

5769

GEOLOGICAL AND GEOPHYSICAL REPORT
ON THE
TOM GROUP 1
in the Liard Mining Division
32 KILOMETERS EAST OF DEASE LAKE

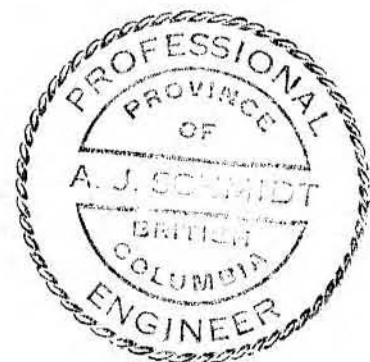
104-I-5E

OWNED AND OPERATED BY
UTAH MINES LTD.

BY

G.A. CLOUTHIER AND J. VYSELAAR
UTAH MINES LTD.

NOVEMBER, 1975



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. **5769** MAP X

WORK PERFORMED BETWEEN 30TH AUGUST AND 13TH SEPTEMBER, 1975.

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GEOLOGICAL AND GEOPHYSICAL REPORT

ON TOM GROUP 1

INTRODUCTION

From 30th August to 13th September, 1975, geological and geophysical work was done on Tom Group 1. This group consists of the Tom and Ken Claims, each containing twenty (20) units forming a forty (40) unit contiguous block. Geological work covered most of the block and geophysical work with location reference to the claims is illustrated on the Geophysical maps in the pockets.

The field work was undertaken by G.A. Clouthier, geologist and J. Vyselaar, geophysicist, and by B. Crha, A. Penner, and G Benmore, field assistants.

^{FACT}
The claim group is located approximately thirty (30) kilometers west of the small settlement of Dease Lake on the Stewart-Cassiar Highway. The camp gear and most of the crew were transported to Dease Lake by trucks and flown into the property from there by a Bell 206 helicopter. Subsequent closing of the Frontier Helicopter base at Dease Lake necessitated further helicopter support to come from Watson Lake, one hundred and fifty (150) miles to the north.

The rectangular claim group straddles a broad valley area with a minimum elevation of one thousand two hundred (1,200) meters and maximum elevations on its mountainous flanks of one thousand six hundred and eighty (1,680) meters. Vegetation is alpine with no trees, but thick buck brush in the lower parts of the valley. With the exception of minor cliff areas on the mountains, foot access of the property is good.

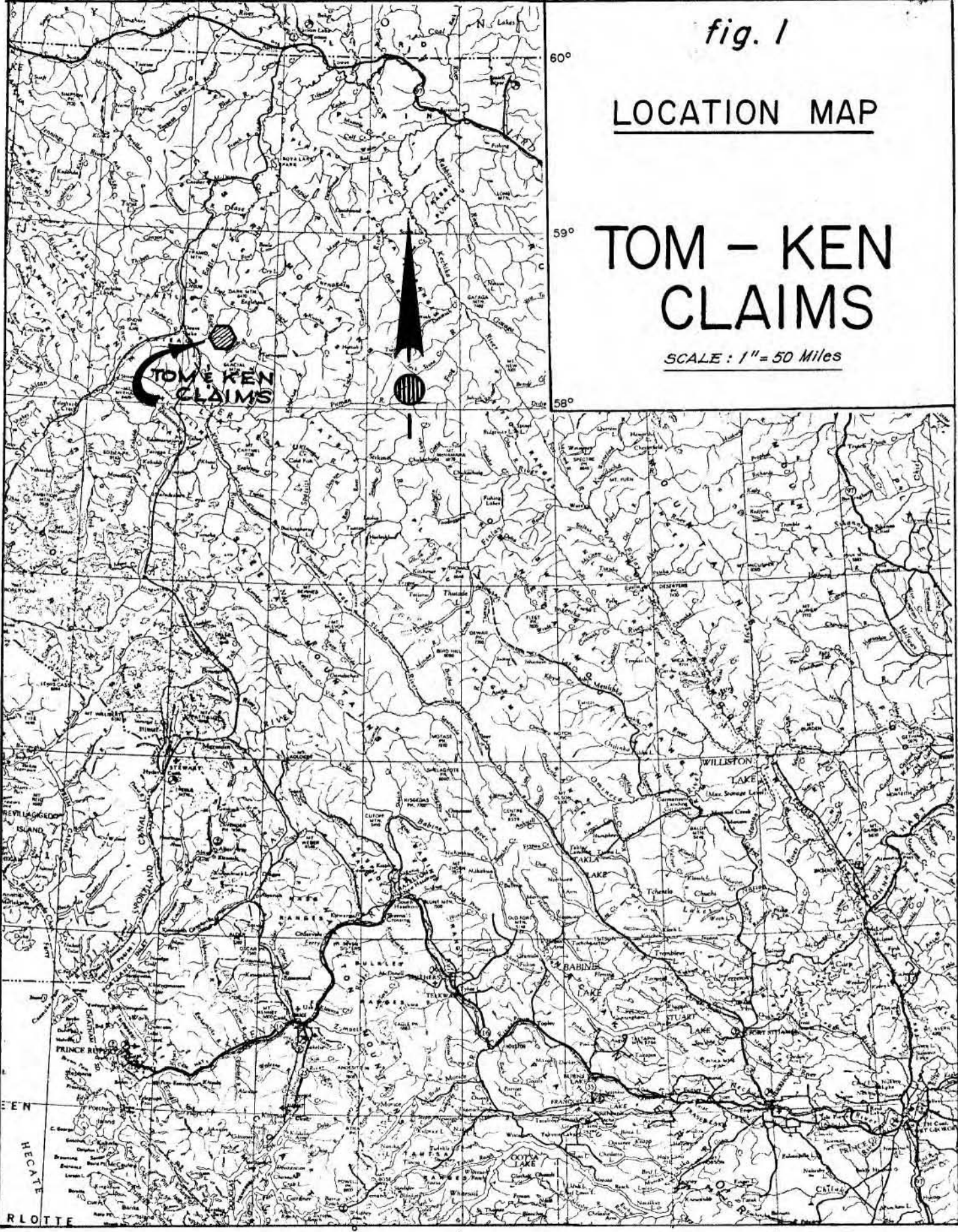
The co-ordinates of the property are 58° 19' north, 129° 38' East.

fig. 1

LOCATION MAP

TOM - KEN
CLAIMS

SCALE: 1" = 50 Miles



5769 9272
M-1

FIELD WORK

The legal corner post for the Tom and Ken claims was used as the starting point for all control surveys for the geologic mapping and IP picket lines. Approximately twelve (12) kilometers of chain and compass controlled picket lines were established for the IP survey, and geologic mapping control was established by corrected closed loop Topofil traverses from the picket lines. Geologic mapping was carried out originally on a scale of 1:10,000 and the maps subsequently enlarged to 1:5,000. The IP survey was carried out over a period of seven (7) days using a four (4) man crew and covered approximately eleven (11) line-kilometers. The specifics of this survey are discussed in the Geophysics section of this report.

GEOPHYSICS

FIELD PROCEDURE AND INSTRUMENTATION

Between the dates of 5th September to 13th September, 1975, inclusive, an induced polarization survey was carried out on the Tom and Ken claims in the Snowdrift Creek area, thirty-two (32) kilometers southwest of Dease Lake, British Columbia.

Four lines in the valley were surveyed over a distance of one thousand five hundred (1,500) meters. A fifth line could not be surveyed due to problems with getting current into the ground. In addition, two (2) lines were run over the crest of a hill northeast of the grid and one line southwest of the grid was surveyed. The total distance surveyed was 8.9 kilometers.

The survey was carried out using the pole-dipole array with an "a" spacing of one hundred (100) meters and $n=1$ and $n=3$. The pole-dipole array has two (2) moving potential electrodes and one moving current electrode.

The other current electrode is stationary and is placed at "infinity", that is, far enough away so that it does not affect the current distribution in the survey area. The distance between the potential electrodes is kept constant and is referred to as the "a" spacing. The distance between the moving current electrode and the nearest potential electrode varies as whole multiples of the "a" spacing and is referred to as "na" with "n" usually being from one (1) to five (5). In this survey "n" was equal to 1 and 3. All three electrodes move down the line in unison. Readings are taken at "a" spacing intervals, that is, 100 meters in this case.

The equipment used was an Elliot Model 15A transmitter and a Scintrex IPR 7 receiver. Power to the transmitter is supplied by an alternator driven by a 4HP Briggs and Stratton engine.

The transmitter puts out a square wave of two (2) seconds duration. The total cycle time is eight (8) seconds and consists 2 on, 2 off, 2 on, 2 off. The polarity is switched every half cycle so there will be no buildup of charge in the ground. When the current is switched on a potential difference is set up between any two points on the surface of the earth. This is referred to as the primary voltage or V_p . When the current is turned off this voltage will decay logarithmically back to zero. This is referred to as the secondary voltage or V_s .

During the transmitter on cycle, the receiver measures the V_p . Along with the current, the value of which is read on the transmitter, the apparent resistivity at the point of measurement can be calculated. During the transmitter off period the receiver delays for 0.45 seconds and then integrates V_s/V_p for 0.65 seconds. This reading is automatically displayed on a meter as the chargeability reading.

DISCUSSION OF RESULTS

The n=1 results show an anomalous chargeability zone on line 40W from 80N to 130N. The zone extends on to line 20W at 80N and at 110N. There is a second zone on lines 20W and 40W from 30N to 60N. It narrows to a single station, 40N on line 60W and then broadens to include most of line 80W. Background chargeability readings are in the range of 10 to 15 milliseconds with anything over 20 being considered anomalous. The resistivity results do not correlate with the chargeability results. They show a general decrease going northwards along the grid lines and this is thought to reflect an increasing depth of overburden. The resistivity results may have been affected by perma-frost as it was difficult getting enough current into the ground to obtain consistent readings.

The n=3 results show an anomalous chargeability zone across the grid at 105N on line 20W to 85N on line 80W. The southern edge of the anomaly is more irregular going from 20N on line 20W to 60N on lines 40W and 60W to 40N on line 80W. The resistivity results again do not show any correlation with the chargeability results and show a general decrease towards the northwest.

Line AAW shows an anomalous response from 1+75N to 4+75N. The resistivity results are low but show a sharp peak at 4+75N. This may reflect a geologic contact or fault zone. Line BBW shows no anomalous response.

Line CCN shows slightly anomalous responses from 3W to 5W and 7W to 11W on n=1. The resistivity results are generally low and drop slightly between 3W and 5W. The n=3 data is anomalous from 3W to 7W and 10W to 13W. The anomalies are slightly stronger than on the n=1 data. The resistivity results are again low but show an increase over the anomalous area.

GEOLOGY

GENERAL GEOLOGY

The area is underlain by Upper Triassic and possibly earlier volcanic rocks with minor sediments. The volcanic rocks are mostly intermediate in composition and pyroclastics seem to predominate. These rocks are intruded by a plug of hornblende granodiorite in the far eastern part of the property. This plug appears to be an outlier of the Hotailuh Batholith of Jurassic-Cretaceous age which outcrops approximately eight (8) kilometers south of the property. The dominant structural direction in the area trends N45°W and is reflected by lithography, faulting and minor structures. On a regional scale, a subsidiary fault system trending N45°E is also apparent.

PROPERTY GEOLOGY

The geologic mapping data is compiled on Figure 1 in the pocket at the back. The andesitic flows and pyroclastics are intruded by a medium grained diorite-granodiorite on the eastern part of the property. The actual contact is mostly buried, but its location can be fairly well mapped on the valley flanks from a few outcrops and talus float. Good orientation data on the volcanics is difficult to obtain, but the apparent strike is N45°W with a shallow southwesterly dip. The area of interest on the property is a steeply dipping northwest trending zone of shearing and alteration. The zone varies from a width of three hundred (300) meters in the southeast to a width of one thousand (1,000) meters in the northwest. A bright blue mineral, identified as lazulite, appears disseminated in some parts of this zone. The outcrops are leached, but locally pyrite is present in amounts up to five per cent (5%). No copper mineralization was observed in the altered area, although minor malachite, chalcopryite and chalcocite are present in shears, quartz carbonate stringers and as vug fillings in the unaltered volcanic rocks.

CONCLUSIONS

An area of altered rock is present on the property and preliminary IP information, as well as surface observations, indicate that the zone once contained pyrite mineralization, although leaching and oxidation has removed most of it near surface. Further work would be necessary to assess the potential of this zone.

REFERENCES

Gabrielse, H., Geology Map 29-1902, Cry Lake, 104-I Geological Survey of Canada, 1962.

Respectfully Submitted

G.A. Clouthier

G.A. Clouthier

J. Vyselaar

J. Vyselaar



APPENDIX A

STATEMENT OF QUALIFICATIONS

G.A. Clouthier, Geologist for Utah Mines Ltd., Vancouver, British Columbia.

Completed BSc(Honours Geology) at the University of British Columbia 1970; employed since graduation by Utah Mines Ltd. under the supervision of M.J. Young. Field work involving regional and property development work in British Columbia, Alaska and the Yukon Territory.

J.Vyselaaar, Geophysicist for Utah Mines Ltd., Vancouver, British Columbia.

Completed BSc. (geology and geophysics) at the University of British Columbia in 1971; employed by Chisolm Prospecting Ltd. and Texas Gulf Sulphur Ltd. during the 1969 and 1970 field seasons, respectively, as a geological assistant; employed by Geoterrex from May, 1971 to October, 1971 and January, 1972 to April, 1972 as a field geophysicist under Peer Norgaard, P.Eng.; employed by Barringer Research Ltd. as a geophysicist from May, 1972 to October, 1974 under the supervision of F.L. Jagodits, P.Eng., and R.J. Henderson; employed by Utah Mines Ltd. from January, 1975 to present as a geophysicist under the supervision of M.J. Young, P.Eng.

APPENDIX B

STATEMENT OF COSTS

Salaries

G.A. Clouthier	Geologist	13 days @ 47.00/day =	611.00
J. Vyselaar	Geophysicist	9 days @ 44.00/day =	396.00
J. Ruza	Cook	13 days @ 46.00/day =	598.00
B. Crha	Field Ass.	13 days @ 35.00/day =	455.00
A. Penner	Field Ass.	13 days @ 34.00/day =	442.00
G. Benmore	Field Ass.	13 days @ 32.00/day =	416.00
			2916.00

Food and Accomodation

74 man days @ 12.00/day	886.00
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Camp Costs

74 man days @ 12.00/day	222.00
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Fuel for Camp and Generator

493.00

Helicopter Support (Bell 206 out of Watson Lake)

4457.00

Vehicle Rental

One (1) 1/2 Ton 4x4	15 days @ 7.61/day	114.15
One (1) Ton Pick up	15 days @ 10.00/day	150.00
		264.15

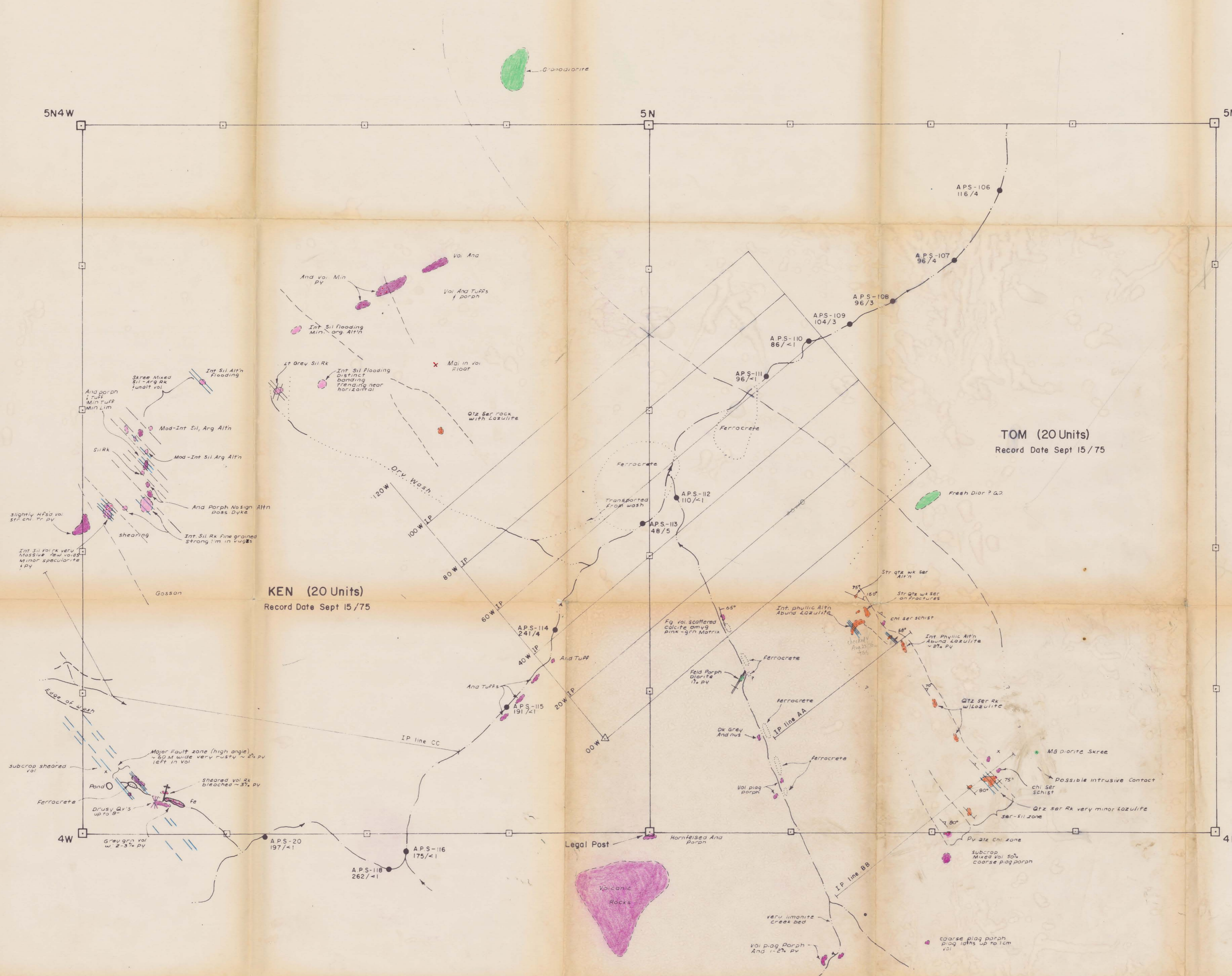
Travel Expenses

Air Fare - Vancouver to Watson Lake Return	198.00
Accomodation for one (1) day	25.00
Air Freight IP gear - Vancouver to Dease Lake	690.00
	913.00

IP Equipment Rental

Generator - 10 days @ 6.00/day	60.00
Transmitter receiver and 4 radios	
10 days @ 58.19/day	581.90
	641.90

Total \$ 10,793.05



TOM (20 Units)
Record Date Sept 15/75

KEN (20 Units)
Record Date Sept 15/75

LEGEND

- Quartz sericite alteration
- Sulfide mineralization
- Lazulite
- Quartz (Minor sericite chloritized)
- Volcanics
- Diorite Granodiorite
- Streams: steady, intermittent
- Rivers, Lakes
- Outcrop
- Contacts
- Silt sample location
- Strong Shear Zones + Faults
- No Visible Sulfides

PROFESSIONAL
OFFICE OF
A. J. SCHMIDT
REGISTERED
COLUMBIAN
ENGINEER
A. Schmidt
J. 1976

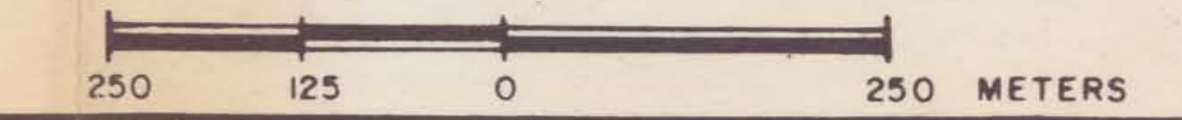
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Department of
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ASSESSMENT REPORT
NO. 5769 MAP 2

104-I-5
SNOWDRIFT AREA
IP SURVEY
KEN & TOM CLAIMS

PRELIMINARY GEOLOGY, IP & GEOCHEMISTRY

Work by R.P. & G.C.	Date SEPT, 1975	NTS Ref
Drawn by E. ROGAN	Revised	Fig. 1


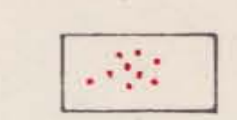
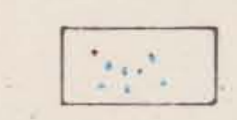





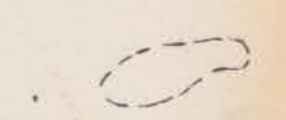

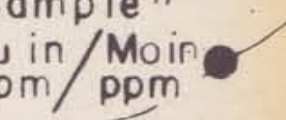
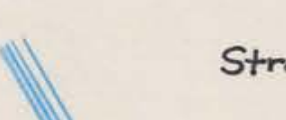
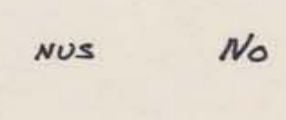




5769 M-2



LEGEND

-  Quartz sericite alteration
-  Sulfide mineralization
-  Lazulite
-  Quartz (Minor sericite chloritized)
-  Volcanics
-  Diorite Granodiorite
-  Streams: steady, intermittent
-  Rivers, Lakes
-  Outcrop
-  Contacts
-  Silt sample location
-  Strong shear zones + faults
-  No Usable Sulfides

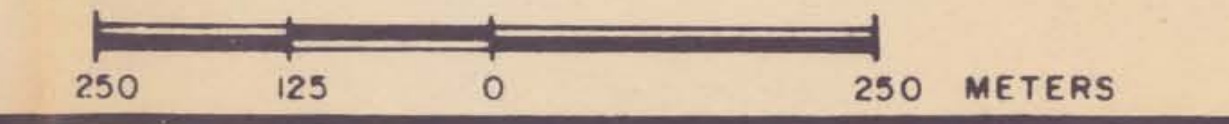
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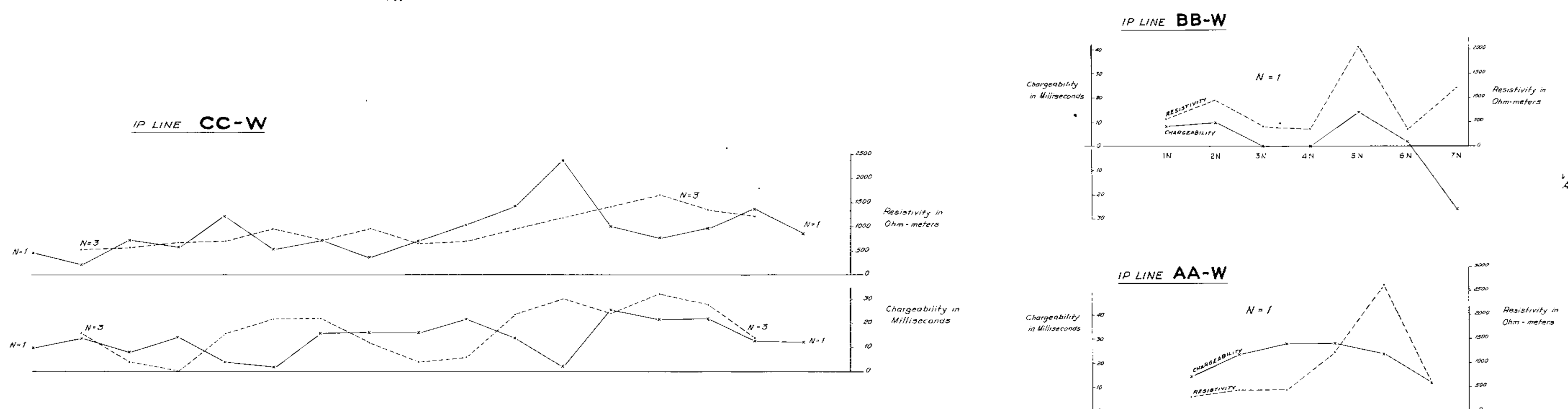
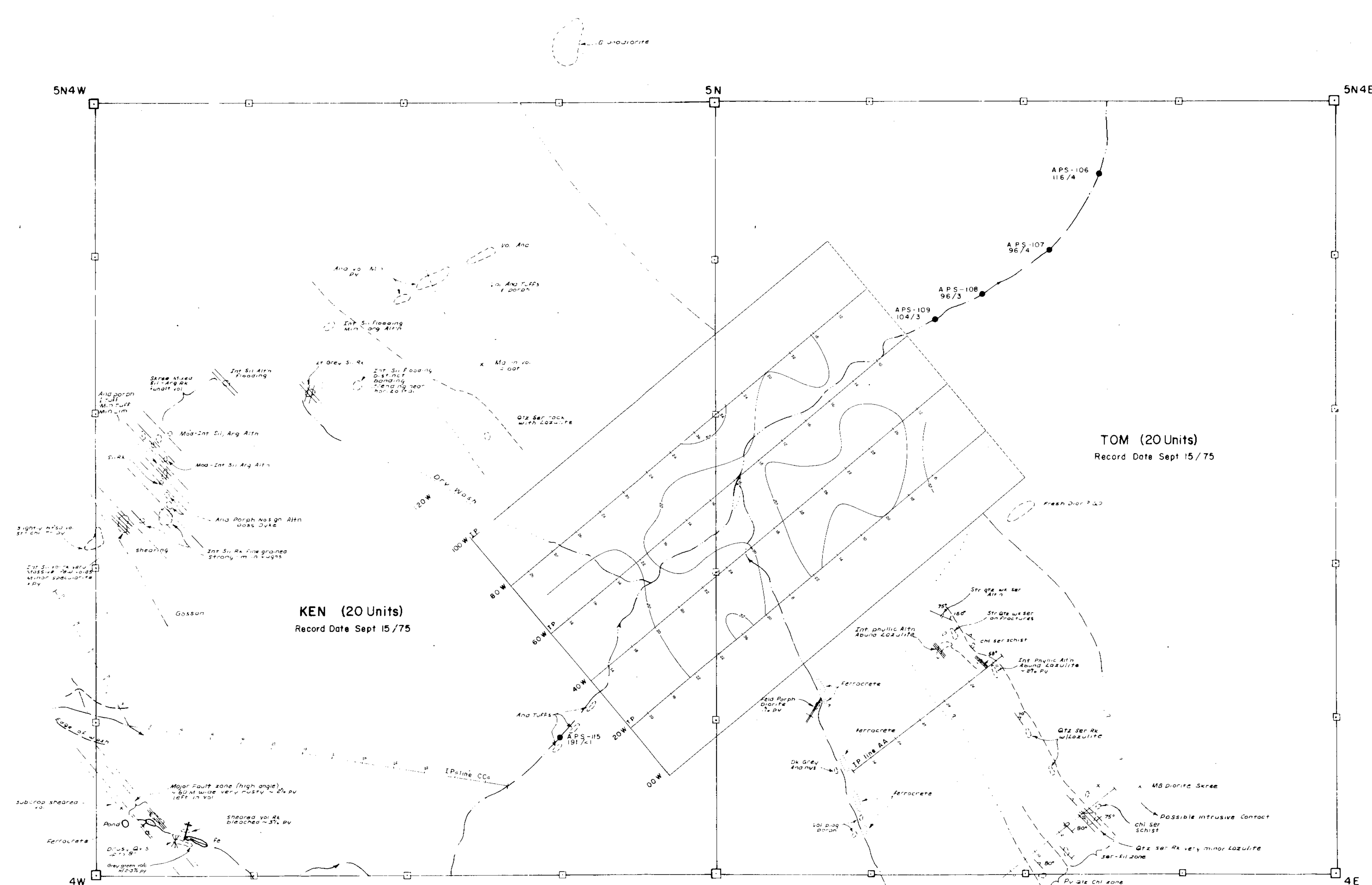
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ASSESSMENT REPORT
No. 5769 MAP 2

104-I-5
SNOWDRIFT AREA
IP SURVEY
KEN & TOM CLAIMS

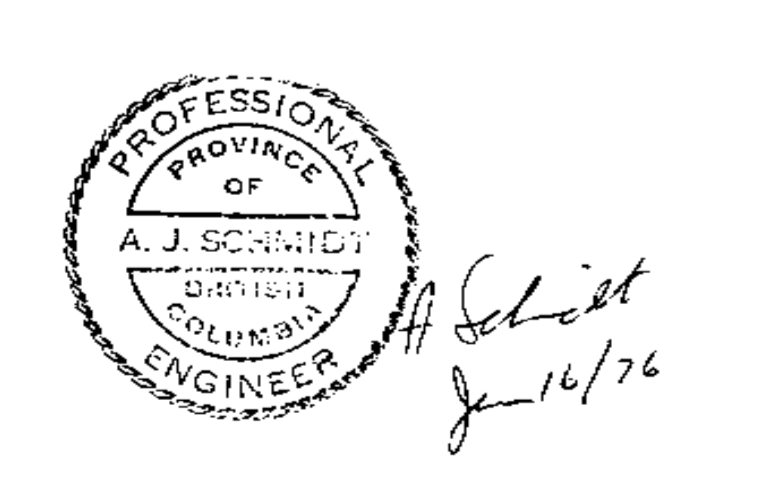
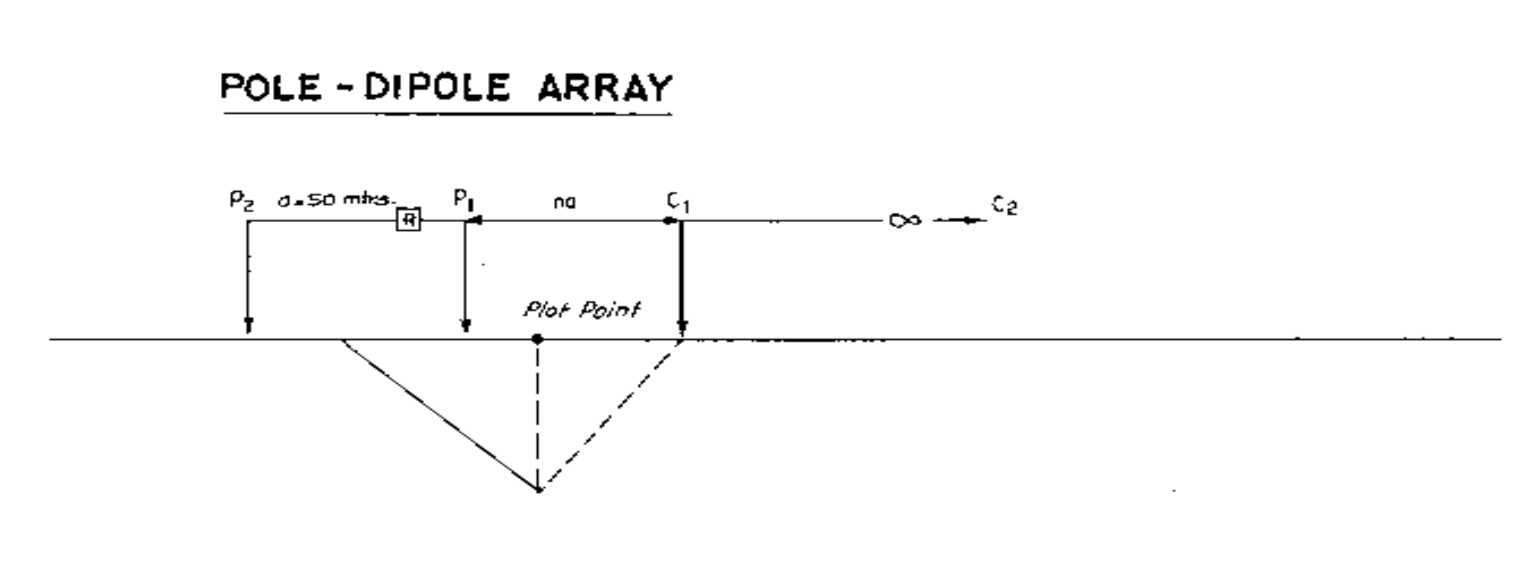
PRELIMINARY GEOLOGY, IP & GEOCHEMISTRY

Work by R.P. & G.C.	Date SEPT, 1975	NTS Ref
Drawn by E.ROGAN	Revised	Fig. 1





- LEGEND**
- Quartz sericite alteration
 - Sulfide mineralization
 - Lazulite
 - Quartz (Minor sericite chloritized)
 - Volcanics
 - Diorite Granodiorite
 - Streams: steady, intermittent
 - Rivers, Lakes
 - Outcrop
 - Contacts
 - Silt sample location



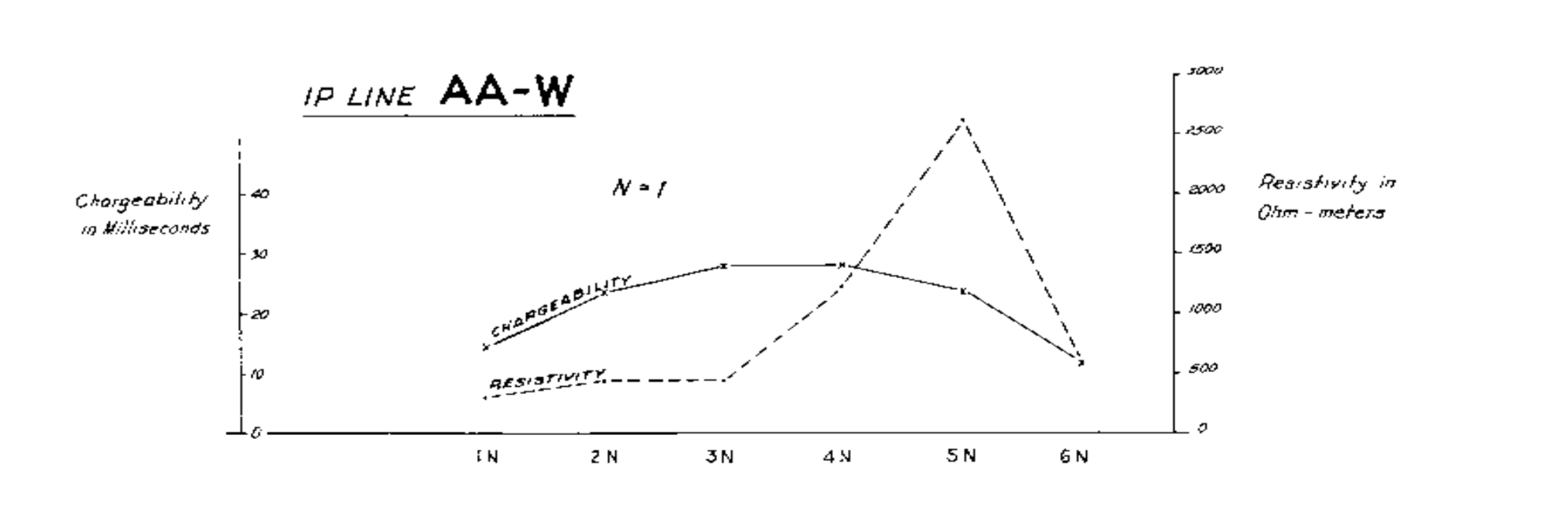
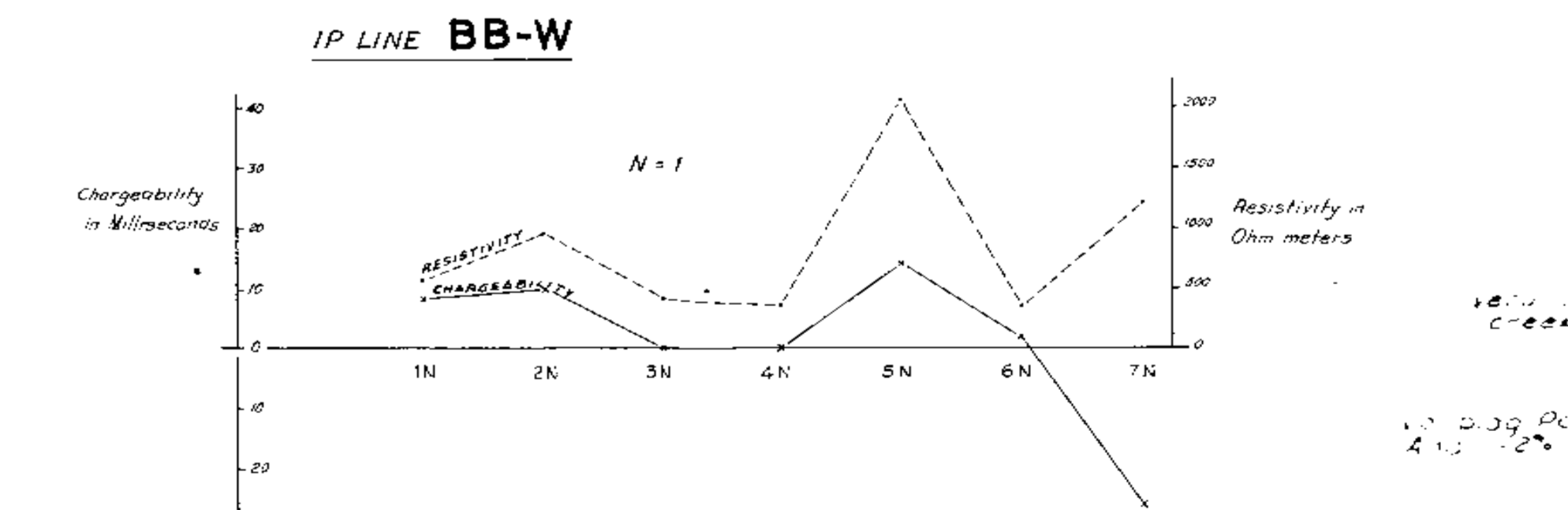
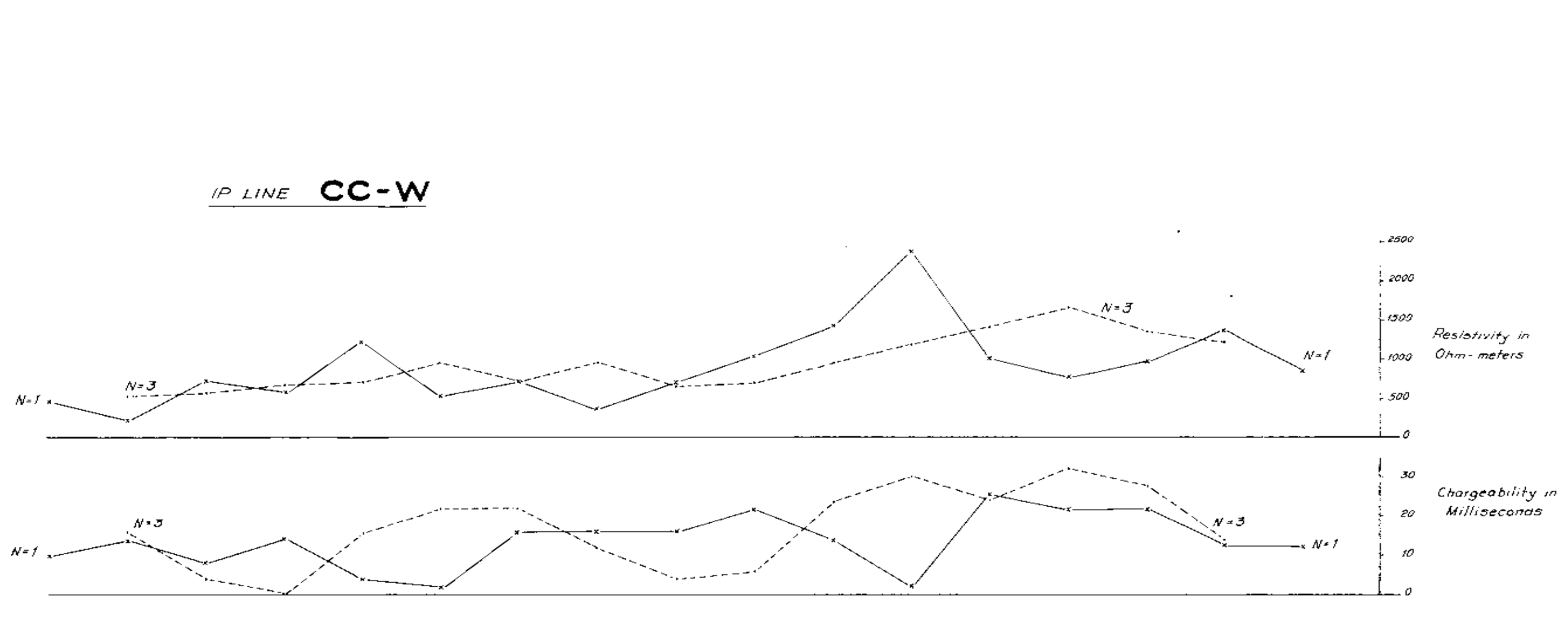
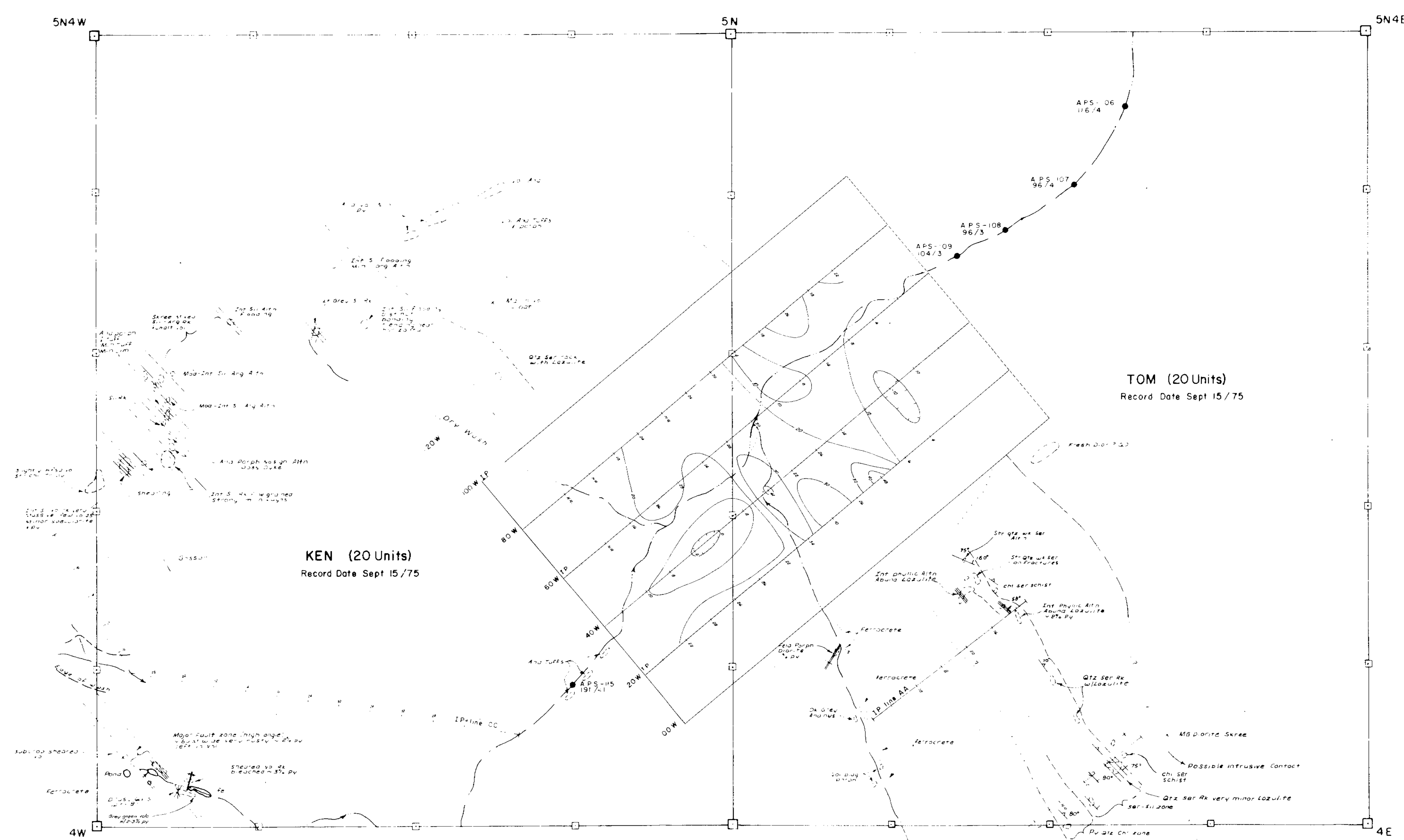
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Department of Mines and Petroleum Resources
 ASSESSMENT REPORT
 No. 5769 MAP 3

104-I-5
SNOWDRIFT AREA
IP SURVEY
KEN & TOM CLAIMS
 CHARGEABILITY N=1

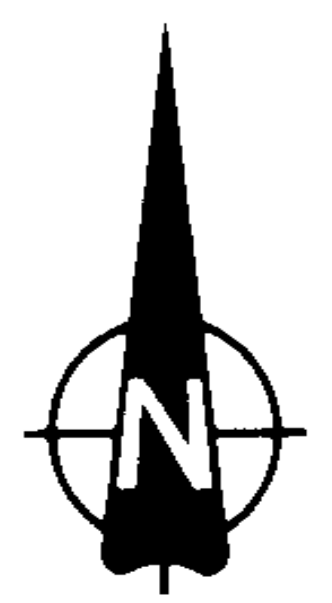
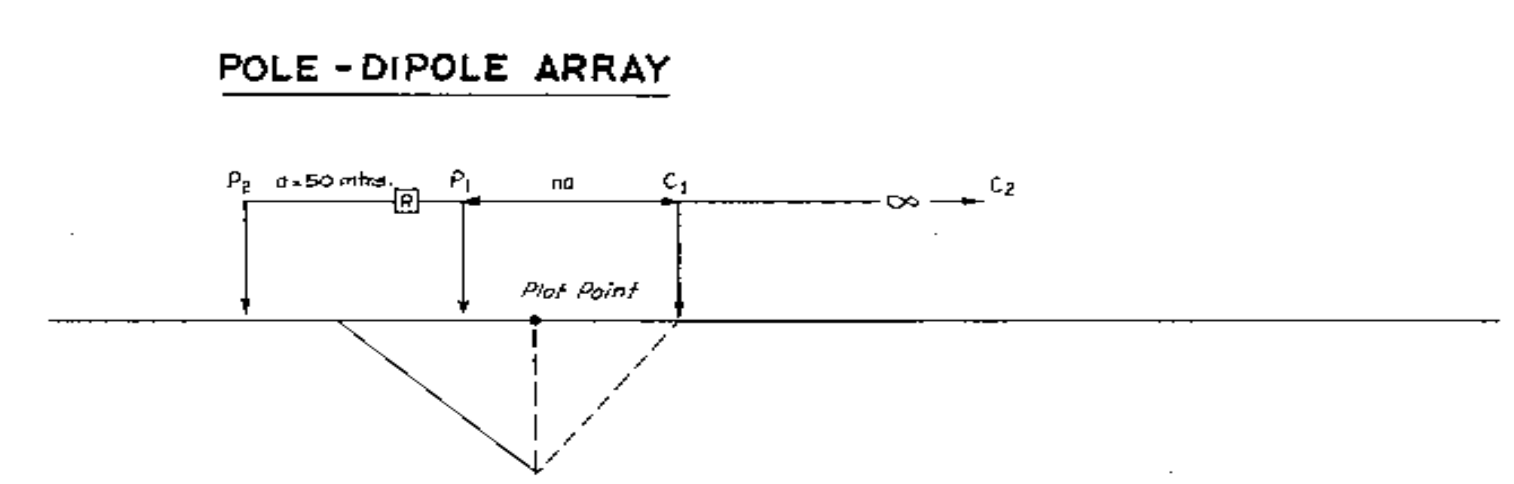
Work by R.P. & G.C. Date SEPT, 1975 NTS Ref
 Drawn by E.ROGAN Revised Fig. 2

250 125 0 250 METERS



LEGEND

- Quartz sericite alteration
- Sulfide mineralization
- Lazulite
- Quartz (Minor sericite chloritized)
- Volcanics
- Diorite Granodiorite
- Streams: steady, intermittent
- Rivers, Lakes
- Outcrop
- Contacts
- Silt sample location
Sample #
Cu in PPM / Main DGM

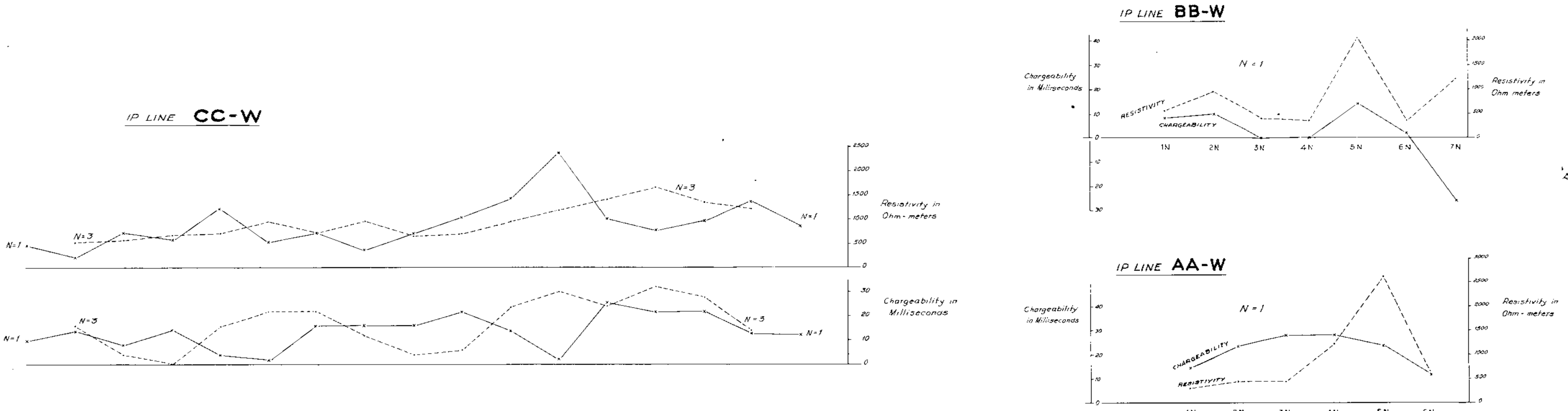
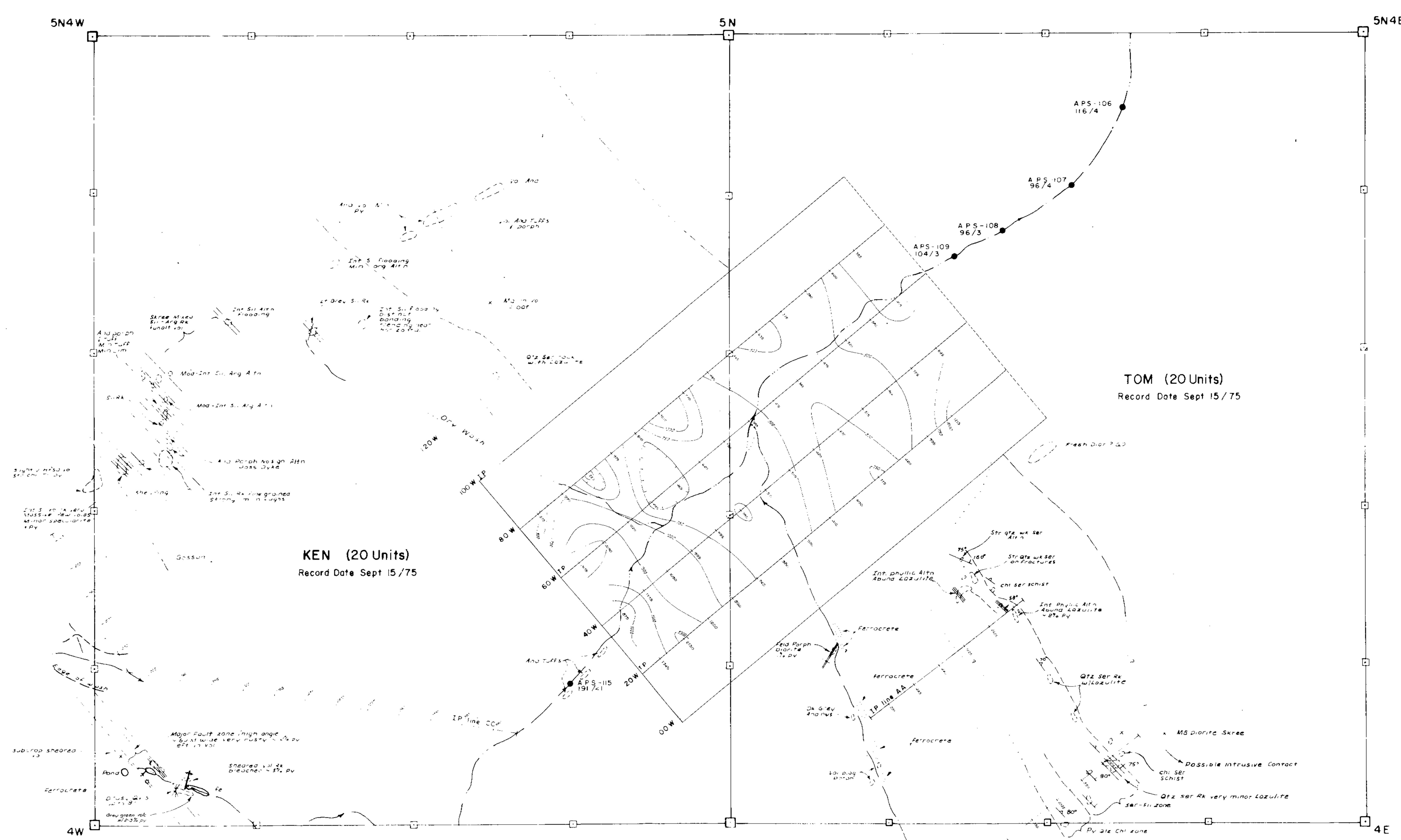


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ASSESSMENT REPORT
NO. 5769 MAP 4
104-I-5
SNOWDRIFT AREA
IP SURVEY
KEN & TOM CLAIMS
CHARGEABILITY N=3

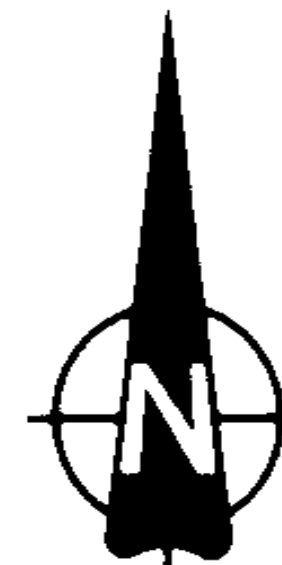
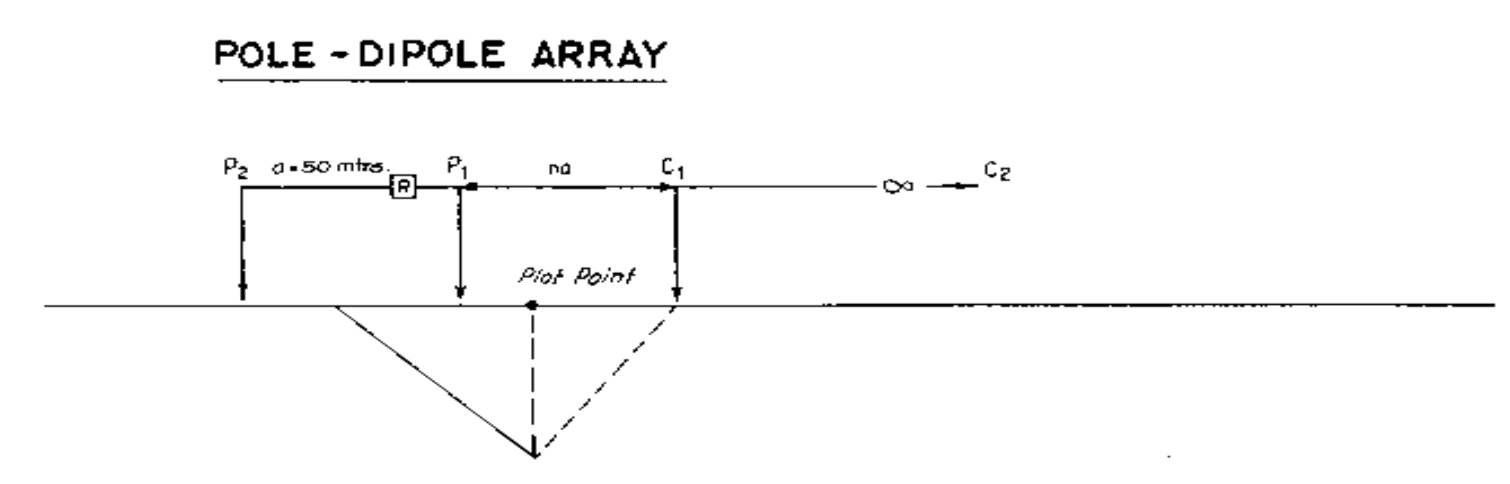
Work by R.P. & G.C.	Date SEPT, 1975	NTS Ref
Drawn by E. ROGAN	Revised	Fig. 3





LEGEND

- Quartz sericite alteration
- Sulfide mineralization
- Lazulite
- Quartz (Minor sericite chloritized)
- Volcanics
- Diorite Granodiorite
- Streams: steady, intermittent
- Rivers, Lakes
- Outcrop
- Contacts
- Silt sample location



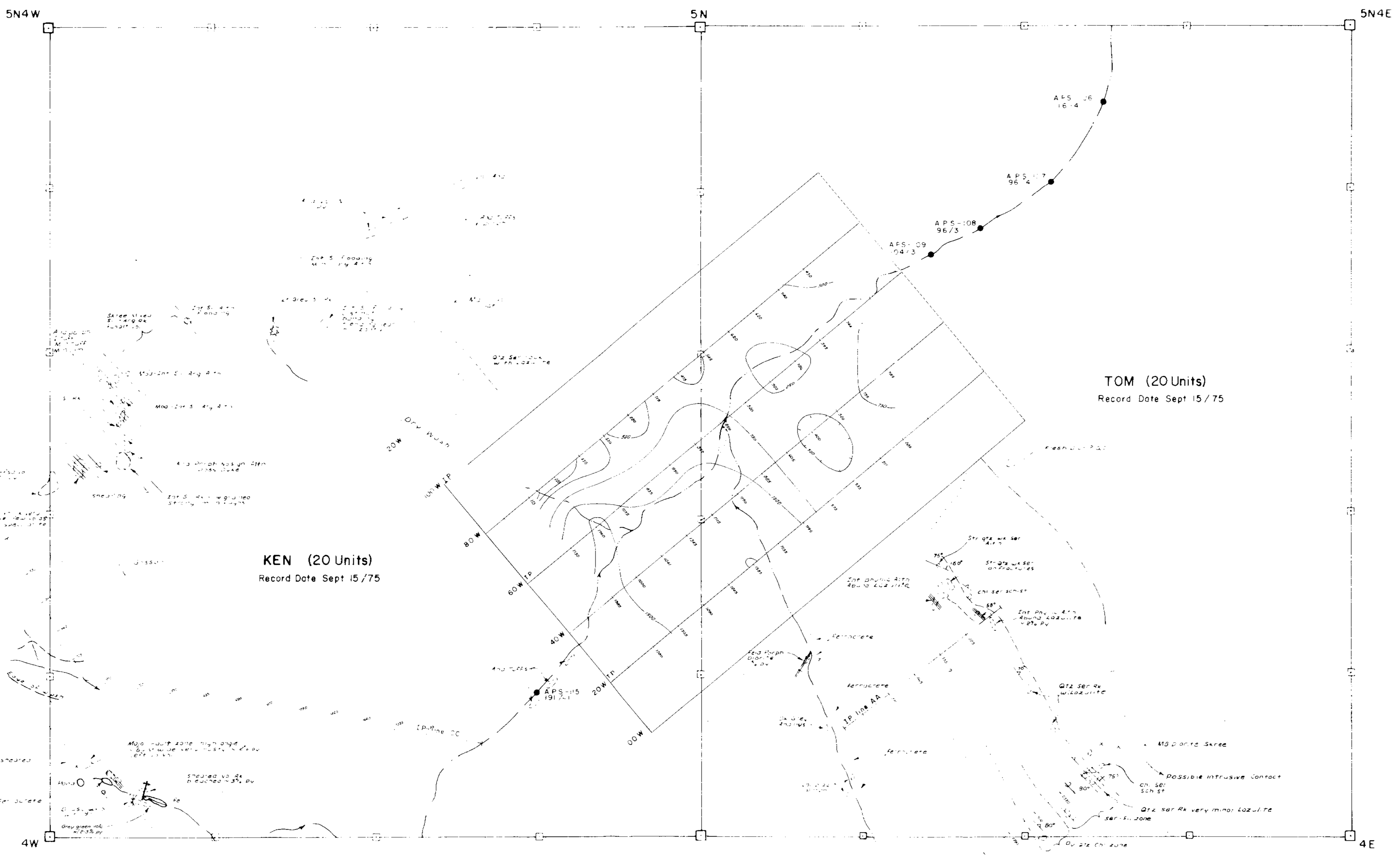
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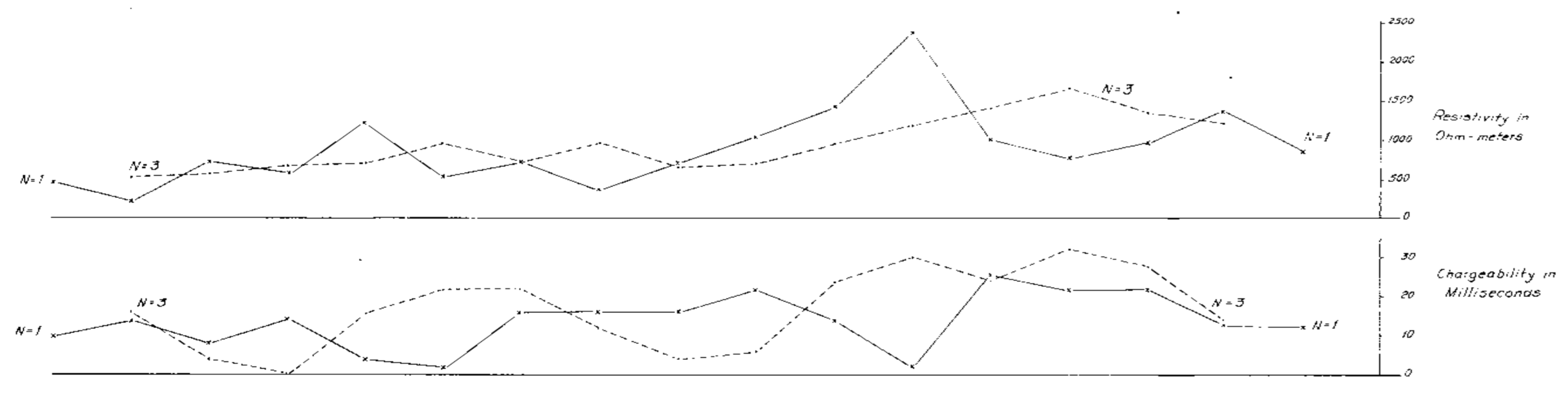
Department of
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ASSESSMENT REPORT
NO. 5769 MAP 5
104-I-5
SNOWDRIFT AREA
IP SURVEY
KEN & TOM CLAIMS
RESISTIVITY N=1

Work by R.P. & G.C.	Date SEPT, 1975	NTS Ref
Drawn by E.ROGAN	Revised	Fig. 4

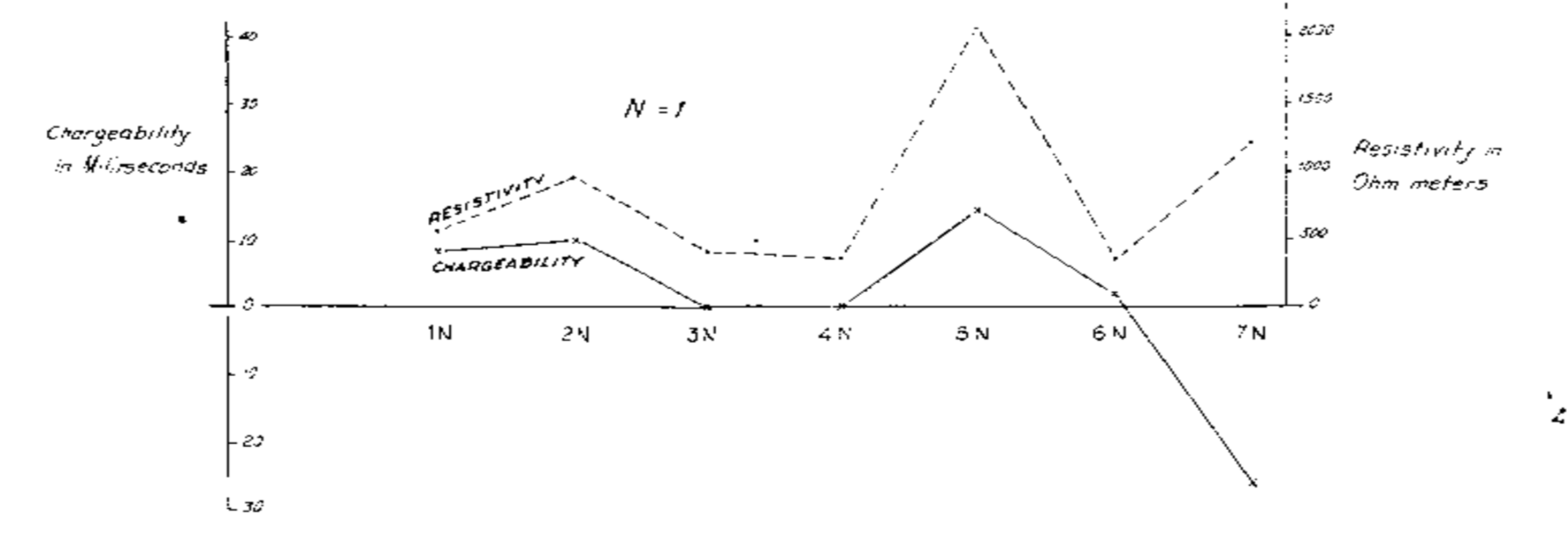




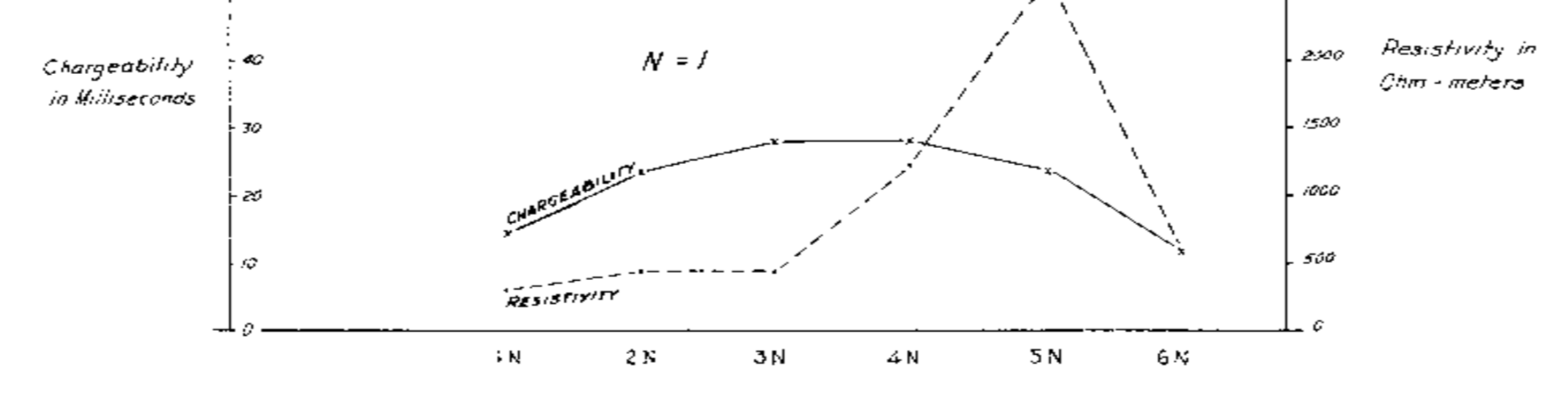
IP LINE CC-W



IP LINE BB-W

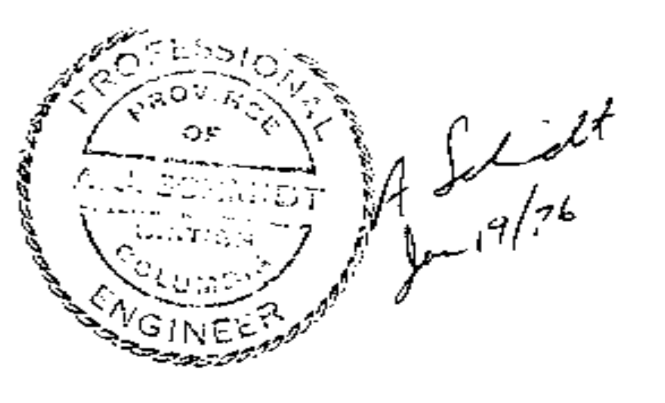
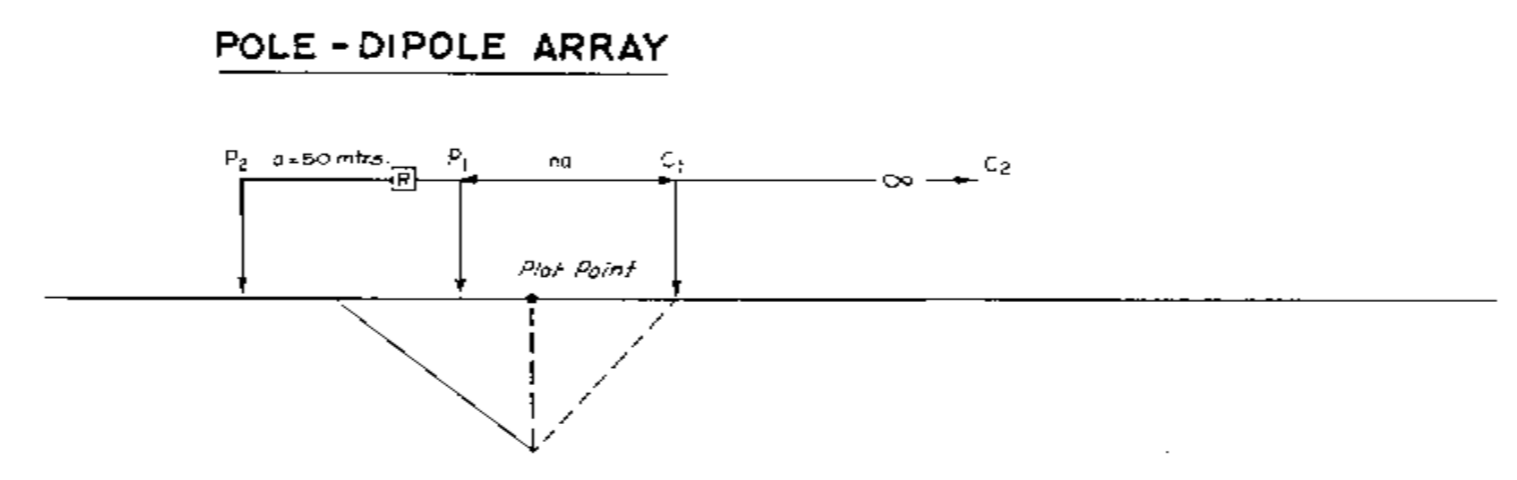


IP LINE AA-W



LEGEND

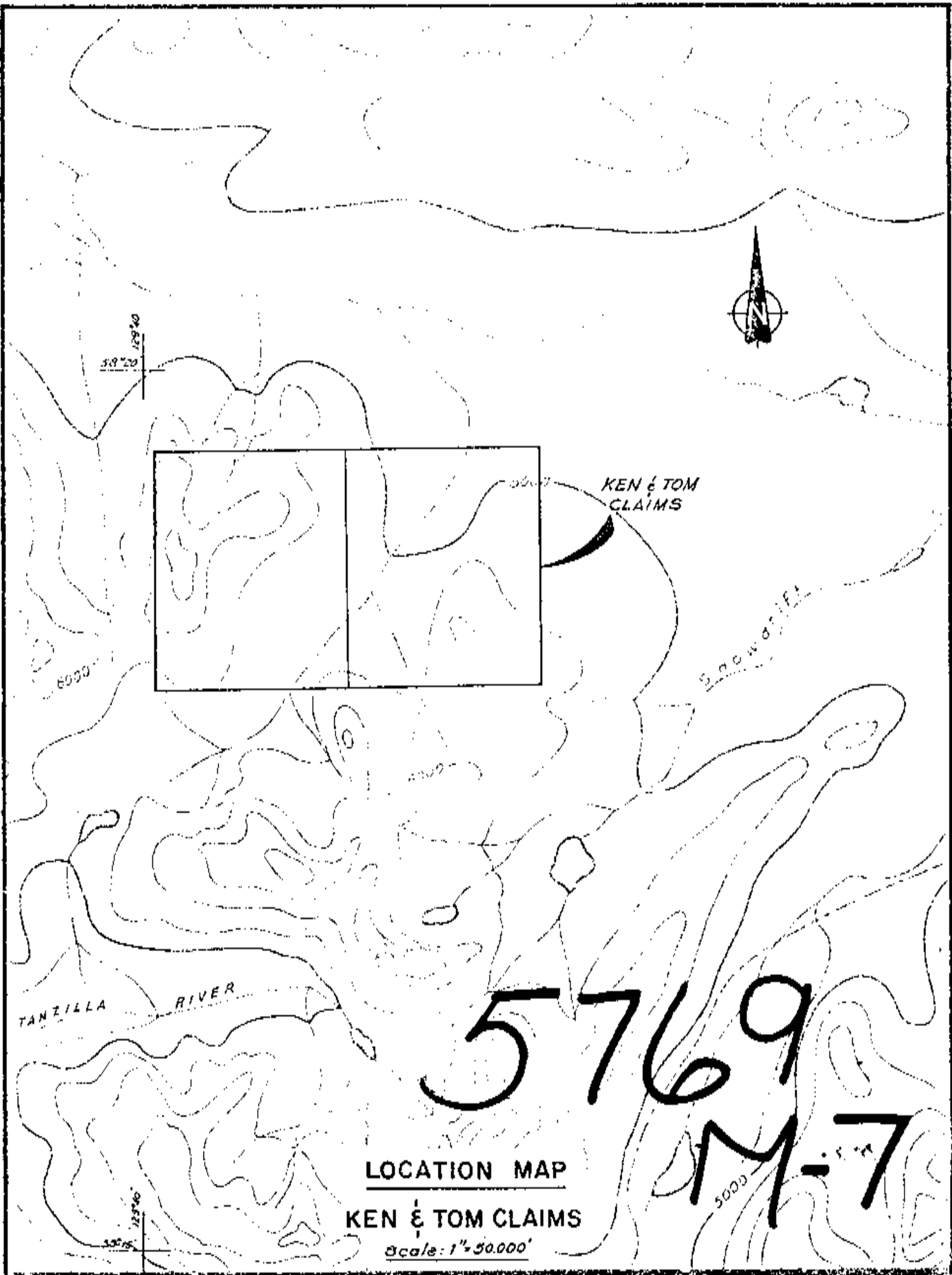
- Quartz sericite alteration
- Sulfide mineralization
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SNOWDRIFT AREA
IP SURVEY
KEN & TOM CLAIMS
RESISTIVITY N=3

Work by R.P. & G.C.	Date SEPT, 1975	NTS Ref
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KEN & TOM
CLAIMS

TANZILLA RIVER

LOCATION MAP

KEN & TOM CLAIMS

Scale: 1" = 50,000'

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