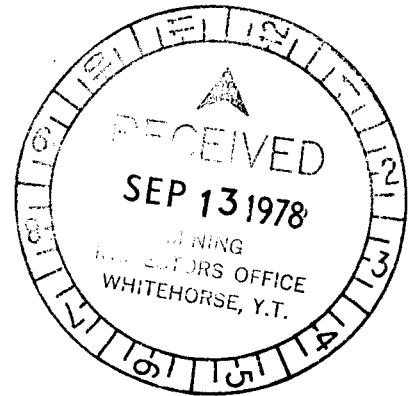




GEOLOGICAL REPORT
 on the
 J.C. 1-8 MINERAL CLAIMS
 YA25465 - YA25472

MAP SHEET 105B/4
 Lat. 60°11'N; Long 131°41'W.
 WATSON LAKE M.D. YUKON



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$2000.00

[Signature]
 Resident Geologist or
 Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

[Signature]
 E. R. BAXTER
 Supervising Mining Recorder
 Commissioner of Yukon Territory

by
 J.E. CHARTIER
 J.C. STEPHEN

DATE DUE



090354

Work Dates
 August 16-27, 1977
 August 29 - Sept. 1, 1977

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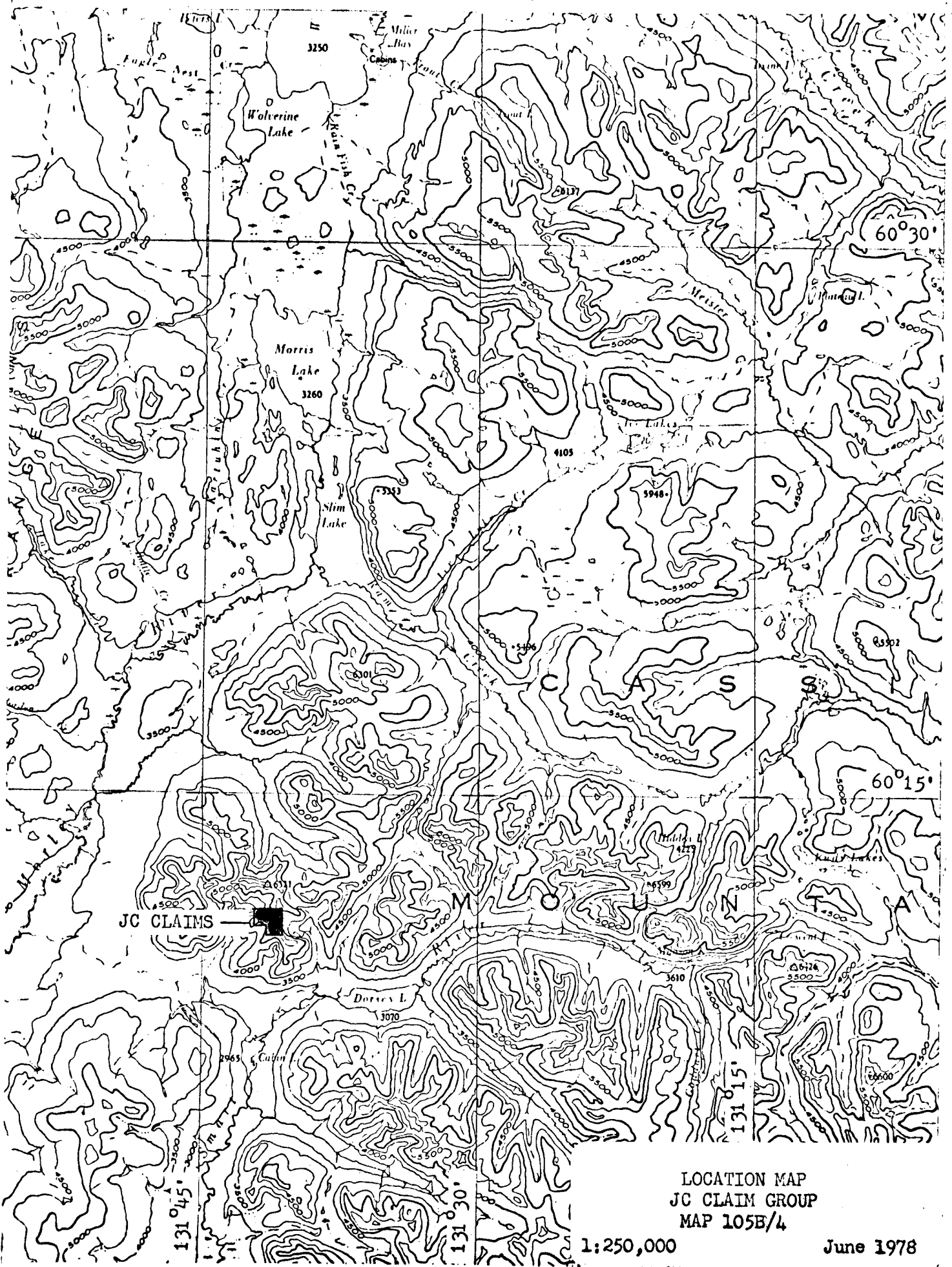
GEOLOGICAL REPORT
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J.C. 1-8 MINERAL CLAIMS
YA25465 - YA25472
MAP SHEET 105B/4

INTRODUCTION

The J.C. 1-8 claims are located three miles northwest of Dorsey Lake at latitude $60^{\circ}11'$ and longitude $131^{\circ}41'$. They were staked to cover an area of scheelite, malayaite bearing skarn. The area also contains traces of copper and zinc mineralization.

Geological mapping, prospecting and silt sampling was carried out by a two man crew from August 16 to August 27, 1977. Research on tin was carried out during the winter of 1977, including analysis of some stream silts for tin content.

The area was previously staked in December 1967, as the VIOLA group, for copper, zinc and silver. Trenching was carried out in the 1968 season. It was restaked as the FXE in August 1972 by Cypress Resources Ltd. when minor sampling was done. In July 1974 it was again restaked as FIS and two shallow holes were drilled.



LOCATION MAP
 JC CLAIM GROUP
 MAP 105E/4

1:250,000

June 1978

FIGURE 1

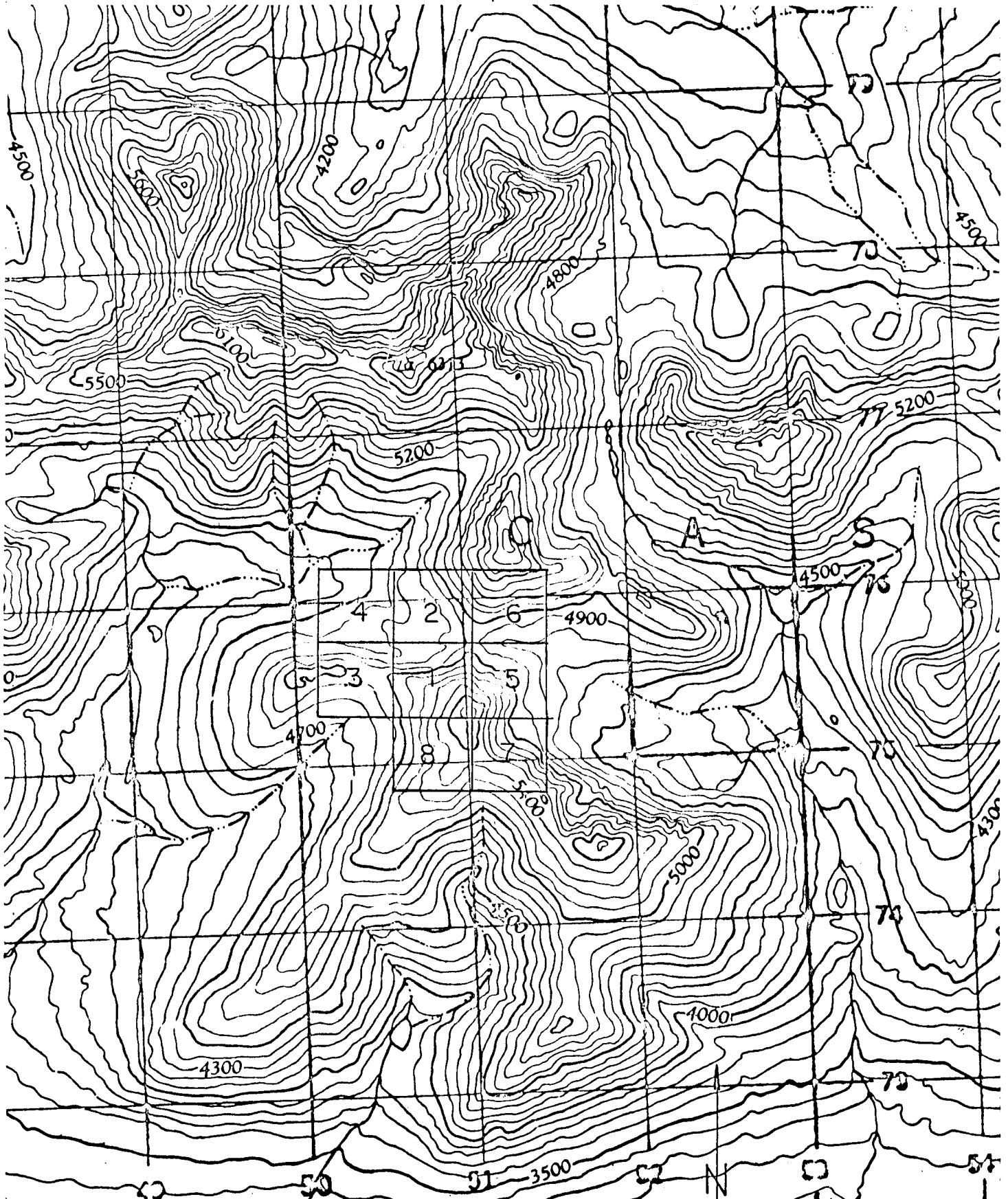
LOCATION AND ACCESS

The claims are located at latitude $60^{\circ}11'N$; and longitude $131^{\circ}41'W$. approximately 19 miles north of mile post 750 on the Alaska highway.

A caterpillar road was constructed for the 1974 drilling program, which follows the Smart River from mile post 755 to Cabin Lake, and approaches the claims through the broad valley north-northwest of Cabin Lake. It is, however, impossible even for 4-wheel drive vehicles to traverse this road at present.

During the present program access was only by helicopter, at a distance of 27 miles west of Pine Lake airstrip. It is expected that the 1978 program will also be supported by helicopter.

Location of the claims is indicated in Figure 1, page 2, at a scale of 1:250,000. The claims are shown in more detail, in relation to topography, in Figure 2, page 4.



J C CLAIM GROUP
 GROUP SKETCH
 MAP 105B/4

1" = 1/2 mile

June 1978

FIGURE 2

PROGRAM 1977

The skarns were first noted by Brian Atkinson while silt sampling in the area. He noted minor copper mineralization at the time and further investigation was prompted to follow up slightly anomalous results for copper in silt sample results. Cursory examination by J.C. Stephen indicated fairly extensive skarn with some zinc and copper mineralization. Specimens taken back to base camp showed indications of scheelite and malayaite mineralization under the UV lamp.

A two man camp was moved into the area and on August 15 the claim group was staked with helicopter assistance. The following twelve days were spent prospecting, silt sampling and doing detailed mapping concentrated in the area at the junction of claims J.C. 1,2,5 and 6.

After this period four days were spent by the geologist in preparation of the map and compilation of data. Later work included determination of tin content in silt samples and assay or rock geochem determination of metal content of some rock samples. These results are shown on maps I and II in the pocket at the back of this report.

GENERAL GEOLOGY

The area mapped covers seventeen hundred by seven hundred feet of well exposed metasediments. Throughout the mapped grid there is abundant scheelite bearing skarn, which extends at least one thousand feet west of the grid. Outside of this grid the outcrop becomes more scattered.

On the eastern edge of the map there are two small outcrops and a relatively large talus slope of malayaite (CaSnSiO_5) rich skarn. This mineral has also been observed, through its distinctive yellow fluorescence, in small traces in two other areas of the map.

The claims are underlain by Upper-Devonian to Lower Mississippian argillite. It is uncertain at what depth the intrusive underlies the area but it outcrops about one mile to the east and three miles to the west. It is thought that the contact is relatively flat and the known outcrops lie about 800' to 1000' below the elevation of the skarn outcrops.

Mapping was done on a temporary grid laid out with an east-west baseline along the claim location line with a 100' by 100' grid laid out on either side. Elevations for the contours plotted on map were determined by altimeter readings at the grid intersections.

STRATIGRAPHY

The rocks within the map area were divided into six units with contacts between the units being very gradational.

UNIT 1: ARGILLITE

Argillite is the most abundant of the rock types occurring throughout the grid, and seems to occur both stratigraphically above and below this section continuously for several hundred feet. Throughout the grid area the argillite is usually gray to dark brown and contains abundant quartz, both in groundmass, and in often very abundant quartz veins. The argillite is also characterized by abundant iron staining which was occasionally accounted for by traces of pyrrhotite.

Small lenses of muscovite schist were often noted, occasionally with hornblende or quartz. In one area (20E, 8N) remnant cross bedding is visible on differentially weathered surfaces.

UNIT 2: LIMESTONE AND SILICIFIED LIMESTONE

The two parts of this unit are very closely associated though silicified limestone is far more abundant.

The limestone, which is sparry and white, usually occurs as thin layers up to about two feet wide, or lenses within thicker beds of silicified limestone. In one case at 26E, 10N there is a 25 to 30 foot bed of limestone.

Often within the limestone there are thin interbeds or lenses of argillite, silicified limestone, and weak garnet - actinolite skarn. Similarly small lenses of limestone are commonly found within the skarn

There are two main zones of silicified limestone on the grid, both very closely associated with a large portion of the scheelite bearing skarn.

The silicified limestone is white to light gray or green, and often exhibits extreme differential weathering. It is often thinly bedded with minor laminations of argillite or small lenses of skarn and limestone. Occasionally the argillite lenses, or the silicified limestone itself, exhibits iron staining and rarely it contains traces of pyrrhotite.

UNIT 3: TUFF

There is only one small outcrop of tuff on the grid at 50+30E; 11N. The northern most part of the outcrop has fairly well developed lithic lapilli. The southern part of the outcrop grades very slowly into argillite in the southeast and quite abruptly into quartzite in the southwest.

UNIT 4: QUARTZITE

There is only one mapped outcrop of quartzite within the grid area though the quartz-argillite often approaches it in composition. The outcrop consists of broken angular fragments of white quartzite containing traces of iron stain. It is in contact to the north with tuff and elsewhere grades into typical quartz-argillite.

UNIT 5: SCHEELITE BEARING SKARN

The scheelite bearing skarn is found along the entire grid in several very extensive outcrops, many smaller isolated outcrops, and minor lenses within the argillite or limestone.

The skarn is typically actinolite-garnet skarn or chlorite-garnet skarn, and exhibits a great deal of variation in intensity. In the higher intensity zones, traces of magnetite are not uncommon. In several areas traces of copper minerals; bornite, chalcopyrite and azurite are found. In three localities there are fairly high concentrations of sphalerite in small lenses no more than ten inches wide.

Scheelite occurs in varying concentrations in all of the skarn zones. There are several areas of relatively high concentration, such as at 23E, 10N; 13+50E, 9+60N. Here the concentrations are found in clusters of small, seemingly unrelated, lenses or pods of irregular shape. The individual crystals tend to be extremely large with diameters of 1 cm. not uncommon. Throughout the lesser mineralized areas of the skarn scheelite occurs in similar pods of isolated individual crystals.

The scheelite skarn is very closely associated with the limestone and silicified limestone. It is occasionally seen as thin layers, or lenses, within beds of silicified limestone. Also major zones of skarn are seen to grade slowly into silicified limestone. The skarn exhibits a similar relationship to a lesser degree with argillite. However, the intensity of a weakly skarned argillite is seen to increase as the argillite becomes more limy or the amount of interbedded limestone increases.

UNIT 6: TIN BEARING SKARN

There is one major occurrence of this skarn on the grid (35E,10N) and in two other areas small traces of malayaite fluorescence have been observed within the scheelite skarn (34E,40+10N; and 30E,12N). The major showing consists of two small outcrops and a fairly extensive talus slope between them.

The skarn is a very light colored white to green to brown cherty material. In some areas of the talus it contains traces of chalcopyrite and azurite. Under ultraviolet light the malayaite in this skarn shows as a strong yellow fluorescence concentrated in narrow parallel bands.

The outcrop of skarn is in contact with silicified limestone and scheelite bearing skarn. The contact with the silicified limestone is a gradational transition, but with the scheelite skarn there is a more abrupt change.

STRUCTURE

Limestone horizons in the cirques one to two miles west of the J.C. group are relatively thick, continuous and flat lying. To the south east of the claims limestone bands are thinner but apparently fairly persistent. In both areas the limestones are white and quite evident from the air.

On the J.C. Group the sediments appear to dip south at about 27° and, because of the apparent continuity of the limestones to the east and west, it is thought the skarn horizon may be fairly persistent. Mapping over a larger area will be necessary to confirm the structure.

Two minor faults have been mapped within the grid, one through limestone and the other through skarn and silicified limestone. In both cases the faults are surrounded by small zones of alteration, and in neither case can any offsets or changes in attitude be determined.

The fault at 26+50E, 10N; cuts through limestone. The fault surfaces ($112^{\circ}/80^{\circ}$ S.) are exposed for about 30 feet on the cliff face and can be traced for approximately one hundred feet further in a south east direction.

The second fault, at 28+20E, 12N; cuts through silicified limestone and skarn. The fault surface cannot be seen, but it is indicated by a zone of breccia with slickensides, cutting through a cliff face.

GEOCHEMISTRY AND ASSAYS

A minor amount of geochemical sampling and rock sample assaying was done as part of this program. Results are shown on Map II together with location of several rock specimens taken for petrographic analysis. Results for the following are shown:-

- 5 stream sediment samples run for Cu,Zn,W,Sn.
- 2 rock chip samples assayed for WO_3 .
- 3 rock geochem samples run for Zn,Sn,U,W.
- 1 random talus sample assayed for Cu,Sn.

Geochemical results for tungsten are quite low, with a high of 12 ppm, although the samples are in close proximity to mineralized outcrops.

Tin results are anomalous, with a high of 300 ppm, although the drainage from the best known exposure of tin bearing mineralization is to the east off the map.

Zinc values in the silts are not particularly anomalous for the area while copper values up to 118 and 172 ppm are somewhat anomalous but not strongly so.

One hand specimen of coarse scheelite mineralization assayed 4.4% WO_3 while the random talus sample from the malayaite area assayed 0.96% Sn and 0.40% Cu.

The old tractor trench at sample location JEC-8 shows a narrow zone of skarn and some sphalerite mineralization while the trench at JEC-7 appears to be stratigraphically above the skarn horizon.

PROPOSED PROGRAM 1978

Plans for the 1978 field season include an extension of the mapping over the claim area along with detailed prospecting.

In the area covered by Map I, several of the larger skarns will be trenched and blasted in order to better evaluate their extent and provide fresh surfaces for more accurate sampling.

Because of the occurrence of magnetite in some of the skarns a magnetometer survey will be carried out over the area of mineralization.

Respectfully submitted,
J.C. Stephen Explorations Ltd.

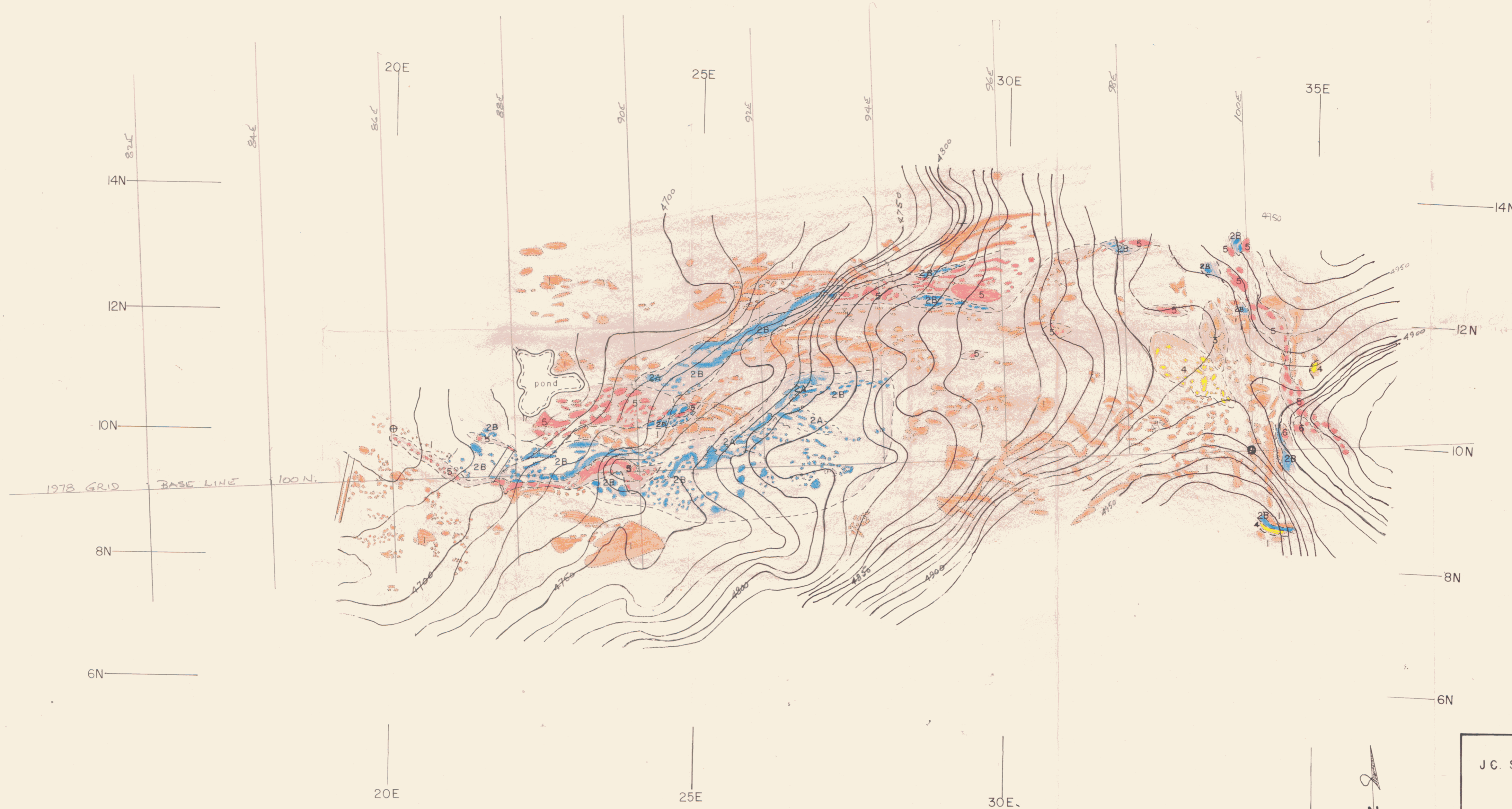
J.E. Chartier, Geologist



J.C. Stephen Explorations Ltd.
for D.C. Syndicate



J.C. Stephen, Manager



LEGEND

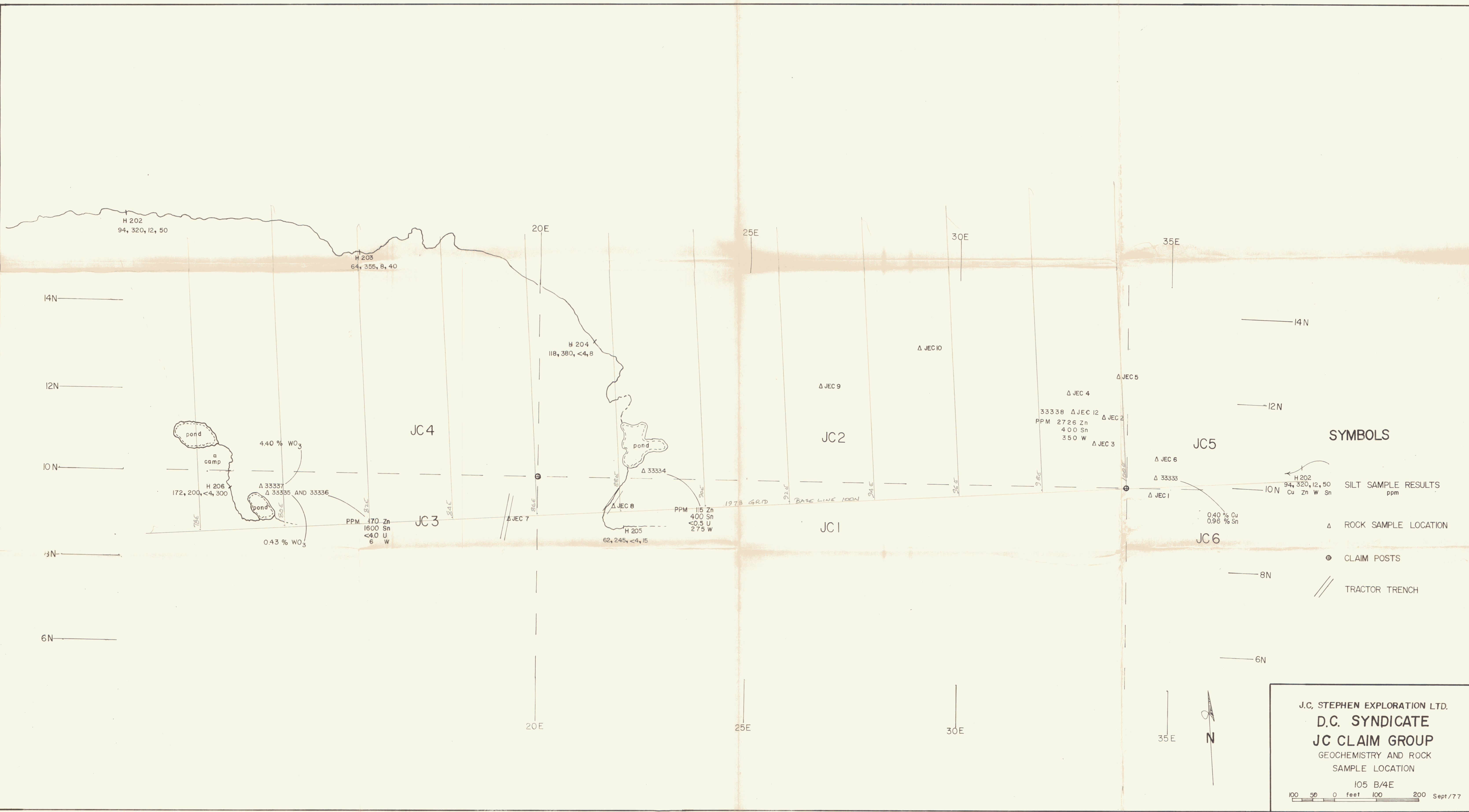
- 6 TIN BEARING SKARN LIGHT COLORED LIMY SKARN
- 5 SCHEELITE BEARING SKARN ABUNDANT ACTINOLITE, CHLORITE, GARNET
- 4 QUARTZITE
- 3 TUFF LAPILLI TUFF GRADING TO ARGILLITE
- 2B SILICIFIED LIMESTONE CHERTY
- 2A SILICIFIED LIMESTONE WHITE SPARRY
- 1 ARGILLITE QUARTZ VEINING

SYMBOLS

- OUTCROP BOUNDARY
- ASSUMED UNIT BOUNDARY
- FAULT
- FAULT ASSUMED
- ⊙ CLAIM POSTS

J.C. STEPHEN EXPLORATIONS LTD.
 D.C. SYNDICATE
 J.C. CLAIM GROUP
 GEOLOGY
 105 B/4E

100 50 0 feet 100 200 Sept/77



SYMBOLS

- △ SILT SAMPLE RESULTS ppm
- △ ROCK SAMPLE LOCATION
- ⊙ CLAIM POSTS
- /// TRACTOR TRENCH

J.C. STEPHEN EXPLORATION LTD.
D.C. SYNDICATE
JC CLAIM GROUP
 GEOCHEMISTRY AND ROCK
 SAMPLE LOCATION
 105 B/4E
 100 50 0 feet 100 200 Sept/77