

# ASSESSMENT REPORTS

WHITEHORSE M.

**MAP No. 115 I 6**    **TYPE OF WORK:** TRENCHING, DIAMOND DRILLING  
GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL,

*091600*

<b>REPORT FILED UNDER</b>	NAT Joint Venture		
<b>DATE PERFORMED</b>	June 5 - Sept. 11, 1984	<b>DATE FILED:</b> Feb. 4, 1984	
<b>LOCATION -</b>	<b>LAT.</b>	62°20'N	<i>Carmacks area, Yukon</i>
	<b>LONG.</b>	137°20'W	
<b>CLAIM Nos.</b>	NUCLEUS 1-141	YA51189-222	
		YA60256-271	
		YA82735-774	
		YA82910-960	
<b>WORK DONE BY</b>	W.D. Eaton (Archer, Cathro and Assoc. (1981) Ltd.)		
<b>WORK DONE FOR</b>	NAT Joint Venture		
<b>REMARKS</b>			
<b>091600</b>			

In 1984, the work program consisted of minor soil sampling on the fringes of the existing grid, linecutting, a test EM-16 survey, 2.5 km of road construction, 3581 linear metres of bulldozer trenching, and 315.2 m of diamond drilling in three holes. This work was designed to test both the bulk tonnage and high grade potential of the property and later that year and additional 91 claims were staked north and west of the existing block.

The 1983-84 trenching outlined two reserve blocks on the property which average 1.03 g/t Au. Diamond drilling beneath the trenches confirmed the presence of gold mineralization at depth, and determined the leached cap to be 60 m deep in the area of interest. Inferred tonnages in the two blocks is 3.6 to 4.5 million tonnes mineable by open pit methods with a stripping ratio of less than 1:1 and suitable for extraction by low capital cost, heap leach methods.

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GEOLOGICAL, GEOCHEMICAL, AND GEOPHYSICAL REPORT

FOR

BULLDOZER TRENCHING AND DIAMOND DRILLING PROGRAM

AT

NAT JOINT VENTURE'S

NUCLEUS 1-141 CLAIMS

CLAIM SHEET 115I/6

Latitude 62°20'N; Longitude 137°20'W

Report by

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

Work done between June 5 and September 11, 1984

**091600**

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 \$ 65,860.00

*DA Emond*

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

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## INTRODUCTION

The Nucleus 1-34 claims were staked in August, 1980 to protect an area of anomalous gold and arsenic soil geochemistry lying immediately west of the Yukon Revenue porphyry copper property. In 1981, sixteen additional claims were staked and preliminary geological mapping, grid soil sampling and a magnetic survey were done. This work located somewhat erratic but strongly anomalous gold values (up to 3284 ppb Au) over a two sq km area and showed that the best values were associated with a zone of brecciated and altered intrusive and metamorphic rocks. Detailed mapping, deeper soil sampling and reconnaissance chip sampling done in 1982 better defined geological contacts and outlined four distinct gold anomalies containing values up to 4125 ppb Au in soil and 693 ppb Au across 50 m from rock chips. A comparison of gold values in soil, rock and rotary drill cuttings (from nearby holes drilled by Kaiser Resources in 1970) suggested that significant surface leaching of gold had taken place.

In 1983, three bulldozer trenches totalling 512 linear metres were cut to bedrock in one of the four gold anomalies (Anomaly 2). The trenches exposed a north-trending, steeply dipping swarm of intensely clay altered, often brecciated feldspar porphyry dykes cutting less altered country rocks. The rocks were strongly leached and returned surprisingly high gold values in the range of 0.025 to 0.040 oz/ton Au over widths of several tens of metres. The best values, up to 1.304 oz/ton Au, were obtained from the porphyry dykes themselves. This work indicated potential for a sizeable tonnage of open pittable ore which might be amenable to low cost, heap leach extraction.

The 1984 program was designed to test both the bulk tonnage and high grade potential of the property and consisted of minor soil sampling on the fringes of the existing grid, linecutting, a test EM-16 survey, 2.5 km of road construction, 3581 linear metres of bulldozer trenching (1669 m to bedrock), and 315.2 metres of diamond drilling in 3 holes. In August, 91 additional claims were staked in the area north and west of the existing block to cover potential mill or heap pad sites and to protect a belt of favourable geology lying between Nucleus and the Nitro property 6 km to the west. Five hundred and seventy-eight soil sample splits collected from old grids on the new claims by a previous joint venture managed by Archer, Cathro & Associates Limited were analyzed for gold in the fall.

The work was performed during the period June 5 to September 11. Personnel involved in the program and a Statement of Qualifications for the author are included in Appendix I.

PROPERTY, LOCATION AND ACCESS

The Nucleus property consists of 141 contiguous mineral claims recorded in the Whitehorse Mining District as follows:

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
Nucleus 1-12	YA51189-YA51200	19 February/89
Nucleus 13-18	YA51201-YA51206	19 February/90
Nucleus 19-34	YA51207-YA51222	19 February/89
Nucleus 35-50	YA60256-YA60271	1 March/89
Nucleus 51-66	YA82735-YA82750	17 August/85
Nucleus 67-90	YA82751-YA82774	21 August/85
Nucleus 91-141	YA82910-YA82960	29 August/85

The claims are located at latitude 62°20'N and longitude 137°20'W on NTS sheet 115I/6, 63 km northwest of Carmacks. Sufficient assessment credit will be available from the 1984 program to file four additional years' assessment on all of the claims.

The property is accessible from the end of the Freegold Road by two routes maintained by placer miners. One follows the ridge separating Big Creek from Bow Creek, while the other parallels the south bank of Big Creek. Both are usable in dry weather throughout summer and fall. During 1984, the ridge road was extended from the placer miners' camp on Mechanic Creek to the main trenching area, a distance of approximately 1 km. An attempt was also made to extend the road a farther 1.5 km to linkup with the Big Creek road, but unfortunately a 400 m stretch in the centre of this section was too wet to allow completion.

### PREVIOUS WORK

Much of the Nucleus claim group was originally staked as part of the Yukon Revenue property, which was explored as a low-grade copper-molybdenum target with minor values in tungsten, gold and silver. Although placer miner P.F. Guder discovered gold-quartz float as early as 1934 on the northeast side of what is now Yukon Revenue property, he did not stake claims until 1953 when he explored a copper showing assaying 15% Cu and 0.5 oz/ton Au over 5 m with adit and shallow shaft. His property was optioned by Conwest, which conducted an EM survey in 1954; by Teck ECL, which drilled 5 holes (427 m) in 1955; by Cominco in 1959; by Meridian Syndicate, which drilled 3 holes (165 m) and conducted a geochemical survey in 1964; and by General Enterprises in 1967. Most of the drilling tested discontinuous lenses of chalcopyrite and pyrite in a strongly propylitic and argillic altered breccia zone.

In 1968, Yukon Revenue ML was formed by General Enterprises. Between 1967 and 1969, General Enterprises and Yukon Revenue ML explored the Revenue property with road building, bulldozer trenching, geochemical sampling, an IP survey and 10 drill holes (1276 m), and during 1974 and 1978 with additional bulldozer trenching. The best precious metal zone reported in these trenches assayed 0.4 oz/ton Au, 2.0 oz/ton Ag and 0.28%  $WO_3$  across 3.3 m.

The Yukon Revenue property was optioned by Kaiser Resources Limited in 1970, which cut a widely spaced grid of bulldozer trails and trenches and drilled 25 percussion holes (2245 m) and 13 diamond drill holes (1851 m) on copper-molybdenum geochemical anomalies. Parts of this bulldozer grid were done on ground now covered by the Nucleus claims and provides survey control for the Nat soil sampling grids and reference locations for geological mapping.

The Nucleus 35 to 141 claims occupy ground previously staked as the Cash claims (private individuals from Whitehorse 1979-1980), Com claims (Cominco 1969), and the Roy, Tye and Skunk claims (Klotassin JV 1974-1976). Cominco and Klotassin JV conducted geochemical soil surveys over the area but outlined only a few, weak to moderate copper, molybdenum, lead and zinc anomalies. Grid samples taken by Klotassin JV were analyzed for gold by Nat in the fall of 1984. Results of this work and geology of the area are discussed in subsequent sections of this report.

#### PHYSIOGRAPHY AND GEOMORPHOLOGY

The Nucleus property lies in the Dawson Range, a west-northwest-trending range of low mountains that extends from Carmacks to Dawson. The main drainage in the Nucleus area is Big Creek which occupies a major northwest-trending topographic low that follows the trace of the Big Creek Fault. Most tributaries of Big Creek, including Mechanic Creek which cuts the Nucleus claims, flow perpendicular to Big Creek and are strikingly linear, suggesting that they are developed along subsidiary structures. Local elevations range from 700 m in the Big Creek Valley to 1000 m on the north-trending ridge west of Mechanic Creek. The property lies below treeline and typical vegetation includes spruce and poplar trees on south- and east-facing slopes with stunted black spruce and thick moss on north- and west-facing slopes.

Although the Dawson Range was not covered by continental ice sheets during the Pleistocene Wisconsin glacial epoch, isolated alpine glaciers were present and glaciofluvial outwash is common. Minor amounts of exotic alluvium which occur along the northern and southern edges of the Nucleus property, are probably remnants of such outwash debris.

Soil profiles on the Nucleus property include 1 to 10 cm of A horizon organics, 0 to 100 cm of volcanic ash, 5 to 50 cm of B horizon soil, and 100 to 300 cm of C horizon soil over deeply weathered bedrock (there is 30 to 200 m of leaching in most parts of the Dawson Range). The ash horizon covers most of the property but its thickness is highly variable due to local remobilization by fluvial and colluvial processes. It is thickest (up to 100 cm) on flat ridge tops and in solifluction lobes on the slopes west of Mechanic Creek. Elsewhere on the property it is thin to absent. Extensive mixing between ash and locally derived soils has occurred on the lower slopes and in these areas the ash tends to occur as up to 1 cm thick lenses and individual particles within the soil. Permafrost is extensive, particularly at lower elevations and on north- and west-facing slopes.

Less than ten outcrops occur on the property; however, road cuts and old cat trenches expose abundant locally derived float. The degree of downhill transport of the float is difficult to estimate and unit contacts based on float mapping may be shifted downhill as much as 200 m in some areas.

## GEOLOGY

### General

The Nucleus and Nitro claims cover the central part of a 1 to 3 km wide, mid-Cretaceous intrusive complex extending west-northwesterly from Freegold Mountain to Prospector Mountain, a distance of 34 km. The complex contains felsic igneous rocks ranging from coarse-grained equigranular stocks through porphyritic dykes and intrusive breccias to rare volcanic flows and tuffs. The deepest parts of the system are exposed at the east and west ends of the complex while volcanic rocks occur near its centre, on and immediately west of the Nitro claims. The complex parallels the regional tectonic fabric and the Big Creek Fault and intrudes Paleozoic Yukon Metamorphic Complex schists and pre-Cretaceous intrusive rocks.

Units occurring on the property are described below from oldest to youngest and their distribution is shown at 1:20,000 scale on Figure N1 in the pocket. Figure N2, also in the pocket, is a detail geology map of the main area of interest. Most information on both maps is based on rock fragments taken from the bottom of soil pits, plus data from widely scattered outcrops.

### Pre-Cretaceous Country Rocks

Yukon Metamorphic Complex (PYmc) - A 500 m wide band of Yukon Metamorphic Complex rocks trends northwesterly across the eastern end of the property and is exposed in placer workings along Mechanic Creek and outcrops on a ridge top 700 m to the west. Elsewhere on the property, PYmc rocks occur as large rafts within intrusions. This unit exhibits strong heterogeneity and includes chlorite schist, quartz-biotite schist, quartz-muscovite schist, amphibolite, impure

quartzite and quartz-feldspar granulite. This suite is consistent with a paleolith composed of intermediate to felsic tuffs, sediments and mafic to felsic dykes. Rare garnet porphyroblasts indicate greenschist facies metamorphism.

Selwyn Gneiss (Ppn) - This unit occurs on the north side of the Big Creek Fault and is thought to be part of the Simpson Allochthonous Assemblage. It consists of strongly foliated, medium-grained hornblende-biotite-chlorite gneiss.

Gabbro-diorite (PMgb) - An irregular, 100 by 200 m, mafic intrusion invades the Yukon Metamorphic Complex east of Mechanic Creek. In places it exhibits strong compositional layering parallel to foliation in the enclosing schists. This texture shows that it is syntectonic and thus probably pre-Jurassic in age.

Big Creek Syenite (Jy) - A large batholith of resistant, coarse-grained to porphyritic hornblende syenite forms a prominent topographic high along the southern margin of the younger intrusive complex. No syenite xenoliths have been seen in the complex suggesting that the two units may be in fault contact.

#### Cretaceous Intrusive Complex

Casino Granodiorite (Kgd) - This unit is medium-to-coarse grained, equigranular and non-foliated, and is the intrusive rock associated with all porphyry copper-molybdenum deposits in the Dawson Range. It is compositionally variable and includes monzonites on the Yukon Revenue property and the east end of Nucleus which range between two end members, one containing greater than 10 percent quartz and less than 5 percent biotite (Kqm), and the other containing little or no quartz and up to 15 percent biotite (Kbm). The monzonites occur mainly east of Mechanic Creek while granodiorites occur west of the main ridge on the Nucleus property.

Coffee Creek Granite (Kg) - These rocks lie on the north side of the Big Creek Fault and consist of recessive, rusty weathering, strongly altered, equigranular biotitic leucogranite. They are coeval with the Casino Granodiorites but are rarely mineralized.

Mount Nansen Group Volcanics (KMN) - Resistant, dark weathering andesitic flows and related pyroclastic rocks.

Microgranite (Kmg) - This unit occurs within a 2 km area on the hillside west of Mechanic Creek and in two smaller bodies between Mechanic and Revenue Creeks. It is a fine-grained, tan to pale green, extremely felsic rock containing between 1 and 5 percent, small (1 to 5 mm), euhedral plagioclase phenocrysts in a matrix of anhedral quartz and feldspar. Biotite originally comprised up to 3 percent of the rock but is generally altered to chlorite. Flow banding is occasionally present, particularly along the Yukon Metamorphic Complex contact which is nearly horizontal near the ridge top but steepens towards Mechanic Creek. The microgranite-biotite monzonite contact has not been observed.

Quartz-feldspar Porphyry (Kqfp) - These rocks occur as dykes and small plugs. They are variable in composition, ranging from quartz porphyry (Kqp) through feldspar porphyry (Kfp) to feldspar-biotite-hornblende porphyry (Kfbhp). In the main area of interest, the porphyries consist of 5 to 15 percent feldspar and quartz phenocrysts in a tan, nearly aphanitic, locally flow banded matrix. Argillic alteration is common. In most specimens collected at surface, feldspar phenocrysts appear as holes and the matrix is punky rather than vitreous. Sparse clasts found in some dykes strongly resemble matrix material. The dykes cut all other units and are often too narrow to show on property scale maps. Where the dykes form swarms and comprise a significant percentage of the bedrock or float, the area is mapped as Mixed Unit (Køx see the following).

Mixed Unit (Køx) - This unit only appears on Figure N2 and describes areas in which quartz-feldspar porphyry dyke swarms are superimposed on irregular microgranite-schist contacts. These zones form mappable units surrounded by more uniform lithologies which lack significant amounts of dyke material.

### Brecciation

Numerous breccia zones occur within a 100 by 300 m area on the hillside west of Mechanic Creek. They cut both microgranite and the Mixed Unit and are typically clast-dense, consisting almost entirely of angular microgranite and schist fragments with minimal mixing. The fragments are commonly rotated, indicating some degree of movement during formation. A few slickensides occur in breccia cobbles. Silicification of clasts, as well as matrix, is particularly evident in breccias composed of microgranite fragments. The matrix normally consists of quartz, clays and limonite. Trench mapping has shown that the breccia zones often grade along strike into brecciated quartz-feldspar porphyry dykes.

### Alteration

Several alteration zones have been identified on the Nucleus and Nitro properties, as shown on Figures N1 and N2.

The most significant is a 50 to 300 m wide, 1100 m long, north-trending zone which coincides with the main geochemical anomalies. The northern two-thirds affects microgranite while the southern third coincides with the breccia zones described above. Within the microgranite there is an extensive stockwork of hairline (to 3 cm wide) quartz veins surrounded by a swarm of parallel veins. Silicification is rarely pervasive but rocks adjacent to the quartz veins typically exhibit pervasive sericite or clay alteration which often completely destroys

primary textures. Where pervasive alteration is present, most appear to be hypogene. A poorly developed, weak argillic alteration zone is developed in the microgranite peripheral to the advanced argillic-phyllitic zone, but in most cases this weak alteration is difficult to distinguish from supergene alteration. Where the zone of strong alteration affects the Yukon Metamorphic Complex, the schists are typically bleached to a pale green or tan colour and it is often hard to distinguish them from altered microgranite in hand specimens. Quartz-feldspar dykes within the zone characteristically exhibit intense argillic alteration and are occasionally cut by white to grey chalcedonic quartz veins. The most intense alteration in the schists normally occurs adjacent to porphyry dykes.

A second large alteration zone occurs 600 m southeast of the main zone and a smaller zone lies to the northwest. The large zone covers a 100 by 400 m area and consists of strongly bleached schist mixed with intensely clay altered and occasionally silicified porphyry float. The small zone is confined to the microgranite and exhibits intense phyllic and argillic alteration without quartz veining.

Further to the west there is a broad zone of argillic and phyllic alteration centred on porphyry plugs in the Gish, Magman and Burgis Creek areas.

### Structure

There is too little outcrop data to interpret structure within the metamorphic rocks but in general they appear to dip shallowly along the ridge and steepen towards Mechanic Creek. Where exposed, intrusive contacts are generally steep although the microgranite appears to dip shallowly beneath the schists along the ridge. The porphyry dykes show a pronounced north-northwesterly trend and dip nearly vertically or steeply to the west.

Most major drainages along the south side of Big Creek are strikingly linear and show consistent north-northeast trends. A number of topographic lineaments paralleling the creeks are recognizable in the ground as poorly defined slope breaks and vegetation anomalies. Most of the linears do not show offsets or lithologic breaks and thus appear to be fracture zones rather than faults.

### MINERALIZATION

Figure N1 shows the location of the known mineral occurrences on the Nucleus, Nitro and Revenue properties while Figure N3 shows the location of all drill holes.

Sulphide mineralization is rare at surface and drilling has indicated that the zone of intense oxidation ranges from 15 to 75 m in depth. Most of the mineral occurrences are associated with chalcedonic quartz veins which encapsulate minor fine-grained pyrite and arsenopyrite and occasionally sphalerite, galena, chalcopyrite and magnetite. Rock fragments taken from soil normally contain less than 1% limonite but trenching has shown that bedrock 2 to 3 m below surface averages 3 to 5%. Yellow-to-brown limonites are most common and occur on fractures, as disseminations and in quartz veins within all units. Most are after pyrite although yellow to yellow-green limonite in some porphyry dykes is derived from arsenopyrite. Black manganese and red hematitic oxides are relatively rare. Black limonite is usually associated with altered Yukon Metamorphic Complex schists while red limonite occurs along the margins of porphyry dykes.

The best gold assay obtained to date from the Nucleus property was 1.304 oz/ton Au across a 3.5 m wide porphyry dyke in Trench 83N1. Details of gold values obtained from the 1983 and 1984 work are discussed further in this report under Trenching. Other metals are present in low but anomalous quantities with silver averaging 0.3 ppm, copper 321 ppm, lead 4 ppm, zinc 22 ppm, arsenic 421 ppm, bismuth 14 ppm, antimony 26 ppm, tellurium 1.2 ppm, mercury 53 ppb, and tungsten 16 ppm. The silver-to-gold ratios are surprisingly low averaging less than 1 to 1. Bismuth, silver and arsenic show the highest correlation with gold. Although there is little or no correlation between total limonite content and gold, rocks containing red limonite often return high gold values.

Two 1970 Kaiser percussion drill holes are located on the Revenue property 200 m southeast (PDH 70-8) and 50 m northeast (PDH 70-9) of the Anomaly 2 trenching area. Composite samples representing the entire length of the holes assayed 0.010 oz/ton Au and 0.03% Cu over 67.1 m and 0.007 oz/ton Au and 0.05% Cu over 91.5 m, respectively. Two 1970 Kaiser diamond drill holes along the floor of Mechanic Creek some 300 m east of the Anomaly 2 area were relogged by Nat in 1981. In one hole (DDH 70-5), nearly all sulphides were leached to a depth of 40 m and in the other (DDH 70-6) to a depth of 15 m. Below the oxidized cap, pyrite, pyrrhotite and chalcopyrite were seen as veinlets and disseminations. Limonite with traces of malachite, azurite and chalcocite were noted in the oxidized zone but decreased toward surface. The most abundant sulphides (up to 30% pyrite with 5% chalcopyrite) were associated with 1 to 3 m wide, quartz-flooded breccia zones. The best assays were 3582 ppb Au, greater than 1000 ppm As, and 620 ppm Pb from the same 1.3 m interval; 13.3 ppm Ag from an adjacent 3 m interval; and, 0.06% Cu from a 3 m interval in the supergene zone.

Reconnaissance chip samples at the Nitro property in 1982 returned anomalous gold values ranging from 6 to 212 ppb. The sampling was done along roadcuts within a 600 by 150 m area underlain by gossanous feldspar porphyry.

No native gold has been seen at Nucleus or Nitro but Shakwak reports a little in quartz veins on the Revenue property. Shakwak also reports an

association between scheelite and gold but this relationship does not hold in the area trenched at Nucleus. The only other scheelite occurrence known in the Big Creek valley is on the Nucleus 51-141 claims where a 20 kg quartz-fluorite-scheelite boulder was discovered on a gravel bar. A 1.3 m wide quartz-fluorite vein was discovered approximately 200 m upstream and a specimen from it assayed 485 ppb Au. The vein strikes northerly, dips steeply and cuts Yukon Metamorphic Complex schists.

### GEOCHEMISTRY

Figure N3 in the pocket illustrates gold geochemical data from the Nucleus and Nitro properties and the surrounding area. This compilation includes all pre-1984 Nat data, plus results from 1984 soil sampling on the fringes of the Nucleus grid, and 1984 analyses of sample splits collected in 1975 and 1976 by an old joint venture managed by Archer, Cathro (Klotassin JV) from a grid on the Nucleus 51-141 claims. Relatively little soil geochemical data is available for the Revenue property so gold assays obtained from the 1970 Kaiser grid drill program on that property are included in the compilation.

The 1984 soil sampling at Nucleus was done in three areas, one directly north of the existing grid, a second directly to the south, and a third 700 m to the northeast. The northerly and southerly grid extensions were sampled at 50 m intervals on lines spaced 100 m apart, using the existing baseline for survey control. The other sampling (Vest Pocket Grid) was done from a second, parallel baseline at 50 m intervals on lines spaced 50 m apart. All sample locations were marked by 0.5 m high wooden pickets bearing the grid coordinates, the sample number, and a strip of orange flagging. The main baseline was cut out in 1984 but the Vest Pocket baseline is uncut. Both are marked at 25 m intervals by 1 m high wooden pickets bearing the grid coordinates. Results of the 1984 sampling are shown with generalized results from the main grid area on Figure N4 in the pocket. Detailed results previously obtained from the main grid area are reprinted on Figure N5 also in the pocket.

Work south of the main grid has outlined a 150 m wide band of weakly to moderately anomalous gold values (up to 119 ppb) that trends south-southeasterly

from Anomaly 3 to Mechanic Creek, a distance of 400 m. At the north end, the sampling returned scattered, weakly to strongly anomalous gold values (up to 863 ppb) northeast of Anomaly 1. These values may be the result of downhill dispersion from Anomaly 1, but there has been no trenching in the area and it is also possible that they reflect unexposed mineralization.

The Vest Pocket Grid was put in to provide detail coverage in an area from which a 1981 soil sample returned 1000 ppb Au. A 1984 soil sample taken at the same site returned 743 ppb, thus confirming the earlier assay. The adjacent samples returned weakly to moderately anomalous values (up to 256 ppb) within a 350 m long, east-northeast trending band that ranges from 50 to 150 m wide and is open in both directions along strike. Rock specimens taken from soil sample pits on the grid were examined under a microscope and geochemically analyzed for gold and 14 other elements. Most were weakly argillic altered quartz monzonite grading to granodiorite although a few fragments of brecciated and silicified feldspar porphyry and limonitic quartz vein were also present. Five of the twenty-one samples collected returned gold values in excess of 35 ppb. The highest value was 4970 ppb from a specimen of feldspar porphyry while the second highest was 2860 ppb from a quartz vein. The other anomalous gold values (773, 189 and 95 ppb) were all from quartz monzonite fragments. Most samples exhibited near background values for the other metals but the feldspar porphyry was anomalous in bismuth (88 ppm) and silver (1 ppm), and the quartz veins for bismuth (1545 ppm), arsenic (1070 ppm), silver (9.8 ppm), lead (104 ppm) and copper (295 ppm). Descriptions and complete assay results for these rocks are given in Appendix II.

Grid soil sampling was previously done on about 60% of the area covered by the Nucleus 51-141 claims. Analyses of the old sample splits returned only a few widely scattered anomalous gold values but this was not unexpected as most of the area is on north-facing sidehills blanketed by frozen organics and volcanic ash, or on broad glaciofluvial terraces adjacent to Big Creek. The anomalous values (up to 447 ppb Au) were usually supported by slightly higher than background values from nearby soils and, in two cases, by moderately anomalous silt values from small streams draining the area. Earlier analyses by Klotassin Joint Venture had outlined weak to moderate copper, lead and zinc anomalies which roughly coincide with zones of phyllic or argillic alteration associated with quartz-feldspar porphyry dykes and plugs.

GEOPHYSICS

Geophysicist S. Presunka conducted EM-16 test lines over mineralized zones exposed in trenches, some of the better soil geochemical anomalies, suspected and known geological contacts, and prominent airphoto linears. In all cases the readings were relatively uniform and no cross-overs were obtained. Based on these results, he concluded that detail surveys were unwarranted and would be unlikely to assist in interpretation of bedrock geology or in locating mineralization.

## TRENCHING

### General

The 1984 bulldozer trenching continued to explore the main area of interest immediately west of the Nucleus-Revenue property boundary. Although the work was principally directed toward the Anomaly 2 area where 1983 trenching produced encouraging results, it also tested other geochemical and geological targets. Twenty-three trenches totalling 3581 linear metres were started: nine in the Anomaly 2 area (not including 2, 1983 trenches which were deepened); five at Anomaly 1; two at Anomaly 3; five at Anomaly 4; one on the hilltop northwest of Anomaly 2 (Top Brass Hill) where fragments of altered feldspar porphyry collected in 1980 returned values up to 1824 ppb Au; and, one along the road between Anomalies 2 and 3 where a burrow pit had to be dug for road fill. Permafrost was encountered in all trenches and had to be ripped before it could be removed. In some areas the permafrost was covered by a 1 to 2 m thick layer of extremely wet organics and volcanic ash which slumped and flowed into the trenches. Of the 23 trenches started, only 13 were wholly or partially completed, exposing a total of 1669 linear metres of bedrock. Table N1 on the following page lists the trenches and pertinent information, including their dimensions, the target being tested, and problems encountered during excavation. Figure N5 shows the location of complete and incomplete trenches relative to the geochemical anomalies.

The trenching required a total of 395 hours of bulldozer time and was done with a ripper-equipped Caterpillar D7E contracted from E. Caron Diamond Drilling of Whitehorse.

TABLE N1 - TRENCHING SUMMARY

<u>TRENCH NO.</u>	<u>TARGET</u>	<u>TOTAL LENGTH</u>	<u>BEDROCK LENGTH</u>	<u>COMMENTS</u>
83N-1	Anomaly 2	131	125	deepened 1 to 2 m in 1984
83N-2	Anomaly 2	212	212	no work in 1984
83N-3	Anomaly 2	169	166	partially resampled in 1984
		<u>512</u>	<u>503</u>	
84N-4	Anomaly 1	340	338	strongly frozen
84N-5	Anomaly 2	131	125	moderately frozen
84N-6	Anomaly 2	144	125	moderately frozen
84N-7	Anomaly 2	163	146	moderately frozen
84N-8	Anomaly 2	75	75	moderately frozen
84N-9	Anomaly 2	219	199	moderately frozen
84N-10	Anomaly 1	264	120	strongly frozen
84N-11	Anomaly 1	240	10	strongly frozen
84N-12	Anomaly 1	94	88	strongly frozen
84N-13	Anomaly 1	100	94	strongly frozen
84N-14	Anomaly 4	131	127	OK
84N-15	Anomaly 2	113	---	wet/frozen
84N-16	Anomaly 4	144	---	extremely wet/frozen
84N-17	Anomaly 4	138	---	extremely wet/frozen
84N-18	Anomaly 4	131	127	OK
84N-19	Anomaly 4	131	---	OK
84N-20	Anomaly 4	75	---	frozen
84N-21	Top Brass Hill	94	95	OK
84N-22	Anomaly 2	75	---	wet/frozen
84N-23	Anomaly 2	234	---	wet/frozen
84N-24	Anomaly 3	228	---	extremely wet/frozen
84N-25	Anomaly 3	178	---	extremely wet/frozen
84N-27	Anomaly 2	138	---	
		<u>3581</u>	<u>1669</u>	
Total 1984		3581	1669	
Total 1983		<u>512</u>	<u>503</u>	
Total 1983 and 1984 -		<u>4093</u>	<u>2172</u>	

A total of 550 channel samples averaging 9 kg each were collected from bulldozer ripper cuts down the centre of trench floors or, in a few cases, from well exposed trench ribs. Sample intervals ranged from 0.7 to 10.0 m in length and their boundaries generally coincided with geological contacts. All samples were sent to Chemex Labs in North Vancouver where they underwent a fire assay preparation and neutron activation analysis for gold. Approximately half the samples were also geochemically analyzed for 14 other elements by ICP. Details concerning analytical techniques are discussed in Appendix III while Appendix IV contains geochemical values for the ICP analyses.

### Results

Figure N6 in the pocket illustrates assay results schematically while Figures N7, 8, 9 and 10, also in the pocket, show detail bedrock geology and channel assay values for trenches in Anomaly 1, 2 and 4 and the Top Brass Hill areas, respectively. The geology exposed in the trenches is quite complex in some areas but generally agrees with float mapping. However, bedrock gold values show little direct correlation to nearby soil values and are often much higher or lower. The geology and general distribution of gold in each trenching area are discussed below, while major intersections obtained from specific trenches are summarized on Table N2 on the following page.

In the Anomaly 1 area, trenching exposed a series of narrow (up to 25 m wide) breccia and gouge zones within microgranites and schists. The zones appear to trend north to north-westerly subparallel to the schist-microgranite contact. The widest of the zones is exposed in Trenches 84N4, 10 and 11 where it ranges in composition from brecciated microgranite in Trenches 84N10 and 11 to a feldspar

TABLE N2 - TRENCH ASSAY RESULTS

TRENCH NO.	INTERVAL		WIDTH(m)	oz/ton Au*
	FROM(m)	TO(m)		
84N-4	160.0	228.4	68.4	0.024
includes	160.0	188.0	28.0	0.046
	220.0	228.4	8.4	0.033
84N-5	57.0	126.0	69.0	0.031
includes	87.5	96.0	8.5	0.041
	103.0	116.0	13.0	0.053
84N-6	54.0	140.0	86.0	0.022
includes	107.5	120.0	12.5	0.034
84N-7	48.0	164.0	116.0	0.028
includes	48.0	100.0	52.0	0.041
	111.0	119.0	8.0	0.030
	141.0	150.0	9.0	0.035
	156.0	164.0	8.0	0.033
84N-8	16.0	49.0	33.0	0.020
includes	24.0	33.0	9.0	0.030
	43.0	49.0	6.0	0.032
84N-9	8.0	224.0	216.0	0.022
includes	8.0	36.0	28.0	0.047
	75.0	116.0	41.0	0.044
	157.0	173.0	16.0	0.031
	220.0	224.0	4.0	0.039
84N-10	19.0	118.0	99.0	0.021
includes	19.0	35.0	16.0	0.031
	53.0	73.0	20.0	0.030
	89.0	94.0	5.0	0.045
	108.0	118.0	10.0	0.033
84N-11	5.0	8.0	3.0	0.027
84N-12	no significant values			
84N-13	no significant values			
84N-14	no significant values			
84N-18	no significant values			
84N-21	no significant values			

\* weighted average in which all values greater than 0.200 oz/ton Au were cut to that value

porphyry dyke with breccia zones on its margins in Trench 84N4. Although the microgranite exhibits weak to intense argillic alteration and quartz stockworks throughout, significant gold values are confined to a 100 m wide band paralleling the schist-microgranite contact. The best gold assay is 0.327 oz/ton Au over 3.0 m in Trench 84N4. Samples within the band are also moderately anomalous in arsenic and bismuth. Most soil values in Anomaly 1 are located downhill from this band but a number of the strongest soil values and the highest rock chip values are located uphill from it and are unexplained.

At Anomaly 2, the geology is also complex and consists of an irregular contact between schists to the east and microgranites to the west, which are cut by a north-northwest trending porphyry dyke swarm and related breccia zones. The microgranites exhibit pervasive phyllic alteration while the schists range from relatively fresh to intensely bleached and phyllic altered. Feldspar porphyry dykes normally show intense argillic alteration and often transform along strike from dykes to brecciated dykes to breccia zones without porphyry clasts. The porphyry in Trench 83N3 is significantly less altered than in the other trenches, possibly indicating the system is dying out in that direction. Contacts between the various units normally exhibit vertical to steep westerly dips. Foliation and bedding attitudes within the schists are usually consistent within a single exposure but are variable between exposures suggesting that at least some occur within rotated xenoliths. A large west-northwest trending, nearly vertical fault exposed in Trench 83N1 appears to offset the schist-microgranite contact and truncates a series of north-northeast trending shears exposed in Trenches 84N6 and 9 but has no apparent affect on the north-northwest trending dykes and breccia zones.

Significant gold values were obtained from all trenches in the Anomaly 2 area with the narrowest, lowest grade portion being exposed in the most southerly trench (83N3) and the widest, highest grade portion being exposed in the most northerly trench (84N9). Surprisingly, this latter trench lies outside the boundary of the soil anomaly. Gold values in excess of 0.02 oz/ton exhibit a north to northwesterly trend and are open along strike in both directions and to the east, where trenching was terminated near the property boundary. Gold values drop below 0.01 oz/ton to the west (uphill) in most trenches; however, trenches 84N9 and 83N3, which extend farther in that direction than the others, intersected part of what appears to be a second parallel zone. Other trenches which would have explored this second zone were not completed due to wet, frozen ground.

The highest gold values are found within or directly adjacent to feldspar porphyry dykes or related breccia zones with the highest single values coming from a dyke cut in Trench 83N1 which returned an assay of 1.304 oz/ton Au in 1983 and 0.147 oz/ton Au when resampled in 1984. This dyke was also cut in five other trenches and returned values ranging from 0.042 to 0.300 oz/ton Au. Trench 83N1 was deepened in 1984 and two 100 kg bulk samples were taken at 2.5 m to 6.5 m intervals over a 34.5 m length covering this dyke and adjoining rocks. One was sent directly to Chemex while the other was crushed and split into two samples before shipment. Table N3 on the following page shows assay results from this and corresponding 1983 channel sampling.

TABLE N3

SAMPLING OF HIGH GRADE INTERVAL IN TRENCH 83N1

<u>INTERVAL</u>	<u>1983 ppb Au</u>	<u>1983 oz/ ton Au</u>	<u>1984<sup>1</sup> ppb Au</u>	<u>1984<sup>2</sup> ppb Au</u>	<u>1984<sup>3</sup> ppb Au</u>	<u>1984 Avg. ppb Au</u>
35.0-37.5	2230	0.070	2560	5500	3300	3787
37.5-44.0	830	0.040	2290	1600	1450	1780
44.0-47.5	1690	0.034	1070	640	410	707
47.5-49.0	240	0.008	263	295	325	294
49.0-50.0	420	0.010				
50.0-54.0	1340	0.030	621	490	660	590
54.0-58.0	2065	0.064	1140	780	1500	1140
58.0-63.0	1875	0.026	826	840	700	789
63.0-66.5	>10000	1.304	4530	8300	2300	5043
66.5-69.5	970	0.034	194	275	1400	623

1984<sup>1</sup> - 100 kg sample sent directly to Chemex

1984<sup>2</sup> - 1/4 of 100 kg sample split in camp

1984<sup>3</sup> - 1/4 of 100 kg sample split in camp

Other metals present in the Anomaly 2 area and their relationship to gold were discussed at some length in the 1983 Final Report. Although no rigorous statistical study was undertaken on the 1984 analyses, the results generally confirmed the earlier observations that arsenic, antimony, tellurium, bismuth and copper are all strongly anomalous; silver and tungsten are weakly anomalous; and, bismuth, silver and arsenic show the highest correlation with gold.

Trenching in the Anomaly 4 area exposed a monotonous sequence of shallowly south-dipping schists cut by occasional narrow north-trending gougy fault zones. Gold values from the relatively fresh wallrock schists are low, usually in the trace to 20 ppb range; however, a few of the fault zones returned values between 100 and 500 ppb over widths of 1 to 3 m.

Trench 84N21 on Top Brass Hill exposed only weakly altered microgranites except for one 4 m section exhibiting pervasive quartz flooding. The gold values were all less than 53 ppb Au.

## DIAMOND DRILLING

### General

The drilling was contracted to E. Caron Diamond Drilling Limited of Whitehorse and was done with a wireline-equipped, fully hydraulic Longyear 38 drill housed in a unitized drill shack and powered by a GMC deisel engine. Work commenced on September 1 and was completed on September 11. Three inclined holes totalling 315.2 m (1034 ft) were drilled from three separate sites, all in the Anomaly 2 area.

The holes were drilled with HQ equipment throughout and were cased to a depth of 4 to 10 m. Core recovery was excellent averaging better than 95%, except in the upper 20 m of Hole N84-3 where it averaged about 40%. The rocks were highly permeable and there was no water recovery. The only problem caused by the lack of water return was considerable vibration which occasionally caused the casing to settle and shift. A total of 8.5 m of casing was lost due to this settling and the top 20 m of Hole 84N-2 had to be redrilled. Twenty-eight gallons of drill mud were used during the program. Permafrost was not a problem and no calcium chloride was required. The waterlines were laid out along the road and ranged from 1000 to 1200 m in length with a 150 to 175 m rise which necessitated a relay pump.

All core was logged in the field and is now stored at the H.S. Bostock Core Library in Whitehorse.

### Assaying

All core was split at intervals averaging 1.5 m in length using geological contacts as boundaries where possible. The split core was lamped with an ultra violet light and sent to Chemex Labs in North Vancouver where it was geochemically analyzed for silver, copper and zinc by atomic absorption and for gold using a fire assay preparation and neutron activation analysis. Details of the analytical techniques are described in Appendix III.

### Results

The drill hole locations, cross-sections and assay results are shown on Figure N8 in pocket. In general there is a good correlation between geology mapped in the trenches and that observed in the drill core. The geological contacts exhibit fairly consistent 60° to 80° westerly dips in Holes N84-1 and 3 and are nearly vertical in Hole N84-2. Most of the alteration seen in the trenches appears to be hypogene as there is little variation in the wallrock alteration assemblage with depth. Mineralogy of veins and fractures changes notably below a depth of about 10 to 15 m with a sharp increase in limonite content and the appearance of a soft white sulphate mineral (gypsum?).

The rocks can be divided into three principal categories based on degree of oxidation of sulphide minerals. The first category is virtually devoid of sulphides and occurs within the leached cap. Most core and all rock in the trenches are of this type. The second contains partially oxidized sulphides and forms a transition zone. Rocks in this group include poorly fractured schist in Hole N84-2 and some schist and porphyry near the bottom of Hole N84-1. The final category contains unoxidized sulphides and can be subdivided into two groups:

rocks containing hypogene minerals only; and, those in which the hypogene minerals are wholly or partially replaced by supergene sulphides. Pure hypogene mineralization was not seen in any of the drill core; however, rocks from the supergene sulphide zone were intersected in the bottom 20 m of Hole N84-1 where chalcocite and minor covellite coat chalcopyrite and pyrite.

Table N4 on the following page summarizes gold intersections obtained from the drilling. These coincide remarkably well with values in the overlying trenches, as shown on Figure N8. An example is the interval 23.4 to 119.2 from Hole 84N-2 which averages 0.026 oz/ton Au compared to 0.029 oz/ton Au from rocks directly above in Trench 83N1. Individual gold assays from all holes range from 35 to 7334 ppb with a median value of 450 ppb. The best assays usually occur within or on the margin of porphyry dykes although scattered high values were obtained in other units as well. There is no apparent relationship between high gold values and the abundance of any mineral or alteration type and there is no evidence of enrichment of gold at surface or within the supergene sulphide zone.

Silver and zinc values show the same general abundance and relationship to gold in drill core that they do in the trenches but copper does not. Individual silver values range from 0.1 to 4.7 ppm and are highly correlated with gold. Zinc values range from 1 to 138 ppm, except for one interval which contained a narrow sphalerite vein and returned 1180 ppm. There is no relationship between zinc and gold values. Individual copper values show a much wider range (from 27 to 4700 ppm) and copper is the only metal for which the distribution clearly indicates remobilization. Samples taken within 10 to 15 m of surface typically are depleted in copper by a factor of 20 to 50% compared to other rock in the leached cap, while samples from the lower part of the leached cap and the supergene

TABLE N4 - DRILL RESULTS

<u>HOLE NO.</u>	<u>INTERVAL</u>		<u>WIDTH(m)</u>	<u>oz/ton Au*</u>
	<u>FROM(m)</u>	<u>TO(m)</u>		
N84-1	0	83.8	83.8	0.010
N84-2	23.5	119.2	95.7	0.026
includes	23.5	52.1	28.6	0.040
	85.7	102.4	16.7	0.040
	116.0	119.2	3.2	0.051
N84-3	18.3	91.5	73.2	0.029
includes	18.3	30.5	12.2	0.030
	50.8	81.3	30.5	0.045

\* weighted average in which all values exceeding 0.200 oz/ton Au were cut to that value

sulphide zone are enriched by a factor of 50 to 1000%. For example, the average copper value in the upper 16 m of Hole N84-1 is 85 ppm compared to 503 ppm for the remainder of the leached cap and 1938 for the supergene sulphide zone.

The base of the leached cap, as defined by oxidation of sulphides and geochemical data, is quite irregular with the deepest, most intense oxidation occurring in the highly fractured feldspar porphyry dykes and the shallowest, least intense oxidation in poorly fractured Yukon Metamorphic Complex schists. Additional drilling will be required to reliably determine the average depth of oxidation but based upon available results, 60 m seems reasonable.

RESERVES

Sufficient data is available from trenching and drilling to infer reserves for two blocks. The larger of the two is in the Anomaly 2 area and the other in the Anomaly 1 area, as shown on Figure N6. As is usually the case, several combinations of grades and tonnages can be calculated depending upon the parameters used. Table N5 below lists a range of potential tonnages and grades for the two blocks.

TABLE N5

INFERRED TONNAGES AND GRADES

ANOMALY 2 BLOCK

<u>Avg. Grade oz/ton Au</u>	<u>Avg. Width m/ft</u>	<u>Length m/ft</u>	<u>Ton/V Ft.</u>	<u>Tonnage to 200' (60.1m) in millions</u>
0.027	91.5/300	325/1066	24,600	4.92
<u>or</u>				
0.030	87.7/288	275/902	19,983	4.00
<u>or</u>				
0.036	73.0/239	225/738	13,568	2.71
<u>or</u>				
0.042	57.1/187	225/738	10,616	2.12

ANOMALY 1 BLOCK

0.028	67.7/222	62.5/205	3,500	0.70
<u>or</u>				
0.031	54.7/179	62.5/205	2,823	0.56
<u>or</u>				
0.038	40.7/133	62.5/205	2,097	0.42
<u>or</u>				
0.041	33.7/111	62.5/205	1,743	0.35

In making these calculations, a number of arbitrary assumptions and parameters were used.

1. All assays exceeding 0.200 oz/ton Au were cut to that value.
2. A cutoff grade of 0.010 oz/ton Au was used.
3. A minimum width of 6 m was used for determination of ore and waste sections (i.e. a section was considered to be waste if the average grade over 6 m or more was less than 0.010 oz/ton Au).
4. Where more than one channel sample was collected from a single interval, the average assay value was used.
5. Even though the zone is still open in most directions, no projections beyond the trenches were made (i.e. only the area shown on Figure N6 was included in reserve calculations).
6. An average depth of 60 m was used and this was based upon drill results.
7. A density of 0.41 cu m/tonne (13 cu ft/ton) was used for the rock.

Two preliminary cyanide leachability tests conducted on composite samples from Trenches 83N1 in 1983 yielded 77.8 and 82.1% recoveries. Therefore, assuming 80% recovery, the two reserve blocks have potential to produce about 120,000 ounces of gold by open pit, heap leach methods.

## DISCUSSION AND CONCLUSIONS

The 1983 and 1984 bulldozer trenching has outlined two reserve blocks (Anomaly 1 and Anomaly 2 blocks) on the Nucleus property in which the average gold content is about 0.03 oz/ton Au. The rocks are highly fractured and intensely oxidized feldspar porphyries, microgranites and schists. Diamond drilling beneath the trenches has confirmed that the gold mineralization continues into the subsurface and that the leached cap is approximately 60 m deep in the area of interest. Inferred tonnages of leachable ore in the two blocks is in the range of 4 to 5 million tons. The Anomaly 1 block is still open to the northwest and southeast while the Anomaly 2 block is open in at least three directions and possibly all four.

The trenching tested soil gold geochemical anomalies and has shown that:

1. the bedrock grade is generally 2 to 4 times the soil grade;
2. the mineralization extends beyond the areas of anomalous soil values in some areas (i.e. Trench 84N9); and,
3. not all soil anomalies are underlain by significant mineralization (i.e. Anomaly 4).

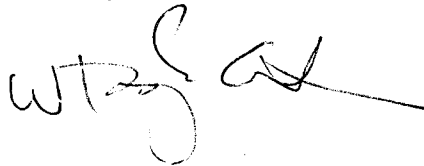
There are no clear explanations for these observations but in most cases local geomorphology and unusual geochemical features related to the permafrost are probably the cause. For example, Trench 84N9 is overlain by a thicker layer of frozen organic and volcanic ash than other Anomaly 2 trenches to the south. This layer may have resulted in poor quality soil samples being taken. In the Anomaly 4 area, the anomalous soil samples were all taken from frost heaves and it is possible that acidic, gold-bearing waters from beneath the impermeable permafrost cap were channelled through the frost heaves and precipitated gold when they were neutralized by surficial waters, creating local enrichment.

There are still a number of untested soil anomalies in the main area of interest, mostly between Anomalies 2 and 4, in the Anomaly 3 area, northeast of Anomaly 1 and on the Vest Pocket Grid. Additional unexplored anomalies are located to the west on the Nucleus 51-141 claims and on the adjoining Nitro claims, and to the east on the adjacent Revenue property. The Anomaly 2 trenches extend almost to the Revenue property boundary and are still mineralized, suggesting that the mineralization continues across the boundary.

Work on the Nucleus property has outlined a deposit that is mineable by open pit methods with a stripping ratio of less than 1 to 1 and is suitable for extraction by low capital cost, heap leach methods. This is the first deposit of its type discovered in Canada and the unglaciated, west-central portion of the Yukon is the only area in Canada in which other deposits are likely to be discovered. Deposits of this grade and magnitude are presently being economically mined in the Western United States. Additional metallurgical tests and a preliminary feasibility study will be required to determine if it is economic in the Yukon.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

A handwritten signature in black ink, appearing to read 'W.D. Eaton', written over the typed name below.

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

/mc

APPENDIX I  
PERSONNEL AND STATEMENT OF QUALIFICATIONS

APPENDIX I

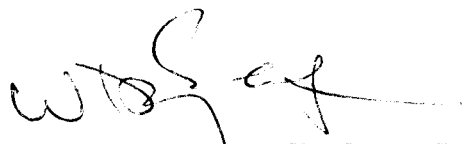
PERSONNEL

W.D. Eaton	6108 Burns Street, Burnaby, B.C.	Geologist
M.P. Phillips	50 Aisek Road, Whitehorse, Yukon	Geologist
I. Talbot	#302 - 336 East 7th Avenue Vancouver, B.C.	Geologist
C. Greig	4665 West 16th Avenue Vancouver, B.C.	Student
B. McDaniels	#304 - 1975 Lee Avenue Victoria, B.C.	Student
T. Mundle	#2 - 1845 Dunbar Street Vancouver, B.C.	Student
T. Becker	78 Oberlin Road Red Deer, Alberta	Student
B. Wengzynowski	2185 West 8th Avenue Vancouver, B.C.	Student
S. Healy	Box 271 Merville, B.C.	Cook

## STATEMENT OF QUALIFICATIONS

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

1. I graduated from the University of British Columbia in 1980 with a B.Sc. and am currently enrolled in a M.Sc. majoring in Geological Sciences.
2. From 1971 to the 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.



---

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

APPENDIX II  
ROCK DESCRIPTIONS FOR SPECIMENS FROM  
VEST POCKET GRID, NUCLEUS PROPERTY



# Chemex Labs Ltd.

Analytical Chemists    Geochemists    Registered Assayers

212 Brooksbank Ave.  
North Vancouver, B.C.  
Canada    V7J 2C1  
Telephone: (604) 984-0221  
Telex:    043-52597

## CERTIFICATE OF ANALYSIS

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

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

CERT. # : AB418076-001-A  
INVOICE # : 18418076  
DATE : 30-NOV-84  
P.O. # : NONE  
NAT

Sample description	As ppm (ICP)	Ko ppm (ICP)	Zn ppm (ICP)	P ppm (ICP)	Pb ppm (ICP)	Bi ppm (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Ni ppm (ICP)	Fe ppm (ICP)	Mn ppm (ICP)	Cu ppm (ICP)	Ag ppm (AAS)
MS451	<10	2	9	25	6	<2	<0.5	1	50	0.66	104	75	0.4
MS452	<10	2	8	50	6	<2	<0.5	<1	<1	0.70	95	15	<0.2
MS453	<10	2	7	50	6	<2	<0.5	<1	42	0.83	76	13	<0.2
MS454	1070	4	11	105	104	1545	<0.5	2	87	2.25	81	295	9.8
MS455	40	3	6	100	4	55	<0.5	<1	55	0.75	49	39	<0.2
MS456	<10	2	14	50	8	22	<0.5	<1	18	0.73	66	25	<0.2
MS457	<10	2	7	50	6	7	<0.5	<1	13	0.70	69	25	<0.2
MS458	<10	4	12	25	12	10	<0.5	3	96	1.15	77	34	<0.2
MS459	40	7	9	20	8	88	<0.5	<1	34	0.76	76	60	1.0
MS460	<10	1	9	225	8	3	<0.5	<1	13	2.02	69	91	<0.2
MS461	70	5	38	255	6	10	<0.5	3	99	2.75	84	240	<0.2
MS462	<10	<1	8	190	1	<2	<0.5	2	27	1.34	88	113	<0.2
MS463	<10	2	7	40	2	4	<0.5	<1	7	0.70	39	31	<0.2
MS464	<10	1	7	50	4	12	<0.5	1	58	0.53	48	66	<0.2
MS465	<10	<1	15	380	8	<2	<0.5	<1	6	2.63	81	66	<0.2
MS466	195	2	5	65	30	28	<0.5	<1	7	1.55	52	55	0.6
MS467	<10	2	8	220	6	2	<0.5	<1	19	1.43	60	77	<0.2
MS468	<10	<1	11	255	1	<2	<0.5	<1	<1	1.04	142	42	<0.2
MS469	<10	1	12	385	2	<2	<0.5	2	39	1.44	151	70	<0.2
MS470	<10	2	8	75	4	<2	<0.5	<1	17	1.05	64	23	<0.2
MS471	118	<1	4	85	54	31	<0.5	<1	3	1.36	52	64	<0.2

Certified by 



# Chemex Labs Ltd.

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

Analytical Chemists • Geochemists • Registered Assayers

Telephone: (604) 984-0221  
Telex: 043-52597

## CERTIFICATE OF ANALYSIS

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

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

CERT. # : A8418075-001-  
INVOICE # : I8418075  
DATE : 30-NOV-84  
P.O. # : NONE  
NAT

Sample description	Prep code	Au NAA ppb						
N5451	207	3	--	--	--	--	--	--
N5452	207	3	--	--	--	--	--	--
N5453	207	<1	--	--	--	--	--	--
N5454	207	2860	--	--	--	--	--	--
N5455	207	95	--	--	--	--	--	--
N5456	207	32	--	--	--	--	--	--
N5457	207	9	--	--	--	--	--	--
N5458	207	12	--	--	--	--	--	--
N5459	207	4970	--	--	--	--	--	--
N5460	207	189	--	--	--	--	--	--
N5461	207	23	--	--	--	--	--	--
N5462	207	31	--	--	--	--	--	--
N5463	207	6	--	--	--	--	--	--
N5464	207	773	--	--	--	--	--	--
N5465	207	5	--	--	--	--	--	--
N5466	207	11	--	--	--	--	--	--
N5467	207	13	--	--	--	--	--	--
N5468	207	<1	--	--	--	--	--	--
N5469	207	3	--	--	--	--	--	--
N5470	207	12	--	--	--	--	--	--
N5471	207	3	--	--	--	--	--	--



Certified by Hart Bichler

VEST POCKET GRID  
BINOCULAR EXAMINATION OF ROCK SAMPLES

GRID LOCATION	GEOCHEM. SAMPLE No.	COLOR	TEXTURE	GRAIN SIZE	ROCK TYPE	ALTERATION				CL	EP	CB	FACIES	REMARKS	LIMONITES DISS - WEAC - BE MATICS	MINERALIZATION NIL
						Qz	Kf	BI	U <sub>2</sub>							
1+505; 2+00E	N5451	BLEACHED	EQU	FINE GRAN	Kqm (AN)					45%	NIL	PERMUTIC	PE - FRESH KF - FRESH; BI TO CL			
0+00; 1+00E	N5452	BLEACHED	EQU	MED GRAN	Kqm (POSSIBLE Qz)					3%	NIL	PERMUTIC	PE - FRESH; MATICS - H?	TRACE - BE MATICS	NIL	
0+505; 1+50E	N5457	BLEACHED	EQU	MED GRAN	Kqm (POSSIBLE Qz)					WE WIRG. TE	NIL	PERMUTIC	QZ - FRESH; PE - FRESH; BI TO CL KF - FRESH; BI TO CL	FRAG DISC 1-2% - LATER E - BE MATICS	NIL	
1+005; 1+50E (a)	N5454	LIMONITE STAINED		3CM WIDE	Qz - UNCH								QUARTZ WITH Qz - H <sub>2</sub> O ENVELOPE & STRONG LIMONITE (LEACHED SULPHIDES)			
	(b) N5455	STRONG BLEACHED	EQU	MED GRAN	Kqm (Qz)						HIGH N	ARCHIVE	Kf - FRESH; PE - WEAC TO CLAY SULPHIDE QUARTZ	DISSOLV	NIL	
0+505; 1+00E	N5456	BLEACHED	EQU	MED GRAN	Kqm (Qz)						WEAC SUP	PERMUTIC	Kf - FRESH; PE - WEAC MATICS - LOW	1-2% DISS BE MAT.	NIL	
BEW 0+005; 2+000	N5457	BLEACHED	EQU	MED GRAN	Kqm (Qz)						WEAC	PERMUTIC	Kf - FRESH	1-2% DISS BE MATICS	TRACE - PY.	
1+505; 0+50E	N5458	BLEACHED	EQU	FINE GRAN	Kqm - ADP SIMILAR TO 1+505; 2+00E						WE NI		PE - WEAC; Kf - FRESH	< 1% DISS BE MAT.		
0+505; 0+505	N5459	PINKISH	BRECCIA	APL WITH Qz PHA	TFP							SILIC	CLAYS Kqm - SHARPE TEXTURE	< 1% DISS	TRACE - PY	
0+005; 2+00E	N5460	BLEACHED	EQU	F-MED	Kqm (Qz)					45%	N	PERMUTIC	Kf - FRESH; BI TO CL	2-2% DISS MATICS	TRACE - PY.	
RIPPER TRANCHES (a)	N5461	BLEACHED	BRECCIA	CLASTS SURROUNDED 2.2cm around	TFP - FINE							ARCHIVE	1% HIGH ALT FELDSPAR PHENOCRYSTS	UNCHANGING CLASTS		
	(b) N5462	BLEACHED	EQU	MED	Kqm					45%		PERMUTIC	Kf - FRESH; CL	1% DISS - 2% MATICS	NIL	
1+505; 1+50E	N5463	STRONG BLEACHED	EQU	MED	Kqm (Qz)					SUP			PE - WEAC; Kf - FRESH LOW MATICS 2-3%	WEAC < 1% DISS		
1+005; 1+50E	N5464	STRONG BLEACHED	EQU	MED	Kqm (Qz)							ARCHIVE	PE - WEAC TO CLAY; STRONG SUP AROUND Qz	TRACE - WE UNCHANGING	NIL	
0+00; 2+50E	N5465	WEAC BLEACHED	EQU	MED	Kqm (Qz)					SUP 5-7%			Kf - FRESH; WEAC	WEAC - TRACE		
HIVE SITE 2 0+00N; 1+50E	N5466	STRONG BLEACHED	BRECCIA	MED GRAN	Kqm (Qz)							PERMUTIC	ALL FELDSPAR TO CLAY Qz - WEAC; 5%	WEAC < 4%	NIL	
2+00E; 0+50N	N5467	WE BLEACH	EQU	FINE-MED	Kqm					3%			ALL PE - FRESH	WEAC	NIL	
1+505; 1+00E	N5468	WE BLEACH	EQU	FINE-MED	Kqm					40%			PE - FRESH; BI TO CL	TRACE	NIL	
15 METERS SW 1+005; 2+00E	N5469	FRESH	EQU	FINE	Kqm					47%			WEAC SUP	TRACE	NIL	
1+005; 2+50E	N5470	PINK	EQU	FINE	Kqm					< 1%			PE - FRESH	TRACE	NIL	
HIVE SITE 2 0+50W; 1+00E	N5471	STRONG BLEACHED	SHARPE EQU	M-COMPLEX	Kqm (Qz)								STRONG PERMUTIC H <sub>2</sub> O	WEAC		

APPENDIX III  
ANALYTICAL TECHNIQUES

GEOCHEMICAL PREPARATION  
AND  
ANALYTICAL PROCEDURES

1. Geochemical samples (soils, silts) are dried at 80°C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh.
2. A 1.00 gram portion of the sample is weighed into a calibrated test tube. The sample is digested using hot 70% HClO<sub>4</sub> and concentrated HNO<sub>3</sub>. Digestion time = 2 hours.
3. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures.

GOLD NAA - NEUTRON ACTIVATION ANALYSES\*\*

A 10 gm sample is fused in litharge, carbonate and silicious flux. The resulting lead button containing any gold in the sample is cupelled in a muffle furnace to produce a precious metals bead.

Sample beads, plus standard and blank beads are irradiated in a thermal neutron flux. The gamma emissions of the irradiated beads are counted utilizing a Ge (Li) detector and quantified for gold.

The detection limit for a 10 gm sample is 1 µg/kg (ppb).

PPM SILVER

A 1.0 gm portion of sample is digested in conc. perchloric-nitric acid (HClO<sub>4</sub>-HNO<sub>3</sub>) for approx. 2 hours. The digested sample is cooled and made up to 25 mls with distilled water. The solution is mixed and solids are allowed to settle. Silver is determined by atomic absorption technique using background correction on analysis.

Detection limit - 0.1 PPM.

### PPM ANTIMONY

A 2.0 gm sample digested with conc. HCl in hot water bath. The iron is reduced to Fe +2 state and the Sb complexed with I-. The complex is extracted with TOPO-MIBK and analyzed via A.A. Correcting for background absorption 0.2 ppm +/- 0.2

Detection limit - 0.2 PPM.

### PPM TELLURIUM

A 5.0 gram sample digested with aqua-regia to dryness. The residue taken up in 25% HCl and the solution adjusted with HBr to 3M Br-. After the reduction of iron with ascorbic acid the tellurium bromide complex is extracted into MIBK, washed and analyzed via AA correcting for background absorption.

Detection limit - 0.1 PPM

### GEOCHEMICAL PREPARATION AND ANALYTICAL PROCEDURES ICP-AES

Geochemical samples (soils, silts) are dried at 80° C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh. A 0.50 gram portion of the sample is weighed into a calibrated test tube. The sample is digested using hot 70% perchloric acid and concentrated nitric acid. Digestion time is 2 hours. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures. Detection limits using Yvon-Jobin 48P Inductively Coupled Plasma Atomic Emission Spectrometer.

<u>Element</u>	<u>Detection</u>	<u>Element</u>	<u>Detection</u>
Arsenic	10 µg/g	Molybdenum	1 µg/g
Bismuth	2 µg/g	Nickel	1 µg/g
Cadmium	0.5 µg/g	Phosphorus	10 µg/g
Cobalt	1 µg/g	Silver	1 µg/g
Copper	1 µg/g	Tungsten	10 µg/g
Iron	0.001%	Uranium	10 µg/g
Lead	1 µg/g	Vanadium	1 µg/g
Manganese	1 µg/g	Zinc	1 µg/g

Elements which exceed the upper limit for geochemical analyses should be assayed quantitatively.

### CYANIDE LEACH PROCEDURE

A 10 assay ton (291.7 gram) sample is shaken for 48 hours in 750 ml of a 0.1 % sodium cyanide solution containing sodium hydroxide and sodium peroxide.

The solution is filtered through a large vacuum filter and washed. The pregnant filtrate is evaporated over 90 grams of litharge (PbO) and then fire assayed using the litharge as one of the reagents. After cupellation, the prill is parted and weighed as gold.

The percentage recovery can be calculated from an additional assay on the original pulp.

APPENDIX IV

ICP ANALYSES FOR SAMPLES FROM 1984 NUCLEUS TRENCHES

















# ARCHER, CATHRO

& ASSOCIATES LIMITED

CONSULTING GEOLOGICAL ENGINEERS

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

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

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

## AFFIDAVIT

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

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Nucleus 1- 141 mineral claims on Claim Sheet 115I/5 is accurate.

  
\_\_\_\_\_  
Joan Mariacher

Sworn before me at Vancouver, B.C.

this 1st day of

November, 198 4



\_\_\_\_\_  
Notary, Yukon Territory

Statement of Expenditures  
Nucleus 1-141 Mineral Claims  
November 1, 1984

Expenses

E. Caron Diamond Drilling Ltd. - diamond drilling	\$43,737.00
E. Caron Diamond Drilling Ltd. - bulldozer trenching	<u>22,123.00</u>
	<u>\$65,860.00</u>



E. CARON DIAMOND DRILLING LTD.

7 Rounder Road Whitehorse, Yukon Y1A 3H5

Phone (403) 668-2424 Telex 036-8-337

*hnt*

September 11, 1984

Invoice #-1584

IN ACCOUNT WITH:

Archer, Cathro & Associates Ltd.,  
1016 - 510 West Hastings Street,  
Vancouver, B. C.  
V6B 1L8

Drilling Charges September 1 to 11, 1984: (Nucleus)

Hole: 84-1/90/HQ

Mobilization & Moving

67 man hrs.	@ \$29.00 per hr.	=	\$ 1,943.00	
<u>Waterline</u>				
14 man hrs.	@ \$29.00 per hr.	=	\$ 406.00	
<u>Travelling Time</u>				
26 man hrs.	@ \$29.00 per hr.	=	\$ 754.00	
<u>Casing</u>				
0 - 12 = 12 ft.	@ \$32.00 per ft.	=	\$ 384.00	
<u>Coring</u>				
12 - 275 = 263 ft.	@ \$28.00 per ft.	=	<u>\$ 7,364.00</u>	\$10,851.00

Hole: 84-2/50/HQ

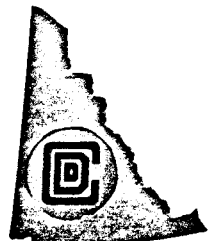
Moving

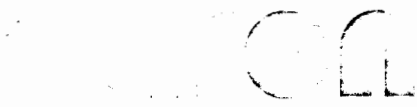
5 man hrs.	@ \$29.00 per hr.	=	\$ 145.00	
<u>Waterline</u>				
3 man hrs.	@ \$29.00 per hr.	=	\$ 87.00	
<u>Travelling Time</u>				
2 man hrs.	@ \$29.00 per hr.	=	\$ 58.00	
<u>Casing</u>				
0 - 20 = 20 ft.	@ \$32.00 per ft.	=	\$ 640.00	
<u>Coring</u>				
12 - 58 = 46 ft.	@ \$28.00 per ft.	=	<u>\$ 1,288.00</u>	\$ 2,218.00

Hole: 84-3/50/HQ

Moving

6 man hrs.	@ \$29.00 per hr.	=	\$ 174.00	
<u>Reaming Cave</u>				
2 man hrs.	@ \$29.00 per hr.	=	\$ 58.00	
1 machine hr.	@ \$20.00 per hr.	=	<u>\$ 20.00</u>	\$ 78.00
<u>Waterline</u>				
9 man hrs.	@ \$29.00 per hr.	=	\$ 261.00	





ARCTIC DRILLING LTD

7 F. Jordan Road Whitehorse Yukon Y1A 3H3

Phone 402 669-2424 Telex 036-B-337

Sealing & Conditioning Hole

7 man hrs.	@ \$29.00 per hr.	= \$ 203.00		
3½ machine hrs.	@ \$20.00 per hr.	= \$ 70.00	\$ 273.00	
<u>Travelling Time</u>				
12 man hrs.	@ \$29.00 per hr.	=	\$ 348.00	
<u>Casing</u>				
0 - 20 = 20 ft.	@ \$32.00 per ft.	=	\$ 640.00	
<u>Coring</u>				
0 - 391 = 391 ft.	@ \$28.00 per ft.	=	<u>\$10,948.00</u>	\$12,722.00

Hole: 84-4/50/HQ

<u>Moving</u>				
64 man hrs.	@ \$29.00 per hr.	=	\$ 1,856.00	
<u>Casing</u>				
13 man hrs.	@ \$29.00 per hr.	= \$ 377.00		
6½ machine hrs.	@ \$20.00 per hr.	= \$ 130.00	\$ 507.00	
<u>Waterline</u>				
5 man hrs.	@ \$29.00 per hr.	=	\$ 145.00	
<u>Travelling Time</u>				
15 man hrs.	@ \$29.00 per hr.	=	\$ 435.00	
<u>Casing</u>				
0 - 12 = 12 ft.	@ \$32.00 per ft.	=	\$ 384.00	
<u>Coring</u>				
12 - 300 = 288 ft.	@ \$28.00 per ft.	=	<u>\$ 8,064.00</u>	\$11,391.00

Items Consumed & Chargeable

2 pails GS-550	@ \$230.00 per pail	= \$ 460.00		
2 bags Quik Seal	@ \$42.00 per bag	= \$ 84.00		
14 pieces casing	@ \$58.00 per piece	= \$ 812.00		
2 HW shoes	@ \$512.00 per shoe	= <u>\$1,024.00</u>		\$ 2,380.00

Mobilization of Drill

Mob. to Carmacks	@ \$400.00	= \$ 400.00		
<u>Truck hours</u>				
12½ hrs.	@ \$50.00 per hr.	= \$ 625.00	\$ 1,025.00	
<u>Demobilization of Drill</u>				
<u>Truck Hours</u>				
12½ hrs.	@ \$50.00 per hr.	= \$ 625.00		
Demob. Carmacks to Whse	@ \$400.00	= \$ 400.00	<u>\$ 1,025.00</u>	\$ 2,050.00

Tractor

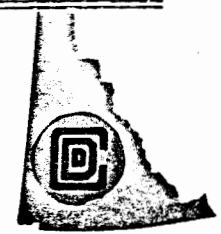
7 machine hrs. on Mob.	@ \$90.00 per hr.	= \$ 630.00		
7 machine hrs. on Demob.	@ \$90.00 per hr.	= \$ 630.00		\$ 1,260.00

Propane

Invoice # 286697		=		<u>\$ 865.70</u>
------------------	--	---	--	------------------

Total Invoice \$43,737.70

*John J. Taylor*  
#11116





E. CARON DIAMOND DRILLING LTD.

7 Roundel Road Whitehorse, Yukon Y1A 3H3

Phone (403) 668-2424 Telex 036-8-337

August 31, 1984

Invoice # 1566

IN ACCOUNT WITH:

Archer, Cathro & Associates Ltd.,  
1016 - 510 West Hastings Street,  
Vancouver, B.C.  
V6B 1L8

Tractor Charges August 19 to 31, 1984

Mobilization of D-7E & Fuel

24 hrs. @ \$50.00 per hr. = \$ 1,200.00

Travelling

13 man hrs. @ \$29.00 per hr. = \$ 377.00

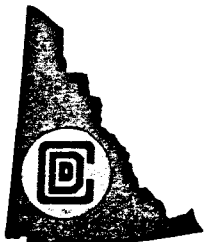
Tractor

114.5 hrs. @ \$90.00 per hr. = \$ 10,305.00

TOTAL INVOICE

\$ 11,882.00

*John A. [unclear] #1104*





E. CARON DIAMOND DRILLING LTD.

7 Roundel Road Whitehorse, Yukon Y1A 3H3

Phone (403) 666-2424 Telex 036-8-337

July 31, 1984

Invoice #-1529

IN ACCOUNT WITH:

Archer, Cathro & Associates Ltd.,  
1016 - 510 West Hastings Street,  
Vancouver, B. C.  
V6B 1L8

Tractor Charges July 16 to 31, 1984:

Mechanic Creek

Tractor Time

34 machine hrs. @ \$90.00 per hr. = \$ 3,060.00

Travel Time

4 man hrs. @ \$29.00 per hr. = \$ 116.00 \$ 3,176.00

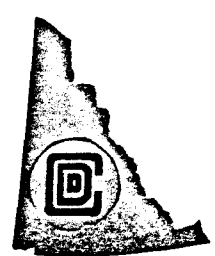
Nucleus

Tractor Time

78.5 machine hrs. @ \$90.00 per hr. = \$ 7,065.00

Total Invoice \$10,241.00

*Handwritten signature*



DIAMOND DRILLING ASSESSMENT  
CALCULATIONS

$$\begin{aligned}
 3 \text{ HOLES} &= 966 \text{ FT} = \$43,737 \text{ (SEE E. CARBON DIAMOND DRILLING} \\
 &\quad \text{INVOICE DATED SEPT 11, 1984)} \\
 &= \frac{43,737}{966} = \$45.276/\text{FT.}
 \end{aligned}$$

<u>CLAIM</u>	<u>LOCATION</u>	<u>HOLE NO</u>	<u>FOOTAGE</u>	<u>EXPENDITURES</u>
NUCLEUS 25		1	300	
		3	<u>275</u>	
			575	2 \$45.276
				\$ 26,033
NUCLEUS 18		2	391	2 \$45.276
				\$ 17,702

CORE STORED AT D.I.N.A. BOSTOCK CORE LIBRARY, TAKHINI, WHITEHORSE

TABLE 2

TRENCHING & ROAD BUILDING.  
ASSESSMENT CALCULATIONS

\* ALL TRENCHES IN FROZEN OVER BURDEN AND BEDROCK

CLAIM LOCATION	TRENCH	M FROM	M TO	M LENGTH	M WIDTH	M DEPTH	M <sup>3</sup> VOLUME	YD <sup>3</sup> VOLUME	* CREDIT
NUCLEUS 20, 22, 23 84N/A		0+08	0+72	64	4	2	512		
		0+72	1+16	44	4	1.5	264		
		1+16	1+50	34	4	2	272		
		1+50	1+57	7	4	3	84		
		1+57	1+90	33	4	1.5	198		
		1+90	2+40	50	4	1.5	300		
		2+40	2+58	18	4	1.5	108		
		2+58	2+86	28	4	2	224		
		2+86	2+98	12	4	2	96		
		2+98	3+06	8	4	2	64		
		3+06	3+38	32	4	3.5	448		
		3+38	3+54	16	4	3.0	192		
		3+54	3+66	12	4	3.0	144		
							2906	3800	5701
NUCLEUS 16, 18 & 27 84N/5		0+00	0+07	7	4	1	28		
		0+07	0+10	3	4	1.5	18		
		0+10	0+50	40	4	2	320		
		0+50	0+88	38	4	2	304		
		0+88	1+22	28	4	3	336		
						1006	1315	1509	
NUCLEUS 18 & 27 84N/6		0+00	0+18	18	7	4	504		
		0+18	0+28	10	5	3	150		
		0+28	0+80	52	4	2	416		
		0+80	1+00	20	4	2	160		
		1+00	1+12	12	4	3	144		
		1+12	1+31	19	4	4	304		
		1+31	1+40	9	4	3	108		
		1+40	1+44	4	4	2	32		
						1818	2377	3565	
NUCLEUS 16, 25 & 27 84N/7		0+03	0+10	7	4	2	56		
		0+10	0+28	18	4	2	144		
		0+28	0+42	14	4	1	56		
		0+42	0+89	47	4	2	376		
		0+89	1+09	15	4	3	180		
		1+09	1+18	9	4	2	72		
		1+18	1+36	18	4	3	216		
		1+36	1+58	16	4	2.5	160		
		1+58	1+75	17	4	1	68		
						1328	1736	2604	
NUCLEUS 25 84N/8		0+00	0+10	10	4	1	40		
		0+10	0+36	26	4	2.5	260		
		0+36	0+80	44	4	2	352		
						652	852	1278	

ROAD CONSTRUCTION

CLAIM LOCATION	DATE	HOURS	
NUCLEUS 29, 41, 42 244	AUG 20/84	11	
	21/84	8	
	22/84	3	
	23/84	10	
	TOTAL	32	2 @ 90 PER/HR =

TABLE 3  
NUCLEUS CLAIMS  
GEOCHEMICAL SAMPLING COST CALCULATIONS

REANALYSES OF SOIL AND SILT SAMPLES TAKEN IN 1974, 1975 & 1976 ON THE ROC AND SKUNK CLAIMS AND NOW STAKED AS THE NUCLEUS CLAIMS. AS FOLLOWS:-

NUCLEUS 69 - 78 ; YA 82753 - 761

91 - 93 ; YA 82910 - 912

93 ; YA 82912

95            914

97            916

99            918

101           920

103 ; YA 82922

107 - 118 ; YA 82926 - 937

TOTAL 30 CLAIMS.

EXPENDITURES - REANALYSES, REPORT PREPARATION \$ 4,785

$$\text{COST PER CLAIM} = \frac{4785}{30} = \$159.50$$

# ARCHER, CATHRO & ASSOCIATES LIMITED

CONSULTING GEOLOGICAL ENGINEERS

091600

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

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


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

## AFFIDAVIT



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

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Nucleus 103-4, 116, 118, 120, 122 and 124-26 mineral claims on Claim Sheet 115I/5 is accurate.

  
Joan Mariacher

Sworn before me at Vancouver, B.C.

this 12th day of

December, 1984



Notary, Yukon Territory

Statement of Expenditures  
Nucleus 103-4, 116, 118, 120, 122 and 124-26  
December 12, 1984

Labour

W.D. Eaton - 6 days at \$250/day \$1,500.00

Expenses

Drafting - 20 hours at \$24/hr \$ 480.00  
Chemex Labs - 561 samples 2,805.00 3,285.00

\$4,785.00

In Account With

Project - NAT JOINT VENTURE  
 Date -- NOV. 30, 1954

		Total
MANAGEMENT		
	November	2000
LABOUR		
Supervisory		
	M. P. Phillips - total 8 1/4 days preparing and filing assessment at Nuclear; prepare layout draft logs @ 300/day	2475
Field		
	D. Eaton - 17/21 of November @ 3400/mo	2752
Casual		
	M. Cook - 11 hrs typing map legends @ 24/hr	220.00
	J. Marsh - 1/2 hr assessment data	17.50
	plus 30%	1376
EXPENSES		
Accounting	Nov.	300.00
Drafting,	75 hrs at 24 /hr.	1800.00
Xerox copies,	1241 copies at 25¢ /copy	310.25
Petty cash	45.84 c2 + 80.16 c2	126.00
Telephone	20.42	20.42
	William & Marsh	12.79
		<u>2569.1</u>
Total		11,409



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.  
North Vancouver, B.C.  
Canada V7J 2C1  
Telephone: (604) 984-0221  
Telex: 043-52597

\*\*\* INVOICE \*\*\*

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

Invoice # : 18417164

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

NAT JOINT VENTURE

Date : 8-NOV-84  
P.O. # : NONE  
Project "KJV"

Invoice for analytical work reported on certificate(s) A8417164-001 to -012

Quantity	Analysed for code description	unit price	amount
434	101 - Au NAA ppb	6.25	2712.50
Sample preparation and other charges :			
434	214 - Bag pulp	0.00	0.00

TOTAL \$ 2712.50  
Discount ( 20 % ) \$ 542.50

Please pay this amount ----> \$ 2170.00  
=====

TERMS -- NET 30 DAYS  
1.5 % per month (18 % per annum) charged on overdue accounts

5992-76  
John Lewis  
#1133





# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.  
North Vancouver, B.C.  
Canada V7J 2C1  
Telephone: (604) 984-0221  
Telex: 043-52597

\*\*\* INVOICE \*\*\*

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

Invoice # : 18418277

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

Date : 3-DEC-84  
P.O. # : NONE  
Project KJV *kat*

Invoice for analytical work reported on certificate(s) A8418277-001 to -004

Quantity	Analysed for code description	unit price	amount
127	101 - Au NAA ppb	6.25	793.75
Sample preparation and other charges :			
127	214 - Bag pulo	0.00	0.00

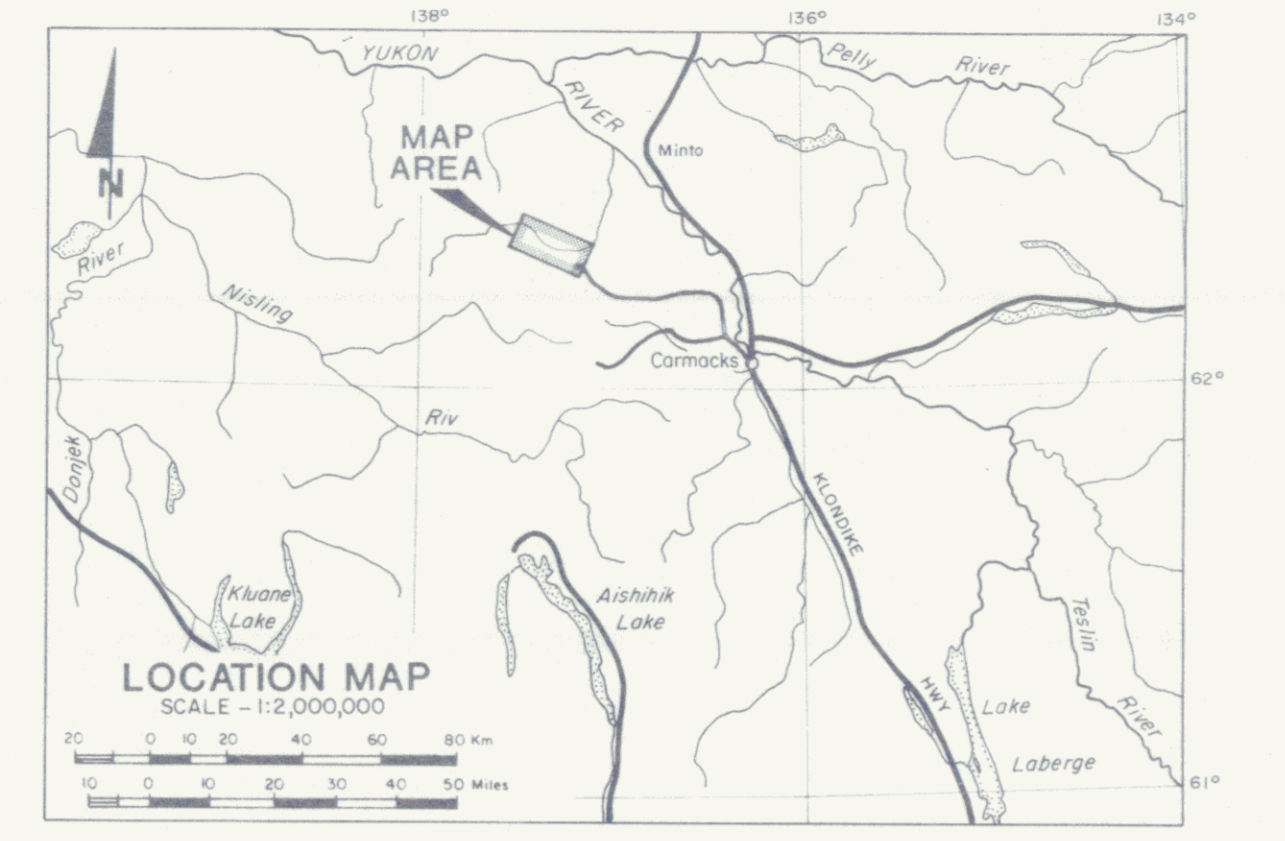
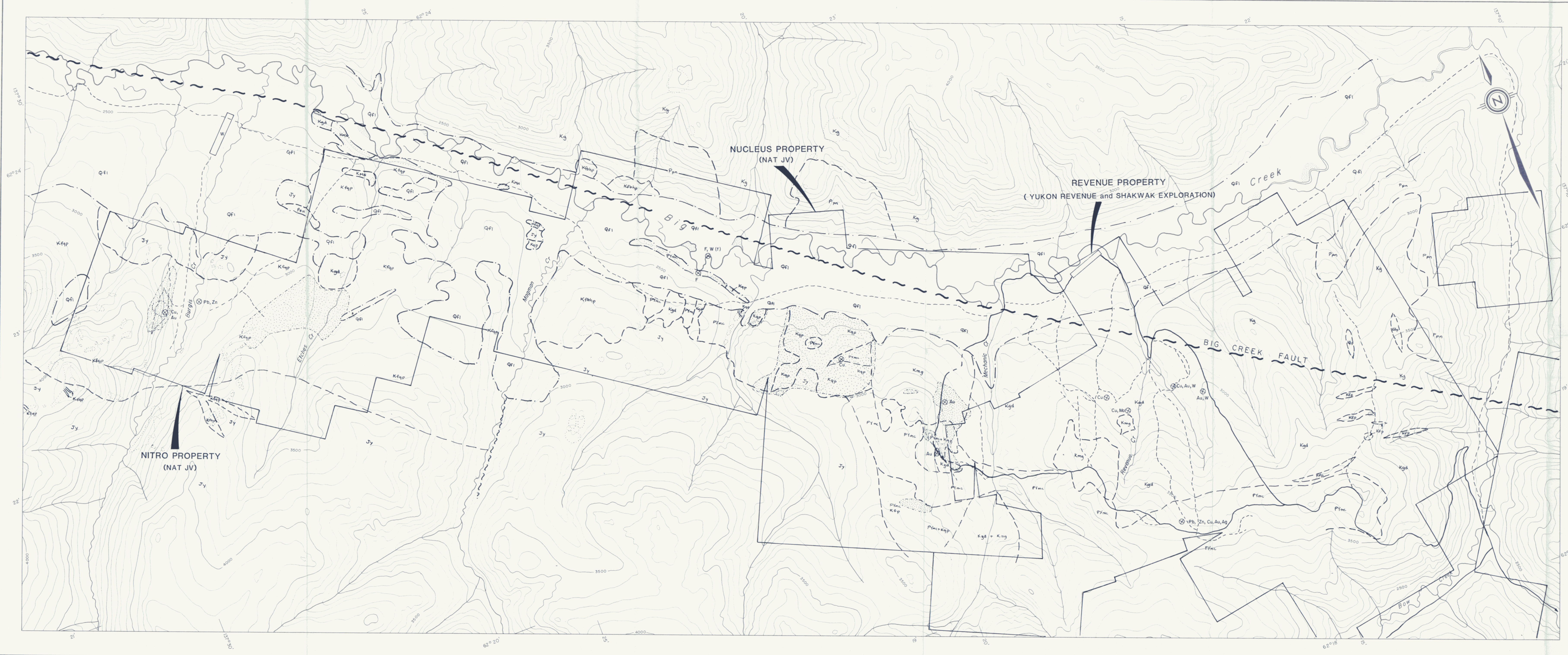
TOTAL \$ 793.75  
Discount ( 20 %) \$ 158.75  
-----

Please pay this amount ----> \$ 635.00  
=====

TERMS -- NET 30 DAYS  
1.5 % per month (18 % per annum) charged on overdue accounts

NOTE: Charge to Nat Joint Venture



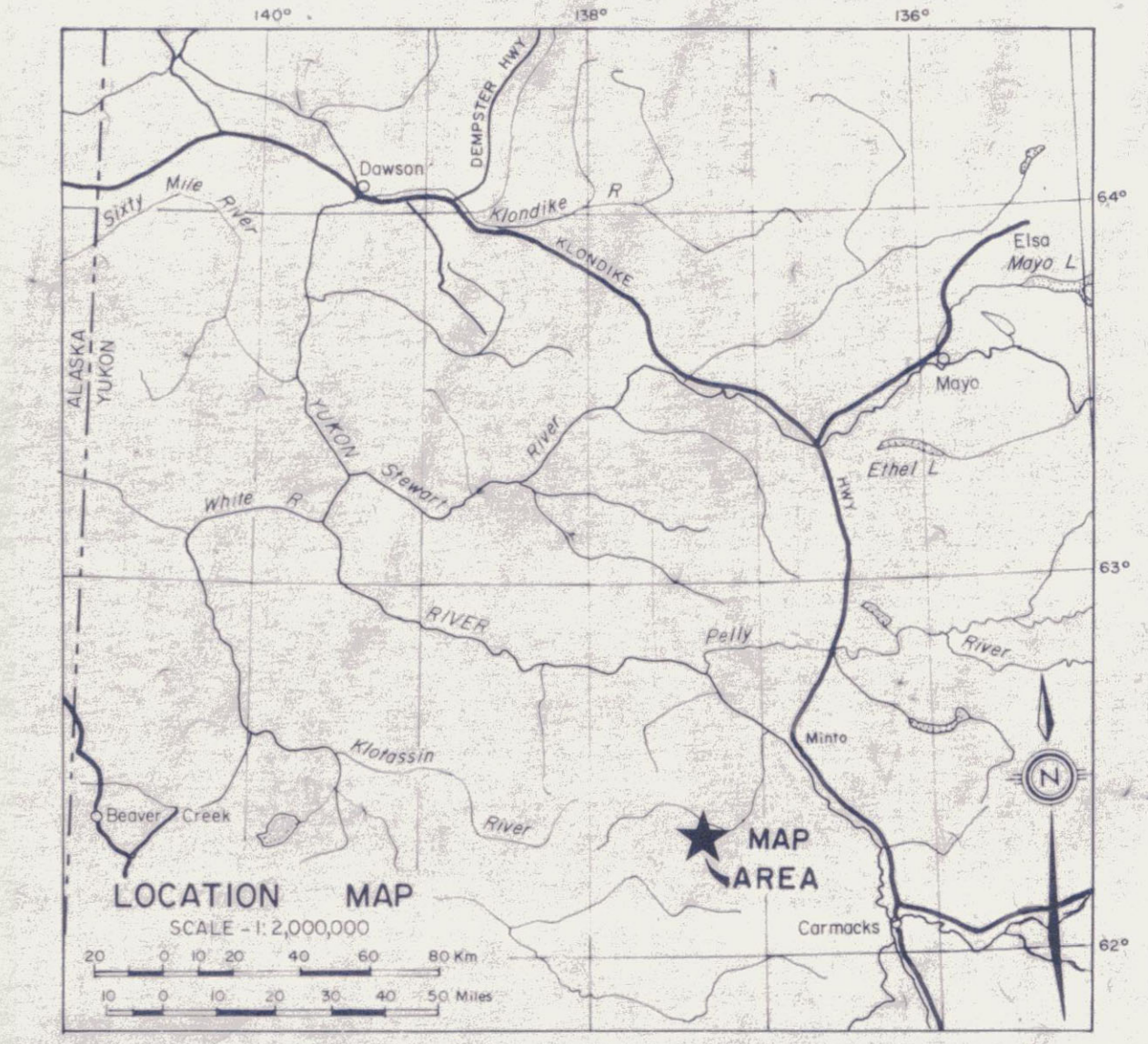
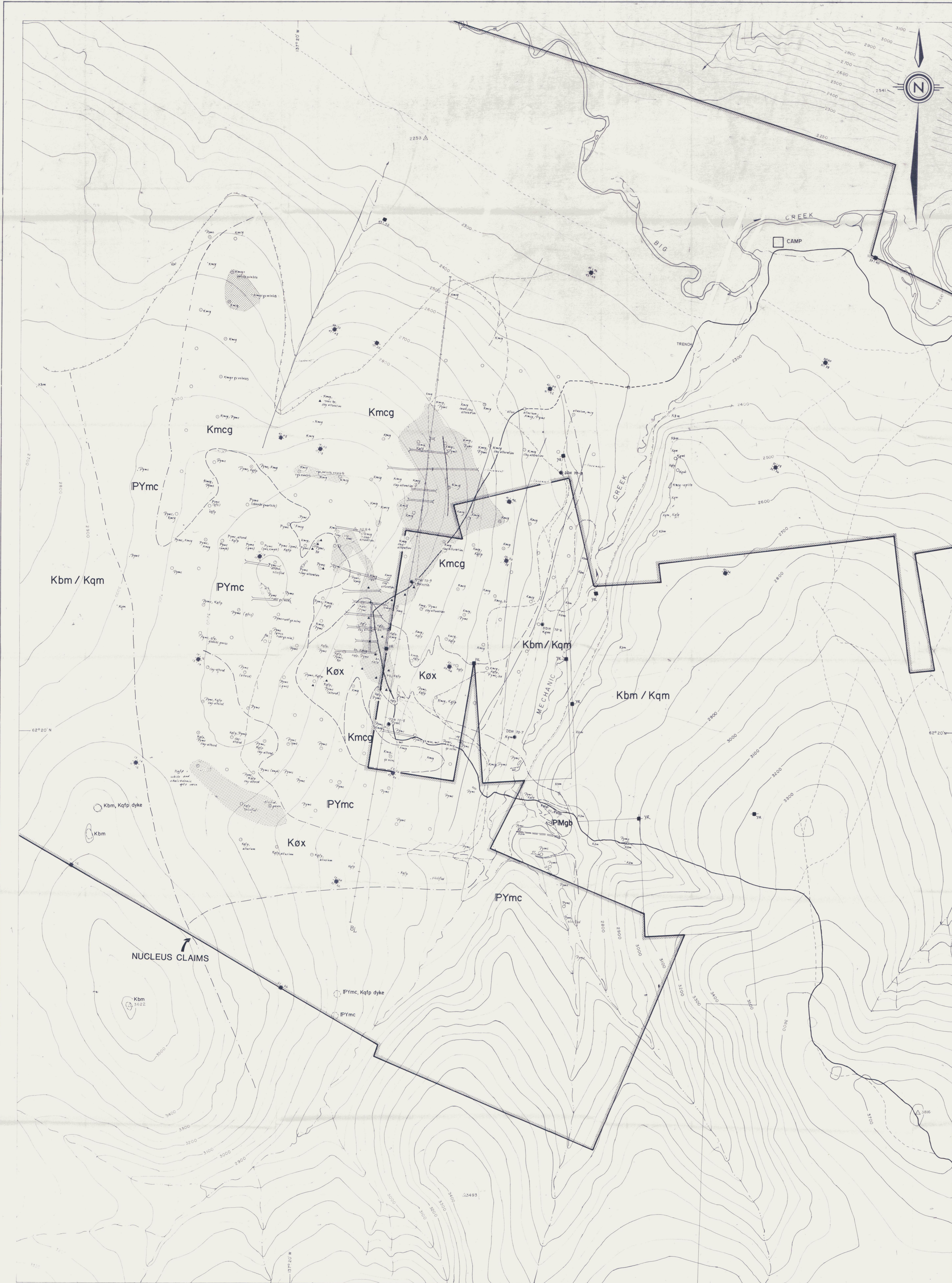


- LEGEND**
- Qf1 glaciofluvial outwash
  - Kqfp quartz feldspar porphyry, grades to quartz porphyry (Kqp), feldspar porphyry (Kfp) and feldspar-biotite-hornblende porphyry (Kfbhp)
  - Kmg microgranite
  - KMN Mount Nansen Group volcanics
  - Kgd Casino Granodiorite
  - Kg Coffee Creek Granite
  - Jy syenite
  - PYmc schist with lesser gneiss, amphibolites and quartzites
  - Ppn hornblende-biotite-chlorite gneiss
  - - - approximate geological contact
  - - - fault
  - outcrop
  - phyllic and/or argillitic alteration zone
  - - - road, trail
  - ▭ air strip (W - winter use only)
  - ▭ property boundary
  - ⊗ Cu mineral occurrence and metal (f - float)

**Figure N1**  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**GEOLOGY AND MINERALIZATION**  
 NUCLEUS AND NITRO PROPERTIES  
 NAT JOINT VENTURE **091600**

SCALE - 1:20,000  
 500 0 500 1000 1500 Metres  
 1/2 1/4 0 1/4 1/2 Miles

To accompany report dated January, 1985



**LEGEND**

- LATE CRETACEOUS**
- Køx** Mixed intrusive unit, includes quartz-feldspar porphyries (Køfp), microgranites and schists. Breccia zones (bx) are common within this unit.
  - Kmcg** Microgranite
  - Kbm / Kqm** Biotite monzonite (Kbm) and quartz monzonite (Kqm)
- PALEOZOIC-MESOZOIC**
- PMgb** Hornblende gabbro
- PALEOZOIC**
- PYmc** Yukon Metamorphic Complex, mostly quartz-biotite feldspar and chloritic schist but also includes quartz-muscovite schist (qms), amphibolite (ampb), quartz-feldspar gneiss (qfg), rare fine-grained quartzite.
- Geologic contact (approximate, assumed)
- Limit of meaningful float mapping; features towards areas of alluvial cover or extreme colluvial mixing
- Intense quartz-sericite alteration around quartz stockworks
- Breccia zone
- Foliation
- Mapping station and rock type
- Road, trail
- Ripper trench
- Claim post (Y indicates Yukon Revenue claims)
- Drill Hole (Kaiser Resources 1970) with collar lithology
- Drill Hole (Kaiser Resources 1970) with collar lithology
- Claim boundary
- Air photo lineament
- Builder's trenches (NAT 1983 and 1984)

FIGURE N2  
ARCHER, CATIRO & ASSOCIATES (1981) LIMITED

**GEOLOGY**

NUCLEUS DETAIL  
NAT JOINT VENTURE



091600

To accompany report dated January, 1985

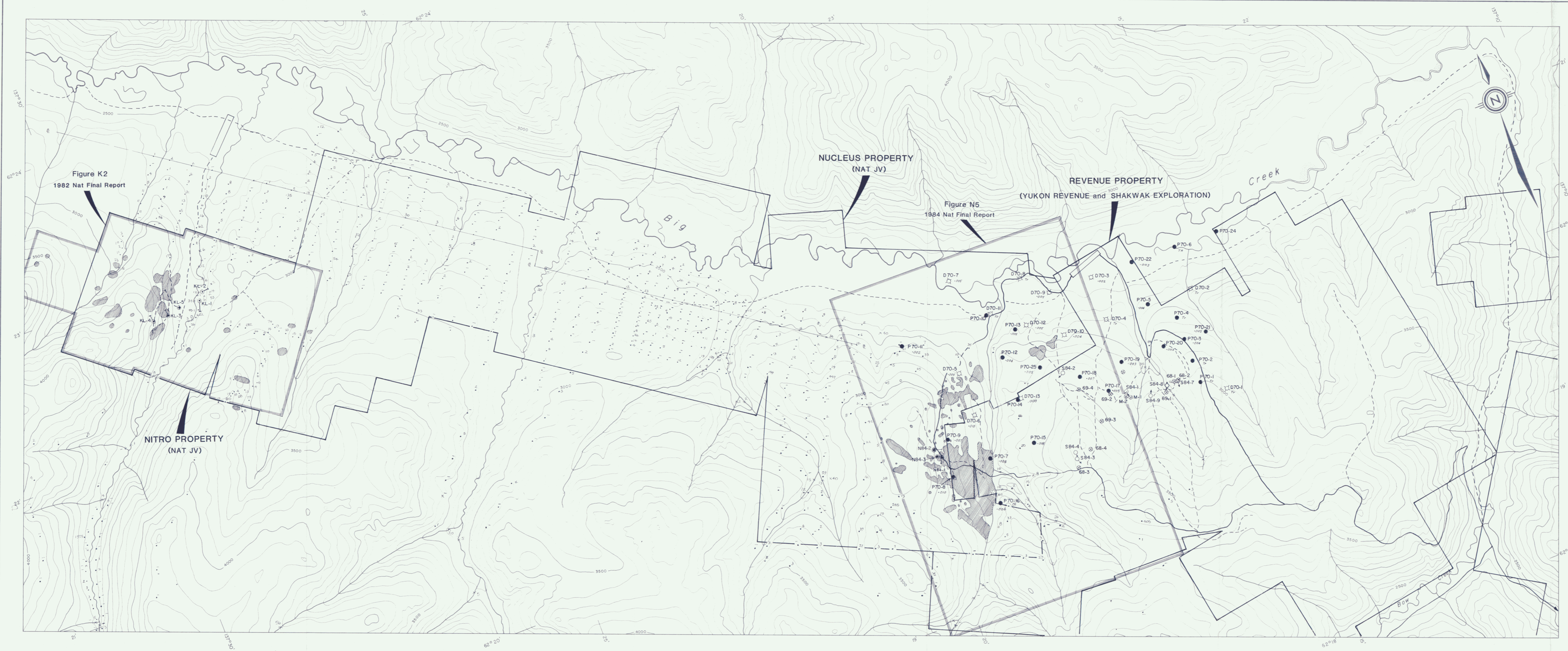


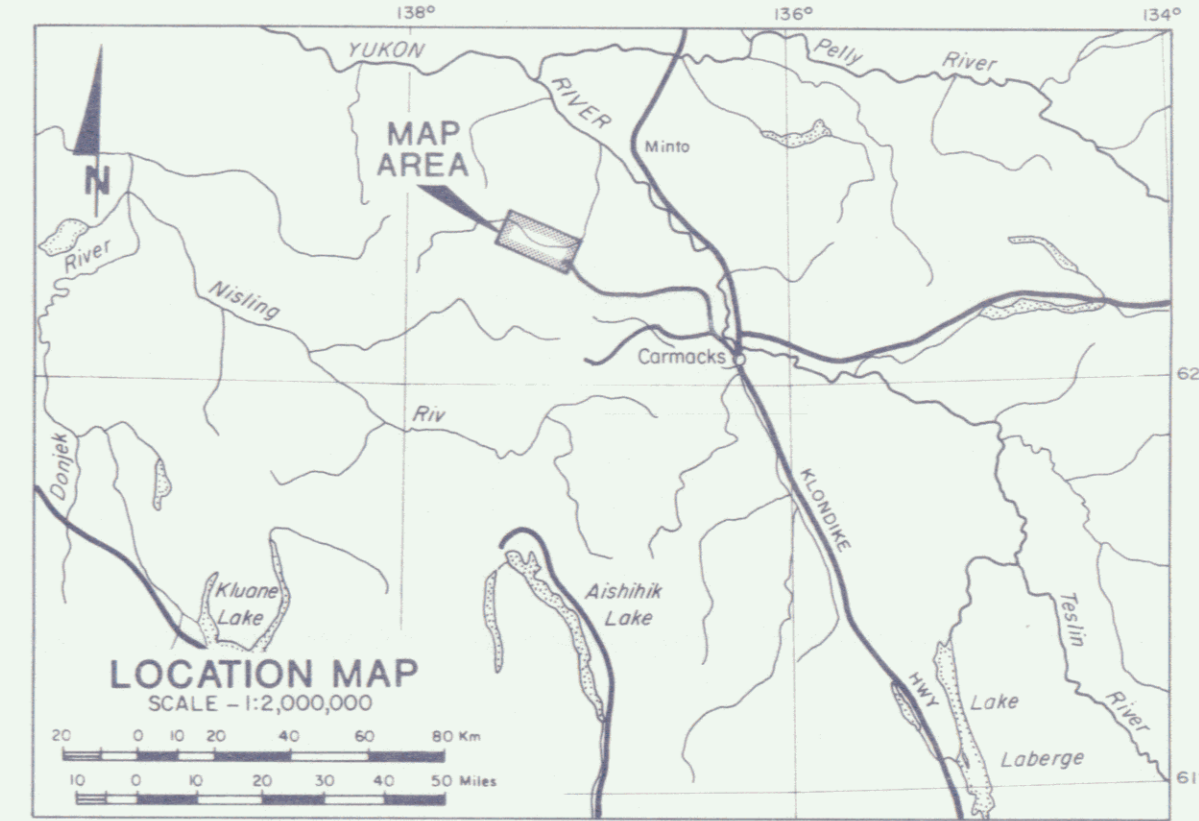
Figure K2  
1982 Nat Final Report

NUCLEUS PROPERTY  
(NAT JV)

Figure N5  
1984 Nat Final Report

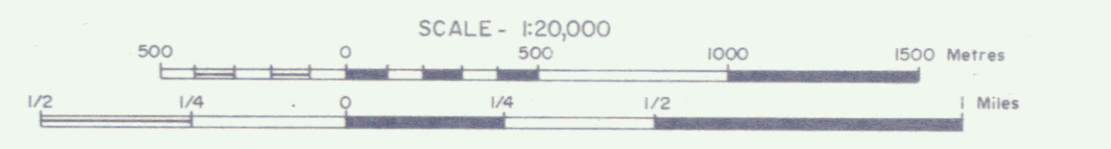
REVENUE PROPERTY  
(YUKON REVENUE and SHAKWAK EXPLORATION)

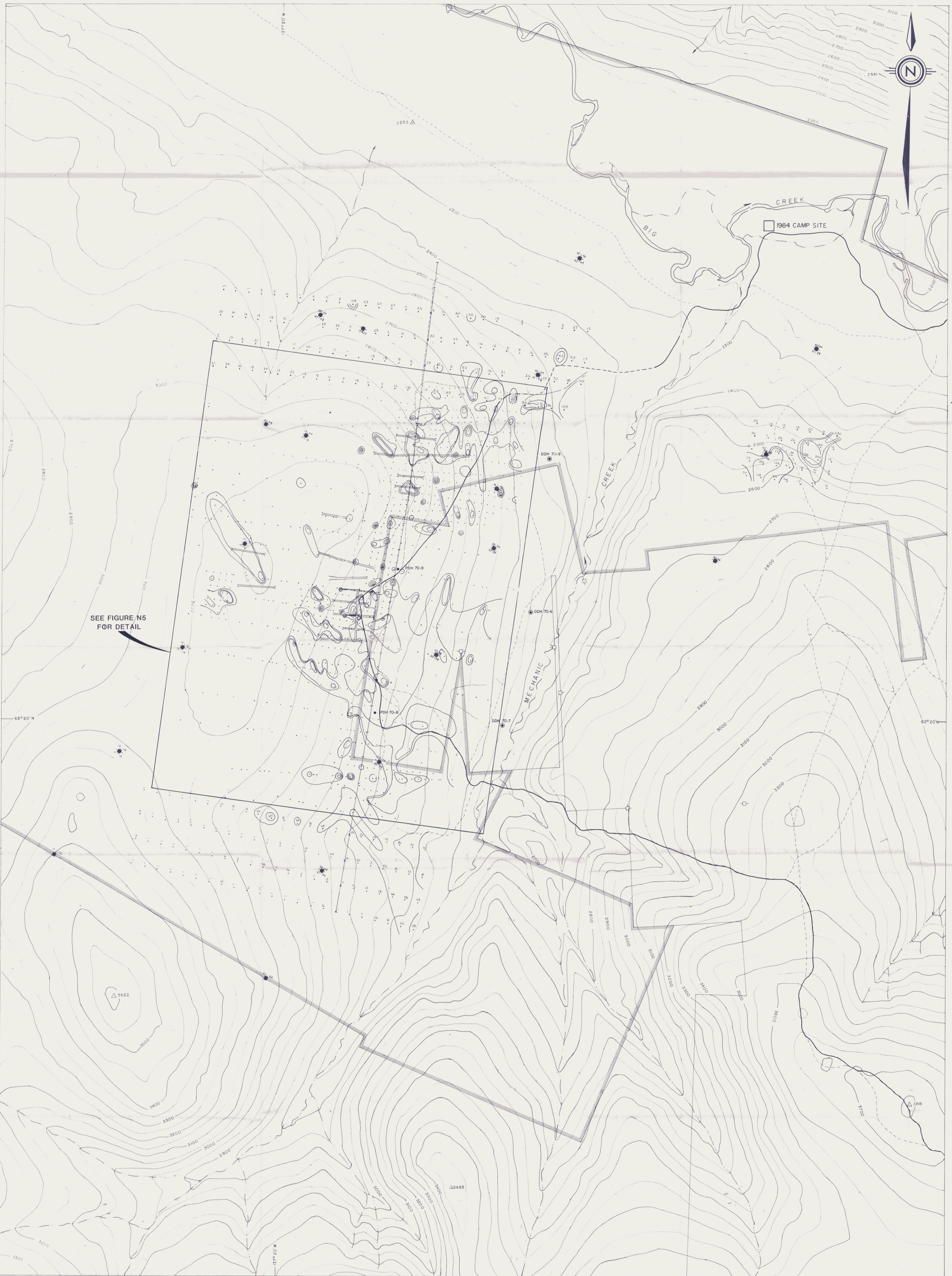
NITRO PROPERTY  
(NAT JV)



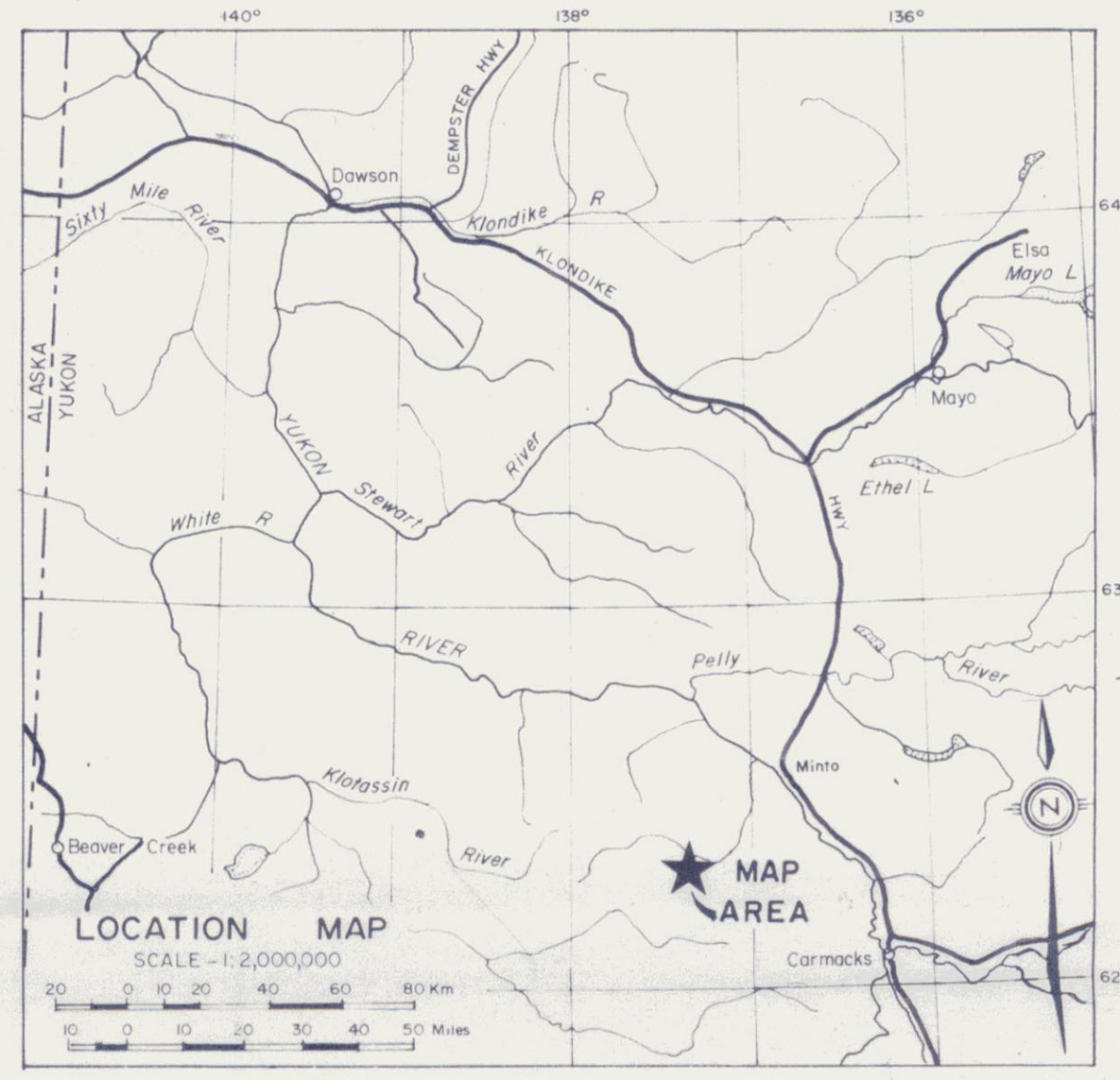
- 50 soil sample location and gold value in ppb
- ◐ area containing values greater than 50 ppb Au, actual values shown on detail maps
- ▭ detail map boundary
- ▭ claim boundary
- - - road, trail
- ▭ airstrip (W - winter use only)
- N84-2 NAT (1984) diamond drill hole - inclined, vertical
- KL-2 Atlas (1970) diamond drill hole - inclined, vertical
- ⊗ 69-3 Yukon Revenue (1968 and 1969) diamond drill hole - inclined, vertical
- SB4-9 Shakwak (1984) diamond drill hole - inclined
- D70-1 Kaiser (1970) diamond drill hole - vertical with average gold assay for length of hole in oz/ton
- P70-2 Kaiser (1970) percussion drill hole - vertical with average gold assay for length of hole in oz/ton

Figure N3  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**GOLD GEOCHEMISTRY  
AND ASSAY COMPILATION**  
NUCLEUS AND NITRO PROPERTIES  
NAT JOINT VENTURE **091600**





SEE FIGURE N5 FOR DETAIL



- LEGEND**
- 1981-82 soil sample location
  - /77 1984 soil sample location with Au value in ppb
  - ⊕ Nucleus property claim posts
  - ⊕ Revenue property claim posts
  - Bulldozer trench
  - ⊙ 1970 Kaiser Res. Diamond Drill Hole
  - ⊙ 1970 Kaiser Res. Percussion Drill Hole
  - ⊙ 1984 Nat Diamond Drill Hole (inclined)
  - ⊙ 1984 Nat Diamond Drill Hole (vertical)
  - Road, trail
- 
- 250 < 100 ppb Au
  - 250 < 200 ppb Au
  - 250 < 500 ppb Au
  - 2500 ppb Au

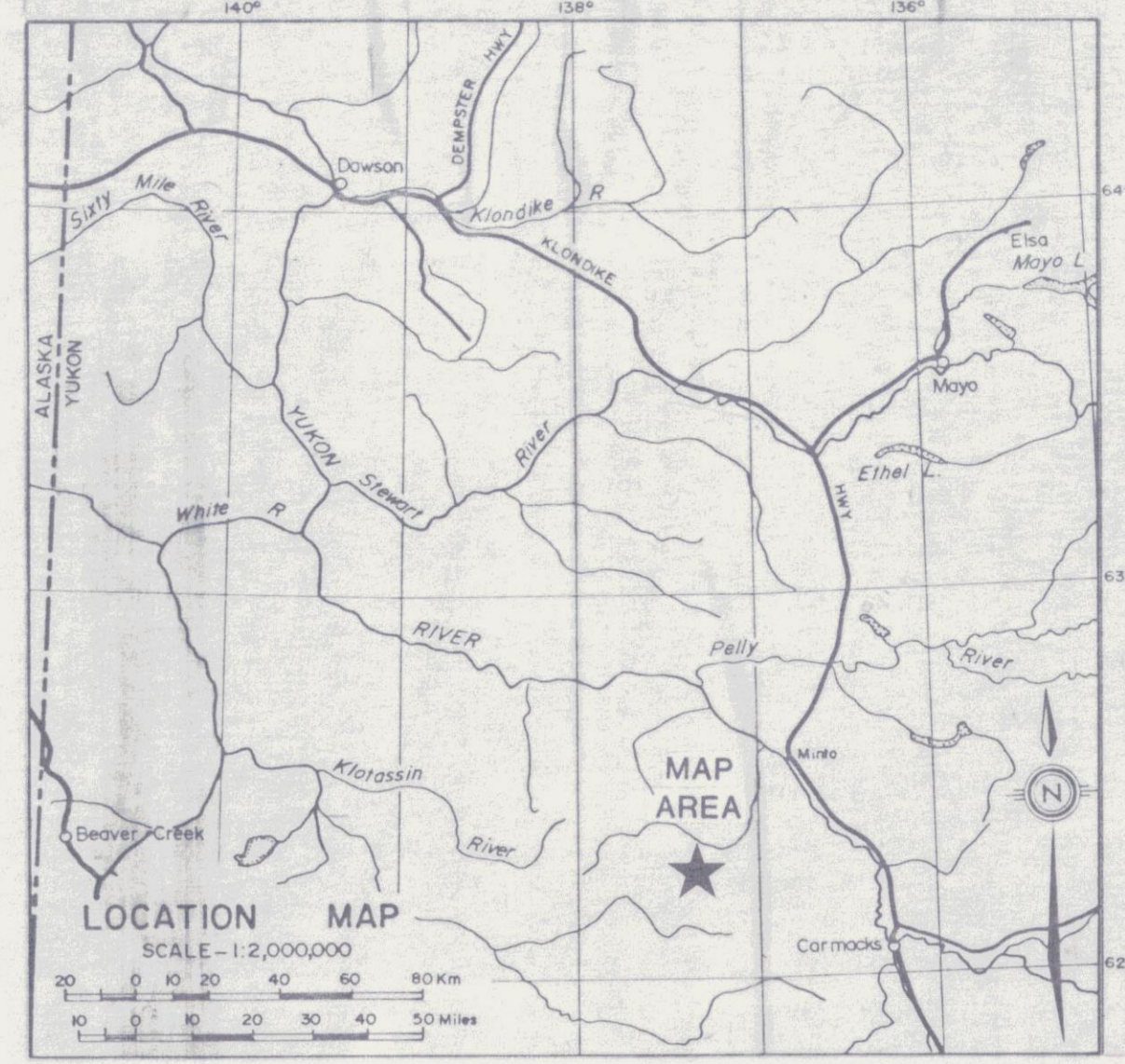
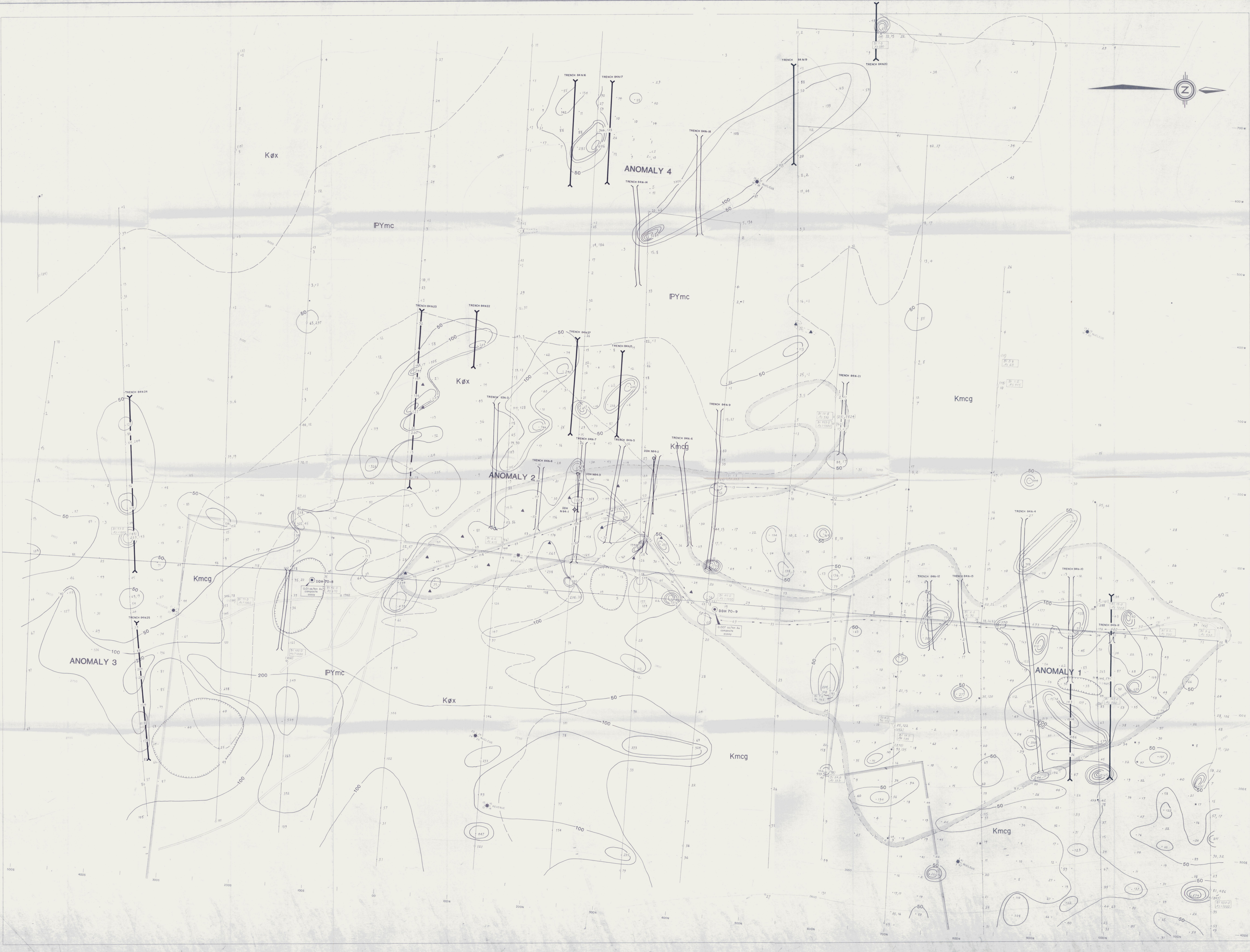
FIGURE N4  
 ARCHTR. CATHRO & ASSOCIATES (1981) LIMITED

**GOLD GEOCHEMISTRY**

NUCLEUS PROPERTY  
 NAT JOINT VENTURE

SCALE 1:5000

*W. J. ...*



- LEGEND**
- CRETACEOUS**
- KØx: Sand and gravelly quartzite, metabasite, diorite, gneiss, schist, and siltstone
  - Kmcg: Metagranite
- PALEOZOIC**
- IPYmc: Yukon metamorphic complex
- Geological Features**
- : Geological contact
  - : Limit of quartzite alteration and quartz stockworks
  - ▲: Breccia
  - : DDH 70-8: 1970 Kaiser Resources percussion drill hole with Au assay results averaged over hole
  - : Reconnaissance (shy) sample
  - : Bulk rock sample
  - : Drill rock sample
  - : Soil sample
  - : Trench soil sample
- Contours and Trenches**
- 50: Soil contour
  - : 1983 or 1984 outdoor trench (complete)
  - : 1984 NAT Diamond Drill Hole - inclined
  - : 1984 NAT Diamond Drill Hole - vertical
  - : 1984 outdoor trench (incomplete)

Figure No. 091600

**GOLD GEOCHEMISTRY**

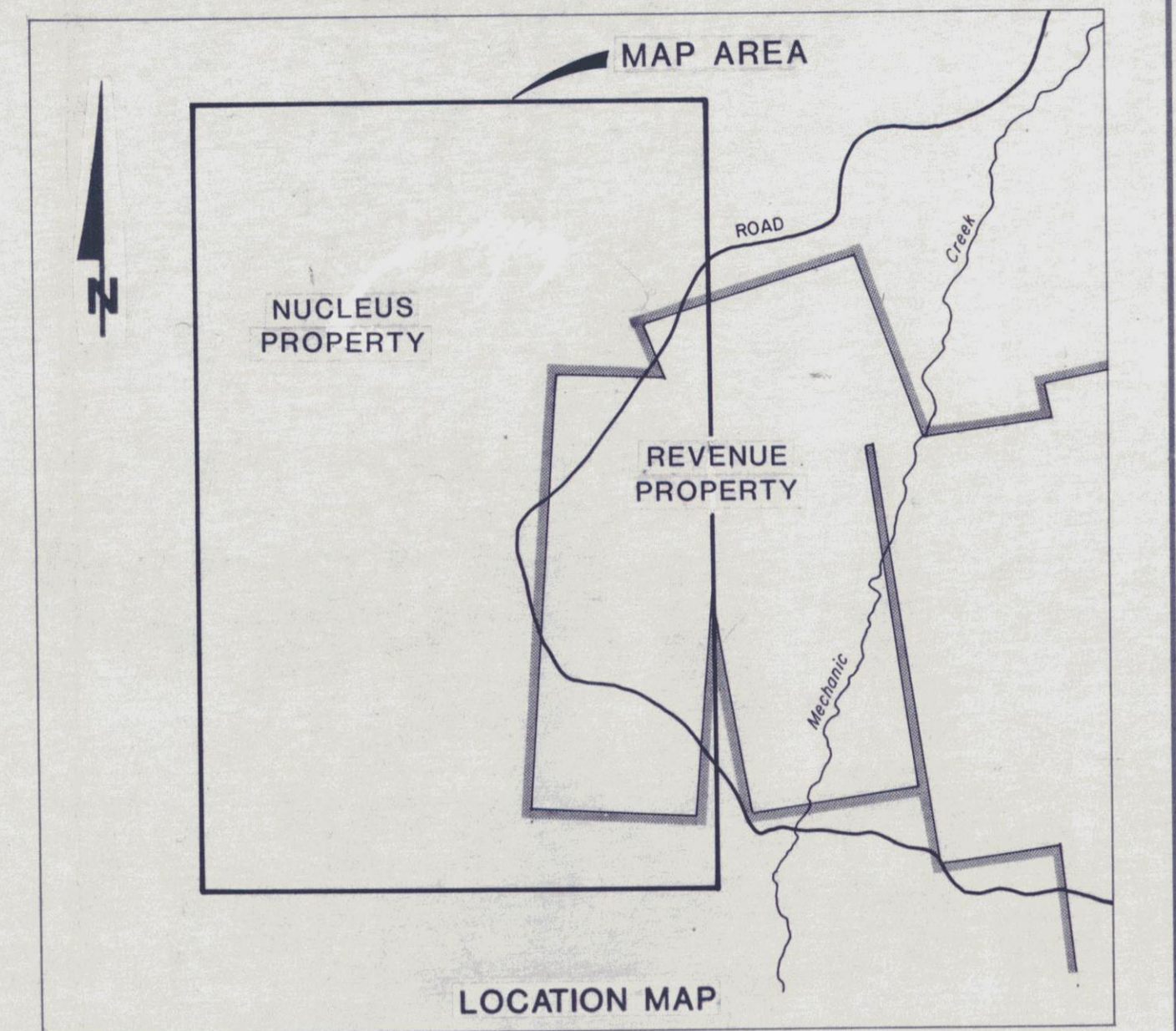
NUCLEUS DETAIL

NAT JOINT VENTURE

SCALE 1:1000

INFERRED TONNAGES AND GRADES				
ANOMALY 2 BLOCK				
Avg. Grade# oz/ton Au	Avg. Width m/ft	Length m/ft	Tonnage to 200' (60.1m) in millions	
0.027	91.5/300	325/1066	24,600	4.92
0.030	87.7/288	275/902	19,983	4.00
0.036	73.0/239	225/738	13,568	2.71
0.042	57.1/187	225/738	10,616	2.12
ANOMALY 1 BLOCK				
0.028	67.7/222	62.5/205	3,500	0.70
0.031	56.7/179	62.5/205	2,823	0.56
0.038	40.7/133	62.5/205	2,097	0.42
0.041	33.7/111	62.5/205	1,743	0.35

# In calculating, all values exceeding 0.2 oz/ton Au cut to 0.2 oz/ton Au and all intervals assaying 0.01 oz/ton Au across 5 m are considered waste.  
\* Assumes 13 cu ft/ton and includes only area within dark lines (i.e. no projection beyond trenches).



- LEGEND**
- Subsolar trench
  - Chip sample values exceeding 20.03 oz/ton Au
  - Chip sample values exceeding 20.02 < 20.03 oz/ton Au
  - Chip sample values exceeding 20.01 < 20.02 oz/ton Au
  - Chip sample values exceeding < 20.01 oz/ton Au
  - Not sampled
  - Soil sample location
  - Rock sample location
  - Reconnaissance chip sample location
  - Soil gold contour line
  - 2000 ppb Au
  - 2000 < 2000 ppb Au
  - 200 < 2000 ppb Au
  - < 200 ppb Au
  - Attraction zone
  - Road
  - Property boundary

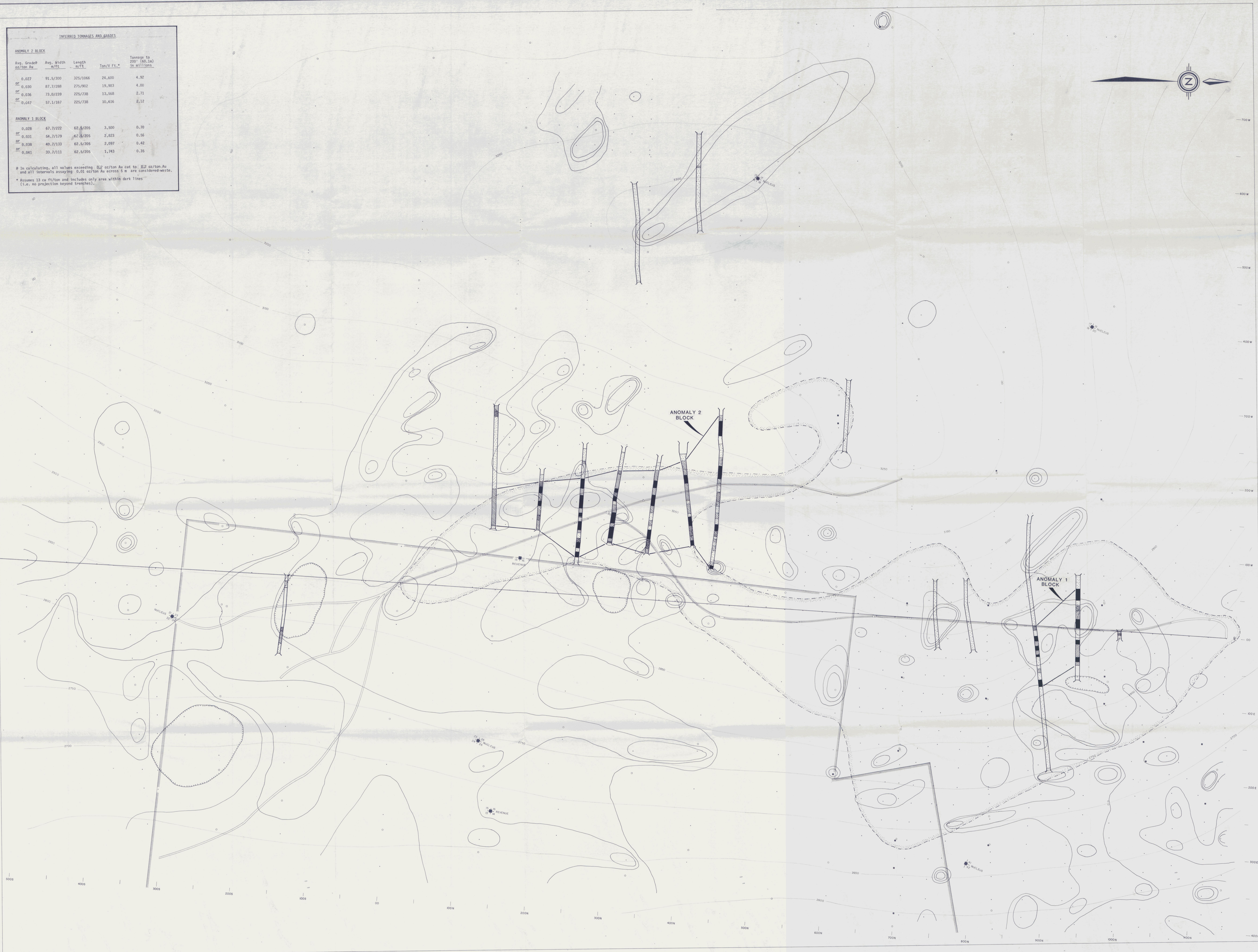
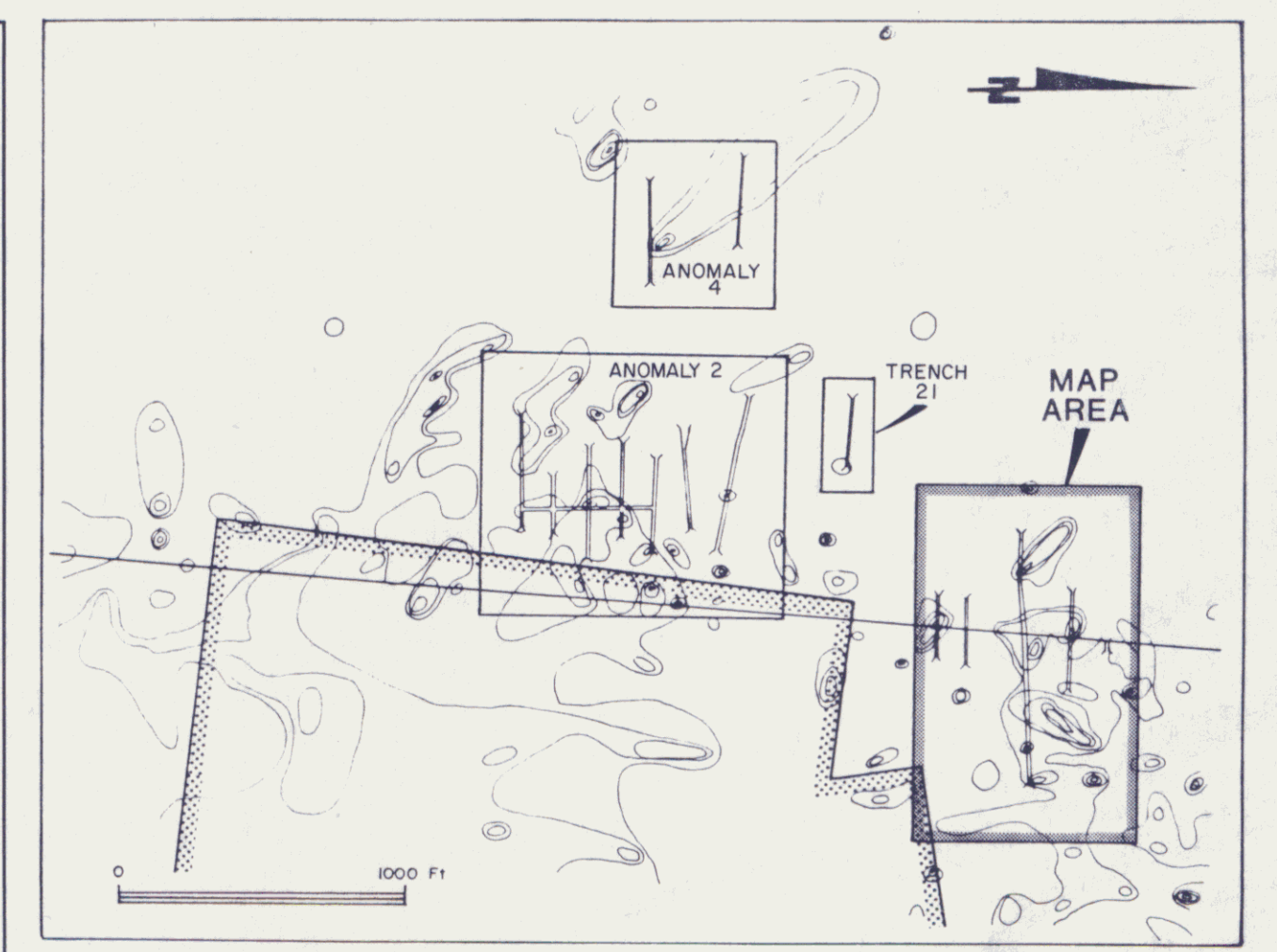
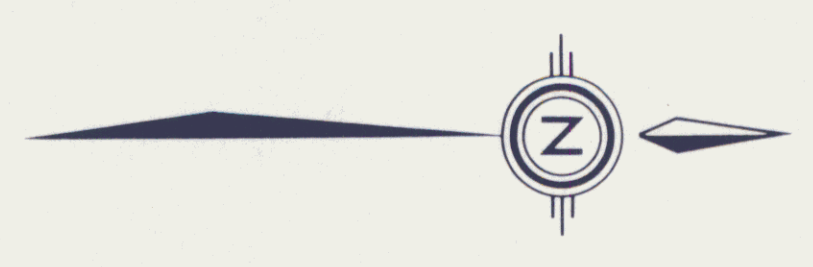
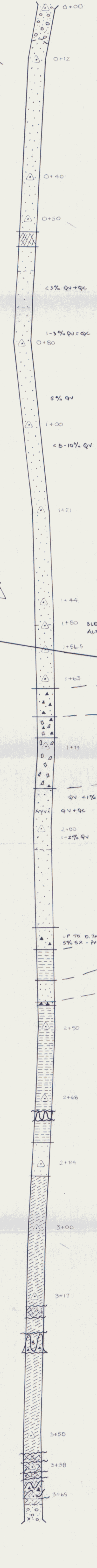


Figure N6  
 ARCHER, CAMRO & ASSOCIATES (1993) LIMITED  
**TRENCH ASSAY AND  
 SOIL GEOCHEM COMPILED**  
 NUCLEUS PROPERTY  
 NAT JOINT VENTURE  
 SCALE 1:1000  
 091600

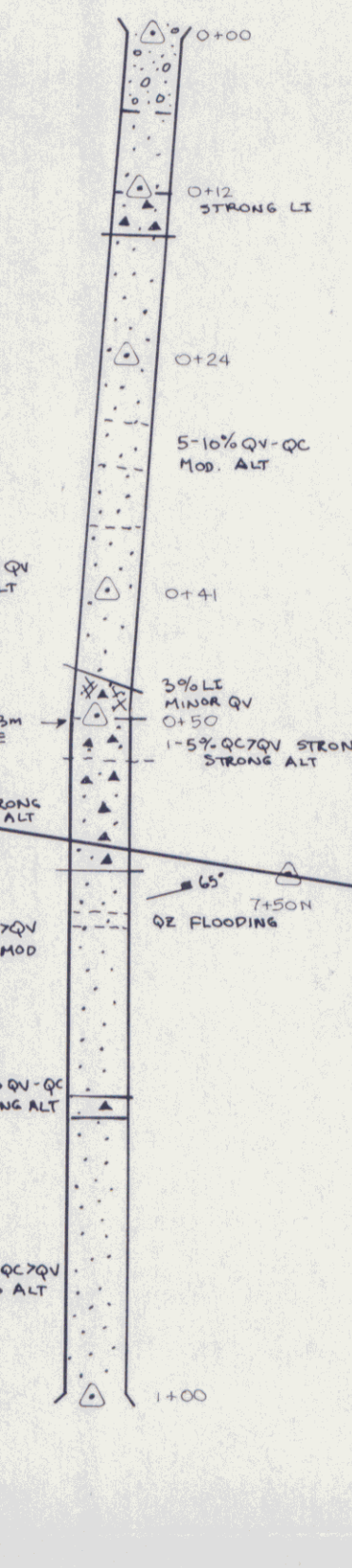


LOCATION MAP

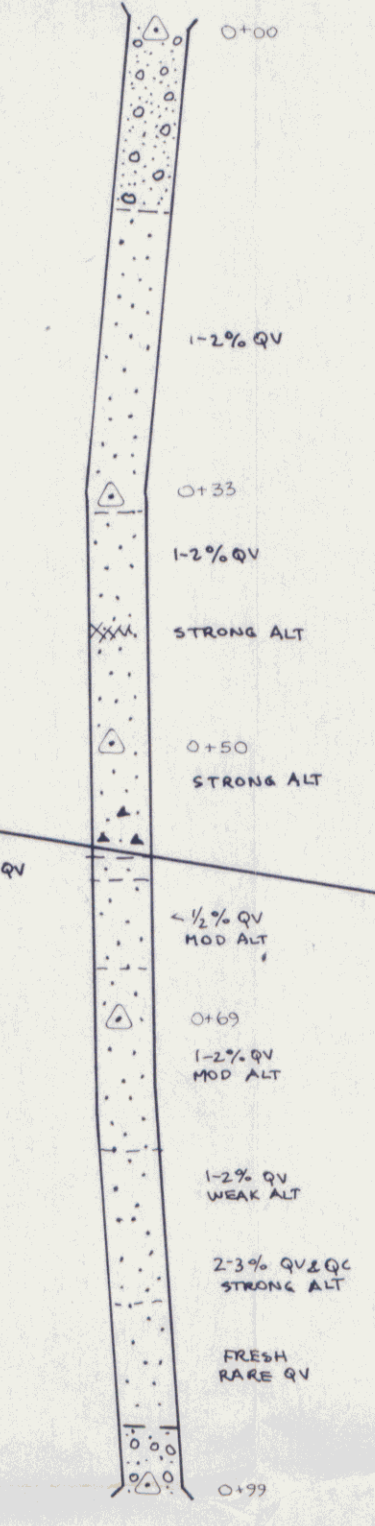
TRENCH 84N-4



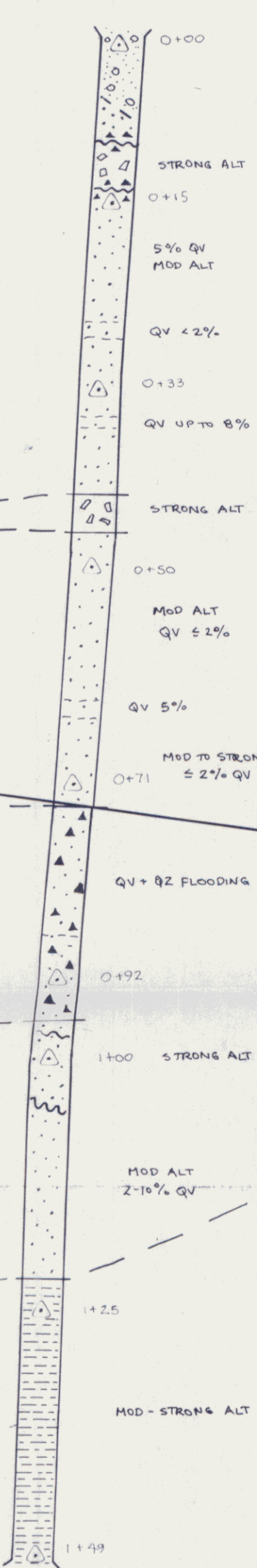
TRENCH 84N-12



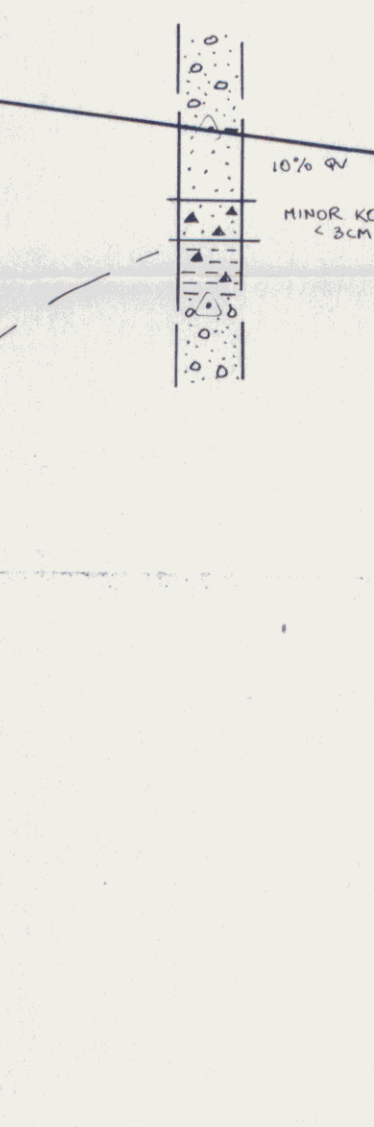
TRENCH 84N-13



TRENCH 84N-10



TRENCH 84N-11



**TRENCH 84N-12**

SAMPLE NO.	FROM	TO	METRES WIDTH	PPB AU
N31028	0.7	11.0	4.0	8
29	11.0	15.0	4.0	87
31	15.0	19.0	4.0	65
32	19.0	23.0	4.0	34
33	23.0	27.0	4.0	17
34	27.0	31.0	4.0	149
35	31.0	35.0	4.0	124
36	35.0	39.0	4.0	70
37	39.0	43.0	4.0	25
38	43.0	47.0	4.0	34
41	51.0	55.0	4.0	25
N31440	53.0	57.0	4.0	223
42	57.0	61.0	4.0	49
43	61.0	65.0	4.0	4
44	65.0	69.0	4.0	13
45	69.0	73.0	4.0	33
46	73.0	77.0	4.0	28
47	77.0	81.0	4.0	71
48	81.0	85.0	4.0	6
N31040	84.0	88.0	4.0	286
49	88.0	92.0	4.0	72
42	92.0	96.0	4.0	12
43	96.0	100.0	4.0	11

**TRENCH 84N-13**

SAMPLE NO.	FROM	TO	METRES WIDTH	PPB AU
N31061	12.0	16.0	4.0	36
62	16.0	20.0	4.0	6
63	20.0	24.0	4.0	62
64	24.0	28.0	4.0	16
65	28.0	32.0	4.0	23
66	32.0	36.0	4.0	10
67	36.0	40.0	4.0	78
68	40.0	44.0	4.0	32
69	44.0	48.0	4.0	20
70	48.0	52.0	4.0	14
71	52.0	56.0	4.0	13
72	56.0	60.0	4.0	20
73	60.0	64.0	4.0	9
74	64.0	68.0	4.0	10
75	68.0	72.0	4.0	5
76	72.0	76.0	4.0	172
77	76.0	80.0	4.0	6
78	80.0	84.0	4.0	24
79	84.0	88.0	4.0	23
80	88.0	92.0	4.0	16
81	92.0	96.0	4.0	7
82	96.0	100.0	4.0	7

**TRENCH 84N-4**

SAMPLE NO.	FROM	TO	METRES WIDTH	PPB AU
N3111	8.0	12.0	4.0	<5
12	12.0	16.0	4.0	5
13	16.0	20.0	4.0	5
14	20.0	24.0	4.0	5
15	24.0	28.0	4.0	5
16	28.0	32.0	4.0	5
17	32.0	36.0	4.0	10
18	36.0	40.0	4.0	5
19	40.0	44.0	4.0	5
20	44.0	48.0	4.0	5
21	48.0	52.0	4.0	5
22	52.0	56.0	4.0	5
23	56.0	60.0	4.0	5
24	60.0	64.0	4.0	5
25	64.0	68.0	4.0	5
26	68.0	72.0	4.0	5
27	72.0	76.0	4.0	5
28	76.0	80.0	4.0	5
29	80.0	84.0	4.0	5
30	84.0	88.0	4.0	5
31	88.0	92.0	4.0	5
32	92.0	96.0	4.0	5
33	96.0	100.0	4.0	5
34	100.0	104.0	4.0	5
35	104.0	108.0	4.0	5
36	108.0	112.0	4.0	5
37	112.0	116.0	4.0	5
38	116.0	120.0	4.0	5
39	120.0	124.0	4.0	5
40	124.0	128.0	4.0	5
41	128.0	132.0	4.0	5
42	132.0	136.0	4.0	5
43	136.0	140.0	4.0	5
44	140.0	144.0	4.0	5
45	144.0	148.0	4.0	5
46	148.0	152.0	4.0	5
47	152.0	156.0	4.0	5
48	156.0	160.0	4.0	5
49	160.0	164.0	4.0	5
50	164.0	168.0	4.0	5
51	168.0	172.0	4.0	5
52	172.0	176.0	4.0	5
53	176.0	180.0	4.0	5
54	180.0	184.0	4.0	5
55	184.0	188.0	4.0	5
56	188.0	192.0	4.0	5
57	192.0	196.0	4.0	5
58	196.0	200.0	4.0	5
59	200.0	204.0	4.0	5
60	204.0	208.0	4.0	5
61	208.0	212.0	4.0	5
62	212.0	216.0	4.0	5
63	216.0	220.0	4.0	5
64	220.0	224.0	4.0	5
65	224.0	228.0	4.0	5
66	228.0	232.0	4.0	5
67	232.0	236.0	4.0	5
68	236.0	240.0	4.0	5
69	240.0	244.0	4.0	5
70	244.0	248.0	4.0	5
71	248.0	252.0	4.0	5
72	252.0	256.0	4.0	5
73	256.0	260.0	4.0	5
74	260.0	264.0	4.0	5
75	264.0	268.0	4.0	5
76	268.0	272.0	4.0	5
77	272.0	276.0	4.0	5
78	276.0	280.0	4.0	5
79	280.0	284.0	4.0	5
80	284.0	288.0	4.0	5
81	288.0	292.0	4.0	5
82	292.0	296.0	4.0	5
83	296.0	300.0	4.0	5
84	300.0	304.0	4.0	5
85	304.0	308.0	4.0	5
86	308.0	312.0	4.0	5
87	312.0	316.0	4.0	5
88	316.0	320.0	4.0	5
89	320.0	324.0	4.0	5
90	324.0	328.0	4.0	5
91	328.0	332.0	4.0	5
92	332.0	336.0	4.0	5
93	336.0	340.0	4.0	5
94	340.0	344.0	4.0	5
95	344.0	348.0	4.0	5
96	348.0	352.0	4.0	5
97	352.0	356.0	4.0	5
98	356.0	360.0	4.0	5
99	360.0	364.0	4.0	5

**TRENCH 84N-10**

SAMPLE NO.	FROM	TO	METRES WIDTH	PPB AU
N31101	0.0	0.4	4.0	7
03	0.4	0.7	2.0	41
04	0.7	1.0	2.0	143
05	1.0	1.3	2.0	79
06	1.3	1.6	2.0	105
07	1.6	1.9	2.0	171
08	1.9	2.2	2.0	160
09	2.2	2.5	2.0	1360
10	2.5	2.8	2.0	840
11	2.8	3.1	2.0	166
12	3.1	3.4	2.0	236
13	3.4	3.7	2.0	680
14	3.7	4.0	2.0	720
15	4.0	4.3	2.0	80
16	4.3	4.6	2.0	276
17	4.6	4.9	2.0	376
18	4.9	5.2	2.0	1342
19	5.2	5.5	2.0	1442
20	5.5	5.8	2.0	1750
21	5.8	6.1	2.0	196
22	6.1	6.4	2.0	378
23	6.4	6.7	2.0	284
24	6.7	7.0	2.0	230
25	7.0	7.3	2.0	210
26	7.3	7.6	2.0	854
27	7.6	7.9	2.0	214
28	7.9	8.2	2.0	496
29	8.2	8.5	2.0	604
30	8.5	8.8	2.0	204
31	8.8	9.1	2.0	582
32	9.1	9.4	2.0	362
33	9.4	9.7	2.0	1078
34	9.7	10.0	2.0	115
35	10.0	10.3	2.0	53
36	10.3	10.6	2.0	115
37	10.6	10.9	2.0	95
38	10.9	11.2	2.0	141
39	11.2	11.5	2.0	37
40	11.5	11.8	2.0	141
41	11.8	12.1	2.0	41

**TRENCH 84N-11**

SAMPLE NO.	FROM	TO	METRES WIDTH	PPB AU
N31348	0.0	0.5	5.0	335
48	0.5	0.8	3.0	833
50	0.8	1.2	4.0	395

- LEGEND**
- Feldspar porphyry dyke (KQfp)
  - Microgranite
  - Yukon Metamorphic Complex - Schists with minor quartzites
  - Geological contact
  - Fault
  - Breccia
  - Fault gouge
  - Fracture Zone
  - Foliation attitude
  - Fracture attitude
  - Quartz vein
  - Quartz veinlet
  - Stockwork
  - Pyrite
  - Arsenopyrite
  - Limonite
  - Bulldozer trench
  - Survey station

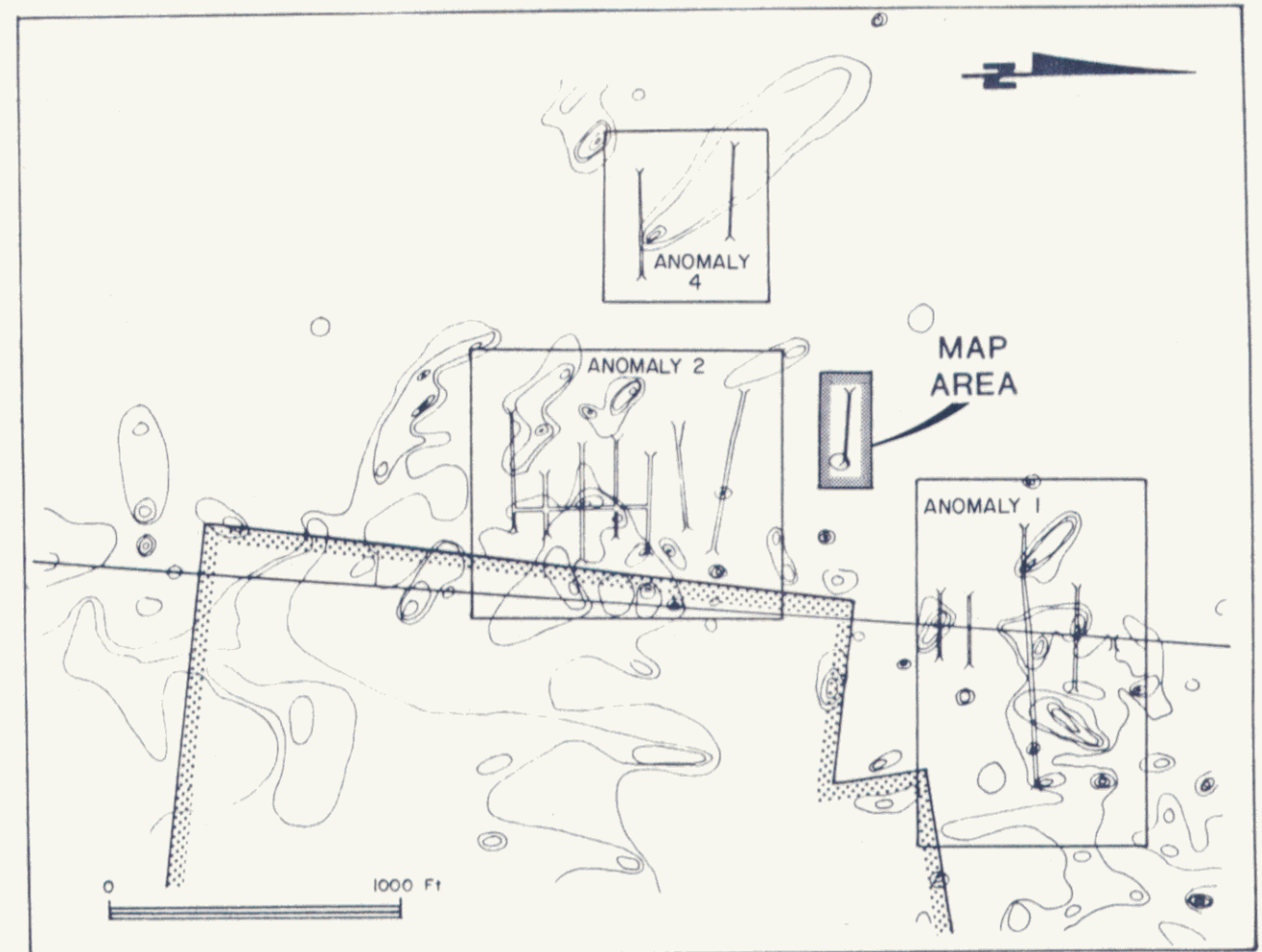
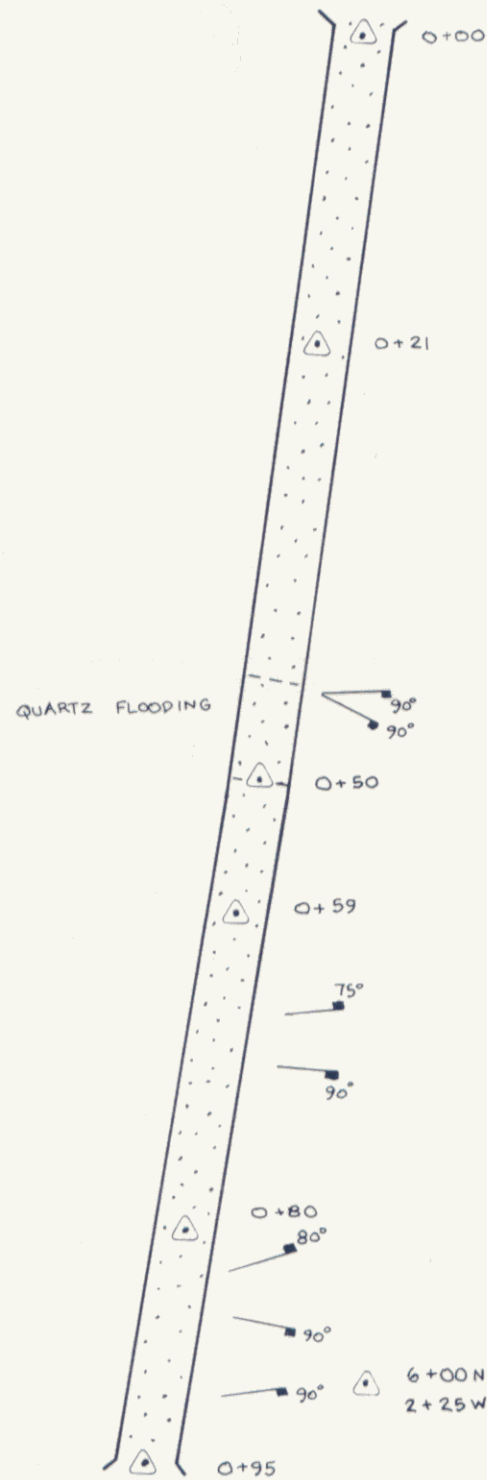
Figure N7  
 ARCHER, CATRO & ASSOCIATES (1981) LIMITED  
**TRENCH RESULTS**  
**ANOMALY 1**  
 NUCLEUS PROPERTY  
 NAT JOINT VENTURE  
 SCALE 1:500  
 0 5 10 20 30 40 Metres  
 0 5 10 20 30 40 Yards



**TRENCH 84N21**

SAMPLE NO.	METRE		METRES WIDTH	PPB AU
	FROM	TO		
N31002	0.0	4.0	4.0	4
03	4.0	8.0	4.0	3
04	8.0	12.0	4.0	4
05	12.0	16.0	4.0	5
06	16.0	20.0	4.0	6
07	20.0	24.0	4.0	3
08	24.0	28.0	4.0	16
09	28.0	32.0	4.0	4
10	32.0	36.0	4.0	6
11	36.0	40.0	4.0	7
12	40.0	42.0	2.0	9
13	42.0	44.0	2.0	3
14	44.0	46.0	2.0	11
15	46.0	48.0	2.0	32
16	48.0	50.0	2.0	5
17	50.0	54.0	4.0	2
18	54.0	58.0	4.0	37
19	58.0	62.0	4.0	17
20	62.0	66.0	4.0	70
21	66.0	70.0	4.0	53
22	70.0	74.0	4.0	7
23	74.0	78.0	4.0	5
24	78.0	82.0	4.0	11
25	82.0	86.0	4.0	10
26	86.0	90.0	4.0	7
27	90.0	92.0	2.0	5

**TRENCH 84N21**



**LOCATION MAP**

**LEGEND**





-  Microgranite
-  Fracture attitude
-  Bulldozer trench
-  Survey station

Figure N9

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

**TRENCH RESULTS**

**TRENCH 21**

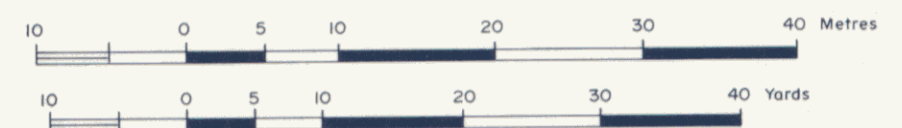
NUCLEUS PROPERTY

NAT JOINT VENTURE

*Handwritten signature*

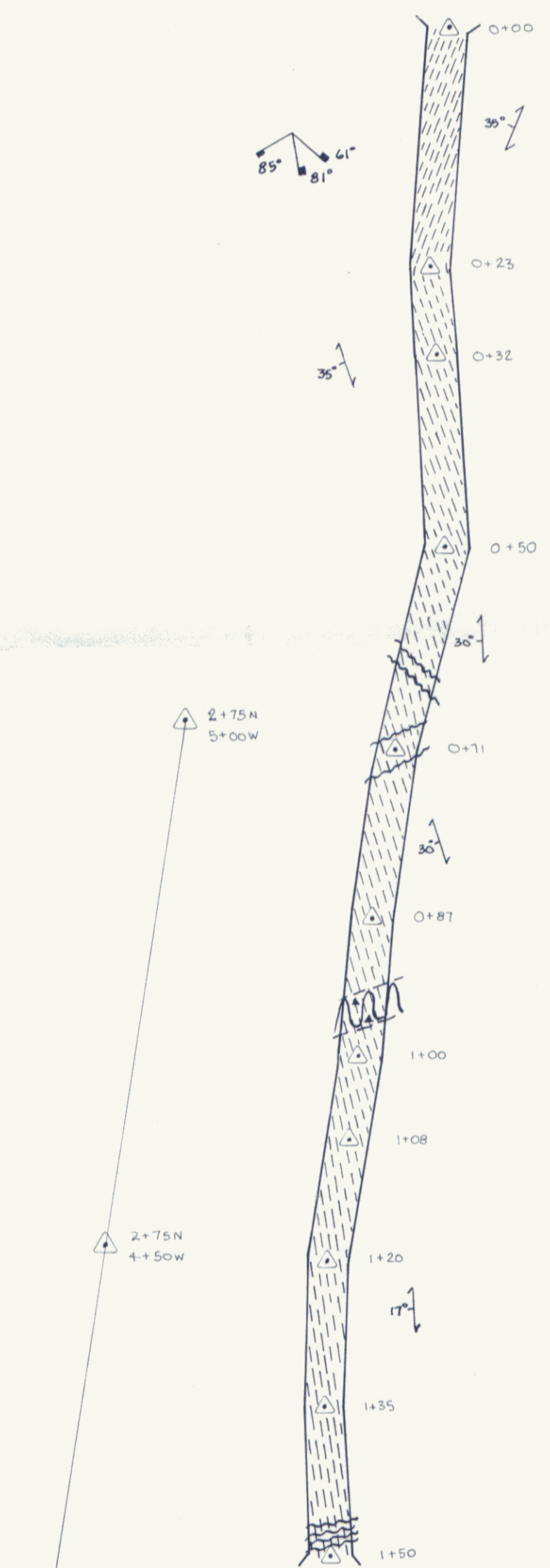
**091600**

SCALE 1:500





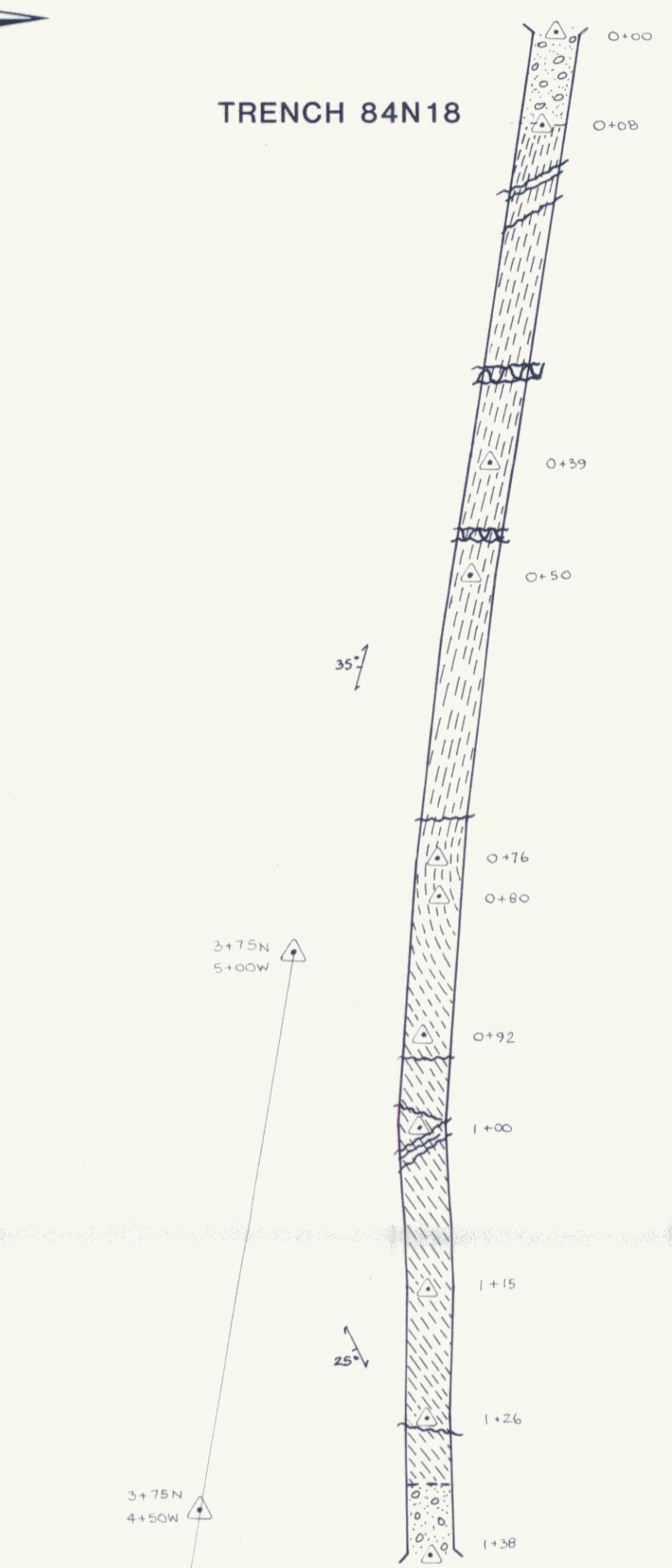
**TRENCH 84N14**



**TRENCH 84N14**

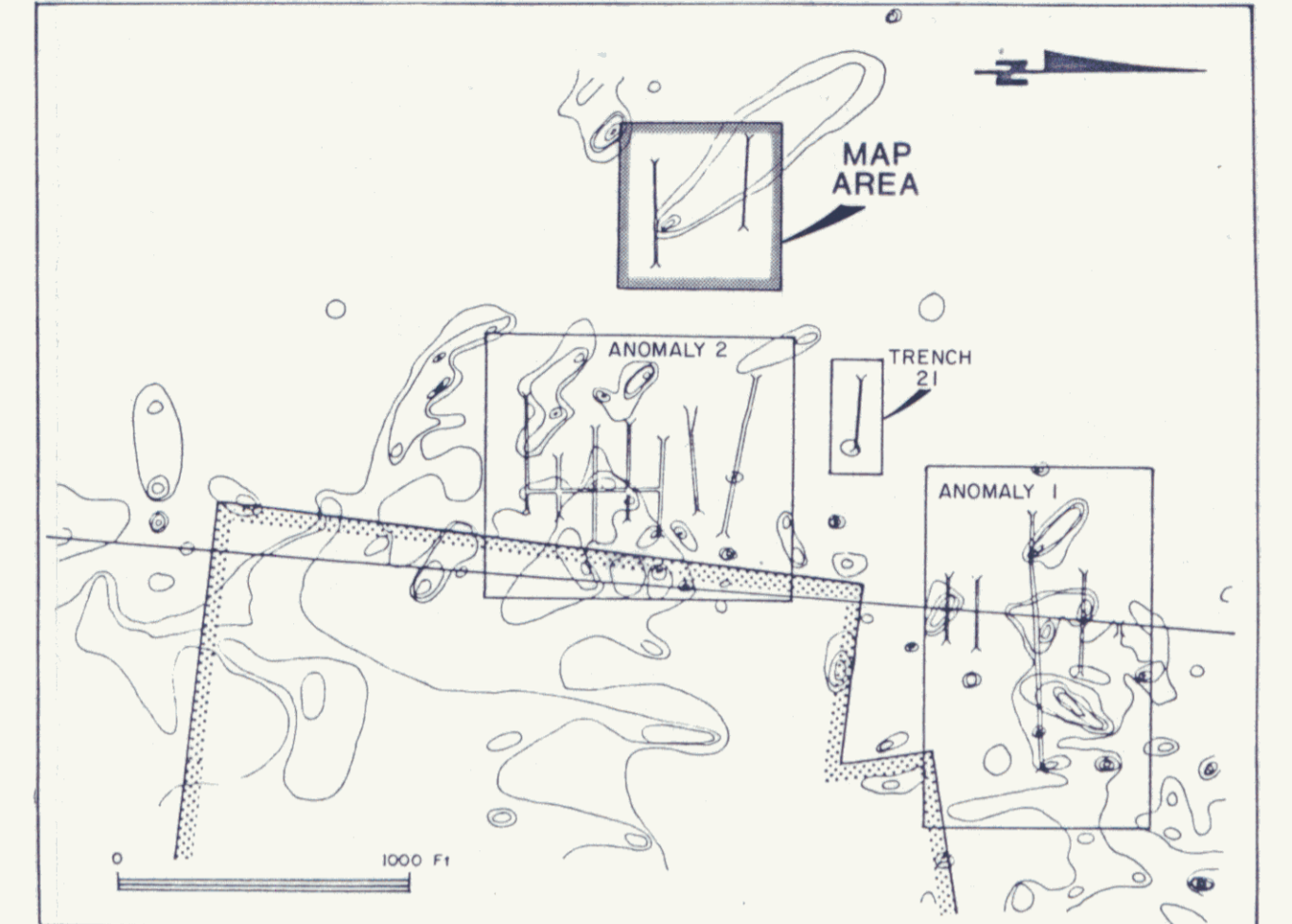
SAMPLE NO.	FROM	TO	METRES WIDTH	PPB AU
N3829	8.0	18.0	10.0	23
30	18.0	28.0	10.0	10
31	28.0	38.0	10.0	9
32	38.0	48.0	10.0	19
33	48.0	58.0	10.0	11
34	58.0	61.0	3.0	40
35	61.0	64.0	3.0	24
36	64.0	67.0	3.0	11
37	67.0	70.0	3.0	153
38	70.0	77.0	7.0	41
39	77.0	84.0	7.0	63
40	84.0	89.0	5.0	30
41	89.0	93.0	4.0	29
42	93.0	97.0	4.0	8
43	97.0	107.0	10.0	11
44	107.0	117.0	10.0	8
45	117.0	122.0	5.0	6
46	122.0	127.0	5.0	5
47	127.0	132.0	5.0	14

**TRENCH 84N18**



**TRENCH 84N18**

SAMPLE NO.	FROM	TO	METRES WIDTH	PPB AU
N31300	0.8	12.0	4.0	6
01	12.0	16.0	4.0	10
02	16.0	20.0	4.0	17
03	20.0	24.0	4.0	5
04	24.0	28.0	4.0	6
05	28.0	30.0	2.0	7
06	30.0	33.0	3.0	34
07	33.0	37.0	4.0	>1
08	37.0	41.0	4.0	9
09	41.0	42.0	1.0	250
10	42.0	45.0	3.0	4
11	45.0	46.0	1.0	502
12	46.0	50.0	4.0	82
13	50.0	54.0	4.0	1
14	54.0	58.0	4.0	15
15	58.0	62.0	4.0	9
16	62.0	66.0	4.0	7
17	66.0	70.0	4.0	<1
18	70.0	74.0	4.0	6
19	74.0	78.0	4.0	2
20	78.0	82.0	4.0	<1
21	82.0	86.0	4.0	<1
22	86.0	91.0	5.0	1
23	91.0	94.0	3.0	5
24	94.0	97.0	3.0	127
25	97.0	101.0	4.0	4
26	101.0	103.0	2.0	4
27	103.0	107.0	4.0	5
28	107.0	110.0	3.0	1
29	110.0	112.5	2.5	6
30	112.5	113.5	1.0	6
31	113.5	118.0	4.5	4
32	118.0	122.0	4.0	<1
33	122.0	126.0	4.0	2
34	126.0	129.0	3.0	8
35	129.0	133.0	4.0	10



**LOCATION MAP**

**LEGEND**

- Overburden
- Yukon Metamorphic Complex - schists with minor quartzites
- Fault
- Fault gouge
- Breccia
- Foliation attitude
- Fracture attitude
- Bulldozer trench
- Survey station

**Figure N10**

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

091600

**TRENCH RESULTS**  
**ANOMALY 4**  
**NUCLEUS PROPERTY**  
**NAT JOINT VENTURE**

*W.P.G.*

SCALE 1:500

