

DRILLING REPORT ON THE  
COTTONBELT Pb/Zn OCCURRENCES  
40 MILES N OF REVELSTOKE, B.C.

NTS 82 M 7

CLAIMS: GRACE GROUP (T, SNAKE EYES, COTTON)

KAMLOOPS MINING DIVISION

BY F.-W. WELLMER, Ph. D.  
METALLGESELLSCHAFT CANADA LIMITED  
VANCOUVER, B.C.

November 10, 1978

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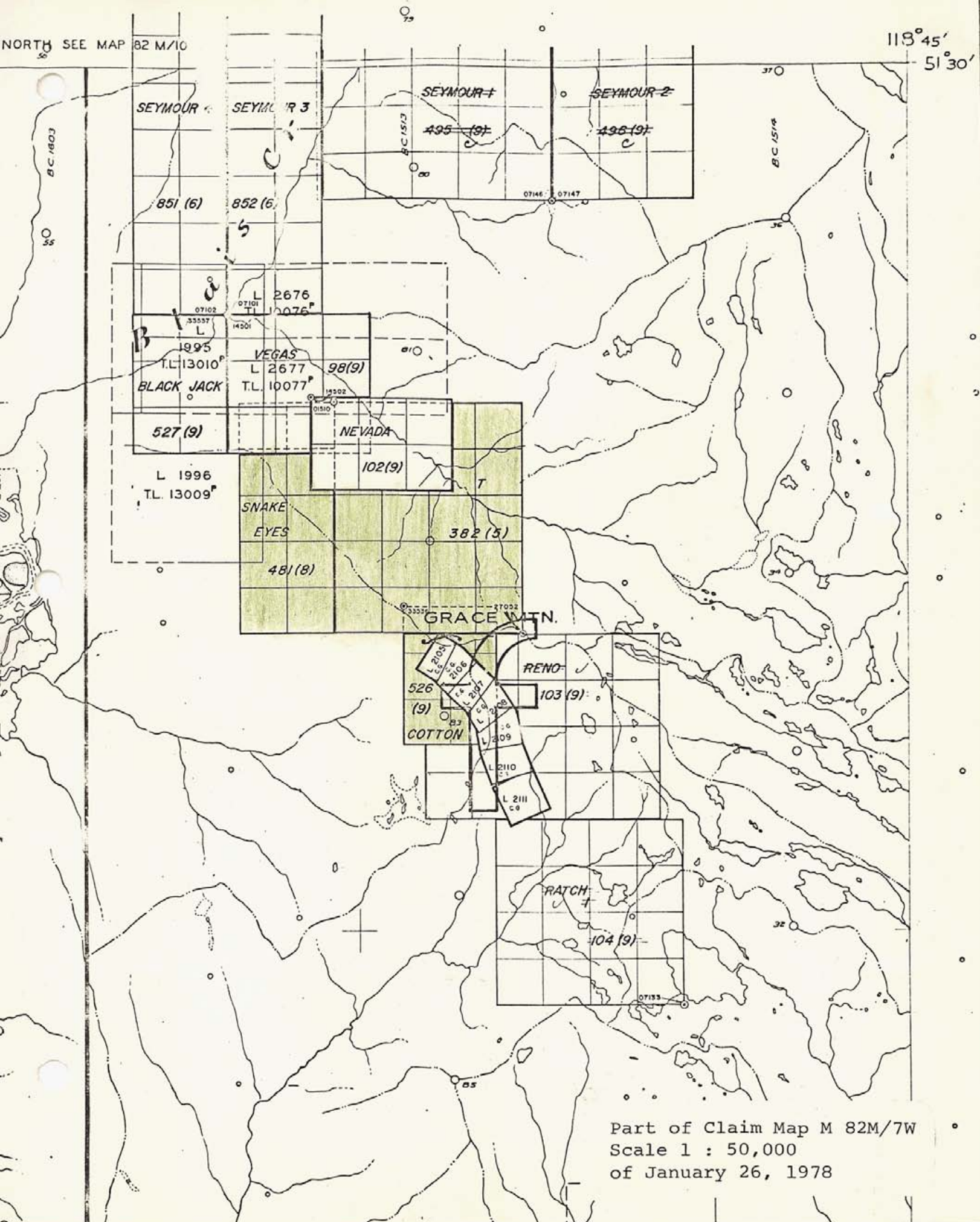
## 1. INTRODUCTION

Work for which assessment credit is requested on the T Mineral Claims of United Mineral Services Limited, which had been grouped with the Snake Eyes and Cotton Mineral Claims into the GRACE Group, consisted of diamond drilling of two holes totalling 527 m and a downhole Pulse EM survey. The work was undertaken between June 28 and July 29, 1978, on behalf of Metallgesellschaft Canada Limited (Vancouver) which together with its partner Cyprus Anvil Mining Corporation holds the above-mentioned claims under option.

The drilling contractor was H. Allen Diamond Drilling Limited of Merritt, B.C. The boreholes were of BQ size.

The core is stored on the property of Mr. & Mrs. McLaren, 50621 O'Byrne Road, Sardis, B.C.

The downholes Pulse EM survey was performed by J. Harrington of Crone Geophysics Limited of Mississauga, Ontario.



Part of Claim Map M 82M/7W  
Scale 1 : 50,000  
of January 26, 1978

## 2. LOCATION AND ACCESS

The Grace Mountain/Cottonbelt area is located approximately 65 kilometers northwest of Revelstoke in the Kamloops Mining Division, NTS 82 M 6.

Access to the property is primarily by helicopter from Revelstoke although remains of the old haulage trail of the early 1900's could be followed from Seymour Arm.



Fig. 1 a : General Location Map  
 Part of NTS Map 82 M  
 - Seymour Arm -  
 Scale 1:250,000

### 3. DOWNHOLE PULSE EM SURVEY

From previous work it appeared that sinking of two drillholes would give the best possible definition of an interpreted fold apex.

The first drillhole was to test the geological dip of the conductor body to depth. It was then to be used as charging point to energize the ground for a downhole Pulse EM survey planned to optimize the second drillhole.

The results of the borehole PEM electromagnetic survey are included in the report by J. Duncan Crone (Appendix I).

#### 4. DRILL RESULTS

The holes were drilled on Line L 13 + 50 N / 1 + 75 W, a target outlined by geological and geophysical work in 1976/1977.

In the Cottonbelt area two parallel ore horizons are known: the Cottonbelt horizon in the south-west and the McLeod horizon in the north-east. During detailed lithological studies two marble marker horizons were detected which occur as well in the Cottonbelt sequence as in the McLeod sequence. Thereby it could be shown that both sequences are symmetrical indicating either an anticlinal or a synclinal fold.

IP measurements indicated first a steepening and then a back curving of the conductive body, which could be best interpreted as a synformal structure.

The drill holes were planned to test an interpreted fold closure.

The drilling results, however, did not confirm this interpretation. The strata did not steepen. The increasing chargeability towards depth in the IP measurements is obviously due to increased disseminated sulphides in the footwall of the ore horizon. In both cases the mineralization intercepted was uneconomic. It was only a few centimeters thick, much thinner than at the surface.

T. W. Williams

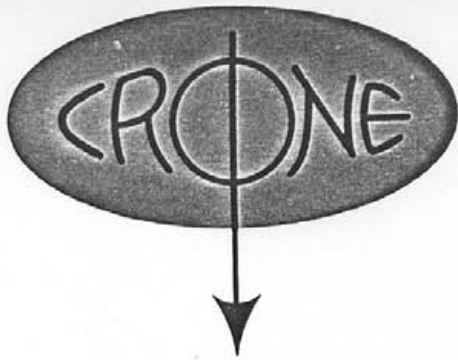
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A P P E N D I X I

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BOREHOLE & SURFACE PEM ELECTRO-  
MAGNETIC SURVEY



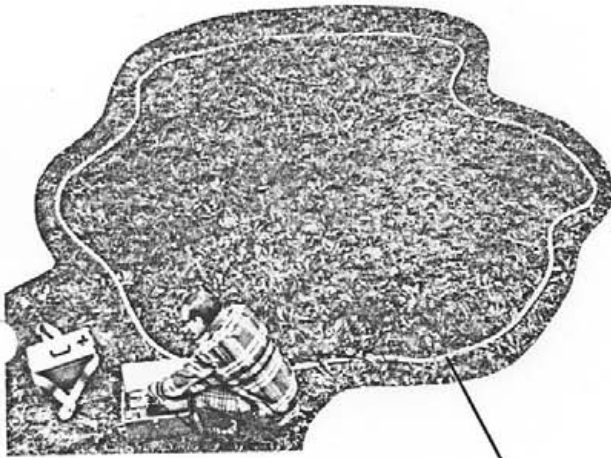
# CRONE GEOPHYSICS LIMITED

3607 WOLFEDALE ROAD,  
MISSISSAUGA, ONTARIO  
CANADA, L5C 1V8

Phone: (416) 270-0096

## PULSE EM-PEM

### TRANSMITTER

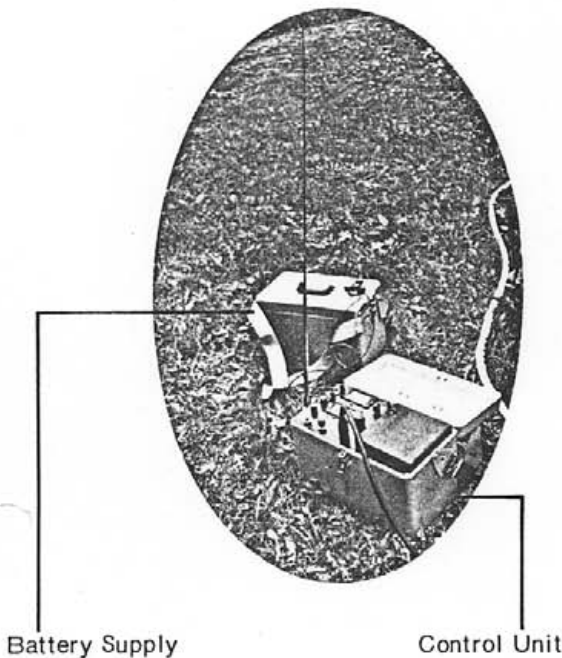


Transmit Coil

**A GROUND PULSE EM** Instrument with moving coil transmitter and receiver that can be operated with several coil configurations.

- 8 samples of the secondary field provide a wide frequency response.
- Deep penetration through conductive overburden without large coil separations,
- High resolution of anomalies.
- Accurate interpretation as to conductivity, width, depth and dip of conductor.
- Simple Operation
- Rugged Equipment

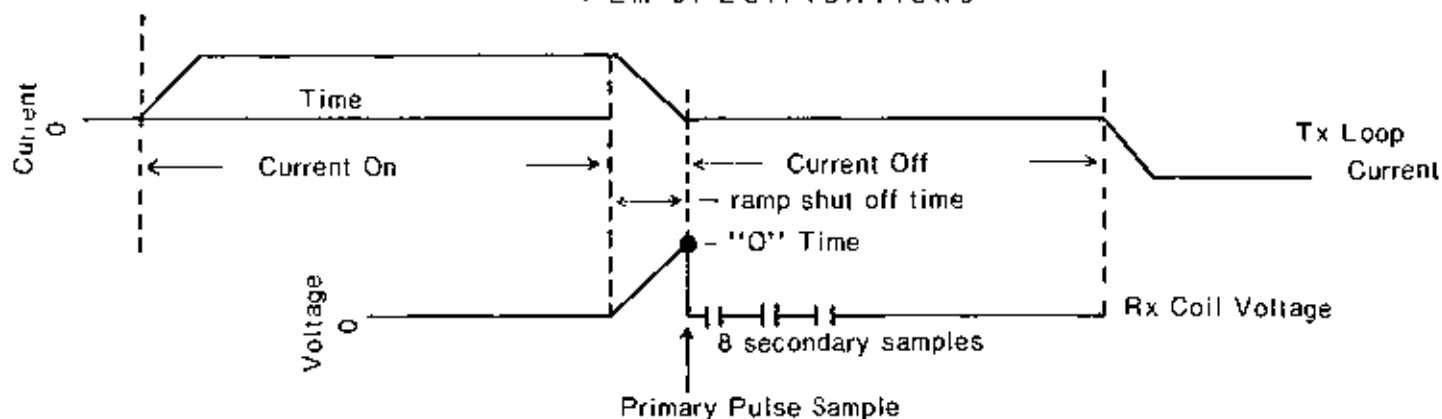
### RECEIVER



Receiver Coil

Measuring Instrument

## PEM SPECIFICATIONS



Current Off time: 9.4 ms

Current on time: 10.8 ms

Current shut off (ramp) time: 1.4 ms

Sample times (zero to centre of sample): .15ms, .45ms, .85ms, 1.45ms, 2.45ms, 3.75ms, 5.85ms, 8.85ms.

Sample width: 100  $\mu$ s

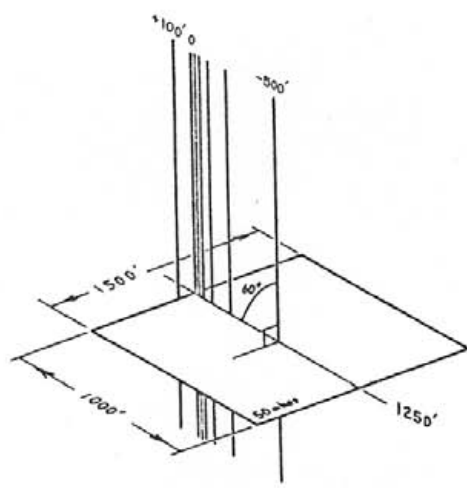
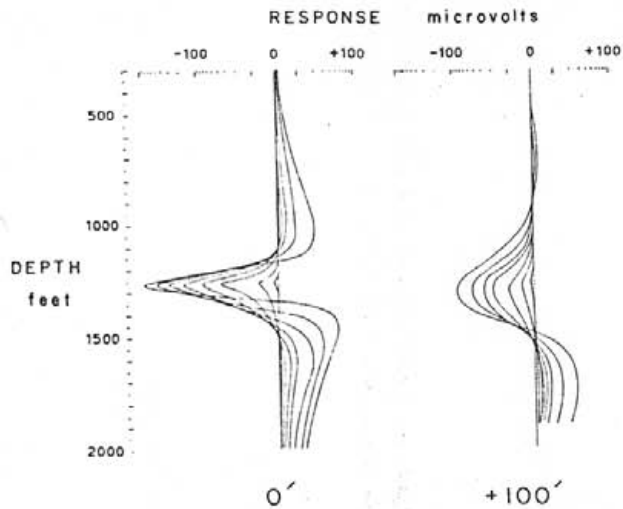
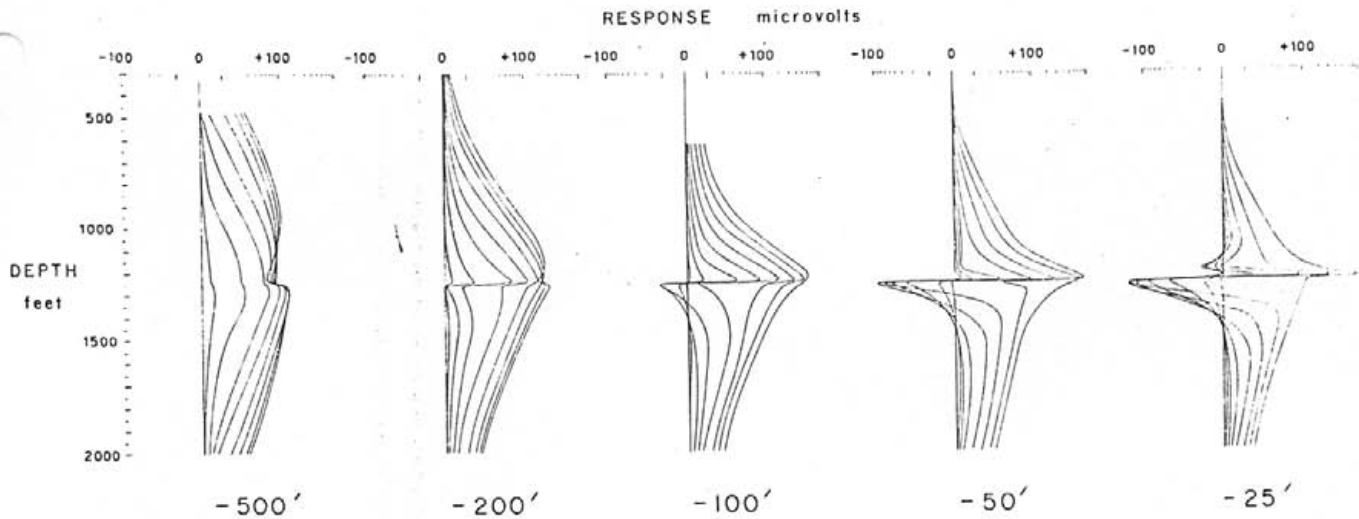
Zero time set at drop off point of primary pulse

**TRANSMITTER** — Transmitter power and loop size may be increased to obtain increased penetration. Weight, portability and power capabilities of the control instrument are the limiting factors. The standard transmitter is designed to be carried by two men.

- Loop diameter — minimum 4 meters (13 feet)
- Loop current — 15 to 20 amps
- Loop applied voltage — 24 volts
- Loop output — minimum 4500 amps x meter<sup>2</sup>
- Loop weight — 11.8 kilos (26 lb)
- Control unit weight — 10 kilos (22 lb)
- Control unit dimensions — 20.5cm x 25.5cm x 36.5cm (8" x 10" x 14.5")
- Battery supply weight — 18.1 kilos (40 lb)
- Battery supply — 2 of 12 volt, 14 to 20 ampere hour
- Timing control by radio synchronization

## RECEIVER

- Receive coil dimensions: 55cm x 15cm (22" x 6")
- Receive coil weight: 4.5 kilos (10 lb)
- Preamplifier in coil
- Preamplifier batteries: 2 of 9 volt
- Receive coil tripod mounted
- Receiver measuring instrument dimensions: 28cm x 18cm x 21.5cm (11" x 7" x 9")
- Receiver measuring instrument weight: 6.3 kilos (14 lb)
- Timing control by radio synchronization
- Primary sample width: 100  $\mu$ s
- Primary sample can be swept through primary pulse by means of a time calibrated pot
- Zero time set at primary pulse drop-off
- Secondary samples (eight of them) width: 100  $\mu$ s
- Secondary samples time (zero to middle of sample): (1) .15ms (2) .45ms (3) .85ms (4) 1.45ms (5) 2.45ms (6) 3.75ms (7) 5.85ms (8) 8.85ms
- Automatic sampling for 5 seconds then all samples automatically stored
- Sample read out by means of meter
- Continuous sampling possible by switching function switch to "Continuous"
- Noise can be monitored by switching function switch to "Noise"
- Battery supply: 24 volt rechargeable, 2 of 12 volt Gel GC 12-15



REPORT FOR: Metallgesellschaft Canada Ltd.  
COVERING: Borehole And Surface PEM Electromagnetic Survey  
OVER THEIR: Cottonbelt Claims, Grace Mountain B.C.  
REPORT BY: J. Duncan Crone, Geophysicist  
SURVEY BY: James Harrington  
DATED: August 17th, 1978

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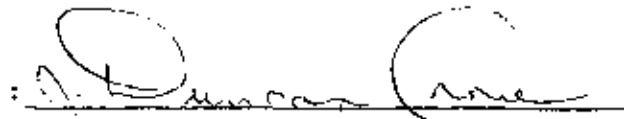
BOREHOLE PEM:

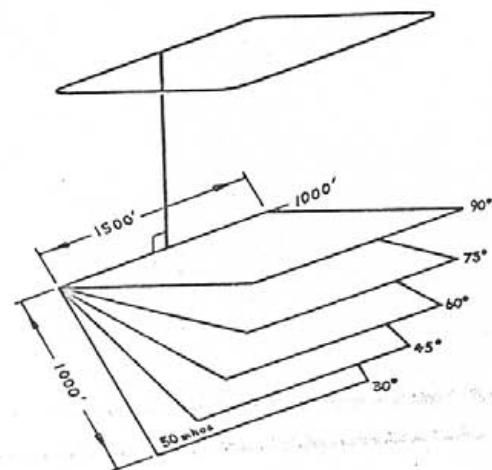
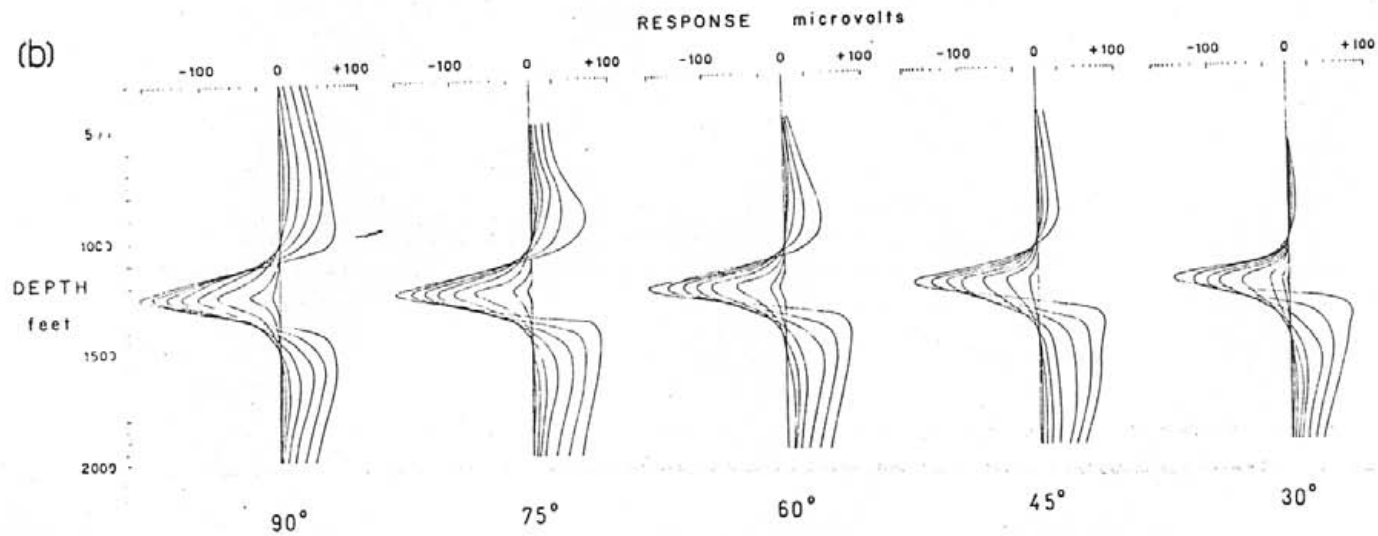
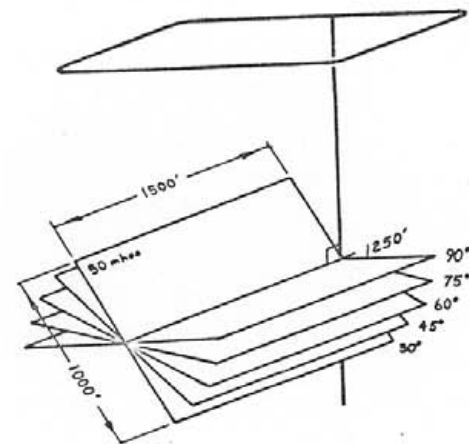
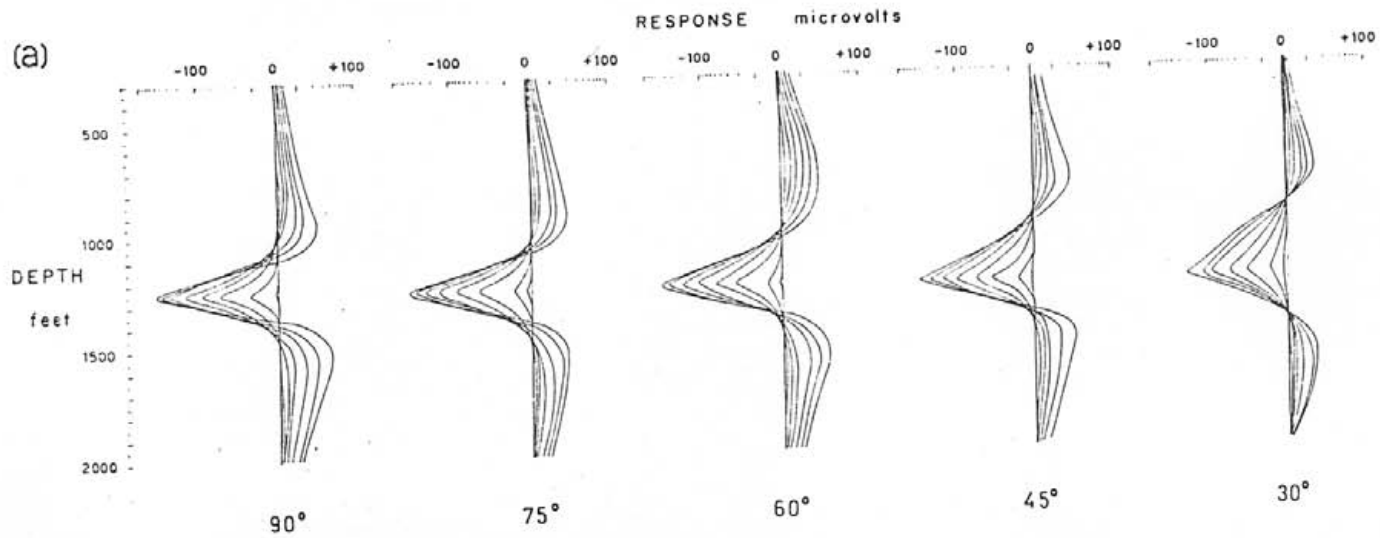
The drill hole on Grace Mountain was surveyed with the PEM using four transmitter loops placed 50 meters from the collar towards the north, south, east and west. The transmit loops were 100 meters square. All four transmit loops obtained a large positive response centered around 100 meters down the hole with the first sample. This changed to a negative response with samples 2, 3 and 4. This type of curve (see model study summary enclosed) is from the borehole intersecting the conductor approximately at right angles near the edge of the conductor. The distance from the edge in this case would be 100 meters since the conductivity thickness of the conductor is poor (4 Mhos). The conductive sheet extends for a considerable distance. It consists of weak pyrite mineralization at 100 meters down the hole. No other conductors of significance were detected in the borehole.

The surface PEM profiles on lines 1350N and 1413N indicate a conductive edge on the first sample only located at 0+60W, L1413N and 0+12W, L13+50N.

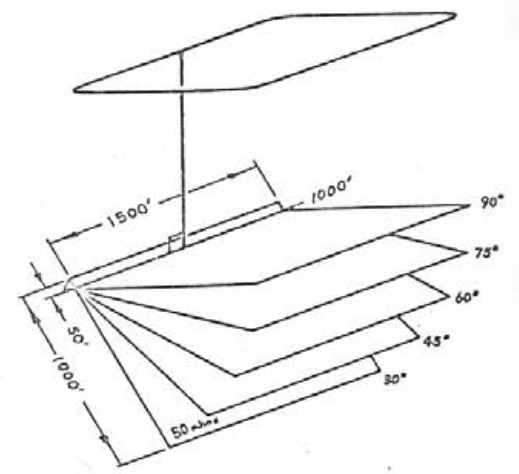
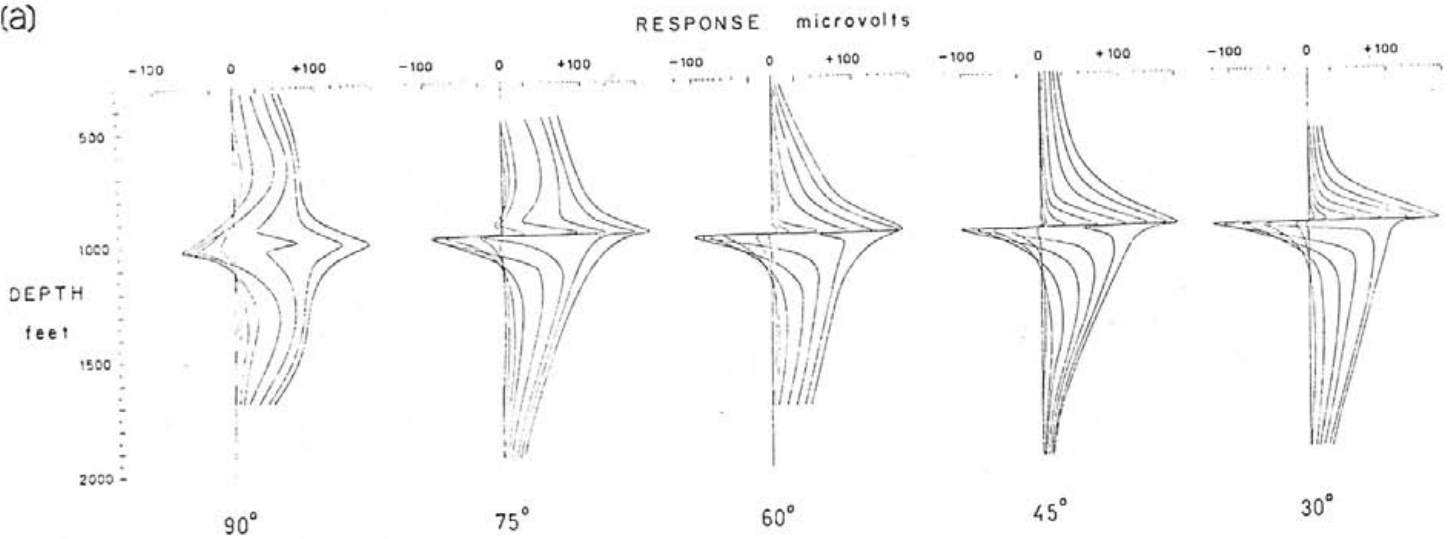
Both surface PEM and Borehole PEM would indicate that the conductive sheet intersected at 100 meters down the hole has a dip of 20° to 30° westward.

Respectfully submitted,

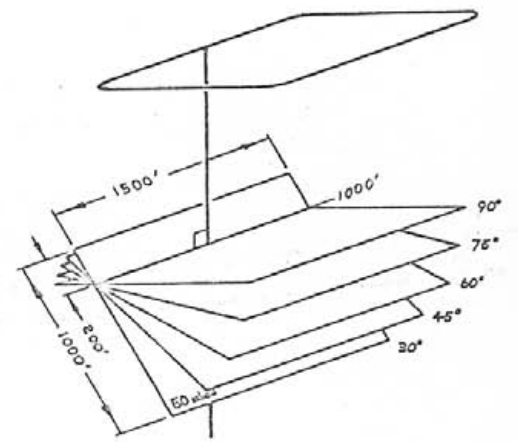
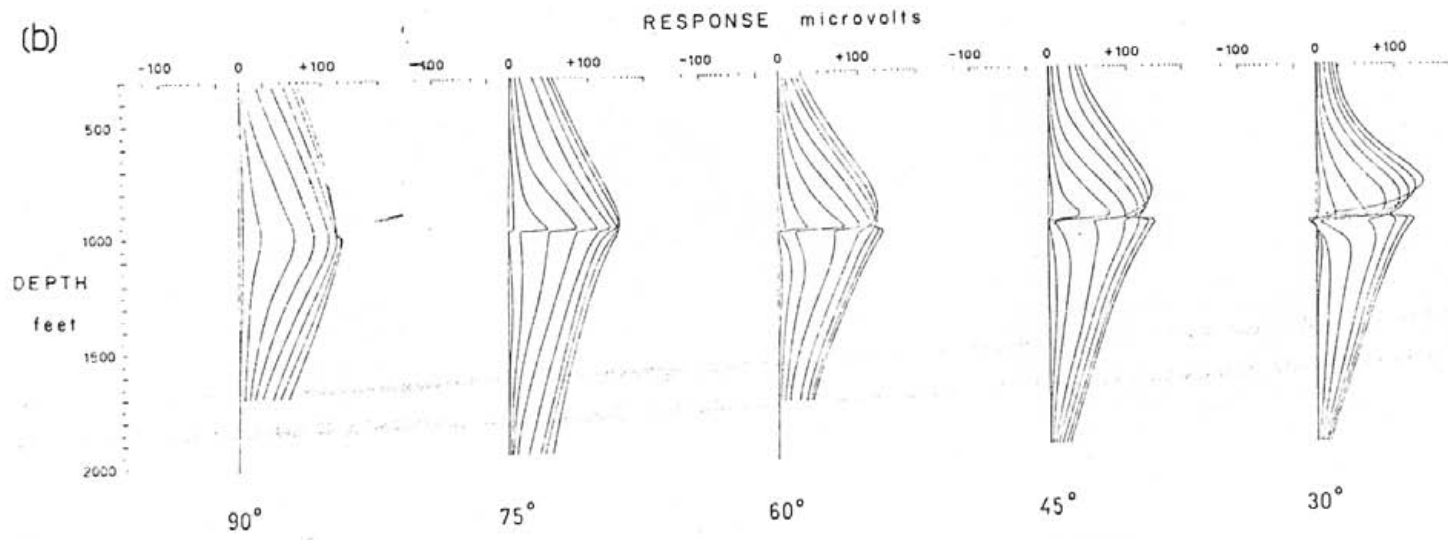
  
J. Duncan Crone, B.A., P. Eng.,  
Geophysicist.

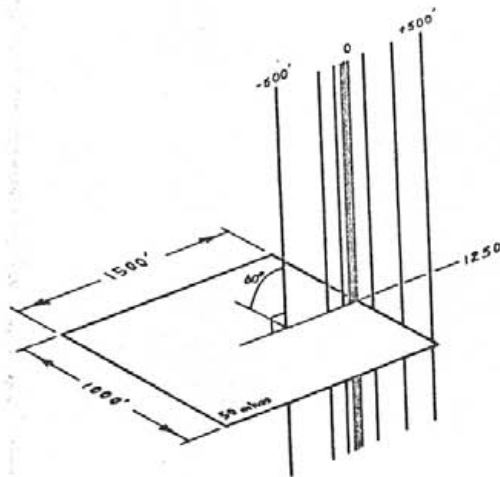
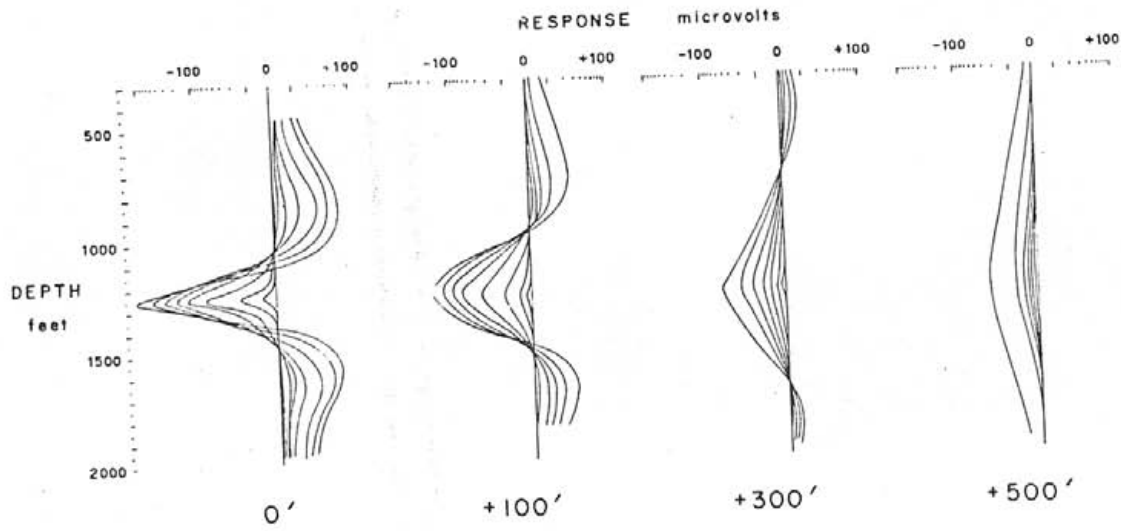
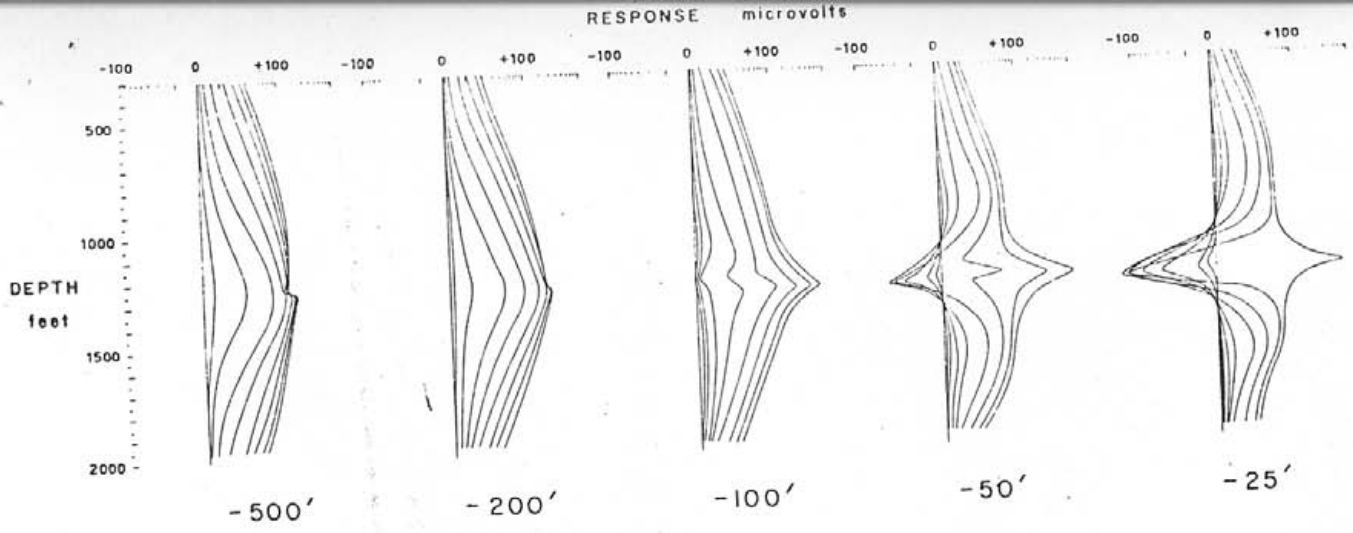


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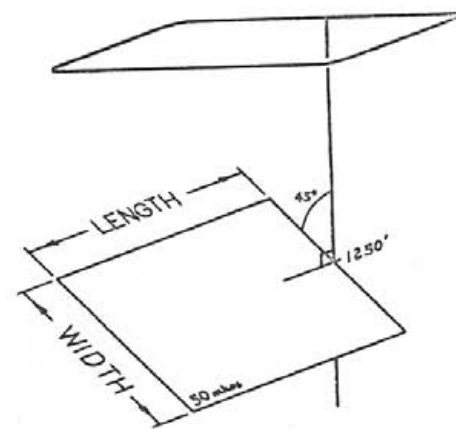
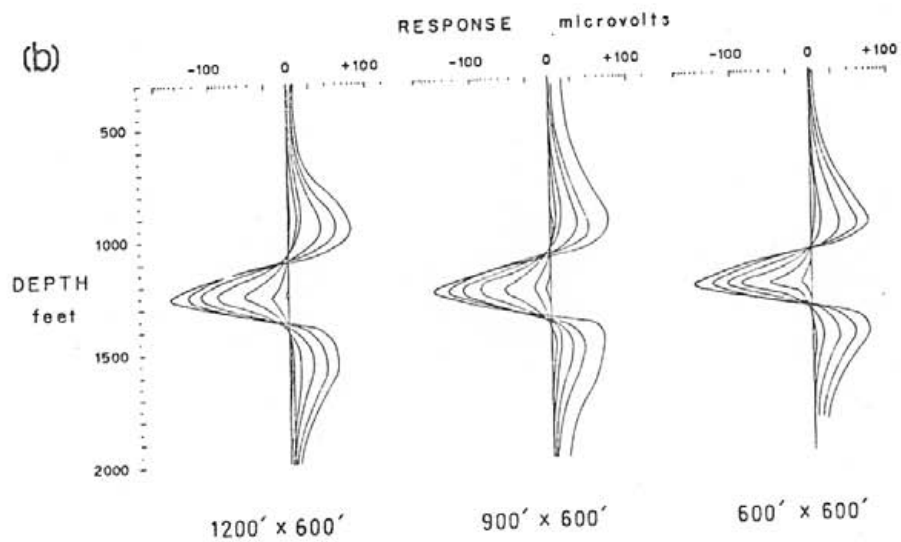
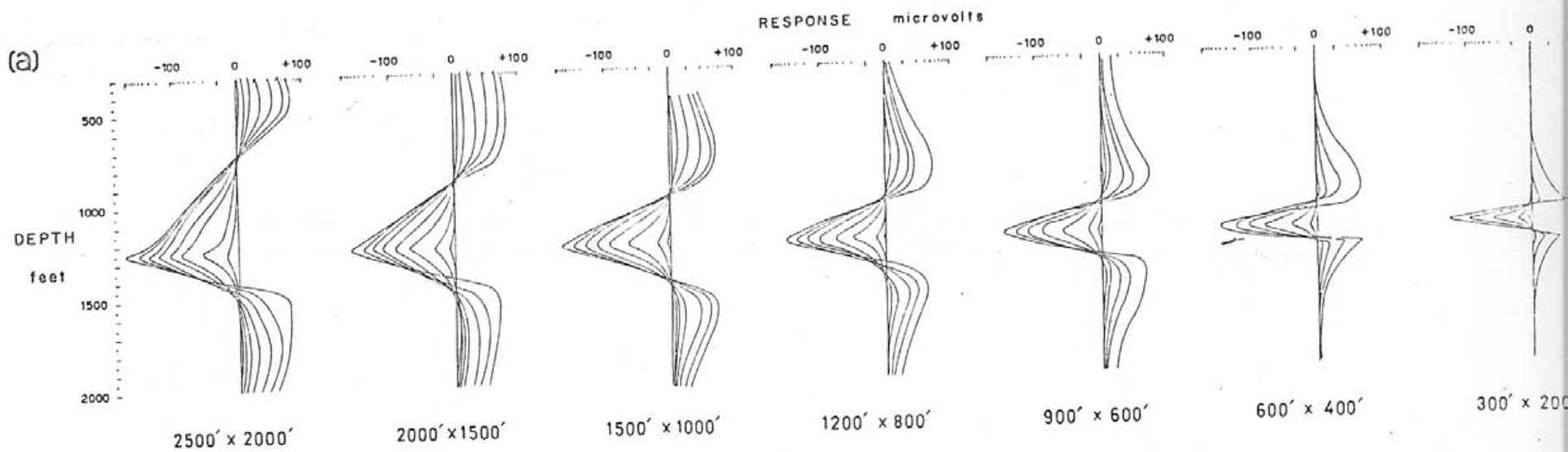


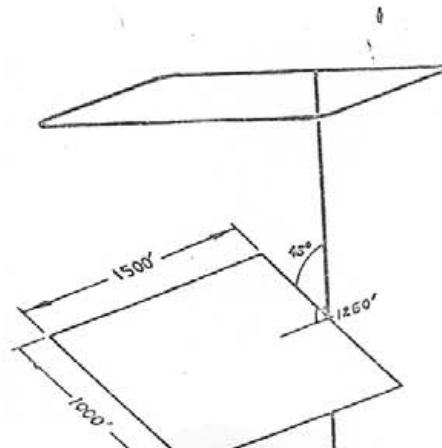
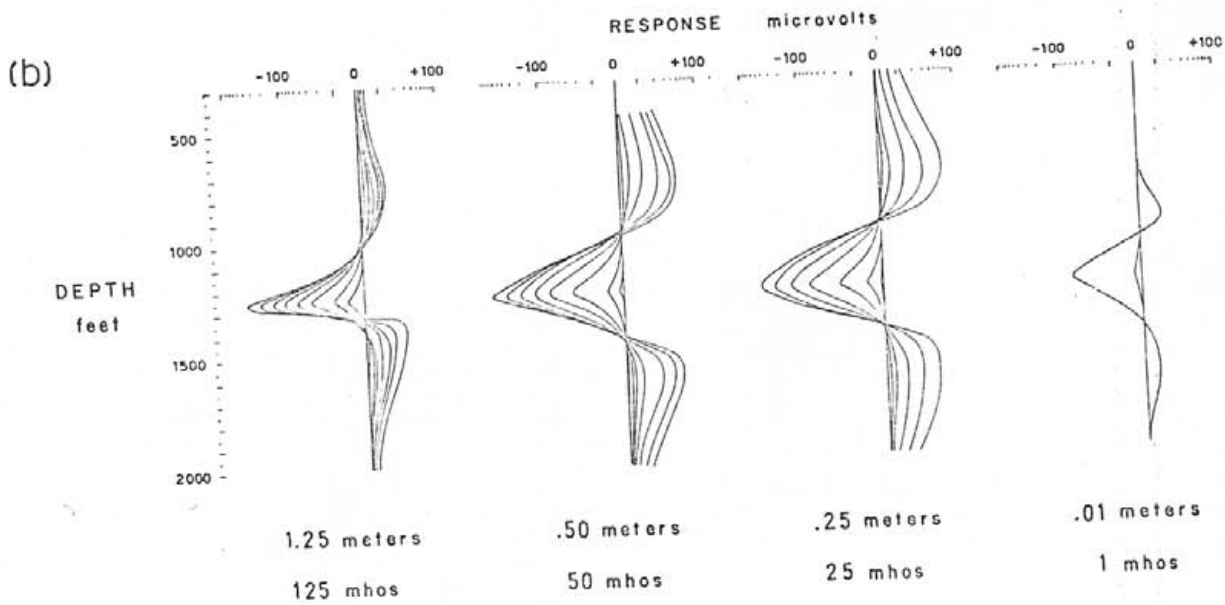
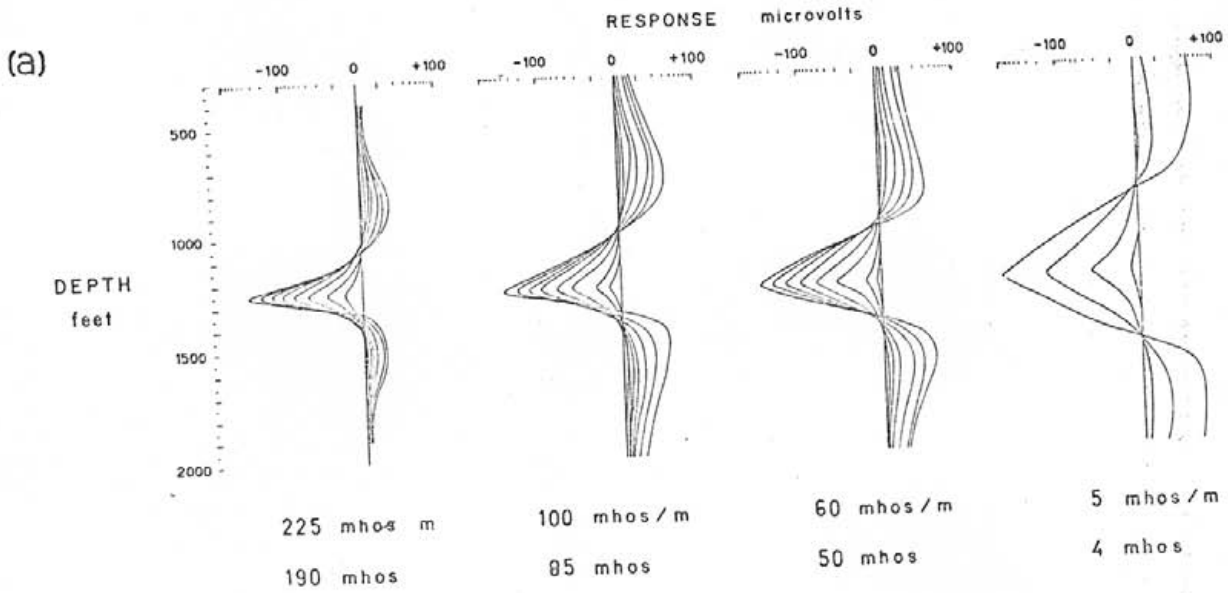
(b)











A P P E N D I X   I I

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DRILL LOGS DDH 1 & 2

METALLGESELLSCHAFT CANADA LIMITED

DIAMOND DRILL LOG

PROJECT : Shuswap Joint Venture HOLE : Cottonbelt 1  
 N.T.S. : 82 M 7 GRID : Line 1350 N  
 LOCATION : Mt. Grace CO-ORDS. : 1+75 W  
 CLAIM : T, No. 382 ELEVATION: 5,350 feet

DRILLED BY: H. Allen Diamond Drilling

CORE SIZE : BQ

START : July 7 , 1978

STOP : July 22, 1978

LENGTH : 317.15 m

LOGGED BY : J.C. Kovacic  
 F.-W. Wellmer

DEPTH	DIP	AZ
0	46°	58°
34.0 m	44.5°	-
59.0 m	44°	-
68.5 m	44°	-
99.5 m	46.5°	-
124.0 m	43.5°	-
144.0 m	46°	-
179.0 m	46°	-
200.5 m	50°	-
213.0 m	51.5°	-
235.0 m	51.5°	-
259.0 m	55°	-
279.0 m	54°	-
298.0 m	54.5°	-
317.0 m	55°	73°

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 1 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
0	3.00	overburden	
3.00	6.05	Hornblende- Biotite Gneiss	Medium-grained with occ. garnets 3-5 mm, 20 cm medium-fine-grained quartzite band with biotite starting at 3.60 m.
6.05	6.30	Biotite- quartzite	Medium-grained with biotite flakes 2-3 mm
6.30	8.75	Biotite gneiss	Fine to medium-grained with occ. hornblende and garnets (2-3 mm) $S_1 = 75^\circ - 80^\circ$
8.75	9.35	Biotite quartzite	As above (6.05 - 6.30 m)
9.35	9.90	Biotite gneiss	As above (6.30 - 8.75 m)
9.90	10.05	Biotite quartzite	As above (6.05 - 6.30 m)
10.05	12.10	Biotite gneiss	As above (6.30 - 8.75 m)
12.10	12.30	Amphibolite	Medium-grained with rare garnets
12.30	20.40	Biotite gneiss	Medium-grained with occ. hornblende and occ. quartzite bands (20 - 50 mm thick)
20.40	20.50	Biotite	Pure biotite band, fine-grained
20.50	31.95	Hornblende- biotite gneiss	Medium-grained with varying proportions of melanocratic components and quartzite bands (10 - 20 mm), occ. garnets
31.95	32.25	Biotite quartzite	As above (6.05 - 6.30 m)
32.25	34.80	Biotite gneiss	Medium-grained with quartzite bands (10 - 20 mm thick)
34.80	35.05	Pegmatite	Quartz feldspar pegmatite, coarse grained

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 2 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
35.05	39.10	Biotite gneiss	Medium-grained, quartzitic with pyrite specks at 38.40 m
39.10	40.25	Biotite hornblende gneiss	Medium-grained
40.25	42.60	Biotite gneiss	Fine-grained
42.60	44.20	Biotite hornblende gneiss	Medium-grained
44.20	46.10	Biotite gneiss	Fine-grained
46.10	48.95	Biotite gneiss	Medium-grained 10mm quartz pegmatites with muscovite at 48.60 m
48.95	49.50	Biotite gneiss	Fine-grained
49.50	55.05	Biotite hornblende gneiss	Predominantly fine-grained, top 50 cm medium-grained, core angle at 50.50 m 80°
55.05	55.85	Amphibolite gneiss	With 20% quartz
55.85	57.35	Biotite hornblende gneiss	As above (49.50-55.05)
57.35	58.50	Biotite quartzite	Fine-grained, pale green - light greyish
58.50	61.80	Biotite quartzite	Quartzitic, green quartz band at 61.05 m
61.80	63.20	Quartz feld- spar pegma- toides	Coarse grained

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 3 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
63.20	65.25	Biotite gneiss	Quartzitic, medium-grained
65.25	66.75	Biotite-muscovite gneiss	Medium-grained
66.75	67.50	Quartzite	Medium-grained with biotite, greyish
67.50	68.50	Biotite gneiss	Quartzitic medium-grained
68.50	70.45	Biotite gneiss	Medium-grained
70.45	73.20	Biotite gneiss	Fine-grained, quartzitic
73.20	76.35	Biotite gneiss	Medium-grained with occ. bands of quartzitic biotite gneiss
76.35	77.40	Quartz-feldspar pegmatoids	Coarse grained, with muscovite
77.40	78.25	Biotite gneiss	Fine-grained, quartzitic
78.25	78.90	Biotite gneiss	Quartzite, medium-grained
78.90	86.25	Biotite-muscovite gneiss	Coarse grained
86.25	86.55	Biotite gneiss	Fine grained, quartzitic
86.55	87.40	Biotite-muscovite gneiss	As above (78.90 - 86.25)
87.40	87.90	Biotite gneiss	As above (86.25 - 86.55)

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 4 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
87.90	92.00	Biotite-muscovite gneiss	As above (78.90 - 86.25) quartz-feldspar pegmatite at 90.30
92.00	95.40	Biotite gneiss	Quartzite, fine-grained with garnets up to 15 mm, increasingly quartzitic to bottom
95.40	96.45	Biotite quartzite	Fine-grained
96.45	96.90	Biotite gneiss	Medium-grained, quartzitic with garnets
96.90	100.80	Biotite gneiss/ biotite quartzite	Fine-grained, quartzitic biotite gneiss at top grading into biotite quartzite at bottom
100.80	103.15	Biotite-feldspar gneiss	Coarse grained, quartzitic
103.15	103.40	Quartzite	Fine-grained, biotite rich
103.40	105.25	Biotite quartzite	Medium-grained, banded, greenish, carbonate bands at bottom diss. pyrite at 104.25 and 104.75
105.25	111.65	Carbonate gneiss	Banded, irregular alternating patterns (20-10 cm) of biotite feldspar gneiss medium-grained with garnet blasts up to 15 mm, whitish medium-grained and fine-grained quartzite and greenish carbonates
111.65	114.55	Marble	Medium-grained crystalline, glassy-grey fine banding (5-10 mm) with biotite, muscovite, phlogopite
114.55	116.75	Biotite gneiss	Banded, calcareous



## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 5 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
116.75	120.90	Marble	Medium-grained, crystalline, greenish-grey with biotite rich bands , occ. garnets in biotite rich bands with quartz, at 117.60 , 119.50 and 120.75 diss. pyrite
120.90	121.20	Calc-silicates	Banded with large garnets and biotite
121.20	121.80	Marble	Medium-grained with phlogopite
121.80	125.45	Marble	Medium-grained white-greyish with biotite aggregates (3-5 mm). Biotite has no orientation ("diorite marble") (acc. to Government geologists carbonatite) at 124.40 m diss. pyrite
125.45	126.40	Calc-silicate	Finely laminated rich in garnets (5-8 mm) sericite, biotite and needle-shaped hornblende
126.40	127.05	Quartzite	Finely banded, grey greenish
127.05	128.00	Calc-silicate	Banded, alternating with fine-grained quartzite
128.00	138.05	Quartzite	Finely laminated, fine-grained, whitish-greyish-greenish, with garnets and occ. bands of calcsilicates
138.05	139.85	Calc-silicates	In part rich in hornblende, almost amphibolitic, occ. small garnets
139.85	144.20	Marble	Coarse crystalline, white, slightly banded, with little phlogopite at the contacts
144.20	145.75	Quartzite	25 cm biotite, quartzite zone at top and bottom and white quartz pegmatoids in centre
145.75	150.00	Marble	Essentially marble, medium-grained, greenish with bands of biotite, quartz and calc-silicates (10-20 mm) quartz pegmatoid zone at 150.00 m

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 6 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
150.00	167.65	Carbonate-biotite gneiss	Medium-grained, from 162.30 to 162.50 m quartzite band, core angle at 150.00 m and 165 m 79°
167.65	168.15	Quartzite/ Marble	Interlayered laminated quartzite with garnets and medium-grained marble
168.15	170.00	Quartzite	Laminated, greenish with occ. garnets up to 15-20 mm
170.00	177.80	Quartzite	Garnetiferous, laminated, greyish garnets (5-8 mm)
177.80	179.40	Feldspar biotite gneiss	Coarse grained, quartzitic
179.40	187.80	Quartzite	Laminated, garnetiferous; garnet free zones from 180.75 to 181.60 and 186.70 to 187.80 marble bands at 179.75 and 181.60 coarse grained quartz pegmatoids at 182.15 and 185.70
187.80	187.85	Sulfide	lost as core, only as much as in broken bit, pyrite, chalcopyrite, sphalerite (4.85% Cu, 0.04% Pb, 3.40% Zn, 0.49 oz/to Ag)
187.85	194.05	Amphibolite	Essentially banded amphibolite, alternating with thin (3-5 cm) laminated quartzite bands and feldspar bands, occ. garnet blasts (10-15 mm). The unit has general appearance of amphibole-biotite-gneiss, diss. very fine-grained sulfide mostly in hairline fractures in hornblende-quartz-bands
194.05	197.00	Quartzite	Fine-grained, laminated with biotite rich zones, occ. garnets (1-2 mm), some epidote at 195.00 and 193.35 1-2 cm quartz pegmatoides core angle at 194.05 70°
197.00	199.10	Biotite gneiss	Quartzitic with feldspar blasts (~5%) elongated "flaser texture" Rhythmic zonation (0.5-3 cm) of feldspar rich and biotite rich zones; occ. garnets From 199.00 to 199.10 quartz pegmatoides zone

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 7 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
199.10	204.75	Quartzite	Fine-grained, laminated, biotite rich with garnets (1-5 mm), grades locally into quartzitic biotite gneiss with feldspar blasts, some amphibolite layers (1-3 cm), core angle at 200.70 m 78°, at 203.80 diss. pyrite
204.75	205.80	Biotite gneiss	With muscovite and feldspar blasts (1 mm), locally abundant mica (soft consistency)
205.80	211.40	Quartzite	As above (199.10 - 204.75) , core angle at 207.80 m 76°
211.40	217.20	Biotite, feldspar-gneiss	Quartzitic, feldspar blasts (1 mm), some leucoxen , few hornblende (1-5 mm) hornblende layers, locally pyrite, pyrrhotite diss. and on fractures , core angle at 215.5 m 82°
217.20	221.50	Quartzite	Laminated, biotite rich, inhomogeneous, more leucocratic, more melanocratic zones changing frequently ; garnet blasts up to 10 mm; irregular zones with feldspar blasts (1-3 mm) elongated, from 218.70 to 218.82 biotite gneiss with garnets.
221.50	222.30	Biotite-muscovite gneiss	With feldspar blasts (1 mm)
222.30	232.50	Quartzite/biotite-muscovite gneiss	Interlayered zones (5 to 80 cm) of a) quartzite, laminated with garnets b) biotite-muscovite-gneiss with feldspar blasts elongated (1 mm) in quartzite occ. hornblende layers with big garnets (10 mm) from 226.60 to 226.71 quartz pegmatoides
232.50	234.20	Biotite-muscovite gneiss	Predominantly mica (soft consistency), some zones (5-10 cm) feldspar-quartz rich, muscovite 2-10 mm, bluish tint
234.20	235.70	Biotite gneiss	Inhomogeneous unit of 3-10 cm zones of a) biotite-muscovite gneiss with garnets as above (232.50 to 234.20 m) b) biotite gneiss, quartzitic

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 8 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
			c) amphibolite with garnets up to 10 mm d) biotite rich quartzite
235.70	238.60	Amphibolite	With 5-30% leucocratic minerals and 0-15% garnets up to 10 mm, from 236.10 to 236.40 biotite-muscovite gneiss and biotitic quartzite, core angle at 237.25 79°
238.60	239.30	Biotite gneiss	Medium-grained, locally coarse grained, garnet rich (~15%)
239.30	240.60	Biotite gneiss	Coarse grained, with garnets, upper part muscovite rich; from 240.10 to 240.30 biotite-feldspar pegmatite
240.60	241.15	Amphibolite up to 10 mm	Coarse grained with garnets and 5-10% leucocratic minerals; unit has at top and bottom fine-grained biotite gneiss zone with garnets (meta sill?)
241.15	244.60	Biotite gneiss	Coarse grained, locally muscovite rich, feldspar blasts (3 mm) and quartz rich; from 242.80 to 243.05 biotite (chlorite)-quartzite with 3 cm quartz pegmatite in centre
244.60	246.60	Quartzite	Laminated, medium grained, generally biotite rich, locally garnet blasts (3 mm), some hornblende blasts (up to 10 mm) connected with recrystallized quartz zones; core angle at 244.65 79°
246.60	253.65	Biotite-muscovite gneiss	Coarse grained, muscovite irregularly distributed, locally garnet blasts (5 mm), feldspar and quartz blast layers (0.3-1 cm) throughout, some recrystallized quartz layers (1-3 cm); texture generally flaser like
253.65	254.85	Quartzite	Laminated, biotite rich local concentrations of garnet, some zones (1-2 cm) chloritic or amphibolitic or with feldspar blasts, elongated (5 mm); core angle at 253.80 m 78°
254.85	259.00	Biotite-muscovite gneiss	As above (246.60 to 253.65 m)

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

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METER

FROM	TO	ROCK TYPE	DESCRIPTION
259.00	260.15	Garnet-amphibolite	Massive rock, no foliation, fractures filled with chlorite, upper contact zone biotite rich, lower contact zone coarse grained quartz with biotite
260.15	267.55	Biotite muscovite gneiss	As above (246.60 to 253.65) ; from 263.40 to 264.65, 263.80 to 263.90, and 264.80 to 265.25 biotitic quartzite, laminated
267.55	268.00	Pegmatite	Zoned with quartz, biotite, garnet, hornblende and muscovite
268.00	273.85	Biotite-muscovite gneiss	As above (246.60 to 253.65); from 271.00 to 271.50 abundant coarse quartz "knauern"; from 272.50 to 272.70 quartzite with garnet and biotite; core angle at 271.20 m 80°
273.85	274.20	Quartz pegmatoides	With biotite layers, pyrite on fractures
274.20	282.90	Biotite muscovite gneiss	As above (246.60 to 253.65); from 278.65 to 278.80 discordant zone of chloritic alteration with diss. pyrite, from 278.80 to 279.00 two zones of quartz pegmatoides, at 274.50 dragfolding; core angle at 283.10 78°
282.90	286.75	Biotite	Alternating zones (5-20 cm) of a) biotite-muscovite gneiss as above (246.60 to 253.65) b) biotite gneiss, medium-grained, quartzite with garnets (1-3 mm) from 285.70 to 285.84 quartz pegmatoides traces of pyrite throughout
286.75	287.10	Quartz pegmatoides	With biotite, garnets, some chlorite

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 10 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
287.10	287.60	Biotite gneiss	Inhomogeneous, some coarse, some medium-grained; loc. quartz and feldspar rich, or hornblende rich, garnet blasts
287.60	288.35	Quartzite	Laminated with biotite and garnet, traces of pyrite and chalcopyrite; core angle at 288.00 77°
288.35	288.90	Biotite muscovite gneiss	As above (246.60 to 253.65)
288.90	289.95	Quartzite	Laminated with biotite and garnet blasts traces of pyrite and chalcopyrite
289.95	291.05	Biotite-muscovite gneiss	As above (246.60 to 253.65)
291.05	291.60	Quartzite	Laminated with biotite and some garnet top 2 cm recrystallized; from 291.40 to 291.45 coarse grained hornblende with quartz
291.60	292.10	Biotite-feldspar gneiss	Coarse grained, quartzitic
292.10	298.30	Biotite quartzite	Laminated, medium-grained, locally garnets 5 - 40 cm zone of dark and light grey quartzite; various bands (0.3-5 cm) of quartz pegmatoides, traces of pyrite, pyrrhotite, chalcopyrite, diss. and in fractures throughout; from 297.00 to 297.60 zones with chlorite and hornblende; core angle at 296.80 72°
298.30	300.90	Biotite muscovite gneiss	As above (246.60 to 253.65)

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 1

SHEET 11 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
300.90	304.10	Biotite gneiss/ biotite quartzite	Alternating zones (0.5 - 30 cm) of a) biotite-muscovite gneiss as above (246.60 to 253.65) b) biotite quartzite, medium-grained, laminated with garnets locally layers and lenses of mobilized quartz (0.3 - 2 cm); ratio of biotite-muscovite gneiss: biotite quartzite = 3:5; locally traces of pyrite, mainly in quartzite; at 301.60 dragfold; core angle at 303.75 78°
304.10	306.20	Biotite-muscovite gneiss	As above (246.60 to 253.65)
304.20	309.65	Biotite gneiss/biotite quartzite	As above (300.90 to 304.10), ratio 1:1; dragfold at 307.60 and 307.95
309.65	310.50	Biotite gneiss to biotite quartzite	Upper part biotite gneiss, quartzitic, grades into biotite quartzite, medium-grained with garnets and hornblende
310.50	316.60	Biotite-muscovite gneiss	As above (246.60 to 253.65); locally quartzite textures (5-10 cm); zones of recrystallized quartz throughout; intensive dragfolding throughout (1-5 cm); some "gleitbrett" textures
316.60	317.15	Biotite quartzite/biotite gneiss	Biotited quartzite, laminated, medium-grained (2 - 5 cm) interlayered with biotite gneiss coarse grained (2 - 3 cm) and mobilized quartz layers (1 - 3 cm).
			End of hole 317.15





## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

SHEET 1 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
0	4.05	Hornblende-biotite gneiss	Medium-grained. The bottom 25 cm grade into coarse grained gneiss, melanocratic minerals > 50%. Locally garnet blasts ( 2 mm average, 5 mm max.), some 2-5 cm amphibolite layers, some 1-2 cm mobilized quartz zones; core angle at 2 m 66°
4.05	4.40	Quartzite	Laminated, light-grey, medium-grained with biotite (~10%)
4.40	4.70	Biotite-hornblende gneiss	Coarse grained melanocratic minerals 40%, some garnets.
4.70	5.00	Amphibolite	Medium-grained to coarse grained, biotite rich
5.00	6.70	Biotite-hornblende gneiss	Coarse grained at top, grades into medium-grained at bottom, ~40% melanocratic minerals with garnets; at 6.30 m 4 cm biotite rich zone, medium-grained, at 6.60 m 4 cm mobilized quartz zone.
6.70	7.30	Quartzite	As above (4.05 - 4.40 m) with amphibolite zone in centre from 6.00 - 6.13 m.
7.30	7.70	Biotite-hornblende gneiss	Medium-grained with garnets, melanocratic minerals (10 to 60%) inhomogeneously distributed.
7.70	7.90	Biotite garnet amphibolite	Medium-grained
7.90	9.80	Biotite gneiss	With garnets and hornblende, melanocratic minerals, inhomogeneously distributed (10 to 70%), generally medium-grained, some coarse grained zones. From 9.0 to 9.40 m coarse grained zone with brown biotite instead of black biotite. From 8.40 to 8.47 m laminated quartzite zone; core angle at 9.30 m 72.5°

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

SHEET 2 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
9.80	10.50	Quartzite	Laminated, medium-grained, locally re-crystallized . From 10.00 to 10.09 m amphibolitic layer. From 10.20 to 10.26 biotite hornblende gneiss layer
10.50	19.75	Biotite gneiss	Predominantly biotite gneiss medium-grained with ~30% melanocratic minerals, local bands with variations of 10 to 80% melanocratic minerals and garnet blasts (2-4 mm), locally coarse grained, locally laminated quartzite bands (2-5 cm), amphibolite bands (1-10 cm) and mobilized quartz zones (1-3 cm). From 11.1 to 11.25 m laminated quartzite zone with coarse grained mobilized quartz and chlorite at top; at 11.1 m dragfold indicating overturned limb, axes $\approx 160^\circ$ plunge uncertain; core angle at 16 m $68.5^\circ$ .
19.75	27.85	Hornblende biotite gneiss	Predominantly hornblende biotite gneiss medium-grained locally coarse grained with on the average 30% melanocratic minerals with local variations in bands from 10-80%, locally garnet blasts (2-4 mm), locally laminated quartzite bands (2-5 cm), amphibolite bands (1-5 cm) and mobilized quartzite zones (1-4 cm); in local patches chlorite and epidote; core angle at 23.35 m $75^\circ$ .
27.85	29.05	Biotite gneiss	Medium-grained as above (10.50 to 19.75 m)
29.05	31.65	Hornblende biotite gneiss	Medium-grained as above (19.75 to 27.85 m); core angle at 30.40 m $73^\circ$
31.65	33.20	Quartzite	Laminated, medium-grained with 5-15% biotite, interlayered with 1-10 cm zones of biotite, gneiss, medium-grained and 1-3 cm amphibolite, coarse grained, with garnet blasts (1 mm to max. 10 mm)

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

SHEET 3 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
33.20	34.15	Hornblende-biotite gneiss	Medium-grained as above (19.75 to 27.85 m)
34.15	34.85	Quartzite	Laminated, medium-grained with 5-10% biotite locally garnets 1-2 mm. At 34.20 m 6 cm medium-grained biotite-hornblende-gneiss; at 34.5 m 3 cm mobilized quartz with coarse grained biotite.
34.85	38.00	Biotite gneiss	As above (10.50 to 19.75 m). From 36.20 to 36.30 biotite fels zone, from 36.20 to 36.50 laminated quartzite; core angle at 37.40 75°
38.00	38.20	Quartz pegmatoid	Coarse grained with biotite and hornblende, pyrite diss. and on fractures
38.20	43.35	Hornblende-biotite gneiss	As above (19.75 to 27.85 m)
43.35	47.05	Biotite gneiss	As above (10.50 to 19.75 m), however biotite has distinct brownish tint against the usual black biotite; quartzite bands increase in frequency to depth; core angle at 45 m 76°
47.05	58.05	Hornblende-biotite gneiss	As above (19.75 to 27.85 m). From 52.10 to 52.15 m mobilized quartz zone with chlorite and coarse grained hornblende; core angle at 51.40 m 73°.
58.05	58.20	Quartz-feldspar pegmatoid	Coarse grained
58.20	59.00	Hornblende-biotite-gneiss	As above (19.75 to 27.85 m) core angle at 59.00 m 81.5°

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

SHEET 4 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
59.00	61.35	Biotite gneiss	As above (10.50 to 19.75 m). From 59.90 to 60.10 m and from 60.50 to 60.62 m laminated medium-grained quartzite, from 60.90 to 60.95 m medium-grained amphibolite
61.35	62.75	Quartzite	Laminated (1-3 mm), medium grey, light grey with biotite, locally chlorite, hornblende, epidote, some biotite gneiss zones (0.5-3 cm)
62.75	63.95	Quartzite	Diffusely banded (3-5 mm) greenish grey, medium grained with feldspar and some garnet (1 mm), layers and lenses of brown biotite, irregularly distributed (~15% of total)
63.95	65.20	Biotite gneiss	Fine grained to medium grained with 3 (1-3 cm) coarse grained amphibolite bands
65.20	65.85	Pegmatoide/ gneiss	Mixed zone of 2-15 cm layers of quartz feldspar pegmatoide, coarse grained biotite-quartzite, medium grained, and biotite gneiss fine grained to medium grained with hornblende and garnet blasts.
65.85	66.95	Biotite-muscovite gneiss	Medium grained with feldspar blasts (5-10%) elongated, "flaser texture"; core angle at 66.65 m 79°
66.95	67.15	Biotite-muscovite gneiss	Medium-grained as above (65.85 to 66.95 m) but with no feldspar blasts
67.15	67.45	Pegmatoide/ biotite Me gneiss	Interlayered 2-10 cm quartz-feldspar-pegmatoide, coarse grained and 2-10 cm biotite-muscovite gneisses medium-grained.
67.45	68.80	Biotite-muscovite gneiss	Medium-grained without feldspar blasts, few (1-3 cm) zones of quartz feldspar pegmatoides
68.80	71.75	Biotite-muscovite gneiss	Medium-grained with feldspar blasts as above (66.85 to 66.95 m)

## METALLGESELLSCHAFT CANADA LIMITED

## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

SHEET 5 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
71.75	72.95	Biotite-muscovite gneiss	Medium-grained without feldspar blasts as above (67.45 to 68.80 m)
72.95	73.60	Biotite gneiss	Medium-grained, inhomogeneous upper 25 cm and lower 5 cm; biotite brownish tint; central 35 cm biotite black with locally muscovite and feldspar blasts
73.60	80.60	Biotite gneiss/ biotite quartzite/ biotite muscovite gneiss	Alternating zones (5-20 cm) of a) quartzitic biotite gneiss medium grained b) biotite-muscovite gneiss with elongated feldspar blasts ("flaser texture"), coarse grained c) biotite-quartzite, medium grained, laminated, garnet blasts throughout. Locally zones (1-5 cm) of quartz pegmatoides and (1-5 cm) of amphibolite, coarse grained. Core angle at 73.65 m 79°.
80.60	82.40	Muscovite-biotite gneiss	Coarse grained, some feldspar blasts (1-2mm) and garnet blasts (1-2mm). From 80.70 to 80.74 m quartz pegmatoides from 81.00 to 81.25 zone of banded biotite quartzite, medium-grained and with quartz feldspar pegmatoides, coarse grained
82.40	83.25	Biotite gneiss	Fine to medium grained, quartzitic, frequent variations in biotite content grades locally into laminated biotite quartzite, locally garnet, hornblende, epidote
83.25	83.85	Biotite-muscovite gneiss	Medium grained with feldspar blasts as above 65.85 to 66.95
83.85	84.85	Biotite gneiss	Fine to medium grained, locally 0.5 - 1cm hornblende rich bands From 84.40 to 84.46 coarse grained amphibolite from 84.70 to 84.75 muscovite blasts up to 5 mm

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## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

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METER

FROM	TO	ROCK TYPE	DESCRIPTION
84.85	88.25	(Muscovite) -biotite- gneiss	Alternating zones (10 - 40 cm) of muscovite-biotite gneiss with feldspar blasts medium to coarse grained and biotite gneiss without feldspar blasts and only occ. muscovite, medium-grained, occ. fine grained, locally garnets (1-2 mm)
88.25	88.65	Amphibolite	Coarse grained with amphibolite blasts (1-2 mm) in clusters (1-3 cm)
88.65	90.20	Muscovite-biotite gneiss	Coarse grained as above (80.60 to 82.40 m) core angles at 89.20 m 75°
90.20	90.80	Biotite gneiss	Medium-grained, some coarse grained quartz-feldspar layers (0.2-0.5 cm) and garnet blasts (1-2 mm) at top 6 cm of coarse grained hornblende and quartz with ~1-2% pyrite and chalcopyrite
90.80	91.45	Muscovite biotite gneiss	Coarse grained as above (80.60 to 82.40 m) locally some epidote
91.45	93.45	Biotite gneiss	Fine to medium grained, locally quartzitic with zones (3-20 cm) of muscovite-biotite gneiss with feldspar blasts, garnets (1-2 mm) throughout
93.45	93.80	Amphibolite/ quartzite	Upper part amphibolite, coarse grained with tourmaline (5mm) and pyrrhotite lower part quartzitic biotite gneiss medium grained with quartz mobilizations
93.80	94.25	Amphibolite	Coarse grained with biotite and tourmaline (1.5 cm), traces of pyrite
94.25	96.80	Muscovite-biotite-gneiss	Coarse grained as above (80.60-82.40 m) core angle at 96.80 79°
96.80	99.35	Biotite gneiss	Medium grained, quartzitic with garnet blasts (1-3 mm), interlayered with amphibolite (1-10 cm), coarse grained, locally

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## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

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METER

FROM	TO	ROCK TYPE	DESCRIPTION
			mobilized quartz bands (0.3-2 cm) increasing towards bottom ; at 97.9 and 98.8 m drag-folds (?) indicating overturned limb .
99.35	101.05	Quartzite	Laminated, medium-grained, generally clean (1-2% biotite and muscovite), from 100.00 to 100.08 m quartzitic biotite gneiss, medium-grained
105.05	101.60	Muscovite-biotite gneiss	Medium-grained with feldspar blasts (1-2 mm) elongated ("flaser texture") and garnet blasts
101.60	102.50	Biotite-quartzite	Laminated, medium-grained, locally biotite rich zones (1-3 mm) with garnets, traces of pyrite and pyrrhotite
102.50	103.25	Marble	Quartzitic, banded, medium-grained with hornblende (15%), biotite and phlogopite (3%), traces of pyrite, po, cp throughout, at 103.10 0.3 mm layers of pyrite and pyrrhotite
103.25	104.00	Quartzite	Laminated, medium-grained with rusty diffuse halos core angle at 103.80 74°
104.00	104.50	Biotite gneiss	Medium-grained, inhomogeneous, partly biotite muscovite gneiss with elongated feldspar blasts, partly quartzitic biotite gneiss with mobilized quartz zones
104.50	105.00	Quartzite	Laminated medium-grained, grades into quartzitic biotite gneiss at top and bottom
105.00	106.95	Muscovite-biotite-gneiss	Coarse-grained as above (80.60 to 82.40 m)
106.95	115.35	Carbonate gneiss	Banded (1-3 cm bands) irregularly distributed zones (2 - 30 cm) of a) greenish carbonate zones, medium-grained b) muscovite-biotite-gneiss (medium to

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DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

SHEET 8 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
			coarse grained) c) biotite gneiss medium grained with garnet blasts up to 15 mm d) biotite quartzite medium-grained and quartzite pegmatoides coarse grained local zones (1 to 5 cm) with 1 to 5% pyrite, pyrrhotite Core angle at 111.10 m 78°
115.35	118.25	Marble	Medium-grained, glassy-crystalline, banded (3-10 mm) with biotite, muscovite, phlogopite; core angle at 117.20 83°
118.25	122.00	Carbonate gneiss	As above (106.95 to 115.35 m), at 118.70 3 cm fault gouge with pyrite from 119.00 to 119.10 m quartz pegmatoides with 0.5 x 5 cm pyrite lens
122.00	122.60	Marble	As above (115.35 to 118.25 m)
122.60	125.20	Carbonate gneiss	As above (106.95 to 115.35 m)
125.20	126.05	Marble	Medium-grained with biotite and phlogopite, upper and lower part banded, in lower part 23 cm biotite gneiss layers, central part massive
126.05	128.85	Marble	Biotite rich without preferred orientation "diorite marble" from 126.40 with fragments (fine grained biotite-quartz-gneiss), occ. lumps of biotite aggregates up to 15-20 mm; (interpreted by Government geologists as carbonatite), at 126.80 diss. pyrite.
128.85	129.55	Biotite gneiss	Garnet blasts up to 8-10 mm and calc-silicate layers
129.55	130.65	Quartzite	Banded with fine-grained biotite
130.65	132.50	Quartzite	Medium-grained, white-greyish, laminated, core angle 87 - 90°



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## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

SHEET 9 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
132.50	133.20	Chlorite- biotite- hornblende- gneiss	About 40-45% chlorite and hornblende, large garnets
133.20	133.35	Amphibolite	With microtectonic deformations
133.25	133.90	Hornblende- biotite gneiss	Medium-grained
133.90	135.30	Hornblende- biotite- quartzite	Banded, 50% quartz zones 50% hornblende-biotite zones
135.30	138.20	Quartzite	Banded, grey-greenish, with biotite and sporadic hornblende
138.20	139.20	Hornblende- chlorite/ biotite gneiss	Interlayered hornblende chlorite gneiss (80%) with biotite gneiss (20%)
139.20	140.00	Marble	Coarse, crystalline, clean, white, occ. banded
140.00	144.70	Marble	Coarse-grained, banded, whitish-grey
144.70	165.40	Carbonate- biotite- gneiss	Medium-grained; from 147.50 to 148.00 fractured and rusty at 156.30 greenish carbonate band from 160.25 to 160.60 greenish carbonate band with garnets
165.40	166.70	(ORE horizon equivalent)	Calcsilicates, medium-grained, with garnet blasts and biotite gneiss zones, inter- layered with 10 cm marble medium grained, some pyrite and galena in upper 6 cm. - ore horizon -
166.70	168.45	Biotite- quartzite	Laminated, medium-grained, grey, from 167 to 168.45 m with occ. garnets (5-10 mm)

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## DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

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METER

FROM	TO	ROCK TYPE	DESCRIPTION
168.45	170.15	Calcsili- cate gneiss	With garnets (3-8 mm) from 168.80 to 169.00 quartz pegmatoide with garnet rims (10-15 mm)
170.15	170.50	Biotite quartzite	Medium-grained with garnets
170.50	176.00	Biotite- gneiss	Fine-grained, occ. bands of quartzite, occ. garnets
176.00	177.50	Feldspar- biotite gneiss	Coarse-grained
177.50	178.70	Feldspar- biotite- gneiss	Medium-grained, with garnets and muscovite
178.70	180.10	Feldspar- biotite- gneiss	Medium-grained with muscovite, decreasing content of garnet, and quartzite bands
180.10	180.30	Marble	Chloritic, medium-grained
180.30	181.90	Biotite- chlorite- gneiss	Quartzitic with garnets (3-5 mm), banded with calcsilicate gneiss bands
181.90	187.15	Biotite- quartzite	Banded with occ. garnets, from 186 to 187.15 m rich in calcsilicates at 186.00 quartz pegmatoide zone core angle at 184.00 88°
187.15	187.50	Quartzite	White, medium-grained
187.50	187.90	Biotite- quartzite	Banded with chlorite-hornblende-biotite bands
187.90	188.80	Biotite- muscovite gneiss	Fine-grained, quartzitic
188.80	190.35	Biotite- quartzite	Banded, fine-grained

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DIAMOND DRILL LOG

HOLE NO. COTTONBELT 2

SHEET 11 of 11

METER

FROM	TO	ROCK TYPE	DESCRIPTION
190.35	191.45	Feldspar-biotite-garnet gneiss	Medium-grained, quartzitic
191.45	192.00	Biotite quartzite	Medium-grained
192.00	192.90	Feldspar-biotite - garnet gneiss	Medium-grained, quartzitic
192.90	196.30	Biotite quartzite	Fine-grained with occ. garnets (2-3 mm)
196.30	201.80	Biotite quartzite	garnet rich from 198.15 to 198.50 feldspar-biotite-gneiss from 199.70 to 199.80 hornblende-biotite, chlorite-garnet band
201.80	203.65	Feldspar-biotite gneiss	Quartzitic with garnets (2-3 mm)
203.65	206.25	Biotite-quartzite	Medium-grained with garnets from 205.35 to 205.55 quartz pegmatoids with large muscovite, epidote, chlorite, garnet and pyrite
206.25	208.00	Feldspar-biotite-garnet gneiss	Quartzitic, medium-grained; from 206.95 to 207.25 biotite-garnet quartzite
208.00	208.70	Biotite-garnet-quartzite	Medium-grained
208.70	209.70	Hornblende garnet-gneiss	With feldspar and garnet blasts
			End of hole 209.70

A P P E N D I X III

STATEMENT OF QUALIFICATION

STATEMENT OF QUALIFICATIONS

I, Friedrich-Wilhelm Wellmer, with residence at 1826 West 33rd Avenue, Vancouver, B.C., declare:

1. that I graduated from the Technische Hochschule Clausthal-Zellerfeld (West Germany) with a diploma in geology in 1966.
2. that I obtained a Ph. D. degree in geology from the Technische Hochschule Clausthal-Zellerfeld in 1970.
3. that since 1966 I have been employed as exploration geologist in Europe, North Africa, South America, USA, Canada.
4. that I am presently employed with Metallgesellschaft Canada Limited of 824-602 West Hastings Street, Vancouver, B.C.
5. that I have no personal interest whatsoever in the claim group under consideration.
6. that I collected the data on which this report is based while working on the property in July 1978.



Dr. F.-W. Wellmer

Vancouver, B.C.  
November 10, 1978

A P P E N D I X IV

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STATEMENT OF COST

STATEMENT OF COST

1. CONTRACTORS

a) H. Allen Diamond Drilling Ltd. of Merritt, B.C. from June 28 to July 29, 1978, to drill two boreholes totalling 527 m	\$ 37,136.86
b) Jim Harrington , Operator of Crone Geophysics Ltd., Toronto, to carry out downhole PEM survey July 17/18, 1978	\$ 2,375.32

2. SALARIES

Dr. J.C. Kovacik, Senior Geologist of Metallgesellschaft Canada Ltd., to log drill core from July 7 to 18 and July 21 to 28, 1978 = 20 days @ 150.00 \$/day	\$ 3,000.00
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3. OTHER

Helicopter support by Okanagan Helicopters Ltd. of Revelstoke, B.C.	\$ 21,166.38
	<hr/>
	\$ 63,678.56
	<hr/> <hr/>

METALLOGENESIS (CANADIAN LTD.)  
GRACE MOUNTAIN JULY 25 1958  
TX LOOP TO THE EAST (A)  
CONSTANT GAIN = 100



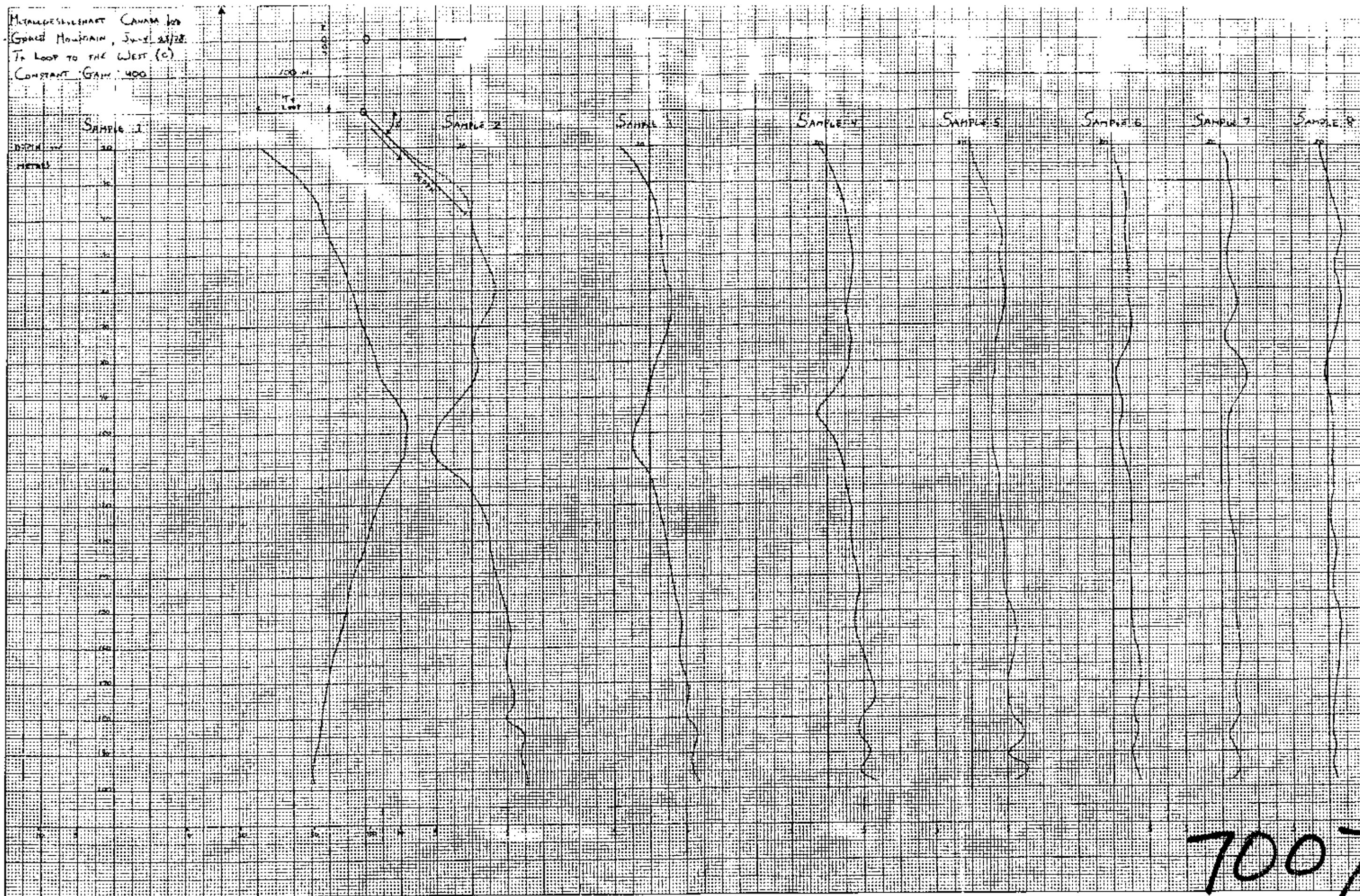
K-2 10 X 12 TO THE CENTIMETER 2.5 X 3 CM

47 1517

7007  
F.W. Wellen



METALLOGENIC CHART CANHAM 100  
GRAND MOUNTAIN, JULY 24/78  
TR LOOP TO THE WEST (C)  
CONSTANT GAIN 400

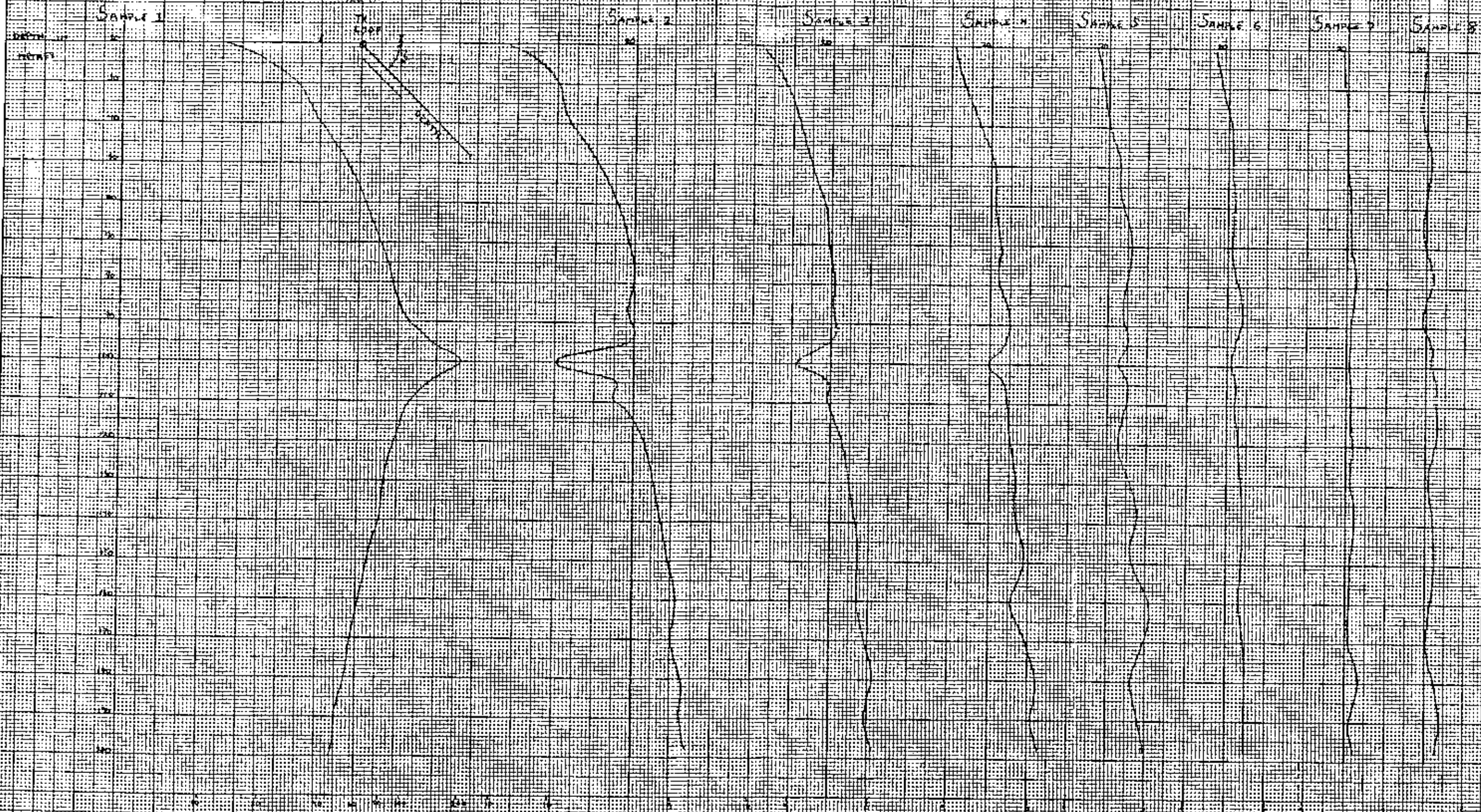


7007

F.W. Williams

METALGESellschaft CANADA LTD.  
GRACE MOUNTAIN JULY 25/78  
TX LOOP TO THE SOUTH (B)  
CONSTANT GAIN 1:200

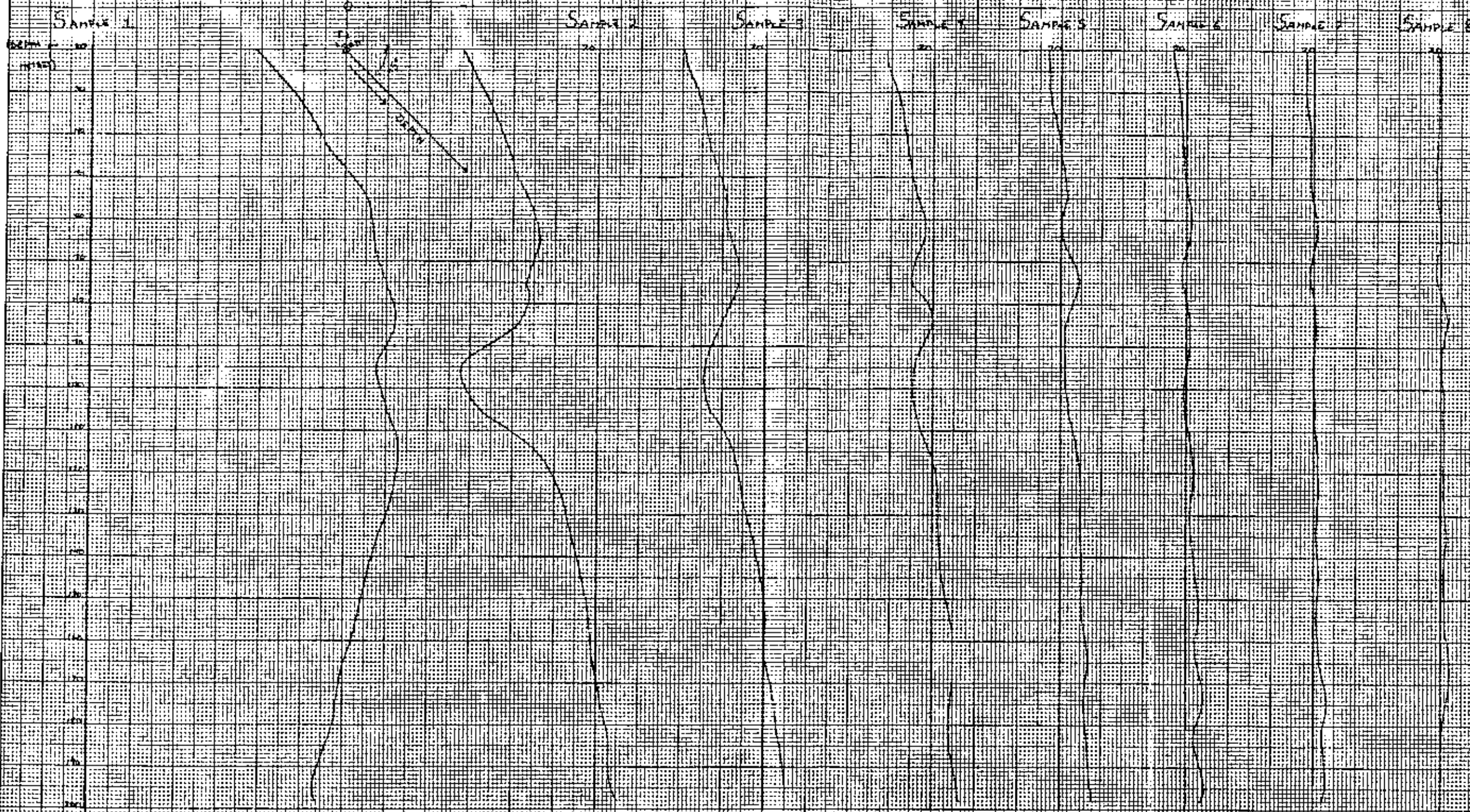
GAIN



700

F. W. Wellner

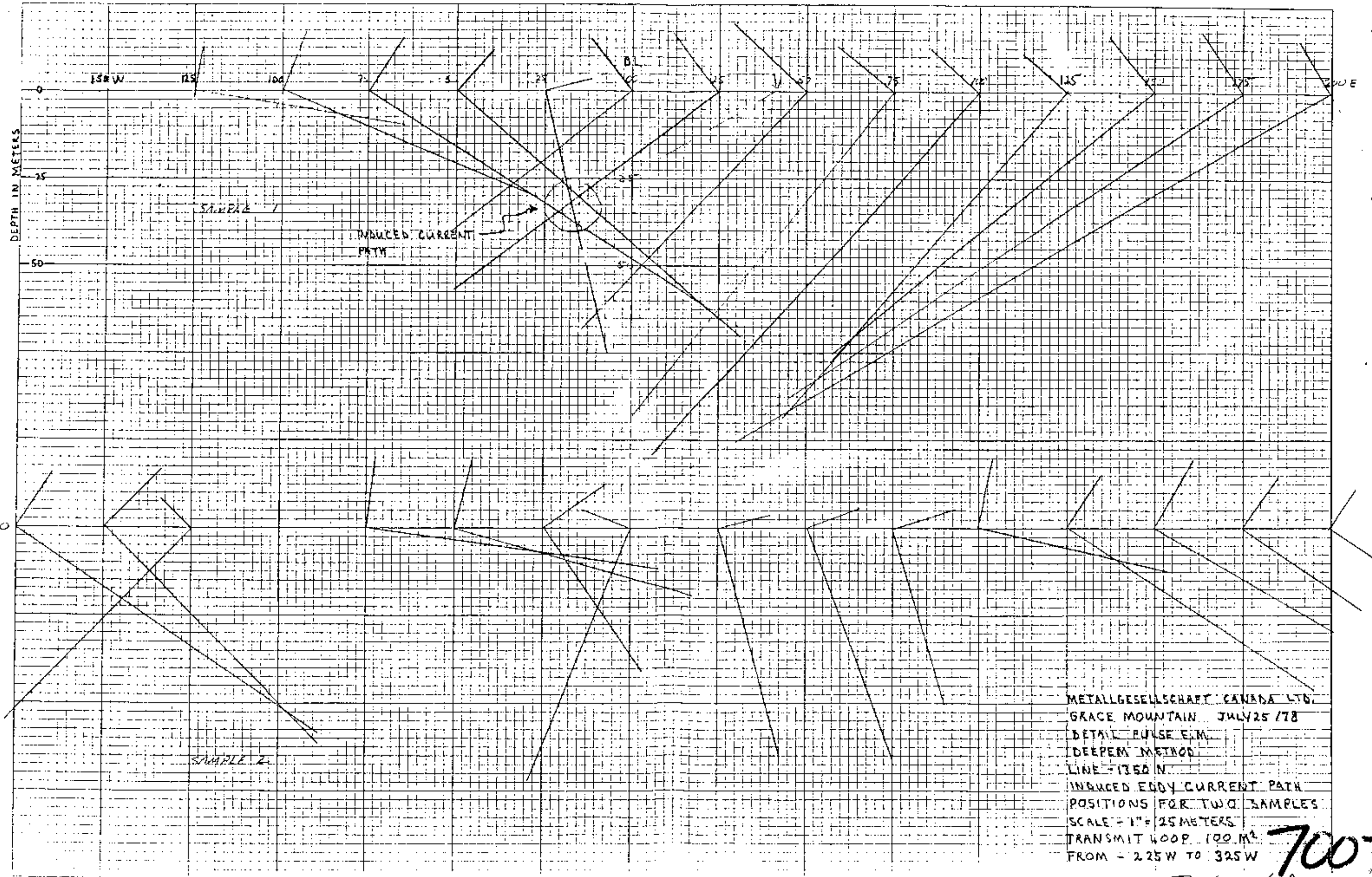
METALLOSCOPY CANADA LTD  
GRACE MOUNTAIN JULY 25/81  
IX LOOP TO THE NORTH (1)  
CONSTANT GAIN 200



7007  
FW. Williams

47 0707

1/8 X 10 TO THE INCH 9.0 X 15 INCHES  
K&S  
K&S P&L & DESIGN CO. - VANCOUVER



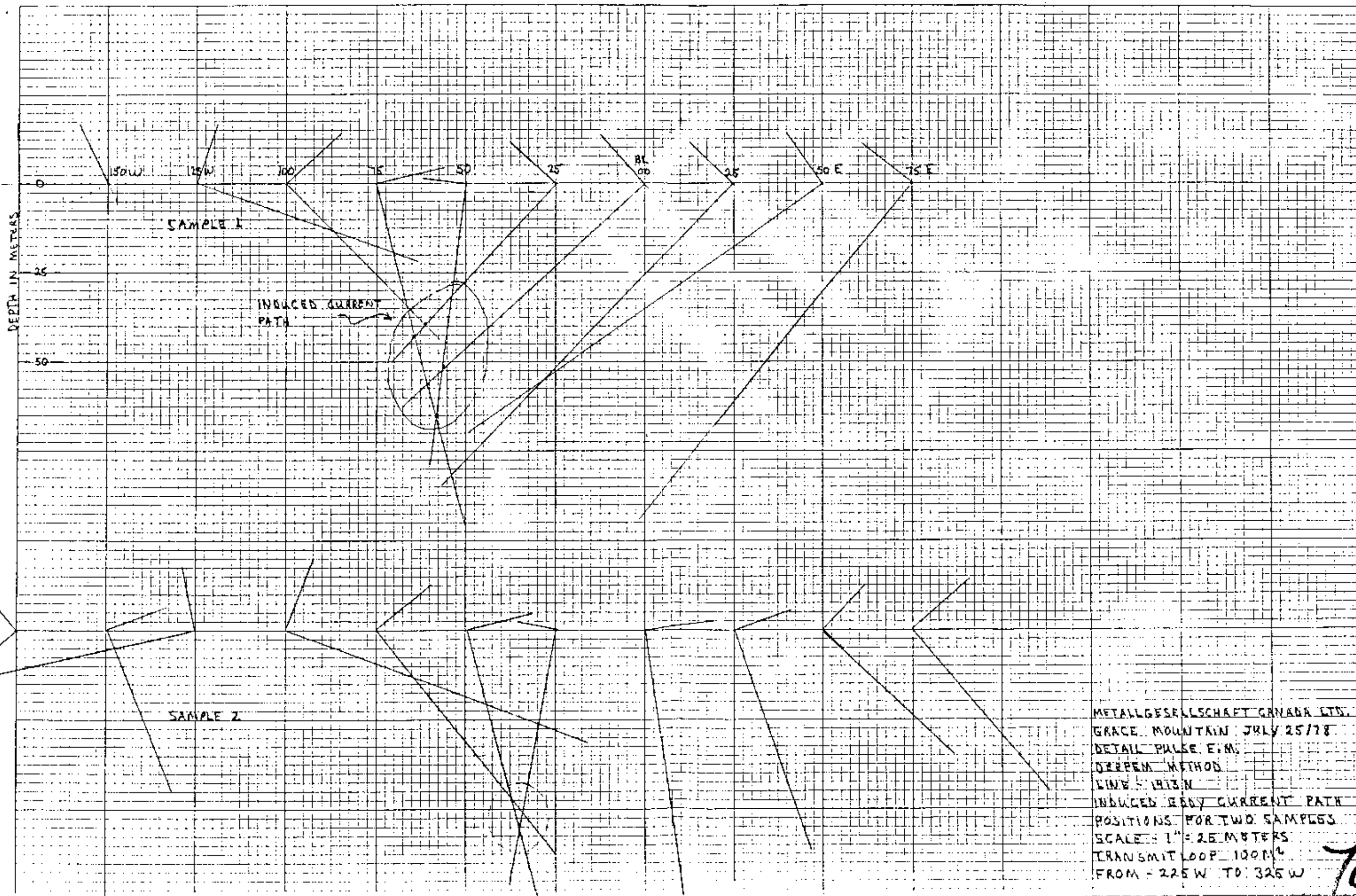
METALLGESELLSCHAFT CANADA LTD.  
 GRACE MOUNTAIN JULY 25 / 78  
 DETAIL - PULSE E.M.  
 DEEPEM METHOD  
 LINE - 1350 N  
 INDUCED EDDY CURRENT PATH  
 POSITIONS FOR TWO SAMPLES  
 SCALE - 1" = 25 METERS  
 TRANSMIT LOOP 100 M<sup>2</sup>  
 FROM - 225W TO 325W

7007

F.W. Williams

47 0707

M.S. 10 X 10 TO THE INCH  
METALL GES. CO. 1978



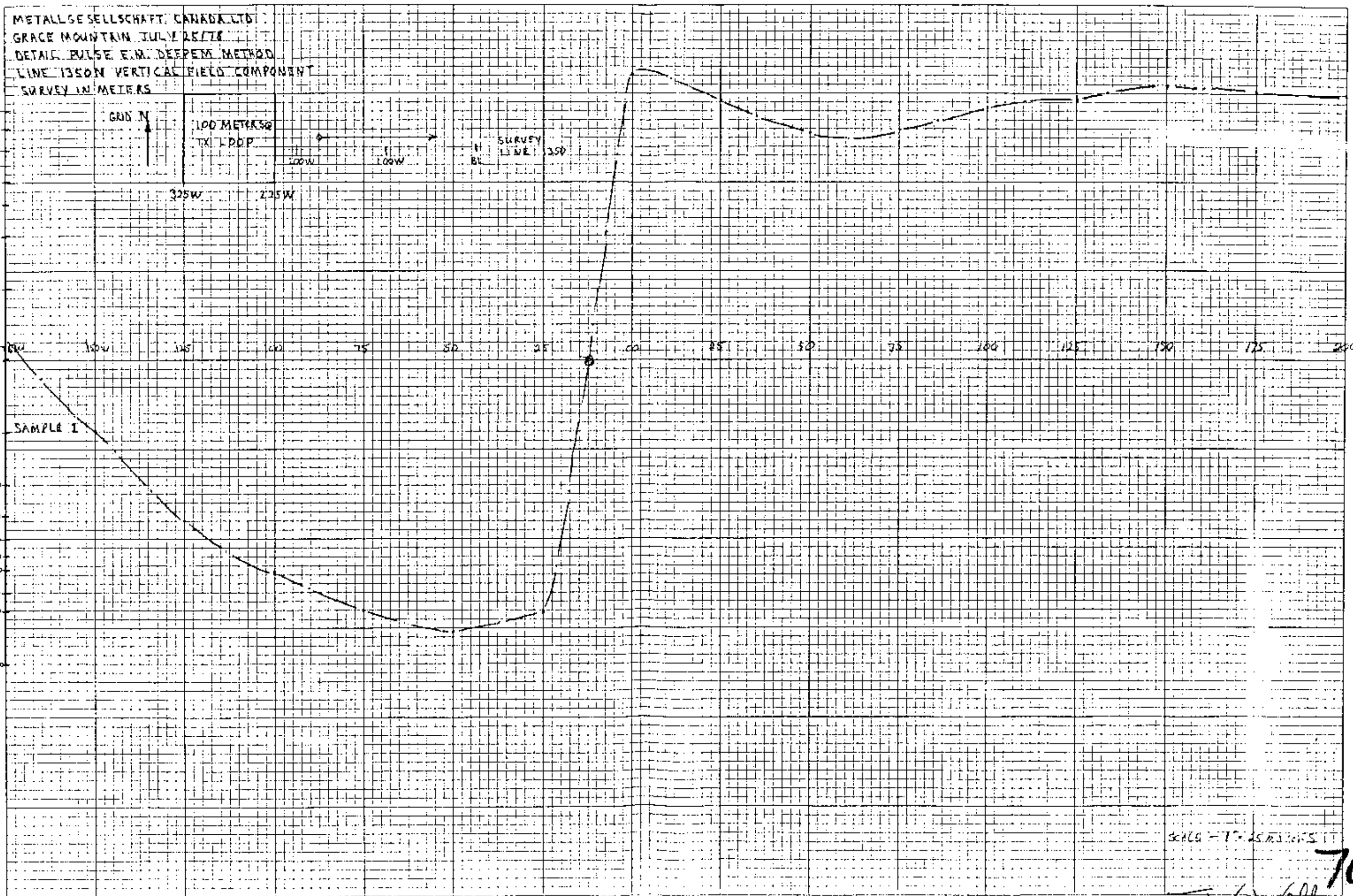
METALLGESELLSCHAFT CANADA LTD.  
 GRACE MOUNTAIN JULY 25/78  
 DETAIL PULSE E.M.  
 DEEPEM METHOD  
 LINE 1913 N  
 INDUCED EDDY CURRENT PATH  
 POSITIONS FOR TWO SAMPLES  
 SCALE: 1" = 25 METERS  
 TRANSMIT LOOP 100M  
 FROM - 225 W TO 325 W

7007

F.W. Williams

47 0707

K&E 10 X 30 TO THE INCH 10 X 15 INCHES  
NEUFFEL & ESSER CO. MADE IN U.S.A.



SCALE - 1" = 25 METERS

FW. Wellman 7007

SURVEY LINE 1350 M

75 W 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 500 525 550 575 600 625 650 675 700 725 750 775 800 825 850 875 900 925 950 975 1000 1025 1050 1075 1100 1125 1150 1175 1200 1225 1250 1275 1300 1325 1350 1375 1400 1425 1450 1475 1500 1525 1550 1575 1600 1625 1650 1675 1700 1725 1750 1775 1800 1825 1850 1875 1900 1925 1950 1975 2000

SAMPLE 1

SAMPLE 2

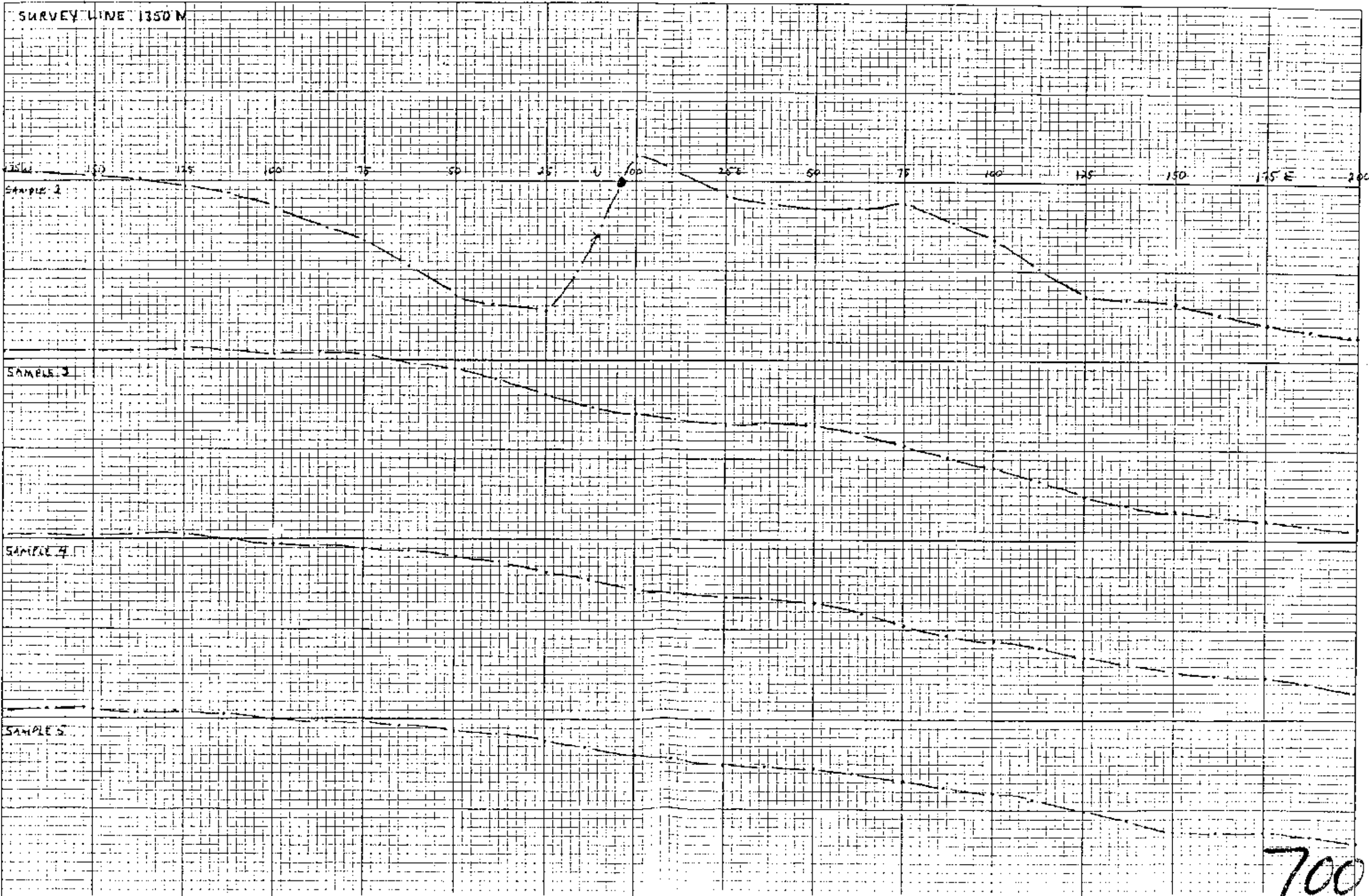
SAMPLE 3

SAMPLE 4

7007  
F.W. Wellman

47 0707

K·S 10 X 10 TO THE INCH 10 X 15 INCHES  
NEUFVEIL & ESSER CO. MADE IN U.S.A.



SURVEY LINE 1350' N

175W

150

125

100

75

50

25

00

25

50

75

100

125

150

175

200E

SAMPLE 6

SAMPLE 7

SAMPLE 8

47 0707

MSE 10 X 10 TO THE INCH #10 X 15 INCHES KEUFFEL & ESSER CO. MADE IN U.S.A.

7007

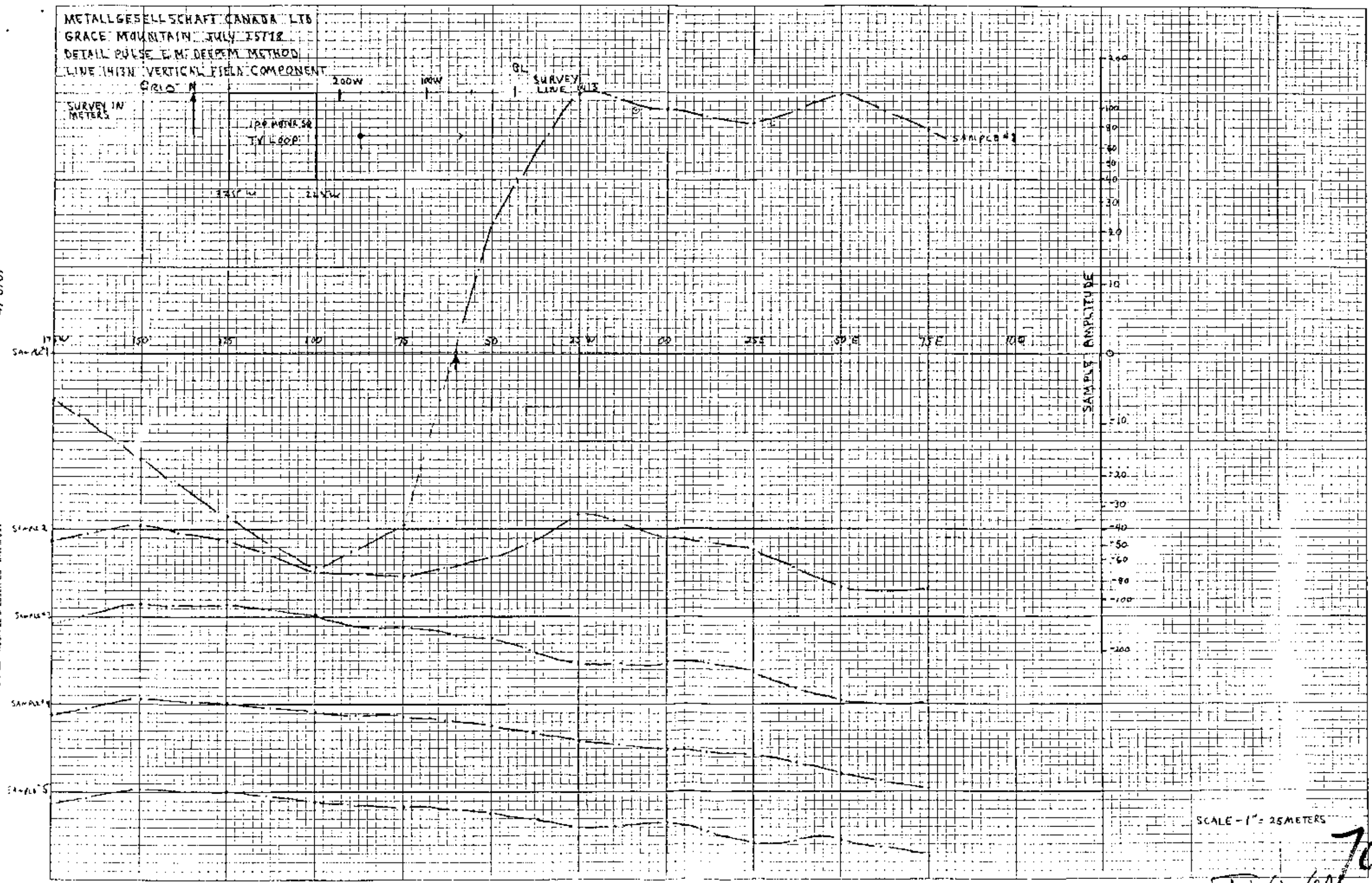
F. W. Wellmer



METALLGESELLSCHAFT CANADA LTD  
 GRACE MOUNTAIN JULY 1978  
 DETAIL PULSE E.M. DEEPEN METHOD  
 LINE 1413N VERTICAL FIELD COMPONENT

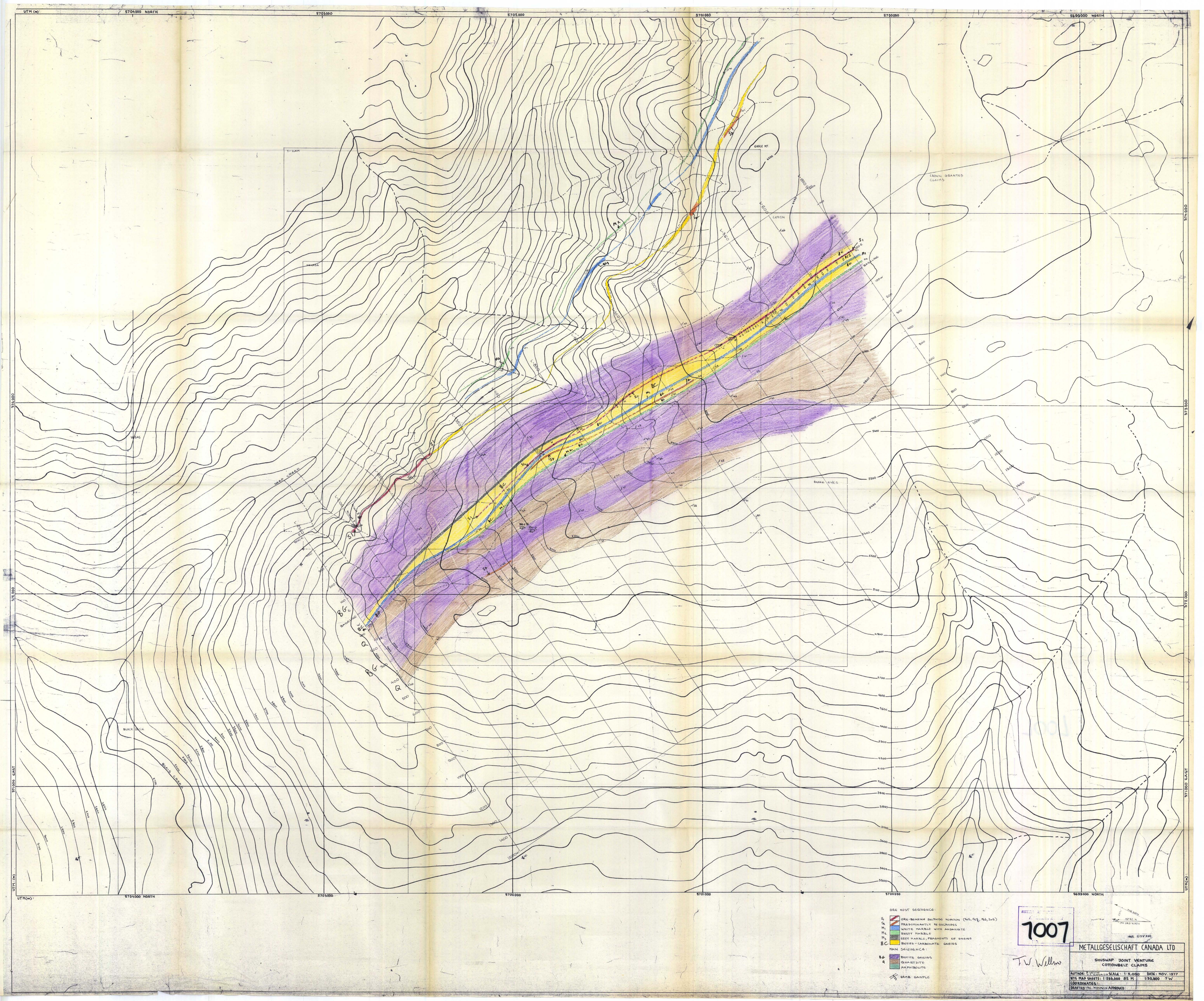
47 0707

NO 2 10 X 10 TO THE INCH P.C.A. IS INCHES  
 KEUVEL & ESSER CO. MICHIGAN U.S.A.



SCALE - 1" = 25 METERS

*F.W. Williams*  
 7007



- ORE HOST SEQUENCE**
- S<sub>1</sub> ORE-BEARING SALTICHOE HORSTON (C49, F43, M5, 205)
  - S<sub>2</sub> PRE-DOMINANTLY RE-SALTICHOE
  - M<sub>1</sub> WHITE MARBLE WITH MINERALITE
  - M<sub>2</sub> BASTY MARBLE
  - M<sub>3</sub> GREEN MARBLE FRAGMENTED BY VEINS
  - BC WHITE CARBONATE GNEISS
- MAIN SEQUENCE:**
- B6 BUFTITE GNEISS
  - Q QUARTZITE
  - A AMPHIBOLITE
  - GRAB GARTLE

1007

T.W. Wilkins

METALLGESELLSCHAFT CANADA LTD  
 SHUSWAP JOINT VENTURE  
 COTTRELL'S CLAIMS  
 AUTHOR'S SCALE: 1:5,000 DATE: NOV. 1977  
 SHEET NO. 1007 OF 11 1:50,000 7 IV  
 COORDINATES:  
 DRAWN BY: [Signature]

NE

SW

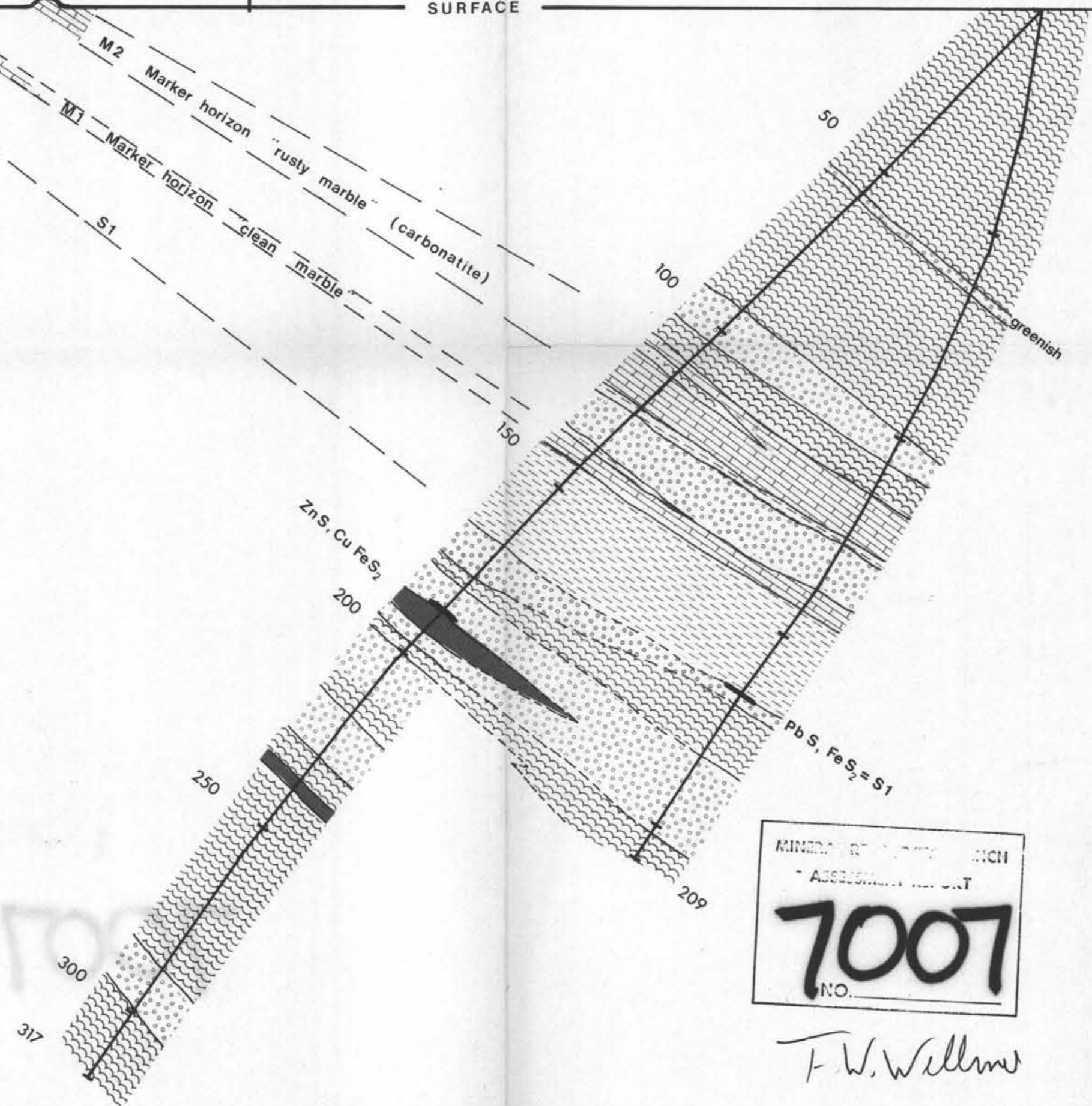
D.D.H. 1 45°






D.D.H. 2 80°

SURFACE

BASE LINE

S



-  Quartzite, predominantly interlayered with gneisses.
-  Gneisses, predominantly interlayered with quartzite.
-  Ca Silicates, gneisses, Carbonate gneiss.
-  Marble.
-  Amphibolite.

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7007**  
NO.

*F. W. Williams*

**METALLGESELLSCHAFT CANADA LTD.**

COTTONBELT PROPERTY

Section : 1,350N

DATE : Nov. '78      SCALE : 1 : 1000