

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

1016 - 510 West Hastings Street

Vancouver, B.C. V6B 1L8

Telephone: 604-688-2568

Fax: 604-688-2578

ASSESSMENT REPORT

describing

DIAMOND DRILLING, PROSPECTING AND SOIL SAMPLING

on the

ARN PROPERTY

Arn 1-8 claims YB06323-YB06330

Arn 9-14 claims YB27511-YB27516

Arn 15-18 claims YB38261-YB38264

Arn 19-28 claims YC19631-YC19640

NTS 115F/15

Latitude 61°58'N; Longitude 140°41'W

in the

Whitehorse Mining District
Southwestern Yukon Territory



Prepared by

Archer, Cathro & Associates (1981) Limited

for

ATAC RESOURCES LTD.

by

W. Douglas Eaton, B.Sc., Geology

March 2003

094374 C.1

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 7200.00.

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

Costs associated with this report have been
approved in the amount of \$ 7200.00
for assessment credit under Certificate of
work No. QW27608-609

H. Z. Sawchuk

Mining Recorder
Whitehorse Mining District

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SUMMARY AND RECOMMENDATIONS

The Arn property consists of 28 claims located about 6 km south of the Alaska Highway in southwestern Yukon. The property covers gold and copper occurrences associated with skarn and fracture zones, which are best developed in Triassic volcanics and limestones adjacent to Cretaceous intrusions.

Work conducted on the eastern part of the claim block at various times between 1988 and 1998 outlined extensive soil geochemical, VLF and magnetic anomalies that are only partially explained by known mineralization. Prospecting and hand trenching done at that time primarily targeted mineralized skarn zones. Although results from most of those zones were disappointing, yielding only sporadic high gold values, two targets (Zones A and B) produced consistently high values. These targets are located in a largely overburden covered area within or directly adjacent to a 50 to 80 m wide composite fault zone (Arn Fault).

In 2002, four diamond drill holes totalling 182 m were completed in the vicinity of Zones A and B. The holes provided valuable information regarding local bedding attitudes, the position and orientation of faults and controls on mineralization. The best drill intersection came from hole Arn 4, averaging 11.92 g/t gold with 0.21% copper over 12.67 m. These grades are comparable to assays obtained from chip samples of mineralized float collected downhill from the non-outcropping drill discovery. Mineralization in the interval consists of partially oxidized, fracture filling to semi-massive pyrite, pyrrhotite, chalcopyrite and magnetite.

Based on information from drill holes plus detailed mapping of nearby outcrops and hand trenches, it appears that the mineralized skarn and fracture zones at Zones A and B strike easterly and dip steeply, subparallel to the adjacent Arn Fault. This geological interpretation is supported by geophysical data. Magnetic anomalies in the area are somewhat discontinuous but their shapes indicate steep dips. Fraser filtered VLF data outlined a 350 m long anomaly that extends from slightly east of the drill holes westward to the edge of the grid. Most of the VLF anomaly is underlain by thick talus, a glacial moraine or creek gravel.

Results from the 2002 drilling suggest that fluids migrating along fractures related to the fault may have deposited some of the gold and that the prograding skarn assemblages may be less important than previously suspected.

In August 2002, ten claims were added to the west side of the property to cover reconnaissance soil and stream sediment anomalies located along the approximate surface trace of the Arn Fault. A few hours of prospecting done during claim staking resulted in discovery of three new gold zones, two of which do not appear to be related to skarns. Eight of 14 rock specimens collected from these zones assayed between 1.78 and 14.70 g/t gold. The new zones are located about 3.5 km west of the drill area.

Exploration in 2002 yielded positive results and more work is definitely warranted. The next phase of exploration at the Arn property should continue to explore for gold rich skarn and fracture related mineralization. The work program should include the following items.

1. Diamond drilling directly downdip and along strike from mineralized intervals intersected in hole Arn 4. At least one hole should cut the fault forming the northerly margin of the Arn Fault; ideally this hole should be drilled from north to south to better define fault and bedding attitudes.
2. Close spaced VLF, magnetic and gradient IP surveys should be done in the vicinity of hole Arn 4 and continue to the west to better define structures and sulphide mineralization, apparently associated with the gold.
3. The soil geochemical grid and geophysical coverage should be extended westerly from the main grid to overlap with the grid around Zone I.
4. Grid soil sampling and geophysical surveys should also be done in the western part of the property near Zones J, K and L along with prospecting and hand trenching.
5. Finally, detailed prospecting and hand trenching should be done at Zones E, F, G and H exploring specifically for recessive weathering, fracture filling mineralization that might have been overlooked by earlier workers.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

W. Douglas Eaton, B.Sc., Geology

INTRODUCTION

The Arn property is owned by ATAC Resources Ltd. subject to a 3% net smelter return royalty interest, 2% of which can be purchased incrementally for a total of \$1.5 million.

This report describes a 2002 work program that was conducted by Archer, Cathro & Associates (1981) Limited on behalf of ATAC. Most of the work was done between July 4 and 23 and consisted of four diamond drill holes totalling 182 m with minor prospecting and soil sampling. The remainder of the field program was performed on August 28 and included the staking of ten additional claims (bringing the claim total to 28) plus minor prospecting and drill winterization. The diamond drill is stored on the property but all other equipment has been demobilized.

The author participated in both phases of the exploration program and his Statement of Qualifications appears in Appendix I. J. LeDrew, S. Eaton and I. Korkh worked as field assistants during the main part of the program. Geologists B. Wengzynowski and A. Burgert and field assistant J. Manley helped with the work done in August. Drilling was contracted to E. Caron Diamond Drilling Ltd. of Whitehorse.

PROPERTY, LOCATION AND LAND TENURE

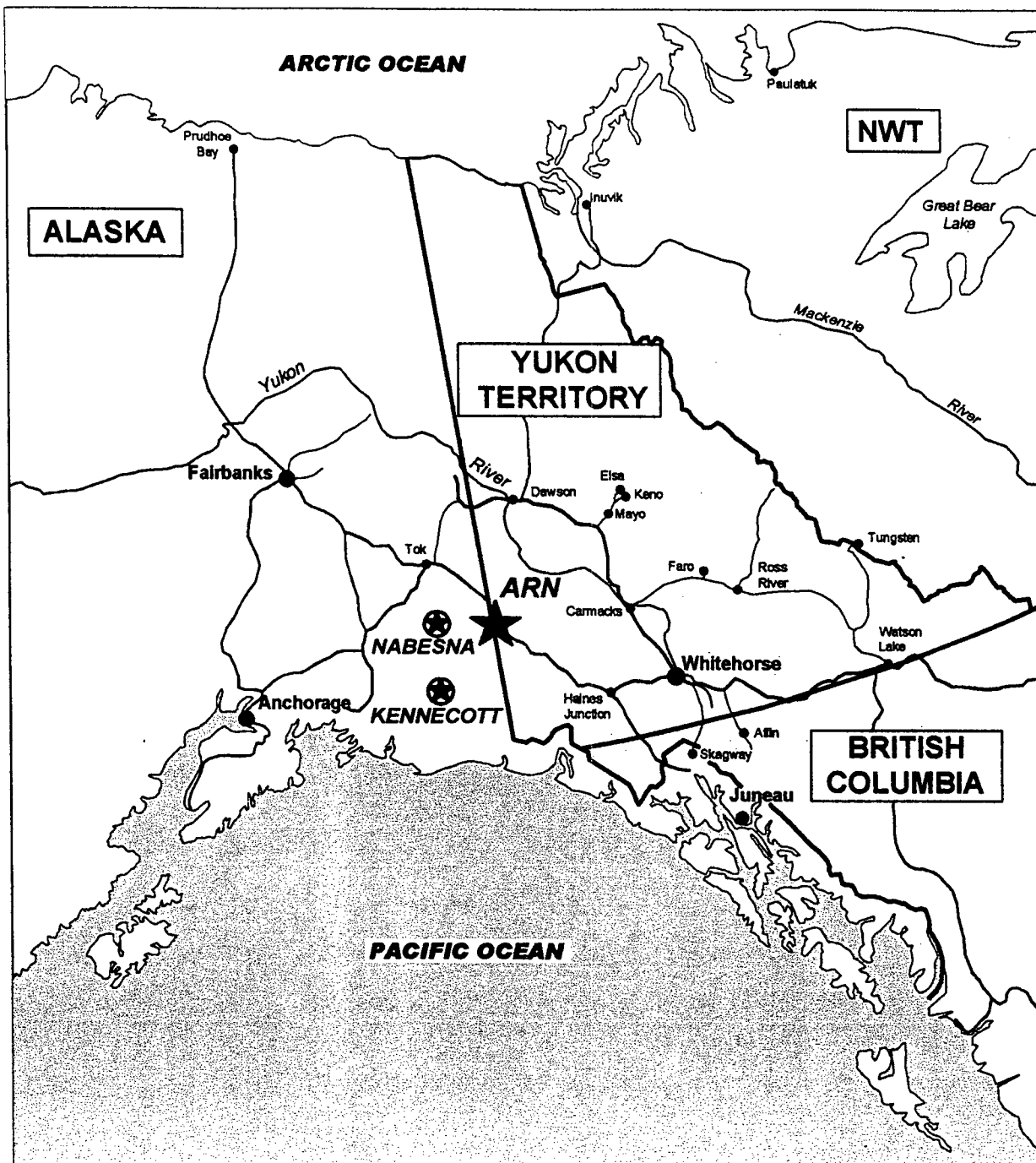
The Arn property consists of 28 contiguous mineral claims located in southwestern Yukon at latitude 61°58'N and longitude 140°41'W on NTS mapsheet 115F/15 (Figure 1). The claims are registered with the Whitehorse Mining Recorder in the name of Archer, Cathro & Associates (1981) Limited which holds them in trust for ATAC. Claim data are tabulated below while the locations of individual claims are shown on Figure 2.

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date</u>
Arn 1-8	YB06323-YB06330	March 31, 2008
9-14	YB27511-YB27516	March 31, 2008
15-18	YB38261-YB38264	March 31, 2008
19-28	YC19631-YC19640	March 31, 2008

The western portion of the claim block is partially covered by a native land claim by the White River First Nations (Figure 2). However, ATAC's claims pre-dated the land claim and, therefore, take precedence.

ACCESS AND INFRASTRUCTURE

The property lies about 6 km southwest of the Alaska Highway. Access for the main program in 2002 was provided by a Hughes 500D helicopter operated by Fireweed Helicopters of Whitehorse from a temporary base at the White River Lodge, located about 7 km northeast of the property. The closest year round helicopter bases are located at Haines Junction, 216 km to the southeast.



⊛ mine referred to in text

ATAC RESOURCES LTD.

FIGURE 1
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

LOCATION

ARN PROPERTY

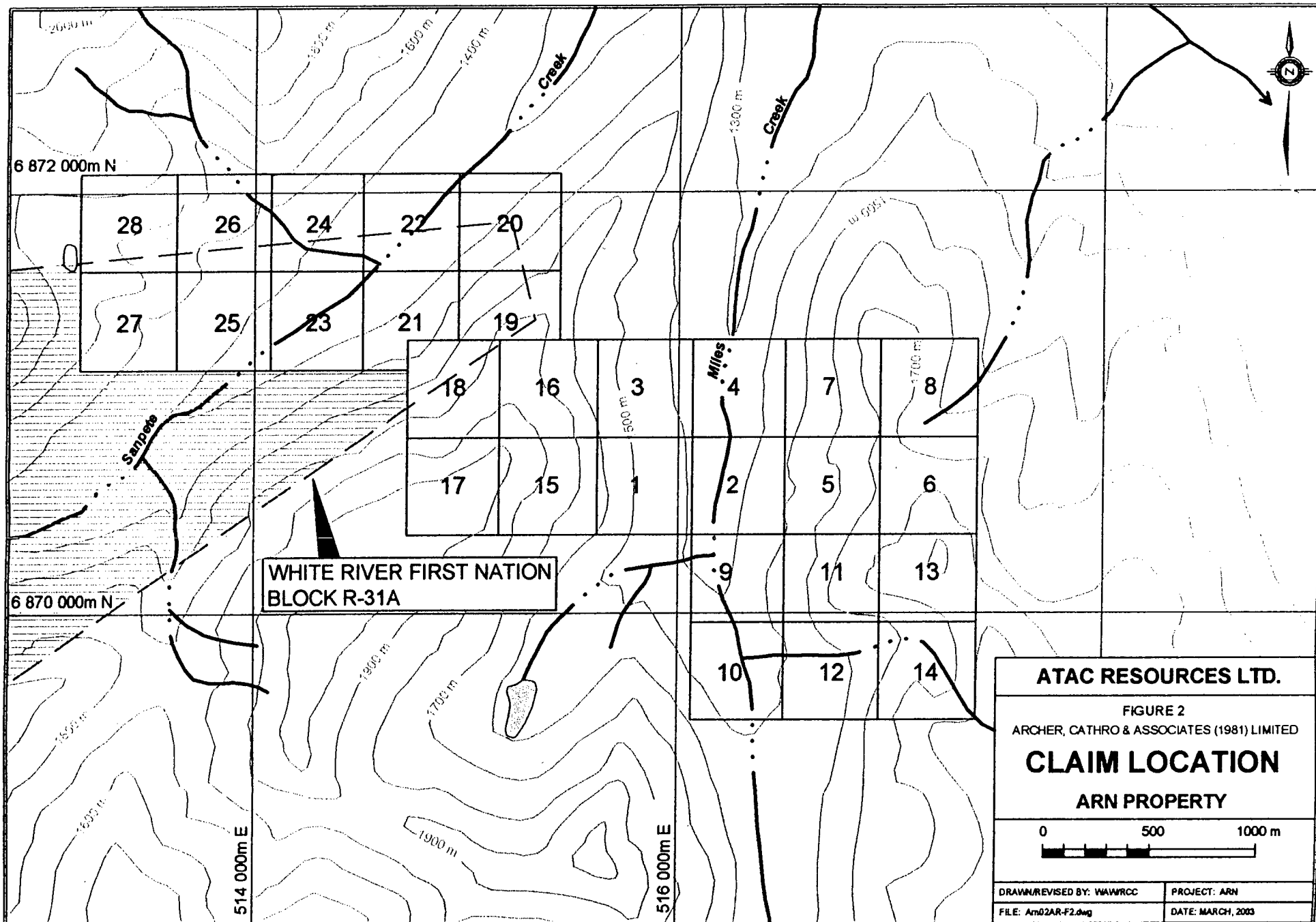
0 150 300 km

DRAWN/REVISED BY: WAW/RCC

PROJECT: ARN

FILE: Am02AR-F1.dwg

DATE: MARCH, 2003



During the main program, the three person geological crew was housed in a tent camp on the property, while the drill crew stayed at the White River Lodge and was flown to the property on a daily basis. The August work utilized a helicopter based in Haines Junction.

The closest community is Beaver Creek, some 80 km to the northwest. The main supply centre is the territorial capital Whitehorse, located 375 km by road to the east. The closest existing source of electrical power is the Aishihik Dam, 230 km to the east.

The most logical ground access to the property is up Sanpete Creek. At present, a gravel road extends 10 km from the highway to old placer workings, and from there an overgrown bulldozer trail continues a further 6 km to within 3 km of the property. Terrain between the end of the road and the claims is relatively gentle and should not present a major obstacle to construction of an access trail, if warranted.

EXPLORATION HISTORY

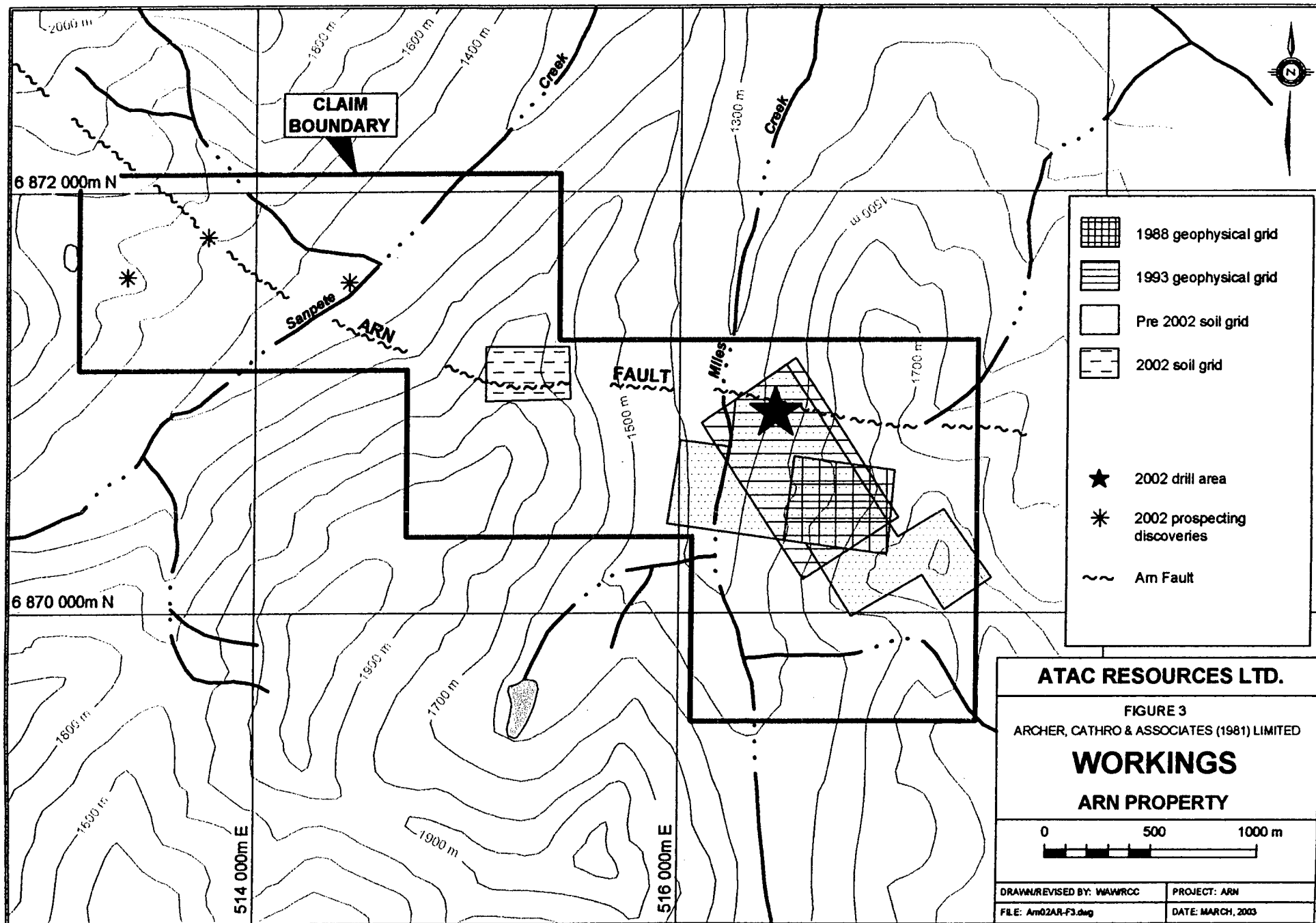
The area now covered by the Arn property was first staked in the 1970s as a copper prospect by a syndicate composed of Imperial Oil Ltd., Bow Valley Industries Ltd. and Canadian Industrial Gas and Oil Ltd. (Yukon Minfile, 2001). There is no record of work performed at that time or results obtained.

The area was explored but not staked by Nat Joint Venture (Chevron Canada Ltd. and Armco Mineral Exploration Co.) in 1980 on the basis of anomalous gold in stream sediments (Archer and Onasick, 1980). Although follow up prospecting in 1981 and 1982 yielded rock specimens that assayed between 1 and 7 g/t gold and numerous strongly anomalous soil and stream sediment values, no detailed exploration was undertaken (Onasick and Archer, 1981 and Eaton and Nelson, 1982).

The first eight of the Arn claims were staked in 1987 by Kluane Joint Venture (All-North Resources Ltd. and Chevron Minerals Ltd.). The joint venture conducted geological, geochemical and geophysical (ground magnetic and VLF) surveys in 1988 (Figure 3). This work identified a 700 m long belt of anomalous gold and copper soil geochemical values and identified mineralized skarn zones, the best chip sample from which assayed 23.3 g/t gold over 3 m (Main, 1989). Kluane Joint Venture sold its interest in the property to a private syndicate, Acne Joint Venture, in 1990.

In 1993, Mendocino Resources Ltd. optioned the property and explored with additional geological, geochemical and geophysical surveys plus hand trenching. The work expanded the gold and copper soil geochemical anomalies to cover an area 1200 m long and up to 500 m wide. It also yielded encouraging assays from chip samples, the best of which returned 79.2 g/t gold and 0.18% copper over 3 m (Copeland, et al, 1993). Mendocino subsequently dropped its option, despite the positive results and a recommendation of further work.

Nordac Resources Ltd. (now Strategic Metals Ltd.) purchased the property in 1996. It performed prospecting, soil geochemistry and hand trenching in 1998 (Figure 3). This program identified additional gold and copper bearing skarn showings and traced some of the better grade float to



source. The highest grades reported from chip samples across bedrock exposed in hand trenches were 15.1 g/t gold with 0.20% copper across 2.5 m and 6.21% copper with 4.3 g/t gold across 1.5 m (Carne, 1999).

GEOMORPHOLOGY

The Arn property is located near the northeastern limit of the St. Elias Mountains about 6 km southwest of the Shakwak Valley. The claims are drained by Miles and Sanpete Creeks, both flowing into the White River which is part of the Yukon River watershed. They lie immediately northwest of Mt. Taylor, a local promontory peaking at 2190 m. Elevations on the claim block range from about 1300 m alongside the creeks to 1980 m. Topography in both creek valleys consists of meandering, actively eroding creek beds, flanked by moraine terraces that are partially overlain by broad talus fans. Ice fields occupy some north facing cirques upstream from the claims. Slopes are moderate to steep, typically varying between 20 and 45°.

Most of the property is above tree line. Vegetation ranges from widely scattered stunted spruce and mature willow thickets along the creek beds, rapidly giving way to scattered buckbrush and grass on the lower slopes, and ultimately to open talus slopes and cliffs at higher elevations.

Both Miles Creek and Sanpete Creek contain abundant water for camp and diamond drill purposes. There are numerous good campsites in both drainages.

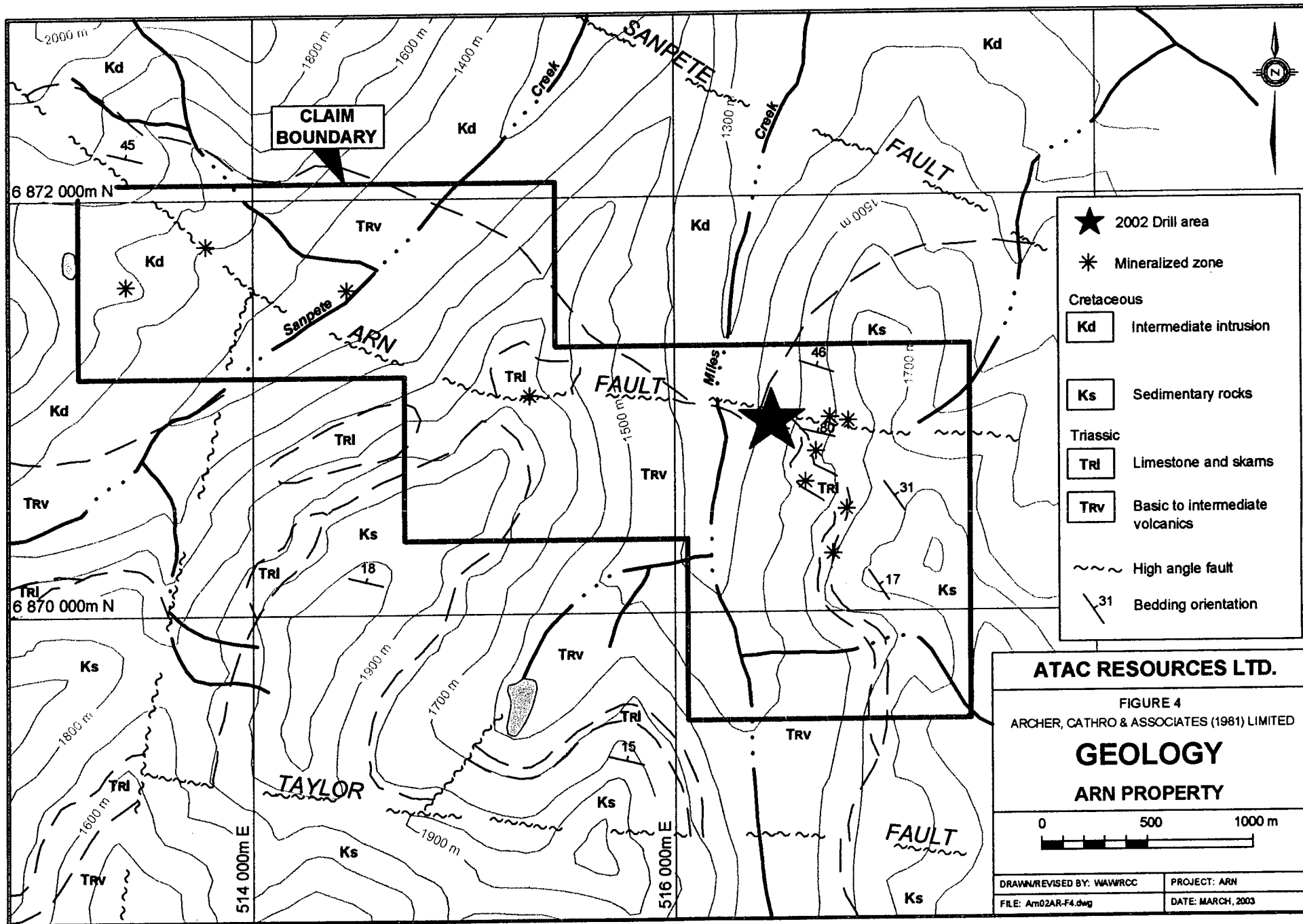
GEOLOGY

Regional

The Arn claim block lies within the Wrangellia geological terrane on the southwest side of the Shakwak-Denali Fault system, a series of subparallel, high angle faults that extends from British Columbia into Alaska. The fault system marks a major geological boundary separating the accreted, island arc assemblage of Wrangellia from pericratonic rocks of the Yukon-Tanana Terrane to the northeast. Prior to 65 mya, the boundary was a northeast dipping subduction zone but since that time movement between plates has occurred along transverse, high angle faults which have seen about 350 km of right lateral offset.

Property

The property is predominantly underlain by Mesozoic volcanic and sedimentary rocks that are intruded by Cretaceous diorite stocks and andesite, diorite and felsite dyke swarms. General geology for the whole property appears on Figure 4 while geology east of Miles Creek is shown in greater detail on Figure 5. Skarns are found in most rock types but they are best developed near contacts between limestone and the Cretaceous intrusive rocks. The skarns differ greatly in composition and texture. Gold and copper mineralization hosted by them and a series of younger faults are the main exploration targets on the property. A few Tertiary andesite dykes emplaced along fractures and minor faults cut all units including the skarns.



The main lithological units are offset along the Arn Fault, a major high angle structure probably associated with the Shakwak-Denali Fault system. The fault trace is marked by a prominent gully. Mapping and drilling in 2002 indicates that the Arn Fault is actually a 50 to 80 m wide composite structure with 3 or more narrow faults separated by relatively competent wallrock. The amount of offset is uncertain but the north side appears to have moved down and to the west at least a few tens of metres relative to the south side. Gold is particularly enriched in skarns and fracture zones located directly adjacent to the Arn Fault.

Stratigraphy

The Mid Triassic age Nikolai Group volcanic rocks are the oldest exposed lithologies and underlie about 60% of the property. The dominant rock type consists of dark green, amygdaloidal to massive basalt flows (Unit mTRb) of undetermined thickness. Flows contain up to 40% amygdules, mainly filled with calcite and chlorite. Light grey-green porphyritic andesite (Unit mTRa) is also present. These rocks often contain 1 to 2 mm feldspar phenocrysts. No bedding measurements are available for the basalts or andesites.

Late Triassic Chitistone/Nizina limestone occurs stratigraphically above the Nikolai Group volcanic rocks or near the top of that unit. Regionally the limestone is discontinuous and on the property it typically forms large blocks several hundred metres long but less than 30 m thick. In places it consists of very fine grained, light to medium grey, slightly recrystallized limestone (Unit lTRI). Bedding is often obscure but locally is well marked by alternating layers showing different shades of grey. Bedding attitudes in the limestone are usually shallowly dipping but in some areas are much steeper than those in the overlying units. Along the Arn Fault this may be due to drag folding but elsewhere the steeply dipping limestone appears to have been emplaced as large rotated slump blocks in the volcanics. Near contacts of intrusive dykes and plugs, the limestone is commonly recrystallized forming medium to coarse grained marble (Unit lTRm). In such areas bedding is unrecognizable.

The Lower Cretaceous Dezadeash Formation consists mainly of a sequence of thin bedded, siliceous mudstone to siltstone alternating with fine sandstone (Unit lKs). Colours vary widely between adjacent beds in shades of white, cream and pale green to dark green and black. Numerous examples of graded beds indicate the sequence is upright with tops to the east and northeast. In the northeastern corner of the property, the lower part of the formation includes thin, massive andesite to basalt flows or sills (Unit lKb) interlayered with sedimentary rocks similar to those in the upper part of the section. The identification of Unit lKb is only tentative because texturally and mineralogically the volcanics resemble parts of the Nikolai Group and some Cretaceous andesite dykes.

Structure of the Stratiform Rocks

Regionally the stratified rocks dip gently to moderately, rarely exceeding 40°. On the property south of the Arn Fault, rocks usually strike north and dip 10 to 30° east. North of the fault, the rocks strike easterly or southwesterly and dip to 50 to 60° to the northeast. An important exception to the general trends occurs in the main area of interest in the eastern part of the property (Zones A and B) where bedding attitudes strike east-southeast and dip vertically or

steeply to the north, subparallel to the orientation of the Arn Fault.

Cretaceous Intrusive Rocks

Intrusive rocks in the immediate vicinity of the property are mostly Late Cretaceous in age and include diorite stocks and an extensive dyke swarm of mainly andesite to diorite composition. Most dykes trend 120 to 160° and dip steeply to the southwest. Age relations are usually uncertain because lithologically similar dykes have been emplaced at more than one time. In a few places diorite intrusions appear to truncate andesite dykes.

Diorite (Unit Kd) forms stocks and dykes ranging from a few metres to several tens of metres thick. The dykes are most abundant east of Miles Creek. Diorite stocks are often in fault contact with the stratified units and occur on the west side of Miles Creek north of the Arn Fault, on the ridge northwest of Mt. Taylor, and west of Sanpete Creek south of the Arn Fault. The larger diorite bodies often have a finer grained border zone and a coarser grained core while most smaller dykes are of the finer grained variety. East of Miles Creek there is an intrusive breccia containing fragments of andesite dykes and Nikolai Group volcanic rocks in a matrix of fine grained diorite.

Cretaceous andesite intrusions are subdivided into three types. The most distinctive are plagioclase-hornblende porphyry dykes (Unit Kpp) containing up to 20% phenocrysts averaging 0.5 to 1.2 cm long. In some dykes hornblende forms distinctive radiating twins of interlocking crystals. Elsewhere these rocks contain 3 to 5% plagioclase phenocrysts mostly less than 2 mm in size. With decreasing grain size and abundance of phenocrysts Unit Kpp grades into slightly porphyritic to non-porphyritic andesite (Unit Ka). Most of these dykes have a medium to dark green groundmass. Some of the Unit mTRa andesite mapped in the main area of interest could be Unit Ka. The third, rarest type of Cretaceous andesite dykes are termed basaltic andesite (Unit Kb). These dykes have a dark green colour and a higher content of mafic minerals.

Felsite (Unit Kf) is non-porphyritic to slightly porphyritic (mainly plagioclase) and has a pale cream to green colour. It forms dykes and sills often intruding the Chitistone/Nizina limestone. One such dyke swarm occurs north of the Arn Fault west of Miles Creek.

Skarn

Skarn horizons range from less than a metre to a few tens of metres thick and are lensey to irregular in outline. They are most abundant (on a regional and property scale) in or near the Chitistone/Nizina limestone. The best development occurs along contacts between Nikolai Group volcanic rocks and Chitistone/Nizina limestone or where Cretaceous andesite dykes intrude limestone. Less frequently, skarns are found in the upper part of the Nikolai Group volcanics, in the lower part of the Dezadeash Formation and within the various intrusions.

Skarn (Unit Ks) shows a wide variety of compositions and textures. Most skarn zones are dominated by one of the following gradational, predominantly prograding assemblages: 1) garnet, 2) epidote, 3) magnetite-amphibole, 4) pyrrhotite and 5) pyrite. The first three assemblages are generally resistant weathering while the two sulphide assemblages usually are oxidized near surface and weather recessively. A few skarn zones exhibit retrograde alteration

with garnet going to chlorite. Retrograde skarns have only been noted near faults and are always recessive weathering. Typically they are also pyritic.

Garnet rich skarn contains 60 to 90% garnet in places showing well developed euhedral crystals up to a few millimetres across. Most garnets are pale pink but pale brown to medium green specimens have also been noted. No work has been done to establish garnet zonation or chemistry. Mainly interstitial to garnet are patches of one or more of the following minerals: magnetite, clinopyroxene, epidote, calcite, hornblende, actinolite, tremolite and quartz. Some samples contain minor to moderately abundant pyrrhotite. Garnet rich skarn generally is massive but locally is coarsely interbanded with magnetite rich skarn.

Epidote rich skarns were formed from limestone and contain abundant recrystallized, medium to coarse grained calcite. Quartz and actinolite are locally abundant. Some moderate grade gold values have been obtained from epidote rich skarn float but this type of material has not been traced to bedrock.

Magnetite-amphibole rich skarn ranges widely in composition between the two 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.

Pyrrhotite rich skarns form moderately abundant pods and lenses averaging 0.5 to 5 m or more in diameter commonly scattered through andesite and diorite dykes near limestone bodies. They weather readily to limonite gossan and are generally recessive so that their abundance could be much greater than currently known. Intergrown with pyrrhotite are minor to moderately abundant magnetite and actinolite with minor garnet, epidote and chalcopyrite. Most copper and gold rich mineralization belongs to this skarn assemblage.

Pyrite rich skarns are localized within porphyritic andesite dykes and along fault zones. They contain moderately abundant patches of pyrite with only minor chalcopyrite. Some of the gold rich mineralization is associated with these skarns.

Skarn related veinlets are common and 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, garnet, epidote, scapolite and chalcopyrite. Late stage limonite and hematite veinlets are present in some sulphide bearing skarns. Mineralized skarns are further described in the Mineralization and Geochemistry section.

Tertiary Intrusive Rocks.

A few aphanitic to slightly porphyritic andesite dykes (Unit Ta), 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 dykes dated as Oligocene elsewhere in the Kluane Ranges.

Fault Structures

The main fault on the property is the east-southeast trending Arn Fault which bisects the property lengthwise. Offsets have occurred along the fault but the sense of motion and amount of displacement are uncertain. This fault is paralleled by the Sanpete and Taylor Faults, which are located about 1.5 km to the north and 2 km to the south, respectively. All three are probably related to the regional scale Shawkak-Denali Fault system, about 6 km northeast of the property. Numerous smaller faults have been mapped on the property and others probably underlie talus filled gullies. Most of these structures trend northeasterly or east-southeasterly.

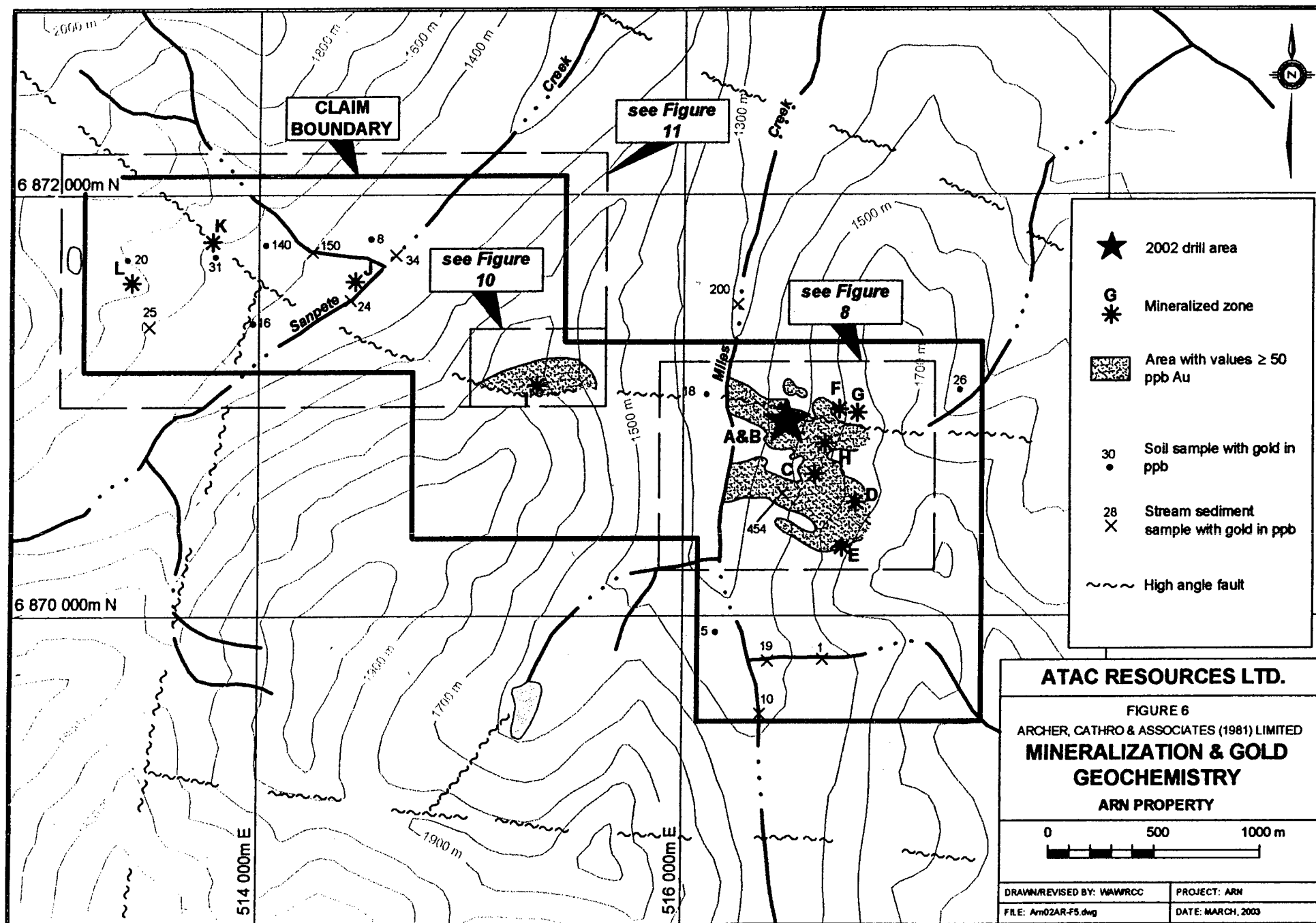
MINERALIZATION AND GEOCHEMISTRY

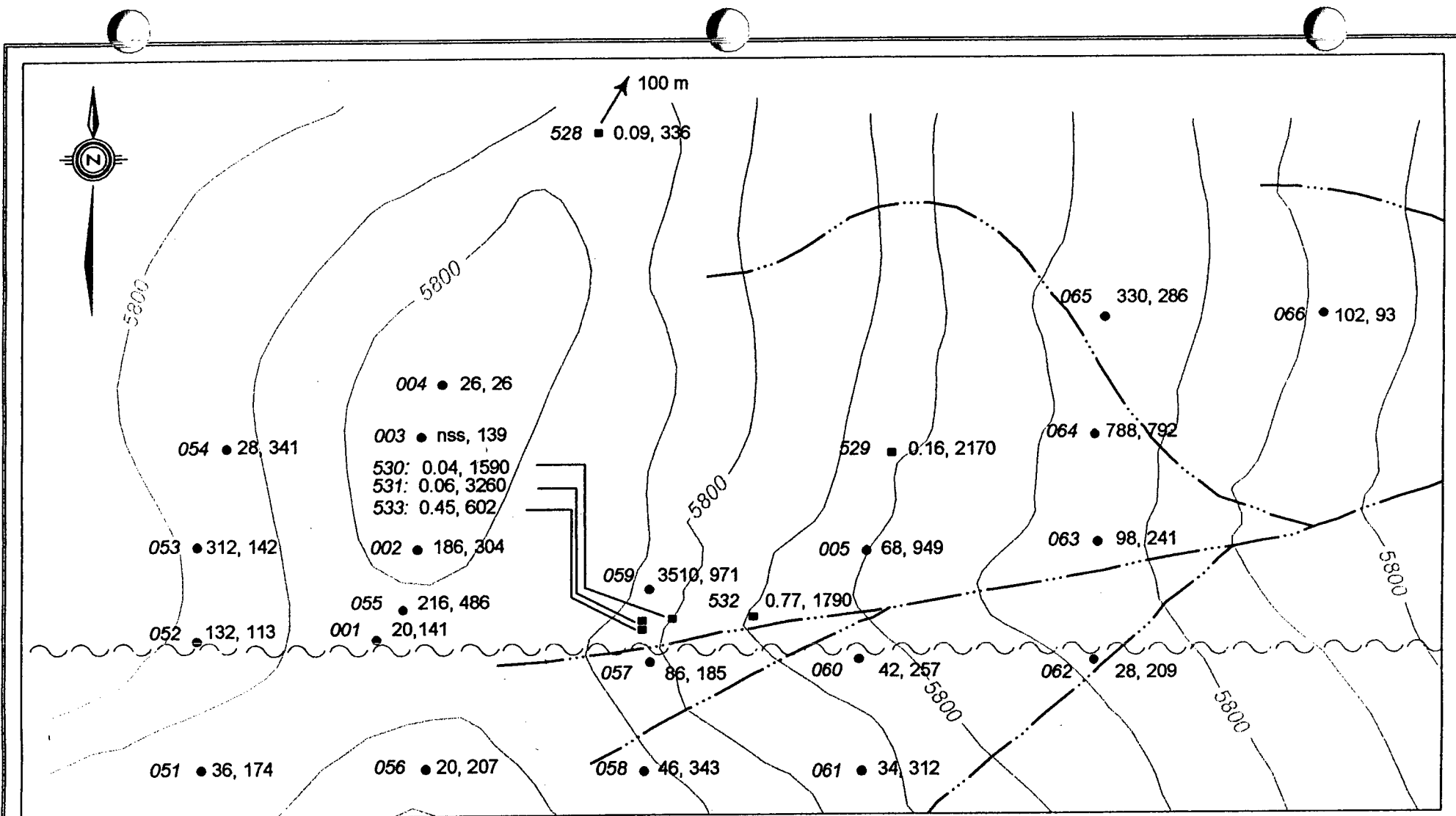
Twelve zones of mineralization (A-L) have been identified on the Arn property. Most are skarn hosted but some also have a later vein component probably related to nearby faults. Figure 6 is a compilation map showing the mineralized zones and gold geochemical anomalies outlined by grid soil sampling. Detailed rock and soil data from different parts of the property are plotted on a series of other maps. Figure 7 is a sample location map for the main grid area east of Miles Creek (Zones A-H) while Figures 8 and 9 illustrate gold and copper values from that area. Figure 10 shows sample locations plus gold and copper values from 2002 sampling on the ridge west of Miles Creek (Zone I) while Figure 11 plots similar data for the areas on either side of Sanpete Creek (Zones J-L). Mineralization in each zone and geochemical response associated with it are discussed individually later in this section.

Sampling and analytical procedures for soil and rock samples taken prior to 2002 were described in earlier reports. Grid soil samples taken in 2002 (Zone I) were collected at approximately 50 m intervals on lines spaced about 100 m apart. Reconnaissance samples from the east side of Sanpete Creek are spaced about 100 m apart. All of the soil samples were collected from B or C horizon material and were sent in standard kraft soil bags to ALS Chemex Labs in North Vancouver, where they were analyzed by the Induced Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) method for 34 elements on a standard partial extraction (aqua regia) leach of the -80 mesh fraction. Gold determinations used an atomic absorption finish on a fire assay of a 30 gm split. Rocks were crushed to 70% minus 2 mm, then a 250 gm split was pulverized to 85% minus 75 microns. Analyses were done by the same methods as soils except that a larger, 50 gm split was used for gold assays and samples exceeding 10000 ppm copper were assayed for that metal. Appendix II contains Rock Descriptions while Appendix III comprises the Certificates of Analysis.

The general metal signature associated with gold mineralization at the Arn property is atypical because most of the usual pathfinder elements (arsenic, antimony, bismuth, mercury etc) are absent or only sporadically anomalous. Copper and iron are the only metals that are frequently enriched in gold bearing rocks, and neither of these elements shows a strong positive correlation. Silver to gold ratios are low, especially in the main area of interest east of Miles Creek (Zone A). Based on a very small sample population, arsenic and silver contents appear to be slightly higher in the showings west of Sanpete Creek (Zones J-L).

Results of surface exploration at each of the zones are discussed in the following paragraphs. Zones A and B were tested by diamond drilling in 2002 and this work is described later in the





5800
053 • 312, 142
529 ■ 0.16, 2170
~~~~~

contour interval 100 feet

soil sample: *sample no.* (with prefix M011): gold (ppb), copper (ppm)

rock sample: *sample no.* (with prefix M011): gold (g/t), copper (ppm)

Arn Fault

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FIGURE 10  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**SAMPLE LOCATIONS, GOLD AND  
COPPER RESULTS: ZONE I**  
ARN PROPERTY

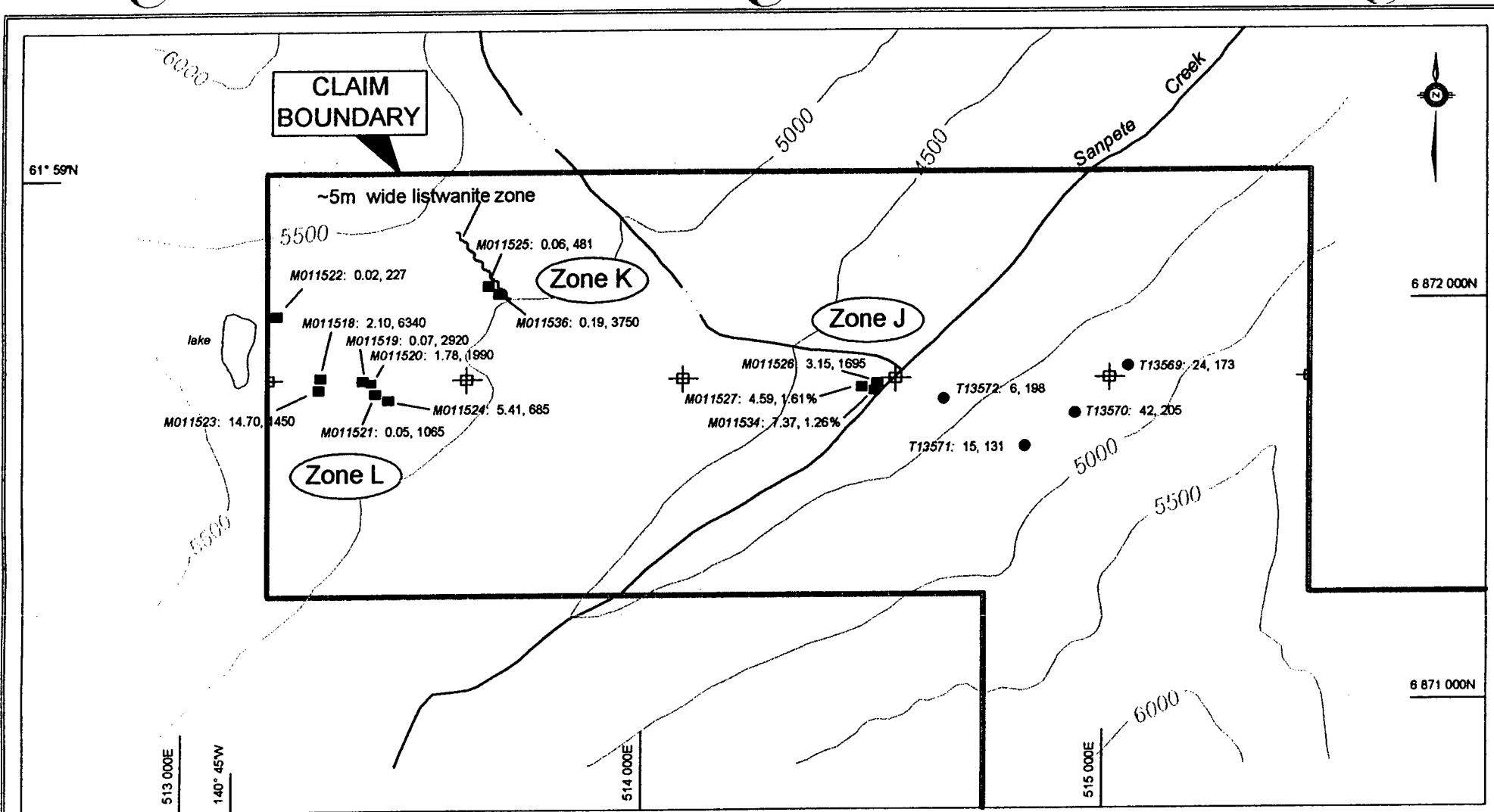
0 50 100 150 200 m

DRAWN BY: RCC

PROJECT: ARN

FILE: Am02AR-F10.dwg

DATE: MARCH, 2003



- 6000
- contour interval 500 feet
- claim post
- soil sample - sample no.: gold (ppb), copper (ppm)
- rock sample - sample no.: gold (g/t), copper (ppm or % as shown)
- T13572: 6, 198
- MO11523: 14.70, 1450

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**FIGURE 11**  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**SAMPLE LOCATIONS, GOLD AND  
 COPPER RESULTS: ZONES J - L**  
**ARN PROPERTY**

0 250 500 750 1000m

DRAWN BY: RCC

PROJECT: ARN

FILE: Am02AR-F11.dwg

DATE: MARCH, 2003

2002 Diamond Drilling section. When reading the following descriptions one should realize that most zones have received only reconnaissance type mapping and sampling and none has been systematically trenched or completely delineated.

### **Zone A**

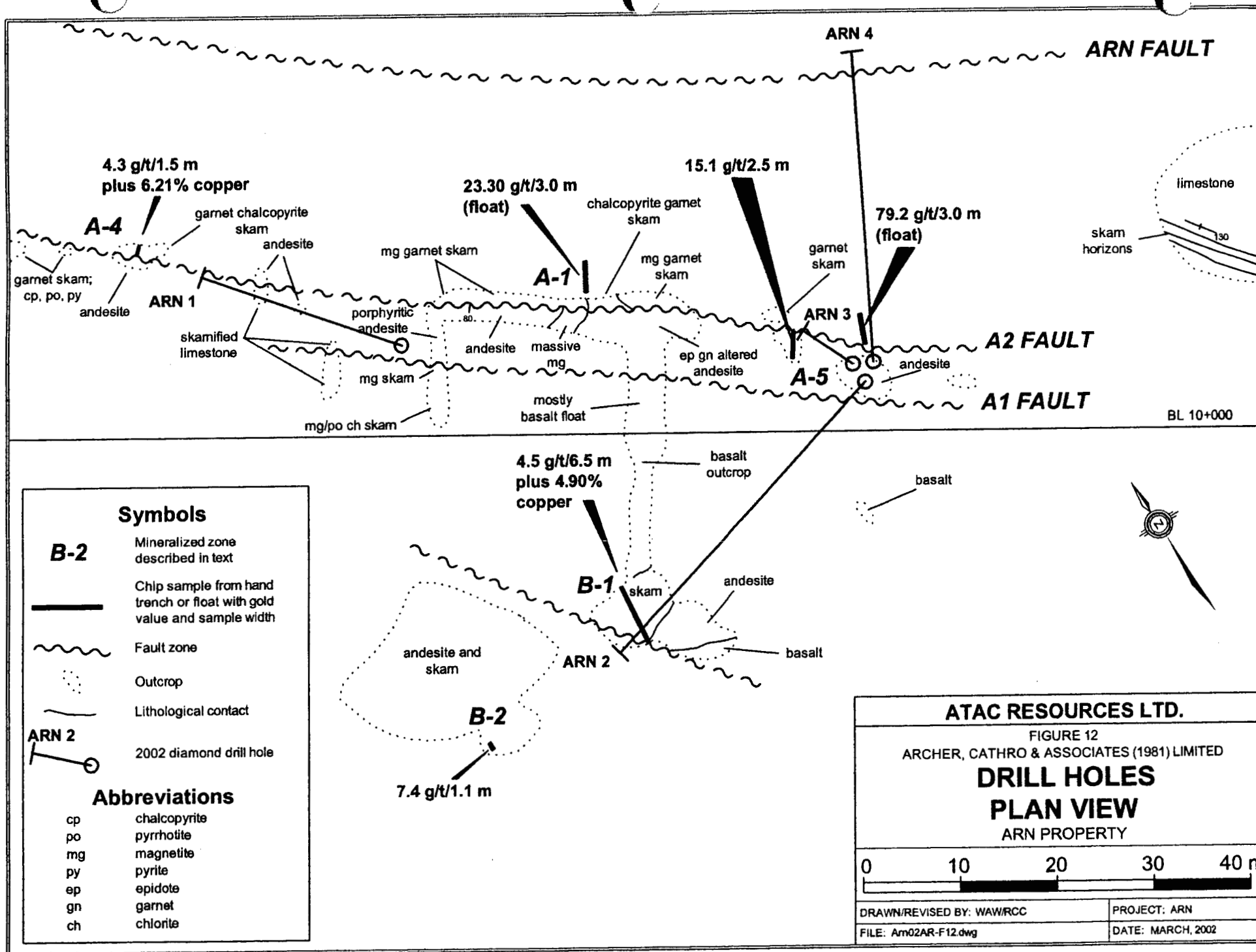
This zone is located at a prominent break-in-slope with cliffs and unvegetated talus slopes above and a broad glacial moraine terrace and large, vegetated talus fan below. It consists of several showings within skarnified rocks intermittently exposed in outcrops and hand trenches surrounded by talus and soil. The showings occur within a 90 m long west-northwest trend that appears to be truncated in the easterly uphill direction but is open to the west. The showings are on the southern flank of the prominent gully that marks the trace of the Arn Fault. Host rocks are Triassic calcareous andesitic volcanics and limestone intruded by narrow Cretaceous dykes. The most significant showings are described below while their locations are shown on Figure 12.

**Showing A-1** is a 35 m long, about 4 m wide skarnified outcrop that is bisected by a nearly vertical fault. The south side of the outcrop is predominantly garnet skarn and the north side is a mixture of magnetite, epidote, garnet, calcite, and tremolite. A series of chip samples from the skarn collected in 1993 returned consistently low copper values (<200 ppm). Gold assays from the south side of the skarn ranged from nil to 0.99 g/t averaging 0.25 g/t, while those from the north side ranged from 0.09 to 1.54 g/t averaging 0.75 g/t. A 1989 chip sample plotted near this outcrop yielded much higher values (0.32% copper and 23.3 g/t gold). The material in this sample was likely talus in the gully adjacent to the outcrop, which probably came from buried mineralization near Showing A-5.

**Showing A-4** is exposed in a short hand trench located about 15 m northwest of Showing A-1. Mineralization consists of approximately 30% pyrrhotite with abundant chalcopyrite in a gangue of calcite, garnet and epidote. A chip sample across 1.5 m returned 6.21% copper and 4.3 g/t gold.

**Showing A-5** is the furthest uphill and most southeasterly of the bedrock exposures in Zone A. A 1993, 3 m long random chip sample was collected from talus material near this exposure. It consisted of pyrrhotite and pyrite rich, epidote altered andesite and chloritic skarnified limestone. The sample returned values of 0.18% copper and 79.2 g/t gold. In 1998 a 2.5 m wide chip sample taken across highly fractured and limonite rich, skarnified andesite exposed in a small outcrop immediately downhill from the talus sample assayed 0.20% copper and 15.1 g/t gold. Hand trenches that attempted to locate the bedrock source of the gold rich talus were frustrated by frozen overburden, but drilling was successful (see 2002 Diamond Drilling).

Soil samples taken near Zone A returned only moderately anomalous values of copper and gold. Geomorphology may largely account for this relatively subdued response because the well mineralized showings are all surrounded by talus and soil, most of which material was derived from unmineralized units some distance uphill.



## **Zone B**

Zone B, which lies about 30 m southwest of Zone A, is the best exposed skarn on the property. It consists of two showings that were tested by chip sampling in 1993 and 1998. Host rocks are Triassic calcareous andesite and limestone.

**Showing B-1** consists of skarnified andesite with subrounded magnetite rich lenses up to 2 by 5 m in surface dimension. Chip sampling of magnetite rich material in 1993 returned low, but above background, levels of copper and gold (0.08% copper and 0.12 g/t gold over 3.0 m). The surrounding altered volcanic rocks also yielded weakly anomalous values (0.21% copper and 0.07 g/t gold over 3.0 m). The main exposure is bordered along its south and west sides by iron oxide cemented overburden or ferricrete. The iron oxide precipitate is a barrier to hand trenching because its spongy texture allows a high moisture content which is difficult to work especially when frozen. Chip samples of ferricrete range from above background levels to highly anomalous (>1.00% copper and 7.4 g/t gold over 1.1 m and 0.32% copper and 4.5 g/t gold over 3.0 m). In 1998 a section of the iron oxide cemented overburden was removed to bedrock revealing pyrrhotite and magnetite rich skarn. A chip sample across this exposure returned values of 0.33% copper and 2.2 g/t gold over 1.5 m.

**Showing B-2** is a sulphide rich skarn that has been systematically chip sampled over a 7.5 by 5.0 m exposure yielding an average grade of 4.72% copper and 3.4 g/t gold. Silver values are much higher than usual, ranging from 41.0 to 47.4 g/t. This skarn is cut by a post-mineralization diorite dyke. Mapping in 2002 suggests that the mineralization is bounded by stratigraphic contacts on its southeastern and northwestern sides, is cut off or offset by a fault on its southwestern side and continues at least 3 m further to the northeast under talus and soil.

Soil sample values for copper and gold in the area of Zone B are stronger than those at Zone A. The best soil geochemical response was from a sample taken about 50 m directly downslope of Showing B-1, which carried 1000 ppb gold and 2650 ppm copper. It is uncertain whether this reflects downhill dispersion or an extension of the mineralization to the west.

A 24 m long hand trench excavated between Zones A and B exposed variably altered and sheared, andesite and basalt. Continuous chip samples from this trench returned only background levels of gold and copper.

## **Zone C**

Zone C consists of a series of small skarns adjacent to and within a relatively large body of Triassic limestone and marble, which is intruded by Cretaceous andesite. The majority of skarn showings are intensely silicified and limonitic containing fine grained pyrrhotite and minor patches of malachite and azurite. Pods of coarse grained calcite and magnetite are developed locally. Assay results were disappointing, averaging only 0.05% copper and 0.16 g/t gold.

A moderate strength soil geochemical anomaly corresponds to the area of Zone C. The highest values (1000 ppb gold and 837 ppm copper) were obtained directly downslope of one of the skarns that was thoroughly sampled.

### **Zones D and E**

These zones occur in a largely talus covered area and, where exposed, consist of several small skarn outcrops developed in Chitistone/Nizina limestone interlayered with Nikolai Group basalt. The skarns are characterized by intense fracturing, silicification, chloritization and argillic alteration. Fine grained pyrrhotite and minor malachite occur as disseminations and semi-massive pods. In general, assays were disappointing with most returning less than 0.06% copper and 0.13 g/t gold. The best value came from a 3 m chip sample at Zone D, which assayed 3.29 g/t gold with trace copper. Specimens of various types of mineralization collected in the vicinity of these zones in 2002 yielded low values.

Both Zones D and E exhibit large areas of highly anomalous soil geochemical response. Peak values reach 1080 ppb gold and 852 ppm copper (Zone D) and 1350 ppb gold and 5780 ppm copper (Zone E). The source of the metals has not been adequately explained and both zones remain attractive exploration targets.

### **Zone F**

Zone F has not been systematically explored. It lies northeast of the soil geochemical grid and has only been superficially mapped and prospected. Mineralization occurs in a poorly exposed horizon about 10 m thick, which is pyritic in the upper half and magnetite rich in the lower half. The skarn is developed in Cretaceous andesitic volcanics on the north side of the Arn Fault. A grab sample taken in 1993 assayed 9.3 g/t gold and 0.24% copper, while a specimen of pyritic material collected in 2002 returned 5.68 g/t gold and 0.11% copper. Soil samples collected downslope of the mineralized horizon are strongly anomalous with peak values of 1145 ppb gold and 416 ppm copper.

### **Zone G**

Zone G lies about 110 m southeast of Zone F. Mineralization consists of pyrite bearing skarn developed in Cretaceous andesitic volcanics adjacent to a small splay off the Arn Fault. Limited sampling has returned values up to 0.02% copper and 1.2 g/t gold. This zone is outside of the soil grid and any downhill dispersion from it is masked by material from Zones A and F which lie further downhill, closer to the grid.

### **Zone H**

Zone H has received only preliminary mapping and prospecting which identified a few small outcrops of pyrrhotite rich skarn hosted by altered Triassic andesite. Chip samples from bedrock produced low values including 0.16% copper with 0.7 g/t gold over 2.0 m and 0.84% copper with 0.1 g/t gold over 0.4 m. However, grab samples of sulphide bearing float collected from a linear gully about 150 m downslope of Zone H assayed up to 0.84% copper and 4.2 g/t gold, suggesting that better mineralization remains to be discovered beneath talus cover. This conclusion is supported by soil sampling which outlined an anomaly 100 m wide and at least 200 m long that is open to expansion uphill in an unsampled area. This is the strongest anomaly on the property with peak values reaching 8370 ppb gold and 4420 ppm copper. The highest gold value was obtained at the top of the soil anomaly and uphill from the known skarn

mineralization, in an area covered by large blocky diorite talus. The mineralized float and soil sample sites that produced the highest values are located within a gully that may be a subsidiary fault, aligned subparallel to the Arn Fault.

### Zone I

This target straddles the ridge separating Miles Creek from Sanpete Creek. It was identified by a reconnaissance soil sample taken in 1982, which yielded 4540 ppb gold. Grid soil sampling done in 2002 outlined 50 to 150 m wide, approximately coincident gold and copper anomalies that extend for a length of 500 m and are still open in both directions off the grid. Peak values from this sampling were 3510 ppb gold and 971 ppm copper. This target has not been systematically prospected but preliminary work has identified skarnified limestone adjacent to narrow dykes immediately north of the Arn Fault. The best assay from 10 rock specimens collected in the area during 2002 was 0.77 g/t gold with 1790 ppm copper.

### Zone J

This showing was discovered in August 2002 and is exposed in a series of gossanous outcrops surrounded by alder thickets and grass on a steep slope immediately west of Sanpete Creek. The extent of the zone is not known. Three specimens collected from different outcrops all contain fracture filling mineralization. The specimens were taken from limestone, skarn and hornfels, all likely belonging to the Triassic units. All three samples were iron rich but the relative and absolute abundance of pyrite, pyrrhotite and magnetite was highly variable. Besides gold, the samples were enriched in copper and silver. Assays are as follows.

| <u>Sample Number</u> | <u>Gold (g/t)</u> | <u>Copper (ppm or %)</u> | <u>Silver (ppm)</u> |
|----------------------|-------------------|--------------------------|---------------------|
| M011526              | 3.15              | 1695                     | 5.7                 |
| M011527              | 4.59              | 1.64%                    | 11.9                |
| M011534              | 7.37              | 1.26%                    | 16.5                |

### Zone K

This showing was also discovered during claim staking in August 2002. It lies about 850 m west of Zone J and is exposed in a deeply incised creek cut surrounded by glacial deposits. It is marked by a yellow-brown gossan and is associated with a strong fault that dips about 60° to the southwest. This fault appears to be the Arn Fault and if so the change in dip from steeply north to moderately southwest would account for a sharp bend in its surface trace, which is evident on airphotos. The gossanous exposure is about 15 m wide consisting of: 3 to 6 m of resistant weathering ankerite; approximately 10 m from recessive weathering, malachite stained ankerite; and, a narrow, magnetite-pyrite band on the hanging wall. Three samples were collected. The first comprised several random grabs of malachite stained ankerite. When cut, interior surfaces of these specimens showed abundant black copper oxides, malachite and remnant chalcopyrite on fractures up to 5 mm wide. This sample (M011535) assayed 3.83 g/t gold, 3.02% copper and 13.6 g/t silver. The second sample was comprised of semi-massive magnetite with irregular patches of coarsely crystalline pyrite from the hanging wall band. It returned low values for all metals except iron. The final sample was ferricrete collected below the zone which was moderately anomalous for copper (3750 ppm).

### Zone L

Zone L was the third showing discovered in August 2002. It consists of abundant float boulders scattered over a length of 250 m along a claim line. The mineralized material occurs on a largely grass and soil covered ridge downhill from a cirque. Outcrop is scarce in the area and the provenance of the mineralization is uncertain. Six specimens were collected in the area. All contain iron sulphide minerals and/or magnetite. Five are thought to be related to skarn while the other (M011521) is a hornfels. Some show post-mineralization fracturing or brecciation. Assays are as follows.

| <u>Sample Number</u> | <u>Gold (g/t)</u> | <u>Copper (ppm)</u> | <u>Silver (g/t)</u> |
|----------------------|-------------------|---------------------|---------------------|
| M011518              | 2.10              | 6340                | 4.1                 |
| M011519              | 0.07              | 2920                | 0.7                 |
| M011520              | 1.78              | 1990                | -                   |
| M011521              | 0.05              | 1065                | -                   |
| M011523              | 14.70             | 1450                | -                   |
| M011524              | 5.41              | 685                 | 9.1                 |

The extent and abundance of the mineralization at Zone L has not been established because of the rushed nature of the prospecting. Several other mineralized boulders were noted but not sampled.

### 2002 DIAMOND DRILLING

#### General

A total of 182 m of diamond drilling was completed in four holes. The work was contracted to E. Caron Diamond Drilling Ltd. of Whitehorse. It was done with a wireline equipped, Val d'Or drill using HQ equipment throughout. Water was pumped approximately 350 m horizontally and 100 m vertically from Miles Creek. Drill sites were built by hand. Upon completion of the program, the drill was winterized and is stored on site.

A three person, geological support crew stayed in a tent camp on the property while the drill crew was housed at the White River Lodge and was flown to and from the property each day by helicopter. All core was logged and split on site. The boxes from hole Arn 4 were flown out and transported to Vancouver in late August. Core from the other three holes is stored on site.

All of the holes targeted either Zone A or Zone B. The last three holes were collared from the same site, some 50 m east of the first hole (Figure 12). The drill was moved by helicopter from one site to the other but was rotated by hand between drill collars on the second site. Specifics concerning individual holes are as follows.

Table I: Drill Hole Data

| <u>Hole Number</u> | <u>Azimuth</u> | <u>Dip</u> | <u>Depth</u> | <u>Target</u> |
|--------------------|----------------|------------|--------------|---------------|
| Arn 1              | 305°           | -60°       | 45.72 m      | A-4           |
| Arn 2              | 238°           | -50°       | 59.45 m      | B-2           |
| Arn 3              | 320°           | -70°       | 17.37 m      | A-5           |
| Arn 4              | 010°           | -55°       | 59.13 m      | A-5           |

Core samples were transported to Whitehorse by truck with the geological crew, then shipped to ALS Chemex Labs in North Vancouver via Greyhound. At the lab they were dried and crushed to better than 70% minus 2 mm, before a 250 gm split was taken and pulverized to better than 85% minus 75 microns. A 50 gm split of the pulverized fraction was analyzed for gold using fire assay followed by atomic absorption. Another split of the pulverized fraction was dissolved in aqua regia and analyzed for 34 elements using Induced Coupled Plasma-Atomic Emission Spectroscopy. All samples that exceeded detection limits for copper were also assayed for total copper using standard assay techniques. The coarse rejects from nine samples, most of which appeared to be better mineralized than average, were pulverized and check assayed for gold and copper. These samples represent 11.5% of the total number of core samples. Reproducibility was excellent for both metals throughout the entire assay range as illustrated on the following table.

Table II: Check Assay Summary

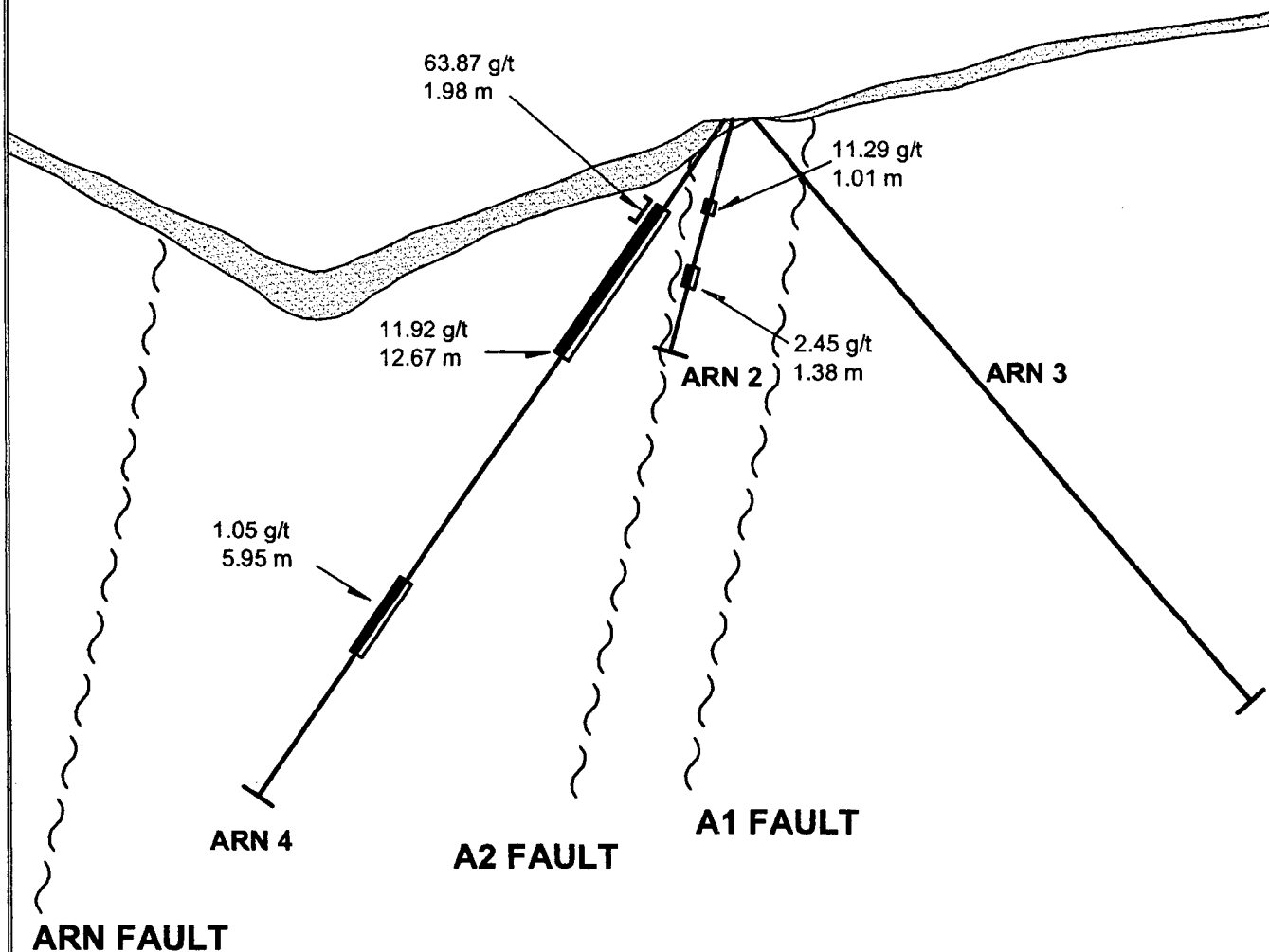
| <u>Sample Number</u> | <u>Gold g/t</u> |                 | <u>Copper %</u> |                 |
|----------------------|-----------------|-----------------|-----------------|-----------------|
|                      | <u>Assay I</u>  | <u>Assay II</u> | <u>Assay I</u>  | <u>Assay II</u> |
| M011154              | 239.00          | 224.52          | 1.62            | 1.74            |
| M011155              | 15.47           | 16.46           | 1.26            | 1.31            |
| M011156              | 6.26            | 8.17            | 0.67            | 0.65            |
| M011169              | 0.16            | 0.18            | 0.68            | 0.73            |
| M011170              | 1.30            | 1.17            | 1.61            | 1.50            |
| M011171              | 0.18            | 0.19            | 0.10            | 0.12            |
| M011172              | 1.07            | 1.53            | 0.05            | 0.04            |
| M011173              | 1.31            | 0.89            | 0.20            | 0.21            |
| M011174              | 0.10            | 0.13            | 0.07            | 0.09            |

## Results

Drill collars for the various holes are illustrated on Figure 12 along with surface geology and selected surface assay data. A cross section showing results from holes Arn 2, 3 and 4 appears on Figure 13. Certificates of Analysis are in Appendix III while Drill Logs appear in Appendix IV.

The relative lack of detailed local geological data and number of targets to be tested necessitated that the holes be drilled in different orientations. As the holes were completed and three dimensional data became available, surface exposures were remapped and geological models

# SECTION FACING SOUTHEAST



1.05 g/t  
5.95 m



Assay interval  
with gold value

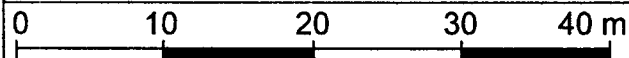
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FIGURE 13

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## HOLES ARN 2, 3 & 4 CROSS SECTION VIEW

ARN PROPERTY



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PROJECT: ARN

FILE: Arn02AR-F13.dwg

DATE: MARCH, 2003

revised accordingly. The following paragraphs describe results from individual holes and their geological implications.

**Hole Arn 1** was drilled northwesterly and was intended to test downdip from Showing A-4 (4.3 g/t gold and 6.21% copper over 1.5 m). This hole orientation assumed that skarn mineralization is stratigraphically controlled and that the host units dip shallowly east parallel to the regional trend. During construction of the drill site a nearly vertical fault was exposed about 3 m south of the drill collar. This 30 cm wide structure (the A1 Fault) strikes about 120° and appears to be the most southerly of the faults that collectively comprise the Arn Fault. The hole intersected interbedded andesitic volcanics and limestone, with varying degrees of skarnification. Most units were only weakly altered and exhibited relatively minor amounts of sulphide minerals or limonite after sulphides. Chalcopyrite was only present in two short, skarnified limestone intervals, one of which contained 2660 ppm copper and the other 1680 ppm. All other intervals returned between 26 and 622 ppm copper. The best gold assay was 0.24 g/t from weakly skarnified volcanics. The other gold assays returned 0.14 g/t or less. Contact attitudes ranged between 35 and 60° to core axis, which are inconsistent with shallow easterly dipping stratigraphy. Based on magnetic and VLF-EM data (see Geophysical Surveys section) and results from later holes, near vertical dips and easterly strikes are now inferred for the skarns in this area. If this interpretation is correct, hole Arn-1 was drilled subparallel to the trend of the mineralization and did not test its target.

**Hole Arn 2** was drilled southwesterly toward Showing B-2 (average 3.4 g/t gold and 4.72% copper). The A1 Fault was again exposed on the southerly side of the drill site during pad construction and was cut by the drill hole at a shallow depth. As expected, the top part of the hole encountered weakly skarnified to fresh andesite and basalt. After obliquely crossing another small unmapped fault, it intersected a thick section of massive white marble before bottoming in moderately to strongly skarnified andesitic volcanics. Assays for gold and copper were low throughout the hole. The highest values for both metals were from a skarn interval containing an 18 cm wide band of semi-massive pyrrhotite with minor chalcopyrite, which returned 0.04 g/t gold and 884 ppm copper.

The fault separating the relatively unaltered volcanics from the marble complicates the geological interpretation. However, assuming negligible displacement, Showing B-2 is likely a skarn pod developed updip from the marble. If so, the observed lithologies and contact attitudes are consistent with a steeply north dipping, westerly striking sequence. The absence of limestone, marble or skarn outcrops east of Showing B-2 suggests that the skarn/marble unit is either a discontinuous stratigraphic horizon formed on an irregular volcanic surface or a synvolcanic slump block.

**Hole Arn 3** targeted downdip from the outcrop at Showing A-5 (15.1 g/t gold and 0.21% copper over 2.5 m). Steep topography limited the options for drill site location and further required that the hole be angled steeper than was geologically optional. These factors coupled with the inferred steep northerly dip of the skarns meant that this hole was drilled nearly downdip and thus did not effectively test the showing. This hole did provide a check against a shallowly east dipping zone and further confirmed that geological model is incorrect.

Almost the entire hole was in moderately to strongly skarnified andesitic volcanics. The original sulphide abundance was low and where present most had been oxidized to limonite. Copper values are very low throughout (peak 164 ppm) but some golds are surprisingly high. The best interval graded 11.29 g/t over 1.01 m while another section 3.96 m further down the hole returned 2.45 g/t over 1.38 m.

**Hole Arn 4** produced by far the most encouraging results of the 2002 drilling and was the only hole that tested beneath the broad grass and talus covered gully marking the surface trace of the Arn Fault. The hole was primarily intended to search for a near vertical skarn that was the presumed source of high grade gold float found immediately uphill from Showing A-5 (79.2 g/t gold and 0.18% copper over 3.0 m). Its secondary purpose was to cut the Arn Fault to determine its nature and potential for mineralization.

The hole intersected a much higher proportion of sulphide rich skarn than the other three holes. It was also the only hole that intersected rocks with moderate to abundant magnetite. Geological contacts and mineral banding in skarn horizons typically range between 30 and 60° to core axis, averaging about 45°. This suggests somewhat undulating but generally steep dips. Bedding measurements on a limestone outcrop located about 50 m along strike to the east are consistent with this geological model. If the interpretation is correct, true widths are about 70% of intersected widths. The significant mineralized intervals are as follows.

|           | <u>From (m)</u> | <u>To (m)</u> | <u>Length (m)</u> | <u>Gold (g/t)</u> | <u>Copper (%)</u> |
|-----------|-----------------|---------------|-------------------|-------------------|-------------------|
|           | 8.38            | 21.05         | 12.67             | 11.92             | 0.21              |
| including | 8.38            | 10.36         | 1.98              | 63.87             | 1.16              |
| and       | 14.94           | 17.60         | 2.66              | 7.33              | 0.13              |
|           | 40.70           | 46.65         | 5.95              | 1.01              | 0.43              |

Mineralization in the 1.98 m high grade interval was partially oxidized consisting of semi-massive pyrite and chalcopyrite with blebby chalcantite, scattered malachite and azurite and pervasive limonite. The interval from 14.94 to 21.05 m was mineralized with weak to moderate, fracture filling pyrite and traces of chalcopyrite. The deepest interval was moderate to strong skarn containing heavily disseminated to semi-massive unoxidized pyrite and varying amounts of chalcopyrite throughout, plus one 65 cm section exhibiting coarse magnetite bands.

Hole Arn 4 intersected a cohesive, relatively competent sequence of rocks and did not reach the fault forming the northern edge of the Arn Fault. It is likely that this fault lies toward the north edge of the gully and dips steeply north. The only fault material intersected in hole Arn 4 was gougy swelling clay encountered just below surface. This material was also exposed during pad construction and has been designated the A2 Fault.

While drilling was underway, outcrops and trenches in the immediate vicinity of the holes were remapped. Figure 12 illustrates revised geology of Zones A and B. The most important new features are the A1 and A2 Faults which are likely subparallel, vertical to steeply north dipping structures that represent the southern flank of the Arn Fault. Displacement along the fault zone appears to be north side down. This movement has resulted in drag folding to produce near

vertical dips in the Triassic limestone and volcanics in a 50 to 80 m wide band within and immediately south of the Arn Fault. Perhaps significantly, the best mineralization in Zone A mostly occurs north of the A2 Fault (e.g. mineralization in hole Arn 4, source of high grade float at Showing A-5, Showing A-4 and almost all of the gold bearing chip samples in Showing A-1). Hole Arn 4 was the only hole that tested rocks north of the A2 Fault.

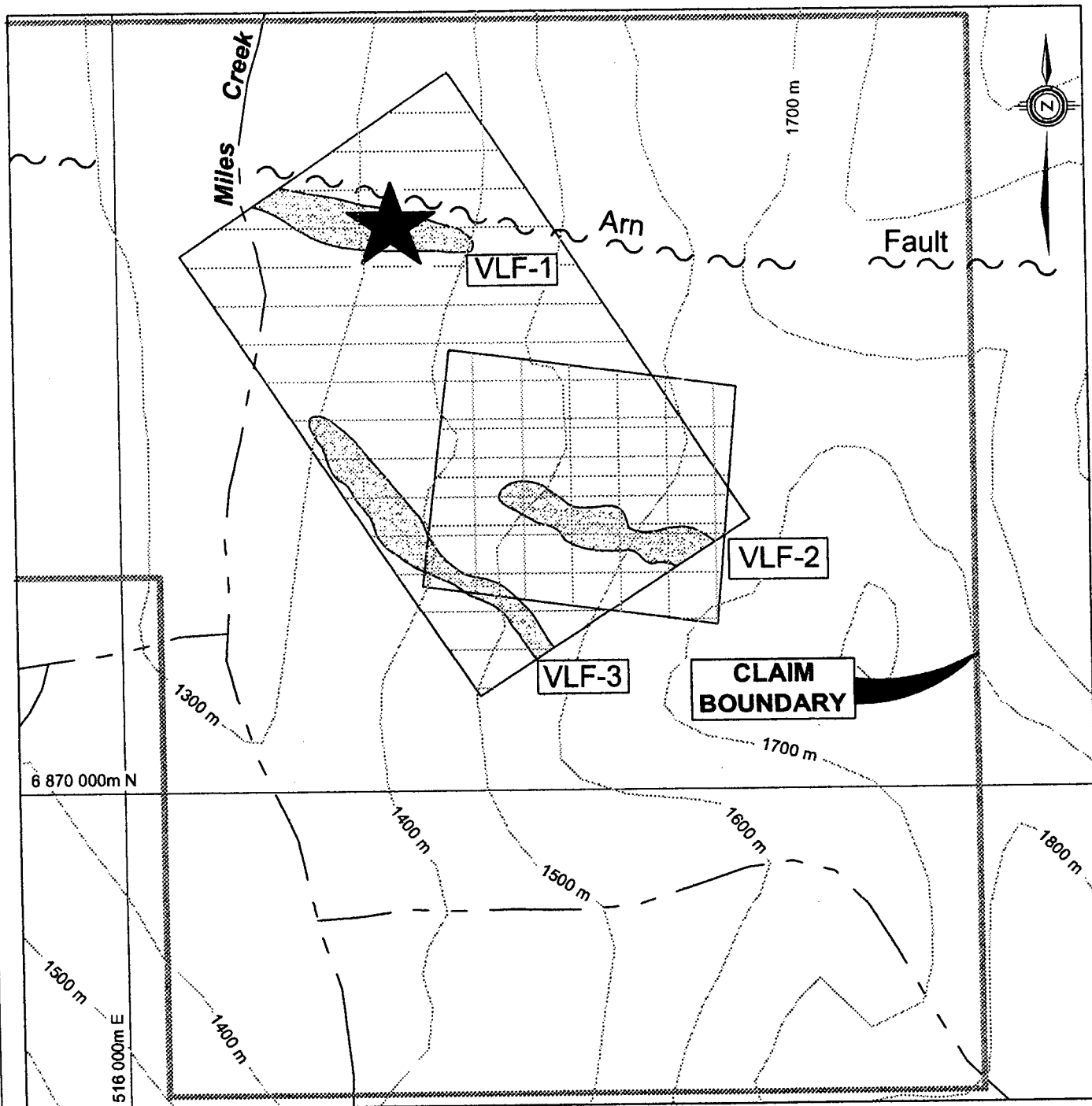
### **GEOPHYSICAL SURVEYS**

The earliest geophysical work done on the Arn property was conducted by Delta Geoscience Ltd. in 1988. This work consisted of magnetic and VLF surveys on north-south lines spaced 100 m apart. The grid covered a 500 by 400 m area (Figure 3). In 1993, another geophysical survey was performed which mostly overlapped the earlier grid and expanded the coverage to encompass an area 900 m long by 560 m wide. This survey was conducted under the author's supervision by Amerok Geophysics Ltd. It consisted of magnetic and VLF surveys along NE-SW lines spaced 50 m apart.

Allowing for minor inconsistencies caused by steep terrain and the lack of tight survey control, the magnetic and VLF results from the two surveys are nearly identical in the overlap areas. Magnetic response typically ranges between 56600 and 59000 nT. Most mapped skarn zones are marked by positive magnetic anomalies, with the strongest response coinciding with Zones A and B in the vicinity of the 2002 drill holes. Zone C forms a pronounced magnetic low, which may be due to remnant reverse magnetized magnetite and pyrrhotite. This type of mineralization was discovered in the vicinity of another nearby magnetic low. Zone E is also marked by a weak magnetic low flanked by highs. Again this may reflect reverse magnetism.

Magnetic and VLF responses are not entirely coincident, reflecting varying abundance of magnetite, pyrrhotite and sulphides of low magnetic susceptibility within different skarn zones. Profiles of magnetitic response in the vicinity of the 2002 drill holes suggests near vertical dips.

Fraser filtered VLF results outlined three main anomalous trends (Figure 14) plus a few secondary features that deserve comment. One of the main trends (VLF-1) is immediately south of, and parallel to, the Arn Fault. It coincides with Zones A and B and their associated magnetic anomaly. This trend is about 350 m long and extends to the southwestern edge of the grid. The response weakens slightly in that direction but this may be due to increasing overburden depth. The second major trend (VLF-2) approximately coincides with the magnetic low in the vicinity of Zone E. VLF-2 cross cuts stratigraphy in the area and parallels VLF-1, suggesting that it may mark an unmapped fault paralleling the Arn Fault. This trend is also interesting because it lies within the source area of strongly anomalous but relatively unexplained, gold and copper soil geochemical values. The third and strongest of the VLF trends (VLF-3) extends southwesterly along the edge of the grid for a distance of about 400 m. It is in an area covered by a moraine terrace and a large talus fan; thus, little is known about underlying geology. Magnetic response in the vicinity of this trend is relatively subdued. Other secondary VLF features include a broad, weak anomaly along strike to the northwest from Zone F and a weak localized centre directly overlying Zone C.



1988 geophysical grid



2002 drill area



1993 geophysical grid



Fraser Filter  
VLF >3%

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FIGURE 14

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## FRASER FILTER VLF

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DATE: MARCH, 2003

## **INTERPRETATION AND CONCLUSION**

Results of 2002 exploration at the Arn property are highly encouraging. Drilling confirmed potential for both moderate and high grade gold mineralization at Zone A. It also provided a better understanding of the structural and stratigraphic setting, which can be used to more effectively target future drilling. Although mineralization is hosted by skarnified limestone and volcanics across much of the property, consistently high gold values have only been obtained in close proximity to the Arn Fault. The presence of what appears to be late fracture related mineralization cutting some of the skarns, coupled with the highly variable gold to copper ratios, suggests that some of the gold may have been deposited from post-skarn fluids possibly related to the fault. Mineralogical studies underway at the University of British Columbia should provide additional insights into the relationship between gold and the other mineralization and the relative timing of their emplacement.

Geophysical data and structural measurements from scattered bedrock exposures and drill holes suggest that the skarn horizons at Zone A dip steeply and strike subparallel to the Arn Fault. This configuration has positive exploration implications because a sizeable deposit could underlie thick soil and talus in the gully developed along the fault. The gully is about 50 to 80 m wide and drilling across part of that width intersected two non-outcropping mineralized intervals. The geophysical anomaly associated with the mineralization has been traced 350 m along strike and is still open to the west.

The Arn property's exploration potential is further enhanced by reconnaissance soil sampling and very preliminary prospecting done in the recently staked, western part of the property. Three new gold zones were identified in 2002. All lie close to the Arn Fault. Little is known about the extent of this mineralization but, with eight of 14 specimens collected returning between 1.78 and 14.70 g/t gold, further work is definitely warranted.

Skarn hosted gold deposits include a wide variety of ages, mineral assemblages and geometries. Thus, there is no single idealized exploration model. The family of deposits does however, include significant past and present producers, such as the Big Gossan and other deposits in the Ertzberg district of Indonesia (Meinert, et al, 1997) and the Hedley deposit in southern British Columbia (Ray and Webster, 1991).

Importantly, the Triassic and Cretaceous units hosting the Arn mineralization have demonstrated that they are capable of producing mines. The former Nabesna Mine located 100 km to the northwest yielded 250,000 tonnes grading about 6.8 g/t gold and 1.5% copper from endoskarns and fracture zones developed within a Cretaceous age intrusion (Newberry, et al, 1997). The abandoned Kennecott Mine, 150 km to the southwest, generated four million tonnes averaging 13% copper from stratabound fissure zones developed along a contact between underlying Nikolai basalt and the Chitistone limestone (MacKevett, et al, 1997).

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**APPENDIX I**

**AUTHOR'S STATEMENT OF QUALIFICATIONS**

### STATEMENT OF QUALIFICATIONS

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

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

A handwritten signature in dark ink, consisting of a stylized 'W' and 'E' joined together, with a long horizontal stroke extending to the right.

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

**APPENDIX II**  
**ROCK DESCRIPTIONS**

## Rock Sample Descriptions

Project: ARN 02 Property: ARN 21-28

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|                |                                                                                                                                                                                                                                                                                                              |   |                    |   |                   |            |                                         |  |  |  |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------|---|-------------------|------------|-----------------------------------------|--|--|--|
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                  | N | Grid East:         | E | Type: <u>FLAT</u> | Dimension: | <u>40 x 40 x 30 cm</u>                  |  |  |  |
| <u>M011518</u> | UTM: <u>6871707</u>                                                                                                                                                                                                                                                                                          | N | UTM: <u>513295</u> | E | Sample Width:     | Abundance: | <u>1 Piece (Did not look carefully)</u> |  |  |  |
|                | Elevation:                                                                                                                                                                                                                                                                                                   | m |                    |   |                   |            |                                         |  |  |  |
| Comments:      | <u>MASSIVE fine grained magnetite boulder with 1 to 3% PATCHY &amp; disseminated chalcopirite and pyrite. Magnetite matrix also contains 10 to 15% green-brown glauconitic skarn patches. Looks like magnetite developed along a fault structure and enveloped skarn fragments.</u>                          |   |                    |   |                   |            |                                         |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                  | N | Grid East:         | E | Type: <u>FLAT</u> | Dimension: | <u>15 x 10 x 8 cm</u>                   |  |  |  |
| <u>M011519</u> | UTM: <u>6871701</u>                                                                                                                                                                                                                                                                                          | N | UTM: <u>513397</u> | E | Sample Width:     | Abundance: | <u>1 Piece</u>                          |  |  |  |
|                | Elevation:                                                                                                                                                                                                                                                                                                   | m |                    |   |                   |            |                                         |  |  |  |
| Comments:      | <u>Mossy green and white patchy skarn mineralized with 20-30% Sulfide. Approximate distribution: 15% fine net texture pyrite, 5% blebbly pyrrhotite, 1-2% isolated disseminations of chalcopirite. Net texture pyrite contains limonite core regions which may be oxidized pp. v. weak to iron magnetic.</u> |   |                    |   |                   |            |                                         |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                  | N | Grid East:         | E | Type: <u>FLAT</u> | Dimension: | <u>30 x 30 x 20 cm</u>                  |  |  |  |
| <u>M011520</u> | UTM: <u>6871701</u>                                                                                                                                                                                                                                                                                          | N | UTM: <u>513397</u> | E | Sample Width:     | Abundance: | <u>?</u>                                |  |  |  |
|                | Elevation:                                                                                                                                                                                                                                                                                                   | m |                    |   |                   |            |                                         |  |  |  |
| Comments:      | <u>DARK GREEN SKARN WITH irregular patches of magnetite &amp; pyrrhotite and minor pyrite (total 25%). Pyrite appears to be concentrated along fractures and is associated with minor concentrations of white quartz. Also minor chalcopirite.</u>                                                           |   |                    |   |                   |            |                                         |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                  | N | Grid East:         | E | Type: <u>FLAT</u> | Dimension: | <u>60 x 60 x 35 cm</u>                  |  |  |  |
| <u>M011521</u> | UTM: <u>6871680</u>                                                                                                                                                                                                                                                                                          | N | UTM: <u>513428</u> | E | Sample Width:     | Abundance: | <u>LOTS</u>                             |  |  |  |
|                | Elevation:                                                                                                                                                                                                                                                                                                   | m |                    |   |                   |            |                                         |  |  |  |
| Comments:      | <u>GREEN-GRAY Hornfels with 2-10% fine pyrrhotite &amp; pyrite disseminations and clots. (Not magnetic). Some areas of matrix contain amygdulose like features that have been filled with dark green mineral.</u>                                                                                            |   |                    |   |                   |            |                                         |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                  | N | Grid East:         | E | Type:             | Dimension: |                                         |  |  |  |
| <u>M011522</u> | UTM:                                                                                                                                                                                                                                                                                                         | N | UTM:               | E | Sample Width:     | Abundance: |                                         |  |  |  |
|                | Elevation:                                                                                                                                                                                                                                                                                                   | m |                    |   |                   |            |                                         |  |  |  |
| Comments:      | <u>GREY hornfels containing abundant v. fine pyrite and pyrrhotite. disseminated equally throughout. Some large irregular clots of pyrite.</u>                                                                                                                                                               |   |                    |   |                   |            |                                         |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                  | N | Grid East:         | E | Type: <u>FLAT</u> | Dimension: | <u>20 x 15 x 15 cm</u>                  |  |  |  |
| <u>M011523</u> | UTM:                                                                                                                                                                                                                                                                                                         | N | UTM:               | E | Sample Width:     | Abundance: | <u>1 piece?</u>                         |  |  |  |
|                | Elevation:                                                                                                                                                                                                                                                                                                   | m |                    |   |                   |            |                                         |  |  |  |
| Comments:      | <u>Similar location to M011518. Ground mass is coarse platy dark minerals, pyrite and pyrrhotite that have undergone strong fracture and partial brecciation. Some of the sulphides show recrystallized and are very coarse (up to 7mm on a face).</u>                                                       |   |                    |   |                   |            |                                         |  |  |  |

## Rock Sample Descriptions

Project: Am-02 Property: Am-21-28

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|                |                                                                                                                                                                                                                                                                                                                                        |   |             |   |                            |                                           |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------------|---|----------------------------|-------------------------------------------|
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                            | N | Grid East:  | E | Type:                      | Dimension:                                |
| MO11524        | UTM: 6871665                                                                                                                                                                                                                                                                                                                           | N | UTM: 513433 | E | Type: <u>Float</u>         | Dimension: <u>40 x 40 x 30</u>            |
|                | Elevation:                                                                                                                                                                                                                                                                                                                             | m |             | E | Sample Width:              | Abundance: <u>moderate</u>                |
| Comments:      | <u>MASSIVE MAGNETITE WITH 10-20% fine white secondary skarn minerals along fractures and as patches with matrix. No Accessory sulphide present.</u>                                                                                                                                                                                    |   |             |   |                            |                                           |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                            | N | Grid East:  | E | Type:                      | Dimension:                                |
| MO11525        | UTM: 6871891                                                                                                                                                                                                                                                                                                                           | N | UTM: 513672 | E | Type: <u>Sample Width:</u> | Dimension: <u>Abundance:</u>              |
|                | Elevation:                                                                                                                                                                                                                                                                                                                             | m |             | E | Sample Width:              | Abundance:                                |
| Comments:      | <u>MASSIVE Magnetite on south edge of 3-6m wide listwanite zone (316°/60SW), magnetite contains irregular patches of coarse pyrite that is strongly to moderately fractured. Fractures are limonitic and/or contain quartz carbonate filling.</u>                                                                                      |   |             |   |                            |                                           |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                            | N | Grid East:  | E | Type:                      | Dimension:                                |
| MO11526        | UTM: <u>Creek</u>                                                                                                                                                                                                                                                                                                                      | N | UTM:        | E | Type: <u>outcrop</u>       | Dimension: <u>15cm at widest</u>          |
|                | Elevation:                                                                                                                                                                                                                                                                                                                             | m |             | E | Sample Width: <u>15cm</u>  | Abundance: <u>poor along fracture</u>     |
| Comments:      | <u>MASSIVE pyrite &gt;&gt; pyrrhotite pool along fracture (318°/70NE) within grey-white limestone. Some parts of pool contain secondary white-grey silica with cubic pyrite concentrations (40%). SOLID SAWN. Most of sample (85%) was weathered crumbly massive pyrite.</u>                                                           |   |             |   |                            |                                           |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                            | N | Grid East:  | E | Type:                      | Dimension:                                |
| MO11527        | UTM: <u>Creek</u>                                                                                                                                                                                                                                                                                                                      | N | UTM:        | E | Type: <u>outcrop</u>       | Dimension:                                |
|                | Elevation:                                                                                                                                                                                                                                                                                                                             | m |             | E | Sample Width:              | Abundance:                                |
| Comments:      | <u>Succinic limy skarn with pyrite along fractures. One edge contains 2 to 4 cm band of massive magnetite and pyrite. Dark red mineral with magnetite. Parts of the exposure contains secondary white Si and dark green epidote also with 5-8% coarse py and fine dark hematite along v. narrow fractures. &gt;&gt; Actinolite (?)</u> |   |             |   |                            |                                           |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                            | N | Grid East:  | E | Type:                      | Dimension:                                |
| MO11534        | UTM: <u>Creek</u>                                                                                                                                                                                                                                                                                                                      | N | UTM:        | E | Type: <u>outcrops</u>      | Dimension:                                |
|                | Elevation:                                                                                                                                                                                                                                                                                                                             | m |             | E | Sample Width: <u>10cm</u>  | Abundance:                                |
| Comments:      | <u>Massively fractured fine grey hornfels with 35 to 45% fine grained interstitial and massive patchy pyrite &gt;&gt; pyrrhotite plus minor magnetite. Also fine chalcoprite in areas of magnetite mineralization. This was a very quick grab while chopper waiting. Extent of Creek mineralization (includes 526, 527) Not known.</u> |   |             |   |                            |                                           |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                            | N | Grid East:  | E | Type:                      | Dimension:                                |
| MO11535        | UTM: 6871891                                                                                                                                                                                                                                                                                                                           | N | UTM: 513672 | E | Type: <u>Front</u>         | Dimension: <u>10cm 4 cobbles on slope</u> |
|                | Elevation:                                                                                                                                                                                                                                                                                                                             | m |             | E | Sample Width:              | Abundance: <u>LOTS</u>                    |
| Comments:      | <u>random grab of carbonate gossan zone material containing abundant malachite on fractures (through rocks) and coarse on surface. Out rocks show black nodule on fractures, malachite and remnant chalcoprite disseminations.</u>                                                                                                     |   |             |   |                            |                                           |

## Rock Sample Descriptions

Project:

Ann 02

Property:

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Sample Number: NO11536 Grid North: N UTM: 6871891 Grid East: N UTM: 513672 E Type: Float Dimension: 8x8x2cm Abundance: Minor  
Elevation: m  
Comments: Ferricrete with angular rusty shrunken fragments.

Sample Number: Grid North: N Grid East: E Type: Dimension:  
UTM: N UTM: E Sample Width: Abundance:  
Elevation: m  
Comments:

Sample Number: Grid North: N Grid East: E Type: Dimension:  
UTM: N UTM: E Sample Width: Abundance:  
Elevation: m  
Comments:

Sample Number: Grid North: N Grid East: E Type: Dimension:  
UTM: N UTM: E Sample Width: Abundance:  
Elevation: m  
Comments:

Sample Number: Grid North: N Grid East: E Type: Dimension:  
UTM: N UTM: E Sample Width: Abundance:  
Elevation: m  
Comments:

Sample Number: Grid North: N Grid East: E Type: Dimension:  
UTM: N UTM: E Sample Width: Abundance:  
Elevation: m  
Comments:

## Rock Sample Descriptions

Project:

ARL / 02

Property:

C.N.

WDE AUGUST 28/02

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Sample Number: M011528  
 Grid North: N  
 Grid East: E  
 Type: chip  
 Dimension: \_\_\_\_\_  
 UTM: N  
 UTM: E  
 Sample Width: 4m  
 Abundance: 9/10  
 Elevation: m

Comments: Outcrop along ridge. Chips from rusty weathering hornfels surrounding 1m thick skarn band.  
 Fine grained dark green rock with finely disseminated and hairline fractures filled with pyrrhotite. Band strikes 110°, dips 70° N  
 Approximately 120m South of Post 1 Arl 420

Sample Number: M011529  
 Grid North: N  
 Grid East: E  
 Type: chips  
 Dimension: \_\_\_\_\_  
 UTM: N  
 UTM: E  
 Sample Width: 1m  
 Abundance: 9/10  
 Elevation: m

Comments: Massive to semi massive pyrrhotite with traces of chalcopyrite. Dark brown limonite stained with abundant white to yellow sulphate. Rock so strongly oxidized it is difficult to determine associated skarn minerals. Pyrrhotite very coarse grained.

Sample Number: M011530  
 Grid North: N  
 Grid East: E  
 Type: float specimens  
 Dimension: 10 x 5 x 1  
 UTM: N  
 UTM: E  
 Sample Width: \_\_\_\_\_  
 Abundance: Several  
 Elevation: m

Comments: Massive dark brown limonite boxwork.

Sample Number: M011531  
 Grid North: N  
 Grid East: E  
 Type: float specimens  
 Dimension: 10 x 5 x 5  
 UTM: N  
 UTM: E  
 Sample Width: \_\_\_\_\_  
 Abundance: Several  
 Elevation: m

Comments: Dark brown weathering. Medium to coarse grained massive pyrrhotite.

Sample Number: M011532  
 Grid North: N  
 Grid East: E  
 Type: chips  
 Dimension: \_\_\_\_\_  
 UTM: N  
 UTM: E  
 Sample Width: 1m  
 Abundance: 9/10  
 Elevation: m

Comments: Dark brown weathering, massive to semi-massive, coarse grained pyrrhotite with traces of chalcopyrite.

Sample Number: M011533  
 Grid North: N  
 Grid East: E  
 Type: float specimens  
 Dimension: 20 x 20 x 20  
 UTM: N  
 UTM: E  
 Sample Width: \_\_\_\_\_  
 Abundance: Common  
 Elevation: m

Comments: Medium brown weathering, highly fractured wallrock. All fractures filled with limonite boxwork. Wallrocks appear to be fine grained volcanic? but too rusty to be sure.

## Rock Sample Descriptions

Project: ARN/02 Property: ARN

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Sample Number: T12338 Grid North: N Grid East: E Type: Float Dimension: UP TO 6 cm dia.  
 UTM: N UTM: E Sample Width: SPECIMENS Abundance: LOCALLY ABUNDANT  
 Elevation: m  
 Comments: Dark brown limonite and limonite cemented breccia fragments from south shoulder of saddle corresponding to the Arn fault. No sulphides. Not common everywhere. Most abundant in ~5m wide band. Scattered wallrock fragments small but relatively unaltered.

Sample Number: T12339 Grid North: N Grid East: E Type: Float Dimension: UP TO 8 cm dia  
 UTM: N UTM: E Sample Width: SPECIMENS Abundance: LOCALLY ABUNDANT  
 Elevation: m  
 Comments: Dark brown limonite breccia and conchoidal limonite fragments from north shoulder of saddle. Accompanied by clay altered and epidote altered wallrock (T12340). Common in about 10m wide talus band.

Sample Number: T12340 Grid North: N Grid East: E Type: Float Dimension: UP TO 10 cm dia.  
 UTM: N UTM: E Sample Width: SPECIMENS Abundance: locally abundant  
 Elevation: m  
 Comments: Tan to pale yellow green, clay and/or epidote altered volcanics. Little or no limonite in some fragments but others contain blebs of pink up to 3mm across and about 5% limonite filled/or coated pits.

Sample Number: T12341 Grid North: N Grid East: E Type: Float Dimension: UP TO 15x8x5  
 UTM: N UTM: E Sample Width: SPECIMENS Abundance: LOCALLY ABUNDANT  
 Elevation: m  
 Comments: Tan to grey, heavy dense rock which weathers to dark brown from the exterior inward. Only the cores show actual colour. Very fine grained but can scratch with knife. Possibly cryptocrystalline siderite. weathers to form ovoid talus that almost looks like concretions. Traces of finely disseminated sulphides.

Sample Number: T12342 Grid North: N Grid East: E Type: Outcrop Dimension:   
 UTM: N UTM: E Sample Width: SPECIMENS Abundance: Pops  
 Elevation: m  
 Comments: Fragments of pink-rich skarn from a series of poorly exposed pods in the upper part of the skarn section of SKARN # size of pods difficult to establish due to talus but must about 1m diameter?

Sample Number: T12343 Grid North: N Grid East: E Type: Float Dimension: UP TO 30x15x5  
 UTM: N UTM: E Sample Width:  Abundance: SCATTERED IN CREEK  
 Elevation: m BE0  
 Comments: Tan to dark brown weathering, felsic dyke float with about 10%, 1-2mm white feldspar? phenocrysts in light grey lightening groundmass. Finely disseminated pyrite grains up to 1mm in diameter comprise about 10% of the rock. Similar material seen in talus near T12340 & 49

## Rock Sample Descriptions

Project:

ARN/02

Property:

ARN

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|                |                                                                                                                                                                                                                                                                                                                                                                                                                             |   |            |   |               |                             |            |                                              |  |  |  |  |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|------------|---|---------------|-----------------------------|------------|----------------------------------------------|--|--|--|--|
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                                                                                                                 | N | Grid East: | E | Type:         | Chip sample                 | Dimension: | along ridge crest                            |  |  |  |  |
|                | UTM:                                                                                                                                                                                                                                                                                                                                                                                                                        | N | UTM:       | E | Sample Width: | 3m                          | Abundance: | Outcrop                                      |  |  |  |  |
| T12344         | Elevation:                                                                                                                                                                                                                                                                                                                                                                                                                  | m |            |   |               |                             |            |                                              |  |  |  |  |
| Comments:      | 3m wide skarn band developed in volcanic adjacent to a 1m wide porphyry dyke trending 160°/78°E. Similar 1.5m wide skarn on hangingwall side not sampled. Rocks often coated with medium brown limonite on exterior surfaces. Epidote & garnet with 1 to 3% disseminated pyrite and minor chalcopyrite. Limonite coated pits after sulfides common in some rocks. Setting similar to zone H except different type of dikes. |   |            |   |               |                             |            |                                              |  |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                                                                                                                 | N | Grid East: | E | Type:         | Chips                       | Dimension: | along ridge crest                            |  |  |  |  |
|                | UTM:                                                                                                                                                                                                                                                                                                                                                                                                                        | N | UTM:       | E | Sample Width: | 4m                          | Abundance: | outcrop                                      |  |  |  |  |
| T12345         | Elevation:                                                                                                                                                                                                                                                                                                                                                                                                                  | m |            |   |               |                             |            |                                              |  |  |  |  |
| Comments:      | Discontinuous chip across 4m wide recessive weathering skarn zone trending 155°/V. Mostly medium grained diopside(?) - epidote - garnet skarn and rusty weathering, finer grained skarn or hornfels with about 5% disseminated pyrrhotite. Strike of zone subparallel to contact between large limestone body and enclosing volcanic, located about 30m to west. Bedding in limestone almost perpendicular to its contact.  |   |            |   |               |                             |            |                                              |  |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                                                                                                                 | N | Grid East: | E | Type:         | Chip sample                 | Dimension: | 1m x 1m                                      |  |  |  |  |
|                | UTM:                                                                                                                                                                                                                                                                                                                                                                                                                        | N | UTM:       | E | Sample Width: | 1m                          | Abundance: | outcrop                                      |  |  |  |  |
| T12346         | Elevation:                                                                                                                                                                                                                                                                                                                                                                                                                  | m |            |   |               |                             |            |                                              |  |  |  |  |
| Comments:      | One of two small outcrops surrounded by rusty soil and vegetation (other 12347). Epidote rich skarn. Dark brown limonite on many weathered surfaces. About 1% disseminated pyrite. Minor disseminated magnetite. Garnet in some samples. Does not appear to have been previously sampled.                                                                                                                                   |   |            |   |               |                             |            |                                              |  |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                                                                                                                 | N | Grid East: | E | Type:         | <del>Rock</del> Chip sample | Dimension: | <del>up to 10x10x5</del>                     |  |  |  |  |
|                | UTM:                                                                                                                                                                                                                                                                                                                                                                                                                        | N | UTM:       | E | Sample Width: | 3m                          | Abundance: | <del>common</del> outcrop                    |  |  |  |  |
| T12347         | Elevation:                                                                                                                                                                                                                                                                                                                                                                                                                  | m |            |   |               |                             |            |                                              |  |  |  |  |
| Comments:      | Partially skarnified limestone with disseminated to semi massive sulphides. Garnet and biotite are the most common skarn minerals. Strongly medium to dark brown limonite stained at surface. Disseminated pyrrhotite and lesser chalcopyrite. Outcrop completely surrounded by soil which is rusty. Lies within large gap in soil coverage for geoscan.                                                                    |   |            |   |               |                             |            |                                              |  |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                                                                                                                 | N | Grid East: | E | Type:         | Float                       | Dimension: | up to 10x10x5                                |  |  |  |  |
|                | UTM:                                                                                                                                                                                                                                                                                                                                                                                                                        | N | UTM:       | E | Sample Width: |                             | Abundance: | common                                       |  |  |  |  |
| T12348         | Elevation:                                                                                                                                                                                                                                                                                                                                                                                                                  | m |            |   |               |                             |            |                                              |  |  |  |  |
| Comments:      | Epidote rich skarn with minor calcite and about 3% disseminated pyrite. Common material in talus near skarn D.                                                                                                                                                                                                                                                                                                              |   |            |   |               |                             |            |                                              |  |  |  |  |
| Sample Number: | Grid North:                                                                                                                                                                                                                                                                                                                                                                                                                 | N | Grid East: | E | Type:         | Float chips                 | Dimension: | up to 30cm diam.                             |  |  |  |  |
|                | UTM:                                                                                                                                                                                                                                                                                                                                                                                                                        | N | UTM:       | E | Sample Width: |                             | Abundance: | Abundant over ~20m length across talus slope |  |  |  |  |
| T12349         | Elevation:                                                                                                                                                                                                                                                                                                                                                                                                                  | m |            |   |               |                             |            |                                              |  |  |  |  |
| Comments:      | Chips from several small boulders working their way out through talus. Limonite boxwork and limonite coated cavities up to 1cm wide - Medium brown to almost black. Some magnetite and epidote bands plus black prismatic clusters (arsenite?). Quite abundant then lost under diorite talus to south. Quartz rich patches in some specimens. Calcite/biotite material also common at this level (M011100).                 |   |            |   |               |                             |            |                                              |  |  |  |  |

## Rock Sample Descriptions

Project: ARN/02 Property: ARN

Page 3 of 4

Sample Number: T12350 Grid North: N Grid East: E Type: Float chips Dimension: \_\_\_\_\_  
UTM: N UTM: E Sample Width: Abundance: Abundant  
Elevation: m

Comments: Epidote rich skarn float from talus slope with abundant marble. Epidote rich skarns seem to occur in general near marble or unaltered limestone - Similar material common south of diorite body in vicinity of Skarn E. No disseminate sulphides or magnetite. Garnets locally common but often absent.

Sample Number: M011100 Grid North: N Grid East: E Type: Float Dimension: up to 15x10x5  
UTM: N UTM: E Sample Width: Abundance: Common  
Elevation: m

Comments: Calcite fragments up to 2cm across in matrix of biotite. Malachite and azurite commonly coat calcite fragments while entire rock is often coated with limonite. Sample submitted contains a calcite fragment with dissemination of a soft silvery-grey/blue sulphide - Molybdenite? bismuthinite? No other sulphides in rock. Malachite and limonite appear to have precipitated on calcite from surficial fluids.

Sample Number: M011189 Grid North: N Grid East: E Type: CHF Dimension: \_\_\_\_\_  
UTM: N UTM: E Sample Width: 20 cm Abundance: \_\_\_\_\_  
Elevation: m

Comments: Green, yellow & orange clay rich fault gouge from upper edge of drill site Arn 2-4. Probably same material not cored in Arn 4.

Sample Number: \_\_\_\_\_ Grid North: N Grid East: E Type: \_\_\_\_\_ Dimension: \_\_\_\_\_  
UTM: N UTM: E Sample Width: Abundance: \_\_\_\_\_  
Elevation: m

Comments: \_\_\_\_\_

Sample Number: \_\_\_\_\_ Grid North: N Grid East: E Type: \_\_\_\_\_ Dimension: \_\_\_\_\_  
UTM: N UTM: E Sample Width: Abundance: \_\_\_\_\_  
Elevation: m

Comments: \_\_\_\_\_

Sample Number: \_\_\_\_\_ Grid North: N Grid East: E Type: \_\_\_\_\_ Dimension: \_\_\_\_\_  
UTM: N UTM: E Sample Width: Abundance: \_\_\_\_\_  
Elevation: m

Comments: \_\_\_\_\_

## Rock Sample Descriptions

Project: ARN/02

Property: A-3

Page 4 of 4

Sample Number: MO11190  
 Grid North: N Grid East: E Type: SPECIMENS Dimension: \_\_\_\_\_  
 UTM: N UTM: E Sample Width: Abundance: \_\_\_\_\_  
 Elevation: m

Comments: Chips from strong gossans on both sides of Miles Creek about 700 m upstream from camp and 100 m upstream from stream junction. Medium to dark brown weathering, medium green, fine grained volcanic? with a few 1mm meta phenocrysts. About 3% disseminated pyrrhotite. Could be hornfels.

Sample Number: MO11191  
 Grid North: N Grid East: E Type: SPECIMENS Dimension: \_\_\_\_\_  
 UTM: N UTM: E Sample Width: Abundance: \_\_\_\_\_  
 Elevation: m

Comments: Site C on west ridge grid. Heavily coated with dark brown limonite. Dark green chlorite skarn with disseminated pyrite. Some limonite boxwork patches up to 1cm diameter. Largest fragment 5x5x4 cm appears to have some garnet. Quartz crystals suggest could be vein component.

Sample Number: MO11192  
 Grid North: N Grid East: E Type: SPECIMENS Dimension: \_\_\_\_\_  
 UTM: N UTM: E Sample Width: Abundance: \_\_\_\_\_  
 Elevation: m

Comments: Site D. Weakly skarnified volcanic with chlorite and epidote. Dark brown weathering - no sulphides.

Sample Number: MO11193  
 Grid North: N Grid East: E Type: SPECIMENS Dimension: \_\_\_\_\_  
 UTM: N UTM: E Sample Width: Abundance: \_\_\_\_\_  
 Elevation: m

Comments: Site D. Medium to dark brown weathering, garnet-epidote skarn with rusty cavity that could be after sulphides. No sulphides observed.

Sample Number: MO11194  
 Grid North: N Grid East: E Type: SPECIMENS Dimension: \_\_\_\_\_  
 UTM: N UTM: E Sample Width: Abundance: \_\_\_\_\_  
 Elevation: m

Comments: Site G. Medium brown weathering, moderately epidote skarnified limestone with abundant disseminated pyrrhotite (3 to 5%).

Sample Number: MO11195  
 Grid North: N Grid East: E Type: SPECIMENS Dimension: \_\_\_\_\_  
 UTM: N UTM: E Sample Width: Abundance: \_\_\_\_\_  
 Elevation: m

Comments: Site H. Medium to dark brown, coarse garnet-epidote-actinolite-chlorite skarn. No sulphides but some cavities likely after sulphides.

**APPENDIX III**  
**CERTIFICATES OF ANALYSIS**



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Page #: 2 - A  
Jobs : 2 (A - C)  
Date : 13-Sep-2002  
Account: RCM

Project : ARN

### CERTIFICATE OF ANALYSIS VA02003159

| Sample Description | Method<br>Analyte<br>Units<br>LOR | WEI-21<br>Recvd Wt<br>kg<br>0.02 | Au-AA26<br>Au<br>ppm<br>0.01 | ME-ICP41<br>Ag<br>ppm<br>0.2 | ME-ICP41<br>Al<br>%<br>0.01 | ME-ICP41<br>As<br>ppm<br>2 | ME-ICP41<br>B<br>ppm<br>10 | ME-ICP41<br>Ba<br>ppm<br>10 | ME-ICP41<br>Be<br>ppm<br>0.5 | ME-ICP41<br>Bi<br>ppm<br>2 | ME-ICP41<br>Ca<br>%<br>0.01 | ME-ICP41<br>Cd<br>ppm<br>0.5 | ME-ICP41<br>Co<br>ppm<br>1 | ME-ICP41<br>Cr<br>ppm<br>1 | ME-ICP41<br>Cu<br>ppm<br>1 | ME-ICP41<br>Fe<br>%<br>0.01 |
|--------------------|-----------------------------------|----------------------------------|------------------------------|------------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|------------------------------|----------------------------|-----------------------------|------------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| M011518            |                                   | 4.54                             | 2.10                         | 4.1                          | 0.26                        | 6                          | <10                        | <10                         | <0.5                         | <2                         | 0.99                        | 0.8                          | 59                         | 16                         | 6340                       | >15.0                       |
| M011519            |                                   | 1.76                             | 0.07                         | 0.7                          | 0.40                        | 4730                       | <10                        | <10                         | <0.5                         | <2                         | 0.49                        | 1.4                          | 308                        | 10                         | 2920                       | >15.0                       |
| M011520            |                                   | 1.44                             | 1.78                         | <0.2                         | 0.20                        | 64                         | <10                        | <10                         | <0.5                         | <2                         | 4.46                        | 2.3                          | 335                        | 4                          | 1990                       | >15.0                       |
| M011521            |                                   | 1.04                             | 0.05                         | <0.2                         | 1.64                        | 101                        | <10                        | 10                          | <0.5                         | <2                         | 1.29                        | <0.5                         | 88                         | 67                         | 1065                       | 6.89                        |
| M011522            |                                   | 0.54                             | 0.02                         | <0.2                         | 0.70                        | 6                          | <10                        | 30                          | <0.5                         | 2                          | 0.57                        | <0.5                         | 30                         | 22                         | 227                        | 3.48                        |
| M011523            |                                   | 2.08                             | 14.70                        | <0.2                         | 0.08                        | 2                          | <10                        | <10                         | <0.5                         | <2                         | 0.46                        | 5.9                          | 591                        | 2                          | 1450                       | >15.0                       |
| M011524            |                                   | 2.44                             | 5.41                         | 9.1                          | 0.15                        | 2                          | <10                        | <10                         | <0.5                         | <2                         | 0.92                        | 1.9                          | 7                          | 17                         | 685                        | >15.0                       |
| M011525            |                                   | 1.80                             | 0.06                         | <0.2                         | 0.30                        | 10                         | <10                        | <10                         | <0.5                         | <2                         | 0.19                        | 7.0                          | 61                         | 14                         | 481                        | >15.0                       |
| M011526            |                                   | 1.34                             | 3.15                         | 5.7                          | 0.09                        | 422                        | <10                        | <10                         | <0.5                         | <2                         | 4.77                        | 4.0                          | 247                        | 12                         | 1695                       | >15.0                       |
| M011527            |                                   | 1.44                             | 4.59                         | 11.9                         | 1.05                        | 66                         | <10                        | 10                          | <0.5                         | 20                         | 7.50                        | 4.3                          | 134                        | 16                         | >10000                     | >15.0                       |
| M011528            |                                   | 0.42                             | 0.09                         | <0.2                         | 1.56                        | 11                         | <10                        | 70                          | <0.5                         | <2                         | 0.99                        | <0.5                         | 25                         | 27                         | 336                        | 4.86                        |
| M011529            |                                   | 1.24                             | 0.16                         | <0.2                         | 0.15                        | <2                         | <10                        | <10                         | <0.5                         | <2                         | 1.75                        | 5.6                          | 340                        | 6                          | 2170                       | >15.0                       |
| M011530            |                                   | 0.12                             | 0.04                         | <0.2                         | 0.34                        | 9                          | <10                        | <10                         | <0.5                         | <2                         | 0.35                        | 7.5                          | 95                         | 15                         | 1590                       | >15.0                       |
| M011531            |                                   | 0.16                             | 0.06                         | <0.2                         | 0.02                        | 31                         | <10                        | <10                         | <0.5                         | <2                         | 0.11                        | 7.3                          | 394                        | 8                          | 3260                       | >15.0                       |
| M011532            |                                   | 1.10                             | 0.77                         | <0.2                         | 0.23                        | 5                          | <10                        | <10                         | <0.5                         | <2                         | 2.27                        | 1.3                          | 151                        | 11                         | 1790                       | >15.0                       |
| M011533            |                                   | 0.60                             | 0.45                         | <0.2                         | 0.16                        | 24                         | <10                        | 30                          | <0.5                         | <2                         | 0.18                        | 2.6                          | 6                          | 83                         | 602                        | >15.0                       |
| M011534            |                                   | 0.64                             | 7.37                         | 16.5                         | 0.27                        | 182                        | <10                        | 10                          | <0.5                         | 38                         | 8.76                        | 4.9                          | 175                        | 19                         | >10000                     | >15.0                       |
| M011535            |                                   | 0.28                             | 3.83                         | 13.6                         | 0.47                        | 836                        | <10                        | 10                          | <0.5                         | <2                         | 11.10                       | 4.4                          | 52                         | 29                         | >10000                     | 12.20                       |
| M011536            |                                   | 0.24                             | 0.19                         | 2.9                          | 0.21                        | 3050                       | <10                        | 10                          | <0.5                         | <2                         | 0.31                        | 3.9                          | 49                         | 26                         | 3750                       | >15.0                       |



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Tests: 2 (A - C)  
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Project: ARN

## CERTIFICATE OF ANALYSIS VA02003159

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-ICP41  | ME-ICP41 | ME-ICP41  | ME-ICP41  | ME-ICP41  | ME-ICP41 | ME-ICP41 | ME-ICP41  | ME-ICP41 | ME-ICP41  | ME-ICP41 | ME-ICP41  | ME-ICP41 | ME-ICP41 |
|--------------------|-----------------------------------|-----------|----------|-----------|-----------|-----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|----------|
|                    |                                   | Ga        | Hg       | K         | La        | Mg        | Mn       | Mo       | Na        | Ni       | P         | Pb       | S         | Sb       | Sc       |
|                    |                                   | ppm<br>10 | ppm<br>1 | %<br>0.01 | ppm<br>10 | %<br>0.01 | ppm<br>5 | ppm<br>1 | %<br>0.01 | ppm<br>1 | ppm<br>10 | ppm<br>2 | %<br>0.01 | ppm<br>2 | ppm<br>1 |
| M011518            |                                   | 40        | <1       | <0.01     | 20        | 0.30      | 2720     | 3        | <0.01     | 8        | 250       | 3        | 0.76      | <2       | <1       |
| M011519            |                                   | 20        | <1       | 0.01      | 20        | 0.54      | 788      | 2        | 0.01      | 27       | 60        | 3        | >10.0     | 220      | <1       |
| M011520            |                                   | 30        | <1       | <0.01     | 20        | 0.18      | 610      | 2        | 0.01      | 256      | 270       | 7        | 9.45      | <2       | <1       |
| M011521            |                                   | 10        | <1       | 0.08      | 10        | 0.34      | 136      | 1        | 0.20      | 134      | 500       | 6        | 4.03      | 5        | 2        |
| M011522            |                                   | <10       | <1       | 0.10      | 10        | 0.46      | 150      | 1        | 0.09      | 14       | 750       | 4        | 1.65      | 3        | 1        |
| M011523            |                                   | 40        | <1       | <0.01     | 30        | 0.06      | 151      | 5        | <0.01     | 594      | 200       | 11       | >10.0     | <2       | <1       |
| M011524            |                                   | 10        | <1       | 0.01      | 20        | 0.03      | 236      | 2        | <0.01     | 11       | 450       | 5        | 0.24      | <2       | <1       |
| M011525            |                                   | 30        | <1       | 0.01      | 30        | 0.34      | 723      | 4        | 0.01      | 18       | 250       | 8        | 2.09      | <2       | <1       |
| M011526            |                                   | 20        | <1       | <0.01     | 20        | 0.07      | 244      | 10       | <0.01     | 60       | 120       | 19       | >10.0     | <2       | <1       |
| M011527            |                                   | 20        | <1       | 0.03      | 20        | 0.66      | 929      | 5        | <0.01     | 34       | 180       | 14       | 8.23      | <2       | <1       |
| M011528            |                                   | <10       | <1       | 0.32      | 10        | 0.90      | 309      | 1        | 0.10      | 11       | 1100      | 7        | 1.45      | <2       | 4        |
| M011529            |                                   | 20        | <1       | <0.01     | 30        | 0.10      | 249      | 6        | <0.01     | 85       | 130       | 12       | >10.0     | <2       | <1       |
| M011530            |                                   | 40        | <1       | <0.01     | 30        | 0.11      | 944      | 47       | <0.01     | 66       | 640       | 16       | 0.55      | <2       | <1       |
| M011531            |                                   | 20        | <1       | <0.01     | 30        | 0.04      | 95       | 4        | <0.01     | 30       | 150       | 14       | >10.0     | <2       | <1       |
| M011532            |                                   | 20        | <1       | 0.01      | 20        | 0.08      | 602      | 3        | <0.01     | 40       | 220       | 8        | 8.30      | <2       | <1       |
| M011533            |                                   | 30        | <1       | 0.14      | 30        | 0.04      | 68       | 12       | 0.45      | 8        | 1470      | 18       | 1.62      | <2       | <1       |
| M011534            |                                   | 30        | <1       | 0.02      | 20        | 0.27      | 707      | 3        | 0.01      | 45       | 250       | 72       | >10.0     | <2       | <1       |
| M011535            |                                   | 30        | <1       | 0.01      | 20        | 0.22      | 1685     | 12       | 0.01      | 11       | 890       | <2       | 1.28      | 87       | 2        |
| M011536            |                                   | 20        | <1       | 0.01      | 30        | 0.08      | 304      | 19       | 0.03      | 24       | 590       | 12       | 0.23      | 277      | 3        |



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Project : ARN

## CERTIFICATE OF ANALYSIS VA02003159

| Method<br>Analyte<br>Units<br>LOR | ME-ICP41<br>TI<br>% | ME-ICP41<br>TI<br>ppm | ME-ICP41<br>U<br>ppm | ME-ICP41<br>V<br>ppm | ME-ICP41<br>W<br>ppm | ME-ICP41<br>Zn<br>ppm | Cu-AA46<br>Cu<br>% |
|-----------------------------------|---------------------|-----------------------|----------------------|----------------------|----------------------|-----------------------|--------------------|
| Sample Description                | 0.01                | 10                    | 10                   | 1                    | 10                   | 2                     | 0.01               |
| M011518                           | 0.01                | <10                   | <10                  | 30                   | 20                   | 205                   |                    |
| M011519                           | <0.01               | <10                   | 30                   | 24                   | 20                   | 69                    |                    |
| M011520                           | <0.01               | <10                   | <10                  | 7                    | 10                   | 29                    |                    |
| M011521                           | 0.11                | <10                   | 60                   | 104                  | 10                   | 20                    |                    |
| M011522                           | 0.09                | <10                   | 10                   | 52                   | <10                  | 24                    |                    |
| M011523                           | <0.01               | <10                   | 80                   | 5                    | 20                   | 23                    |                    |
| M011524                           | 0.02                | <10                   | 50                   | 20                   | 10                   | 11                    |                    |
| M011525                           | 0.02                | <10                   | 90                   | 18                   | 20                   | 112                   |                    |
| M011526                           | <0.01               | <10                   | 30                   | 17                   | 20                   | 14                    |                    |
| M011527                           | 0.01                | <10                   | <10                  | 35                   | 20                   | 74                    | 1.61               |
| M011528                           | 0.22                | 10                    | 90                   | 168                  | <10                  | 39                    |                    |
| M011529                           | <0.01               | <10                   | 80                   | 8                    | 20                   | 26                    |                    |
| M011530                           | 0.05                | <10                   | 150                  | 60                   | 20                   | 108                   |                    |
| M011531                           | <0.01               | <10                   | 120                  | 6                    | 20                   | 59                    |                    |
| M011532                           | 0.02                | <10                   | 30                   | 9                    | 10                   | 23                    |                    |
| M011533                           | 0.06                | <10                   | 210                  | 172                  | 20                   | 33                    |                    |
| M011534                           | 0.01                | <10                   | 40                   | 23                   | 30                   | 46                    | 1.26               |
| M011535                           | 0.01                | <10                   | <10                  | 29                   | 30                   | 361                   | 3.02               |
| M011536                           | 0.01                | <10                   | 150                  | 58                   | 20                   | 85                    |                    |



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Project : ARN

**CERTIFICATE OF ANALYSIS VA02003158**

| Sample Description | Method<br>Analyte<br>Units<br>LOR | WEI-21<br>Recvd Wt<br>kg<br>0.02 | ME-ICP41<br>Ag<br>ppm<br>0.2 | ME-ICP41<br>Al<br>%<br>0.01 | ME-ICP41<br>As<br>ppm<br>2 | ME-ICP41<br>B<br>ppm<br>10 | ME-ICP41<br>Ba<br>ppm<br>10 | ME-ICP41<br>Be<br>ppm<br>0.5 | ME-ICP41<br>Bi<br>ppm<br>2 | ME-ICP41<br>Ca<br>%<br>0.01 | ME-ICP41<br>Cd<br>ppm<br>0.5 | ME-ICP41<br>Co<br>ppm<br>1 | ME-ICP41<br>Cr<br>ppm<br>1 | ME-ICP41<br>Cu<br>ppm<br>1 | ME-ICP41<br>Fe<br>%<br>0.01 | ME-ICP41<br>Ga<br>ppm<br>10 |
|--------------------|-----------------------------------|----------------------------------|------------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|------------------------------|----------------------------|-----------------------------|------------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|
| T13569             |                                   | 0.26                             | <0.2                         | 3.14                        | 12                         | <10                        | 100                         | <0.5                         | <2                         | 1.49                        | <0.5                         | 34                         | 105                        | 173                        | 4.71                        | 20                          |
| T13570             |                                   | 0.44                             | <0.2                         | 3.46                        | 8                          | <10                        | 50                          | <0.5                         | <2                         | 1.64                        | <0.5                         | 40                         | 100                        | 205                        | 5.54                        | 20                          |
| T13571             |                                   | 0.52                             | <0.2                         | 2.68                        | 4                          | <10                        | 40                          | <0.5                         | 2                          | 1.14                        | <0.5                         | 26                         | 91                         | 131                        | 4.41                        | 10                          |
| T13572             |                                   | 0.46                             | <0.2                         | 3.71                        | 12                         | <10                        | 70                          | <0.5                         | <2                         | 1.16                        | <0.5                         | 39                         | 100                        | 198                        | 5.76                        | 20                          |



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Project : ARN

## CERTIFICATE OF ANALYSIS

VA02003158

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-ICP41 | ME-ICP41  | ME-ICP41  | ME-ICP41  | ME-ICP41 | ME-ICP41 | ME-ICP41  | ME-ICP41 | ME-ICP41  | ME-ICP41 | ME-ICP41  | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|--------------------|-----------------------------------|----------|-----------|-----------|-----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|----------|----------|
|                    |                                   | Hg       | K         | La        | Mg        | Mn       | Mo       | Na        | Ni       | P         | Pb       | S         | Sb       | Sc       | Sr       |
|                    |                                   | ppm<br>1 | %<br>0.01 | ppm<br>10 | %<br>0.01 | ppm<br>5 | ppm<br>1 | %<br>0.01 | ppm<br>1 | ppm<br>10 | ppm<br>2 | %<br>0.01 | ppm<br>2 | ppm<br>1 | ppm<br>1 |
| T13569             |                                   | <1       | 0.09      | 10        | 1.79      | 836      | 3        | 0.05      | 76       | 740       | 15       | 0.10      | 3        | 5        | 88       |
| T13570             |                                   | <1       | 0.10      | 10        | 2.09      | 971      | 1        | 0.06      | 79       | 650       | 7        | 0.04      | 5        | 10       | 69       |
| T13571             |                                   | <1       | 0.13      | 10        | 1.70      | 697      | 1        | 0.09      | 60       | 700       | 10       | 0.04      | 3        | 7        | 53       |
| T13572             |                                   | <1       | 0.19      | 10        | 2.58      | 877      | 2        | 0.06      | 76       | 430       | 8        | 0.05      | <2       | 8        | 71       |



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Project : ARN

## CERTIFICATE OF ANALYSIS VA02003158

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-ICP41  | ME-ICP41  | ME-ICP41 | ME-ICP41  | ME-ICP41 | Au-ICP21     |
|--------------------|-----------------------------------|-----------|-----------|----------|-----------|----------|--------------|
|                    |                                   | Ti        | U         | V        | W         | Zn       | Au           |
|                    |                                   | ppm<br>10 | ppm<br>10 | ppm<br>1 | ppm<br>10 | ppm<br>2 | ppm<br>0.001 |
| T13569             |                                   | <10       | <10       | 107      | 10        | 78       | 0.024        |
| T13570             |                                   | <10       | 20        | 135      | <10       | 78       | 0.042        |
| T13571             |                                   | <10       | 20        | 120      | <10       | 62       | 0.015        |
| T13572             |                                   | <10       | 20        | 148      | <10       | 76       | 0.006        |



# ALS Chemex

Aurora Laboratory Services Ltd.

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212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221 FAX: 604-984-0218



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Comments:

Page: 1  
Total: 1  
Certificate Date: 15-AUG-2002  
Invoice No.: I0221979  
P.O. Number:  
Account: RCM

## CERTIFICATE OF ANALYSIS

A0221979

| SAMPLE  | PREP<br>CODE |     | Au tot<br>g/t | Au -<br>g/t | Au +<br>mg | Wt -<br>grams | Wt +<br>grams |  |  |  |  |  |
|---------|--------------|-----|---------------|-------------|------------|---------------|---------------|--|--|--|--|--|
| M011154 | 244          | 216 | 224.52        | 140.81      | 15.769     | 148           | 15.09         |  |  |  |  |  |

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Total Pages : 1  
Certificate Date: 05-AUG-2002  
Invoice No. : I0221366  
P.O. Number :  
Account : RCM

## CERTIFICATE OF ANALYSIS

**A0221366**

| SAMPLE  | PREP<br>CODE |    | Cu<br>% |  |  |  |  |  |  |  |  |
|---------|--------------|----|---------|--|--|--|--|--|--|--|--|
| M011154 | 212          | -- | 1.62    |  |  |  |  |  |  |  |  |
| M011155 | 212          | -- | 1.26    |  |  |  |  |  |  |  |  |
| M011170 | 212          | -- | 1.61    |  |  |  |  |  |  |  |  |

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British Columbia, Canada V7J 2C1

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Total : 1

Certificate Date: 06-AUG-2002

Invoice No. : I0221124

P.O. Number :

Account : RCM

## CERTIFICATE OF ANALYSIS

A0221124

| SAMPLE  | PREP<br>CODE | Weight<br>Kg | Au<br>g/t | Ag<br>ppm | Al<br>% | As<br>ppm | B<br>ppm | Ba<br>ppm | Be<br>ppm | Bi<br>ppm | Ca<br>% | Cd<br>ppm | Co<br>ppm | Cr<br>ppm | Cu<br>ppm | Fe<br>% | Ga<br>ppm | Hg<br>ppm | K<br>% | La<br>ppm |
|---------|--------------|--------------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|-----------|---------|-----------|-----------|--------|-----------|
| M011145 | 94139402     | 1.98         | 0.14      | < 0.2     | 3.25    | 8         | 10       | 10        | < 0.5     | < 2       | 4.16    | 0.5       | 15        | 100       | 19        | 6.38    | 10        | 6         | 0.09   | < 10      |
| M011146 | 94139402     | 1.98         | 11.29     | 0.4       | 2.01    | 4         | < 10     | 10        | < 0.5     | < 2       | 4.54    | 0.5       | 15        | 51        | 164       | 3.85    | < 10      | 3         | 0.09   | < 10      |
| M011147 | 94139402     | 8.00         | 0.27      | < 0.2     | 0.98    | 2         | < 10     | < 10      | < 0.5     | < 2       | 13.05   | 0.5       | 8         | 41        | 84        | 5.48    | < 10      | < 1       | 0.02   | < 10      |
| M011148 | 94139402     | 7.58         | 0.02      | < 0.2     | 3.12    | < 2       | 10       | < 10      | < 0.5     | < 2       | 4.00    | 0.5       | 16        | 42        | 51        | 4.29    | < 10      | < 1       | 0.06   | < 10      |
| M011149 | 94139402     | 7.88         | 2.45      | < 0.2     | 2.89    | < 2       | 10       | < 10      | < 0.5     | < 2       | 3.09    | 0.5       | 14        | 19        | 34        | 4.14    | < 10      | 2         | 0.07   | < 10      |
| M011150 | 94139402     | 12.06        | 0.03      | < 0.2     | 1.90    | < 2       | < 10     | < 10      | < 0.5     | < 2       | 3.82    | < 0.5     | 12        | 78        | 22        | 3.29    | < 10      | 3         | 0.05   | < 10      |
| M011151 | 94139402     | 7.16         | 0.02      | < 0.2     | 2.25    | 6         | 120      | < 10      | < 0.5     | < 2       | 2.64    | 0.5       | 19        | 143       | 21        | 4.38    | < 10      | 3         | 0.04   | < 10      |

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Page: 1-B  
Total Pages: 1  
Certificate Date: 06-AUG-2002  
Invoice No.: I0221124  
P.O. Number:  
Account: RCM

## CERTIFICATE OF ANALYSIS

A0221124

| SAMPLE  | PREP<br>CODE | Mg<br>% | Mn<br>ppm | Mo<br>ppm | Na<br>% | Ni<br>ppm | P<br>ppm | Pb<br>ppm | S<br>% | Sb<br>ppm | Sc<br>ppm | Sr<br>ppm | Ti<br>% | Tl<br>ppm | U<br>ppm | V<br>ppm | W<br>ppm | Zn<br>ppm |
|---------|--------------|---------|-----------|-----------|---------|-----------|----------|-----------|--------|-----------|-----------|-----------|---------|-----------|----------|----------|----------|-----------|
| M011145 | 94139402     | 2.49    | 1135      | 3         | 0.06    | 27        | 1020     | 6         | 0.06   | < 2       | 16        | 71        | 0.15    | < 10      | < 10     | 155      | < 10     | 84        |
| M011146 | 94139402     | 1.26    | 860       | 6         | 0.10    | 22        | 810      | 12        | 0.33   | < 2       | 5         | 81        | 0.15    | < 10      | < 10     | 93       | < 10     | 44        |
| M011147 | 94139402     | 0.43    | 1420      | 3         | 0.02    | 9         | 640      | 4         | 0.30   | < 2       | 1         | 62        | 0.04    | < 10      | < 10     | 25       | < 10     | 12        |
| M011148 | 94139402     | 1.99    | 925       | 5         | 0.07    | 44        | 710      | 2         | 0.06   | 2         | 9         | 87        | 0.12    | < 10      | < 10     | 109      | < 10     | 62        |
| M011149 | 94139402     | 1.48    | 805       | 19        | 0.09    | 30        | 940      | 6         | 0.05   | < 2       | 6         | 96        | 0.07    | < 10      | < 10     | 86       | < 10     | 56        |
| M011150 | 94139402     | 1.25    | 780       | 20        | 0.05    | 40        | 750      | < 2       | 0.06   | 6         | 6         | 66        | 0.03    | < 10      | < 10     | 49       | < 10     | 44        |
| M011151 | 94139402     | 1.96    | 980       | 1         | 0.04    | 74        | 550      | < 2       | 0.12   | 2         | 9         | 47        | 0.03    | < 10      | < 10     | 68       | < 10     | 62        |

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Total Pages: 1  
Certificate Date: 05-AUG-2002  
Invoice No.: 10221040  
P.O. Number:  
Account: RCM

## CERTIFICATE OF ANALYSIS

A0221040

| SAMPLE  | PREP<br>CODE | Weight<br>Kg | Au<br>g/t | Ag<br>ppm | Al<br>% | As<br>ppm | B<br>ppm | Ba<br>ppm | Be<br>ppm | Bi<br>ppm | Ca<br>% | Cd<br>ppm | Co<br>ppm | Cr<br>ppm | Cu<br>ppm | Fe<br>% | Ga<br>ppm | Hg<br>ppm | K<br>% | La<br>ppm |
|---------|--------------|--------------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|-----------|---------|-----------|-----------|--------|-----------|
| M011101 | 94139402     | 2.12         | 0.08      | < 0.2     | 2.71    | < 2       | < 10     | 10        | < 0.5     | < 2       | 3.91    | < 0.5     | 8         | 34        | 29        | 2.34    | < 10      | < 1       | 0.13   | < 10      |
| M011102 | 94139402     | 0.80         | 0.01      | < 0.2     | 0.55    | 24        | < 10     | 10        | 0.5       | < 2       | 4.02    | 14.5      | 10        | 79        | 93        | >15.00  | 10        | 2         | 0.03   | < 10      |
| M011103 | 94139402     | 6.84         | 0.04      | < 0.2     | 0.66    | 50        | < 10     | 10        | 0.5       | < 2       | 3.60    | 11.0      | 28        | 34        | 208       | >15.00  | < 10      | 1         | 0.03   | < 10      |
| M011104 | 94139402     | 7.78         | < 0.01    | < 0.2     | 1.54    | 4         | < 10     | 10        | < 0.5     | 2         | 2.19    | < 0.5     | 15        | 25        | 95        | 6.20    | < 10      | < 1       | 0.09   | 10        |
| M011105 | 94139402     | 8.80         | 0.03      | < 0.2     | 1.26    | 24        | < 10     | 10        | < 0.5     | 6         | 1.86    | < 0.5     | 18        | 17        | 38        | 8.16    | < 10      | < 1       | 0.07   | 10        |
| M011106 | 94139402     | 9.04         | 0.09      | < 0.2     | 1.20    | 26        | < 10     | < 10      | < 0.5     | < 2       | 2.33    | 0.5       | 55        | 20        | 622       | 6.85    | < 10      | < 1       | 0.05   | < 10      |
| M011107 | 94139402     | 9.00         | 0.05      | < 0.2     | 1.61    | 6         | < 10     | < 10      | < 0.5     | < 2       | 1.97    | < 0.5     | 18        | 16        | 62        | 4.30    | < 10      | < 1       | 0.06   | < 10      |
| M011108 | 94139402     | 4.60         | 0.04      | < 0.2     | 0.30    | 66        | < 10     | 10        | 0.5       | 2         | 4.01    | 14.5      | 18        | 30        | 270       | >15.00  | 10        | 4         | 0.01   | < 10      |
| M011109 | 94139402     | 7.56         | < 0.01    | < 0.2     | 1.06    | 14        | < 10     | < 10      | < 0.5     | < 2       | 4.53    | 0.5       | 21        | 24        | 129       | 7.42    | < 10      | < 1       | 0.04   | < 10      |
| M011110 | 94139402     | 7.90         | < 0.01    | < 0.2     | 2.95    | 8         | < 10     | 10        | < 0.5     | < 2       | 2.40    | < 0.5     | 28        | 91        | 165       | 3.95    | < 10      | < 1       | 0.13   | < 10      |
| M011111 | 94139402     | 3.32         | 0.14      | 2.2       | 1.47    | 56        | < 10     | 20        | < 0.5     | < 2       | 6.74    | 3.0       | 153       | 36        | 2660      | 12.85   | < 10      | < 1       | 0.03   | < 10      |
| M011112 | 94139402     | 9.76         | 0.08      | < 0.2     | 3.02    | 42        | < 10     | 10        | < 0.5     | < 2       | 4.93    | 0.5       | 19        | 19        | 93        | 4.39    | < 10      | < 1       | 0.10   | < 10      |
| M011113 | 94139402     | 10.72        | 0.24      | < 0.2     | 4.69    | < 2       | < 10     | 10        | < 0.5     | < 2       | 4.18    | < 0.5     | 8         | 16        | 36        | 1.81    | < 10      | < 1       | 0.09   | < 10      |
| M011114 | 94139402     | 17.32        | 0.01      | < 0.2     | 2.61    | < 2       | < 10     | 10        | < 0.5     | < 2       | 3.80    | < 0.5     | 8         | 25        | 46        | 2.24    | < 10      | < 1       | 0.08   | < 10      |
| M011115 | 94139402     | 10.34        | < 0.01    | < 0.2     | 2.50    | 8         | < 10     | 10        | < 0.5     | < 2       | 2.84    | < 0.5     | 13        | 13        | 61        | 2.97    | < 10      | < 1       | 0.08   | < 10      |
| M011116 | 94139402     | 11.54        | 0.07      | 1.0       | 1.10    | 60        | < 10     | < 10      | < 0.5     | < 2       | 7.19    | 1.5       | 31        | 29        | 1680      | 5.69    | < 10      | < 1       | 0.02   | < 10      |
| M011117 | 94139402     | 13.06        | < 0.01    | < 0.2     | 2.57    | < 2       | < 10     | < 10      | < 0.5     | < 2       | 3.49    | < 0.5     | 7         | 14        | 63        | 2.09    | < 10      | < 1       | 0.07   | < 10      |
| M011118 | 94139402     | 11.84        | 0.02      | < 0.2     | 1.68    | 6         | < 10     | < 10      | < 0.5     | < 2       | 4.23    | < 0.5     | 5         | 26        | 59        | 1.96    | < 10      | < 1       | 0.02   | 10        |
| M011119 | 94139402     | 14.24        | < 0.01    | < 0.2     | 1.62    | < 2       | < 10     | < 10      | < 0.5     | < 2       | 5.50    | < 0.5     | 5         | 18        | 26        | 2.53    | < 10      | < 1       | 0.05   | < 10      |

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PHONE: 604-984-0221 FAX: 604-984-0218



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Project: ARN  
Comments:

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Total: 1  
Certificate Date: 05-AUG-2002  
Invoice No.: I0221040  
P.O. Number:  
Account: RCM

## CERTIFICATE OF ANALYSIS

A0221040

| SAMPLE  | PREP<br>CODE | Mg<br>% | Mn<br>ppm | Mo<br>ppm | Na<br>% | Ni<br>ppm | P<br>ppm | Pb<br>ppm | S<br>% | Sb<br>ppm | Sc<br>ppm | Sr<br>ppm | Ti<br>% | Tl<br>ppm | U<br>ppm | V<br>ppm | W<br>ppm | Zn<br>ppm |
|---------|--------------|---------|-----------|-----------|---------|-----------|----------|-----------|--------|-----------|-----------|-----------|---------|-----------|----------|----------|----------|-----------|
| M011101 | 94139402     | 0.83    | 735       | 1         | 0.18    | 16        | 970      | 6         | 0.10   | < 2       | 7         | 162       | 0.05    | < 10      | < 10     | 60       | < 10     | 44        |
| M011102 | 94139402     | 1.62    | 7380      | < 1       | 0.07    | 43        | 320      | 12        | 0.77   | < 2       | 47        | 37        | 0.01    | < 10      | < 10     | 190      | < 10     | 178       |
| M011103 | 94139402     | 1.61    | 5890      | < 1       | 0.07    | 108       | 860      | 6         | 1.25   | < 2       | 29        | 42        | < 0.01  | < 10      | < 10     | 121      | < 10     | 140       |
| M011104 | 94139402     | 0.77    | 1410      | 1         | 0.10    | 21        | 1290     | 2         | 0.23   | < 2       | 12        | 59        | 0.05    | < 10      | < 10     | 103      | < 10     | 50        |
| M011105 | 94139402     | 0.76    | 2110      | 3         | 0.14    | 39        | 1150     | 4         | 0.28   | < 2       | 19        | 69        | 0.01    | < 10      | < 10     | 118      | < 10     | 52        |
| M011106 | 94139402     | 0.52    | 1515      | 1         | 0.07    | 99        | 670      | 2         | 1.38   | < 2       | 11        | 42        | 0.01    | < 10      | < 10     | 73       | < 10     | 94        |
| M011107 | 94139402     | 0.56    | 1060      | 2         | 0.09    | 32        | 820      | < 2       | 0.15   | < 2       | 13        | 54        | 0.02    | < 10      | < 10     | 94       | < 10     | 44        |
| M011108 | 94139402     | 1.70    | 7360      | < 1       | 0.05    | 70        | 740      | 12        | 0.57   | < 2       | 41        | 28        | < 0.01  | < 10      | < 10     | 171      | < 10     | 212       |
| M011109 | 94139402     | 0.95    | 1865      | 1         | 0.08    | 50        | 990      | < 2       | 0.38   | 2         | 12        | 53        | 0.02    | < 10      | < 10     | 79       | < 10     | 60        |
| M011110 | 94139402     | 1.75    | 540       | < 1       | 0.26    | 107       | 750      | < 2       | 0.39   | < 2       | 7         | 235       | 0.10    | < 10      | < 10     | 97       | < 10     | 46        |
| M011111 | 94139402     | 0.76    | 1605      | < 1       | 0.02    | 119       | 1460     | 10        | 7.08   | 6         | 3         | 40        | 0.03    | < 10      | < 10     | 36       | < 10     | 110       |
| M011112 | 94139402     | 1.22    | 1150      | < 1       | 0.20    | 21        | 830      | 4         | 0.24   | 2         | 14        | 180       | 0.02    | < 10      | < 10     | 106      | < 10     | 56        |
| M011113 | 94139402     | 0.61    | 410       | 1         | 0.46    | 9         | 690      | 4         | 0.05   | < 2       | 4         | 415       | 0.07    | < 10      | < 10     | 65       | < 10     | 44        |
| M011114 | 94139402     | 0.62    | 635       | < 1       | 0.17    | 9         | 780      | 2         | 0.06   | 2         | 5         | 187       | 0.07    | < 10      | < 10     | 63       | < 10     | 40        |
| M011115 | 94139402     | 0.56    | 735       | 1         | 0.24    | 11        | 850      | 2         | 0.09   | 2         | 8         | 165       | 0.04    | < 10      | < 10     | 81       | < 10     | 48        |
| M011116 | 94139402     | 0.37    | 1310      | 1         | 0.05    | 12        | 1780     | 8         | 1.17   | 2         | 2         | 50        | 0.02    | < 10      | < 10     | 44       | < 10     | 92        |
| M011117 | 94139402     | 0.55    | 650       | 1         | 0.20    | 8         | 1220     | 2         | 0.05   | 2         | 5         | 174       | 0.04    | < 10      | < 10     | 50       | < 10     | 44        |
| M011118 | 94139402     | 0.28    | 700       | 1         | 0.10    | 5         | 1870     | < 2       | 0.02   | 4         | 3         | 91        | 0.04    | < 10      | < 10     | 40       | < 10     | 26        |
| M011119 | 94139402     | 0.36    | 765       | 1         | 0.09    | 4         | 1080     | < 2       | 0.04   | 2         | 3         | 79        | 0.05    | < 10      | < 10     | 39       | < 10     | 28        |

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## CERTIFICATE OF ANALYSIS

A0221039

| SAMPLE  | PREP CODE | Weight Kg | Au g/t | Ag ppm | Al % | As ppm | B ppm | Ba ppm | Be ppm | Bi ppm | Ca % | Cd ppm | Co ppm | Cr ppm | Cu ppm | Fe %   | Ga ppm | Hg ppm | K %    | La ppm |
|---------|-----------|-----------|--------|--------|------|--------|-------|--------|--------|--------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| M011100 | 94139402  | 0.12      | < 0.01 | < 0.2  | 3.21 | < 2    | < 10  | < 10   | < 0.5  | < 2    | 6.77 | 1.5    | 73     | 99     | 1375   | 6.79   | 10     | < 1    | < 0.01 | < 10   |
| M011189 | 94139402  | 1.78      | 0.01   | < 0.2  | 3.00 | 10     | 30    | < 10   | < 0.5  | < 2    | 7.16 | 0.5    | 28     | 164    | 84     | 4.75   | < 10   | < 1    | 0.05   | < 10   |
| M011190 | 94139402  | 0.28      | < 0.01 | < 0.2  | 2.77 | < 2    | < 10  | 20     | < 0.5  | < 2    | 1.68 | < 0.5  | 43     | 72     | 300    | 4.91   | < 10   | < 1    | 0.23   | < 10   |
| M011191 | 94139402  | 1.68      | 0.10   | < 0.2  | 0.98 | < 2    | < 10  | < 10   | < 0.5  | < 2    | 6.66 | 0.5    | 15     | 27     | 132    | 7.50   | < 10   | < 1    | 0.01   | < 10   |
| M011192 | 94139402  | 0.34      | < 0.01 | < 0.2  | 2.29 | < 2    | < 10  | 10     | < 0.5  | < 2    | 4.35 | < 0.5  | 7      | 20     | 39     | 1.11   | < 10   | < 1    | 0.10   | < 10   |
| M011193 | 94139402  | 0.88      | 0.02   | < 0.2  | 1.30 | < 2    | < 10  | < 10   | < 0.5  | 2      | 6.98 | 2.0    | 6      | 26     | 214    | 9.81   | < 10   | 1      | 0.01   | < 10   |
| M011194 | 94139402  | 0.46      | < 0.01 | < 0.2  | 2.24 | 6      | < 10  | < 10   | < 0.5  | 6      | 1.47 | < 0.5  | 29     | 14     | 348    | 6.91   | < 10   | < 1    | 0.09   | < 10   |
| M011195 | 94139402  | 0.82      | < 0.01 | < 0.2  | 0.83 | 2      | < 10  | < 10   | < 0.5  | < 2    | 5.69 | 0.5    | 8      | 44     | 109    | 6.00   | < 10   | < 1    | < 0.01 | < 10   |
| T12338  | 94139402  | 0.70      | < 0.01 | < 0.2  | 0.66 | 374    | < 10  | 60     | 0.5    | < 2    | 0.14 | 10.5   | 33     | 33     | 8      | >15.00 | < 10   | < 1    | 0.08   | < 10   |
| T12339  | 94139402  | 0.94      | < 0.01 | < 0.2  | 0.95 | < 2    | < 10  | 30     | 1.0    | < 2    | 0.42 | 13.5   | 56     | 51     | 157    | >15.00 | 10     | 4      | 0.03   | < 10   |
| T12340  | 94139402  | 0.78      | 0.02   | < 0.2  | 1.76 | < 2    | < 10  | 30     | < 0.5  | 2      | 1.46 | < 0.5  | 10     | 116    | 21     | 2.88   | < 10   | < 1    | 0.15   | < 10   |
| T12341  | 94139402  | 1.54      | < 0.01 | < 0.2  | 0.32 | 2      | < 10  | < 10   | 1.0    | < 2    | 1.80 | 21.5   | 16     | 46     | 1      | >15.00 | 10     | < 1    | 0.03   | < 10   |
| T12342  | 94139402  | 1.10      | 5.68   | < 0.2  | 1.49 | 2      | < 10  | < 10   | < 0.5  | 6      | 0.33 | 3.0    | 66     | 25     | 1120   | >15.00 | 10     | < 1    | 0.03   | < 10   |
| T12343  | 94139402  | 1.02      | 0.01   | < 0.2  | 1.79 | < 2    | < 10  | 40     | < 0.5  | < 2    | 0.57 | < 0.5  | 14     | 35     | 8      | 4.48   | < 10   | < 1    | 0.23   | < 10   |
| T12344  | 94139402  | 1.76      | 0.03   | < 0.2  | 1.43 | 2      | < 10  | 10     | < 0.5  | < 2    | 4.58 | < 0.5  | 10     | 51     | 201    | 5.97   | < 10   | < 1    | 0.03   | < 10   |
| T12345  | 94139402  | 0.78      | 0.22   | 0.2    | 1.99 | 2      | < 10  | 30     | < 0.5  | < 2    | 2.15 | < 0.5  | 8      | 29     | 315    | 5.23   | < 10   | < 1    | 0.09   | < 10   |
| T12346  | 94139402  | 1.08      | 0.01   | < 0.2  | 0.80 | 2      | < 10  | < 10   | < 0.5  | < 2    | 9.78 | 0.5    | 11     | 24     | 272    | 5.01   | < 10   | < 1    | 0.06   | < 10   |
| T12347  | 94139402  | 4.24      | 0.02   | < 0.2  | 0.74 | 2      | < 10  | 10     | < 0.5  | < 2    | 7.76 | 5.0    | 58     | 19     | 1100   | >15.00 | < 10   | < 1    | 0.05   | < 10   |
| T12348  | 94139402  | 0.92      | 0.18   | < 0.2  | 0.77 | < 2    | < 10  | < 10   | < 0.5  | < 2    | 2.43 | < 0.5  | 24     | 37     | 361    | 3.55   | < 10   | < 1    | < 0.01 | < 10   |
| T12349  | 94139402  | 1.36      | 0.24   | 2.6    | 0.33 | < 2    | < 10  | < 10   | < 0.5  | < 2    | 0.22 | 2.5    | 4      | 31     | 622    | >15.00 | < 10   | < 1    | 0.03   | < 10   |
| T12350  | 94139402  | 0.56      | < 0.01 | < 0.2  | 1.16 | < 2    | < 10  | < 10   | < 0.5  | < 2    | 4.83 | < 0.5  | 3      | 32     | 31     | 1.79   | < 10   | < 1    | 0.03   | < 10   |

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Aurora Laboratory Services Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221 FAX: 604-984-0218



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VANCOUVER, BC  
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Comments:

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Certificate Date: 02-AUG-2002  
Invoice No.: I0221039  
P.O. Number:  
Account: RCM

## CERTIFICATE OF ANALYSIS

A0221039

| SAMPLE  | PREP<br>CODE | Mg<br>% | Mn<br>ppm | Mo<br>ppm | Na<br>% | Ni<br>ppm | P<br>ppm | Pb<br>ppm | S<br>% | Sb<br>ppm | Sc<br>ppm | Sr<br>ppm | Ti<br>% | Tl<br>ppm | U<br>ppm | V<br>ppm | W<br>ppm | Zn<br>ppm |
|---------|--------------|---------|-----------|-----------|---------|-----------|----------|-----------|--------|-----------|-----------|-----------|---------|-----------|----------|----------|----------|-----------|
| M011100 | 94139402     | 1.71    | 2050      | < 1       | < 0.01  | 11        | 50       | 6         | 0.03   | 4         | 14        | 36        | 0.14    | < 10      | < 10     | 68       | < 10     | 76        |
| M011189 | 94139402     | 3.04    | 1155      | < 1       | 0.04    | 110       | 670      | 2         | 0.07   | < 2       | 19        | 99        | 0.04    | < 10      | < 10     | 124      | < 10     | 50        |
| M011190 | 94139402     | 1.30    | 260       | < 1       | 0.24    | 40        | 930      | 4         | 1.82   | 2         | 4         | 179       | 0.17    | < 10      | < 10     | 111      | < 10     | 38        |
| M011191 | 94139402     | 0.09    | 1830      | 4         | 0.01    | 21        | 660      | < 2       | 0.09   | 2         | 2         | 5         | 0.04    | < 10      | < 10     | 22       | < 10     | 24        |
| M011192 | 94139402     | 0.41    | 760       | 6         | 0.37    | 13        | 810      | 4         | 0.01   | 4         | 3         | 129       | 0.12    | < 10      | < 10     | 45       | < 10     | 34        |
| M011193 | 94139402     | 0.23    | 1560      | 3         | 0.01    | 18        | 270      | 4         | 0.01   | < 2       | 2         | 5         | 0.04    | < 10      | < 10     | 28       | < 10     | 28        |
| M011194 | 94139402     | 1.93    | 470       | < 1       | 0.07    | 7         | 1310     | 14        | 2.94   | 2         | 12        | 26        | 0.11    | < 10      | < 10     | 169      | < 10     | 58        |
| M011195 | 94139402     | 0.13    | 805       | < 1       | < 0.01  | 9         | 830      | < 2       | 0.11   | < 2       | 3         | 12        | 0.07    | < 10      | < 10     | 22       | 10       | 10        |
| T12338  | 94139402     | 0.14    | 3720      | 24        | 0.05    | 95        | 570      | 8         | 0.33   | < 2       | 56        | 31        | 0.01    | < 10      | < 10     | 352      | < 10     | 562       |
| T12339  | 94139402     | 0.17    | 8360      | < 1       | 0.01    | 103       | 280      | 24        | 0.01   | < 2       | 95        | 15        | 0.04    | < 10      | < 10     | 357      | < 10     | 734       |
| T12340  | 94139402     | 0.42    | 450       | < 1       | 0.17    | 32        | 610      | < 2       | < 0.01 | 2         | 18        | 46        | 0.12    | < 10      | < 10     | 190      | < 10     | 32        |
| T12341  | 94139402     | 0.76    | 9550      | 12        | 0.01    | 52        | 60       | 14        | 0.18   | < 2       | 78        | 10        | < 0.01  | < 10      | < 10     | 293      | < 10     | 246       |
| T12342  | 94139402     | 0.41    | 555       | < 1       | 0.03    | 16        | 330      | 2         | 9.22   | < 2       | 1         | 2         | 0.03    | < 10      | < 10     | 67       | < 10     | 36        |
| T12343  | 94139402     | 0.54    | 240       | 1         | 0.10    | 3         | 1260     | < 2       | 4.63   | < 2       | 1         | 117       | < 0.01  | < 10      | < 10     | 18       | < 10     | 8         |
| T12344  | 94139402     | 0.30    | 1475      | < 1       | 0.03    | 10        | 530      | 2         | 0.33   | < 2       | 3         | 30        | 0.06    | < 10      | < 10     | 29       | < 10     | 16        |
| T12345  | 94139402     | 0.45    | 460       | < 1       | 0.11    | 4         | 1380     | 2         | 0.39   | 2         | 3         | 71        | 0.11    | < 10      | < 10     | 54       | < 10     | 26        |
| T12346  | 94139402     | 0.17    | 1100      | < 1       | 0.04    | 5         | 110      | < 2       | 0.91   | 2         | < 1       | 59        | 0.06    | < 10      | < 10     | 17       | 10       | 12        |
| T12347  | 94139402     | 0.17    | 1415      | < 1       | 0.03    | 7         | 910      | 2         | 6.44   | 2         | 1         | 31        | 0.12    | < 10      | < 10     | 38       | < 10     | 24        |
| T12348  | 94139402     | 0.18    | 240       | < 1       | < 0.01  | 4         | 730      | 2         | 2.58   | < 2       | < 1       | 72        | 0.03    | < 10      | < 10     | 12       | < 10     | 10        |
| T12349  | 94139402     | 0.08    | 200       | < 1       | 0.02    | 1         | 150      | 6         | 0.39   | < 2       | 1         | 5         | 0.03    | < 10      | < 10     | 24       | 90       | 14        |
| T12350  | 94139402     | 0.21    | 545       | < 1       | 0.03    | 1         | 500      | < 2       | 0.01   | 2         | 1         | 95        | 0.05    | < 10      | < 10     | 20       | < 10     | 12        |

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212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221 FAX: 604-984-0218



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1016 - 510 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1L8

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Certificate Date: 08-AUG-2002  
Invoice No.: 10221038  
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Account: RCM

## CERTIFICATE OF ANALYSIS

A0221038

| SAMPLE  | PREP CODE | Weight<br>Kg | Au ppb<br>ICP | Au FA<br>g/t | Ag<br>ppm | Al<br>% | As<br>ppm | B<br>ppm | Ba<br>ppm | Be<br>ppm | Bi<br>ppm | Ca<br>% | Cd<br>ppm | Co<br>ppm | Cr<br>ppm | Cu<br>ppm | Fe<br>% | Ga<br>ppm | Hg<br>ppm | K<br>% |
|---------|-----------|--------------|---------------|--------------|-----------|---------|-----------|----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|-----------|---------|-----------|-----------|--------|
| M011001 | 94069407  | 0.22         | 20            | -----        | 0.2       | 3.59    | 16        | < 10     | 10        | < 0.5     | < 2       | 2.19    | 1.0       | 25        | 9         | 141       | 4.90    | < 10      | < 1       | 0.16   |
| M011002 | 94069407  | 0.18         | 186           | -----        | 0.6       | 3.93    | 64        | < 10     | 10        | < 0.5     | < 2       | 2.75    | 2.0       | 52        | 30        | 304       | 6.29    | < 10      | < 1       | 0.12   |
| M011003 | 94069407  | 0.12         | not/ss        | not/ss       | < 0.2     | 3.34    | 12        | < 10     | 170       | < 0.5     | < 2       | 0.83    | < 0.5     | 39        | 67        | 139       | 5.53    | < 10      | < 1       | 0.53   |
| M011004 | 94069407  | 0.20         | 26            | -----        | < 0.2     | 3.51    | 24        | < 10     | 20        | < 0.5     | 2         | 2.26    | < 0.5     | 37        | 78        | 26        | 3.33    | < 10      | < 1       | 0.16   |
| M011005 | 94069407  | 0.28         | 68            | -----        | < 0.2     | 1.54    | 28        | < 10     | < 10      | < 0.5     | < 2       | 4.40    | 2.5       | 197       | 46        | 949       | 11.90   | < 10      | < 1       | 0.05   |
| M011051 | 94069407  | 0.16         | 36            | -----        | < 0.2     | 2.73    | 8         | < 10     | 80        | < 0.5     | < 2       | 0.92    | < 0.5     | 30        | 64        | 174       | 4.43    | < 10      | < 1       | 0.17   |
| M011052 | 94069407  | 0.14         | 132           | -----        | < 0.2     | 3.10    | 12        | < 10     | 100       | < 0.5     | 6         | 0.82    | < 0.5     | 27        | 81        | 113       | 4.87    | < 10      | < 1       | 0.40   |
| M011053 | 94069407  | 0.14         | 312           | -----        | < 0.2     | 2.70    | 18        | 30       | 40        | < 0.5     | < 2       | 1.64    | < 0.5     | 32        | 118       | 142       | 5.06    | < 10      | < 1       | 0.09   |
| M011054 | 94069407  | 0.22         | 28            | -----        | < 0.2     | 4.54    | 32        | < 10     | 60        | < 0.5     | < 2       | 2.15    | 1.0       | 39        | 114       | 341       | 4.97    | < 10      | < 1       | 0.20   |
| M011055 | 94069407  | 0.18         | 216           | -----        | < 0.2     | 3.42    | 24        | < 10     | 10        | < 0.5     | < 2       | 2.20    | 2.5       | 33        | 73        | 486       | 12.10   | < 10      | < 1       | 0.10   |
| M011056 | 94069407  | 0.10         | 20            | -----        | < 0.2     | 3.19    | 10        | < 10     | 90        | < 0.5     | < 2       | 1.07    | < 0.5     | 38        | 74        | 207       | 5.73    | < 10      | < 1       | 0.21   |
| M011057 | 94069407  | 0.12         | 86            | -----        | < 0.2     | 3.46    | 6         | < 10     | 80        | < 0.5     | < 2       | 1.28    | < 0.5     | 36        | 91        | 185       | 5.68    | < 10      | < 1       | 0.30   |
| M011058 | 94069407  | 0.20         | 46            | -----        | < 0.2     | 3.91    | 8         | < 10     | 40        | < 0.5     | < 2       | 2.87    | 2.5       | 50        | 101       | 343       | 7.52    | < 10      | 1         | 0.23   |
| M011059 | 94069407  | 0.16         | >2000         | 3.51         | 6.8       | 0.40    | 72        | < 10     | < 10      | < 0.5     | 22        | 0.57    | 11.5      | 26        | 21        | 971       | >15.00  | < 10      | < 1       | 0.04   |
| M011060 | 94069407  | 0.22         | 42            | -----        | < 0.2     | 4.12    | 6         | < 10     | 30        | < 0.5     | < 2       | 2.08    | 1.5       | 43        | 116       | 257       | 7.37    | < 10      | < 1       | 0.16   |
| M011061 | 94069407  | 0.20         | 34            | -----        | < 0.2     | 3.53    | 10        | < 10     | 70        | < 0.5     | < 2       | 1.24    | 0.5       | 43        | 81        | 312       | 6.65    | < 10      | < 1       | 0.18   |
| M011062 | 94069407  | 0.16         | 28            | -----        | < 0.2     | 4.62    | < 2       | < 10     | 40        | < 0.5     | < 2       | 3.21    | 1.0       | 38        | 95        | 209       | 5.52    | < 10      | < 1       | 0.32   |
| M011063 | 94069407  | 0.22         | 98            | -----        | < 0.2     | 3.56    | 14        | < 10     | 60        | < 0.5     | 2         | 1.90    | 0.5       | 38        | 89        | 241       | 6.17    | < 10      | < 1       | 0.19   |
| M011064 | 94069407  | 0.36         | 788           | -----        | 0.2       | 2.32    | 10        | < 10     | 30        | < 0.5     | < 2       | 1.63    | 1.0       | 112       | 31        | 792       | 10.80   | < 10      | < 1       | 0.05   |
| M011065 | 94069407  | 0.16         | 330           | -----        | < 0.2     | 2.52    | 12        | < 10     | 70        | < 0.5     | < 2       | 1.71    | < 0.5     | 40        | 58        | 286       | 5.13    | < 10      | < 1       | 0.10   |
| M011066 | 94069407  | 0.16         | 102           | -----        | < 0.2     | 1.83    | 6         | < 10     | 80        | < 0.5     | < 2       | 0.74    | < 0.5     | 22        | 39        | 93        | 3.32    | < 10      | < 1       | 0.06   |

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British Columbia, Canada V7J 2C1

PHONE: 604-984-0221 FAX: 604-984-0218



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Account : RCM

## CERTIFICATE OF ANALYSIS

A0221038

| SAMPLE  | PREP<br>CODE | La<br>ppm | Mg<br>% | Mn<br>ppm | Mo<br>ppm | Na<br>% | Ni<br>ppm | P<br>ppm | Pb<br>ppm | S<br>% | Sb<br>ppm | Sc<br>ppm | Sr<br>ppm | Ti<br>% | Tl<br>ppm | U<br>ppm | V<br>ppm | W<br>ppm | Zn<br>ppm |
|---------|--------------|-----------|---------|-----------|-----------|---------|-----------|----------|-----------|--------|-----------|-----------|-----------|---------|-----------|----------|----------|----------|-----------|
| M011001 | 94069407     | < 10      | 0.68    | 1055      | 1         | 0.02    | 12        | 950      | 26        | 0.02   | < 2       | 7         | 160       | 0.01    | < 10      | < 10     | 80       | < 10     | 100       |
| M011002 | 94069407     | < 10      | 0.49    | 3460      | 3         | 0.01    | 48        | 530      | 34        | 0.04   | 4         | 6         | 158       | 0.01    | < 10      | < 10     | 47       | < 10     | 138       |
| M011003 | 94069407     | 10        | 1.77    | 835       | 1         | 0.05    | 56        | 1010     | 12        | 0.04   | 6         | 11        | 62        | 0.20    | < 10      | < 10     | 151      | < 10     | 84        |
| M011004 | 94069407     | < 10      | 1.13    | 1010      | 1         | 0.01    | 53        | 1160     | 4         | 0.01   | < 2       | 10        | 109       | 0.03    | < 10      | < 10     | 129      | < 10     | 78        |
| M011005 | 94069407     | < 10      | 0.67    | 1135      | 3         | < 0.01  | 354       | 390      | 14        | 0.35   | < 2       | 11        | 44        | 0.13    | < 10      | < 10     | 69       | < 10     | 188       |
| M011051 | 94069407     | < 10      | 1.64    | 680       | < 1       | 0.08    | 51        | 890      | 8         | 0.05   | < 2       | 6         | 82        | 0.11    | < 10      | < 10     | 116      | < 10     | 64        |
| M011052 | 94069407     | < 10      | 2.30    | 665       | < 1       | 0.08    | 54        | 860      | 4         | 0.05   | 4         | 7         | 62        | 0.17    | < 10      | < 10     | 150      | < 10     | 68        |
| M011053 | 94069407     | < 10      | 1.64    | 1560      | < 1       | 0.05    | 85        | 1010     | 8         | 0.05   | < 2       | 7         | 62        | 0.09    | < 10      | < 10     | 99       | < 10     | 78        |
| M011054 | 94069407     | < 10      | 2.53    | 1405      | < 1       | 0.02    | 82        | 300      | 6         | 0.01   | 6         | 14        | 128       | 0.11    | < 10      | < 10     | 133      | < 10     | 52        |
| M011055 | 94069407     | < 10      | 0.93    | 1635      | 67        | 0.03    | 54        | 1180     | 20        | 0.15   | < 2       | 16        | 92        | 0.11    | < 10      | < 10     | 152      | < 10     | 132       |
| M011056 | 94069407     | < 10      | 2.22    | 855       | 1         | 0.09    | 57        | 860      | 6         | 0.06   | < 2       | 7         | 78        | 0.12    | < 10      | < 10     | 162      | < 10     | 70        |
| M011057 | 94069407     | < 10      | 2.55    | 950       | < 1       | 0.10    | 61        | 700      | 6         | 0.05   | < 2       | 9         | 128       | 0.14    | < 10      | < 10     | 172      | < 10     | 66        |
| M011058 | 94069407     | < 10      | 3.28    | 1475      | < 1       | 0.05    | 68        | 670      | 16        | 0.08   | 4         | 19        | 74        | 0.11    | < 10      | < 10     | 224      | < 10     | 124       |
| M011059 | 94069407     | < 10      | 0.16    | 485       | 15        | 0.01    | 13        | 610      | 184       | 1.66   | < 2       | 2         | 9         | 0.12    | < 10      | < 10     | 52       | < 10     | 80        |
| M011060 | 94069407     | < 10      | 2.89    | 1405      | < 1       | 0.03    | 65        | 720      | 8         | 0.06   | 6         | 19        | 69        | 0.11    | < 10      | < 10     | 204      | < 10     | 82        |
| M011061 | 94069407     | < 10      | 2.77    | 1335      | < 1       | 0.03    | 61        | 710      | 16        | 0.03   | 4         | 16        | 41        | 0.11    | < 10      | < 10     | 202      | < 10     | 72        |
| M011062 | 94069407     | < 10      | 3.36    | 575       | < 1       | 0.12    | 50        | 600      | 6         | 0.01   | 6         | 14        | 109       | 0.20    | < 10      | < 10     | 220      | < 10     | 52        |
| M011063 | 94069407     | < 10      | 2.17    | 1190      | < 1       | 0.09    | 61        | 800      | 10        | 0.05   | < 2       | 11        | 115       | 0.13    | < 10      | < 10     | 161      | < 10     | 74        |
| M011064 | 94069407     | 10        | 0.80    | 1470      | 2         | 0.02    | 63        | 840      | 8         | 0.11   | < 2       | 6         | 62        | 0.08    | < 10      | < 10     | 67       | < 10     | 64        |
| M011065 | 94069407     | < 10      | 1.15    | 880       | < 1       | 0.04    | 57        | 790      | 6         | 0.08   | < 2       | 5         | 74        | 0.10    | < 10      | < 10     | 90       | < 10     | 64        |
| M011066 | 94069407     | < 10      | 0.81    | 550       | 1         | 0.04    | 33        | 760      | 6         | 0.06   | < 2       | 2         | 60        | 0.06    | < 10      | < 10     | 83       | < 10     | 46        |

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Invoice No.: 10221001  
P.O. Number:  
Account: RCM

## CERTIFICATE OF ANALYSIS

A0221001

| SAMPLE  | PREP CODE | Au g/t  | Au FA g/t | Cu % |  |  |  |  |  |  |  |
|---------|-----------|---------|-----------|------|--|--|--|--|--|--|--|
| M011154 | 2449411   | >150.00 | 239       | 1.74 |  |  |  |  |  |  |  |
| M011155 | 2449411   | 16.46   | -----     | 1.31 |  |  |  |  |  |  |  |
| M011156 | 2449411   | 8.17    | -----     | 0.65 |  |  |  |  |  |  |  |
| M011169 | 2449411   | 0.18    | -----     | 0.73 |  |  |  |  |  |  |  |
| M011170 | 2449411   | 1.17    | -----     | 1.50 |  |  |  |  |  |  |  |
| M011171 | 2449411   | 0.19    | -----     | 0.12 |  |  |  |  |  |  |  |
| M011172 | 2449411   | 1.53    | -----     | 0.04 |  |  |  |  |  |  |  |
| M011173 | 2449411   | 0.89    | -----     | 0.21 |  |  |  |  |  |  |  |
| M011174 | 2449411   | 0.13    | -----     | 0.09 |  |  |  |  |  |  |  |

CERTIFICATION:

*Stewart McLeod* +



# ALS Chemex

Aurora Laboratory Services Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221 FAX: 604-984-0218



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Total: 1  
Certificate Date: 06-AUG-2002  
Invoice No.: I0221000  
P.O. Number:  
Account: RCM

## CERTIFICATE OF ANALYSIS

A0221000

| SAMPLE  | PREP CODE | Weight Kg | Au g/t  | Au FA g/t | Ag ppm | Al % | As ppm | B ppm | Ba ppm | Be ppm | Bi ppm | Ca %  | Cd ppm | Co ppm | Cr ppm | Cu ppm | Fe %   | Ga ppm | Hg ppm | K %  |
|---------|-----------|-----------|---------|-----------|--------|------|--------|-------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|------|
| M011152 | 94139402  | 5.14      | 0.16    | -----     | < 0.2  | 1.84 | 12     | < 10  | 10     | < 0.5  | < 2    | 7.52  | 0.5    | 21     | 34     | 576    | 3.97   | < 10   | < 1    | 0.26 |
| M011153 | 94139402  | 2.20      | 0.28    | -----     | < 0.2  | 3.52 | < 2    | < 10  | 10     | < 0.5  | < 2    | 6.79  | < 0.5  | 9      | 17     | 228    | 2.58   | < 10   | < 1    | 0.14 |
| M011154 | 94139402  | 0.54      | >150.00 | 239       | 25.6   | 1.20 | 2      | < 10  | 10     | < 0.5  | 30     | 4.83  | 7.0    | 247    | 21     | >10000 | >15.00 | < 10   | 9      | 0.06 |
| M011155 | 94139402  | 3.18      | 15.47   | -----     | 8.6    | 0.82 | 128    | < 10  | < 10   | < 0.5  | 6      | 4.66  | 11.5   | 296    | 16     | >10000 | >15.00 | < 10   | 1      | 0.05 |
| M011156 | 94139402  | 1.36      | 6.26    | -----     | 2.4    | 0.82 | 48     | < 10  | < 10   | < 0.5  | < 2    | 4.36  | 9.0    | 290    | 24     | 6710   | >15.00 | < 10   | 1      | 0.06 |
| M011157 | 94139402  | 6.46      | 0.47    | -----     | < 0.2  | 0.80 | < 2    | < 10  | < 10   | < 0.5  | < 2    | 11.35 | 2.0    | 18     | 19     | 347    | 7.08   | < 10   | < 1    | 0.09 |
| M011158 | 94139402  | 4.74      | 0.11    | -----     | < 0.2  | 1.73 | < 2    | < 10  | < 10   | < 0.5  | < 2    | 9.22  | 1.0    | 8      | 28     | 115    | 3.82   | < 10   | < 1    | 0.08 |
| M011159 | 94139402  | 2.46      | 0.03    | -----     | < 0.2  | 1.74 | 2      | < 10  | 20     | < 0.5  | < 2    | 1.79  | < 0.5  | 13     | 18     | 110    | 2.72   | < 10   | < 1    | 0.12 |
| M011160 | 94139402  | 11.74     | 7.33    | -----     | 0.2    | 0.96 | 12     | < 10  | < 10   | < 0.5  | < 2    | 7.64  | 1.0    | 69     | 11     | 1315   | 7.29   | < 10   | < 1    | 0.06 |
| M011161 | 94139402  | 14.32     | 1.19    | -----     | < 0.2  | 2.31 | 6      | < 10  | < 10   | < 0.5  | < 2    | 5.49  | 0.5    | 14     | 29     | 78     | 3.91   | < 10   | < 1    | 0.07 |
| M011162 | 94139402  | 11.74     | 0.02    | -----     | < 0.2  | 2.83 | 4      | < 10  | 10     | < 0.5  | < 2    | 3.10  | < 0.5  | 12     | 27     | 86     | 2.82   | < 10   | < 1    | 0.12 |
| M011163 | 94139402  | 13.02     | 0.02    | -----     | < 0.2  | 2.41 | 6      | < 10  | 10     | < 0.5  | < 2    | 3.91  | < 0.5  | 23     | 24     | 218    | 4.34   | < 10   | < 1    | 0.08 |
| M011164 | 94139402  | 14.14     | 0.04    | -----     | < 0.2  | 2.40 | 2      | < 10  | 10     | < 0.5  | < 2    | 2.34  | 0.5    | 18     | 22     | 106    | 4.46   | < 10   | < 1    | 0.10 |
| M011165 | 94139402  | 12.38     | 0.04    | -----     | < 0.2  | 2.37 | 14     | < 10  | 10     | < 0.5  | < 2    | 3.24  | < 0.5  | 21     | 40     | 105    | 5.22   | < 10   | < 1    | 0.10 |
| M011166 | 94139402  | 3.68      | 0.28    | -----     | < 0.2  | 0.59 | < 2    | < 10  | 30     | < 0.5  | < 2    | 3.45  | 10.5   | 23     | 13     | 221    | >15.00 | 10     | < 1    | 0.06 |
| M011167 | 94139402  | 12.82     | 0.06    | -----     | < 0.2  | 1.79 | < 2    | < 10  | 10     | < 0.5  | < 2    | 2.97  | 1.0    | 10     | 26     | 58     | 9.21   | < 10   | < 1    | 0.07 |
| M011168 | 94139402  | 11.46     | 0.06    | -----     | < 0.2  | 2.47 | < 2    | 20    | 10     | < 0.5  | < 2    | 5.15  | < 0.5  | 6      | 21     | 41     | 3.27   | < 10   | < 1    | 0.11 |
| M011169 | 94139402  | 2.40      | 0.16    | -----     | 5.6    | 2.57 | 18     | < 10  | 10     | < 0.5  | < 2    | 5.31  | 1.5    | 41     | 29     | 6770   | 6.01   | < 10   | < 1    | 0.09 |
| M011170 | 94139402  | 7.72      | 1.30    | -----     | 10.6   | 0.42 | 4      | 10    | < 10   | < 0.5  | < 2    | 3.35  | 4.5    | 209    | 9      | >10000 | >15.00 | < 10   | < 1    | 0.03 |
| M011171 | 94139402  | 4.56      | 0.18    | -----     | < 0.2  | 0.33 | 6      | < 10  | < 10   | < 0.5  | < 2    | 5.50  | 1.5    | 74     | 4      | 953    | 8.92   | < 10   | < 1    | 0.05 |
| M011172 | 94139402  | 12.50     | 1.07    | -----     | < 0.2  | 1.29 | < 2    | < 10  | 10     | < 0.5  | < 2    | 7.66  | 4.0    | 26     | 10     | 474    | 12.00  | < 10   | < 1    | 0.09 |
| M011173 | 94139402  | 4.74      | 1.31    | -----     | < 0.2  | 1.03 | < 2    | < 10  | 10     | < 0.5  | < 2    | 0.97  | 8.5    | 138    | 14     | 1980   | >15.00 | < 10   | < 1    | 0.23 |
| M011174 | 94139402  | 12.18     | 0.10    | -----     | < 0.2  | 1.65 | 16     | < 10  | 10     | < 0.5  | < 2    | 7.07  | 4.0    | 50     | 17     | 735    | 11.70  | 10     | < 1    | 0.12 |
| M011175 | 94139402  | 6.10      | 0.09    | -----     | < 0.2  | 1.66 | 22     | < 10  | 10     | < 0.5  | < 2    | 3.43  | 0.5    | 31     | 75     | 156    | 4.86   | < 10   | < 1    | 0.10 |
| M011176 | 94139402  | 15.48     | 0.02    | -----     | 0.6    | 0.63 | 8      | < 10  | < 10   | < 0.5  | 2      | 2.06  | 3.5    | 11     | 31     | 127    | 13.65  | < 10   | < 1    | 0.02 |
| M011177 | 94139402  | 13.32     | < 0.01  | -----     | < 0.2  | 1.94 | 32     | < 10  | 10     | < 0.5  | < 2    | 2.10  | 0.5    | 26     | 44     | 155    | 4.34   | < 10   | < 1    | 0.09 |
| M011178 | 94139402  | 5.84      | < 0.01  | -----     | < 0.2  | 1.15 | 2      | < 10  | < 10   | < 0.5  | < 2    | 5.52  | < 0.5  | 5      | 25     | 166    | 2.62   | < 10   | < 1    | 0.03 |

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Certificate Date: 06-AUG-2002  
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Account: RCM

## CERTIFICATE OF ANALYSIS

A0221000

| SAMPLE  | PREP<br>CODE | La<br>ppm | Mg<br>% | Mn<br>ppm | Mo<br>ppm | Na<br>% | Ni<br>ppm | P<br>ppm | Pb<br>ppm | S<br>% | Sb<br>ppm | Sc<br>ppm | Sr<br>ppm | Ti<br>% | Tl<br>ppm | U<br>ppm | V<br>ppm | W<br>ppm | Zn<br>ppm |
|---------|--------------|-----------|---------|-----------|-----------|---------|-----------|----------|-----------|--------|-----------|-----------|-----------|---------|-----------|----------|----------|----------|-----------|
| M011152 | 94139402     | 10        | 0.73    | 835       | < 1       | 0.03    | 14        | 480      | 8         | 0.34   | 2         | 3         | 197       | 0.01    | < 10      | < 10     | 29       | < 10     | 30        |
| M011153 | 94139402     | < 10      | 0.54    | 690       | 1         | 0.23    | 4         | 800      | 6         | 0.18   | 2         | 3         | 238       | 0.06    | < 10      | < 10     | 45       | < 10     | 38        |
| M011154 | 94139402     | < 10      | 0.49    | 1090      | < 1       | 0.12    | 115       | 860      | 20        | >10.00 | < 2       | 1         | 104       | 0.02    | < 10      | < 10     | 20       | < 10     | 296       |
| M011155 | 94139402     | 40        | 0.50    | 1320      | < 1       | 0.07    | 144       | 540      | 40        | >10.00 | 2         | 1         | 62        | 0.01    | < 10      | < 10     | 15       | < 10     | 268       |
| M011156 | 94139402     | < 10      | 0.31    | 905       | 1         | 0.04    | 131       | 370      | 14        | >10.00 | 2         | 1         | 30        | 0.02    | < 10      | < 10     | 19       | < 10     | 92        |
| M011157 | 94139402     | < 10      | 0.30    | 1385      | 1         | 0.07    | 6         | 710      | < 2       | 1.10   | 2         | 1         | 67        | 0.02    | < 10      | < 10     | 22       | < 10     | 24        |
| M011158 | 94139402     | < 10      | 0.60    | 1120      | < 1       | 0.14    | 9         | 860      | 2         | 0.27   | 2         | 2         | 106       | 0.05    | < 10      | < 10     | 33       | < 10     | 28        |
| M011159 | 94139402     | 10        | 0.67    | 440       | 1         | 0.17    | 6         | 1290     | 4         | 0.47   | 2         | 3         | 90        | 0.08    | < 10      | < 10     | 69       | < 10     | 30        |
| M011160 | 94139402     | 10        | 0.40    | 1090      | 4         | 0.06    | 35        | 1000     | < 2       | 3.42   | < 2       | < 1       | 52        | 0.01    | < 10      | < 10     | 19       | < 10     | 40        |
| M011161 | 94139402     | < 10      | 1.08    | 865       | < 1       | 0.06    | 10        | 1040     | < 2       | 0.09   | 2         | 6         | 75        | 0.05    | < 10      | < 10     | 85       | < 10     | 46        |
| M011162 | 94139402     | < 10      | 1.05    | 530       | 6         | 0.15    | 15        | 1140     | 4         | 0.17   | 6         | 5         | 162       | 0.11    | < 10      | < 10     | 97       | < 10     | 38        |
| M011163 | 94139402     | < 10      | 0.81    | 865       | < 1       | 0.12    | 19        | 1030     | 2         | 0.99   | < 2       | 4         | 146       | 0.09    | < 10      | < 10     | 92       | < 10     | 38        |
| M011164 | 94139402     | < 10      | 0.96    | 895       | 3         | 0.15    | 21        | 1010     | 6         | 0.20   | < 2       | 12        | 98        | 0.08    | < 10      | < 10     | 133      | < 10     | 48        |
| M011165 | 94139402     | < 10      | 1.04    | 1140      | 2         | 0.11    | 37        | 760      | < 2       | 0.23   | 2         | 13        | 74        | 0.05    | < 10      | < 10     | 122      | < 10     | 54        |
| M011166 | 94139402     | < 10      | 0.44    | 2120      | 4         | 0.05    | 12        | 210      | 8         | 1.13   | < 2       | 2         | 34        | 0.01    | < 10      | < 10     | 41       | < 10     | 62        |
| M011167 | 94139402     | 10        | 0.60    | 2110      | 4         | 0.08    | 7         | 1000     | 2         | 0.22   | < 2       | 9         | 82        | 0.03    | < 10      | < 10     | 67       | < 10     | 54        |
| M011168 | 94139402     | 10        | 0.86    | 1005      | 41        | 0.14    | 5         | 1260     | 2         | 0.03   | < 2       | 5         | 187       | 0.07    | < 10      | < 10     | 58       | < 10     | 36        |
| M011169 | 94139402     | < 10      | 1.60    | 1095      | < 1       | 0.09    | 55        | 970      | 28        | 1.35   | 2         | 7         | 104       | 0.06    | < 10      | < 10     | 103      | < 10     | 142       |
| M011170 | 94139402     | < 10      | 0.25    | 805       | < 1       | 0.03    | 187       | 2000     | 14        | 9.74   | < 2       | < 1       | 18        | 0.01    | < 10      | < 10     | 11       | < 10     | 348       |
| M011171 | 94139402     | < 10      | 0.21    | 795       | 1         | 0.04    | 81        | 1920     | 2         | 4.66   | < 2       | < 1       | 29        | 0.01    | < 10      | < 10     | 10       | < 10     | 26        |
| M011172 | 94139402     | < 10      | 0.34    | 1180      | 1         | 0.07    | 18        | 750      | 2         | 2.19   | < 2       | 2         | 78        | 0.05    | < 10      | < 10     | 51       | < 10     | 32        |
| M011173 | 94139402     | < 10      | 0.26    | 1260      | < 1       | 0.10    | 9         | 910      | 6         | >10.00 | < 2       | < 1       | 21        | 0.01    | < 10      | < 10     | 39       | < 10     | 50        |
| M011174 | 94139402     | < 10      | 0.54    | 1280      | 1         | 0.10    | 6         | 910      | 2         | 3.85   | 4         | 1         | 68        | 0.03    | < 10      | < 10     | 38       | < 10     | 40        |
| M011175 | 94139402     | < 10      | 0.99    | 1010      | 1         | 0.08    | 74        | 1250     | 2         | 0.35   | 2         | 11        | 74        | 0.04    | < 10      | < 10     | 85       | < 10     | 44        |
| M011176 | 94139402     | < 10      | 0.66    | 3950      | < 1       | 0.04    | 19        | 850      | 6         | 0.36   | < 2       | 10        | 30        | < 0.01  | < 10      | < 10     | 80       | < 10     | 74        |
| M011177 | 94139402     | < 10      | 1.04    | 855       | 3         | 0.11    | 38        | 790      | 6         | 0.45   | < 2       | 13        | 80        | 0.04    | < 10      | < 10     | 120      | < 10     | 48        |
| M011178 | 94139402     | < 10      | 0.36    | 840       | < 1       | 0.03    | 2         | 740      | < 2       | 0.07   | < 2       | 4         | 49        | 0.05    | < 10      | < 10     | 37       | < 10     | 20        |

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Page: 1-A  
Total: 1  
Certificate Date: 02-AUG-2002  
Invoice No.: 10220999  
P.O. Number:  
Account: RCM

## CERTIFICATE OF ANALYSIS

A0220999

| SAMPLE  | PREP CODE | Weight Kg | Au g/t | Ag ppm | Al % | As ppm | B ppm | Ba ppm | Be ppm | Bi ppm | Ca %   | Cd ppm | Co ppm | Cr ppm | Cu ppm | Fe %  | Ga ppm | Hg ppm | K %  | La ppm |
|---------|-----------|-----------|--------|--------|------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|------|--------|
| M011120 | 94139402  | 0.84      | 0.01   | < 0.2  | 4.12 | 16     | 10    | 20     | 0.5    | 6      | 4.16   | < 0.5  | 4      | 36     | 36     | 0.91  | < 10   | < 1    | 0.11 | < 10   |
| M011121 | 94139402  | 0.74      | < 0.01 | 1.2    | 3.15 | 12     | 30    | 20     | 0.5    | 2      | 4.47   | < 0.5  | 9      | 37     | 38     | 2.00  | < 10   | < 1    | 0.08 | < 10   |
| M011122 | 94139402  | 1.70      | < 0.01 | < 0.2  | 2.86 | 14     | 10    | 30     | < 0.5  | 6      | 2.45   | < 0.5  | 22     | 42     | 196    | 3.87  | 10     | 1      | 0.18 | < 10   |
| M011123 | 94139402  | 12.68     | < 0.01 | < 0.2  | 2.68 | 2      | 10    | 10     | < 0.5  | 4      | 3.29   | < 0.5  | 8      | 17     | 77     | 1.34  | < 10   | 1      | 0.09 | < 10   |
| M011124 | 94139402  | 8.44      | 0.01   | < 0.2  | 4.36 | 6      | 10    | 10     | < 0.5  | 4      | 3.93   | < 0.5  | 5      | 15     | 51     | 1.04  | < 10   | 1      | 0.10 | < 10   |
| M011125 | 94139402  | 13.50     | 0.01   | < 0.2  | 5.95 | 2      | 50    | 60     | < 0.5  | 10     | 4.67   | 0.5    | 18     | 165    | 20     | 7.04  | 10     | < 1    | 0.47 | < 10   |
| M011126 | 94139402  | 11.32     | 0.03   | < 0.2  | 5.79 | 10     | 30    | 60     | < 0.5  | 8      | 4.88   | < 0.5  | 17     | 103    | 65     | 5.09  | 10     | < 1    | 0.38 | < 10   |
| M011127 | 94139402  | 15.44     | 0.02   | < 0.2  | 6.19 | 8      | 30    | 70     | < 0.5  | 8      | 4.90   | 0.5    | 20     | 123    | 133    | 6.55  | 10     | 1      | 0.45 | < 10   |
| M011128 | 94139402  | 13.06     | 0.02   | < 0.2  | 5.27 | 8      | 30    | 60     | < 0.5  | 6      | 4.51   | 1.5    | 22     | 143    | 68     | 9.73  | 10     | < 1    | 0.55 | < 10   |
| M011129 | 94139402  | 4.74      | 0.03   | < 0.2  | 4.29 | 4      | 150   | 70     | < 0.5  | 8      | 2.88   | < 0.5  | 18     | 44     | 19     | 3.81  | 10     | < 1    | 0.31 | < 10   |
| M011130 | 94139402  | 11.94     | 0.02   | < 0.2  | 6.84 | 8      | 40    | 10     | < 0.5  | < 2    | 5.69   | < 0.5  | 9      | 26     | 133    | 2.23  | 10     | < 1    | 0.08 | < 10   |
| M011131 | 94139402  | 13.62     | 0.01   | < 0.2  | 5.50 | 6      | 30    | 20     | < 0.5  | 6      | 4.37   | < 0.5  | 6      | 12     | 89     | 0.96  | < 10   | 1      | 0.09 | < 10   |
| M011132 | 94139402  | 11.22     | 0.12   | < 0.2  | 4.05 | 6      | 40    | 10     | < 0.5  | 6      | 4.65   | < 0.5  | 6      | 17     | 12     | 1.49  | < 10   | < 1    | 0.12 | < 10   |
| M011133 | 94139402  | 11.52     | < 0.01 | < 0.2  | 4.22 | 6      | 50    | 20     | < 0.5  | 4      | 5.28   | < 0.5  | 8      | 17     | 30     | 1.79  | < 10   | 2      | 0.12 | < 10   |
| M011134 | 94139402  | 7.42      | < 0.01 | < 0.2  | 0.52 | 12     | < 10  | < 10   | < 0.5  | < 2    | >15.00 | < 0.5  | 6      | 9      | 105    | 0.70  | < 10   | 3      | 0.01 | < 10   |
| M011135 | 94139402  | 4.74      | 0.01   | < 0.2  | 2.24 | 6      | 10    | 40     | < 0.5  | 4      | 2.50   | < 0.5  | 16     | 39     | 59     | 3.05  | < 10   | 3      | 0.21 | < 10   |
| M011136 | 94139402  | 10.20     | < 0.01 | < 0.2  | 0.26 | 8      | 10    | < 10   | < 0.5  | < 2    | >15.00 | < 0.5  | 2      | 6      | 31     | 0.29  | < 10   | 4      | 0.01 | < 10   |
| M011137 | 94139402  | 15.18     | 0.03   | < 0.2  | 0.27 | 10     | 10    | < 10   | < 0.5  | < 2    | >15.00 | < 0.5  | 2      | 8      | 26     | 0.36  | < 10   | 3      | 0.02 | < 10   |
| M011138 | 94139402  | 9.68      | < 0.01 | < 0.2  | 4.92 | 4      | 10    | 10     | < 0.5  | < 2    | 4.81   | < 0.5  | 5      | 20     | 29     | 1.26  | < 10   | < 1    | 0.10 | < 10   |
| M011139 | 94139402  | 2.12      | 0.01   | < 0.2  | 0.35 | 10     | 10    | < 10   | < 0.5  | < 2    | >15.00 | < 0.5  | 5      | 14     | 65     | 1.74  | < 10   | 3      | 0.01 | < 10   |
| M011140 | 94139402  | 13.80     | 0.02   | < 0.2  | 2.76 | 6      | 10    | 50     | < 0.5  | 6      | 2.92   | < 0.5  | 23     | 42     | 179    | 3.69  | < 10   | < 1    | 0.25 | < 10   |
| M011141 | 94139402  | 13.22     | 0.01   | < 0.2  | 5.82 | 2      | < 10  | 10     | < 0.5  | 6      | 5.31   | < 0.5  | 10     | 18     | 51     | 3.25  | 10     | < 1    | 0.13 | < 10   |
| M011142 | 94139402  | 7.66      | 0.04   | 0.8    | 4.93 | 4      | < 10  | 40     | < 0.5  | 8      | 4.56   | 0.5    | 115    | 32     | 884    | 11.55 | < 10   | < 1    | 0.39 | < 10   |
| M011143 | 94139402  | 8.78      | 0.02   | < 0.2  | 4.01 | 2      | < 10  | 20     | < 0.5  | 6      | 3.61   | < 0.5  | 7      | 22     | 80     | 1.47  | < 10   | < 1    | 0.13 | < 10   |
| M011144 | 94139402  | 10.40     | 0.04   | < 0.2  | 3.01 | < 2    | < 10  | 20     | < 0.5  | 2      | 4.26   | < 0.5  | 9      | 30     | 49     | 1.55  | < 10   | < 1    | 0.17 | < 10   |

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



# ALS Chemex

Aurora Laboratory Services Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221 FAX: 604-984-0218



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Account : RCM

## CERTIFICATE OF ANALYSIS

A0220999

| SAMPLE  | PREP<br>CODE | Mg<br>% | Mn<br>ppm | Mo<br>ppm | Na<br>% | Ni<br>ppm | P<br>ppm | Pb<br>ppm | S<br>% | Sb<br>ppm | Sc<br>ppm | Sr<br>ppm | Ti<br>% | Tl<br>ppm | U<br>ppm | V<br>ppm | W<br>ppm | Zn<br>ppm |
|---------|--------------|---------|-----------|-----------|---------|-----------|----------|-----------|--------|-----------|-----------|-----------|---------|-----------|----------|----------|----------|-----------|
| M011120 | 94139402     | 0.28    | 200       | 2         | 0.41    | 5         | 790      | 6         | 0.08   | < 2       | 3         | 273       | 0.12    | < 10      | < 10     | 44       | < 10     | 32        |
| M011121 | 94139402     | 0.90    | 435       | 1         | 0.09    | 11        | 1190     | < 2       | 0.11   | < 2       | 7         | 100       | 0.12    | < 10      | < 10     | 94       | < 10     | 32        |
| M011122 | 94139402     | 1.45    | 450       | 1         | 0.09    | 23        | 1410     | < 2       | 0.48   | < 2       | 6         | 96        | 0.23    | < 10      | < 10     | 148      | < 10     | 50        |
| M011123 | 94139402     | 0.46    | 310       | 1         | 0.19    | 9         | 1280     | < 2       | 0.22   | < 2       | 4         | 193       | 0.13    | < 10      | < 10     | 65       | < 10     | 32        |
| M011124 | 94139402     | 0.52    | 275       | 2         | 0.45    | 8         | 1070     | < 2       | 0.08   | < 2       | 4         | 485       | 0.13    | < 10      | < 10     | 57       | < 10     | 38        |
| M011125 | 94139402     | 1.22    | 1040      | 1         | 0.68    | 43        | 830      | < 2       | 0.10   | 2         | 22        | 412       | 0.37    | < 10      | 10       | 210      | < 10     | 74        |
| M011126 | 94139402     | 1.01    | 825       | 1         | 0.71    | 36        | 820      | < 2       | 0.22   | < 2       | 17        | 399       | 0.34    | < 10      | < 10     | 163      | < 10     | 64        |
| M011127 | 94139402     | 0.82    | 930       | 1         | 0.70    | 41        | 750      | < 2       | 0.23   | < 2       | 18        | 385       | 0.34    | < 10      | 10       | 214      | < 10     | 70        |
| M011128 | 94139402     | 0.61    | 1120      | 1         | 0.62    | 39        | 690      | < 2       | 0.23   | < 2       | 17        | 278       | 0.36    | < 10      | < 10     | 208      | < 10     | 86        |
| M011129 | 94139402     | 1.60    | 540       | 1         | 0.35    | 34        | 1050     | < 2       | 0.04   | < 2       | 6         | 328       | 0.37    | < 10      | < 10     | 176      | < 10     | 54        |
| M011130 | 94139402     | 0.37    | 365       | 2         | 0.73    | 10        | 1080     | < 2       | 0.31   | 2         | 3         | 778       | 0.16    | < 10      | 10       | 74       | < 10     | 32        |
| M011131 | 94139402     | 0.42    | 240       | 1         | 0.85    | 6         | 1080     | < 2       | 0.15   | < 2       | 3         | 646       | 0.17    | < 10      | < 10     | 60       | < 10     | 34        |
| M011132 | 94139402     | 0.70    | 405       | 1         | 0.42    | 10        | 1030     | < 2       | 0.01   | < 2       | 5         | 402       | 0.16    | < 10      | < 10     | 99       | < 10     | 44        |
| M011133 | 94139402     | 0.75    | 445       | 2         | 0.31    | 10        | 1090     | < 2       | 0.05   | < 2       | 5         | 361       | 0.15    | < 10      | < 10     | 100      | < 10     | 38        |
| M011134 | 94139402     | 0.24    | 495       | 3         | 0.01    | 5         | 450      | 2         | 0.31   | < 2       | < 1       | 169       | 0.01    | < 10      | 10       | 16       | < 10     | 16        |
| M011135 | 94139402     | 1.34    | 460       | 1         | 0.18    | 18        | 1750     | < 2       | 0.07   | < 2       | 8         | 124       | 0.25    | < 10      | < 10     | 122      | < 10     | 48        |
| M011136 | 94139402     | 0.19    | 645       | 4         | 0.01    | 2         | 610      | 6         | 0.08   | < 2       | < 1       | 156       | 0.01    | < 10      | 20       | 10       | < 10     | 8         |
| M011137 | 94139402     | 0.27    | 565       | 3         | 0.01    | 3         | 670      | 6         | 0.10   | < 2       | < 1       | 167       | 0.01    | < 10      | 20       | 12       | < 10     | 6         |
| M011138 | 94139402     | 0.40    | 285       | 1         | 0.65    | 5         | 1210     | < 2       | 0.08   | < 2       | 3         | 451       | 0.15    | < 10      | < 10     | 63       | < 10     | 30        |
| M011139 | 94139402     | 0.23    | 780       | 3         | 0.02    | 3         | 780      | 2         | 0.19   | < 2       | < 1       | 185       | 0.01    | < 10      | 10       | 12       | < 10     | 4         |
| M011140 | 94139402     | 1.23    | 550       | 1         | 0.16    | 23        | 1520     | < 2       | 0.37   | < 2       | 5         | 103       | 0.24    | < 10      | < 10     | 122      | < 10     | 52        |
| M011141 | 94139402     | 0.39    | 540       | 1         | 0.36    | 6         | 1250     | < 2       | 0.14   | < 2       | 4         | 350       | 0.14    | < 10      | < 10     | 99       | < 10     | 40        |
| M011142 | 94139402     | 0.56    | 980       | 1         | 0.40    | 18        | 1660     | < 2       | 4.07   | < 2       | 6         | 281       | 0.13    | < 10      | < 10     | 93       | < 10     | 74        |
| M011143 | 94139402     | 0.50    | 310       | 3         | 0.38    | 8         | 1200     | 2         | 0.07   | < 2       | 3         | 277       | 0.16    | < 10      | < 10     | 70       | < 10     | 72        |
| M011144 | 94139402     | 0.52    | 385       | 1         | 0.20    | 8         | 1150     | < 2       | 0.13   | < 2       | 3         | 186       | 0.11    | < 10      | < 10     | 51       | < 10     | 74        |

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

**APPENDIX IV**

**DRILL LOGS**

# DRILL HOLE LOG - ARN PROPERTY

HOLE : ARN-1

DRILL DATES : JULY 14-15 /02

NORTHING : 6870980

CORE DIAMETER: HQ 45.72 m

NQ Ø

EASTING : 0516493

BQ Ø

ELEVATION :

TOTAL DEPTH : 45.72 m (150')

AZIMUTH : 305°

CASING DEPTH : 3.66m (12')

DIP : -60°

CASING STATUS: IN OUT

DOWN HOLE SURVEYS :

LOGGED BY : D. EATON

DEPTH      AZIMUTH      DIP

RQD BY : J. LEDREW

HELPER QUIT & LEFT WITH TUBE IN BACKPACK

SPLIT BY : S. EATON

# DRILL HOLE LOG - ARN PROPERTY

ARN-1 page 2 of 3

| RQD<br>(m) | RQD<br>(%) | VISUAL |       | (m)   | DESCRIPTION                                                                                                                                                                                                                                                                                                                                    | FROM<br>(m) | TO<br>(m) | INTERVAL<br>(m) | RECOVERY |     | SAMPLE<br>NUMBER | ASSAYS |      |
|------------|------------|--------|-------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|-----------------|----------|-----|------------------|--------|------|
|            |            | ROCKS  | STRUC |       |                                                                                                                                                                                                                                                                                                                                                |             |           |                 | (m)      | (%) |                  | Ag/gt  | Cu % |
|            |            |        |       |       | LITHOLOGY ALTERATION MINERALIZATION Mg Pq Py Cp Li Cs                                                                                                                                                                                                                                                                                          |             |           |                 |          |     |                  |        |      |
| 0.00       | 0          |        |       |       | NO CORE - OVERBURDEN & PAD MATERIAL                                                                                                                                                                                                                                                                                                            |             |           |                 | 0.00     | 0   |                  |        |      |
| 0.00       | 0.00       |        |       | 2.44  | VOLCANIC Fresh Oxide                                                                                                                                                                                                                                                                                                                           |             |           |                 | 0.20     | 22  |                  |        |      |
| 0.00       | 0.00       |        |       | 4     | Badly ground to pebble size fragments - relatively homogeneous - mostly medium green fine grained; ~10% with hornblende phenocrysts < 2mm; ~10% exotic fragments                                                                                                                                                                               | 2.44        | 4.88      | 2.44            | 0.35     | 23  | M011101          | 0.08   | 29   |
| 0.00       | 0.00       |        |       | 4.88  | LIMESTONE SKARN - W MIXED                                                                                                                                                                                                                                                                                                                      |             |           |                 |          |     |                  |        |      |
| 0.00       | 0.00       |        |       |       | Weakly skarnified, epidote most distinctive mineral. Pyrite and pits after pyrite about 10% of rock; moderate limonite and rare pyrite on fractures.                                                                                                                                                                                           | 4.88        | 6.10      | 1.22            | 0.15     | 12  | M011102          | 0.01   | 93   |
| 0.00       | 0.00       |        |       |       | Less disseminated pyrite and disseminated pits. Most limonite on fractures. No bedding visible.                                                                                                                                                                                                                                                |             |           |                 | 0.15     | 50  |                  |        |      |
| 0.00       | 0.00       |        |       |       |                                                                                                                                                                                                                                                                                                                                                |             |           |                 | 0.55     | 90  |                  |        |      |
| 0.36       | 40         |        |       | 8     |                                                                                                                                                                                                                                                                                                                                                | 6.10        | 9.68      | 2.58            | 0.20     | 33  | M011103          | 0.04   | 208  |
| 0.36       | 40         |        |       |       |                                                                                                                                                                                                                                                                                                                                                |             |           |                 | 0.83     | 91  |                  |        |      |
| 6.26       | 28         |        |       | 8.68  | VOLCANIC SKARN - W Oxide                                                                                                                                                                                                                                                                                                                       |             |           |                 | 0.88     | 96  |                  |        |      |
| 0.81       | 59         |        |       |       | Weakly skarnified, epidote most distinctive mineral, is relatively fresh with weak epidote envelopes around fractures. Most altered fractures filled with calcite - 30° fractures are open and weakly coated with limonite. Fresh volcanic has hornblende phenocrysts to 4mm long.                                                             | 8.68        | 10.82     | 2.14            | 1.22     | 89  | M011104          | <0.01  | 95   |
| 0.56       | 37         |        |       | 12    |                                                                                                                                                                                                                                                                                                                                                | 10.82       | 13.11     | 2.29            | 1.44     | 95  | M011105          | 0.03   | 38   |
| 0.14       | 18         |        |       |       |                                                                                                                                                                                                                                                                                                                                                |             |           |                 | 0.70     | 91  |                  |        |      |
| 0.16       | 13         |        |       |       | Skarnification increases somewhat ~ 2mm garnet selvages flanked by ~ 2-4mm epidote; fractures close enough most of rock affected. Skarnified fractures and bands mostly 50 in 70° to core axis. 14.74-15.04 semi-massive pyritic with strong garnet skarn.                                                                                     | 13.11       | 15.54     | 2.43            | 0.95     | 78  | M011106          | 0.09   | 622  |
| 0.37       | 30         |        |       | 16    | Skarnified fractures often lined by pyrite or limonite veinlet ~ 1mm wide. 30° fractures generally open coated by weak limonite. Many non-skarnified 70° fractures filled with 2-3mm white quartz + gypsum? veinlets - no associated sulphides or limonite.                                                                                    | 15.54       | 17.53     | 1.99            | 0.97     | 91  | M011107          | 0.05   | 62   |
| 0.12       | 11         |        |       |       |                                                                                                                                                                                                                                                                                                                                                |             |           |                 | 1.05     | 80  |                  |        |      |
| 0.25       | 20         |        |       | 17.53 | LIMESTONE SKARN - W MIXED                                                                                                                                                                                                                                                                                                                      |             |           |                 | 0.52     | 68  | M011108          | 0.04   | 270  |
| 0.12       | 16         |        |       |       | Heavy pitting and some large cavities (3x7cm) suggest was strongly leached of sulphide. Best mineralized fractures and heavily pitted bands subparallel to contacts.                                                                                                                                                                           | 17.53       | 19.05     | 1.52            | 1.21     | 74  |                  |        |      |
| 0.47       | 31         |        |       | 20    | VOLCANIC with MINOR LIMESTONE SKARN - W MIXED                                                                                                                                                                                                                                                                                                  |             |           |                 |          |     |                  |        |      |
| 0.54       | 39         |        |       | 21.00 | 33cm band of limestone centered at 20.12 contains disseminated pyrite. Rest of section porphyritic volcanic with up to 4mm hornblende phenocrysts - minor pyrite in 30° fractures                                                                                                                                                              | 19.05       | 21.00     | 1.95            | 1.12     | 82  | M011109          | <0.01  | 129  |
| 0.26       | 17         |        |       | 22.81 | VOLCANIC FRESH SULPHIDE                                                                                                                                                                                                                                                                                                                        |             |           |                 |          |     |                  |        |      |
| 0.52       | 34         |        |       | 24    | Unusually large hornblende phenocrysts up to 8mm across in fine grained medium green groundmass. Becomes darker and aphanitic near lower contact. Sulphides on 30° fractures                                                                                                                                                                   | 21.00       | 22.81     | 1.81            | 1.46     | 96  | M011110          | <0.01  | 165  |
| 0.00       | 0          |        |       |       | LIMESTONE? - NOW SKARN SKARN - S SULPHIDE                                                                                                                                                                                                                                                                                                      | 22.81       | 23.40     | 0.59            | 1.32     | 86  | M011111          | 0.14   | 2660 |
| 0.46       | 27         |        |       |       | Garnet & epidote. Sulphide on fractures, wispy disseminations & semi-massive.                                                                                                                                                                                                                                                                  |             |           |                 |          |     |                  |        |      |
| 0.19       | 21         |        |       |       | VOLCANIC BLEACHED SULPHIDE                                                                                                                                                                                                                                                                                                                     |             |           |                 |          |     |                  |        |      |
| 0.67       | 49         |        |       |       | Strong fracture ~ 1cm wide runs down centre of core. Wall rocks bleached highly fractured and marbled with 1-2cm 30° fractures. All fractures filled with a white, non-carbonate mineral that seems too hard for gypsum. Traces of pyrite in main vein.                                                                                        | 23.40       | 26.06     | 2.66            | 1.28     | 84  | M011112          | 0.08   | 93   |
| 0.23       | 30         |        |       |       | VOLCANIC SKARN - W.M. SULPHIDE                                                                                                                                                                                                                                                                                                                 |             |           |                 |          |     |                  |        |      |
| 0.66       | 43         |        |       | 28    | Medium green, fine grained with hornblende phenocrysts 1+4mm long. Liny garnet & epidote skarn bands scattered through out - most 45° to 80° to core axis - 2-10cm wide. Most fractures filled with 1mm wide calcite veinlets which narrow chlorite selvages. Density of skarn increases from about 5% at top of interval to 20% toward bottom | 26.06       | 28.65     | 2.59            | 1.46     | 87  | M011113          | 0.24   | 36   |
|            |            |        |       |       |                                                                                                                                                                                                                                                                                                                                                |             |           |                 | 0.85     | 93  |                  |        |      |
|            |            |        |       |       |                                                                                                                                                                                                                                                                                                                                                |             |           |                 | 1.31     | 96  |                  |        |      |
|            |            |        |       |       |                                                                                                                                                                                                                                                                                                                                                | 28.65       | 32.31     | 3.66            | 0.55     | 72  | M011114          | 0.01   | 46   |
|            |            |        |       |       |                                                                                                                                                                                                                                                                                                                                                |             |           |                 | 1.39     | 97  |                  |        |      |

S = strong M = moderate W = weak T = trace

Mg = magnetite Pq = pyrrhotite Py = pyrite Cp = chalcopyrite Li = limonite Cs = secondary copper minerals

# DRILL HOLE LOG - ARN PROPERTY

ARN-1 page 3 of 3

| RQD  | RQD (%) | VISUAL |       |       | DESCRIPTION                                                                                                                                                                                                    | FROM (m) | TO (m) | INTERVAL (m) | RECOVERY |     | SAMPLE NUMBER | ASSAYS |      |
|------|---------|--------|-------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|----------|-----|---------------|--------|------|
|      |         | ROCKS  | STRUC | (m)   |                                                                                                                                                                                                                |          |        |              | (m)      | (%) |               | Ag %   | Cu % |
|      |         |        |       |       | LITHOLOGY                                                                                                                                                                                                      |          |        |              |          |     |               |        |      |
|      |         |        |       |       | ALTERATION                                                                                                                                                                                                     |          |        |              |          |     |               |        |      |
|      |         |        |       |       | MINERALIZATION                                                                                                                                                                                                 |          |        |              |          |     |               |        |      |
|      |         |        |       |       | Mg Pd Py Cp Li Cs                                                                                                                                                                                              |          |        |              |          |     |               |        |      |
| 0.43 | 28      | V      |       | 32    | As previous                                                                                                                                                                                                    |          |        |              |          |     |               |        |      |
| 0.00 | 0       |        |       |       |                                                                                                                                                                                                                | 32.31    | 35.00  | 2.69         | 1.25     | 82  | M011115       | <0.01  | 61   |
| 0.39 | 32      |        |       | 35.00 | LIMESTONE - LARGELY SKARN                                                                                                                                                                                      |          |        |              | 1.14     | 93  |               |        |      |
| 0.43 | 28      |        |       | 36    | SKARN - M                                                                                                                                                                                                      |          |        |              |          |     |               |        |      |
| 0.54 | 36      |        |       | 37.30 | SULPHIDE                                                                                                                                                                                                       |          |        |              |          |     |               |        |      |
| 0.44 | 29      |        |       | 40    | W W                                                                                                                                                                                                            |          |        |              |          |     |               |        |      |
| 0.84 | 55      |        |       | 44    | Garnet > chlorite? > epidote skarn. Pyrite usually along late fractures. Chalcopyrite along bands in skarn often with dark prismatic mineral - actinolite? 20cm section of volcanic in middle of skarn-barren. | 35.00    | 37.30  | 2.30         | 1.40     | 92  | M011116       | 0.07   | 1690 |
| 0.90 | 59      |        |       |       | VOLCANIC                                                                                                                                                                                                       |          |        |              | 1.47     | 97  |               |        |      |
| 0.63 | 41      |        |       |       | SKARN - W-M                                                                                                                                                                                                    |          |        |              |          |     |               |        |      |
| 0.94 | 77      |        |       |       | SULPHIDE                                                                                                                                                                                                       |          |        |              |          |     |               |        |      |
|      |         |        |       |       | T                                                                                                                                                                                                              |          |        |              |          |     |               |        |      |
|      |         |        |       |       | Typical medium green volcanic with a few 3 to 8 cm wide calcite veins - more steep angle but shallow angle usually wider. About 5% of interval is skarn bands crossing core at about 60° - garnet dominant.    | 37.30    | 40.45  | 3.15         | 1.33     | 87  | M011117       | <0.01  | 63   |
|      |         |        |       |       | LIMESTONE - LARGELY SKARN                                                                                                                                                                                      |          |        |              | 1.44     | 95  |               |        |      |
|      |         |        |       |       | SKARN - M                                                                                                                                                                                                      |          |        |              |          |     |               |        |      |
|      |         |        |       |       | Garnet > chlorite > epidote skarn with fragments of volcanic ranging from a few cm to a few 10's cm across. Fragments subangular to rounded not necessarily aligned with skarn banding. No sulphides.          | 40.45    | 42.98  | 2.53         | 1.38     | 90  | M011118       | 0.02   | 59   |
|      |         |        |       |       |                                                                                                                                                                                                                | 42.98    | 45.72  | 2.74         | 1.24     | 85  | M011119       | <0.01  | 26   |
|      |         |        |       |       |                                                                                                                                                                                                                |          |        |              | 1.18     | 97  |               |        |      |
|      |         |        |       |       | EOH 45.72 m                                                                                                                                                                                                    |          |        |              |          |     |               |        |      |

S = strong M = moderate W = weak T = trace

Mg = magnetite Pd = pyrrhotite Py = pyrite Cp = chalcopyrite Li = limonite Cs = secondary copper minerals

DRILL HOLE LOG - ARN PROPERTYHOLE : ARN-2DRILL DATES : JULY 16-18

NORTHING : \_\_\_\_\_

CORE DIAMETER : HQ 59.45 mNQ Ø

EASTING : \_\_\_\_\_

BQ Ø

ELEVATION : \_\_\_\_\_

TOTAL DEPTH : 59.45 m (195')AZIMUTH : 238°CASING DEPTH : 3.66 mDIP : -50°CASING STATUS : IN OUT

## DOWN HOLE SURVEYS :

| DEPTH  | AZIMUTH | DIP  |
|--------|---------|------|
| 54.27m | N/A     | -50° |

LOGGED BY : D. EATONRQD BY : J. LEDREWSPLIT BY : S. EATON / J. LEDREW

# DRILL HOLE LOG - ARN PROPERTY

ARN2 page 2 of 3

| RQD  | RQD (%) | VISUAL |        |      | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                | FROM (m) | TO (m) | INTERVAL (m) | RECOVERY |     | SAMPLE NUMBER | ASSAYS |      |
|------|---------|--------|--------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|----------|-----|---------------|--------|------|
|      |         | ROCKS  | STRUCT | (m)  |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | (m)      | (%) |               | Ag/gt  | Cu % |
|      |         |        |        |      | LITHOLOGY                                                                                                                                                                                                                                                                                                                                                                                  |          |        |              |          |     |               |        |      |
|      |         |        |        |      | ALTERATION                                                                                                                                                                                                                                                                                                                                                                                 |          |        |              |          |     |               |        |      |
|      |         |        |        |      | MINERALIZATION                                                                                                                                                                                                                                                                                                                                                                             |          |        |              |          |     |               |        |      |
|      |         |        |        |      | Mg                                                                                                                                                                                                                                                                                                                                                                                         | Pg       | Py     | Cp           | Li       | Cs  |               |        |      |
| 0.00 | 0       | 0.4    |        |      | OVERBURDEN & PAD MATERIAL                                                                                                                                                                                                                                                                                                                                                                  |          |        |              | 0.00     | 0   |               |        |      |
| 0.00 | 0       | ✓      | ✓      | 3.1  | VOLCANIC SKARNIFIED? OXIDE                                                                                                                                                                                                                                                                                                                                                                 | 3.10     | 3.96   | 0.86         | 0.17     | 20  | MO11120       | 0.01   | 36   |
| 0.00 | 0       | ✓      | ✓      | 4    | Very fine grained, light to medium green, very hard                                                                                                                                                                                                                                                                                                                                        |          |        |              |          |     |               |        |      |
| 0.00 | 0       | ✓      | ✓      |      | FAULT GOUGE - VOLCANIC CLAY OXIDE                                                                                                                                                                                                                                                                                                                                                          | 3.96     | 5.44   | 1.53         | 0.23     | 15  | MO11121       | >0.01  | 38   |
| 0.00 | 0       | ✓      | ✓      | 5.44 | Tan to light grey clay gouge with fragments of volcanic - fault orientation unknown                                                                                                                                                                                                                                                                                                        |          |        |              |          |     |               |        |      |
| 0.00 | 0       | ✓      | ✓      |      | VOLCANIC SKARN? OXIDE                                                                                                                                                                                                                                                                                                                                                                      | 5.44     | 6.40   | 0.91         | 0.45     | 49  | MO11122       | >0.01  | 196  |
| 0.29 | 17      | ✓      | ✓      |      | Pale-medium green groundmass with dark green hornblende phenocrysts from 1 to 4 mm long. First 4 cm tan coloured marble. Diorite dyke from 7.05 to 7.00 m cuts core at 40°. Fractures of all orientations often filled with hairline to 2mm calcite veinlets. Rocks strongly fractured, possibly due to proximity to fault, 1-2mm plagioclase? phenocrysts common in low half of interval. | 6.40     | 8.08   | 1.68         | 1.20     | 71  | MO11123       | >0.01  | 71   |
| 0.42 | 31      | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            | 8.08     | 9.45   | 1.37         | 1.27     | 93  |               |        |      |
| 0.00 | 0       | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            | 9.45     | 11.80  | 2.35         | 1.02     | 84  | MO11124       | 0.01   | 51   |
| 0.00 | 0       | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | 0.27     | 87  |               |        |      |
| 0.17 | 12      | ✓      | ✓      | 11.8 | Irregular contact                                                                                                                                                                                                                                                                                                                                                                          |          |        |              | 0.98     | 72  |               |        |      |
| 0.11 | 14      | ✓      | ✓      | 12   | BASALT SKARN - W MIXED W W W W                                                                                                                                                                                                                                                                                                                                                             |          |        |              | 0.73     | 95  | MO11125       | 0.01   | 20   |
| 0.00 | 0       | ✓      | ✓      |      | Dark green, aphanitic groundmass with abundant 4 to 15mm amygdaloids that were calcite filled but are now skarnified - mostly to epidote. Gypsum, calcite and limonite on fractures. Rare pyrrhotite disseminated throughout and in wispy hairline fractures.                                                                                                                              | 11.80    | 15.20  | 3.40         | 1.24     | 85  |               |        |      |
| 0.00 | 0       | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | 1.07     | 70  |               |        |      |
| 0.14 | 15      | ✓      | ✓      | 16   | 10cm wide fault breccia cemented by calcite                                                                                                                                                                                                                                                                                                                                                | 15.20    | 16.29  | 3.09         | 0.85     | 93  | MO11126       | 0.03   | 65   |
| 0.00 | 0       | ✓      | ✓      | 16.2 |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | 0.42     | 91  |               |        |      |
| 0.00 | 0       | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | 0.71     | 93  |               |        |      |
| 0.26 | 27      | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | 0.88     | 96  |               |        |      |
| 0.11 | 12      | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            | 18.24    | 21.24  | 3.00         | 0.74     | 87  | MO11127       | 0.02   | 133  |
| 0.14 | 9       | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | 1.41     | 92  |               |        |      |
| 0.00 | 0       | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | 0.55     | 90  |               |        |      |
| 0.13 | 12      | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            | 21.24    | 23.90  | 2.61         | 0.47     | 92  | MO11128       | 0.02   | 68   |
| 0.00 | 0       | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | 0.47     | 91  |               |        |      |
| 0.26 | 27      | ✓      | ✓      | 23.9 | VOLCANIC SKARN - VW MIXED T W                                                                                                                                                                                                                                                                                                                                                              | 23.90    | 25.30  | 1.40         | 0.68     | 75  | MO11129       | 0.03   | 14   |
| 0.00 | 0       | ✓      | ✓      | 24   | Light grey-green groundmass with plagioclase and/or hornblende phenocrysts. Rare skarny patches, usually alongside fractures.                                                                                                                                                                                                                                                              |          |        |              | 1.14     | 93  | MO11130       | 0.02   | 133  |
| 0.00 | 0       | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            | 25.30    | 28.05  | 2.75         | 1.48     | 97  |               |        |      |
| 0.00 | 0       | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              | 1.34     | 91  | MO11131       | 0.01   | 89   |
| 0.24 | 16      | ✓      | ✓      | 28   |                                                                                                                                                                                                                                                                                                                                                                                            | 28.05    | 31.10  | 3.05         | 1.49     | 97  |               |        |      |
| 0.30 | 20      | ✓      | ✓      |      |                                                                                                                                                                                                                                                                                                                                                                                            | 31.10    | 33.84  | 2.74         | 1.48     | 97  | MO11132       | 0.12   | 12   |
| 0.38 | 25      | ✓      | ✓      | 32   |                                                                                                                                                                                                                                                                                                                                                                                            |          |        |              |          |     |               |        |      |

S = strong M = moderate W = weak T = trace

Mg = magnetite Pg = pyrrhotite Py = pyrite Cp = chalcopyrite Li = limonite Cs = secondary copper minerals

# DRILL HOLE LOG - ARN PROPERTY

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| RQD  | RQD (%) | VISUAL |       |     | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | FROM (m) | TO (m) | INTERVAL (m) | RECOVERY |     | SAMPLE NUMBER | ASSAYS |      |
|------|---------|--------|-------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|----------|-----|---------------|--------|------|
|      |         | ROCKS  | STRUC | (m) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |        |              | (m)      | (%) |               | Ag/gt  | Cu % |
|      |         |        |       |     | LITHOLOGY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |        |              |          |     |               |        |      |
|      |         |        |       |     | ALTERATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |        |              |          |     |               |        |      |
|      |         |        |       |     | MINERALIZATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |        |              |          |     |               |        |      |
|      |         |        |       |     | Mg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Px       | Py     | Cp           | Li       | Cs  |               |        |      |
|      |         |        |       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |        |              |          |     |               |        |      |
| 0.00 | 0       | V      |       | 32  | VOLCANIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 31.10    | 33.84  | 2.74         | 1.16     | 95  | MO11132       | 0.12   | 12   |
| 0.00 | 0       | V      |       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |        |              | 0.26     | 84  |               |        |      |
| 0.10 | 7       | V      |       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 33.84    | 36.60  | 2.76         | 1.03     | 75  | MO11133       | <0.01  | 30   |
| 0.00 | 0       | V      |       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |        |              | 0.71     | 93  |               |        |      |
| 0.13 | 11      | V      |       |     | 36 Sheared volcanics 36.10 - 36.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |        |              | 1.05     | 86  |               |        |      |
| 0.37 | 34      | V      |       |     | 36.60 MARBLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 36.60    | 38.40  | 1.80         | 1.01     | 94  | MO11134       | <0.01  | 105  |
| 0.50 | 33      | V      |       |     | 38.4 SKARN - W MIXED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 38.40    | 39.50  | 1.10         | 1.49     | 98  | MO11135       | 0.01   | 59   |
| 0.65 | 42      | V      |       |     | 40 Clear, white marble with patches of pale green epidote skarn. About 6cm of darker green chloritized skarn with pyrite at contact. Hairline stringers and weak disseminations of pyrite. At 38.4 to 39.5 volcanic or dyke with abundant hornblende phenocrysts in 4 to 8mm range. Inlier and marble are epidote altered for 3 cm at upper contact and 10 cm at lower contact. Upper contact ~80°, lower 50°. A few 1 to 2cm bands of garnet > epidote strong skarn aligned at 30° to core axis. Pyrite and limonite rare in mid part of section.                                      | 39.50    | 41.62  | 2.12         | 1.47     | 96  | MO11136       | <0.01  | 31   |
| 1.05 | 69      | V      |       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |        |              | 1.50     | 99  |               |        |      |
| 0.65 | 43      | V      |       |     | 44 44.46-44.66 volcanic inlier - skarnified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 41.62    | 45.23  | 3.61         | 1.50     | 99  | MO11137       | 0.03   | 26   |
| 0.64 | 46      | V      |       |     | 45.23 VOLCANIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |        |              | 1.37     | 99  |               |        |      |
| 0.76 | 42      | V      |       |     | 47.75 Borphytic near center but adjacent to marble become non-porphytic and slightly darker. The dark rock is epidote - chlorite? - garnet skarn. Upper contact sharp 60° - lower irregular ~20°, both marked by 1mm wide magnetite band.                                                                                                                                                                                                                                                                                                                                               | 45.23    | 47.75  | 2.52         | 1.44     | 79  | MO11138       | <0.01  | 29   |
| 0.65 | 71      | V      |       |     | 48 MARBLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 47.75    | 48.18  | 0.43         | 0.91     | 99  | MO11139       | 0.01   | 65   |
| 0.22 | 24      | V      |       |     | 48.18 VOLCANIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |        |              | 0.69     | 75  |               |        |      |
| 0.50 | 33      | V      |       |     | 50 Porphyritic texture largely obliterated by chlorite - epidote alteration, especially after 50.70m. There skarny bands could be total replacement of limestone horizons. They are very fine grained and contain minor disseminated pyrrhotite and some wispy bands of semi-massive pyrrhotite up to 1cm thick. Contacts with porphyritic volcanic are sharp - usually 35 to 45°. Most of the core 52.3 and 55.38 is this strong skarn.                                                                                                                                                | 48.18    | 51.22  | 3.04         | 1.49     | 98  | MO11140       | 0.03   | 179  |
| 0.34 | 22      | V      |       |     | 52                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 51.22    | 53.90  | 2.68         | 1.52     | 100 | MO11141       | 0.01   | 51   |
| 0.80 | 52      | V      |       |     | 53.4 18cm semi massive pyrrhotite flanked on either side by about 8 cm of epidote - garnet skarn containing about 5% finely disseminated chalcopyrite. Dark green skarn with minor pyrrhotite to 55.38. Rest of interval mostly light green volcanic with widely scattered 1mm hornblende phenocrysts. A couple 30-40cm patches of coarse garnet - epidote skarn and one 50cm band of porphyritic volcanic - contact with lighter volcanic 35°. The lower contact of this band is marked by a 1cm thick, pyrrhotite - magnetite - epidote - garnet zone. Late meter all pale volcanics. | 53.90    | 55.38  | 1.48         | 1.30     | 86  | MO11142       | 0.04   | 284  |
| 0.46 | 30      | V      |       |     | 56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 55.38    | 57.30  | 1.92         | 1.46     | 96  | MO11143       | 0.02   | 80   |
| 0.98 | 64      | V      |       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 57.30    | 59.45  | 2.15         | 1.50     | 98  | MO11144       | 0.04   | 49   |
| 0.84 | 55      | V      |       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |        |              | 0.57     | 92  |               |        |      |
| 0.32 | 52      | V      |       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |        |              |          |     |               |        |      |
|      |         |        |       |     | EOH 59.45m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |        |              |          |     |               |        |      |

S = skarn M = marble W = weak T = trace

Mg = magnetite Px = pyrrhotite Py = pyrite Cp = chalcopyrite Li = limonite Cs = secondary copper minerals

# DRILL HOLE LOG - ARN PROPERTY

HOLE : ARN-3

DRILL DATES : JULY 18-19 /02

NORTHING : \_\_\_\_\_

CORE DIAMETER: HQ 17.37 m

EASTING : \_\_\_\_\_

NQ Ø

ELEVATION: \_\_\_\_\_

BQ Ø

AZIMUTH : 320°

TOTAL DEPTH : 17.37 m

CASING DEPTH : 7.32 m

DIP : -70°

CASING STATUS: IN OUT

DOWN HOLE SURVEYS :

LOGGED BY : D. EATON

DEPTH      AZIMUTH      DIP

RQD BY : J. LEDREW

NO TEST

SPLIT BY : S. EATON / J. LEDREW

# DRILL HOLE LOG - ARN PROPERTY

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| RQD  | RQD (%) | VISUAL |       |      | DESCRIPTION                                                                                                                                                                                                                         | FROM (m) | TO (m) | INTERVAL (m) | RECOVERY |     | SAMPLE NUMBER | ASSAYS |      |
|------|---------|--------|-------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|----------|-----|---------------|--------|------|
|      |         | ROCKS  | STRUC | (m)  |                                                                                                                                                                                                                                     |          |        |              | (m)      | (%) |               | Ag %   | Cu % |
|      |         |        |       |      | LITHOLOGY ALTERATION MINERALIZATION Mg Ps Py Cp Li Cs                                                                                                                                                                               |          |        |              |          |     |               |        | ppm  |
|      |         | 0.00   |       | 3.51 | OVERBURDEN & PAD MATERIAL                                                                                                                                                                                                           |          |        |              |          |     |               |        |      |
| 0.00 | 0       |        |       |      | VOLCANIC SKARN - M MIXED                                                                                                                                                                                                            |          |        |              | 0.12     | 40  |               |        |      |
| 0.00 | 0       | ✓      |       | 4    | Rounded cobbles in first part of interval. Rock chlorite stained. Dark green, very fine grained. Calcite with epidote selvages on hairline to 3mm fractures. One pyritic fracture preserved. Larger fragments and core fit together | 3.51     | 5.70   | 2.19         | 0.29     | 69  | MO11145       | 0.14   | 19   |
| 0.00 | 0       | ✓      |       |      |                                                                                                                                                                                                                                     | 5.70     | 6.71   | 1.01         | 0.24     | 31  | MO11146       | 11.24  | 164  |
| 0.00 | 0       | ✓      |       | 6.71 | Strong skarn grading from above to SKARN - S MIXED T W I W I                                                                                                                                                                        |          |        |              | 0.50     | 32  |               |        |      |
| 0.24 | 20      | ✓      |       | 8    | abundant 1-3mm garnets in a chloritic matrix to 5-10cm patches of coarse garnet - epidote medium to dark green volcanics with SKARN - M MIXED T T I W I                                                                             | 6.71     | 8.20   | 1.49         | 1.10     | 91  | MO11147       | 0.21   | 84   |
| 0.14 | 11      | ✓      |       |      | phenocrysts altered to epidote? Rock contains an abundant network of hairline to 3mm calcite veinlets.                                                                                                                              |          |        |              | 0.87     | 71  |               |        |      |
| 0.31 | 36      | ✓      |       |      |                                                                                                                                                                                                                                     | 8.20     | 10.67  | 2.47         | 0.65     | 75  | MO11148       | 0.02   | 51   |
| 0.00 | 0       | ✓      |       |      |                                                                                                                                                                                                                                     |          |        |              | 0.42     | 64  |               |        |      |
| 0.00 | 0       | ✓      |       | 11.5 | 30cm wide band of intense epidote-garnet skarn.                                                                                                                                                                                     | 10.67    | 12.05  | 1.38         | 1.24     | 91  | MO11149       | 2.45   | 34   |
| 0.00 | 0       | ✓      |       | 12   | chloritized volcanic grading to epidote > garnet skarn SKARN - M MIXED T T I W I                                                                                                                                                    |          |        |              | 0.28     | 93  |               |        |      |
| 0.44 | 41      | ✓      |       |      | weak epidote alteration SKARN - W MIXED T T I T I                                                                                                                                                                                   | 12.05    | 15.54  | 3.49         | 0.95     | 89  | MO11150       | 0.03   | 22   |
| 0.24 | 39      | ✓      |       |      |                                                                                                                                                                                                                                     |          |        |              | 0.57     | 93  |               |        |      |
| 0.25 | 16      | ✓      |       |      |                                                                                                                                                                                                                                     |          |        |              | 1.12     | 74  |               |        |      |
| 0.45 | 44      | ✓      |       | 16   | LIMESTONE SKARN - W MIXED T T I T I                                                                                                                                                                                                 |          |        |              | 0.87     | 95  | MO11151       | 0.02   | 21   |
| 0.00 | 0       | ✓      |       |      | weak epidote alteration                                                                                                                                                                                                             | 15.54    | 17.37  | 1.81         | 0.86     | 94  |               |        |      |
|      |         |        |       |      | VOLCANIC SKARN M-S MIXED T T I T I                                                                                                                                                                                                  |          |        |              |          |     |               |        |      |
|      |         |        |       |      | EOH 17.37m                                                                                                                                                                                                                          |          |        |              |          |     |               |        |      |

S = strong M = moderate W = weak T = trace

Mg = magnetite Ps = pyrrhotite Py = pyrite Cp = chalcopyrite Li = limonite Cs = secondary copper minerals

# DRILL HOLE LOG - ARN PROPERTY

HOLE : ARN-4

DRILL DATES : JULY 19-20/02

NORTHING : \_\_\_\_\_

CORE DIAMETER: HQ 59.13 m

NQ Ø

EASTING : \_\_\_\_\_

BQ Ø

ELEVATION : \_\_\_\_\_

TOTAL DEPTH : 59.13 m (194')

AZIMUTH : 010°

CASING DEPTH : 7.92 m

DIP : -55°

CASING STATUS: IN OUT

## DOWNHOLE SURVEYS :

LOGGED BY : D. EATON

| DEPTH   | AZIMUTH | DIP  |
|---------|---------|------|
| 59.13 m | NA      | -55° |

RQD BY : J. LEDREW

SPLIT BY : S. EATON / J. LEDREW

# DRILL HOLE LOG - ARN PROPERTY

ARNA page 2 of 3

| RQD  | RQD (%) | VISUAL |       |       | DESCRIPTION                                                                                                                                                                                                                                                         | FROM (m) | TO (m) | INTERVAL (m) | RECOVERY |     | SAMPLE NUMBER | ASSAYS |       |
|------|---------|--------|-------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|----------|-----|---------------|--------|-------|
|      |         | ROCKS  | STRUC | (m)   |                                                                                                                                                                                                                                                                     |          |        |              | (m)      | (%) |               | Ag %   | Cu %  |
|      |         |        |       |       | LITHOLOGY ALTERATION MINERALIZATION Mg Ps Py Cp Li Cs                                                                                                                                                                                                               |          |        |              |          |     |               |        | PPM   |
|      |         |        |       |       | OVERBURDEN & PAD MATERIAL                                                                                                                                                                                                                                           |          |        |              |          |     |               |        |       |
|      |         |        |       | 3.66  |                                                                                                                                                                                                                                                                     |          |        |              |          |     |               |        |       |
| 0.00 | 0       |        |       | 4     | LIMESTONE SKARN - M MIXED W W T                                                                                                                                                                                                                                     |          |        |              | 0.44     | 86  |               |        |       |
| 0.00 | 0       |        |       |       | moderately epidote & garnet skarnification of limestone. light pale green colour. uniform fine grained texture.                                                                                                                                                     | 3.66     | 5.33   | 1.67         | 0.25     | 51  | M011152       | 0.16   | 576   |
| 0.00 | 0       |        |       | 5.33  | FAULT ZONE CLAY UNKNOWN                                                                                                                                                                                                                                             |          |        |              | 0.18     | 51  |               |        |       |
| 0.00 | 0       |        |       |       | No recovery. Drillers report swelling clay followed by flowing sand. Similar material observed while building drill site - green clay and yellow - pink sandy material.                                                                                             |          |        |              | 0.00     | 0   |               |        |       |
| 0.00 | 0       |        |       | 7.32  | LIMESTONE SKARN - M MIXED W W T                                                                                                                                                                                                                                     |          |        |              | 0.16     | 53  |               |        |       |
| 0.00 | 0       |        |       | 8     | as above fault. Contact angles not preserved.                                                                                                                                                                                                                       | 7.32     | 8.38   | 1.06         | 0.17     | 50  | M011153       | 0.28   | 228   |
| 0.00 | 0       |        |       | 8.38  | SKARN SKARN - S MIXED S M S S                                                                                                                                                                                                                                       | 8.38     | 8.84   | 0.46         | 0.16     | 55  | M011154       | 239.00 | 1.74% |
| 0.25 | 33      |        |       |       | original rock type totally obliterated by skarnification. Rock strongly limonitic with 5 to 20 mm patches of chalcantite and minor malachite. Original rock sulphides surrounding chloritized rock fragments. Actinolite rich patches.                              | 8.84     | 9.60   | 0.76         | 0.64     | 84  | M011155       | 15.47  | 1.31% |
| 0.16 | 21      |        |       | 10.36 | LIMESTONE SKARN - M - S MIXED W W W                                                                                                                                                                                                                                 | 9.60     | 10.36  | 0.76         | 0.38     | 50  | M011156       | 6.26   | 6710  |
| 0.26 | 17      |        |       |       | chlorite with garnet crystals to 4mm grading to massive garnet & epidote. Some black actinolite rich patches in the strongly skarnified sections.                                                                                                                   | 10.36    | 11.89  | 1.53         | 1.29     | 84  | M011157       | 0.47   | 347   |
| 0.00 | 0       |        |       | 12    |                                                                                                                                                                                                                                                                     |          |        |              |          |     |               |        |       |
| 0.00 | 0       |        |       |       | VOLCANIC SKARN W MIXED T W                                                                                                                                                                                                                                          |          |        |              | 1.06     | 81  | M011158       | 0.11   | 115   |
| 0.00 | 0       |        |       |       | strongly broken, fine grained, light green volcanics. One 10cm fragment is intensely veined with sheeted talcite veins up to 6mm thick.                                                                                                                             | 11.89    | 13.11  | 1.22         | 0.27     | 44  |               |        |       |
| 0.00 | 0       |        |       |       |                                                                                                                                                                                                                                                                     |          |        |              | 0.27     | 22  | M011159       | 0.03   | 110   |
| 0.00 | 0       |        |       |       | LIMESTONE SKARN - M - S MIXED M W M                                                                                                                                                                                                                                 |          |        |              | 0.17     | 57  |               |        |       |
| 0.00 | 0       |        |       |       | epidote - chlorite grades to garnet - epidote - actinolite. Sulphides rich in actinolite rich sections. Strongest sulphide concentration 17.1 - 17.5m.                                                                                                              |          |        |              | 0.45     | 98  |               |        |       |
| 0.34 | 25      |        |       | 16    |                                                                                                                                                                                                                                                                     | 14.94    | 17.60  | 2.66         | 1.20     | 88  | M011160       | 7.33   | 1315  |
| 0.85 | 56      |        |       | 17.60 | VOLCANIC SKARN W - M MIXED T W                                                                                                                                                                                                                                      |          |        |              | 1.29     | 35  |               |        |       |
| 0.61 | 66      |        |       |       | Pale to medium green groundmass with abundant plagioclase phenocrysts and occasional hornblende. First 80cm garnet rich after that mostly weak epidote cut by 1 to 4 mm garnet selvages along early fractures that are cut by a network of 1 to 15cm calcite veins. | 17.60    | 21.05  | 3.45         | 0.92     | 100 | M011161       | 1.14   | 78    |
| 1.04 | 68      |        |       | 20    | 20.1 - 20.45 strongly epidote - actinolite altered limestone band with 60° contacts.                                                                                                                                                                                |          |        |              | 1.47     | 97  |               |        |       |
| 0.71 | 46      |        |       |       |                                                                                                                                                                                                                                                                     |          |        |              | 1.46     | 95  |               |        |       |
| 0.70 | 48      |        |       |       |                                                                                                                                                                                                                                                                     | 21.05    | 24.08  | 3.03         | 1.27     | 86  | M011162       | 6.02   | 86    |
| 0.00 | 0       |        |       |       |                                                                                                                                                                                                                                                                     |          |        |              | 0.36     | 54  |               |        |       |
| 0.10 | 11      |        |       | 24    | 25.45 - 26.0 strongly garnet - epidote altered limestone with 30° contacts.                                                                                                                                                                                         | 24.08    | 27.13  | 3.05         | 0.87     | 96  | M011163       | 0.02   | 218   |
| 0.36 | 24      |        |       |       |                                                                                                                                                                                                                                                                     |          |        |              | 1.41     | 92  |               |        |       |
| 0.16 | 13      |        |       |       |                                                                                                                                                                                                                                                                     |          |        |              | 1.10     | 90  |               |        |       |
| 0.51 | 56      |        |       | 28    |                                                                                                                                                                                                                                                                     | 27.13    | 30.78  | 3.65         | 0.97     | 46  | M011164       | 0.04   | 106   |
| 0.79 | 52      |        |       | 28.35 | SKARN - W MIXED T T                                                                                                                                                                                                                                                 |          |        |              | 1.43     | 94  |               |        |       |
| 0.43 | 47      |        |       |       | SKARN weakens. No garnet on fractures - epidote only.                                                                                                                                                                                                               |          |        |              | 0.47     | 100 |               |        |       |
| 0.71 | 47      |        |       | 32    |                                                                                                                                                                                                                                                                     | 30.78    | 33.80  | 3.02         | 1.34     | 68  | M011165       | 0.04   | 105   |

S = strong M = medium W = weak T = trace

Mg = magnetite Ps = pyrrhotite Py = pyrite Cp = chalcopyrite Li = limonite Cs = secondary copper minerals

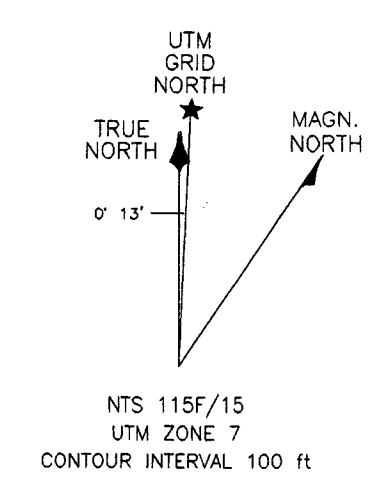
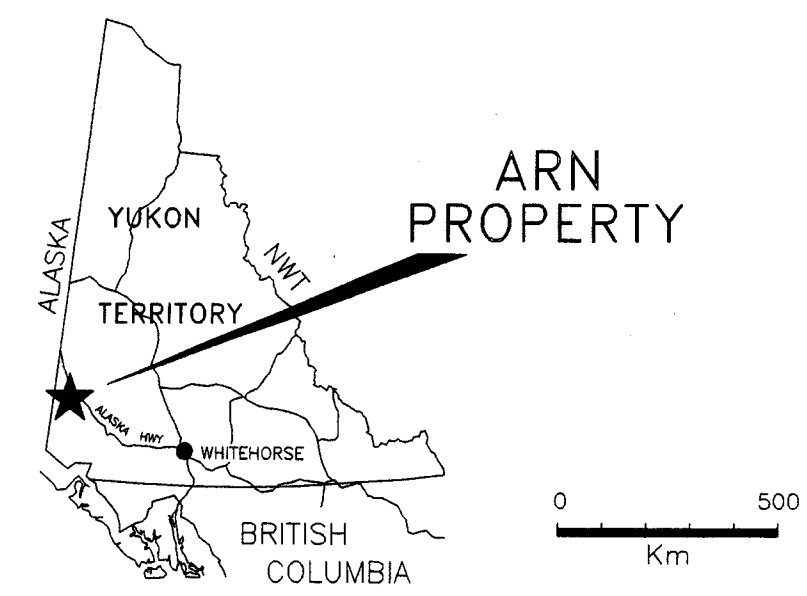
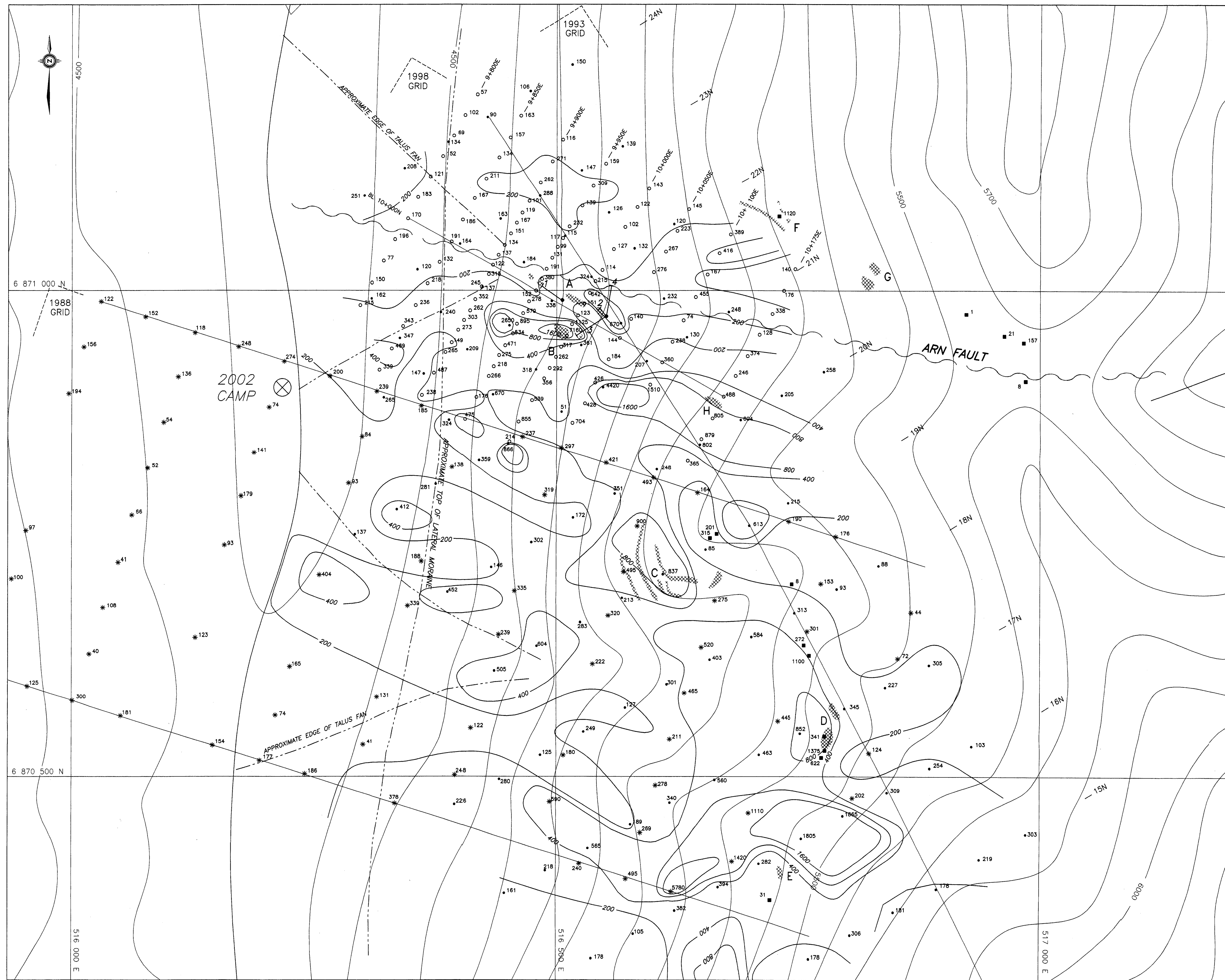
# DRILL HOLE LOG - ARN PROPERTY

ARN 4 page 3 of 3

| RQD  | RQD (%) | VISUAL |       |       | DESCRIPTION                                                                                                                                                                                                                         | FROM (m) | TO (m) | INTERVAL (m) | RECOVERY |     | SAMPLE NUMBER | ASSAYS |       |
|------|---------|--------|-------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|--------------|----------|-----|---------------|--------|-------|
|      |         | ROCKS  | STRUC | (m)   |                                                                                                                                                                                                                                     |          |        |              | (m)      | (%) |               | Ag %   | Cu %  |
|      |         |        |       |       | LITHOLOGY ALTERATION MINERALIZATION Mg Ps Py Cp Li Cs                                                                                                                                                                               |          |        |              |          |     |               |        | ppm   |
| 0.71 | 47      | V      |       | 31    |                                                                                                                                                                                                                                     | 20.78    | 33.80  | 3.02         | 134      | 88  | MO11165       | 0.04   | 105   |
| 0.55 | 36      | V      |       | 33.80 | LIMESTONE SKARN-M SULPHIDE S W                                                                                                                                                                                                      | 33.80    | 34.74  | 0.94         | 1.43     | 93  | MO11166       | 0.28   | 221   |
| 0.16 | 10      | V      |       | 34.74 | VOLCANIC-LIMESTONE SKARN-W-M SULPHIDE W W                                                                                                                                                                                           |          |        |              |          |     |               |        |       |
| 0.51 | 33      | V      |       | 36    | pink green porphyritic volcanic with hornblende phenocrysts and abundant hairline to 2cm calcite veins. Numerous skarn and limestone bands. Most skarn is garnet-epidote with low sulphides.                                        | 34.74    | 37.80  | 3.06         | 1.44     | 98  | MO11167       | 0.06   | 58    |
| 0.54 | 34      | V      |       |       |                                                                                                                                                                                                                                     |          |        |              | 1.45     | 95  |               |        |       |
| 0.84 | 58      | V      |       | 40    | 40.10-40.35 garnet-epidote-chlorite with coarse blks of chalcopyrite and pyrite.                                                                                                                                                    | 37.80    | 40.10  | 2.30         | 1.44     | 95  | MO11168       | 0.06   | 41    |
| 1.07 | 70      | V      |       | 40.70 | SKARN SKARN-S SULPHIDE S S                                                                                                                                                                                                          | 40.10    | 40.70  | 0.60         | 1.52     | 100 | MO11169       | 0.16   | 6770  |
| 0.37 | 24      | V      |       | 42.12 | heavily disseminated to semi-massive sulphide in chlorite-calcite-garnet skarn. Sulphides crudely banded at 45. Section more chalcopyrite rich at top and pyrite rich at base.                                                      | 40.70    | 42.12  | 1.42         | 1.93     | 100 | MO11170       | 1.30   | 1.50% |
| 0.84 | 55      | V      |       | 43.20 | LIMESTONE SKARN-M SULPHIDE S W                                                                                                                                                                                                      | 42.12    | 43.20  | 1.08         | 1.44     | 95  | MO11171       | 0.18   | 953   |
| 0.72 | 47      | V      |       | 44    | chalcite skarn with coarse blks of heavily disseminated sulphide. magnetite rich bands flank a 65cm relatively fresh limestone core exhibiting only weak garnet bands. Pyrite occur with chlorite near the magnetite aggregates.    |          |        |              |          |     |               |        |       |
| 1.14 | 75      | V      |       | 45.60 | SKARN-M-MW S W W                                                                                                                                                                                                                    | 43.20    | 45.60  | 2.40         | 1.47     | 96  | MO11172       | 1.07   | 474   |
| 1.00 | 65      | V      |       | 46.65 | Semi-massive pyrite occurs in strongly chloritized rock SKARN-S SULPHIDE S W                                                                                                                                                        | 45.60    | 46.65  | 1.05         | 1.49     | 98  | MO11173       | 1.31   | 1980  |
| 0.12 | 11      | V      |       | 48    | Section includes chlorite-garnet and garnet rich bands in the top part grading to magnetite-chlorite and finally chlorite with heavy disseminations of chalcopyrite and pyrite in the final 3cm. SKARN-W-M SULPHIDE M W W           | 46.65    | 48.90  | 2.25         | 1.52     | 100 | MO11174       | 0.10   | 735   |
| 0.81 | 53      | V      |       | 48.90 | VOLCANIC SKARN-W SULPHIDE T                                                                                                                                                                                                         | 48.90    | 50.10  | 1.20         | 1.45     | 95  | MO11175       | 0.09   | 156   |
| 1.08 | 71      | V      |       | 50.10 | fine grained light green with small hornblende phenocrysts. Exhibits weak epidote-garnet alteration throughout in the lower half. SKARN-M SULPHIDE W M W                                                                            |          |        |              | 1.03     | 97  |               |        |       |
| 0.49 | 36      | V      |       | 52    | moderate epidote-garnet alteration throughout section. At 51-05 blebs of magnetite up to 1cm across. Numerous drusy cavities with epidote crystals growing into them. Most about 1cm by 0.5cm by 0.5cm with less than 1mm crystals. | 50.10    | 54.50  | 3.90         | 1.49     | 97  | MO11176       | 0.02   | 127   |
| 0.15 | 24      | V      |       | 54.50 | SKARN-VW SULPHIDE W T                                                                                                                                                                                                               |          |        |              | 1.44     | 95  |               |        |       |
| 0.26 | 24      | V      |       | 56    | light grey-green with minor hornblende phenocrysts. Fine grained with very weak epidote.                                                                                                                                            | 54.50    | 57.80  | 3.30         | 1.31     | 96  | MO11177       | <0.01  | 155   |
| 0.82 | 54      | V      |       | 57.80 | LIMESTONE SKARN-S SULPHIDE T W                                                                                                                                                                                                      |          |        |              | 0.60     | 98  |               |        |       |
| 0.00 | 0       | V      |       |       | pervasive garnet-epidote-chlorite with patchy actinolite, chalcopyrite with garnet                                                                                                                                                  | 57.80    | 59.13  | 1.33         | 1.01     | 94  | MO11178       | <0.01  | 166   |
|      |         |        |       |       |                                                                                                                                                                                                                                     |          |        |              | 1.52     | 100 |               |        |       |
|      |         |        |       |       |                                                                                                                                                                                                                                     |          |        |              | 0.43     | 93  |               |        |       |
|      |         |        |       |       | EOH 59.13m                                                                                                                                                                                                                          |          |        |              |          |     |               |        |       |

S = strong M = moderate W = weak T = trace

Mg = magnetite Ps = pyrrhotite Py = pyrite Cp = chalcopyrite Li = limonite Cs = secondary copper minerals



**LEGEND**

- \* 1988 soil sample
- 1993 soil sample
- o 1998 soil sample
- 2002 rock sample
- 1 2002 diamond drill hole
- A skarn (refer to text for description)

Copper soil geochemical values are in ppm with contour intervals at 200, 400, 800 and 1600 ppm Cu  
Copper rock geochemical values are in ppm

**ATAC RESOURCES LTD.**

FIGURE 9  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

**COPPER RESULTS,  
ZONES A-H  
ARN PROPERTY**

SCALE 1:2000

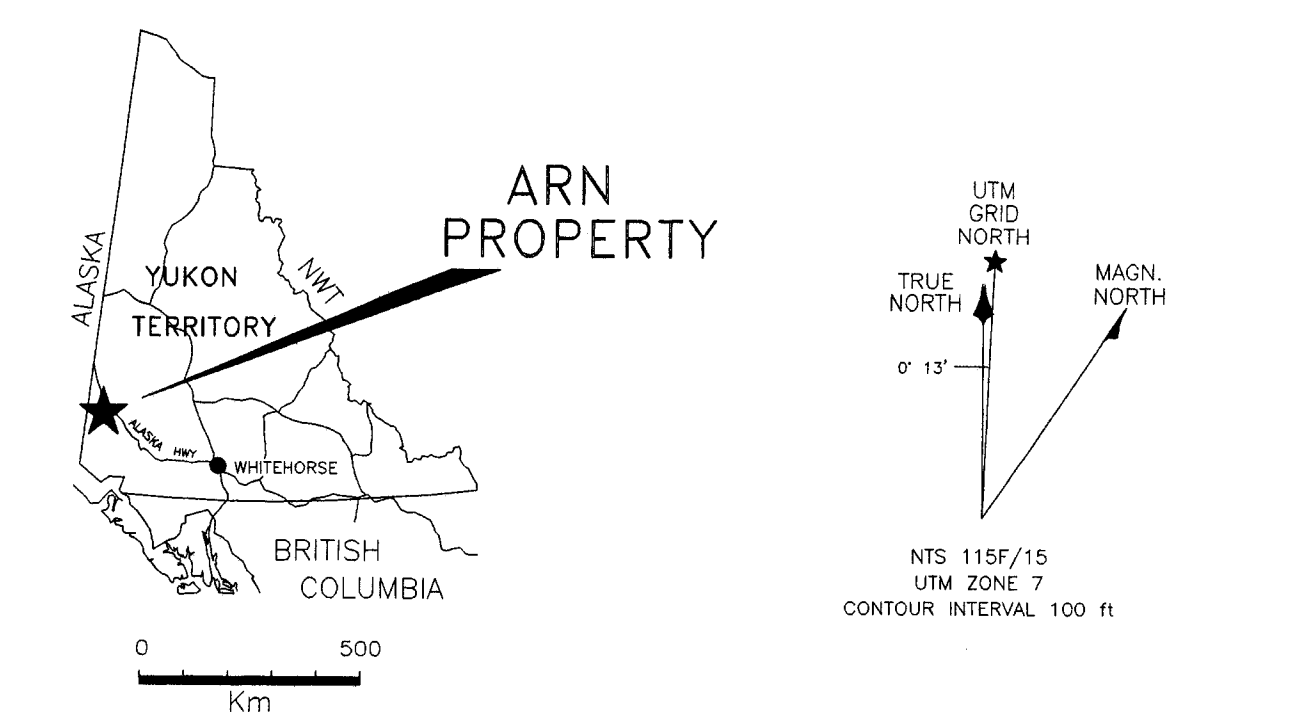
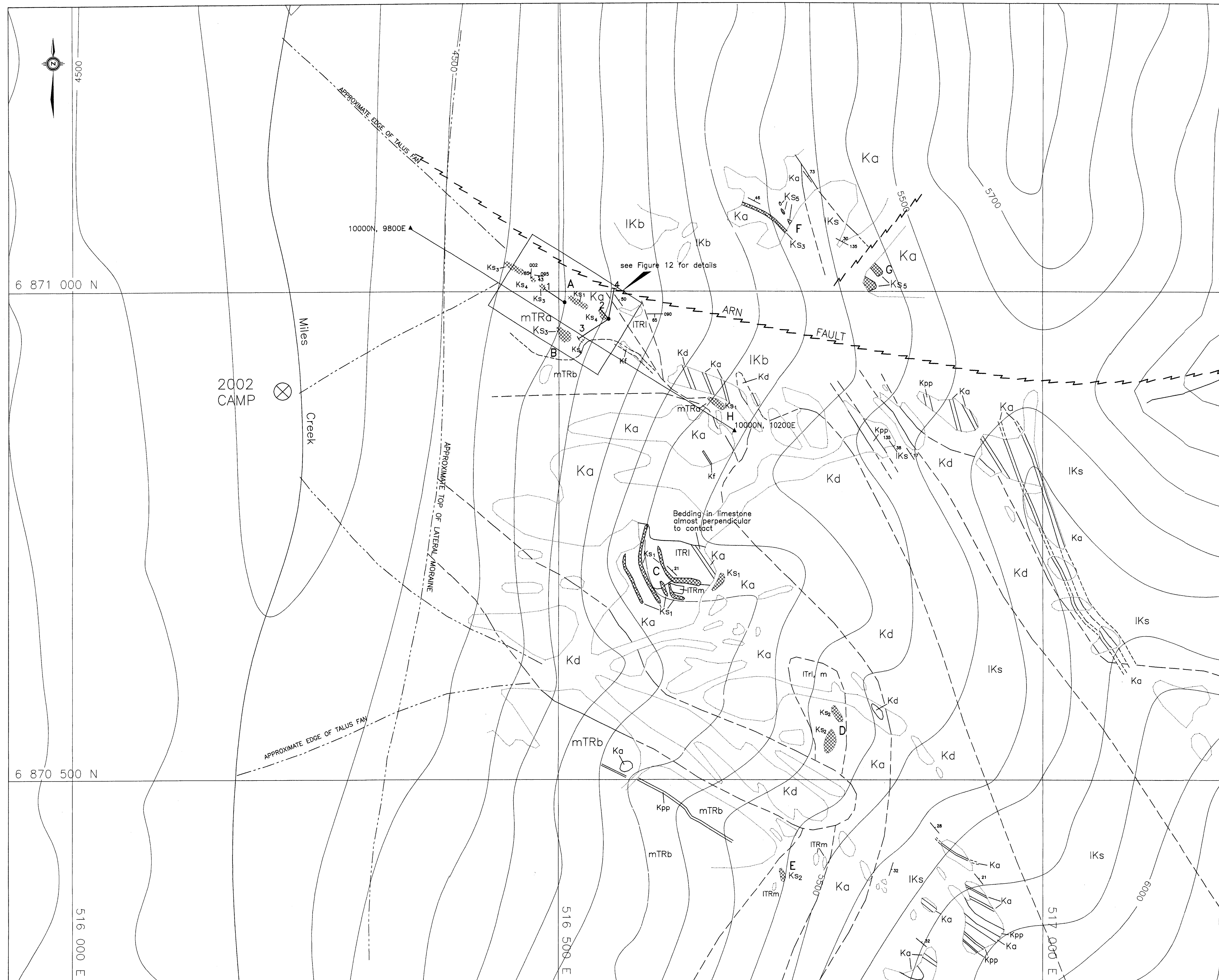
DRAWN/REVISED BY: AG/RCC

FILE: Arn02AR-F9

PROJECT: ARN

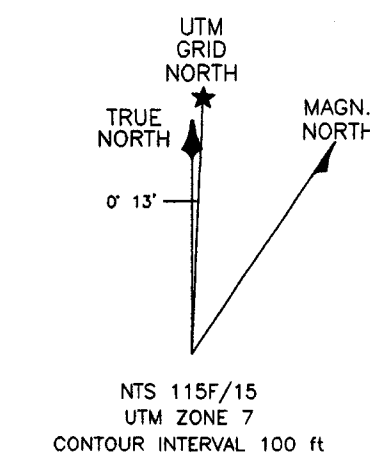
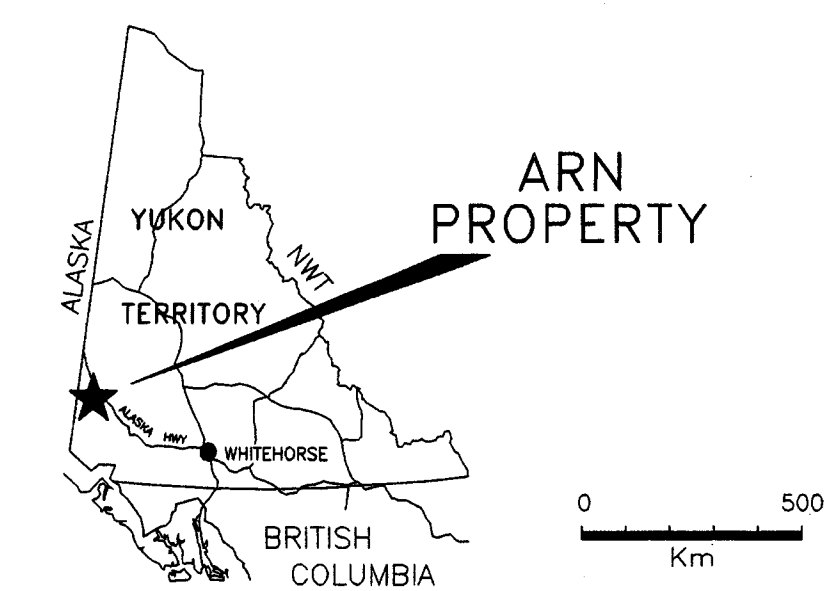
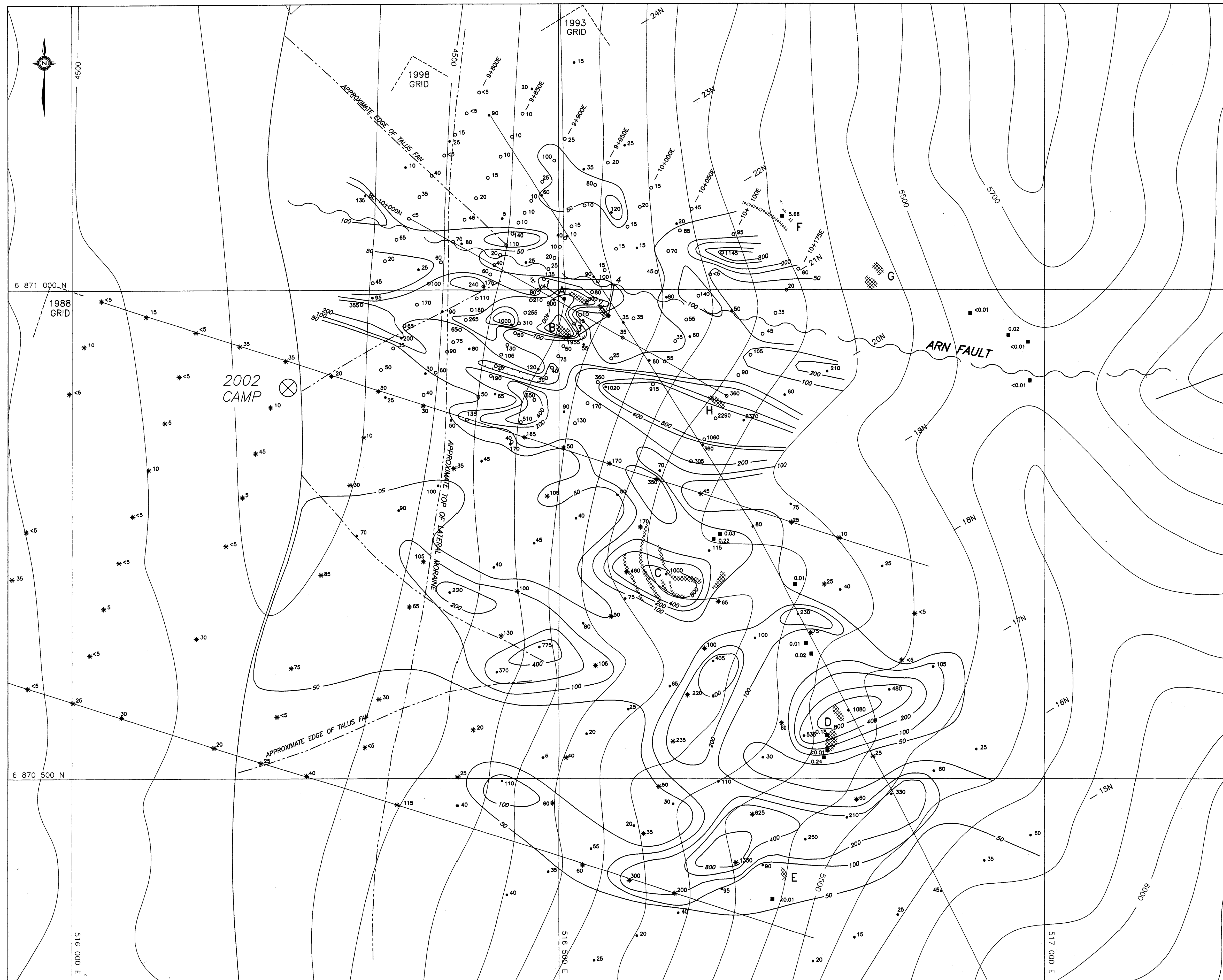
DATE: MARCH, 2003

09A371



DATE: MARCH, 2003





# LEGEND

- \* 1988 soil sample
- 1993 soil sample
- o 1998 soil sample
- 2002 rock sample
- 1 2002 diamond drill hole
- A skarn (refer to text for description)

Gold soil geochemical values are in ppb with contour intervals at 50, 100, 200, 400 and 800 ppb Au  
Gold rock geochemical values are in grams/tonne

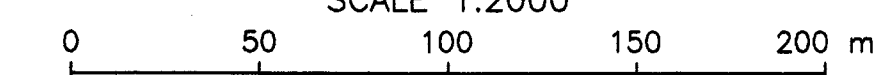
## ATAC RESOURCES LTD.

FIGURE 8  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

## GOLD RESULTS, ZONES A-H

ARN PROPERTY

SCALE 1:2000



DRAWN/REVISED BY: AG/RCC

FILE: Am02AR-F8

PROJECT: ARN

DATE: MARCH, 2003

YUKON TERRITORY  
& PREVIOUS LIBRARY  
EQ 100-2/03  
Whitehorse, Yukon Y1A 1C3

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
1016 – 510 West Hastings Street  
Vancouver, B.C. V6B 1L8

Telephone: 604-688-2568

Fax: 604-688-2578

November 21, 2002



Glenna Southwick, Mining Recorder  
Whitehorse Mining District  
102 – 300 Main Street  
Whitehorse, Yukon Y1A 2B5

Dear Glenna:

Enclosed please find in duplicate Application for a Certificate of Work, Statements of Expenditures, grouping certificates and sketches for the Arn 1-28 mineral claims together with our cheque for \$620 to cover fees on 122 claim years and two groupings.

As we discussed earlier, we have prepared two statements – one for drilling the Arn 1-18 and one for the report preparation, which we have pro rated over the 28 claims and used for the Arn 19-28. Also included in that statement are eight hours of Bill Wengzynowski's August time and an ALS Chemex invoice that apply directly to the 19-28.

Hope this is all clear and presume you will call if you have any questions. The report is in the final stages of drafting and we expect to send it to you before we break for Christmas December 20<sup>th</sup>.

Yours truly,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

  
Joan Mariacher  
Encls.

094374

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
1016 - 510 West Hastings Street  
Vancouver, B.C. V6B 1L8

Telephone: 604-688-2568

Fax: 604-688-2578

AFFIDAVIT

I, Joan Mariacher, of VANCOUVER, BC, make oath and say:

That to the best of my knowledge the attached Statement of  
Expenditures for exploration work on the ARN 19-28  
mineral claims on Claim Sheet 115 F/15 is accurate.

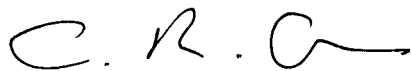
  
Joan Mariacher



Sworn before me at VANCOUVER, BC.

this 21ST day of

NOVEMBER, 2002



Notary Public, Yukon Territory

094374

Statement of Expenditures  
Arn 19-28 Mineral Claims  
November 20, 2002

Labour

|                                                                            |                 |
|----------------------------------------------------------------------------|-----------------|
| A. Archer – geologist – 2 hours September at \$66/hr pro rated             | \$ 50.44        |
| D. Eaton – 125 hours September & October at \$60/hr pro rated              | 2,866.07        |
| B. Wengzynowski – geologist – 8 hours August at \$60/hr                    | 513.60          |
| B. Wengzynowski – geologist - 30 hours November at \$60/hr pro rated       | 687.86          |
| J. Mariacher – 106 1/4 hours September to November at \$44.45/hr pro rated | <u>1,804.79</u> |
|                                                                            | 5,922.76        |

Expenses

|            |                   |
|------------|-------------------|
| ALS Chemex | <u>473.42</u>     |
|            | <u>\$6,396.18</u> |

Pro rated at 10/28 of Arn 1-28 total cost.

# In Account With

Project

ARN PROJECT

Date

SEPTEMBER 30, 2002

## LABOUR

Field

A. ARCHER - 2 HRS AT 66/Hr

132.00

D. EATON - 114 HRS AT 60/Hr

6840.00

Office M. Cooke - hrs at \$39.15/hr

Accounting and Expediting J. Mariacher - 37 hrs at \$44.45/hr

1644.65

8616.65

## OTHER SERVICES

Room & Board in Whitehorse days at \$80/day

Field equipment from AC stock

Printing

Photocopies

168 @ 28

252.00

Rentals from AC

JMAXX - TO BE CREDITED  
IN OCT.

Drafting hrs at \$38.40/hr

252.00

## EXPENSES

Petty Cash

Telephone 2.79

2.79

JOAN M X/PENSES

D3

15.00

NORTH 60 PETRO

6Y

65.00

MAC'S FIREWEED

48.08

100.87

MANAGEMENT 6% on Expenses  
on Field A/C

6.05  
24.13

30.18

8999.70

GST (R100247667) 7% on 70% ON 8999.70

629.98

=GST exempt

9629.68

In Account With

Project

ARN PROJECT

Date

AUGUST 31, 2002

LABOUR

Field

A. ARCHER - 2 Hrs AT 66/Hr

132.00

D. EATON - 33 Hrs AT 60/Hr

1980.00

B. WENBYNOWSKI - 16 Hrs AT 60/Hr

960.00

A. BURGERT - 1 DAY AT 400/DAY

400.00

J. LEDREW - 1 DAY AT 191/DAY

191.00

S. EATON - 1 DAY AT 191/DAY

191.00

J. MANLEY - 2 DAYS AT 191/DAY

384.00

Office M. Cooke-

hrs at \$39.15/hr

Accounting and Expediting

J. Mariacher-

22 1/2 hrs at \$44.45/hr

1000.13

5240.13

OTHER SERVICES

Room & Board in Whitehorse 10 days at <sup>90</sup>~~120~~/day

900.00

Field equipment from AC stock 656.10 + 137 DAYS AT 10/DAY = 1370

2026.10

Printing Photocopies 258 @ .25

64.50

Rentals from AC JULY 3 - AUG 19 - 5BX11 AT 10/DAY + CORE SATELLITE AT 2.33/DAY

+ UV Lamp AT 1/DAY + BINOC SCOPE AT 2/DAY + HAND HELD AT 3.33/DAY

+ GPS AT 7.67/DAY

1263.84

Drafting

hrs at \$38.40/hr

4254.44

EXPENSES

Petty Cash

Telephone 38.40 + 34.90

73.30

GREYHOUND COURIER - 746.11 + 69.18

815.29

BARRY McCALLAN BLDG

59.16

TWISBE SERVICES

119.47

BYERS TRANSPORTATION

183.61

NORCAN LEASING - 169.35 + 822.47

991.82

A. BURGERT XPNSES

04

49.00

D. EATON XPNSES - 9.99 + 107.29

04

117.28

B. WENBY XPNSES

04

17.02

CORPORATE COURIERS

2.15

2428.10

MANAGEMENT 6% on Expenses  
on Field A/C

145.69  
159.61

325.20

12227.97

GST (R100247667) 7% on 12227.97

855.96

E=GST exempt

13083.93



**ALS Chemex**  
**EXCELLENCE IN ANALYTICAL CHEMISTRY**

Aurora Laboratory Services Ltd.  
212 Brooksbank Avenue  
North Vancouver BC V7J 2C1 Canada  
Phone: 604 984 0221 Fax: 604 984 0218

To: ATAC RESOURCES LTD.  
C/O ARCHER, CATHRO AND ASSOCIATES (1981)  
LTD.  
1016 - 510 W. HASTINGS ST.  
VANCOUVER BC V6B 1L8

Page 1 of 1

INVOICE NUMBER: 1003900

**BILLING INFORMATION**

Certificate: **VA02003159**  
Account: **RCM**  
Date : **18-Sep-2002**  
Project : ARN   
P.O. No.:  
Quote:  
Terms: **Net 30 Days**

| ANALYSED FOR |          |                                           | UNIT  |        |
|--------------|----------|-------------------------------------------|-------|--------|
| QUANTITY     | CODE     | DESCRIPTION                               | PRICE | TOTAL  |
| 1            | BAT-01   | Administration Fee                        | 22.50 | 22.50  |
| 19           | PREP-31  | Crush, Split, Pulverize                   | 4.50  | 85.50  |
| 23.22        | PREP-31  | Wt. Charge (kg) - Crush, Split, Pulverize | 0.19  | 4.41   |
| 19           | Au-AA26  | Ore Grade Au 50g FA AA finish             | 8.40  | 159.60 |
| 19           | ME-ICP41 | 34 element aqua regia ICP-AES             | 4.80  | 91.20  |
| 3            | ASY-AR01 | Assay Aqua Regia Digestion                | 2.40  | 7.20   |
| 3            | Cu-AA46  | Ore grade Cu - aqua regia/AA              | 1.80  | 5.40   |

SUBTOTAL \$ 375.81

GST R100938885 \$ 26.31

**TOTAL PAYABLE (CAD) \$ 402.12**

To: **ATAC RESOURCES LTD.**  
ATTN: ACCOUNTS PAYABLE  
C/O ARCHER, CATHRO AND ASSOCIATES (1981)  
LTD.  
1016 - 510 W. HASTINGS ST.  
VANCOUVER BC V6B 1L8

Please Remit Payments to :

**ALS Chemex**  
212 Brooksbank Avenue  
North Vancouver BC V7J 2C1



**ALS Chemex**  
**EXCELLENCE IN ANALYTICAL CHEMISTRY**

ALS Canada Ltd.  
212 Brooksbank Avenue  
North Vancouver BC V7J 2C1 Canada  
Phone: 604 984 0221 Fax: 604 984 0218

To: ATAC RESOURCES LTD.  
C/O ARCHER, CATHRO AND ASSOCIATES (1981)  
LTD.  
1016 - 510 W. HASTINGS ST.  
VANCOUVER BC V6B 1L8

Page 1 of 1

**INVOICE NUMBER: 1005524**

**BILLING INFORMATION**

Certificate: **VA02003158**  
Account: **RCM**  
Date : **01-Nov-2002**  
Project : **ARN**  
P.O. No.:  
Quote:  
Terms: **Net 30 Days**

**C0**

| ANALYSED FOR |          |                               | UNIT  |       |
|--------------|----------|-------------------------------|-------|-------|
| QUANTITY     | CODE     | DESCRIPTION                   | PRICE | TOTAL |
| 4            | ME-ICP41 | 34 element aqua regia ICP-AES | 3.30  | 13.20 |
| 4            | Au-ICP21 | Au 30g FA ICP-AES Finish      | 8.10  | 32.40 |
| 4            | PREP-41  | Dry, Sieve (180 um) Soil      | 1.88  | 7.52  |
| 4            | PREP-41  | Dry, Sieve (180 um) Soil      | 1.88  | 7.52  |
| 4            | GEO-AR01 | Aqua regia digestion          | 1.50  | 6.00  |

SUBTOTAL \$ 66.64

GST R100938885 \$ 4.66

**TOTAL PAYABLE (CAD) \$ 71.30**

To: **ATAC RESOURCES LTD.**  
ATTN: ACCOUNTS PAYABLE  
C/O ARCHER, CATHRO AND ASSOCIATES (1981)  
LTD.  
1016 - 510 W. HASTINGS ST.  
VANCOUVER BC V6B 1L8

Please Remit Payments to :

**ALS Chemex**  
212 Brooksbank Avenue  
North Vancouver BC V7J 2C1

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
1016 - 510 West Hastings Street  
Vancouver, B.C. V6B 1L8

Telephone: 604-688-2568

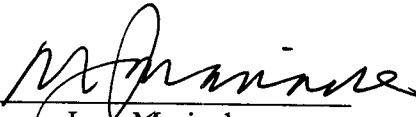
Fax: 604-688-2578

AFFIDAVIT



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

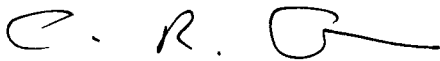
That to the best of my knowledge the attached Statement of  
Expenditures for exploration work on the ARN 1-18  
mineral claims on Claim Sheet 115F/15 is accurate.

  
Joan Mariacher

Sworn before me at VANCOUVER, B.C.

this 21ST day of

NOVEMBER, 2002



Notary Public, Yukon Territory

094374

Statement of Expenditures  
Arn 1-18 Mineral Claims  
August 31, 2002

Labour

|                                                                    |                 |
|--------------------------------------------------------------------|-----------------|
| D. Eaton – geologist – 250 ½ hours January to August at \$60/hr    | \$ 16,082.10    |
| B. Wengzynowski – geologist – 20 hours June & August at \$60/hr    | 1,284.00        |
| A. Burgert – geologist – 1 day August at \$400/day                 | 428.00          |
| P. Sack – field assistant – 1 day August at \$240/day              | 256.80          |
| J. LeDrew – field assistant – 23 ½ days July & August at \$192/day | 4,827.84        |
| S. Eaton – field assistant – 16 days July & August at \$192/day    | 3,287.04        |
| I. Korkh – field assistant – 6 1/2 days July at \$192/day          | 1,335.36        |
| J. Manley – field assistant – 2 days August at \$192/day           | 410.88          |
| J. Mariacher – 82 ½ hours January to August at \$44.45/hr          | <u>3,923.82</u> |
|                                                                    | 31,835.84       |

Expenses

|                                                                     |                            |
|---------------------------------------------------------------------|----------------------------|
| Field room and board – 82 days at \$115/day                         | 10,090.10                  |
| E. Caron Diamond Drilling                                           | 21,451.46                  |
| Summit Fuels – diesel                                               | 1,048.63                   |
| 1202 Motor Inn – drill crew room & board                            | 2,503.80                   |
| Trans North Helicopter – 4.5 hours Bell 206B at \$925/hr plus fuel  | 4,713.08                   |
| Fireweed Helicopters – 25.2 hours Hughes 500D at \$775/hr plus fuel | 24,456.38                  |
| ALS Chemex                                                          | 2,660.17                   |
| Truck rental and fuel                                               | 2,967.94                   |
| Freight                                                             | <u>1,149.66</u>            |
|                                                                     | 71,041.22                  |
|                                                                     | <u><u>\$102,877.06</u></u> |

$\frac{1}{2}$  ATAC-F

JANUARY 31, 2002

| LABOUR                                        |               |                      |         |         |
|-----------------------------------------------|---------------|----------------------|---------|---------|
| Field                                         |               |                      |         |         |
|                                               | D. EATON-     | 19 Hrs AT 60/Hr      | 1140.00 |         |
| Office                                        | M. Cooke-     | hrs at \$39.15/hr    |         |         |
| Accounting and Expediting                     | J. Mariacher- | 17 hrs at \$44.45/hr | 755.65  | 1895.65 |
| <b>OTHER SERVICES</b>                         |               |                      |         |         |
| Room & Board in Whitehorse                    |               | days at \$80/day     |         |         |
| Field equipment from AC stock                 |               |                      |         |         |
| Printing                                      |               | Photocopies @ .25    |         |         |
| Rentals from AC                               |               |                      |         |         |
| Drafting                                      |               | hrs at \$38.40/hr    |         |         |
| <b>EXPENSES</b>                               |               |                      |         |         |
| Petty Cash                                    |               |                      |         |         |
| Telephone                                     |               |                      |         |         |
| <b>MANAGEMENT 6% on Expenses on Field A/C</b> |               |                      |         |         |
| GST (R100247667) 7% on 1895.65                |               |                      | 132.70  | 2028.35 |
| E=GST exempt                                  |               |                      |         |         |

In Account With

# ARN PROJECT

JUNE 30, 2002

E=GST exempt

In Account With

Project

ARN PROJECT

Date

JULY 31, 2002

|                               |                                                      |                      |           |           |
|-------------------------------|------------------------------------------------------|----------------------|-----------|-----------|
| LABOUR                        |                                                      |                      |           |           |
| Field                         | A. ARCHER - 5 HRS AT 66/Hr                           |                      | 330.00    |           |
|                               | D. EATON - 19 1/2 HRS AT 60/Hr                       |                      | 1170.00   |           |
|                               | J. LEDREW - 22 1/2 DAYS AT 192/DAY                   |                      | 4320.00   |           |
|                               | S. EATON - 15 DAYS AT 192/DAY                        |                      | 2880.00   |           |
|                               | I. KORKH - 6 1/2 DAYS AT 192/DAY                     |                      | 1248.00   |           |
|                               | D. WENGZYNOWSKI - 4 HRS AT 60/Hr MAY<br>CAB IN ERROR |                      | <240.00>  |           |
| Office                        | M. Cooke -                                           | hrs at \$39.15/hr    |           |           |
| Accounting and Expediting     | J. Mariacher -                                       | 31 hrs at \$44.45/hr | 1377.95   | 21,615.95 |
| OTHER SERVICES                |                                                      |                      |           |           |
| Room & Board in Whitehorse    | 20 days at 90/day                                    |                      | 1800.00   |           |
| Field equipment from AC stock | 64 MANDAYS AT 10/DAY                                 |                      | 640.00    |           |
| Printing                      | Photocopies @ .25                                    |                      |           |           |
| Rentals from AC               |                                                      |                      |           |           |
| Drafting                      | hrs at \$38.40/hr                                    |                      |           |           |
| LOOMIS COURIER -              | 3 @ 13.85                                            |                      | 41.55     | 2481.55   |
| EXPENSES                      |                                                      |                      |           |           |
| Petty Cash                    |                                                      |                      |           |           |
| Telephone                     | 14.02                                                |                      | 14.02     |           |
| CHEMEX RE CORP COURIER        |                                                      | 23                   | <23.05>   |           |
| SUMMIT FUELS                  |                                                      | 5                    | 980.03    |           |
| GREYHOUND COURIER             |                                                      |                      | 12.55     |           |
| RIVERDALE SUPER A             |                                                      |                      | 1511.18   |           |
| REC GEN - ARN 19-Y8           |                                                      |                      | 111.50    |           |
| NORCAN LEASING                |                                                      |                      | 1298.40   |           |
| BUILDERS SUPPLY LAND          |                                                      |                      | 98.97     |           |
| TWIGGE SERVICES               |                                                      |                      | 256.76    |           |
| 1202 MOTOR INN                |                                                      |                      | 2340.00   |           |
| NORTH 60 PETRO                |                                                      | 63                   | 229.78    |           |
| FIREWHEEL HELICOPTER          |                                                      |                      | 22,856.40 | 29,606.54 |
| MANAGEMENT                    | 6% on Expenses                                       |                      | 1781.19   |           |
|                               | on Field A/C                                         |                      | 1287.09   | 3068.28   |
| GST (R100247667) 7% on        | 56,852.32                                            |                      |           | 3979.66   |
| =GST exempt                   |                                                      |                      |           | 60831.98  |

In Account With

Project

ARN PROJECT

Date

AUGUST 31, 2002

|                                               |                                                                                                                                                           |         |          |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|
| <b>LABOUR</b>                                 |                                                                                                                                                           |         |          |
| Field                                         | A. ARCHER - 2 Hrs AT 66/Hr                                                                                                                                | 135.00  |          |
|                                               | D. EATON - 33 Hrs AT 60/Hr                                                                                                                                | 1980.00 |          |
|                                               | B. WENBZYNOWSKI - 16 Hrs AT 60/Hr                                                                                                                         | 960.00  |          |
|                                               | A. BURGERT - 1 DAY AT 400/DAY                                                                                                                             | 400.00  |          |
|                                               | J. LEDREW - 1 DAY AT 191/DAY                                                                                                                              | 191.00  |          |
|                                               | S. EATON - 1 DAY AT 191/DAY                                                                                                                               | 191.00  |          |
|                                               | J. MANLEY - 2 DAYS AT 191/DAY                                                                                                                             | 384.00  |          |
| Office M. Cooke - hrs at \$39.15/hr           |                                                                                                                                                           |         |          |
| Accounting and Expediting                     | J. Mariacher - 22 1/2 hrs at \$44.45/hr                                                                                                                   | 1000.13 | 5240.13  |
| <b>OTHER SERVICES</b>                         |                                                                                                                                                           |         |          |
| Room & Board in Whitehorse                    | 10 days at <del>90</del> 70/day                                                                                                                           | 900.00  |          |
| Field equipment from AC stock                 | 656.10 + 137 DAYS AT 10/DAY = 1370                                                                                                                        | 2026.10 |          |
| Printing                                      | Photocopies 258 @ .25                                                                                                                                     | 64.50   |          |
| Rentals from AC                               | JULY 3 - AUG 19 - 56X11 AT 10/DAY + CORE SPLITTER AT 2.33/DAY<br>+ UV LAMP AT 1/DAY + BINDER SCOPES AT 2/DAY + HAND HELD AT 3.33/DAY<br>+ GPS AT 7.67/DAY | 1263.84 |          |
| Drafting                                      | hrs at \$38.40/hr                                                                                                                                         |         | 4254.44  |
| <b>EXPENSES</b>                               |                                                                                                                                                           |         |          |
| Petty Cash                                    |                                                                                                                                                           |         |          |
| Telephone                                     | 28.40 + 34.90                                                                                                                                             | 73.30   |          |
| GREYHOUND COURIER                             | - 746.11 + 69.18                                                                                                                                          | 815.29  |          |
| BARRY McALLAN BLDG                            |                                                                                                                                                           | 59.16   |          |
| TWISBE SERVICES                               |                                                                                                                                                           | 119.47  |          |
| OLYER'S TRANSPORTATION                        |                                                                                                                                                           | 183.61  |          |
| NORCAN LEASING                                | - 169.35 + 822.47                                                                                                                                         | 991.82  |          |
| A. BURGERT X'ENSES                            |                                                                                                                                                           | 49.00   |          |
| D. EATON X'ENSES                              | - 9.9951 + 107.295V                                                                                                                                       | 117.28  |          |
| B. WENG X'ENSES                               |                                                                                                                                                           | 12.02   |          |
| CORPORATE COURIERS                            |                                                                                                                                                           | 2.15    | 2428.10  |
| <b>MANAGEMENT</b> 6% on Expenses on Field A/C |                                                                                                                                                           | 145.69  |          |
|                                               |                                                                                                                                                           | 159.61  | 305.30   |
|                                               |                                                                                                                                                           |         | 12227.97 |
| GST (R100247667) 7% on 12227.97               |                                                                                                                                                           |         | 855.96   |
| =GST exempt                                   |                                                                                                                                                           |         | 13083.93 |



E. CARON DIAMOND DRILLING LTD.

7 Roundel Road, Whitehorse, Yukon Y1A 3H3

Phone: (867) 668-2424 Fax: (867) 668-4520

In Account With:  
Atac Resources Ltd.  
1016-510 West Hastings Street,  
Vancouver, B.C.,  
V6B 1L8

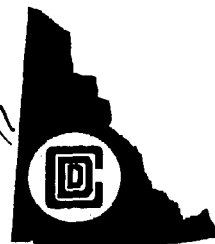
Date: July 17/02

Invoice: 3824

Drilling Charges July 1-15/02

(White River)

| Hole       | Work Description                       | Price per hr | Sub-totals per day/foot | Totals      |
|------------|----------------------------------------|--------------|-------------------------|-------------|
| 1/ - 60/HQ |                                        |              |                         |             |
|            | <u>Moving</u>                          |              |                         |             |
| 55         | man hrs                                | \$ 35.00     | 1,925.00                |             |
|            | <u>Drilling Ancor</u>                  |              |                         |             |
| 4          | man hrs                                | \$ 35.00     | \$ 140.00               |             |
| 2          | machine hrs                            | \$ 21.00     | \$ 42.00                |             |
|            | <u>Casing</u>                          |              |                         |             |
| 2          | man hrs                                | \$ 35.00     | \$ 70.00                |             |
| 1          | machine hrs                            | \$ 21.00     | \$ 21.00                |             |
|            | <u>Reaming Cave</u>                    |              |                         |             |
| 2          | man hrs                                | \$ 35.00     | \$ 70.00                |             |
| 1          | machine hrs                            | \$ 21.00     | \$ 21.00                |             |
|            | <u>Conditioning Hole</u>               |              |                         |             |
| 2          | man hrs                                | \$ 35.00     | \$ 70.00                |             |
| 1          | machine hrs                            | \$ 21.00     | \$ 21.00                |             |
|            | <u>Traveling</u>                       |              |                         |             |
| 15         | man hrs                                | \$ 35.00     | 525.00                  |             |
|            | <u>Casing</u>                          |              |                         |             |
| 8          | 0 - 8 = 8 feet                         | \$ 20.12     | \$ 160.96               |             |
|            | <u>Coring</u>                          |              |                         |             |
| 142        | 8 - 150 = 142 feet HWL                 | \$ 20.12     | \$ 2,857.04             | \$ 5,923.00 |
|            | <u>Items Consumed &amp; Chargeable</u> |              |                         |             |
| 13         | Quick Gel                              | \$ 17.60     | \$ 228.80               |             |
| 1          | HWL 10' Rod                            | \$ 231.66    | \$ 231.66               |             |
| 10         | Drums                                  | \$ 25.00     | \$ 250.00               |             |
| 2          | Mack (unloading)                       | \$ 85.00     | \$ 170.00               | \$ 880.46   |
|            | Sub-total                              |              |                         | \$ 6,803.46 |
|            | G.S.T. @ 7% 10155 7122                 |              |                         | \$ 476.24   |
|            | Total                                  |              |                         | \$ 7,279.70 |





E. CARON DIAMOND DRILLING LTD.

7 Roundel Road, Whitehorse, Yukon Y1A 3H3

Phone: (867) 668-2424 Fax: (867) 668-4520

In Account With:  
Atac Resources Ltd.  
1016-510 West Hastings Street,  
Vancouver, B.C.,  
V6B 1L8

Date: July 23/02

Invoice: 3826

## Drilling Charges July 15-21/02

(White River)

| Hole        | Work Description         | Price per hr<br>per day/foot | Sub-totals  | Totals      |
|-------------|--------------------------|------------------------------|-------------|-------------|
| 2/ - 50/HWL | <u>Moving</u>            |                              |             |             |
| 20          | man hrs                  | \$ 35.00                     | 700.00      |             |
|             | <u>Drilling Ancor</u>    |                              |             |             |
| 3           | man hrs                  | \$ 35.00                     | \$ 105.00   |             |
| 1.5         | machine hrs              | \$ 21.00                     | \$ 31.50    |             |
|             | <u>Waterline</u>         |                              |             |             |
| 3           | man hrs                  | \$ 35.00                     | \$ 105.00   |             |
|             | <u>Conditioning Hole</u> |                              |             |             |
| 2           | man hrs                  | \$ 35.00                     | \$ 70.00    |             |
| 1           | machine hrs              | \$ 21.00                     | \$ 21.00    |             |
|             | <u>Casing</u>            |                              |             |             |
| 12          | 0 - 12 = 12 feet         | \$ 20.12                     | \$ 241.44   |             |
|             | <u>Coring</u>            |                              |             |             |
| 183         | 12 - 195 = 183 feet HWL  | \$ 20.12                     | \$ 3,681.96 | \$ 4,955.90 |

## 3/ - 70/HWL

|    |                          |          |           |             |
|----|--------------------------|----------|-----------|-------------|
|    | <u>Moving</u>            |          |           |             |
| 12 | man hrs                  | \$ 35.00 | 420.00    |             |
|    | <u>Casing</u>            |          |           |             |
| 4  | man hrs                  | \$ 35.00 | \$ 140.00 |             |
| 2  | machine hrs              | \$ 21.00 | \$ 42.00  |             |
|    | <u>Reaming Cave</u>      |          |           |             |
| 2  | man hrs                  | \$ 35.00 | \$ 70.00  |             |
| 1  | machine hrs              | \$ 21.00 | \$ 21.00  |             |
|    | <u>Conditioning Hole</u> |          |           |             |
| 2  | man hrs                  | \$ 35.00 | \$ 70.00  |             |
| 1  | machine hrs              | \$ 21.00 | \$ 21.00  |             |
|    | <u>Casing</u>            |          |           |             |
| 16 | 0 - 16 = 16 feet         | \$ 20.12 | \$ 321.92 |             |
|    | <u>Coring</u>            |          |           |             |
| 41 | 16 - 57 = 41 feet HWL    | \$ 20.12 | \$ 824.92 | \$ 1,930.84 |



4/ - 55/HWL

|                                        |                         |    |        |                                                                                                           |
|----------------------------------------|-------------------------|----|--------|-----------------------------------------------------------------------------------------------------------|
| <u>Moving</u>                          |                         |    |        |                                                                                                           |
| 6                                      | man hrs                 | \$ | 35.00  | 210.00                                                                                                    |
| <u>Drilling Ancor</u>                  |                         |    |        |                                                                                                           |
| 3                                      | man hrs                 | \$ | 35.00  | \$ 105.00                                                                                                 |
| 1.5                                    | machine hrs             | \$ | 21.00  | \$ 31.50                                                                                                  |
| <u>Casing</u>                          |                         |    |        |                                                                                                           |
| 3                                      | man hrs                 | \$ | 35.00  | \$ 105.00                                                                                                 |
| 1.5                                    | machine hrs             | \$ | 21.00  | \$ 31.50                                                                                                  |
| <u>Reaming Cave</u>                    |                         |    |        |                                                                                                           |
| 2                                      | man hrs                 | \$ | 35.00  | \$ 70.00                                                                                                  |
| 1                                      | machine hrs             | \$ | 21.00  | \$ 21.00                                                                                                  |
| <u>Conditioning Hole</u>               |                         |    |        |                                                                                                           |
| 3                                      | man hrs                 | \$ | 35.00  | \$ 105.00                                                                                                 |
| 1.5                                    | machine hrs             | \$ | 21.00  | \$ 31.50                                                                                                  |
| <u>Traveling</u>                       |                         |    |        |                                                                                                           |
| 20                                     | man hrs                 | \$ | 35.00  | 700.00                                                                                                    |
| <u>Casing</u>                          |                         |    |        |                                                                                                           |
| 12                                     | 0 - 12 = 12 feet        | \$ | 20.12  | \$ 241.44                                                                                                 |
| <u>Coring</u>                          |                         |    |        |                                                                                                           |
| 182                                    | 12 - 194 = 182 feet HWL | \$ | 20.12  | <u>\$ 3,661.84</u> \$ 5,313.78                                                                            |
| <u>Items Consumed &amp; Chargeable</u> |                         |    |        |                                                                                                           |
| 33                                     | Quick Gel               | \$ | 17.60  | \$ 580.80                                                                                                 |
| 2                                      | HWL 10' Rod             | \$ | 231.66 | \$ 463.32 <u>\$ 1,044.12</u>                                                                              |
| Sub-total                              |                         |    |        | \$ 13,244.64                                                                                              |
| G.S.T. @ 7% 10155 7122                 |                         |    |        | <u>\$ 927.12</u>                                                                                          |
| Total                                  |                         |    |        | <u>\$ 14,171.76</u>  |



REMIT PAYMENT TO:  
**TRANS NORTH HELICOPTERS**  
 TRANS NORTH TURBO AIR LTD.  
 20 NORSEMAN ROAD • WHITEHORSE • YUKON • Y1A 5E6  
 TELEPHONE (867) 668-2177 FAX (867) 668-3420

|                    |          |                         |       |
|--------------------|----------|-------------------------|-------|
| ACCOUNT NUMBER     | ARCHCAS  |                         |       |
| INVOICE NUMBER     | 30699    |                         |       |
| INVOICE DATE       | 31/08/02 |                         |       |
| A/C TYPE           | 20673    | AIRCRAFT REGISTRATION C | 6744Q |
| FLIGHT DATE        | 28       | 08                      | 02    |
| PURCHASE ORDER NO. |          |                         |       |

CHARTERER **CASH RESOURCES**

BILLING ADDRESS **1016-510 W. HASTINGS ST**  
**VANCOUVER, B.C. V6B 1L8**

FUEL & OIL ☒ TMTA FUEL USED ☒ HRS./LITRES **2.510** FROM

TNTA CUST. **00411111**

| FROM      | UP/DOWN TIME | HOURS | REMARKS - NO. OF PASS - FREIGHT Kg |
|-----------|--------------|-------|------------------------------------|
| 16        |              |       |                                    |
| TO        |              |       |                                    |
| WINTER R. |              |       |                                    |
| HOON.     |              |       |                                    |
| DRILL     |              |       |                                    |
| CONCRETE  |              |       |                                    |
| 15        |              | 4.5   |                                    |

Remit Payment To:  
 Trans North Helicopters  
 P.O. Box 8  
 Whitehorse, Yukon  
 Y1A 5X9

TERMS: PAYABLE UPON RECEIPT OF INVOICE.  
 2% INTEREST PER MONTH (24% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.  
 IF INTEREST IS NOT PAID, FUTURE FLIGHTS WILL BE ON A CASH BASIS.

X **Arnd Beugent**  
 CHARTERER'S SIGNATURE

CHARTERER'S NAME (PRINTED)

INITIALS: **DAW**  
 PILOTS SIGNATURE  
 ENGINEER'S NAME

|                             |                      |      |    |
|-----------------------------|----------------------|------|----|
| 4.5                         | @ 925.00             | 4162 | 50 |
|                             | @                    |      |    |
| HOLDING TIME:               | @ / HR.              |      |    |
| FUEL                        | 285.41 @ .85 / LITRE | 242  | 25 |
| FUEL                        | @ / LITRE            |      |    |
| MEALS & LODGINGS            |                      |      |    |
| OTHER                       |                      |      |    |
| OTHER                       |                      |      |    |
| SUB TOTAL                   |                      | 4404 | 75 |
| GOODS & SERVICES TAX        |                      |      |    |
| REGISTRATION NO. R121483135 |                      | 308  | 33 |
| TOTAL                       | \$                   | 4713 | 08 |

CARRIAGE SUBJECT TO TERMS OF PUBLISHED TARIFF.  
 TARIFF AVAILABLE TO PUBLIC VIEW AT TRANS NORTH OFFICE.

THIS IS YOUR ONLY INVOICE - PAY UPON RECEIPT



INVOICE #1020

TO: Archer Cathro & Associates  
604-470 Granville Street  
Vancouver B.C.  
V6C 1V5

Attention: Accounts Payable

DATE OF INVOICE: July 23, 2002

\*\*\*\*\*

RE: Helicopter Charter

DATES:

|               |              |        |     |        |               |
|---------------|--------------|--------|-----|--------|---------------|
| July 04, 2002 | Ticket #2279 | HOURS: | 1.6 | FEEES: | \$ 1,240.00 ✓ |
| July 09, 2002 | Ticket #2284 | HOURS: | 0.3 | FEEES: | \$ 232.50 ✓   |
| July 10, 2002 | Ticket #2288 | HOURS: | 0.5 | FEEES: | \$ 387.50 ✓   |
| July 13, 2002 | Ticket #2292 | HOURS: | 8.7 | FEEES: | \$ 6,742.50 ✓ |
| July 14, 2002 | Ticket #2294 | HOURS: | 0.8 | FEEES: | \$ 620.00 ✓   |
| July 15, 2002 | Ticket #2296 | HOURS: | 1.2 | FEEES: | \$ 930.00 ✓   |
| July 16, 2002 | Ticket #2298 | HOURS: | 4.5 | FEEES: | \$ 3,487.50 ✓ |
| July 17, 2002 | Ticket #2300 | HOURS: | 1.0 | FEEES: | \$ 775.00 ✓   |
| July 18, 2002 | Ticket #2303 | HOURS: | 1.4 | FEEES: | \$ 1,085.00 ✓ |
| July 19, 2002 | Ticket #2306 | HOURS: | 1.3 | FEEES: | \$ 1,007.50 ✓ |

**TOTAL HOURS: 21.3**

TOTAL FEEES: \$16,507.50 ✓

TOTAL FUEL: \$ 2,811.60 ✓

**SUBTOTAL: \$19,319.10 ✓**

GST #128659828 @ 7%: \$ 1,352.34 ✓

**BALANCE DUE: \$20,671.44** ✓

PAYMENT DUE UPON RECEIPT. THANK YOU.

Terms: 2% interest per month will be charged after 30 days of invoice date.

Confidential Contract

WHITEHORSE      DAWSON CITY  
**867-668-5888** ☎ **867-993-5700**  
fax: 867-668-7875      fax: 867-993-6839  
Box 26, Whitehorse, Yukon Y1A 5X9



INVOICE #1035

TO: Archer Cathro & Associates  
Suite 1016-510 W.Hastings Str.  
Vancouver, B.C.  
V6B 1L8

Attention: Accounts Payable

**DATE OF INVOICE:** August 5, 2002

\*\*\*\*\*

**RE: Helicopter Charter**

**DATES:**

|               |              |        |     |       |               |
|---------------|--------------|--------|-----|-------|---------------|
| July 20, 2002 | Ticket #2308 | HOURS: | 0.9 | FEES: | \$ 697.50 ✓   |
| July 21, 2002 | Ticket #2309 | HOURS: | 0.9 | FEES: | \$ 697.50 ✓   |
| July 23, 2002 | Ticket #2310 | HOURS: | 1.4 | FEES: | \$ 1,085.00 ✓ |
| July 23, 2002 | Ticket #2311 | HOURS: | 0.7 | FEES: | \$ 542.50 ✓   |

**TOTAL HOURS:** 3.9

**TOTAL FEES:** \$ 3,022.50 ✓

**TOTAL FUEL:** \$ 514.80 ✓

**SUBTOTAL:** \$ 3,537.30

**GST #128659828 @ 7%:** \$ 247.64 ✓

**BALANCE DUE:** \$ 3,784.94 ✕

PAYMENT DUE UPON RECEIPT.

THANK YOU.

Terms: 2% interest per month will be charged after 30 days of invoice date.

Confidential Contract

WHITEHORSE      DAWSON CITY  
**867-668-5888** ☎ **867-993-5700**  
fax: 867-668-7875      fax: 867-993-6839  
Box 26, Whitehorse, Yukon Y1A 5X9



# ALS Chemex

ALS Canada Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221

To: ATAC RESOURCES LTD.

C/O ARCHER, CATHRO & ASSOCIATES (1981) LTD.

1016 - 510 W. HASTINGS ST.

VANCOUVER, BC

V6B 1L8

INVOICE NUMBER

I 0 2 2 0 9 9 9

## BILLING INFORMATION

Date: 02-AUG-2002

Project: ARN ☒

P.O. No.:

Account: RCM

Comments:

Billing: For analysis performed on  
Certificate A0220999

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

Please Remit Payments to:

### ALS CHEMEX

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

| # OF<br>SAMPLES                        | ANALYSED FOR<br>CODE - DESCRIPTION        | UNIT<br>PRICE | SAMPLE<br>PRICE | AMOUNT |
|----------------------------------------|-------------------------------------------|---------------|-----------------|--------|
| 25                                     | - ME-ICP41                                | 4.80*         |                 |        |
|                                        | - PREP-31                                 | 6.00          |                 |        |
|                                        | WEI-21 - Weight of received sample        | 0.00          |                 |        |
|                                        | Au-AA26 - Au g/t: 50 g fusion - AA finish | 8.40*         | 19.20           | 480.00 |
| Additional charges:                    |                                           |               |                 |        |
| 1                                      | BAT-01 - Batch processing fee             | 30.00         |                 | 30.00  |
| 234                                    | CRU-31 - Crush to 70% -2mm per kg charge  | 0.20          |                 | 46.80  |
| 234                                    | SPL-21 - Riffle splitting charge per kg   | 0.05          |                 | 11.70  |
| Total Cost \$                          |                                           |               |                 | 568.50 |
| Client Discount ( 25% of \$238.50 ) \$ |                                           |               |                 | -59.63 |
| Net Cost \$                            |                                           |               |                 | 508.87 |
| (Reg# R100938885 ) GST \$              |                                           |               |                 | 35.62  |
| TOTAL PAYABLE (CDN) \$                 |                                           |               |                 | 544.49 |



# ALS Chemex

ALS Canada Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221

To: ATAC RESOURCES LTD.

C/O ARCHER, CATHRO & ASSOCIATES (1981) LTD.

1016 - 510 W. HASTINGS ST.

VANCOUVER, BC

V6B 1L8

INVOICE NUMBER

I 0 2 2 1 0 3 8

## BILLING INFORMATION

Date: 09-AUG-2002

Project: ARN

P.O. No.:

Account: RCM

Comments:

Billing: For analysis performed on  
Certificate A0221038

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

Please Remit Payments to:

### ALS CHEMEX

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

| # OF<br>SAMPLES     | ANALYSED FOR<br>CODE - DESCRIPTION           | UNIT<br>PRICE | SAMPLE<br>PRICE | AMOUNT |
|---------------------|----------------------------------------------|---------------|-----------------|--------|
| 19                  | - ME-ICP41                                   | 4.80*         |                 |        |
|                     | - PREP-41                                    | 2.50          |                 |        |
|                     | WEI-21 - Weight of received sample           | 0.00          |                 |        |
|                     | Au-ICP21 - Au ppb: FA ICP package            | 8.10*         | 15.40           | 292.60 |
| 1                   | - ME-ICP41                                   | 4.80*         |                 |        |
|                     | - PREP-41                                    | 2.50          |                 |        |
|                     | WEI-21 - Weight of received sample           | 0.00          | 7.30            | 7.30   |
| 1                   | - ME-ICP41                                   | 4.80*         |                 |        |
|                     | - PREP-41                                    | 2.50          |                 |        |
|                     | WEI-21 - Weight of received sample           | 0.00          |                 |        |
|                     | Au-ICP21 - Au ppb: FA ICP package            | 8.10*         |                 |        |
|                     | Au-GRA21 - Au g/t: 1 assay ton, grav.        | 14.00         | 29.40           | 29.40  |
| Additional charges: |                                              |               |                 |        |
| 4                   | SCR-41/kg - -180 micron screen per kg charge | 0.75          |                 | 3.00   |

Total Cost \$ 332.30  
Client Discount ( 25% of \$69.50 ) \$ -17.38

Net Cost \$ 314.92  
(Reg# R100938885 ) GST \$ 22.04

**TOTAL PAYABLE (CDN) \$ 336.96**



# ALS Chemex

ALS Canada Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221

To: ATAC RESOURCES LTD.

C/O ARCHER, CATHRO & ASSOCIATES (1981) LTD.

1016 - 510 W. HASTINGS ST.

VANCOUVER, BC

V6B 1L8

INVOICE NUMBER

I 0 2 2 1 0 3 9

## BILLING INFORMATION

Date: 05-AUG-2002

Project: ARN

P.O. No.:

Account: RCM

Comments:

Billing: For analysis performed on  
Certificate A0221039

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

Please Remit Payments to:

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

| # OF<br>SAMPLES                        | ANALYSED FOR<br>CODE - DESCRIPTION        | UNIT<br>PRICE | SAMPLE<br>PRICE | AMOUNT        |
|----------------------------------------|-------------------------------------------|---------------|-----------------|---------------|
| 21                                     | - ME-ICP41                                | 4.80*         |                 |               |
|                                        | - PREP-31                                 | 6.00          |                 |               |
|                                        | WEI-21 - Weight of received sample        | 0.00          |                 |               |
|                                        | Au-AA26 - Au g/t: 50 g fusion - AA finish | 8.40*         | 19.20           | 403.20        |
| Additional charges:                    |                                           |               |                 |               |
| 1                                      | BAT-01 - Batch processing fee             | 30.00         |                 | 30.00         |
| 24                                     | CRU-31 - Crush to 70% -2mm per kg charge  | 0.20          |                 | 4.80          |
| 24                                     | SPL-21 - Riffle splitting charge per kg   | 0.05          |                 | 1.20          |
| Total Cost \$                          |                                           |               |                 | 439.20        |
| Client Discount ( 25% of \$162.00 ) \$ |                                           |               |                 | -40.50        |
| Net Cost \$                            |                                           |               |                 | 398.70        |
| (Reg# R100938885 ) GST \$              |                                           |               |                 | 27.91         |
| <b>TOTAL PAYABLE (CDN) \$</b>          |                                           |               |                 | <b>426.61</b> |



# ALS Chemex

ALS Canada Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221

To: ATAC RESOURCES LTD.

C/O ARCHER, CATHRO & ASSOCIATES (1981) LTD.

1016 - 510 W. HASTINGS ST.

VANCOUVER, BC

V6B 1L8

INVOICE NUMBER

I 0 2 2 1 0 4 0

## BILLING INFORMATION

Date: 05-AUG-2002

Project: ARN 

P.O. No.:

Account: RCM

Comments:

Billing: For analysis performed on  
Certificate A0221040

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

Please Remit Payments to:

### ALS CHEMEX

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

| # OF<br>SAMPLES                        | ANALYSED FOR<br>CODE - DESCRIPTION        | UNIT<br>PRICE | SAMPLE<br>PRICE | AMOUNT |
|----------------------------------------|-------------------------------------------|---------------|-----------------|--------|
| 19                                     | - ME-ICP41                                | 4.80*         |                 |        |
|                                        | - PREP-31                                 | 6.00          |                 |        |
|                                        | WEI-21 - Weight of received sample        | 0.00          |                 |        |
|                                        | Au-AA26 - Au g/t: 50 g fusion - AA finish | 8.40*         | 19.20           | 364.80 |
| Additional charges:                    |                                           |               |                 |        |
| 167                                    | CRU-31 - Crush to 70% -2mm per kg charge  | 0.20          |                 | 33.40  |
| 167                                    | SPL-21 - Riffle splitting charge per kg   | 0.05          |                 | 8.35   |
| Total Cost \$                          |                                           |               |                 | 406.55 |
| Client Discount ( 25% of \$155.75 ) \$ |                                           |               |                 | -38.94 |
| Net Cost \$                            |                                           |               |                 | 367.61 |
| (Reg# R100938885 ) GST \$              |                                           |               |                 | 25.73  |
| TOTAL PAYABLE (CDN) \$                 |                                           |               |                 | 393.34 |



# ALS Chemex

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

To: ATAC RESOURCES LTD.  
C/O ARCHER, CATHRO & ASSOCIATES (1981) LTD.  
1016 - 510 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1L8

INVOICE NUMBER

I 0 2 2 1 0 0 0

## BILLING INFORMATION

Date: 30-AUG-2002  
Project: ARN  
P.O. No.:  
Account: RCM

Comments:

Billing: For analysis performed on  
Certificate A0221000

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

Please Remit Payments to:

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

| # OF<br>SAMPLES                        | ANALYSED FOR<br>CODE - DESCRIPTION        | UNIT<br>PRICE | SAMPLE<br>PRICE | AMOUNT |
|----------------------------------------|-------------------------------------------|---------------|-----------------|--------|
| 26                                     | - ME-ICP41                                | 4.80*         |                 |        |
|                                        | - PREP-31                                 | 6.00          |                 |        |
|                                        | WEI-21 - Weight of received sample        | 0.00          |                 |        |
|                                        | Au-AA26 - Au g/t: 50 g fusion - AA finish | 8.40*         | 19.20           | 499.20 |
| 1                                      | - ME-ICP41                                | 4.80*         |                 |        |
|                                        | - PREP-31                                 | 6.00          |                 |        |
|                                        | WEI-21 - Weight of received sample        | 0.00          |                 |        |
|                                        | Au-AA26 - Au g/t: 50 g fusion - AA finish | 8.40*         |                 |        |
|                                        | Au-GRA22 - Au g/t: 2 assay ton, grav.     | 9.30*         | 28.50           | 28.50  |
| Additional charges:                    |                                           |               |                 |        |
| 217                                    | CRU-31 - Crush to 70% -2mm per kg charge  | 0.20          |                 | 43.40  |
| 217                                    | SPL-21 - Riffle splitting charge per kg   | 0.05          |                 | 10.85  |
| Total Cost \$                          |                                           |               |                 | 581.95 |
| Client Discount ( 25% of \$216.25 ) \$ |                                           |               |                 | -54.06 |
| Net Cost \$                            |                                           |               |                 | 527.89 |
| (Reg# R100938885 ) GST \$              |                                           |               |                 | 36.95  |
| TOTAL PAYABLE (CDN) \$                 |                                           |               |                 | 564.84 |



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

To: ATAC RESOURCES LTD.  
C/O ARCHER, CATHRO & ASSOCIATES (1981) LTD.  
1016 - 510 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1L8

INVOICE NUMBER

I 0 2 2 1 0 0 1

## BILLING INFORMATION

Date: 30-AUG-2002  
Project: ARN *JS*  
P.O. No.:  
Account: RCM

Comments:

Billing: For analysis performed on  
Certificate A0221001

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

Please Remit Payments to:

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

| # OF<br>SAMPLES | ANALYSED FOR<br>CODE - DESCRIPTION                                                                                                                                                                                | UNIT<br>PRICE                           | SAMPLE<br>PRICE | AMOUNT          |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----------------|-----------------|
| 1               | 244 - Pulp; prev. prepared at Chemex<br>PUL-21 - Pulv. All Sample >85%/-75 micron<br>Au-AA26 - Au g/t: 50 g fusion - AA finish<br>Au-GRA22 - Au g/t: 2 assay ton, grav.<br>Cu-AA46 - Cu %: Conc. Nitric-HCl dig'n | 0.00<br>8.75<br>8.40*<br>9.30*<br>4.20* |                 |                 |
| 8               | 244 - Pulp; prev. prepared at Chemex<br>PUL-21 - Pulv. All Sample >85%/-75 micron<br>Au-AA26 - Au g/t: 50 g fusion - AA finish<br>Cu-AA46 - Cu %: Conc. Nitric-HCl dig'n                                          | 0.00<br>8.75<br>8.40*<br>4.20*          | 30.65<br>21.35  | 30.65<br>170.80 |

|                                       |               |
|---------------------------------------|---------------|
| Total Cost \$                         | 201.45        |
| Client Discount ( 25% of \$78.75 ) \$ | <u>-19.69</u> |
| Net Cost \$                           | 181.76        |
| (Reg# R100938885 ) GST \$             | <u>12.72</u>  |
| <b>TOTAL PAYABLE (CDN) \$</b>         | <b>194.48</b> |



# ALS Chemex

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212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221

To: ATAC RESOURCES LTD.

C/O ARCHER, CATHRO & ASSOCIATES (1981) LTD.

1016 - 510 W. HASTINGS ST.

VANCOUVER, BC

V6B 1L8

INVOICE NUMBER

I 0 2 2 1 1 2 4

## BILLING INFORMATION

Date: 06-AUG-2002

Project: ARN

P.O. No.:

Account: RCM

Comments:

Billing: For analysis performed on  
Certificate A0221124

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

Please Remit Payments to:

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

| # OF<br>SAMPLES     | ANALYSED FOR<br>CODE - DESCRIPTION        | UNIT<br>PRICE | SAMPLE<br>PRICE | AMOUNT |
|---------------------|-------------------------------------------|---------------|-----------------|--------|
| 7                   | - ME-ICP41                                | 4.80*         |                 |        |
|                     | - PREP-31                                 | 6.00          |                 |        |
|                     | WEI-21 - Weight of received sample        | 0.00          |                 |        |
|                     | Au-AA26 - Au g/t: 50 g fusion - AA finish | 8.40*         | 19.20           | 134.40 |
| Additional charges: |                                           |               |                 |        |
| 1                   | BAT-01 - Batch processing fee             | 30.00         |                 | 30.00  |
| 47                  | CRU-31 - Crush to 70% -2mm per kg charge  | 0.20          |                 | 9.40   |
| 47                  | SPL-21 - Riffle splitting charge per kg   | 0.05          |                 | 2.35   |

Total Cost \$ 176.15  
Client Discount ( 25% of \$83.75 ) \$ -20.94

Net Cost \$ 155.21  
(Reg# R100938885 ) GST \$ 10.86

**TOTAL PAYABLE (CDN) \$ 166.07**



# ALS Chemex

ALS Canada Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221

To: ATAC RESOURCES LTD.

C/O ARCHER, CATHRO & ASSOCIATES (1981) LTD.

1016 - 510 W. HASTINGS ST.

VANCOUVER, BC

V6B 1L8

INVOICE NUMBER

I 0 2 2 1 3 6 6

## BILLING INFORMATION

Date: 30-AUG-2002

Project: ARN 

P.O. No.:

Account: RCM

Comments:

Billing: For analysis performed on  
Certificate A0221366

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

Please Remit Payments to:

### ALS CHEMEX

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

| # OF<br>SAMPLES           | ANALYSED FOR<br>CODE - DESCRIPTION                                          | UNIT<br>PRICE | SAMPLE<br>PRICE | AMOUNT |
|---------------------------|-----------------------------------------------------------------------------|---------------|-----------------|--------|
| 3                         | 212 - Overlimit pulp, to be found<br>Cu-AA46 - Cu %: Conc. Nitric-HCl dig'n | 0.00<br>4.20* | 4.20            | 12.60  |
| Total Cost \$             |                                                                             |               |                 | 12.60  |
| (Reg# R100938885 ) GST \$ |                                                                             |               |                 | 0.88   |
| TOTAL PAYABLE (CDN) \$    |                                                                             |               |                 | 13.48  |



# ALS Chemex

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

To: ATAC RESOURCES LTD.  
C/O ARCHER, CATHRO & ASSOCIATES (1981) LTD.  
1016 - 510 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1L8

**INVOICE NUMBER**

**I 0 2 2 1 9 7 9**

## BILLING INFORMATION

Date: 30-AUG-2002  
Project: ARN *X*  
P.O. No.:  
Account: RCM

Comments:

Billing: For analysis performed on  
Certificate A0221979

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

Please Remit Payments to:

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

| # OF<br>SAMPLES               | ANALYSED FOR<br>CODE - DESCRIPTION                       | UNIT<br>PRICE  | SAMPLE<br>PRICE | AMOUNT       |
|-------------------------------|----------------------------------------------------------|----------------|-----------------|--------------|
| 1                             | 244 - Pulp; prev. prepared at Chemex<br>- Gold metallica | 0.00<br>18.60* | 18.60           | 18.60        |
| Total Cost \$                 |                                                          |                |                 | 18.60        |
| (Reg# R100938885 ) GST \$     |                                                          |                |                 | 1.30         |
| <b>TOTAL PAYABLE (CDN) \$</b> |                                                          |                |                 | <b>19.90</b> |