+00W	201 229	1	0.02	53	780	8	< 2	7	42	0.20	< 10	< 10	229	< 10	78
L18N 1+50W	201 229	< 1	0.02	56	630	< 2	< 2	9	51	0.21	< 10	< 10	172	< 10	66
L18N 2+00W	201 229	< 1	0.02	39	670	2	< 2	7	32	0.21	< 10	< 10	163	< 10	68
L18N 2+50W	201 229	1	0.01	53	510	< 2	< 2	17	35	0.36	< 10	< 10	249	< 10	74
L18N 3+00W	201 229	< 1	0.01	44	480	< 2	< 2	11	22	0.26	< 10	< 10	204	< 10	72
L18N 3+50W	201 229	1	0.04	52	700	2	2	7	49	0.20	< 10	< 10	154	< 10	70
L18N 4+00W	201 229	1	0.04	58	600	4	< 2	8	109	0.14	< 10	< 10	120	< 10	72
L19N 0+00E	201 229	1	0.02	38	970	6	< 2	5	43	0.07	< 10	< 10	67	< 10	76
L19N 0+50E	201 229	1	0.01	29	1110	4	< 2	3	59	0.05	< 10	< 10	74	< 10	64
L19N 0+50W	201 229	< 1	0.01	18	1050	6	2	1	223	0.01	< 10	< 10	25	< 10	62
L19N 1+00W	201 229	3	0.03	13	1340	42	12	3	18	0.09	< 10	20	74	< 10	24
L19N 1+50W	201 229	< 1	0.02	27	990	4	< 2	3	52	0.08	< 10	< 10	101	< 10	70
L19N 2+00W	201 229	1	0.04	25	1030	4	2	6	142	0.10	< 10	< 10	123	< 10	62
L19N 2+50W	201 229	< 1	0.04	50	800	< 2	2	8	75	0.18	< 10	< 10	168	< 10	72
L19N 3+00W	201 229	2	0.03	43	730	2	2	7	69	0.13	< 10	< 10	126	< 10	68
L20N 0+00E	201 229	2	0.04	107	1100	124	2	13	56	0.15	< 10	20	141	< 10	150
L20N 0+50E	201 229	1	0.02	99	970	90	2	12	53	0.14	< 10	< 10	129	< 10	150
L20N 1+00E	201 229	3	0.03	32	960	8	2	7	102	0.06	< 10	< 10	86	< 10	90
L20N 1+50E	201 229	1	0.05	39	1190	4	< 2	7	105	0.11	< 10	< 10	109	< 10	68
L20N 0+50W	201 229	< 1	0.02	36	580	2	< 2	5	26	0.21	< 10	< 10	147	< 10	64
L20N 1+00W	201 229	1	0.01	46	710	8	< 2	5	17	0.30	< 10	< 10	140	< 10	88
L20N 1+50W	201 229	< 1	0.06	40	640	< 2	< 2	5	59	0.21	< 10	< 10	155	< 10	64
L20N 2+00W	201 229	< 1	0.06	33	640	2	2	3	83	0.07	< 10	< 10	100	< 10	54
L20N 2+50W	201 229	< 1	0.03	25	660	2	< 2	3	52	0.07	< 10	< 10	84	< 10	64
L20N 3+00W	201 229	< 1	0.03	49	750	< 2	< 2	8	84	0.15	< 10	< 10	162	< 10	70
L21N 0+00E	201 229	1	0.01	30	970	2	< 2	9	83	0.01	< 10	< 10	76	< 10	54
L21N 0+50E	201 229	1	0.03	30	770	4	2	4	47	0.07	< 10	< 10	78	< 10	70
L21N 1+00E	201 229	< 1	0.05	43	990	6	< 2	7	87	0.12	< 10	< 10	101	< 10	70
L21N 0+50W	201 229	< 1	0.09	139	770	6	< 2	20	71	0.23	< 10	< 10	165	< 10	164
L21N 1+00W	201 229	1	0.04	55	750	4	< 2	7	58	0.11	< 10	< 10	95	< 10	64
L21N 1+50W	201 229	1	0.04	67	730	4	< 2	11	57	0.18	< 10	< 10	133	< 10	82
L21N 2+00W	201 229	2	0.02	43	1040	12	2	6	61	0.12	< 10	< 10	118	< 10	98
L21N 2+50W	201 229	1	0.02	31	770	4	< 2	4	42	0.09	< 10	< 10	92	< 10	64
L21N 3+00W	201 229	1	0.02	39	780	2	< 2	5	54	0.09	< 10	< 10	90	< 10	68
L21N 3+50W	201 229	< 1	0.02	21	1050	2	< 2	3	80	0.02	< 10	< 10	43	< 10	38
L22N 0+00E	201 229	1	0.03	39	820	2	< 2	6	71	0.09	< 10	< 10	96	< 10	68
L22N 0+50E	201 229	1	0.03	31	1050	2	2	10	90	0.09	< 10	< 10	107	< 10	66

CERTIFICATION:



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

To: ARCHER CATHRO & ASSOC. (1081) LTD.

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project : ARN
Comments:

Page Number 4-A
Total Pages 4
Certificate Date 13-SEP-93
Invoice No. I-9320499
P.O. Number :
Account :

CERTIFICATE OF ANALYSIS

A9320499

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
L22N 1100E	201 229	20 < 0.2	2.98	2	40 < 0.5	< 2	1.64 < 0.5	29	40	120	4.58	10	< 1	0.08	20	0.76	1320			
L22N 0150W	201 229	540	0.2	2.19	16	20 < 0.5	< 2	2.38 < 0.5	25	41	338	5.94	< 10	< 1	0.05	10	0.75	1190		
L22N 1100W	201 229	1000	3.8	1.41	< 2	20 < 0.5	12	0.79	1.5	40	48	2650	>15.00	10	< 1	0.11	< 10	0.34	535	
L22N 1150W	201 229	80 < 0.2	2.50	14	130 < 0.5	< 2	1.03 < 0.5	36	51	249	5.01	10	< 1	0.06	10	0.96	1150			
L22N 2100W	201 229	30 < 0.2	1.62	2	80 < 0.5	< 2	0.98 < 0.5	15	41	147	3.59	< 10	< 1	0.07	10	0.63	465			
L22N 2150W	201 229	25 < 0.2	3.45	4	80 < 0.5	< 2	0.78 < 0.5	31	86	265	6.52	10	< 1	0.09	10	1.29	860			
L23N 0100E	201 229	60 < 0.2	3.53	< 2	30 < 0.5	< 2	1.81 < 0.5	39	45	288	6.70	10	< 1	0.06	10	1.11	1275			
L23N 0150E	201 229	35 < 0.2	2.90	< 2	60 < 0.5	< 2	1.25 < 0.5	30	72	147	5.16	10	< 1	0.09	10	1.10	1000			
L23N 1100E	201 229	25 < 0.2	2.14	2	80 < 0.5	< 2	0.91 < 0.5	28	70	129	4.77	10	< 1	0.18	10	1.16	830			
L23N 0150W	201 229	5 < 0.2	2.36	4	40 < 0.5	< 2	1.07 < 0.5	31	65	163	4.25	10	< 1	0.07	10	1.56	675			
L23N 1100W	201 229	80 < 0.2	2.00	12	50 < 0.5	< 2	1.07 < 0.5	18	45	164	3.58	< 10	< 1	0.04	10	0.76	625			
L23N 1150W	201 229	25 < 0.2	1.85	12	70 < 0.5	< 2	1.00 < 0.5	23	48	120	4.72	10	< 1	0.06	10	0.74	790			
L23N 2100W	201 229	95 < 0.2	1.93	12	70 < 0.5	< 2	1.55 < 0.5	23	42	162	4.14	10	< 1	0.07	10	0.77	695			
L24N 0100E	201 229	45 < 0.2	1.57	4	90 < 0.5	< 2	0.78 < 0.5	23	35	90	3.01	< 10	< 1	0.06	10	0.54	1075			
L24N 0150E	201 229	20 < 0.2	1.53	< 2	120 < 0.5	< 2	1.15 < 0.5	22	39	100	3.37	< 10	< 1	0.10	10	0.64	1000			
L24N 1100E	201 229	15 < 0.2	2.21	6	130 < 0.5	< 2	1.02 < 0.5	29	48	156	5.27	10	< 1	0.16	10	0.88	985			
L24N 0150W	201 229	25 < 0.2	1.82	8	60 < 0.5	< 2	0.82 < 0.5	20	60	134	4.09	10	< 1	0.10	10	0.94	485			
L24N 1100W	201 229	10 < 0.2	1.34	2	100 < 0.5	< 2	1.97 < 0.5	24	26	208	2.07	< 10	< 1	0.04	10	0.54	2110			
L24N 1150W	201 229	135 < 0.2	2.59	16	40 < 0.5	< 2	1.41 < 0.5	51	62	251	4.99	10	< 1	0.06	10	0.83	975			
S14809	201 229	< 5 < 0.2	3.65	< 2	110 < 0.5	< 2	1.64 < 0.5	44	49	176	4.93	10	< 1	0.27	10	1.47	785			

CERTIFICATION:



Chemex Labs Ltd.

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212 Brooksbank Ave., North Vancouver
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PHONE: 604-984-0221

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

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project : ARN
Comments:

Page Number 4-B
Total Pages 4
Certificate Date 13-SEP-93
Invoice No. I-9320499
P.O. Number :
Account :

CERTIFICATE OF ANALYSIS

A9320499

SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
1.22N 1+00R	201 229	1	0.02	41	1050	6	< 2	12	91	0.07	< 10	< 10	95	< 10	70
1.22N 0+50W	201 229	2	0.01	31	670	4	2	7	71	0.02	< 10	< 10	61	< 10	52
1.22N 1+00W	201 229	4	0.04	14	1600	54	6	8	20	0.10	< 10	< 10	84	< 10	46
1.22N 1+50W	201 229	1	0.03	44	1040	2	< 2	6	60	0.08	< 10	< 10	87	< 10	112
1.22N 2+00W	201 229	1	0.03	25	1060	8	2	4	54	0.08	< 10	< 10	84	< 10	64
1.22N 2+50W	201 229	< 1	0.02	63	1120	4	2	13	56	0.07	< 10	< 10	139	< 10	78
1.23N 0+00R	201 229	4	0.04	36	650	2	< 2	20	112	0.10	< 10	< 10	176	< 10	82
1.23N 0+50R	201 229	4	0.02	55	850	2	< 2	9	72	0.09	< 10	< 10	110	< 10	76
1.23N 1+00R	201 229	< 1	0.02	70	770	< 2	< 2	9	44	0.12	< 10	< 10	104	< 10	70
1.23N 0+50W	201 229	1	0.02	103	800	2	< 2	6	52	0.09	< 10	< 10	86	< 10	56
1.23N 1+00W	201 229	1	0.01	35	1110	4	< 2	8	53	0.03	< 10	< 10	66	< 10	54
1.23N 1+50W	201 229	1	0.02	33	1360	4	< 2	3	53	0.06	< 10	< 10	103	< 10	74
1.23N 2+00W	201 229	< 1	0.02	40	1030	6	< 2	6	68	0.05	< 10	< 10	83	< 10	68
1.24N 0+00R	201 229	1	0.02	28	1090	2	< 2	3	46	0.04	< 10	< 10	60	< 10	54
1.24N 0+50R	201 229	1	0.02	35	1110	2	< 2	6	52	0.07	< 10	< 10	76	< 10	54
1.24N 1+00R	201 229	1	0.03	39	990	2	< 2	9	56	0.12	< 10	< 10	132	< 10	82
1.24N 0+50W	201 229	1	0.02	64	860	2	< 2	7	43	0.09	< 10	< 10	92	< 10	58
1.24N 1+00W	201 229	5	0.02	54	1280	2	< 2	6	77	0.03	< 10	< 10	39	< 10	72
1.24N 1+50W	201 229	1	0.03	59	1010	12	< 2	10	70	0.06	< 10	< 10	97	< 10	88
S14809	201 229	1	0.09	56	780	4	< 2	8	155	0.17	< 10	< 10	100	< 10	74

CERTIFICATION



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ARCHER CATHRO & ASSOC. (1981) LTD.

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

A9321377

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CERTIFICATE

A9321377

ARCHER CATHRO & ASSOC. (1981) LTD.

Project: ARN
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 28-SEP-93.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	114	Assay ring to approx 150 mesh
274	114	0-15 lb crush and split
233	74	Assay AQ ICP 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

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
877	114	Au oz/T: Fuse 30 g sample	FA-AAS	0.0005	0.3500
301	114	Cu %: Reverse Aqua-Regia digest	AAS	0.01	100.0
996	2	Au oz/T: 1 assay ton	FA-GRAVIMETRIC	0.002	20.000
2118	114	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2119	114	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	114	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	114	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	114	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	114	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	114	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	114	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	114	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	114	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	114	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	114	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	114	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	114	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	114	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	114	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	114	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	114	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	114	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	114	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	114	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	114	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	114	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	114	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	114	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	114	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	114	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	114	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	114	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	114	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	114	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	114	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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ARCHER CATHRO & ASSOC. (1981) LTD.

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Project : ARN
Comments:

Page Number : 1-A
Total Pages : 3
Certificate Date: 28-SEP-93
Invoice No. : 19321377
P.O. Number :
Account : F

CERTIFICATE OF ANALYSIS

A9321377

SAMPLE	PREP CODE	Au oz/T FA+AA	Cu %	Au FA oz/T	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm
ARN-01	208 274	<0.0005	0.02	-----	0.4	4.69	6	130	< 0.5	< 2	4.68	0.5	44	194	248	13.30	10	< 1	0.85	30
ARN-02	208 274	>0.3500	0.18	2.309	2.8	0.76	24	10	< 0.5	< 2	9.90	0.5	51	36	1845	>15.00	< 10	5	0.06	20
ARN-03	208 274	0.0105	0.03	-----	0.4	3.34	2	20	< 0.5	< 2	8.38	0.5	21	20	319	6.71	10	2	0.21	30
ARN-04	208 274	0.0220	0.09	-----	0.4	1.63	4	10	< 0.5	< 2	13.30	0.5	19	45	937	10.00	10	< 1	0.09	10
ARN-05	208 274	0.0065	< 0.01	-----	0.4	2.66	30	< 10	< 0.5	< 2	11.75	< 0.5	11	42	81	9.66	10	< 1	0.08	20
ARN-06	208 274	0.0120	0.01	-----	0.2	1.57	20	< 10	< 0.5	< 2	13.10	< 0.5	7	32	171	5.59	10	1	0.04	10
ARN-07	208 274	0.0025	< 0.01	-----	< 0.2	3.53	< 2	< 10	< 0.5	< 2	10.10	< 0.5	13	146	16	7.29	10	< 1	0.07	20
ARN-08	208 274	0.0035	0.02	-----	< 0.2	1.46	32	< 10	< 0.5	< 2	12.40	< 0.5	9	50	180	4.72	10	< 1	0.06	10
ARN-09	208 274	0.0020	< 0.01	-----	< 0.2	2.16	< 2	< 10	< 0.5	< 2	10.95	< 0.5	7	49	39	4.10	10	< 1	0.02	30
ARN-10	208 274	0.0260	0.01	-----	< 0.2	1.42	30	< 10	< 0.5	< 2	11.10	< 0.5	7	60	67	14.50	10	< 1	0.07	20
ARN-11	208 274	0.0015	< 0.01	-----	0.2	3.18	14	< 10	< 0.5	< 2	4.25	< 0.5	21	257	12	13.90	< 10	< 1	0.10	30
ARN-12	208 274	<0.0005	< 0.01	-----	< 0.2	3.68	6	< 10	< 0.5	8	3.14	< 0.5	23	355	3	5.19	10	< 1	0.14	30
ARN-13	208 274	<0.0005	< 0.01	-----	< 0.2	3.57	26	< 10	< 0.5	< 2	3.91	< 0.5	24	380	3	5.24	< 10	< 1	0.16	30
ARN-14	208 274	0.0290	0.01	-----	0.8	1.19	28	10	< 0.5	< 2	10.45	0.5	10	64	37	>15.00	10	< 1	0.10	30
ARN-15	208 274	0.0010	0.08	-----	0.8	5.10	32	60	< 0.5	< 2	4.64	< 0.5	81	166	760	10.95	< 10	< 1	0.53	30
ARN-16	208 274	0.0345	1.43	-----	10.4	3.11	38	20	< 0.5	< 2	9.52	0.5	49	127	>10000	>15.00	< 10	< 1	0.20	30
ARN-17	208 274	0.0025	0.71	-----	4.8	3.82	6	30	< 0.5	< 2	4.43	0.5	75	127	7140	13.45	< 10	< 1	0.31	40
ARN-18	208 274	0.0060	0.52	-----	5.0	3.14	44	20	< 0.5	< 2	4.38	< 0.5	52	78	5490	>15.00	10	< 1	0.24	40
ARN-19	208 274	0.0010	0.15	-----	< 0.2	1.85	52	10	< 0.5	< 2	3.83	< 0.5	26	67	1510	>15.00	10	< 1	0.10	40
ARN-20	208 274	0.0015	0.47	-----	< 0.2	2.61	60	10	< 0.5	< 2	3.25	< 0.5	44	44	4690	>15.00	10	< 1	0.19	40
ARN-21	208 274	0.0035	0.08	-----	< 0.2	2.41	82	10	< 0.5	< 2	2.40	< 0.5	20	50	786	>15.00	10	< 1	0.42	30
ARN-22	208 274	<0.0005	0.09	-----	< 0.2	2.79	36	10	< 0.5	< 2	3.56	< 0.5	31	67	920	>15.00	10	< 1	0.31	40
ARN-23	208 274	0.0020	0.08	-----	< 0.2	4.15	14	20	< 0.5	< 2	4.19	< 0.5	15	53	810	3.08	10	< 1	0.27	40
ARN-24	208 274	0.0130	0.17	-----	< 0.2	1.62	28	< 10	< 0.5	< 2	2.54	< 0.5	10	37	1635	>15.00	10	< 1	0.08	30
ARN-25	208 274	0.0105	0.15	-----	< 0.2	2.17	70	10	< 0.5	< 2	1.92	< 0.5	18	78	1500	>15.00	10	< 1	0.11	30
ARN-26	208 274	0.0405	0.18	-----	< 0.2	1.40	58	20	< 0.5	< 2	0.81	< 0.5	7	58	1815	>15.00	< 10	< 1	0.11	20
ARN-27	208 274	0.0015	0.01	-----	< 0.2	1.10	46	10	< 0.5	< 2	10.10	< 0.5	9	45	43	>15.00	10	< 1	0.06	30
ARN-28	208 274	0.0150	0.01	-----	< 0.2	1.09	58	10	< 0.5	< 2	10.05	< 0.5	9	44	62	>15.00	10	< 1	0.06	30
ARN-29	208 274	0.0070	< 0.01	-----	< 0.2	1.62	66	10	< 0.5	< 2	7.95	< 0.5	13	66	18	>15.00	10	< 1	0.08	40
ARN-30	208 274	0.0450	< 0.01	-----	< 0.2	1.56	52	20	< 0.5	< 2	6.87	< 0.5	8	70	4	>15.00	10	< 1	0.13	40
ARN-31	208 274	0.0245	0.01	-----	< 0.2	1.31	52	20	< 0.5	< 2	7.69	< 0.5	6	83	54	>15.00	10	< 1	0.13	40
ARN-32	208 274	0.0025	< 0.01	-----	< 0.2	1.55	2	< 10	< 0.5	< 2	>15.00	< 0.5	6	83	37	9.38	10	< 1	0.02	10
ARN-33	208 274	0.0405	0.02	-----	< 0.2	1.87	34	< 10	< 0.5	< 2	12.65	< 0.5	19	70	249	>15.00	10	< 1	0.01	30
ARN-34	208 274	0.0100	0.16	-----	< 0.2	2.19	14	10	< 0.5	< 2	10.65	0.5	56	25	1605	8.35	10	< 1	0.10	30
ARN-35	208 274	>0.3500	0.12	0.357	< 0.2	1.50	22	10	< 0.5	< 2	7.11	0.5	45	58	1190	>15.00	10	< 1	0.08	40
ARN-36	208 274	0.0020	0.04	-----	0.6	4.95	28	130	< 0.5	< 2	5.11	< 0.5	53	238	434	>15.00	< 10	< 1	0.97	40
ARN-37	208 274	0.0015	0.01	-----	0.2	5.30	< 2	80	< 0.5	< 2	5.12	0.5	25	122	105	6.95	10	< 1	0.50	40
ARN-38	208 274	<0.0005	0.04	-----	< 0.2	4.75	< 2	80	< 0.5	< 2	4.15	< 0.5	48	118	425	7.58	< 10	< 1	0.51	40
ARN-39	208 274	0.0520	2.08	-----	29.2	0.70	48	< 10	< 0.5	< 2	5.83	1.0	63	46	>10000	>15.00	10	< 1	0.03	40
ARN-40	208 274	0.0160	1.62	-----	13.2	3.25	42	20	< 0.5	< 2	8.31	1.5	83	113	>10000	>15.00	10	< 1	0.21	40

CERTIFICATION:

Frank Buchler



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

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

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project : ARN
Comments:

Page Number : 1-B
Total Pages : 3
Certificate Date: 28-SEP-93
Invoice No. : I9321377
P.O. Number :
Account : F

CERTIFICATE OF ANALYSIS

A9321377

SAMPLE	PREP CODE	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
ARN-01	208 274	1.38	1720	< 1	0.49	50	610	8	10	22	48	0.46	< 10	< 10	188	< 10	144
ARN-02	208 274	0.17	1220	< 1	0.02	28	640	18	12	2	16	0.03	< 10	< 10	24	< 10	52
ARN-03	208 274	0.79	1245	1	0.16	11	880	6	12	4	160	0.14	< 10	< 10	75	< 10	58
ARN-04	208 274	0.54	1645	< 1	0.08	13	620	18	12	3	71	0.08	< 10	< 10	46	< 10	50
ARN-05	208 274	0.61	1585	< 1	0.07	9	730	4	16	6	56	0.13	< 10	< 10	78	< 10	46
ARN-06	208 274	0.41	1565	4	0.03	5	680	< 2	10	4	65	0.09	< 10	< 10	47	< 10	30
ARN-07	208 274	1.84	2010	< 1	0.04	53	690	< 2	12	7	48	0.16	< 10	< 10	87	< 10	76
ARN-08	208 274	0.32	1670	1	0.03	6	790	8	6	3	49	0.05	< 10	< 10	30	< 10	28
ARN-09	208 274	0.18	1725	4	0.02	3	1100	< 2	10	3	106	0.11	< 10	< 10	32	< 10	20
ARN-10	208 274	0.30	1555	2	0.06	8	1740	18	12	4	57	0.08	< 10	< 10	41	< 10	40
ARN-11	208 274	2.60	1190	2	0.07	95	840	10	12	8	38	0.21	< 10	< 10	96	< 10	94
ARN-12	208 274	3.30	980	< 1	0.04	126	580	< 2	4	7	36	0.17	< 10	< 10	91	< 10	94
ARN-13	208 274	3.25	1135	< 1	0.05	125	570	2	8	10	39	0.17	< 10	< 10	107	< 10	96
ARN-14	208 274	0.30	1760	< 1	0.07	14	610	< 2	12	4	53	0.06	< 10	< 10	35	< 10	76
ARN-15	208 274	1.79	1210	< 1	0.80	77	820	< 2	18	36	143	0.78	< 10	< 10	315	< 10	96
ARN-16	208 274	0.45	1815	< 1	0.16	33	730	16	12	18	70	0.40	< 10	< 10	167	< 10	190
ARN-17	208 274	1.09	1170	< 1	0.31	55	1090	2	12	16	117	0.41	< 10	< 10	198	< 10	160
ARN-18	208 274	0.65	835	< 1	0.25	28	890	10	6	9	98	0.22	< 10	< 10	101	< 10	120
ARN-19	208 274	0.56	1080	< 1	0.10	10	1530	< 2	8	6	24	0.10	< 10	< 10	74	< 10	76
ARN-20	208 274	0.76	1355	< 1	0.15	18	2220	4	8	7	30	0.16	< 10	< 10	91	< 10	194
ARN-21	208 274	0.71	1210	< 1	0.25	11	1140	6	16	6	8	0.10	< 10	< 10	99	< 10	118
ARN-22	208 274	1.09	1570	6	0.27	10	2580	2	14	8	11	0.11	< 10	< 10	85	< 10	108
ARN-23	208 274	0.87	575	< 1	0.40	13	1200	< 2	8	8	209	0.29	< 10	< 10	97	< 10	42
ARN-24	208 274	0.32	900	< 1	0.07	2	1500	< 2	4	4	26	0.09	< 10	< 10	69	< 10	62
ARN-25	208 274	0.87	920	< 1	0.10	7	1500	16	8	9	15	0.18	< 10	< 10	101	< 10	76
ARN-26	208 274	0.47	350	2	0.05	7	1040	6	10	7	16	0.22	< 10	< 10	131	< 10	68
ARN-27	208 274	0.17	1510	3	0.07	2	690	18	18	4	51	0.07	< 10	< 10	45	< 10	70
ARN-28	208 274	0.18	1645	< 1	0.05	11	670	16	12	4	41	0.06	< 10	< 10	39	< 10	68
ARN-29	208 274	0.51	1415	1	0.09	21	1580	14	14	4	52	0.08	< 10	< 10	46	< 10	94
ARN-30	208 274	0.47	1465	3	0.09	14	820	18	14	4	46	0.09	< 10	< 10	57	< 10	78
ARN-31	208 274	0.34	1685	2	0.09	10	2480	16	14	4	47	0.06	< 10	< 10	62	< 10	78
ARN-32	208 274	0.23	1875	< 1	0.04	< 1	4980	< 2	8	3	56	0.07	< 10	< 10	48	< 10	26
ARN-33	208 274	0.35	1575	< 1	0.03	4	2590	6	8	6	51	0.11	< 10	< 10	66	< 10	46
ARN-34	208 274	0.42	1920	1	0.09	31	800	< 2	6	2	81	0.08	< 10	< 10	38	< 10	74
ARN-35	208 274	0.88	1260	< 1	0.05	37	760	12	8	7	19	0.13	< 10	< 10	82	< 10	72
ARN-36	208 274	1.48	1885	1	0.56	57	570	16	14	27	48	0.55	< 10	< 10	248	< 10	142
ARN-37	208 274	1.21	1065	< 1	0.62	36	710	16	12	23	237	0.63	< 10	< 10	248	< 10	84
ARN-38	208 274	1.27	940	1	0.57	69	810	6	8	22	188	0.62	< 10	< 10	259	< 10	78
ARN-39	208 274	0.11	740	< 1	0.03	24	920	8	12	3	17	0.03	< 10	< 10	50	< 10	238
ARN-40	208 274	0.50	1245	< 1	0.30	49	1250	8	12	14	133	0.32	< 10	< 10	143	< 10	258

CERTIFICATION:

W. J. Richardson



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212 Brooksbank Ave., North Vancouver
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PHONE: 604-984-0221

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

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project : ARN
Comments:

Page Number : 2-A
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Account : F

CERTIFICATE OF ANALYSIS

A9321377

SAMPLE	PREP CODE	Au oz/T FA+AA	Cu %	Au FA oz/T	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm
ARN-41	208 274	0.0810	1.57	-----	16.0	2.75	30	60	< 0.5	< 2	3.19	1.5	112	67	>10000	>15.00	< 10	< 1	0.26	40
ARN-42	208 274	0.0360	0.90	-----	21.8	2.71	16	10	< 0.5	< 2	2.83	< 0.5	32	65	9160	>15.00	< 10	< 1	0.14	30
ARN-43	208 274	0.0005	0.23	-----	0.8	1.74	30	10	< 0.5	< 2	4.30	0.5	22	88	2220	>15.00	10	< 1	0.14	40
ARN-44	208 274	0.0010	0.10	-----	1.4	1.34	28	< 10	< 0.5	< 2	3.97	0.5	17	96	1005	>15.00	10	< 1	0.11	40
ARN-45	208 274	0.0085	0.36	-----	0.6	3.00	< 2	20	< 0.5	< 2	4.44	1.0	48	119	3530	>15.00	10	< 1	0.37	40
ARN-46	208 274	0.0020	0.25	-----	< 0.2	1.98	44	10	< 0.5	< 2	2.92	0.5	64	69	2380	>15.00	10	< 1	0.17	40
ARN-47	208 274	<0.0005	0.43	-----	0.8	1.96	26	10	< 0.5	< 2	4.36	0.5	49	43	4200	>15.00	10	< 1	0.16	40
ARN-48	208 274	<0.0005	0.21	-----	0.2	1.64	6	< 10	< 0.5	< 2	4.71	0.5	47	65	2040	>15.00	10	< 1	0.09	40
ARN-49	208 274	0.0020	0.21	-----	< 0.2	1.71	54	10	< 0.5	< 2	2.08	< 0.5	28	31	2030	>15.00	< 10	< 1	0.13	30
ARN-50	208 274	0.0050	0.09	-----	0.6	1.05	64	10	< 0.5	< 2	0.69	< 0.5	6	33	877	>15.00	< 10	< 1	0.08	20
ARN-51	208 274	0.0510	0.05	-----	1.6	0.95	72	< 10	< 0.5	< 2	2.15	< 0.5	1	31	426	>15.00	< 10	< 1	0.03	30
ARN-52	208 274	0.1310	0.32	-----	0.8	2.84	30	< 10	< 0.5	< 2	2.70	< 0.5	27	57	3110	>15.00	10	< 1	0.07	30
ARN-53	208 274	0.0030	0.49	-----	0.2	2.64	36	10	< 0.5	< 2	3.10	0.5	61	43	4910	>15.00	10	< 1	0.33	40
ARN-54	208 274	0.0265	0.12	-----	6.0	2.96	46	20	< 0.5	< 2	2.67	< 0.5	29	68	1175	>15.00	10	< 1	0.44	30
ARN-55	208 274	0.0010	0.11	-----	0.6	3.85	32	20	< 0.5	< 2	3.60	< 0.5	47	47	1095	>15.00	20	< 1	0.56	40
ARN-56	208 274	0.0005	0.12	-----	0.8	3.14	56	10	< 0.5	< 2	2.97	< 0.5	38	40	1135	>15.00	10	< 1	0.37	30
ARN-57	208 274	0.0460	0.10	-----	2.2	1.53	36	10	< 0.5	< 2	1.11	0.5	6	43	901	>15.00	< 10	< 1	0.13	20
ARN-58	208 274	0.0210	0.06	-----	0.6	3.33	2	10	< 0.5	< 2	2.20	0.5	6	30	603	>15.00	10	< 1	0.14	30
ARN-59	208 274	0.0005	0.33	-----	0.6	2.68	20	20	< 0.5	< 2	3.27	0.5	51	59	3160	>15.00	10	< 1	0.22	40
ARN-60	208 274	0.0010	0.24	-----	< 0.2	3.56	2	10	< 0.5	< 2	3.17	0.5	54	86	2270	>15.00	10	< 1	0.21	40
ARN-61	208 274	0.0020	0.08	-----	0.8	2.28	34	< 10	< 0.5	< 2	1.33	0.5	21	85	758	>15.00	< 10	< 1	0.10	20
ARN-62	208 274	0.0025	0.05	-----	1.8	2.07	32	10	< 0.5	< 2	1.47	< 0.5	7	54	506	13.65	< 10	< 1	0.18	30
ARN-63	208 274	0.0120	0.12	-----	1.4	2.89	14	40	< 0.5	< 2	2.21	< 0.5	19	70	1230	7.33	< 10	< 1	0.41	30
ARN-64	208 274	0.0050	0.05	-----	1.0	2.17	36	40	< 0.5	< 2	1.78	< 0.5	10	62	511	6.57	10	< 1	0.17	30
ARN-65	208 274	0.0015	0.04	-----	0.4	2.61	12	30	< 0.5	2	2.14	< 0.5	23	85	395	4.18	10	< 1	0.22	30
ARN-66	208 274	0.0075	0.06	-----	1.4	2.75	28	10	< 0.5	< 2	3.96	< 0.5	14	75	564	5.57	10	< 1	0.13	40
ARN-67	208 274	0.0030	0.03	-----	0.4	4.50	< 2	20	< 0.5	2	3.89	< 0.5	12	162	313	4.51	10	< 1	0.18	40
ARN-68	208 274	0.0035	0.06	-----	0.8	2.32	4	10	< 0.5	< 2	1.81	< 0.5	12	70	616	7.73	< 10	< 1	0.15	30
ARN-69	208 274	0.0010	0.02	-----	0.6	3.70	20	10	< 0.5	< 2	7.97	< 0.5	9	136	223	6.24	< 10	< 1	0.13	40
ARN-70	208 274	0.0015	0.02	-----	0.6	3.31	18	10	< 0.5	< 2	5.11	< 0.5	5	91	260	7.51	< 10	< 1	0.10	40
ARN-71	208 274	0.0010	0.03	-----	0.4	2.39	6	10	< 0.5	< 2	1.97	< 0.5	16	37	329	3.28	< 10	< 1	0.11	30
ARN-72	208 274	0.0025	0.05	-----	0.6	2.97	8	20	< 0.5	< 2	2.27	< 0.5	28	74	543	8.17	10	< 1	0.14	30
ARN-73	208 274	0.0040	0.05	-----	0.6	2.10	6	20	< 0.5	< 2	2.13	< 0.5	13	59	541	4.98	< 10	< 1	0.18	30
ARN-74	208 274	0.0025	0.07	-----	0.6	4.24	6	40	< 0.5	< 2	4.01	< 0.5	43	149	677	6.41	< 10	< 1	0.42	40
ARN-75	208 274	0.0015	0.05	-----	0.2	2.98	< 2	20	< 0.5	< 2	3.14	< 0.5	15	66	474	4.07	< 10	< 1	0.21	40
ARN-76	208 274	0.0025	0.05	-----	0.4	2.61	2	10	< 0.5	< 2	4.00	< 0.5	17	50	452	5.14	< 10	< 1	0.14	40
ARN-77	208 274	0.0015	0.04	-----	0.6	1.64	16	< 10	< 0.5	< 2	2.71	< 0.5	14	37	399	4.28	< 10	< 1	0.10	40
ARN-78	208 274	0.0010	0.02	-----	0.4	2.32	16	10	< 0.5	< 2	2.73	< 0.5	11	50	193	3.41	10	< 1	0.15	40
ARN-79	208 274	0.0005	0.01	-----	0.4	4.38	8	40	< 0.5	< 2	3.57	< 0.5	12	27	139	4.63	10	< 1	0.20	40
ARN-80	208 274	0.0015	0.04	-----	0.2	2.74	10	10	< 0.5	< 2	2.40	< 0.5	8	37	395	3.09	< 10	< 1	0.18	30

CERTIFICATION:

Hart Bickler



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ARN-41	208	274	0.62	555	1	0.31	57	1010	2	10	9	128	0.28	< 10	< 10	132	< 10	236
ARN-42	208	274	0.91	905	1	0.13	14	720	22	12	9	37	0.23	< 10	< 10	135	< 10	150
ARN-43	208	274	0.41	930	2	0.10	3	680	10	14	5	24	0.08	< 10	< 10	63	< 10	102
ARN-44	208	274	0.36	780	1	0.09	1	690	8	14	3	20	0.06	< 10	< 10	57	< 10	84
ARN-45	208	274	0.97	1405	1	0.32	20	1790	8	8	10	41	0.16	< 10	< 10	93	< 10	132
ARN-46	208	274	0.59	1115	2	0.13	25	2100	8	14	6	18	0.09	< 10	< 10	101	< 10	174
ARN-47	208	274	0.41	1240	1	0.12	14	500	< 2	12	4	24	0.07	< 10	< 10	63	< 10	102
ARN-48	208	274	0.32	1205	2	0.07	5	450	8	12	6	16	0.06	< 10	< 10	51	< 10	80
ARN-49	208	274	0.50	1060	< 1	0.10	9	730	26	12	4	12	0.09	< 10	< 10	80	< 10	116
ARN-50	208	274	0.30	590	4	0.07	10	1300	8	16	4	6	0.08	< 10	< 10	109	< 10	112
ARN-51	208	274	0.11	740	1	0.02	8	690	20	18	4	14	0.04	< 10	< 10	48	< 10	70
ARN-52	208	274	0.33	700	1	0.15	11	870	10	6	5	64	0.17	< 10	< 10	109	< 10	64
ARN-53	208	274	0.73	1795	3	0.23	20	650	18	14	7	24	0.12	< 10	< 10	109	< 10	210
ARN-54	208	274	0.95	1585	1	0.27	8	750	12	14	11	12	0.14	< 10	< 10	109	< 10	128
ARN-55	208	274	1.21	2310	< 1	0.30	13	590	6	14	8	21	0.11	< 10	< 10	98	< 10	130
ARN-56	208	274	0.98	1710	1	0.26	12	720	8	20	6	11	0.10	< 10	< 10	98	< 10	128
ARN-57	208	274	0.31	470	< 1	0.08	2	1650	12	10	5	25	0.11	< 10	< 10	93	< 10	74
ARN-58	208	274	0.60	285	< 1	0.37	8	1110	6	4	6	173	0.24	< 10	< 10	93	< 10	40
ARN-59	208	274	1.07	1675	3	0.19	23	1060	8	10	9	47	0.22	< 10	< 10	124	< 10	156
ARN-60	208	274	1.05	1430	< 1	0.15	19	1030	14	8	10	63	0.22	< 10	< 10	108	< 10	110
ARN-61	208	274	0.90	970	< 1	0.11	7	1090	6	10	8	12	0.13	< 10	< 10	91	< 10	84
ARN-62	208	274	0.46	235	1	0.11	12	1280	6	2	5	62	0.28	< 10	< 10	130	< 10	34
ARN-63	208	274	0.74	345	1	0.27	26	1220	< 2	6	8	104	0.43	< 10	< 10	229	< 10	46
ARN-64	208	274	0.53	270	< 1	0.25	16	1270	8	< 2	7	87	0.42	< 10	< 10	249	< 10	34
ARN-65	208	274	1.18	455	< 1	0.32	27	1150	4	6	10	97	0.34	< 10	< 10	197	< 10	48
ARN-66	208	274	0.50	685	< 1	0.17	22	1040	6	8	11	85	0.35	< 10	< 10	209	< 10	34
ARN-67	208	274	0.33	415	< 1	0.55	20	670	6	6	9	163	0.33	< 10	< 10	168	< 10	388
ARN-68	208	274	0.41	295	< 1	0.17	14	840	4	2	7	81	0.30	< 10	< 10	150	< 10	32
ARN-69	208	274	0.37	1040	< 1	0.12	13	850	< 2	6	14	56	0.38	< 10	< 10	201	< 10	30
ARN-70	208	274	0.23	610	< 1	0.24	10	1190	< 2	6	11	107	0.38	< 10	< 10	190	< 10	22
ARN-71	208	274	0.70	320	3	0.18	18	1320	< 2	4	6	98	0.29	< 10	< 10	151	< 10	30
ARN-72	208	274	0.80	395	1	0.31	30	1090	10	4	8	91	0.43	< 10	< 10	206	< 10	46
ARN-73	208	274	0.42	255	< 1	0.18	14	1300	< 2	2	8	65	0.55	< 10	< 10	238	< 10	22
ARN-74	208	274	1.03	515	< 1	0.41	74	730	< 2	8	12	139	0.45	< 10	< 10	181	< 10	44
ARN-75	208	274	0.47	425	< 1	0.27	27	880	< 2	4	8	112	0.37	< 10	< 10	160	< 10	30
ARN-76	208	274	0.34	630	< 1	0.24	22	1150	10	6	8	81	0.37	< 10	< 10	196	< 10	32
ARN-77	208	274	0.26	445	1	0.11	19	1140	12	6	8	43	0.44	< 10	< 10	206	< 10	30
ARN-78	208	274	0.37	360	3	0.25	18	1120	6	6	6	82	0.34	< 10	< 10	172	< 10	30
ARN-79	208	274	0.46	355	1	0.33	13	1000	< 2	8	6	201	0.26	< 10	< 10	174	< 10	40
ARN-80	208	274	0.41	245	< 1	0.27	26	910	2	< 2	6	112	0.36	< 10	< 10	131	< 10	34

CERTIFICATION:

W. A. Buckler



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

ARCHER CATHRO & ASSOC. (1981) LTD.

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project: ARN
Comments:

Page Number : 3-A
Total Pages : 3
Certificate Date: 28-SEP-93
Invoice No. : 19321377
P.O. Number :
Account : F

CERTIFICATE OF ANALYSIS

A9321377

SAMPLE	PREP CODE	Au oz/T FA+AA	Cu %	Au FA oz/T	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm
ARN-81	208 274	0.0015	0.03	-----	< 0.2	3.52	8	10	< 0.5	< 2	7.30	< 0.5	12	86	273	6.05	< 10	1	0.10	40
529940	208 274	<0.0005	0.01	-----	< 0.2	1.76	< 2	20	< 0.5	< 2	0.74	0.5	9	48	65	3.77	10	< 1	0.18	20
529941	208 274	0.0015	0.06	-----	< 0.2	3.14	2	40	< 0.5	< 2	2.20	< 0.5	24	74	544	5.57	< 10	< 1	0.17	30
529942	208 274	0.0020	0.08	-----	< 0.2	2.98	6	40	< 0.5	2	2.48	< 0.5	37	74	783	5.36	< 10	< 1	0.17	40
529943	208 274	0.0010	0.06	-----	0.2	3.41	20	20	< 0.5	< 2	2.11	< 0.5	33	136	637	4.22	< 10	< 1	0.17	30
529944	208 274	0.0005	0.05	-----	< 0.2	3.85	22	10	< 0.5	< 2	5.11	< 0.5	37	86	525	5.80	< 10	1	0.11	40
529945	208 274	<0.0005	0.04	-----	0.2	3.19	< 2	10	< 0.5	< 2	4.85	0.5	27	69	409	5.45	10	< 1	0.09	40
529946	208 274	<0.0005	0.04	-----	0.2	3.29	24	10	< 0.5	< 2	3.63	< 0.5	27	19	393	4.53	10	< 1	0.13	40
529947	208 274	0.0040	0.06	-----	0.2	1.39	54	20	< 0.5	< 2	1.16	< 0.5	103	50	610	11.70	< 10	< 1	0.09	20
529948	208 274	0.0010	0.02	-----	0.2	2.94	< 2	10	< 0.5	< 2	6.78	1.0	7	56	171	8.89	10	< 1	0.07	40
529949	208 274	0.0020	0.03	-----	0.4	3.36	< 2	10	< 0.5	< 2	3.88	0.5	21	113	259	5.71	< 10	< 1	0.09	40
529950	208 274	0.0020	0.02	-----	0.6	3.36	10	10	< 0.5	< 2	4.30	< 0.5	19	133	244	6.26	10	< 1	0.10	40
939527	208 274	0.0030	0.03	-----	1.4	2.94	8	10	< 0.5	< 2	5.67	< 0.5	12	151	256	9.44	< 10	< 1	0.10	40
939528	208 274	0.0055	0.02	-----	1.2	2.50	< 2	20	< 0.5	< 2	3.92	1.0	10	172	254	10.30	< 10	< 1	0.17	40
939529	208 274	0.0195	0.03	-----	1.6	2.56	4	20	< 0.5	< 2	3.93	0.5	20	151	254	9.72	< 10	< 1	0.11	40
939530	208 274	0.0020	0.02	-----	0.6	2.38	< 2	20	< 0.5	< 2	2.12	0.5	11	87	202	8.80	< 10	< 1	0.16	30
939531	208 274	0.0040	0.02	-----	1.0	2.67	2	40	< 0.5	< 2	3.17	< 0.5	8	103	208	7.86	10	< 1	0.19	40
939532	208 274	0.0110	0.04	-----	2.2	2.54	< 2	20	< 0.5	< 2	2.71	0.5	10	164	350	13.40	< 10	< 1	0.13	30
939533	208 274	0.0375	0.02	-----	2.6	1.94	14	20	< 0.5	< 2	2.14	< 0.5	11	113	184	9.53	< 10	1	0.11	30
939534	208 274	0.0065	0.13	-----	< 0.2	1.43	< 2	< 10	< 0.5	< 2	12.85	1.0	89	63	1215	>15.00	10	< 1	0.11	20
939535	208 274	0.0395	0.06	-----	1.4	1.11	< 2	160	< 0.5	< 2	1.67	1.0	9	35	618	>15.00	< 10	< 1	0.29	30
939536	208 274	0.0960	0.09	-----	1.4	1.62	18	30	< 0.5	< 2	2.27	0.5	13	30	951	12.75	< 10	< 1	0.13	30
939537	208 274	0.0010	0.04	-----	0.4	3.03	18	10	< 0.5	< 2	7.53	< 0.5	44	100	435	7.24	< 10	< 1	0.11	40
939538	208 274	0.0030	0.11	-----	0.8	2.01	< 2	< 10	< 0.5	< 2	13.70	0.5	40	52	1005	>15.00	10	< 1	0.03	20
939539	208 274	0.0010	0.03	-----	0.4	4.08	< 2	10	< 0.5	< 2	8.05	0.5	39	148	332	7.20	< 10	< 1	0.08	40
939540	208 274	<0.0005	0.03	-----	0.2	3.91	< 2	< 10	< 0.5	< 2	9.41	0.5	23	134	280	9.61	10	< 1	0.09	30
939541	208 274	0.0055	0.03	-----	0.2	2.94	< 2	10	< 0.5	< 2	3.16	0.5	13	26	254	>15.00	10	< 1	0.04	40
939542	208 274	0.0055	0.03	-----	1.0	2.63	24	30	< 0.5	< 2	6.62	< 0.5	17	58	304	11.70	10	< 1	0.15	40
939543	208 274	0.0025	0.06	-----	0.4	3.70	< 2	10	< 0.5	< 2	3.85	0.5	30	126	516	11.85	< 10	< 1	0.12	40
939544	208 274	0.0215	0.09	-----	2.2	1.73	4	10	< 0.5	< 2	2.34	1.0	19	74	894	>15.00	< 10	< 1	0.19	30
939545	208 274	0.0135	0.02	-----	< 0.2	1.46	< 2	40	< 0.5	< 2	0.83	1.5	8	44	149	>15.00	< 10	< 1	0.05	20
939546	208 274	0.0035	0.02	-----	0.2	3.97	20	< 10	< 0.5	< 2	4.96	< 0.5	10	57	204	7.06	20	< 1	0.11	40
939547	208 274	0.0020	0.03	-----	0.4	1.98	2	10	< 0.5	< 2	2.28	0.5	15	87	207	>15.00	10	< 1	0.17	30
939548	208 274	0.0005	0.04	-----	0.6	6.04	32	20	< 0.5	< 2	5.65	< 0.5	21	113	347	5.61	20	< 1	0.11	40

CERTIFICATION:

Hart Bickler



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

ARCHER CATHRO & ASSOC. (1981) LTD.

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project : ARN
Comments:

Page Number : 3-B
Total Pages : 3
Certificate Date: 28-SEP-93
Invoice No. : 19321377
P.O. Number :
Account : F

CERTIFICATE OF ANALYSIS

A9321377

SAMPLE	PREP CODE	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
ARN-81	208 274	0.27	1280	< 1	0.19	17	840	12	8	15	91	0.32	< 10	< 10	193	< 10	34
529940	208 274	1.12	315	3	0.17	13	1300	< 2	< 2	7	40	0.13	< 10	< 10	115	< 10	32
529941	208 274	1.38	520	1	0.25	25	1330	8	4	9	127	0.27	< 10	< 10	177	< 10	46
529942	208 274	1.23	855	< 1	0.15	37	1130	6	8	8	61	0.28	< 10	< 10	123	< 10	56
529943	208 274	1.81	520	< 1	0.20	69	1080	6	4	10	85	0.29	< 10	< 10	139	< 10	46
529944	208 274	0.98	1095	1	0.23	30	900	8	12	8	142	0.21	< 10	< 10	103	< 10	66
529945	208 274	0.62	970	< 1	0.18	22	1010	10	8	7	83	0.19	< 10	< 10	104	< 10	48
529946	208 274	0.86	1000	2	0.35	10	790	< 2	8	6	127	0.18	< 10	< 10	88	< 10	50
529947	208 274	0.35	175	< 1	0.14	12	1290	10	4	4	61	0.13	< 10	< 10	72	< 10	36
529948	208 274	0.37	1045	1	0.04	9	560	16	8	9	95	0.23	< 10	< 10	136	< 10	44
529949	208 274	0.57	555	< 1	0.13	40	750	18	2	9	178	0.43	< 10	< 10	151	< 10	52
529950	208 274	0.89	915	1	0.14	36	1090	26	6	14	143	0.43	< 10	< 10	179	< 10	50
939527	208 274	0.45	1170	1	0.11	26	680	16	10	21	122	0.70	< 10	< 10	326	< 10	44
939528	208 274	0.64	1005	1	0.14	30	750	24	6	21	110	0.74	< 10	< 10	330	< 10	48
939529	208 274	1.06	795	3	0.12	55	680	20	2	13	91	0.51	< 10	< 10	227	< 10	46
939530	208 274	0.74	525	1	0.12	21	920	18	6	9	94	0.41	< 10	< 10	221	< 10	78
939531	208 274	0.58	695	1	0.16	21	1440	14	8	14	133	0.50	< 10	< 10	224	< 10	44
939532	208 274	0.81	605	1	0.10	30	740	22	6	20	115	0.90	< 10	< 10	347	< 10	66
939533	208 274	0.48	330	3	0.20	25	530	10	4	7	111	0.54	< 10	< 10	164	< 10	26
939534	208 274	0.34	2340	< 1	0.07	16	360	2	14	5	61	0.07	< 10	< 10	46	< 10	84
939535	208 274	0.20	415	4	0.46	3	480	18	8	2	84	0.15	< 10	< 10	49	< 10	42
939536	208 274	0.31	575	2	0.17	4	940	6	10	4	55	0.19	< 10	< 10	72	< 10	44
939537	208 274	0.66	1090	< 1	0.16	43	900	8	8	11	78	0.35	< 10	< 10	163	< 10	38
939538	208 274	0.26	1910	3	0.04	14	420	16	14	2	41	0.08	< 10	< 10	89	< 10	48
939539	208 274	0.60	1210	1	0.17	48	660	2	14	16	78	0.43	< 10	< 10	183	< 10	44
939540	208 274	0.38	1440	< 1	0.07	20	720	12	12	22	59	0.45	< 10	< 10	226	< 10	38
939541	208 274	0.31	650	1	0.08	4	790	< 2	14	6	143	0.22	< 10	< 10	104	< 10	46
939542	208 274	0.65	1560	1	0.11	16	610	10	8	4	50	0.24	< 10	< 10	93	< 10	46
939543	208 274	0.39	475	1	0.35	40	530	4	12	10	81	0.42	< 10	< 10	216	< 10	38
939544	208 274	0.57	475	2	0.09	22	370	18	14	7	32	0.31	< 10	< 10	136	< 10	66
939545	208 274	0.24	1230	7	0.04	1	790	14	12	6	12	0.13	< 10	< 10	208	< 10	82
939546	208 274	0.39	910	2	0.13	6	1270	< 2	12	14	180	0.39	< 10	< 10	174	< 10	32
939547	208 274	1.04	1135	8	0.13	12	1030	< 2	6	6	27	0.12	< 10	< 10	93	< 10	60
939548	208 274	0.22	630	1	0.46	36	620	12	16	16	316	0.62	< 10	< 10	222	< 10	32

CERTIFICATION:

[Signature]



Chemex Labs Ltd.

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ARCHER CATHRO & ASSOC. (1981) LTD.

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

A9321379

Comments:

CERTIFICATE

A9321379

ARCHER CATHRO & ASSOC. (1981) LTD.

Project: ARN
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 24-SEP-93.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	9	Assay ring to approx 150 mesh
274	9	0-15 lb crush and split
200	9	Whole rock fusion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	9	Al2O3 %: Whole rock	ICP-AES	0.01	99.99
588	9	CaO %: Whole rock	ICP-AES	0.01	99.99
590	9	Cr2O3 %: Whole Rock	ICP-AES	0.01	100.00
586	9	Fe2O3(total) %: Whole rock	ICP-AES	0.01	100.00
821	9	K2O %: Whole rock	ICP-AES	0.01	99.99
593	9	MgO %: Whole rock	ICP-AES	0.01	99.99
596	9	MnO %: Whole rock	ICP-AES	0.01	99.99
599	9	Na2O %: Whole rock	ICP-AES	0.01	99.99
597	9	P2O5 %: Whole rock	ICP-AES	0.01	99.99
592	9	SiO2 %: Whole rock	ICP-AES	0.01	99.99
595	9	TiO2 %: Whole rock	ICP-AES	0.01	99.99
475	9	L.O.I. %: Loss on ignition	FURNACE	0.01	99.99
540	9	Total %	CALCULATION	0.01	105.00
891	9	Ba ppm		10	10000
973	9	Nb ppm	ICP	10	10000
1067	9	Rb ppm		5	10000
898	9	Sr ppm		10	10000
974	9	Y ppm	ICP	10	10000
978	9	Zr ppm	ICP	10	10000



Chemex Labs Ltd.

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PHONE: 604-984-0221

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

P.O. BOX 4127
WHITEHORSE, YT
Y1A 3S9

Project: ARN
Comments:

Page Number : 1
Total Pages : 1
Certificate Date: 24-SEP-93
Invoice No. : 19321379
P.O. Number :
Account : F

CERTIFICATE OF ANALYSIS

A9321379

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm	Nb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm
06-1	208 274	16.62	13.65	< 0.01	10.86	0.77	4.34	0.31	2.77	0.40	44.22	0.83	3.92	98.70	70	< 10	< 5	710	20	90
06-2	208 274	17.63	11.40	< 0.01	8.59	0.57	6.54	0.17	3.06	0.29	49.76	0.64	0.75	99.41	340	< 10	< 5	670	10	60
06-3	208 274	19.36	7.87	< 0.01	7.10	1.33	2.59	0.13	4.06	0.34	56.19	0.47	0.60	100.05	460	< 10	10	730	10	80
06-4	208 274	16.08	12.23	< 0.01	11.14	0.50	7.48	0.19	2.29	0.23	47.18	0.78	0.65	98.76	110	< 10	< 5	250	20	20
07-1	208 274	16.93	9.65	< 0.01	9.14	1.48	5.70	0.15	3.25	0.29	50.72	0.76	1.43	99.51	330	< 10	5	850	20	70
08-1	208 274	15.79	9.82	< 0.01	9.35	1.50	6.97	0.15	2.75	0.29	50.18	0.73	2.03	99.57	320	< 10	15	580	20	80
09-1	208 274	13.26	15.22	< 0.01	18.00	0.96	4.31	0.34	1.56	0.22	42.18	1.53	0.52	98.11	90	< 10	< 5	330	30	70
09-2	208 274	16.49	12.35	< 0.01	6.33	0.75	5.09	0.18	3.96	0.37	52.14	0.48	1.30	99.45	160	< 10	15	760	10	60
09-3	208 274	17.38	13.27	< 0.01	4.22	0.75	3.76	0.15	4.47	0.38	54.11	1.03	1.59	101.10	240	< 10	5	870	30	130

CERTIFICATION:

Hart Bickler

APPENDIX IV
SELECTED REFERENCES

SELECTED REFERENCES

Archer, A.R.

1990: Summary Report: Arn Gold Occurrence, White River Area, southwest Yukon; Archer Cathro & Associates (1981) Limited, internal report.

Campbell, R.B. and Dodds, C.J.

1982: Geology of Southwest Kluane Lake Map Area, YT (115G, 115F east half); GSC OF 829.

Muller, J.E.

1967: Kluane Lake Map Area, YT (115G, 115F east half); GSC Memoir 340.

Power, M.

1993: Arn Property: Geophysical Survey; Amerok Geophysics, internal report.

ARCHER, CATHRO

& ASSOCIATES LIMITED

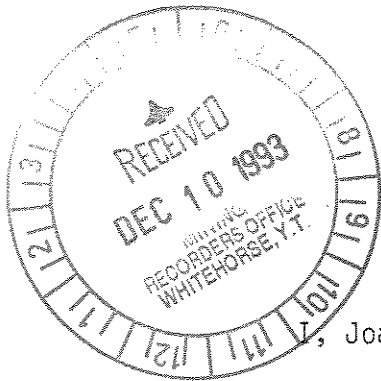
CONSULTING GEOLOGICAL ENGINEERS

093156

VANCOUVER, B.C. (604) 688-2568

Box 4127, WHITEHORSE, Y.T. Y1A 3S9 (403) 667-4415

1016 - 510 WEST HASTINGS STREET
VANCOUVER, B.C. V6B 1L8



AFFIDAVIT

I, Joan Mariacher, of Whitehorse, Yukon make oath and say:

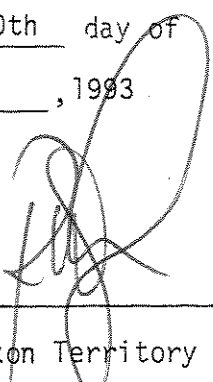
That to the best of my knowledge the attached Statement of
Expenditures for exploration work on the Arn 1-18
mineral claims on Claim Sheet 115F/15 is accurate.



Joan Mariacher

Sworn before me at Whitehorse, Yukon

this 10th day of
December, 1993



Notary, Yukon Territory

Statement of Expenditures
Arn 1-18 Mineral Claims
December 10, 1993

Expenses

Amerok Geophysics - mag/VLF survey	\$ 2,185.61	
Kluane Helicopters - 10.9 hours Bell 206B at \$540/hr plus fuel	7,096.90	
Capital Helicopters - 2.8 hours Bell 206B at \$540/hr plus fuel	1,891.08	
John Payne - consulting geologist - 9 days at \$428/day	3,852.00	
Vancouver Petrographics	<u>360.86</u>	<u>\$15,386.15</u>



AMEROK GEOPHYSICS

Box 5709

Whitehorse, Yukon

Y1A 5L5

Phone (403) 668-7672

INVOICE

GST No.: R121420053
File: 93-13

Invoice 93019
September 2, 1993

In account with: **Archer Cathro & Associates(1981)Ltd.**
1016 510 West Hastings Street
Vancouver B.C. V6B 1L8

Re: **ARN Mag/VLF Survey**
August 21-26, 1993

Survey Services:

Mag/VLF survey crew:

1 man w/Omni Plus mag/VLf, Omni IV
base station mag, computer, 4x4
3.0 days @ \$455

\$1,365.00

Air cargo: Omni Plus

73.83

Omni Plus rental en-route (3.0 days @\$97.50)

292.50

Gas

61.30

Professional Services:

Plotting & report preparation
1.0 days @\$250

250.00
\$2,042.63

Federal GST

142.98

TOTAL

\$2,185.61

rec'd by 8/2/93 #109

KLUANE

CHARTER TICKET: KH 0037

HELICOPTERS A DIVISION OF 528470 ALBERTA LIMITED
P.O. BOX 2128, HAINES JUNCTION, YUKON TERRITORY, CANADA Y0B 1L0
TELEPHONE: (403) 634-2224 • FAX: (403) 634-2226

CHARTERER: <u>ARCHER CATHRO & ASSOCIATES</u>						
ADDRESS: _____						
DATE: <u>08-13-93</u>	A/C TYPE <u>206B</u>	A/C REG. <u>C-FH44</u>	PURCHASE ORDER #		FORESTRY TICKET No.	
FLIGHT DESCRIPTION		TIME UP	TIME DOWN	HOURS	RATE	SUB-TOTAL
2 CREW & Internal gear		0835				
2 net loads.						
into camp with Rob.			2036	1.2		
Sent out 2 Bundles of stakes						
on Ridge above camp.						
Whiteriver to mile 1118.		1658	1727	0.5		
Mile 1118 to Reest Cr.		1942				
Haines Jct.			2036	0.2		
				2.4	540. ⁰⁰	1296. ⁰⁰
CONTRACT No. <u>ARN</u>	CONTRACT DAYS	MINIMUM HOURS	DAILY MINIMUMS		FUEL: \$ 209. ⁸⁰	\$ 209. ⁸⁰
CHARTERER FUEL:		COMPANY FUEL:		OIL:		1505.8
DRUMS:		GALLONS 33.9 \$ 3.95 /GAL.		MEALS:		
GALLONS		LITRES: 110 \$ 0.69 /LTR.		LODGING:		
LITRES:						
				G.S.T. REG. 132709809		105.41
CHARTERER AUTHORIZATION:		PILOT: <u>Brian Korman</u>		TOTAL: \$ 1611. ²¹		

SIGNING OF THIS TICKET BY AUTHORIZED REPRESENTATIVES CONSTITUTES THE RIGHT BY THE CARRIER TO CHARGE 3% PER MONTH INTEREST ON ALL ACCOUNTS OVER 30 DAYS.

KLUANE

CHARTER TICKET: KH 0042

HELICOPTERS A DIVISION OF 528470 ALBERTA LIMITED
P.O. BOX 2128, HAINES JUNCTION, YUKON TERRITORY, CANADA Y0B 1L0
TELEPHONE: (403) 634-2224 • FAX: (403) 634-2226

CHARTERER: ARCHER CATHRO and Associates

ADDRESS: _____

DATE: <u>08-20-93</u>	A/C TYPE <u>206B</u>	A/C REG. <u>CFH44</u>	PURCHASE ORDER #		FORESTRY TICKET No.	
FLIGHT DESCRIPTION		TIME UP	TIME DOWN	HOURS	RATE	SUB-TOTAL
<u>HAINES JCT - WHITE RIVER.</u>		<u>1620</u>		<u>1.1</u>		
<u>1 Pax, GEAR & Food ORDER TO</u>						
<u>ARN. Property.</u>				<u>0.2</u>		
<u>WHITE RIVER TO HAINES JCT.</u>			<u>1946</u>	<u>1.2</u>		
				<u>2.5</u>	<u>\$40.00</u>	<u>1350.00</u>
CONTRACT No. <u>ARN.</u>	CONTRACT DAYS	MINIMUM HOURS	DAILY MINIMUMS		FUEL:	<u>205.96</u>
CHARTERER FUEL:		COMPANY FUEL:		OIL:		<u>155.96</u>
GALLONS		GALLONS <u>20</u> \$ <u>3.25</u> /GAL.		MEALS:		
LITRES:		LITRES <u>184</u> \$ <u>0.69</u> /LTR.		LODGING:		
				G.S.T. REG. 132709809		<u>108.92</u>
CHARTERER AUTHORIZATION:		PILOT: <u>Dick Korman.</u>		TOTAL: \$ <u>1664.88</u>		

SIGNING OF THIS TICKET BY AUTHORIZED REPRESENTATIVES CONSTITUTES THE RIGHT BY THE CARRIER TO CHARGE 3% PER MONTH INTEREST ON ALL ACCOUNTS OVER 30 DAYS.

KLUANE

CHARTER TICKET: KH 0046

HELICOPTERS A DIVISION OF 528470 ALBERTA LIMITED
P.O. BOX 2128, HAINES JUNCTION, YUKON TERRITORY, CANADA Y0B 1L0
TELEPHONE: (403) 634-2224 • FAX: (403) 634-2226

CHARTERER: <u>ARCHER CATHRO + ASSOCIATES</u>						
ADDRESS: _____						
DATE: <u>08-24-93</u>	A/C TYPE <u>206B</u>	A/C REG. <u>CFAMU.</u>	PURCHASE ORDER #		FORESTRY TICKET No.	
FLIGHT DESCRIPTION		TIME UP	TIME DOWN	HOURS	RATE	SUB-TOTAL
HAINES JET. to WHITE RIVER				1.3.		
(Low ceilings RAIN + SNOW.)						
MOVE CREW + EQUIPMENT.						
2 loads. Fly by outcrop and				0.4.		
follow SCARW around body.						
WHITE RIVER to.						
Haines Jet				1.1		
				2.8	540.00.	1512.00
CONTRACT No.	CONTRACT DAYS	MINIMUM HOURS	DAILY MINIMUMS		FUEL: 79.79. 156.22	236.01
CHARTERER FUEL:		COMPANY FUEL:		OIL:		
DRUMS:		GALLONS 20.2 \$ 3.95		/GAL.	MEALS:	
GALLONS		LITRES 226.4 \$ 0.69		/LTR.	LODGING:	
LITRES:						
				G.S.T. REG. 132709809		
				105.84		
CHARTERER AUTHORIZATION:		PILOT: <u>Bickman</u>		TOTAL: \$ 1853.85		

SIGNING OF THIS TICKET BY AUTHORIZED REPRESENTATIVES CONSTITUTES THE RIGHT BY THE CARRIER TO CHARGE 3% PER MONTH INTEREST ON ALL ACCOUNTS OVER 30 DAYS.

KLUANE

CHARTER TICKET: KH 0062

HELICOPTERS A DIVISION OF 528470 ALBERTA LIMITED
P.O. BOX 2128, HAINES JUNCTION, YUKON TERRITORY, CANADA Y0B 1L0
TELEPHONE: (403) 634-2224 • FAX: (403) 634-2226

CHARTERER: ARCHER CATHRO & ASSOCIATES

ADDRESS: _____

DATE: 09-09-93		A/C TYPE 206B	A/C REG. CFHUY.		PURCHASE ORDER #	FORESTRY TICKET No.	
FLIGHT DESCRIPTION			TIME UP	TIME DOWN	HOURS	RATE	SUB-TOTAL
HAINEES JCT - WHITE RIVER			1330		1.1		
MOVE CAMP & CHECK OUT					1.0		
A/C Property							
Return to HAINEES JCT					1.1		
				1931	3.2		
							1728.00
					540.00	540.00	540.00
CONTRACT No.	CONTRACT DAYS	MINIMUM HOURS	DAILY MINIMUMS		FUEL:	118.00	
CHARTERER FUEL:		COMPANY FUEL:			OIL:		
DRUMS:		GALLONS	\$ 2.95	/GAL.	MEALS:		
GALLONS		LITRES:	\$	/LTR.	LODGING:		
LITRES:							
					G.S.T. REG. 132709809	120.96 37.80	
CHARTERER AUTHORIZATION: 			PILOT: 		TOTAL: \$	1966.96	

SIGNING OF THIS TICKET BY AUTHORIZED REPRESENTATIVES CONSTITUTES THE RIGHT BY THE CARRIER TO CHARGE 3% PER MONTH INTEREST ON ALL ACCOUNTS OVER 30 DAYS.



CAPITAL HELICOPTERS INC.

CHARTER AND CONTRACT SERVICE
4193 - 104TH STREET
DELTA, B.C. CANADA V4K 3N3
TELEPHONE: (604) 596-2423
TELEFAX: (604) 590-4875

I N V O I C E

Invoice No. 4736
Date Aug 31, 1993
P.O.
GST No. R100798743
Terms: Upon receipt

TO: Archer Cathro & Assoc.
Box 4127
Whitehorse, YT Y1A 3S9

Machine: C-FPCH

Base: WHITEHORSE

Pilot: WASHINGTON

Rate per hour: \$540.00

Date: 08/26/93
Other: ARN PROJECT

Ticket: 07054

Hours: 2.8

2.8

Fee: \$1,512.00
Fuel: 255.36
Other: 0.00

Subtotal 1,767.36
GST 27% 123.72

Total: \$1,891.08

John Smith
8/31/93
\$171



Vancouver Petrographics Ltd.

8080 Glover Road
Langley, B.C. V3A 4P9

(604) 888-1323 Fax (604) 888-3642

TO:

Archer Cathro
1016-510 W Hastings Street
Vancouver, B C
V6B 1L8

INVOICE

GST # R105484687

No. 930534

SALESPERSON

DATE OF INVOICE
Sep 02, 93

SHIP TO

Project;ARN

ACCOUNT NO.	DATE SHIPPED	SHIPPED VIA	COL P.P.	FOB POINT	TERMS	YOUR ORDER NUMBER	
				Ft. Langley	Net 30 days	Proj;ARN	
QUANTITY	DESCRIPTION					UNIT PRICE	AMOUNT
	Project;ARN						0.00
	August 20-26 5.5 days @ \$400						2,200.00
	G.S.T. (7%)						154.00
Thank You						TOTAL	2,354.00

*Paul R. 4/97
#120*

YOUR COMPLETE GEOLOGICAL SERVICE & SUPPLY COMPANY

REMARKS:

SAMPLE PREPARATION FOR MICROSTUDIES • PETROGRAPHIC REPORTS • GEOLOGY FIELD STUDIES
FIELD AND LABORATORY • SUPPLIES AND EQUIPMENT



Vancouver Petrographics Ltd.

8080 Glover Road
Langley, B.C. V3A 4P9

(604) 888-1323 Fax (604) 888-3642

TO:

Archer Cathro
1016-510 W Hastings Street
Vancouver, B C
V6B 1L8

INVOICE

GST # R105484687

No. 930691

SALESPERSON

DATE OF INVOICE
Oct 29, 93

SHIP TO

Attn; ARN Proj-John Payne

ACCOUNT NO.	DATE SHIPPED	SHIPPED VIA	COL. PP	F.O.B. POINT	TERMS	YOUR ORDER NUMBER
			x	Ft. Langley	Net 30 days	Proj ARN

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
	Consulting by John Payne <i>Sept-Oct 1993</i> petrography 1.5 days map preparation 2 days Total 3.5 days @\$400 day G.S.T. (7%)		0.00 0.00 0.00 1,400.00 98.00
<i>Thank You</i>		TOTAL	1,498.00

YOUR COMPLETE GEOLOGICAL SERVICE & SUPPLY COMPANY

REMARKS:

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FIELD AND LABORATORY • SUPPLIES AND EQUIPMENT



Vancouver Petrographics Ltd.

8080 Glover Road
Langley, B.C. V3A 4P9

(604) 888-1323 Fax (604) 888-3642

INVOICE

GST # R105484687

No. 930644

SALESPERSON

DATE OF INVOICE

Oct 29, 93

SHIP TO

Attn; ARN Proj-John Payne

TO:

Archer Cathro
1016-510 W Hastings Street
Vancouver, B C
V6B 1L8

ACCOUNT NO.	DATE SHIPPED	SHIPPED VIA	COL P.P.	F.O.B. POINT	TERMS	YOUR ORDER NUMBER	
	October			Ft. Langley	Net 30 days	ARN proj	
QUANTITY	DESCRIPTION					UNIT PRICE	AMOUNT
14	PTS					22.00	308.00
13	off cuts					0.75	9.75
13	k-spar stains					1.50	19.50
	G.S.T. (7%)						23.61
						337.25	
</							

YOUR COMPLETE GEOLOGICAL SERVICE & SUPPLY COMPANY

REMARKS:

SAMPLE PREPARATION FOR MICROSTUDIES • PETROGRAPHIC REPORTS • GEOLOGY FIELD STUDIES
FIELD AND LABORATORY • SUPPLIES AND EQUIPMENT

COPY

needs
approval

MINFILE: 115F 048
PAGE NO: 1 of 1
UPDATED: 07/14/94

**YUKON MINFILE
STANDARD REPORT
EXPLORATION AND GEOLOGICAL SERVICES DIVISION, DIAND
WHITEHORSE**

NAME(S): Taylor
MINFILE #: 115F 048
MAJOR COMMODITIES: Au, Cu
MINOR COMMODITIES: -
TECTONIC ELEMENT: Wrangellia Terrane

NTS MAP SHEET: 115 F 15
LATITUDE: 61°57'45"N
LONGITUDE: 140°41'08"W
DEPOSIT TYPE: Skarn
STATUS: Showing

CLAIMS (PREVIOUS AND CURRENT)

WEE, ARN

WORK HISTORY

Staked as Wee cl (Y53472) in Jul/70 by a syndicate composed of Imperial OL, Bow Valley Res L and Can Ind G & OL during a reconnaissance geochemical program.

Restaked as Arn cl (YB06325) in Jul/87 by Kluane JV (All-North Res L and Chevron Mls L), which conducted mapping, prospecting and geochemical, EM-16 and magnetic surveys in 1988. Further Arn claims were added in 1990 (YB27511) and in Aug/93 (YB38261). Archer, Cathro and Associates (1981) Ltd conducted a program of geological mapping, geophysics and geochemistry on the Arn cl in late 1993.

GEOLOGY

Copper, gold and magnetite occur in epidote-garnet-pyrrhotite skarn formed at the contact between Cretaceous diorite and minor limestone beds in the Triassic Nikolai Greenstone. A 700 by 150-300 m gold-copper soil anomaly strikes northwest across the property, and values up to 1350 ppb Au and 5780 ppm Cu were obtained.

Epidote and magnetite-rich skarn and hornfels with a trace of chalcopyrite assayed up to 23.3 g/t Au and 0.32% Cu over 3 m, while chalcopyrite-rich specimens returned up to 2.4 g/t Au and 3.7% Cu over 4 m. Chip samples of skarn collected in 1993 returned values of up to 79.2 g/t Au and 0.18% Cu over 3 m, and 2.3 g/t Au and 1.83% Cu over 6 m.

REFERENCES

ARCHER, CATHRO AND ASSOCIATES (1981) LTD., Dec/93. Assessment Report #093156 by H. Copland, R.C. Carne and J. Payne.

DODDS, C.J., AND CAMPBELL, R.B., 1992. Overview, legend and mineral deposit tabulations for Geological Survey of Canada Open Files 2188, 2189, 2190 and 2191.

KLUANE JOINT VENTURE, 1988. Assessment Report #092734 by C.A. Main.

YUKON EXPLORATION 1988, p. 171.

YUKON MINING AND EXPLORATION OVERVIEW 1988, p. 32.