GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,347

Report Number 87-455 - 16347

TITLE PAGE

Report on the H.P.H. 1,2, and 3 Mineral Claims
(Record Numbers 8597, 8598, and 8599)
Nanaimo Mining Division

NTS Map M92L/12W
Latitude: 50 degrees 41 minutes 30 seconds North
Longitude: 127 degrees 47 minutes 30 seconds West

Owned by: Hisway Mining Corporation
827 Fort Street
Victoria, British Columbia
V8W 2Y5

Operator: Hisway Mining Corporation
827 Fort Street
Victoria, British Columbia
V8W 2Y5

Authors of Reports
E. M. Wilson, P Eng., (Wilson Engineering)
J. Harrington, (AGO Environmental)
R. D. Zimmerman, M.Sc., P. Eng., (Hisway Mining Corp.)

Report of July 3, 1987 as amended October 26, 1987

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WILSON ENGINEERING LTD.

TELEPHONE (604) 988-4229

1088 MARIGOLD AVENUE, NORTH VANCOUVER, B.C. V7R 2E3

REPORT ON

H.P.H.. MINERAL CLAIMS
NANAIMO MINING DIVISION
PORT HARDY, B.C.

Prepared for

HISWAY MINING CORP.
Victoria, B.C.

Prepared by

E.M. WILSON, P.Eng.
North Vancouver, B.C.

March 31, 1987

CONTENTS

H.P.H. MINERAL CLAIMS
NANAIMO MINING DIVISION
BRITISH COLUMBIA

INTRODUCTION

The following report has been prepared at the request of the Directors of Hisway Mining Corporation. The property was first examined by the writer on July 3, 1981, and has also been visited on two occasions since the initial visit. The prospect is situated adjacent to a blacktop highway near Nahwitti Lake about 12 miles west of Port Hardy.

The prospect is a silver-lead zinc replacement deposit in a band of fine-grained limestone that strikes westerly throughout the length of the property. The main showing, surface and underground workings were examined and sampled. Two other mineral occurrences, almost at opposite ends of the property, were also examined and sampled. Numerous other known mineral occurrences within the same limestone band occur as irregular replacements dispersed along the length of the three claims, but not all were visited.

Nine character samples were taken from the various showings to indicate the approximate silver/lead/zinc ratio. They are not expected to be indicative of the grade that one might obtain during mining.

Available data included the Annual Report of the B.C. Minister of Mines, Part F., for the year 1936. The general geology of the immediate area and an excellent account of the H.P.H. occurrence is given by H.C. Gunning in GSC Summary Report Part A, dated 1931.

Results of air-borne geophysical surveys carried out in the area by a mining company were also available to the writer.

LOCATION AND ACCESS

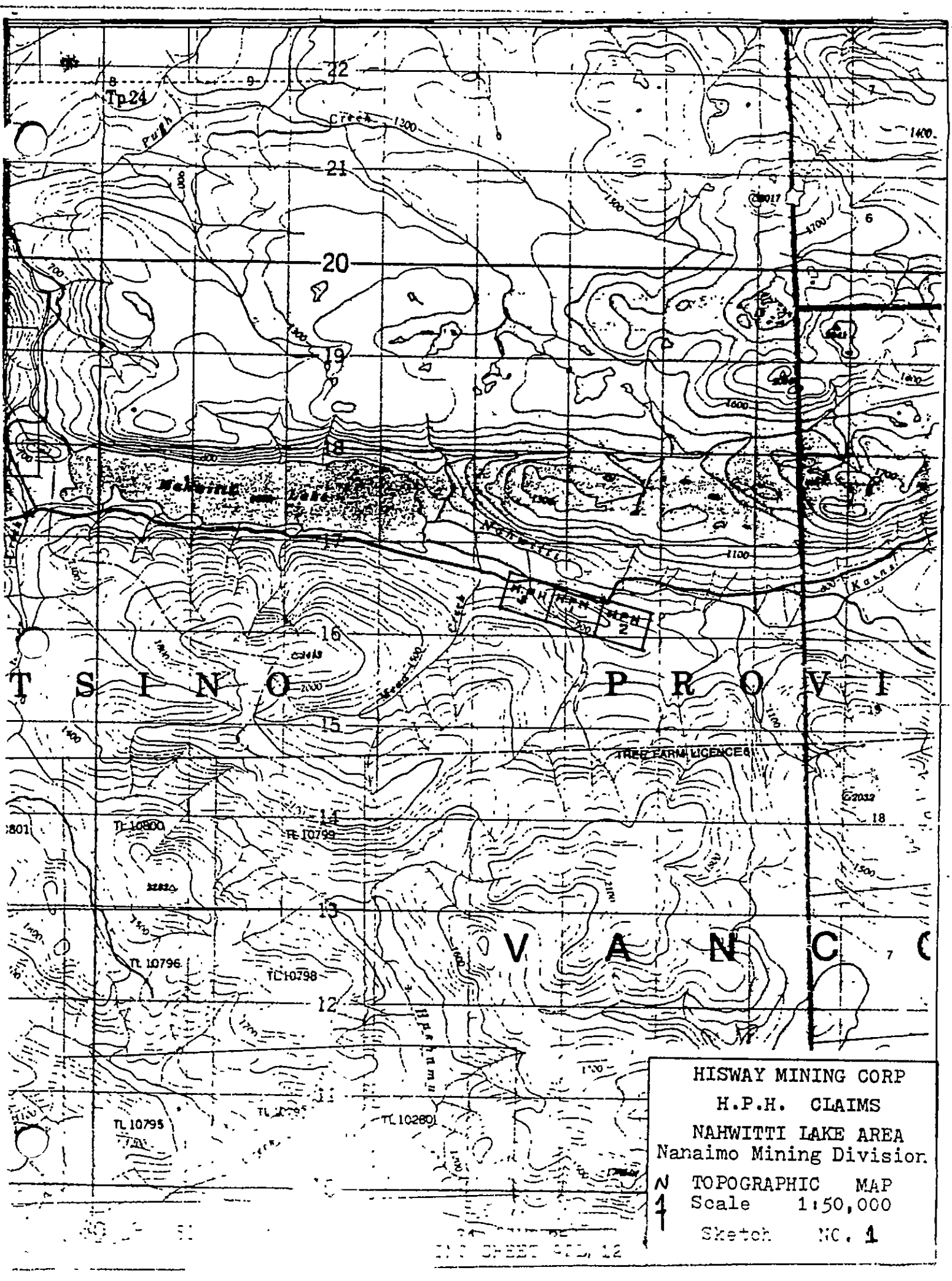
The claims are situated in the Nanaimo Mining Division, Vancouver Island, about 12 miles west of Port Hardy. Port Hardy is situated on a small inlet on Queen Charlotte Strait, which separates the northern part of Vancouver Island from the mainland. The claim group lies about a mile east of Nahwitti Lake adjacent to an excellent all-weather road leading to Holberg at the head of Holberg Inlet. Roads in the vicinity of the property are shown on the topographic and forest cover series maps accompanying the report.

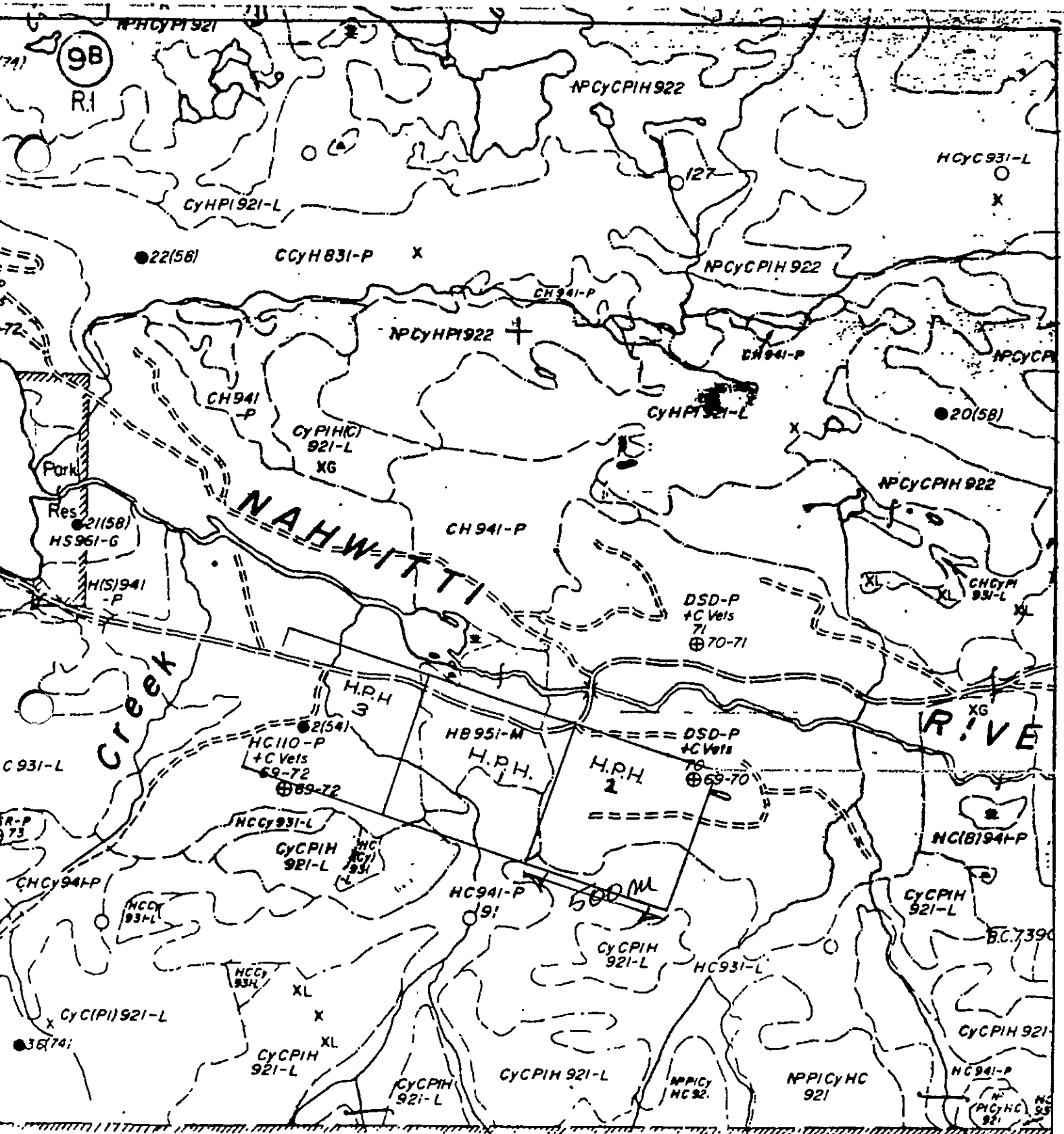
PROPERTY

The property described in the accompanying report consists of 3 adjacent mineral claims in the Nanaimo Mining Division, Vancouver Island.

The property is comprised of:

H.P.H. 1	Record Number 8597H
H.P.H. 2	Record Number 8598H
H.P.H. 3	Record Number 8599H


Tp24
Creek
Nahwitti Lake
T S I N O
P R O V I
V A N C
TREE FARM LICENCE 6
TL 10800
TL 10799
TL 10796
TL 10798
TL 10795
TL 10280
HPH 1
HPH 2
HISWAY MINING CORP
H.P.H. CLAIMS
NAHWITTI LAKE AREA
Nanaimo Mining Division
N
TOPOGRAPHIC MAP
Scale 1:50,000
Sketch NO. 1

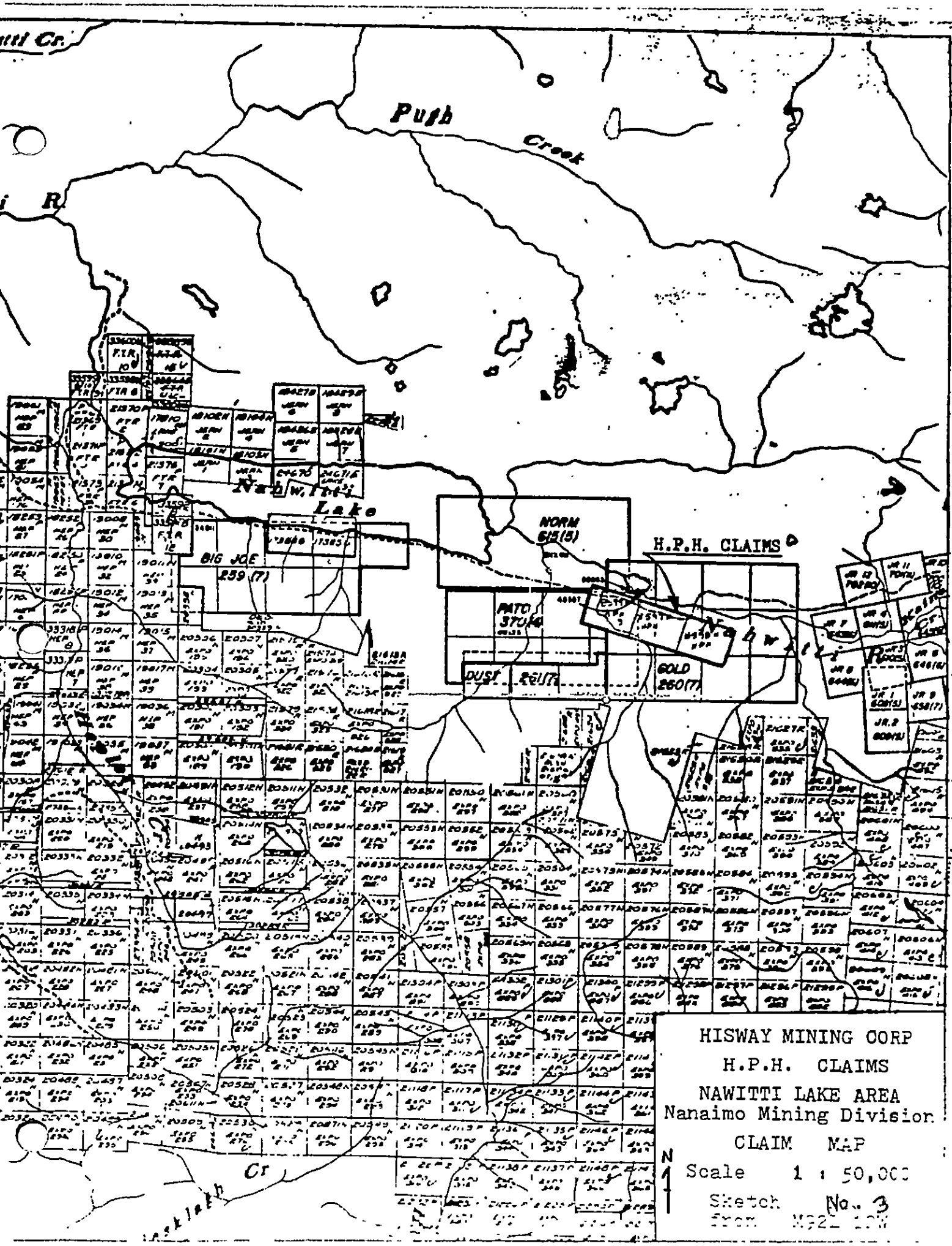


from B.C. FOREST COVER SERIES 92-L-12-f

Approximate position of H.P.H. claims located on Sketch.

N

HISWAY MINING CORP
H.P.H. CLAIMS
NAWITTI LAKE AREA
FOREST SERVICE ROADS
Scale 1:15,840
Sketch No. 2



HISWAY MINING CORP

H.P.H. CLAIMS

NAWITTI LAKE AREA

Nanaimo Mining Division

CLAIM MAP

N

Scale 1 : 50,000

Sketch No. 3

from 092I 10W

CLIMATE AND TOPOGRAPHY

The climate is temperate with abundant precipitation which largely falls during the winter months, mostly as rain. While snow may occur during the colder months, it is often of short duration. Climate extremes should present no undue difficulties to year-round operations.

The principal showings lie less than 30 meters from the main highway, passing along the base of the steep north slope of the ridge which forms the southern side of the upper Nahwitti River Valley. The main workings are situated not more than 15 meters above road level.

The claims, located in a northwesterly direction, straddle a hill rising in elevation to a height of about 340 meters. The hill is flanked on the north by the wide swampy Nahwitti River Valley. A creek flowing into the Nahwitti River curves around the west and southwest flank of the hill and heads towards a broad extent of flat drift-covered ground south of the hill.

Some timber is still standing, although the area has been extensively logged. Several overgrown logging roads pass through part of the claim group.

HISTORY

The original claims constituting the H.P.H. property were staked in 1930. They were first optioned to American Smelting and Refining who worked throughout the fall and winter of 1930-1931 but who

relinquished their option in the spring of 1931. Development work reported consisted of numerous stripping and trenches, two shafts and an adit 111 feet long.

Giant Explorations Ltd. carried out a reconnaisance soil sampling and geological mapping program in 1966 in the Nahwitti Lake area, followed by an airborne magnetometer and electromagnetic survey in 1969. Both programs covered the H.P.H. claims. In 1979 a limited amount of Induced Polarization lines were run, in part on the H.P.H. No. 2. During 1972, Giant Exploration continued a program of geochemical and magnetometer work on the Dorlon Property, about 2 miles east of the H.P.H.

Judging by the present condition of the workings, the property seems to have lain idle since that time.

GEOLOGY

The general geology of the H.P.H. and surrounding area is described by H.C. Gunning in GSC Summary Report, Part A, dated 1931.

The host rock in the area of the H.P.H. claims is a dark grey, massive to banded limestone, estimated to be at least 150 meters thick. Individual strikes vary from N 64° to W 84° and dip from 35° to 65° to the south. Limestone forms the north face of the slope of the hill, south of the Nahwitti River Valley.

This limestone, considered to be the Quatsino in age is underlain on the north by the Karmutsen volcanics, the actual contact probably close to the flank of the hill near the south side of the Nahwitti Valley. To the south along and near the top of the hill

the limestone is overlain by largely volcanic rocks considered to belong to the Bonanza Group. About a mile west of the property, the limestone is intruded by a large body of granodiorite. The northerly contact of this body continues eastward, passing less than 765m south of the adit. This intrusive probably links with a large body of similar granodiorite, about 1,000 meters east of the adit.

In the vicinity of the main workings the limestone is cut by several dykes and sills up to 2.5m in width and in a few places the limestone has been strongly silicified to a hard, green rock containing such minerals as epidote and garnets with minor pyrrhotite, pyrite and chalcopyrite.

MINERALIZATION

Mineralization has been found within the limestone along a strike distance of 7.3km. It stretches from a prospect known as the Dorlon occurrence on the east through the H.P.H. claims to the South Shore showings, about 4.8km west of the adit on the H.P.H. The mineralization indicates a certain continuity along strike as it has been found at about 25 different places in the same limestone band along the length of the H.P.H. claims. Not all of the showings were examined by the writer. Two occurrences at nearly opposite ends of the property, as well as the main showing were examined and some samples taken.

Economic mineralization consists of galena and sphalerite with associated silver values. They have been formed by a process of replacement in limestone and are extremely irregular in outline, varying from fine disseminated mineral in a silicified limestone

to patches, stringers and wide bands up to two meters in width of almost pure galena and sphalerite. Large blocks of limestone are unreplaced and there seems to be little, if any, structural control. Patches of skarny material containing garnetite and epidote are probably related to other mineralization as they do not appear to be associated with the galena and sphalerite.

Based on eight samples taken by the writer, silver values average about 1 to 2 ounces per unit of lead and about 0.4 ounces per unit of zinc. Samples exceptionally high in lead content show silver values greater than the average.

SHOWINGS

The principal showing and all the development is situated on the H.P.H. No. 1 and 2. The workings were centered around a comparatively large mineralized body under which an adit has been driven and a vertical and inclined shaft sunk. Though irregular in outline, mineralization is exposed over a length of about 80 meters measured in an east-west direction by about three to four and greater meters in width.

In the east shaft strong mineralization is present where, on the east wall, an impressive band of mostly galena is about two meters wide. An assay across this wall returned as follows: silver 109.2oz/ton, lead 38.1% and zinc 10.5%. On the west wall massive sulphides consist dominantly of sphalerite. A two-meter wide sample here gave: silver 7.24oz/ton, lead 10.3% and zinc 30.6%. The shaft is now only accessible for about three meters, however it is reported that strong mineralization continued downward for about five meters to where the ore was practically cut off by two

fractures so that 15cm of mineralization remained on the bottom of the shaft.

A selected sample of good mineralization from a point about midway between the two shafts assayed: silver 4.03oz/ton, lead 9.93% and zinc 5.66%.

The west inclined shaft, about 17m west of the east shaft, also was not accessible. Surface exposures show it to be sunk in an oxidized and iron-stained zone about 2.4m wide which contained stringers and patches of high zinc mineralization. A chip sample across the west wall gave results as follows: silver 9.4oz/ton, lead 9.93% and zinc 30.6%. Good grade mineralization is reported to continue for about 7.5m down the incline at which point a cave was penetrated. The cave is not now accessible but, according to the Minister of Mines 1936 Annual Report, the opening proceeds in a southwesterly direction. Assay results taken at that time from the cave wall returned: silver 81.8oz/ton, lead 55.5% and zinc 15.7%. A sample from the farthest point reached in the cave (10 meters vertical distance below the shaft collar) assayed; silver 17.4oz/ton, lead 11.9% and zinc 20.6%. Restricted dimensions of the opening precluded thorough inspection but it was reported the cave generally followed along the southern margin of the surface mineralized zone gaining depth on it in a southwest direction.

About 200 meters east of the vertical shaft, two surface grab samples were taken from well mineralized stringers in limestone. Results of the first were: silver 6.5oz/ton, lead 12.3% and zinc 30.6%. Those of the second were: silver 3.84oz/ton, lead 5.69% and zinc 30.6%.

About 725m west of the inclined shaft a good showing is exposed in

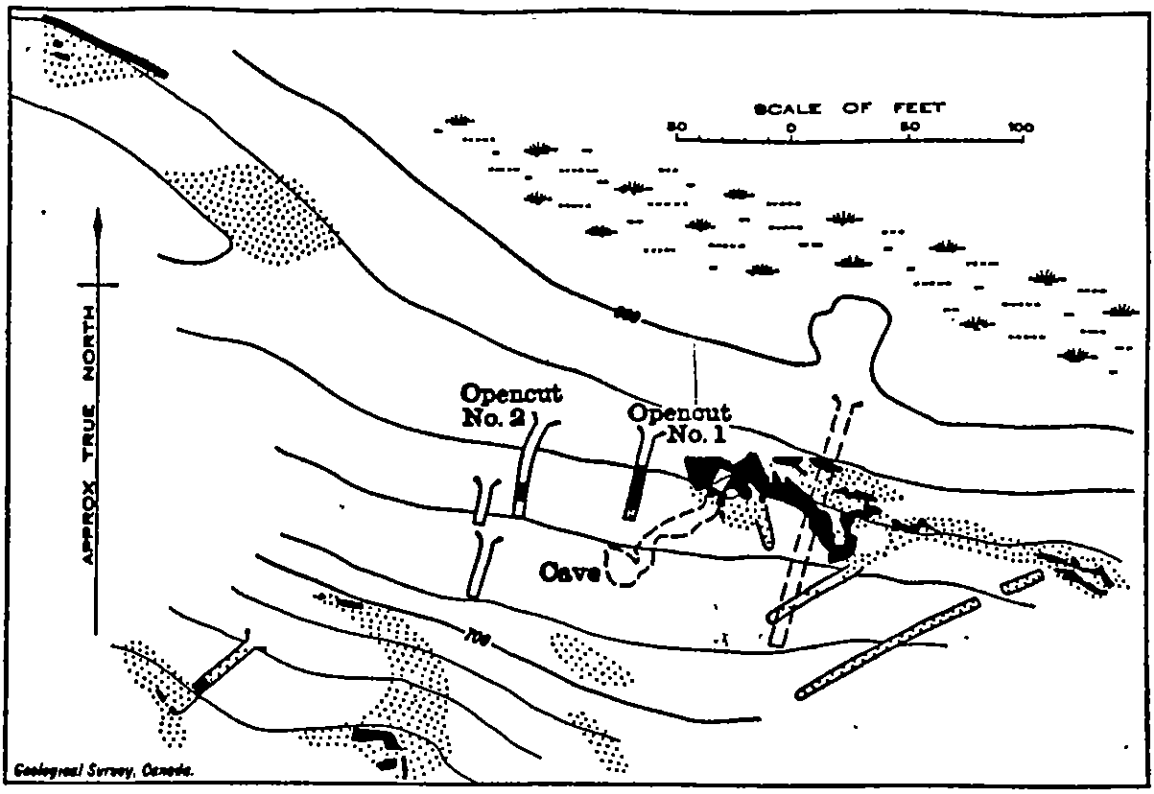


Figure 4. Plan of workings H.P.H. group, Nahwitti lake, Vancouver island, British Columbia. Mineralized areas where exposed shown by solid black; outcrops of limestone by stipple pattern; a few small outcrops of diabase and silicified limestone are not indicated.

From H.P.H. Group Report in GSC Summary Report Part A dated 1931 by H. C. Gunning.

HESWAY MINING CORP
H.P.H. MAIN SHOWING
NAHWITTI LAKE AREA
Nanaimo Mining Division
No 4

a logging road cut at the crest of a hill. A sample across a width of 3m in a silicified band showing good disseminated mineralization gave the following: silver 5.88oz/ton, lead 4.68% and zinc 8.08%. A grab sample of good mineralization from fractures and patches in limestone about 12.5m east of the latter sample returned: silver 14.44oz/ton, lead 9.89% and zinc 26.2%.

The adit portal is now caved but according to the Gunning report written shortly after its completion, the 111 foot long tunnel was timbered for the first 26 feet. The next 20 feet consisted of hard silicious rock containing epidote, garnetite, minor pyrrhotite and pyrite. The remainder of the tunnel, approximately 65 feet in length, was in limestone throughout. At 97 feet from the portal a 2 to 4 foot wide band of black silicified limestone contained a fair amount of galena and sphalerite. It did not appear to be directly connected with any of the mineralization exposed on the surface. No drifting was carried out along the limestone band.

CONCLUSIONS

It is considered that the silver/lead/zinc mineralization on the H.P.H. claims is a common replacement type found in limestone, related to the emplacement of the granodiorite found close by. Considering such an origin it seems reasonable to expect that there may be counterparts elsewhere beneath the surface in the limestone member passing through the claim block. From data available it might appear that the surface exposure could be a lenticular mass plunging flatly to the southwest. However, the numerous mineralized showings along strike lends strong encouragement that ore bodies present may have great longitudinal extent.

As well there might be some feeder zone or depth continuation that could be of commercial significance elsewhere.

In its present stage of development only the one mineralized body in the vicinity of the workings can be considered to have readily available tonnage. Tonnage calculations must be based on the apparent exposure dimensions and the depth to which the ore is found in the shafts. These suggest a possible block up to 80m long by 3 to 4m in width, extending to a depth of at least 10m. This would amount to tonnage in the order of 7,500 to 10,000 tonnes. This calculation does not consider any further available that may be present should the deposit have a flat extensive plunge to the southwest.

RECOMMENDATIONS

The property should lend itself well to investigative procedures such as electromagnetic or selfpotential conducted along a properly surveyed grid. The writer recommends that primarily a grid be established with the base line laid out in an east-west direction. Side lines can be established at 30m intervals with follow-up lines based on results obtained. In addition to geophysical surveys prior geological mapping and magnetometer work should be done. Anomalies or worthwhile targets indicated by investigative surveys to be followed by stripping and diamond drilling.

PROPOSED PROGRAM

1. Locate a base line in an east-west direction, perhaps utilizing the existing road and establish lines to the south at 30m intervals.

2. Geological and magnetometer surveys to be done along grid lines.

3. Electromagnetic or selfpotential survey along grid with follow-up as required.

4. Roadwork to worthy showings and for detailed geophysical study.

5. Bulldozer stripping of surface showings and drill-site preparation.

6. Bulk sample to be taken for metallurgical testing.

7. Diamond drilling to investigate indicated anomalies and surface showings.

COST OF RECOMMENDED PROGRAM

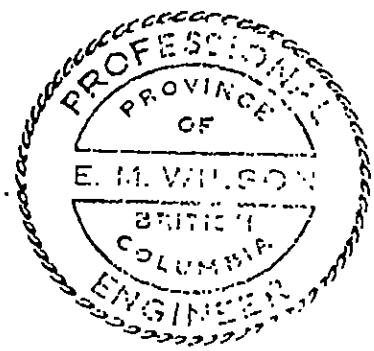
Assume a program of about two months' duration.

Grid system - base and side lines	$ 3,000
Geological mapping with magnetometer survey	5,000
Road and related work	30,000
Trenching, stipping and site preparation	40,000
Geophysical surveying	25,000
Diamond drilling (includes associated charges)	40,000
Bulk sampling	30,000
Supervision	10,000
Room, board and transportation	8,000
Report and analysis	9,000
	$200,000
Contingencies, say 10%	20,000
ESTIMATED COST OF PROGRAM	$220,000

E.M. Wilson

Respectfully submitted,
E.M. Wilson, P.Eng.

North Vancouver,
British Columbia
March 31, 1987



CERTIFICATE OF QUALIFICATIONS

I, Edward Milton Wilson do hereby certify:

1. I am a practicing geological engineer with residence at 1088 Marigold Avenue in North Vancouver, B.C.

2. I am a graduate of the University of British Columbia and have been granted the degree of Bachelor of Applied Science.

3. I have practiced my profession since 1952.

4. I am a member of the Association of Professional Engineers of British Columbia.

5. My report is based on information I obtained personally during several visits to the property and from information contained in GSC Memoirs and Annual Reports of the B.C. Minister of Mines.

6. I have no interest directly or indirectly in the property, nor do I expect to receive any interest.

7. I consent to the use of this report in or in connection with a prospectus relating to the raising of funds.

E.M. WILSON, P. Eng.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA

North Vancouver
British Columbia
March 31, 1987

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE (604)984-0221
TELEX 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

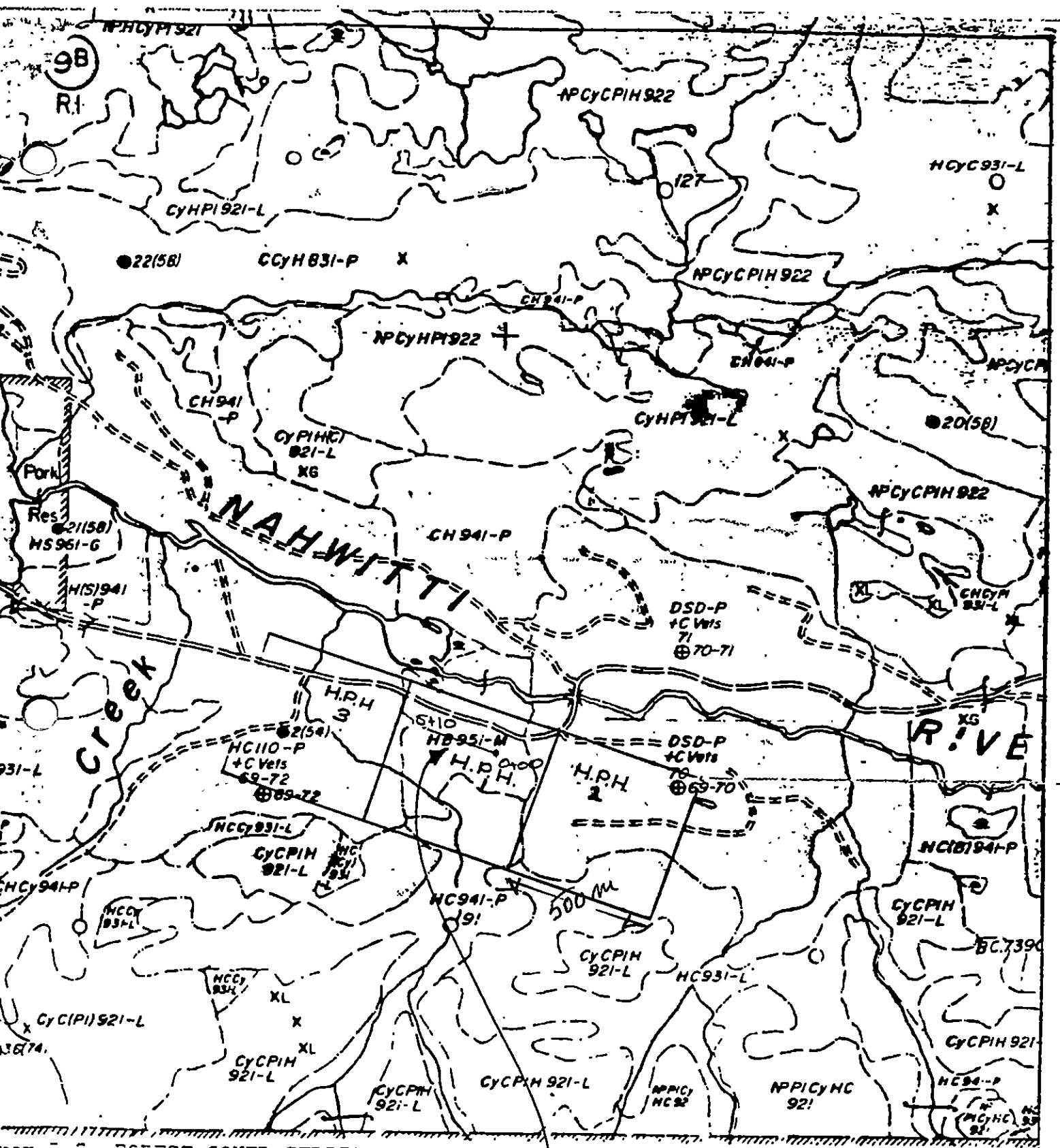
TO : SILVER BAR RESOURCES LTD.
STEPHEN A. SALAGA
P.O. BOX 190
SAANICHTON, B.C.
V0S 1M0

CERT. # : A8112158-001-A
INVOICE # : I8112158
DATE : 27-JUL-81
P.O. # : NONE

c.c. EDWARD M. WILSON

Sample description	Prep code	Pb percent	Zn percent	Ag (FA) oz/t			
9812	207	0.02	0.01	0.24	--	--	--
9813	207	9.93	30.60	9.40	--	--	--
9814	207	5.69	30.60	3.84	--	--	--
9815	207	4.68	8.08	5.88	--	--	--
9816	207	12.30	16.80	6.50	--	--	--
9817	207	9.89	26.20	14.44	--	--	--
9818	207	38.10	10.50	109.20	--	--	--
9819	207	10.30	30.60	7.24	--	--	--
NO NUMBER	207	4.03	9.93	5.66	--	--	--

CTA



rom B.C. FOREST COVER SERIES 92-L-12-f

Approximate position of H.P.H. claims located on Sketch.

Location of Survey start at TB #1

VLF Transmitter at Seattle Wash. 18.6 Khz

Geophysical Survey Location Map

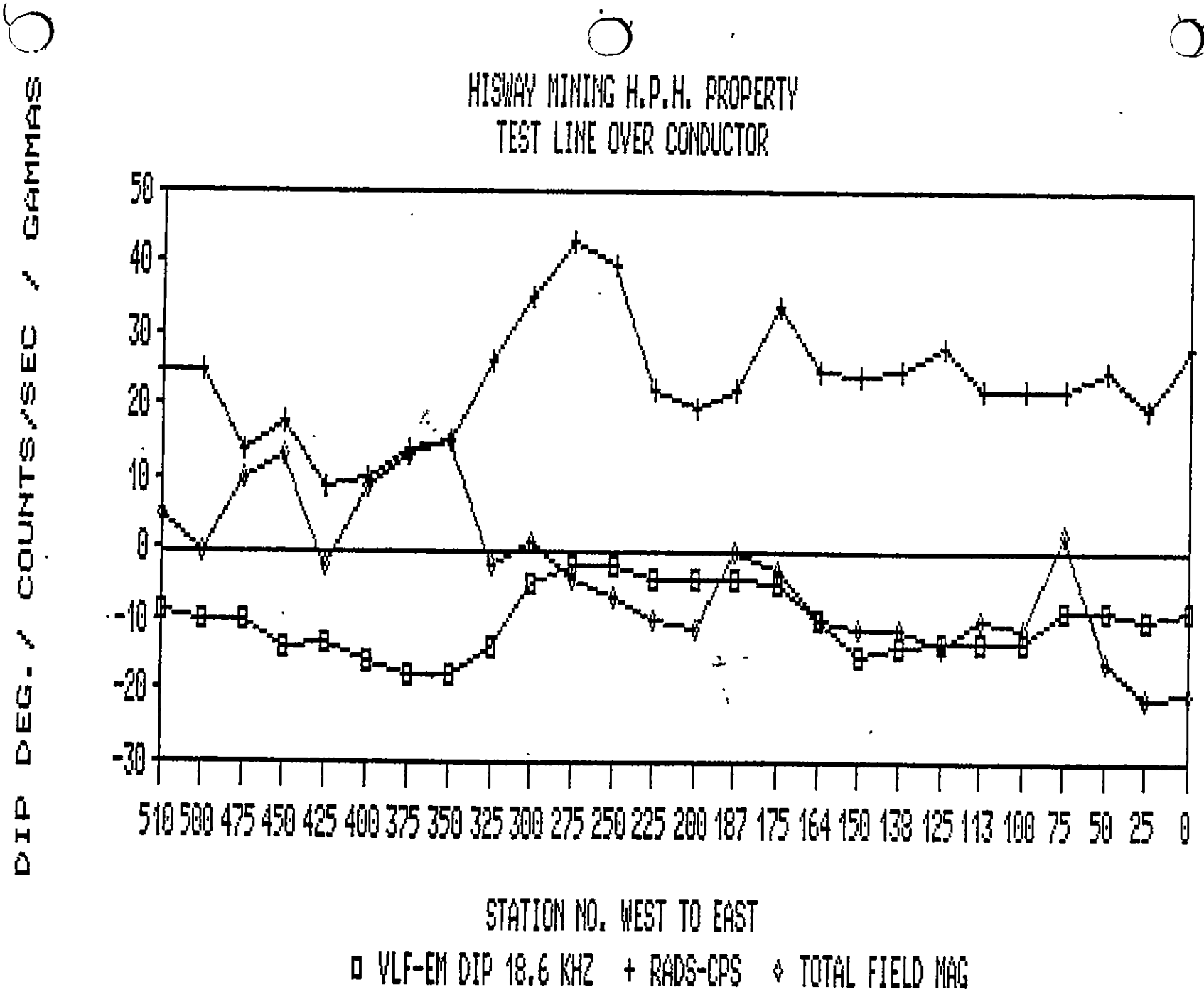
N

HISWAY MINING CORP
H.P.H. CLAIMS
NAWITTI LAKE AREA
FOREST SERVICE ROADS
Scale 1:15,840
Sketch No. 5

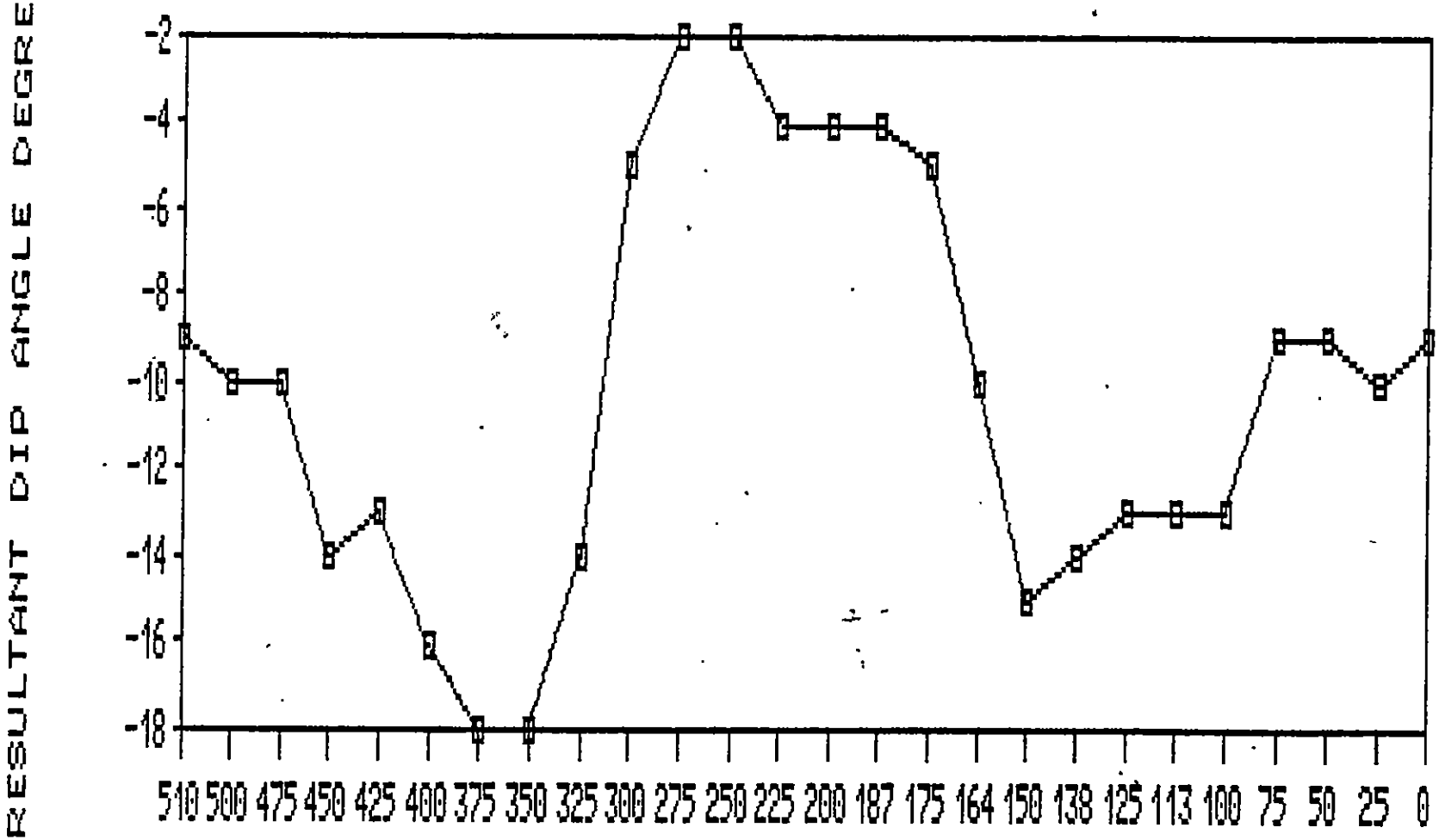
GRID NAME: HISWAY MINING H.P.H. PROPERTY
LINE NO.- TEST 0+00

STATION	DIP	PHASE	FS	RAD		MAG
510	-9		5	25	105	
500	-10		0	25	100	5700
475	-10		10	14	110	5710
450	-14		13	18	113	5713
425	-13		-2	9	98	5698
400	-16		9	10	109	5709
375	-18		13	14	113	5713
350	-18		15	15	115	5715
325	-14		-2	26	98	5698
300	-5		1	35	101	5701
275	-2		-4	43	96	5696
250	-2		-7	40	93	5693
225	-4		-10	22	90	5690
200	-4		-11	20	89	5689
187	-4		0	22	100	5700
175	-5		-3	34	97	5697
164	-10		-10	25	90	5690
150	-15		-11	24	89	5689
138	-14		-11	25	89	5689
125	-13		-14	28	86	5686
113	-13		-10	22	90	5690
100	-13		-11	22	89	5689
75	-9		2	22	102	5702
50	-9		-16	25	84	5684
25	-10		-21	20	79	5679
0	-9		-20	28	80	5680

MAG	AV3MAG	AV5MAG		STATI	DIP	SUM DIP	FR FILT
5700				500	-10		
5710	5708.3		488	475	-10	-20	
5713	5708.5	5707.7	463	450	-14	-24	-7
5698	5704.5	5705.9	438	425	-13	-27	-5
5709	5707.3	5708.6	413	400	-16	-29	-7
5713	5712.5	5709.6	388	375	-18	-34	-7
5715	5710.3	5709.2	363	350	-18	-36	2
5698	5703.0	5703.3	338	325	-14	-32	17
5701	5699.0	5700.0	313	300	-5	-19	25
5696	5696.5	5696.0	288	275	-2	-7	15
5693	5693.0	5693.4	263	250	-2	-4	1
5690	5690.5	5691.7	238	225	-4	-6	-4
5689	5691.3	5691.2	213	200	-4	-8	-3
5700							
5697	5693.0	5692.0	188	175	-5	-9	-12
5690							
5689	5690.3	5690.0	163	150	-15	-20	-19
5689							
5686	5687.5	5689.9	138	125	-13	-28	-6
5690							
5689	5691.5	5690.5	113	100	-13	-26	6
5702	5694.3	5691.9	88	75	-9	-22	8
5684	5687.3	5686.7	63	50	-9	-18	3
5679	5680.5	5674.6	38	25	-10	-19	-1
5680	5659.8	5656.2	13	0	-9	-19	10


HISWAY MINING H.P.H. PROPERTY
TEST LINE OVER CONDUCTOR
DIP DEG. / COUNTS/SEC / GAMMAS
50
40
30
20
10
0
-10
-20
-30
510 500 475 450 425 400 375 350 325 300 275 250 225 200 187 175 164 150 138 125 113 100 75 50 25 0
STATION NO. WEST TO EAST
□ VLF-EM DIP 18.6 KHZ + RADS-CPS ◊ TOTAL FIELD MAG

HISWAY MINING H.P.H. PROPERTY
TEST LINE OVER CONDUCTOR



HISWAY MINING H.P.H. PROPERTY
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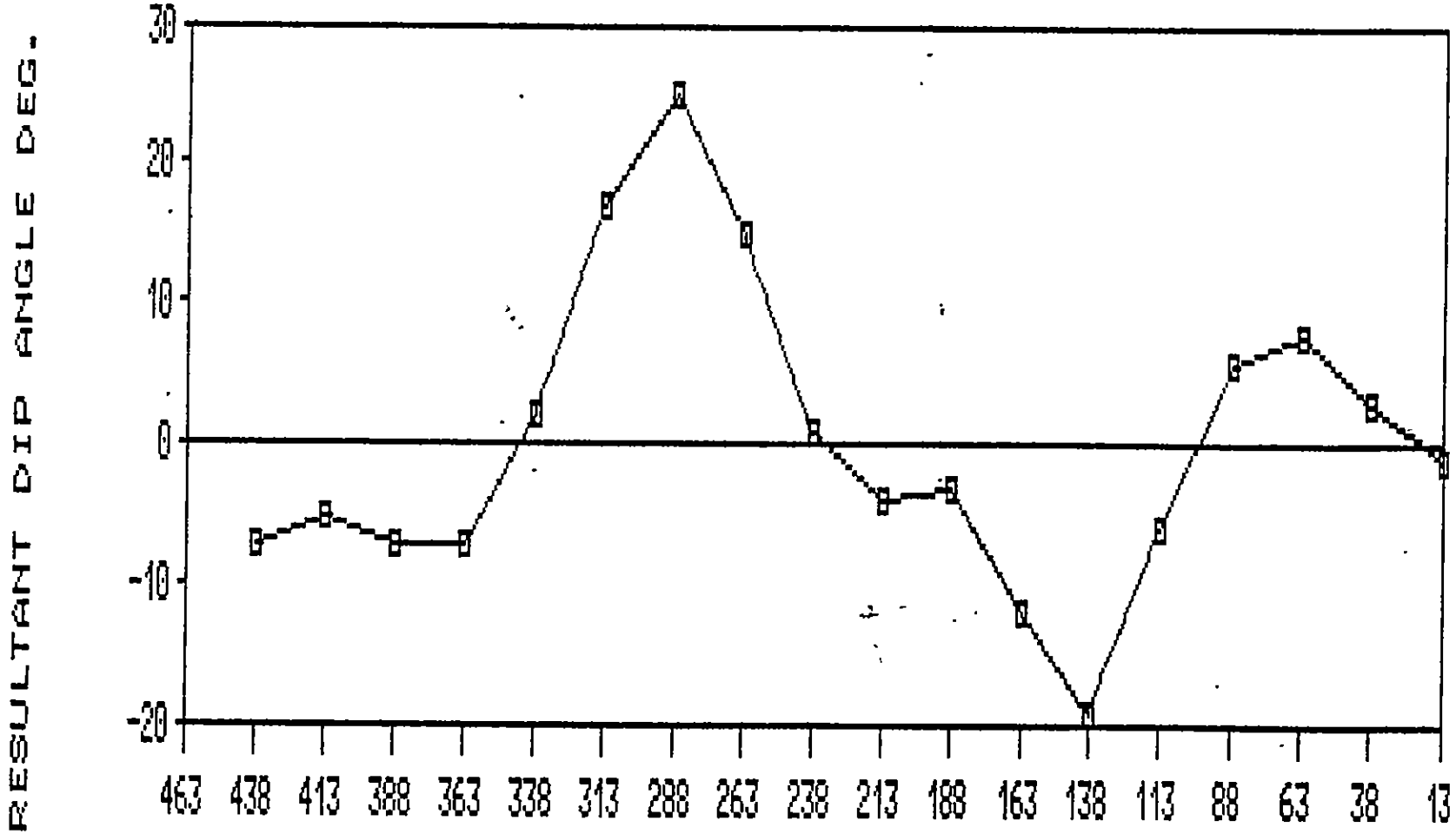

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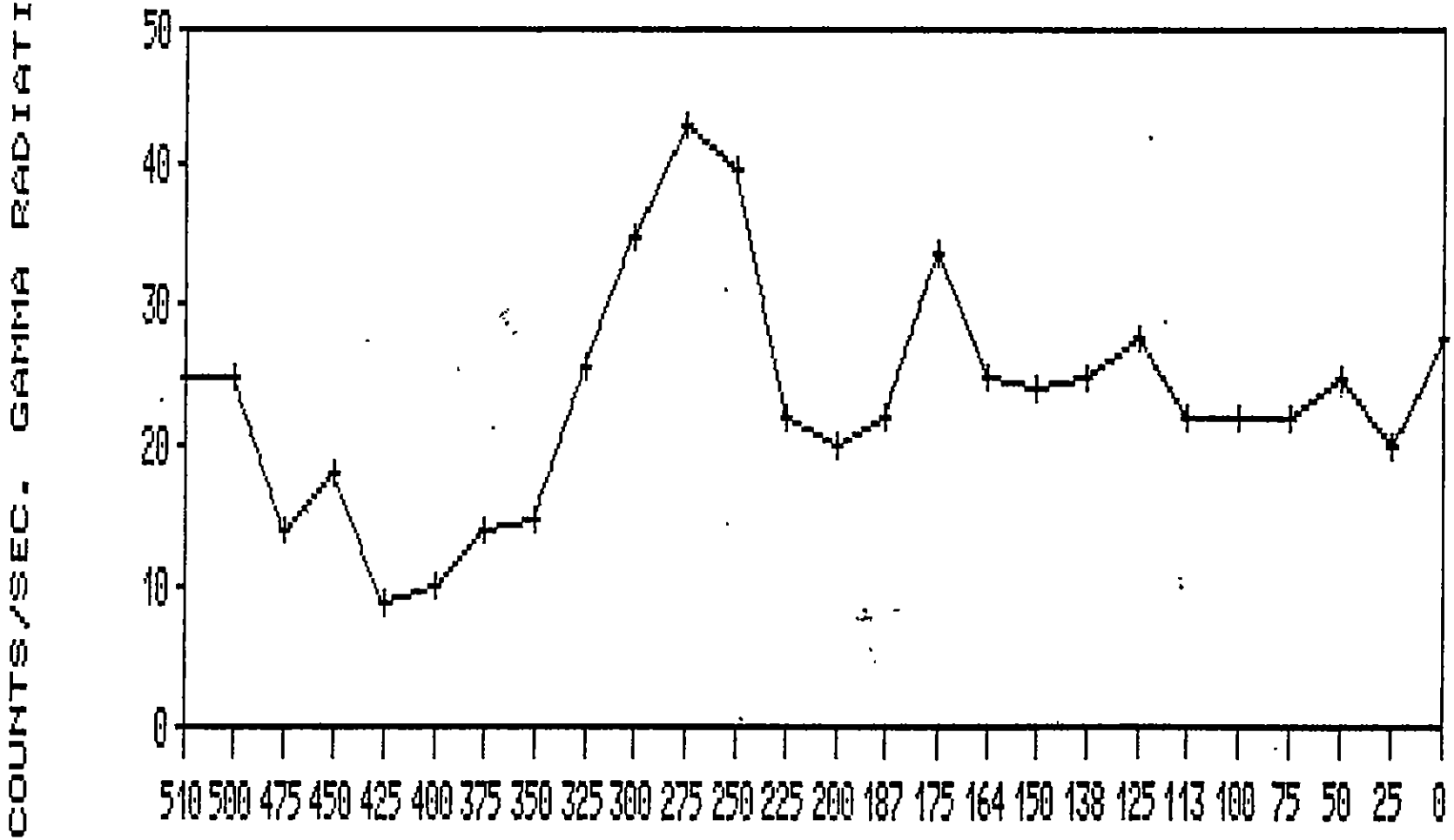
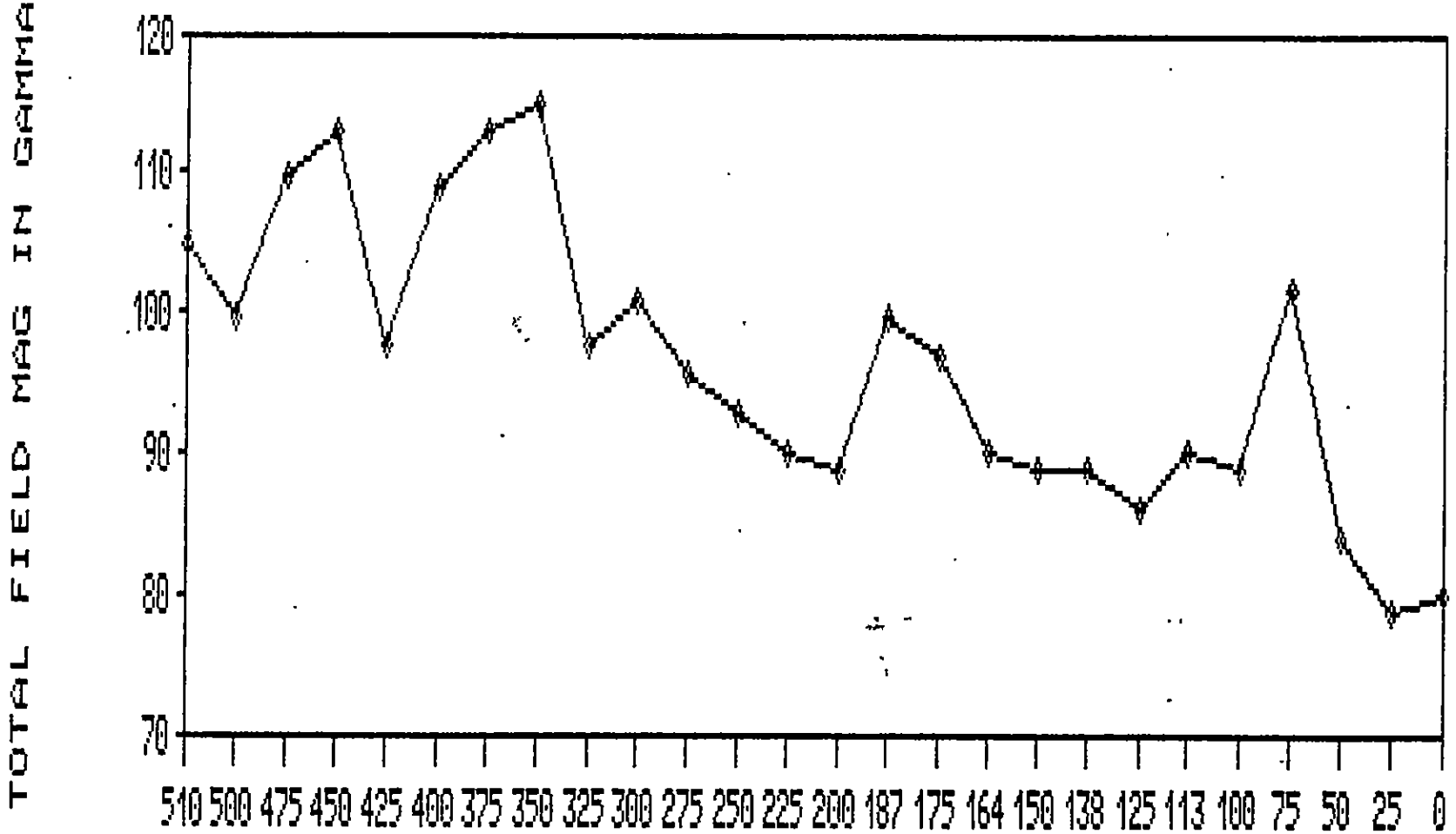
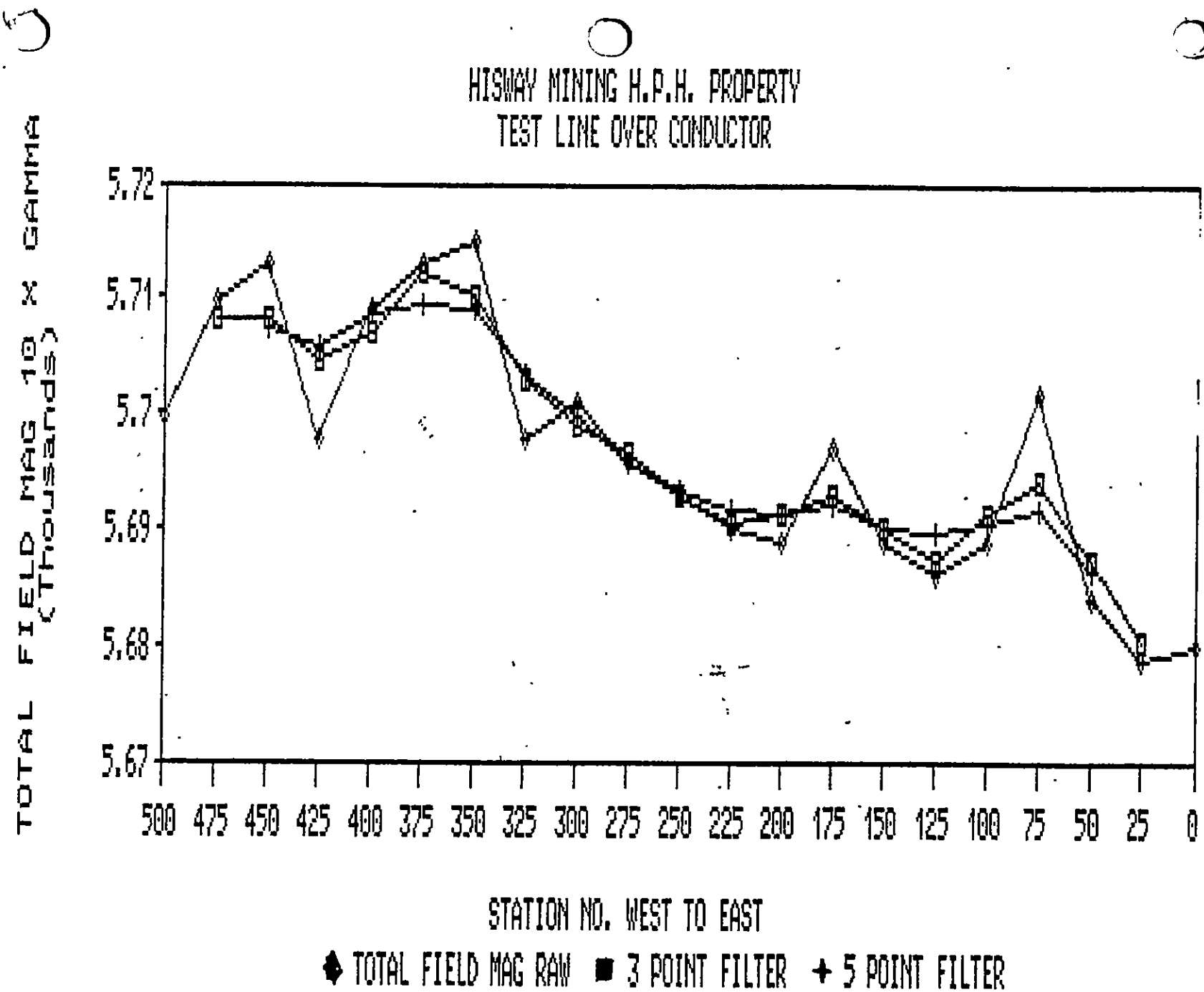


HISWAY MINING H.P.H. PROPERTY
TEST LINE OVER CONDUCTOR




HISWAY MINING H.P.H. PROPERTY
TEST LINE OVER CONDUCTOR
TOTAL FIELD MAG 10 X GAMMA (Thousands)
5.72
5.71
5.7
5.69
5.68
5.67
500 475 450 425 400 375 350 325 300 275 250 225 200 175 150 125 100 75 50 25 0
STATION NO. WEST TO EAST
TOTAL FIELD MAG RAW
3 POINT FILTER
5 POINT FILTER

WARRANTY

Exploranium, a division of GeoMetrics, guarantees this instrument to be in perfect operating condition, fully tested, and complete as described, for one full year beginning with the date of receipt, *but not to exceed fifteen months from the shipping date.*

Exploranium and GeoMetrics guarantee that all spectrometers and associated parts offered for sale are free from defects in materials and workmanship, carefully tested, and in first class operating condition. In the event of malfunction, Exploranium, at its own expense, will repair or replace any materials, equipment, work, or parts which prove defective or deficient under normal operating conditions.

Exploranium and GeoMetrics reserve the right to perform warranty services in Toronto, Ontario, or Sunnyvale, California, or at the customer's installation site, whichever is most expedient. Neither Exploranium nor GeoMetrics are responsible for delays or defects in the quality of results from misuse, mishandling, unauthorized modifications, installation or other operation conditions outside factory control.

The above paragraphs apply to all instruments supplied by Exploranium, but exclude photomultiplier tubes, batteries and any damage done thereby, as well as major ancillary equipment in certain systems.

WARRANTY SERVICE

If warranty repair should be necessary, or if technical advice is required, contact either of the following, as most convenient.

Exploranium Corporation of Canada
Division of GeoMetrics
436 Limestone Crescent
Downsview (Toronto), Canada
M3J 2B4

Telephone: (416) 661-1966
Cable: "EXPLOR"
Telex: 06-22694

GeoMetrics Inc.
395 Java Drive
Sunnyvale, California 94086
U.S.A.

Telephone: (408) 734-4616
Cable: "GEOMETRICS"
Telex: 357-435

GAMMA RAY ENERGY EMISSION

Parent Atom	Daughter Product	Energy Emissions
Potassium 40	Potassium 40	1.46 Mev
Uranium 238	Bismuth 214	.608 - 2.44 Mev
Thorium 232	Thalium 208	.277 - 2.62 Mev

1.3 SPECIFICATIONS

Energy Response:	Total Count (all energies above 0.05 Mev)
Crystal Detector:	1.5" Dia. x 1.5" (38.1 mm x 38.1 mm) standard
Ratemeter Ranges:	100F, 100, 300, 1000, 3000, 10000 C.P.S.
Countrate Display:	250° meter
Time Constant:	Automatically selected with rates for a smooth meter response
Power Requirements:	2-"D"-Cells (Battery Life 100 hours continuous with alkaline cells)
Temp. Range:	Limited only by batteries
Audio Alarm	Selectable Trigger points, 25%, 50%, 75% of full scale
Weight:	2.5 lbs 1.1 Kg.
Housing:	Aluminum

1.0 GENERAL INFORMATION

1.1 INTRODUCTION

The Model GRS-101 Total Count Scintillometer is a complete field system designed for man-carry applications requiring accurate and reliable determination of gamma ray intensities from the radioactive elements: Potassium (K^{40}), Uranium (as Bi^{214}), and Thorium (as Tl^{208}). Analysis of gamma ray intensity aids in determining rock types, geologic contacts, radioactive mineral concentrations and additional information useful in mineral exploration. The inherent simplicity of the GRS-101 allows rapid, accurate measurements to be obtained from a compact field instrument. This is a precision instrument, however, and reasonable attention must be given to handling, battery condition and sudden temperature changes.

1.2 THEORY OF OPERATION

The GRS-101 Scintillometer is an instrument that transforms incident gamma ray radiation into a visual readout of radioactive intensity as a function of the natural radioactive material present in geologic phenomena. A sodium iodide crystal converts gamma rays into faint flashes of light whose brilliance is proportional to the energy level of the gamma radiation measured. These light flashes are detected by a high gain photomultiplier tube (PMT), amplified, and fed to circuitry which accepts only those signals above a certain energy. The accepted signals are averaged in a ratemeter circuit as counts per second and continuously displayed on a 250° meter on the instrument front panel. The frequency or signal count rate displayed is the intensity of all gamma ray energy above the preset threshold.

Gamma rays are emitted by certain atoms of elements which are inherently unstable and decay spontaneously with a half life and emitting energy characteristic of all nuclei within that element group. The emission energy is usually expressed in thousands or millions of electron volts (Kev or Mev). The following table describes the unstable elements of interest to radiometric surveys, and the daughter products measured by the GRS-101.

1.4 INVENTORY INSPECTION

When received from the manufacturer, the Portable Gamma Ray Spectrometer, Model GRS 101, should include the following items:

1.	GRS101 Console	1 each
2.	Radioactive test source	1 each
3.	Batteries: Type "D" Alkaline	2 each
4.	Operator's Manual	1 each
5.	Wrist Strap	1 each

1.5 INSTRUMENT STORAGE

After use, GRS 101 should be stored such as to prevent damage, loss, or possible contamination through continuous contact with radioactive dust particles.

If the instrument is to be shipped as air or surface freight or long-term storage is anticipated (one month or longer), the batteries should be removed from the console to safeguard against damage from electrolytic leakage or corrosion of battery contacts. Always inspect the batteries, or install new batteries, before using the GRS101 after long storage.

2.0 FIELD OPERATIONS

2.1 INTRODUCTION

The GRS 101 comes complete and ready for field operation. A few simple procedures should be observed to insure optimum results, and it is recommended that the operator follow each step as outlined to become familiar with the various controls, indicators, and survey guidelines.

2.2 NEW INSTRUMENT CHECKOUT

When the instrument is first received from the manufacturer, check the switches for mechanical operation and inspect for damage, examine batteries (separately packed) for any leakage. If the batteries appear in good condition unscrew battery port cap(counter clockwise) install cells positive end in and refit cap securely.

Equipment Description

Proton Magnetometer -

Geometrics Unimag, model G-836, provides 10 gamma resolution over a range from 20,000 to 100,000 gammas and is powered from an internal 12 volt DC lead acid gell battery. see appendix __2__ .

VLF-EM Receiver -

Saber VLF receiver, model 27, provides measurements of the relative field strength, dip angle and quadrature components of the VLF communications stations. Relative field strength to 200 % accuracy of +-2 %, dip angle +60 to -60 degrees with an accuracy of 1 degree. The out-of-phase component (quadrature) of the magnetic field, perpendicular in direction to the resultant field, as a percent of the normal field strength. This is the minimum reading of the Field Strength meter obtained when measuring the dip angle, Accuracy +-2%. The unit is powered from 8 internal 1.5 volt AA batteries.

Gamma Ray Scintillometer -

Exploranium portable gamma ray scintillometer model GRS-101A, provides accurate and reliable determinations of gamma ray intensities from the radioactive elements: potassium (K40), uranium (as Bi214), and thorium (as Tl208). Analysis of gamma ray intensity aids in determining rock types or units, geologic contacts/faults and radioactive mineral concentrations. The unit counts all energies above 0.05 Mev. A sodium iodide crystal 1.5 Dia. x 1.5 inches converts gamma rays into faint flashes of light whose brilliance is proportional to the energy level of the gamma radiation measured. The accepted signals are averaged in a ratemeter circuit as counts per second and are continously displayed on an analogue meter in ranges of 100F, 100, 300, 1000, 3000, and 10,000 C.P.S. Power is supplied by 2 nickel-cadmium rechargeable 1.5 volt D cell batteries.(see appendix __2__)

Survey Cost

A number of alternatives are available in the costing out of the combined methods survey. The possibilities are listed below.

1. Day rate for field geophysics technologist - $ 250.00/day

   Day rate for geophysics tech assistant - $ 180.00/day

   Day rate for field instumentation - ($ 80.00/day)

**** THE INSTRUMENTATION AND FIELD REPORT (author J.R. Harrington) WILL BE INCLUDED AS A SPECIAL RATE

2. VLF-EM, SINT., MAG, survey at $ 200.00/Km average of 4 Km/day. Minimum survey 4 Km.

   Biological soil sample bagging at $ 200.00/Km average of 1.5 Km/day, (50 samples/day)

Additional costs:

- Biological sample analysis at CBR International Corps. rate as per enclosed rate sheet.
- Consulting Geophysicist formal report writing at $ 350.00/day (if required)
- Expences and applicable taxes extra

I hope the enclosed imformation answers all your immediate questions, if further information is required please contact me at any time.

Respectfuly Submitted

James R. Harrington C.E.T.
President

4. Now place the suspected object at the distance from the sensor expected during actual survey operation. Take several more readings and note the measurements.

5. If the measurements made in Step 4 above differ by more than ± 1 count (extreme right-hand number) from those measurements made in Step 3; then the object is magnetic.

IF THE ARTICLE IS HIGHLY MAGNETIC, OR IF UniMag IS OPERATED INSIDE OR NEAR A BUILDING OR VEHICLE, THE SIGNAL WILL BE LOST, GIVING COMPLETELY ERRATIC READINGS AND LOSS OF ± 1 COUNT REPEATABILITY.

UniMag should not be operated in areas that are known sources of radio frequency energy, power line noise (transformers), or operated in buildings. UniMag will NOT operate properly if it is placed directly on the ground.

1.3 SPECIFICATIONS

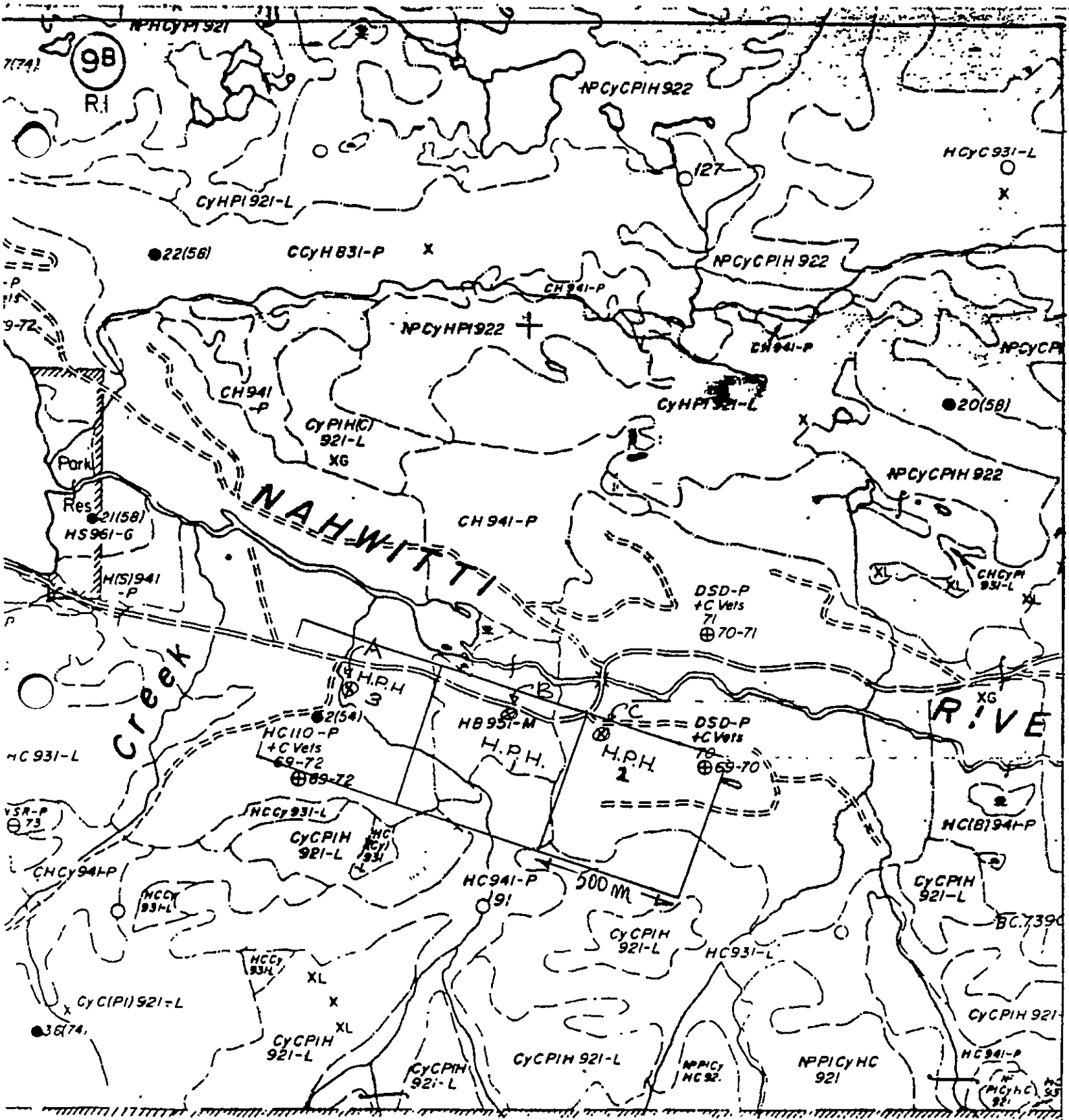
Resolution:	10 gamma throughout tuning range
Tuning Range:	20, 000 to 100, 000 gammas (world-wide)
Tuning Mechanism:	Multi-position switch with twenty-four overlapping steps.
Sampling Rate:	Manual pushbutton, new reading every 4 seconds.
Output:	4 digit, illuminated display directly in gammas.
Power Requirements:	12V DC, 500 ma average
Power Source:	Two internally mounted and rechargeable 6 volt, 1 amp/hr non-spill gelled electrolyte batteries. Charge state or replacement signified by flashing readout display.
AC Battery Charger:	Input: 115/220V, 50/60 Hz AC Output: 14V DC
Total Readings:	5, 000 readings from fully charged batteries.
Temperature Range:	-40° to +60°C Note: Battery capacity decreases with low temperature operation.
Accuracy (Total Field):	10 gamma through -20° to +60°C temperature range

Sensor:	Noise cancelling, high signal. Internally mounted in console.
Console Size:	$22\frac{1}{2}$" l. × $3\frac{1}{4}$" w. × 5" h. (58 × 8.3 × 12.7 cm)
Console Weight:	7 lbs. (3.2 kg) Includes batteries, sensor and shoulder harness.

1.4 INVENTORY INSPECTION

When received from the manufacturer, the UniMag™ Proton Magnetometer should include the following items:

1.	UniMag Console including sensor	1 ea
2.	AC battery charger	1 ea
3.	Adjustable shoulder strap	1 ea
4.	Battery Pack	2 ea
5.	Operator's manual	1 ea
6.	Applications Manual	1 ea
7.	Attache Case	1 ea
8.	Teflon pipe tape	1 strip



from B.C. FOREST COVER SERIES 92-L-12-f

Approximate position of H.P.H. claims located on Sketch.

A - West Showing Sample Group
B - Main Showing Sample Group
C - East Showing Sample Group

Rock Sample Location Map

HISWAY MINING CORP
H.P.H. CLAIMS
NAWITTI LAKE AREA
FOREST SERVICE ROADS
Scale 1:15,840
Sketch No. 6

ITEMIZED COST STATEMENT

1. Prospecting Field Trips		
i) February 15 to 17, 1987		
Engineer and 2 man crew - expenses only		$281.85
ii) April 22 to 25, 1987		
Engineer only - expenses only		$550.72
iii) June 23 to 27, 1987		
Engineer and Geophysics crew - 2 men - expenses only		$286.57
	Subtotal ›	$1,119.14
2. Cost of Report from Wilson Engineering		$2,500.00
3. Cost of data from AGO Environmental		$450.00
4. Cost of Assays		$94.00
	Subtotal ›	$3,044.00
Total Expenditures ›		$4,163.14

Prepared by:

Rodney D. Zimmerman

Rodney D. Zimmerman, M.Sc., P. Eng.

July 3, 1987

CERTIFICATE OF QUALIFICATIONS

I, Rodney D. Zimmerman, with business address at 42-330 Tyee Road, Victoria, British Columbia, do hereby certify that:

1) I am a consulting engineer registered with the Association of Professional Engineers of British Columbia since 1974.

2) I hold a B.Sc. (1971) Honours Civil Engineering from the University of Manitoba and an M.Sc. (1975) from the University of Manitoba.

3) I have been practising my profession as a Geomorphologist for over 14 years.

4) I have based this report on a review of available geological data on the area , examination of aerial photographs, a review of exploration reports provided by the company and visits to the property during February, March, June, and July 1987.

5) I consent to the use of this report by Hisway Mining Corporation in any Filing Statement, Statement of Material Facts, Prospectus or for assessment work.

Rodney D. Zimmerman

RODNEY D. ZIMMERMAN, M.SC., P.ENG.
October 26, 1987