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**MINTO AND YUKON RIVER PROJECTS**

**JUNE 1 - AUGUST 31, 1974**

Submitted by:  
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SUMMARY

During the 1974 field season, the following were investigated:

1. Magnetic-Electromagnetic anomalies #1, #2, and #4 (from previous airborne survey).
2. Win claim group.
3. Won claim group.
4. Yukon River project area.

The above areas were all part of a northwest -southeast trending belt of Triassic intrusives and slightly older Triassic volcanic sediments and metamorphosed equivalents. Some recent basaltic lavas are found 10 miles north and south of Fort Selkirk. The Triassic intrusive is host to several copper occurrences, one of them being Silver Standard.

The magnetic-electromagnetic anomalies were found over the first two rock types, each containing minor amounts of magnetite. Moderately high copper values were found at anomalies #1 and #2. Anomaly #4 was geochemically low and geologically unimpressive.

The Win claims, situated 10 miles NNW of the Silver Standard property, were underlain by the Triassic intrusive, however, it was geochemically unresponsive and geologically unimpressive.

The Won claims contained anomalous copper and molybdenum values one mile south of Black Creek ( $62^{\circ} 51'30''$  :  $137^{\circ} 55'30''$ ). Additional claims were staked (Won 101-118) to protect the anomalous zone.

The high copper and molybdenum values were found in intrusive and metavolcanic rocks of Triassic age. Detailed geochemical, geological and geophysical (magnetic) surveys were carried out to define the limits of the anomaly, the mineralization and its source.

### CONCLUSIONS

1. Magnetic-electromagnetic anomalies resulted from local concentrations of magnetite in volcanic and/or intrusive rocks, and in one case, graphitic schists intruded by a hornblendite (anomaly #2).
2. The Win claims were found to be underlain by unaltered, unmineralized and structurally unfavourable Triassic intrusive rock.
3. The anomalous copper and molybdenum values on the Won claims are attributed to the presence of a satellitic (?) intrusive mass which, during its emplacement, fractured, veined and mineralized some of the surrounding metavolcanics. Subsequent alteration of the quartz veinlets and fractures in the intrusive and metavolcanic rock resulted in the formation of several types of limonite. The limonite may well be responsible for some of the high copper and molybdenum values.

The Yukon River project covered the Triassic intrusive originally outlined, however, this area's lack of mineral showings and position relative to the Silver Standard property (i.e. on east side of Yukon River) were probable reasons for not locating any anomalous copper values.

### RECOMMENDATIONS

The only area that would warrant further work would be the Won claim anomaly.

III

This anomaly could be tested by drilling three 400'-500' holes.

The following would be likely target areas.

	<u>Location</u>	
No. 1	12+80W : 35S T.P. #8	<sup>395</sup> - Anomalous copper and molybdenum values present. - Intrusive rock at base of T.P. #8
No. 2	17+60W : 41S	- Anomalous copper and molybdenum values present, plus it is 500' uphill from No. 1
No. 3	T.P. #10 or slightly uphill	- Near intrusive rock and highly anomalous molybdenum values encountered in T.P. #7. - Situated in a magnetic low.



**MINTO & YUKON RIVER PROJECT**  
 - INDEX MAP -  
 KERR ADDISON MINES LTD.  
 Scale 1" = 32 miles  
 W.G. Nov 174.

141°      140°      139°      138°      137°      136°      135°  
 64°      63°      62°      61°      60°

INTRODUCTION:

The Minto and Yukon River projects were chosen after the discovery of high grade copper mineralization on the Silver Standard - Asarco property approximately 11.5 miles WNW of Minto Y.T.

Using Government aeromagnetic and geological data, plus an observed NW-SE trend of mineral occurrences, two claim groups were staked in late September early October 1973. These two claim blocks, the Win and Won, consisted of 54 and 88 claims respectively.

In early 1974, an airborne Magnetic-Electromagnetic survey was proposed in an area extending from 16 to 46 miles north west of Minto. Before commencement of the survey a number of test lines were flown over known mineral occurrences in the area to aid in data interpretation (generally 1 or 2 line flights). The subsequent low level survey was flown in mid May 1974 to cover the two claim blocks and areas surrounding them (see index map).

During June, three, two man crews were engaged in work on the two claim groups and the mag-E.M. anomaly follow-up.

A base camp established along the Klondike Highway (mile 131) was used during the remainder of the field season for the Yukon River project and as a base to supply field crews.

The Yukon River project, a geochemical reconnaissance programme involved stream sediment sampling by the writer and five student assistants during the period July 7 to August 2, 1974.

Detailed follow-up work on the Won group was done from August 4 - 31, followed by final camp close down on September 4, 1974.

## MAGNETIC - ELECTROMAGNETIC ANOMALY FOLLOW-UP

### (a) Introduction

Following the airborne magnetic and electromagnetic survey of May 14-17 1974, several anomalous areas were delineated (Anomalies #1, #2, #4, see Map 2A, 2B). These anomalous areas were examined by the writer assisted by Randy Gropp during the period June 2-10, 1974. Geochemical sampling and geological mapping were done in each of the areas.

### (b) Terrain

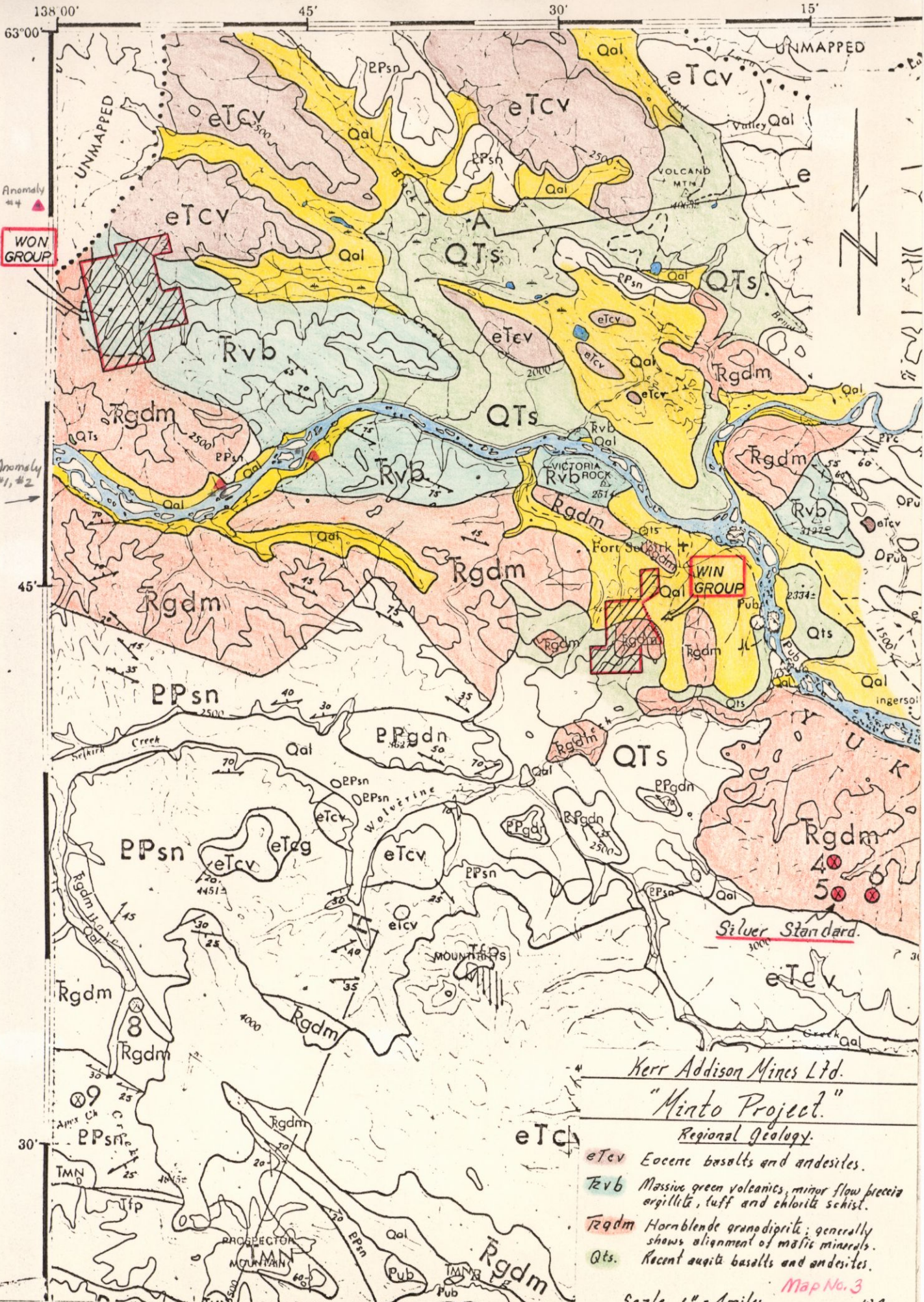
All of the areas investigated were fairly heavily forested. Total relief is from 500' to 1000' (1500' to 2500'). Outcrops were observed at all camps with the most abundant rock exposures being found in the Anomaly #2 area.

### (c) Regional Geology

The majority of the anomalous areas as mapped by the G.S.C. consists of a WNW trending belt of Triassic hornblende-biotite granodiorite. A sequence of Triassic volcanics and minor sediments is shown NE of this intrusive body (see Map No. 3)

### (d) Local Geology (see Map Nos. 4A, 4B)

The local geology of the camp areas fitted the government mapping quite well. The intrusives encountered consisted of an unaltered hornblende and/or biotite granodiorite with some porphyritic phases. The occasional quartz-K-feldspar-epidote vein and felsic dyke were noted in all the areas investigated. The volcanic rocks generally consisted of a fine to medium grained metavolcanic rock sometimes showing hornblende phenocrysts or schistosity due to chloritization and deformation of previous volcanic rocks (i.e. andesites).



Anomaly  
 44  
**WON GROUP**

Anomaly  
 41, 42

**WIN GROUP**

Kerr Addison Mines Ltd.

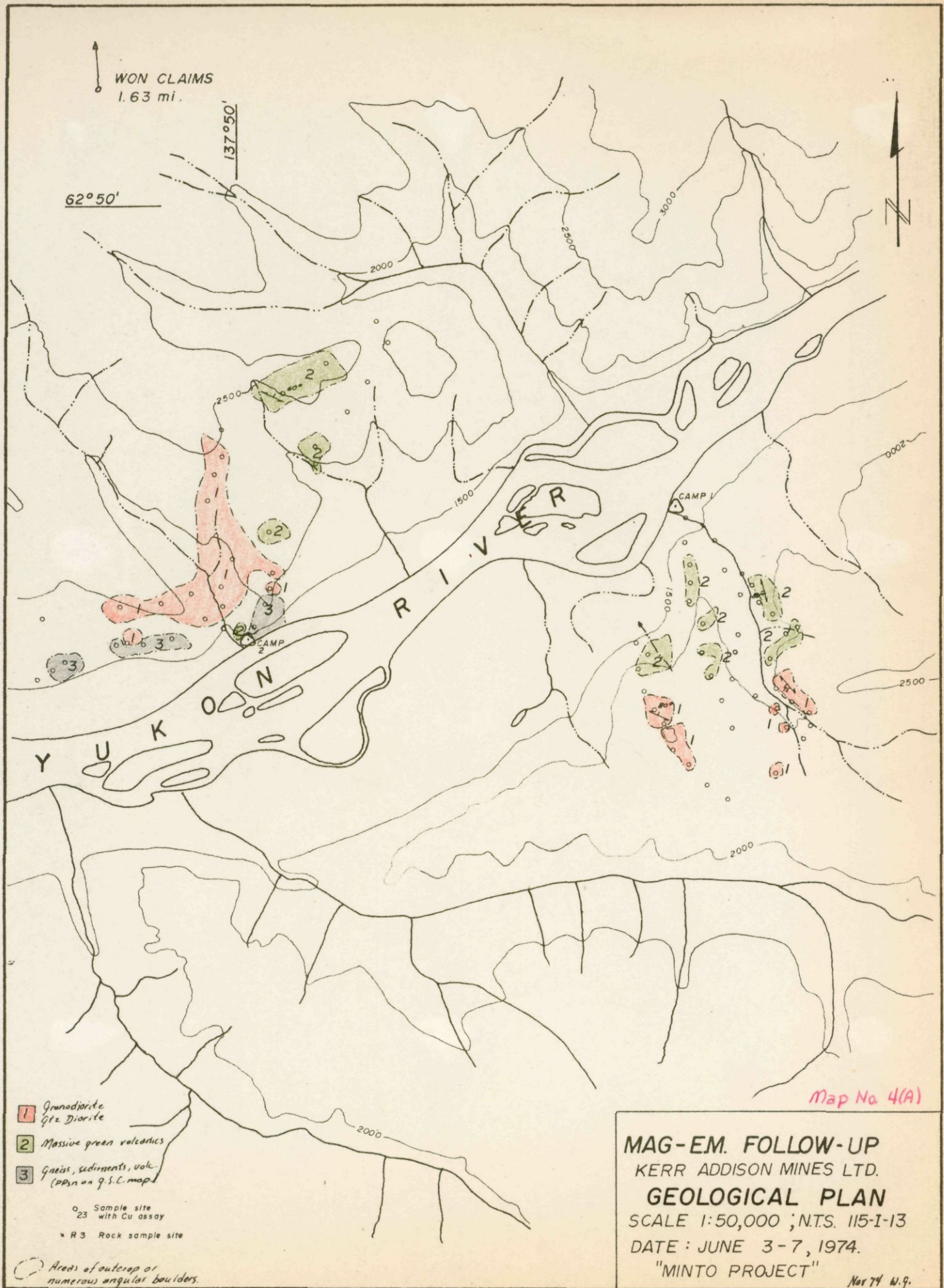
*"Minto Project"*

*Regional Geology.*

- eTcv Eocene basalts and andesites.
- TeVb Massive green volcanics, minor flow breccia argillite, tuff and chlorite schist.
- Rgdm Hornblende granodiorite; generally shows alignment of mafic minerals.
- Qts. Recent augite basalts and andesites.

Scale 1" = 4 miles

Map No. 3  
 W. J. Sept. 1971

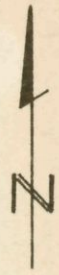


- 1 Granodiorite  
Gtz Diorite
- 2 Massive green volcanics
- 3 Gneiss, sediments, volc.  
(PPN on G.S.C. map)

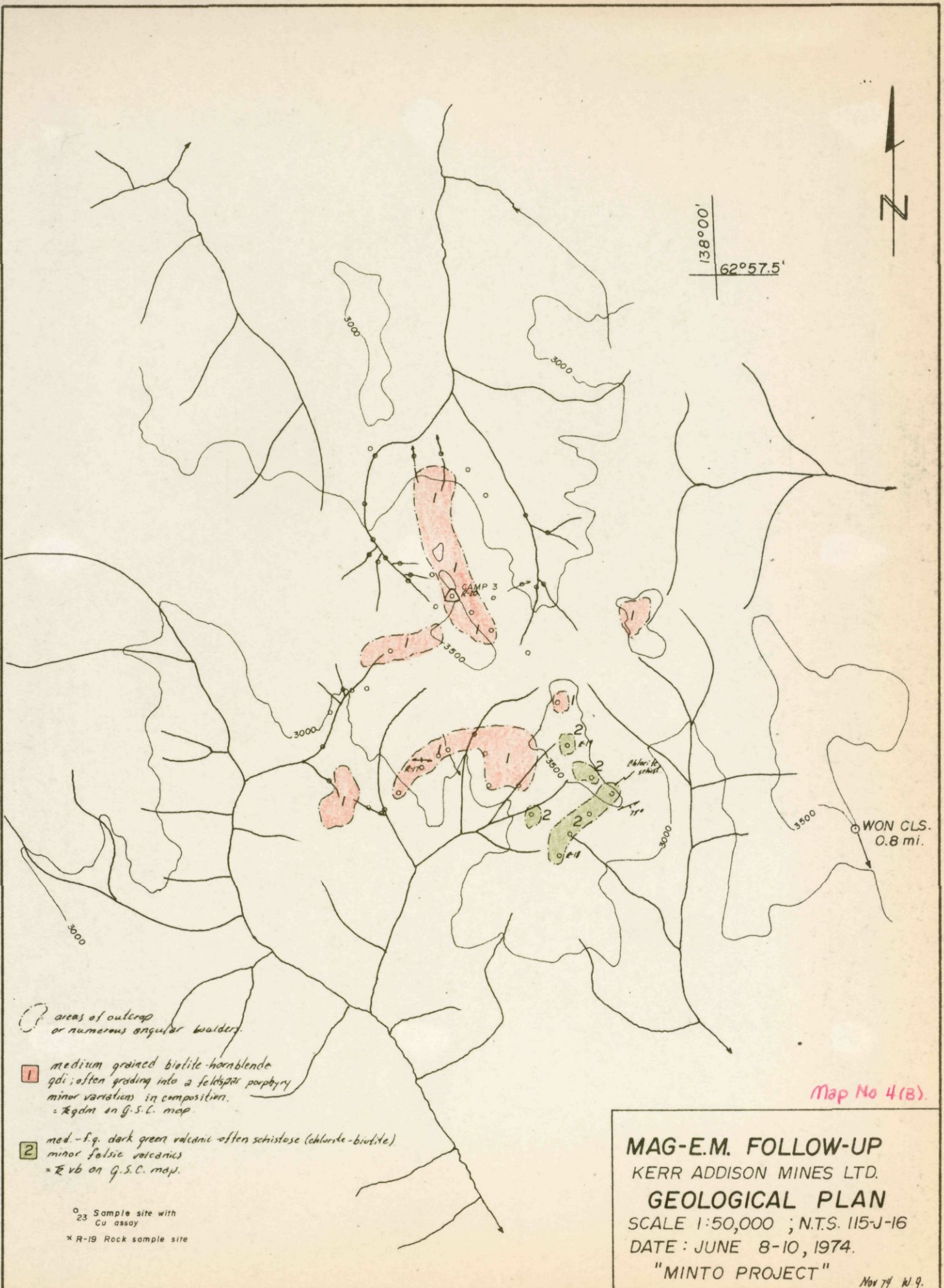
○ Sample site  
23 with Cu assay

\* R3 Rock sample site

○ Areas of outcrop or  
numerous angular boulders.



138°00'  
62°57.5'



○ areas of outcrop or numerous angular boulders

1 medium grained biotite-hornblende gdi; often grading into a feldspathic porphyry minor variations in composition. = Xgdm on G.S.C. map.

2 med.-f.g. dark green volcanic often schistose (chlorite-biotite) minor felsic volcanics = Xvb on G.S.C. map.

○<sub>23</sub> Sample site with Cu assay  
\* R-19 Rock sample site

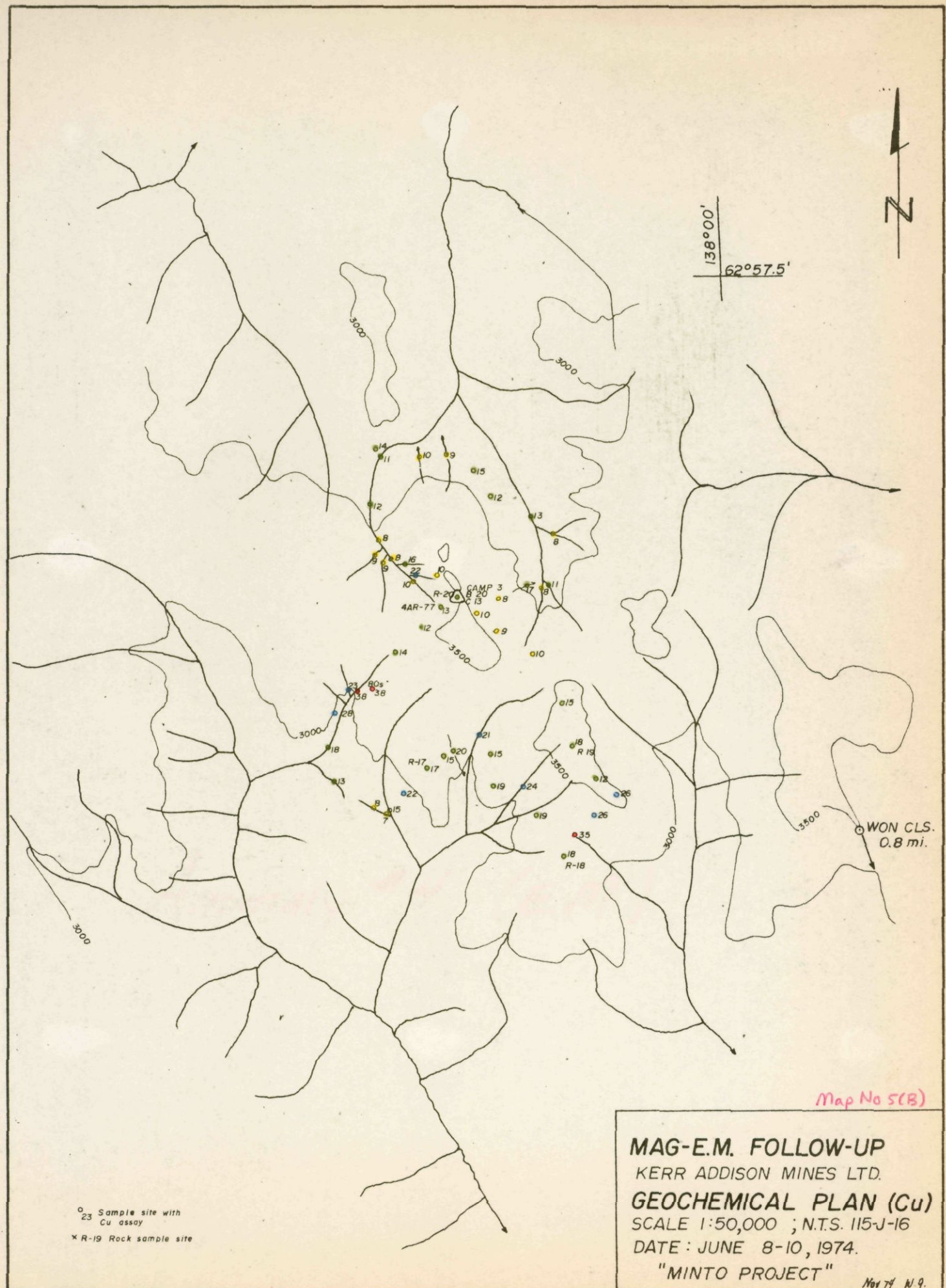
Map No 4(B)

**MAG-E.M. FOLLOW-UP**  
KERR ADDISON MINES LTD.  
**GEOLOGICAL PLAN**  
SCALE 1:50,000 ; N.T.S. 115-J-16  
DATE: JUNE 8-10, 1974.  
"MINTO PROJECT"  
Nov 74 W.P.





138°00'  
62°57.5'



○ Sample site with  
23 Cu assay  
× R-19 Rock sample site

Map No 5(B)

**MAG-E.M. FOLLOW-UP**  
KERR ADDISON MINES LTD.  
**GEOCHEMICAL PLAN (Cu)**  
SCALE 1:50,000 ; N.T.S. 115-J-16  
DATE: JUNE 8-10, 1974.  
"MINTO PROJECT"  
Nov 74 N. 9.



Anomaly #4 (E.M.).

Anomaly #2 had the most variable geology especially along the Yukon River where the banks are very steep. Mapped as PPSn by the G.S.C. it consists of a complex of gneissic rocks, graphitic schists and a large mass of hornblendite intruded by leucocratic dykes (granodiorite), probably from the nearby intrusive mass. Rock samples were taken and are located on Map Nos. 5A, 5B and descriptions are found in the appendix.

(e) Geochemistry (See Map Nos. 5A, 5B)

Soil samples, generally of the B horizon were taken to cover the geophysical anomalies as well as possible with the time available. Silt samples were taken where possible, however, they were abundant only at the Anomaly #4 area. All soil and silt samples were analyzed by Barringer Research for Cu, Zn, Pb, using hot and cold extraction methods respectively.

(f) Conclusions

The Anomaly #1 area gave erratic geochemical response with moderate copper anomalies at several scattered areas. Magnetic anomalies were in most cases over Triassic volcanics, all of which had magnetite (1-1.5%). No explanation could be given for the electromagnetic anomaly due to the presence of extensive overburden. No mineralization of economic significance was noted.

The anomaly #2 area was unresponsive, except for the area of hornblendite  $\frac{1}{4}$  mile NE of camp. This outcrop was found to contain small amounts of malachite on fracture surfaces.

Airborne magnetic anomalies were over both the volcanic and intrusive rocks which contained only small amounts of magnetite ( $\frac{1}{2}\%$ -1%). The electromagnetic anomaly (field strength) was probably caused by the graphitic schists in the area.

The anomaly #4 area was completely unresponsive geochemically. Geologically, the area consisted of a medium grained porphyritic hornblende-biotite granodiorite which was very weakly magnetic. Minor volcanic units were found further south (see Map 4B). No explanation could be found for the geophysical anomalies.

## WIN CLAIM GROUP

### (a) Introduction

The Win claim group, consisting of 54 claims, is located 3.5 miles SSW of Fort Selkirk, Y.T., and 10 miles NNW of the Silver Standard - Asarco copper deposit. Access is by helicopter from Carmacks, a distance of 57.5 air miles. During the period June 12-27, 1974, a geochemical and geological survey of the property was carried out to determine whether copper mineralization was present.

### (b) Terrain

The entire claim group is covered by a moderately heavy growth of spruce and poplar. Two creeks are found on the property, however, both are swampy and contained no silt. The maximum relief is approximately 600' from the valley bottoms to the hilltops. Permafrost is patchy with its most frequent occurrence in the creek valleys where drainage is poor, or where moss accumulation is thick.

### (c) Regional Geology

Mapping by the G.S.C. indicates that the SW corner of the claim group is underlain by the Selkirk Series - a recent sequence of flows and breccias of basaltic to andesitic composition (see Map No. 3). The central and probably most of the north end of the claim group is underlain by the Triassic intrusive (Trgdm on the G.S.C. map).

### (d) Local Geology (See Map No. 6A)

During the investigation of the Win claims, the "granodiorite" was noted with variations such as K-feldspar porphyry and leucogranodiorite.

The feldspar porphyry was found to be the most common rock type on the property. In most areas, quartz-microcline-muscovite veins were observed to cut the intrusive at random angles.

In the southern part of the claim group, vesicular basalt boulders were found to be quite common. These boulders would correspond to the recent basaltic flows of the Selkirk Series. No mineralization of any type was encountered in the course of the survey.

(e) Geochemistry (See Map No. 6B)

Geochemical soil sampling was done at 200' intervals (where possible) along lines 1400' apart. In most cases the B horizon was sampled, except in the case of profiles in which the B and C horizons were sampled. If permafrost prohibited sampling of the B horizon, the lowest part of the A horizon possible was sampled. All soil samples were analyzed for Cu, Zn, Pb, using hot extraction with results stated in parts per million (ppm).

(f) Conclusions

The geochemical assays for all samples were very low in copper. Three areas of higher than average copper values were noted (see Map No. 6B), however, these were by no means near anomalous. Variations in overburden type could well account for these higher areas. The range for copper and molybdenum was 5-78 and 2-4ppm respectively. Geology did not indicate any favourable structures or mineralogy to warrant any further work.

WON CLAIM GROUP(a) Introduction

The Won claim group is situated approximately 17.5 miles WNW of Fort Selkirk. Access to the property is by a helicopter stationed at Carmacks, 75.5 miles to the SSE. Staking of this group took place in early October 1973, based on aeromagnetic and geologic data. During the period June 1-27, 1974, a geochemical and geological reconnaissance survey was carried out by two, two man crews. A magnetometer survey was initiated but was not completed due to lack of time and atmospheric activity. After this initial work, a copper-molybdenum anomaly was discovered on L-15W and extended to the south boundary of the claim block. To protect this area, an additional 18 claims (Won Nos. 101-118) were staked (see Map No. 7). Detailed follow-up work consisted of geochemical and geophysical surveys as well as geological mapping and digging of eleven exploratory test pits. The detailed follow-up work was done during the period August 4-31, 1974.

(b) Terrain

Approximately 75% of the claim block is covered by 'dead fall', young birch and alder growth. Coniferous growth is scattered over the property, being the heaviest on the southern extremity of the claim block.

Black Creek, a slow moving creek surrounded by swamps, flows through the claim block in a west-east direction.

The relief in the area is 1000'-1200' with hilltops being approximately 3200'-3500' A.S.L. The slopes in the area are generally moderate, however, steep ( $30^{\circ}$ ) slopes do exist, especially along creeks on the south half of the claim block. Overburden depths range from 5'-10' on hillsides and hilltops to 10'-50' in creek valleys. Permafrost is widespread with depths varying throughout the claim block. The shallowest permafrost (6"-1') was observed along Black Creek and the deepest (1'-3') on hillsides.

(c) Regional Geology

According to G.S.C. mapping (see Map No. 3), the claim group is situated in an area underlain by Triassic intrusives, volcanics and some Tertiary volcanic rocks. The Triassic intrusive rock (Trgdm) is described as a hornblende-biotite granodiorite, having a WNW-ESE trend. This is the same rock type as mapped on the Win claims, the mag-E.M. anomalies and on the Silver Standard-Asarco copper property.

The Triassic volcanics (Trvb) are classified as basalts, flow breccias, argillites, tuffs and locally hornblende chlorite schists. The small amount of volcanics in the NE corner of the claim block are described as Tertiary basalts and andesites of the Carmacks group.

Glaciation was not reported in this area, however, the deposits of clays and sandy soil at the follow-up camp would indicate that local glaciation may have taken place.

(d) Local Geology

Rock exposure comprises approximately 1% of the total claim area, therefore, much of the geological information was taken from soil sample sites and test pits. The vast majority of the sample sites revealed rock chips of a dark green slightly schistose metavolcanic. This rock was generally fine grained and ranged from quartz-mica schists to chlorite-hornblende schists, plus silicified varieties. Some fine grained grey argillite was noted on the west half of the claim block. Together, these two rock types comprise part of the Triassic volcanic unit (Trvb) on the G.S.C. map (see Map No. 3).

Prior to detailed follow-up work, only two areas of intrusive rock had been observed. One area was at 45+00W; 66+00N (See Map No. 8) that consisted of granodiorite pebbles in soil sample pits. The other area was the southern portion of the claim block from 15+00W to 60+00W and 90+00S to 100+00S. Here the soil sample pits contained fragments of granodiorite and quartz porphyry as well as the usual metavolcanics. This intrusive may correspond, or be related to the Trgdm of the G.S.C. mapping.

During the copper-molybdenum anomaly follow-up in August, intrusive bedrock (?) and rock fragments were found in a number of exploratory test pits and soil sample sites (see Map No. 10).

The largest area of intrusive rock occurrence is from the creek to the NW corner of Won #88. The rock encountered was a quartz-hornblende monzonite showing variable chloritization of the mafic minerals.

Alteration in T.P. #7 located in the eastern portion of the intrusive area shows strong alteration with only quartz, limonite, sericite and minor pyrite remaining. In most of the less altered rocks, pyrrhotite is always found, sometimes with a rusty alteration halo. Pyrrhotite and pyrite combined seldom exceed 2% of the rock. The only mineralization of any economic importance was a few grains of molybdenite surrounded by powellite in a rusty quartz vein from T.P. #7 (see Fig.2). Another area of intrusive rock occurrence is in the NW corner of Won #108 where the rock consists of a weakly altered and/or slightly rusty porphyritic quartz monzonite or quartz porphyry mineralized very weakly by pyrrhotite (1%). A third area of intrusive rock was encountered at 12+80W; 35S where T.P. #8 encountered a rusty weathering granodiorite or quartz monzonite containing 1-2% pyrrhotite.

Scattered occurrences of intrusive rock mixed with metavolcanics were found throughout much of Won #86 and parts of Won #80, #88 and #90 (see Map No. 10). A larger area may well be underlain by intrusive rock, however, the very rocky nature of the overburden was a major factor in some of the test pits not reaching bedrock. The majority of the test pits (T.P.1-5, #9, #10, #11) and soil sample sites encountered a greenish fine grained schistose metavolcanic rock variably mineralized with pyrrhotite and pyrite. Many of the rock chips seen had fracture surfaces covered with limonite ranging in colour from canary yellow to a deep brown.

Some of this yellowish limonite could be ferrimolybdate, an alteration product of molybdenite. Quartz veinlets are common and quite often rusty due to the presence of limonite (pyrite alteration).

Though the rock geochemistry gave highly anomalous molybdenum and copper values, the rock samples themselves showed no primary molybdenum mineralization suggesting the molybdenum and possibly the copper are tied up in the limonite and pyrite or is so fine grained that it is not visible. The common alteration products of copper were not observed, therefore, the mode of occurrence is still not known.

In viewing the test pit profiles (Fig. #2) it is obvious there has been some degree of intermixing of the metavolcanics and intrusive rocks. Test pits #9, #11 and especially #8 are cases in point. Solifluction or soil creep may be a possible explanation for this feature. If this is the case, the source of the intrusive and metavolcanic rock would be directly uphill with the length of transport being short. The high degree of angularity of the rock fragments argues for the short transport distance ( $\frac{1}{4}$  mile) hypothesis.

Approximately three quarters of a mile to the south of the follow-up area is the main intrusive mass described by the G.S.C. (see Map No. 3). Scattered over the hilltops and ridges are numerous boulders of light grey weathering "clean looking" granodiorite.

The intrusive encountered on the claim group may, therefore, be an offshoot of the main intrusive mass, covered by an undeterminable thickness of metavolcanics. The emplacement of this intrusion would have fractured the overlying metavolcanics, veined them with quartz and mineralized the veinlets and/or fractures with pyrite and a yet unrecognizable copper mineral. Subsequent hydrothermal activity would alter the pyrite resulting in the formation of limonite. Molybdenite may have undergone similar alteration to ferrimolybdite, accounting for the very small amounts of molybdenite remaining.

(e) Geochemistry

Sampling Procedures and Analysis

During June 1974, geochemical soil sampling of the Won claim group was carried out on a grid system, using sample spacings of 200' where possible, and line spacings of 1400'-1500' (see Maps Nos. 9A and 9B). A "B" horizon sample was the objective, however, permafrost and/or thick organic cover occasionally prevented this. In these cases, the deepest sample available was taken (generally mid to lower "A" horizon). When creeks were crossed, a silt sample was taken if the sediment was not too organic.

After the discovery of anomalous copper and molybdenum values on line 15W (see Maps Nos. 9A & 9B), a detailed soil sampling and test pitting programme was initiated in the area between L 0+00W and L 30+00W; 27+00S and 65+00S (see Maps Nos. 11A and 11B). Soil samples were taken at an average depth of two feet (lower "B" or upper "C" horizon).

Sample spacings were 100' or 200' on lines approximately 400'-500' apart. All samples were sent to Barringer Research in Whitehorse for analysis. Soils were analyzed for Cu, Zn, Pb, Mo, using a perchloric acid attack (hot extraction). Silt samples were analyzed for the same elements using a dilute HCl attack (cold extraction). Analysis for silver was done on selected anomalous soil samples. Results of all analyses were stated in parts per million (ppm).

After the detailed sampling and magnetometer surveys were completed, a series of eleven test pits were dug to investigate geochemical and magnetic anomalies as well as the area uphill from geochemical anomalies. Test pits varied in depth from 3' to 5.5' ending usually in large interlocking angular fragments. Geochemical sampling of the rock at the base of the test pits and all recognizable soil horizons below the "A" horizon was carried out. Analysis was for the same elements and by the same method as for all regular soil samples.

#### Geochemical Results

The initial geochemical survey (1"=1000') yielded a number of anomalous areas listed below in order of importance. Co-ordinates refer to Map Nos. 9A and 9B.

Area I

Line 15W : 34S to 60S	}	Extent of high copper values
Line 30W : 50S to 54S + 62S		
Line 45W : 52S : 56S		
Line 15W : 30S to 58S	}	Extent of high molybdenum values
Line 45W : 50S to 60S		

Area II

Line 30W : 84S, 86S	}	Copper, Molybdenum
Line 30W : 86S		

Area III

Line 45W : 42N to 44N	}	Copper, Molybdenum
Line 45W : 38N to 44N		

Area IV

Line 60E : 48S, 50S	}	Copper only
Line 75E : 48S		

Area V

Line 15E : 26N, 28N	)	Copper only
---------------------	---	-------------

Areas I and II had by far the most anomalous values with copper up to 460ppm and molybdenum up to 35ppm. It was for this reason that additional ground was staked to protect the anomaly and detailed work was concentrated on this anomaly.

Detailed geochemical sampling yielded a copper anomaly extending from the main creek (west of camp) to Line 30W : 50 to 55S. The anomaly trends approximately NNE-SSW, paralleling the creek, and has dimensions of 3600' x 2000'. Several smaller copper anomalies exist around the main anomaly, but are of lesser significance (See Map No. 11A). Copper values in the 200 to 300 ppm range were observed with background being approximately 40-60 ppm.

The molybdenum anomaly is much more confined and less complexly shaped, having dimensions of 2300' x 1800' (See Map No. 11B). This anomaly fits completely within the previously discussed copper anomaly, suggesting that the molybdenum anomaly may be very close to the mineralizing source (i.e. intrusive plug?), since molybdenum is less mobile than copper. Molybdenum values up to 100 ppm were observed with background in the area being 2 to 3 ppm.

Both copper and molybdenum were low on the east side of the creek, at first suggesting it may represent a fault, however, the thick glacial overburden and clays on the east side of the creek could also give a similar effect (i.e. prevents migration of Cu & Mo).

Test Pit Results (See Fig. 2)

Of the eleven test pits dug, eight (T.P. #1, #2, #3, #4, #5, #9, #10, #11) terminated in metavolcanics and three (T.P. #6 is questionable) in intrusive rock. Of the eight test pits ending in metavolcanic rock, five (T.P. #2, #3, #9, #10, #11) had highly anomalous values in copper and molybdenum. Test pits #1, #4, and #5 had low values in molybdenum and moderately high values in copper. These three pits may suggest that the mineralizing source (intrusive?) is within the mobility range of copper and outside the mobility range of molybdenum.

In viewing the metal content throughout the test pit profiles, a fairly high degree of variation in values can be seen with changing depth.

The following illustrates some of the variations observed.

- 1) Copper values increasing - lower at base T.P. # 1,2,3,5,6,8,9,10,11
- 2) Copper values increasing to base of pit T.P. # 4,7
- 3) Molybdenum values increasing  
lower at base T.P. # 2,3,8,9,10,11
- 4) Molybdenum values increasing  
to base of pit T.P. # 4,6,7
- 5) Molybdenum values unchanging T.P. # 1,5

In cases 1 and 3, partial surface enrichment would appear to be active. Normal surface weathering would show an increase in metal content down to bedrock (i.e. 2,4) or at least nearly even values throughout the profile, (5). Topography, however, could complicate the picture especially if soil creep is active. This downhill soil movement would carry and possibly build up the Mo & Cu values over the bedrock surface giving the impression of slightly enriched metal values above bedrock.

(f) Geophysics

The initial programme for the Won claims called for a magnetometer survey, however, due to the slow rate of coverage and poor atmospheric conditions, the survey was abandoned. During the geochem anomaly follow-up, a detailed magnetometer survey was completed on a scale of 1"=400' using previously cut geochem survey lines. The instrument used was a Geometrics Model G.816, a digital field magnetometer with a  $\pm 1$  gamma sensitivity. Readings were taken at 100' and 200' intervals and contoured on an interval of 100 gammas (200 gamma contours used in contouring magnetic highs - see Map No.12).

The completed survey indicated several magnetic highs (greater than 58,400 gammas) within a NW-SE trending area of moderate highs (greater than 57,900 gammas - coloured light green). On either side of this area are lower values, probably representing the regional magnetic intensity (57,700 - 57,900 gammas).

A magnetic low was indicated around T.P. 7 and 10, both of which are highly anomalous in copper and molybdenum and one of which (T.P. 7) terminated in rusty intrusive rock. This magnetically low area may represent an area of altered intrusive rock.

The major NW-SE trending magnetic feature could possibly represent a contact feature produced by emplacement of an elongate plug into the metavolcanic rocks. If this is the case, the dip of the intrusive contact would appear to dip steeply to the southwest (see Fig. 3).

The northwest side of the intrusive body may be further NE than shown or may simply be non-magnetic.

To investigate the property further, geophysically, an induced polarization survey (I.P.) was done on August 31, 1974. Line 12+80W was chosen as the first line to be followed by 17+60W, 8+60W and Base Line 2 if anomalous values were obtained.

The instrument used was a portable time domain unit, using a 12 volt battery power source. The Wenner array with an electrode spacing of 200' ("a" spacing) was used, which would give an effective penetration depth of 100'-150'.

Only a 2000' section of L-12+80W was completed when instrument malfunction prevented completion of the survey.

The results, namely normalized I.P. and resistivity, were plotted on a section with accompanying geochemistry and ground magnetics (see Fig. 1). Four definite I.P. peaks were evident with only three of them having corresponding resistivity lows. The largest I.P. effect (48 mv-sec) had a corresponding low resistivity of 2000 ohm-feet. This anomaly is situated at L-12+80W;31S and shows a low ground magnetic response. Soil samples, however, gave low molybdenum and slight copper values.

The second I.P. peak at 37S, though not as intense as the one above, did show a low resistivity (2700 ohm-feet). This represents a narrow feature since resistivity rises very sharply 100' either side of the resistivity low. The anomaly also corresponds with the north end of a broad magnetic high.

Copper and molybdenum were both anomalous at this point. The third I.P. anomaly was found at 47S, however, it was not as well defined as the previous two. Ground magnetics gave only background values and soil samples were only slightly anomalous in copper and molybdenum.

Having only one line of I.P. data available, a more detailed interpretation is not possible.

(g) Conclusions

The anomalous copper and molybdenum values observed on the southern Won claims are related to the emplacement of an intrusive plug (quartz porphyry or quartz monzonite) into Triassic metavolcanic rocks. The intrusive plug is probably a steeply dipping offshoot of the main granodiorite mass to the south and is partially overlain by metavolcanic rocks. Emplacement of the intrusive resulted in fracturing of the overlying rocks and subsequent quartz veining and mineralization of the metavolcanics.

The later near surface weathering and/or hydrothermal activity altered the pyrite, pyrrhotite, molybdenite and possibly the copper mineral(s). The magnetic anomaly probably represents one contact of the intrusive mass where magnetite ( $\pm$ pyrrhotite) content is greater than average.

The molybdenum anomaly locates the mineralizing source area better than copper, since copper is more mobile. No values are found on the east side of the creek due to the presence of a fault, or more likely due to the presence of thick, fine grained overburden.



View Looking Northwest to Tatlmay Lake Y.T.

July, 1974.

## YUKON RIVER PROJECT

### (a) Introduction

The Yukon River project area was chosen with several factors kept in mind, namely:

1. To stay within rocks of the same type and age as the Silver Standard property (Triassic intrusive - see Map No. 3)
2. To work in an area not heavily explored and/or staked.

In early July, a base camp was established along the Klondike highway at mile 131, thirty miles (by road) north of Carmacks, Y.T.

Five summer students and the writer carried out systematic geochemical and geological reconnaissance of the project area. Crews were "set out" and "picked up" by a Trans North Turboair 47GB3 helicopter contracted to Kerr Addison from July 7 to August 2, 1974. During the period August 2 to August 14, one crew continued the sampling programme in the remaining area supported by a Ranger stationed at Carmacks, Y.T. The remainder of the field season (August 14-31) was devoted to follow-up work on the Won claims.

### (b) Terrain

The Yukon River project area consists of broad rounded peaks with their flanks and streams being of a moderate slope. Peaks in the northern two thirds of the area rise to 4000'-4400' (a.s.l.) while those in the southern third attain heights of 4500'-5600' (a.s.l.)

Average relief for the northern and southern areas are 1500' and 2500' respectively. Approximately 90% of the project area is found above the 2500' elevation.

Stream valleys are generally wide and seldom steep sided. Major streams have broad U-shaped valleys typical of a glaciated terrain (some stream valleys even contain recessional moraines, i.e. 8 miles south of Kelly Lake).

Lakes comprise 1-1½% of the total area with their most abundant occurrence in the area south and west of Tadru and Kelly lakes. Swampy areas are common along the major streams where drainage is slow. Tributary streams often are lined with abundant growth of alder and "buckbrush" making traversing difficult at times.

Essentially 85% of the area is covered by vegetation, primarily spruce and poplar. Treeline is 4000' with vegetation above this level consisting of short grasses, moss and stunted "buckbrush". In poorly drained valley bottoms vegetation is found to be often stunted or in various stages of decay. Large areas of burned forest are found in an area 4-6 miles south and south west of Tatlmair Lake.

(c) Regional Geology

Approximately 95% of the project area is underlain by intrusive rock mapped as being Triassic (Trgdm) in age, by the Geological Survey. This rock is described as a hornblende and/or biotite granodiorite and quartz diorite generally showing alignment of mafic minerals.

Triassic volcanics (Trvb) consisting of basaltic rocks, minor sediments and hornblende-chlorite schists are found along the southwest edge of the project area. These volcanics would be older than the granodiorite since portions of the volcanics are surrounded by the intrusive.

In the Tadru Lake area, amphibolites are found in contact with the granodiorite. Like the volcanics, these amphibolites are older than the intrusive.

(d) Local Geology

During the geochemical and geological reconnaissance, little difference was found between local and regional geology.

Slight variations in the Triassic intrusive were found, however, these were of no economic significance. Some of these variations were feldspar porphyries, presence of quartz-feldspar-mica dykes, inclusions of volcanic rocks and variations in grain size.

A few small areas of unmapped volcanics, amphibolites and sediments were found, but also of no economic significance. The only foliated rock found in the project area was a small hilltop outcrop of quartz-mica schist cut by numerous quartz-calcite-actinolite veinlets. This outcrop, situated 7.5 miles southeast of Kelly Lake represents a remnant of a larger rock unit that has long since been eroded. It is interesting to note that the highest and only anomalous copper value was obtained on this outcrop. Anomalous copper values covered less than a 100' square area. No mineralization of economic significance was found here or anywhere else in the Yukon River project area.

(e) Geochemistry

Geochemical sampling was done in the usual reconnaissance method whereby a crew is placed at the headwaters of a stream and each man allowed to sample a particular area of that drainage. The main stream would be sampled at half to one mile intervals, depending on the size of the stream and its drainage area. All tributaries of the stream were sampled, generally 200' - 300' upstream, to avoid contamination of silt by the main stream. Ground seepages were sampled in a similar manner.

In sampling, the finer grained fraction of the silt was taken, making sure it was a recently deposited sample (i.e. not previous years high water silt). The grain size, rock type present, flow rate of stream, organic content, drainage direction and pH of the stream were recorded on geochemical cards. If the silt was poor, a bank soil sample was taken. The sample was then located on 1:50,000' map overlays, or airphoto overlays.

All samples were sent to Barringer Research in Whitehorse.

Analysis of silt samples for Cu, Zn, Pb, was done using a dilute HCl attack (cold extraction). Results were stated in parts per million (ppm).

Total area covered by silt sampling was approximately 630 square miles or 85% of the project area. Only the extreme southeast corner was not covered. Average sample density was 2.1 samples/square mile. No anomalous copper values were found, except the previously mentioned hilltop anomaly of 220 ppm copper. A small grid sampling plan was done around the anomaly with no high copper values being found more than 100' away from the anomalous sample.

(f) Conclusions

The Yukon River project area did not encounter any significant copper values or mineralization. Though mapped as the same rock type on the Silver Standard property, there were no gneissic bands or any favourable structures found.

The fact that the project area was:

1. On the east side of the Yukon River,
2. Had no old mineral showings of any sort, and
3. Was not on the trend of copper occurrences (i.e. Silver Standard - Williams Creek)

were possible reasons for not finding mineralization or anomalous copper values of any significance.

**APPENDIX**

**Rock Sample Descriptions for**

**MAG E.M. ANOMALIES**

**WON CLAIM GROUP**

ROCK SAMPLE DESCRIPTIONS

Located on Map Nos. 5(A), 5(B)

Anomaly #1

- R-1 - Dark green metavolcanic rock showing definite lineation of mafic minerals.
  - Non magnetic
- R-2 - Schistose green metavolcanic rocks, fine grained.
  - More biotite than R-1 above.
  - Non-magnetic.
- R-3 - Dark green, medium grained metavolcanic.
  - Phenocrysts of hornblende in matrix of chlorite, plagioclase and hornblende.
  - Weakly magnetic.
- R-4 - Pinkish, medium grained dyke intruding metavolcanic of type R-3 above.
  - Sharp contact present.
  - Dyke consists of 10-12% quartz, 60% K-feldspar, 20% plagioclase, 5% epidote and magnetite.
  - Dyke contact and surrounding metavolcanic are moderately magnetic.
  - Rock found near contact of Trgdm and Trvb (G.S.C. map).
- R-5 - Medium grained hornblende-biotite granodiorite showing slight lineation of mafics.
  - 10-15% quartz, 25% hornblende and biotite (hb much greater than bi), 60% feldspar (Kspar, > plagioclase), 2% epidote, sphene and magnetite.
  - Slight to moderate magnetism.
- R-6 - Dark green, fine grained metavolcanic showing lineation of mafics, (primarily hornblende).
  - Non-magnetic.

Anomaly #2

- R-7 - Dark green, fine grained, non-magnetic metavolcanic.
- R-9 - Pink, coarse grained, mafic poor, K feldspar-quartz-mica rock composed of 65% K feldspar, 20% quartz, 10% plagioclase and 5% muscovite, biotite.
  - Non-magnetic.
  - Classified as a coarse grained granite.

- R-10 - Dark green, coarse grained hornblendite composed of anhedral to subhedral hornblende crystals in random orientation.
- Minor quartz, biotite and malachite (fracture surfaces).
- Non-magnetic.
- This outcrop was cut by dykes of R-11 (below).
- R-11 - A buff coloured, fine grained dyke, consisting of 75% Kfeldspar and plagioclase, 10% quartz and 15% hornblende (primarily from assimilation of hornblendite wallrock).
- Non-magnetic
- R-12 - A light grey, medium grained biotite granodiorite, composed of 20% quartz, 15% biotite, 50% plagioclase, 10-15% K feldspar.
- Accessory minerals include sphene, epidote and magnetite, comprising 1-2% of the rock.
- Directive texture is present on a large scale.
- Non-magnetic.
- R-13 - Dark green, medium grained hornblende gneiss showing lineation of hornblende crystals, and lenses of granular quartz and feldspar.
- Non-magnetic.
- R-14 - Pale green, fragmental volcanic rock consisting of fine grained volcanic fragments, quartz fragments and K feldspar.
- Weakly magnetic.
- R-15 - Pale green, schistose, fine grained volcanic rock.
- Composed of chlorite, quartz, feldspar and minor epidote.
- Some pyrite noted along fracture surfaces.
- Non-magnetic.
- R-16 - Dark grey, fine grained biotite-quartz-feldspar schist. Excellent schistose texture with granular quartz and feldspar lenses between bands of biotite.
- This sample contain malachite which was observed to be associated with a small 1/16" thick fracture.
- No primary copper mineralization was noted.

#### Anomaly #4

- R-17 - A pinkish medium grained quartz monzonite-biotite or granodiorite.

- Well developed foliation of mafic minerals.
  - Biotite altered to chlorite and often accompanied by grains of epidote.
  - Non-magnetic.
- R-18
- A buff coloured, very fine grained mafic rock (less than 5%) volcanic rock (i.e. rhyolite).
  - Composed almost entirely of quartz and feldspar.
  - Non-magnetic.
- R-19
- Dark green garnet-chlorite-amphibole schist (coarse grained).
  - Non-magnetic.
  - Very small hilltop outcrop underlain by the Triassic intrusive.
- R-20
- Medium grained biotite-hornblende granodiorite or quartz diorite.
  - Contains >10% quartz, ≤70% feldspar (plagioclase greater than Kspar), mafics (biotite greater than hornblende) 20%, epidote, sphene, magnetite, clay minerals - 3%.
  - Weakly Magnetic.

WON CLAIM ROCK DESCRIPTIONSTest Pit #1Sample No. 1B

- Pale green-grey, fine grained, quartz-chlorite schist.
- Rusty fracture surfaces
- Non-magnetic
- 1-2% pyrite + pyrrhotite

Sample No. T.P. 1 (base of pit)

- Rusty weathering, grey, fine-medium grained quartz-mica schist
- Quartz - 40%
- Micas - 35%
- Feldspars - 15%
- Accessories + limonite - 5-10%
- Small folds noted, micas follow the folds, therefore deformation is post metamorphic.
- No mineralization was noted.

Test Pit #2Sample No. T.P. 2 (Upper C Horizon)

- Fine grained, dark green, silicified metavolcanic.
- 5-6% pyrite + pyrrhotite.
- Rusty fracture surfaces

Sample No. T.P. 2 (base of pit)

- Dark green-grey, fine grained, slightly schistose chloritized volcanic rock.
- Weakly magnetic.

Test Pit #3Sample No. T.P. 3 - 1.5'

- Quartz phenocrysts 5% (rounded), others 20%
- Micas - 7%
- Feldspar - 65% (Kspar  $\geq$  plagioclase)
- Hornblende - 2%
- Pyrrhotite - 2% (rusty haloes)

Sample No. T.P. 3 (base of pit)

- Rusty, fine grained, quartzose schist.
- Fracture surfaces show abundant limonite - some may be ferrimolybdate.

Test Pit #4Sample No. T.P. 4 - 0-3'

- Dark grey, fine grained schistose metavolcanic.
- 3-4% pyrite + pyrrhotite.
- Weakly magnetic.

Sample No. T.P. 4 (base of pit)

- Rusty weathering, dark green quartzose metavolcanic rock.
- Hornblende and chlorite 60% of rock.
- 1% pyrite and pyrrhotite.

Test Pit #5Sample No. T.P. 5 (base of pit)

- Fine grained, greenish, schistose quartz-mica schist.

Test Pit #6Sample No. T.P. 6 - 3'

- Very rusty, nearly pure limonite rock.
- Some small buff carbonate veinlets and rusty quartz remains
- Minor (less than ½%) pyrite remains.

Sample No. T.P. 6 (base of pit)

- Very rusty rock consisting of silica, limonite and quartz - carbonate veinlets.
- Vestiges of micas remain (could be originally an intrusive rock).

Test Pit #7Sample No. T.P. 7 (base of pit)

- Rusty, quartz rich altered intrusive, coated heavily with yellow to deep brown limonite.
- Micas now altered to sericite-chlorite mixture.
- Found a band of buff coloured oxidation material that fluoresces a rich yellow colour - probably powellite.
- Within this area of powellite is a cavity in quartz found to contain molybdenite flakes and yellow ferrimolybdate.

Test Pit # 8Sample No. T.P. 8 (base of pit)

- Rusty weathering, medium grained intrusive having the following mode:
 

Micas	-	10%	
Quartz	-	15-20%	
Hornblende	-	5%	
Feldspar	-	65%	(Kspar greater than plagioclase)
Pyrrhotite + Limonite	-	3-4%	
- Rock name - quartz-mica monzonite.

Test Pit #9Sample No. T.P. 9 (base of pit)

- Grey green, very fine grained quartzose metavolcanic rock.
- Some quartz veinlets noted.
- 1% pyrrhotite present.

Test Pit #10Sample No. T.P. 10 (base of pit)

- Green-grey, fine grained slightly schistose metavolcanic.

Test Pit #11Sample No. T.P. 11 (Intrusive 3')

- Grey, medium grained intrusive rock having the following mode:
  - Mafics - 10% (3% euhedral biotite crystals, 4% anhedral, 3% hornblende).
  - Quartz - 25-30%
  - Feldspar - 60% (Kspar greater than plagioclase)
  - Accessory minerals 2% (magnetite, pyrrhotite)
- Some alteration of biotite and hornblende to chlorite.
- Rock name - quartz monzonite or granodiorite.

MISCELLANEOUS ROCK SAMPLESRCA - 12 27+00W : 63S

- Grey, medium grained porphyritic intrusive rock containing the following minerals:
  - Quartz - 10-15% (many grains are clear, smoky rounded grains)
  - Feldspar - 70% (Kspar greater than plagioclase)
  - Accessory Minerals - 1-2% (magnetite, pyrrhotite and sphene)
  - Mafic Minerals - 10-15% (biotite + hornblende)

R-28 30+00W : 62S

- Buff, fine grained porphyritic intrusive rock.
- 5-8% quartz phenocrysts in a fine grained groundmass.
- The remainder of the rock is a fine grained mixture of quartz, feldspar, limonite and micas.
- Name - Altered porphyritic quartz monzonite? (quartz porphyry?)

Soil Site 15+00W : 31S

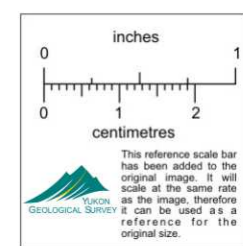
- Pale grey, medium grained intrusive rock, composed of:
  - Quartz - 10-15%
  - Mafics - 15% (biotite altered to chlorite, minor hornblende)
  - Feldspar - 65% (Kspar greater than plagioclase?)
  - Limonite - 5-6%
  - Pyrrhotite - 1%
- Name - Quartz monzonite - granodiorite.





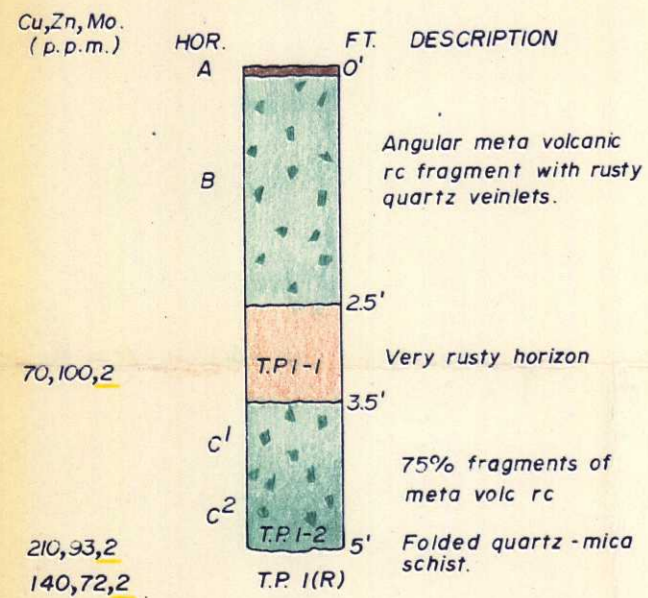
**MAG-EM FOLLOW-UP**  
 KERR ADDISON MINES LTD.  
**ANOMALY LOCATIONS**  
 SCALE 1:50,000; N.T.S. 115-1-13  
 DATE JUNE 1-10, 1974.  
 "MINTO PROJECT"

10/74 w.p.



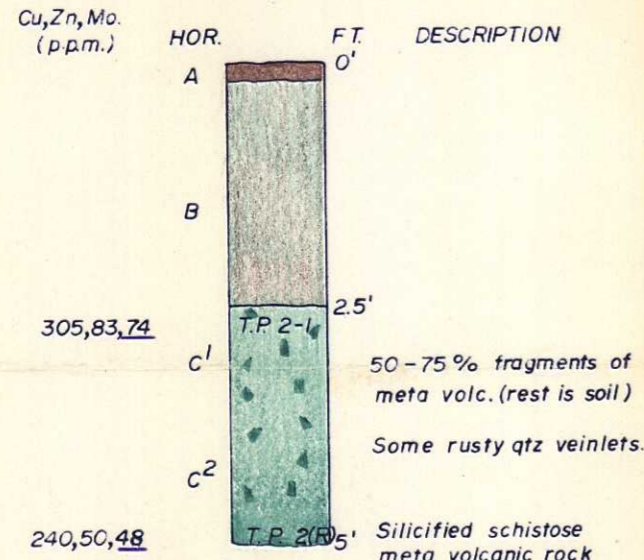
Map No. 2(A)

T.P. No. 1  
(15W, 56S)



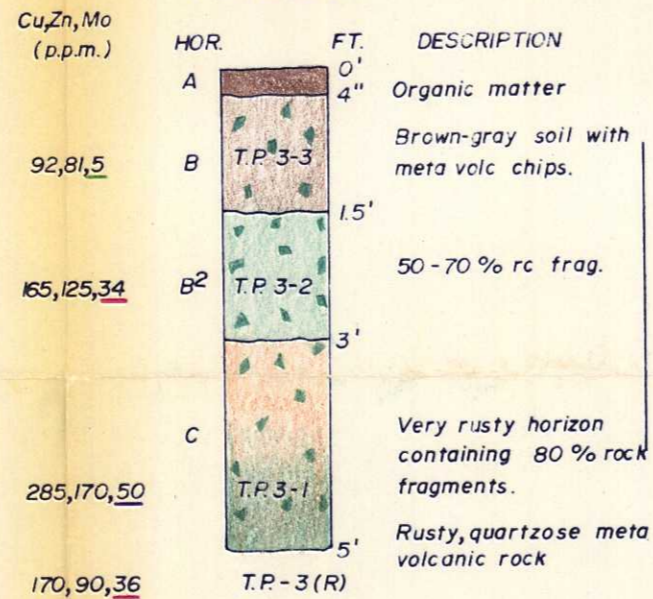
PIT ELEVATION - 2440'  
PIT DUG ON - 460 ppm. Cu

T.P. No. 2  
(15W, 45S)



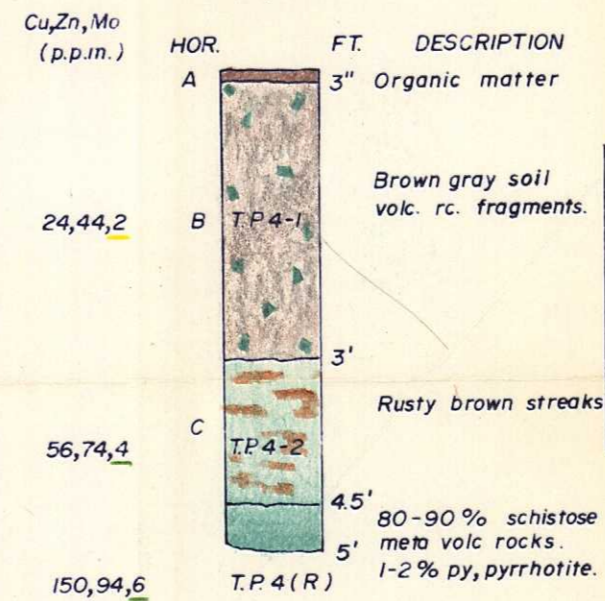
2410'  
22 p.p.m. Mo

T.P. No. 3  
(17+60W, 52S)



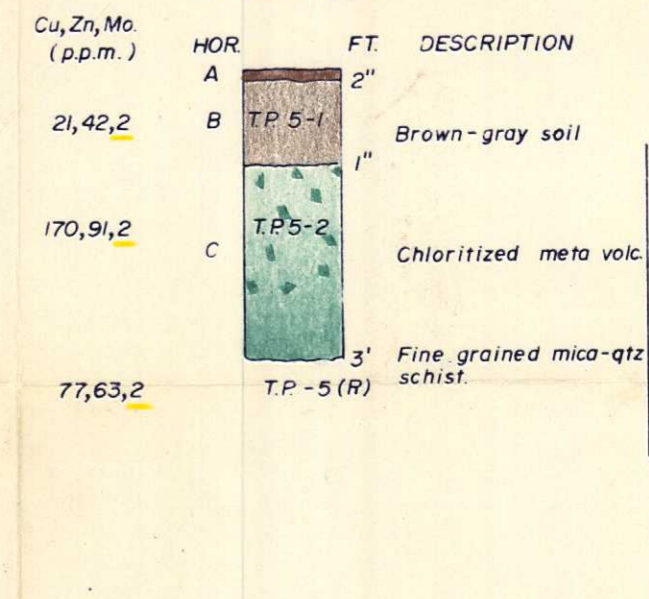
2655'  
Mag high (59,050%)

T.P. No. 4  
(28W, 41S)



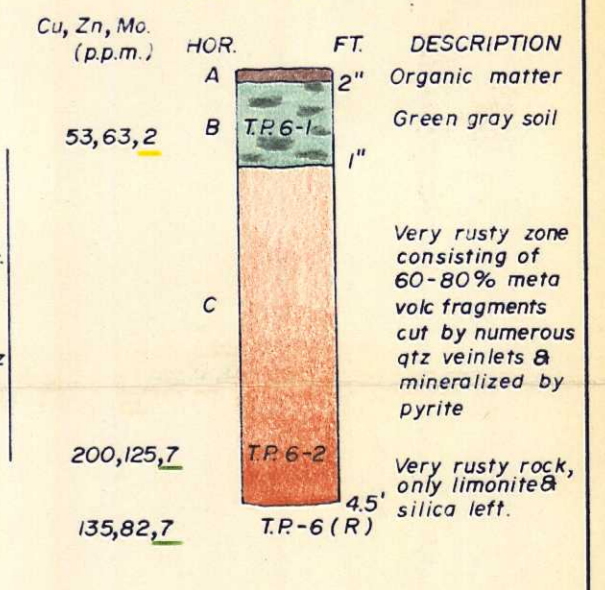
2650'  
Mag high (59,282%)

T.P. No. 5  
(250'W of 27W, 63S)



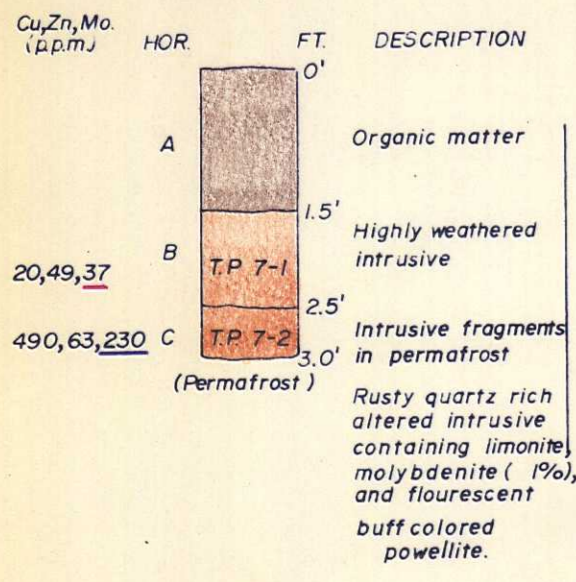
2985'  
To check uphill extension

T.P. No. 6  
(22+40W, 55+20S)



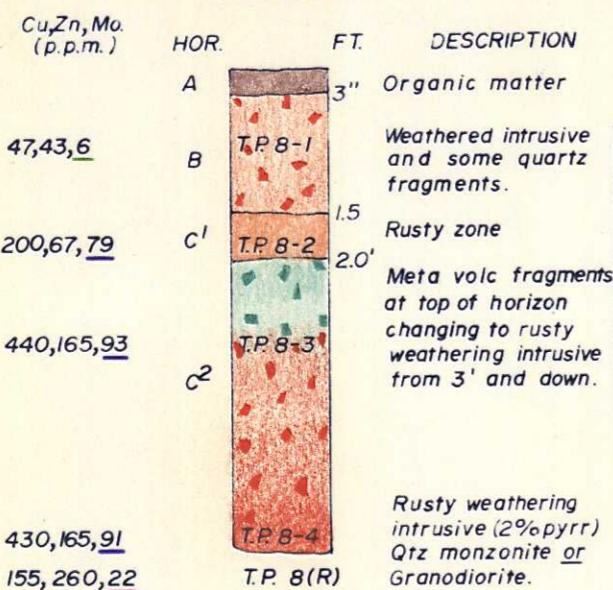
2910'  
To check uphill extension

T.P. No. 7  
(8+60W, 46S)



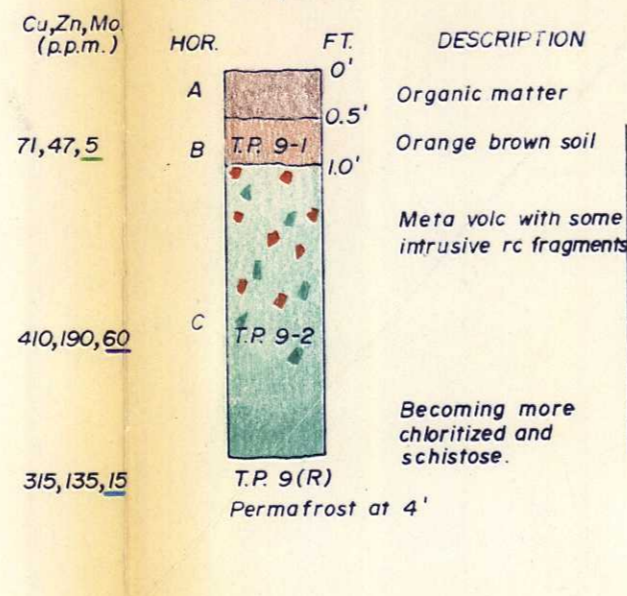
PIT ELEVATION - 2300'  
PIT DUG ON - Mag low (57,596%)  
340 ppm. Cu, 100 ppm. Mo

T.P. No. 8  
(12+80W, 35S)



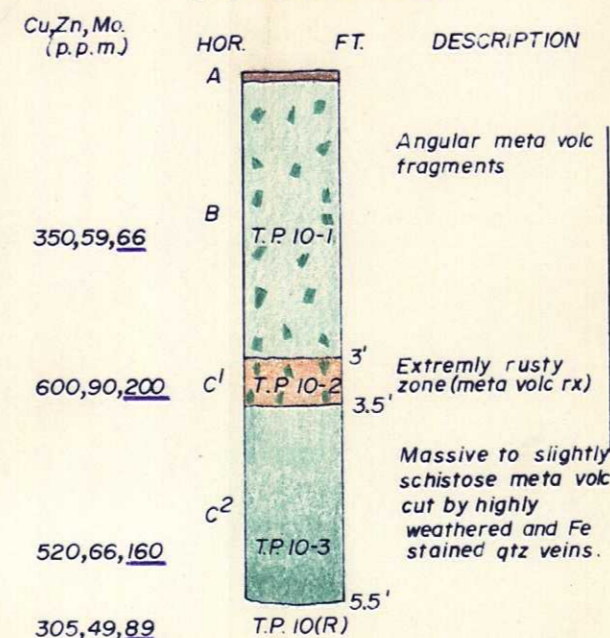
2495'  
350 ppm. Cu, 96 ppm. Mo

T.P. No. 9  
(17+60W, 41S)



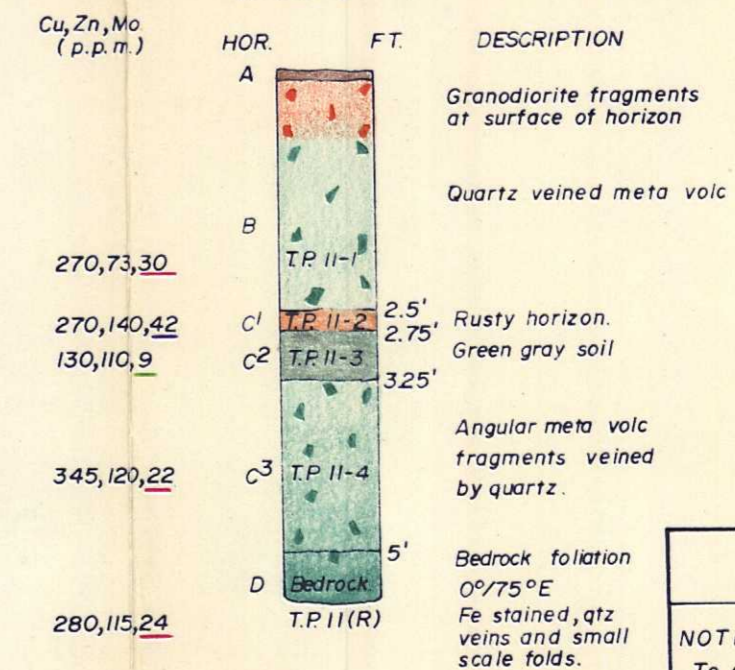
2555'  
395 ppm. Cu, 58 ppm. Mo

T.P. No. 10  
(225' N45°E of T.P. No. 2)

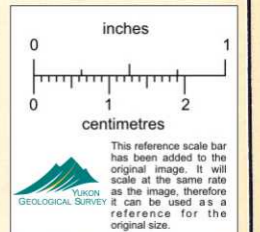


2390'  
Mag low, and half way between T.P. 2 & 7

T.P. No. 11  
(17+60W, 47S)



2590'  
290 ppm Cu, 50 ppm. Mo



**WON CLAIM GROUP**  
DAWSON MINING DISTRICT, YUKON.

**TEST PIT PROFILES**

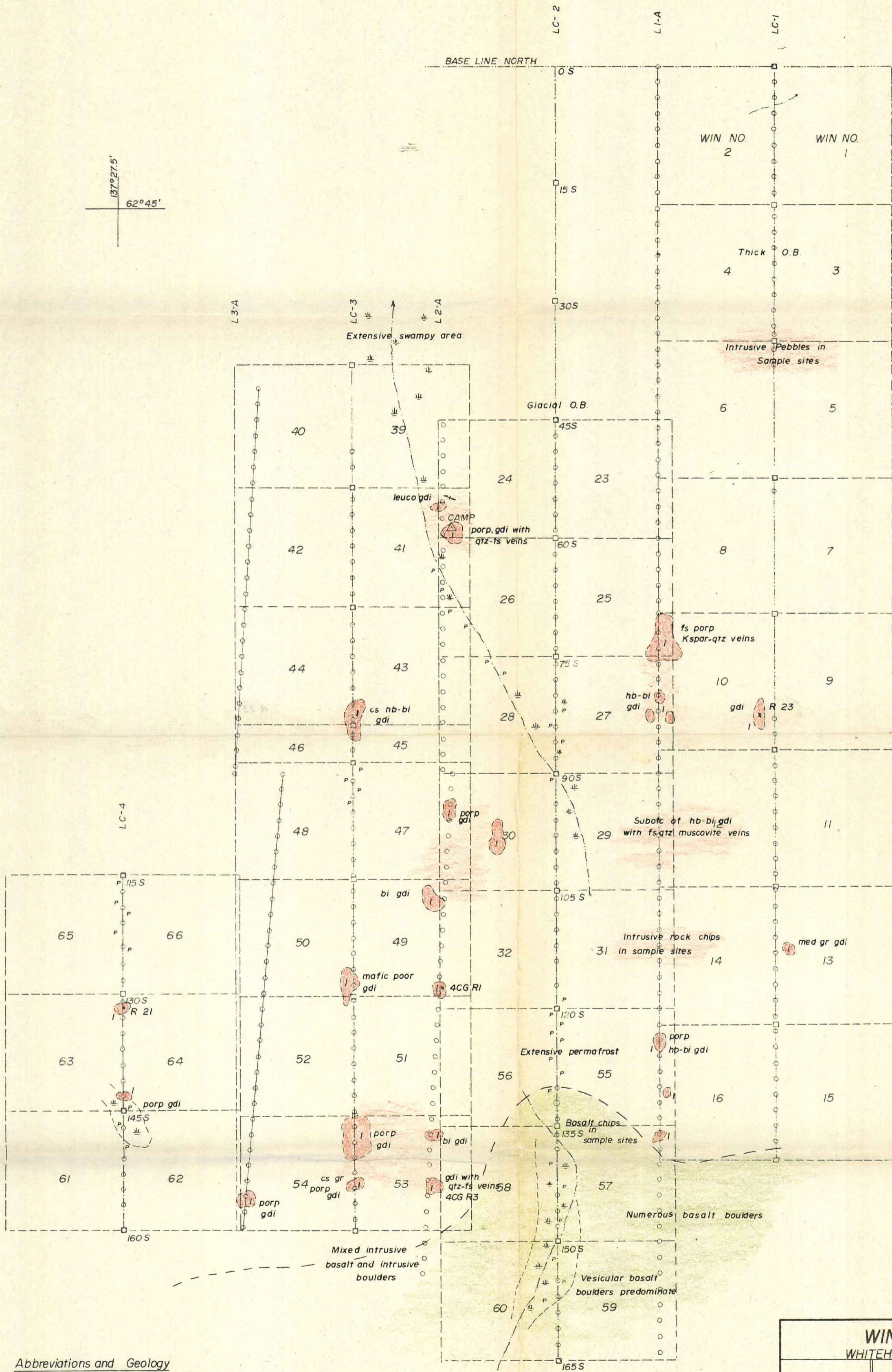
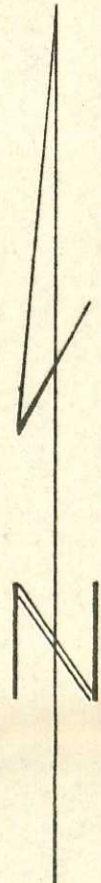
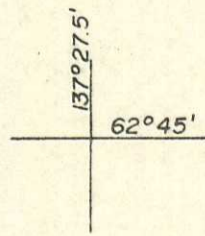
NOTE: To accompany Detailed geology and rock sample description.

PROJECT: MINTO  
OFFICE: VANCOUVER  
TEST PITTING BY: I. Mc Carthy, g. Conley.

FIG. 2

N.T.S. 115-1-13 SCALE 1" = 2.0' (VERTICAL) W.S. 11/1/77

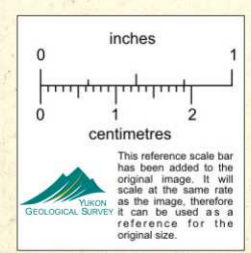
Van copy



- LEGEND**
- CLAIM BOUNDARY
  - 23 CLAIM NUMBER
  - CLAIM LOCATION LINE
  - STREAM
  - P PERMAFROST
  - GEOCHEM SAMPLE SITE WITH Cu ASSAY IN P.P.M.
  - ≡ SWAMPY AREA

Abbreviations and Geology

- fs = feldspar
  - bi = biotite
  - qtz = quartz
  - gdi = granodiorite
  - hb = hornblende
  - otc = outcrop
  - cs = coarse
  - gr = grained
  - porp = porphyritic
- 1 Area of rock exposure (outcropping or numerous boulders)
  - 2 med. to cs gr hb, hb-bi, or bi gdi is often porphyritic and cut by qtz-fs ± muscovite veins. lineations of mafic minerals is weak to moderate. (Egdm on G.S.C. map)
  - 3 fine gr, dark brown, vesicular basalt; moderate to strongly magnetic. (eTcv on G.S.C. map)



**WIN CLAIM GROUP**  
WHITEHORSE MINING DISTRICT Y.T.

**GEOLOGICAL PLAN**

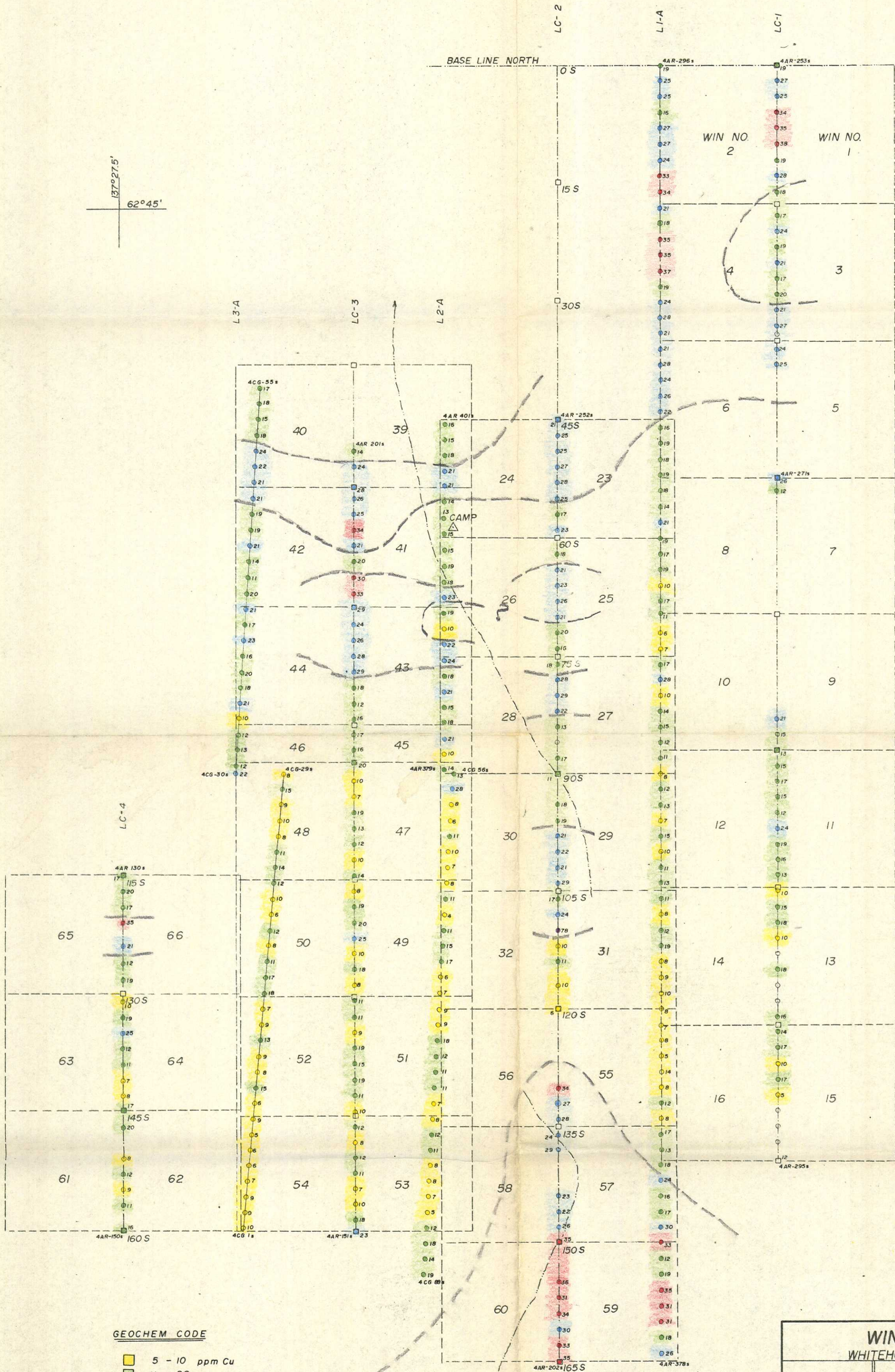
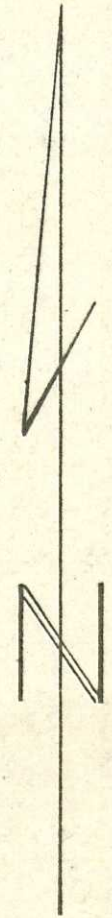
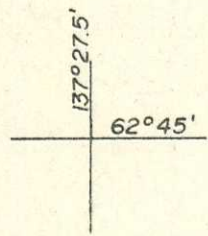
**KERR ADDISON MINES LTD.**

PROJECT : MINTO  
OFFICE : VANCOUVER

MAP NO. **6A**  
N.T.S. NO. **115-I-118 & 14.**

SURVEYED BY : W. M. ... J. M. ...  
June 12-24, 1977

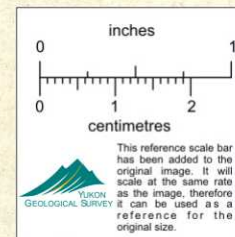
SCALE 1" = 1000'



**GEOCHEM CODE**

- 5 - 10 ppm Cu
- 11 - 20
- 21 - 30
- 31 - 40
- > 40

- LEGEND**
- CLAIM BOUNDARY
  - CLAIM NUMBER
  - CLAIM LOCATION LINE
  - STREAM
  - PERMAFROST
  - GEOCHEM SAMPLE SITE WITH Cu ASSAY IN P.P.M.



**WIN CLAIM GROUP**  
WHITEHORSE MINING DISTRICT Y.T.

**GEOCHEMICAL PLAN (Cu)**

**KERR ADDISON MINES LTD.**

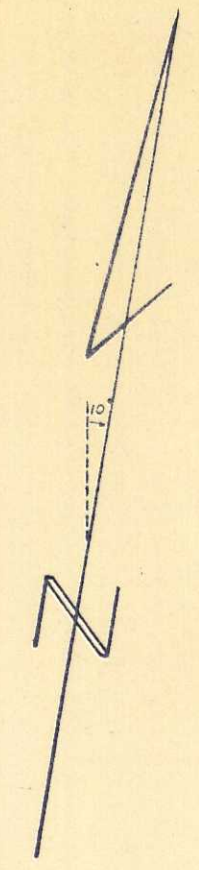
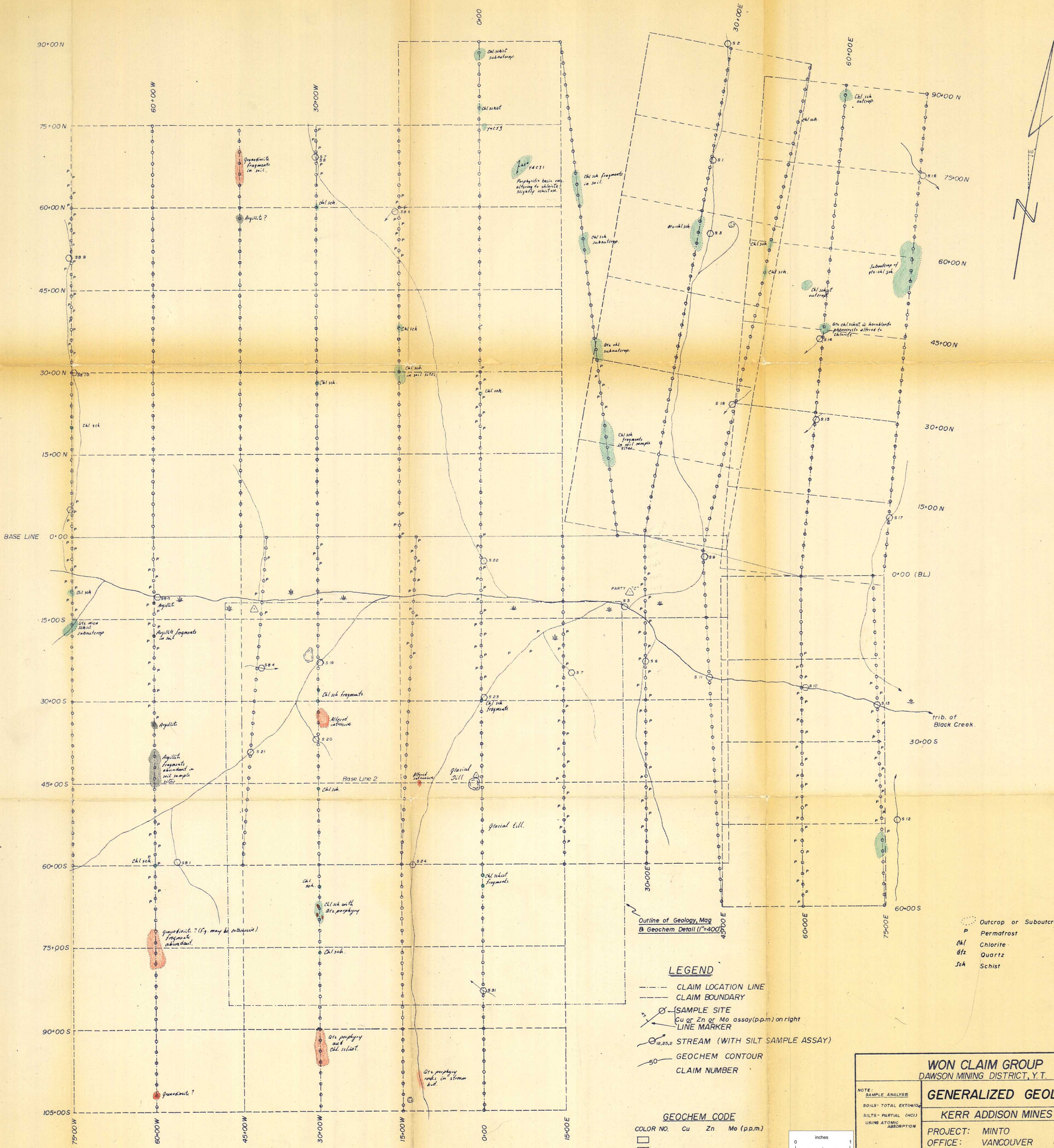
PROJECT : MINTO  
OFFICE : VANCOUVER

SURVEYED BY : *W. G. Grogan, J. M. Cairney, J. Rogers* June 12-26, 1977

MAP NO. **6B**

N.T.S. NO. **115-I-11&14.**

SCALE 1" = 1000'

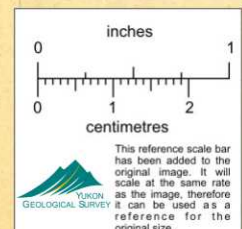


- LEGEND**
- CLAIM LOCATION LINE
  - CLAIM BOUNDARY
  - SAMPLE SITE
  - Cu or Zn or Mo assay (p.p.m) on right
  - LINE MARKER
  - STREAM (WITH SILT SAMPLE ASSAY)
  - 50 GEOCHEM CONTOUR
  - CLAIM NUMBER

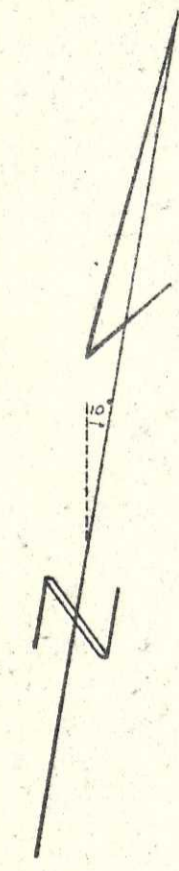
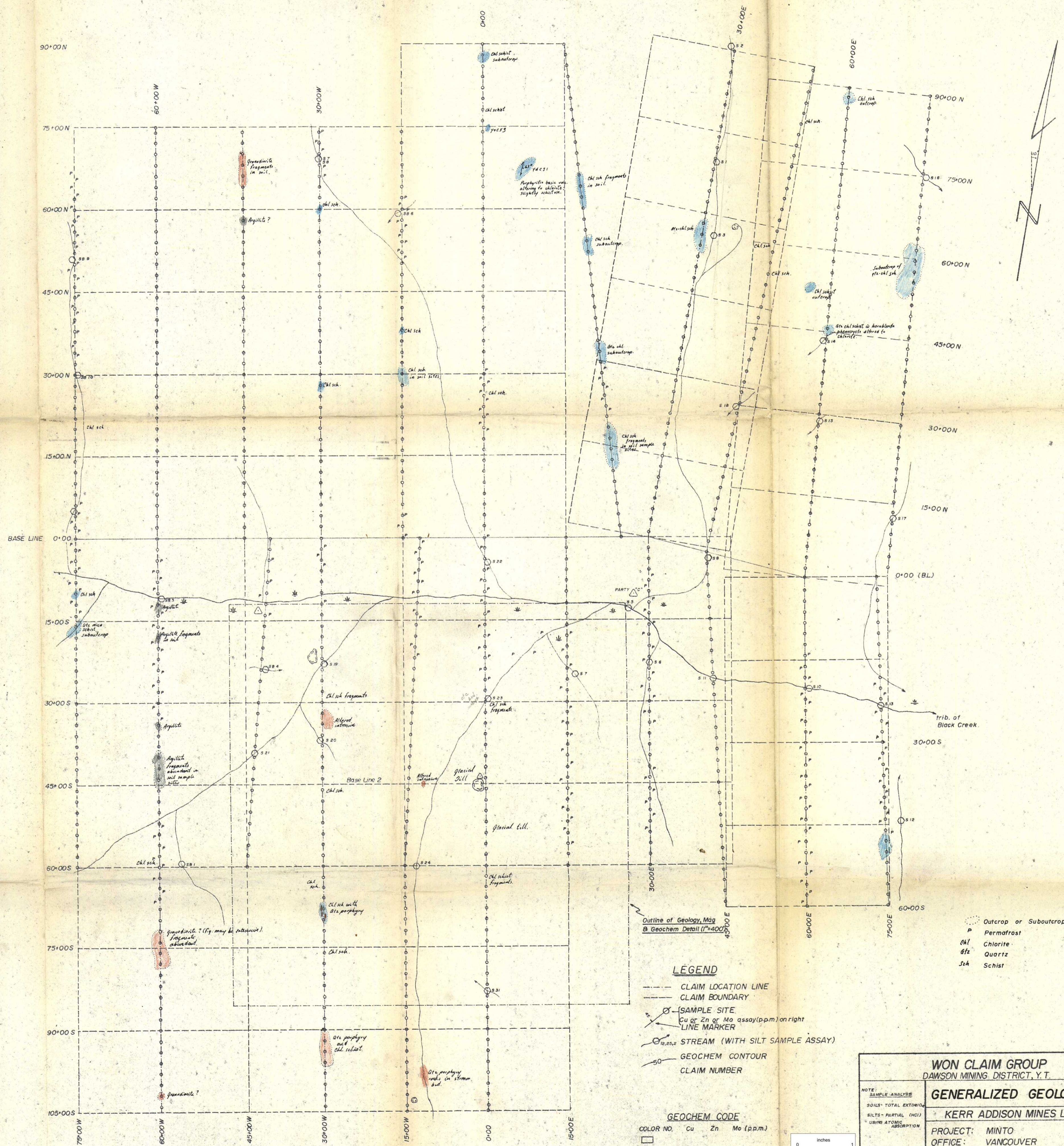
**GEOCHEM CODE**

COLOR NO.	Cu	Zn	Mo (p.p.m)
□			
□			
□			

- Outcrop or Suboutcrop
- P Permafrost
- Chl Chlorite
- qtz Quartz
- Sch Schist



<b>WON CLAIM GROUP</b> DAWSON MINING DISTRICT, Y.T.	
<b>GENERALIZED GEOLOGY.</b>	
<b>KERR ADDISON MINES LTD.</b>	
PROJECT: MINTO OFFICE: VANCOUVER	
SURVEYED BY: G. Sumby } Party B G. Taylor } Party C G. Murray } Party C. G. Kaye }	
NOTE: SAMPLE ANALYSIS SOILS - TOTAL EXTENSION SILTS - PARTIAL (HCl) USING ATOMIC ABSORPTION	MAP NO. 8 N.T.S. NO. 115-13
SCALE: 1" = 1000' 0' 500' 1000' 2000'	

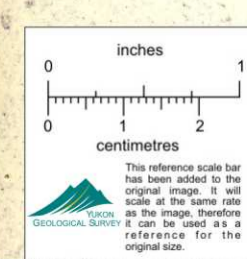


- LEGEND**
- CLAIM LOCATION LINE
  - CLAIM BOUNDARY
  - SAMPLE SITE  
Cu or Zn or Mo assay (ppm) on right
  - LINE MARKER
  - STREAM (WITH SILT SAMPLE ASSAY)
  - 50 GEOCHEM CONTOUR
  - CLAIM NUMBER

- Outcrop or Suboutcrop
- P Permatroost
- Ch Chlorite
- qtz Quartz
- Sch Schist

**GEOCHEM CODE**

COLOR NO.	Cu	Zn	Mo (pp.m.)
□			
□			
□			



**WON CLAIM GROUP**  
DAWSON MINING DISTRICT, Y.T.

**GENERALIZED GEOLOGY.**

KERR ADDISON MINES LTD.

PROJECT: MINTO  
OFFICE: VANCOUVER

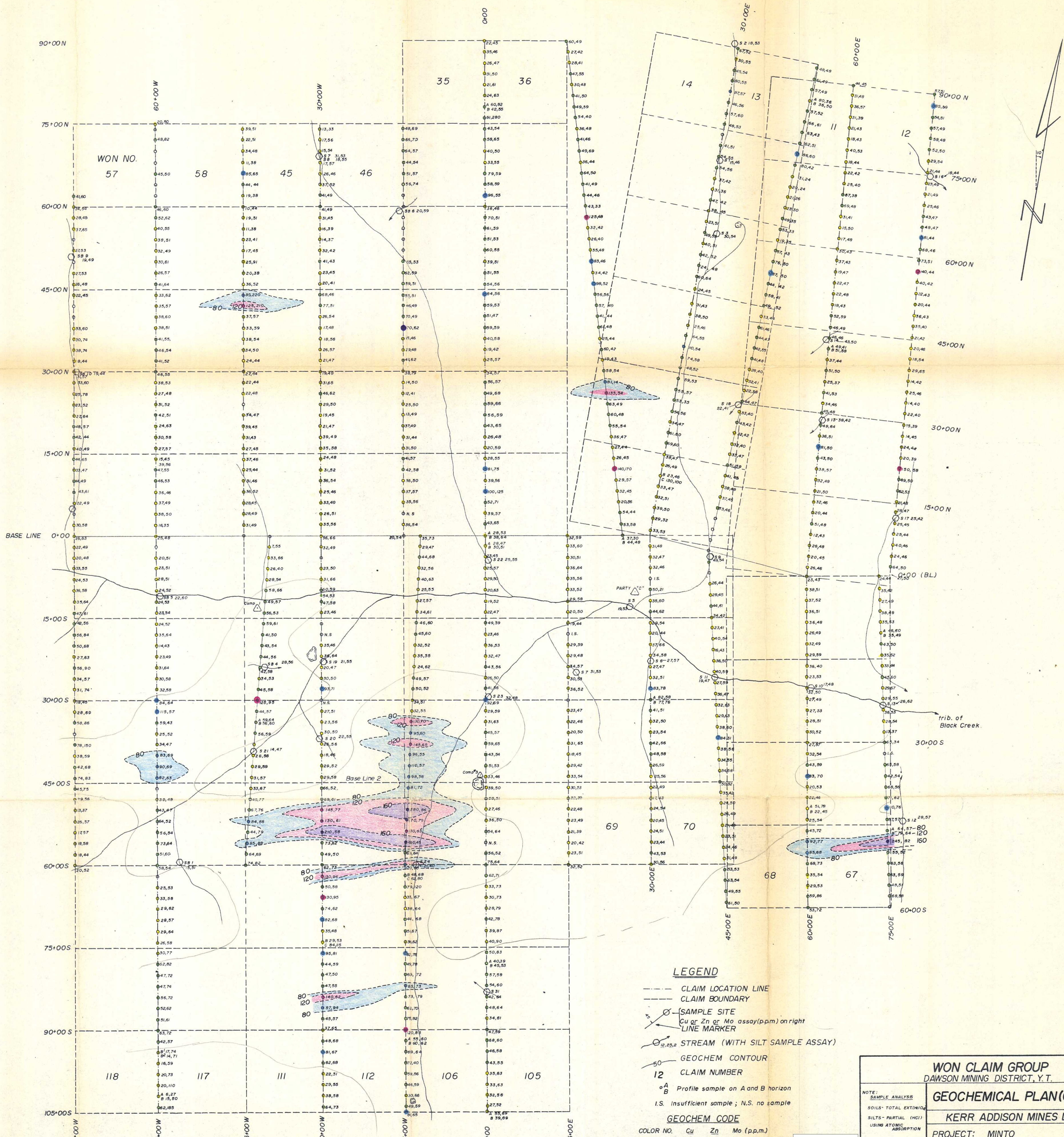
MAP NO. 8  
SURVEYED BY: S. L. ... Party B  
G. ... Party C  
G. ... Party E

N.T.S. NO. 115-13  
SCALE: 1" = 1000'

0 500' 1000' 2000'

NOTE: SAMPLE ANALYSES  
SOILS - TOTAL EXTENDING  
SILTS - PARTIAL (INCI)  
USING ATOMIC ABSORPTION

This reference scale bar has been added to the original map. It will show the relationship of the map to the original map. It can be used as a reference for the original size.

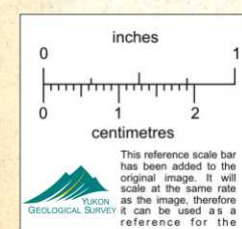


**LEGEND**

- CLAIM LOCATION LINE
- CLAIM BOUNDARY
- SAMPLE SITE
- Cu or Zn or Mo assay (ppm) on right
- LINE MARKER
- STREAM (WITH SILT SAMPLE ASSAY)
- GEOCHEM CONTOUR
- 12 CLAIM NUMBER
- A B Profile sample on A and B horizon
- I.S. Insufficient sample; N.S. no sample

**GEOCHEM CODE**

COLOR NO.	Cu	Zn	Mo (p.p.m.)
0-40	0-60		
41-80	61-90		
81-120	91-120		
121-160	121-180		
>160	>180		



**WON CLAIM GROUP**  
DAWSON MINING DISTRICT, Y.T.

**GEOCHEMICAL PLAN (Cu, Zn)**

**KERR ADDISON MINES LTD.**

PROJECT: MINTO  
OFFICE: VANCOUVER

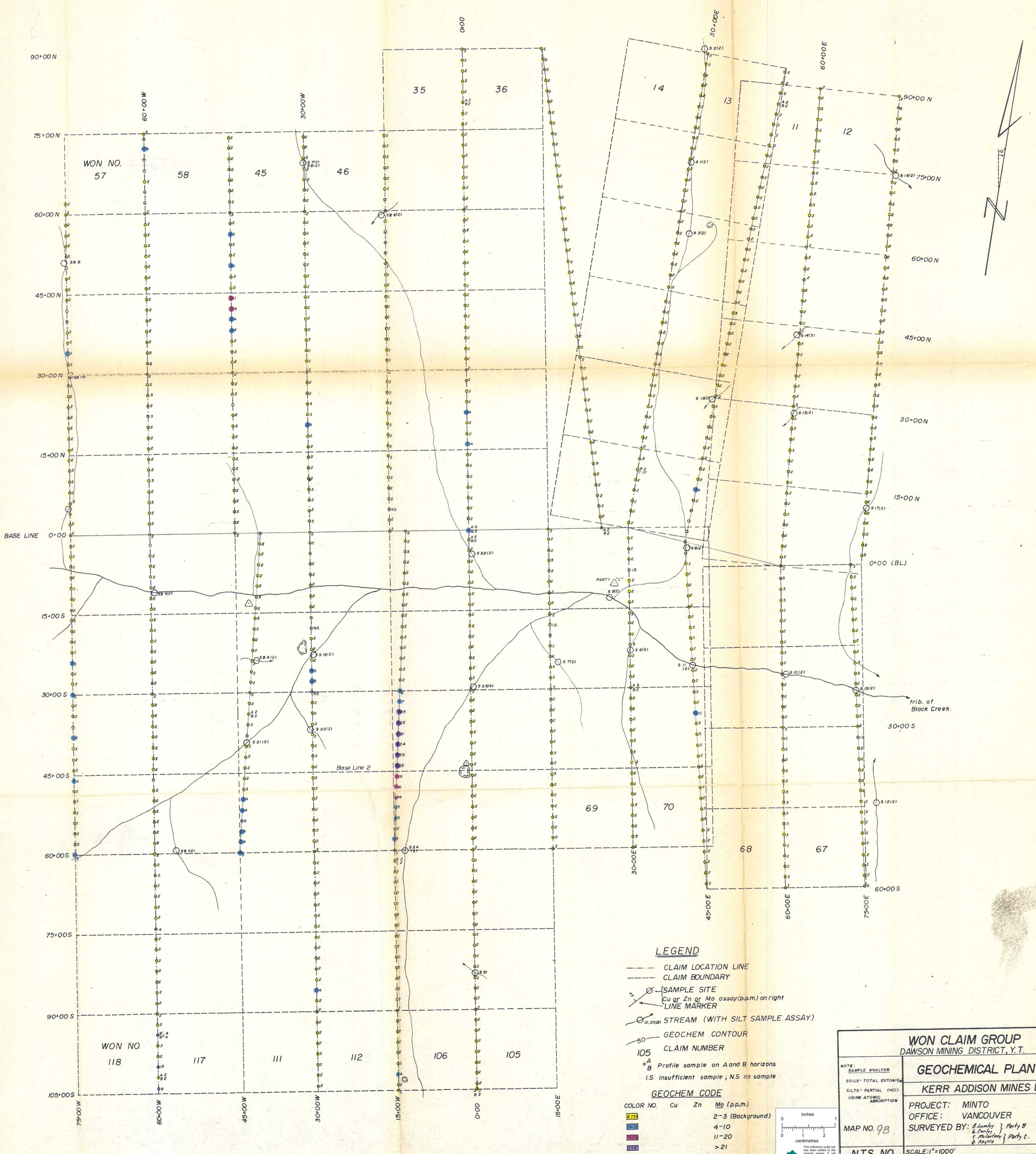
MAP NO. 9A

DATE: June 1, 24  
Aug 1, 24  
Aug 22, 31

**N.T.S. NO. 115-13**

SCALE: 1" = 1000'

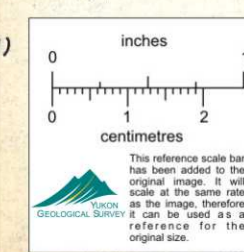
0' 500' 1000' 2000'



- LEGEND**
- CLAIM LOCATION LINE
  - CLAIM BOUNDARY
  - SAMPLE SITE  
Cu or Zn or Mo assay (p.p.m.) on right
  - LINE MARKER
  - STREAM (WITH SILT SAMPLE ASSAY)
  - GEOCHEM CONTOUR
  - CLAIM NUMBER
  - Profile sample on A and B horizons
  - I.S. Insufficient sample; N.S. no sample

**GEOCHEM CODE**

COLOR NO.	Cu	Zn	Mo (p.p.m.)
2-3			2-3 (Background)
4-10			4-10
11-20			11-20
>21			>21



**WON CLAIM GROUP**  
DAWSON MINING DISTRICT, Y.T.

**GEOCHEMICAL PLAN (Mo)**  
KERR ADDISON MINES LTD.

PROJECT: MINTO  
OFFICE: VANCOUVER

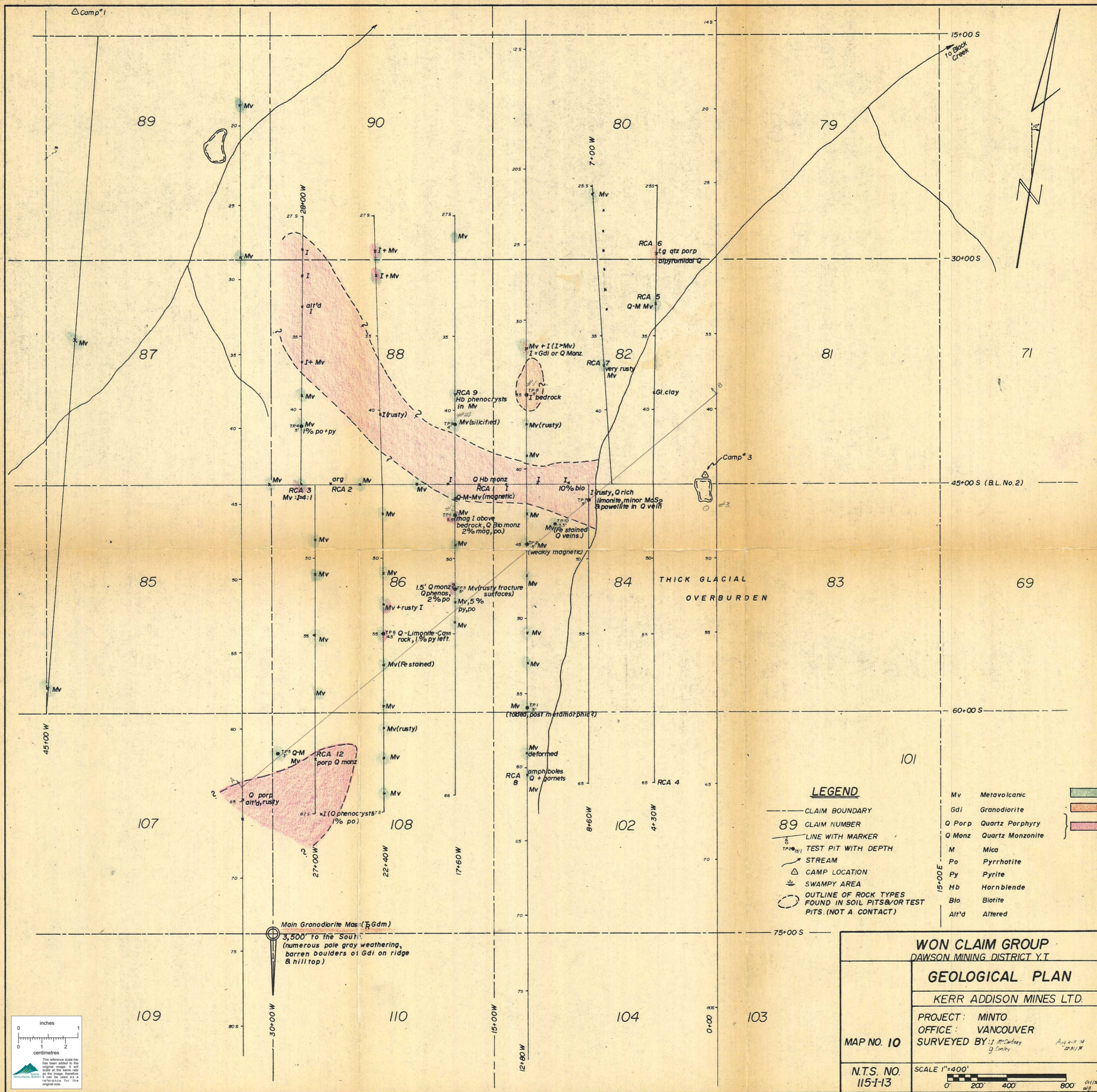
MAP NO. 98  
SURVEYED BY: B. Lumley } Party B  
G. Conley } Party C  
T. McCarney } Party C  
G. Kayra } Party C

NOTE: SAMPLE ANALYSIS  
SOILS - TOTAL EXTRACTION  
SILTS - PARTIAL EXTRACTION  
USING ATOMIC ABSORPTION

N.T.S. NO. 115-1-13  
SCALE: 1" = 1000'

MAP NO. 98  
SCALE: 1" = 1000'

0' 500' 1000' 2000'



**LEGEND**

- CLAIM BOUNDARY
  - 89 CLAIM NUMBER
  - LINE WITH MARKER
  - TEST PIT WITH DEPTH
  - STREAM
  - △ CAMP LOCATION
  - ≡ SWAMPY AREA
  - OUTLINE OF ROCK TYPES FOUND IN SOIL PITS &/OR TEST PITS. (NOT A CONTACT)
- |        |                  |  |
|--------|------------------|--|
| Mv     | Metavolcanic     |  |
| Gdi    | Granodiorite     |  |
| Q Porp | Quartz Porphyry  |  |
| Q Monz | Quartz Monzonite |  |
| M      | Mica             |  |
| Po     | Pyrrhotite       |  |
| Py     | Pyrite           |  |
| Hb     | Hornblende       |  |
| Blo    | Biotite          |  |
| Alt'd  | Altered          |  |

**WON CLAIM GROUP**  
 DAWSON MINING DISTRICT Y.T.

**GEOLOGICAL PLAN**

KERR ADDISON MINES LTD.

PROJECT: MINTO  
 OFFICE: VANCOUVER  
 SURVEYED BY: J. M. Carney  
 g. Carney

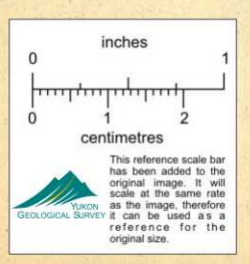
MAP NO. 10

N.T.S. NO. 115-1-13

SCALE 1"=400'

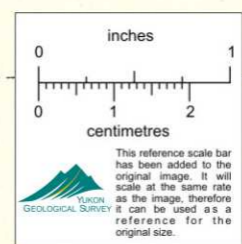
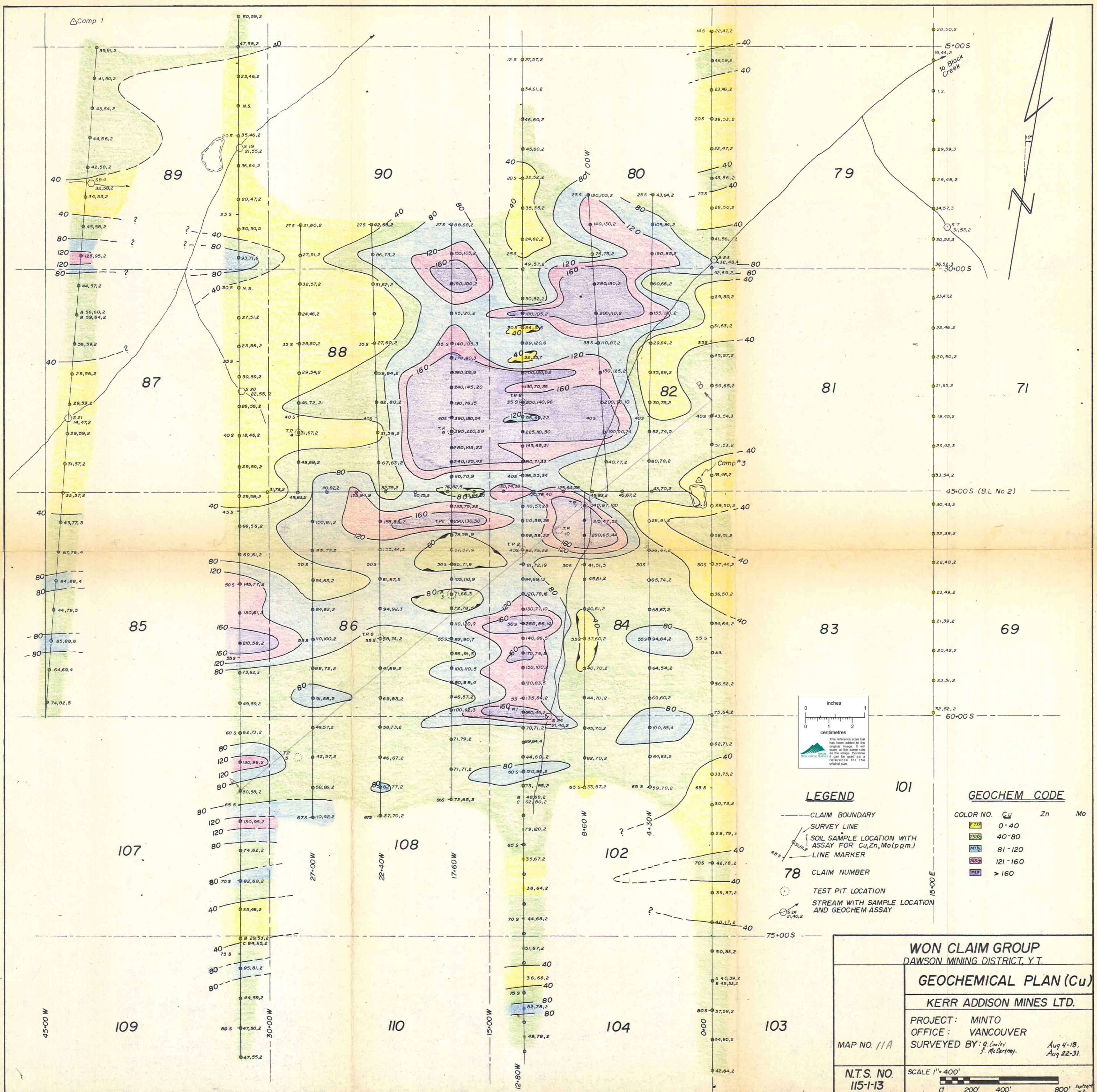
0' 200' 400' 800'

Aug 4-9-74  
 22-31-74



Main Granodiorite Mas (EGdm)  
 3,500' to the South  
 (numerous pale gray weathering,  
 barren boulders of Gdi on ridge  
 & hilltop)

THICK GLACIAL  
 OVERBURDEN



**LEGEND**

- CLAIM BOUNDARY
- SURVEY LINE
- SOIL SAMPLE LOCATION WITH ASSAY FOR Cu, Zn, Mo (ppm)
- LINE MARKER
- 78** CLAIM NUMBER
- TEST PIT LOCATION
- STREAM WITH SAMPLE LOCATION AND GEOCHEM ASSAY

**GEOCHEM CODE**

Cu	Zn	Mo
0-40		
40-80		
81-120		
121-160		
> 160		

**WON CLAIM GROUP**  
DAWSON MINING DISTRICT, Y.T.

**GEOCHEMICAL PLAN (Cu)**

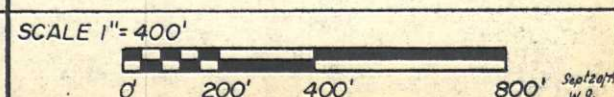
**KERR ADDISON MINES LTD.**

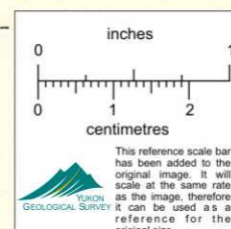
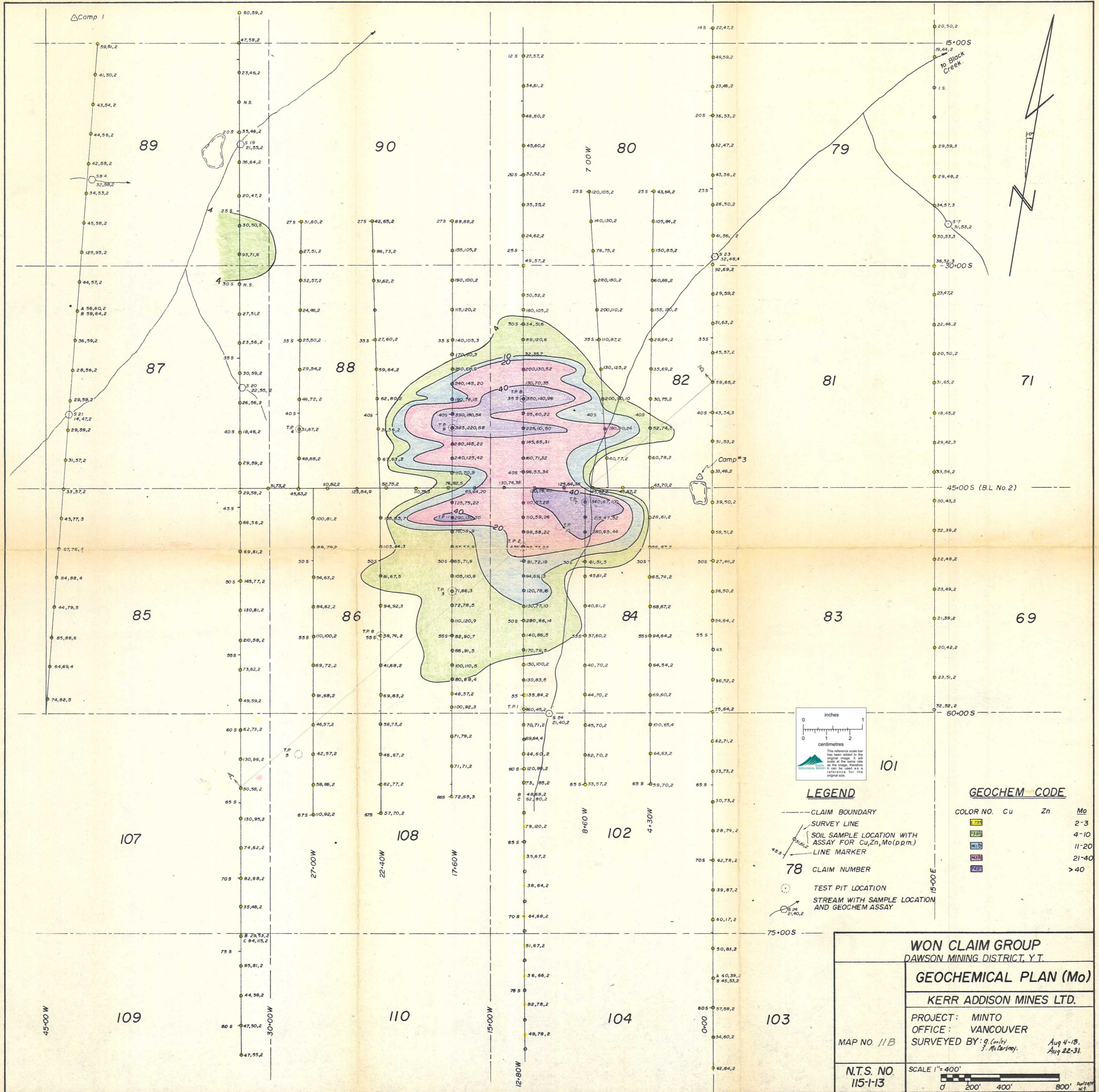
PROJECT: MINTO  
OFFICE: VANCOUVER

SURVEYED BY: G. Conley, J. McFarlane  
Aug 4-18, Aug 22-31

MAP NO. 11A

N.T.S. NO. 115-1-13





**LEGEND**

- CLAIM BOUNDARY
- SURVEY LINE
- SOIL SAMPLE LOCATION WITH ASSAY FOR Cu, Zn, Mo (p.p.m.)
- LINE MARKER
- 78 CLAIM NUMBER
- TEST PIT LOCATION
- STREAM WITH SAMPLE LOCATION AND GEOCHEM ASSAY

**GEOCHEM CODE**

COLOR NO.	Cu	Zn	Mo
2-35			2-3
2-38			4-10
2-12			11-20
2-32			21-40
2-2			> 40

**WON CLAIM GROUP**  
DAWSON MINING DISTRICT, Y.T.

**GEOCHEMICAL PLAN (Mo)**

**KERR ADDISON MINES LTD.**

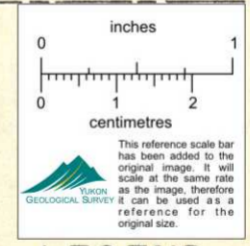
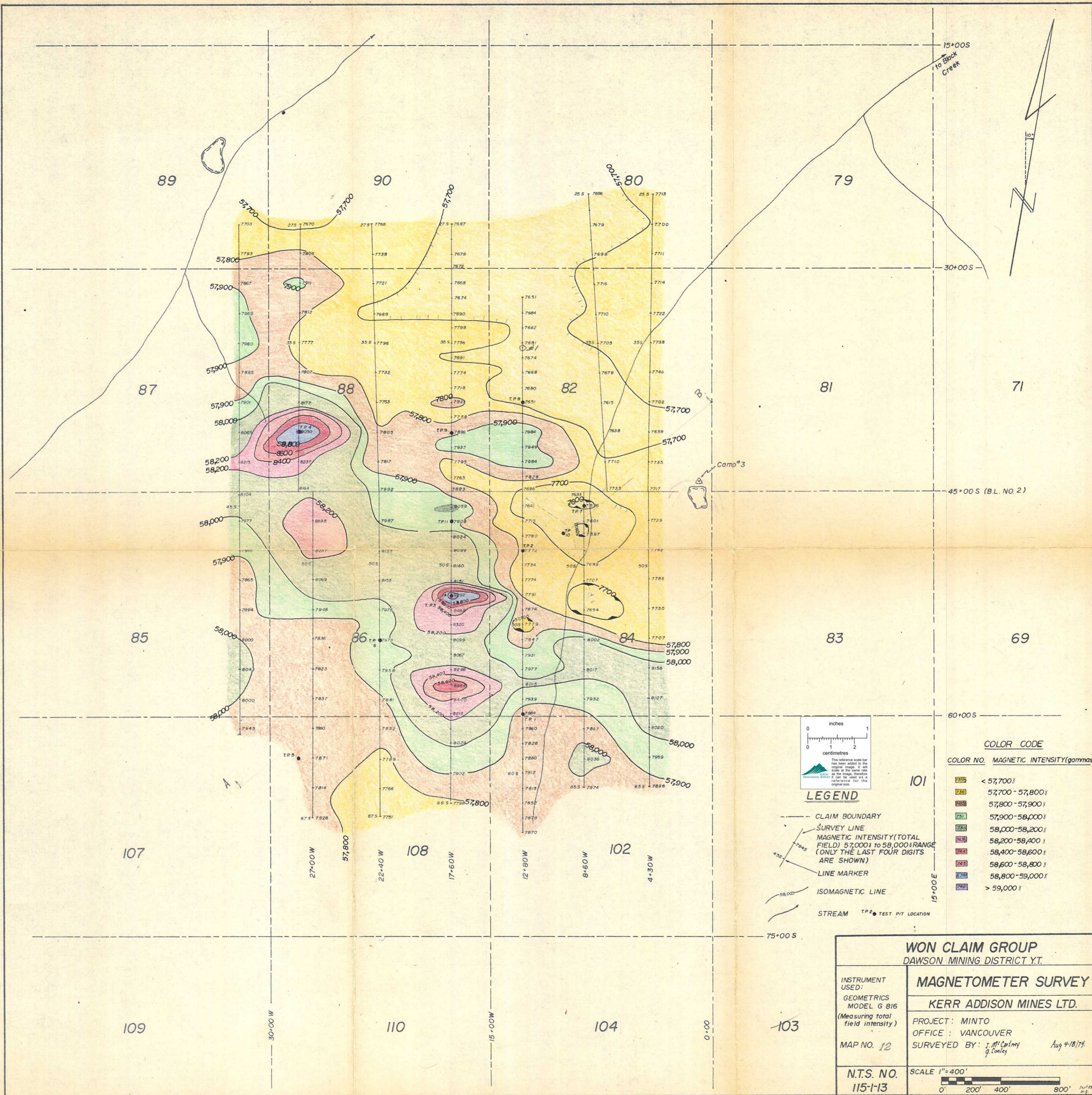
PROJECT: MINTO  
OFFICE: VANCOUVER  
SURVEYED BY: G. Conley  
J. McCarney

MAP NO. 11B

N.T.S. NO. 115-1-13

SCALE 1" = 400'

Aug 4-18, Aug 22-31



**LEGEND**

- CLAIM BOUNDARY
- SURVEY LINE
- MAGNETIC INTENSITY (TOTAL FIELD) 57,000 to 58,000 RANGE (ONLY THE LAST FOUR DIGITS ARE SHOWN)
- LINE MARKER
- ISOMAGNETIC LINE
- STREAM
- T.P. TEST PIT LOCATION

**COLOR CODE**

COLOR NO.	MAGNETIC INTENSITY (gammas)
255A	< 57,700
236B	57,700 - 57,800
268B	57,800 - 57,900
731	57,900 - 58,000
238B	58,000 - 58,200
243B	58,200 - 58,400
244A	58,400 - 58,600
245B	58,600 - 58,800
246B	58,800 - 59,000
247B	> 59,000

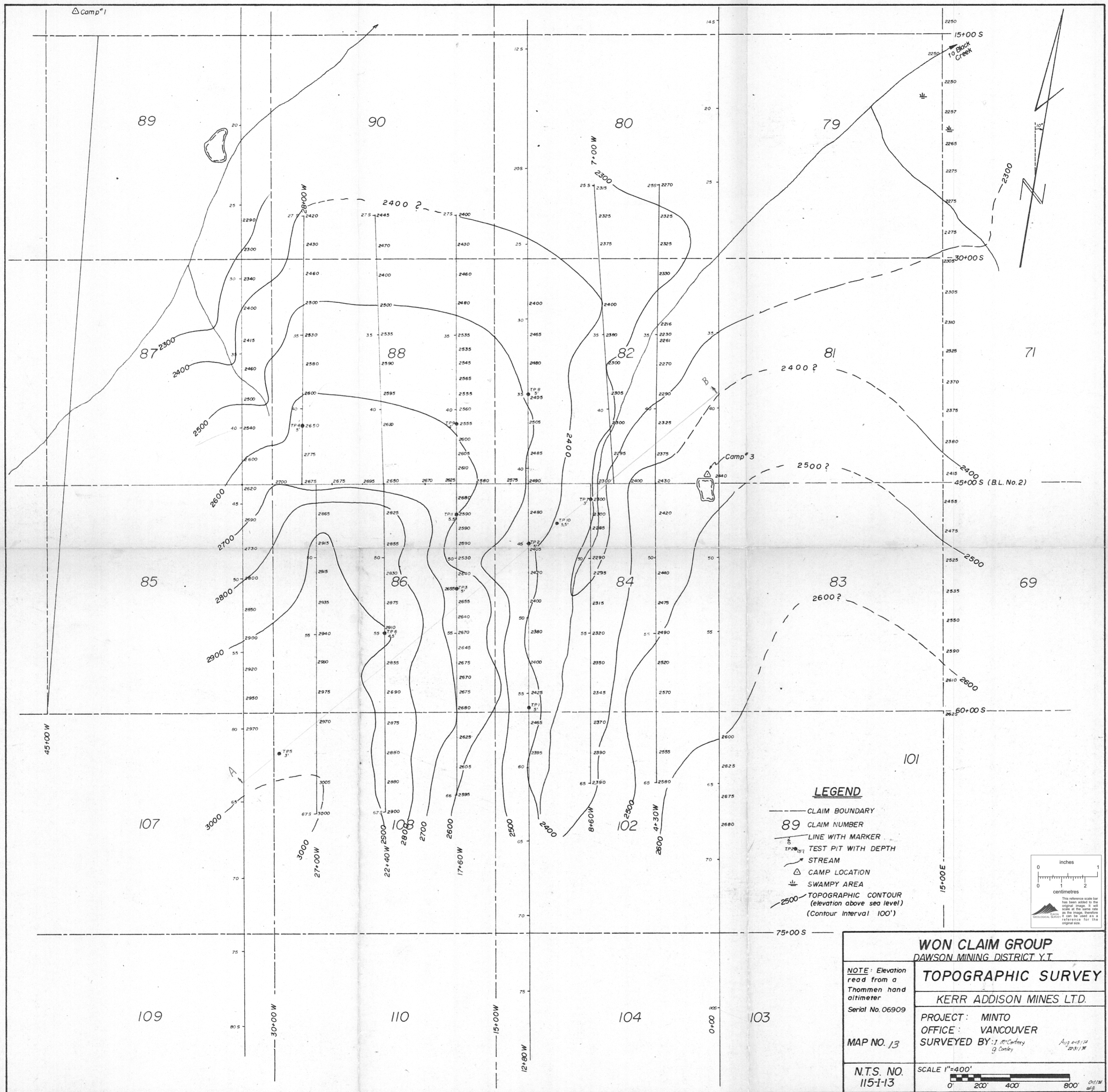
**WON CLAIM GROUP**  
DAWSON MINING DISTRICT Y.T.

**MAGNETOMETER SURVEY**  
KERR ADDISON MINES LTD.

INSTRUMENT USED: GEOMETRICS MODEL G 816 (Measuring total field intensity)  
MAP NO. 12

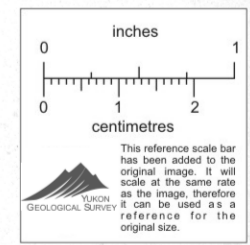
PROJECT: MINTO  
OFFICE: VANCOUVER  
SURVEYED BY: J. M. Carlsby, g. Conley  
Aug 4/18/74

N.T.S. NO. 115-113  
SCALE 1" = 400'



**LEGEND**

- CLAIM BOUNDARY
- 89 CLAIM NUMBER
- LINE WITH MARKER
- TP 1 5' TEST PIT WITH DEPTH
- STREAM
- △ CAMP LOCATION
- ⊞ SWAMPY AREA
- 2500 TOPOGRAPHIC CONTOUR (elevation above sea level) (Contour interval 100')



<b>WON CLAIM GROUP</b> DAWSON MINING DISTRICT Y.T.	
<b>TOPOGRAPHIC SURVEY</b>	
KERR ADDISON MINES LTD.	
NOTE: Elevation read from a Thommen hand altimeter Serial No. 06909	PROJECT: MINTO OFFICE: VANCOUVER SURVEYED BY: J. M. Conkey G. Conkey Aug 2-18-14 22-11-14
MAP NO. 13	SCALE 1"=400'
N.T.S. NO. 115-13	0' 200' 400' 800' CH 1/2" 1/4"



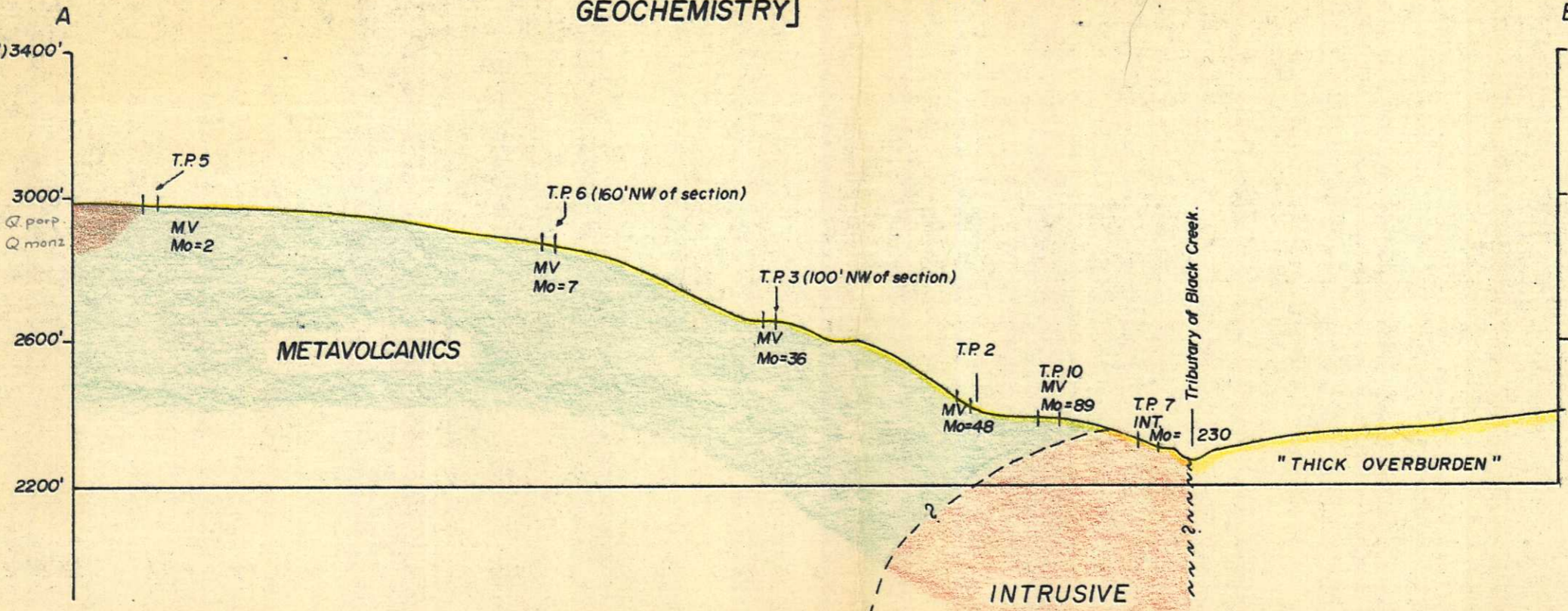
SW

NE

# GEOLOGY GEOFYSICS GEOCHEMISTRY ] ON SECTION A-B.

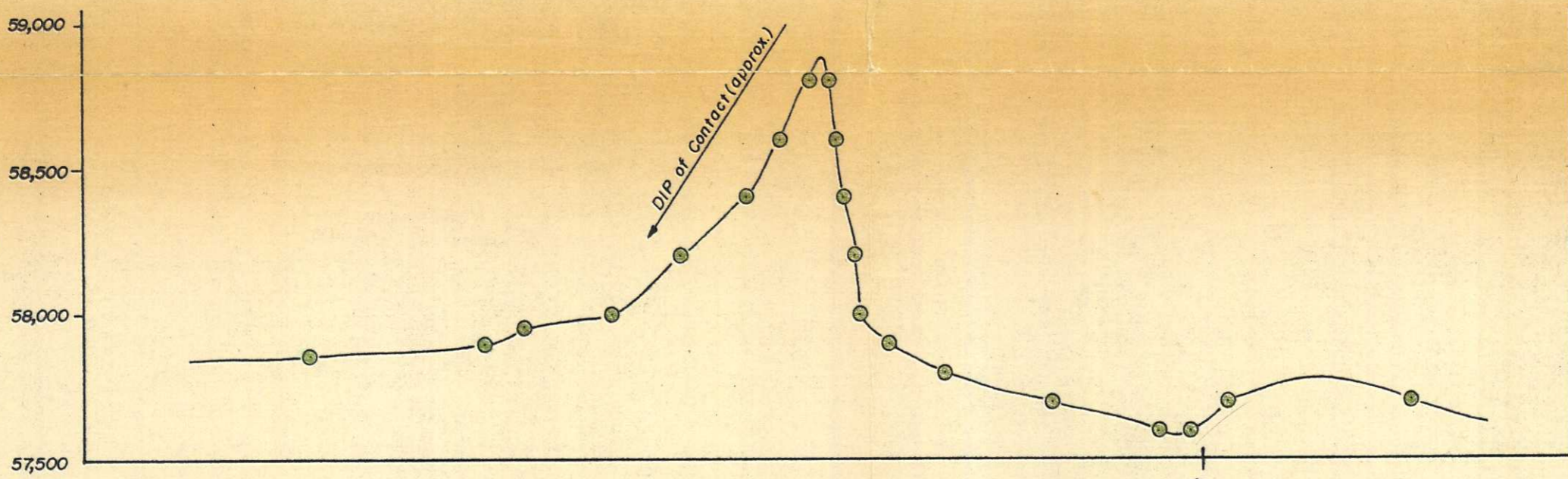
Granodiorite on hilltop and ridge (3000' to 4,000') 3400' south.

ELEVATION (A.S.L.)

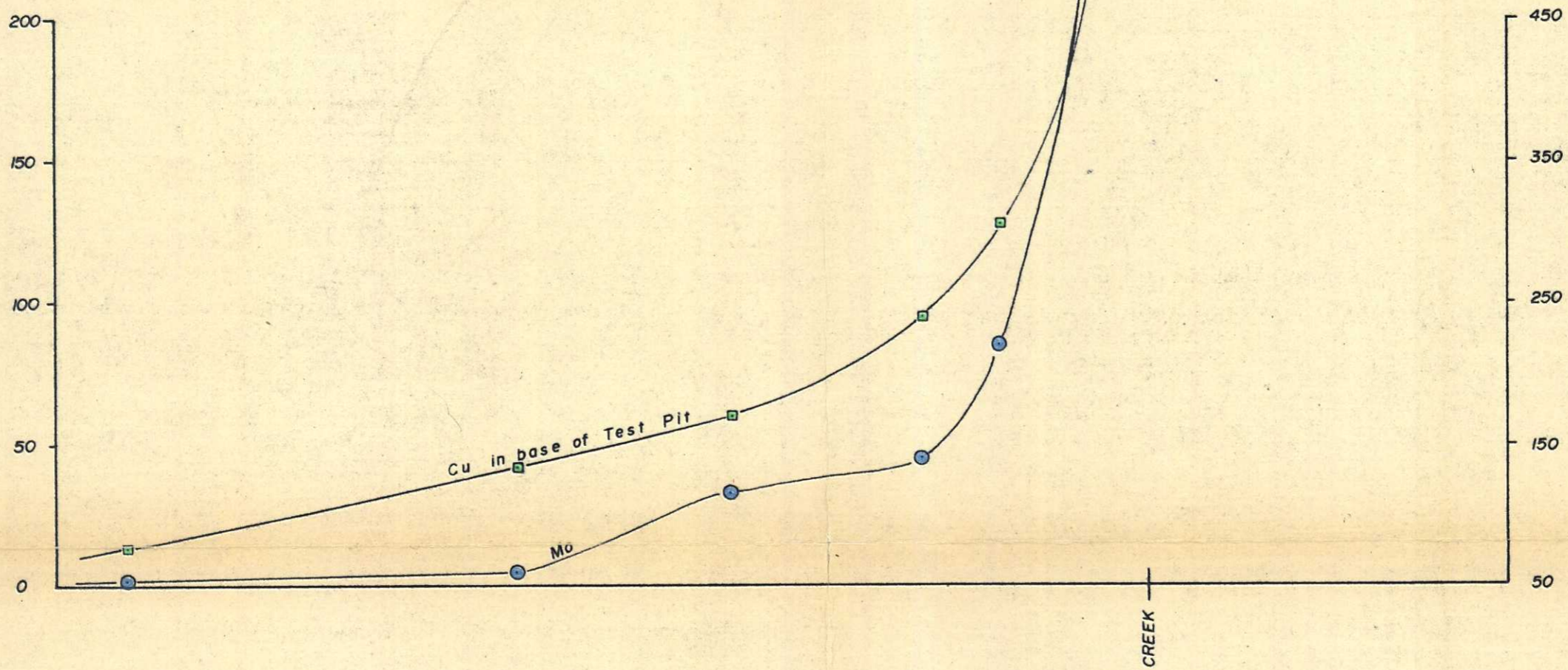


MV = metavolcanic rock.  
INT = intrusive rock  
Mo=36 ppm. Mo in base of test pit.

MAGNETIC INTENSITY (Total Field in gammas  $\gamma$ )

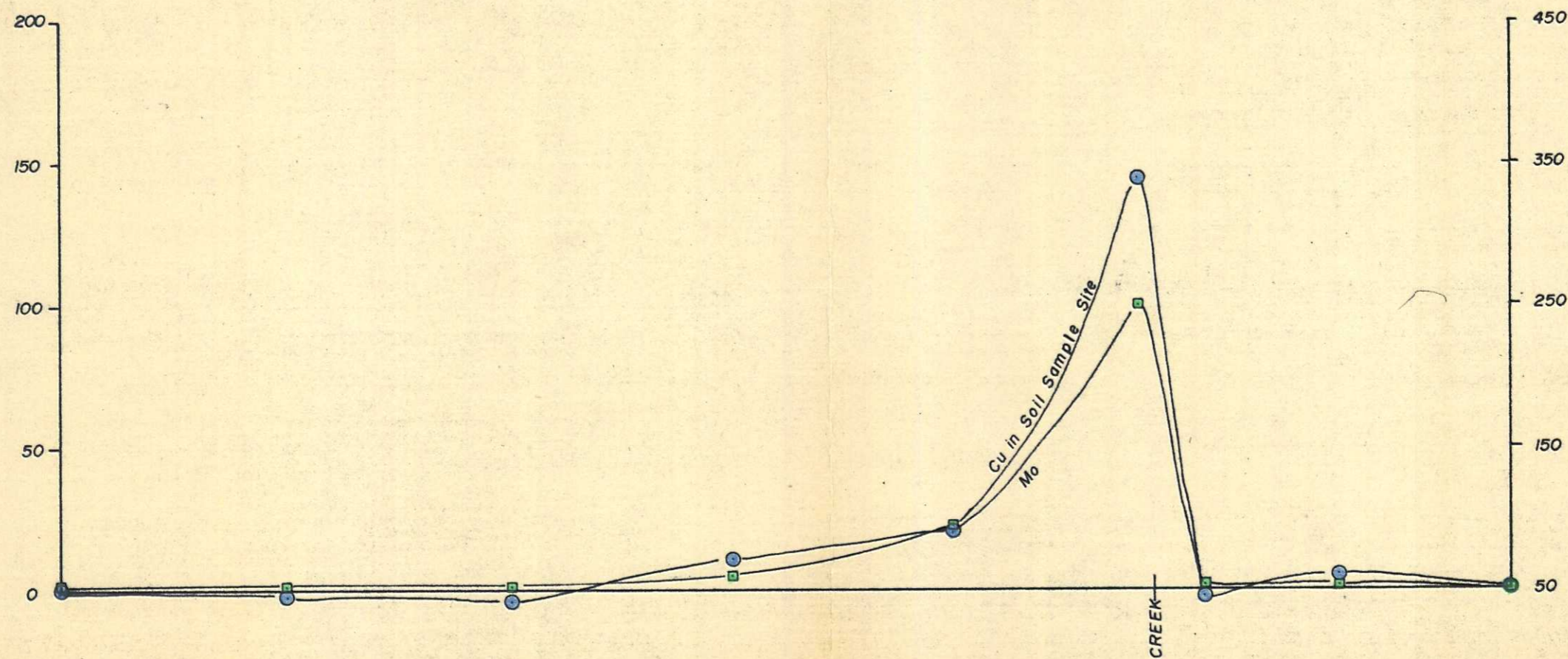


MOLYBDENUM (p.p.m.)

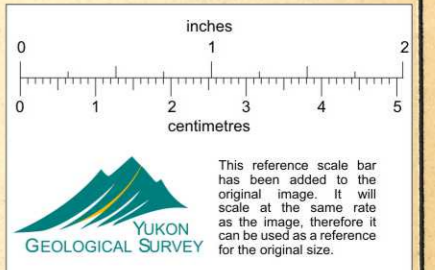


COPPER (p.p.m.)

MOLYBDENUM (p.p.m.)



COPPER (p.p.m.)



KERR ADDISON MINES LTD.  
"WON CLAIMS"

N.T.S. NO. 115-I-13 ; SCALE 1"=400'

(FIG. NO. 3)

M.G. Dec. 1977

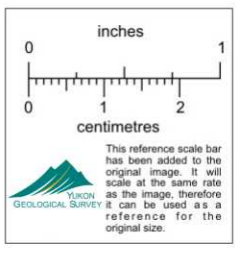


Outline of Intrusive (dyke)  
mapped by A.S.C.

- ▲ FIELD CAMPS
- SAMPLED STREAMS

MAP No. 14.

KERR ADDISON MINES LTD  
"YUKON RIVER PROJECT"  
SILT SAMPLING MAP  
JULY-AUG, 1974.  
SCALE 1" = 4 miles



0 45' 1 2 30' 3 15' 440000m.E. 136° 450000m.E. 4645' 47 30' 48 15' 49