13755

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT
on the HIT and MISS Claims
LOCATED IN THE SIMILKAMEEN MINING DIVISION
N.T.S. 92-H-10E
Latitude: 49°41' North;
Longitude: 120°32' West
Owned and Operated by
CANADIAN NICKEL COMPANY LIMITED

6/86

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,755

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V6Z 2H2
June, 1985

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1.0 SUMMARY

The HIT 1-4 (22 units) and MISS (15 units) claims, located 25 km north of Princeton, B.C. in the Similkameen Mining Division, were staked in 1981 and 1984 by Canadian Nickel Company Limited (Canico). Access to the property is by the Dillard Creek logging road from Highway 5.

Geologically, the HIT/MISS claim group is underlain by a moderate to steeply dipping north-south trending sequence of Upper Triassic Nicola Group volcanics, volcanoclastics, sediments and synvolcanic diorite intrusives. Minor copper mineralization is associated with small fracture zones. On the east side of the property, a 2200 m long by 100-800 m wide highly altered, bleached, white to rust coloured, pyritic, quartz and illite rich zone is representative of extreme acid alteration (epithermal) overprinted on advanced argillic alteration (porphyry). A stockwork of poorly exposed quartz-siderite veins and veinlets containing pyrite, chalcopyrite, galena, sphalerite and argentite has been traced for 350 m along the sheared, eastern contact between the alteration zone and fresh volcanics. Post mineral faults appear to disrupt the mineralization.

During 1984, exploration by Canico consisted of line cutting, prospecting, geological mapping, rock geochemical sampling and induced polarization geophysical surveys. The best rock values from the mineralized quartz-siderite veins and veinlets were 65 ppb Au, 3.0 ppm Ag, 81 ppm As, 459 ppm Cu, 2766 ppm Pb, 7152 ppm Zn. The mineralization occurs within a 350 m by 350 m soil anomaly outlined by previous surveys. Results of the induced polarization survey indicate higher chargeability and lower resistivity over the alteration zone compared to the adjacent fresh volcanics.

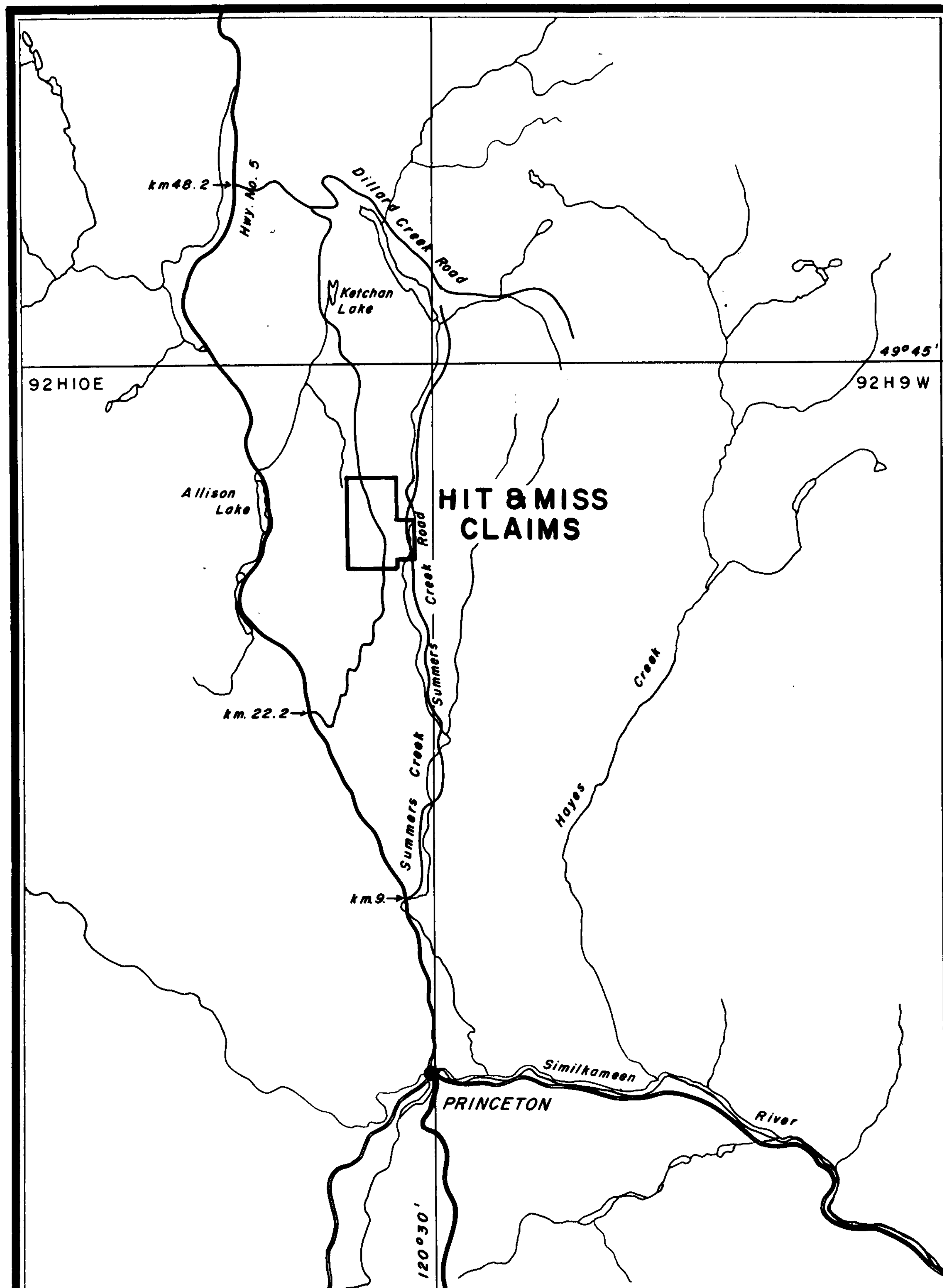
2.0 INTRODUCTION

This report covers the work done on the HIT 1-4 (22 units) and MISS (15 units) claim group during the periods June 11, September 7-10 and September 29 - October 2, 1984. The work program was restricted to the MISS and HIT 3 claims. A Canico crew consisting of up to four individuals and a Phoenix Geophysics contract crew of three individuals completed the work program. Access to the claims on a daily basis was by a four wheel drive Chevrolet Suburban. Accommodation for the program was provided by motels located at Princeton, B.C.

2.1 Location, Access, Physiography

The HIT/MISS claims (37 units) are located 25 km north of Princeton, British Columbia (Figure 1). The claim group is centered on Missezula Mountain.

Access to the claim group is provided by three alternate unpaved roads from Highway 5. The Summers Creek Road (Missezula Lake Road) cuts the eastern portion of the claim group in the Summers Creek valley. This road branches off Highway 5 at about 9 km north of Princeton, B.C. The central and higher elevations of the claim group are more readily accessible by the Dillard Creek logging road or the Oliphant Mountain road. The Dillard



CLAIM LOCATION MAP

SCALE: 1:250,000

FIGURE 1

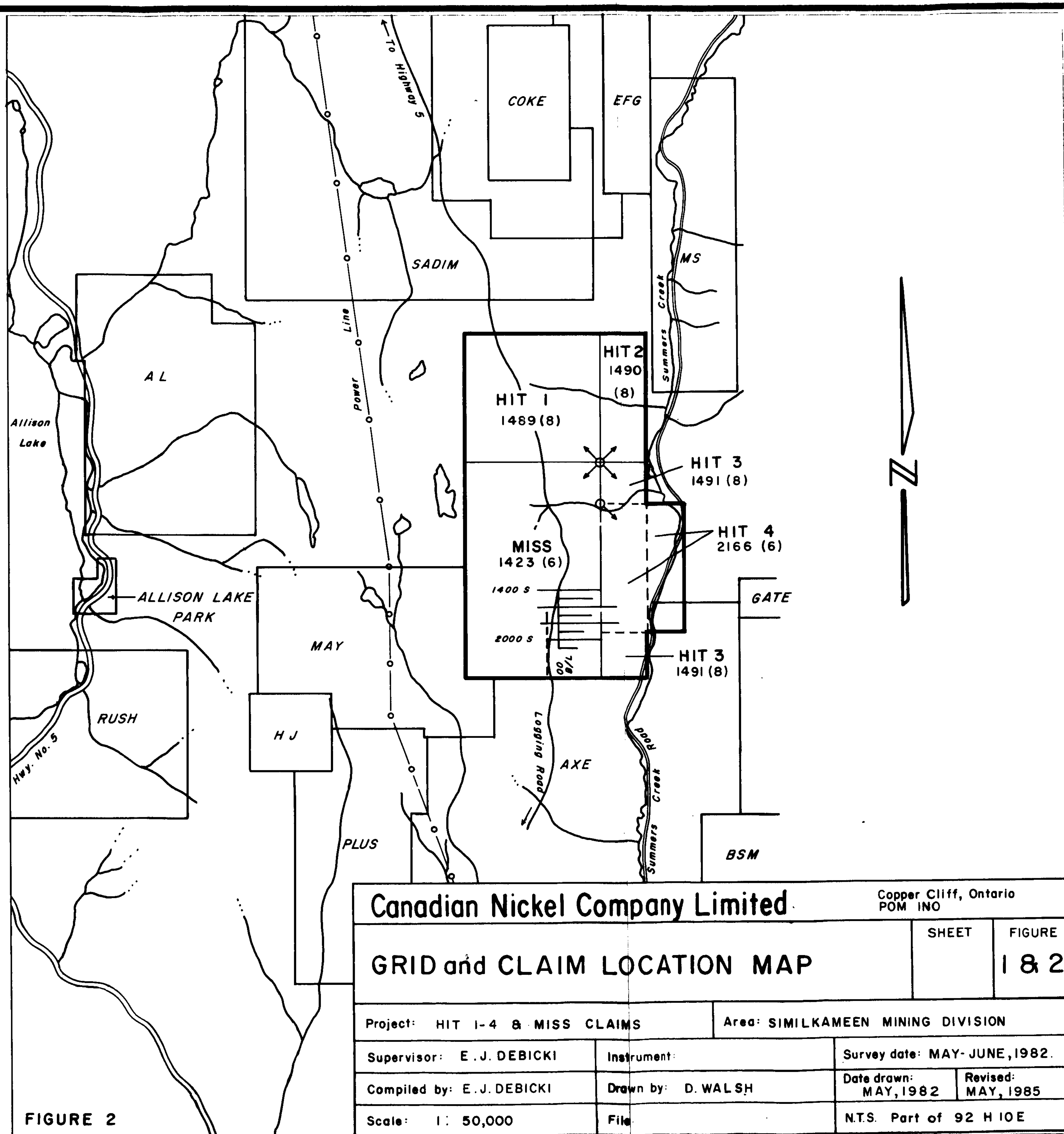


FIGURE 2

Canadian Nickel Company Limited

Copper Cliff, Ontario
POM 1NO

GRID and CLAIM LOCATION MAP	SHEET	FIGURE 1 & 2

Project: HIT 1-4 & MISS CLAIMS	Area: SIMILKAMEEN MINING DIVISION

Supervisor: E.J. DEBICKI	Instrument:	Survey date: MAY-JUNE, 1982.
Compiled by: E.J. DEBICKI	Drawn by: D. WALSH	Date drawn: MAY, 1982 / Revised: MAY, 1985
Scale: 1: 50,000	File	N.T.S. Part of 92 H 10E

Creek logging road branches off Highway 5 at about 48.2 km north of Princeton, B.C. It is then 23 km south to the HIT/MISS claims. The Oliphant Mountain road branches off Highway 5 at about 22.2 km north of Princeton, B.C. It connects with Km 28 of the Dillard Creek logging road at about 9.3 km from Highway 5. It is then 5 km to the HIT/MISS claims along the Dillard Creek logging road. The Oliphant Mountain road is not maintained and is suitable for four-wheel drive vehicles only.

The claims cover the summit, 1658 m above sea level, and the eastern slopes of Missezula Mountain, to the Summers Creek valley, 944 m above sea level. Total relief is 714 m. The HIT 1 and MISS claims cover rolling, heavily glaciated terrain typical of the Thompson Plateau. The HIT 2, 3 and 4 claims cover a steep, east-facing valley slope with gradients up to 30^{o}-40^{o}. The claims are heavily wooded and outcrops not abundant.

Active logging by Weyhaeuser, Merritt, B.C. is being carried out on the south portion of the MISS claim adjacent to the Dillard Creek logging road. Branch logging roads have been established which have exposed additional outcrop areas.

Cattle ranching is common in the area with small herds of cattle on the open range being frequently encountered on the roads.

2.2 Property Definition

The HIT 1-4 and MISS claim group is located in the Similkameen Mining Division, claim sheet N.T.S. 92-H-10E (Figure 2).

Canadian Nickel Company Limited (exploration subsidiary of Inco Limited) is owner and operator of the claims. The claim holdings consist of five claims totalling thirty seven units.

Claim Name	Units	Record Number	Date Staked	Date Recorded
HIT 1	9(3Nx3W)	1489 (8)	August 1, 1981	August 5, 1981
HIT 2	3(3Nx1E)	1490 (8)	August 1, 1981	August 5, 1981
HIT 3	4(4Sx1E)	1491 (8)	August 1, 1981	August 5, 1981
HIT 4	6(3Sx2E)	2166 (6)	June 1, 1984	June 12, 1984
MISS	15(5Sx3W)	1423 (6)	May 23, 1981	June 10, 1981

The HIT/MISS claims occupy ground between the AXE Cu deposit on the south and the SADIM (formerly RUM) claims on the north. The southeast portion of HIT covers a prior staked claim, the CORE 4 (1428 (6)). The HIT 4 was staked to cover ground which fell open when the CORE 4 claim lapsed. The southeast corner of the MISS and HIT 3 claims is covered by prior staking, namely AXE 2000 (1217, (11)).

2.3 Previous History

Portions of the HIT/MISS claims were previously held by Adonis Mines Ltd., Amax Potash Ltd., Texas Gulf Sulphur Co., and Sheba Copper Mines. The claims occupy ground north of the AXE Cu deposit (57.5 million tonnes at 0.50% Cu) held by Global Energy Corp. (formerly Adonis Mines Ltd.) and under option to Cominco Ltd. The RUM Cu prospect, held by Ruskin Developments Ltd., and formerly Amax, occurs to the north. The northeast portion of HIT 1 was mapped and sampled by Sheba Copper Mines Ltd. (Saleken, 1972) formerly held as the MDA-CORB claims. The BO prospect (location approximate) was evaluated in 1970 by Texas Gulf Sulphur who completed reconnaissance soil sampling and mapping.

The HIT 1-3 and MISS claims were staked by Canico in 1981. Exploration consisted of gridding, prospecting, geological mapping, rock and soil geochemical surveys, and VLF-EM and magnetometer geophysical surveys (Peto, 1982). During 1982, gridding, prospecting, geological mapping, rock and soil geochemical surveys, altimeter, VLF-EM, and magnetometer geophysical surveys were completed (Debicki, 1982). In 1983, the southern portion of the property was re-gridded and detailed geological mapping, rock geochemical survey, x-ray diffraction and fluid inclusion studies and soil gas survey (gas chromatography: CO_2, CS_2, COS, H_2S, SO_2) were completed (Booth, 1983; Clifton, 1984). The HIT 4 claim was staked in June 1984.

2.4 1984 Exploration Program

The 1984 Canico exploration program was carried out by a crew of up to four individuals employed at various stages during the periods June 11, September 7-10, and September 29 - October 2, 1984. A contract induced polarization survey was completed by a three man Phoenix Geophysics Limited crew during the period June 11-15, 1984. Work on the claims was completed from motel accommodation located at Princeton, B.C. Access to and from the property on a daily basis was by means of a rented four-wheel drive Chevrolet Suburban.

The program consisted of re-establishing grid lines, prospecting, geological mapping, rock sampling geochemical survey and an induced polarization survey. The work was restricted to the southern portion of the MISS claim and western portion of the HIT 3 claim. A total of 4,400 m of grid line was re-established, 35 rock samples (plus 2 standards) were collected, and 4,400 m of induced polarization geophysical survey completed.

Figure 2 outlines the grid location in relation to the HIT/MISS claim boundaries.

3.0 REGIONAL GEOLOGY

The general geology of the HIT 1-4 and MISS claims area is outlined by G.S.C. Map 888A (Rice, 1947) and more recently by B.C.D.M. Bulletin 69 (Preto, 1979).

Upper Triassic Nicola Group rocks, underlying much of the immediate area, consist of subareal and submarine andesite and basalt flows, breccias, conglomerates, sediments, volcanoclastics and lahar deposits which have been intruded by synvolcanic diorite intrusives. Granite, granodiorite, quartz monzonite and diorite phases of the Upper Triassic - Lower Jurassic Allison Lake Pluton occupy much of the area several km west of the property. The Upper Cretaceous Summers Creek Stock, approximately one km in diameter composed of granodiorite and diorite, occurs several km to the south of the claim group.

The Nicola Group sequence, striking roughly north-south, in the vicinity of the HIT/MISS claim group, is part of the Nicola Group Central Belt (Preto, 1979) approximately 5-6 km wide and bounded on the east by the Summers Creek Fault. The area is geologically similar, and along strike to, the area hosting the Newmont Copper Mountain - Ingerbelle Cu deposit 50 km to the south.

The Nicola Group rocks are disrupted by several large north-south trending, high angle fault zones.

4.0 GEOLOGICAL UNITS

The HIT/MISS claim group is underlain by Upper Triassic Nicola Group volcanics, sediments and synvolcanic diorite intrusions. Detailed descriptions of all these units is provided in previous Canico assessment reports (Peto, 1982, Debicki, 1982). The claims were staked in 1981 on the basis of the geological environment defined by B.C.D.M. mapping (Preto, 1979).

The general geology of 1984 grid area is outlined on Figure 3. Geological mapping was carried out on a scale of 1:2,500. Geological contacts were extrapolated from previous geological surveys.

4.1 Geological Units

The 1984 program was restricted to the southern portion of the property and in particular the contact between unaltered (Unit 1a, 1b) and altered (Unit 2) volcanic rocks of the Nicola Group sequence.

Unit 1a consists of a sheared volcanic andesite (altered plagioclase porphyry?) which is fine grained, pale to dark green on fresh surface and grey on weathered surface. It is highly altered and sheared throughout and is locally silicified.

Unit 1b consists of plagioclase porphyry flows. The matrix is fine grained and medium to dark green. Phenocrysts which range in size from 0.5 cm to 1.5 cm in length have been slightly altered to epidote. The unit is generally massive.

Unit 2 consists of intense quartz and clay alteration. The unit is fine grained, white to buff on fresh surface and weathers a rust yellow brown to black. Thin section and X-ray diffraction studies (Booth, 1983), has defined the alteration to be predominantly composed of quartz and illite with minor kaolinite, chlorite, plagioclase and trace amounts of calcite and K-feldspar.

4.2 Structure

The Nicola Group volcanic sequence trends roughly north-south. Dips of bedding where measureable are moderately to steeply inclined, predominently to the east. Foliation and schistosity, developed to various degrees of intensity, trends roughly north-south with moderate to steep dips mainly to the east.

The Summers Creek Fault trending north-south along the Summers Creek valley on the eastern edge of the property, marks the division between the Nicola Group Central Belt on the west and the Eastern Belt on the east (Preto, 1979). All rocks of the HIT/MISS claims occur within the Central Belt. The eastern contact zone of Unit 2 is marked by a zone of extensive reticulated shearing coincident with a major shear zone trending NNE-SSW as mapped by Preto (1979). This shear zone (extension) is part of the Missezula Mountain fault, a sinuous and branching structure that can be traced from the RUM Cu prospect in the north, through the HIT/MISS claims and to the south through the AXE Cu deposit. Two other faults, one trending 035° and the second at 090° cut the map area (Figure 3). The 090° trending fault has been inferred from soil gas (gas chromatography) surveys completed in 1983. Both appear to be post-mineralization.

4.3 Alteration

Alteration within the Nicola Group rocks on the HIT/MISS claim group is widespread. Unit 1a andesite is locally epidotized particularly where sheared. Unit 1b plagioclase porphyry flows contain epidote, actinolite, chlorite, carbonate and albite as common alteration minerals.

The most intense alteration occurs within the lenticular 2200 m long by 100-800 m wide Unit 2. This unit represents intense alteration of Nicola Group volcanics. Quartz and illite are the major components of the alteration with minor chlorite, plagioclase, kaolinite and trace amounts of calcite and K-feldspar. The alteration zone may represent extreme acid alteration related to an epigenetic event which has over-printed an advanced argillic alteration related to a porphyry event.

4.4 Mineralization

The HIT/MISS claim group lies within the Aspen Grove copper belt, which extends from Copper Mountain to Aspen Grove (70 km). The belt is well known for its numerous copper showings and deposits consisting of pyrite, chalcopyrite, bornite and chalcocite mineralization as dissemin-ations, replacements and fracture fillings within the Nicola Group vol-canic and sedimentary rocks. Several showings also contain associated precious metal values. The most significant deposit within the belt is the Newmont Ingerbelle-Copper Mountain deposits south of Princeton, B.C. Two significant copper prospects, namely the AXE and RUM, occur to the immediate south and north, respectively, of the HIT/MISS claims. The AXE deposit (57.5 million tonnes of 0.5% Cu) contains disseminated and fracture controlled pyrite, chalcopyrite and molybdenite in hydro-thermally altered Nicola Group volcanic flows and breccias intruded by diorite dykes and apophyses. The RUM showing consists of pyrite, chalco-pyrite and bornite in fracture zones cutting diorite sills and volcanic flows of the Nicola Group near splays of the Summers Creek Fault. This fault system may also host the bornite-chalcopyrite-pyrite-carbonate fracture fillings cutting altered Nicola Group andesites at the BO showing (HIT 2 claim).

On the HIT/MISS claims, short NNE-SSW trending shear zones locally contain minor amounts of chalcopyrite or other copper minerals detectable by malachite stain. Within the Unit 2 alteration, pyrite is ubiquitous as disseminations varying from 1-5%. Minor pyrite (less than 4%) was noted locally as cubes and lenses within the Unit 1a sheared andesite.

The most significant mineralization located on the HIT/MISS claim group occurs along the eastern contact of the Unit 2 alteration zone where it is in shear contact with fresh Nicola Group volcanics (Unit 1). It has been traced intermittently in rubble crop and talus over a strike length of 350 m. A stockwork of quartz-siderite veins and veinlets contain pyrite, chalcopyrite, galena, sphalerite and argentite (acanthite). A petrogenetic relationship has been deduced from thin section/polished studies. The host andesitic volcanics were silicified by quartz veins and veinlets. Pyrite, which was introduced with the quartz, occurs in the quartz stockwork and as disseminations in the adjacent volcanics. Subsequent shearing developed chlorite and sericite in the volcanics, deformed and fragmented the quartz stockwork, and fractured and brecciated the pyrite. Siderite alteration pervaded both the volcanics and the quartz stockwork. Sphalerite, galena, chalcopyrite and argentite appear to have been introduced with the late stage siderite. The chalcopyrite and galena occur around the aphalerite. Argentite (acanthite) is sandwiched between quartz grains as clusters and may also partly enclose pyrite.

Location of the mineralized rubble crop and talus samples is plotted on Figure 3. Thin section/polished section descriptions for two mineralized samples completed by Vancouver Petrographics Limited is appended as Appendix C.

5.0 GEOCHEMICAL SURVEYS

The 1985 program completed exploration over a grid on the HIT/MISS claims totalling 4,400 m. Grid lines 1400S, 1600S, 1800S and 2000S were re-established from previous surveys completed in 1981 - 1983. A total of 35 rock samples were collected. Two standards were submitted as check analysis.

Geochemical rock samples were submitted to Acme Analytical Laboratories Limited, Vancouver, British Columbia. The 35 rocks and two standards were analyzed for Au, Ag, As, Sb, Hg. Eight of the 35 rocks were also analyzed for 30 elements. Analysis for all elements except Au and Hg was completed utilizing Inductively Coupled Plasma (ICP) technique. A 0.5 gram -100 mesh crushed sample is digested with 3 mls of 3:1:3 HCl to HNO_3 to H_2O at 95° for 1 hour and then diluted by 10 mls of H_2O and analyzed by the standard ICP technique. Gold was analyzed by fire assay and atomic absorption (FA+AA) utilizing a 10 gram sample which is ignited overnight at 600°C and is digested with hot dilute aqua regia. The clear solution obtained is extracted with methyl isobutyl ketone. For Hg, a 0.5 gram sample is digested with aqua regia and diluted with 20% HCl. Mercury in solution is determined by cold vapour atomic absorption (AA), using a F & J Scientific Hg assembly. An aliquot of the extract is added to a stannous chlorite/hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it is measured by AA.

Geochemical results are listed in Appendix A.

5.1 Rock Geochemical Survey

A total of 35 rock samples (plus 2 standards) were analyzed from the HIT/MISS grid area. Rock sample locations are plotted on Figure 3. Rock sample results for Au, Cu, Pb, Zn are plotted on Figure 3a and Ag, As, Sb, Hg on Figures 3b to 3e, respectively. Rock sample descriptions and analytical results are appended as Appendix B.

The 1984 rock geochemical sampling program was carried out on a 100 m by 100 m square grid. The purpose of the survey was to define a possible dispersion halo and localize mineralization previously found only in talus. During the course of this systematic rock sampling program, bedrock mineralization was located. It was traced intermittently by prospecting over a strike length of 350 m along the eastern contact between the Unit 2 alteration and Unit 1 fresh Nicola volcanics. The nature of this mineralization is described in section 4.4 Mineralization. Best rock values were 65 ppb Au, 3.0 ppm Ag, 81 ppm As, 459 ppm Cu, 2766 ppm Pb, 7152 ppm Zn. The mineralization occurs on the west edge of a 350 m by 350 m soil anomaly (Au, Ag, As, Cu, Pb, Zn, Mo) outlined by surveys conducted in 1981 and 1982. Much of the 350 m width of the soil anomaly has been created by downslope migration. The Hg rock geochemical results (Figure 3e) outline a distinct 350 m long anomalous area offset 250 m by a left lateral (?) 035° bearing post-mineral fault (Figure 3). The most anomalous portion of the anomaly with values up to 1,000 ppm Hg is open to the east. The Au, Ag and As rock geochemical results indicate the 035° bearing fault may be present but do not confirm a 250 m left lateral displacement. The 350 m strike length of the mineralization may be terminated at its northern extremity by the 090° bearing fault between Lines 1500S and 1600S (Figure 3). The certainty or displacement of the 090° bearing fault has not been determined.

6.0 GEOPHYSICAL SURVEYS

During 1984, geophysical surveys on the HIT/MISS claims consisted of an induced polarization survey.

6.1 Induced Polarization Survey

The induced polarization survey was carried out by a contracted three man Phoenix Geophysics Limited crew from Vancouver, British Columbia. The survey covered four grid lines totalling 4,400 m. A Phoenix IPT-1 variable frequency, time domain and phase IP transmitter and IPV-1 variable frequency IP receiver were used for the survey. A dipole-dipole array, n=1 and n=2, and a=100 m was used for the survey. Frequency domain equipment was employed at 0.25 and 4.0 hz. Specifications of IP equipment are outlined in Appendix D.

Surveyed Lines 1600S, 1800S and 2000S show sharp changes from low pfe and high resistivity over the fresh Nicola volcanics (Unit 1) to the east and medium strength pfe and decreased resistivity over alteration zone (Unit 2) to the west. The boundary agrees well with the contact defined by geological mapping. The survey did not extend far enough west to determine whether a similar change occurs at the western edge of the alteration. Line 1400S shows a similar but weaker effect.

The purpose of the survey was to determine whether a sulphide content increase was present within the Unit 2 alteration or along the contact betweeen Unit 1 and Unit 2. Little variation occurs within the Unit 2 alteration other than would be expected from the outcrop pattern. The anomalous results of the Unit 2 alteration are typical of the uniformly disseminated 1-5% pyrite and clay alteration.

The IP/resistivity survey results for Lines 1400S, 1600S, 1800S and 2000S are plotted on Figures 4a to 4d, respectively.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The 1984 exploration program on the HIT/MISS claims consisted of geological, rock geochemical and IP geophysical surveys. The entire claim group is underalin by a north-south trending sequence of Upper Triassic Nicola Group volcanics, volcanoclastics, sediments and synvolcanic diorite intrusions. On the east side of the property a 2200 m long by 100-800 m wide alteration zone has been outlined. It is bleached, white to rust coloured, contains 1-5% pyrite and is composed mainly of quartz and illite. The alteration has been interpreted to represent extreme acid alteration (epithermal) overprinted on advanced argillic alteration (porphyry). Along the sheared east contact of the alteration zone, a stockwork of poorly exposed quartz-siderite veins and veinlets containing pyrite, chalcopyrite, galena, sphalerite and argentite, has been traced intermittently for 350 m. Post mineral faults appear to disrupt the continuity of the mineralization. The mineralization is coincident with a 350 m by 350 m soil anomaly. Induced polarization surveys indicate a higher chargeability and lower resistivity over the alteration zone compared to the adjacent fresh volcanics.

Further work consisting of prospecting, geological and geochemical (soil sampling) surveys followed by trenching and drilling is recommended to determine the extent and significance of the mineralized quartz-siderite vein system. A geological environment favourable for an epigenetic Au-Ag deposit has been outlined.

8.0 REFERENCES

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3. Clifton, G., 1984; Discussion of Soil Gas Data, Miss Claims, British Columbia; Company Report.

4. Debicki, E.J., 1982; Geological, Geochemical and Geophysical Report on the Hit 1-3 and Miss Claims; B.C. Assessment Report #10962.

5. Peto, P., 1982; Prospecting and Geochemical Report on the Hit 1-3 and Miss Claims, Canadian Nickel Company Limited; B.C. Assessment Report #10437.

6. Preto, V.A., 1979; Geology of the Nicola Group between Merritt and Princeton; B.C.D.M. Bulletin #69.

7. Preto, V.A., 1972; Geology of the Allison Lake-Missezula Lake Area, B.C. B.C.D.M. Preliminary Map No. 17, Scale 1:15,840.

8. Preto, V.A., 1981; Reconnaissance Rock Geochemistry of the Nicola and Kingsvale Groups between Merritt and Princeton; B.C.D.M. Paper 1981-2.

9. Rice, H.M.A., 1960; Geology and Mineral Deposits of the Princeton Map Area, B.C.; G.S.C. Memoir 243.

10. Rice, H.M.A., 1947; Princeton Geology Map; G.S.C. Map 888A, Sheet 92-H (East Half), Scale 1:253,440.

11. Salekan, L.W., 1972; Report on the Geology, Geochemistry and Magnetics, Princeton Claims, South MDA - RCS and North MDA - CORB Claim Groups, B.C. Assessment Report #4227.

9.0 STATEMENT OF EXPENDITURES

Salaries (Field)

E.J. Debicki	June 11, 1984	1 day @ $259	$259	
W. Groeneweg	June 11, 1984	1 day @ 265	265	
B. Booth	June 11, Sept. 7-10, Sept. 29 - Oct. 2	9 days @ 101	909	
C. Bell	June 11	1 day @ 75	75	
G. Baldwin	Sept. 7-10, Sept. 29-Oct. 2	8 days @ 75	600	$2,108

Salaries (Administration, Report Writing, Drafting)

E.J. Debicki (Admin., Report)	5 days @ 259	1,295	
W.J. Saftic (Drafting)	4 days @ 206	824	2,119

Personnel Expenses

Accommodation		357	
Meals	20 man days @ 22/day	440	797

Transportation

Truck Rental - 9 days @ 45/day	405	
Gasoline	242	647

Analytical

37 Rock Samples (Au,Ag,As,Sb,Hg) @ 11.00	407.00	
37 Rock Sample Preparations @ 2.75	101.75	
8 Rock Samples (ICP) @ 6.00	48.00	
3 Polished Thin Sections/Slabbing/Freight	56.25	
Petrographic Report	150.00	763

Contract Geophysics

IP Survey (Phoenix Geophysics)	3,355

Miscellaneous

Freight, Postage, Pickets	45
TOTAL:	$9,834

10.0 AUTHOR'S QUALIFICATIONS

I, EDWARD J. DEBICKI, of the City of Richmond, in the Province of British Columbia, HEREBY CERTIFY:

1. THAT I reside at 11351 Seahurst Road, Richmond, British Columbia, V7A 3P3

2. THAT I am a graduate of McMaster University, Hamilton, Ontario, with a degree of Bachelor of Science (1971).

3. THAT I am District Geologist, B.C. and Yukon, with Canadian Nickel Company Limited (subsidiary of Inco Limited) of Copper Cliff, Ontario, POM 1NO.

4. THAT I have practised my profession as a geologist since 1971, having worked in Ontario, Quebec, Northwest Territories, Yukon Territory and British Columbia.

5. THAT I visited the property and that the work described in this report was carried out under my supervision on behalf of Canadian Nickel Company Limited.

6. THAT I am a Fellow of the Geological Association of Canada, a member of the Canadian Institute of Mining and Metallurgy and a member of Society of Economic Geologists.

DATED at Vancouver, British Columbia, this 10th day June, 1985.

E.J. (Ed) Debicki

APPENDIX A

ANALYTICAL RESULTS

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: OCT 3 1984
852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011 DATE REPORT MAILED: Oct 15/84

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR Mn.Fe.Ca.P.Cr.Mg.Ba.Ti.B.Al.Na.K.W.Si.Zr.Ce.Sn.Y.Nb and Ta. Au DETECTION LIMIT BY ICP IS 3 ppm.
- SAMPLE TYPE: P1-2 ROCKS P3-PULPS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE. HG ANALYSIS BY FLAMLESS AA.

ASSAYER: D. Toye DEAN TOYE. CERTIFIED B.C. ASSAYER

CANADIAN NICKEL PROJECT # 60822 FILE # 84-2897

SAMPLE#	Ag ppm	As ppm	Sb ppm	Au* ppb	Hg ppb
RX-38745	1.7	31	2	5	20
RX-38746	.2	6	2	5	40
RX-38747	.2	19	2	5	5
RX-38748	.4	26	2	5	5
RX-38749	.1	5	2	5	5
RX-38750	.1	2	2	5	5
RX-38751	.1	9	2	5	20
RX-38752	.2	4	2	5	5
RX-38753	.1	2	2	5	5
RX-38754	.3	5	2	5	5
RX-38755	.4	8	2	5	10
RX-38756	.7	13	2	5	20
RX-38757	.2	18	2	5	10
RX-38758	.3	2	2	5	5
RX-38759	2.0	15	2	5	30
RX-38760	.5	10	2	5	5
RX-38761	.7	40	2	5	110
RX-38762	.1	7	2	5	10
RX-38763	.1	4	2	5	5
RX-38764	.2	3	2	5	5
Standard RX-38765	.3	22	5	5	40
RX-38766	.2	3	2	5	5
RX-38767	1.2	77	2	5	20
RX-38768	.5	28	2	5	10
RX-38769	.8	19	2	5	5
RX-38770	.9	81	2	65	5
RX-38771	.3	6	2	5	5
RX-38772	.1	9	2	5	20
RX-38917	.1	4	3	5	1000000
RX-38918	.2	5	2	5	5200
RX-38919	.4	9	2	5	2400
RX-38920	-	-	-	5	440
RX-38921	-	-	-	5	1700
RX-38922	-	-	-	15	270
RX-38923	-	-	-	50	1200
RX-38924	-	-	-	35	110
Standard RX-38925	.3	25	4	5	70
STD C/AU-0.5	6.6	42	15	505	1600

CANADIAN NICKEL CO PROJECT # 60822 FILE # 84-2897

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
RX-38920	1	81	7	84	.5	37	21	2042	6.35	9	5	ND	2	83	1	2	2	63	4.27	.08	8	28	3.45	53	.01	3	3.73	.02	.23	2
RX-38921	2	15	19	304	1.0	13	8	3748	4.20	8	5	ND	2	15	1	4	4	11	.57	.06	18	9	1.81	68	.01	5	1.68	.01	.20	2
RX-38922	2	303	2573	2637	2.0	37	17	8673	6.50	46	5	ND	2	41	17	2	2	99	2.53	.09	12	76	4.20	52	.01	2	3.11	.03	.06	2
RX-38923	10	459	2766	7152	3.0	27	14	6145	5.58	17	5	ND	2	73	37	2	2	38	2.76	.06	12	27	3.42	32	.01	2	1.88	.02	.09	2
RX-38924	1	137	182	552	1.5	27	28	5381	7.43	20	5	ND	2	77	1	2	2	48	2.33	.08	9	7	3.71	67	.01	3	2.56	.02	.23	2
RX-38756	1	76	231	929	.8	34	25	3963	7.43	10	5	ND	2	53	4	2	3	59	2.03	.11	11	26	3.79	129	.01	2	2.86	.03	.21	2
RX-38761	1	207	188	1582	.6	41	20	4276	6.86	42	5	ND	2	24	9	2	3	99	1.41	.13	15	76	4.61	125	.01	2	4.08	.03	.12	2
RX-38762	1	29	12	63	.1	2	2	247	3.03	6	5	ND	2	4	1	2	5	6	.04	.05	9	4	.72	91	.01	2	.83	.04	.13	2
STD C	19	59	39	124	6.7	68	27	1050	3.80	41	18	7	36	50	17	15	25	58	.44	.13	40	56	.88	176	.07	40	1.70	.06	.12	14

APPENDIX B

ROCK SAMPLE DESCRIPTIONS
AND RESULTS

TRAVERSE NUMBER

N.T.S. 92-H-10

PROJECT HIT/MISS Claim

AREA L 2100S, L 2000S, 1900S

GEOLOGIST(S) Brian R. Booth

DATE September 8, 1984

SAMPLE NUMBER	SAMPLE TYPE: RX Rock, Talus	SAMPLE TYPE: SX Stream Silt, Soil	SAMPLE TYPE: Grab, Chip, Channel	SAMPLE LENGTH, WIDTH, AREA (South)	LATITUDE, LONGITUDE and/or U.T.M. (East)	SAMPLE DESCRIPTION (Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.)	Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb	
RX 38745	Rock		Chip	2100S	100E	Partial to moderately clay altered Nicola volcanic, white to brown to green on fresh surface, weathers grey to brown (rust). Sample is generally fine grained, quartz rich locally, pyrite occurs in zones and as disseminated (1%). Hematite stain and goethite stain are common. Sample was taken over a 15 m long area.	5	1.7	31	2	20	
RX 38746	Rock		Chip	2100S	200E	Nicola volcanic andesite, fine-grained, green to dark green on fresh surface, weathers grey to green. Epidote occurs as veinlets and zones within sample. Malachite, chalcopyrite and pyrite were observed along fracture surfaces. Chalcopyrite occurs as disseminated grains along lenses within the epidote rich areas. Sample chips were obtained over a 15-20 m area.	5	0.2	6	2	40	
RX 38747	Rock		Chip	2000S	100E	Nicola volcanic, fine-grained, green to light green, weathers grey to green. Sample is highly sheared and contains zones which were gossaned. Manganese and hematite stains are common along fracture surfaces. Sample chips were obtained from a 10 m area.	5	0.2	19	2	5	
RX 38748	Rock		Chip	1900S	100E	Nicola volcanic andesite, fine-grained green to white on fresh surface, weathers rust brown to grey; sample is sheared and contains minor quartz clay (argillic) alteration fragments. Pyrite occurs as weathered grains (<1%). Gossan occurs along fracture surfaces.	5	0.4	26	2	5	

TRAVERSE NUMBER

N.T.S. 92-H-10

PROJECT HIT/MISS Claim

AREA L 1700S, 1600S, 1500S, 1400S

GEOLOGIST(S) Brian R. Booth

DATE September 8, 1984

SAMPLE NUMBER	SAMPLE TYPE RX Rock, Talus	SX Stream Silt, Soil	Grab, Chip, Channel	SAMPLE LENGTH, WIDTH, AREA South	LATITUDE, LONGITUDE and/or U.T.M. East	SAMPLE DESCRIPTION Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.	RESULTS (p.p.m. / % /oz. per ton) Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb	
RX 38749	Rock		Chip	1700S	100E	Clay altered (Nicola) volcanic, fine-grained, buff to white on fresh surface, weathers grey to rust brown. Alteration varies from extreme clay alteration to silicification. Quartz phenocrysts are also common throughout. Pyrite occurs as fine disseminations and varies from 1-2%. Hematite and rust (gossan) stain are common throughout. Sample was taken of chip over 10-15 m area.	5	0.1	5	2	5	
RX 38750	Rock		Chip	1600S	100E	Clay altered (Nicola) volcanic, fine-grained, buff white to brown on fresh, weathers rust brown to grey. Alteration is extreme to moderate in the form of clay and quartz. Hematite and rust brown stain on fracture surfaces.	5	0.1	2	2	5	
RX 38751	Rock		Chip	1500S	100E	Clay altered (Nicola) volcanic, fine-grained buff white to brown on fresh surfaces, weathers rust brown to grey. Clay and quartz are the main alteration products. Hematite and gossan stain occur along fracture surfaces.	5	0.1	9	2	20	
RX 38752	Rock		Chip	1400S	200E	Clay altered (Nicola) volcanic, fine to medium grained, buff to white to pink, weathers white to grey. Sample is foliated, hematite stain occurs along fracture surface.	5	0.2	4	2	5	

TRAVERSE NUMBER

N.T.S. 92-H-10

PROJECT HIT/MISS Claim

AREA L 1500S, 1600S, 1700S

GEOLOGIST(S) Brian R. Booth

DATE September 9, 1984

SAMPLE NUMBER	SAMPLE TYPE: RX Rock, Talus	SX Stream Silt, Soil	Grab, Chip, Channel	SAMPLE LENGTH, WIDTH, AREA South	LATITUDE, LONGITUDE and/or U.T.M. East	SAMPLE DESCRIPTION: Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.	Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb
RX 38753	Rock		Chip	1500S	200E	Highly clay/quartz altered Nicola volcanic fine-grained, buff to white on fresh surface, weathers rust brown to grey black. Appears highly sheared. Pyrite occurs as disseminated grains and as small zones within rock (1-3%). Chip sample was taken over a 5 m area.	5	0.1	2	2	5
RX 38754	Rock		Chip	1600S	200E	Clay/quartz (silicification) alteration of Nicola volcanic, fine-grained, white to buff on fresh surface, weathers rust brown to grey black. Unit is highly fractured and sheared. Pyrite occurs as disseminations (1-3%). One chip contained a small bornite grain enveloped by malachite coating. Sample was obtained from 2 outcrops 10 m apart.	5	0.3	5	2	5
RX 38755	Rock		Chip	1700S	175E	Clay (quartz) alteration of Nicola volcanic andesite, fine-grained, white to buff to light grey on fresh surface, weathers rust brown to grey black. Unit is highly fractured and foliated. The chip sample was taken from 2 outcrops approximately 25 m surrounding Station 175E.	5	0.4	8	2	10
RX 38756	Rock		Chip	1750S	185E	Contact between Nicola andesite and clay altered Nicola volcanic; the fresh Nicola andesite is sheared and foliated but generally retained its green colour and volcanic (andesite) composition. Accompanying the shearing are a series of small irregular	5	0.7	13	2	20

(cont'd next page)

TRAVERSE NUMBER

N.T.S. 92-H-10

PROJECT HIT/MISS Claim

AREA L 1900S, 1800S, 1700S

GEOLOGIST(S) Brian R. Booth

DATE September 9, 1984

SAMPLE NUMBER	SAMPLE TYPE: RX Rock, Talus	SX Stream Silt, Soil	Grab, Chip, Channel	~~SAMPLE LENGTH, WIDTH, AREA~~ South	~~LATITUDE, LONGITUDE and / or~~ U.T.M. East	SAMPLE DESCRIPTION: Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.	RESULTS (p.pm. / % /oz. per ton) Au ppb	Ag ppm	As ppm	Sb ppm	Hb ppb	
RX 38756	Rock		Chip	1750S	185E	continued: quartz, (siderite) veinlets which are carrying fine galena grains and minor chalcopyrite. Pyrite is pervasive throughout as fine disseminated grains (1-5%). Sample was not biased towards the mineralized zones. Chip sample was taken over a 3 m square area.						
RX 38757	Rock		Chip	1900S	215E	Highly sheared Nicola volcanic (andesite?), fine-grained, light to medium green on fresh surface, weathers to grey green. Pyrite and quartz sweats are present within sample. Sample was obtained from a 2 x 4 m area. Resample of RX 45862 (1982).	5	0.2	18	2	10	
RX 38758	Rock		Chip	1900S	295E	Nicola volcanic plagioclase porphyry flow, fine-grained, massive, grey on fresh surface, weathers grey to green. Epidote is present along fracture surfaces and as veinlets. The primary plagioclase phenocrysts are altered to epidote (propylitic alteration).	5	0.3	2	2	5	
RX 38759	Rock		Chip	1800S	300E	Nicola volcanic andesite, fine-grained, green on fresh surface, weathers grey to green to brown. The unit is sheared and foliated. Pyrite occurs as fine disseminations and in weathered zones (1%). The contact with the altered volcanic is close. Sample obtained from a 2-4 m area.	5	2.0	15	2	30	

TRAVERSE NUMBER

N.T.S. 92-H-10

PROJECT HIT/MISS Claims

AREA 1700S, 1600S

GEOLOGIST(S) Brian R. Booth

DATE September 9, 1984

SAMPLE NUMBER	SAMPLE TYPE RX Rock, Talus	SX Stream Silt, Soil	Grab, Chip, Channel	SAMPLE ~~LENGTH, WIDTH,~~ AREA South	~~LATITUDE, LONGITUDE and~~/or U.T.M. East	SAMPLE DESCRIPTION Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.	RESULTS (ppm. / % /oz. per ton) Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb
Rx 38760	Rock		Chip	1700S	300E	Nicola volcanic (sheared andesite) and clay/quartz altered volcanic, fine-grained, green to white on fresh, weathers green grey to rust brown. Outcrops are extremely fragmental and the contact between the two units is present. Pyrite occurs as disseminations (1%). Manganese and gossan stains are pervasive. Sample was collected over a 5 square metre area.	5	0.5	10	2	5
RX 38761	Rock		Chip	1640S	325E	Nicola volcanic andesite to plagioclase porphyry, highly sheared and fractured and close to contact with clay/quartz altered Nicola volcanic. Rock is fine-grained, grey to green on fresh surface, weathers grey to brown. Minor quartz veinlets carry chalcopyrite, pyrite (maybe arsenopyrite? and trace of argentite 1-2%). Pyrite also occurs as disseminated cubes throughout matrix. Chip taken of a 2 x 2 m area.	5	0.7	40	2	110
RX 38762	Rock		Chip	1625S	325E	Altered Nicola volcanic (clay, quartz), white to buff on fresh surface, weathers rust brown to grey black. Pyrite is present as disseminated cubes (1%) throughout. Chip was collected from a 2 x 4 m area.	5	0.1	7	2	10
RX 38763	Rock		Chip	1475S	285E	Altered clay (quartz) Nicola volcanic, fine-grained, white to buff white on fresh surface, weathers rust brown. Pyrite occurs in trace quantities (less than 1%). Unit is highly sheared.	5	0.1	4	2	5

TRAVERSE NUMBER ______ PROJECT HIT/MISS Claims GEOLOGIST(S) Brian R. Booth

N.T.S. 92-H-10 AREA Lines 1400S, 2000S DATE September 9, 1984

SAMPLE NUMBER	SAMPLE TYPE: RX Rock, Talus	SX Stream Silt, Soil	Grab, Chip, Channel	~~SAMPLE LENGTH, WIDTH, AREA~~ South	~~LATITUDE, LONGITUDE and/or U.T.M.~~ East/West	SAMPLE DESCRIPTION Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.	RESULTS (ppm. / % / oz. per ton) Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb
RX 38764	Rock		Chip	1400S	300E	Clay & quartz alteration of Nicola volcanic, fine-grained, buff to white on fresh surface, weathers rust brown to grey. Sample is highly sheared and contains trace pyrite within the silicification (less than 1%).	5	0.2	3	2	5
RX 38765	Rock		Chip			G.C. #41 - Standard.	5	0.3	22	5	40
RX 38766	Rock		Chip	2000S	015W	Clay/quartz alteration of Nicola volcanic, fine-grained, buff white to light grey on fresh surface, weathers rust brown to white. Pyrite is present in trace quantities (less than 1%). Outcrop is highly sheared. Chip was obtained from a small trench 0.5 x 0.5 m area.	5	0.2	3	2	5
RX 38767	Rock "Trench sample"		Chip	2000S	200E	Nicola volcanic (andesite), fine-grained, green to yellow green on fresh surface, weathers green to grey rust brown. Rock is highly sheared and contained abundant gossan stain along shear surfaces. Pyrite is present as extremely fine disseminated grains (less than 1 to 1%). Sample was taken from small trench and from small angular float over a 1 by 0.5 m area.	5	1.2	77	2	20
RX 38768	Rock "Trench sample"		Chip	2000S	300E	Nicola volcanic (andesite to plagioclase porphyry), fine-grained, green on fresh surface, weathers rust brown. Outcrop was not reached to a depth of approximately 1.2 m.	5	0.5	28	2	10

continued next page:

TRAVERSE NUMBER ____________ PROJECT HIT/MISS Claims GEOLOGIST(S) Brian R. Booth

N.T.S. 92-H-10 AREA Lines 1800S, 1400S DATE September 10, 1984

SAMPLE NUMBER	SAMPLE TYPE: RX Rock, Talus	SAMPLE TYPE: SX Stream Silt, Soil	SAMPLE TYPE: Grab, Chip, Channel	~~SAMPLE LENGTH, WIDTH,~~ AREA South	~~LATITUDE, LONGITUDE and/or~~ U.T.M. East	SAMPLE DESCRIPTION Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.	Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb	
RX 38768	continued					Rubbled rock fragments were abundant and the sample was collected from rock fragments and angular float located in the bottom of the trench. Some of the rock chips were sheared and contained gossan stain while others were plagioclase porphyry fragments.						
RX 38769	Rock "Trench Sample"		Chip	1800S	200E	Nicola volcanic (both alteration and andesite), fine-grained, green to grey on fresh surface, weathers buff white to light beige. Pyrite is present in trace quantities (less than 1%). Trench was dug to a depth of 1.2 m and rubbled rock fragments were encountered. It is suspected that outcrop is not far. The sample was taken from the rock fragments at the bottom of the hole.	5	0.8	19	2	5	
RX 38770	Rock		Chip	1800S	100E	Contact between clay/quartz altered Nicola volcanic and andesite (sheared), fine-grained, green to white on fresh surface, weathers rust brown to red to grey. Pyrite occurs as disseminations up to 1.5%. Units are sheared and exhibit varying amounts of gossan stain. Sample was taken from a 5 x 3 m area.	65	0.9	81	2	5	
RX 38771	Rock		Chip	1400S	375E	Plagioclase porphyry, fine-grained, dark green matrix (chloritic), outcrop weathered grey. Plagioclase phenocrysts range in size from 0.5 cm to 1.3 cm, are weakly to moderately altered to epidote. Pyrite is also present in trace quantities as disseminated grains. The unit is massive and has minor fracturing. Sample collected over a 2 x 2 m area.	5	0.3	6	2	5	

TRAVERSE NUMBER

N.T.S. 92-H-10

PROJECT HIT/MISS Claims

AREA L 1500S

GEOLOGIST(S) Brian R. Booth

DATE October 1, 1984

SAMPLE NUMBER	SAMPLE TYPE: RX Rock, Talus	SAMPLE TYPE: SX Stream Silt, Soil	SAMPLE TYPE: Grab, Chip, Channel	SAMPLE LENGTH, WIDTH, AREA (South)	LATITUDE, LONGITUDE and/or U.T.M. (East)	SAMPLE DESCRIPTION (Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.)	Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb	
RX 38772	Rock		Chip	1500S	400E	Trench sample, consists of rubbled talus. Trench was dug 1.25 m deep. The talus fragments consisted largely of quartz/illite altered Nicola volcanics (90%). Plagioclase porphyry (8%) and altered (sheared) Nicola volcanics (less than 1%). Pyrite occurs as disseminated grains in the majority of the fragments. None of the rock fragments are believed to represent true outcrop at the site, rather downslope creep from the main alteration zone.	5	0.1	9	2	20	

TRAVERSE NUMBER ______

N.T.S. 92-H-10

PROJECT HIT/MISS Claims

AREA L 1600S, 1700S, 1800S, 1900S

GEOLOGIST(S) Brian R. Booth

DATE October 1, 1984

SAMPLE NUMBER	SAMPLE TYPE: RX Rock, Talus	SAMPLE TYPE: SX Stream Silt, Soil	SAMPLE TYPE: Grab, Chip, Channel	SAMPLE ~~LENGTH, WIDTH,~~ AREA South	~~LATITUDE, LONGITUDE and/ or~~ U.T.M. East	SAMPLE DESCRIPTION Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.	Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb
RX 38917	Rock		Chip	1580S	400E	Outcrop? of quartz/clay altered Nicola volcanics, fine-grained, buff white to grey on fresh surface, weathers yellow brown to grey black. The unit is highly foliated and sheared. Pyrite occurs as disseminated grains and as lenses of grains. Sample was collected from a 4 x 4 m area.	5	0.1	4	3	1000000
RX 38918	Rock		Chip	1710S	385E	Quartz/illite alteration of Nicola volcanic, fine-grained, buff white to white on fresh surface, weathers grey to black. Unit is highly siliceous and foliated. Pyrite content is minor to non existent. Sample chip was taken over a 2 x 1 m area. Hematite stain occurs to a minor degree.	5	0.2	5	2	5200
RX 38919	Rock		Chip	1790S	410E	Plagioclase porphyry unit, fine-grained, dark green matrix surrounding 0.5 to 1 cm wide epidotized plagioclase phenocrysts. Rock unit weathers dark grey to green. Pyrite occurs in trace quantities (less than 1%). Unit is massive and competent. Sample was collected from 2 x 1 m area. A minor pit was dug to confirm that is was outcrop.	5	0.4	9	2	2400
RX 38920	Rock		Chip	1935S	170E	Highly sheared Nicola volcanic andesite, fine-grained, light to medium green matrix (chlorite) surrounding quartz eyes and augite grains. Outcrop weathers grey to pale green Carbonate veinlets are minor. Quartz also cont'd.	5	-	-	-	440

TRAVERSE NUMBER ________ PROJECT HIT/MISS Claims GEOLOGIST(S) Brian R. Booth

N.T.S. 92-H-10 AREA L1900S, 1800S DATE October 2, 1984

SAMPLE NUMBER	SAMPLE TYPE: RX Rock, Talus	SAMPLE TYPE: SX Stream Silt, Soil	SAMPLE TYPE: Grab, Chip, Channel	SAMPLE LENGTH, WIDTH, AREA South	LATITUDE, LONGITUDE and/or U.T.M. East	SAMPLE DESCRIPTION Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.	RESULTS (p.pm. / % /oz. per ton) Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb	
RX 38920		Continued				occurs as small zones and veinlets in minor amounts. Pyrite occurs in trace quantities unevenly distributed within the outcrop. Slickensides were observed along foliation surfaces but are not pervasive. Apparent strike/dip: 36°/35°W. (Outcrop may have slumped downslope, so dip may be inaccurate). Sample chip was taken from a 3 x 3 m area.						
RX 38921	Rock		Chip	1885S	132E	Highly sheared Nicola volcanic andesite (close to contact with alteration assemblage). Sample is fine to medium grained and locally silicified. Sample is green to yellow green on fresh surface and weathers grey to green. Chlorite, epidote, quartz and minor carbonate are the major constituents present within the rock. The pyrite content varies from 1-2% to less than 1%. Strike/dip: 277°/26°N The outcrop chip sample was taken from a 2 x 0.5 m area.	5	-	-	-	1700	
RX 38922	Rock		Grab	1870S	120E	Altered Nicola andesite, fine-grained, green matrix. Rock is less foliated than the previous samples. Carbonates are a major component within the rock in the form of siderite and calcite. Manganese stain or coatings is present along shear surfaces. Pyrite is present up to 2%. One zone (siliceous) with epidote contained a small amount of galena. Sample was taken of slumped float which has been displaced only a few metres.	15	-	-	-	270	

TRAVERSE NUMBER ______ PROJECT HIT/MISS Claims GEOLOGIST(S) Brian R. Booth

N.T.S. 92-H-10 AREA 1800S DATE October 2, 1984

SAMPLE NUMBER	SAMPLE TYPE RX Rock, Talus	SX Stream Silt, Soil	Grab, Chip, Channel	SAMPLE LENGTH, WIDTH, AREA South	LATITUDE, LONGITUDE and/or U.T.M. East	SAMPLE DESCRIPTION Rock type, lithology, character of soil, stream silt, etc. Formation Mineralization, etc.	RESULTS (p.p.m. / % /oz. per ton) Au ppb	Ag ppm	As ppm	Sb ppm	Hg ppb		
RX 38923	Rock		Grab	1773S	172E	Sheared and altered Nicola volcanic andesite, fine-grained, green to yellow green on fresh surface, weathers green to grey. Sample was obtained from angular blocks believed to be from outcrops close by; the area is covered with overburden. The outcrop has probably slumped approximately 10 m to the east from its original location. Sample contains small veins of quartz which carry galena and chalcopyrite. Pyrite occurs mainly within the wall rock surrounding the veins as fine disseminations. Siderite is a minor constituent of this sample. Sample was taken for the office.	50	-	-	-	1200		
Rx 38924	Rock		Grab	1760S	190E	Grab sample of altered (sheared) Nicola volcanic andesite, fine-grained, green to olive green on fresh surface, weathers grey to green. Pyrite occurs as disseminated grains (less than 1%). Galena is present within quartz epidote rich zones within rock.	35	-	-	-	110		
RX 38925						G.S. #41 - Standard.	5	0.3	25	4	70		

APPENDIX C

THIN SECTION DESCRIPTIONS

Vancouver Petrographics Ltd.

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Report for: E. J. Debicki,
Canadian Nickel Company Ltd.,
P.O. Box 12134 Nelson Square,
Suite 512 - 808 Nelson Street,
Vancouver, B.C.,
V6Z 2H2.

October 3, 1984

Samples: RX 38756 and RX 38761.

Summary:

Both samples consist of andsitic volcanic rocks which have been silicified by quartz veins and then sheared. Chlorite and sericite has developed within the volcanic parts of the rocks during the shearing. Sample RX 38756 has been so highly altered that the original rock has been obscured. The quartz veins have been deformed and fragmented (especially in RX 38761). Siderite alteration has pervaded the volcanic and siliceous parts of the rocks.

Pyrite is associated with the quartz and also occurs disseminated in the volcanic parts. It has been fractured and brecciated in places. Sphalerite has been introduced after the shearing and tends to occur between the quartz grains in the veins and patches. It is sometimes intergrown with the carbonate. Some occurs around pyrite in sample RX 38756. Minor chalcopyrite and galena occur around the sphalerite and are also associated with the carbonate.

Precious metal mineralization is in the form of argentite (or acanthite) which forms fine shapeless to subangular grains less than 0.1mm in size which occur sandwiched between quartz grains in the silicified parts of the rocks. It is rare in sample RX 38761 but fairly widespread in sample RX 38756.It tends to occur in small clusters and may partly enclose pyrite. It is associated with the carbonate alteration.

A. L. Littlejohn

A. L. Littlejohn, M.Sc.

RX 38716: SILICIFIED, SHEARED, MINERALIZED ANDESITE.

The sample is a porphyritic andesite with plagioclase phenocrysts and which contains patches and veinlets of quartz. It has been sheared and the quartz veinlets have been broken up. Chlorite has developed along the shears and the rock flooded with carbonate (siderite). Pyrite is the dominant sulphide and was present prior to deformation within the volcanic parts of the rock. It is not usually associated with the quartz but one quartz patch does contain pyrite intergrown with it. Sphalerite occurs intergrown with the edges of the quartz patches and often includes small pyrite grains. Chalcopyrite (and traces of galena) occur around and partly within the sphalerite and is associated with carbonate. Traces of argentite occur within the quartz patches and is also associated with carbonate. Minerals are:

plagioclase phenocrysts	24
plagioclase groundmass	39
quartz	17
siderite	12
chlorite	6
pyrite	1
sphalerite	1
Fe-Ti oxide	minor
sericite	minor
chalcopyrite	trace
hematite	trace
galena	trace
argentite	rare

Plagioclase phneocrysts form euhedral or subhedral laths 0.5 to 1.0mm in size. They often occur in aggregates of a few grains. They are scattered within a groundmass consisting of a mass of feathery plagioclase laths about 0.05mm in size. In places within this there are more euedral laths up to 0.2mm in size. Ragged Fe-Ti oxide grains less than 0.03mm in size are disseminated within the groundmass plagioclase. They often occur in small ragged aggregates.

Most of the quartz is fairly coarse grained and occurs in partial veins (up to 4mm wide) or in rounded to slightly elongated patches. The patches appear to vein fragments. Quartz grains in these are subrounded to elongated across the vein and 0.5 to 2mm in size. They are highly strained. Fine recrystallised quartz occurs along the edges of some of the patches or in a thin zone within them. Smaller patches scattered within the groundmass consist of shapeless interlocking grains less than 0.2mm in size. Some of these have a tabular outline suggesting replacement of plagioclase phenocrysts. The finer grained patches probabaly represent pervasive silicification associated with the veining.

(Continued)

RX 38761 (cont.)

Shearing post-dates the quartz veining and chlorite has developed during this. It forms very fine flakes occuring in thin streaks along the foliation. Very fine sericite sometimes occurs at the edges of the chlorite streaks. Fine whispy hematite veinlets (with some limonite stain) occurs along the streaks. Spherultic patches up to 0.4mm in size sometimes occur within the groundmass. The quartz is sometimes being replaced by chlorite.

Carbonate alteration has occured after the shearing. It occurs in a partly interconnected network of ragged patches and veinlets which replace or cut through all the other minerals. Veinlets are up to 0.3mm wide. Grain size is very variable up to 0.4mm. Quartz patches are commonly highly carbonatised and the siderite tends to occur between the grains or in zones of fine recrystallised quartz. Plagioclase phenocrysts tend to be more altered than the groundmass. In the groundmass the siderite tends to forms scattered ragged patches less than 0.5mm in size.

Pyrite is the earliest sulphide and forms cubic to rounded grains mostly 0.05 to 0.2mm in size with a few grains up to 0.5mm. They are scattered within the volcanic parts of the rock and usually occur in elongated clusters along the foliation. The grains in these are often fractured and carbonate sometimes occurs around them. Some coarser pyrite grains are intergrown with quartz in one of the patches.

Sphalerite forms irregularly shaped grains 0.1 to 1.0mm in size which occur in aggregates and clusters at the edges of quartz patches and are partly intergrown with the quartz. Small subcubic pyrite inclusions are often present. In a few grains there are a few small shapeless chalcopyrite inclusions but chalcopyrite usually occurs at the edge of the sphalerite grains and are partly intergrown with them. Chalcopyrite grains are less than 0.2mm in size. Small clusters occur beteween quartz grains without sphalerite in places. They usually occur within or near carbonate patches and veinlets. There has been minor alteration to chalcocite. Rare shapeless galena grains less than 0.2mm in size occur between quartz grains close to sphalerite.

Argentite forms subangular grains less than 0.05mm in size which occur sandwiched between quartz grains near fractured pyrite associated with carbonate. Three grains in a cluster were seen.

RX 38756: SILICIFIED, SHEARED, MINERALISED VOLCANIC.

This sample consists of a highly sheared volcanic rock with a coarse quartz vein about 1cm wide along the shear plane. The quartz appears to have been introduced prior to the shearing for the quartz is highly deformed and strained. Chlorite and sericite have developed during the shearing and have almost completely replaced the original minerals. Pyrite is disseminated throughout the volcanic part of the sample. The volcanic rock and the vein have been altered by carbonate (siderite) after or in the late stages of the deformation. Pyrite occurs in the quartz and was present before the deformation and alteration by carbonate. Sphalerite occurs between the quartz grains in the vein and is intergrown with carbonate. Minor chalcopyrite and argentite are also associated with the carbonate. Minerals in the vein are:

quartz	70
siderite	27
pyrite	3
sphalerite	1
chlorite	minor
sericite	minor
argentite	minor
chalcopyrite	trace
galena	trace
mineral X	rare

Quartz forms subrounded to irrgularly shaped interlocking grains mostly 0.2 to 0.6mm in size. They are highly strained and there is a network of thin zones of recrystallised quartz between and within the grains. Siderite has flooded the mass of deformed quartz and forms an interconnected netwoek of veinlets and patches network around the grains and along the thin zones of recrystallised quartz. Veinlets are up to 0.3mm wide and most patches are less than 1mm although there is a larger patch at the edge of the section. Grain size is very variable from 0.02mm between the quartz grains to 0.2mm in the patches. This zones of fine streaky chlorite sometimes occur between the quartz. These are often associated with fine sericite which is also associated with carbonate.

Pyrite is the earliest sulphide and is intergrown with the quartz. It forms cubic to rounded grains 0.05 to 0.4mm in size, averaging about 0.2mm scattered throughout the quartz, both within grains and between them. Clusters of several grains are quite common. In one of these there are a few grains 1mm in size which have a cloudy core. Where occuring between the grains the pyrite is usually highly fractured and brecciated. There are rare pyrrhotite inclusions within them.

Sphalerite forms shapeless grains up to 1.0mm in size which occur between the quartz grains and are sometimes intergrown with siderite. They tend to occur in clusters. Fine pyrite inclusions are sometimes present. Small sphalerite grains sometimes partly enclose pyrite grains in the clusters of pyrite between quartz. Fine highly irregularly shaped galena grains occur between quartz near the sphalerite. Fine chalcopyrite also occurs in this way and somtimes occurs adjacent to pyrite. It is altering to chalcocite.

Argentite forms irregularly shaped grains less up to 0.1mm in size occuring between quartz grains scattered throughout the section. It tends to occur in clusters of a few grains, often asociated with fine siderite. It sometimes occurs partly surounding small pyrite grains. In one cluster of pyrite there is a mineral (mineral X) forming a rounded grain about 0.1mm in size adjacent to pyrite and several fine inclusions within a pyrite grain. It appears similar to argentite but is a dull bluish-grey colour rather than whitish-grey for argentite. Fine chalcopyrite and sphalerite occur between the pyrite grains in this cluster.

Minerals in the volcanic part are:

illite + sericite	45%
siderite	38
quartz	12
pyrite	3
chlorite	2
Fe-Ti oxide	minor
chalcopyrite	trace
hematite	trace

The bulk of the rock consists of a streaky mass of very fine clay and sericite which has presumably formed from plagioclase. The sericite tends to form very thin flakes disseminated along the foliation within the mass of clay. It is sometimes concentrated in patches. Extremely fine chlorite is mixed with the clay in small patches, usually near or adjacent to siderite. There are also a few thin streaks of chlorite with thin whispy stringers of hematite within them. Ragged Fe-To oxide grains less than 0.05mm in size are disseminated throughout.

Quartz forms subrounded interlocking grains 0.05 to 0.3mm in size which occur in rounded patches up to 1mm in size. They are being replaced by sericite and clays (and by carbonate). Small amounts of pyrite occur intergrown with the quartz in some. The pyrite forms cubic to rounded grains 0.03 to 0.3mm in size, averaging about 0.1mm. The smaller ones are scattered about the rock. They are sometimes concentrated in elongated clusters along the foliation. There is an aggregate of larger grains intergrown with quartz and these are fractured. Traces of very fine chalcopyrite are scattered within the mass of clay and sericite and also within the carbonate.

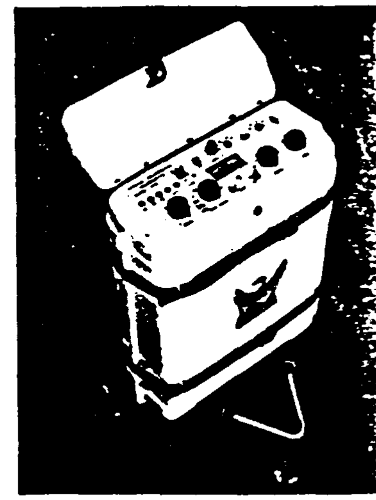
Siderite forms ragged subrhombic grains about 0.2mm in size which are crowded within the mass of clays and sericite. Concentrations of these grains grade into diffuse patches of fine grains. Veinlets up to 0.4mm wide occur along the foliation and thinner ones cut across it. It tends to surround pyrite and in the fractured grains it occurs in the fractures. Sericite also occurs in the fractures.

APPENDIX D

IP SURVEY
IP UNIT SPECIFICATIONS

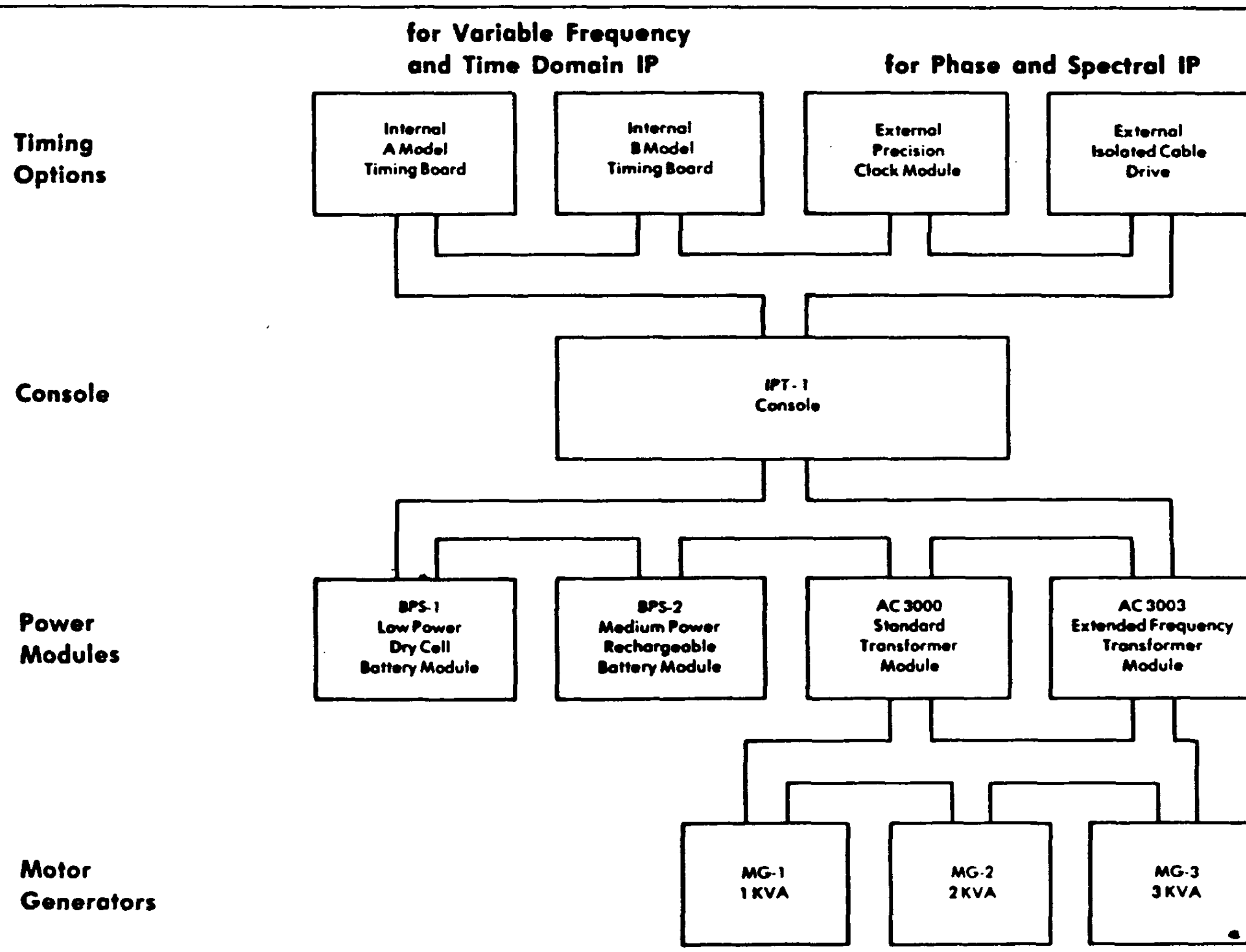
IPT-1

Variat Frequency, Time Domai and Phase IP Transmitter



- **Reliable:** Backed by twenty years experience in the design and worldwide operation of induced polarization and resistivity equipment
- **Versatile:** Can be used for resistivity, variable frequency IP, time domain IP or phase angle IP measurements
- **Stable:** Excellent current regulation
- **Lightweight, portable**
- **Wide selection of power sources**
- **Low cost**

Transmitter Configurations



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Vancouver Office: 214 - 744 West Hastings Street, Vancouver, B.C., Canada V6C 1A6
Tel.: (604) 669-1070

Denver Office: 4891 Independence St., Suite 270, Wheat Ridge, Colorado, 80033, U.S.A.
Tel.: (303) 425-9393 Telex: 450690

Timing Options

INTERNAL TIMING BOARD

There are two available internal timing boards. Both have the same internally mounted crystal oscillator with a stability of 50 PPM over the temperature range -40°C to +60°C.

Model A :

STANDARD FREQUENCY SERIES
Frequency domain mode
±DC, .062, .125, .25, 1, 2 and 4 Hz.
Time domain mode
2 sec +, 2 sec off, 2 sec -, 2 sec off.
Simultaneous transmission mode
.25 and 4.0 Hz standard, other pairs available.

OPTIONAL FREQUENCY SERIES (change link on board)
Frequency domain mode
±DC, .078, .156, .313, 1.25, 2.5, and 5.0 Hz.
Time domain mode
1.6 sec +, 1.6 sec off, 1.6 sec -, 1.6 sec off.
Simultaneous transmission mode
.313 and 5.0 Hz standard, other pairs available.

Model B :

The main difference between this timing board and the model A board is that the duty cycle is variable. Frequency domain operation is obtained by setting the duty cycle to 100% and selecting any of nine binary frequencies from 1/64 Hz to 4 Hz. Various time domain waveforms may be obtained by choosing any of the nine frequencies and a duty cycle of 25%, 50% or 75%. The standard 2 sec +, 2 sec off, 2 sec -, 2 sec off time domain waveform is chosen by selecting a duty cycle of 50% and a frequency of .125 Hz.

EXTERNAL HIGH PRECISION CRYSTAL CLOCKS

The IPT-1 may be driven by external high precision crystal clock modules such as the CL-1 and transmitter driver or CL-2 and transmitter driver. These clock modules were designed for use as a time reference between the IPT-1 or IPT-2 transmitters and the Phoenix IPV-2 phase IP receiver. The aging rate of the CL-1 clock module is 5×10^{-10}/day (0.11 mrad/hr at 1 Hz) and the stability of the CL-2 clock module is 10^{-7} /day (2.26 mrad/hr at 1 Hz). These clock modules weigh 7.5 kg., however space is provided for as much as 5 kg of additional internal batteries for operating the CL-1 oven heated clocks all day at -40°C. Clock modules produced by other manufacturers of induced polarization receivers are also compatible with the IPT-1.

EXTERNAL ISOLATED CABLE DRIVE

The isolated cable drive option allows the IPT-1 to be driven by the timing circuitry of the IPV-3 spectral IP receiver. The maximum distance allowed between transmitter and receiver is 500m. For efficient spectral IP field surveying, the distance between the transmitter and receiver is always maintained at electrode interval. Thus the maximum convenient electrode interval, using the isolated cable drive option, is 500m. The IPV-3 measures the current plus six voltage dipoles (n=1,6) simultaneously.

Console

Ammeter Ranges : 30 mA, 100 mA, 300 mA, 1A, 3A and 10A full scale.

Meter Display : A meter function switch selects the display of current level, regulation status, input frequency, output voltage, control voltage and line voltage.

Current Regulation : The change in output current is less than 0.2% for a 10% change in input voltage or electrode impedance.

Protection : The current is turned off automatically if it exceeds 150% full scale or if it is less than 5% full scale.

Internal Power Modules

BPS-1 DRY CELL BATTERY POWER MODULE

Output Voltage : 90V, 180V and 360V.

put Current : 1 mA to 1A maximum.

Output Power : Recommended maximum output power is 30 watts. Absolute maximum output power is 100 watts.

Power Supply : 8x45V dry cell batteries (Eveready 482, Mallory 202 or equivalent). Normal field operation, with low output power, results in an average battery life expectancy of one month. Operation with the absolute maximum output power results in much shorter battery life.

Control Supply : 4 x 6V lantern batteries (Eveready 409, Mallory 908 or equivalent) connected in series/parallel are used to provide the 40 to 70 mA at 12V required for the control circuitry. Average battery life expectancy is six months.

Operating Temperature : 0°C to +60°C.

BPS-2 RECHARGEABLE BATTERY POWER MODULE

Output Voltage : 50V, 106V, 212V, 425V, and 850V.

Output Current : 3 mA to 3A.

Output Power : Maximum output power is 300 watts. Above this output power a protective cut-out is engaged to prevent battery and circuit damage.

Batteries : 4 x 12V rechargeable gell cell batteries connected in series/parallel have a capacity of 9 A-hr. External batteries (such as car or motorcycle batteries) may also be used. A special cord and plug are provided for this mode of operation. An adaptor cord connects the 12V batteries in parallel with the 12V charging unit.

Operating Temperature : -40°C to +60°C. Below 0°C the capacity of the batteries is significantly reduced (by 70% at -40°C).

AC 3000 TRANSFORMER POWER MODULE

Output Voltage : 75V, 150V, 300V, 600V and 1200V.

Output Current : 3 mA to 10A.

put Power : Maximum continuous output power is 3KW with MG-3 motor generator, 2KW with MG-2 motor generator and 1KW with MG-1 motor generator.

Input Power : Three phase, 400 Hz (350 to 1000 Hz), 60V (50V to 80V) is standard. Three phase, 400 Hz (350 to 1000 Hz), 120V (100V to 160V) is optional.

Current Regulation : Achieved by feedback to the alternator of the motor generator unit.

Operating Temperature : -40°C to +60°C.

Thermal Protection : Thermostat turns off at 65°C and turns back on at 55°C internal temperature.

AC 3003 TRANSFORMER POWER MODULE

Same as AC 3000 except for:

Output Voltage : 44V, 87V, 175V, 350V and 700V.

Frequency Range : DC to 3000 Hz under external drive (all other power modules have a maximum frequency of 5 Hz).

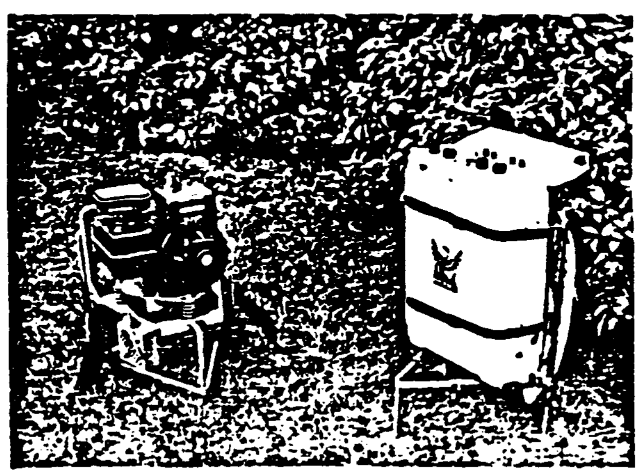
(Note: AC 3003 is not intended for extended time domain operation)

General

Dimensions : 20 x 40 x 55 cm (9 x 16 x 22 in).

Weight : 13 kg (29 lb) with BPS-1.
13 kg (29 lb) with BPS-2.
17 kg (37 lb) with AC-3000.
18 kg (40 lb) with AC-3003.

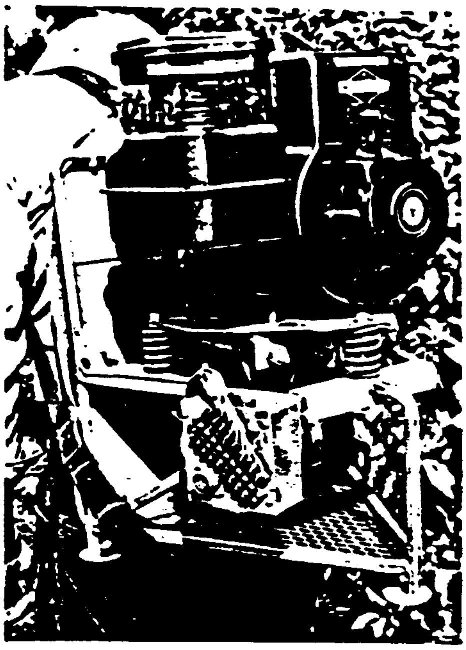
Standard Accessories : Pack frame, manual. At least one of the four possible power modules is required. The transformer power modules in turn require one of the three external 1KVA, 2KVA, 3KVA, motor generators and a connecting cable.



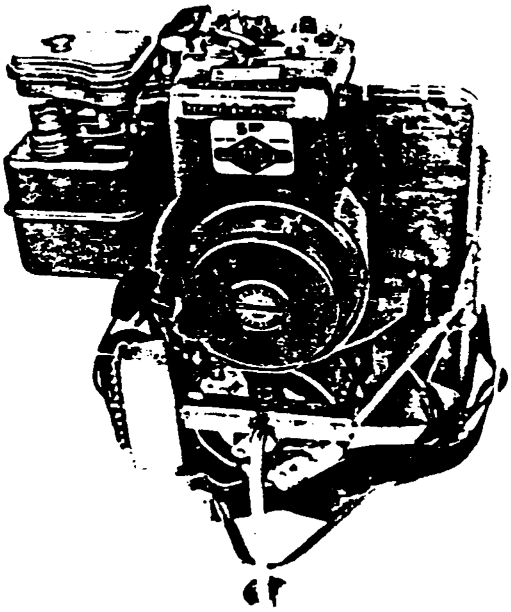
Motor Generators

There are three motor generators, differing in weight and power, which can be used with the transformer power modules. All three supply three phase, 400 Hz (350 to 600 Hz), 60V (45V to 80V). The voltage is regulated by feedback from the transmitter.

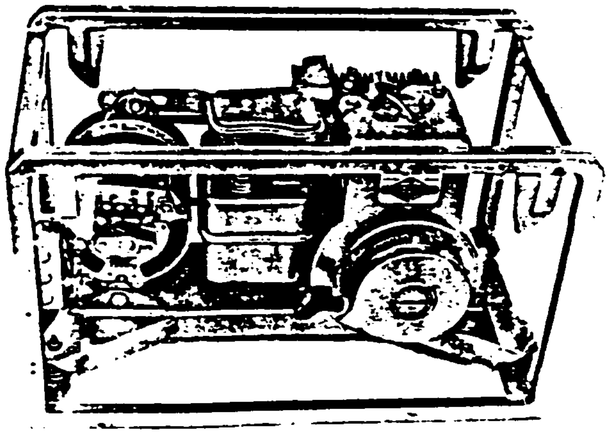
MG-1: This lightweight unit is designed for easy portability in areas of moderately high resistivity. It is well suited for massive sulfide exploration in Northern Canada, Europe and Asia, as well as general IP and resistivity surveys in rugged, mountainous areas around the world. The motor is a 4-cycle Briggs and Stratton which produces 3 HP at 3600 rpm. The dimensions of the unit, including packframe, are 40 x 45 x 60 (16 x 18 x 24 in). Total weight is 25 kg (55 lb).



MG-2: 2KVA motor generator. This versatile unit is adequate for the vast majority of IP and resistivity surveys conducted worldwide. It is light enough to be carried by one man, yet powerful enough for most survey requirements. The motor is a 4-cycle Briggs and Stratton which produces 5 HP at 3600 rpm. The dimensions of the unit, including packframe, are 40 x 45 x 60 cm (16 x 18 x 24 in). Total weight is 34 kg (75 lb).



MG-3: 3KVA motor generator. This two-man portable unit is designed for surveys in areas which require additional power. The motor is a 4-cycle Briggs and Stratton which produces 8 HP at 3600 rpm. The unit is mounted in a square frame with dimensions 40 x 48 x 75 cm (16 x 19 x 29 in). Total weight is 55 kg (120 lb).

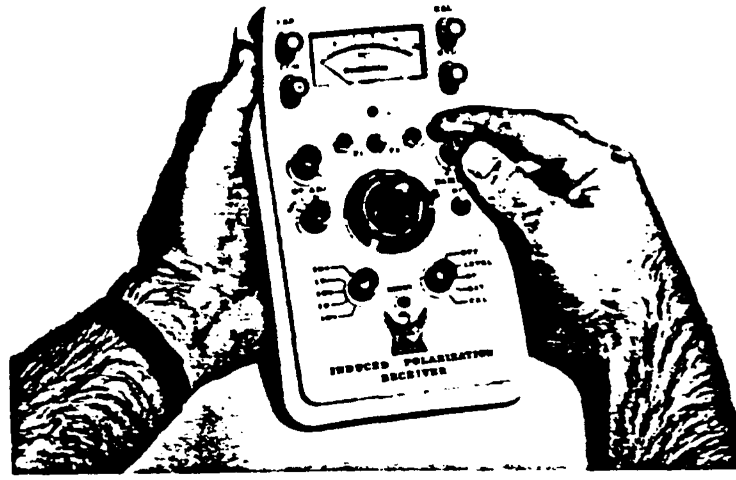


IPV-1

Variable Frequency IP Receiver

Backed by twenty years experience in the manufacture and worldwide distribution of variable frequency induced polarization equipment

- **Simple design and operation, extremely high reliability**
- **High sensitivity, yet high tolerance to natural and cultural electrical noise**
- **Rugged, lightweight, low power drain, excellent temperature specifications**
- **Low cost**



A completely new line of induced polarization and resistivity equipment has been designed by the people who pioneered the variable frequency induced polarization method twenty years ago. In 1956 the professional staff of McPhar Geophysics Ltd., under the direction of Dr. P.G. Hallof and Mr. J. Sevenhuysen, developed the first variable frequency induced polarization field system. From then, until March, 1975 (when the owners elected to terminate the business of McPhar Geophysics), these variable frequency IP systems set the standard around the world for reliability and dependable field data. During this period, almost two hundred and fifty systems were manufactured and put into service on a world-wide basis. In April 1975, the senior geophysicists and engineers from the former company, organized Phoenix Geophysics Limited in order to continue to provide the mining industry with the very best geophysical instrumentation available. These new IP systems have been designed to be the easiest to operate, the lowest in price and the most reliable in the industry.

Specifications

Input Impedance : 2 Megohms

Input Protection : The input is protected from excessive voltages by a 10,000 ohm fuse resistor.

Operating Frequencies : ± DC; 0.125, 0.25, 1.0, 2.0 and 4.0 Hz are standard. ± DC, 0.156, 0.313, 1.25, 2.5 and 5.0 Hz may also be used.

Frequency Selection : A front panel switch is used to select F1 or F2. These two frequencies may be set internally to any of the desired operating frequencies.

Voltage Ranges : 1mv, 10mv, 100mv, 1v, and 10v full scale.

Voltage Display : A ten-turn precision dial potentiometer is used to balance the input signal. Since the readability of the dial is 0.025% of full scale, adequate resolution is maintained with voltage levels as low as a few microvolts.

Polarizability Display : After the input voltage is balanced, the transmitter and receiver are switched to low frequency. The meter used for balancing now automatically displays FE in percent. Resolution is 0.1% over the range -5.0 to +20%. An optional high resolution display may be chosen to provide additional 0.025% resolution over the range -1½ to +6%. The meter is also used as a battery test.

Filters : A double pole notch filter attenuates 50-60 Hz by 60 db. A low pass filter attenuates frequencies above the selected operating frequency by 18 db per octave. A telluric filter attenuates all frequencies below 0.125 Hz by 12 db per octave.

Damping : Minimum damping is used for the high frequency voltage level adjustment. The damping for the FE measurement is continuously selectable.

Calibration : An internal 0.05 ohm ±1.0% resistor allows precise calibration of the system under all conditions.

Instrument Noise : 0.05% of reading for 1mv and all higher voltage levels. 0.2% of reading for 100 microvolt voltage level. 1.0% of reading for 10 microvolt voltage level.

Operating Temperature : -40°C to +60°C.

Temperature Drift : The voltage drift is less than 2.0% and the FE drift is less than 0.1% over the entire operating temperature range.

Batteries : Any 12V to 27 DC power supply may be used. Two 9V transistor radio batteries connected in series will provide one month normal field operation (battery drain is 4.5 mA).

Case : Non-conductive, high impact resistant plastic.

Dimensions : With cover - 10 x 13 x 22 cm (4 x 5 x 9 in).

Weight : 1.1 kg (2.5 lb) including cover, batteries and carrying strap.

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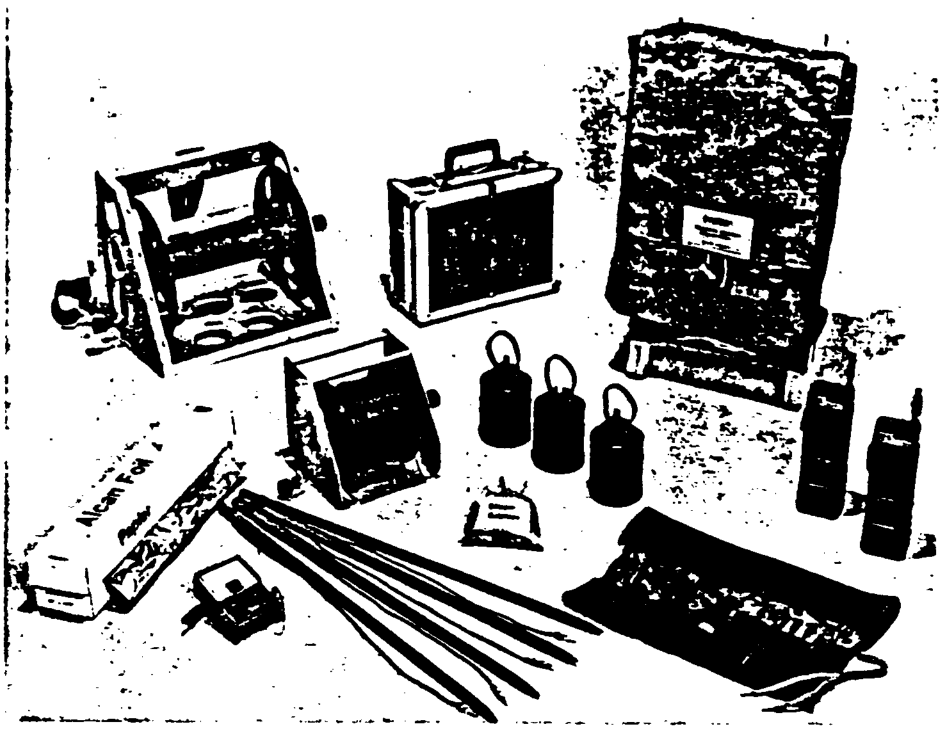
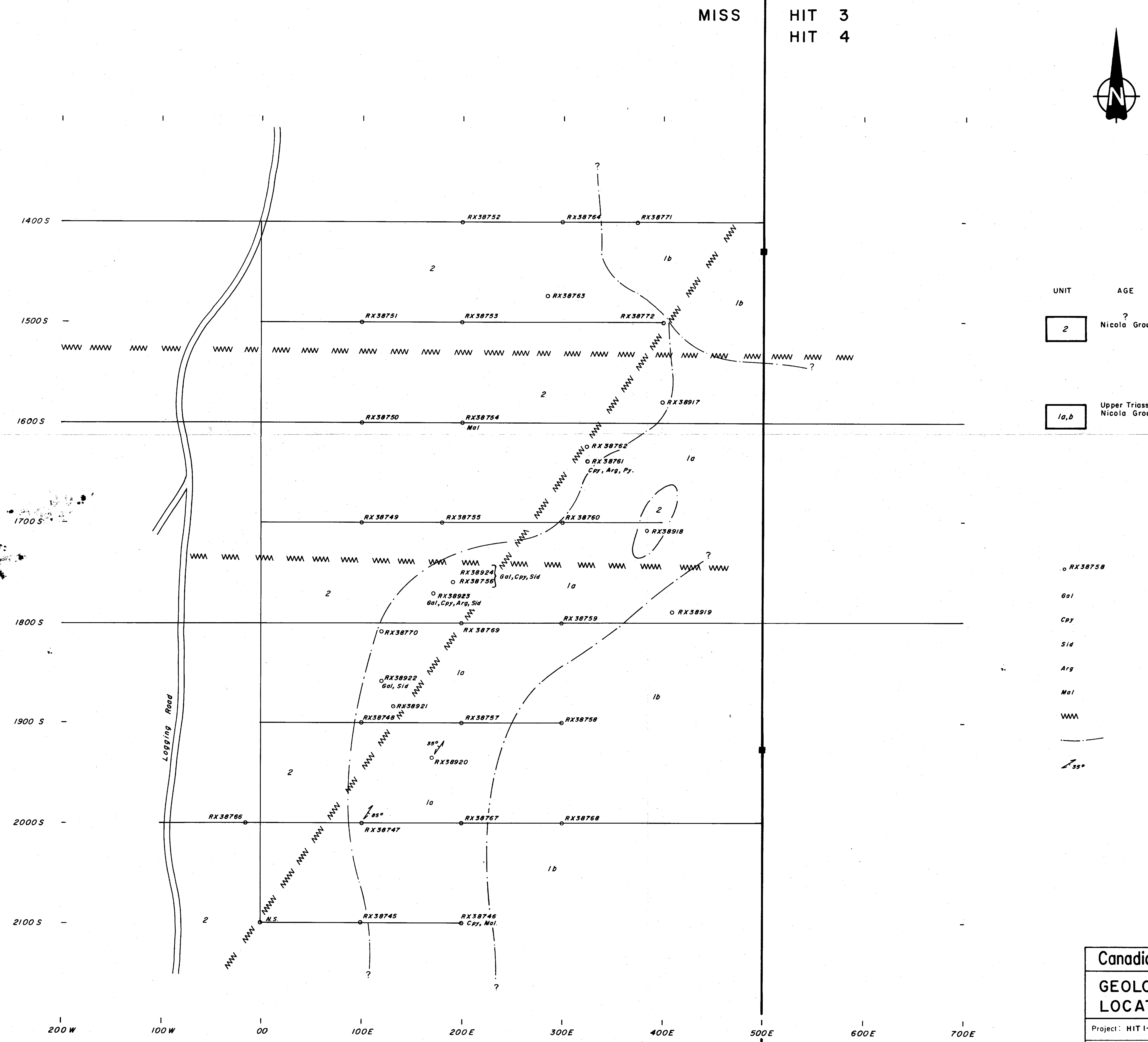
4690 Ironton St. Denver, Colorado, U.S.A. 80239. Tel: (303) 373-0332

Survey Accessories



Accessory Packsack	:	Trapper Nelson #3 packboard with packsack.
Receiver Transport Case	:	Aluminum, foam lined, 13 x 32 x 44 cm (5 x 13 x 17 in).
Stake Electrodes	:	Mild steel rods with hard tapered end, 1.6 cm (5/8 in) diameter, 75 cm or 120 cm (30 or 48 in) long.
Foil Electrode Material	:	Heavy duty industrial aluminum foil, 0.0025 cm x 46 cm x 137 m (0.001 in x 18 in x 450 ft).
Field Wire	:	Black, low friction, polyethylene plus nylon jacket. Four copper plus three steel strands. Tensile strength 40 kg (90 lb). Total resistance 76 ohm/km (23 ohm/1000 ft). External diameter 0.213 cm (0.083 in).
Geo Reel	:	Two speed aluminum winder with packstraps, 35 x 40 x 50 cm (14 x 16 x 20 in).
Geo Reel Spool	:	Capacity for 3000m (10,000 ft) of field wire.
Speedwinder	:	Aluminum winder, 20 x 25 x 30 cm (8 x 10 x 12 in).
Speedwinder Spool	:	Capacity for 600m (2000 ft) of field wire.
Porous Pots	:	Plastic with porous asbestos bottom. Coiled copper wire makes contact with saturated copper sulfate solution.
Copper Sulfate	:	450 g (1 lb).
Multimeter	:	Resistance, voltage and current.
Tool Kit	:	Soldering iron, wrenches, screwdrivers.
Radios	:	Transmitter-receivers (3 watts).



LEGEND

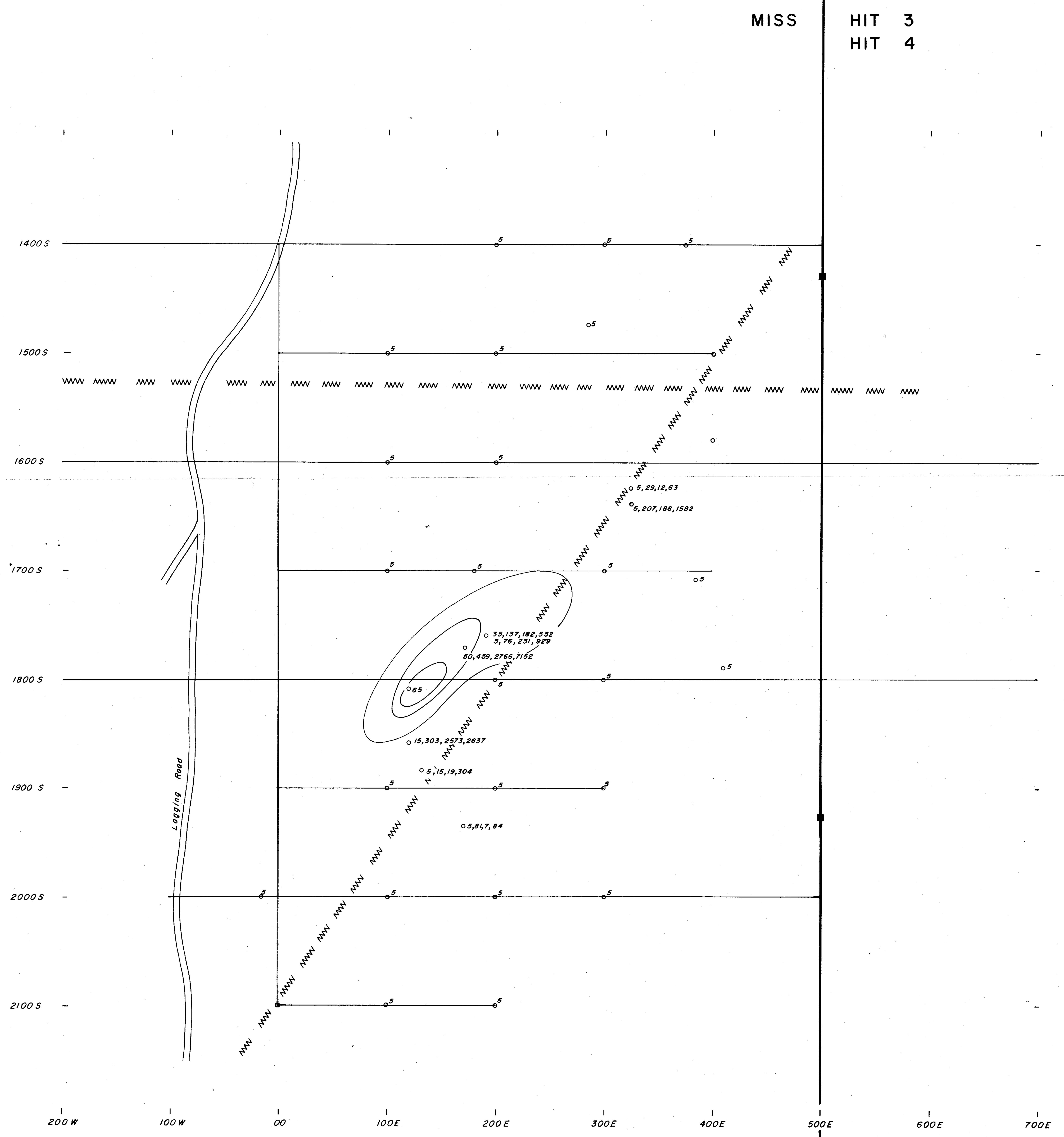
UNIT	AGE		LITHOLOGY
2	? Nicola Group		Quartz/clay Alteration Zone fine grained, white to buff on fresh surface weathers rust yellow brown to black. Zone is highly sheared and fractured. Composition of alteration is generally quartz, illite, minor kaolimite, K-feldspar and calcite. Pyrite occurs as disseminated grains from 1-5%.
Ia,b	Upper Triassic Nicola Group	Ia	Sheared Volcanic Andesite (Altered Plagioclase Porphyry?) fine grained, pale to dark green on fresh surface, weathers grey. Unit is highly altered (sheared) throughout, locally silicified. Pyrite occurs in trace quantities < 1% - 4% as cubes and lenses.
		Ib	Plagioclase Porphyry flow fine grained, medium to dark green matrix surrounding plagioclase phenocryst which range in size from 0.5cm - 1.5 cm. in length. Primary plagioclase has been slightly altered to epidote. Generally the unit is massive.

o RX38758	Rock chip sample location and number
Gal	Galena
Cpy	Chalcopyrite
Sid	Siderite
Arg	Argentite
Mal	Malachite
WWW	Fault zone (inferred)
—·—	Geological contact (inferred)
35°	Foliation (inclined)

GEOLOGICAL BRANCH ASSESSMENT REPORT

13,755

Canadian Nickel Company Limited	Copper Cliff, Ontario POM 1NO	
GEOLOGY PLAN and ROCK SAMPLE LOCATION	SHEET 1	FIGURE 3
Project: HIT 1-4 and MISS CLAIMS	Area: SIMILKAMEEN MINING DIVISION B.C.	
Supervisor: E. J. Debicki	Instrument:	Survey date: Sept. 8-10, Oct. 1-2, 1984
Compiled by: B.R Booth	Drawn by: D. W. Walsh	Date drawn: Aug. 1985 · Revised:
Scale: 1 : 2500	File:	N.T.S. 92 H 10 E



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,755

15,303,2573,2637 Rock sample location and results Au(ppb), Cu(ppm), Pb(ppm), Zn(ppm)

Gold results in ppb. 20

Contour interval : 20 ppb.

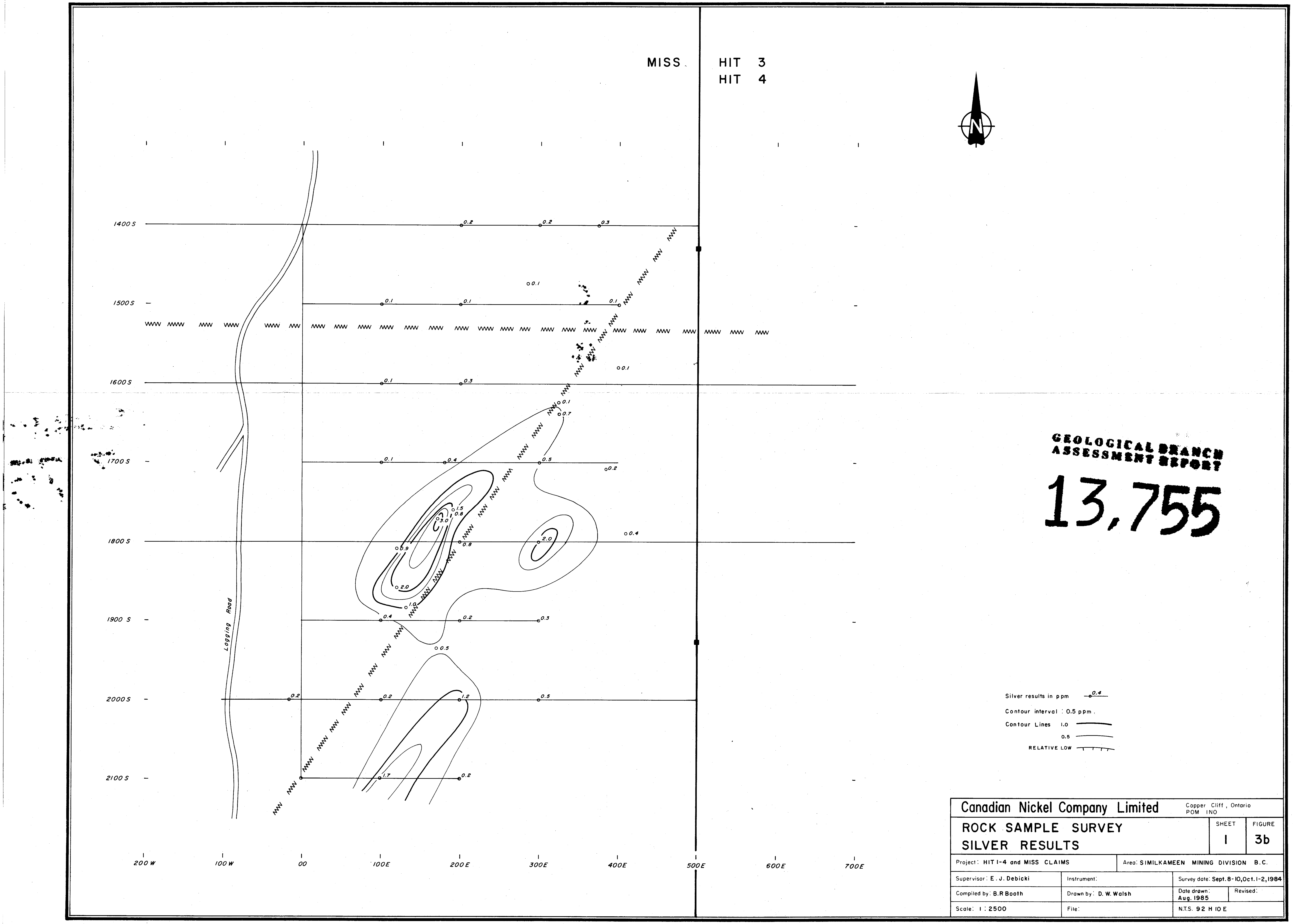
Contour Lines 100

20

RELATIVE LOW

Gold Values Contoured

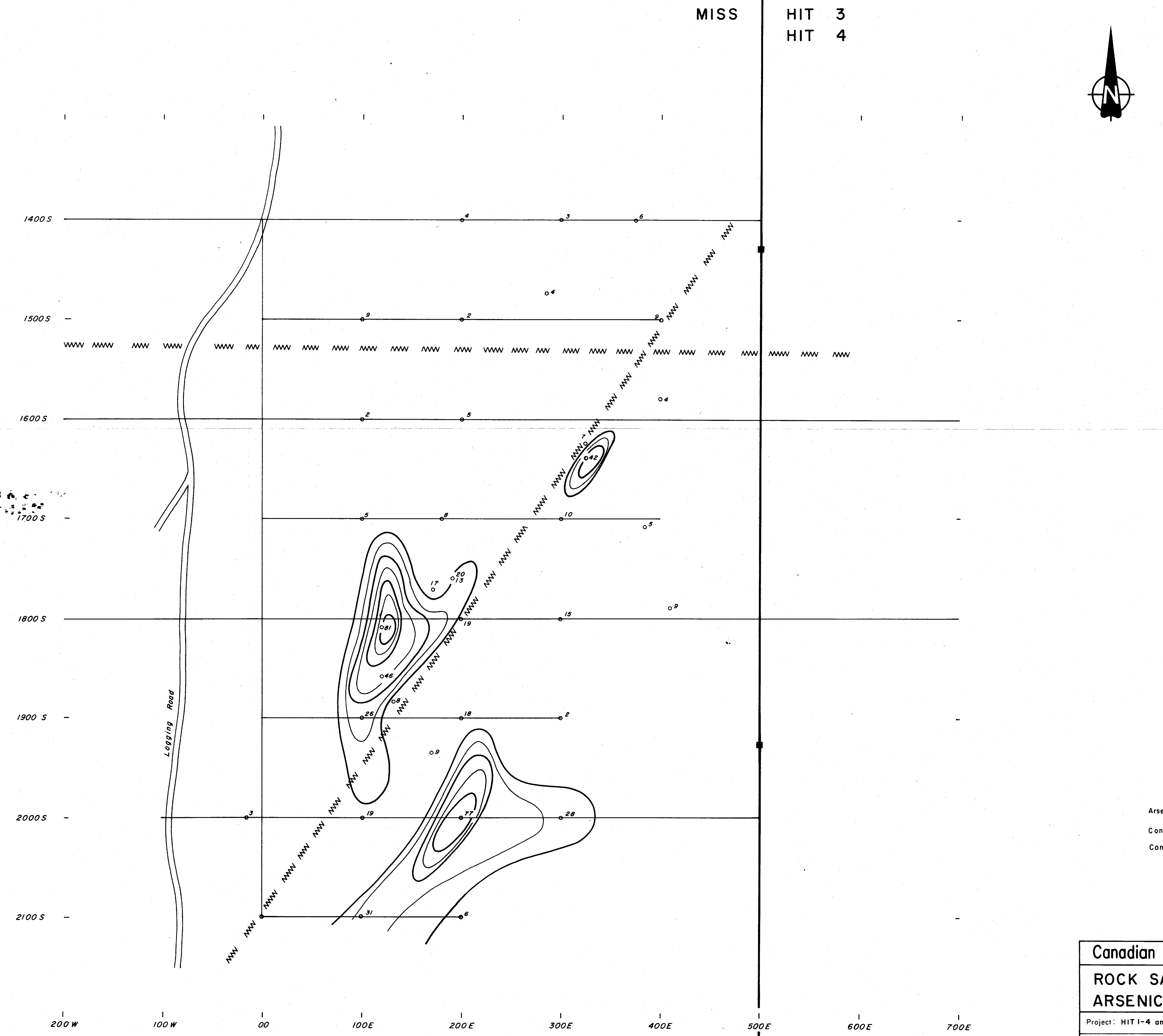
Canadian Nickel Company Limited		Copper Cliff, Ontario POM 1NO	
ROCK SAMPLE SURVEY GOLD COPPER, LEAD, ZINC RESULTS		SHEET 1	FIGURE 3a
Project: HIT 1-4 and MISS CLAIMS		Area: SIMILKAMEEN MINING DIVISION B.C.	
Supervisor: E. J. Debicki	Instrument:	Survey date: Sept. 8-10, Oct. 1-2, 1984	
Compiled by: B.R Booth	Drawn by: D. W. Walsh	Date drawn: Aug. 1985	Revised:
Scale: 1 : 2500	File:	N.T.S. 92 H 10 E	



GEOLOGICAL BRANCH
ASSESSMENT REPORT

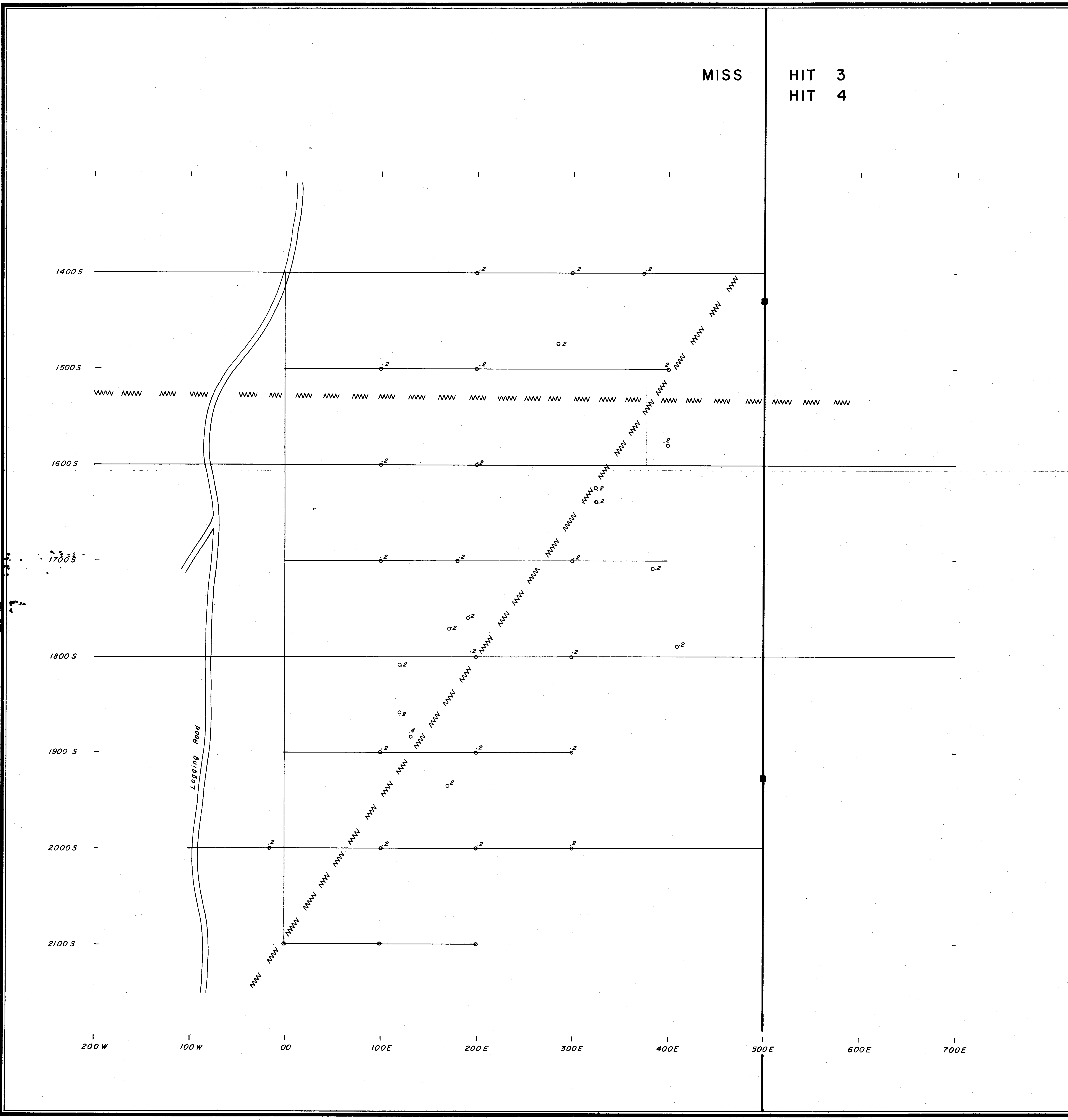
13,755

Canadian Nickel Company Limited	Copper Cliff, Ontario POM 1NO		
ROCK SAMPLE SURVEY SILVER RESULTS		SHEET 1	FIGURE 3b
Project: HIT 1-4 and MISS CLAIMS		Area: SIMILKAMEEN MINING DIVISION B.C.	
Supervisor: E. J. Debicki	Instrument:	Survey date: Sept. 8-10, Oct. 1-2, 1984	
Compiled by: B.R Booth	Drawn by: D. W. Walsh	Date drawn: Aug. 1985	Revised:
Scale: 1 : 2500	File:	N.T.S. 92 H 10 E	



GEOLOGICAL BRANCH
ASSESSMENT REPORT
13,755

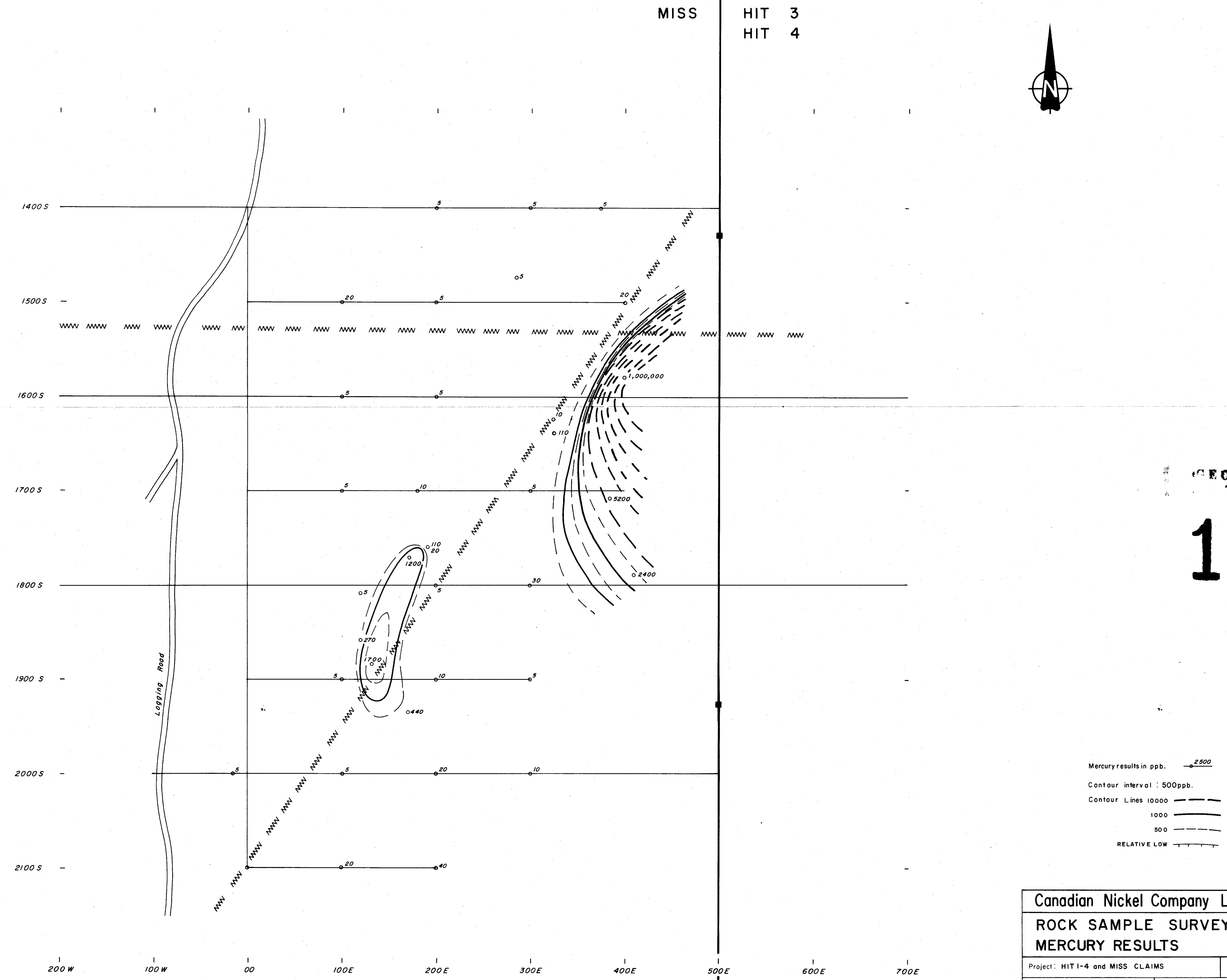
Canadian Nickel Company Limited	Copper Cliff, Ontario P0M 1N0		
ROCK SAMPLE SURVEY ARSENIC RESULTS		SHEET 1	FIGURE 3c
Project: HIT 1-4 and MISS CLAIMS		Area: SIMILKAMEEN MINING DIVISION B.C.	
Supervisor: E. J. Debicki	Instrument:	Survey date: Sept. 8-10, Oct. 1-2, 1984	
Compiled by: B.R Booth	Drawn by: D. W. Walsh	Date drawn: Aug. 1985	Revised:
Scale: 1 : 2500	File:	N.T.S. 92 H 10 E	



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,755

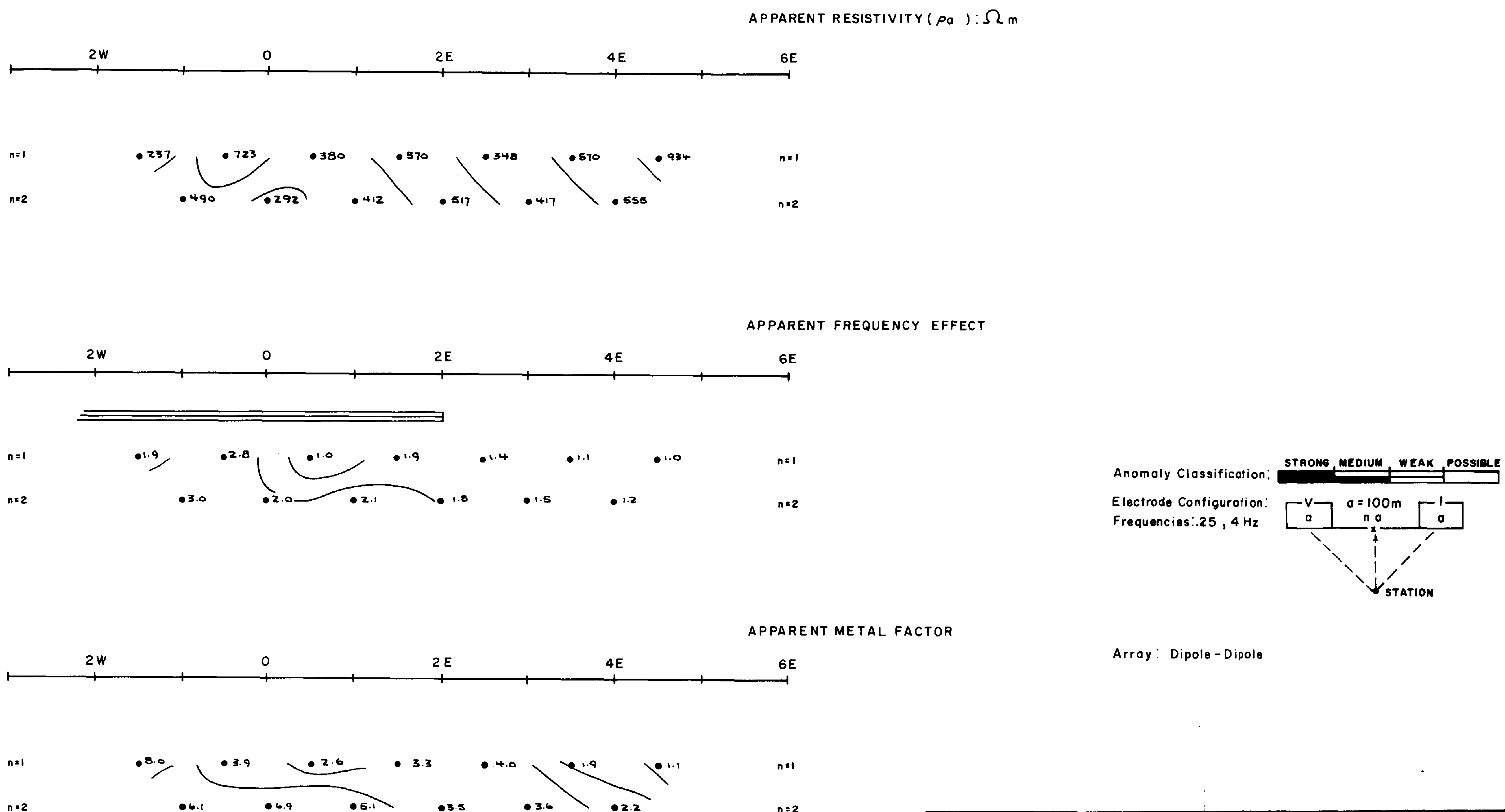
Canadian Nickel Company Limited	Copper Cliff, Ontario POM 1NO		
ROCK SAMPLE SURVEY ANTIMONY RESULTS		SHEET 1	FIGURE 3d
Project: HIT 1-4 and MISS CLAIMS		Area: SIMILKAMEEN MINING DIVISION B.C.	
Supervisor: E. J. Debicki	Instrument:	Survey date: Sept. 8-10, Oct. 1-2, 1984	
Compiled by: B.R Booth	Drawn by: D. W. Walsh	Date drawn: Aug. 1985	Revised:
Scale: 1 : 2500	File:	N.T.S. 92 H 10 E	



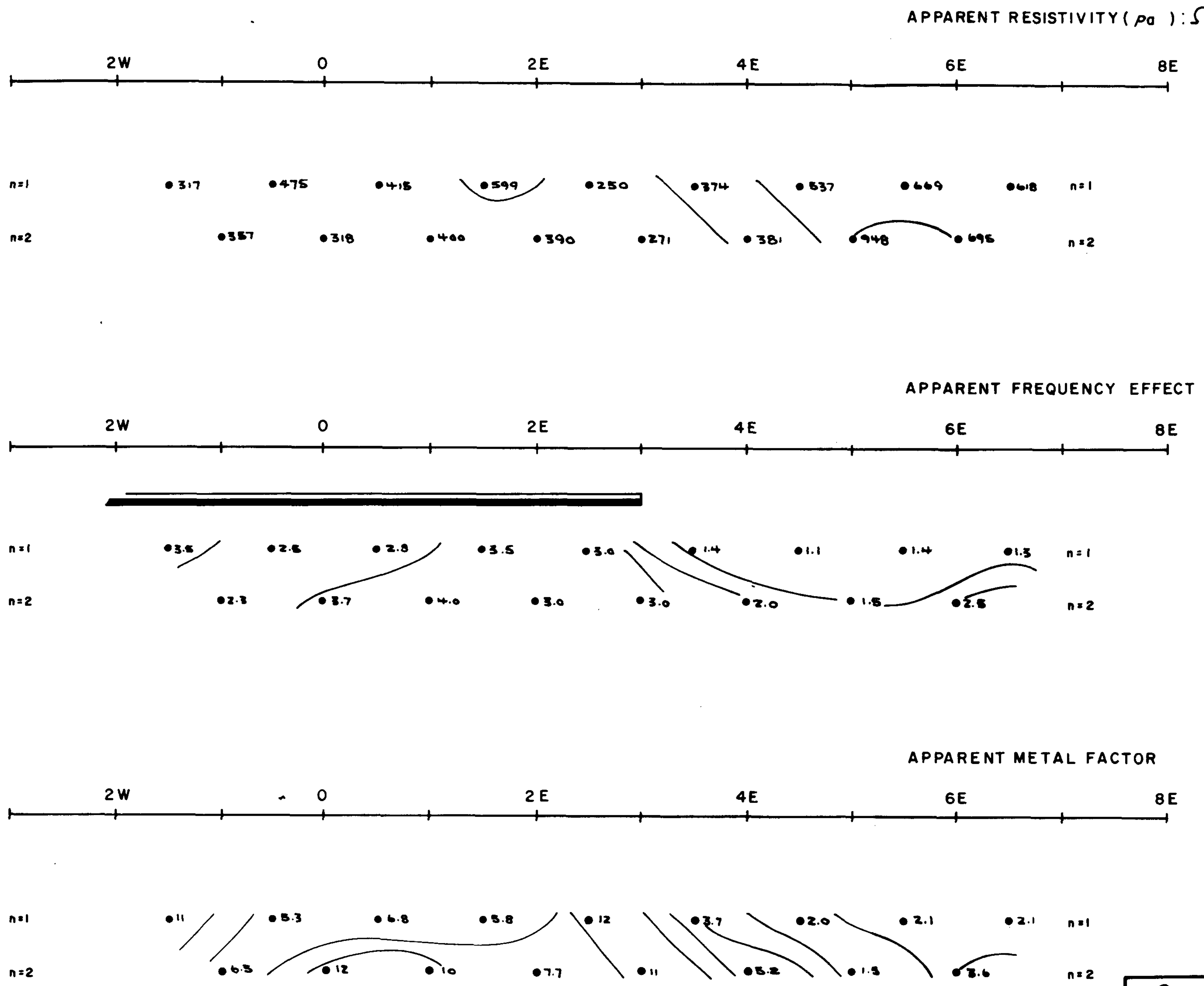
GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,755

Canadian Nickel Company Limited	Copper Cliff, Ontario POM 1NO	
ROCK SAMPLE SURVEY MERCURY RESULTS	SHEET 1	FIGURE 3e
Project: HIT 1-4 and MISS CLAIMS	Area: SIMILKAMEEN MINING DIVISION B.C.	
Supervisor: E. J. Debicki	Instrument:	Survey date: Sept. 8-10, Oct. 1-2, 1984
Compiled by: B.R Booth	Drawn by: D. W. Walsh	Date drawn: Aug. 1985 / Revised:
Scale: 1 : 2500	File:	N.T.S. 92 H 10 E



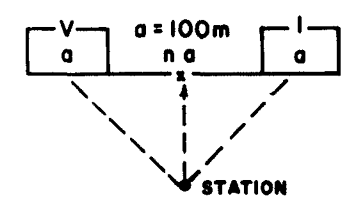
Canadian Nickel Company Limited	Copper Cliff, Ontario POM 1NO	
INDUCED POLARIZATION and RESISTIVITY SURVEY Line 1400 S	SHEET 1	FIGURE 4a
Project: HIT 1-4 and MISS CLAIMS	Area: SIMILKAMEEN MINING DIVISION B.C.	
Supervisor: E.J. Debicki	Instrument: Phoenix IVP-1	Survey date: Sept.8-10, Oct.1-2, 184.
Compiled by: D. Daggett	Drawn by: D.W. Walsh	Date drawn: Aug. 1985 / Revised:
Scale: 1 : 5000	File:	N.T.S. 92 H 10 E



Anomaly Classification: STRONG MEDIUM WEAK POSSIBLE

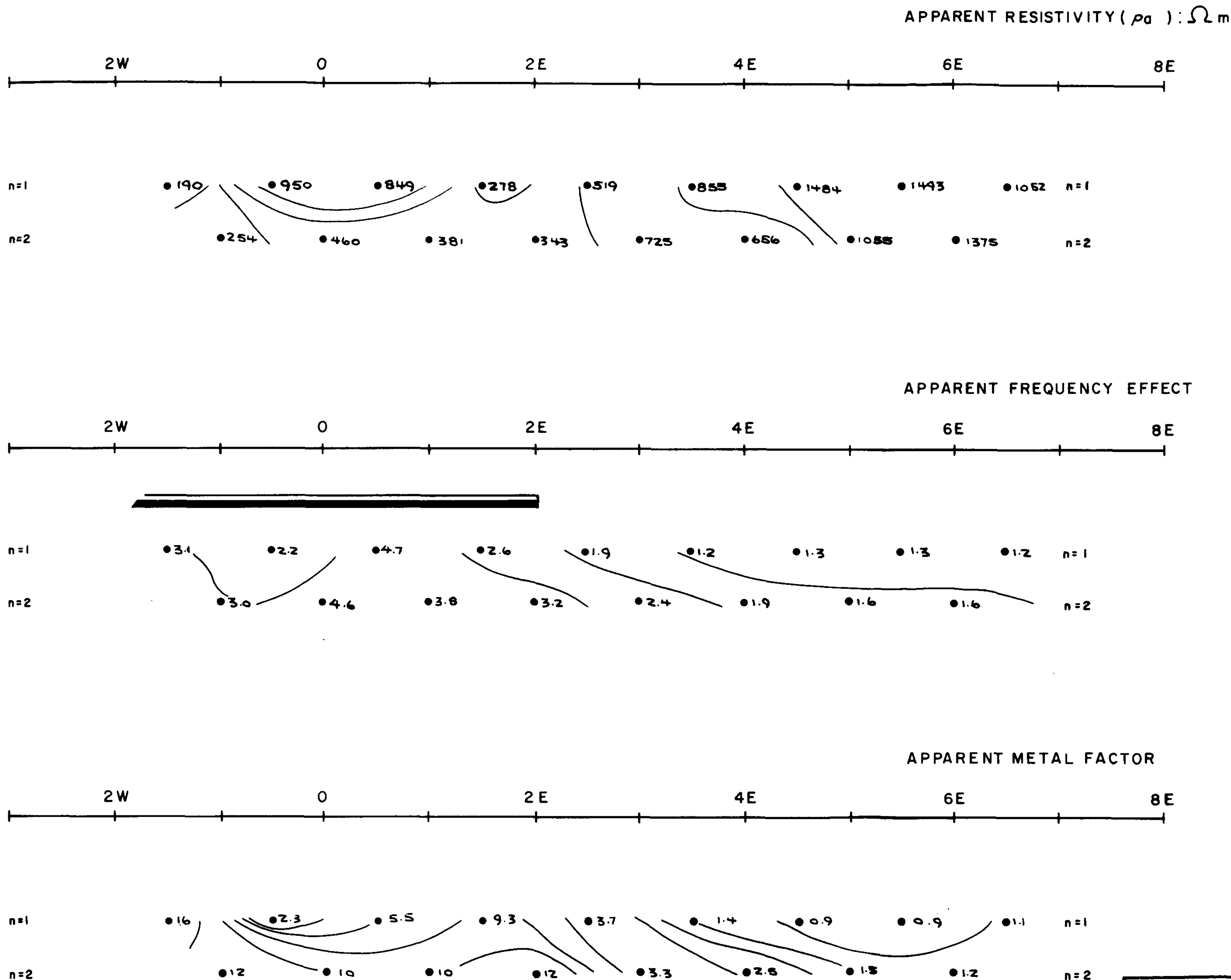
Electrode Configuration:

Frequencies: .25 , 4 Hz



Array: Dipole - Dipole

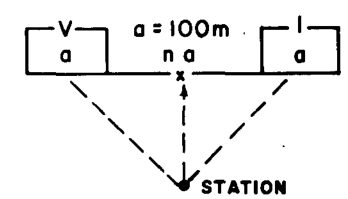
Canadian Nickel Company Limited		Copper Cliff, Ontario POM 1NO
INDUCED POLARIZATION and RESISTIVITY SURVEY Line 1600 S	SHEET 1	FIGURE 4b
Project: HIT 1-4 and MISS CLAIMS	Area: SIMILKAMEEN MINING DIVISION B.C.	
Supervisor: E.J. Debicki	Instrument: Phoenix IVP-1	Survey date: Sept.8-10, Oct.1-2, 184.
Compiled by: D. Daggett	Drawn by: D.W. Walsh	Date drawn: Aug. 1985 / Revised:
Scale: 1 : 5000	File:	N.T.S. 92 H 10 E



Anomaly Classification: STRONG MEDIUM WEAK POSSIBLE

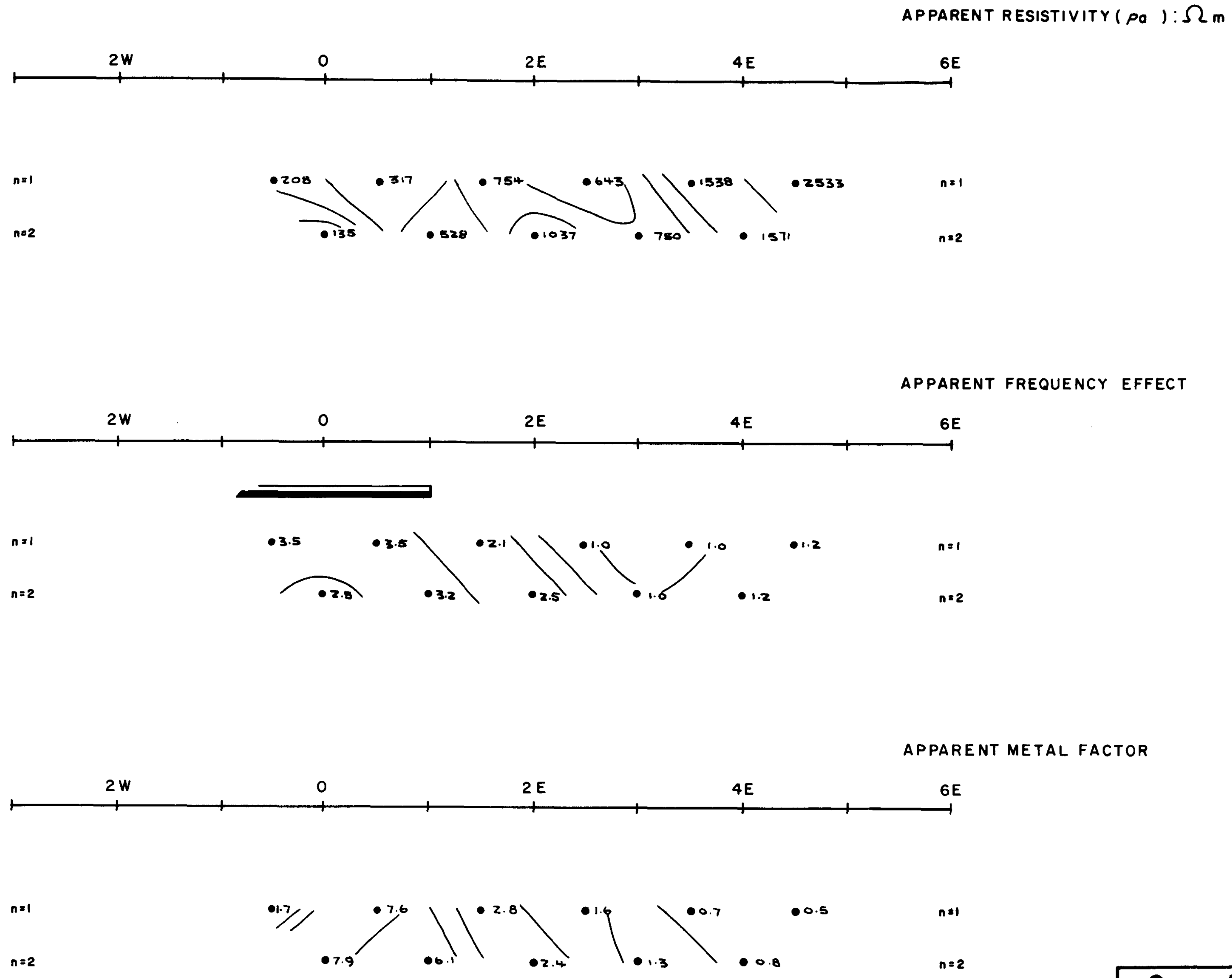
Electrode Configuration:

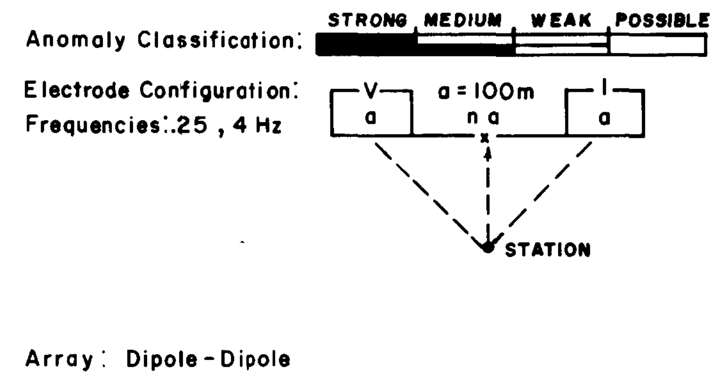
Frequencies: .25 , 4 Hz



Array: Dipole - Dipole

Canadian Nickel Company Limited		Copper Cliff, Ontario POM 1NO
INDUCED POLARIZATION and RESISTIVITY SURVEY Line 1800 S	SHEET 1	FIGURE 4c
Project: HIT 1-4 and MISS CLAIMS		Area: SIMILKAMEEN MINING DIVISION B.C.
Supervisor: E.J. Debicki	Instrument: Phoenix IVP-1	Survey date: Sept.8-10, Oct.1-2, 1984.
Compiled by: D. Daggett	Drawn by: D.W. Walsh	Date drawn: Aug. 1985 / Revised:
Scale: 1 : 5000	File:	N.T.S. 92 H 10 E





Canadian Nickel Company Limited — Copper Cliff, Ontario POM 1NO

INDUCED POLARIZATION and RESISTIVITY SURVEY Line 2000 S

SHEET 1 — FIGURE 4d

Project: HIT 1-4 and MISS CLAIMS		Area: SIMILKAMEEN MINING DIVISION B.C.
Supervisor: E.J. Debicki	Instrument: Phoenix IVP-1	Survey date: Sept.8-10, Oct.1-2, 1984.
Compiled by: D. Daggett	Drawn by: D.W. Walsh	Date drawn: Aug. 1985 — Revised:
Scale: 1 : 5000	File:	N.T.S. 92 H 10 E