5890

1975

GEOLOGICAL, GEOCHEMICAL & GEOPHYSICAL

ASSESSMENT REPORT ON THE

"H" CLAIM

NECHAKO RIVER PROJECT

OMINECA MINING DIVISION

LOCATED

APPROXIMATELY 71 MILES SOUTHWEST OF VANDERHOOF, B.C.

AT COORDINATES

LATITUDE: $53^{\circ}18'$N LONGITUDE: $125^{\circ}12'$W

BY

G. SALAZAR S., P. ENG.

#10220

TABLE OF CONTENTS

SUMMARY & CONCLUSIONS

This report covers a target with potential copper-molybdenum mineralization in an environment amenable to porphyry-copper type deposits. Outcrops is non existant within the targeted area, and soil cover, which appears to be formed of glacially transported material in places - may be as thick as 50 - 75 feet.

The target area is located in the headwaters of Capoose Creek, just west of Green Lake, Omineca Mining Division (Longitude: 125°12'W, Latitude: 53°18'N).

The area is underlain by an abutment of the Capoose Lake stock intruding Takla Group volcanics. The volcanics are mainly tuffs and flows of andesitic to dacitic composition and outcrop extensively along the higher elevations on both sides of Capoose Creek. Only one outcrop of medium to fine grained quartz monzonitic composition, strongly silica-sericite-chlorite-(tourmaline)-clay altered and with up to 10% pyrite is found within our property, and it is located just south of Capoose Creek. The volcanics in the hillsides nearest the creek show strong sericite-clay-limonites (after pyrite)-tourmaline (locally) alteration, and the distribution and habitat of the sulphides (i.e. pyrite) appears to change from mainly syngenetically disseminated to primarily along fractures as one approaches the target area.

An anular IP chargeability high found within the claim is interpreted to be similar to the response found over the pyrite halos that surround porphyry-copper type deposits with high sulfur systems, and drilling of a target within this feature that is coincident with

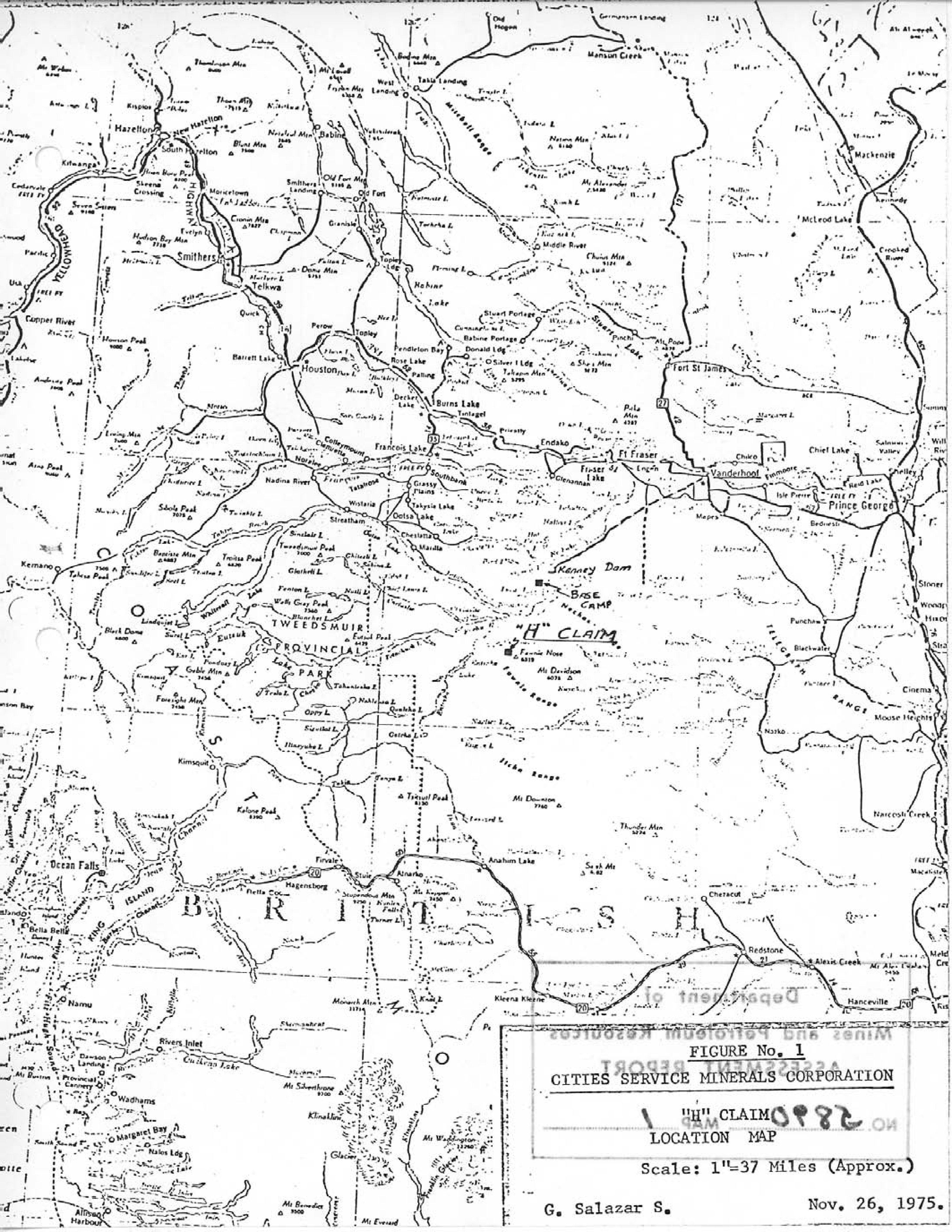


FIGURE No. 1

CITIES SERVICE MINERALS CORPORATION

"H" CLAIM

LOCATION MAP

Scale: 1"=37 Miles (Approx.)

G. Salazar S.

Nov. 26, 1975.

a discreet copper-molybdenum soil geochemical anomaly is proposed. At the present, and judging from information gathered elsewhere within the Capoose Lake stock, the potential of this target appears to be limited, although the amount of pyrite found in this area would indicate the presence of a system with much more sulfur than anywhere else within the area of influence of the stock.

RECOMMENDATIONS

A 300 foot diamond drill hole, located at about line 5+00S, Station 5E, and drilled east at -60^{o} is recommended.

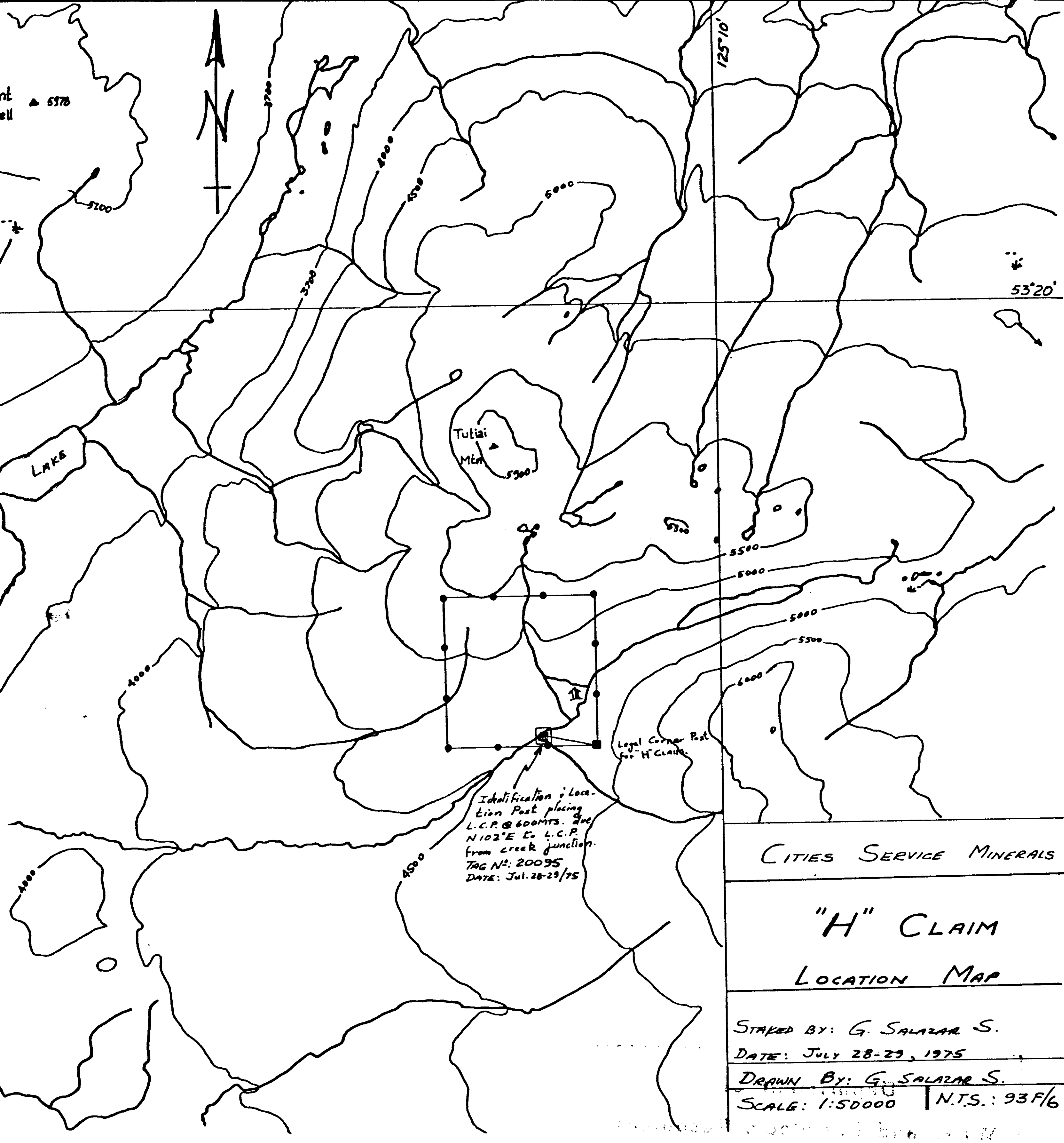
LOCATION AND ACCESS

The "H" claim is located approximately 115 miles due S 68^{o}W from Prince George, B.C. Access to the area is by road from Vanderhoof, B.C., to Kenny Dam, and then by helicopter to the property. A Bell 47G-3B-1 helicopter, under contract from Transwest Helicopters, and stationed at Kenny Dam was used for the final leg. Distance from Kenny Dam to the property is 22 miles to the southwest. A camp was placed in a long meadow along Capoose Creek.

HISTORY

The area was previously staked by Rio Tinto Zinc (Tut 1-50 claims, 1969-71). Assessment reports filed by this company showed that they had done the following work:

1) Soil geochemistry, on lines 3-400' apart and samples every 200'.
2) IP survey, pole-dipole array and time domain. A total of about 9.3 line miles on seven lines about 700' apart is reported.
3) Detailed geologic mapping.



N
125°10'
53°20'
5978
5200
3700
4000
4500
5000
Tutiai Mtn
5900
5300
5500
6000
LAKE
Legal Corner Post for "H" Claim.
Identification & Location Post placing L.C.P. @ 600 MTS. due N102°E to L.C.P. from creek junction. TAG Nº: 20095 DATE: Jul. 28-29/75
CITIES SERVICE MINERALS
"H" CLAIM
LOCATION MAP
STAKED BY: G. SALAZAR S.
DATE: JULY 28-29, 1975
DRAWN BY: G. SALAZAR S.
SCALE: 1:50000
N.T.S.: 93F/6

No evidence of physical work (i.e. trenching and/or drilling) was observed. Their last available reports indicate that they were considering diamond drilling some of these targets.

This report relies quite heavily on the several R.T.Z. reports available to us.

WORK DONE IN 1975

1) General reconnaissance of the area and staking of the "H" Claim of nine units.
2) Placement of a grid of five lines trending east, 250 meters apart and 1500 meters long, covering the area of interest. Including the baseline, a total of 8600 meters of line was cut and flagged, with stations every 50 meters.
3) Controlled ground magnetic survey over all the new grid lines.
4) Induced polarization/resistivity survey over the baseline and line 2+50S. Survey was run by Morrison & Depaoli IP Contractors using a McPhar P-660 Frequency Domain IP system with a dipole - dipole array (a=100 meters, n=4). A total of 3000 meters (1.9 miles) of IP surveying was done in August 14-15, 1975.
5) Soil and stream sediment sampling covering the staked area and its vicinity was done on a reconnaissance basis only.

CLAIM SITUATION

One claim of nine units, called the "H" claim, (Record Number: 98), on July 28th, 1975, covering the area of interest. This claim was recorded in Vanderhoof, B.C., on the 20th of August, 1975.

REFERENCES

1) Tipper, H.W. 1963: Nechako River Map Area, B.C. G.S.C. Memoir No. 324.

2) Assessment Report No. 2655: Report on Geochemical Surveys, Tut Claim Group, Capoose Creek Area, B.C. , by M.B. Mehrtens & H.W. Marsh for Rio Tinto Canadian Ex. Dated August 19, 1969 to August 19, 1970.

3) Assessment Report No. 3255: Report on Induced Polarization Surveys on some Tut Claims, Green Lake Area, B.C., by Richard O. Crosby (Seigel Associates) Work done by Rio Tinto Canadian Explorations.

4) Assessment Report No. 2780: Geological Report on the "T" "Cap", and "Tut" claim groups, Capoose Lake, B.C., by R.S. Hewton & H.W. Marsh, with appendix on the Green Lake Area by E. Nahring, November, 1970.

5) DePaoli, G.M. 1975: Interpretation of government Airmagnetic Data over the Nechako River Area.

6) Rio Tinto Zinc: Several other assessment reports covering neighboring areas.

REGIONAL GEOLOGY

According to Tipper (1963), the area is supposed to be underlain by andesitic and basaltic flows, tuffs and breccias with interbedded argillites and minor limestone of the Takla group. However, our reconnaissance mapping of the area has shown that medium to fine grained quartz monzonitic rocks occur at outcrops along a brook that drains from the south and into Capoose creek in the vicinity of Green Lake, moving the Capoose Lake stock - Takla volcanics contact up Capoose creek to the west side of Green Lake. Detailed geological mapping carried out by RTZ personnel corroborated our data and conclusions.

The Capoose Lake stock is about 12 x 10 square miles in size elongated northerly. The property covers an abutment on the eastern side of the stock. Capoose Creek appears to be controlled by the Green Lake fault which cuts through the claims trending N 60^{o}E and may be left lateral.

LOCAL GEOLOGY

1) Petrology

The writer finds himself in close agreement with the interpretation and geological descriptions of outcrops as reported by R.T.Z. personnel in Assessment Report No. 2780, and has borrowed considerably from them. Furthermore, the plan Geology map (Drawing No. 5NR-H-2) has been modified to fit the few required additions of outcrop information and/or the changes of megascopical classification of certain rock outcrops.

The age relationship of the different units as implied in the legend of map 5NR-H-2 is by no means definite, specially the time of intrusion, which could very well have taken place after the emplacement of unit No. 5.

(a) Map Unit No. 1: SEDIMENTS; mainly individual bands of quartzite, with thin to medium bedded argillite, greywacke, shale, conglomerate and limestone. Unidentified fossils were recognized and reported by E. Nahring (RTZ, 1970) in the central portion of the limestone and greywacke beds. Bedding within this unit strike due N 130^{o}E at 25^{o} - 35^{o} to the southwest.

(b) Unit No. 2: GARNETIFEROUS QUARTZITE - According to E. Nahring, this unit... "Consists of a quartzite matrix, garnet and glass phenocrysts and a very small amount of unknown mafics. The garnets occur as euhedral crystals from 1 to 3 mms in diameter and makes up approximately 1 to 10% of the rock. They occur on joint plains and disseminated on the rock."

(c) Unit No. 3: (including 3a & 3b): VOLCANICS - The volcanic pile consists of andesitic tuffs and flows with minor interlayered sediments.

The andesites are quite variable, ranging in color from light green to black and in grain size from aphanitic to medium grained. Hornfelsing of the andesites at or near their contact with the intrusive rocks is evident southeast of the claim group. Biotite appears to be the main constituent of this hornfels. Hewton & Marsh (RTZ, 1970) report a maximum width of hornfelsed andesites of 1000 feet near Fawnie Nose, although it appears to be minor elsewhere around the Capoose Lake stock.

The volcanic tuffs are more siliceous in composition, perhaps equivalent to a dacite or rhyolite rather than andesitic composition, with numerour quartz eyes and a very siliceous groundmass. As mentioned above, the age relationship is not too clear at the present and althouth there appears to be two separate periods of volcanism as determined by degrees of alteration and depositional relationships between rocks of this type and younger sediments their relationship to the time of intrusion is not certain.

(d) Unit No. 4: INTRUSIVE - The intrusive rocks in the area are of granitic to quartzmonzonitic composition, are medium to fine grained granular and contain up to 5 - 10% disseminated pyrite. The grain size and texture of the groundmass varies considerably, to the point that some outcrops considered to be part of the very altered tuffaceous andesitic pile by us in the area northwest of Green Lake were mapped as intrusive rocks by RTZ personnel.

(e) Unit No. 5: VOLCANICS - This unit is formed of flows, breccia flows and porphyritic volcanics of andesitic composition. It is usually quite fresh and has been distinguished from the andesites of Unit No. 3 primarily on this basis. As mentioned above, the age relationship in between these two units and between the volcanics and Capoose Lake stock are not clearly defined.

(f) Unit No. 6: SHEAR ZONES - This unit consists of zones of highly sheared and leached, bleached or biotized rock with a very high strike length to true width ratio that may represent an old, partly reactivated fracture zone. The zones trend mainly due north, and heavy FeOx staining outlines their boundaries.

2) Mineralization & Alteration

Pyrite is the predominant sulphide observed in all units. It represents up to 10-15% of the volume of most tuffs and, locally, andesites. It occurs as disseminations and fracture filling in all rocks. The andesitic flows and tuffs to the north of Green Lake and located beyond the zone of very strong oxidation show up to 5% disseminated pyrite, most of which appears to be syngenetic. The amount of pyrite along fractures appears to increase drastically as one approaches the highly altered and oxidized zone recognized at the break in slope in between the plateaus to the north and south of Capoose Creek and the valley itself.

The outcrop of fine to medium grained quartz monzonite found along the creek draining the south slopes of the valley carries up to 5-10% disseminated pyrite associated with very intense silica-clay-(tourmaline-sericite) alteration.

No copper and/or molybdenum sulphides that would account for the several discreet geochemical anomalies reported by RTZ were seen during our investigation of the area. Galena, associated with pyrite and garnet within the garnetiferous quartzite, is found to the south of Green Lake, and minor specular hematite was found along joint surfaces within the altered tuffs to the north.

Chlorite, sericite, silica and minor tourmaline are the hydrothermal alteration products seen. The first two are widespread throughout and, together with iron oxides (mainly after pyrite) and kaolinite, both result of supergene alteration, form the gossans seen to the north and south of Green Lake. Silica-chlorite-tourmaline are moderately strong within the outcrop of quartzmonzonite located south of Capoose Creek, chlorite and tourmaline are replacing mafics, and silica appears strongest along fractures. Tourmaline starbursts are also seen within the areas of strongest alteration in the volcanics on the north side of the valley.

3) Structure

A major fault zone trending N 60°E appears to control the location of Green Lake and Capoose Creek. Gouge zones up to 5 meters wide trending parallel to it and dipping vertically are seen on the north side of the canyon. The creeks draining into Capoose Creek seem to be controlled by second order structures and/or jointing.

The sheared and leached out zones reported as Unit 6 are interpreted to represent older system(s) of fracturing that may have been reactivated after the emplacement of the Capoose lake stock.

Joints in the area vary with the different rock types. The main direction within the quartz monzonite is due north, within the tuffs is due N 190°- 220°E and within the andesites is N 250° E. No evidence of folding is recognized, although the sediments south of Green Lake have been tilted 20-30° to the westsouthwest.

Glacial striations indicate that the main direction of glacial movement was due N 60° E, subparallel to the long axis of Green Lake. Scattered drumlinoids were recognized in the bottom of Capoose Creek.

GRIDS AND GRID SURVEYS

All of RTZ's work was carried out along a grid of lines trending N 70°E with stations every 50 feet. According to their maps, distance in between lines vary from 300 feet to 2800 feet depending on the detail of work done by them. Unfortunately, the grid stations within the main area of interest had already disappeared at the time of our arrival.

As a result of the above, we were forced to put our own grid in, which is formed of easterly trending lines 250 meters apart with stations every 50 meters. The grid's orientation and measuring system were made to conform to the new staking system. Two days were spent trying to tie RTZ's grid to ours, and the maps that accompany this report present our best fit.

GEOCHEMISTRY

As mentioned in the introduction, we spent only seven days working in this area.

Figure No. 2 is a plot of the Cumulative Frequency Distributions of copper, molybdenum and zinc of all soil samples collected in the area (by RTZ and us). The data is plotted on probability paper to enhance the break in slope that defines the threshold in between background and anomalous populations. This is a variation from the standard Bell curve distribution studies that is used when it is required to define the area where the two Bell curves, representing both populations, usually overlap.

The main difference in between this approach and the Bell curves is, therefore, that the latter method usually considers the break point in between the two populations at about the 67% percentile, whereas this method allow this percentile to float as well, and is determined by the break in slope of the curve, so that a comparison of threshold values and of percentile of anomalous samples above the said threshold againstan ideal (or expected) population distribution can be made. From figure No. 2, then, the following thresholds and percentiles are defining the anomalous populations:

Copper:	Threshold at 57 ppm, with 88% of the population below it.
Molybdenum:	Threshold at 7.0 ppm, with 95% of the population below it.
Zinc:	Threshold at 55 ppm, with 87% of the population below it.

The low thresholds at high percentiles is indicative of low regional metal content, which could be due to:

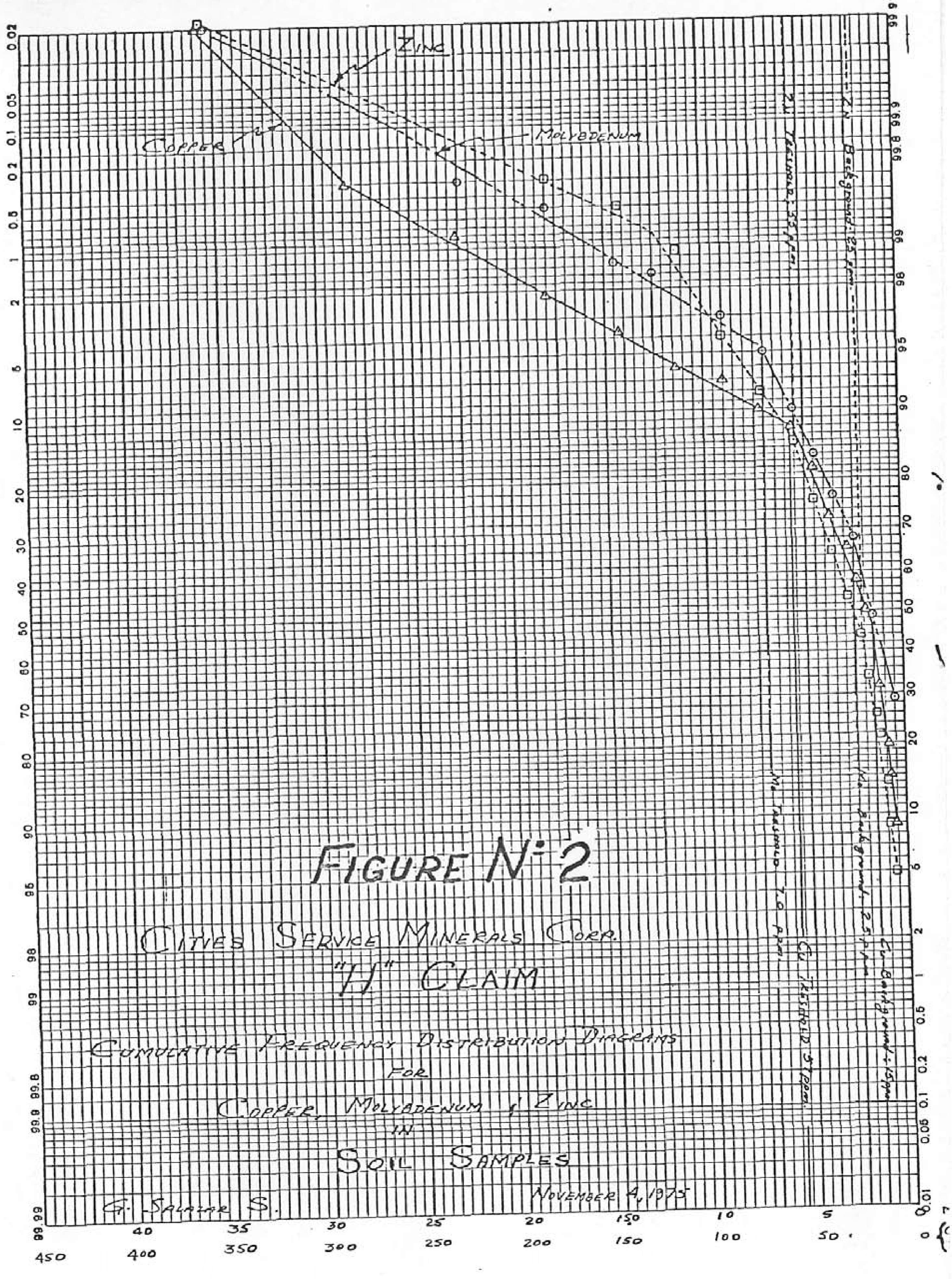
1) The strong leaching of metals from the soils.

2) The underlying rocks carry an unusually low metal content, in a regional scale.

Masking of bedrock geochemistry due to the deposition of glacial debrii is not considered a major factor, although strong smearing is suspected (see molybdenum and zinc contours).

Maps No. 5NR-H-3 (a) and (b) portray the results for copper, molybdenum, zinc and silver, where available.

G '-23
PROBABILITY



CCGS MICROGRAPH

1) Copper

Three copper anomalies are recognized.

The one largest in size is located immediately east of our property and runs along the valley bottom subparallel to Capoose Creek, which cuts at an acute angle through its northern third. The anomaly trends N 20°E, is about 800 meters long and 200 meters wide. The range of assays within the anomaly is quite limited, and samples that assay above 125 ppm outline a very narrow zone in its northend. This anomaly is interpreted to outline the possible location of the Capoose Lake stock - Takla volcanics contact.

A second anomaly is located near the center of our claim block and is open to the north. Ferro cement breccias were seen along the present channel and walls of the creek that cuts through the anomaly and partial scavenging is suspected. A small zone of higher than 125 ppm content is open to the north and should be defined better.

The third anomaly is located in the southeastern corner of the claim block, at the junction of the creek that drains the north slope of the valley and Capoose creek. It is a discreet anomaly but has a larger percentage of samples with assays higher than 125 ppm.

2) Molybdenum

Two large zones are outlined by the 2.5 ppm threshold. The one just east of our property is partially coincident with the largest copper anomaly.

Its range of assays and shape confirms the assumption that this is probably reflecting the Capoose Lake stock-Takla volcanics contact, with the latter rocks having a slightly higher background. A zone of greater than 7.0 ppm molybdenum is seen immediately south of Green Lake. It is located at the break in slope, is not characterized by a corresponding copper increase and may be a seepage anomaly.

The second zone covers the eastern half of our property, is partly coincident with the copper anomalies described in this area and shows evidence of strong glacial smearing to the southwest. The highest values within this anomaly are coincident with the copper anomaly found in the southeastern corner of the property. The large copper anomaly found in the center of our property is surrounded in its southeastern half by this zone as well.

3) Zinc

Two anomalous areas are recognized in the area. The zone to the south of Green Lake trends southerly up to line 14S (RTZ's) where it turns southwesterly. It is open to the northeast and southwest. This zone is coincident with the core of the molybdenum anomaly east of our property.

The second anomaly is located in the southwestern corner of the property and is adjacent to the two copper anomalies within our property.

GEOPHYSICS

This section of the report deals with the geophysical data gathered by us and RTZ as it compares to the geological and geochemical data described above. Appendix 1, written by G.M. DePaoli, gives a more detailed study of the different IP surveys.

1) Ground Magnetics

A McPhar M-700 Fluxgate portable magnetometer was used in the survey, diurnal variations were checked by closing loops every half an hour.

A sharp northerly trending zone is seen in the northwest corner of the property. It is interpreted to represent a fault zone that dips steeply to the east.

The copper anomaly in the center of the property is underlain by a zone of low magnetic susceptibility that trends northeasterly and is adjacent to a narrow zone of higher magnetic susceptibility. This copper anomaly projects into the zone of high magnetic susceptibility.

2) Chargeability

The anular feature outlined by the 16% chargeability effect (at 400' spacing) shown on Drawing No. 5NR-H-8 is likened to a pyrite halo.

DePaoli recommends the southeast side of this anular feature as the best available target. The area of coincident copper-molybdenum anomalous values in the southeast corner of our property is within this zone and is recommended for drill testing.

Lake stock, where it is in contact with older Takla group volcanics. The "H" claim of nine units, covers the whole IP feature, which is underlain by the youngest phase of the stock.

Drill testing of the copper-molybdenum anomaly located within this IP anular feature is recommended.

Respectfully submitted

Guillermo Salazar S.,
P. Eng.

#10220

STATEMENT OF 1975 EXPENDITURES

SECOND PERIOD: July 28 to August 3, 1975
Crew No. 1: Alan Overend & Peter Milbradte
Laying Out Grid, magnetometer survey, general tie-up of grids to topography.

1) Camp costs, 2 men, 7 days @ $15/man day	$$ 105.00
2) Salaries:	
Supervision: G. Salazar S., ½ day @ $100/day	50.00
Crew: A. Overend, 7 days @$55.90/day	391.30
P. Milbradte, 7 days @$28.41/day	198.87
3) IP Survey, Morrison & DePaoli IP Surveys, 2 days, as per invoice	865.23
4) Helicopter (Bell 47G-3B-1) Time Cities: 5.6 hours IP Work: 2.7 hours 8.3 hours @ $130/hour	1,079.00
5) Av. Gas. 8.3 hours, 15 gal./hours, @$0.75/gal.	93.68
6) Drafting, 5 days @ $80./day	400.00
7) Data Analysis and report preparation, G. Salazar S. 2 days @ $100/day	200.00
	3,382.78
10% Miscellaneous	338.28
TOTAL	$$3,721.28

(Equals to 18.61 unit years of assessment work)

#10220

Guillermo Salazar S., P. Eng.

Other features observed within the property boundary are:

(a) A discreet chargeability high located at line 2+50S, station 5+00W, interpreted to be a zone of higher sulphide content than the rest of the anular feature.

(b) The copper soil anomaly located in the center of the property seems to overly a zone of lower chargeability response, strengthening the seepage interpretation.

3) Resistivity

The resistivity contour plan for the 200' spacing (Drawing No. 5NR-H-7) shows a zone of high resistivities trending N 60°E and covering most of the southern half of the survey area.

The copper-molybdenum anomaly is underlain by rocks with relatively high resistivity. The presence of silicified intrusive rocks immediately to the south, and of mafic poor leucogranites with related mineralization elsehwere in the region explain this phenomena.

The copper anomaly in the center of the property is underlain by a zone of relatively lower resistivity.

DISCUSSION

A study of the geological, geochemical and geophysical data collected by RTZ brought about our interest in the area. It brought forth the presence of an IP chargeability anular feature interpreted to represent the pyritic haloes characteristic of porphyry copper deposits with high sulfur content in the eastern edge of the Capoose

PROPOSED 1976 BUDGET

1) One DDH, BBS-1, 300 feet @ $40/foot	$ 12,000.00
2) One week of detailed mapping, while drilling -- Salaries - 2 men @150/day - $300.00 Camp Cost -2 men, 7 days @ $7.50/man day 105.00 $405.00	405.00
3) Helicopter time other than drilling Jet Ranger 5 hrs. @$ 300/hour	1,500.00
	$13,905.00
Miscellaneous, 10% of the above	1,390.50
TOTAL	$$15,292.50

#10220

CERTIFICATION

I, Guillermo Salazar S., of the City of Vancouver, in the Province of British Columbia, hereby certify that :

1) I am a member of the Association of Professional Engineers of the Province of British Columbia, registered in 1976, No. 10,220.

2) I am a graduate of the Universidad Nacional de Ingenieria, Lima, Peru, with a Bachelor of Science and a Professional Engineering degrees in combined honours Mining Engineering and Mining Geology.

3) I have a Master of Science degree in Economic Geology from Harvard University received in 1969.

4) I have been a practising Engineer and Geologist since 1968 in New Mexico, Montana and British Columbia.

Guillermo Salazar S., P. Eng.

VANCOUVER, B.C.
December, 1975

APPENDIX No. 1

SEPTEMBER 5, 1975
GERMANSEN LANDING

TO: G.S. SALAZAR
FROM: G.M. DePAOLI

RE: H CLAIMS GEOPHYSICAL DATA

INTRODUCTION

On August 14-15, 1975 two induced polarization traverses were completed on perpendicular lines over the H Claim Group. The purpose of the traverses were to relocate and confirm the presence of an annular induced polarization anomaly obtained in a more comprehensive survey executed by Rio Tinto Canadian Exploration Limited in 1971.

In addition Cities Service Minerals Corporation have established a new grid over the induced polarization feature and completed preliminary geological mapping and a ground magnetometer survey.

RIO TINTO IP SURVEY

A three electrode array with 200 and 400 foot electrode spacings was employed in the survey. Time domain equipment operated by Rio Tinto Exploration personnel was used, the resulting maps were submitted to Siegel Associates (now Scintrex Ltd.) for interpretation and reporting. In all, 9.3 line miles were surveyed on seven N 70^{o}E oriented lines spaced 700 feet apart.

The most striking results from the survey were annular shaped induced polarization anomalies of 15 to 30 milliseconds in a background of 10 milliseconds. These anomalies are best portrayed on the 400 foot Spacing Chargeability Contour Plan. A response of 15 to 30 milliseconds is interpreted to reflect 1 to 3% polarizable material (sulphides) by volume. An equivalent IP response in frequency domain would be 3 to 9% PFE in a background of 2% PFE. The IP low created by the anomalies is open to the northeast.

The apparent resistivity data (200 foot Contour Plan) displays a relative resistivity high in the southern portion of the map area which trends northeast. This resistivity trend is in part coincident with the chargeability low, however, no consistent relationships between the chargeability and apparent resistivity patterns are evident.

On the basis of geophysical data alone, R.O. Crosby has recommended two shallow (300-350 feet) diamond drill holes to test:

a) the highest obtained chargeability response.
b) an intermediate chargeability response which is part of a larger northeast trending zone.

MORRISON & DEPAOLI IP TRAVERSES

The Baseline (00E) and Line 25S, of the new grid were surveyed employing a 100 meter dipole length and reading four separations. PFE and apparent resistivity values obtained correspond well with the position of the previous grid has been established.

On the Baseline (00E) the IP low is reflected by 2.5 to 3.0% PFE. The IP response increases to 4-5% PFE on the southerend and is associated with a resistivity high. The highest response on the traverse occurs on the northern end where several values greater than 7% PFE were obtained. These values are associated with a resistivity low. A resistivity high which occurs at depth is noted at 20 N.

The PFE pattern on Line 25S again reflects the IP low. The center of the profile is predominantly 3-3.5% PFE and each end increases to over 5% PFE. The 4-5% PFE responses obtained on the western end of the Line are associated with low resistivity values. The 5-7 %PFE values on the eastern end of the Line are interpreted to be associated with higher resistivities. The low resistivities evident on the surface separations are attributed to the swamp. As on the Baseline a buried high resistivity feature occurs at station 10 W.

CONCLUSIONS

On the basis of other IP work in the Nechako Project area it is concluded that intrusive rocks in this environment are characterized by high apparent resistivities and positive magnetic anomalies.

On the H Claims high resistivities are predominantly confined to the southern end of the grid with a high resistivity zone trending northeast. The southern half of the IP low and its northeast extension is coincident with this resistivity high. This area is interpreted to reflect an intrusive rock. The two high resistivity features at depth near the center of the IP low are also interpreted as reflecting intrusive rock. These features are also coincident with northeast trending ground magnetic anomalies.

Altered volcanic rocks have been mapped on the northern edge of the IP low and 3,000 feet southeast of the low. It would appear that the IP effects obtained on the north and western edges of the IP low are due to a pyritized intrusive-volcanic contact characterized by low apparent resistivites. The cause of the northeast trending IP response on the southeastern side of the low is more ambiguous. This chargeability and PFE anomaly is associated with a resistivity high and may be interpreted as an increase in sulphides within a different phase of the intrusion. Some support for this hypothesis is offered by one exposure of quartz monzonite occurring south of the IP low. A second possibility as the source of the anomaly is again a pyritized intrusive - volcanic interaction. In either of these two possible cases, the tenure of sulphitization is interpreted to be low. A maximum total sulphide content of 3% by volume is indicated from the magnitude of the IP responses.

RECOMMENDATIONS

Should drill testing of the Claim Group be decided, the north-eastern trending induced polarization response south of the IP low should be given first priority. One adequate test of this zone would be a 600 foot drill hole at -60^{o} drilled southeast from coordinates 35 E; 25 S.

Garry M. DePaoli

MORRISON & DEPAOLI
GEOPHYSICAL CONTRACTORS & CONSULTANTS

5305 E. GEORGIA
BURNABY 2, B.C.
V5B 1V3

AUGUST 26, 1975

CITIES SERVICE MINERALS CORPORATION
#401 - 1200 WEST PENDER STREET
VANCOUVER, B.C.

RE: Induced Polarization Surveying in the
Nechako Project Area.

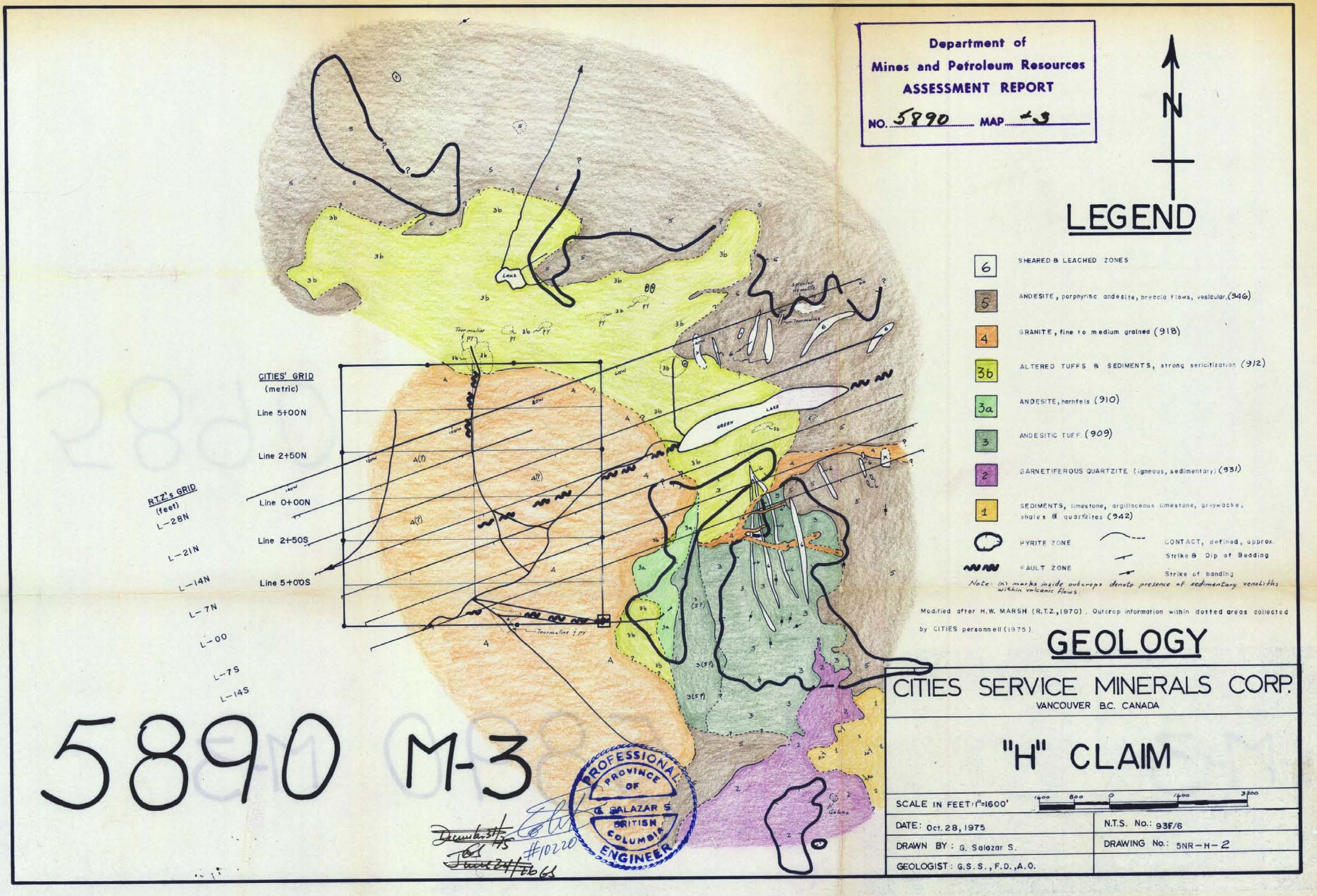
13 Operating Days @ $300/day	$ 3,900.00
4 Standby and Travel Days @ $150/day	600.00
Extra Labour Charges	
17 days @ $45.33/day	770.61
10 days @ $27.20/day	272.00
Expenses as per attached receits	81.39
TOTAL DUE	$$5,624.00

Yours very truly,

D.F. MORRISON

NOTE: Two operating days charged against "H" claims, $\frac{2}{13}$ x 5,624. = 865.23

G. Salazar S., P. Eng.

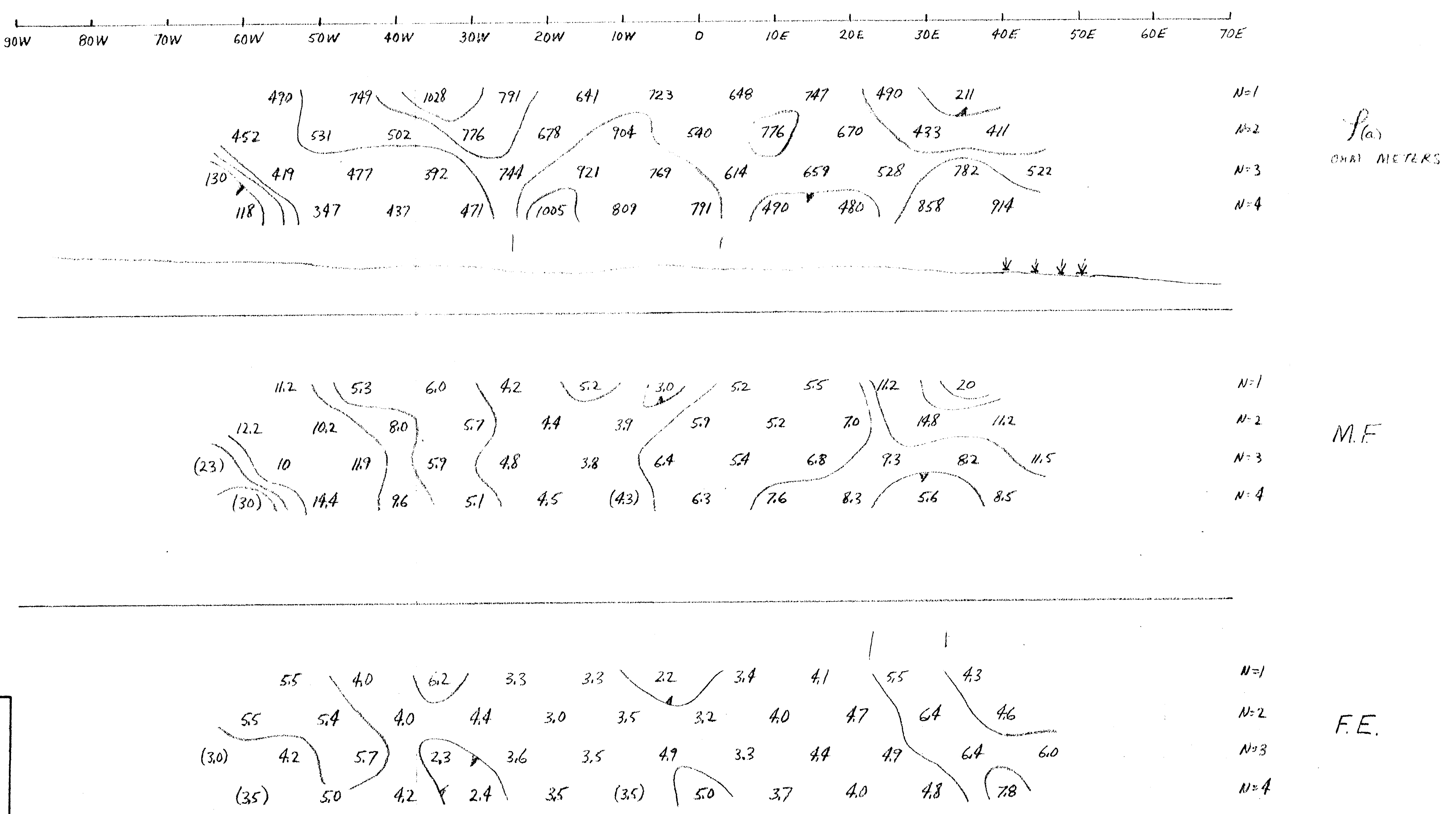

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5890 MAP #3
N
LEGEND
6 SHEARED & LEACHED ZONES
5 ANDESITE, porphyritic andesite, breccia flows, vesicular. (946)
4 GRANITE, fine to medium grained (918)
3b ALTERED TUFFS & SEDIMENTS, strong sericitization (912)
3a ANDESITE, hornfels (910)
3 ANDESITIC TUFF (909)
2 GARNETIFEROUS QUARTZITE (igneous, sedimentary) (931)
1 SEDIMENTS, limestone, argillaceous limestone, greywacke, shales & quartzites (942)
PYRITE ZONE
CONTACT, defined, approx.
Strike & Dip of Bedding
FAULT ZONE
Strike of banding
Note: (x) marks inside outcrops denote presence of sedimentary xenoliths within volcanic flows.
Modified after H.W. MARSH (R.T.Z., 1970). Outcrop information within dotted areas collected by CITIES personnell (1975).
GEOLOGY
CITIES' GRID
(metric)
Line 5+00N
Line 2+50N
Line 0+00N
Line 2+50S
Line 5+00S
R.T.Z.'s GRID
(feet)
L-28N
L-21N
L-14N
L-7N
L-00
L-7S
L-14S
GREEN LAKE
LAKE
Tourmaline
Tourmaline & py
Galena
5890 M-3
PROFESSIONAL
PROVINCE OF
G. SALAZAR S.
BRITISH COLUMBIA
ENGINEER
#10220
CITIES SERVICE MINERALS CORP.
VANCOUVER B.C. CANADA
"H" CLAIM
SCALE IN FEET: 1"=1600'
1600 800 0 1600 3200
DATE: Oct. 28, 1975
N.T.S. No.: 93F/6
DRAWN BY: G. Salazar S.
DRAWING No.: 5NR-H-2
GEOLOGIST: G.S.S., F.D., A.O.


Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5890 MAP # 4a
N
BASELINE 0+00E
LINE 5+00 N
LINE 2+50 N
LINE 0+00 N
LINE 2+50 S
LINE 5+00 S
L-28N
L-21N
L-14N
L-11N
L-7N
L-4N
L-00N
L-4S
L-7S
L-11S
L-14S
GREEN LAKE
CAPOOSE CREEK
LEGAL
CORNER
POST
5890
M-4a
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. SALAZAR S.
#10220
GEOCHEMISTRY
Mo (ppm)
Cu (")
Symbols
× Soil sample
△ Stream sediment sample
○ Rock chip sample
NOTE: All SAMPLES shown along N70°E trending lines were collected by R.T.Z. (Assess. Report N.2655, 1970).
Copper contours at 15, 57, 125 & 150 ppm.
Molybdenum contours at 2.5, 7.0, 10.0 & 20.0 ppm.
CITIES SERVICE MINERALS CORP.
VANCOUVER B.C. CANADA
"H" CLAIM
SCALE: 1:5000
DATE: Oct. 28, 1975
N.T.S. No.: 93F/6
DRAWN BY: G. Salazar
DRAWING No.: 5NR-H-3(a)
GEOLOGIST: G. Salazar

BASELINE 0+00E
LINE 5+00 N
LINE 2+50 N
LINE 0+00 N
LINE 2+50 S
LINE 5+00 S
L-28N
L-21N
L-14N
L-11N
L-7N
L-4N
L-00N
L-4S
L-7S
L-11S
L-14S
LEGAL CORNER POST
GREEN LAKE
CAPOOSE CREEK
N
Symbols
× Soil sample
△ Stream sediment sample
○ Rock chip sample
Zinc contours at 25,54,74,100.
NOTE: All SAMPLES shown along N70°E trending lines were collected by R.T.Z. (Assess. Report N.2655, 1970).
Copper >57 ppm.
Molybdenum >7.0 ppm.
GEOCHEMISTRY
Ag (ppm)
Zn (")
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. SALAZAR S.
CITIES SERVICE MINERALS CORP.
VANCOUVER B.C. CANADA
"H" CLAIM
SCALE: 1:5000
DATE: Oct. 30, 1975
N.T.S. No.: 93F/6
DRAWN BY: G. Salazar
DRAWING No. BNR-H-3(b)
GEOLOGIST: G. Salazar
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5890 MAP # 4b


N
BASELINE 0+00E
LINE 5+00 N
LINE 2+50N
LINE 0+00 N
LINE 2+50 S
LINE 5+00 S
LEGAL
CORNER
POST
GREEN
LAKE
CAPOOSE
CREEK
L-28N
L-21N
L-14N
L-7N
L-00N
L-7S
L-14S
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. SALAZAR S.
#10220
GROUND MAGNETIC SURVEY
Copper > 57 ppm
Molybdenum > 7.0 ppm.
CITIES SERVICE MINERALS CORP.
VANCOUVER B.C. CANADA
"H" CLAIM
SCALE: 1:5000
DATE: Oct. 30, 1975
N.T.S. No.: 93F/6
DRAWN BY: G Salazar
DRAWING No.: 5NR-H-4
GEOLOGIST: G. Salazar
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5890 MAP #5

LINE 25 S



CITIES SERVICE MINERALS CORP.
"H" CLAIMS
NECHAKO PROJECT

P-660 FREQUENCY DOMAIN I.P.
DIPOLE - DIPOLE ARRAY
0.3 AND 5.0 HERTZ
OPERATORS: MORRISON + DEPAOLI

SCALE: 1:5000
DATE: AUGUST 14, 1975

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA G. SALAZAR S.

#10220

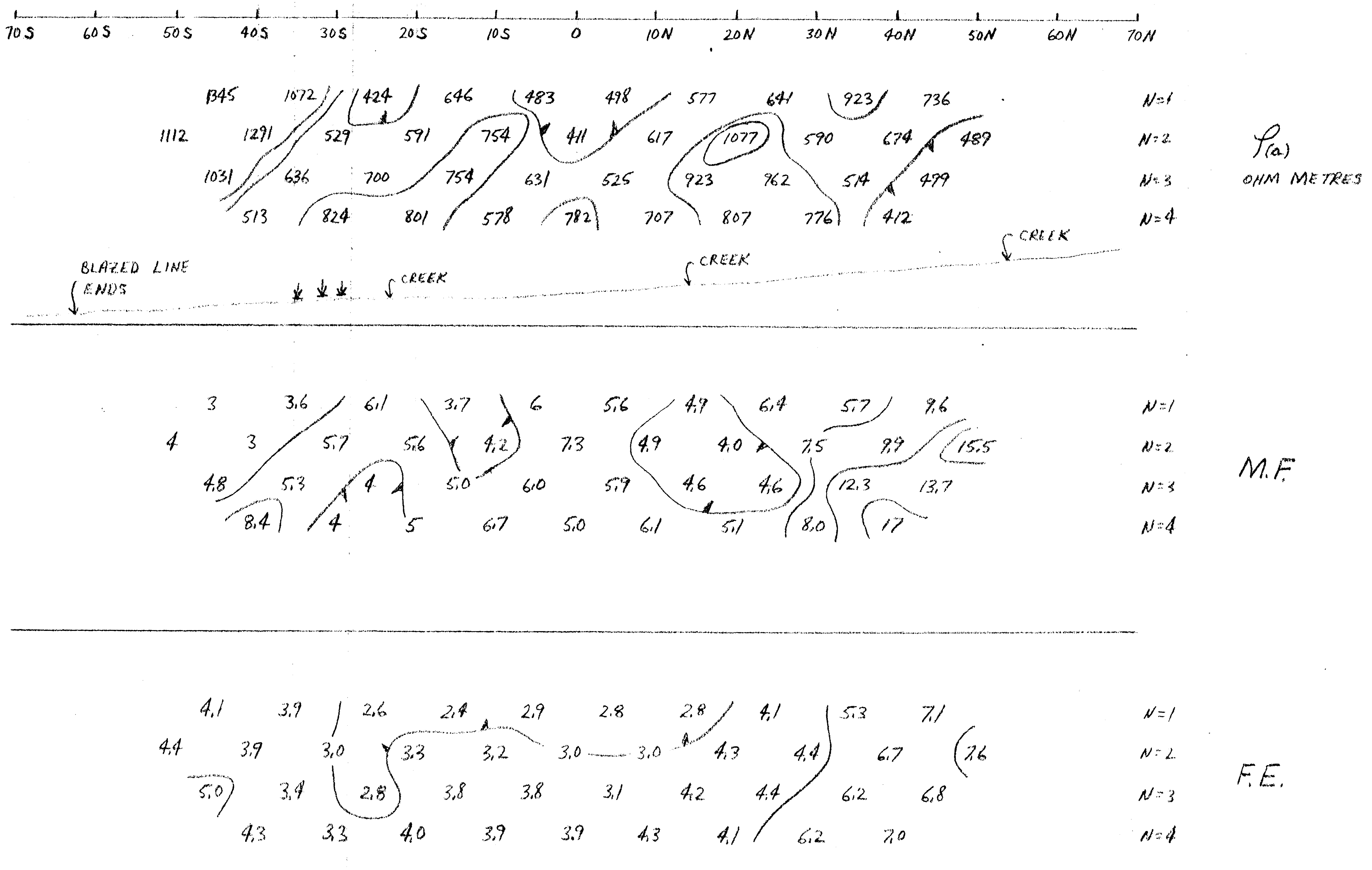
LINE: 25 S

NOTE: TO CONVERT ρ(a) OHM-METERS TO ρ(a)/2π OHM-FEET, DIVIDE FORMER BY 2.0.

MAP Nº 5NR-H-5(a)

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5890 MAP # 6a

LINE 0+00E



CITIES SERVICE MINERALS CORP.
"H" CLAIMS
NECHAKO PROJECT

P-660 FREQUENCY DOMAIN I.P.
DIPOLE - DIPOLE ARRAY
0.3 AND 5.0 HERTZ
OPERATORS: MORRISON & DEPAOLI

SCALE : 1:5000
DATE : AUGUST 14, 1975

December 31/75
#10120

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. SALAZAR S.

LINE: 0+00 E (BASELINE)

NOTE: TO CONVERT ρ(a) OHM-METERS TO ρ(a)/2π OHM-FEET, DIVIDE FORMER BY 2.0

MAP Nº 5NR-H-5(b)


N
BASELINE 0+00E
LINE 5+00 N
LINE 2+50 N
LINE 0+00 N
LINE 2+50 S
LINE 5+00 S
L-28N
L-21N
L-14N
L-7N
L-00
L-7S
L-14S
GREEN LAKE
CAPOOSE CREEK
LEGAL
CORNER
POST
R-T.Z.'s IP SURVEY
Chargeability Contour Plan
200' SPACING
Copper >57 ppm
Molybdenum >7.0 ppm
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. SALAZAR S.
#10220
Note: Contouring by G. Salazar S.
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5890 MAP #7
CITIES SERVICE MINERALS CORP.
VANCOUVER B.C. CANADA
"H" CLAIM
SCALE: 1=5000
MILES
METERS
DATE: Oct. 28, 1975
N.T.S. No.: 93F/6
DRAWN BY: G Salazar
DRAWING No.: 5NR-H-6
GEOLOGIST: G. Salazar

3N,3W
3N,2W
3N,1W
3N,0W
BASELINE 0+00E
LINE 5+00 N
LINE 2+50 N (2N,0W)
LINE 0+00 N
LINE 2+50 S (1N,0W)
LINE 5+00 S
2N,3W
1N,3W
0N,3W
0N,2W
0N,1W
L-28N
L-21N
L-14N
L-7N
L-00N
L-7S
L-14S
GREEN LAKE
CAPOOSE CREEK
N
LEGAL CORNER POST
R.T.Z.'s IP SURVEY
Resistivity Contour Plan
200' SPACING
Copper >57ppm
Molybdenum >7.0 ppm
CITIES SERVICE MINERALS CORP.
VANCOUVER B.C. CANADA
"H" CLAIM
SCALE: 1:5000
DATE: Oct. 28, 1975
N.T.S. No: 93F/6
DRAWN BY: G. Salazar
DRAWING No: 5NR-H-7
GEOLOGIST: G. Salazar
PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA G. SALAZAR S.
#10220
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5890 MAP #8


N
BASELINE 0+00E
LINE 5+00 N
LINE 2+50 N
LINE 0+00 N
LINE 2+50 S
LINE 5+00 S
L-28N
L-21N
L-14N
L-7N
L-00
L-7S
L-14S
GREEN LAKE
CAPOOSE CREEK
LEGAL CORNER POST
R.T.Z.'s IP SURVEY
Chargeability Contour Plan
400' SPACING
Copper >57 ppm.
Molybdenum > 7.0 ppm.
NOTE: McPhar type (Frequency Domain) IP Survey was run over the baseline & Line 2+50S of Cities' Grid. This survey was run @ a=100 MTS & n=4, with a dipole-dipole array. BOLD NUMBERS along these lines are the P.F.E. response @ n=1. For comparison with RTZ's (pole-dipole, time domain) survey, take 3% P.F.E. <> to 10% chargeability.
CITIES SERVICE MINERALS CORP.
VANCOUVER B.C. CANADA
"H" CLAIM
SCALE: 1:5000
DATE: Oct. 28, 1975
N.T.S. No.: 93F/6
DRAWN BY: G. Salazar
DRAWING No.: 5NR-H-8
GEOLOGIST: G. Salazar
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5890 MAP #9
G. SALAZAR
BRITISH COLUMBIA
ENGINEER

R.T.Z.'s IP SURVEY

Resistivity Contour Plan

400' SPACING

Copper > 57 ppm.

Molybdenum >7.0 ppm.

~~December 31/75~~ GS #10220 ~~June 24/76~~

__NOTE__: McPhar type (Frequency Domain) IP Survey was run over the baseline & Line 2+50S of Cities' Grid. This survey was run @ a=100 mts & n=4, with a dipole-dipole array. Bold Numbers along these lines are the resistivity values [in P(a) ohm-meters] @ n=1. For comparison with RTZ's (pole-dipole, time domain) survey, divide our values by 1.97.

CITIES SERVICE MINERALS CORP.

VANCOUVER B.C. CANADA

"H" CLAIM

SCALE: 1:5000	
DATE: Oct. 10, 1975	N.T.S. No.: 93F/6
DRAWN BY: G Salazar	DRAWING No.: 5NR-H-9
GEOLOGIST: G. Salazar	