

COMPILATION REPORT ON  
THE REVENUE CREEK PROPERTY  
FOR  
YUKON REVENUE MINES LIMITED  
BY  
JIM McFAULL B.Sc., F.G.A.C.  
EXPLORATION GEOLOGIST  
DATED: OCTOBER 12, 1997

LATITUDE 62°20'N  
LONGITUDE 137°16'W  
NTS MAP SHEET 115-I-6



093742

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 \$ 7000.00.

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

## INTRODUCTION

This report is a compilation of previous geological reports on the Revenue Creek property. It is written at the request of Yukon Revenue Mines Limited to evaluate the potential for continued exploration on the claims.

The Revenue property consists of 69 claims in the Dawson Range of the central Yukon Territory. The property has received extensive work over nearly 50 years and totalling several million dollars at today's rates.

Exploration programs have included extensive soil geochemical surveys of virtually the entire property. These samples have been analyzed for various elements from only copper or gold to gold plus 32 element ICP with assays for copper, gold, silver, lead, zinc, arsenic, molybdenum and tungsten showing anomalous results. Several geophysical programs have also been conducted on the property. These include small detailed grids over specific showings to property wide surveys, both on the ground and airborne. These include EM (electromagnetic) surveys, magnetic surveys VLF-EM (very low frequency electromagnetic) surveys, IP (induced polarization) surveys and airborne VLF-EM, mag and radiometric surveys. Extensive bulldozer and backhoe trenching has been completed and several programs of percussion and diamond drilling have also been carried out.

This work has been directed at the exploration for porphyry copper-molybdenum, porphyry copper-gold, tungsten high grade copper-gold vein, low grade epithermal gold and lead-zinc-silver veins at different times. There are showings of all of these types of mineralization on the Revenue claims. The main targets were the high grade copper-

gold veins from 1950 to 1960, the porphyry copper-molybdenum from 1960-1974, the copper and gold from 1974 to 1983 and the low grade epithermal gold from 1983 to 1991. Although numerous mineralized showings have been discovered, no economically mineable ore bodies have been found to date.

In spite of these extensive programs, it is important to understand that the property is by no means completely explored to date. Some very basic geological questions remain unanswered at this time; for example the strike and dip of virtually all the known showings is still open to question. The exact source of the placer gold in Revenue Creek is still unknown. The cause of most of the soil geochemical anomalies remains uncertain or unknown.

The bedrock geology and its main contacts are also largely assumed due to lack of outcrop, deep overburden cover and permafrost.

Although much of the mineralization is thought to be structurally controlled the strike, dip and location of even the largest faults (such as the BIG CREEK FAULT) are unknown or speculative at best.

Additional exploration programs will be required to resolve these and other questions in order to complete the exploration of the Revenue property and either locate economically mineable ore bodies or prove this property can be abandoned as uneconomic.

PROPERTY

The Revenue property consists of 69 contiguous claims and fractions staked under the authority of the Yukon Quartz Mining act. The claims are held 100% by Yukon Revenue Mines Limited. The claims are filed at the Whitehorse Mining Recorder's office and currently expire October 15,1997. A one year renewal will be filed before this expiry which will change the date to October 15,1998.

The claims are recorded as follows;

CLAIM NAME	GRANT #	EXPIRY DATE
Add 5-6	Y26371-Y26372	Oct.15/97
Addition 1-2	68060-68061	Oct.15/97
Addition 3-4	74488-74489	Oct.15/97
Addition 5	75323	Oct.15/97
Au 1-5	Y79564-Y79568	Oct.15/97
Au 6-7	Y80439-Y80440	Oct.15/97
Bit 1F-6F	YA95206-YA95211	Oct.15/97
Bit 7F-13F	YA95214-YA95220	Oct.15/97
Bit 14F	YA95212	Oct.15/97
Bit 15F-18F	YA95221-YA95224	Oct.15/97
Homestake 1-2	75321-75322	Oct.15/97
Inca 1-4	Y21008-Y21011	Oct.15/97
Inca 7-8	Y21014-Y21015	Oct.15/97
Rev 11	Y25959	Oct.15/97
Rev 13-14	Y25961-Y25962	Oct.15/97
RevCop 1F	YA95213	Oct.15/97
Revenue 3-4	Y26361-Y26362	Oct.15/97
Revenue 5-6	Y26365-Y26366	Oct.15/97
Revenue 7-8	Y26404-Y26405	Oct.15/97
Revenue 9	Y21270	Oct.15/97
Revenue 11	Y21272	Oct.15/97
Revenue 13-16	Y24017-Y24020	Oct.15/97
Revenue 21-22	Y24025-Y24026	Oct.15/97
Revenue Copper 1-8	67180-67187	Oct.15/97
Subtract 1F	YA97441	Oct.15/97
Subtract 2-3	YA97442-YA97443	Oct.15/97

This includes 49 full claims and 20 fractional claims.

LOCATION, ACCESS AND TOPOGRAPHY

The Revenue property is situated at Latitude 62°20'N Longitude 137°16'W on NTS map sheet 115-I-6. This is in Big Creek valley in the southeast end of the Dawson Range in the central Yukon Territory.

The claims are accessible by the all-weather Freegold Road, 80km northwest of the village of Carmacks, which is 210km north of Whitehorse on the Klondike Highway.

An airstrip suitable for Beaver, Otter and Islander aircraft is also located on the claim group adjacent to Big Creek at the mouth of Revenue Creek.

Topography is characteristic of unglaciated terrain in the Yukon with subdued mountains and deeply incised valleys. Elevation on the property ranges from 760m (2500') to 1070m (3500') asl.

The overburden cover is surprisingly thin, ranging from less than one meter on steep south facing slopes and ridge crests to ten meters on north facing slopes where the soil profile is thickened by solifluction. In the valley floor of Big Creek, overburden depths increase to 175'-260' (60-80 meters).

Outcrop is scarce (less than 1%) and is restricted to the most competent units, which are usually the least altered and mineralized. The lack of exposure coupled with the extensive vegetation makes conventional prospecting difficult and has inhibited the search for lode deposits.

The property is covered by slightly stunted spruce and heavy moss cover typical of the vegetation throughout the Dawson Range. Permafrost is common in the area and poses serious problems for trenching.

148°

140°

138°

YUKON REVENUE MINES LIMITED

YUKON REVENUE PROPERTY

# LOCATION MAP

Scale: 1:3 840 000 or  
approx. 1" = 78 mi.

Date: 10/12/97

UNITED STATES OF AMERICA

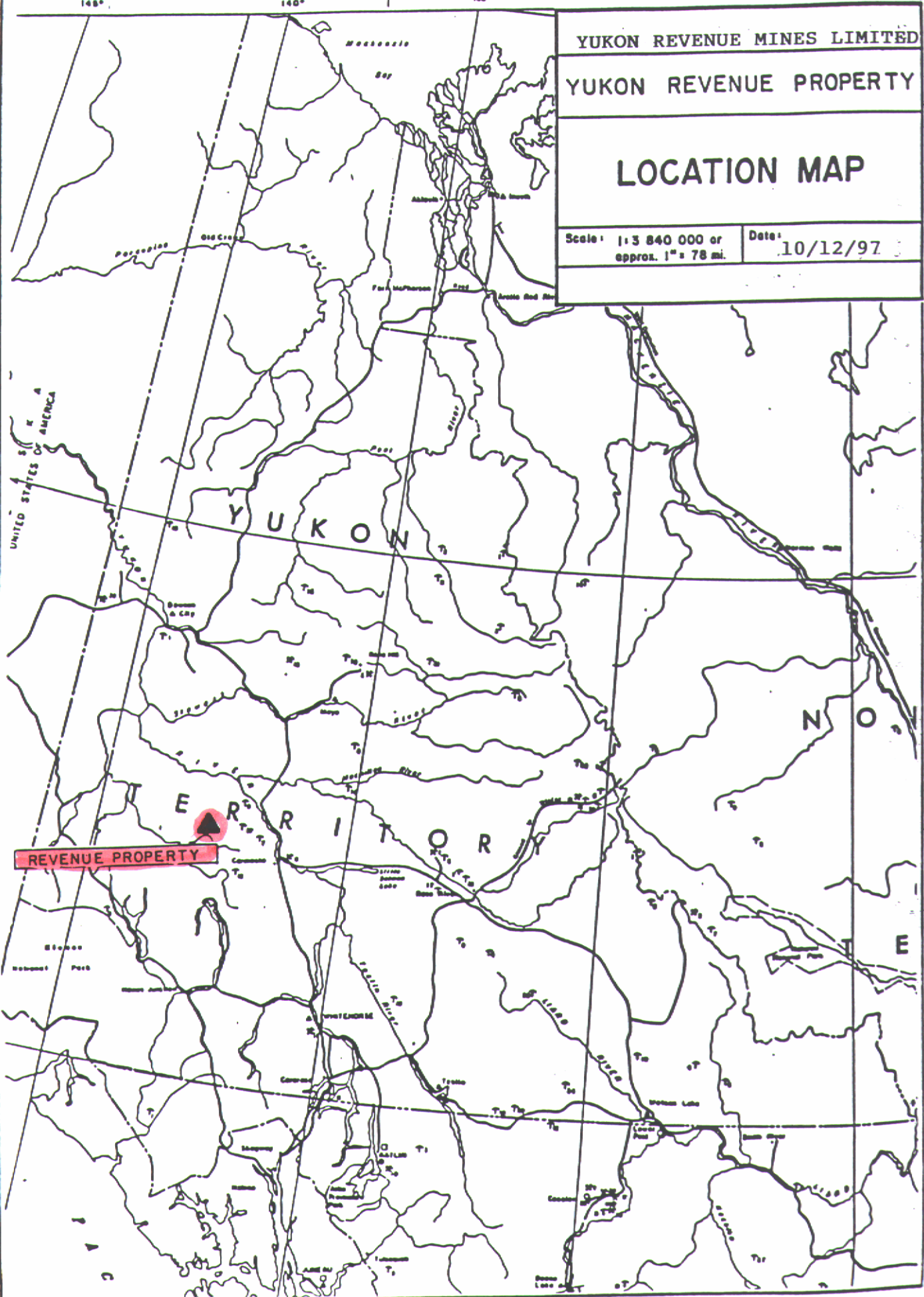
## YUKON

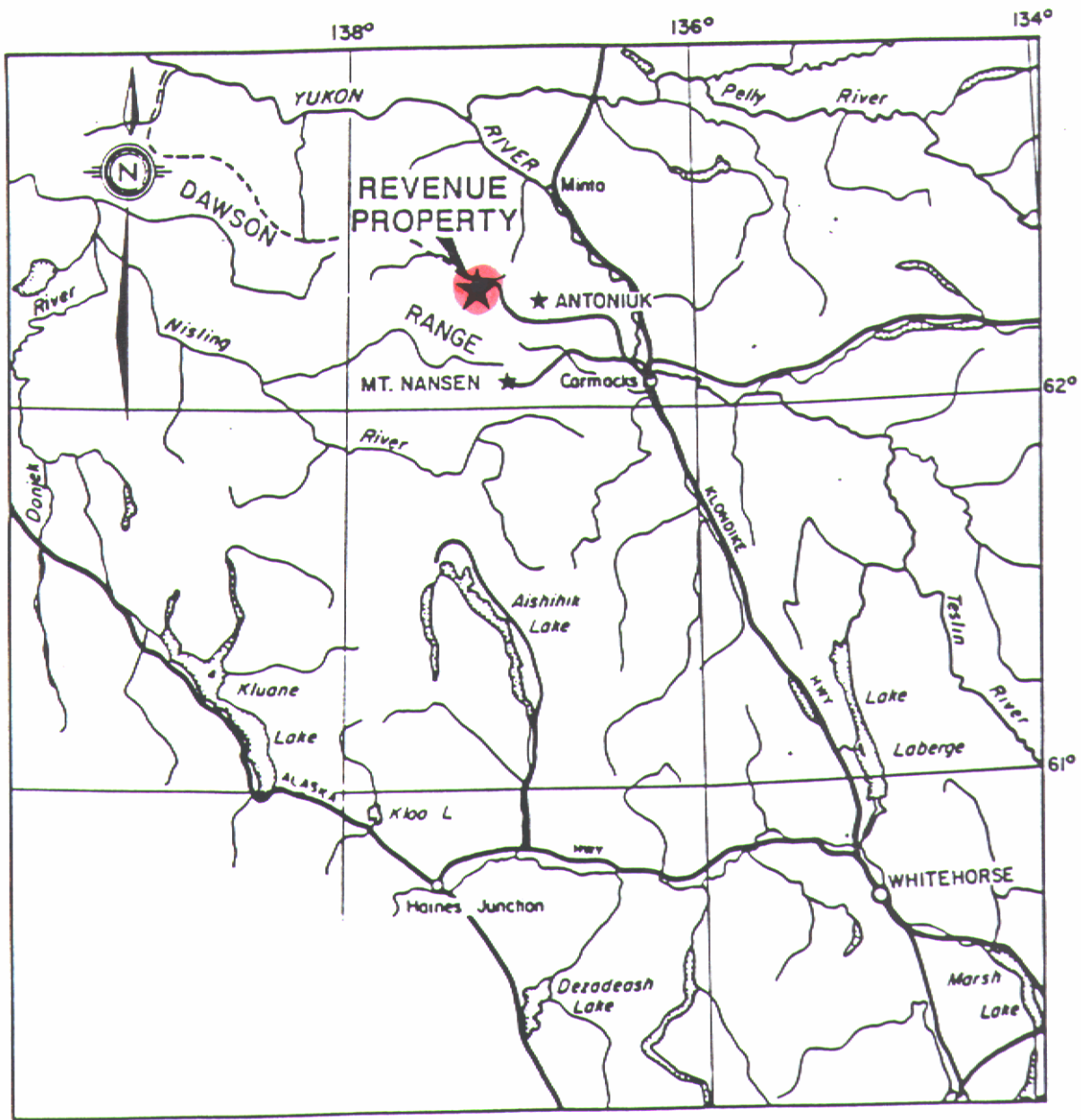
## ERRITORY

## NORTH

## EAST

REVENUE PROPERTY





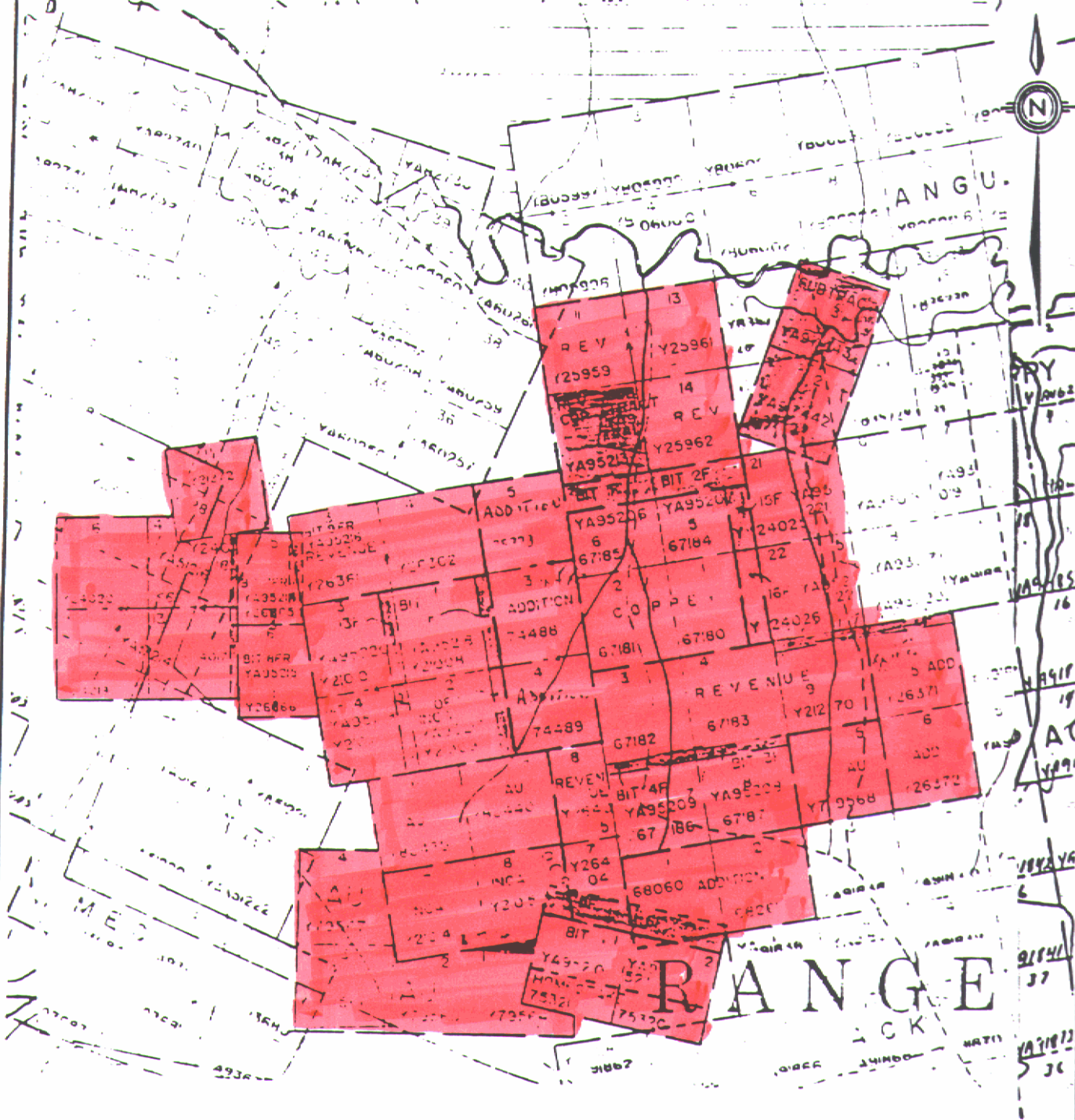
YUKON REVENUE MINES LIMITED  
**GENERAL LOCATION MAP**

REVENUE PROPERTY  
 REVENUE CREEK, Y.T.

DATED: OCTOBER 12, 1997

SCALE 1:2,000,000



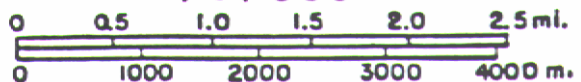


YUKON REVENUE MINES LIMITED

# CLAIM MAP

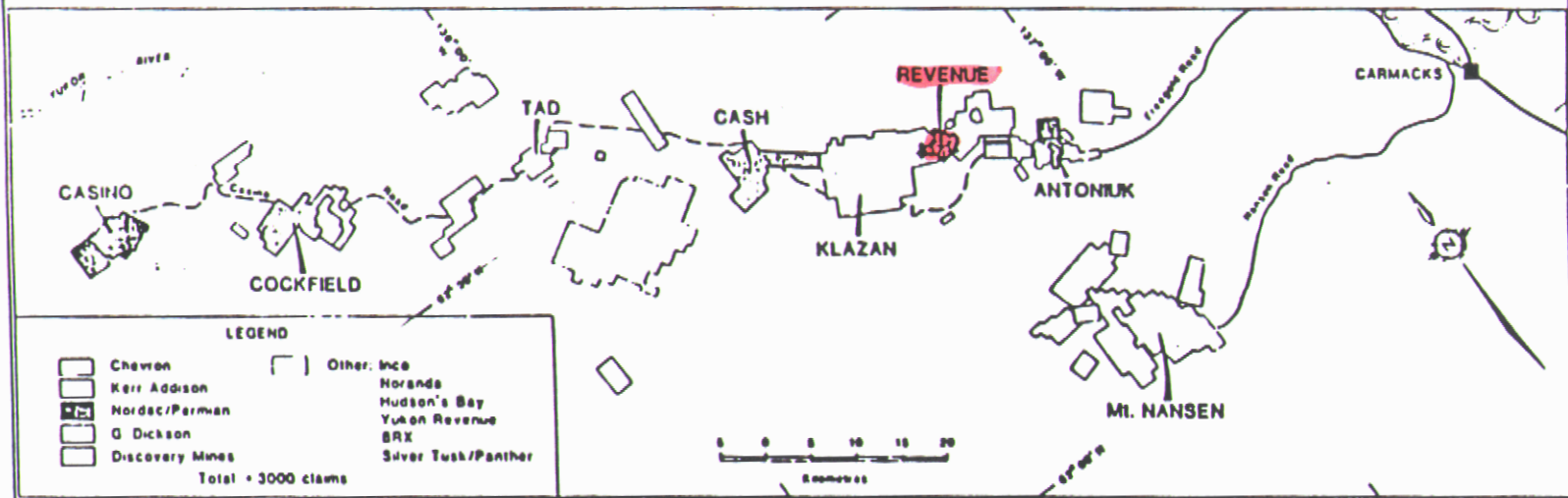
YUKON REVENUE PROPERTY

SCALE  
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## CLAIM OWNERSHIP

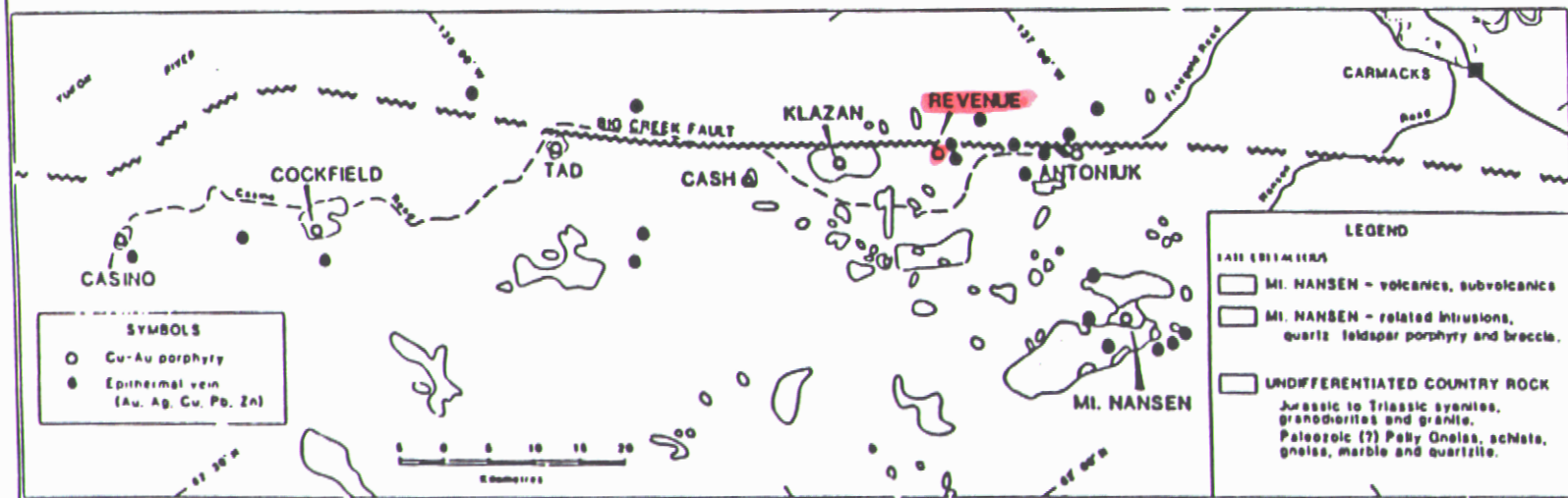
Dawson Range Gold Belt, Y. T.

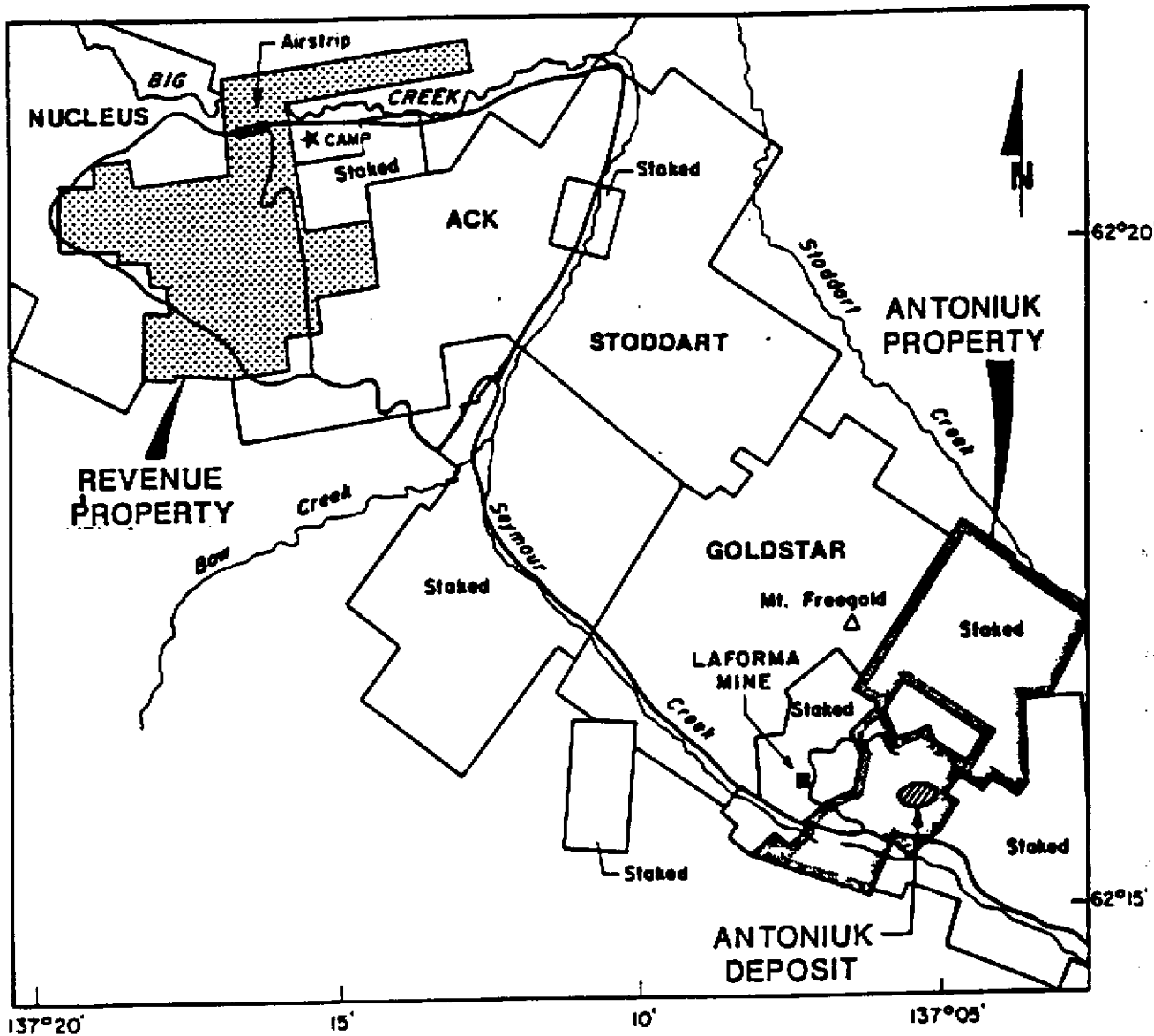


## PROPERTY STATUS, DAWSON RANGE GOLD BELT

## REGIONAL GEOLOGY AND MINERAL DEPOSITS

Dawson Range Gold Belt, Y. T.

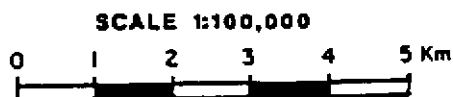


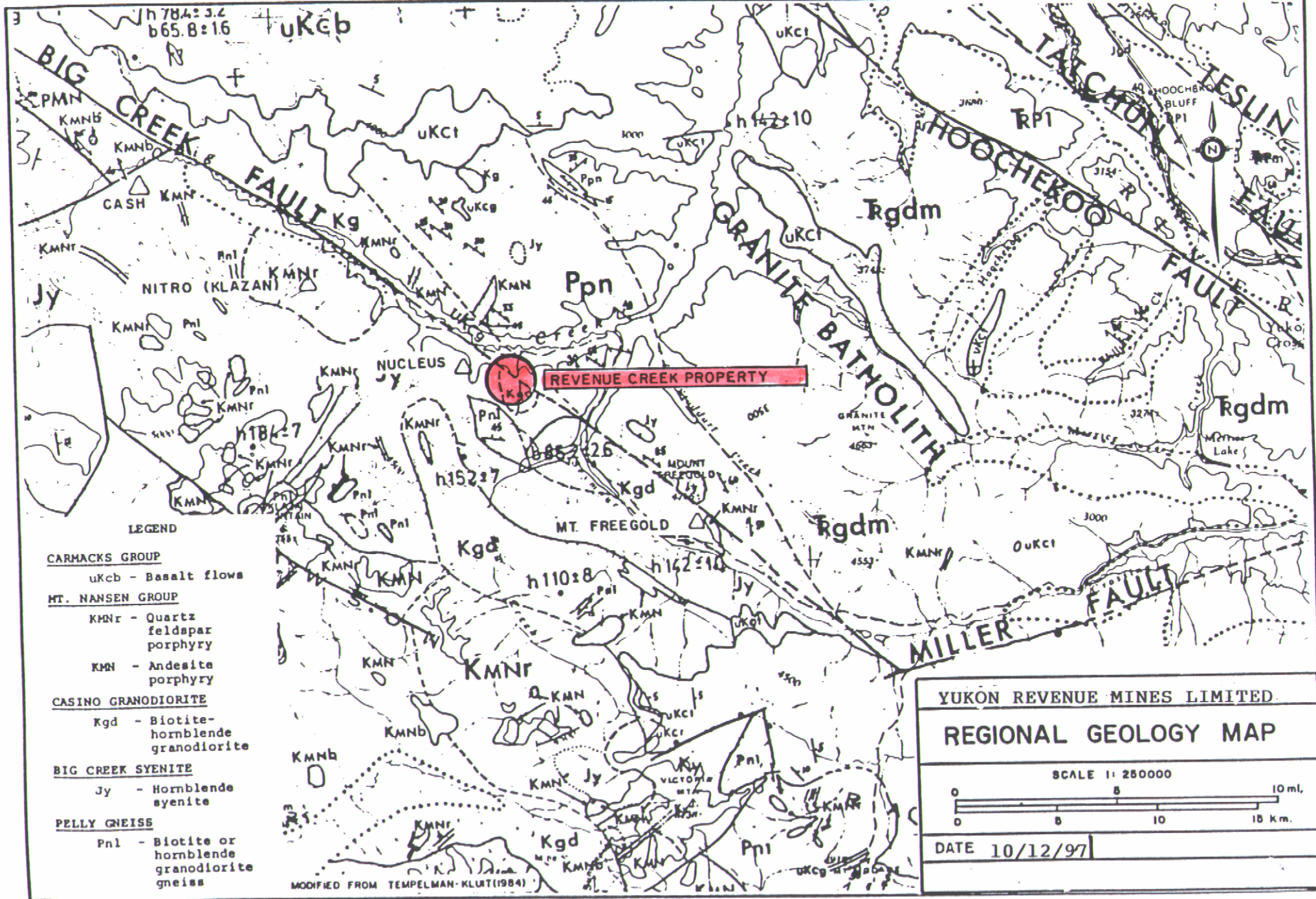


**YUKON REVENUE MINES LIMITED**  
**PROPERTY LOCATION MAP**

**REVENUE PROPERTY**  
**REVENUE CREEK, Y.T.**

DATED: OCTOBER 12, 1997





REVENUE CREEK PROPERTY

**LEGEND**

- CARMACKS GROUP**  
uKcb - Basalt flows
- MT. NANSEN GROUP**  
KMnr - Quartz feldspar porphyry  
KMN - Andesite porphyry
- CASINO GRANODIORITE**  
Kgd - Biotite-hornblende granodiorite
- BIG CREEK SYENITE**  
Jy - Hornblende syenite
- PELLY GNEISS**  
Pnl - Biotite or hornblende granodiorite gneiss

MODIFIED FROM TEMPELMAN-KLUT(1984)

**YUKON REVENUE MINES LIMITED**

**REGIONAL GEOLOGY MAP**

SCALE 1: 250000

0 5 10 15 Km.

0 5 10 15 ml.

DATE 10/12/97

## HISTORY

The Dawson Range was prospected extensively during the latter part of the nineteenth century and the early part of the twentieth century, primarily for placer gold. Many good prospects were located and some, including Revenue Creek, became successful small scale placer mines in the 1920s. Fred Guder was one of the first and most successful of these placer miners.

Guder mined placer gold on Revenue Creek through the 1920s and 1930s. In 1940 he found pieces of rounded chalcopryite in his pans. In 1942 he found pieces of massive chalcopryite in slide rock while driving a drift on the paystreak. He staked the first quartz claims in 1950 and in the winter of 1950-51 began thawing an adit into the frozen hillside. In February 1951 he intersected the Discovery Zone of massive chalcopryite boulders. Investigated shortly thereafter by Dr. Smitheringale it channel sampled 15.0%Cu/13.5'. The property was optioned by Conwest and an EM survey and a resistivity survey were completed but Conwest dropped the option.

Guder optioned the property to Teck Corp. in the fall of 1954 and in the spring of 1955 an EM survey and five diamond drill holes totalling 427m were drilled on the Discovery showing. Results were discouraging and the option was dropped.

In 1959 the property was optioned to Asbestos Corp. and to Cominco and stream and soil geochemistry surveys and some EM surveying was done and both options were dropped.

In 1964 the property was optioned by Meridian Syndicate (Homestake, Noranda and Canex Aerial) who carried out geological and soil geochemical surveys. They drilled 3 short diamond drill holes totalling 165m to test soil anomalies and lapsed the option.

In 1967 the property was optioned by General Enterprises who formed Yukon Revenue Mines Limited to explore the ground.

In 1968 and 1969 Yukon Revenue conducted IP and EM and Mag geophysical surveys, bulldozer trenching, road construction, geochemical sampling and 10 diamond drill holes totalling 1268meters.

In 1970 Kaiser Resources optioned the property and completed a property wide grid soil geochemical survey, bulldozer trenching, detailed geological mapping and 25 percussion drill holes totalling 1817 meters and 13 diamond drill holes totalling 1212 meters. The option was dropped.

Up to this date virtually all of this exploration was directed towards the high grade copper veins (or lenses) or the porphyry copper target. Due to the rise in the price of gold in 1974, the later exploration programs concentrated on the property's gold potential. These targets included the high grade copper-gold veins, the high grade quartz-carbonate mesothermal veins and the low grade heap leach epithermal gold.

In 1974 and 1977,1978,1979 and 1980 Yukon Revenue Mines Ltd. continued to bulldozer trench and prospect and diamond drilled 3 holes totalling 174 meters.

In 1983 Shakwak resources ltd. optioned the property and conducted soil geochemical surveys, magnetic and EM surveys and geological mapping on the property. In 1984 they diamond drilled 9 holes totalling 625 meters.

In 1985 Nordac Mining Corp. acquired Shakwak's interest and performed property-wide multi-element ICP analyzed soil geochemical surveys, backhoe trenching, and bulk sampling for cyanide leach amenability tests.

In 1986 Nordac changed its name to Big Creek Resources Ltd. and formed a joint venture with Rexford Minerals Ltd. which conducted bulldozer and backhoe trenching plus EM and magnetic surveys and drilled 2 diamond drill holes totalling 296 meters in 1988.

In 1991 11 diamond drill holes totalling 1018 meters were drilled to test anomalies on the Discovery, and Gow Zones and on outlying anomalies. Results were disappointing and the best intersections occurred in areas of known mineralization with limited size potential. Big Creek transferred the claims to Archer Cathro & Associates in January 1994.

In 1995 Archer Cathro transferred the claims to Amarc Resources Ltd. and in July 1997 Amarc returned the claims to Yukon Revenue Mines Ltd. who currently retain a 100% interest in them.

## REGIONAL GEOLOGY

This region has been geologically mapped in 1936 by Bostock and in 1984 by Templeman-Kluit.

The Revenue property is located on the boundary between the Yukon Cataclastic Terrane and the Yukon Crystalline Terrane. The boundary is defined by the Big Creek Fault. This fault passes through the northeast corner of the Revenue property.

The Yukon Cataclastic Terrane north of the Big Creek Fault consists of rocks belonging to the Permian(?) Selwyn Gneiss- a resistant medium grained hornblende-biotite gneiss and the Upper Triassic Granite Mountain Batholith- a massive, medium grained to coarse grained, foliated biotite-hornblende granodiorite. Rocks south of the Big Creek Fault are primarily Jurassic Big Creek Syenite- a resistant coarse to very coarse grained porphyritic hornblende syenite and mid-Cretaceous Mount Nansen Group rocks. These are mainly andesitic and quartz feldspar porphyry pipes, plugs and dykes and a plutonic equivalent medium grained unfoliated mesocratic biotite-hornblende granodiorite. Isolated pendants(?) of Devonian(?) Pelly Gneiss are also common south of the Fault.

There is an obvious spatial relationship between the occurrence of gold bearing and/or copper-gold bearing porphyry systems and the Big Creek Fault. There are eight known gold and/or copper-gold porphyry properties just south of the Fault. These are the Mt. Freegold/Antoniuk, Revenue, Nucleus, Klazan/Nitro, Cash, Tad, Cockfield and Casino. They are all generally related to Tertiary intrusions. A ninth, the Mt. Nansen is probably on the same structure

## Table of Formations

### EOCENE

eTcr	"Carmacks Group"	: Basalt and andesite flows and flow-breccias
eTcg	Conglomerate	: Poorly indurated coarse conglomerate
Tmn	"Mount Nansen Group"	: Green-grey, red and purple acid to intermediate tuff and tuff breccia
Tfp *	Feldspar Porphyry	: Medium-grained quartz porphyry and/or granite porphyry dykes sills and irregular small bodies
Tgal *(?)	Alaskite ("Nisling Range"):	Medium-fine grained microlitic granite plugs

### JURASSIC

Mgd *	Granodiorite	: Granodiorite and quartz monzonite; medium-grained, equi-granular
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### TRIASSIC

Mqmp	Quartz Monzonite Porphyry	: Porphyritic biotite quartz monzonite; equivalent to Mgd(?)
My	Syenite	: Very porphyritic, grey-pink syenite; K-feldspar and hornblende porphyry varieties
Trgdm	Hornblende Granodiorite	: "Gneissic granodiorite" - coarse grained, equigranular hornblende granodiorite; mafics commonly aligned to impart a distinct foliation

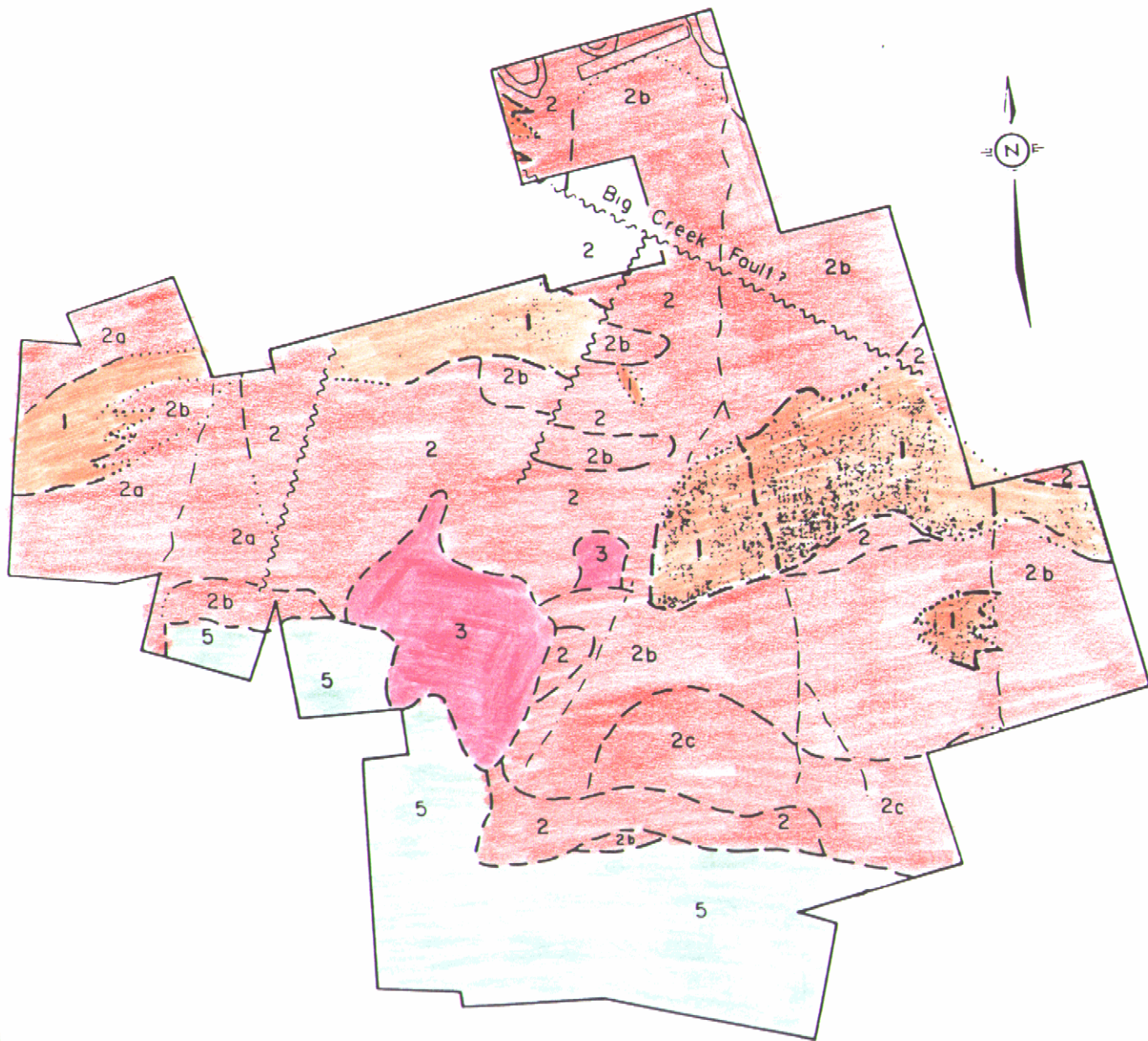
Table of Formations (continued)

LOWER PALEOZOIC (?)

Pub	Diorite	: Coarse grained diorite, hornblende, gabbro and altered equivalents.
P Psbq	Schist	: Biotite-quartz schist; thinly bedded, occasionally graphitic; minor gneiss and skarn; occasional limestone
P Psn *	"Schist-Gneiss"	: Hornblende gneiss; chlorite quartz schist
P Pgdn *	"Pelly Gneiss"	: Foliated muscovite-chlorite granotiorite gneiss; aphyte and pegmatite dykes and bodies

- \* denotes rock unit present on Yukon Revenue Mines, Limited, Revenue Creek Property

NOTE: Lithologic symbols are those suggested by the Geological Survey of Canada



### LEGEND

- INFERRED CONTACT
- ..... ASSUMED CONTACT
- ~~~~~ INFERRED FAULT
- CREEK

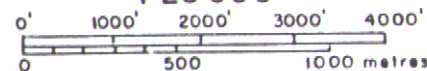
- 1 BRECCIA
- 2 QUARTZ MONZONITE
- 2a QUARTZ MONZONITE w/  
NUMEROUS APLITE DYKES
- 2b BIOTITE MONZONITE
- 2c HORNBLLENDE MONZONITE
- 3 APLITE
- 4 LATITE PORPHYRY
- 5 SCHIST, GNEISS

YUKON REVENUE MINES LIMITED

## PROPERTY GEOLOGY MAP

Modified after Johnson, 1970

SCALE  
1:25 000



DATED: OCTOBER 12, 1997

but is offset to the west by the Miller Fault. Numerous smaller showings of primarily epithermal gold are found in this belt.

The large areas of Dawson Range underlain by Jurassic(?) and Triassic granodiorite and monzonite are important economically as these are the main host rocks for the porphyry copper complexes such as Mt. Nansen, Mt. Freegold and Revenue.

The Eocene suite of alaskie and its equivalents (sub-volcanic feldspar porphyry dyke swarms and extensive volcanic rocks) is present throughout the Dawson Range. It is intruding or overlying most of the other lithologies noted. This group is also economically important as a host to porphyry copper and epithermal gold mineralization.

#### STRUCTURAL GEOLOGY

The Dawson Range is characterized by several major structural elements; including schistosity in micaceous metamorphic rocks, foliation in plutonic rocks (alignment of mafics, crushing of quartz) due to orogenic stresses, linear emplacement of plutonic stocks, major northwest trending faults, smaller north and northeast trending faults and a generally northerly alignment of Tertiary feldspar porphyry dyke swarms.

Schistosity, foliation and plutonic geometry show a general northwesterly preference.

In local intrusions, plutonic bodies often show elongation in a northwesterly direction and are also more foliated in these directions.

Plutonic and volcanic centres are also situated in a northwest trending linear fashion and occur along a common axis.

Major linear features such as the Big Creek Fault are steeply dipping and follow a northwest trend. These are sub-parallel to the Tintina and Shakwak fault systems that bound the northeast and southwest sides of the Dawson Range. Significant cross-fault lineaments with northeasterly trends are probably smaller, weaker local faults splaying off the main faults. These are likely related to the movement along the main faults. The direction and magnitude of fault offsets is not known.

No particular set of faults is known to be preferentially mineralized accross the entire property.

#### PROPERTY GEOLOGY

The Revenue property is underlain by a quartz monzonite pluton which has intruded hornblende gneiss and quartz-chlorite schist, and biotite hornblende gneiss with associated aplite and pegmatite dykes. In turn, the pluton and local metamorphic lithologies have been intruded by a feldspar porphyry and a granite porphyry dyke swarm.

The Revenue Creek pluton is typical of many intrusive complexes in the Dawson range in its' passive style of country rock invasion and its' multiple phase nature. It also forms part of a linear group of similar plutons stretching from Mt. Freegold to Casino, including Klazan Cash, Revenue Creek and Mt. Cockfield porphyries.

The Revenue Creek pluton has hornblende monzonite, biotite monzonite, quartz monzonite and quartz diorite phases. The biotite monzonite phase underlies the larger part of the claim block. Lack of outcrop (on this north facing slope) prevents adequate examination of contacts between the various units to determine phase relationships.

Yukon Metamorphic Complex is represented at the Revenue Creek property by hornblende and biotite gneisses and by a quartz-chlorite schist. These rocks, where observed on the ridge at the head of Revenue Creek, strike northwest and dip variously in an easterly direction.

A swarm of Eocene (?) dykes including feldspar porphyry, granite porphyry and latite porphyry varieties intrudes the monzonite pluton and metamorphic rocks in a discordant fashion. These lithologies probably belong to the "feldspar porphyry" suite of the Nisling Range alaskite Mt. Nansen Group.

A breccia zone traverses the property in an east-west orientation. This unit consists of an aphanitic greyish matrix with fragments (commonly to 4") of monzonite (?), Yukon Cataclastic Complex metamorphic lithologies, the feldspar porphyry dyke suite and a plutonic rock not observed in surface outcrop or diamond drill core on the property ( possibly Nisling alaskite). Monzonite by far comprises the largest proportion of fragments in the breccia. This breccia zone may be a multiple breccia pipe system similar to the intrusive complex underlying the Mt. Nansen porphyry copper occurrence 16 miles to the south, or the Mt. Freegold breccia systems 5-6 miles to

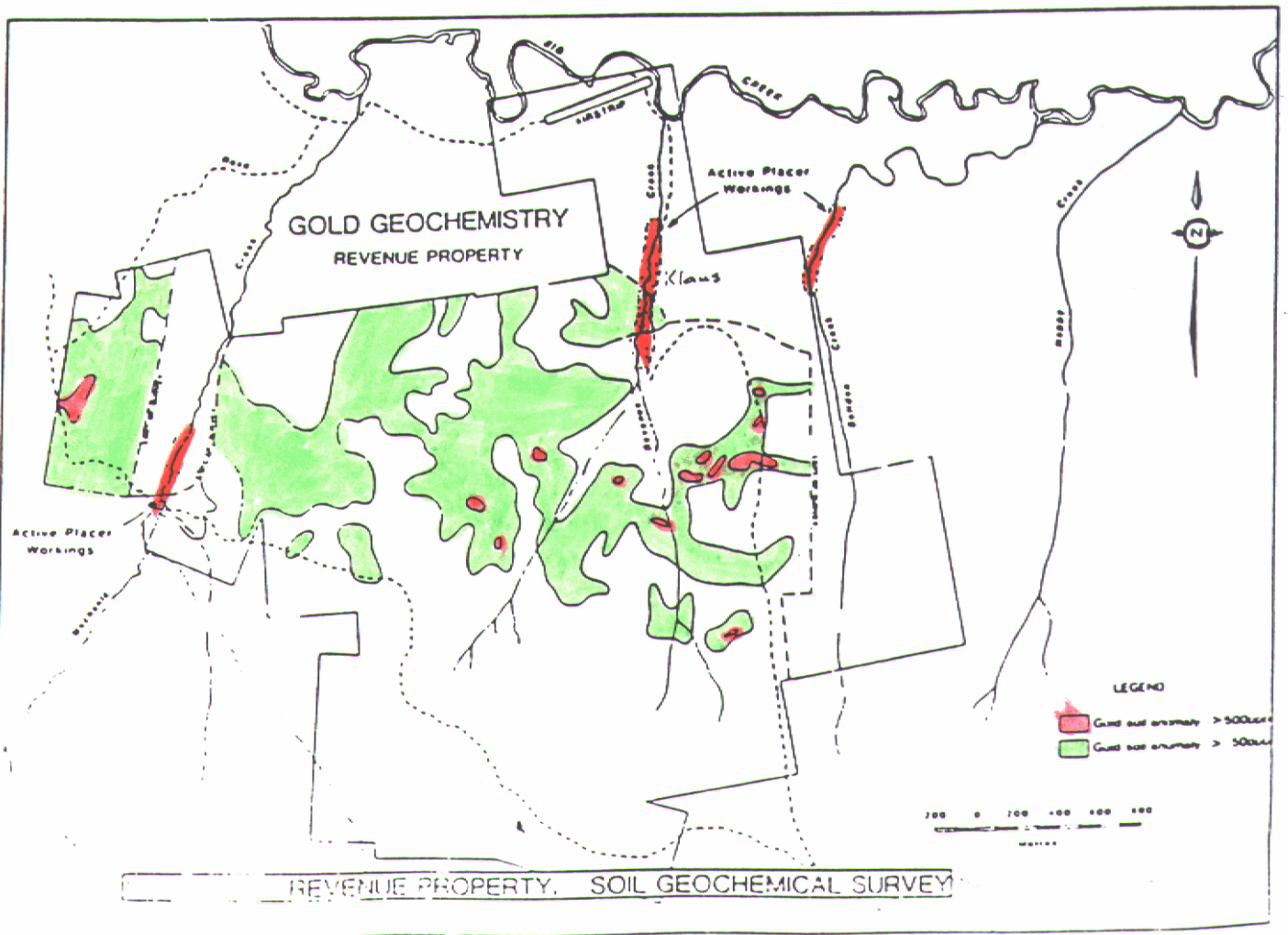
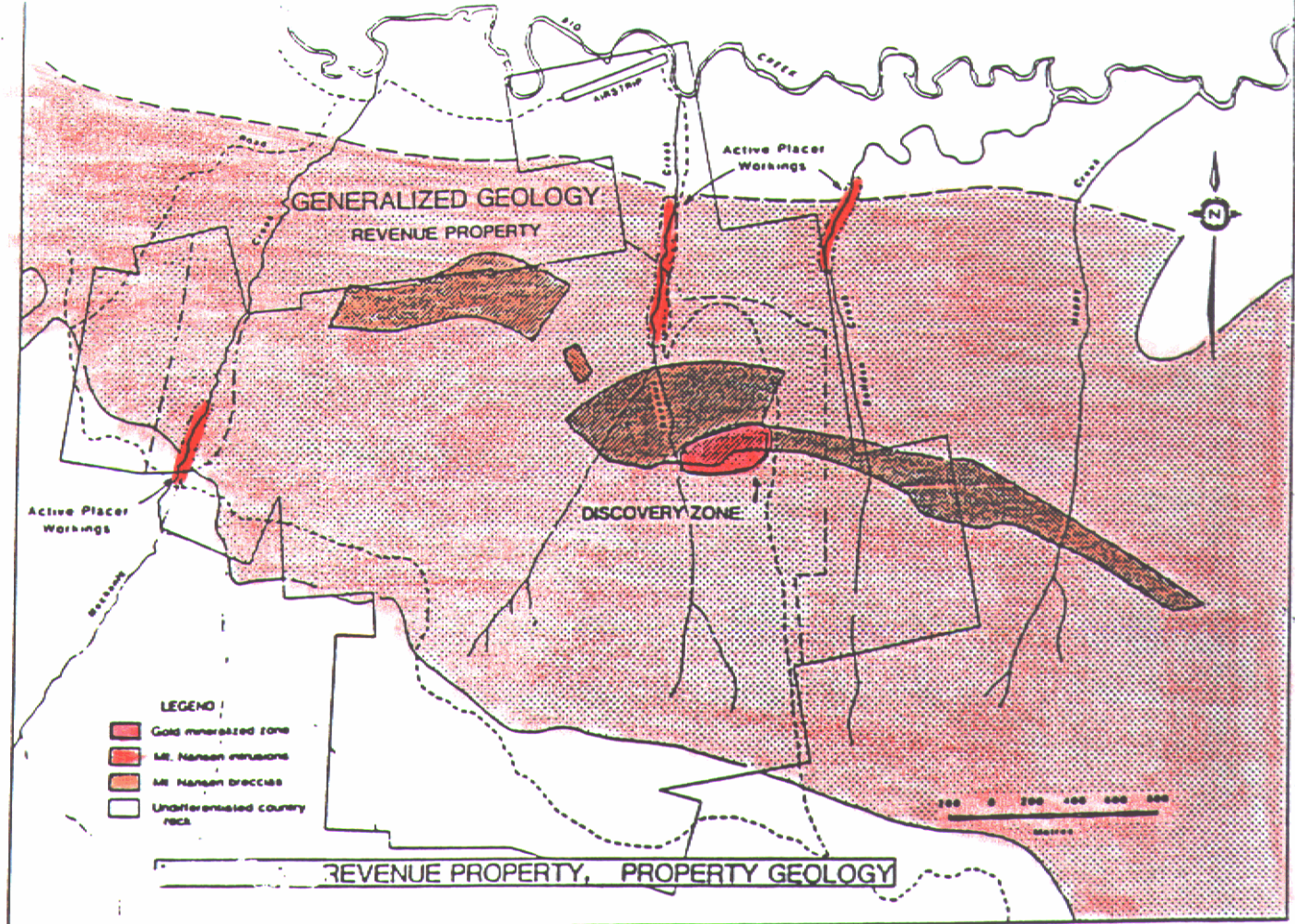
the east.

The breccia zone has undergone a high degree of alteration and the matrix is now mostly composed of clay minerals and quartz. Plutonic fragments are likewise highly altered. Pyrite is ubiquitous in the breccia zone, distributed as fine grained disseminations throughout the rock to a content of 3-5%.

Aplite dykes occur peripheral to the plutonic rocks on the Revenue Creek property. Occasionally the aplite occurs as a distinct body (near the head of Whirlwind Pup). Since aplite dykes are a common element of the metamorphic unit termed Pelly Gneiss elsewhere, it is possible that the aplite lithologies at Revenue Creek are genetically related to a similar origin. Another possibility is that the aplite bodies at Revenue Creek are an assimilation feature of plutonic emplacement process.

The Revenue Creek property is traversed by Big Creek Fault, a major lineament trending northwest from Mt. Freegold to the head of Hayes Creek. This is apparently a steeply-dipping fault of unknown displacement. Smaller northeast oriented faults appear to terminate against Big Creek Fault from evidence in the 1970 drill program.

Most of the plutonic rock at Revenue Creek exhibits some degree of hydrothermal alteration. The breccia zone is generally highly altered, with alteration intensity decreasing towards, and into, the wall rock. Alteration does not seem to continue into the metamorphic rocks in contact with the intrusive complex. Alteration envelopes typically flank veins, veinlets and fractures in the plutonic assemblage.



## MINERALIZATION

The Revenue Creek property contains occurrences of chalcopyrite, molybdenite, scheelite and gold. The original mineral discovery (Discovery Zone) consists of massive chalcopyrite striking parallel to Revenue Creek. Revenue Creek itself has been a successful small scale placer gold producer for 60 years. Estimated total production from the placer operations is approximately 10,000 ounces. This gold is reportedly very rough, angular and wiry.

Original hardrock exploration was unsuccessful in extending the Discovery Zone showing. Exploration adjacent to it has yielded a feldspar porphyry breccia zone with values in copper and gold, with more fine grained disseminated chalcopyrite and pyrite mineralization. Some higher grade veins cross this breccia zone.

To the west of the Discovery Zone are the Klaus, the Guder and the Gow Zones. The Klaus Zone is another high grade gold vein showing at the head of the placer workings. The Guder Zone is the western extension of the Discovery Zone feldspar porphyry breccia with similar copper and gold values. The Gow Zone is a strong copper-gold anomaly to the west of the Guder Zone.

To the north of the Gow Zone are the Granger and Vest Pocket Zones. Both are strong gold anomalies and trenching on the Granger Zone has yielded low gold values over 55-80 meter widths.

On the western boundary of the claim group is the Mechanic West Zone. This is a large gold soil geochem anomaly which crosses the claim boundary onto the adjacent Nucleus claims. Work on these claims by Archer Cathro and

Associates has outlined two zones carrying 4.3 million tonnes grading approximately 1.0 g/t Au. This mineralization is directly adjacent to the Revenue claim boundary and the Mechanic West Zone soil anomaly.

Numerous smaller soil geochem anomalies in copper, gold, molybdenum and other pathfinder elements are found around the main Zones. Many of these are still untested.

The chalcopyrite present in the plutonic assemblage is present with pyrite and quartz in small widely spaced veinlets as well as occasional disseminations. Grades of this material seldom exceed 0.1%Cu for any volume. The massive chalcopyrite in the Discovery Zone runs to 15.0%Cu to 20.0%Cu and 3.0 to 35.0 g/t Au over 0.3 to 1.0m. The lower grade copper is typical of porphyry copper grades but it has not been found over consistent distances to date. The porphyry copper potential of this property has been written off by the previous operators. However, it would appear that copper sampling and assaying is not adequate to state this conclusively.

Gold occurs with tungsten (scheelite) in some samples running east of the Discovery showing within the feldspar porphyry breccia pipe.

Gold also occurs in high grade quartz veins and/or vein-faults such as the Klaus Zone with assays up to 91.5 g/tAu and 297.0 g/tAg. Other high grade gold veins have been intersected in the floor of Revenue Creek in the placer cut, in the Discovery and Guder Zones.

Gold is widely distributed in low grades throughout the property. It is thought to occur as disseminations and/or as quartz stockworks in the feldspar porphyry

breccia pipe and in areas of altered dykes.

All showings are strongly oxidized at surface. Gold values in oxidized rocks average about 10%-25% higher than in unoxidized material. This is attributed to the lower density of the oxidized rocks. Copper is almost completely leached from the upper part of the oxide zone but the intensity of leaching gradually decreases with depth. Malachite and azurite are rare except in the Discovery Zone where carbonate minerals are a common component of the porphyry breccia matrix.

A discontinuous blanket of supergene copper mineralization is often developed at the base of the oxide zone. It ranges up to 50m thick and consists of chalcocite with minor covellite, azurite and malachite coating and in some instances, completely replacing hypogene pyrite and chalcopyrite. Quartz is the dominant gangue mineral in hairline fractures and veins. Alteration selvages on the margin of the fractures are usually a few millimeters to a few centimeters wide and exhibit sericite, clay and chlorite replacement of feldspar and mafic minerals. Traces of magnetite, sphalerite, arsenopyrite and galena are sometimes associated with the gold-copper mineralization. Scheelite is common in the Discovery Zone and assays up to 0.11% W over 11.3m but is rare in other showings.

Structural control is probably important in the mineralization emplacement on this property but is not well understood. Many of the soil geochem anomalies are linear in nature and trend northwest, north, northeast or easterly parallel to the major fault systems in this area.

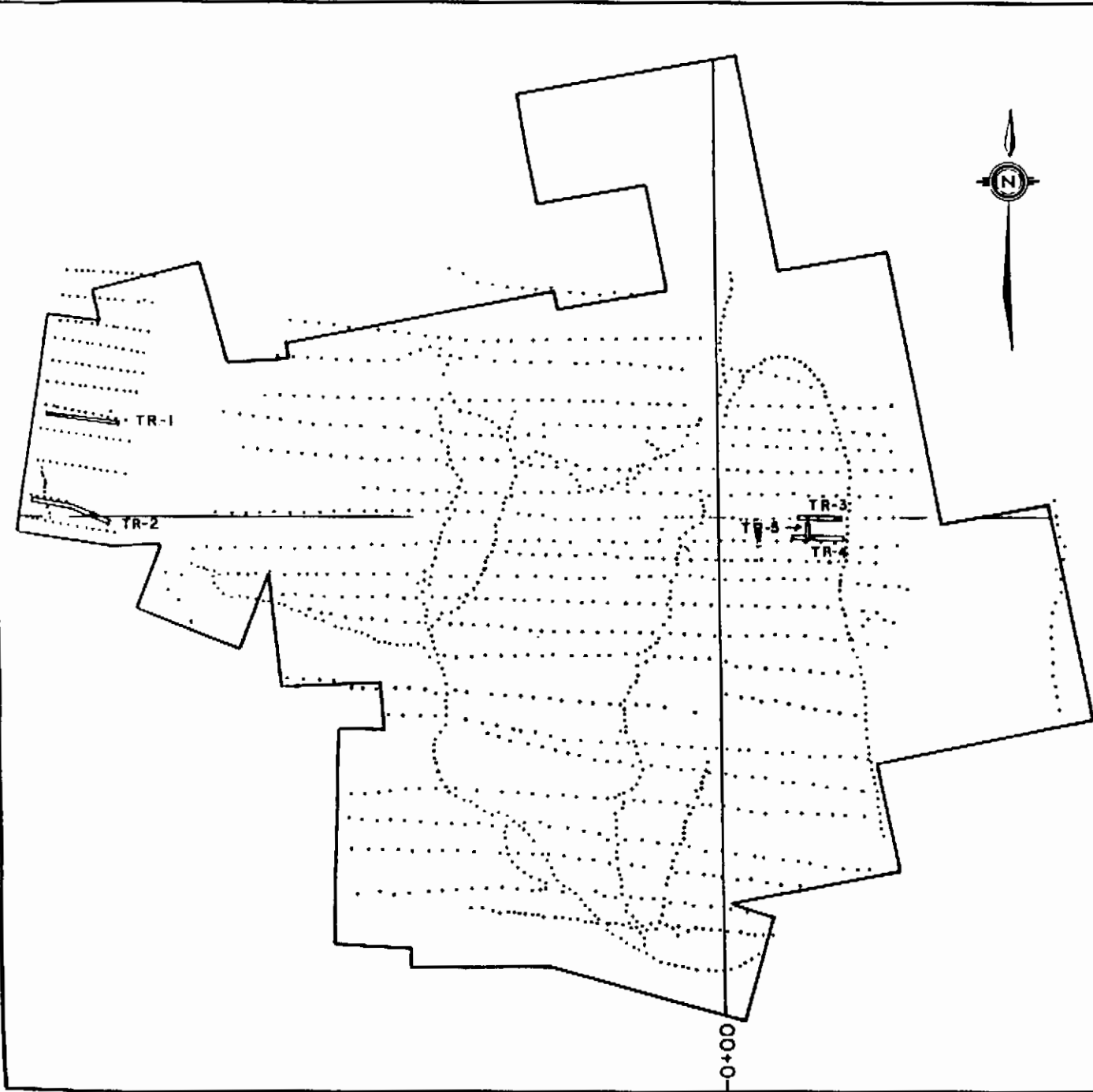
## GEOCHEMISTRY

The Revenue property has been repeatedly soil sampled over the last 40 years. Early sampling was assayed mainly for copper and later assays were mainly for gold. Recent sampling also included 32 element ICP analysis with some anomalous results in arsenic, molybdenum, tungsten, bismuth lead and zinc.

Results over the years have led to the Revenue property being identified as the strongest soil geochem anomaly in the entire Dawson Range. The area of anomalous response is approximately 6000m by 1500m and trending in an east-west direction. Anomalous values are considered as greater than 50ppbAu and 200ppmCu.

Although the highest values (up to 6820ppbAu and 3316ppmCu) came from disturbed soil around trenches in the discovery zone, strongly anomalous values were also obtained in the other zones and in numerous areas where there is no known mineralization.

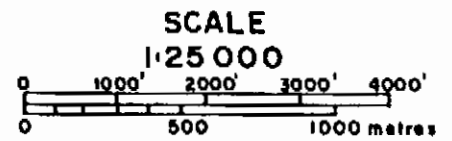
In general, there is a strong correlation between gold and copper. Arsenic also is widespread and follows gold and copper. Molybdenum and tungsten values are highest in the Discovery Zone. Bismuth is strongest on the western end of the Revenue property and on the adjacent Nucleus property. Anomalous lead and zinc values are generally south of the gold and copper anomalies, with the highest values occurring near known galena-sphalerite veins exposed in trenches on the southern edge of the Revenue property.



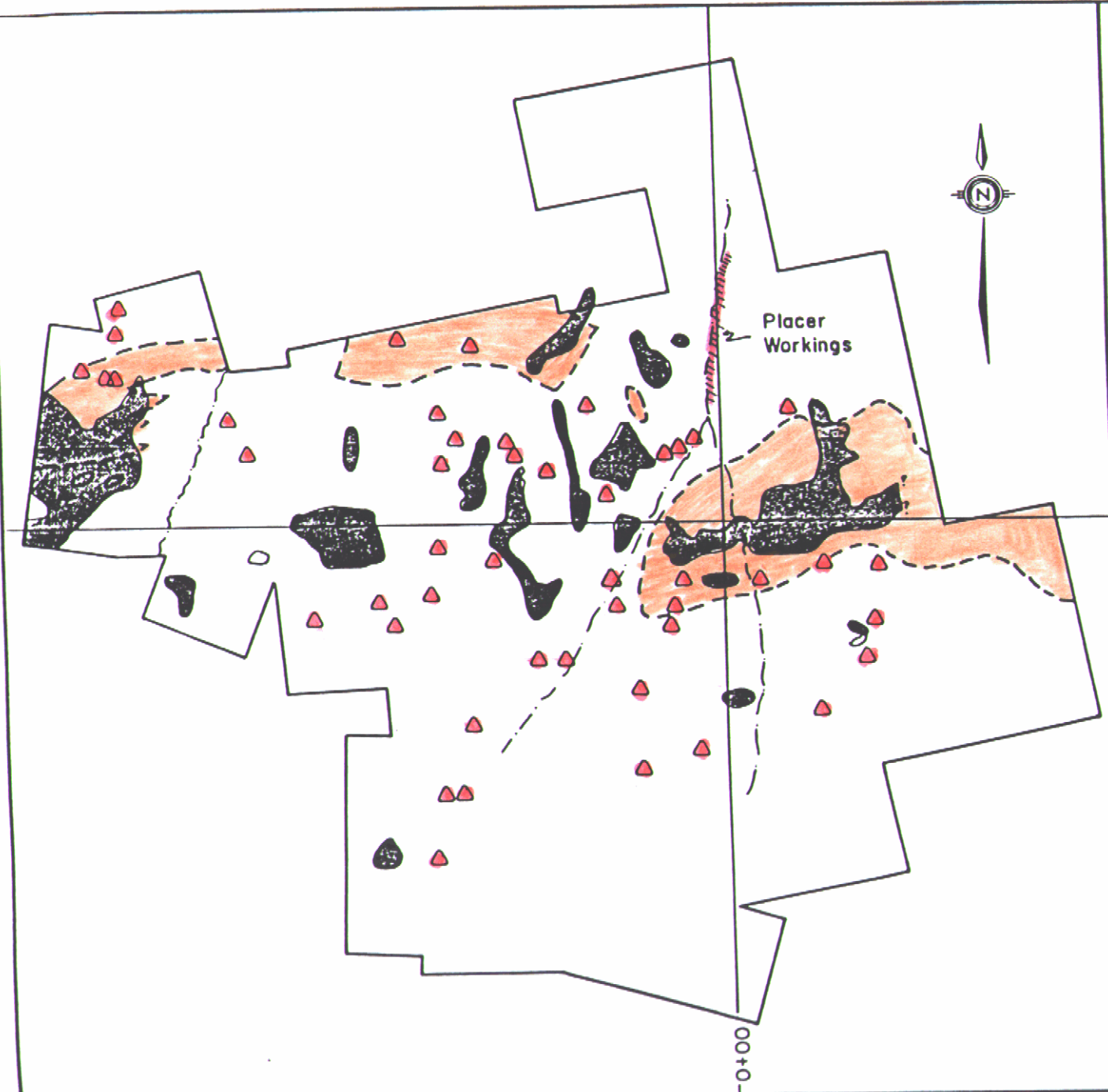
**LEGEND**

- ..... SAMPLE SITES
- TR-3 BACKHOE TRENCH




**YUKON REVENUE MINES LIMITED  
SOIL SAMPLE & TRENCH  
LOCATION MAP**



**DATED: OCTOBER 12, 1997**

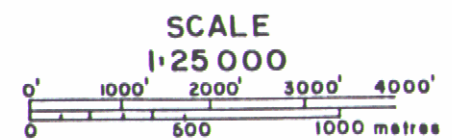


**LEGEND**

-  Soil geochemical anomaly greater than 100 ppb gold
-  Single sample site anomaly greater than 100ppb gold
-  Breccia

YUKON REVENUE MINES LIMITED

SOIL GEOCHEMISTRY (Au)



DATED: OCTOBER 12, 1997

The larger anomalies have been trenched and drilled to various degrees and all have revealed mineralization in bedrock underlying the soil anomalies. Most appear related to the breccia pipe unit and particularly along the southern boundary of the breccia. Several other anomalies have contained porphyry dyke swarms.

#### GEOPHYSICS

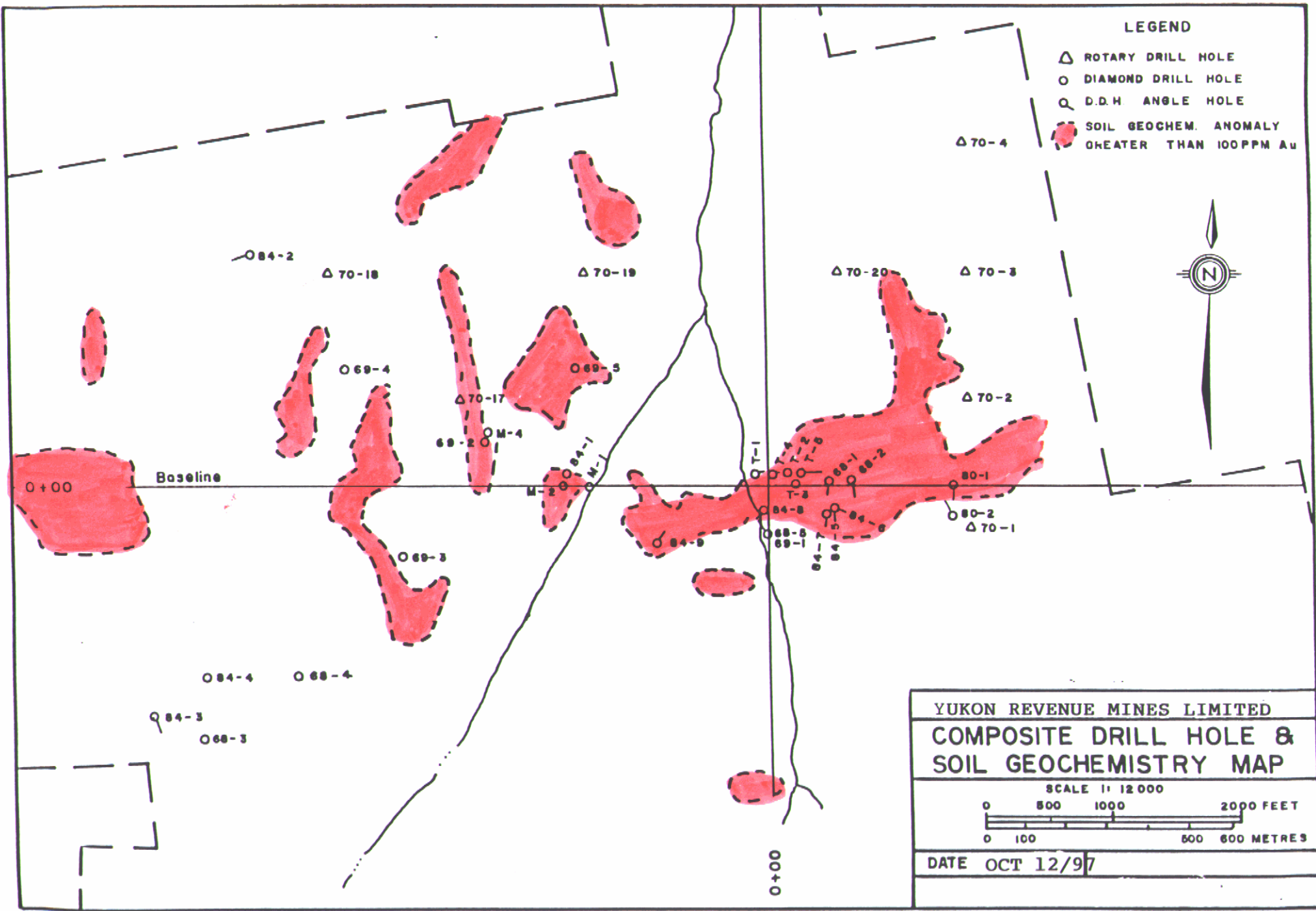
This property has been covered by repeated geophysical surveys over all or part of the claim block. Surveys have included magnetometer, EM, induced polarization, VLF-EM on the ground and airborne VLF-EM, magnetic and radiometric surveys.

Results of these surveys are variable. Some of the anomalies have been trenched and drilled with mineralization intersected as a result. Some results remain untested. The EM surveys seem particularly well suited to locating the massive chalcopyrite lenses such as the original Discovery showing. The IP survey results were interpreted as a typical porphyry system with a pyrite halo.

Although ground geophysical surveys were carried out into the late 1980s on this property, the airborne survey was conducted in 1970. Advances in system technology since then would indicate that an up to date airborne survey would be very useful on this property. In particular, an airbourne EM survey with resistivity parameter would be very helpful in interpreting the bedrock geology.

#### DRILLING

Diamond and percussion drilling programs totalling



**LEGEND**

- △ ROTARY DRILL HOLE
- DIAMOND DRILL HOLE
- ◻ D.D.H. ANGLE HOLE
- SOIL GEOCHEM. ANOMALY GREATER THAN 100PPM Au

△ 70-4



YUKON REVENUE MINES LIMITED	
COMPOSITE DRILL HOLE & SOIL GEOCHEMISTRY MAP	
SCALE 1" = 12000	
0 500 1000 2000 FEET	0 100 500 600 METRES
DATE OCT 12/97	

○ 84-2

△ 70-18

△ 70-19

△ 70-20

△ 70-3

○ 69-4

○ 69-5

△ 70-17

△ 70-2

○ M-4

○ 69-2

○ 84-1

○ M-2

○ M-1

○ T-1

○ T-2

○ T-3

○ 84-8

○ 88-8

○ 89-1

○ 84-1

○ 88-1

○ 89-2

○ 80-1

○ 80-2

△ 70-1

○ +00

Baseline

○ 69-3

○ 84-4

○ 68-4

◻ 84-3

○ 68-3

○ +00

7000 meters in 72 holes have been completed on the Revenue property. Results have been variable and interpretation is often difficult due to a lack of understanding of the strike and dip of the mineralization. Drill holes have been drilled vertically and at various dips and on sundry azimuths. As a result, interpreting geology from hole to hole is difficult if not impossible.

Many of these holes may have failed to intersect mineralization because they were drilled in incorrect directions.

Early holes were assayed for copper without any gold assays. Later holes were assayed for gold without systematic assaying for copper, molybdenum, tungsten, bismuth, arsenic or other pathfinder minerals known to occur on this property.

Systematic grid drilling along fence lines of parallel holes would allow for better interpretation of the geology and would perhaps obtain reliable strikes and dips from intersected mineralization. More follow up holes on intersected mineralization would also aid in following the mineralization.

#### CONCLUSIONS

After 47 years of exploration on the Revenue property a great deal of data has been accumulated. Much of this information indicates the presence of economic values in copper, gold, tungsten, molybdenum and associated values in silver, lead, zinc, arsenic, bismuth, telluride etc. In spite of this, no actual tonnage of ore has ever

been discovered on the property.

The obvious conclusion to jump to would be that this property is uneconomic and should be abandoned. However, detailed consideration of the work done to date would indicate the opposite should be concluded. The property is not adequately explored and still has the potential to yield an economic ore body if more work is done.

The following conclusions would support this statement.

1) The exploration programs to date have had different targets at different times. The early 1950-1960 targets were the high grade copper-gold lenses such as the original Discovery zone. The 1960-1974 target was a large copper-molybdenum porphyry. The 1974-1991 target was low grade large tonnage heap leach epithermal gold. In 1988, high grade gold quartz veins were also indicated as a target for this area. In each case, very little attention was given at the time, to the other target types. Assays were often not carried out for the other elements during each of these programs. Consequently, large parts of the exploration work to date is inadequate for the other target types, leaving large parts of the property virtually unexplored for some of these targets.

2) Long term exploration by different geologists, different companies and for different targets has left the data base in an unconsolidated state. Good assay results were often never followed up and are still open. Many intersections are open to interpretation as to their fundamentals; such as the strike and dip and width of the showing. Much of

the exploration appears to have been carried out without regard for these fundamentals. Trenches and drill holes have been done in all directions and azimuths and at all dips. This makes systematic interpretation of results difficult if not impossible.

3) Follow up exploration on many of the known showings is inadequate. The original Discovery showing has never been intersected at depth or located along strike in 47 years. Recent reports have described the strike as northwest and as northeast. The dip is not given.

4) Many of the showings discovered to date have been located by soil geochemistry. However, there are many more soil anomalies that have never been tested to date. Also, many of the anomalies that have been tested still require additional follow up. One trench or one drill hole is not adequate to explore these anomalies fully. Some of these anomalies are half a kilometer long and two or three hundred meters wide. Results for other elements such as molybdenum, tungsten arsenic etc. have never been tested.

5) Geophysics has been used repeatedly but not very effectively to explore this property. Some of the original anomalies discovered in the 1950s are still untested. The property as a whole has not been adequately covered by EM surveys, IP or VLF-EM. It has been covered by ground magnetics but many of these anomalies remain unexplored to date. The only airborne geophysics on the property was done in 1970 and consisted of mag, VLF-EM and radiometrics over part of the claim block. No EM or resistivity was done at that time and coverage is inadequate.

6) The widespread use of bulldozer and backhoe trenching has had some successes on the property, but is very slow and costly due to frozen overburden. The intense oxidation and/or alteration of the bedrock also limits the amount of useful geological data that can be extracted from these trenches. Assay data for copper is also suspect from these shallow trenches due to the leaching of copper near surface. Gold assays are also suspect near surface as oxidation alters the rock density, thus increasing the values near surface. Trenches also do not last long here as the frost melts out of the ground the walls tend to collapse and bury the exposure. A better method of exploration is needed to replace trenching on this property. Rotary percussion drilling of 2" holes to depths of 70 m on 30m x 30m grids would give fast deep results over these targets.

7) The rotary percussion drill system used by United Keno Hill Mines Limited at their Elsa minesite would be ideal for exploring the Revenue property. This is a skid mounted Atlas Copco BBE 57-01 top hammer drill powered by a skid mounted 750 cfm air compressor. Both units are towed by a D-7 winch cat. By drilling fast, inexpensive drill holes on a grid the geology could be better interpreted and such fundamentals as strike and dip of showings could be ascertained. With this knowledge the drill grids can be extended along strike to "follow the ore" until total strike lengths have been determined and ore bodies, if any can be outlined. Subsequently, larger and more costly drill rigs can then be employed to test the known ore to depth. Wider spaced drill grids (such as 30m x 100m) can

also be employed for reconnaissance prospecting of the rest of the property. Any new discoveries could then be pursued by closing the drill grid down to 30m x 30m and repeating the process. This system has been used for 25 years at Keno Hill with great success over a much larger area. Over 2 million feet of drilling was completed by this drill system and ore bodies were located in over 30 places. The operational cost of this rig was less than \$4.00/foot.

8) This property is known to be mineralized with free gold. Assays should be retested using larger samples than the usual half assay-ton fire assay. Gold grades might be improved substantially as a consequence.

9) The placer mine in Revenue Creek has produced over 10,000 ounces of gold, much of it coarse, angular or wiry. Exploration in the Klaus zone exposed high grade gold veins in the floor of Revenue Creek. This target has never been drilled, nor has the rest of the floor of the creek.

10) Gold targets not previously assayed for copper, molybdenum, tungsten etc. should be.

11) Copper, moly, tungsten etc. targets not previously assayed for gold should be.

12) The adjoining Nucleus property on the western side of the Revenue claims, has two indicated mineralized zones. One of these zones is estimated at 0.51 million tonnes @ 1.06g/tAu and the other at 3.6 million tonnes @ 1.03g/tAu. The Revenue side of this mineralization shows a large gold soil geochem anomaly but has only been explored by 9 trenches over 900 meters. As well, only

one drill hole, D70-9, has been drilled in this area. It intersected anomalous copper values but was not assayed for gold. This target requires more drilling.

13) The "breccia pipe" trends westerly across the entire Revenue property. It is thought to be a major ore control on this property. From the Gow Zone west to the Mechanic West Zone and the Nucleus property boundary the breccia pipe is virtually unexplored. This is an area of 1500m x 700m with 15 gold soil geochem anomalies. This target requires more drilling.

14) In general it can be concluded that this property is a long way from being systematically explored, fully geologically interpreted or even reasonably well understood. Systematic exploration should be carried out with the intent of identifying fundamental geological data, such as, strike direction, strike length, dip, width, grade and/or tonnage of known showings. The old prospector's rule to "follow the ore" would go a long way to fully exploring this property. The systematic grid drilling of the known showings and the recon grid drilling of untested anomalies would give a much more complete understanding of whether or not any economic ore bodies are to be found on the Revenue claims.

#### RECOMMENDATIONS

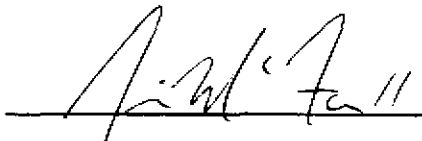
1) Fly up to date airborne geophysics over the entire Revenue property. This would require a 4km x 3km grid @ 100m line spacing for 40 lines x 3km = 120 linekm @  $\pm$  \$120.00/line km = \$14,400.00 plus \$5,000.00 mob/demob plus 10% miscellaneous = approximately \$22,000.00.

Survey parameters should include EM, VLF-EM, total field magnetics, enhanced magnetics and resistivity.

2) Use an Atlas Copco BBE 57-01 style top hammer rotary percussion drill rig to test the results of the airborne geophysical survey plus the known showings and soil geochem anomalies plus the unexplored areas of the claim block. Drilling should be done in a systematic manner on a close spaced 30m x 30m grid on known targets and a wider 30m x 100m grid on recon targets. Holes should be drilled to 70m depths and assayed for gold plus 32 element ICP. Gold assays should use as large a sample as is economically feasible.

3) Follow up ore grade intersections to depth using larger drill systems- either 4" down the hole hammer reverse circulation or HQ diamond drills.

Respectfully submitted

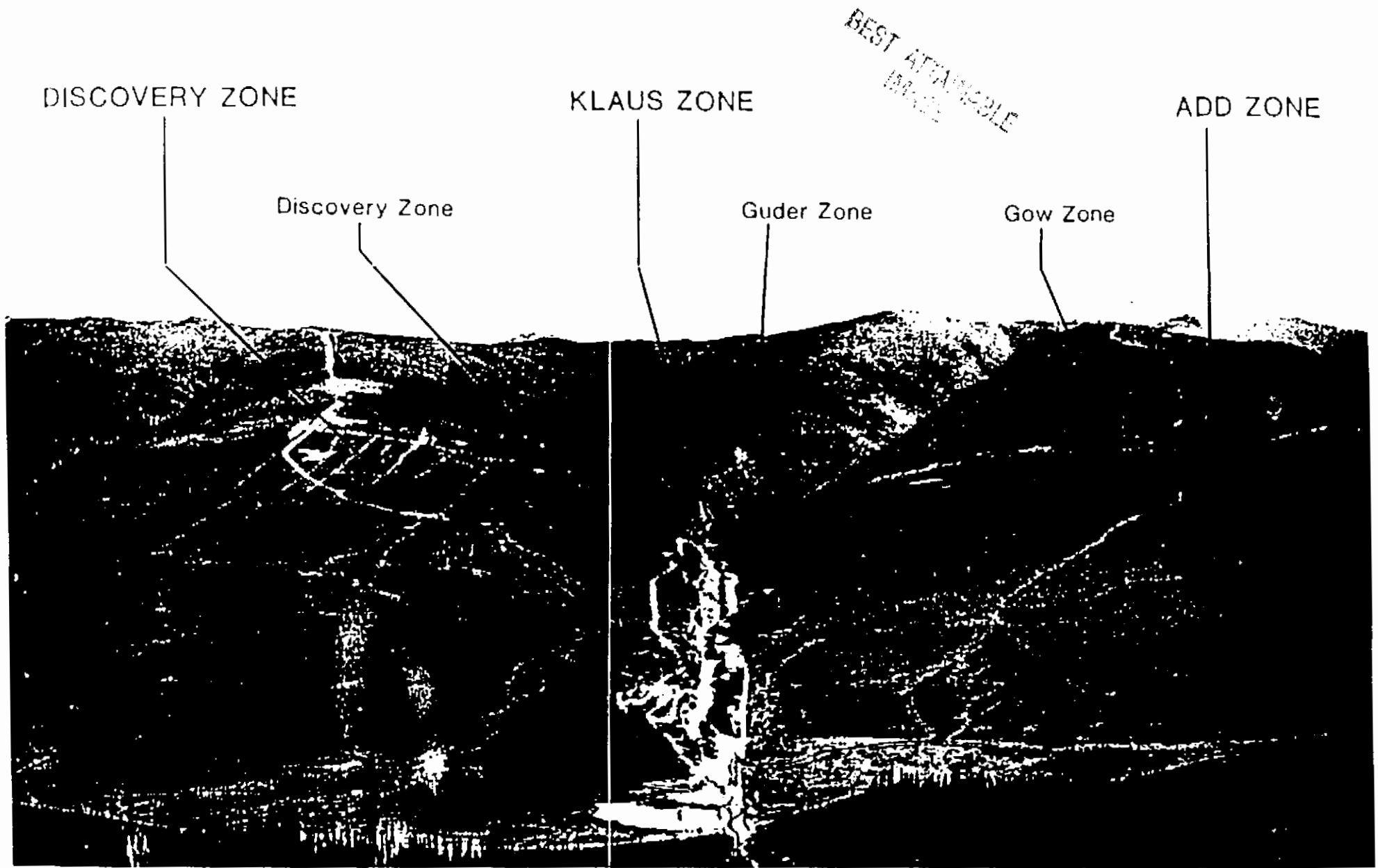


Jim McFaull B.Sc., F.G.A.C.

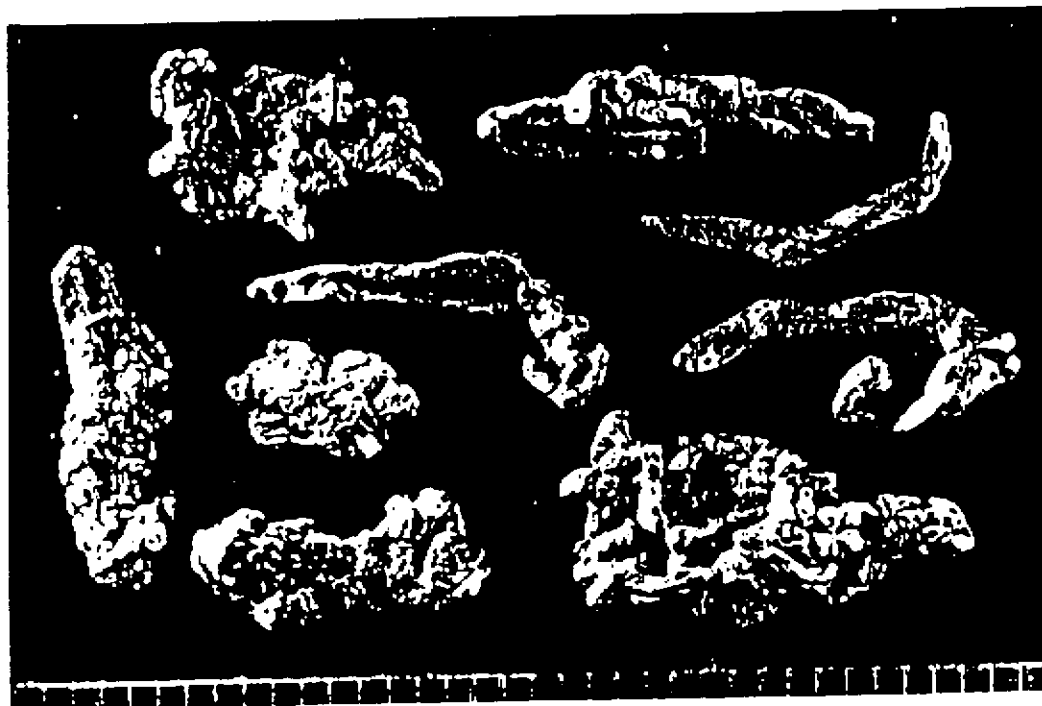
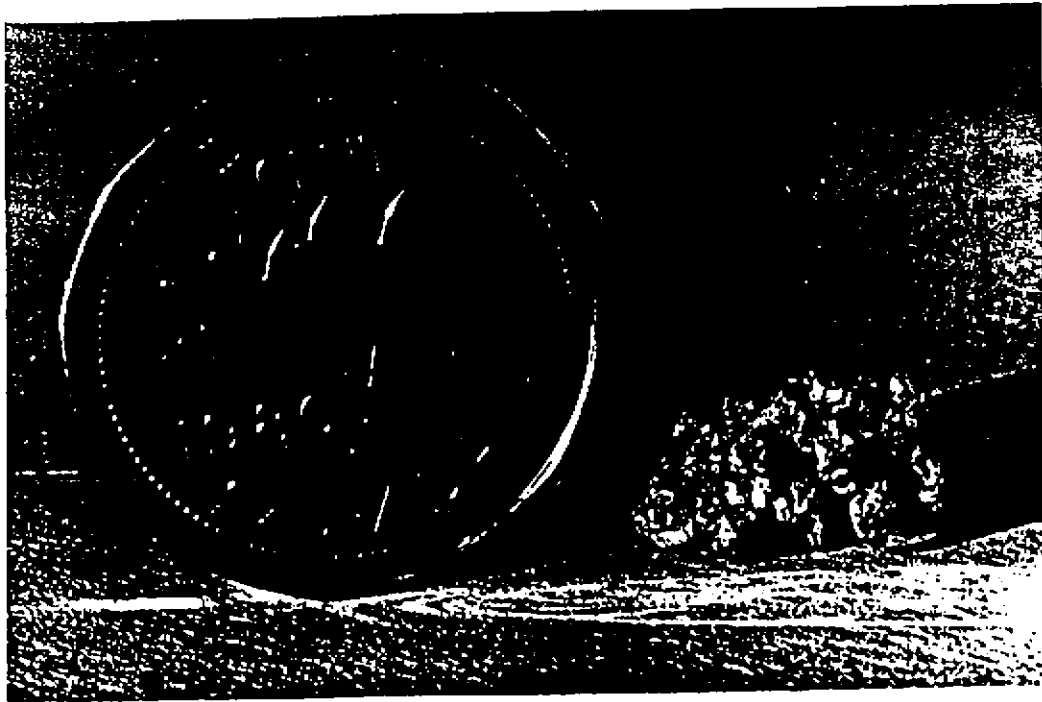
Exploration Geologist

YUKON REVENUE MINES LIMITED

October 12, 1997



- Revenue Property facing south up Revenue Creek. Note the placer workings below the mouth of Whirlwind Pup. The Mechanic West Zone is off the photo to the right.



- Placer gold from Revenue Creek showing fine texture and delicate, wirelike habit

## BIBLIOGRAPHY

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- 1970 Drill logs by L.Smith and K. Kirkland for Kaiser Resources Ltd.
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- 1984 Various press releases by G. Macdonald for Shakwak exploration Company Limited
- 1985, Nov 14 Report on the Exploration Potential of the Yukon Revenue Property By D.A. Howard for Nordac Mining Corp.
- 1986 Jan. Potential for Heap Leach Mining in Dawson Range, Yukon by W.D.Eaton & C.A.Main for Nordac Mining Corp.
- 1986 Sept 4 Summary Report Revenue Property Big Creek Area, Y.T. by R.J.Cathro for Nordac Mining Corp.
- 1986 Dec. Report on Trenching Program and Geochemical Survey, Revenue Property by R.J.Cathro & C.A. Main for Nordac Mining Corp.
- 1988 Nov. Report on Diamond Drilling, Trenching Program and Geophysical Survey Revenue Property by C.A.Main for Big Creek Joint Venture
- 1991 Nov. Revenue Property Final Report by T.C.Becker & W.D.Eaton for Archer Cathro and Associates Ltd.

STATEMENT OF QUALIFICATIONS

I, Jim McFaul, of the City of Whitehorse in the Yukon,  
Hereby state;

- 1: That I am a consulting geologist and that I have reviewed the published reports and maps on the subject property.
- 2: That I am a graduate of the University of British Columbia with a B.Sc. in Geology in 1976.
- 3: That I am a Fellow of the Geological association of Canada.
- 4: That I have engaged in mineral exploration in British Columbia for 3 years and in the Yukon for 23 years.
- 5: That I have worked in the Dawson range in 1976 and 1982.
- 6: That I do not have a direct interest in the Revenue property and that I do have an indirect interest in the property as a shareholder and Director of Yukon Revenue Mines Limited.

Signed at Whitehorse, Yukon this 12th day of October, 1997.



---

Jim McFaul B.Sc., F.G.A.C.

Exploration Geologist

STATEMENT OF COST

I, Jim McFaull, of the City of Whitehorse in the Yukon,  
Hereby state;

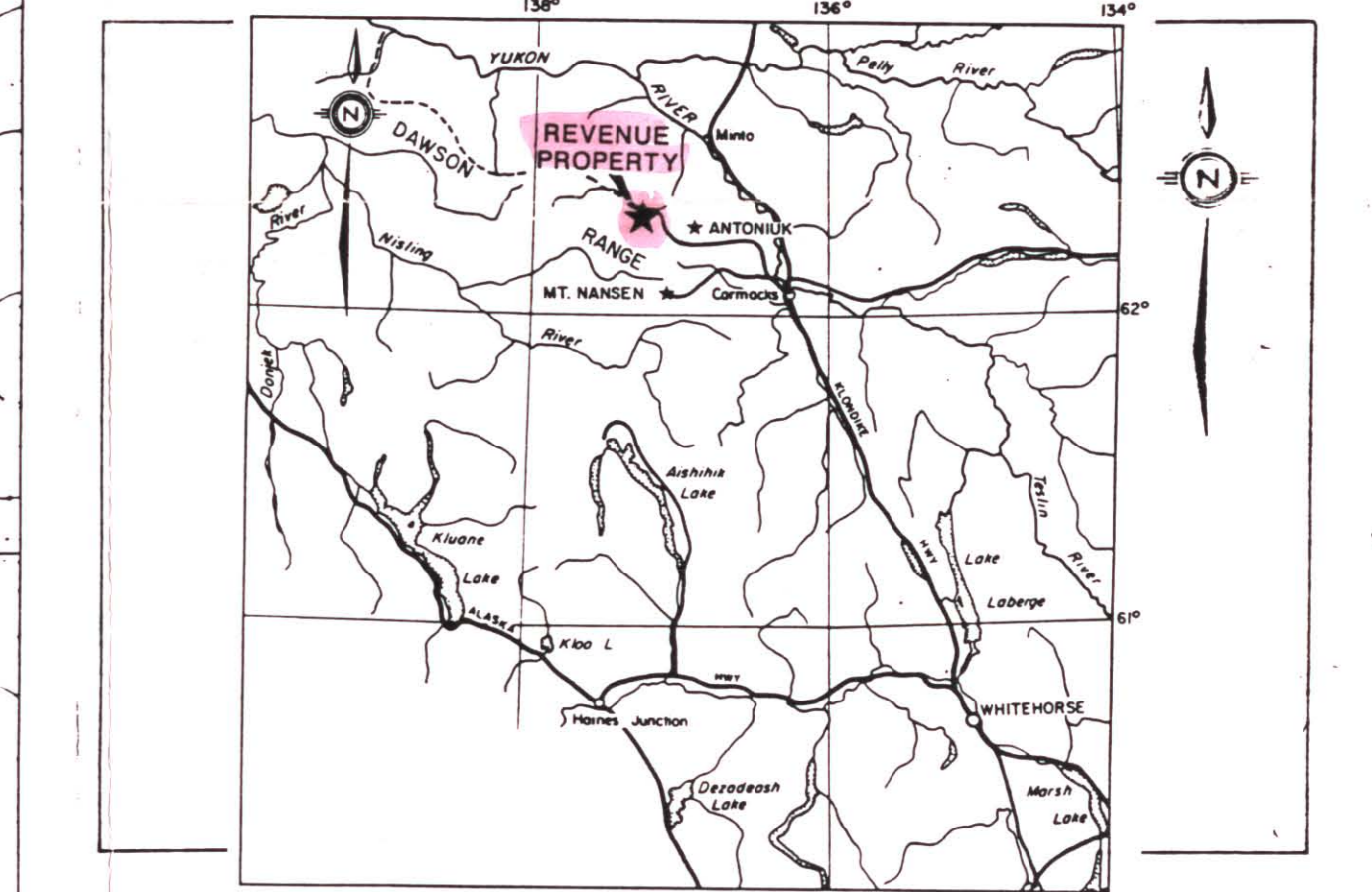
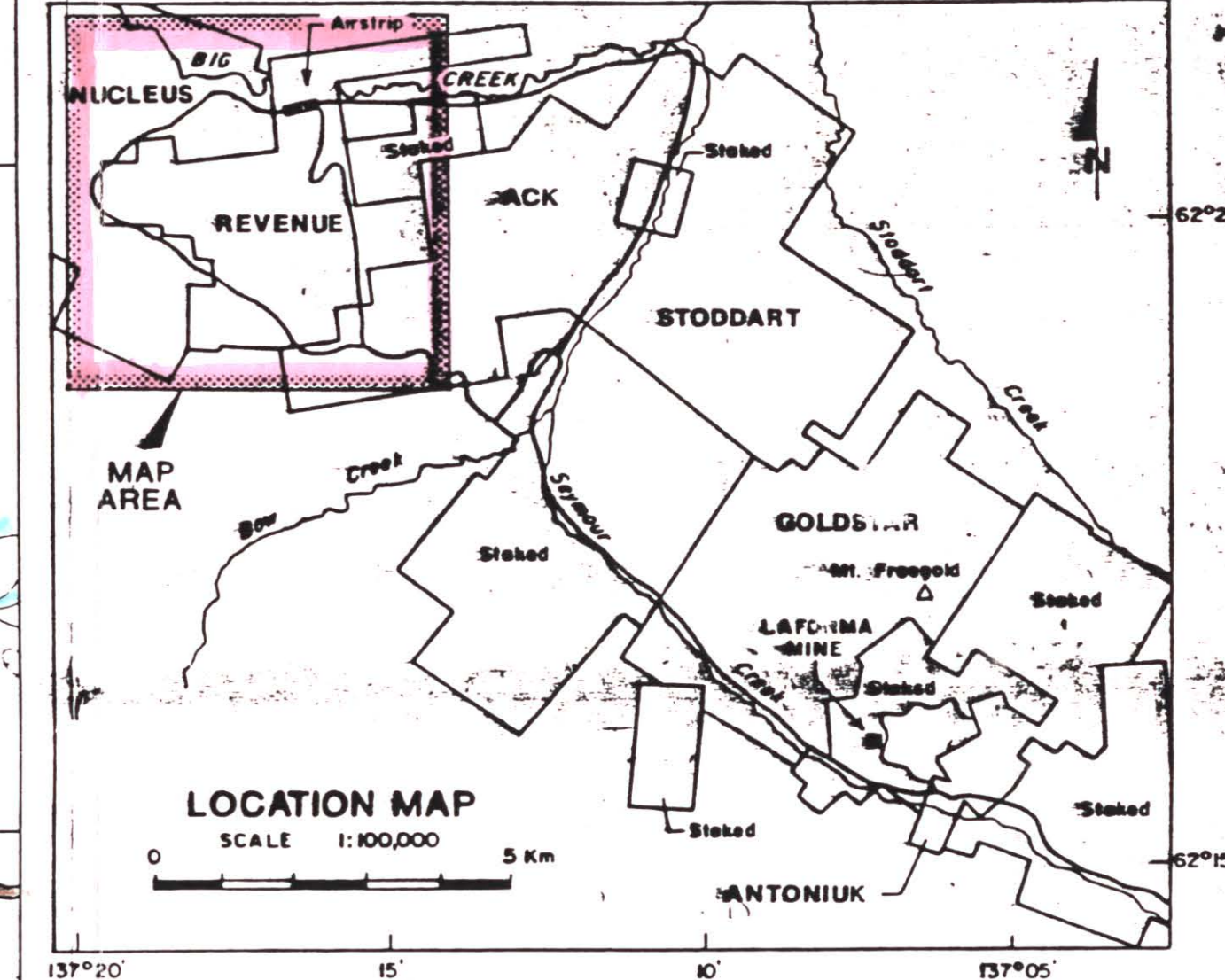
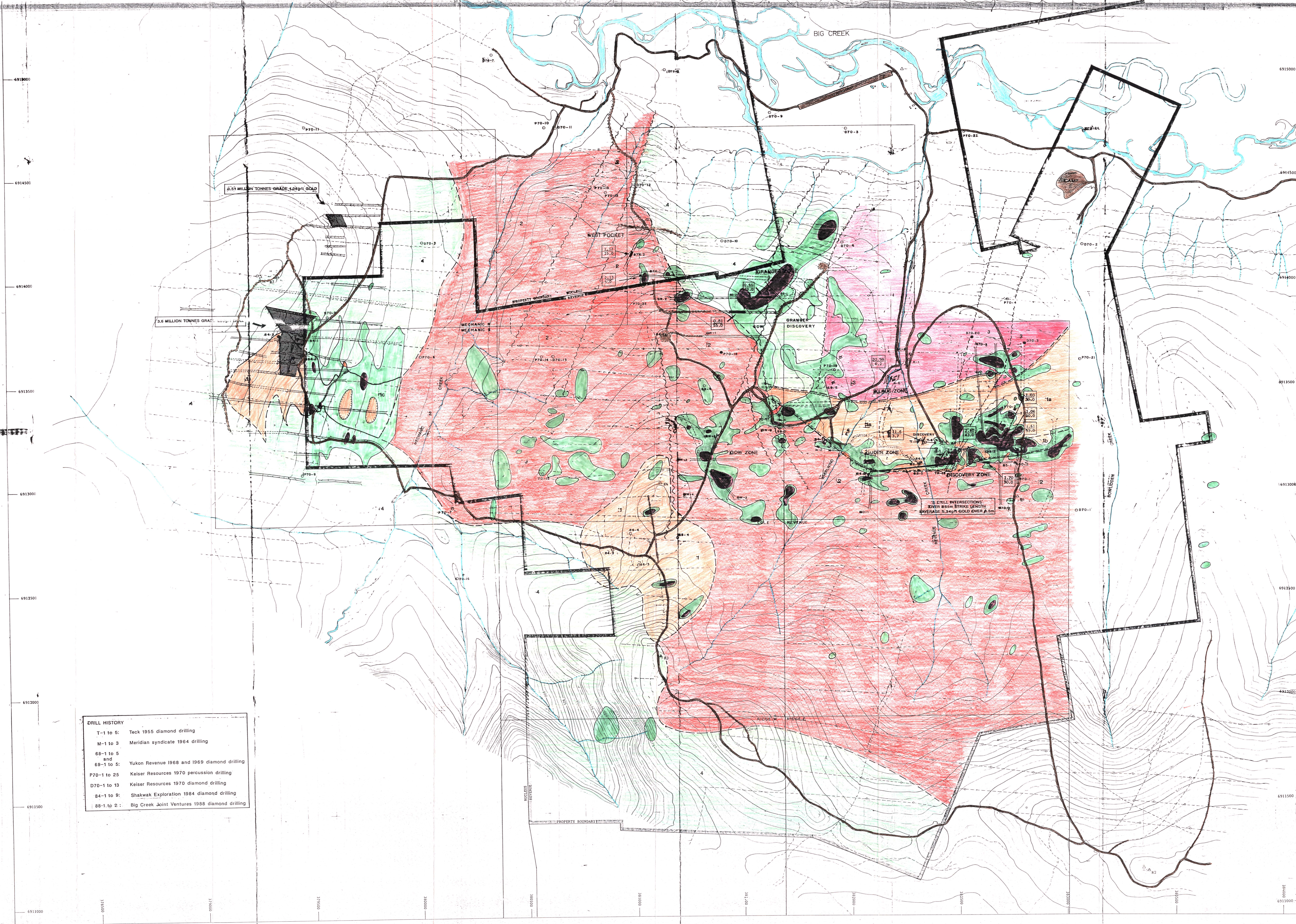
- 1: That I am the author of this report titled; "Compilation  
Report On The Revenue Creek Property" dated Oct.12,1997.
- 2: That I invoiced Yukon Revenue Mines Limited a total  
of 17.5 days @ \$400.00/day= \$7,000.00 for this report.

Signed at Whitehorse, Yukon this 12th day of October,1997.



Jim McFaull B.Sc., F.G.A.C.

Exploration Geologist



**DRILL HISTORY**

- T-1 to 5: Teck 1955 diamond drilling
- M-1 to 3: Meridian syndicate 1964 drilling
- 68-1 to 5 and 69-1 to 5: Yukon Revenue 1968 and 1969 diamond drilling
- P70-1 to 25: Keiser Resources 1970 percussion drilling
- D70-1 to 13: Keiser Resources 1970 diamond drilling
- 84-1 to 8: Shakwak Exploration 1984 diamond drilling
- 88-1 to 2: Big Creek Joint Ventures 1988 diamond drilling

**TABLE OF SIGNIFICANT INTERSECTIONS**

**REVENUE PROPERTY**

**DISCOVERY, GRANGER, KLUANE ZONES:**

DRILL	GR. #/1	GR. #/2	GR. #/3	FROM TO	INTERVAL	COMMENT	
84-9	139.1			51.8	52.7	0.91 fault gouge	
88-5	11.66			80.1	81.3	1.22 JOK recovery	
89-1	5.49			1.7	38.1	39.5	1.37 intense breccia
89-7	5.67			1.0	25.9	33.5	7.62 host III surf
88-5	1.28			1.7	18.0	24.4	6.4 sheared tuff
88-1	0.38			22.2	125.9	126.2	0.30 COPR to volc.
80-1	0.41			0.2	33.5	70.1	26.6 retroilitic BI
80-2	0.31			0.2	12.1	51.8	39.6 also scheelite

**TRENCH**

TR	GR. #/1	GR. #/2	GR. #/3	FROM TO	INTERVAL	COMMENT
TR-6	32.08			41.6	52.7	0.2 lens-shaped
TR-18	2.40			0.0	43.0	43.0 volcaniclastic
DISCOVERY	11.66			32.0	33.0	3.7 1974 sampling
85-1	1.70			115	145	30.0 volcaniclastic
870-1	1.61			135	154	19.0 CB alteration
85-2	1.03			20.0	50.0	30.0 volcaniclastic
85-2	1.06			0.0	10.0	10.0 volcaniclastic

**GRANGER ZONE**

**TRENCH**

TR	GR. #/1	GR. #/2	GR. #/3	FROM TO	INTERVAL	COMMENT
GR-1	0.81			65	120	55.0 altered schist
GR-2	0.66			360	430	70.0 altered schist

**NUCLEUS PROPERTY**

**TRENCH**

TR	GR. #/1	GR. #/2	GR. #/3	FROM TO	INTERVAL	COMMENT
87N-1	2.13			50	55	5.0 fault-related
87N-2	1.17			45	70	25.0 fault-related

- LEGEND**
- CRETACEOUS OR EARLY TERTIARY
- 1) Block and -lapilli tuff. -b) Quartz-feldspar porphyry, often brecciated and intrusive into 1a.
  - 2) Mixed intrusive unit, includes 3b, and 4. Frequent brecciated zones.
- CRETACEOUS
- 2) Hornblende-biotite quartz monzonite
  - 3) Leucocratic quartz monzonite with xenoliths of unit 4.
- PALEOZOIC
- 4) Yukon Metamorphic Complex schists and gneiss.
- COMPLETE, INCOMPLETE TRENCH
- CUT LINE OR CAT TRAIL, with boundary pt.
- DRILL HOLE
- SURVEY STATION
- 30.1 = GOLD (g/t) MINERALIZED INTERSECTION
- 0.91 INTERVALS
- >50ppb GOLD GEOMORPHIC CONTOUR
- >100ppb GOLD GEOMORPHIC CONTOUR
- GEOLOGICAL CONTACT, known, assumed
- FAULT, known, assumed

**Yukon Revenue Mines Limited N.P.L.**  
125 Industrial Road Whitehorse YK X1A 2T8

**COMPILATION MAP**  
REVENUE PROPERTY  
Revenue Creek, Yukon

**aurex**  
A.J. (Jim) McFauld B.Sc., F.G.A.C.  
Exploration Geologist

Scale 1:50,000  
0 50 100 200 300 400 500 Metres  
0 100 200 300 400 500 Feet

DIAMOND - YUKON REGION LIBRARY  
To accompany report dated Oct. 12/92