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## REPORT ON 1995 TEST PITTING PROGRAM

on the

**CUZ PROPERTY**  
southeast Yukon Territory

Cuz 9 (YA67489)	Cuz 13 (YA67493)
Cuz 10 (YA67490)	Cuz 14 (YA67494)
Cuz 11 (YA67491)	Cuz 57 (YA68994)
Cuz 12 (YA67492)	

NTS 95D/5

Longitude 60°28'N; Longitude 127°52'W

Watson Lake Mining District



093537

for

Nordac Resources Ltd.

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

March, 1996

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## SUMMARY AND RECOMMENDATIONS

The Cuz property in southeast Yukon Territory contains a sediment-hosted, oxide gold prospect. Although gold mineralization was first discovered on the claims in 1982 very little physical work has been carried out since then to define the exploration potential. On August 10 1995 a hand pitting program was performed to determine the source area of soil samples taken in 1985 which returned highly anomalous values of gold and other indicator elements.

The seven claim property lies over the top of Gretchen Peak, a flat-topped, conical-shaped hill. It covers approximately 134 hectares and is wholly owned by Nordac Resources Ltd., a private company. Previous work has consisted of geochemical sampling in 1982 and 1985 which was followed up by systematic rock chip sampling of outcrop areas in 1985.

Property geology consists of an upright, homoclinal sequence of Hadrynian to Lower Cambrian quartzites, conglomerates, phyllites, siltstones and limestones that dips about 40 to 50° to the north-northwest. These are crosscut by numerous small shears and faults with a variety of orientations. A recessive zone, roughly 450 m in diameter, occurs on the north-northwest facing slope of Gretchen Peak. Results of geological mapping demonstrate that, although this area should be underlain by resistant, cliff-forming quartzite and conglomerate, no outcrop is present despite the relatively steep slope. The recessive zone is covered with coarse blocky talus from cliffs which rim the upper slopes of Gretchen Peak but solifluction boils provide clues to the nature of underlying bedrock. Here, talus fragments are much finer, ranging from sand size to coarse cobbles. Larger pieces show evidence of close-spaced penetrative cleavage which is often accompanied by alteration, silicification and quartz veining. The recessive area is evidently the

locus of intensive fracturing of unknown orientation which does not continue laterally to bedrock exposures that rim the zone to the east, south and west. Weak to moderate strength sericitic and argillic alteration is present in the resistant bedrock exposures. Alteration is best seen in intergranular areas of coarse-grained quartzite and quartz pebble conglomerates where soft, very fine-grained, white to yellowish white and light green sericite and clay mineral assemblages often completely replace the original matrix. The same outcrops are noticeably bleached and silicified into a dense rock resistant to fracturing and erosion. This alteration is much lower in intensity than that observed for talus fines within the recessive zone.

Results of the 1982 and 1985 geochemical surveys outlined a roughly circular anomalous area which coincides with the 450 m wide talus-covered recessive zone. Gold values in soil here are in excess of 100 ppb, ranging up to 1940 ppb. Rock grab samples collected within and peripheral to the main anomalous area returned gold values up to 5470 ppb. The gold geochemical anomaly is contained within a much larger area of highly anomalous arsenic and bismuth response with peak values that occur within the 100 ppb gold contour. Rock chip sampling in 1985 was confined to the resistant rim of silicified bedrock that partially surrounds the recessive anomalous zone on the north face of Gretchen Peak where anomalous, but subeconomic, values of gold were obtained over wide intervals.

The Cuz property exhibits very strong similarities to the Hyland Gold prospect located 3 km to the north which has been exhaustively tested by bulldozer trenching and reverse circulation drilling. This work has outlined a 2.5 km long north-trending zone of faulting, shearing and fracturing that accompanies gold mineralization and alteration. Gold is associated

with oxidized pyrite and arsenopyrite in jasperoid and argillic altered quartzite and gritty phyllite. This changes into incipiently altered but, nonetheless, still pyritized rock which carries gold grades between 0.3 and 1.7 g/t. Distribution of mineralization is controlled by brecciation and fracturing which accompanies a north-trending fault zone. These structures, with attendant alteration and mineralization, are thought to be related to doming and hydrothermal activity over an unroofed Late Cretaceous or Tertiary intrusion. The Main Zone lies at the top of a small hill and on-strike extensions to the north and south lie at lower elevations. Preglacial weathering and consequent oxidation of sulphide minerals extends to depths of 60 m from surface at the top of the hill while glaciation has removed most of the oxide facies at lower elevations. Drill indicated reserves are 3.2 million tonnes of oxide material grading 1.1 g/t gold that is available to open pit mining with a stripping ratio of about 1:1. Preliminary metallurgical tests indicate that the reserves are amenable to heap leach extraction of gold with very low cyanide and lime consumption.

The Cuz property lies 3 km south of the Hyland Gold mineralization and along the same trend. Furthermore, the Cuz mineralization is hosted by the same sedimentary sequence with nearly identical alteration and geochemical response. Similarly, the Cuz geochemical anomaly lies over a recessive zone that is flanked by weakly mineralized, silicified rocks. In fact, no bedrock occurrences of gold mineralization were discovered on the Hyland Gold property until extensive bulldozer trenching had been carried out. Ultimate economic potential at Cuz could be greater than that at Hyland Gold since the property is at a much higher elevation and preglacial oxidation could therefore extend to a greater depth. The Cuz gold soil geochemical anomaly is limited to the south, east and west by relatively well exposed areas with background response for gold

however, the zone is open to the north end toward the Hyland Gold prospect under glacial till.

Hand trenching of the gold geochemical anomaly in 1995 was unsuccessful in determining the nature of bedrock gold mineralization because of talus cover. Further exploration on the Cuz property should comprise detailed geological mapping and prospecting to guide excavator trench evaluation of the geochemical anomalies. With favourable results, the next phase should consist of reverse circulation drilling. Both the excavator and drill could be mobilized along the winter road to the Hyland Gold property and then by a relatively easy overland route to the Cuz claims or helicopter-portable equipment could be air-lifted across the winter road section, a distance of 40 km. A medium lift helicopter is often available at various times during the summer months in Watson Lake. Road access on the property should be easily constructed by the excavator.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED



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

## INTRODUCTION

The Cuz property in southeast Yukon Territory contains a sediment-hosted, oxide gold prospect. Although gold mineralization was first discovered on the property in 1982 very little physical work has been carried out since to define the exploration potential. On August 10, 1995 a hand pitting program was performed to determine the source area of soil samples taken in 1985 which returned highly anomalous values of gold and other indicator elements. This report describes results of that program as well as comparing the Cuz mineralization and geologic setting to the nearby well-defined Hyland Gold sediment-hosted oxide gold deposit.

### PROPERTY, LOCATION AND ACCESS

The Cuz property is located in southeast Yukon Territory, 64 km northeast of Watson Lake on NTS map sheet 95D/5 at latitude 60° 28'N and longitude 127°52'W (Figure 1). Access for the 1995 program was by helicopter from Watson Lake. The claim block lies 6 km south of Quartz Lake and 3 km from the end of a 40 km winter road which connects the Hyland Gold property with the Coal River Road, about 35 km from the Alaska Highway. The Coal River Road is passable by four-wheel drive vehicle throughout most of the year as is most of the winter road except for a section of swamp and muskeg between Km 1 and 3. A series of four-wheel drive roads on the Hyland Gold property extend from a float plane landing on the south shore of Quartz Lake to within 3 km of the Cuz claims. Fixed wing and helicopter services are available year round at Watson Lake.

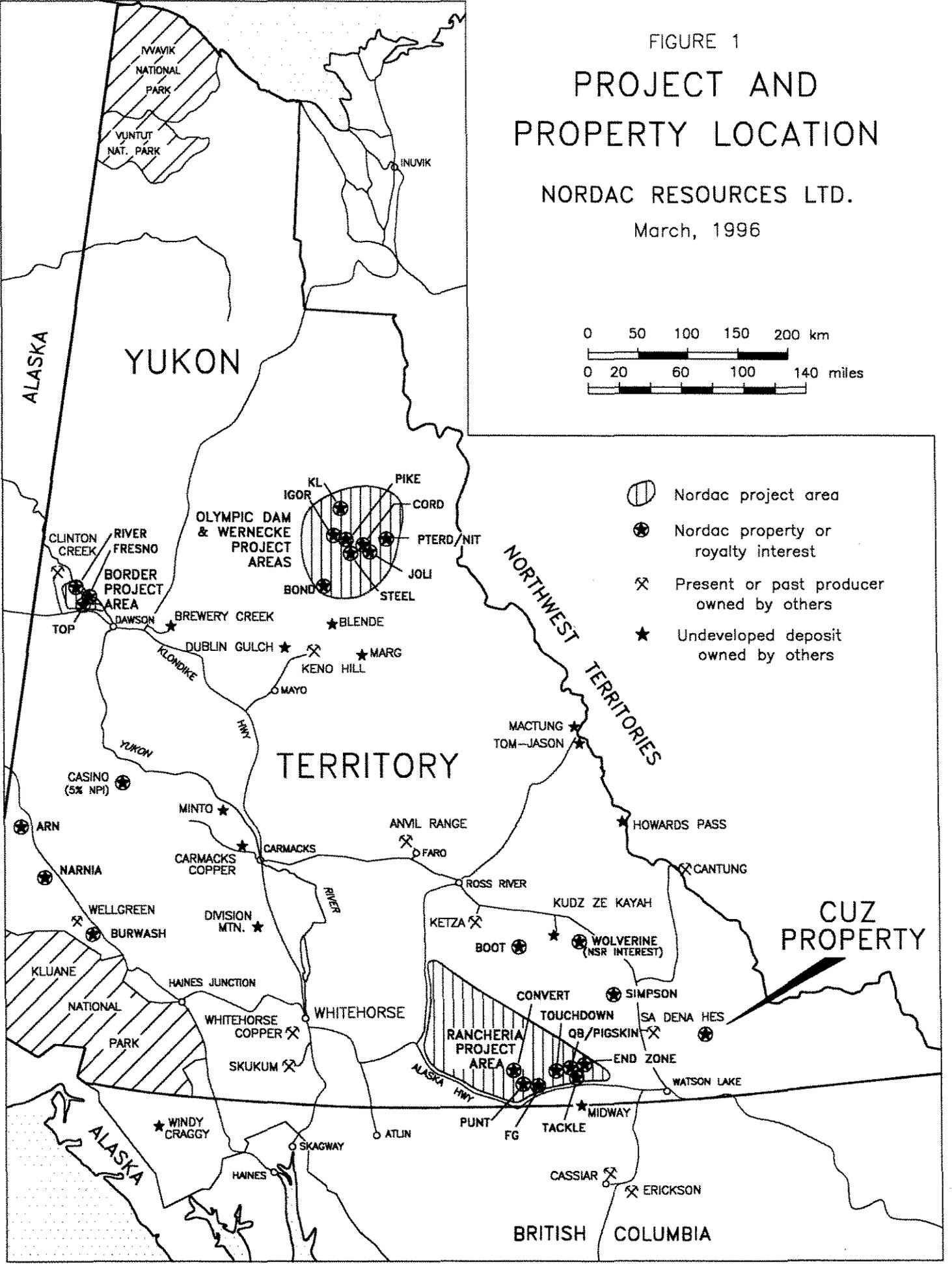
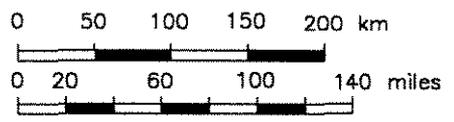
The Cuz property is wholly owned by Nordac Resources Ltd. It comprises seven contiguous claims covering approximately 134 hectares (Figure 2) in the Watson Lake Mining District as listed below.

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date*</u>
Cuz 9	YA67489	March 14, 1996
Cuz 10	YA67490	March 14, 1996
Cuz 11	YA67491	March 14, 1996
Cuz 12	YA67492	March 14, 1996
Cuz 13	YA67493	March 14, 1996
Cuz 14	YA67494	March 14, 1996
Cuz 57	YA68994	March 14, 1996

\*Does not include assessment credit applied for with this report.

FIGURE 1  
**PROJECT AND  
 PROPERTY LOCATION**

NORDAC RESOURCES LTD.  
 March, 1996



-  Nordac project area
-  Nordac property or royalty interest
-  Present or past producer owned by others
-  Undeveloped deposit owned by others

## TOPOGRAPHY AND VEGETATION

Most of the Cuz property lies above treeline which occurs at about 1350 m elevation in this area. The claim block covers the north end of a relatively rugged north-trending ridge and is centred over Gretchen Peak, a flat-topped conical-shaped hill with a maximum elevation of 1680 m (5500 feet). Gretchen Peak is mantled by a light cover of grasses and sedges with steeper slopes of unvegetated talus. Clumps of alpine fir and spruce are scattered over the grassy lower elevations on the property. The property is likely to be underlain with continuous permafrost although most of the area is well enough drained that ice in overburden would not be an impediment to exploration.

## HISTORY AND PREVIOUS WORK

The Quartz Lake area has a long exploration history. Lead-zinc mineralization was first discovered on the McMillan property in 1892 by prospectors from the Cassiar gold fields although it was not staked until 1930. This occurrence is 5 km west of the Cuz claims and has received extensive exploration since the 1940's. The McMillan property is presently held by Liard River Mining Company Ltd. [Noranda Mines Ltd., Asarco Exploration Co. of Canada Ltd. and New Jersey Zinc Exploration Co. (Canada) Ltd.]

The area now covered by the Hyland Gold property (3 km north of the Cuz claims) was first staked in 1954 by Liard River Mining as part of a large claim block around the McMillan deposit. Minor exploration was carried out directed mainly toward lead-zinc potential of the property. The area was restaked as the Porker claims in 1973 by Hyland Joint Venture (Marietta Resources International Limited, Mitsubishi Metal Corporation, L.T. Clay and H. Clay). Low level exploration, again for lead and zinc, was carried out by the joint venture in 1973 to 1975. Most of the Porker claim group expired in 1984 and the area was immediately restaked as the Piglet claims by Archer, Cathro & Associates (1981) Limited which conducted geochemical sampling the same year to evaluate the gold exploration potential. Archer Cathro sold the property in 1986 to Silverquest Resources Ltd. (now Cash Resources Ltd.) which carried out additional soil geochemical surveys the same year.

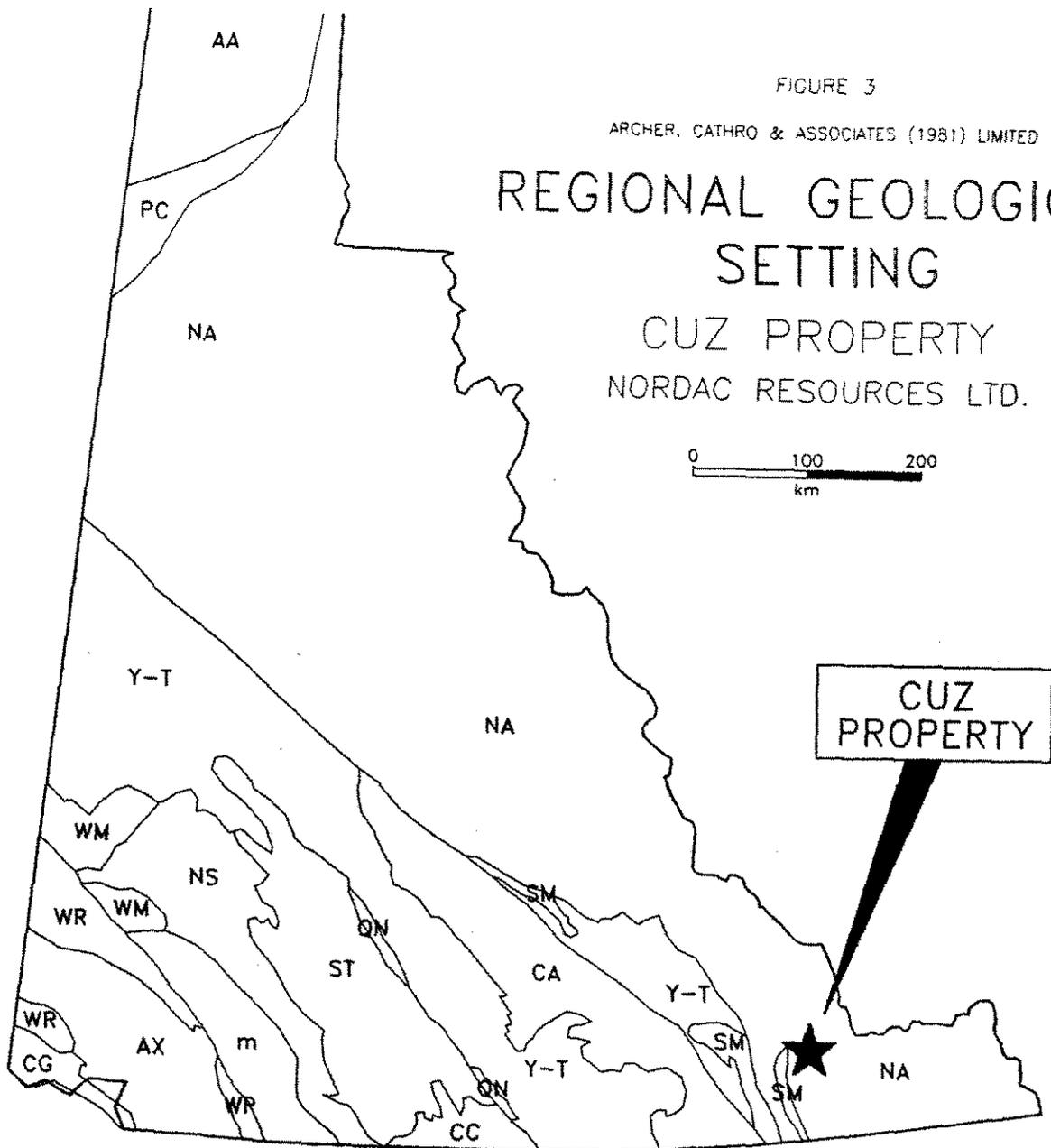
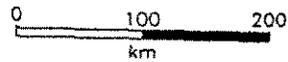
Hyland Gold Joint Venture was formed by Silverquest, Novamin Resources Inc. and NDU Resources Ltd. in early 1987 to further develop the property. During that year exploration included grid establishment and bulldozer trenching. In spring 1988 Novamin withdrew from the joint venture and was replaced by Adrian Resources Ltd. The ensuing 1988-89 field programs

FIGURE 3

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

# REGIONAL GEOLOGICAL SETTING

CUZ PROPERTY  
NORDAC RESOURCES LTD.



**CRATON**

**NA** Ancestral North America

**TERRANES**

Displaced Continental Margin

**AA** Arctic Alaska

**CA** Cassiar

**NS** Nisling

**PC** Parcupine

Pericratonic Terranes

**Y-T** Yukon-Tanana

**ACCRETED TERRANES**

Intermontane Superterrane

**SM** Slide Mountain

**ON** Quesnellia

**CC** Cache Creek

**ST** Stikinia

**WM** Windy-McKinley

Insular Superterrane

**AX** Alexander

**WR** Wrangellia

Other Terranes

**CG** Chugach

**m** Undivided metamorphics

consisted of geochemical and geophysical surveys to guide an intensive investigation of the gold potential by 3656 m of reverse circulation drilling in 41 holes between March and August 1990.

All exploration by Hyland Gold Joint Venture was supervised and conducted by Archer Cathro.

In spring 1995 Adrian withdrew from the joint venture and the property was optioned by Hemlo Gold Mines Ltd. which carried out sampling, mapping and geophysical surveys later the same year followed by drilling of 3 diamond drill holes totalling 439 m.

Kidd Creek Mines Limited staked the Cuz claims in winter 1981 using reanalysis of old Archer Cathro sample pulps as a guide to areas of gold potential. Archer Cathro carried out geological and soil geochemical surveys for Kidd Creek on the property in 1982 while hand trenching and rock sampling were performed by Kidd Creek personnel in 1985. Archer Cathro retained ownership of the property after Kidd Creek declined to perform any further exploration and the remaining claims were sold in 1994 to Nordac Resources Ltd., a private company.

Westmin Resources Ltd. staked a large area which surrounds the McMillan, Hyland Gold and Cuz properties in 1994 as well as other large properties in the Quartz Lake area. Newmont Mines Limited carried out airborne geophysical surveys over the Westmin properties in early summer 1995.

**1995 WORK PROGRAM**

The 1995 work program consisted of hand trenching carried out by Archer Cathro employees R.C. Carne and R.F. Gish on August 10. The program was supported by a Bell 206 Jet Ranger operated by Frontier Helicopters Ltd. at Watson Lake. Assays and geochemical analyses were carried out by Chemex Labs Ltd. of North Vancouver, B.C.

## GEOLOGY

### Regional Setting and Mineralization on Adjoining Properties

The Cuz property lies within the Selwyn Basin tectonic element, a Lower to Middle Palaeozoic epicratonic trough. Country rocks are predominantly quartzite and phyllite with interbedded grit, quartz-feldspar pebble conglomerate and limestone, all of which belong to the Hadrynian "Grit Unit" or the partially correlative Lower Cambrian "Phyllite Unit", both part of the Hyland Group. Both units have undergone lower greenschist regional metamorphism.

Although the Cuz property is located near the southwest end of a northeast-trending belt of Mid-Cretaceous to Tertiary granitic plutons, there are no large intrusive bodies exposed in the immediate vicinity. Evidence for a nearby buried intrusion is seen 2 km east of Quartz Lake where sedimentary rocks in a 2 km<sup>2</sup> area are thermally metamorphosed to garnet-staurolite schist.

The **McMillan Deposit**, which lies 5 km west of the Cuz property contains drill-indicated reserves of approximately one million tonnes grading 10% zinc, 5% lead and 56 g/t silver. The deposit is open pit and consists of both stratabound and structurally-controlled massive sulphide mineralization hosted by Hadrynian to Cambrian sedimentary rocks. A case can be made for either a syngenetic origin and therefore a Hadrynian or Cambrian age of mineralization or a later hydrothermal replacement of existing strata, perhaps related to an unroofed Cretaceous or Tertiary igneous body. Lead isotope and fluid inclusion data support the later hypothesis.

Gold mineralization at the **Hyland Gold Property** occurs within the core of a broad, open and upright, doubly plunging anticline. Gold is associated with pyrite and arsenopyrite in jasperoid and argillic altered quartzite and gritty phyllite. Distribution of gold is controlled by brecciation and fracturing which accompanies faulting that coincides with the anticlinal axis. These structures, with attendant alteration and mineralization, are thought to be related to doming over an unroofed Late Cretaceous or Tertiary intrusion. The Main Zone lies at the top of a small hill and on-strike extensions to the north and south lie at lower elevations. Preglacial weathering and consequent oxidation of sulphide minerals extends to depths of 60 m at the top of the hill while glaciation has removed most of the oxide facies at lower elevations. Best assays (>5.0 g/t gold) in the oxide zone are returned from samples of grey, scorodite-stained quartz veins with abundant boxwork after sulphide minerals. Moderately mineralized intervals grading 1.7 to 5.0 g/t gold, occur within pyritized and brecciated, jasperoid altered brittle quartzite intervals adjacent to the higher grade vein mineralization. This changes into incipiently altered but, nonetheless, still pyritized rock which carries gold grades between 0.3 and 1.7 g/t. Although the drill hole density in the Main Zone is too wide spaced for definite correlation of mineralized intersections, it is evident that the best mineralization is proximal to the faulted anticlinal axis in 3 to 20 m thick, relatively flat-lying stratabound zones that may be linked by irregular, steeply-dipping breccia bodies. Preliminary metallurgical tests indicate that the oxide mineralization is amenable to heap leach extraction of gold with very low cyanide and lime consumption. Percussion drilling in the Main Zone has outlined the potential for 3.2 million tonnes of oxidized material grading 1.1 g/t gold that is available to open pit mining with a

stripping ratio of about 1:1. The oxide mineralization grades to sulphide facies at depth and at lower elevations along strike in both directions for at least 2.5 km.

Several features of the Hyland Gold property are worth emphasizing for comparison with the Cuz property. The gold mineralization is structurally controlled on all scales. The gold mineralization lies along, and peripheral to, a north-northeast trending relatively recessive zone of intense fracturing. This is accompanied by highly anomalous values of arsenic and bismuth. The mineralized zone is flanked by resistant zones, several tens of metres wide, of silicified but relatively unfractured rock with weakly anomalous gold values but with moderate to strongly anomalous bismuth and arsenic values. These are in turn flanked by less well silicified zones which carry weak to moderately anomalous values of arsenic. The central mineralized area is characterized by strong argillic and sericitic alteration which persists into surrounding rock for several tens of metres.

No mineralization is publicly reported on the Westmin/Newmont claims which surround the McMillan, Hyland Gold and Cuz properties.

## **PROPERTY GEOLOGY**

### **Stratigraphy**

The Cuz claim block lies at the north end of a north-trending series of ridges dissected by broad, gently sloping, often swampy creeks with gentle gradients. The area was glaciated by Pleistocene ice sheets and thin glacial till is common in valleys and on ridges.

The property sits within a north-trending belt of Hadrynian and Lower Cambrian sedimentary rocks of the Hyland Group. Geological descriptions which follow are adapted from the report describing 1985 exploration by Kidd Creek Mines Ltd. which carried out the only detailed mapping ever conducted on the property. Because structural and stratigraphic relationships between various rock units have not been identified with certainty, rock descriptions given below are grouped into lithotypes. Outcrop locations are shown on Figure 4 and rock units identified on the map are described below.

Seven main lithotypes are present on the Cuz claims:

- (1) non-calcareous, medium- to coarse-grained quartzite and quartz pebble conglomerates;
- (2) fine-grained non-calcareous quartzite;
- (3) fine-grained calcareous quartzite;
- (4) phyllites;
- (5) siltstone;
- (6) massive limestone; and
- (7) thin-bedded limestone.

Light grey rocks of **Lithotype 1**, which dominate the top and north slope of Gretchen Peak, contain clast supported, subrounded to subangular grains of quartz plus or minus pseudomorphs of feldspar and less than 10% fine-grained matrix. Lithotype 1 is grouped into three subunits. **Subunit 1a** consists of non-calcareous quartz granule and quartz pebble conglomerates where thirty percent of the clasts have diameters greater than 2 mm. **Subunit 1b** is made up of non-calcareous coarse-grained quartzite with framework grains ranging between 0.5 and 2 mm. Medium-grained quartzite of **Subunit 1c** has average clast sizes between 0.25 and 0.5 mm.

Dark grey fine-grained quartzite of **Lithotype 2** is characterized by framework grain sizes between 0.25 mm and 0.5 mm. These are predominantly composed of subrounded to subangular quartz grains set in a non-calcareous matrix. Similar appearing rocks of **Lithotype 3** are distinguished by having a moderately calcareous matrix.

**Lithotype 4** consists of non-calcareous to slightly calcareous green and black phyllites to silty phyllites and greenish grey siltstones. Similar tan coloured phyllites of **Lithotype 5** are moderately to strongly calcareous.

Two types of limestone are present. **Lithotype 6** consists of an assemblage of grey, fissile to massive, very fine-grained, occasionally fetid limestone. **Lithotype 7** is a thin unit, probably less than 10 m thick, of very fine-grained thin-bedded limestone.

## Structural Geology

Structural geology of the Gretchen Peak area appears to be fairly simple although the relatively massive nature of the dominant rock units, combined with the paucity of true outcrop, obscure relationships between the various lithotypes. Numerous small shears and faults with a variety of orientations crosscut the sedimentary rocks and further obscure stratigraphic relationships. In quartzite and conglomerate they are characterized by recessive limonitic shear and breccia zones. More than one period of movement is evident.

The overall stratigraphic section appears to be an upright, homoclinal sequence that dips about 40 to 50° to the north-northwest. Minor small scale folding appears to be confined to areas of faulting.

A recessive zone roughly 450 m in diameter occurs on the north-northwest facing slope of Gretchen Peak. Results of geological mapping suggest that this area should be underlain by resistant, cliff-forming beds of Subunits 1a, 1b and 1c. Instead, no outcrop is present within the area despite the relatively steep slope. The recessive zone is covered with coarse, blocky talus from cliffs which rim the upper slopes of Gretchen Peak to the south but solifluction boils provide clues to the nature of the bedrock in this area. Here, talus fragments are much finer, ranging from sand size to coarse cobbles. Larger pieces show evidence of close-spaced penetrative cleavage which is often accompanied by quartz veining. The recessive area is evidently the locus of intensive fracturing of unknown orientation which does not continue laterally to bedrock exposures that rim the zone to the east, south and west.

### Alteration

Weak to moderate strength sericitic and argillic alteration is present in the resistant bedrock exposures which rim the top of the north face of Gretchen Peak. The alteration is best seen in intergranular areas of coarse-grained quartzite and quartz pebble conglomerates where soft, very fine-grained, white to yellowish white and light green sericite and clay mineral assemblages often completely replace the original matrix. The same outcrops are noticeably bleached and silicified into a dense rock more properly termed an orthoquartzite. Much more advanced clay mineral and sericitic alteration and silicification occur in highly fractured suboutcrop exposed by solifluction lobes within the recessive zone on the north face of Gretchen Peak.

## GEOCHEMISTRY

### Previous Work

Soil sampling in 1982 was carried out over most of the Cuz property at 50 m intervals along east-west chain and compass grid lines spaced 200 or 300 m apart. This initial sampling returned strongly anomalous gold values on lines 14+00S and 16+00S. The area between 9+00S and 20+00S on the north face of Gretchen Peak was then sampled on a 50 by 50 m grid. Soil samples were collected from poorly developed B+C horizons using a mattock. Gold analysis was carried out at Chemex Labs by using a neutron activation finish on a -35 mesh fraction. Sample splits were later reanalyzed for arsenic, bismuth, lead, tungsten, manganese and copper using ICP-AES and for antimony using standard atomic absorption techniques. The soil sample results outlined a roughly circular anomalous area 450 m in diameter which coincides with the talus-covered recessive zone on the north slope of Gretchen Peak. Gold in soil values here are in excess of 100 ppb, including one sample which returned 1940 ppb gold. Rock grab samples collected within and peripheral to the main anomalous area returned gold values that range up to 5470 ppb.

Arsenic values in soil, which range from less than 10 to 4600 ppm, outline an anomalous area considerably larger than the area of high gold response with the 500 ppm arsenic contour coinciding almost perfectly with the outline of the 100 ppb gold anomaly. Rock samples from the anomalous area returned values greater than 15,000 ppm arsenic.

Bismuth values in soil range from less than 2 ppm to 345 pm and outline a 750 m wide, irregularly shaped area with values greater than 10 ppm. Within this anomaly, the 40 ppm

bismuth contour is nearly coincident with the 100 ppb gold contour. Bismuth values in rocks range up to 1250 ppm.

Control for the Kidd Creek 1985 sampling was provided by a newly established grid covering the top and north slope of Gretchen Peak. The soil sample sites were marked by 60 cm lath pickets and, to avoid confusion, most of the pickets marking the 1982 sample locations were removed. Systematic rock chip sampling was carried out on the resistant, silicified horseshoe-shaped outcrop zone which rims the anomalous area outlined by the 1982 sampling. The 1995 analyses were performed by CDN Resources Laboratories, Ltd., Delta, B.C. Rock samples were crushed followed by grinding to -100 mesh while soil samples were sieved to -80 mesh. All samples were submitted for gold determination by fire assay preconcentration followed by atomic absorption.

Because different analytical techniques were used, the results of the 1982 and 1985 surveys are not directly comparable. In addition, although the 1985 sample sites can easily be relocated, very little evidence remains of the earlier sampling. For this reason, only the 1985 gold geochemical data is presented for the main anomaly area on Figure 5. Gold results for the 1982 program are shown for areas outside the Kidd Creek resampling and different sample symbols are used to avoid confusion. The 1985 soil samples were not analyzed for arsenic so only results for this metal from the 1982 sample program in the Gretchen Peak area are given on Figure 6.

### 1995 Exploration

In 1985 Kidd Creek carried out extensive chip sampling of altered and silicified quartzite cliffs that rim the uphill edge of the recessive anomalous zone in the belief that this was the source area of the high values of gold in soil samples taken downslope. Only low grade or background values were returned and Kidd Creek geologists attributed the anomalous gold-arsenic-bismuth values in downslope soil samples to surface enrichment. The 1995 hand pitting was carried out in an effort to obtain samples of bedrock from the recessive anomalous zone as an indicator of the true economic potential of the property. Four hand pits were excavated with considerable difficulty in coarse, loose talus. Unfortunately bedrock was not reached in any of the pits so material from the pit walls was sampled. Interlayering of coarse and fine talus suggests that solifluction of overburden material has occurred and that the hand pits likely encountered material derived from both local and distant uphill sources. Location of 1995 hand pits are shown on Figure 5 while descriptions of samples with a discussion of results follows.

**Pit A** is located at grid coordinates 16+00S, 2+00W where a 1985 soil sample returned 870 ppb gold. Surface material is cobble size to coarse talus. Some of the smaller fragments are pitted (boxwork), bleached and silicified quartzite. One relatively large piece carries limonite and scorodite stain.

<u>Sample Number</u>	<u>Description</u>	<u>Gold (ppb)</u>	<u>Arsenic (ppm)</u>	<u>Bismuth (ppm)</u>
R11415	talus chips from the 1985 soil sample pit	15	502	6
R11416	talus fines at 1.0 m depth in loose cobble size talus	30	942	6

**Pit B** is located at grid coordinates 16+00S, 2+25W where a 1985 soil sample returned

16,000 ppb gold. Surface material is coarse talus.

<u>Sample Number</u>	<u>Description</u>	<u>Gold (ppb)</u>	<u>Arsenic (ppm)</u>	<u>Bismuth (ppm)</u>
R11417	talus chips from the 1985 soil sample pit	<5	124	2
R11418	sandy talus fines at 0.2 m depth	300	356	22
R11419	muddy talus fines at 1.0 m depth	825	438	24
R11420	coarse talus fines at 1.2 m depth; rounded phyllite till fragments present	100	228	12

**Pit C** was excavated at grid coordinates 16+00S, 1+75W where a 1985 soil sample returned

a gold value of 610 ppb. Surface material is muddy, silt- to sand-sized material with scattered cobble-sized, angular talus fragments in a solifluction lobe.

<u>Sample Number</u>	<u>Description</u>	<u>Gold (ppb)</u>	<u>Arsenic (ppm)</u>	<u>Bismuth (ppm)</u>
R11421	talus chips from 1985 soil sample pit	40	722	26
R11422	talus fines at 0.5 m depth; talus is relatively fine, composed of sheared quartzite and conglomerate in slightly rusty soil	50	562	20
R11423	talus fines at 0.9 m depth; talus is finer, composed of sand- to pebble-sized material	45	542	22
R11424	talus fines at 1.1 m depth; similar to above sample	80	544	16
R11425	talus fines at 1.4 m depth; similar to above sample	10	382	14

**Pit D** is located at grid coordinates 16+39S, 1+95W where abundant pebble to cobble size, limonite stained conglomerate float is present in a solifluction lobe.

<u>Sample Number</u>	<u>Description</u>	<u>Gold (ppb)</u>	<u>Arsenic (ppm)</u>	<u>Bismuth (ppm)</u>
R11426	chips of selected limonite stained, silicified, coarse conglomerate talus fragments from surface	<5	650	26
R11427	talus fines at 0.7 m depth; most talus is pebble to cobble size, brown weathering sandy phyllite or phyllitic sandstone.	<5	482	8
R11428	rusty weathering talus fines from 1.0 m depth	35	876	54
R11429	rusty weathering talus fines from 1.2 m depth	5	420	8

Several conclusions are apparent from inspection of the 1995 sample data:

- i) there is good correlation between gold, arsenic and bismuth values although there is some suggestion that arsenic and bismuth in overburden may be at least partially hydromorphically enriched without concurrent enrichment in gold (Pit D);
- ii) there is no relationship between sample depth and gold content; and,
- iii) samples of talus chips taken from 1985 soil sample pits have much less gold content than soil samples taken from the same location (there is no documentation of sample preparation techniques with the 1985 report but a -80 mesh sieve fraction was probably used. In contrast, the 1995 talus chip samples were crushed and ground to -150 mesh in whole).

The geochemical data supports the observation that gold in soil samples taken within the anomalous area is derived from a local bedrock source that is not well represented by the talus cover sampled in 1995. Finer-grained detrital material sampled in 1985 and 1995 returned the best gold values. This material is brought to surface on the relatively steep coarse talus slope by the action of solifluction and is probably more representative of bedrock grade in the recessive zone.

## MINERALIZATION

Best values of gold in soil and float on the Cuz property occur within the talus-covered recessive zone on the north face of Gretchen Peak. The chip sampling program carried out by Kidd Creek in 1985 evaluated nearly continuous bedrock exposures that rim the east, south and west sides of the 450 m wide recessive gold soil anomaly. Results of the chip sampling suggest that these relatively resistant rocks are not the source of the high gold values present downslope in the large anomalous zone. Not only are gold values here much lower but arsenic, antimony and bismuth contents of the rock are almost an order of magnitude lower than those for the most of the soil samples taken from within the recessive zone. Furthermore, these rocks do not display the intensity of alteration, the amount of boxwork after sulphide mineralization nor the abundance of penetrative fracture cleavage and quartz veining that occur in mineralized talus fragments within the anomaly.

Inspection of the mineralized talus fragments reveals that two types of gold mineralization are present on the Cuz property. Best gold value discovered to date (9.0 g/t from a talus grab sample) was returned from limonitic, siliceous vein float within which tiny grains of arsenopyrite are sometimes still present after oxidation. Grey chalcedonic, somewhat banded and often drusy quartz in the veins, has been emplaced in at least two stages accompanied by brecciation and alteration of the host rock. Yellow-orange to red-brown limonite comprises from 10 to 50% of the vein material. Crosscutting relationships suggest that the veins may form a stockwork zone within the anomalous area.

The second type of mineralization consists of gold-bearing, sheared, leached and bleached clastic sedimentary rocks. At first glance these do not appear to differ greatly from the barren to weakly mineralized quartzite and conglomerates that are peripheral to the anomalous zone. On close inspection, strong silicification and boxworks after disseminated sulphides are evident. One such specimen assayed 3.7 g/t gold. Although this type of mineralization is generally lower grade than the vein-bearing rock, the silicified material is probably more representative of much of the material found between vein or shear zones within the anomalous area. Chip samples returned 1.6 g/t gold across a 3 m wide zone of weak to moderate silicification with relatively poorly developed quartz veining. This is located in an isolated outcrop at the west edge of the anomalous zone and probably represents the only true test of the bulk tonnage potential of the property.

Although both types of mineralization are vuggy and have boxworks developed, sulphide minerals rarely remain. The rocks may be more than deeply weathered and metals more completely leached than other areas of the Yukon where ridges have been more strongly scoured in the last glaciation. This is the case at the nearby Hyland Gold property where complete oxidation persists to depths of up to 60 m, even at much lower elevations than the Cuz anomaly.

**APPENDIX I**

**AUTHOR'S STATEMENT OF QUALIFICATIONS**

## STATEMENT OF QUALIFICATIONS

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

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

A handwritten signature in black ink, consisting of a large, stylized initial 'R' followed by a long horizontal line extending to the right.

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

QA24703

# ARCHER, CATHRO

• ASSOCIATES (1981) LIMITED

CONSULTING GEOLOGICAL ENGINEERS

Box 4127, 2054 SECOND AVENUE, WHITEHORSE, Y.T. Y1A 3S9 TEL (403) 667 - 4415

## AFFIDAVIT

I, Joan Mariacher, of Vancouver, B.C.

make oath and say:

093537

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Cuz 9-14 and 57 mineral claims on Claim Sheet 950/5 is accurate.

  
Joan Mariacher

Sworn before me at Vancouver, B.C.

this 9th day of

January, 1996



  
Notary, Yukon Territory

Statement of Expenditures  
 Cuz 9-14 and 57 Mineral Claims  
January 9, 1995

Labour

R. Carne (geologist) - 57 hours August at \$50/hr	\$3,049.50	
F. Gish (geologist) - 9 hours August at \$40/hr	385.20	
A. Gelling (drafting) - 37 hours August At \$33.75/hr	1,336.16	
M. Cooke (sec.) - 5 hours August at \$30/hr	<u>160.50</u>	\$4,931.36

Expenses

Field room and board - 2 mandays at \$60/day	128.40	
Frontier Helicopter - 1.6 hours at \$615/hr plus fuel	1,180.89	
Chemex Labs Ltd.	<u>270.92</u>	<u>1,580.21</u>
		<u>\$6,511.57</u>

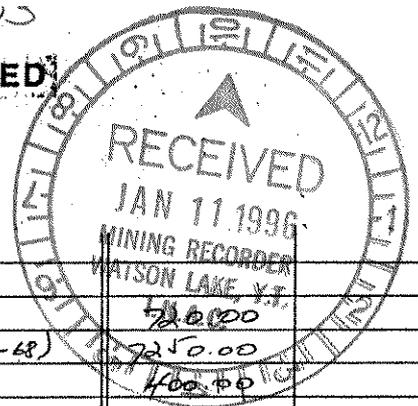


ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

In Account With

NORDAC - FIELD ACCOUNT

AUGUST 31, 1995



Project \_\_\_\_\_  
Date \_\_\_\_\_

LABOUR

Field

A. ARCHER - 12 HRS AT 60/HR  
R. CARNE - 145 HRS AT 50/HR (Cuz-57; Dr-70; Dawson-68)  
D. EATON - 8 HRS AT 50/HR  
  
F. GISH - 84 HRS AT 40/HR (Cuz-9; Dr-9; Dawson-66)  
B. WENBYNOWSKI - 4 HRS AT 40/HR (Dr)

3360.00  
160.00

Office M. COOKE - 5 HRS AT 30/HR (Cov)

150.00

Accounting & Expediting J. MARIACHEL - 25 HRS AT 42.50/HR

1062.50 13102.50

OTHER SERVICES

Room & Board In Whitehorse 9 DAYS AT 60/DAY  
Field equipment from AC stock 90.00 + 185.90  
Photocopies 92 copies at 25¢/copy  
Rentals from AC

540.00  
275.90  
23.00

AC HANDHELD - PRO RATED

8.00

Blueprinting sq.ft. Ozalid at \$/ft, plus sq.ft. Dilar at \$/ft

Drafting 55 1/4 hrs at \$33.75/hr (Dawson-10 1/4; Cuz-37; DL-8)

1873.13

LOOMIS COURIER - 1 AT 17.50/EA

17.50 2732.53

EXPENSES

Petty Cash 3.5501 + 25.00 03 + 48.60 04

77.15

Telephone 10.52 + 1.93 + 0.19

12.64

FRONTIER HELICOPTER - Cuz-1103.64 + Dr-158.00

2621.64

CML - 47.85 + 17.50 + 29.25

94.70

INTEGRAPHICS

19.90

BELVEDERE MOTOR HOTEL

250.33

CARMACKS HOTEL

10.20

DOMINION OLVE

47.25

REGENEL GENERAL - MANS

37.20

SUNRISE SERVICE

68.04

ADGEN'S PHOTO

17.06

COQUEUR DES BOIS - Dr

FV

5600.00

NORDAN LEASING - 106.45 + 558.85

665.30

FINLAYSON PROJECT JET B USED AUG 30/95 - 2282

124.24 9960.75

MANAGEMENT, 6% - ON EXPENSES

597.65

- ON FIELD A/C

7.93

605.58

26401.36

01A24703

# FRONTIER

## FLIGHT REPORT

FRONTIER HELICOPTERS  
 A division of Conair Aviation Ltd.  
 P.O. BOX 220, ABBOTSFORD, B.C. V2S 4N9  
 TELEPHONE (604) 855-1190 FAX (604) 855-1189 - ABBOTSFORD  
 TELEPHONE (403) 536-7766 FAX (403) 536-7705 - WATSON LAKE, YT

40898

CUSTOMER ARCHER CATARO JOB# \_\_\_\_\_ CUS# \_\_\_\_\_

ADDRESS Box 4127 WHITE HORSE PH ( ) \_\_\_\_\_

P/ CODE \_\_\_\_\_

PILOT R HODGENDORN ENGINEER R JONES

AIRCRAFT TYPE BELL 206 B AIRCRAFT REGISTRATION FEHK

DATE AUG 10 -95

VP	DOWN	Itinerary	Time
0758	0825	SET OUT ROB + FRANK -	0.9
0827	0851	QUARTZ LAKE & RETURN WATSON	0.4
1532	1554		0.4
1556	1623		0.4
TOTAL FLIGHT HOURS			1.6

**CHECK ONLY THE MEALS TO BE BILLED TO THE CUSTOMER**

Pilot Exp Cl.# _____	Engineer Exp Cl.# _____
B <input type="checkbox"/>	B <input type="checkbox"/>
L <input type="checkbox"/>	L <input type="checkbox"/>
D <input type="checkbox"/>	D <input type="checkbox"/>
I <input type="checkbox"/>	I <input type="checkbox"/>

Flying 1.6 hours @ 625 /h = \$ 984.00

Fuel supplied: by FRONTIER  CUSTOMER

174 litres from BASE @ \$ 666 /L = \$ 114.84

litres from \_\_\_\_\_ @ \$ \_\_\_\_\_ /L = \$ \_\_\_\_\_

1.6 hours oil @ \$ 300 /hr = \$ 480

GST # R101084044 Misc. Charges \$ 1103.64

Cash  GST \$ 77.25

Charge  TOTAL THIS REPORT \$ 1180.89

# OF DROPS \_\_\_\_\_ / YES  NO

FOAM: YES  NO

Pre-flight information received by undersigned

[Signature] NORDAC (caz)

Customer Signature

Agency Flight Report #/or Purchase Order #

Approved By - Print Name

Pilot Signature

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS BY FRONTIER HELICOPTERS IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF (E.G. LIABILITY FOR LOSS OR DAMAGE TO GOODS IS LIMITED TO 50 CENTS PER POUND) WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF FRONTIER HELICOPTERS, ABBOTSFORD AIRPORT, ABBOTSFORD, B.C.

Terms - net due upon receipt of invoice. Interest charged on overdue accounts at 2.0% per month (24% per annum)





# Chemex Labs Ltd.

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

C/O ARCHER, CATHRO  
BOX 4127, 2054 SECOND AVE.  
WHITEHORSE, YT  
Y1A 3S9

INVOICE NUMBER

I 9 5 2 6 6 0 9

QA24703

## BILLING INFORMATION

Date: 11-SEP-95  
Project: NORDAC / CUZ  
P.O. No.:  
Account: MTT

Comments:

Billing: For analysis performed on  
Certificate A9526609

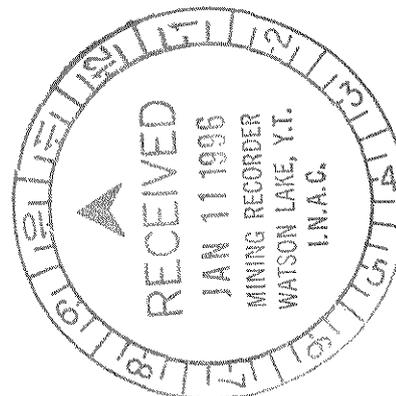
Terms: Payment due on receipt of invoice  
1.25% per month (15% per annum)  
charged on overdue accounts

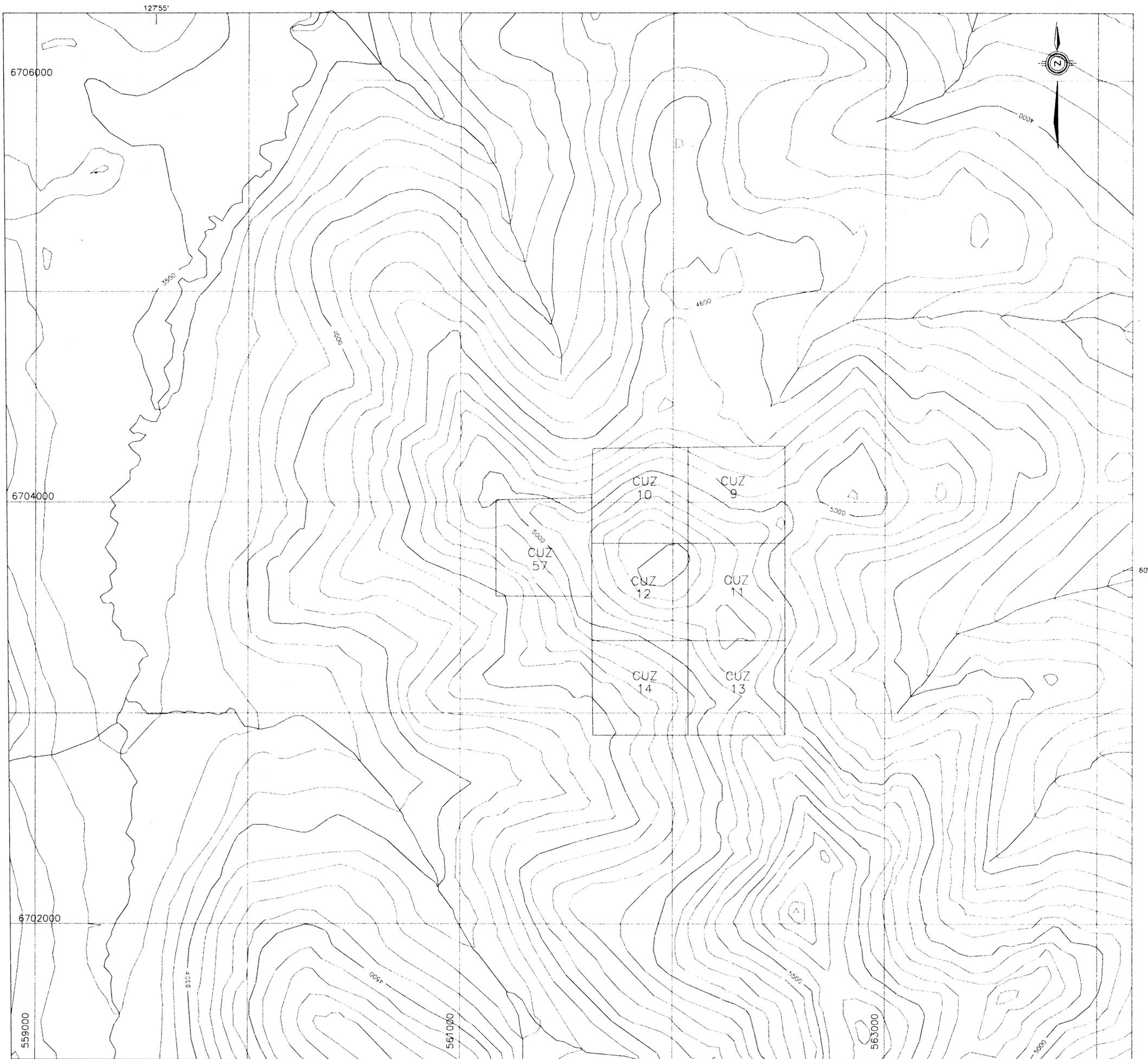
Please Remit Payments to:

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

# OF SAMPLES	ANALYSED FOR CODE - DESCRIPTION	UNIT PRICE	SAMPLE PRICE	AMOUNT
16	208 - Assay ring to approx 150 mesh	2.50		
	226 - 0-3 Kg crush and split	2.60		
	3202 - Rock - save entire reject	0.50		
	ICP-32	7.00		
	100 - Au ppb FA+AA	8.50	21.10	337.60

Total Cost \$	337.60
Client Discount ( 25% ) \$	-84.40
Net Cost \$	253.20
(Reg# R100938885 ) GST \$	17.72
<b>TOTAL PAYABLE (CDN) \$</b>	<b>270.92</b>





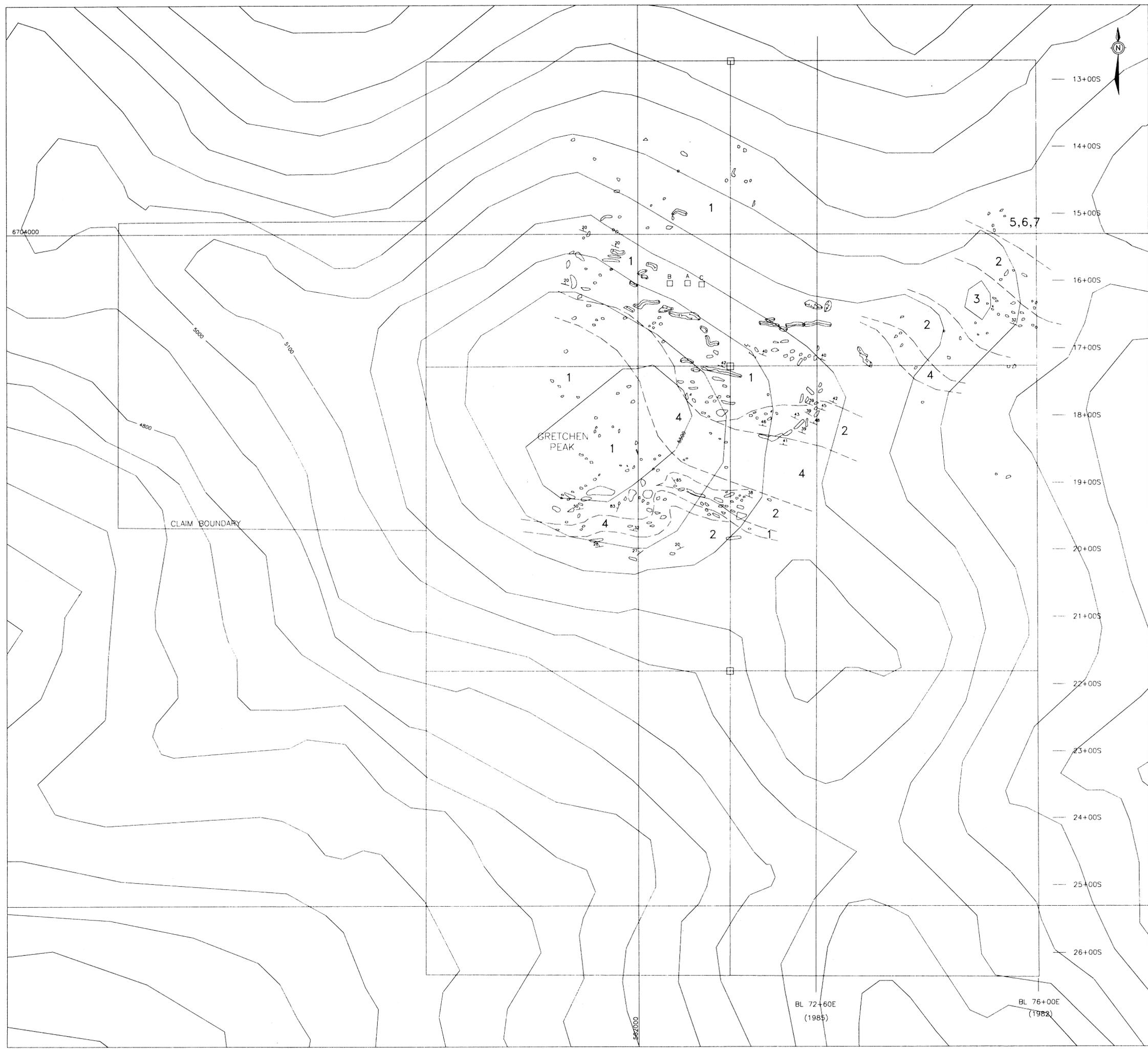
True North  
Grid North  
1'05"

UTM Zone 9  
NTS 95D/5

FIGURE 2  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**CLAIM LOCATION**  
CUZ PROPERTY  
NORDAC RESOURCES LTD.

Scale 1:10,000  
0 100 200 400 600 800 1000 m

083334



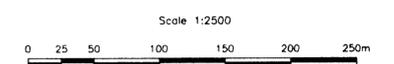
LITHOLOGIES

- 1 medium-grained non-calcareous quartzite, conglomerate
- 2 fine-grained non-calcareous quartzite
- 3 fine-grained calcareous quartzite
- 4 phyllite
- 5 siltstone
- 6 massive limestone
- 7 thin-bedded limestone

SYMBOLS

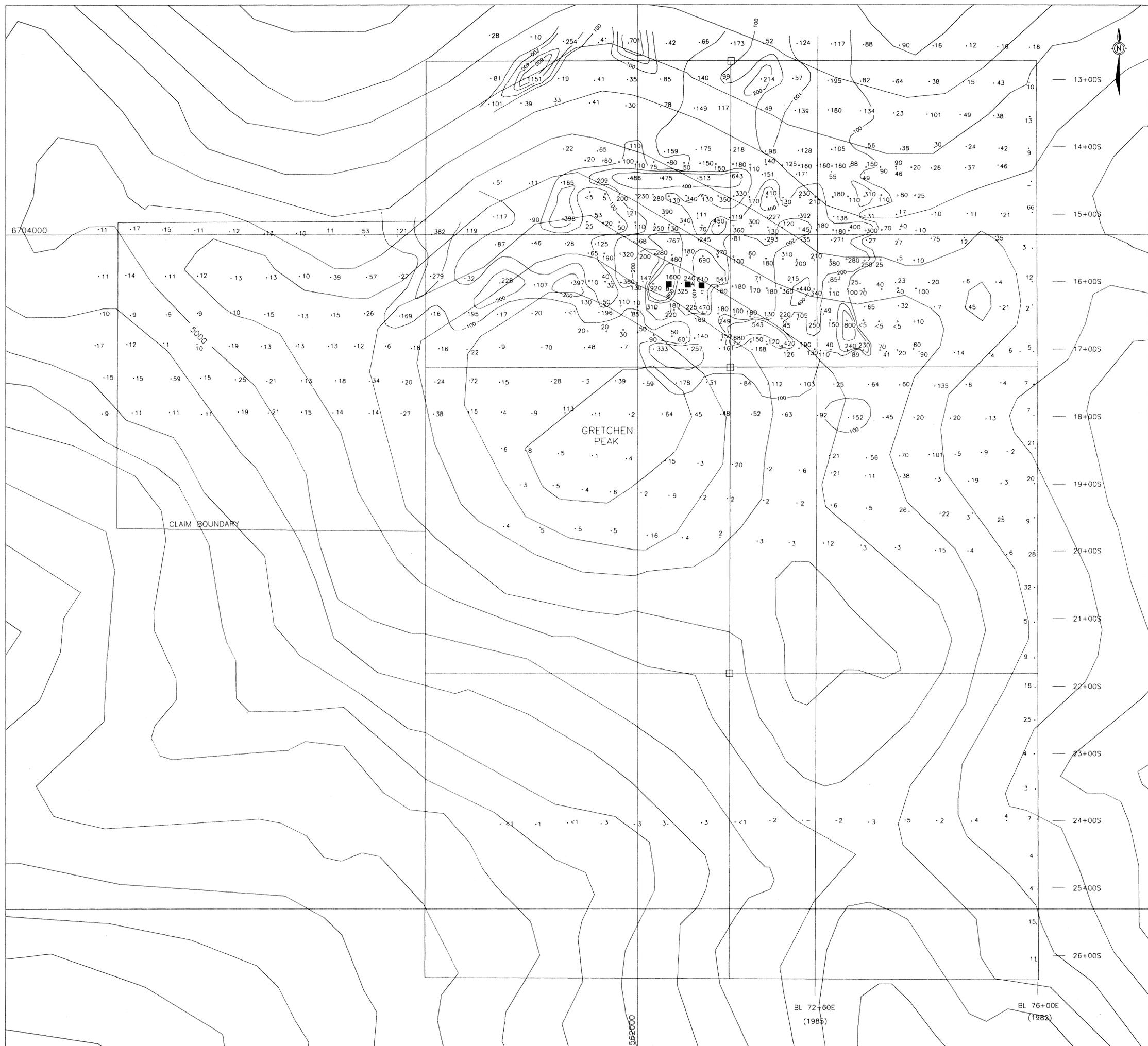
- area of outcrop
- 1985 chip sample
- 1995 test pit
- geological contact (defined, assumed)

FIGURE 4  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**PROPERTY GEOLOGY**  
 CUZ PROPERTY  
 NORDAC RESOURCES LTD.



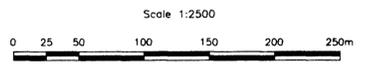
093537

#2



- 22 1982 soil sample location with Au in ppb
- 680 1985 soil sample location with Au in ppb
- 1995 test pit

FIGURE 5  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**GOLD**  
**SOIL GEOCHEMISTRY**  
 CUZ PROPERTY  
 NORDAC RESOURCES LTD.

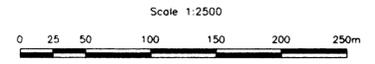


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 #3



- 745 1982 soil sample location with As in ppm
- 1985 soil sample (not analyzed for As)
- A 1995 test pit

FIGURE 6  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**ARSENIC**  
**SOIL GEOCHEMISTRY**  
 CUZ PROPERTY  
 NORDAC RESOURCES LTD.



093537  
 #4